CITY OF SCOTTSDALE

Wastewater Study

PRELIMINARY
WASTEWATER COLLECTION SYSTEM
BASIS OF DESIGN REPORT
FOR
MARQUEE

February 15, 2019
WP# 174722.01

PRELIMINARY Basis of Design Report

- ☐ ACCEPTED
- ☑ ACCEPTED AS NOTED
- ☐ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY ldillon **DATE** 4/4/2019

04/04/2019

Prepared for:

DAVIS
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Phone: (480) 638-1100
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Submitted To:

City of Scottsdale
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Prepared By:

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Please note the following and address the following minor comments in the Final BOD for DR case:

1)Scenario approved per Table 5F, 65% of flow, 150gpm, to go to west system i.e. sewer on south side of proposed buildings (163k ft2 of office flows and 13.7k ft2 of commercial retail); 35% of flow, 81gpm, to exit north onto Shoeman Lane sewer (7.4k ft2 of commerical/retail flows and 87.8k ft2 of office)

2) Section 4.2 regarding Nuss building sewer entering Shoeman Ln: connectivity needs to be positively verified. It is the reposnsibility of the engineer for Marquee design to do prior to abandonment. Once/if confirmed the line shall be cut and capped at the property line.

3) A private owner's agreement may be required to convert the public sewer line segment on the NWC of the galleria to a private sewer shared by multiple parcels/owners.

4) For final DR report:
- On Utility plan, show basic details of how building drains and sewers will achieve 65/35 flow split (Exhibit 3)
-Clarify minor items throughout for final DR report (Table 2 etc.)
-Please place all existing reports included as appendices as the LAST appendices.
-Include calculated sewer demands within the report text

Registered Professional Engineer (Civil)
CERTIFICATE NO. 61601
DEREK C. NICHOLS
Date Signed 02/16/19
ARIZONA, U.S.A.
EXPIRES 03-31-19

WOOD/PATEL
MISSION: CLIENT SERVICE®

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CIVIL ENGINEERS • HYDROLOGISTS • LAND SURVEYORS • CONSTRUCTION MANAGERS

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February 22, 2019

Mr. Rezaur Rahman
City of Scottsdale
7447 East Indian School Road, Suite 5
Scottsdale, AZ 85281

Re: **Marquee**
Existing Galleria Corporate Centre Utility Services
WP# 174722.01

Dear Mr. Rahman:

Wood, Patel & Associates, Inc. (Wood/Patel), at the request of Stockdale Capital Partners, LLC (Developer), has prepared this letter in support of the rezoning case 7-ZN-2015#2 for Marquee (Project). The purpose of this letter is to discuss the existing domestic water, sanitary sewer and storm drain improvements serving the Galleria Corporate Centre (Galleria) Building that currently reside within the Project limits, and how service for each of these utilities is planned to be maintained by the Project. Below is a description of the Project limits as well as the plan for maintaining each of these Galleria utility services. The Galleria utility services described are not intended to be adversely impacted by the Project's development.

Project Limits:

The Project is planned to redevelop the existing property at the southeast corner of Scottsdale Road and Shoeman Lane in Scottsdale, Arizona. The project limits are described as Scottsdale Road to the west, Shoeman Lane to the north, Galleria Corporate Centre (Galleria) Building to the south, and an existing private access way serving the Galleria parking structure to the east.

Galleria Domestic Water Service:

Domestic water service for the Galleria building is currently provided by a 6-inch water service line extending from the existing 8-inch public waterline in Scottsdale road. The water service extends along the southern boundary of the site to a 6-inch meter vault. From the meter vault the 6" water service splits into two (2) 4-inch backflow prevention devices and then manifolds back into a 6-inch water service that continues along the southern property line before turning south into the Galleria building at the existing truck dock. This water service resides within an existing 8-foot-wide irrigation and public utility easement (I.U.E.) which was dedicated in the 1950's as part of the Shoeman Tract.

The Project intends to relocate the existing water service for the Galleria. A new 6-inch water meter vault is planned to be installed along the southern edge of Shoeman Lane with connection to the existing 6-inch public water line within Shoeman Lane. From the new meter vault a new 6-inch water service line (with backflow prevention device) will extend south through a proposed private access drive to the existing Galleria truck dock entrance where the existing water service enters the building. A public water line easement is planned to be dedicated around the new meter vault contiguous with the public right-of-way

7-ZN-2015#2
02/26/2019

(should there not be sufficient room for the vault within the public right-of-way). A private utility easement is planned to be dedicated along the new Galleria water service to the benefit of Galleria for access and maintenance. Construction is planned to be phased such that the new Galleria water service is operational prior to removing or abandoning the existing water service line.

Galleria Sanitary Sewer Service:

A portion of the sanitary sewer service for the Galleria Building is currently served by an 8-inch public sewer line that runs west along the Project's southern property line to an existing manhole in the Scottsdale Road right-of-way. This existing sewer line resides within the aforementioned 8-foot-wide I.U.E.

The Project intends to replace the existing public sewer line serving the Galleria Building with a private sewer line along the same alignment. The I.U.E. is planned to be abandoned and a private utility easement is planned to be dedicated along the new Galleria sewer service to the benefit of Galleria for access and maintenance. Construction is planned to be phased such that the new Galleria sewer service is operational prior to removing or abandoning the existing sewer service line.

Galleria Storm Drain:

An existing 24-inch public storm drain line runs east along the southern property line to an existing storm drain manhole within the private access drive on the east side of the project. From there the storm drain line increases to a 30-inch storm drain and continues south through the Galleria Property before connecting to the 30-inch storm drain in Stetson Drive. This storm drain resides within the aforementioned I.U.E. and serves roof drain connections from the Galleria building as well as surface catch basins from the existing onsite parking lots.

The Project intends to maintain the existing 24-inch storm drain in place as a private storm drain line for the benefit of both the Galleria and the Marquee. As previously mentioned, the I.U.E. is planned to be abandoned. A cross-drainage easement is planned to be dedicated over the storm drain line to the benefit of Galleria for access and maintenance.

Thank you for your consideration in reviewing this letter. Please contact us should you have any questions regarding this letter.

Sincerely,

Wood, Patel & Associates, Inc.

Registered Professional Engineer (Civil)
CERTIFICATE NO.
61601
DEREK C.
NICHOLS
Date Signed 02/22/19
ARIZONA, U.S.A.
EXPIRES 03-31-19

Derek C. Nichols, P.E.
Project Manager

cc: Mr. Boyce O'Brien – Stockdale Capital Partners, LLC

DCN/se

Y:\WP\General Correspondence\174722.01 marquee Existing Galleria Utility Services Ltr COS R Rahman 02-22-19.docx

7-ZN-2015#2
02/26/2019

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Z:\2017\174722\Project Support\Reports\Sewer BOD\Text\174722.01 Marquee Preliminary Wastewater Collection System Report - DRAFT.docx

1.0 INTRODUCTION

1.1 Scope of Wastewater Collection System BOD Report

The purpose of this Wastewater Collection System Basis of Design (BOD) Report is to determine the anticipated wastewater design flows for the Marquee project (Project), to evaluate the capacity of the surrounding existing wastewater collection system, and to identify the wastewater infrastructure improvements and connection points needed to provide wastewater service to the Project.

This Wastewater BOD Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (Wood/Patel) understanding of the City of Scottsdale's technical requirements for wastewater collection systems, as applicable for the Project. This report is intended to support the Marquee re-zoning case (7-ZN-2015#2) 2nd submittal to the City of Scottsdale.

1.2 Project Location

The Project is located within Section 23, Township 2 North, Range 4 East of the Gila and Salt River Meridian, Maricopa County, Arizona. More specifically, the project is located at the southeast corner of Scottsdale Road and Shoeman Lane in the City of Scottsdale. The Project limits are Scottsdale Road to the west, Shoeman Lane to the north, the Galleria Corporate Centre (Galleria) to the south, and to the east an existing private access drive that connects to the breezeway between the Galleria and adjacent east parking garage. The Project site is approximately 1.93 acres (net). Refer to Exhibit 1 – *Vicinity Map*.

1.3 Project Description

According to the Conceptual Site Plan prepared by DAVIS, dated February 19, 2019, the Marquee will be a 12-story office and retail mixed-use building. Proposed on the first level of the structure is 21,000 sq. ft. of retail space and at-grade parking. The second through seventh levels are proposed parking structure. On the eighth through twelfth levels of the structure is 250,900 sq. ft. of proposed office space. In addition, offsite improvements are proposed to include full-street paving and hardscape improvements to the Shoeman Lane frontage, and right-turn lane and hardscape improvements to the Scottsdale Road frontage. Refer to Appendix A – *Conceptual Site Plan*.

1.4 Previous Wastewater Studies

It is Wood/Patel's understanding two (2) prior Wastewater BOD Reports have been prepared for the Project. During the initial re-zoning submittal (7-ZN-2015), a report was prepared by Hunter Engineering, entitled *Preliminary Basis of Design Report Sanitary Sewer for Marquee @ The* District, dated August 25, 2015. This report was preliminarily accepted by the City of Scottsdale Water Resources Department, and is included within Appendix D – *Hunter Wastewater BOD Report*. It is our understanding the Project was put on hold sometime after the Hunter report was accepted.

In 2018, the current rezoning case was established (7-ZN-2015#2). A report was prepared for this rezoning case by David Evans & Associates, Inc. (DEA), entitled *Wastewater Basis of Design Report for Marquee*, dated July 19, 2018. First review comments requiring revisions to the report were provided by the City of Scottsdale Water Resources Department on August 15, 2018, and are included within Appendix C – *DEA Wastewater BOD Report with COS Comments*.

In February of 2019, Wood/Patel was directed by Stockdale Capital Partners, LLC (Developer) to prepare this Wastewater BOD Report to address the City of Scottsdale Water Resources Department's first review comments from August of 2018.

2.0 DESIGN DOCUMENTATION

2.1 Design Criteria

For the purpose of this Wastewater BOD report, wastewater design flows and pipe-sizing criteria utilized are based on Wood/Patel's understanding of the following:

- Applicable wastewater system design criteria listed in the *City of Scottsdale Design Standards & Policies Manual*, dated 2018; and
- Title 18, Chapter 9 of the *Arizona Administrative Code.*

Refer to Table 1 – *Wastewater Design Criteria* for detailed information regarding design criteria.

2.2 Existing Wastewater Flows

At the direction of the City of Scottsdale Water Resources Department, flow testing was conducted on the two (2) existing manholes at 4th Avenue and Brown Avenue during an 18-day period from August 31, 2018 to September 17, 2018. Flow test data is provided within Appendix B – *Wastewater Flow Test Data*. These two (2) manholes are located on adjacent, parallel sanitary sewer mains, herein referred to as the east and west sewer systems. The highest flow reported during the flow testing period for each sewer system was utilized as the existing wastewater peak flow for system analysis, and is shown below:

8"

HIGHEST EXISTING WASTEWATER PEAK FLOWS		
LOCATION	**MANHOLE ID**	**PEAK FLOW (gpm)**
East Sewer System – 4th Ave & Brown Ave Manhole	MH-100-E	147.7
West Sewer System – 4th Ave & Brown Ave Manhole	MH-060-W	99.9

~~as built~~ show 8" (QS maps show10" shown south of 4th?) 8" used in analysis south to 4th ave per this report

It is our belief that using the highest reported peak flow for both systems is considered very conservative. Therefore, we have also evaluated the existing sewer systems utilizing the average peak flows determined during the testing period for comparison, as is shown below:

What is an average peak? Define. Average daily peak. Not used in selected analysis.

AVERAGE EXISTING WASTEWATER PEAK FLOWS		
LOCATION	**MANHOLE ID**	**PEAK FLOW (gpm)**
East Sewer System – 4th Ave & Brown Ave Manhole	MH-100-E	109.0
West Sewer System – 4th Ave & Brown Ave Manhole	MH-060-W	65.3

In order to evaluate the capacity of the existing wastewater collection system from the Project site to the outfall locations established at 4th Avenue and Brown Avenue, the existing peak flows for the east and west sewer systems needed to be distributed throughout the system. To do this, percentages of the peak flow at the outfall locations were established for various contributing sewer areas, based upon the existing contributing buildings. Approximate building areas and land use types were determined utilizing aerial and street view imagery from Google Earth Pro, as well as available survey and record as-built information. Weighting factors were established for the various land uses based upon the *City of Scottsdale Design Standards & Policies Manual* (DS+PM) land use values for wastewater average daily demand (ADD) and peaking factor (PF). The weighting factor (F) was established as F = ADD x PF, and the weighting factor for relevant land uses are shown below:

You had to assume a square footage per room to get this. State assumptions, show determination.

peak gpd/sf

LAND USE WEIGHTING FACTOR			
Commercial/Retail (sf)	**Office (sf)**	**Restaurant (sf)**	**Resort Hotel (sf)**
1.5	1.2	7.2	1.8

The west sewer system was broken into three (3) contributing sewer areas, and the east system was broken into five (5) contributing sewer areas. The calculated wastewater peak flows for these areas is summarized within Table 2 – *Existing Wastewater Flow Distribution.* Refer to Exhibit 2 – *Sewer Quarter Section Map Markup* for sewer area locations.

2.3 Project Wastewater Design Flows

Wastewater design flows for the Marquee project were estimated using design criteria listed in Section 2.1 – *Design Criteria*. Anticipated wastewater design flows generated by the Project are Average Daily Demand = 110,860 gpd, Peak Flow = 332,580 gpd, or 230.9 gpm. Detailed design flow calculations are provided in Table 3 – *Wastewater Model, Existing & Proposed Conditions*.

2.4 Modeled Scenarios

The existing east and west sewer systems were modeled using best-available information to determine the pipe slopes and lengths. This information included City of Scottsdale Sewer Quarter Section Map, available survey information, and record as-built plans for *Scottsdale Galleria Improvement Plan*, prepared by Lyon/Neil Engineering Inc., dated August of 1989. Multiple scenarios were analyzed to determine the capacity of the existing wastewater collection system and the effects of adding the Marquee project's wastewater flows to the existing system. The sub-sections below describe the results of each modeled scenario using the highest existing peak flows established during the testing period. Detailed calculations for each scenario are provided in Tables 4 and 5A through 5F.

2.4.1 Existing Condition

The existing condition was modeled using a distribution of the sewer flow test peak flow results, as discussed within Section 2.2 – *Existing Wastewater Flows*. The calculations for this scenario indicate the existing east and west systems have capacity for the existing peak flows, with the west system having a maximum d/D ratio of 0.38 within pipe P-040-W, and the east system having a maximum d/D ratio of 0.50 within pipe P-100-E. Refer to Table 4 – *Calculated Pipe Capacities, Existing Condition Scenario* for calculations, and Exhibit 2 – *Sewer Quarter Section Map Markup* for pipe locations.

2.4.2 Proposed Condition – 100% to West Sewer System

The proposed condition was modeled using the existing peak flow distribution combined with anticipated peak flows from the Project. In this scenario, 100% of the Project's peak flows were added to the west sewer system at manhole MH-010-W. The calculations for this scenario indicate the existing west system does

not have sufficient capacity to accommodate 100% of the Project's anticipated peak flow. There are three (3) sections of pipe in which the d/D ratio exceeds the allowable 0.65, and one (1) section of pipe that is surcharged. Refer to Table 5A – *Calculated Pipe Capacities, Proposed Condition (100% to MH-010-W)* for calculations, and Exhibit 2 for pipe locations.

2.4.3 Proposed Condition – 100% to East Sewer System

In this scenario, 100% of the Project's peak flows were added to the east sewer system at manhole MH-010-E. The calculations for this scenario indicate the existing east system does not have sufficient capacity to accommodate 100% of the Project's anticipated peak flow. There are two (2) sections of pipe in which the d/D ratio exceeds the allowable 0.65, and four (4) section of pipe that are surcharged. Refer to Table 5B – *Calculated Pipe Capacities, Proposed Condition (100% to MH-010-E)* for calculations, and Exhibit 2 for pipe locations.

2.4.4 Proposed Condition – 50/50 split to West and East Sewer Systems

In this scenario, 50% of the Project's peak flows were added to the west sewer system at manhole MH-010-W, and 50% were added to the east sewer system at manhole MH-010-E. The calculations for this scenario indicate four (4) sections of pipe within the east system in which the d/D ratio exceeds the allowable 0.65, with the most significant being pipe P-040-E at a d/D=0.90. Refer to Table 5C – *Calculated Pipe Capacities, Proposed Condition (50% to MH-010-W, 50% to MH-010-E)* for calculations, and Exhibit 2 for pipe locations.

2.4.5 Proposed Condition – 60/40 split to West and East Sewer Systems

In this scenario, 60% of the Project's peak flows were added to west sewer system at manhole MH-010-W, and 40% were added to the east sewer system at manhole MH-010-E. The calculations for this scenario indicate one (1) section of pipe within the west system, and three (3) sections of pipe with the east system, in which the d/D ratio exceeds the allowable 0.65, with the most significant being pipe P-040-E at a d/D=0.79. Refer to Table 5D – *Calculated Pipe Capacities, Proposed Condition (60% to MH-010-W, 40% to MH-010-E)* for calculations, and Exhibit 2 for pipe locations.

2.4.6 Proposed Condition – 70/30 split to West and East Sewer Systems

In this scenario, 70% of the Project's peak flows were added to west sewer system at manhole MH-010-W, and 30% were added to the east sewer system at manhole MH-010-E. The calculations for this scenario indicate two (2) sections of pipe within the west system, and one (1) section of pipe with the east system, in which the d/D ratio exceeds the allowable 0.65, with the most significant being pipe P-020-W at a d/D=0.76. Refer to Table 5E – *Calculated Pipe Capacities, Proposed Condition (70% to MH-010-W, 30% to MH-010-E)* for calculations, and Exhibit 2 for pipe locations.

2.4.7 Proposed Condition – 65/35 split to West and East Sewer Systems

In this scenario, 65% of the Project's peak flows were added to west sewer system at manhole MH-010-W, and 35% were added to the east sewer system at manhole MH-010-E. The calculations for this scenario indicate one (1) section of pipe within the west system, and one (1) section of pipe with the east system, in which the d/D ratio exceeds the allowable 0.65, with the most significant being pipe P-040-E at a d/D=0.75. Refer to Table 5F – *Calculated Pipe Capacities, Proposed Condition (65% to MH-010-W, 35% to MH-010-E)* for calculations, and Exhibit 2 for pipe locations.

2.5 Selected Proposed-Condition Scenario

As discussed within Section 2.4 – *Modeled Scenarios*, there were six (6) proposed-condition scenarios evaluated. The 65/35 split scenario had the least amount of existing sewer pipes exceeding the allowable d/D ratio of 0.65, with pipe P-020-W at d/D = 0.72, and pipe P-040-E at d/D = 0.75. The slopes of these existing pipes are in the range of 0.0013 to 0.0016 ft/ft.

Additionally, when considering the average existing peak flows rather than the highest reported peak flows from the sewer flow testing the anticipated d/D ratios for P-020-W and P-040-E reduce to 0.67 and 0.69, respectively.

3.0 EXISTING CONDITIONS

3.1 Topographic Conditions

The existing Project site is fully developed, with two (2) existing buildings on the west side of the property and two (2) surface parking lots on the east and west sides of the property, respectively. The surface parking lots are divided by the existing access drive to the Galleria truck dock, and the east side of the property accommodates vehicular access to the Galleria breezeway. The Project site generally slopes from northwest to southeast, with ground elevations ranging from 1272.2ft to 1266.0ft from northwest to southeast, respectively.

3.2 Existing Wastewater Infrastructure

Relevant public wastewater collection systems near the Site are divided into the existing east and west sewer systems as follows:

<u>West Sewer System</u>

- 8-inch gravity sewer line along the southern property line of the Project site, from west of the Galleria truck dock access drive to Scottsdale Road (Galleria Sewer Line).
- 8-inch gravity sewer line along Scottsdale Road/Drinkwater Boulevard to the 6th Avenue and Brown Avenue intersection.
- 8-inch gravity sewer line along Brown Avenue, from 6th Avenue to 4th Avenue (end of study).
    - It is noted the Scottsdale Sewer Quarter Section 17-45 does not indicate the diameter of the sewer line within Brown Avenue, between 6th Avenue and 4th Avenue, and identifies the sewer line within Brown Avenue south of 4th Avenue as 10-inch diameter.
    - The Improvement Plan As-Built drawings for the Galleria indicate this line an 8-inch line.
    - This line has been modeled using an 8-inch diameter.

East Sewer System

- 8-inch gravity sewer line along Shoeman Lane, from Scottsdale Road to the Galleria Breezeway private access drive.
- 8-inch gravity sewer line within the Galleria truck dock access drive on the Project site connecting to the Shoeman Lane sewer (Nuss Building Sewer Line).
    - During a site visit meeting with the Developer and the Galleria Corporate Centre Chief Engineer, John Raddatz, it was discussed this line does not serve the existing Galleria building.
    - Onsite bluestake markings appear to indicate this 8-inch line serves a private sewer line lateral from the two (2) existing onsite buildings that are planned to be demolished with the Project.
- 8-inch gravity sewer line along the east side of the property that runs from Shoeman Lane, through the Galleria parking structure, through Stetson Drive, to 6th Avenue.
- 8-inch gravity sewer line along 6th Avenue to Brown Avenue.
- 8-inch gravity sewer line along Brown Avenue, from 6th Avenue to 4th Avenue (end of study).

4.0 PROPOSED WASTEWATER COLLECTION SYSTEM

4.1 Existing Galleria Sewer Line

As described in Section 3.2 – *Existing Wastewater Infrastructure*, an 8-inch public gravity sewer line exists along the southern property line of the Project site, extending from just west of the Galleria truck dock access drive to an existing manhole within the Scottsdale Road right-of-way at the southwest corner of the Project site (MH-010-W). This existing sewer line serves the Galleria building, and resides within an 8-foot-wide Public Utility and Private Irrigation Easement (I.U.E.) that exists along the entire southern boundary of the Project site. In addition to the 8-inch public sewer line, a 6-inch potable water service with meter and backflows, a 24-inch private storm drain and an 18-inch private irrigation line reside within the same 8-foot easement.

The existing I.U.E. is planned to be abandoned as part of the project. The 6-inch potable water service with meter and backflows are planned to be relocated to south of Shoeman Lane, with connection to the existing Galleria building through a new truck dock access drive. The 18-inch private irrigation line is being evaluated internally at SRP Irrigation to determine if the line is still active. Solutions for maintaining the private irrigation line in place, abandoning in place, or relocating the line will be determined upon final input from SRP Irrigation. The 24-inch private storm drain line will remain in place to serve both the Galleria building and the Project. The existing 8-inch public sewer line is planned to be removed and replaced with an 8-inch private sewer line in approximately the same location as it resides today. The new private line will continue to serve the Galleria building, and will be constructed of material meeting applicable plumbing code requirements for private sewer services. A private easement will be dedicated over the new private service line to allow the Galleria ownership access for maintenance purposes.

4.2 Existing Nuss Building Sewer Line

As described in Section 3.2, an 8-inch public gravity sewer line exists along the Galleria truck dock access drive that bi-sects the Project site. Per conversations with the Galleria Corporate Centre Chief Engineer, John Raddatz, through review of available as-built drawings, and by observation of recent onsite bluestake marking, it is believed this sewer line only serves the existing Nuss buildings on the property, and not the existing Galleria building. The existing Nuss buildings are planned to be demolished as part of the Project. Therefore, this existing sewer line will be removed. No easement currently exists for this sewer line; therefore, no easement abandonment will be needed for this line.

4.3 Proposed Sewer Infrastructure

As described in Section 2.5 – *Selected Proposed Condition Scenario*, the Project is planned to utilize connections to both the existing east and west sewer systems. Approximately 65% of the Project's wastewater will need to be served by a private onsite sewer line, with connection to the existing public sewer manhole to remain at the southwest corner of the Project (MH-010-W). Approximately 35% of the Project's wastewater will need to be served by a private onsite sewer line, with connection to the existing 8-inch public sewer line in Shoeman Lane. This line is currently planned to connect to the existing manhole near the Galleria truck dock access drive driveway on Shoeman Lane (MH-010-E). Layout design of the onsite private sewer system to serve the Project will be developed prior to the Project's Design Review Board (DRB) submittal, and a Final Wastewater Collection System Basis of Design Report will be submitted for DRB substantiating the 65/35 split flow for the project building.

As discussed within Section 2.5, the 65/35 split scenario provides the best results with respect to existing wastewater collection system capacity. There are two (2) existing sewer lines; one (1) within the west sewer system (P-020-W), and one (1) within the east sewer system (P-040-E), that are anticipated to exceed the required d/D ratio of 0.65 with the addition of Project peak flows. As-built and available survey information indicate the constructed slope of these pipes range from 0.0013 ft/ft to 0.0016 ft/ft. The anticipated d/D ratio for these two (2) existing pipes ranges from 0.72 to 0.75 when considering the highest report existing peak flows during the testing period. When considering the average existing peak flows these d/D ratios reduce to 0.67 to 0.69. While above the required d/D ratio, there is still anticipated to be excess capacity within both pipes. Additionally, these two (2) public sewer lines are near the upstream end of the east and west sewer systems and, therefore, not anticipated to receive any significant amount of infiltration. Our understanding, based upon the DS&PM, is that the required d/D ratio of 0.65 takes into account flexibility for assumed infiltration. It is, therefore, requested that the anticipated d/D ratio for these two (2) existing public sewer lines be accepted in order to mitigate the need for offsite public sewer infrastructure improvements to serve the Project.

No offsite sewer infrastructure improvements, except for private sewer service connections to the existing public sewer system, are currently proposed.

Acceptable, it is also doubtful that the flat sloped shown in Table 5F reflect existing conditions

5.0 CONCLUSIONS

This Preliminary Wastewater Collection System Basis of Design Report, as presented herein, is believed to meet City of Scottsdale standards and requirements for wastewater collection system design analysis. The following items highlight critical conclusions:

1. Existing peak flows for both the east and west public sewer systems were established utilizing data from sewer flow tests conducted during August and September of 2018 by Western Environmental Equipment. Flow test results indicate existing peak flows of 147.7 gpm and 99.9 gpm for the east and west systems, respectively.

2. Anticipated peak flow for the Marquee building is estimated at 230.9 gpm.

3. Multiple proposed-condition scenarios were analyzed to determine the capacity of the existing wastewater collection system and the effects of adding the Marquee project's wastewater flows to the existing system. It was determined the 65/35 split scenario provides the best results with respect to existing wastewater collection system capacity.

4. Two (2) existing sewer lines are anticipated to exceed the d/D ratio of 0.65, with pipe P-020-W at a d/D= 0.72, and P-040-E at a d/D = 0.75. It is requested that the anticipated d/D ratio for these two (2) existing public sewer lines be accepted in order to mitigate the need for offsite public sewer infrastructure improvements to serve the Project.

5. No offsite sewer infrastructure improvements, except for private sewer service connections to the existing public sewer system, are currently proposed.

6.0 REFERENCES

1. *Design Standards & Policies Manual*, City of Scottsdale, 2018.
2. *Sewer Flow Test Data*, Western Environmental Equipment, August 31, 2018 through September 17, 2018.
3. *City of Scottsdale Sewer Quarter Section Map 17-45*, Scottsdale GIS, August 27, 2017.
4. *Improvement Plan Scottsdale Galleria (As-Built)*, Lyon/Neil Engineering Inc., August 1989.
5. *Preliminary Basis of Design Report Sanitary Sewer for Marquee @ The District*, Hunter Engineering, August 25, 2015.
6. *Wastewater Basis of Design Report for Marquee*, David Evans & Associates, Inc., July 19, 2018.
7. *Arizona Administrative Code, Title 18, Chapter 9*, Arizona Department of Environmental Quality, 2005.

TABLE 1

WASTEWATER COLLECTION SYSTEM DESIGN CRITERIA

WOOD/PATEL
MISSION: CLIENT SERVICE®

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS * CONSTRUCTION MANAGERS

TABLE 1 - WASTEWATER DESIGN CRITERIA

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Arizona Administrative Code, Title 18, Chapter 9

Project Number: 174722.01
Project Engineer: Derek C. Nichols, P.E.

RESIDENTIAL WASTEWATER DEMANDS

LAND USE	AVERAGE DAILY DEMAND (ADD)		POPULATION[1]
	VALUE	UNITS	
Single Family Residential	250	gpd/DU	2.5 Persons per DU
Multi-Family Residential	220	gpd/DU	2.2 Persons per DU

NON-RESIDENTIAL WASTEWATER DEMANDS

LAND USE[3]	AVERAGE DAILY DEMAND (ADD)		POPULATION[1]	Peaking Factor (PF)
	VALUE	UNITS		
Commercial/Retail	0.5	gpd/sf	0.005 Persons per sf	3
Office	0.4	gpd/sf	0.004 Persons per sf	3
Restaurant	1.2	gpd/sf	0.012 Persons per sf	6
High Density Condominium	140	gpd/unit	1.4 Persons per unit	4.5
Resort Hotel	0.4	gpd/sf	0.004 Persons per room	4.5
Schools: without cafiteria	30	gpd/student	0.3 Persons per student	6
Schools: with cafiteria	50	gpd/student	0.5 Persons per student	6
Culteral	0.1	gpd/sf	0.001 Persons per sf	3
Clubhouse for Subdivision Golf Couse	200	gpd/DU	2 Persons per patron x2 patrons per du per day	4.5
Fitness Center/ Spa/ Health club	0.8	gpd/sf	0.008 Persons per sf	3.5

HYDRAULIC MODELING CRITERIA

DESCRIPTION	VALUE[2]
PEAK FLOW	
Peak Flow = Peaking Factor (PF) x ADD	$[1+14/(4+P^{1/2})]$ x ADD
(Residential PF is based on upstream population, P = Population/1,000)	
HYDRAULICS	
Minimum Pipe Diameter (in)	8
Manning's "n" value	0.013
Maximum d/D ratio at peak flow (D ≤ 12")	0.65
Maximum d/D ratio at peak flow (D > 12")	0.70

PIPE SIZE	MEAN VELOCITY[2]		DESIGN SLOPE[2]	
(in)	Minimum (ft/sec)	Maximum (ft/sec)	Minimum (%)	Maximum (%)
8	2.5	10.0	0.520	6.980
10	2.5	10.0	0.390	5.121
12	2.5	10.0	0.310	3.919

Notes:
1. Based on Arizona Administrative Code, Title 18, Chapter 9 value of 100 gallons per capita per day.
2. Per City of Scottsdale Design Standards and Policy Manual (2018)
3. Conversion of 380 gpd/room to 0.4 gpd/sf based upon existing W Hotel (SEC of Brown Ave and Camelback Rd) at an estimated 216,000 sq. ft. building area for advertised 230 guest room capacity.

TABLE 2

EXISTING WASTEWATER FLOW DISTRIBUTION

WOOD/PATEL
MISSION: CLIENT SERVICE®

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS * CONSTRUCTION MANAGERS

TABLE 2 - EXISTING WASTEWATER FLOW DISTRIBUTION

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

Project Number: 174722.01
Project Engineer: Derek C. Nichols, P.E.

	EXISTING LAND USE AREAS[1]				EXISTING WASTEWATER FLOW DISTRIBUTION[2]		CALCULATED FLOW RATES FROM FLOW TEST PEAK FLOW[3,4]			
SEWER AREA ID	Commercial/Retail (sf)	Office (sf)	Restaurant (sf)	Resort Hotel (sf)	WEIGHTING FACTOR x LAND USE AREAS	PERCENTAGE OF TOTAL PEAK FLOW AT OUTFALL (%)	CALCULATED ADD (gpd)	WEIGHTED PEAKING FACTOR	CALCULATED PEAK FLOW (gpd)	CALCULATED PEAK FLOW (gpm)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)										
SA-005-W		357,000			428,400	43%	10,960	5.64	61,845	42.948
SA-030-W		76,500			91,800	9%	2,294	5.64	12,944	8.989
SA-040-W		226,500	30,000		487,800	48%	12,235	5.64	69,035	47.941
Total Outfall #1	**0**	**660,000**	**30,000**	**0**	**1,008,000**	**100%**	**25,488.9**	**5.64**	**143,824**	**99.878**
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)										
SA-020-E	20,000	96,000	22,000	108,000	498,000	42%	32,865	2.72	89,328	62.033
SA-030-E	20,000		20,000	108,000	368,400	31%	24,258	2.72	65,932	45.786
SA-060-E	15,000		15,000		130,500	11%	8,608	2.72	23,396	16.247
SA-070-E	35,000	9,000	15,000		171,300	15%	11,738	2.72	31,903	22.155
SA-090-E	8,000				12,000	1%	783	2.72	2,127	1.477
Total Outfall #2	**98,000**	**105,000**	**72,000**	**216,000**	**1,180,200**	**100%**	**78,250.6**	**2.72**	**212,686**	**147.698**

LAND USE WEIGHTING FACTOR[2]			
Commercial/Retail (sf)	Office (sf)	Restaurant (sf)	Resort Hotel (sf)
1.5	1.2	7.2	1.8

54gpm? Measured average was 43gpm

17.7gpm? Measured average was 11.8gpm

not exactly clear where these values are coming from, show math, ADD not relevant to analysis

Notes:

1. Existing building areas contributing to specific sewer areas were estimated utilizing aerial and street view imagery from Google Earth Pro, as well as supplemental survey and record as-built information.
2. Weighting Factor for various land uses established as the DS&PM unit flow rates mulitplied by the DS&PM peaking factors for the various land uses. These weighting factors were then used to establish percentages of the total flow test peak flow at outfall to assign to each specific sewer areas.
3. Calculated peak flow at specific sewer areas taken as a percentage of the total flow test peak flow at the outfall location.
4. Peak flow at outfall location per client provided flow test data. Flow test conducted by Western Environmental Equipment from August 31, 2018 to September 17, 2018.

ADD values not from table below either?

AVERAGE EXISTING WASTEWATER PEAK FLOWS		
LOCATION	MANHOLE ID	PEAK FLOW (gpm)
East Sewer System – 4th Ave & Brown Ave Manhole	MH-100-E	109.0
West Sewer System – 4th Ave & Brown Ave Manhole	MH-060-W	65.3

TABLE 3

WASTEWATER MODEL,
EXISTING & PROPOSED CONDITIONS

WOOD/PATEL
MISSION: CLIENT SERVICE®

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS * CONSTRUCTION MANAGERS

TABLE 3 - WASTEWATER MODEL, EXISTING & PROPOSED CONDITIONS

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

Project Number: 174722.01
Project Engineer: Derek C. Nichols, P.E.

				PROJECT PROPOSED LAND USES[1]				PROJECT WASTEWATER DESIGN FLOWS						EXISTING FLOW RATES[3]		TOTAL FLOW RATES	
FROM NODE	TO NODE	PIPE ID	SEWER AREA SERVED	Commercial/ Retail (sf)	Office (sf)	Restaurant (sf)	Resort Hotel (room)	NODE ADD (gpd)	TOTAL ADD (gpd)	WEIGHTED PEAKING FACTOR[2]	NODE PEAK FLOW (gpd)	TOTAL PEAK FLOW (gpd)	PEAK FLOW (gpm)	PEAK FLOW (gpd)	PEAK FLOW (gpm)	PEAK FLOW (gpd)	PEAK FLOW (gpm)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)																	
MH-005-W	MH-010-W	P-005-W	SA-005-W					0	0	N/A	0	0	0.0	61,845	43	61,845	42.9
MH-010-W	MH-020-W	P-010-W		13,650	163,085			72,059	72,059	3.0	216,177	216,177	150.1	61,845	43	278,022	193.1
MH-020-W	MH-030-W	P-020-W						0	72,059	3.0	0	216,177	150.1	61,845	43	278,022	193.1
MH-030-W	MH-040-W	P-030-W	SA-030-W					0	72,059	3.0	0	216,177	150.1	74,789	52	290,966	202.1
MH-040-W	MH-050-W	P-040-W	SA-040-W					0	72,059	3.0	0	216,177	150.1	143,824	100	360,001	250.0
MH-050-W	MH-060-W	P-050-W						0	72,059	3.0	0	216,177	150.1	143,824	100	360,001	250.0
Total Outfall #1				**13,650**	**163,085**	**0**	**0**	**72,059**	**72,059**	**3.0**	**216,177**	**216,177**	**150.1**	**143,824**	**99.9**	**360,001**	**250.0**
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)																	
PLUG-010-E	MH-010-E	P-010-E						0	0	N/A	0	0	0.0	0	0.0	0	0.0
MH-010-E	MH-020-E	P-020-E		7,350	87,815			38,801	38,801	3.0	116,403	116,403	80.8	0	0.0	116,403	80.8
MH-020-E	MH-030-E	P-030-E	SA-020-E					0	38,801	3.0	0	116,403	80.8	89,328	62.0	205,731	142.9
MH-030-E	MH-040-E	P-040-E	SA-030-E					0	38,801	3.0	0	116,403	80.8	155,260	107.8	271,663	188.7
MH-040-E	MH-050-E	P-050-E						0	38,801	3.0	0	116,403	80.8	155,260	107.8	271,663	188.7
MH-050-E	MH-060-E	P-060-E						0	38,801	3.0	0	116,403	80.8	155,260	107.8	271,663	188.7
MH-060-E	MH-070-E	P-070-E	SA-060-E					0	38,801	3.0	0	116,403	80.8	178,656	124.1	295,059	204.9
MH-070-E	MH-080-E	P-080-E	SA-070-E					0	38,801	3.0	0	116,403	80.8	210,559	146.2	326,962	227.1
MH-080-E	MH-090-E	P-090-E						0	38,801	3.0	0	116,403	80.8	210,559	146.2	326,962	227.1
MH-090-E	MH-100-E	P-100-E	SA-090-E					0	38,801	3.0	0	116,403	80.8	212,686	147.7	329,089	228.5
Total Outfall #2				**7,350**	**87,815**	**0**	**0**	**38,801**	**38,801**	**3.0**	**116,403**	**116,403**	**80.8**	**212,686**	**147.7**	**329,089**	**228.5**
TOTAL				**21,000**	**250,900**	**0**	**0**	**110,860**	**110,860**	**3.0**	**332,580**	**332,580**	**230.9**	**356,510**	**247.6**	**689,090**	**478.5**

Notes:
1. Proposed building areas based upon Conceptual Site Plan prepared by DAVIS, dated 2/19/2019.
2. Weighted peaking factor based upon DS&PM peaking factors for various land uses.
3. Existing flow rates per Table 2 - Existing Flow Distribution.

TABLE 4

CALCULATED PIPE CAPACITIES, EXISTING CONDITION SCENARIO

WOOD/PATEL
MISSION: CLIENT SERVICE®

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS * CONSTRUCTION MANAGERS

TABLE 4 - CALCULATED PIPE CAPACITIES, EXISTING CONDITION

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	61,845	43	0.28	321,746	16.1%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	61,845	43	0.30	254,054	19.6%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	74,789	52	0.25	466,752	13.8%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	143,824	100	0.38	330,024	30.4%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	143,824	100	0.36	397,717	26.6%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	0	0	0.00	699,490	0.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	89,328	62	0.23	700,419	11.3%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	155,260	108	0.52	138,074	52.9%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	155,260	108	0.22	1,288,848	10.8%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	155,260	108	0.47	205,767	43.0%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	178,656	124	0.42	317,756	36.0%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	210,559	146	0.45	285,853	42.4%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	210,559	146	0.47	263,289	44.4%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	212,686	148	0.50	216,034	49.6%

TABLE 5

CALCULATED PIPE CAPACITIES, PROPOSED CONDITION SCENARIOS

WOOD/PATEL
MISSION: CLIENT SERVICE®

CIVIL ENGINEERS * HYDROLOGISTS * LAND SURVEYORS * CONSTRUCTION MANAGERS

TABLE 5A - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (100% TO MH-010-W)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	394,425	274	0.86	-10,834	102.8%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	394,425	274	SURCHARGED	-78,526	124.9%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	407,369	283	0.65	134,172	75.2%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	476,404	331	0.82	-2,556	100.5%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	476,404	331	0.73	65,137	88.0%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	0	0	0.00	699,490	0.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	89,328	62	0.23	700,419	11.3%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	155,260	108	0.52	138,074	52.9%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	155,260	108	0.22	1,288,848	10.8%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	155,260	108	0.47	205,767	43.0%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	178,656	124	0.42	317,756	36.0%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	210,559	146	0.45	285,853	42.4%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	210,559	146	0.47	263,289	44.4%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	212,686	148	0.50	216,034	49.6%

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TABLE 5B - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (100% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	61,845	43	0.28	321,746	16.1%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	61,845	43	0.30	254,054	19.6%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	74,789	52	0.25	466,752	13.8%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	143,824	100	0.38	330,024	30.4%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	143,824	100	0.36	397,717	26.6%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	332,580	231	0.49	366,910	47.5%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	421,908	293	0.52	367,839	53.4%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	487,840	339	SURCHARGED	-194,506	166.3%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	487,840	339	0.40	956,268	33.8%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	487,840	339	SURCHARGED	-126,813	135.1%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	511,236	355	0.85	-14,824	103.0%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	543,139	377	0.91	-46,727	109.4%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	543,139	377	SURCHARGED	-69,291	114.6%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	545,266	379	SURCHARGED	-116,546	127.2%

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TABLE 5C - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (50% TO MH-010-W, 50% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	228,135	158	0.55	155,456	59.5%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	228,135	158	0.64	87,764	72.2%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	241,079	167	0.47	300,462	44.5%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	310,114	215	0.60	163,734	65.4%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	310,114	215	0.54	231,427	57.3%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	166,290	115	0.34	533,200	23.8%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	255,618	178	0.39	534,129	32.4%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	321,550	223	0.90	-28,216	109.6%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	321,550	223	0.32	1,122,558	22.3%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	321,550	223	0.74	39,477	89.1%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	344,946	240	0.61	151,466	69.5%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	376,849	262	0.65	119,563	75.9%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	376,849	262	0.68	96,999	79.5%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	378,976	263	0.74	49,744	88.4%

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TABLE 5D - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (60% TO MH-010-W, 40% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	261,393	182	0.61	122,198	68.1%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	261,393	182	0.68	54,506	82.7%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	274,337	191	0.50	267,204	50.7%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	343,372	238	0.63	130,476	72.5%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	343,372	238	0.58	198,169	63.4%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	133,032	92	0.29	566,458	19.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	222,360	154	0.36	567,387	28.2%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	288,292	200	0.79	5,042	98.3%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	288,292	200	0.30	1,155,816	20.0%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	288,292	200	0.67	72,735	79.9%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	311,688	216	0.58	184,724	62.8%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	343,591	239	0.61	152,821	69.2%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	343,591	239	0.63	130,257	72.5%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	345,718	240	0.68	83,002	80.6%

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TABLE 5E - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (70% TO MH-010-W, 30% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS: PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	294,651	205	0.65	88,940	76.8%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	294,651	205	0.76	21,248	93.3%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	307,595	214	0.53	233,946	56.8%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	376,630	262	0.68	97,218	79.5%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	376,630	262	0.61	164,911	69.5%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	99,774	69	0.26	599,716	14.3%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	189,102	131	0.33	600,645	23.9%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	255,034	177	0.70	38,300	86.9%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	255,034	177	0.28	1,189,074	17.7%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	255,034	177	0.63	105,993	70.6%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	278,430	193	0.53	217,982	56.1%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	310,333	216	0.58	186,079	62.5%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	310,333	216	0.60	163,515	65.5%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	312,460	217	0.63	116,260	72.9%

0.0033 per as-builts

0.004 per as-builts

0.0043 per as-builts

0.59 d/D

0.62 d/D

0.63 d/D

Selected Condition/split

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TABLE 5F - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (65% TO MH-010-W, 35% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	61,845	43	0.25	412,003	13.1%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	278,022	193	0.63	105,569	72.5%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	278,022	193	0.72	37,877	88.0%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	290,966	202	0.53	250,575	53.7%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	360,001	250	0.65	113,847	76.0%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	360,001	250	0.59	181,540	66.5%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	116,403	81	0.28	583,087	16.6%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	205,731	143	0.35	584,016	26.1%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	271,663	189	0.75	21,671	92.6%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	271,663	189	0.29	1,172,445	18.8%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	271,663	189	0.64	89,364	75.2%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	295,059	205	0.55	201,353	59.4%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	326,962	227	0.59	169,450	65.9%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	326,962	227	0.60	146,886	69.0%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	329,089	229	0.65	99,631	76.8%

very low slopes,
as-builts do not seem
to indicate so flat

TABLE 2*

EXISTING WASTEWATER FLOW DISTRIBUTION
(AVERAGE EXISTING PEAK FLOW)

WOOD/PATEL
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TABLE 2* - EXISTING WASTEWATER FLOW DISTRIBUTION (AVERAGE EXISTING PEAK FLOW)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

Project Number: 174722.01
Project Engineer: Derek C. Nichols, P.E.

	EXISTING LAND USE AREAS[1]				EXISTING WASTEWATER FLOW DISTRIBUTION[2]		CALCULATED FLOW RATES FROM FLOW TEST PEAK FLOW[3,4]			
SEWER AREA ID	Commercial/Retail (sf)	Office (sf)	Restaurant (sf)	Resort Hotel (sf)	WEIGHTING FACTOR x LAND USE AREAS	PERCENTAGE OF TOTAL PEAK FLOW AT OUTFALL (%)	CALCULATED ADD (gpd)	WEIGHTED PEAKING FACTOR	CALCULATED PEAK FLOW (gpd)	CALCULATED PEAK FLOW (gpm)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)										
SA-005-W		357,000			428,400	43%	7,309	5.53	40,404	28.058
SA-030-W		76,500			91,800	9%	1,530	5.53	8,457	5.873
SA-040-W		226,500	30,000		487,800	48%	8,159	5.53	45,102	31.321
Total Outfall #1	**0**	**660,000**	**30,000**	**0**	**1,008,000**	**100%**	**16,998.0**	**5.53**	**93,963**	**65.252**
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)										
SA-020-E	20,000	96,000	22,000	108,000	498,000	42%	26,026	2.53	65,952	45.800
SA-030-E	20,000		20,000	108,000	368,400	31%	19,210	2.53	48,679	33.805
SA-060-E	15,000		15,000		130,500	11%	6,816	2.53	17,273	11.995
SA-070-E	35,000	9,000	15,000		171,300	15%	9,295	2.53	23,554	16.357
SA-090-E	8,000				12,000	1%	620	2.53	1,570	1.090
Total Outfall #2	**98,000**	**105,000**	**72,000**	**216,000**	**1,180,200**	**100%**	**61,967.8**	**2.53**	**157,028**	**109.047**

LAND USE WEIGHTING FACTOR[2]			
Commercial/Retail (sf)	Office (sf)	Restaurant (sf)	Resort Hotel (sf)
1.5	1.2	7.2	1.8

Notes:

1. Existing building areas contributing to specific sewer areas were estimated utilizing aerial and street view imagery from Google Earth Pro, as well as supplemental survey and record as-built information.
2. Weighting Factor for various land uses established as the DS&PM unit flow rates mulitplied by the DS&PM peaking factors for the various land uses. These weighting factors were then used to establish percentages of the total flow test peak flow at outfall to assign to each specific sewer areas.
3. Calculated peak flow at specific sewer areas taken as a percentage of the total flow test peak flow at the outfall location.
4. Peak flow at outfall location per client provided flow test data. Flow test conducted by Western Environmental Equipment from August 31, 2018 to September 17, 2018.

TABLE 4*

CALCULATED PIPE CAPACITIES,
EXISTING CONDITION SCENARIO
(AVERAGE EXISTING PEAK FLOW)

WOOD/PATEL
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TABLE 4* - CALCULATED PIPE CAPACITIES, EXISTING CONDITION (AVERAGE EXISTING PEAK FLOW)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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Derek C. Nichols, P.E.

							PEAK FLOW RESULTS				
FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	40,404	28	0.22	343,187	10.5%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	40,404	28	0.24	275,495	12.8%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	48,861	34	0.20	492,680	9.0%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	93,963	65	0.31	379,885	19.8%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	93,963	65	0.28	447,578	17.4%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	0	0	0.00	699,490	0.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	65,952	46	0.20	723,795	8.4%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	114,631	80	0.44	178,703	39.1%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	114,631	80	0.19	1,329,477	7.9%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	114,631	80	0.39	246,396	31.8%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	131,904	92	0.35	364,508	26.6%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	155,458	108	0.39	340,954	31.3%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	155,458	108	0.39	318,390	32.8%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	157,028	109	0.42	271,692	36.6%

TABLE 5*

CALCULATED PIPE CAPACITIES,
PROPOSED CONDITION SCENARIOS
(AVERAGE EXISTING PEAK FLOW)

WOOD/PATEL
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TABLE 5A* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (100% TO MH-010-W)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	372,984	259	0.81	10,607	97.2%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	372,984	259	SURCHARGED	-57,085	118.1%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	381,441	265	0.62	160,100	70.4%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	426,543	296	0.73	47,305	90.0%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	426,543	296	0.67	114,998	78.8%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	0	0	0.00	699,490	0.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	65,952	46	0.20	723,795	8.4%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	114,631	80	0.44	178,703	39.1%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	114,631	80	0.19	1,329,477	7.9%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	114,631	80	0.39	246,396	31.8%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	131,904	92	0.35	364,508	26.6%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	155,458	108	0.39	340,954	31.3%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	155,458	108	0.39	318,390	32.8%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	157,028	109	0.42	271,692	36.6%

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TABLE 5B* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (100% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	40,404	28	0.22	343,187	10.5%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	40,404	28	0.24	275,495	12.8%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	48,861	34	0.20	492,680	9.0%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	93,963	65	0.31	379,885	19.8%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	93,963	65	0.28	447,578	17.4%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	332,580	231	0.49	366,910	47.5%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	398,532	277	0.50	391,215	50.5%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	447,211	311	SURCHARGED	-153,877	152.5%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	447,211	311	0.38	996,897	31.0%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	447,211	311	SURCHARGED	-86,184	123.9%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	464,484	323	0.77	31,928	93.6%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	488,038	339	0.80	8,374	98.3%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	488,038	339	0.84	-14,190	103.0%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	489,608	340	SURCHARGED	-60,888	114.2%

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TABLE 5C* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (50% TO MH-010-W, 50% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

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FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	206,694	144	0.53	176,897	53.9%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	206,694	144	0.59	109,205	65.4%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	215,151	149	0.44	326,390	39.7%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	260,253	181	0.53	213,595	54.9%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	260,253	181	0.48	281,288	48.1%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	166,290	115	0.34	533,200	23.8%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	232,242	161	0.37	557,505	29.4%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	280,921	195	0.77	12,413	95.8%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	280,921	195	0.30	1,163,187	19.5%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	280,921	195	0.65	80,106	77.8%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	298,194	207	0.56	198,218	60.1%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	321,748	223	0.59	174,664	64.8%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	321,748	223	0.60	152,100	67.9%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	323,318	225	0.64	105,402	75.4%

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TABLE 5D* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (60% TO MH-010-W, 40% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	239,952	167	0.57	143,639	62.6%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	239,952	167	0.67	75,947	76.0%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	248,409	173	0.48	293,132	45.9%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	293,511	204	0.57	180,337	61.9%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	293,511	204	0.53	248,030	54.2%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	133,032	92	0.29	566,458	19.0%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	198,984	138	0.34	590,763	25.2%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	247,663	172	0.69	45,671	84.4%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	247,663	172	0.28	1,196,445	17.1%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	247,663	172	0.61	113,364	68.6%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	264,936	184	0.52	231,476	53.4%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	288,490	200	0.54	207,922	58.1%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	288,490	200	0.56	185,358	60.9%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	290,060	201	0.61	138,660	67.7%

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TABLE 5E* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (70% TO MH-010-W, 30% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	273,210	190	0.63	110,381	71.2%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	273,210	190	0.71	42,689	86.5%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	281,667	196	0.51	259,874	52.0%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	326,769	227	0.60	147,079	69.0%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	326,769	227	0.56	214,772	60.3%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	99,774	69	0.26	599,716	14.3%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	165,726	115	0.31	624,021	21.0%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	214,405	149	0.64	78,929	73.1%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	214,405	149	0.26	1,229,703	14.8%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	214,405	149	0.54	146,622	59.4%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	231,678	161	0.48	264,734	46.7%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	255,232	177	0.51	241,180	51.4%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	255,232	177	0.53	218,616	53.9%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	256,802	178	0.55	171,918	59.9%

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TABLE 5F* - CALCULATED PIPE CAPACITIES, PROPOSED CONDITION (65% TO MH-010-W, 35% TO MH-010-E)

Project: Marquee Scottsdale
Location: Scottsdale, Arizona
References: City of Scottsdale Design Standards and Policy Manual (2018)
Sewer Flow Test Data (August 2018)

174722.01
Derek C. Nichols, P.E.

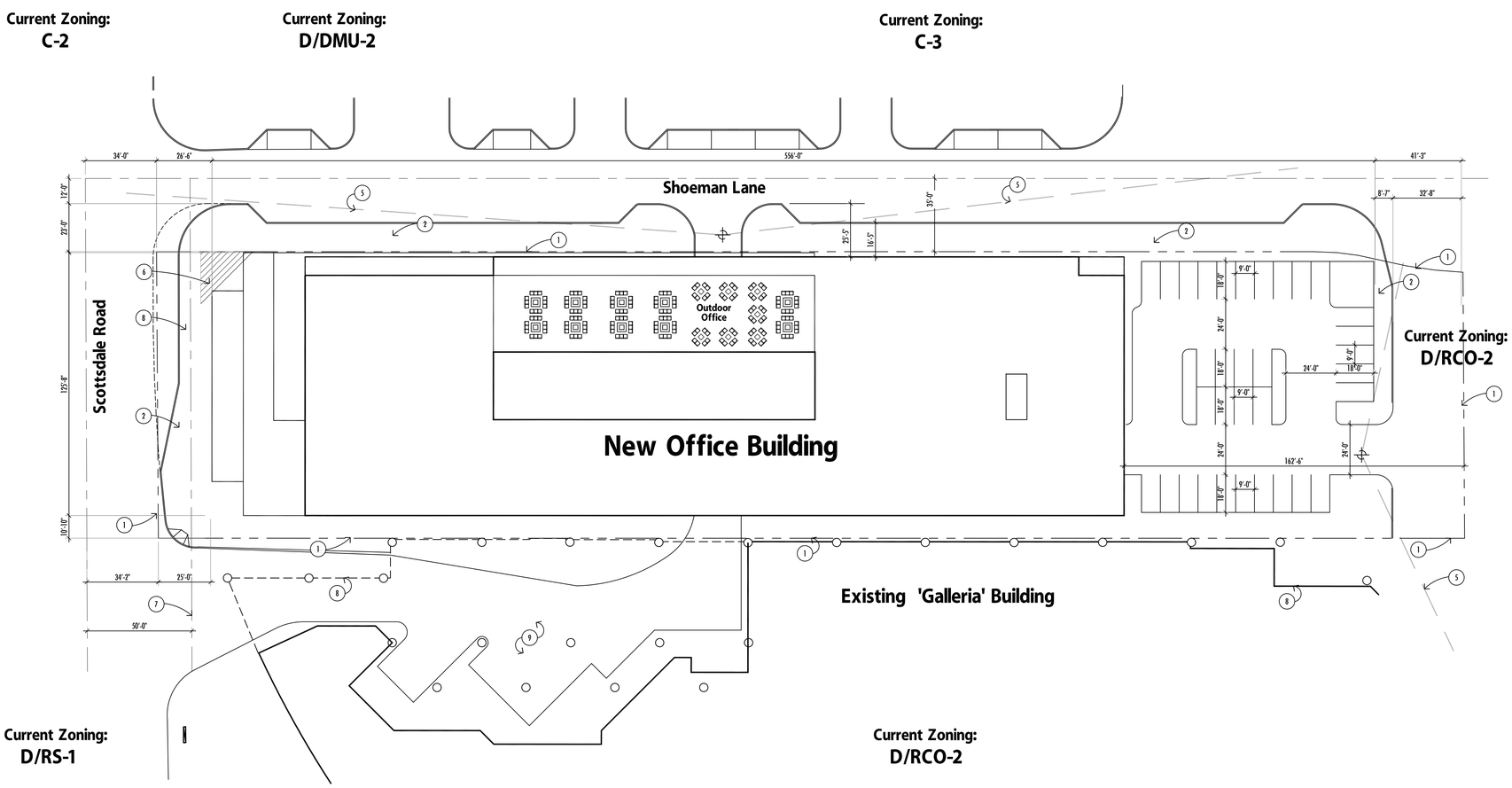
FROM NODE	TO NODE	PIPE ID	PIPE SIZE	MODELED PIPE SLOPE	PIPE CAPACITY (FULL)		PEAK FLOW RESULTS				
							PEAK FLOW	PEAK FLOW	d/D	SURPLUS CAPACITY	PERCENT OF CAPACITY
			(in)	(ft/ft)	(gpd)	(gpm)	(gpd)	(gpm)		(gpd)	(%)
Outfall #1 - West System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
MH-005-W	MH-010-W	P-005-W	8	0.0036	473,848	329	40,404	28	0.20	433,444	8.5%
MH-010-W	MH-020-W	P-010-W	8	0.0025	383,591	266	256,581	178	0.60	127,010	66.9%
MH-020-W	MH-030-W	P-020-W	8	0.0016	315,899	219	256,581	178	0.67	59,318	81.2%
MH-030-W	MH-040-W	P-030-W	8	0.0048	541,541	376	265,038	184	0.49	276,503	48.9%
MH-040-W	MH-050-W	P-040-W	8	0.0037	473,848	329	310,140	215	0.60	163,708	65.5%
MH-050-W	MH-060-W	P-050-W	8	0.0047	541,541	376	310,140	215	0.54	231,401	57.3%
Outfall #2 - East System - 4th Ave. & Brown Ave. Manhole (Flow Test Location)											
PLUG-010-E	MH-010-E	P-010-E	8	0.0033	451,284	313	0	0	0.00	451,284	0.0%
MH-010-E	MH-020-E	P-020-E	8	0.0080	699,490	486	116,403	81	0.28	583,087	16.6%
MH-020-E	MH-030-E	P-030-E	8	0.0103	789,747	548	182,355	127	0.33	607,392	23.1%
MH-030-E	MH-040-E	P-040-E	8	0.0013	293,334	204	231,034	160	0.69	62,300	78.8%
MH-040-E	MH-050-E	P-050-E	8	0.0342	1,444,108	1003	231,034	160	0.27	1,213,074	16.0%
MH-050-E	MH-060-E	P-060-E	8	0.0020	361,027	251	231,034	160	0.58	129,993	64.0%
MH-060-E	MH-070-E	P-070-E	8	0.0039	496,412	345	248,307	172	0.50	248,105	50.0%
MH-070-E	MH-080-E	P-080-E	8	0.0039	496,412	345	271,861	189	0.53	224,551	54.8%
MH-080-E	MH-090-E	P-090-E	8	0.0038	473,848	329	271,861	189	0.54	201,987	57.4%
MH-090-E	MH-100-E	P-100-E	8	0.0030	428,720	298	273,431	190	0.58	155,289	63.8%

APPENDIX A

CONCEPTUAL SITE PLAN

KEYNOTES

1. PROPERTY LINE
2. CONCRETE SIDEWALK, TYP.
3. BIKE PARKING
4. PARKING GARAGE
5. SITE DISTANCE TRIANGLE
6. TRAFFIC SAFETY TRIANGLE
7. NEW DEDICATED R.O.W. FOR SCOTTSDALE RD.
8. GALLERIA FOOTPRINT
9. GALLERIA SERVICE/REFUSE AREA



Site Plan

Address	4419 N. Scottsdale Rd. Scottsdale, AZ 85251
APN#	173-41-007A; 173-41-011; 173-41-010; 173-41-264
Existing Zoning	D/DMU-2, PBD, DO
Proposed Zoning	D/DMU-3, PBD, DO
Sub District	Downtown Multiple Use Type 2
'Galleria' Site Area	6.29 acres net (274,082sf) 6.68 acres gross (291,023sf)
Office Site Area	1.93 acres net (83,870sf) 2.63 acres gross (114,442sf)
Total Site Area	8.22 acres net (357,952sf) 9.31 areas gross (405,465sf)
'Galleria' Building Area (existing)	657,700sf
Office Building Area (new)	271,900sf
Total Area (excluding garages)	929,600sf
Height Allowed	66'-0"
Height Provided	150'-0" (top of parapet) 156'-0" (top of mech screen)
GFAR Allowed	1.30 (4.00 with bonus)
GFAR Provided	2.30
Building Setback	25'-0" from existing curb
Open Space	(not required)
Office Parking Required	836 spaces (1/300sf)
Retail Parking Required	70 spaces (1/300sf)
Total Parking Required	906 spaces
Parking Provided	948 spaces on-site 19 spaces on Shoeman Lane 967 spaces total
Accessible Parking Required	38 spaces
Accessible Parking Provided	38 spaces (30 standard; 8 van)
Bicycle Parking Required	91 spaces (1 per 10 spaces req.)
Bicycle Parking Provided	91 spaces (see First Floor Plan for locations)

APPLICANT
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Scottsdale, AZ. 85251
p: 602-678-8888
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bobrienstockdalecapital.com

ARCHITECT
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Suite 200
Tempe, AZ 85281
p: 480-638-1100
contact: Mike Edwards
medwards@thedavisexperience.com

SCALE: 1" = 30'-0" 0' 30' 60' 90' 120' NORTH

SITE PLAN
18123 - 2/19/2019

DAVIS

MARQUEE - Scottsdale, Arizona

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APPENDIX B

WASTEWATER FLOW TEST DATA

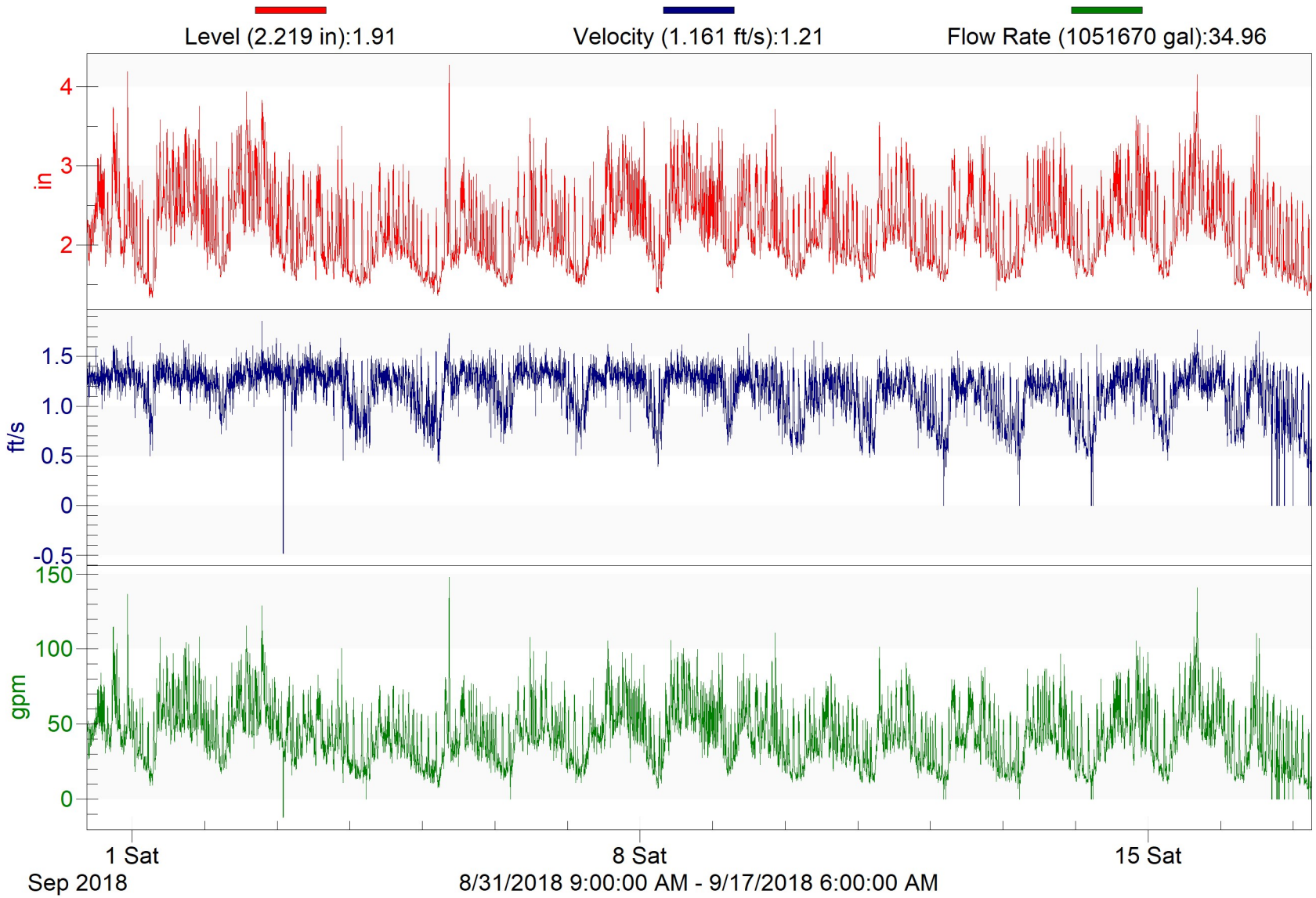
Site Name	**4th Ave and Brown - 8 inch**	4th Ave and Brown - 8 inch	4th Ave and Brown - 8 inch	4th Ave and Brown - 8 inch	4th Ave and Brown - 8 inch				
Isco Quantity	Velocity	Min/Max	Velocity	Min/Max	Flow Rate	Min/Max	Flow Rate	Min/Max	Volume
Label	**MIn Velocity**	Min/Max	**Peak Velocity**	Min/Max	**Min Flow Rate**	Min/Max	**Peak Flow Rate**	Min/Max	**Total Flow**
Units	ft/s	Date/Time	ft/s	Date/Time	gpm	Date/Time	gpm	Date/Time	gal
Resolution	0.1	N/A	0.1	N/A	0.1	N/A	0.1	N/A	0.1
Significant Digits	0	N/A	0	N/A	0	N/A	0	N/A	0
8/31/2018 0:00	0.97	2:02:00 PM	1.702	11:52:00 PM	10.942	7:18:00 AM	136.566	10:30:00 PM	56801.5
9/1/2018 0:00	0.499	6:02:00 AM	1.664	5:04:00 PM	9.02	6:02:00 AM	108.146	10:12:00 PM	72970.5
9/2/2018 0:00	0.721	5:34:00 AM	1.856	6:54:00 PM	16.959	5:34:00 AM	128.893	6:54:00 PM	**78250.6**
9/3/2018 0:00	-0.486	2:00:00 AM	1.682	8:54:00 PM	-12.076	1:58:00 AM	100.466	9:20:00 PM	62161.0
9/4/2018 0:00	0.532	4:30:00 AM	1.583	11:42:00 PM	0	5:26:00 AM	75.9	9:58:00 AM	51634.9
9/5/2018 0:00	0.421	5:38:00 AM	1.733	8:52:00 AM	7.854	5:04:00 AM	**147.698**	8:52:00 AM	54260.5
9/6/2018 0:00	0.623	2:50:00 AM	1.638	11:38:00 AM	0	5:06:00 AM	107.953	11:38:00 AM	62063.3
9/7/2018 0:00	0.503	2:44:00 AM	1.633	9:20:00 PM	11.165	2:44:00 AM	105.424	1:18:00 PM	68320.3
9/8/2018 0:00	0.393	5:58:00 AM	1.616	1:48:00 PM	7.251	5:58:00 AM	105.723	10:10:00 AM	72680.3
9/9/2018 0:00	0.61	5:00:00 AM	1.727	11:52:00 AM	15.381	5:00:00 AM	110.72	8:44:00 PM	67323.9
9/10/2018 0:00	0.513	2:18:00 AM	1.656	9:28:00 AM	11.556	2:18:00 AM	83.618	3:10:00 PM	53199.7
9/11/2018 0:00	0.484	4:00:00 AM	1.566	9:28:00 AM	10.398	4:00:00 AM	101.438	7:06:00 AM	55734.5
9/12/2018 0:00	0.387	5:12:00 AM	1.56	9:02:00 AM	0	5:06:00 AM	87.834	6:00:00 PM	55568.1
9/13/2018 0:00	0.271	5:28:00 AM	1.505	7:02:00 PM	0	5:24:00 AM	96.679	7:02:00 PM	57052.7
9/14/2018 0:00	0.371	5:10:00 AM	1.62	7:00:00 AM	0	5:50:00 AM	105.581	8:02:00 PM	62626.7
9/15/2018 0:00	0.455	6:30:00 AM	1.771	4:20:00 PM	10.424	6:30:00 AM	140.71	4:20:00 PM	71120.4
9/16/2018 0:00	0.525	8:24:00 PM	1.749	12:38:00 PM	0	11:58:00 PM	110.447	11:50:00 AM	51683.1
						Average Peak	**109.047**	**Average Day**	**61967.8**

Highest Peak Flow
Highest Average Day Flow
Average Peak and Average Day Flow

3.43 PF

4th Ave and Brown - 8 inch

Flowlink 5



Site Name	**Brown and 4th Ave - 10 inch**	Brown and 4th Ave - 10 inch	Brown and 4th Ave - 10 inch	Brown and 4th Ave - 10 inch	Brown and 4th Ave - 10 inch				
Isco Quantity	Velocity	Min/Max	Velocity	Min/Max	Flow Rate	Min/Max	Flow Rate	Min/Max	Volume
Label	**Min Velocity**	Min/Max	**Peak Velocity**	Min/Max	**Min Flow Rate**	Min/Max	**Peak Flow Rate**	Min/Max	**Total Flow**
Units	ft/s	Date/Time	ft/s	Date/Time	gpm	Date/Time	gpm	Date/Time	gal
Resolution	0.1	N/A	0.1	N/A	0.1	N/A	0.1	N/A	0.1
Significant Digits	0	N/A	0	N/A	0	N/A	0	N/A	0
8/31/2018 0:00	0.159	11:54:00 PM	1.588	1:48:00 PM	0	12:00:00 AM	70.336	1:48:00 PM	15085.3
9/1/2018 0:00	0.155	1:00:00 AM	0.85	8:56:00 PM	0	11:46:00 PM	45.249	8:56:00 PM	6185.2
9/2/2018 0:00	0.168	7:16:00 AM	0.912	10:50:00 AM	0	11:56:00 PM	57.529	10:50:00 AM	7722.2
9/3/2018 0:00	0.14	6:16:00 AM	0.858	9:24:00 AM	0	12:00:00 AM	44.494	9:24:00 AM	9897.4
9/4/2018 0:00	0.159	9:24:00 PM	0.981	11:02:00 AM	0	12:00:00 AM	80.748	11:02:00 AM	**25488.9**
9/5/2018 0:00	0.149	1:04:00 AM	0.993	9:22:00 AM	0	11:58:00 PM	72.531	9:22:00 AM	22419.9
9/6/2018 0:00	0.15	10:56:00 PM	1.028	10:22:00 AM	0	12:00:00 AM	61.941	3:10:00 PM	21518.3
9/7/2018 0:00	0.102	2:20:00 AM	1.149	8:12:00 AM	0	11:50:00 PM	80.303	8:12:00 AM	19957.8
9/8/2018 0:00	0.126	5:16:00 AM	1.191	2:42:00 AM	0	11:58:00 PM	50.874	9:16:00 AM	9081.7
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9/12/2018 0:00	0.128	3:14:00 AM	1.185	2:52:00 PM	0	12:00:00 AM	73.098	2:52:00 PM	25397.8
9/13/2018 0:00	0.145	3:20:00 AM	1.498	2:40:00 PM	0	12:00:00 AM	**99.878**	2:40:00 PM	24010.2
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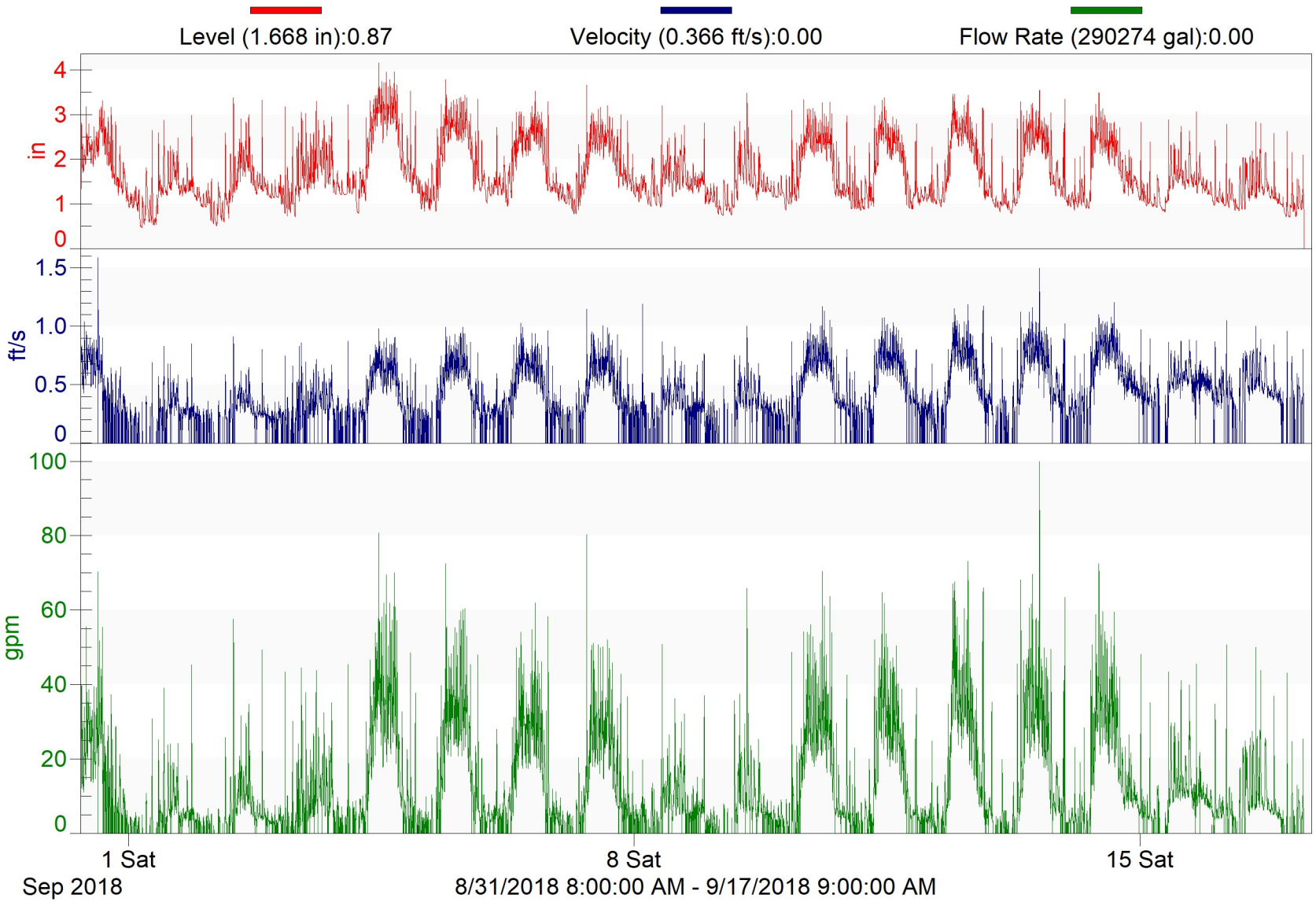
9/15/2018 0:00	0.143	8:54:00 AM	0.972	12:18:00 AM	0	7:52:00 PM	48.131	12:18:00 AM	13466.5
9/16/2018 0:00	0.25	7:22:00 AM	1.047	4:44:00 AM	0	12:00:00 AM	50.662	4:44:00 AM	11408.9
						Average Peak	**65.252**	**Average Day**	**16998.0**

Highest Peak Flow
Highest Average Day Flow
Average Peak and Average Day Flow

8.46 PF

Brown and 4th Ave - 10 inch

Flowlink 5



APPENDIX C

DEA WASTEWATER BOD REPORT
WITH COS COMMENTS

Revise and resubmit, Water Resource's analysis indicates offsite infrastructure impacts that need to be better defined and addressed.

WASTEWATER BASIS OF DESIGN REPORT
FOR
MARQUEE

PRELIMINARY Basis of Design Report

- ☐ ACCEPTED
- ☐ ACCEPTED AS NOTED
- ☑ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY ldillon **DATE** 8/15/2018

DRAFT

1) Address comments below and throughout for re-submittal.

2) Include statement that any private sewer infrastructure will conform to all applicable code.

3.) No approval is implied regarding proposed easement abandonments shown or discussed within this report. Follow the City process and requirements for abandoning a public utility easement and converting it to a private easement (refer to attached page)

PREPARED FOR

Davis
74 E Real Salado Parkway
Tempe, AZ 85281

PREPARED BY

Vicente Ruiz, P.E.
DAVID EVANS & ASSOCIATES, INC.
4600 E WASHINGTON STREET, SUITE 250
PHOENIX, AZ 85034
(602) 678-5151

JULY 2018

DEA PROJECT NO. DVSX-0002

Registered Professional Engineer (Civil)
CERTIFICATE NO. 54749
VICENTE RUIZ
DATE SIGNED 7/9/18
ARIZONA U.S.A.
Exp 6/30/19

LDillon added page 8/15/18

DRAFT PROCESS FOR ABANDONING A PUBLIC WATER/SEWER LINE EASEMENT AND REPLACING IT WITH A PRIVATE EASEMENT*
*Confirm with city Right of Way Management Department/Staff on final specifics

1. Provide a letter from initiating party stating specific abandonment intent with related figure(s). Refer to DS&PM Ch6 and Ch7 easement abandonment figure requirements. Include/list all applicable standards governing the proposed private infrastructure and include a statement of current or intended conformance.
2. City checks acceptability of abandonment and responds to proceed (or not proceed).
3. The initiating party shall provide the City with a signed and dated letter originating from any/all served or impacted property owners or representatives that share the use of the impacted infrastructure stating that they agree to take on ownership of the sewer and release the City of any/all current or future responsibility. Letter would need to include a specific reference to the private agreement already finalized/executed that meets any/all conventional legal requirements.
4.Abandonment acceptance letter issued from Water Resources and other applicable utilities (or denial of request). Any conditions shall be listed.
5.If abandonment is accepted by all:
   a. Dedication (recording) of new private easement as previously detailed.
   b. Construction or modification of new infrastructure (if applicable)
   c. Submit easement abandonment application with other required items for City processing
   c. Abandonment of City easement issued/recorded

LDillon added page 8/14/18

Dillon, Levi

From: Vicente Ruiz <Vrr@deainc.com>
Sent: Tuesday, August 14, 2018 3:21 PM
To: Dillon, Levi; Hayes, Eliana
Cc: Ramzi Georges; Boyce O'Brien (bobrien@stockdalecapital.com)
Subject: RE: Marquee PUE location
Attachments: Marquee CONCEPT UTIL-Layout1.pdf

Categories: Call

Thanks Levi, I provided responses to your questions below. Hope this clears up some concerns, but it seems we are leaning back to our original intent to make the water and sewer lines private. The owners main goal is to maintain the Galleria services in operation at all times, so we are attempting to create as little disruption as possible to their services, while still respecting design requirements and understanding future maintenance issues.

Vince

From: Dillon, Levi [mailto:LDillon@Scottsdaleaz.gov]
Sent: Monday, August 13, 2018 6:30 PM
To: Vicente Ruiz <Vrr@deainc.com>; Hayes, Eliana <EHayes@Scottsdaleaz.gov>
Cc: Ramzi Georges <Ryg@deainc.com>
Subject: RE: Marquee PUE location

Hi Vicente, I have questions on the sewer BOD. Note I am currently reviewing both water and sewerBODs:

1. By re-zoning effectively everything must be brought up to code. The City cannot accept an 8-foot sewer and water line easement. How will we access for repair or replacement? We understand that maintenance will be the issue, so this leads us to make this water and sewer service private. We could explore relocating the Galleria water service to Shoeman and coming south through the trash pickup drive to avoid the sewer parallel in the PUE. Would this ease the sewer easement width? We have 11 feet between the existing wall and the Marquee.
2. AAC/IPC compliant sewer i.e. private sewer, has basically the same requirements for this sewer line as the City, including with regard to offset from building (6 feet clearance minimum). How will either be satisfied with what you have proposed? It is my understanding that the separation requirements are in place to avoid potential loading from the structures and their footings, however, in this case, the building garage and wall footings extend down below the sewer location. The IPC states the building water and sewer can be in the same trench provided the water is 12 inch above the sewer, or else it has 5 foot separation.
3. Are you proposing to replace the 8" VCP line with new PVC mounted to support brackets w/clamps? Assuming it is private now, this is an option made by the structural engineer in order to be able to build the new Marquee garage. This could be made temporary only for during construction.
    a. This would be very a-typical. Would the City then taking on responsibility of the mechanical attachment, support attachment to the building, or any issue with the support-building interface? Offset from building is intended to protect building foundations, are we then taking on this structural liability with non-conforming line? I expect structural will be willing to provide calculations for restraints, and we will assume these lines can be private therefore maintenance and protection will be owners responsibility. If there need to be waivers for the city then please let us know.
4. What are you proposing will be done about the sewer and stormwater manholes in the new cross section you provided? The storm drain will also need to be private as it is taking roof drain runoff from the Galleria and the Marquee, and a cross drainage agreement will be made for the two lots. Again, the same owner makes it easy now.

LDillon added page 8/14/18

5. Are these two building really going to be allowed to have almost zero setback between them? About 11 feet as currently designed.
6. Regarding the sewer that is aligned north-south that is shown to be removed:
    a. This serves the Galleria, where will this flow be re-routed? The engineer of the previously approved BOD for this site stated in the report that they verified that the Galleria service connects to the main that goes west and south, and not into the north line.

Please respond ASAP. Thank you.

Levi C. Dillon, P.E. | *Sr. Water Resources Engineer*

SCOTTSDALE WATER

"Water Sustainability through Stewardship, Innovation and People"

Contact Info
Direct: (480) 312-5319
Main office: (480) 312-5685
Fax: (480) 312-5615
Mailing/Office Address
Water Resources Administration
9379 E. San Salvador Dr.
Scottsdale, AZ. 85258

Sending me an attachment over 5MB? Please use the link below:
https://securemail.scottsdaleaz.gov/dropbox/ldillon@scottsdaleaz.gov

---

From: Vicente Ruiz <Vrr@deainc.com>
Sent: Monday, August 13, 2018 12:05 PM
To: Hayes, Eliana <EHayes@Scottsdaleaz.gov>; Dillon, Levi <LDillon@Scottsdaleaz.gov>
Cc: Ramzi Georges <Ryg@deainc.com>
Subject: Marquee PUE location

Eliana, Levi,

Hope you had a great weekend. Here is a cross section of the latest proposed garage and building extent between the Marquee Office and the existing Galleria retaining wall. The intent is to keep the 8ft PUE in place, and, during construction of the Marquee, restrain it to protect in place. We will no longer propose underground parking beneath the PUE, and we will no longer look to relocate the existing water main and meter serving the Galleria. Let me know your thoughts on this approach. I appreciate your early coordination on this.

Thanks,

Vicente Ruiz | Project Manager, Land Development
David Evans and Associates, Inc.
4600 E Washington St Suite 250 | Phoenix, AZ, 85034 | www.deainc.com
d: 602.674.2001 | c: 602.214.7191 | cisco: 490001 | vrr@deainc.com

ENERGY | LAND DEVELOPMENT | MARINE SERVICES | SURVEYING AND GEOMATICS | TRANSPORTATION | WATER AND ENVIRONMENT

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2. EXISTING TOPOGRAPHY, VEGETATION, AND LANDFORM FEATURES 2
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D. PROPOSED CONDITIONS **3**

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2. PROPOSED CONNECTIONS 3
3. MAINTENANCE RESPONSIBILITIES 3

E. COMPUTATIONS **4**

1. CALCULATIONS 4

F. SUMMARY **4**

EXHIBITS	TITLE
1	Vicinity Map
2	Water and Sewer Plans

APPENDICES	TITLE
A	City of Scottsdale Wastewater Quarter Section Map
B	Wastewater Generation Calculations
C	Exhibits

A. INTRODUCTION

This basis of design report was completed under a contract with Davis for Stockdale Capital Partners, LLC, owner and developer of the Marquee. The proposed Marquee project is a multi-story office building above a single ground level retail space. An onsite parking garage is also proposed as part of this project. The site was originally approved for zoning under number 7-ZN-2015. The Preliminary Sanitary Sewer Basis of Design Report was prepared by Hunter Engineering and it was approved with comments by Doug Mann in August 2015. This new rezoning submittal will address the additional office floor space which has increased the sanitary loads from the site.

September

1. Project Location

The proposed Marquee project is located at the southeast corner of Shoeman Lane and Scottsdale Road within the City of Scottsdale, Arizona. The location of the site is illustrated in project's vicinity map Exhibit 1 Appendix C.

2. Site Zoning

The zoning of the Marquee site is discussed in Section C.1 of this report.

3. General Plan

The Marquee project is located within what is considered the Downtown Core Area of the City of Scottsdale General Plan and it will reflect the plan's vision, goals, and policies.

B. DESIGN DOCUMENTATION

2018

1. Design Procedures

The analysis of the proposed wastewater collection system was done in compliance with the City of Scottsdale Design Standards and Policies Manual 2017 (DSPM). The proposed wastewater collection system will serve the project in accordance with City of Scottsdale design standards and the ADEQ Engineering Bulletin 10.

For water systems only. Sewer AAC and IPC

The estimated Average Day Sewer Design Flows for the Marquee project were determined based on the Design Standards and Policy Manual and are as follows:

- Office = 0.4 gallons per square foot per day (PF=3)
- Retail = 0.5 gallons per square foot per day (PF=3)

2. Software

Wastewater generation was determined using a Microsoft Excel spreadsheet. FlowMaster is a pipe modeling software created by Bentley and Haestad Methods. This was used to determine sewer pipe capacities.

C. EXISTING CONDITIONS

1. Zoning and Land Use

The site is currently zoned C2-DO, and it is proposed to be C3-DO. This district is intended to provide for commercial use in the Downton district.

2. Existing Topography, Vegetation, and Landform Features

Generally, the existing topography slopes in a southeasterly direction. The site is currently a 2-story retail building and a single-story retail building with surface parking and minimal site landscaping.

this APN does not exist, it is not the Galleria APN

describer who and how was this verified?

3. Existing Utilities

There is an existing 8" VCP sewer main in Shoeman Lane along the entire property frontage that begins near the Scottsdale Road right of way and it flows to the east. There is an existing sewer service that runs through the middle of the project site that connects it into the Shoeman Lane sewer main. This service terminates near the south property line and has been verified that it does not service the Galleria building to the south, APN #173-41-023 A. The wastewater discharge from Shoeman Lane turns south into an existing 8" VCP sewer main within the adjacent drive along the eastern property boundary and flows to the south, continuing into Brown Avenue.

There is an existing 8" VCP main in Scottsdale Road that terminates at the southwest corner of the site and it flows to the south. The service for the Galleria extends from this main along the south site property boundary. The service lines turn south near the existing Galleria service entrance where it enters the Galleria. This service connection will remain in operation throughout this project. The sewer main in Scottsdale Road turns southeasterly at the intersection of Drinkwater Blvd before continuing south and upsizing to a 10" sewer in Brown Avenue, paralleling the 8 inch sewer previously mentioned.

northwest??

Per the previously approved preliminary Basis of Design Report for this site, manholes downstream of the site were flow tested. The report is added to the appendix of this report for reference.

The existing wastewater demand based on the previous use for the project site is summarized below.

Hard to follow this...show all this in the utility plan.

TABLE C.3.1 – PREVIOUS WASTEWATER GENERATION SUMMARY

ADWF (gpd)	Peak Flow (gpd)	Peak Flow (gpm)
9,138	27,414	19.0

northwest??

D. PROPOSED CONDITIONS

1. Site Plan

The proposed site improvements are illustrated in Exhibit 2. Offsite improvements include adjusting street parking and landscaping, as well as demolishing and removal of existing building structures.

2. Proposed Connections

All of the proposed sewer connections to the existing system are illustrated on the Concept Water and Sewer Plan. In order to develop the proposed site as anticipated, the north Galleria service at the southwest corner of the site would be maintained in place and a private sewer easement would be dedicated over it by the site property owner.

Service for the proposed building would be taken off the southwest comer of the site and it would also be routed into the existing manhole in Scottsdale Road for the office and retail. Flows were calculated in accordance with the City of Scottsdale Design Standards and Policy Manual. The average daily wastewater flow for the entire site is 78.3 GPM and the peak daily flow is 235 GPM. See table below and the demand calculations in Appendix B.

3. Maintenance Responsibilities

The maintenance responsibilities of the Marquee development are that of any typical commercial development in the area. All private construction is to be privately owned, operated and maintained.

E. COMPUTATIONS

1. Calculations

The wastewater collection system improvements required to serve the development is illustrated on Exhibit 2.

Table E.1.1 summarizes the wastewater flows for Marquee. Detailed sanitary sewer calculations for the projected wastewater generation and the FlowMaster output for the proposed sewer services will be provided once the proposed new sewer main infrastructure is designed. The peak flows are based on peaking factors as set forth in the City of Scottsdale Design Standards & Policies Manual. A maximum velocity of 10 ft/s was assumed for all private sewer service connections.

TABLE E.1.1 – WASTEWATER GENERATION SUMMARY

ADWF (gpd)	Peak Flow (gpd)	Peak Flow (gpm)
112,766	338,298	234.93

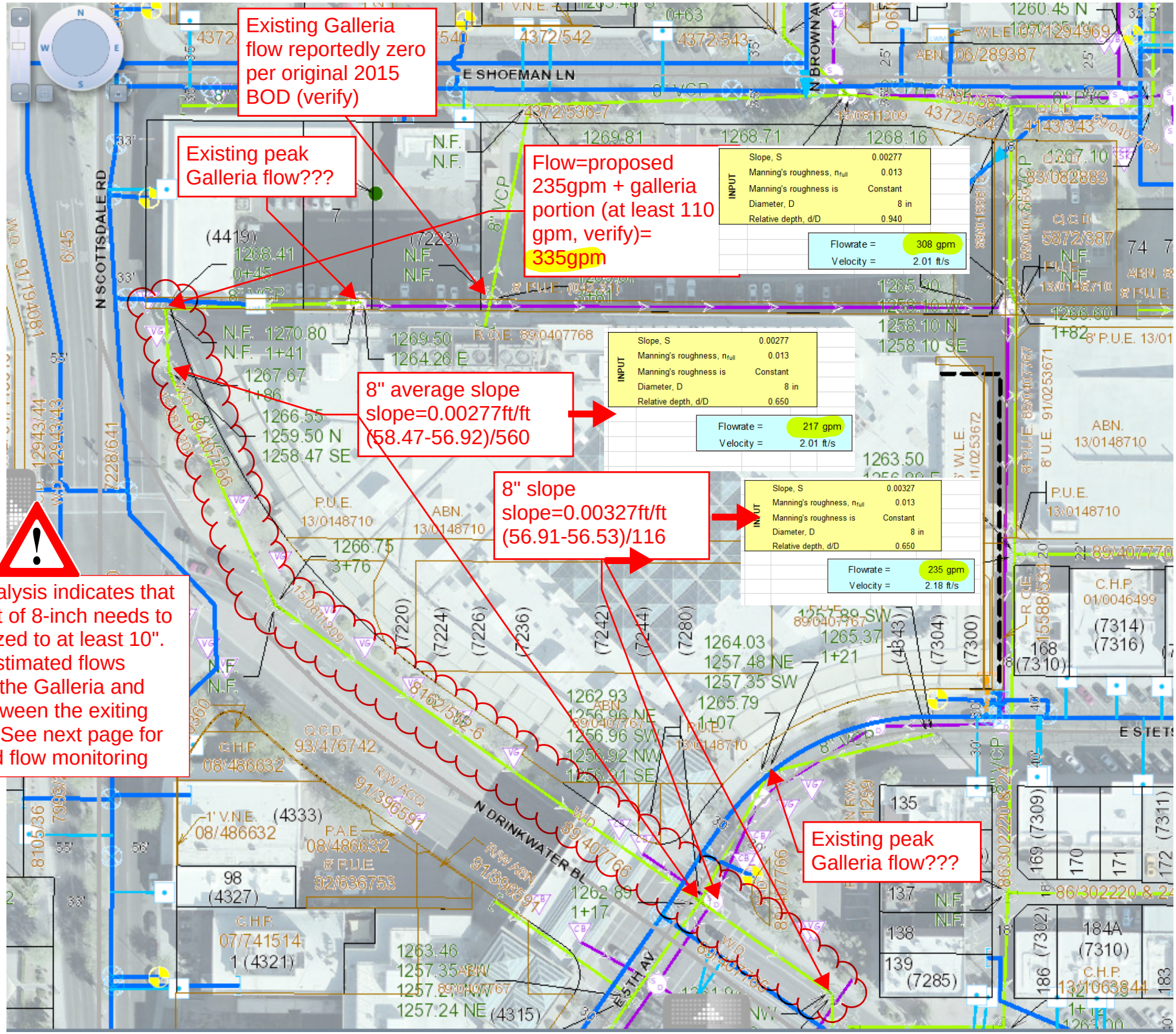
The existing sewer service line supporting the Galleria site will remain in place and in operation throughout construction.

F. SUMMARY

The construction of the Marquee project will require abandonment of an existing public sewer line that traverse the site. The project site will be serviced by an existing 8 inch sewer main in Scottsdale Road. If required, a new sewer flow test can be made to verify downstream sewer capacity. The proposed wastewater collection system detailed in this report has been designed in accordance with the 2017 City of Scottsdale design standards and policies. All improvements will be at the developer's cost. Final BODs will be provided prior to the submittal of improvement plans.

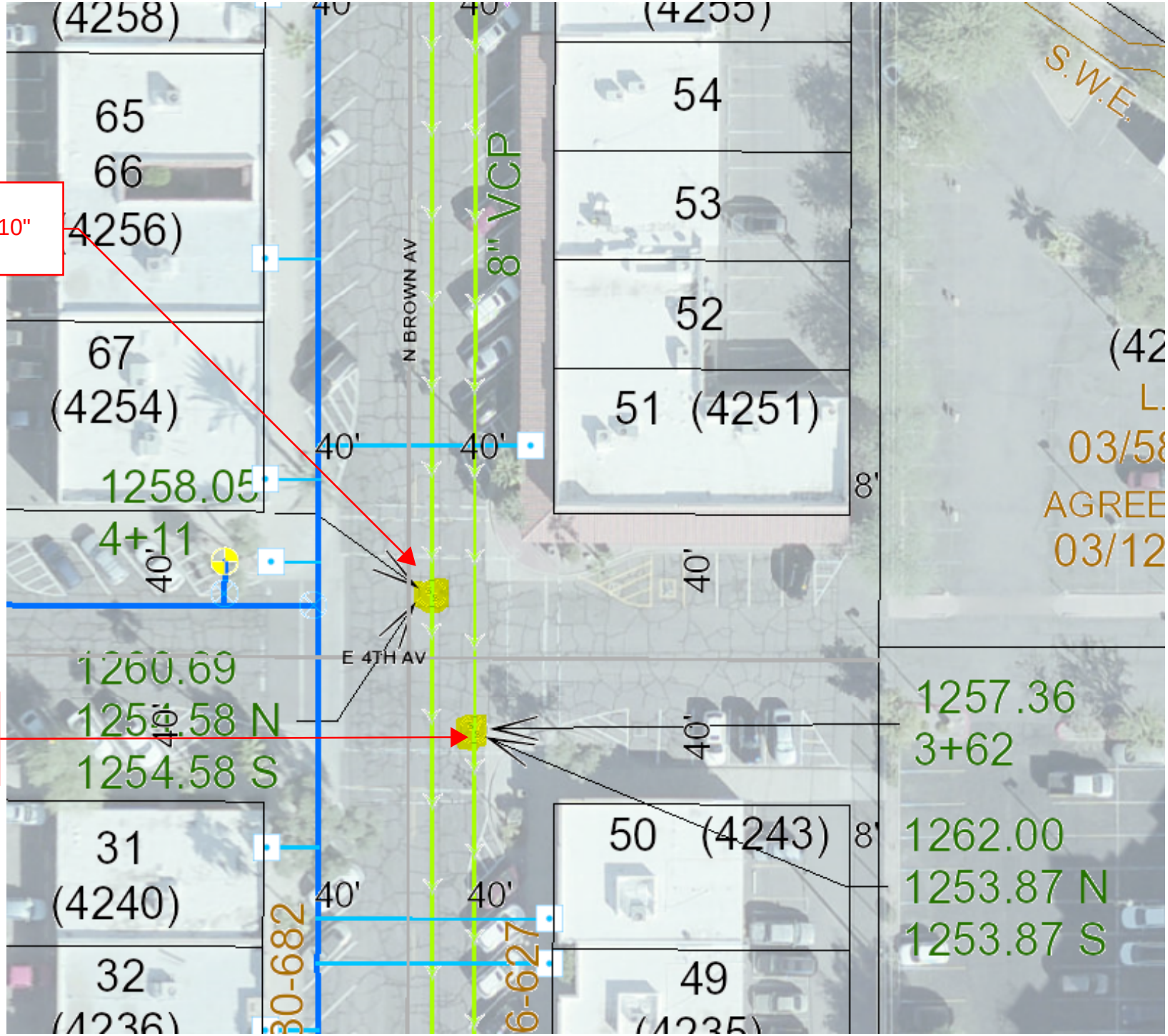
Sewer flow monitoring will be required on 8" and 10". Initial hydraulic calculations checks show surcharging of the proposed 8" line leaving the Galleria, see next 2 pages for analysis.

LDillon added 8/15/18

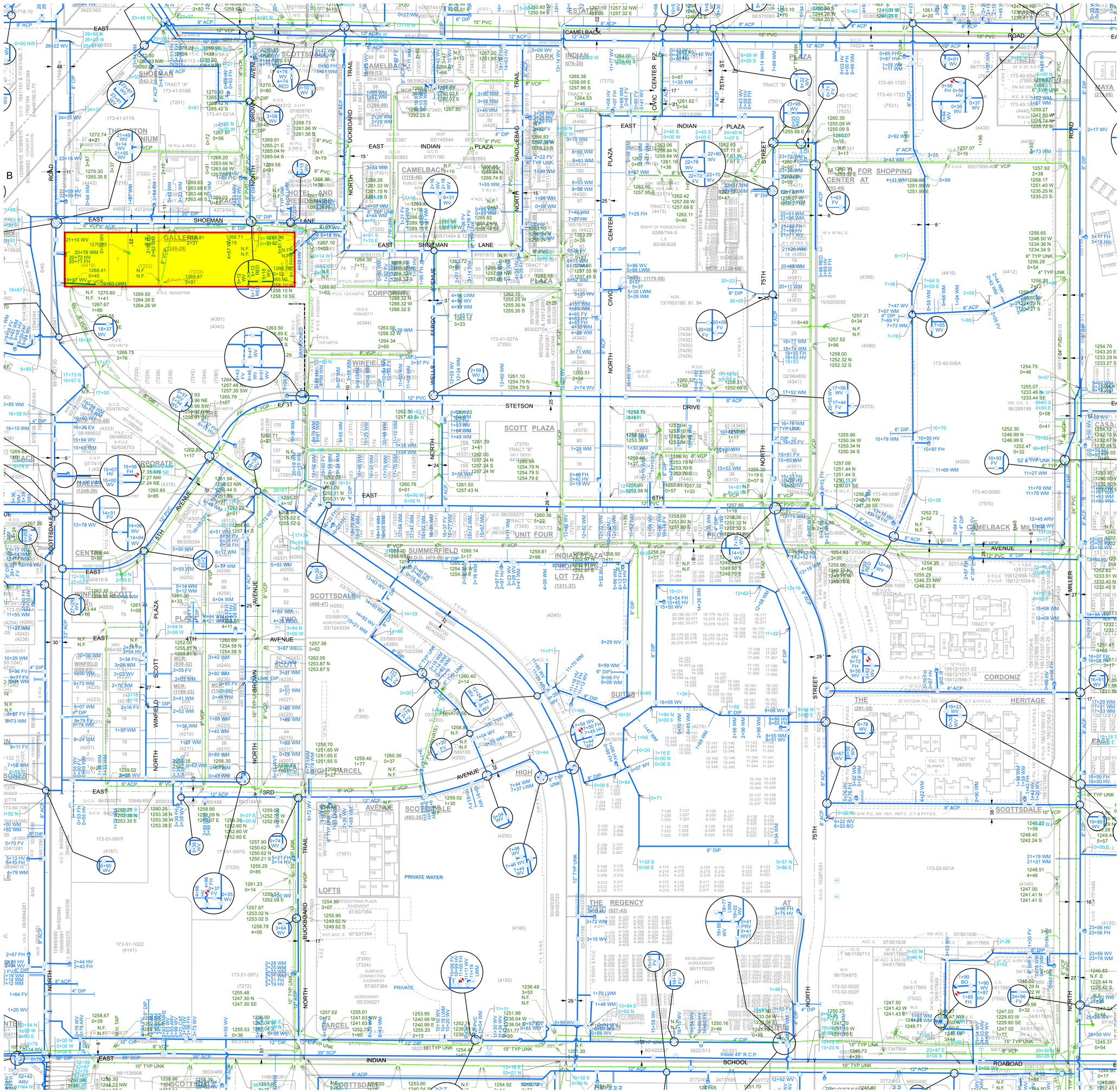


This analysis indicates that 725 feet of 8-inch needs to be upsized to at least 10". Need estimated flows leaving the Galleria and split between the exiting outlets. See next page for required flow monitoring

LDillon added
8/15/18



APPENDIX A
CITY OF SCOTTSDALE WASTEWATER QUARTER SECTION MAP



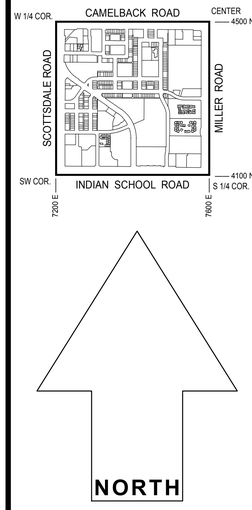
GENERAL NOTES:

- THIS IS A COMPUTER GENERATED DRAWING. FOR ANY REVISIONS PLEASE CONTACT THE CITY OF SCOTTSDALE GIS DEPARTMENT AT (480) 312-7792.
- THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER, 1991. BEARINGS ARE NAD 83 GRID AND DISTANCES ARE FLATTENED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS 'CALCULATED' ON THE MAP.

LEGEND:

- Water Valve
- Non-potable Water Valve
- Fire Hydrant
- Water Blowoff
- Water Main Reducer
- Water Sample Station
- Water Air Release Valve
- Non-potable Water Air Release Valve
- Water Pressure Reducing Valve
- Water Vault
- Water Manhole
- Non-Potable Water Manhole
- Water Pump
- Water Main
- Non-Potable Water Main
- Fire Line
- Water Service
- Non-Scottsdale Water Main
- Sewer Manhole
- Sewer Cleanout
- Sewer Lift Station
- Sewer Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force
- Non-Scottsdale Sewer Main
- Sewer Service

VICINITY MAP



SCALE: 1" = 100'

0 50 100 200

The map scale of 1" = 100' is based on a full size print of 30" x 36"

WATER & SEWER

QUARTER SECTION MAP

17-45

SW 1/4 SEC. 23 T2N R4E

CITY OF SCOTTSDALE
SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS
3629 North Drinkwater Boulevard
Scottsdale, Arizona 85251

N O T I C E

THIS DOCUMENT IS PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY. THE CITY OF SCOTTSDALE DOES NOT WARRANT ITS ACCURACY, COMPLETENESS OR SUITABILITY FOR ANY PARTICULAR PURPOSE. IT SHOULD NOT BE RELIED UPON WITHOUT FIELD VERIFICATION.

THE CITY OF SCOTTSDALE

01-JUL-18

APPENDIX B
WASTEWATER GENERATION CALCULATIONS

Marquee
Proposed Onsite Sewer Calculations

Marquee	Land Use and Description	SF or Dwelling Units	Bed/ Persons Per Unit	Average Daily Flow Per Unit (gpu)	Average Daily Flow (gpm)	Peak Factor	Peak Flow (gpm)
	Commercial (office)	262,415		0.4	72.89	3.00	218.68
	Commercial (Retail)	15,600		0.5	5.42	3.00	16.25
TOTAL Phase 1					**78.31**		**234.93**

Note: The dwelling units and square footage was based on latest available site plan.

Printed: 7/5/2018

Marquee
Existing Sewer Calculations

Lot # for Sewer Demand in 6th Ave	Land Use and Description	SF or Dwelling Units	Bed/ Persons Per Unit	Pop.	Average Daily Flow Per Unit (gpu)	Average Daily Flow (gpm)	Peak Factor	Peak Flow (gpm)
Shoeman Lane	Retail	16376		0	0.5	5.69	3.00	17.06
Shoeman Lane	Retail	1900		13	0.5	0.66	3.00	1.98
TOTAL EXISTING SEWER DEMAND						**6.35**		**19.04**

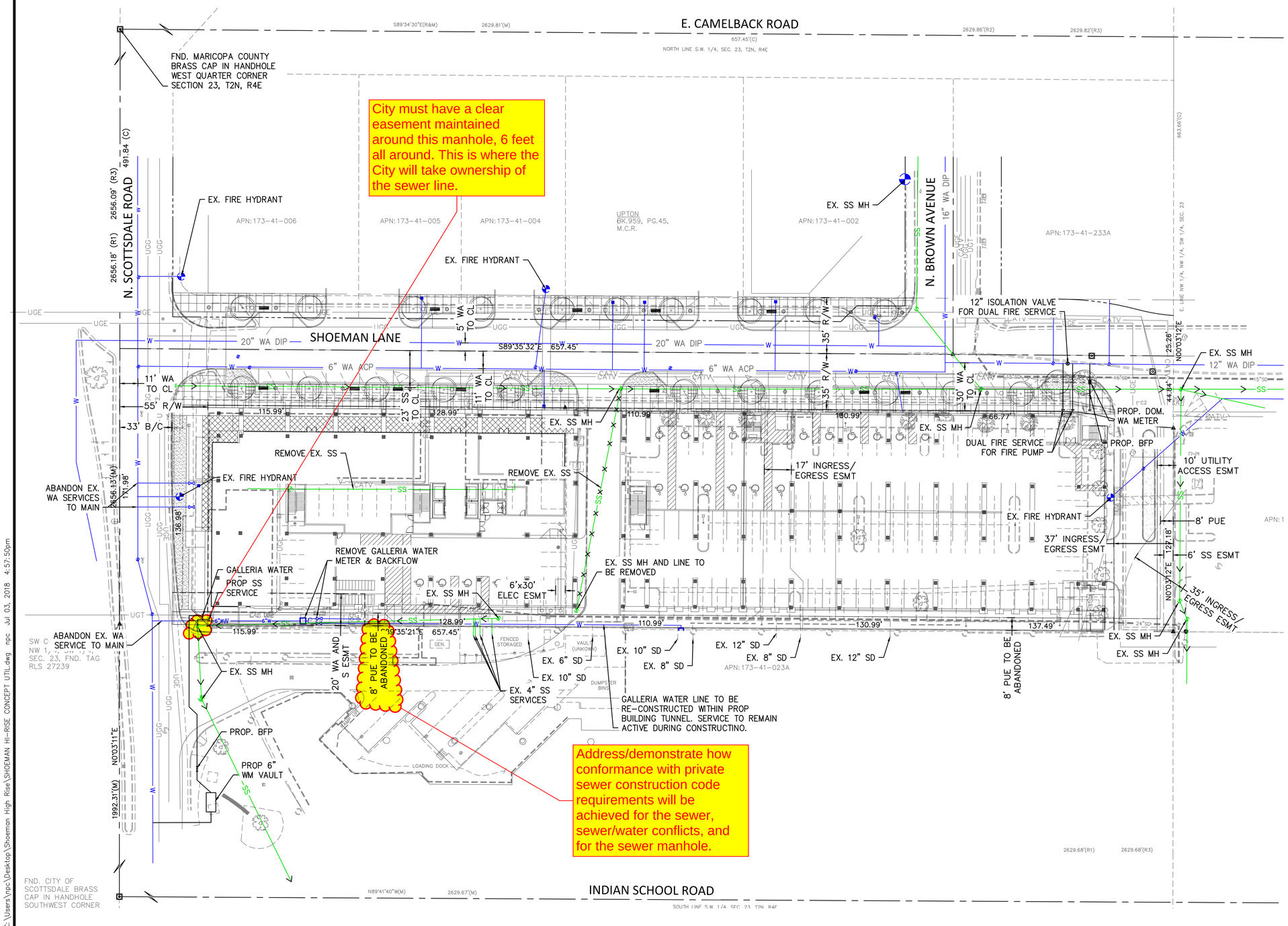
Note: The dwelling units and square footage was based on latest available aerials. Populations equivalent is taken at 72gpcpd

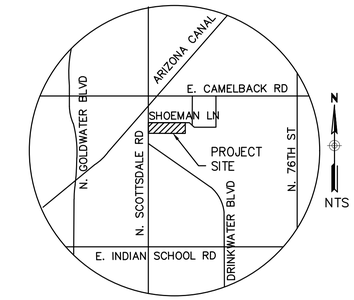
APPENDIX C
EXHIBITS

CONCEPTUAL UTILITY PLAN FOR MARQUEE
CITY OF SCOTTSDALE, ARIZONA

LOCATED IN THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY ARIZONA

SCALE
30 0 15 30 60
(FEET)
1 INCH = 30 FT.





VICINITY MAP

DEVELOPER/OWNER
STOCKDALE CAPITAL PARTNERS
4343 N. SCOTTSDALE ROAD, STE. 180
SCOTTSDALE, AZ 85251
CONTACT: BOYCE O'BRIEN
PHONE: (602) 748-8888

ARCHITECT
DAVIS ARCHITECTURE
74 E. RIO SALADO PKWY
TEMPE, AZ 85281
CONTACT: MICHAEL EDWARDS, AIA, LEED AP
PHONE: (602) 448-1994

ENGINEER
DAVID EVANS AND ASSOCIATES, INC.
4600 EAST WASHINGTON STREET,
SUITE 250
PHOENIX, AZ 85034
CONTACT: VICENTE RUIZ
PHONE: (602) 474-9001

BENCHMARK
THE INTERSECTION OF CAMELBACK ROAD AND MILLER ROAD, A STONE IN A HANDHOLE, DOWN 1.45' CITY OF SCOTTSDALE GPS POINT 4234, ELEV=1259.425, NAVD '88 DATUM.

BASIS OF BEARING
BASIS OF BEARING FOR THIS SURVEY IS A BEARING OF NORTH 89°34'30" WEST, ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, ACCORDING TO THE PLAT OF CAMELBACK PARK PLAZA, AS RECORDED IN BOOK 86, PAGE 13, MARICOPA COUNTY RECORDS, ARIZONA.

LEGAL DESCRIPTION
PARCEL NO. 1:

LOTS 6 AND 7, SHOEMAN TRACT, ACCORDING TO BOOK 42 OF MAPS, PAGE 31, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 2:

LOTS 8, 9 AND 10, SHOEMAN TRACT, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE COUNTY RECORDED OF MARICOPA COUNTY, ARIZONA, IN BOOK 42 OF MAPS, PAGE 31.

REVISION	DATE	BY

DRAWN BY: NPC
DESIGN BY: VRR
CHECKED BY: VRR
DATE: 7/2018

DAVID EVANS AND ASSOCIATES INC.
4600 E Washington Street, Suite 250
Phoenix Arizona 85034
Phone: 602.678.5151

Registered Professional Engineer (Civil) CERTIFICATE NO. 54749 VICENTE RUIZ Date Signed ARIZONA U.S.A.
EXP: 6/30/2019

CONCEPTUAL UTILITY PLAN FOR MARQUEE
4419 N. SCOTTSDALE RD
SCOTTSDALE, ARIZONA

SECTION: 23
TWNSHP: 2N
RANGE: 4E

JOB NO.: KHFH6007

SHEET OF 1

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE4IT (782-5348) In Maricopa County: (602) 263-1100

C:\Users\npc\Desktop\Shoeman High Rise\SHOEMAN HI-RISE CONCEPT UTIL.dwg npc Jul 03, 2018 4:57:50pm

APPENDIX D

HUNTER WASTEWATER BOD REPORT

HUNTER
ENGINEERING

CIVIL AND SURVEY

Preliminary Basis of Design Report
Sanitary Sewer
For
Marquee @ The District
SEC Scottsdale Road and Shoeman Lane
Scottsdale, Arizona

Accepted w/ Comments

City of Scottsdale
Water Resources Administration
9379 E. San Salvador
Scottsdale, AZ 85258

Doug Mann 9.10.15

Registered Professional Engineer (Civil)
CERTIFICATE NO. 42104
LARRY M. TALBOTT
Date Signed 8/25/15
ARIZONA U.S.A.
Expires 3/31/17

7-ZN-2015
August 2015

Prepared by:
Hunter Engineering, Inc.
10450 N. 74th Street, Suite 200
Scottsdale, AZ 85258

7-ZN-2015
8/27/15

PRELIMINARY BASIS OF DESIGN REPORT
SANITARY SEWER
FOR

MARQUEE @ THE DISTRICT
SEC SCOTTDALE ROAD AND SHOEMAN LANE
SCOTTSDALE, ARIZONA

PREPARED FOR

LGE Design Build
740 North 52nd Street
Scottsdale, AZ 85008

PREPARED BY

LARRY TALBOTT, P.E.
HUNTER ENGINEERING, INC.
10450 N. 74th Street, SUITE 200
SCOTTSDALE, AZ 85258
(480) 991-3985

H.E. PROJECT NO.: LGEC189

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1.0	Introduction	1
2.0	Existing Conditions	1
3.0	Proposed Sanitary Sewer System	1
4.0	Conclusions	2
5.0	References	2

FIGURES	TITLE	
1	Vicinity Map	Appendix A
2	Site and Building Information	Appendix A

APPENDIX	TITLE
A	Figures
B	Calculations
C	Flow Test Results.

Registered Professional Engineer (Civil)
CERTIFICATE NO.
42104
LARRY M.
TALBOTT
Date Signed 8/25/17
ARIZONA U.S.A.
Expires 3/31/17

1.0 INTRODUCTION

This sewer report has been prepared for LGE Design Build, developer of the Marquee @ The District project. The purpose of this report is to provide a preliminary sewer analysis, as required by the City of Scottsdale, to support this development. This report will provide the proposed project demand and discuss potential options for sewer service. The service options are based upon city record information as no physical survey data has been obtained. Preparation of this report has been prepared according to the procedures detailed in the City of Scottsdale Wastewater Services Department *Design Standards & Policies Manual, Chapter 7 Wastewater, and January 2010.*

This project is located south of Shoeman Lane east of Scottsdale Road, within the City of Scottsdale, Maricopa County, Arizona. The site is in a portion of Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. Figure 1, in Appendix A, illustrates the location of the project site in relation to the City of Scottsdale street system. The proposed access to the site will be provided via Shoeman Lane

The development is for a proposed multi-story office, retail and parking consisting of approximately 2.1± acres. Improvements to be made on-site include the proposed multi-story building, parking structure and landscaped areas.

2.0 EXISTING CONDITIONS

There is an existing 8" VCP sewer main in Shoeman Lane along the entire property frontage that dead ends at Scottsdale Road. There is an existing sewer service that runs through the middle of the site. This service dead ends near the south property line and it has been verified that this service does not service the Galleria building APN #173-41-023A. There is an existing 8" VCP main in Scottsdale Road that dead ends at the southwest corner of the site. The service for the Galleria extends from this main along the south property boundary near the existing Galleria service entrance where it enters the Galleria. There is also an existing 8" VCP sewer main within the adjacent drive along the eastern property boundary.

Per discussions with the City of Scottsdale Water/Wastewater department the existing sewer mains along the east and west side of the project are completely separate systems until they outfall into Miller Road near the Indian School intersection. In order to verify downstream capacity the city requested that manholes for both systems be flow tested. The manholes selected by the city were south of the project within Buckboard Trail nearly centered between East 3rd Avenue and Indian School Road. The results of these flow tests can be found in Appendix C.

The western system is an existing 10" sewer line at the flow test location. The peak flow measured was 0.41 cfs or 184 gpm. Per interpolated slope calculations from the City quarter section maps the slope of this line is approximately 1.7%. At a maximum allowable d/D of 0.65 the capacity of this line is 966 gpm. Per standard engineering practice the minimum slope for 2.0 fps for a 10" line would be 0.25% which would result in a full flow capacity of 492 gpm.

2.5 fps per COS

include in Final report

The eastern system is an existing 8" sewer line at the flow test. Per the testing consultant sludge buildup during the test caused errors in the readings. The test is being re-run, however the results were not available for this report, but will be provided to the city separately or in any subsequent reports. Since the existing western 10" system is the preferred system and appears to have adequate capacity the 8" test is not paramount to this report.

OK

3.0 PROPOSED SANITARY SEWER SYSTEM

In order to develop the proposed site as anticipated the north Galleria service at the southwest corner of the site would be maintained in place and a private sewer easement would be dedicated over it by the site property owner.

Service for the proposed building would be be taken off the southwest corner of the site and would also be routed into the existing manhole in Scottsdale Road. Wastewater flows for the office and retail were calculated in accordance with the City of Scottsdale Design Standards and Policy Manual. The average daily wastewater flow for the entire site is 77.3 GPM and the peak daily flow is 231.9 GPM. See table below and the demand calculations in Appendix B.

PROJECTED MAXIMUM SANITARY SEWER LOADS

Building Level	Building Use	Building Area sq.ft.	Average Day Sewer Demands in Gallons		Peaking Factor	Average Daily Flow gpd	Average Daily Flow gpm	Peak Flow gpm
Ground Level	Retail	18,950	0.50	per sq.ft.	3	9,475	6.6	19.8
Level 2	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 3	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 4	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 5	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 6	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 7	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 8	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
TOTAL		**274,310**				**111,619**	**77.3**	**231.9**

Based upon the flow test results and the existing slopes there is a remaining capacity of 782 gpm (966 gpm – 184 gpm). Even with a more conservative approach assuming minimum allowed slope of 0.25% the remaining capacity would be 308 gpm (492 gpm – 184 gpm). Both of resulting capacity numbers are greater than the calculated peak flow of 232 gpm.

4.0 CONCLUSIONS

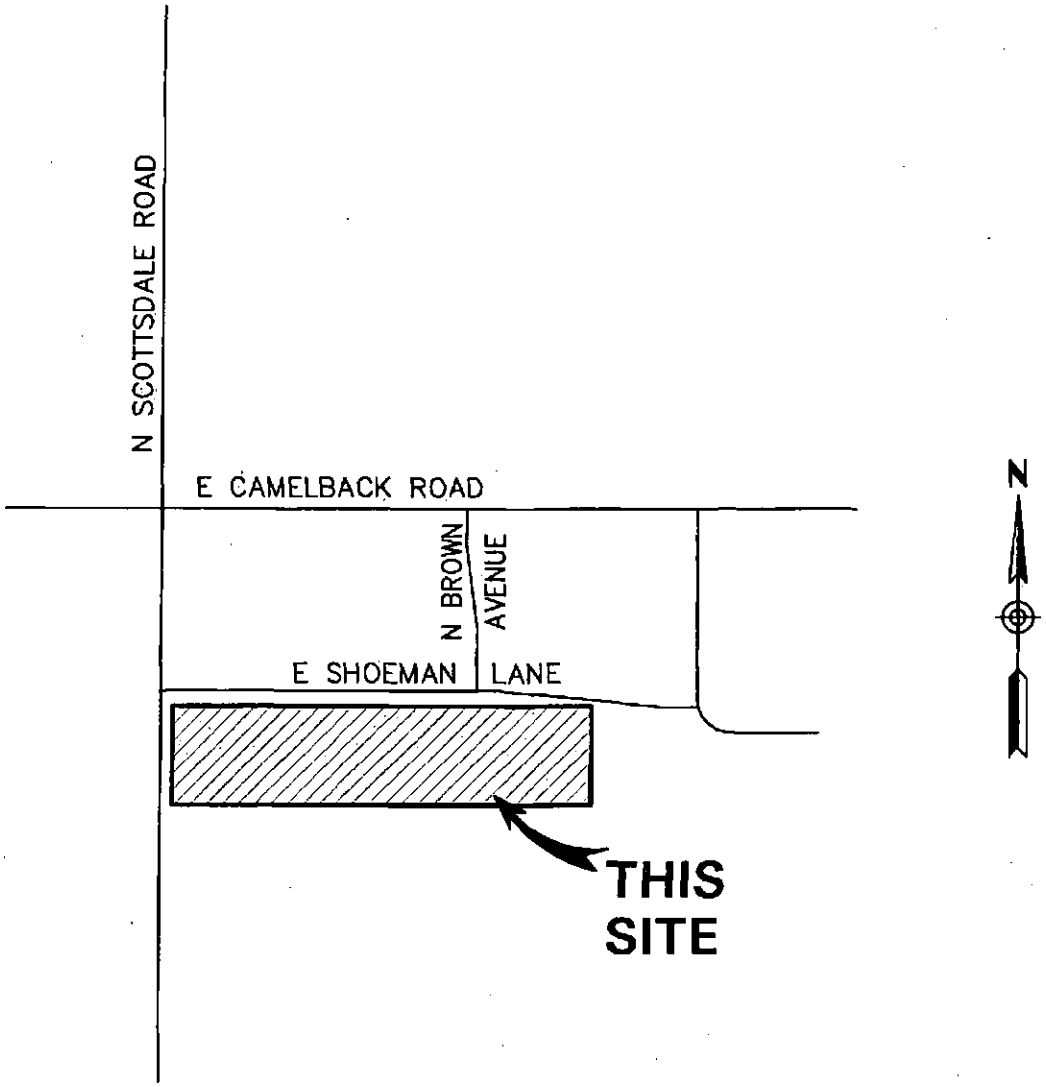
Based on the results of this study, it can be concluded that:

- The public sewer system to the west has adequate capacity to handle the generated wastewater flows for the proposed development.
- The developer shall be solely responsible for any off-site improvements.

5.0 REFERENCES

1) *City of Scottsdale Design Standards & Policies Manual*, January 2010.

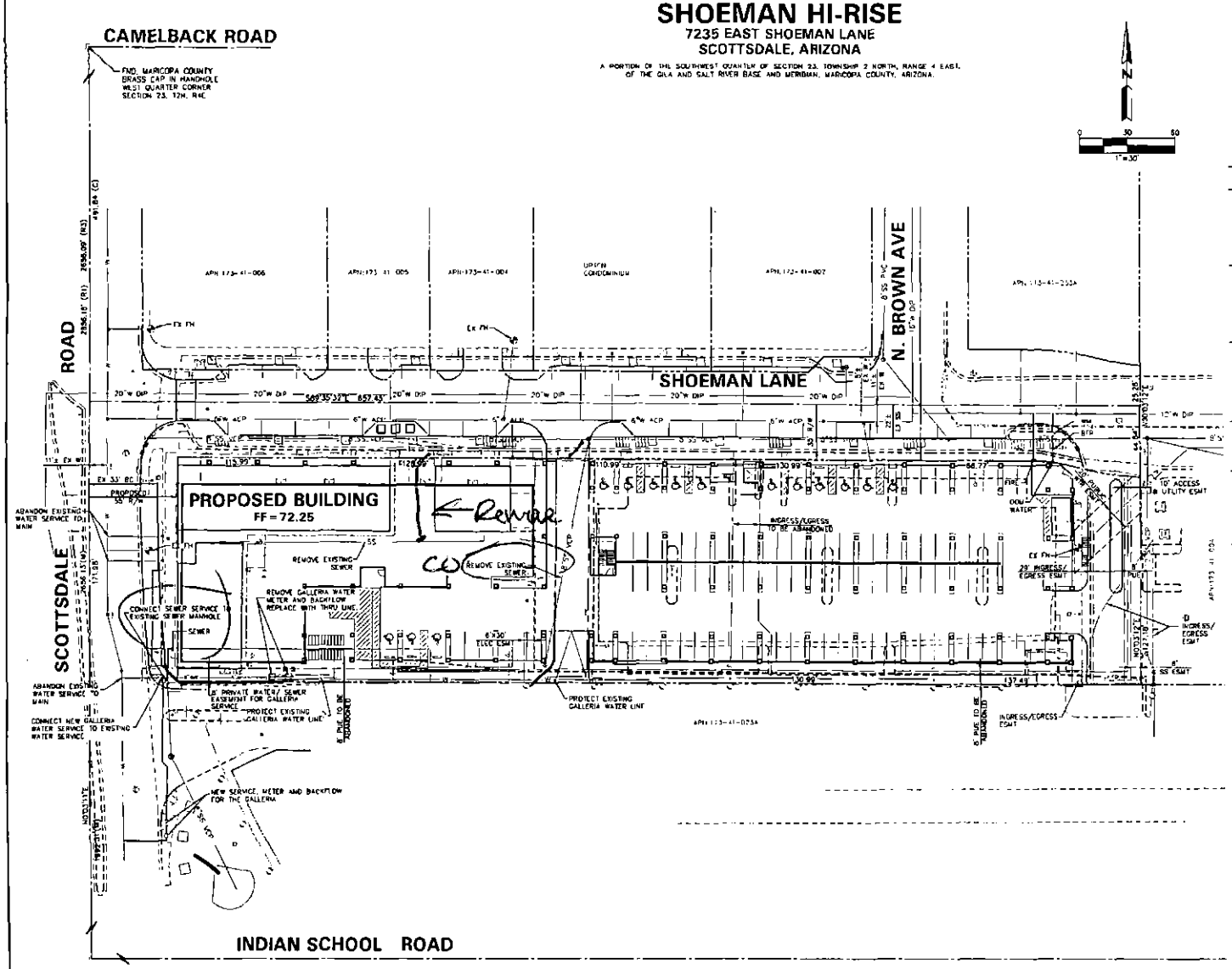
APPENDIX A
FIGURES

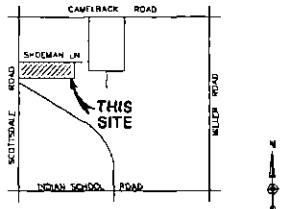


VICINITY MAP
FIGURE 1

CONCEPTUAL UTILITY PLAN
FOR
SHOEMAN HI-RISE
7235 EAST SHOEMAN LANE
SCOTTSDALE, ARIZONA

A PORTION OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.





VICINITY MAP

DEVELOPER
LGE CORPORATION
740 N. 52ND STREET, SUITE 200
PHOENIX, ARIZONA 85018
PHOEN:(480) 966-4001
FAX:(480) 966-9001
CONTACT: FRANK PETTIT

ARCHITECT
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FAX:(480) 966-9001
CONTACT: VINCE DALKE

CIVIL ENGINEER
HUNTER ENGINEERING, INC.
10450 N. 74TH STREET, SUITE 4200
SCOTTSDALE, ARIZONA 85258
PHONE: (480) 991-3883
FAX: (480) 991-3986
CONTACT: LARRY TALBOTT, P.E.

BENCHMARK
THE INTERSECTION OF CAMELBACK ROAD AND MILLER ROAD, A STONE IN A HANDHOLE, DOWN 1.45'
CITY OF SCOTTSDALE GPS POINT 4234, ELEV = 1259.425, NAVD '88 DATUM

BASIS OF BEARING
BASIS OF BEARING FOR THIS SURVEY IS A BEARING OF NORTH 89°34'30" WEST, ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, ACCORDING TO THE PLAT OF CAMELBACK PARK PLAZA, AS RECORDED IN BOOK 86, PAGE 13, MARICOPA COUNTY RECORDS, ARIZONA

LEGAL DESCRIPTION
PARCEL NO. 1:
LOTS 6 AND 7, SHOEMAN TRACT, ACCORDING TO BOOK 42 OF MAPS, PAGE 31, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 2:
LOTS 8, 9 AND 10, SHOEMAN TRACT, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE COUNTY RECORDER OF MARICOPA COUNTY, ARIZONA, IN BOOK 42 OF MAPS, PAGE 31.

NO	DATE	REVISION	BY

PURPOSE: CONCEPT REVIEW

DESIGN BY: LMT
DRAWN BY: IEA
CHECKED BY: LMT

HUNTER ENGINEERING CIVIL AND SURVEY
10450 NORTH 74TH STREET
SCOTTSDALE, AZ 85258
T 480 991 3883
F 480 991 3986

CONCEPTUAL UTILITY PLAN
FOR
SHOEMAN HI-RISE
7235 EAST SHOEMAN LANE
SCOTTSDALE, ARIZONA 85251

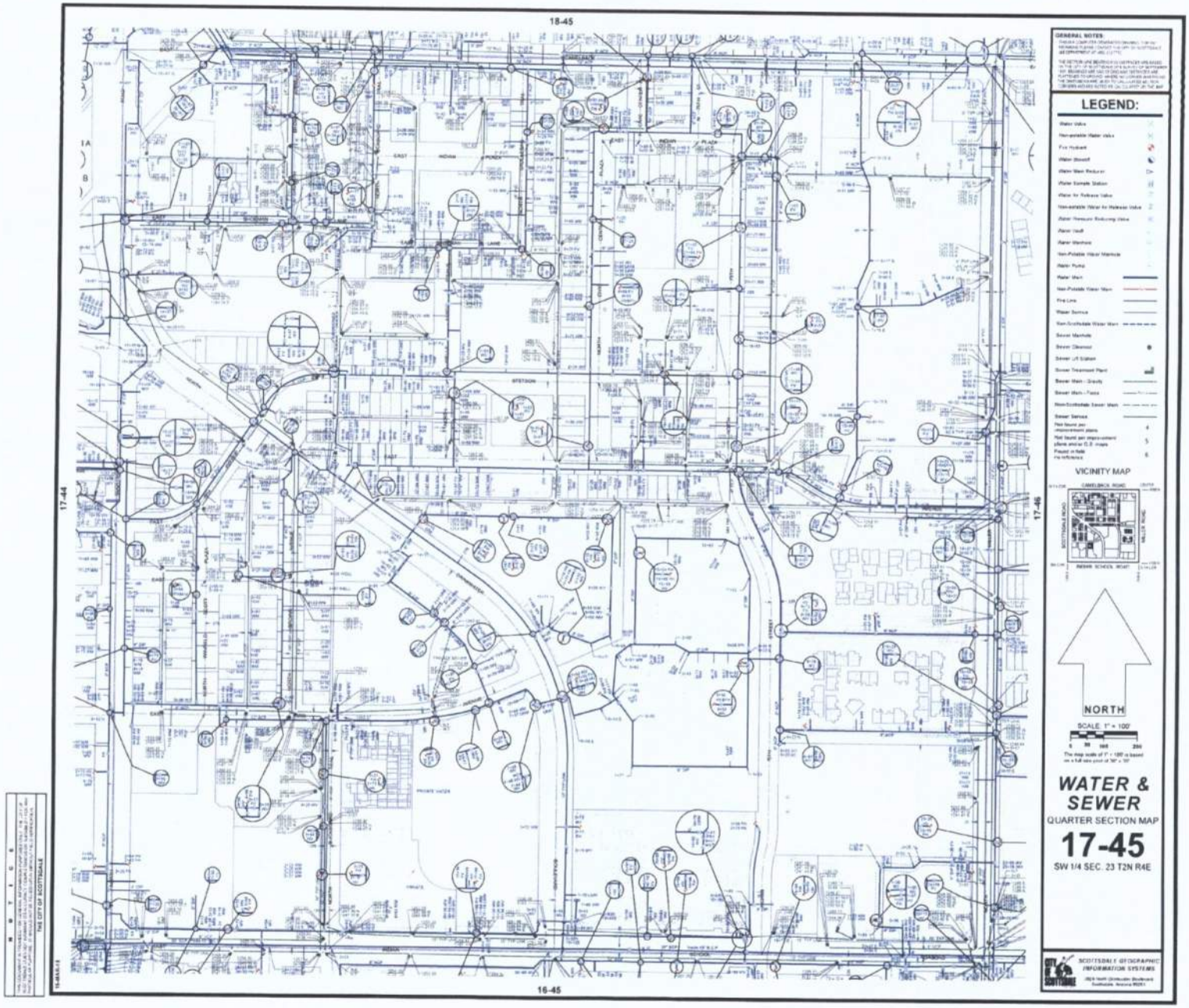
CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

THESE PLANS ARE NOT APPROVED FOR CONSTRUCTION WITHOUT AN APPROVED SIGNATURE FROM THE GOVERNING MUNICIPALITY.

HE JOB NO.: LGEC189

SCALE: 1"=30'

SHEET: C2


18-45
17-44
17-46
16-45
GENERAL NOTES:
LEGEND:
VICINITY MAP
NORTH
SCALE: 1" = 100'
WATER & SEWER
QUARTER SECTION MAP
17-45
SW 1/4 SEC. 23 T2N R4E
SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS
THE CITY OF SCOTTSDALE

APPENDIX B
CALCULATIONS

Project: SHOEMAN LANE
Project No.: LGEC189
City: SCOTTSDALE, AZ

PROJECTED MAXIMUM SANITARY SEWER LOADS

Building Level	Building Use	Building Area sq.ft.	Average Day Sewer Demands in Gallons Figure 7.1-2		Peaking Factor Figure 7.1-2	Average Daily Flow gpd	Average Daily Flow gpm	Peak Flow gpm
Ground Level	Retail	18,950	0.50	per sq.ft.	3	9,475	6.6	19.8
Level 2	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 3	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 4	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 5	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 6	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 7	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
Level 8	Office	36,480	0.40	per sq.ft.	3	14,592	10.1	30.3
TOTAL		**274,310**				**111,619**	**77.3**	**231.9**

Worksheet
Worksheet for Circular Channel

Project Description	
Worksheet	Existing 10" Sewer Min
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Capacity

Input Data		
Mannings Coeffic	0.013	
Channel Slope	002500	ft/ft
Diameter	10.0	in

Results		
Depth	0.83	ft
Discharge.	492	gpm
Flow Area	0.5	ft²
Wetted Perime	2.62	ft
Top Width	0.00	ft
Critical Depth	0.47	ft
Percent Full	100.0	%
Critical Slope	006913	ft/ft
Velocity	2.01	ft/s
Velocity Head	0.06	ft
Specific Energ	0.90	ft
Froude Numbe	0.00	
Maximum Disc	529	gpm
Discharge Full	492	gpm
Slope Full	002500	ft/ft
Flow Type	N/A	

Worksheet
Worksheet for Circular Channel

Project Description	
Worksheet	Existing 10" Sewer Ex
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coeffic	0.013	
Channel Slope	017000	ft/ft
Depth	0.54	ft
Diameter	10.0	in

Results		
Discharge	966	gpm
Flow Area	0.4	ft^2
Wetted Perime	1.56	ft
Top Width	0.00	ft
Critical Depth	0.66	ft
Percent Full	64.8	%
Critical Slope	0.010402	ft/ft
Velocity	5.75	ft/s
Velocity Head	0.51	ft
Specific Energ	1.05	ft
Froude Numbe	1.48	
Maximum Disc	1,379	gpm
Discharge Full	1,282	gpm
Slope Full	0.009641	ft/ft
Flow Type	Supercritical	

APPENDIX C
FLOW TEST RESULTS

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 13:50		2.25	4.44	0.41	86.31	4.56	11.75	134	0	9.02	52
8/18/2015 13:55		2.25	4.44	0.41	86.31	4.33	12.05	145	0	8.01	60
8/18/2015 13:40		2.22	4.44	0.4	86.31	4.61	11.72	149	0	9.08	49
8/18/2015 13:45	12.65	2.22	4.44	0.4	86.31	4.67	11.92	143	0	8.23	55
8/18/2015 13:35		2.2	4.44	0.39	86.45	4.87	11.53	154	0	6.99	49
8/18/2015 13:30	12.69	2.07	4.38	0.36	86.31	4.62	11.78	129	0	8.49	53
8/18/2015 14:00	12.69	2.08	4.39	0.36	86.31	4.37	12.24	149	0	7.64	59
8/13/2015 13:45	13.36	2.05	4.34	0.35	86.74	4.58	11.91	155	0	8.96	50
8/13/2015 13:50		2.05	4.34	0.35	86.74	4.37	12.3	133	0	6.44	48
8/18/2015 13:05		2.08	4.29	0.35	86.31	4.47	11.92	147	0	8.56	62
8/18/2015 13:10		2.08	4.31	0.35	86.31	4.54	12	149	0	8.14	54
8/18/2015 13:15	12.68	2.08	4.31	0.35	86.31	4.63	11.8	135	0	7.87	58
8/18/2015 13:20		2.07	4.32	0.35	86.31	4.55	11.93	132	0	7.97	62
8/18/2015 13:25		2.07	4.34	0.35	86.31	4.59	11.94	140	0	7.08	61
8/18/2015 14:30	12.68	2.05	4.4	0.35	86.45	4.61	11.95	143	0	7.96	55
8/18/2015 14:35		2.05	4.4	0.35	86.45	4.42	12.11	150	0	7.78	58
8/18/2015 14:40		2.05	4.4	0.35	86.59	4.48	12.21	157	0	7.58	51
8/18/2015 15:30	12.66	2.05	4.4	0.35	86.59	4.71	11.73	145	0	8.81	59
8/18/2015 15:35		2.05	4.4	0.35	86.59	4.43	12.19	155	0	8.49	55
8/18/2015 15:40		2.05	4.4	0.35	86.59	4.26	12.21	157	0	8.77	55
8/19/2015 7:05		2.03	4.47	0.35	86.31	4.73	11.97	140	0	7.47	57
8/19/2015 7:10		2.03	4.47	0.35	86.31	4.54	12.1	155	0	7.59	61
8/19/2015 7:15	12.64	2.03	4.47	0.35	86.31	4.46	12.23	144	0	6.93	62
8/13/2015 13:40		2.02	4.3	0.34	86.88	4.39	11.98	145	0	8.79	57
8/14/2015 10:15	13.16	2	4.31	0.34	85.73	4.6	11.77	150	0	9.9	41
8/14/2015 10:20		2	4.31	0.34	85.73	4.42	12.23	150	0	9.08	56
8/14/2015 10:25		2	4.31	0.34	85.73	3.73	12.5	140	0	10.11	41
8/19/2015 7:00	12.63	1.97	4.44	0.34	86.31	4.73	11.74	136	0	8.76	53
8/13/2015 13:55		2.02	4.18	0.33	86.59	3.88	12.47	141	0	10.38	46
8/14/2015 8:25		1.98	4.31	0.33	85.42	4.54	12.02	145	0	8.92	41
8/14/2015 8:30	13.17	1.98	4.31	0.33	85.42	4.54	12.06	137	0	6.41	52
8/14/2015 8:35		1.98	4.31	0.33	85.42	4.17	12.39	140	0	9.45	51
8/14/2015 9:30	13.13	1.96	4.3	0.33	85.59	4.55	11.97	140	0	9.55	54
8/14/2015 9:35		1.96	4.3	0.33	85.73	4.42	12.1	133	0	9.36	56
8/14/2015 9:40		1.96	4.3	0.33	85.73	4.26	12.1	135	0	9.89	47
8/18/2015 10:50		2	4.2	0.33	86.31	4.42	12	140	0	7.59	59
8/18/2015 13:00	12.7	1.98	4.29	0.33	86.31	4.54	12.02	147	0	8.12	57
8/19/2015 6:55		1.96	4.35	0.33	86.31	4.62	11.63	144	0	9.96	56
8/19/2015 15:15	12.62	1.96	4.3	0.33	86.45	4.55	12.12	166	0	7.93	47
8/19/2015 15:20		1.96	4.3	0.33	86.45	4.32	12.26	151	0	8.09	54
8/13/2015 13:35		1.93	4.3	0.32	86.88	4.55	11.95	144	0	9.16	48
8/14/2015 8:40		1.94	4.3	0.32	85.42	3.88	12.51	151	0	9.81	42

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 11:30	12.69	1.99	4.18	0.32	86.31	4.39	11.96	151	0	8.33	45
8/18/2015 11:35		2	4.14	0.32	86.31	4.35	12	151	0	7.82	55
8/18/2015 11:40		2	4.14	0.32	86.31	4.19	12.38	149	0	7.4	62
8/18/2015 17:15	12.68	1.91	4.36	0.32	86.74	4.6	12.09	137	0	8.1	62
8/18/2015 17:20		1.91	4.36	0.32	86.74	4.23	12.37	145	0	8.82	54
8/18/2015 17:25		1.91	4.36	0.32	86.74	3.85	12.52	157	0	5.34	38
8/19/2015 9:55		1.9	4.41	0.32	86.31	4.73	12.04	139	0	7.94	59
8/19/2015 10:50		1.92	4.37	0.32	86.31	4.61	12.08	150	0	6.91	59
8/19/2015 11:05		1.92	4.36	0.32	86.31	4.8	11.95	137	0	6.79	45
8/19/2015 11:10		1.92	4.36	0.32	86.31	4.49	12.34	167	0	6.12	58
8/19/2015 12:15	12.64	1.95	4.32	0.32	86.31	4.55	12.05	136	0	8.03	61
8/19/2015 12:20		1.95	4.32	0.32	86.31	4.36	12.34	165	0	7.66	63
8/19/2015 12:25		1.95	4.32	0.32	86.31	3.87	12.53	158	0	9.89	50
8/20/2015 8:05		1.96	4.29	0.32	86.45	4.5	11.96	127	0	8.58	57
8/14/2015 16:00	13.1	1.92	4.31	0.31	86.31	4.59	12.08	120	0	8.17	53
8/14/2015 16:05		1.92	4.31	0.31	86.31	4.14	12.42	145	0	10.45	45
8/14/2015 16:10		1.92	4.31	0.31	86.31	4.25	12.4	154	0	9.9	43
8/18/2015 10:45	12.7	1.95	4.1	0.31	86.31	4.15	11.92	153	0	8.04	59
8/18/2015 11:45	12.71	2	4.03	0.31	86.31	3.96	12.39	135	0	8.09	61
8/18/2015 14:05		1.95	4.11	0.31	86.45	4.18	12.4	168	0	8.82	46
8/19/2015 6:50		1.95	4.18	0.31	86.02	4.38	12.04	132	0	8.34	59
8/19/2015 7:20		1.9	4.29	0.31	86.31	4.22	12.34	150	0	8.6	60
8/19/2015 9:50		1.85	4.38	0.31	86.31	4.75	12.15	145	0	5.34	58
8/19/2015 10:00	12.65	1.85	4.41	0.31	86.31	4.52	12.25	156	0	7.67	60
8/19/2015 10:05		1.85	4.41	0.31	86.31	4.38	12.32	153	0	7.7	55
8/19/2015 15:10		1.96	4.12	0.31	86.45	4.65	12.04	145	0	7.73	61
8/19/2015 15:25		1.88	4.3	0.31	86.45	4.26	12.32	150	0	7.98	53
8/13/2015 12:55		1.91	4.16	0.3	87.91	4.51	12.04	127	0	9.54	46
8/13/2015 13:00	13.37	1.91	4.16	0.3	87.76	4.26	12.31	146	0	9.81	49
8/13/2015 13:05		1.91	4.05	0.3	87.62	4.02	12.47	140	0	9.31	44
8/13/2015 15:50		1.88	4.22	0.3	85.73	4.54	11.87	140	0	10.29	41
8/13/2015 15:55		1.88	4.23	0.3	85.73	4.54	12.15	108	0	7.58	42
8/13/2015 16:00	13.32	1.88	4.23	0.3	85.73	4.17	12.38	134	0	10.95	34
8/14/2015 9:05		1.9	4.21	0.3	85.59	4.45	12.1	143	0	8.97	54
8/14/2015 9:10		1.9	4.21	0.3	85.59	4.3	12.29	155	0	9.79	48
8/14/2015 9:15	13.17	1.9	4.21	0.3	85.59	4.24	12.36	152	0	7.33	48
8/14/2015 9:20		1.9	4.21	0.3	85.59	4.49	11.88	154	0	9.91	54
8/14/2015 9:25		1.9	4.21	0.3	85.59	4.56	12.04	146	0	7.92	47
8/14/2015 9:45	13.13	1.9	4.18	0.3	85.73	4.17	12.42	145	0	9.39	54
8/14/2015 18:35		1.88	4.26	0.3	86.45	4.61	12.07	115	0	7.71	53
8/14/2015 18:40		1.88	4.26	0.3	86.45	4.39	12.32	129	0	7.12	58
8/17/2015 7:00	12.78	2.04	3.7	0.3	87.62	4.03	11.96	140	0	9.73	39

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 7:05		2.05	3.74	0.3	87.48	3.92	11.94	120	0	9.06	52
8/17/2015 7:10		2.05	3.74	0.3	87.33	3.75	12.09	131	0	9.03	48
8/17/2015 7:15	12.78	2.04	3.74	0.3	87.33	3.77	12.23	141	0	8.69	42
8/18/2015 6:55		1.91	4.08	0.3	86.45	4.44	12.35	146	0	5.22	41
8/18/2015 10:30	12.7	1.95	4.06	0.3	86.31	4.62	11.78	147	0	5.88	51
8/18/2015 12:20		1.9	4.19	0.3	86.31	4.59	11.97	147	0	5.75	56
8/18/2015 14:45	12.68	1.89	4.21	0.3	86.59	4.25	12.34	154	0	8.56	57
8/19/2015 6:45	12.64	1.91	4.18	0.3	86.02	4.68	12.03	143	0	8	60
8/19/2015 7:40		1.9	4.18	0.3	86.31	4.42	12.1	146	0	7.81	58
8/19/2015 7:45	12.63	1.9	4.18	0.3	86.31	4.37	12.31	160	0	7.76	50
8/19/2015 7:50		1.9	4.18	0.3	86.31	4.41	12.26	148	0	8.05	58
8/19/2015 10:55		1.86	4.33	0.3	86.31	4.58	12.14	138	0	7.85	60
8/19/2015 11:00	12.64	1.86	4.33	0.3	86.31	4.59	12.04	156	0	7.33	63
8/19/2015 11:15	12.64	1.86	4.33	0.3	86.31	3.9	12.52	151	0	9.57	45
8/13/2015 12:15	13.39	1.83	4.19	0.29	89.65	4.54	12.02	151	0	9.4	49
8/13/2015 14:30	13.34	1.87	4.14	0.29	87.76	4.38	12.13	102	0	9	50
8/13/2015 14:35		1.87	4.15	0.29	88.2	4.42	12.23	110	0	5.78	39
8/13/2015 16:05		1.85	4.23	0.29	85.59	4.16	12.44	126	0	5.98	34
8/14/2015 7:00	13.16	1.84	4.14	0.29	85.59	4.39	12.16	146	0	8.69	43
8/14/2015 7:05		1.84	4.14	0.29	85.59	4.54	11.72	170	0	9.92	44
8/14/2015 7:10		1.84	4.14	0.29	85.42	4.43	11.98	149	0	10.15	48
8/14/2015 7:15	13.17	1.84	4.14	0.29	85.42	3.98	12.41	142	0	9.2	52
8/14/2015 7:20		1.84	4.14	0.29	85.42	3.88	12.51	146	0	9.63	31
8/14/2015 9:50		1.9	4.03	0.29	85.73	3.7	12.52	138	0	10.68	40
8/14/2015 13:50		1.83	4.21	0.29	86.16	4.46	12.16	140	0	9.63	49
8/14/2015 13:55		1.83	4.21	0.29	86.02	4.29	12.33	133	0	8.43	57
8/17/2015 8:45	12.77	1.9	3.98	0.29	86.74	4.39	11.72	153	0	6.72	52
8/17/2015 8:50		1.9	3.99	0.29	86.74	4.23	12.16	143	0	6.61	58
8/17/2015 8:55		1.9	3.99	0.29	86.74	4	12.2	146	0	6.95	60
8/18/2015 10:25		1.89	4.03	0.29	86.31	4.32	12.05	136	0	7.66	53
8/18/2015 10:35		1.89	4.1	0.29	86.31	4.5	12.17	143	0	6.25	57
8/18/2015 15:10		1.81	4.31	0.29	86.59	4.64	12.21	167	0	4.76	47
8/18/2015 15:15	12.67	1.81	4.31	0.29	86.59	4.11	12.41	149	0	9.17	45
8/18/2015 15:20		1.81	4.31	0.29	86.59	4.61	11.95	123	0	8.55	57
8/18/2015 15:25		1.81	4.36	0.29	86.59	4.84	11.67	134	0	6.33	57
8/19/2015 10:35		1.8	4.32	0.29	86.31	4.74	11.88	129	0	7.52	59
8/19/2015 10:40		1.79	4.32	0.29	86.31	4.52	12.21	145	0	7.65	64
8/19/2015 10:45	12.63	1.79	4.32	0.29	86.31	4.33	12.38	149	0	6.74	42
8/19/2015 14:15	12.63	1.83	4.28	0.29	86.31	4.65	12.08	146	0	6.88	61
8/19/2015 14:20		1.83	4.28	0.29	86.31	4.44	12.25	148	0	8.73	55
8/19/2015 14:25		1.83	4.28	0.29	86.31	4.19	12.42	160	0	8.12	53
8/19/2015 17:00	12.63	1.81	4.38	0.29	86.59	4.65	12.19	147	0	5.55	46

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 17:05		1.81	4.38	0.29	86.59	4.13	12.34	148	0	9.24	55
8/19/2015 17:10		1.81	4.38	0.29	86.59	3.55	12.58	157	0	11.27	41
8/13/2015 12:50		1.83	4.05	0.28	88.05	4.61	11.79	150	0	9.43	47
8/13/2015 16:10		1.82	4.11	0.28	85.59	4.36	12.18	130	0	11.29	41
8/13/2015 16:15	13.34	1.82	4.11	0.28	85.59	4.55	12.15	121	0	7.1	43
8/13/2015 16:20		1.82	4.11	0.28	85.42	4.62	11.97	139	0	9.83	47
8/13/2015 16:25		1.82	4.11	0.28	85.42	4.32	12.27	130	0	10.39	45
8/13/2015 16:30	13.31	1.82	4.11	0.28	85.42	3.9	12.48	149	0	10.02	39
8/14/2015 6:45	13.18	1.83	4.03	0.28	85.73	4.47	12.09	152	0	7.21	53
8/14/2015 6:50		1.83	4.03	0.28	85.59	3.95	12.4	152	0	10.17	43
8/14/2015 6:55		1.83	4.03	0.28	85.59	4.18	12.38	141	0	8.59	56
8/14/2015 10:50		1.85	4.11	0.28	85.87	4.53	12	131	0	10.01	43
8/14/2015 10:55		1.85	4.11	0.28	85.87	4.37	12.23	127	0	8.81	61
8/14/2015 11:00	13.14	1.85	4.11	0.28	85.87	4.19	12.31	150	0	9.46	54
8/14/2015 13:15	13.12	1.83	4.15	0.28	86.02	4.45	12.07	133	0	9.18	52
8/14/2015 14:10		1.8	4.17	0.28	86.16	4.51	12.03	124	0	8.96	53
8/14/2015 14:20		1.8	4.24	0.28	86.16	4.57	11.91	139	0	9.57	48
8/14/2015 14:25		1.8	4.24	0.28	86.16	4.33	12.27	152	0	9.71	53
8/15/2015 10:00	12.97	1.89	3.88	0.28	86.74	4.1	12.11	144	0	9.4	46
8/15/2015 10:05		1.89	3.88	0.28	86.74	4.06	12.34	143	0	9.04	49
8/15/2015 10:10		1.89	3.88	0.28	86.74	3.33	12.62	181	0	10.17	40
8/17/2015 8:10		1.89	3.9	0.28	86.88	4.19	12.11	141	0	7.41	39
8/17/2015 8:15	12.79	1.89	3.9	0.28	86.88	4	12.22	132	0	7.76	60
8/17/2015 8:20		1.89	3.9	0.28	86.88	3.8	12.36	138	0	7.83	53
8/17/2015 9:20		1.89	3.88	0.28	86.74	4.16	12.25	140	0	6.98	53
8/17/2015 9:25		1.89	3.9	0.28	86.74	4.37	12.16	133	0	5.8	50
8/17/2015 9:40		1.84	4.03	0.28	86.88	4.62	11.68	148	0	6.06	53
8/17/2015 9:45	12.77	1.84	4.03	0.28	86.88	4.26	12.25	145	0	7.33	58
8/17/2015 10:10		1.83	4.08	0.28	86.88	4.49	11.91	142	0	5.28	42
8/17/2015 15:50		1.87	4.02	0.28	87.33	4.31	12.13	139	0	7.09	52
8/17/2015 15:55		1.87	4.02	0.28	87.33	4.12	12.43	150	0	7.87	59
8/17/2015 16:00	12.73	1.87	4.02	0.28	87.33	3.83	12.54	146	0	8.63	54
8/18/2015 6:45	12.71	1.91	3.88	0.28	86.59	4.43	12.07	155	0	5.98	56
8/18/2015 6:50		1.91	3.9	0.28	86.59	4.35	12.24	144	0	7.55	62
8/18/2015 10:10		1.84	4.06	0.28	86.31	4.26	11.97	148	0	7.89	62
8/18/2015 10:15	12.71	1.84	4.03	0.28	86.16	4.26	12.11	144	0	7.81	57
8/18/2015 10:40		1.83	4.1	0.28	86.31	3.83	12.44	133	0	9.23	45
8/18/2015 10:55		1.83	4.14	0.28	86.31	4.42	12.29	149	0	6.86	56
8/18/2015 11:25		1.85	4.03	0.28	86.31	4.21	11.85	143	0	8.37	34
8/18/2015 14:50		1.79	4.18	0.28	86.59	4.26	12.36	142	0	8.26	53
8/18/2015 14:55		1.79	4.18	0.28	86.59	4.66	11.89	128	0	8.06	68
8/18/2015 15:00	12.67	1.79	4.21	0.28	86.59	4.56	12.12	150	0	7.96	53

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(°F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 15:45	12.64	1.81	4.22	0.28	86.59	4.5	12.28	151	0	5.1	50
8/18/2015 15:50		1.79	4.17	0.28	86.74	4.19	12.32	150	0	8.79	57
8/19/2015 6:40		1.85	4.1	0.28	86.02	4.42	12.09	147	0	8.9	52
8/19/2015 8:20		1.77	4.24	0.28	86.45	4.61	12.14	153	0	6.47	53
8/19/2015 8:25		1.78	4.24	0.28	86.45	4.48	12.22	147	0	7.64	46
8/19/2015 8:30	12.63	1.78	4.24	0.28	86.45	4.48	12.26	156	0	7.54	59
8/19/2015 8:35		1.78	4.21	0.28	86.31	4.26	12.32	153	0	8.3	48
8/19/2015 9:20		1.77	4.21	0.28	86.31	4.48	12.23	158	0	7.22	62
8/19/2015 9:25		1.78	4.21	0.28	86.31	4.14	12.22	149	0	8.02	47
8/19/2015 9:35		1.78	4.21	0.28	86.31	4.63	12.1	152	0	7.5	63
8/19/2015 11:45	12.64	1.76	4.26	0.28	86.31	4.52	12.18	149	0	7.62	61
8/19/2015 11:50		1.76	4.26	0.28	86.31	4.13	12.41	148	0	8.01	53
8/13/2015 11:55		1.77	4.09	0.27	91.11	4.44	12.17	122	0	8.77	55
8/13/2015 14:40		1.77	4.14	0.27	88.05	3.87	12.47	137	0	13.11	31
8/13/2015 14:50		1.77	4.07	0.27	87.48	4.31	12.13	106	0	11.68	41
8/13/2015 17:05		1.75	4.14	0.27	85.42	4.41	12.25	136	0	8.39	43
8/13/2015 17:10		1.75	4.14	0.27	85.28	4.28	12.38	141	0	7.92	38
8/13/2015 17:15	13.31	1.75	4.14	0.27	85.28	3.48	12.63	157	0	12.71	24
8/14/2015 10:30	13.11	1.77	4.15	0.27	85.73	4.05	12.43	143	0	10.01	44
8/14/2015 11:05		1.77	4.11	0.27	85.87	4.33	12.25	141	0	9.27	58
8/14/2015 11:10		1.77	4.11	0.27	85.87	4.6	11.82	156	0	9.54	52
8/14/2015 11:15	13.16	1.77	4.11	0.27	85.87	4.37	12.22	135	0	8.94	58
8/14/2015 11:20		1.78	4.07	0.27	85.87	4.33	12.21	119	0	9.15	52
8/14/2015 11:25		1.78	4.07	0.27	85.87	3.91	12.48	140	0	9.92	44
8/14/2015 11:30	13.13	1.78	4.07	0.27	85.87	3.88	12.53	137	0	8.06	44
8/14/2015 13:35		1.76	4.17	0.27	86.02	4.56	11.92	143	0	9.91	53
8/14/2015 13:40		1.76	4.17	0.27	86.02	4.47	12.17	132	0	9.03	56
8/14/2015 13:45	13.12	1.76	4.17	0.27	86.02	4.26	12.35	151	0	9.22	48
8/14/2015 14:15	13.1	1.76	4.17	0.27	86.16	4.52	12.24	139	0	6.55	55
8/14/2015 14:30	13.09	1.76	4.24	0.27	86.16	3.99	12.58	136	0	5.81	41
8/15/2015 15:25		1.8	4.02	0.27	87.48	4.27	12.2	139	0	9.49	47
8/15/2015 15:30	12.95	1.8	4.02	0.27	87.48	4.23	12.25	136	0	9.05	53
8/17/2015 6:25		1.87	3.8	0.27	87.62	4.12	12.08	143	0	5.99	48
8/17/2015 6:30	12.79	1.87	3.8	0.27	87.62	3.82	12.13	135	0	8.57	60
8/17/2015 6:35		1.87	3.77	0.27	87.76	3.91	12.25	143	0	7.81	54
8/17/2015 7:20		1.91	3.74	0.27	87.33	4	12.24	141	0	7.8	52
8/17/2015 9:00	12.79	1.84	3.99	0.27	86.74	4.13	12.24	136	0	7.18	47
8/17/2015 9:05		1.84	3.88	0.27	86.74	3.83	11.95	145	0	7.95	53
8/17/2015 9:15	12.79	1.89	3.84	0.27	86.74	4.22	12.11	141	0	7.21	51
8/17/2015 9:30	12.78	1.84	3.9	0.27	86.74	3.98	12.32	149	0	7.7	62
8/17/2015 9:35		1.84	3.99	0.27	86.88	4.25	12.07	142	0	7.17	51
8/17/2015 9:50		1.83	4.03	0.27	86.88	4.33	12.17	148	0	7.63	56

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 9:55		1.83	4.03	0.27	86.88	4.08	12.35	121	0	7.79	50
8/17/2015 12:05		1.8	4.05	0.27	87.19	4.45	11.99	140	0	6.78	53
8/17/2015 12:10		1.8	4.08	0.27	87.19	4.35	12.25	144	0	7.09	57
8/18/2015 10:20		1.84	3.91	0.27	86.31	4.16	12.22	138	0	7.77	64
8/18/2015 12:35		1.79	4.05	0.27	86.45	4.3	12.2	143	0	7.31	55
8/18/2015 12:40		1.79	4.05	0.27	86.31	4.03	12.38	145	0	7.53	57
8/18/2015 12:50		1.79	4.05	0.27	86.31	4.6	11.58	153	0	8.48	53
8/18/2015 12:55		1.8	4.05	0.27	86.31	4.45	11.71	126	0	9.26	48
8/18/2015 14:10		1.76	4.1	0.27	86.45	4.24	12.34	156	0	8.5	50
8/18/2015 15:05		1.81	3.97	0.27	86.59	4.21	12.19	151	0	8.02	50
8/18/2015 16:20		1.77	4.18	0.27	86.74	4.43	12.23	153	0	8.13	58
8/18/2015 16:35		1.77	4.16	0.27	86.74	4.46	12.14	152	0	7.58	66
8/18/2015 19:05		1.74	4.26	0.27	86.88	4.54	12.26	158	0	8.09	58
8/18/2015 19:10		1.74	4.26	0.27	86.88	4.12	12.49	157	0	5.56	41
8/18/2015 19:15	12.67	1.74	4.26	0.27	86.88	3.54	12.6	180	0	9.17	38
8/19/2015 7:25		1.77	4.19	0.27	86.31	4.43	12.31	152	0	7.04	64
8/19/2015 7:30	12.64	1.77	4.19	0.27	86.31	4.55	12.06	155	0	8.09	62
8/19/2015 7:35		1.77	4.19	0.27	86.31	4.7	12.01	139	0	7.53	58
8/19/2015 8:40		1.74	4.2	0.27	86.31	4.28	12.39	153	0	8.71	54
8/19/2015 9:30	12.64	1.77	4.09	0.27	86.31	4.36	12.26	148	0	7.42	52
8/19/2015 9:40		1.77	4.14	0.27	86.31	4.42	12.29	163	0	7.51	53
8/19/2015 9:45	12.61	1.78	4.14	0.27	86.31	4.64	12.03	146	0	8.32	59
8/19/2015 10:10		1.75	4.24	0.27	86.16	4.23	12.45	152	0	7.62	50
8/19/2015 10:15	12.63	1.75	4.16	0.27	86.16	4.42	12.2	157	0	7.65	57
8/19/2015 10:30	12.64	1.78	4.16	0.27	86.31	4.76	11.8	133	0	7.81	51
8/19/2015 14:30	12.61	1.75	4.17	0.27	86.31	4.25	12.33	148	0	8.16	54
8/20/2015 6:45	12.6	1.78	4.12	0.27	86.31	4.38	12.22	160	0	8.85	59
8/20/2015 7:15	12.6	1.78	4.13	0.27	86.45	4.45	12.22	149	0	7.92	62
8/20/2015 7:20		1.78	4.13	0.27	86.45	4.2	12.26	141	0	7.84	60
8/20/2015 7:25		1.78	4.13	0.27	86.45	4.36	12.23	158	0	8.42	48
8/20/2015 7:30	12.6	1.77	4.18	0.27	86.45	4.47	12.3	149	0	5.92	52
8/20/2015 7:55		1.75	4.18	0.27	86.45	4.45	12.25	148	0	6.37	51
8/20/2015 8:00	12.59	1.76	4.18	0.27	86.45	4.39	12.24	152	0	6.5	53
8/20/2015 8:10		1.76	4.18	0.27	86.45	4.2	12.37	161	0	9.78	50
8/13/2015 12:10		1.76	4.03	0.26	89.94	4.58	11.87	150	0	7.86	55
8/13/2015 12:20		1.76	4.07	0.26	89.37	4.37	12.38	132	0	6.19	47
8/13/2015 12:25		1.76	4.07	0.26	89.08	4.1	12.46	143	0	9.5	55
8/13/2015 16:35		1.73	4.05	0.26	85.42	3.9	12.55	144	0	5.64	36
8/14/2015 11:55		1.77	4	0.26	86.02	4.69	12.04	140	0	5.55	53
8/14/2015 12:00	13.12	1.77	4.03	0.26	86.02	4.32	12.33	143	0	8.96	60
8/14/2015 12:05		1.77	4.03	0.26	86.02	3.92	12.51	145	0	9.07	44
8/14/2015 14:50		1.76	3.97	0.26	86.16	4.23	12.24	129	0	9.92	47

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/14/2015 14:55		1.76	4.1	0.26	86.16	4.37	12.26	143	0	9.97	53
8/14/2015 15:00	13.1	1.76	4.1	0.26	86.16	4.12	12.48	143	0	9.85	47
8/14/2015 15:15	13.09	1.73	4.1	0.26	86.16	4.58	12.02	142	0	8.85	46
8/14/2015 15:20		1.73	4.14	0.26	86.16	4.56	12.13	128	0	8.22	56
8/14/2015 15:25		1.73	4.14	0.26	86.31	4.34	12.32	151	0	9.44	53
8/14/2015 15:30	13.11	1.73	4.14	0.26	86.31	4.1	12.48	154	0	6.5	49
8/14/2015 18:30	13.09	1.74	4.12	0.26	86.45	4.51	12.12	120	0	8.66	61
8/14/2015 18:45	13.08	1.74	4.12	0.26	86.59	4.02	12.38	146	0	9.86	49
8/15/2015 15:20		1.8	3.97	0.26	87.62	4.45	12.06	132	0	6.06	51
8/15/2015 15:35		1.8	3.97	0.26	87.48	4.16	12.25	127	0	9.41	51
8/17/2015 6:20		1.82	3.77	0.26	87.62	4	12.18	136	0	7.23	38
8/17/2015 9:10		1.84	3.84	0.26	86.74	4.02	11.94	140	0	7.38	61
8/17/2015 10:00	12.77	1.75	4	0.26	86.88	4.09	12.26	134	0	7.82	59
8/17/2015 10:05		1.75	4	0.26	86.88	4.35	11.93	145	0	7.51	61
8/17/2015 10:15	12.72	1.76	3.98	0.26	86.88	4.24	12.24	148	0	7.53	44
8/17/2015 10:20		1.76	4.04	0.26	86.88	4.32	12.32	144	0	6.51	53
8/17/2015 10:25		1.76	4.04	0.26	86.88	4.08	12.42	142	0	5.53	47
8/17/2015 12:15	12.75	1.75	4.05	0.26	87.19	4.35	12.37	145	0	4.84	46
8/17/2015 12:20		1.75	4.05	0.26	87.19	3.96	12.42	144	0	7.98	60
8/18/2015 7:00	12.71	1.76	4.08	0.26	86.45	4.24	12.41	138	0	5.54	46
8/18/2015 11:10		1.74	4.14	0.26	86.31	4.45	12.15	148	0	7.91	64
8/18/2015 14:15	12.68	1.76	4.01	0.26	86.45	4.27	12.22	155	0	8.14	56
8/18/2015 14:20		1.76	4.01	0.26	86.45	4.72	11.74	135	0	5.82	50
8/18/2015 14:25		1.78	4.01	0.26	86.45	4.76	11.56	151	0	8.93	54
8/19/2015 7:55		1.74	4.14	0.26	86.31	4.14	12.42	152	0	8.15	47
8/19/2015 12:00	12.64	1.74	4.14	0.26	86.31	4.35	12.26	153	0	7.82	51
8/19/2015 12:05		1.74	4.14	0.26	86.31	4.68	11.92	148	0	7.96	63
8/19/2015 12:10		1.74	4.14	0.26	86.31	4.58	12.04	153	0	8.38	45
8/19/2015 14:10		1.71	4.13	0.26	86.31	4.83	12.07	150	0	4.88	56
8/19/2015 15:30	12.6	1.74	4.05	0.26	86.45	4.06	12.41	147	0	8.96	53
8/19/2015 15:35		1.74	4.05	0.26	86.59	4.48	12.1	143	0	7.84	53
8/19/2015 15:40		1.74	4.05	0.26	86.45	4.59	12.15	145	0	7.55	67
8/20/2015 6:50		1.74	4.1	0.26	86.31	4.37	12.26	164	0	7.06	47
8/20/2015 6:55		1.74	4.1	0.26	86.31	4.24	12.28	139	0	9.24	45
8/20/2015 7:05		1.74	4.1	0.26	86.45	4.39	12.2	163	0	8.34	58
8/20/2015 7:10		1.74	4.1	0.26	86.45	4.45	12.11	160	0	8.52	54
8/20/2015 7:35		1.74	4.1	0.26	86.45	4.14	12.41	151	0	9.43	52
8/20/2015 7:50		1.7	4.18	0.26	86.45	4.52	12.04	138	0	9.15	54
8/20/2015 8:15	12.58	1.75	4.12	0.26	86.45	4.02	12.49	143	0	8.7	49
8/13/2015 14:00	13.33	1.7	4.09	0.25	86.59	3.96	12.5	147	0	9.47	46
8/13/2015 14:25		1.76	3.8	0.25	86.31	4.05	12.24	110	-0.12	5.4	68
8/13/2015 14:45	13.32	1.76	3.91	0.25	87.91	4.19	12.34	134	0	6.68	29

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/13/2015 14:55		1.7	4.05	0.25	87.19	4.33	12.3	129	0	6.37	38
8/13/2015 18:00	13.32	1.7	4.08	0.25	85.42	4.35	12.25	123	0	9.82	48
8/13/2015 18:05		1.7	4.08	0.25	85.42	4.04	12.4	133	0	10.16	51
8/13/2015 18:10		1.7	4.08	0.25	85.42	3.91	12.48	141	0	9.87	43
8/14/2015 13:30	13.12	1.7	4.12	0.25	86.02	4.39	12.24	141	0	9.28	56
8/14/2015 14:35		1.73	4.06	0.25	86.16	3.32	12.65	177	0	10.83	42
8/14/2015 14:40		1.73	4.06	0.25	86.16	4.39	12.21	137	0	9.54	48
8/14/2015 14:45	13.12	1.73	4.06	0.25	86.16	4.67	11.96	147	0	8.36	51
8/14/2015 15:05		1.74	3.98	0.25	86.16	4.27	12.38	144	0	6.18	47
8/14/2015 15:10		1.73	3.98	0.25	86.16	4.42	12.27	138	0	9.24	47
8/14/2015 15:35		1.68	4.06	0.25	86.31	3.81	12.5	153	0	10.15	43
8/14/2015 17:20		1.69	4.05	0.25	86.31	4.33	12.32	132	0	8.94	53
8/14/2015 17:25		1.69	4.05	0.25	86.31	4.25	12.43	143	0	6.21	48
8/14/2015 17:30	13.09	1.68	4.05	0.25	86.31	3.58	12.58	158	0	9.56	46
8/14/2015 18:50		1.68	4.1	0.25	86.59	3.87	12.46	141	0	9.56	44
8/15/2015 15:40		1.75	3.97	0.25	87.48	3.8	12.48	161	0	7.51	49
8/15/2015 15:45	12.96	1.75	3.9	0.25	87.48	3.53	12.5	157	0	10.35	38
8/17/2015 6:40		1.82	3.67	0.25	87.76	3.48	12.32	141	0	7.93	45
8/17/2015 6:45	12.79	1.83	3.61	0.25	87.76	3.64	12.17	141	0	8.33	52
8/17/2015 6:50		1.83	3.61	0.25	87.62	3.88	11.93	140	0	9.98	45
8/17/2015 6:55		1.83	3.67	0.25	87.62	4.05	11.95	137	0	8.62	50
8/17/2015 7:25		1.8	3.74	0.25	87.19	4.1	12.2	135	0	7.36	53
8/17/2015 7:30	12.77	1.8	3.76	0.25	87.19	4.15	12.17	147	0	7.84	52
8/17/2015 7:35		1.77	3.76	0.25	87.19	3.84	12.38	148	0	8.61	50
8/17/2015 8:05		1.76	3.81	0.25	87.03	4.12	12.09	135	0	7.38	51
8/17/2015 8:25		1.78	3.76	0.25	86.88	3.9	12.28	140	0	7.89	54
8/17/2015 11:10		1.75	3.89	0.25	87.03	4.33	12.25	130	0	6.49	50
8/17/2015 11:15	12.74	1.75	3.89	0.25	87.03	3.92	12.33	143	0	7.28	63
8/17/2015 11:20		1.75	3.95	0.25	87.03	4.23	12.33	139	0	7.15	54
8/18/2015 9:25		1.74	3.94	0.25	86.31	4.35	12.14	131	0	7.19	63
8/18/2015 9:30	12.67	1.72	3.94	0.25	86.31	4.18	12.36	140	0	8.05	60
8/18/2015 10:05		1.73	4.01	0.25	86.31	4.03	12.16	148	0	7.21	55
8/18/2015 11:00	12.7	1.74	3.96	0.25	86.31	4.17	12.26	149	0	7.59	65
8/18/2015 11:05		1.74	3.96	0.25	86.31	4.15	12.37	140	0	7.72	50
8/18/2015 11:20		1.74	3.91	0.25	86.31	4.52	12.01	140	0	7.3	62
8/18/2015 15:55		1.72	4.01	0.25	86.59	3.99	12.45	152	0	9.04	51
8/18/2015 16:00	12.68	1.72	4.01	0.25	86.74	4.51	12.19	147	0	8.11	50
8/18/2015 16:05		1.68	4.18	0.25	86.74	4.48	12.35	155	0	6.19	50
8/18/2015 16:15	12.7	1.67	4.18	0.25	86.74	4.6	12.14	148	0	6.53	52
8/18/2015 16:25		1.67	4.16	0.25	86.74	4.04	12.48	150	0	8.48	56
8/19/2015 8:00	12.65	1.69	4.09	0.25	86.31	3.69	12.51	150	0	9.44	38
8/19/2015 8:45	12.65	1.71	4.06	0.25	86.31	4.34	12.29	153	0	6.79	53

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 10:20		1.68	4.09	0.25	86.31	4.31	12.36	154	0	7.85	52
8/19/2015 10:25		1.68	4.09	0.25	86.31	4.59	12.22	149	0	6.56	56
8/19/2015 11:20		1.66	4.19	0.25	86.31	3.92	12.53	157	0	6.91	42
8/19/2015 11:55		1.69	4.14	0.25	86.31	4.43	12.31	161	0	7.58	49
8/19/2015 16:15	12.61	1.69	4.04	0.25	86.59	4.52	12.21	155	0	7.96	52
8/19/2015 16:20		1.69	4.04	0.25	86.59	4.29	12.34	155	0	7.89	53
8/19/2015 16:25		1.69	4.04	0.25	86.59	4.11	12.51	150	0	5.87	44
8/20/2015 7:00	12.58	1.72	3.98	0.25	86.45	3.76	12.57	160	0	10.05	46
8/20/2015 7:45	12.58	1.7	4.1	0.25	86.45	4.57	11.95	146	0	8.73	58
8/13/2015 11:45	13.4	1.69	4.02	0.24	92.14	4.3	12.31	129	-0.09	9.09	49
8/13/2015 11:50		1.69	4.02	0.24	91.69	4.21	12.33	143	0	10.27	33
8/13/2015 12:00	13.37	1.69	4.02	0.24	90.68	4.04	12.48	138	0	9.92	42
8/13/2015 12:05		1.69	4.02	0.24	90.39	4.29	12.24	136	0	9.42	42
8/13/2015 13:10		1.69	3.98	0.24	87.48	4.1	12.46	152	0	6.59	43
8/13/2015 13:15	13.36	1.68	3.97	0.24	87.33	4.25	12.32	146	0	9.84	49
8/13/2015 13:30	13.36	1.68	3.97	0.24	87.03	4.55	11.91	162	0	9.22	54
8/13/2015 15:25		1.7	3.98	0.24	86.02	4.26	12.3	134	0	10.49	47
8/13/2015 15:30	13.32	1.7	3.98	0.24	86.02	3.49	12.58	129	0	12.55	34
8/13/2015 15:35		1.7	3.98	0.24	86.02	3.47	12.6	144	0	13.08	34
8/13/2015 15:40		1.7	3.98	0.24	85.87	4.46	12.08	115	0	11.05	44
8/13/2015 15:45	13.33	1.7	3.98	0.24	85.87	4.47	12.12	120	0	9.42	38
8/14/2015 10:10		1.66	4.03	0.24	85.73	4.53	12	148	0	9.35	45
8/14/2015 12:10		1.67	4.03	0.24	86.02	3.74	12.62	140	0	6.06	38
8/14/2015 13:20		1.68	3.96	0.24	86.02	4.24	12.32	141	0	10.33	44
8/14/2015 13:25		1.68	3.96	0.24	86.02	4.46	12.3	142	0	6.77	42
8/14/2015 14:00	13.09	1.67	4.01	0.24	86.16	4.29	12.4	146	0	7.37	47
8/14/2015 14:05		1.67	4.01	0.24	86.16	4.43	12.2	124	0	9.1	51
8/14/2015 17:15	13.08	1.69	3.86	0.24	86.31	4.52	12.17	126	0	6.94	49
8/14/2015 18:25		1.65	4.02	0.24	86.31	4.39	12.26	133	0	8.6	40
8/17/2015 5:20		1.8	3.59	0.24	87.62	3.85	12.22	139	0	9.18	53
8/17/2015 5:25		1.82	3.59	0.24	87.62	3.7	12.14	138	0	10.52	42
8/17/2015 7:40		1.76	3.76	0.24	87.19	3.69	12.48	159	0	7.79	44
8/17/2015 8:30	12.77	1.76	3.76	0.24	86.88	4.24	12.24	135	0	6.19	54
8/17/2015 8:35		1.76	3.76	0.24	86.88	4.01	12.1	153	0	7.61	61
8/17/2015 8:40		1.76	3.79	0.24	86.88	4.32	12.07	119	0	5.79	52
8/17/2015 10:30	12.77	1.68	3.98	0.24	87.03	3.91	12.43	137	0	8.48	53
8/17/2015 10:35		1.68	3.98	0.24	87.03	4.22	11.74	158	0	9.22	51
8/17/2015 10:40		1.68	4.03	0.24	87.03	4.23	11.97	148	0	7.98	48
8/17/2015 10:45	12.76	1.72	3.9	0.24	87.03	4.16	12.28	150	0	7.89	40
8/17/2015 10:50		1.72	3.9	0.24	87.03	4.17	12.4	136	0	5.31	50
8/17/2015 10:55		1.72	3.9	0.24	87.03	3.83	12.45	169	0	8.91	51
8/17/2015 11:00	12.78	1.72	3.89	0.24	87.03	4.14	12.23	142	0	7.21	64

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 11:05		1.72	3.89	0.24	87.03	4.38	11.79	155	0	8.91	50
8/17/2015 11:25		1.67	3.95	0.24	87.03	3.85	12.36	146	0	7.3	58
8/17/2015 12:25		1.63	4.05	0.24	87.19	4.21	12.46	143	0	5.62	53
8/17/2015 13:25		1.69	3.96	0.24	87.33	4.23	12.31	149	0	7.76	52
8/17/2015 13:30	12.77	1.69	3.96	0.24	87.33	4.12	12.39	131	0	7.27	55
8/17/2015 13:35		1.68	3.9	0.24	87.33	4.17	12.32	143	0	7.81	57
8/17/2015 14:25		1.67	3.96	0.24	87.33	4.36	12.24	146	0	7.19	61
8/18/2015 7:05		1.65	4.08	0.24	86.45	3.82	12.55	140	0	8.64	46
8/18/2015 8:15	12.7	1.66	4.03	0.24	86.45	4.31	11.92	157	0	7.48	56
8/18/2015 8:20		1.66	4.03	0.24	86.45	4.22	12.35	147	0	7.16	51
8/18/2015 8:25		1.66	4.03	0.24	86.45	4.04	12.45	137	0	7.77	46
8/18/2015 9:20		1.72	3.88	0.24	86.31	4.34	11.95	143	0	7.44	57
8/18/2015 9:35		1.67	3.95	0.24	86.31	4.23	12.33	142	0	7.66	55
8/18/2015 9:40		1.67	3.95	0.24	86.16	3.99	12.47	136	0	8.69	50
8/18/2015 9:45	12.7	1.67	3.95	0.24	86.16	4.28	12.27	146	0	7.15	44
8/18/2015 9:50		1.67	3.95	0.24	86.16	4.5	12.06	146	0	5.87	55
8/18/2015 9:55		1.67	4.01	0.24	86.16	4.37	12.35	146	0	5.7	52
8/18/2015 10:00	12.65	1.65	4.01	0.24	86.16	4.15	12.47	132	0	6.7	47
8/18/2015 11:15	12.71	1.71	3.91	0.24	86.31	3.81	12.35	129	0	7.75	53
8/18/2015 16:10		1.67	4.02	0.24	86.74	4.31	12.33	146	0	8.18	50
8/18/2015 16:30	12.68	1.67	4.02	0.24	86.74	4.26	12.4	155	0	6.83	56
8/18/2015 17:10		1.66	4.07	0.24	86.74	4.72	11.94	136	0	7.75	49
8/19/2015 8:50		1.68	3.98	0.24	86.31	4.03	12.5	157	0	8.52	51
8/19/2015 11:25		1.66	4.07	0.24	86.31	4.36	12.34	146	0	7.68	52
8/19/2015 11:30	12.63	1.66	4.07	0.24	86.31	4.66	12.24	155	0	5.97	49
8/19/2015 11:40		1.66	4.07	0.24	86.31	4.75	12.09	150	0	5.19	56
8/19/2015 12:30	12.65	1.66	4.07	0.24	86.31	3.61	12.52	172	0	10.23	39
8/19/2015 14:35		1.67	4.07	0.24	86.45	4.36	12.34	149	0	7.72	56
8/19/2015 14:40		1.67	4.07	0.24	86.45	4.37	12.25	158	0	8.18	59
8/19/2015 14:45	12.6	1.66	3.97	0.24	86.45	4.18	12.46	166	0	8.65	55
8/19/2015 14:50		1.66	3.97	0.24	86.45	3.95	12.54	158	0	8.41	57
8/19/2015 15:45	12.63	1.68	3.98	0.24	86.59	4.23	12.34	142	0	9.48	55
8/19/2015 16:30	12.63	1.66	4	0.24	86.59	4.09	12.43	143	0	8.45	56
8/20/2015 6:40		1.67	3.98	0.24	86.31	4.26	12.33	155	0	7.32	53
8/20/2015 7:40		1.7	3.94	0.24	86.45	4	12.47	153	0	9.56	52
8/13/2015 12:30	13.37	1.62	4.07	0.23	88.93	3.63	12.63	139	0	10.52	32
8/13/2015 15:00	13.37	1.66	3.91	0.23	86.88	3.73	12.47	151	0	13.7	31
8/13/2015 15:05		1.66	3.91	0.23	86.74	3.42	12.59	146	0	13.7	32
8/13/2015 17:20		1.62	3.99	0.23	85.28	4.2	12.44	136	0	8.27	44
8/14/2015 8:20		1.64	3.99	0.23	85.42	4.51	11.91	157	0	9.33	46
8/14/2015 10:35		1.68	3.87	0.23	85.73	4.14	12.32	142	0	9.58	50
8/14/2015 10:40		1.68	3.87	0.23	85.87	4.35	12.15	139	0	9.36	50

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/14/2015 10:45	13.11	1.68	3.87	0.23	85.87	4.56	12.01	138	0	7.98	49
8/14/2015 12:35		1.64	3.98	0.23	86.02	4.31	12.31	132	0	7.71	48
8/14/2015 12:40		1.64	3.98	0.23	86.02	4.17	12.39	150	0	9.11	46
8/14/2015 13:05		1.66	3.96	0.23	86.02	4.22	12.34	145	0	9.83	45
8/14/2015 13:10		1.66	3.94	0.23	86.02	4	12.48	149	0	9.78	45
8/14/2015 15:40		1.62	4.03	0.23	86.31	4.33	12.38	149	0	7.36	49
8/14/2015 15:55		1.62	4.03	0.23	86.31	4.65	11.79	160	0	8.63	55
8/15/2015 15:15	12.96	1.66	3.85	0.23	87.62	4.09	12.2	144	0	9.49	51
8/16/2015 13:15	12.86	1.72	3.65	0.23	87.91	3.87	12.15	141	0	9.46	50
8/16/2015 13:20		1.72	3.65	0.23	87.91	3.91	12.31	154	0	8.97	54
8/16/2015 13:25		1.72	3.65	0.23	87.76	3.39	12.58	165	0	9.92	40
8/17/2015 5:30	12.79	1.8	3.49	0.23	87.62	3.39	12.49	151	0	9.75	48
8/17/2015 5:35		1.78	3.48	0.23	87.48	3.76	12.48	160	0	4.86	33
8/17/2015 8:00	12.79	1.69	3.77	0.23	87.03	4.26	12.06	139	0	5.13	47
8/17/2015 14:10		1.64	3.89	0.23	87.33	4.17	12.36	139	0	7.73	52
8/17/2015 14:15	12.76	1.66	3.89	0.23	87.33	4.24	12.11	142	0	6.96	63
8/17/2015 14:20		1.66	3.89	0.23	87.33	3.83	12.37	137	0	8.14	51
8/17/2015 14:30	12.74	1.64	3.89	0.23	87.33	3.94	12.44	136	0	7.78	46
8/18/2015 8:30	12.7	1.65	3.94	0.23	86.45	3.59	12.56	140	0	9.91	43
8/18/2015 12:10		1.63	3.9	0.23	86.31	4.19	12.37	131	0	7.36	54
8/18/2015 12:15	12.71	1.65	3.9	0.23	86.31	4.09	12.35	141	0	8.16	50
8/18/2015 12:25		1.65	3.96	0.23	86.31	4.25	12.36	142	0	7.46	64
8/18/2015 12:30	12.7	1.65	3.96	0.23	86.31	4.46	12.21	158	0	6.35	58
8/18/2015 12:45	12.69	1.65	3.96	0.23	86.31	4.13	12.35	148	0	7.25	62
8/18/2015 16:40		1.62	4.01	0.23	86.74	4.31	12.38	154	0	8.59	52
8/18/2015 17:30	12.68	1.63	3.94	0.23	86.74	4	12.49	149	0	8.06	49
8/19/2015 8:55		1.61	3.98	0.23	86.31	4.26	12.5	158	0	5.39	37
8/19/2015 13:15	12.62	1.61	3.98	0.23	86.31	4.78	12.01	147	0	7.3	55
8/19/2015 14:55		1.65	3.95	0.23	86.45	4.24	12.35	156	0	8.37	56
8/19/2015 15:00	12.63	1.65	3.95	0.23	86.45	4.34	12.04	141	0	8.07	58
8/19/2015 15:05		1.65	3.95	0.23	86.45	4.84	11.73	145	0	8.26	50
8/19/2015 15:50		1.66	3.95	0.23	86.59	4.23	12.53	155	0	5.5	42
8/19/2015 15:55		1.66	3.95	0.23	86.59	3.91	12.54	160	0	10.03	40
8/19/2015 16:55		1.65	3.95	0.23	86.59	4.85	12.04	145	0	5.26	48
8/19/2015 17:15	12.62	1.66	3.85	0.23	86.59	3.72	12.58	157	0	10.26	43
8/19/2015 17:20		1.66	3.85	0.23	86.59	4.37	12.22	149	0	8.11	56
8/19/2015 17:25		1.66	3.85	0.23	86.59	4.45	12.24	154	0	7.91	59
8/20/2015 8:20		1.63	3.91	0.23	86.45	3.63	12.56	174	0	9.32	42
8/14/2015 8:45	13.15	1.61	3.88	0.22	85.42	3.42	12.6	139	0	10.75	39
8/14/2015 12:30	13.13	1.61	3.93	0.22	86.02	4.22	12.36	142	0	8.23	52
8/14/2015 12:45	13.12	1.61	3.96	0.22	86.02	4.26	12.41	146	0	6.71	44
8/14/2015 12:50		1.61	3.93	0.22	86.02	3.62	12.54	131	0	9.56	48

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/14/2015 12:55		1.61	3.96	0.22	86.02	4.45	12.05	139	0	9.81	45
8/14/2015 13:00	13.14	1.61	3.96	0.22	86.02	4.4	12.17	141	0	9.7	48
8/14/2015 16:15	13.09	1.6	3.95	0.22	86.31	3.87	12.51	139	0	10.42	40
8/14/2015 16:30	13.07	1.6	3.9	0.22	86.31	4.37	12.14	121	0	8.83	52
8/14/2015 16:35		1.61	3.9	0.22	86.31	4.36	12.23	126	0	9.13	50
8/14/2015 16:40		1.61	3.9	0.22	86.31	3.84	12.46	157	0	9.95	43
8/14/2015 16:45	13.09	1.61	3.9	0.22	86.45	4.08	12.47	147	0	9.77	51
8/14/2015 17:35		1.57	3.94	0.22	86.31	3.89	12.47	154	0	9.22	53
8/14/2015 19:40		1.58	3.9	0.22	86.45	4.2	12.42	140	0	6.6	50
8/14/2015 19:45	13.05	1.58	3.9	0.22	86.45	3.92	12.51	145	0	8.68	51
8/15/2015 10:15	12.98	1.66	3.79	0.22	86.59	3.16	12.64	178	0	10.76	38
8/15/2015 11:00	12.97	1.63	3.81	0.22	86.74	4.38	12.12	133	0	9.46	47
8/15/2015 11:05		1.63	3.81	0.22	86.74	3.96	12.43	149	0	9.34	54
8/15/2015 11:10		1.63	3.81	0.22	86.74	3.36	12.54	161	0	10.1	40
8/15/2015 14:25		1.63	3.75	0.22	87.62	4.31	11.96	158	0	9.32	50
8/15/2015 14:30	12.96	1.63	3.8	0.22	87.62	4.09	12.41	158	0	6.67	50
8/15/2015 14:35		1.63	3.8	0.22	87.62	4.03	12.37	139	0	9.85	52
8/15/2015 14:40		1.63	3.82	0.22	87.48	4.11	12.39	152	0	8.02	51
8/15/2015 14:45	12.96	1.61	3.8	0.22	87.48	3.96	12.47	129	0	8.27	43
8/16/2015 10:25		1.72	3.57	0.22	87.48	3.81	12.28	157	0	8.81	44
8/16/2015 10:30	12.85	1.72	3.57	0.22	87.48	3.58	12.58	165	0	5.07	32
8/16/2015 10:35		1.72	3.57	0.22	87.48	3.46	12.57	167	0	7.7	28
8/16/2015 13:30	12.85	1.69	3.65	0.22	87.91	3.19	12.65	172	0	9.66	41
8/16/2015 14:00	12.85	1.66	3.64	0.22	87.76	3.99	12.24	144	0	7.62	57
8/16/2015 14:05		1.65	3.64	0.22	87.76	3.3	12.59	170	0	9.42	38
8/16/2015 14:10		1.65	3.73	0.22	87.62	4.02	12.35	146	0	6.03	40
8/16/2015 14:15	12.86	1.65	3.75	0.22	87.62	4.07	12.41	134	0	6.06	40
8/17/2015 5:15	12.78	1.8	3.36	0.22	87.62	3.57	12.18	145	0	10.39	40
8/17/2015 6:15	12.76	1.68	3.62	0.22	87.62	3.99	12	133	0	10.09	45
8/17/2015 11:30	12.79	1.67	3.66	0.22	87.03	3.92	12.47	153	0	8.16	45
8/17/2015 12:30	12.72	1.58	3.9	0.22	87.19	3.98	12.46	142	0	7.45	59
8/17/2015 13:40		1.61	3.83	0.22	87.33	3.99	12.49	158	0	8.4	57
8/17/2015 13:45	12.77	1.61	3.83	0.22	87.33	3.79	12.43	147	0	8.23	57
8/17/2015 15:00	12.76	1.6	3.88	0.22	87.33	4.4	12.16	147	0	6.59	65
8/17/2015 15:05		1.6	3.88	0.22	87.33	4.17	12.48	145	0	6.12	45
8/17/2015 15:10		1.6	3.88	0.22	87.33	3.78	12.55	144	0	8.79	45
8/17/2015 15:15	12.74	1.59	3.89	0.22	87.33	4.19	12.41	139	0	7.71	55
8/18/2015 7:10		1.59	3.94	0.22	86.45	3.91	12.47	162	0	8.09	47
8/18/2015 7:15	12.7	1.59	3.94	0.22	86.45	4.25	12.33	138	0	7.53	65
8/18/2015 9:15	12.71	1.62	3.83	0.22	86.31	4.11	12.38	141	0	7.5	57
8/18/2015 11:50		1.62	3.9	0.22	86.31	3.91	12.49	150	0	8.22	51
8/18/2015 16:45	12.69	1.6	3.96	0.22	86.74	3.62	12.51	162	0	10.38	41

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 16:50		1.6	3.96	0.22	86.74	3.99	12.5	152	0	8.29	55
8/19/2015 9:15	12.63	1.58	3.93	0.22	86.31	4.63	12.06	149	0	7.99	55
8/19/2015 11:35		1.62	3.91	0.22	86.31	4.2	12.38	157	0	9.12	47
8/19/2015 13:10		1.56	3.96	0.22	86.31	4.63	11.84	127	0	8.31	59
8/19/2015 13:20		1.6	3.97	0.22	86.31	4.27	12.4	155	0	8.61	52
8/19/2015 13:25		1.6	3.97	0.22	86.31	3.88	12.51	151	0	8.7	36
8/19/2015 13:30	12.6	1.6	3.97	0.22	86.31	3.85	12.54	166	0	10.15	42
8/19/2015 13:35		1.6	3.97	0.22	86.31	4.32	12.2	149	0	8.73	50
8/19/2015 13:40		1.6	3.97	0.22	86.31	4.45	12.29	154	0	5.84	51
8/19/2015 22:20		1.58	4.01	0.22	87.03	4.32	12.42	155	0	6.69	50
8/19/2015 22:25		1.58	4.01	0.22	87.03	3.95	12.53	142	0	8.82	48
8/19/2015 22:30	12.6	1.58	4.01	0.22	87.03	3.84	12.56	153	0	9.22	51
8/20/2015 6:35		1.59	3.87	0.22	86.45	4.49	12.1	154	0	8.64	59
8/13/2015 17:25		1.56	3.9	0.21	85.42	4.14	12.44	141	0	6.38	31
8/13/2015 17:30	13.32	1.56	3.84	0.21	85.42	4.01	12.39	131	0	10.48	39
8/13/2015 18:15	13.32	1.6	3.76	0.21	85.42	3.58	12.53	126	0	10.82	44
8/14/2015 7:25		1.59	3.7	0.21	85.42	3.77	12.46	150	0	10.77	43
8/14/2015 9:55		1.58	3.87	0.21	85.73	3.5	12.6	136	0	10.49	40
8/14/2015 10:00	13.12	1.58	3.87	0.21	85.73	4.32	12.34	148	0	7.66	54
8/14/2015 10:05		1.58	3.87	0.21	85.73	4.62	11.83	158	0	9.34	44
8/14/2015 16:20		1.58	3.84	0.21	86.31	3.3	12.63	165	0	10.77	39
8/14/2015 16:25		1.58	3.84	0.21	86.31	4.19	12.39	144	0	8.86	46
8/14/2015 17:40		1.56	3.79	0.21	86.31	4.09	12.44	146	0	9.5	49
8/14/2015 18:55		1.62	3.74	0.21	86.59	3.78	12.47	148	0	9.62	42
8/14/2015 19:30	13.05	1.57	3.78	0.21	86.45	3.99	12.42	141	0	9.67	48
8/14/2015 19:35		1.57	3.88	0.21	86.45	4.33	12.43	147	0	6.35	44
8/15/2015 3:00	13	1.63	3.6	0.21	86.88	4	12.22	127	0	10.7	49
8/15/2015 3:05		1.63	3.6	0.21	86.74	3.09	12.64	183	0	10.62	41
8/15/2015 3:10		1.63	3.6	0.21	86.74	2.28	12.59	147	0	8.36	40
8/15/2015 14:50		1.59	3.75	0.21	87.62	3.77	12.51	155	0	9.01	33
8/16/2015 13:00	12.86	1.6	3.64	0.21	87.91	3.77	12.4	162	0	9.23	40
8/16/2015 13:05		1.6	3.64	0.21	87.91	4.02	12.09	149	0	10.24	45
8/16/2015 13:10		1.6	3.72	0.21	87.91	3.97	12.28	151	0	8.08	45
8/16/2015 14:20		1.59	3.75	0.21	87.62	3.33	12.54	158	0	9.45	43
8/16/2015 14:50		1.63	3.59	0.21	87.62	3.85	12.37	141	0	9.17	48
8/16/2015 14:55		1.63	3.59	0.21	87.48	3.87	12.54	152	0	6.04	41
8/16/2015 15:00	12.84	1.63	3.59	0.21	87.48	3.09	12.71	189	0	11.44	39
8/17/2015 7:45	12.74	1.62	3.58	0.21	87.03	3.71	12.52	161	0	8.55	56
8/17/2015 7:50		1.62	3.58	0.21	87.03	4.02	12.24	143	0	8.09	50
8/17/2015 7:55		1.62	3.58	0.21	87.03	4.08	12.31	141	0	5.37	49
8/17/2015 11:35		1.64	3.63	0.21	87.03	3.77	12.5	151	0	7.87	45
8/17/2015 12:45	12.77	1.54	3.9	0.21	87.33	4.18	12.26	145	0	7.4	62

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 13:20		1.6	3.8	0.21	87.33	4.09	12.4	136	0	8.42	54
8/17/2015 13:50		1.57	3.83	0.21	87.33	4.21	12.51	147	0	5.03	40
8/17/2015 14:05		1.57	3.85	0.21	87.33	4.24	12.33	150	0	6.95	48
8/17/2015 14:35		1.63	3.65	0.21	87.33	3.88	12.54	134	0	8.04	50
8/17/2015 16:05		1.57	3.82	0.21	87.33	3.39	12.61	183	0	10.73	42
8/18/2015 6:40		1.56	3.82	0.21	86.59	4.1	12.09	162	0	8.43	60
8/18/2015 7:20		1.56	3.87	0.21	86.45	4.17	12.44	152	0	5.27	45
8/18/2015 9:10		1.58	3.76	0.21	86.31	4.21	12.28	156	0	6.88	59
8/18/2015 11:55		1.61	3.68	0.21	86.31	3.71	12.58	146	0	8.9	47
8/18/2015 12:00	12.66	1.61	3.68	0.21	86.31	4.4	11.98	145	0	7.69	47
8/18/2015 12:05		1.61	3.68	0.21	86.31	4.58	12.1	148	0	5.96	58
8/18/2015 16:55		1.58	3.84	0.21	86.74	4.14	12.42	167	0	8.81	43
8/18/2015 17:00	12.67	1.58	3.84	0.21	86.74	4.36	12.34	159	0	7.66	51
8/18/2015 17:05		1.58	3.84	0.21	86.74	4.68	11.98	136	0	8.59	56
8/19/2015 8:05		1.58	3.84	0.21	86.31	3.77	12.52	154	0	9.16	47
8/19/2015 8:10		1.58	3.84	0.21	86.45	4.51	12.23	153	0	7.64	61
8/19/2015 8:15	12.62	1.58	3.84	0.21	86.59	4.53	11.94	142	0	8.54	62
8/19/2015 16:35		1.57	3.79	0.21	86.59	3.99	12.54	143	0	7.97	50
8/19/2015 16:40		1.57	3.79	0.21	86.59	4.08	12.35	154	0	7.89	48
8/19/2015 16:45	12.61	1.57	3.79	0.21	86.59	4.25	12.4	155	0	8.31	54
8/19/2015 16:50		1.6	3.81	0.21	86.59	4.65	12.08	152	0	6.3	66
8/20/2015 6:30	12.56	1.58	3.79	0.21	86.45	4.16	12.41	150	0	9.01	56
8/13/2015 12:35		1.54	3.8	0.2	88.63	3.58	12.64	144	0	11.19	37
8/13/2015 12:40		1.54	3.8	0.2	88.34	4.41	12.17	129	0	7.58	53
8/13/2015 12:45	13.38	1.54	3.8	0.2	88.2	4.28	12.09	136	0	9.73	47
8/13/2015 13:20		1.55	3.8	0.2	87.19	3.85	12.45	143	0	10.29	46
8/13/2015 13:25		1.55	3.8	0.2	87.19	4.54	12.07	129	0	9.51	49
8/13/2015 15:10		1.53	3.72	0.2	86.45	4.02	12.49	137	0	11.65	37
8/13/2015 15:15	13.33	1.53	3.72	0.2	86.31	4.59	11.82	152	0	10.45	42
8/13/2015 15:20		1.53	3.72	0.2	86.16	4.53	12.01	144	0	10.99	38
8/13/2015 17:35		1.56	3.73	0.2	85.42	3.75	12.43	132	0	11.28	37
8/13/2015 17:40		1.56	3.73	0.2	85.42	3.77	12.56	133	0	11.28	36
8/14/2015 8:15	13.16	1.55	3.62	0.2	85.42	4.59	11.88	154	0	10.04	40
8/14/2015 15:45	13.1	1.52	3.79	0.2	86.31	3.64	12.6	147	0	10.36	43
8/14/2015 15:50		1.52	3.79	0.2	86.31	4.53	11.97	142	0	9.18	55
8/14/2015 16:50		1.54	3.79	0.2	86.31	4.09	12.46	151	0	9.14	41
8/14/2015 16:55		1.54	3.78	0.2	86.31	4.03	12.45	151	0	9.7	50
8/14/2015 17:00	13.1	1.54	3.74	0.2	86.31	3.94	12.47	156	0	9.32	49
8/14/2015 17:05		1.54	3.78	0.2	86.31	4.13	12.31	141	0	9.3	48
8/14/2015 17:10		1.55	3.79	0.2	86.31	4.43	12.13	135	0	9.41	57
8/14/2015 19:20		1.54	3.73	0.2	86.59	4.07	12.43	147	0	9.25	49
8/14/2015 19:25		1.55	3.78	0.2	86.45	4.34	12.33	134	0	7.69	50

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/14/2015 19:50		1.57	3.7	0.2	86.45	3.17	12.62	171	0	10.66	38
8/15/2015 9:20		1.57	3.67	0.2	86.59	4.09	12.43	155	0	7.37	48
8/15/2015 9:25		1.57	3.67	0.2	86.59	3.49	12.54	173	0	8.58	48
8/15/2015 9:30	12.96	1.57	3.67	0.2	86.59	3.27	12.61	178	0	9.69	35
8/15/2015 10:55		1.58	3.68	0.2	86.88	4.34	12.05	139	0	9.44	52
8/15/2015 11:15	12.98	1.57	3.67	0.2	86.74	3.52	12.62	173	0	8.45	45
8/15/2015 13:35		1.56	3.61	0.2	87.33	3.92	12.44	147	0	10.02	46
8/15/2015 13:40		1.56	3.61	0.2	87.33	3.87	12.5	149	0	9.29	45
8/15/2015 13:45	12.95	1.56	3.61	0.2	87.33	3.9	12.49	142	0	9.24	44
8/15/2015 14:55		1.58	3.66	0.2	87.76	3.92	12.42	144	0	10.01	41
8/15/2015 15:00	12.95	1.58	3.64	0.2	88.05	3.78	12.41	139	0	9.59	51
8/15/2015 15:05		1.58	3.64	0.2	88.05	4.25	12.34	136	0	6.67	49
8/15/2015 15:10		1.59	3.64	0.2	87.76	4.44	12.16	136	0	6.73	46
8/15/2015 16:20		1.56	3.64	0.2	87.62	3.93	12.44	143	0	9.26	55
8/16/2015 9:45	12.86	1.57	3.56	0.2	87.19	3.84	12.43	146	0	8.74	51
8/16/2015 9:50		1.57	3.56	0.2	87.33	3.66	12.51	170	0	9.4	46
8/16/2015 12:50		1.59	3.64	0.2	87.76	4.02	12.41	151	0	5.39	43
8/16/2015 12:55		1.59	3.64	0.2	87.76	3.3	12.58	170	0	9.99	41
8/16/2015 13:55		1.65	3.39	0.2	87.91	3.98	12.26	151	0	7.75	51
8/17/2015 5:10		1.69	3.31	0.2	87.62	3.81	12.2	141	0	10.6	40
8/17/2015 6:10		1.66	3.4	0.2	87.62	4.03	12.13	137	0	6.57	44
8/17/2015 11:40		1.55	3.63	0.2	87.03	4.06	12.45	137	0	7.27	58
8/17/2015 11:55		1.55	3.65	0.2	87.19	3.94	12.45	133	0	7.83	48
8/17/2015 12:00	12.76	1.55	3.76	0.2	87.19	4.27	12.03	147	0	7.47	56
8/17/2015 12:35		1.54	3.69	0.2	87.19	3.7	12.53	151	0	8.22	49
8/17/2015 12:40		1.54	3.69	0.2	87.33	4.28	12.21	148	0	7	57
8/17/2015 12:50		1.55	3.69	0.2	87.33	3.75	12.45	157	0	8.47	53
8/17/2015 13:55		1.55	3.76	0.2	87.33	4.06	12.45	147	0	8.42	47
8/17/2015 14:00	12.74	1.55	3.76	0.2	87.33	4.13	12.34	127	0	7.42	65
8/17/2015 14:45	12.76	1.56	3.65	0.2	87.33	4	12.44	146	0	7.62	57
8/17/2015 14:50		1.56	3.65	0.2	87.33	4.17	12.4	137	0	7.23	57
8/17/2015 14:55		1.56	3.71	0.2	87.33	4.47	12.12	137	0	7.02	55
8/17/2015 15:20		1.52	3.86	0.2	87.33	3.86	12.58	148	0	5.65	40
8/18/2015 7:25		1.54	3.72	0.2	86.45	4.02	12.46	150	0	7.8	48
8/18/2015 7:30	12.69	1.54	3.72	0.2	86.45	3.79	12.56	151	0	8.81	45
8/18/2015 7:35		1.54	3.72	0.2	86.45	3.96	12.46	148	0	7.7	60
8/18/2015 7:40		1.54	3.67	0.2	86.45	3.92	12.59	146	0	6.74	43
8/18/2015 8:35		1.55	3.74	0.2	86.45	3.84	12.54	157	0	6.66	48
8/18/2015 8:40		1.55	3.74	0.2	86.31	4.19	12.41	138	0	7.67	49
8/18/2015 17:35		1.52	3.9	0.2	86.74	4.22	12.48	156	0	6.15	49
8/18/2015 17:50		1.51	3.79	0.2	86.74	4.11	12.5	140	0	6.8	45
8/18/2015 18:05		1.5	3.88	0.2	86.74	4.18	12.42	169	0	9	51

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 19:20		1.51	3.81	0.2	86.88	3.47	12.62	172	0	10.64	41
8/18/2015 19:40		1.49	3.82	0.2	86.88	4.14	12.51	146	0	6.07	51
8/18/2015 19:45	12.63	1.49	3.82	0.2	86.88	3.57	12.6	174	0	10.41	44
8/18/2015 19:50		1.49	3.82	0.2	86.88	3.8	12.52	157	0	9.36	42
8/19/2015 9:00	12.63	1.5	3.93	0.2	86.31	3.63	12.59	163	0	9.32	42
8/19/2015 9:05		1.5	3.93	0.2	86.31	4.52	12.2	147	0	7.26	61
8/19/2015 9:10		1.5	3.9	0.2	86.31	4.2	12.42	160	0	8.85	54
8/19/2015 16:00	12.63	1.5	3.9	0.2	86.59	3.77	12.5	150	0	9.52	48
8/19/2015 16:05		1.5	3.9	0.2	86.59	4.32	12.31	159	0	8.59	53
8/19/2015 16:10		1.5	3.9	0.2	86.59	4.45	12.23	143	0	8.14	58
8/19/2015 17:30	12.63	1.52	3.82	0.2	86.59	4.13	12.48	155	0	9.16	59
8/19/2015 17:35		1.52	3.82	0.2	86.59	3.68	12.52	149	0	11.83	29
8/19/2015 17:40		1.52	3.82	0.2	86.59	4.02	12.52	145	0	7.91	49
8/19/2015 19:25		1.52	3.88	0.2	86.88	4.2	12.48	154	0	6.32	51
8/19/2015 19:30	12.59	1.52	3.88	0.2	86.88	3.31	12.61	169	0	10.92	40
8/19/2015 22:15	12.63	1.53	3.71	0.2	87.03	4.6	12.13	152	0	7.33	63
8/20/2015 0:25		1.54	3.73	0.2	86.88	4.41	12.39	161	0	4.76	42
8/20/2015 0:30	12.61	1.54	3.73	0.2	86.88	3.61	12.61	168	0	10.47	45
8/20/2015 6:25		1.54	3.7	0.2	86.45	4.37	12.17	145	0	8.76	50
8/13/2015 11:20		1.47	3.76	0.19	95.92	4.07	12.53	132	-0.21	5.55	40
8/13/2015 11:25		1.47	3.76	0.19	95.04	4.01	12.55	137	-0.21	9.67	40
8/13/2015 11:30	13.4	1.47	3.75	0.19	94.17	3.95	12.6	122	-0.21	4.04	33
8/13/2015 11:35		1.47	3.75	0.19	93.43	4.51	11.99	137	-0.21	10.06	43
8/13/2015 11:40		1.47	3.75	0.19	92.71	4.35	12.23	133	-0.09	8.81	56
8/13/2015 14:05		1.53	3.66	0.19	86.59	3.62	12.6	145	0	9.7	42
8/13/2015 14:20		1.5	3.66	0.19	86.31	4.46	11.98	140	0	9.8	56
8/13/2015 16:40		1.52	3.61	0.19	85.42	3.58	12.58	151	0	10.72	38
8/13/2015 17:45	13.31	1.56	3.55	0.19	85.42	3.86	12.58	137	0	5.26	30
8/13/2015 17:50		1.57	3.55	0.19	85.42	4.39	12.25	141	0	6.92	39
8/13/2015 17:55		1.57	3.55	0.19	85.42	4.36	12.3	143	0	7.84	39
8/13/2015 18:20		1.52	3.62	0.19	85.73	3.78	12.57	137	0	8.11	36
8/14/2015 7:30	13.15	1.54	3.58	0.19	85.42	3.71	12.6	155	0	9.93	38
8/14/2015 11:35		1.52	3.62	0.19	86.02	3.52	12.6	142	0	11.11	40
8/14/2015 17:45	13.08	1.53	3.6	0.19	86.31	3.81	12.48	159	0	9.97	44
8/14/2015 19:00	13.08	1.54	3.58	0.19	86.59	3.47	12.56	155	0	10.24	43
8/14/2015 19:05		1.54	3.58	0.19	86.59	3.97	12.46	154	0	10.18	46
8/14/2015 19:10		1.53	3.58	0.19	86.59	4.03	12.47	151	0	9.49	44
8/14/2015 19:15	13.09	1.53	3.68	0.19	86.59	4.19	12.45	155	0	6.55	54
8/15/2015 11:50		1.55	3.54	0.19	86.88	3.7	12.4	148	0	9.68	44
8/15/2015 11:55		1.55	3.54	0.19	86.88	3.48	12.63	157	0	10.38	36
8/15/2015 13:50		1.52	3.6	0.19	87.48	3.65	12.48	146	0	9.27	45
8/15/2015 13:55		1.52	3.6	0.19	87.62	4.01	12.42	150	0	6.95	49

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/15/2015 14:00	12.96	1.51	3.57	0.19	87.76	3.12	12.64	182	0	11.29	30
8/15/2015 14:15	12.95	1.51	3.64	0.19	87.76	4.03	12.37	139	0	8.52	51
8/15/2015 14:20		1.51	3.64	0.19	87.76	4.28	12.04	130	0	9.49	48
8/15/2015 17:00	12.94	1.53	3.55	0.19	87.76	3.84	12.47	138	0	8.37	47
8/15/2015 17:05		1.53	3.6	0.19	87.76	3.89	12.47	130	0	9.34	53
8/15/2015 17:10		1.53	3.6	0.19	87.76	3.62	12.48	150	0	10.05	43
8/15/2015 17:15	12.93	1.53	3.55	0.19	87.76	3.83	12.48	144	0	9.67	48
8/15/2015 17:25		1.52	3.59	0.19	87.91	3.89	12.52	176	0	5.96	39
8/15/2015 18:05		1.52	3.54	0.19	88.05	4.05	12.44	149	0	7.95	45
8/15/2015 18:10		1.52	3.54	0.19	88.05	3.74	12.49	146	0	10.17	45
8/15/2015 18:15	12.94	1.52	3.54	0.19	88.2	3.55	12.51	157	0	9.78	38
8/16/2015 7:35		1.53	3.56	0.19	86.88	3.85	12.37	156	0	8.73	54
8/16/2015 7:40		1.53	3.56	0.19	87.03	3.54	12.52	163	0	9.93	44
8/16/2015 15:35		1.54	3.53	0.19	87.33	3.97	12.44	152	0	5.72	44
8/17/2015 11:45	12.77	1.53	3.59	0.19	87.19	3.58	12.54	163	0	8.68	52
8/17/2015 11:50		1.53	3.63	0.19	87.19	4.34	12.2	147	0	7.12	58
8/17/2015 12:55		1.55	3.48	0.19	87.33	3.39	12.56	166	0	9.3	39
8/17/2015 13:00	12.76	1.55	3.48	0.19	87.33	3.47	12.58	165	0	10.19	42
8/17/2015 14:40		1.56	3.57	0.19	87.33	3.8	12.55	138	0	8.77	51
8/18/2015 6:35		1.51	3.71	0.19	86.59	4.02	12.02	157	0	8.33	53
8/18/2015 8:10		1.49	3.68	0.19	86.45	4.49	12.05	146	0	5.83	58
8/18/2015 17:40		1.51	3.7	0.19	86.74	3.96	12.49	157	0	9.07	47
8/18/2015 17:45	12.69	1.51	3.7	0.19	86.74	4.24	12.5	153	0	7.08	52
8/18/2015 17:55		1.5	3.79	0.19	86.74	3.4	12.56	174	0	10.54	42
8/18/2015 18:00	12.68	1.5	3.79	0.19	86.74	4.37	12.32	157	0	7.92	59
8/18/2015 18:10		1.5	3.79	0.19	86.74	3.55	12.56	168	0	10.33	43
8/18/2015 19:55		1.49	3.67	0.19	87.03	3.94	12.38	157	0	8.18	48
8/18/2015 20:00	12.67	1.49	3.67	0.19	86.88	4.3	12.39	159	0	7.61	52
8/19/2015 1:25		1.49	3.69	0.19	86.59	4	12.51	154	0	5.33	38
8/19/2015 1:30	12.66	1.49	3.69	0.19	86.59	2.64	12.73	196	0	15.92	31
8/19/2015 1:35		1.49	3.69	0.19	86.59	2.01	12.59	157	0	9.24	33
8/19/2015 6:05		1.51	3.74	0.19	86.02	4.15	12.4	159	0	8.65	50
8/19/2015 6:10		1.51	3.74	0.19	86.02	3.85	12.55	156	0	8.33	45
8/19/2015 6:15	12.65	1.51	3.74	0.19	86.02	3.94	12.53	167	0	5.15	34
8/19/2015 13:05		1.49	3.68	0.19	86.31	4.27	12.44	152	0	6.82	50
8/19/2015 13:45	12.64	1.52	3.72	0.19	86.31	4.02	12.48	154	0	9.32	55
8/19/2015 13:50		1.52	3.72	0.19	86.31	3.91	12.5	152	0	9.52	41
8/19/2015 13:55		1.52	3.72	0.19	86.31	3.95	12.51	146	0	8.92	56
8/19/2015 14:00	12.64	1.52	3.72	0.19	86.31	4.41	12.29	154	0	8.12	55
8/19/2015 14:05		1.52	3.72	0.19	86.31	4.54	12.17	158	0	8.11	64
8/19/2015 17:45	12.64	1.48	3.71	0.19	86.74	3.78	12.59	164	0	4.91	39
8/19/2015 18:30	12.63	1.48	3.73	0.19	86.88	4.37	12.32	157	0	7.76	60

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(°F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 18:35		1.48	3.73	0.19	86.88	4.14	12.48	143	0	8.34	55
8/19/2015 18:40		1.48	3.73	0.19	86.88	3.43	12.59	157	0	10.79	40
8/19/2015 19:35		1.52	3.73	0.19	86.88	4.02	12.42	152	0	8.96	55
8/19/2015 19:40		1.52	3.73	0.19	86.88	4.25	12.3	139	0	7.9	50
8/19/2015 19:45	12.62	1.52	3.75	0.19	86.88	4.06	12.52	151	0	8.38	53
8/19/2015 19:50		1.48	3.73	0.19	86.88	3.85	12.53	143	0	9.55	49
8/19/2015 19:55		1.48	3.73	0.19	86.88	3.81	12.55	162	0	8.6	52
8/19/2015 21:20		1.49	3.71	0.19	87.19	4.02	12.52	149	0	7.93	44
8/19/2015 21:25		1.49	3.71	0.19	87.03	3.6	12.6	159	0	8.18	39
8/19/2015 21:30	12.59	1.48	3.71	0.19	87.03	3.26	12.64	172	0	11.41	37
8/20/2015 0:35		1.54	3.54	0.19	86.88	3.86	12.61	148	0	4.91	34
8/13/2015 14:10		1.5	3.59	0.18	86.59	3.69	12.56	138	0	10.68	43
8/13/2015 14:15	13.33	1.5	3.59	0.18	86.45	4.62	11.74	142	0	9.84	49
8/13/2015 16:45	13.28	1.45	3.59	0.18	85.42	3.42	12.62	166	0	11.44	36
8/13/2015 19:05		1.51	3.44	0.18	85.73	3.72	12.49	143	0	11.03	41
8/13/2015 19:10		1.51	3.44	0.18	85.73	3.72	12.54	135	0	11.04	41
8/13/2015 19:15	13.3	1.51	3.44	0.18	85.73	3.38	12.61	158	0	12.26	35
8/14/2015 6:10		1.5	3.56	0.18	85.87	3.94	12.5	136	0	9.31	48
8/14/2015 6:15	13.17	1.5	3.56	0.18	85.87	3.82	12.6	144	0	4.73	36
8/14/2015 6:20		1.5	3.56	0.18	85.87	3.74	12.63	147	0	6.1	42
8/14/2015 7:35		1.49	3.49	0.18	85.42	3.44	12.65	149	0	11.11	37
8/14/2015 7:40		1.49	3.49	0.18	85.42	3.95	12.5	146	0	8.14	45
8/14/2015 7:45	13.16	1.5	3.49	0.18	85.42	3.97	12.48	153	0	9.51	48
8/14/2015 8:00	13.16	1.45	3.62	0.18	85.42	3.82	12.55	139	0	9.6	44
8/14/2015 8:05		1.45	3.62	0.18	85.42	3.91	12.45	143	0	10.62	40
8/14/2015 8:10		1.45	3.62	0.18	85.42	4.28	12.36	145	0	9.29	41
8/14/2015 8:50		1.49	3.58	0.18	85.59	3.43	12.59	135	0	10.27	42
8/14/2015 8:55		1.49	3.58	0.18	85.59	4.49	11.95	148	0	8.56	50
8/14/2015 9:00	13.17	1.49	3.58	0.18	85.59	4.49	11.91	155	0	9.82	51
8/14/2015 11:40		1.47	3.58	0.18	86.02	3.86	12.54	152	0	10.36	48
8/14/2015 11:45	13.12	1.47	3.58	0.18	86.02	4.26	12.23	140	0	9.47	53
8/14/2015 11:50		1.47	3.58	0.18	86.02	4.3	12.22	129	0	9.5	53
8/14/2015 12:15	13.11	1.49	3.62	0.18	86.02	3.82	12.51	140	0	10.87	44
8/14/2015 12:20		1.49	3.62	0.18	86.02	4.34	12.24	135	0	9.77	52
8/14/2015 12:25		1.49	3.62	0.18	86.02	4.28	12.39	143	0	6.92	43
8/14/2015 17:50		1.52	3.52	0.18	86.31	3.82	12.57	157	0	5.47	36
8/14/2015 17:55		1.52	3.52	0.18	86.31	3.36	12.64	168	0	11.62	39
8/14/2015 18:20		1.47	3.59	0.18	86.31	4.66	12.09	117	0	5.6	45
8/14/2015 19:55		1.49	3.62	0.18	86.45	2.82	12.73	176	0	12.34	39
8/15/2015 1:55		1.56	3.23	0.18	87.33	4.12	12.4	140	0	5.78	34
8/15/2015 2:00	13.01	1.56	3.32	0.18	87.33	3.59	12.48	154	0	9.92	42
8/15/2015 2:05		1.56	3.32	0.18	87.19	3.41	12.59	179	0	5.29	31

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(°F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/15/2015 6:55		1.52	3.4	0.18	87.03	3.68	12.48	158	0	9.82	35
8/15/2015 7:00	12.98	1.52	3.4	0.18	87.03	3.05	12.64	173	0	9.89	45
8/15/2015 7:05		1.52	3.4	0.18	86.88	2.73	12.71	133	0	11.33	42
8/15/2015 7:10		1.52	3.4	0.18	86.88	3.81	12.47	148	0	9.59	49
8/15/2015 9:55		1.51	3.55	0.18	86.88	4.39	11.92	151	0	8.48	54
8/15/2015 11:45	12.95	1.46	3.54	0.18	86.88	3.89	12.45	153	0	9.74	54
8/15/2015 12:50		1.49	3.49	0.18	87.03	3.78	12.51	144	0	9.51	47
8/15/2015 12:55		1.49	3.49	0.18	87.19	3.13	12.63	179	0	11.02	41
8/15/2015 14:10		1.51	3.38	0.18	87.91	3.94	12.49	136	0	6.22	43
8/15/2015 15:50		1.52	3.51	0.18	87.48	3.8	12.5	157	0	6.02	38
8/15/2015 15:55		1.5	3.51	0.18	87.62	3.32	12.55	175	0	10.16	37
8/15/2015 16:00	12.96	1.5	3.51	0.18	87.62	3.96	12.37	154	0	10.1	52
8/15/2015 16:05		1.5	3.51	0.18	87.48	4.27	12.3	132	0	9.89	47
8/15/2015 16:10		1.5	3.51	0.18	87.48	3.77	12.51	156	0	8.69	51
8/15/2015 16:15	12.95	1.5	3.48	0.18	87.62	3.66	12.5	162	0	9.33	47
8/15/2015 16:25		1.5	3.49	0.18	87.76	3.78	12.5	170	0	5.72	42
8/15/2015 16:30	12.92	1.5	3.48	0.18	87.76	3.51	12.56	172	0	10.44	40
8/15/2015 17:20		1.52	3.55	0.18	87.76	3.89	12.5	155	0	9.77	41
8/15/2015 17:30	12.9	1.5	3.54	0.18	87.91	3.67	12.58	164	0	5.27	38
8/15/2015 17:35		1.48	3.54	0.18	88.05	3.1	12.67	187	0	11.75	43
8/15/2015 17:40		1.48	3.59	0.18	88.2	3.89	12.49	150	0	8.93	48
8/15/2015 18:00	12.91	1.51	3.54	0.18	88.05	3.81	12.41	142	0	9.96	49
8/15/2015 18:20		1.51	3.51	0.18	88.34	3.8	12.49	170	0	5.82	44
8/15/2015 18:25		1.51	3.46	0.18	88.48	3.68	12.56	170	0	5.52	37
8/15/2015 18:30	12.93	1.51	3.46	0.18	88.48	3.95	12.43	139	0	8.78	48
8/15/2015 18:35		1.51	3.51	0.18	88.34	3.91	12.44	149	0	9.34	48
8/15/2015 18:40		1.51	3.51	0.18	88.2	3.48	12.6	176	0	8.6	42
8/15/2015 20:20		1.51	3.49	0.18	88.63	4	12.4	151	0	10.1	45
8/15/2015 20:25		1.51	3.49	0.18	88.34	3.34	12.59	175	0	10.93	41
8/15/2015 20:30	12.92	1.51	3.49	0.18	88.2	3.29	12.62	183	0	11.2	40
8/16/2015 6:55		1.53	3.48	0.18	86.88	3.79	12.44	148	0	9.47	51
8/16/2015 7:00	12.88	1.53	3.48	0.18	86.88	3.77	12.53	153	0	6.72	45
8/16/2015 7:05		1.53	3.48	0.18	86.88	3.65	12.53	163	0	7.34	43
8/16/2015 7:30	12.86	1.49	3.48	0.18	86.88	3.76	12.47	152	0	10.14	46
8/16/2015 7:45	12.86	1.53	3.48	0.18	87.03	3.13	12.65	181	0	11.28	43
8/16/2015 8:10		1.51	3.37	0.18	87.03	3.93	12.36	150	0	8.22	41
8/16/2015 8:15	12.86	1.51	3.37	0.18	87.03	3.49	12.57	174	0	8.63	43
8/16/2015 8:20		1.51	3.37	0.18	87.03	2.9	12.71	188	0	12.9	37
8/16/2015 9:35		1.48	3.5	0.18	87.19	4.05	12.27	139	0	9.52	40
8/16/2015 9:40		1.51	3.55	0.18	87.19	3.84	12.49	148	0	8.01	54
8/16/2015 9:55		1.51	3.55	0.18	87.33	3.52	12.51	166	0	9.47	43
8/16/2015 15:05		1.46	3.56	0.18	87.48	2.61	12.65	120	0	12.15	36

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 0:20		1.56	3.37	0.18	87.33	3.82	12.44	147	0	6.81	44
8/17/2015 0:25		1.56	3.37	0.18	87.33	3.53	12.45	141	0	9.9	47
8/17/2015 0:30	12.79	1.56	3.37	0.18	87.33	3.28	12.7	191	0	6.39	35
8/17/2015 0:35		1.55	3.27	0.18	87.33	3.02	12.54	105	0	12.67	31
8/17/2015 5:40		1.52	3.48	0.18	87.62	3.32	12.48	150	0	10.31	32
8/17/2015 5:45	12.77	1.52	3.48	0.18	87.62	3.86	12.47	161	0	5.05	35
8/17/2015 5:50		1.52	3.4	0.18	87.62	3.68	12.51	166	0	5.79	42
8/17/2015 5:55		1.52	3.4	0.18	87.62	3.24	12.59	178	0	9.52	47
8/17/2015 6:00	12.79	1.52	3.4	0.18	87.62	3.88	12.34	138	0	7.59	47
8/17/2015 6:05		1.53	3.4	0.18	87.62	3.55	12.32	149	0	9.46	43
8/17/2015 16:40		1.47	3.67	0.18	87.48	4.13	12.37	145	0	6.9	57
8/17/2015 16:45	12.75	1.47	3.7	0.18	87.48	4.14	12.32	158	0	7.46	49
8/17/2015 16:50		1.47	3.7	0.18	87.48	3.74	12.57	170	0	5.59	39
8/17/2015 16:55		1.47	3.7	0.18	87.48	3.76	12.58	153	0	9.68	45
8/18/2015 7:45	12.68	1.47	3.6	0.18	86.45	3.78	12.53	155	0	8.08	50
8/18/2015 8:05		1.48	3.48	0.18	86.45	4.32	12.34	153	0	5.84	57
8/18/2015 20:05		1.48	3.52	0.18	86.88	3.82	12.52	165	0	8.98	55
8/18/2015 20:10		1.48	3.52	0.18	86.88	3.69	12.61	172	0	5.08	29
8/18/2015 20:15	12.67	1.48	3.52	0.18	86.88	3.36	12.66	171	0	11.29	42
8/19/2015 6:20		1.47	3.63	0.18	86.02	3.76	12.54	158	0	10.11	44
8/19/2015 6:25		1.46	3.55	0.18	86.02	3.86	12.55	154	0	6.25	44
8/19/2015 6:30	12.61	1.46	3.55	0.18	86.02	4.34	12.15	154	0	8.76	56
8/19/2015 6:35		1.47	3.63	0.18	86.02	4.59	12.05	157	0	7.45	53
8/19/2015 12:35		1.48	3.57	0.18	86.31	3.83	12.57	155	0	8.46	45
8/19/2015 12:40		1.48	3.52	0.18	86.31	3.72	12.5	167	0	9.77	46
8/19/2015 12:45	12.62	1.48	3.52	0.18	86.31	3.99	12.51	153	0	9.42	47
8/19/2015 12:55		1.49	3.52	0.18	86.31	4.28	12.39	159	0	7.69	57
8/19/2015 13:00	12.62	1.49	3.44	0.18	86.31	3.73	12.52	156	0	10.5	50
8/19/2015 18:20		1.48	3.63	0.18	86.74	4.04	12.52	151	0	8.93	52
8/19/2015 18:25		1.48	3.63	0.18	86.74	3.58	12.58	141	0	10.54	41
8/19/2015 19:20		1.47	3.58	0.18	86.88	3.88	12.53	140	0	9.64	49
8/19/2015 20:00	12.63	1.47	3.55	0.18	87.03	3.83	12.54	147	0	9.79	54
8/19/2015 22:35		1.47	3.7	0.18	87.03	4.02	12.55	148	0	8.59	52
8/19/2015 22:40		1.45	3.64	0.18	87.03	3.63	12.58	157	0	9.76	49
8/20/2015 0:20		1.53	3.47	0.18	86.88	4.01	12.38	155	0	9.29	51
8/20/2015 1:25		1.51	3.39	0.18	87.03	4.4	12.21	153	0	8.03	57
8/20/2015 1:30	12.62	1.51	3.39	0.18	87.03	3.59	12.53	148	0	10.56	39
8/20/2015 1:35		1.51	3.39	0.18	87.03	3.45	12.58	158	0	10.79	35
8/20/2015 4:05		1.48	3.62	0.18	86.88	3.92	12.52	149	0	5.51	33
8/20/2015 4:10		1.48	3.62	0.18	86.88	3.77	12.52	153	0	8.94	38
8/20/2015 4:15	12.61	1.48	3.62	0.18	86.88	3.35	12.6	154	0	11.24	42
8/20/2015 4:20		1.48	3.48	0.18	86.88	3	12.71	180	0	13.33	34

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/13/2015 18:25		1.47	3.47	0.17	85.87	3.36	12.64	178	0	8.69	33
8/13/2015 18:30	13.3	1.47	3.47	0.17	85.87	4.22	12.26	121	0	10.12	45
8/13/2015 18:35		1.47	3.47	0.17	85.87	3.95	12.49	149	0	10.68	38
8/13/2015 18:40		1.43	3.47	0.17	85.87	3.56	12.62	157	0	11.59	38
8/13/2015 19:20		1.46	3.43	0.17	85.73	3.56	12.64	147	0	11.3	38
8/13/2015 19:50		1.43	3.49	0.17	85.73	3.84	12.5	142	0	10.52	43
8/13/2015 19:55		1.49	3.4	0.17	85.73	3.68	12.51	130	0	11.62	41
8/14/2015 6:25		1.44	3.5	0.17	85.87	3.74	12.56	134	0	10.38	48
8/14/2015 6:40		1.44	3.44	0.17	85.73	4.43	11.99	152	0	9.89	45
8/14/2015 7:55		1.4	3.62	0.17	85.42	3.95	12.61	151	0	4.93	31
8/14/2015 18:00	13.08	1.43	3.52	0.17	86.31	3.9	12.59	144	0	5.71	33
8/14/2015 18:15	13.08	1.41	3.58	0.17	86.31	4.31	12.35	151	0	8.99	53
8/15/2015 0:15	13.05	1.5	3.24	0.17	87.19	3.53	12.46	153	0	10.89	43
8/15/2015 1:00	13.01	1.5	3.25	0.17	87.03	3.52	12.5	171	0	9.17	42
8/15/2015 1:05		1.51	3.27	0.17	87.03	3.54	12.49	161	0	8.88	46
8/15/2015 1:10		1.51	3.27	0.17	87.19	3.53	12.51	168	0	6.97	47
8/15/2015 1:15	13.04	1.5	3.26	0.17	87.19	3.47	12.5	172	0	8.87	46
8/15/2015 1:20		1.5	3.26	0.17	87.33	3.74	12.42	144	0	10.89	39
8/15/2015 1:25		1.51	3.27	0.17	87.19	3.77	12.38	156	0	9.43	43
8/15/2015 1:30	13.03	1.5	3.26	0.17	87.19	3.37	12.53	171	0	7.22	31
8/15/2015 1:40	-	1.53	3.14	0.17	87.62	3.39	12.47	176	0	9.46	46
8/15/2015 1:45	13.01	1.53	3.14	0.17	87.62	3.76	12.38	156	0	10.55	40
8/15/2015 1:50		1.53	3.14	0.17	87.48	3.48	12.44	141	0	11.25	36
8/15/2015 2:10		1.52	3.23	0.17	87.19	3.33	12.62	182	0	4.65	32
8/15/2015 4:15	13.01	1.45	3.53	0.17	86.88	3.84	12.55	172	0	4.88	27
8/15/2015 4:20		1.45	3.53	0.17	86.74	3.26	12.58	167	0	10.47	43
8/15/2015 4:25		1.45	3.53	0.17	86.74	3.46	12.56	177	0	5.88	32
8/15/2015 11:20		1.46	3.37	0.17	86.74	3.66	12.56	165	0	9.51	44
8/15/2015 12:00	12.97	1.46	3.44	0.17	86.74	2.84	12.75	182	0	11.05	41
8/15/2015 12:40		1.47	3.45	0.17	86.88	3.9	12.51	150	0	6.43	47
8/15/2015 12:45	12.96	1.47	3.45	0.17	87.03	3.06	12.69	189	0	10.34	41
8/15/2015 14:05		1.51	3.38	0.17	87.91	3.27	12.61	170	0	10.32	42
8/15/2015 16:35		1.5	3.38	0.17	87.76	3.61	12.58	179	0	5.84	40
8/15/2015 17:45	12.92	1.48	3.45	0.17	88.05	3.74	12.52	151	0	9.63	40
8/15/2015 17:50		1.45	3.37	0.17	87.91	3.58	12.55	160	0	9.58	47
8/15/2015 17:55		1.48	3.45	0.17	87.91	3.84	12.48	139	0	8.31	42
8/15/2015 22:55		1.44	3.49	0.17	88.2	3.8	12.58	175	0	4.96	32
8/15/2015 23:00	12.91	1.42	3.49	0.17	88.05	3.26	12.63	179	0	10.49	38
8/15/2015 23:05		1.42	3.49	0.17	88.2	2.83	12.65	86	0	13	40
8/16/2015 2:40		1.49	3.33	0.17	87.48	3.74	12.44	144	0	10.06	38
8/16/2015 7:10		1.47	3.48	0.17	86.88	3.72	12.61	182	0	5.65	27
8/16/2015 7:15	12.87	1.47	3.41	0.17	86.88	3.57	12.52	151	0	9.8	45

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 7:20		1.47	3.41	0.17	86.88	3.86	12.51	146	0	8.35	49
8/16/2015 7:25		1.48	3.41	0.17	86.88	3.87	12.44	152	0	9.33	59
8/16/2015 10:00	12.86	1.49	3.38	0.17	87.33	3.06	12.67	193	0	11.94	36
8/16/2015 10:05		1.49	3.25	0.17	87.33	3.4	12.65	178	0	4.37	30
8/16/2015 11:15	12.86	1.47	3.32	0.17	87.76	4.01	12.4	148	0	5.4	38
8/16/2015 11:20		1.47	3.32	0.17	87.76	3.53	12.6	163	0	5.97	37
8/16/2015 11:25		1.47	3.32	0.17	87.76	3.24	12.55	165	0	9.96	43
8/16/2015 15:40		1.51	3.34	0.17	87.33	3.61	12.49	152	0	9.22	48
8/16/2015 15:45	12.82	1.51	3.34	0.17	87.33	3.89	12.39	150	0	8.23	53
8/16/2015 15:50		1.51	3.34	0.17	87.19	3.59	12.52	143	0	9.86	53
8/16/2015 15:55		1.51	3.34	0.17	87.19	3.37	12.63	172	0	10.09	42
8/16/2015 16:00	12.84	1.48	3.31	0.17	87.19	2.99	12.72	191	0	12.01	36
8/16/2015 16:30	12.85	1.48	3.35	0.17	87.33	3.63	12.52	138	0	9.12	52
8/16/2015 16:35		1.48	3.35	0.17	87.33	2.96	12.69	183	0	11.04	40
8/16/2015 16:40		1.48	3.35	0.17	87.33	2.9	12.69	188	0	11.13	36
8/16/2015 16:45	12.84	1.48	3.35	0.17	87.76	3.62	12.38	137	0	8.32	51
8/16/2015 16:50		1.48	3.33	0.17	87.76	3.6	12.46	159	0	8.42	55
8/16/2015 17:25		1.48	3.4	0.17	87.33	3.67	12.5	148	0	8.78	48
8/16/2015 17:30	12.8	1.48	3.4	0.17	87.33	3.44	12.61	168	0	9.99	42
8/17/2015 15:25		1.45	3.54	0.17	87.33	3.73	12.61	153	0	5.5	34
8/17/2015 16:10		1.46	3.53	0.17	87.33	3.35	12.6	180	0	10.76	42
8/17/2015 17:30	12.75	1.46	3.38	0.17	87.48	4.15	12.28	143	0	8.08	60
8/17/2015 17:35		1.47	3.5	0.17	87.48	4.14	12.38	129	0	7.94	58
8/17/2015 17:40		1.47	3.5	0.17	87.48	3.65	12.59	167	0	9.69	38
8/17/2015 17:45	12.74	1.47	3.5	0.17	87.48	3.26	12.63	181	0	10.66	42
8/18/2015 6:30	12.67	1.44	3.54	0.17	86.59	4.21	12.44	141	0	5.8	46
8/18/2015 7:50		1.44	3.49	0.17	86.45	3.76	12.59	156	0	7.46	50
8/18/2015 7:55		1.47	3.48	0.17	86.45	3.64	12.51	144	0	8.57	55
8/18/2015 8:00	12.67	1.47	3.48	0.17	86.45	3.99	12.52	136	0	4.87	41
8/18/2015 8:45	12.7	1.46	3.54	0.17	86.31	3.57	12.59	143	0	9.17	46
8/18/2015 18:15	12.68	1.46	3.5	0.17	86.74	3.8	12.54	149	0	9.97	53
8/18/2015 18:20		1.46	3.5	0.17	86.74	3.12	12.75	189	0	6.01	31
8/18/2015 19:00	12.68	1.48	3.46	0.17	86.88	4.55	12.15	147	0	7.92	57
8/18/2015 21:15	12.63	1.44	3.57	0.17	86.74	3.88	12.56	164	0	5.59	36
8/19/2015 0:15	12.67	1.46	3.37	0.17	86.74	3.66	12.54	155	0	10.73	39
8/19/2015 0:20		1.46	3.37	0.17	86.74	2.97	12.71	183	0	14.07	37
8/19/2015 0:25		1.46	3.37	0.17	86.74	2.99	12.71	183	0	12.6	33
8/19/2015 12:50		1.48	3.44	0.17	86.31	3.37	12.64	167	0	11.39	42
8/19/2015 17:50		1.48	3.47	0.17	86.74	3.22	12.65	165	0	11.3	41
8/19/2015 18:15	12.6	1.43	3.51	0.17	86.74	3.82	12.57	153	0	9.5	52
8/19/2015 20:05		1.46	3.53	0.17	87.03	3.61	12.6	153	0	5.87	37
8/19/2015 20:10		1.45	3.51	0.17	87.03	3.03	12.67	185	0	11.93	40

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 20:15	12.62	1.45	3.51	0.17	87.03	4.01	12.46	154	0	8.97	52
8/19/2015 20:20		1.46	3.53	0.17	87.03	4.2	12.48	150	0	6.45	42
8/19/2015 21:15	12.6	1.49	3.42	0.17	87.19	4.44	12.24	148	0	7.63	58
8/19/2015 21:35		1.43	3.51	0.17	87.03	3.82	12.57	164	0	4.82	32
8/19/2015 21:40		1.43	3.45	0.17	87.03	3.74	12.54	145	0	9.87	49
8/19/2015 21:45	12.6	1.43	3.45	0.17	87.03	4.04	12.51	151	0	8.77	60
8/19/2015 21:50		1.43	3.45	0.17	87.19	3.71	12.58	159	0	7.22	45
8/19/2015 21:55		1.43	3.45	0.17	87.19	3.13	12.67	175	0	13.12	39
8/19/2015 22:45	12.63	1.44	3.53	0.17	87.03	3.41	12.6	165	0	10.33	40
8/20/2015 1:40		1.47	3.31	0.17	87.03	2.67	12.6	107	0	17.55	29
8/20/2015 6:20		1.46	3.4	0.17	86.45	4	12.46	142	0	9.13	51
8/13/2015 16:50		1.42	3.29	0.16	85.42	3.31	12.61	157	0	12.6	38
8/13/2015 16:55		1.42	3.29	0.16	85.42	4.53	11.97	135	0	11.13	47
8/13/2015 17:00	13.3	1.42	3.29	0.16	85.42	4.6	11.99	139	0	7.43	45
8/13/2015 18:45	13.32	1.43	3.37	0.16	85.87	3.67	12.57	135	0	11.1	44
8/13/2015 18:50		1.43	3.43	0.16	85.87	3.74	12.6	142	0	6.56	36
8/13/2015 18:55		1.43	3.43	0.16	85.87	3.85	12.46	146	0	10.49	39
8/13/2015 19:00	13.31	1.43	3.43	0.16	85.73	4.23	12.41	136	0	7.83	51
8/13/2015 20:00	13.3	1.43	3.4	0.16	85.73	3.07	12.66	178	0	13.74	37
8/14/2015 6:30	13.19	1.4	3.44	0.16	85.87	3.38	12.67	168	0	11.14	39
8/14/2015 6:35		1.4	3.44	0.16	85.73	4.27	12.17	147	0	9.94	48
8/14/2015 7:50		1.4	3.4	0.16	85.42	3.71	12.6	140	0	9.69	46
8/14/2015 18:05		1.41	3.51	0.16	86.31	3.28	12.62	160	0	10.99	40
8/14/2015 18:10		1.41	3.51	0.16	86.45	3.89	12.53	142	0	9.21	53
8/14/2015 22:10		1.46	3.21	0.16	86.45	3.53	12.58	171	0	9.56	43
8/14/2015 22:15	13.06	1.45	3.21	0.16	86.45	3.35	12.56	171	0	10.77	41
8/14/2015 22:20		1.44	3.21	0.16	86.45	3.45	12.6	172	0	6.7	43
8/14/2015 22:25		1.44	3.24	0.16	86.45	3.71	12.53	157	0	9.38	56
8/14/2015 23:00	13.04	1.48	3.15	0.16	86.45	3.81	12.48	158	0	6.92	51
8/14/2015 23:05		1.48	3.15	0.16	86.45	2.79	12.59	131	0	11.01	43
8/15/2015 0:30	13.02	1.5	3.18	0.16	87.33	3.44	12.5	167	0	10.94	38
8/15/2015 1:35		1.5	3.21	0.16	87.48	3.12	12.59	192	0	10.77	37
8/15/2015 4:30	13.01	1.44	3.25	0.16	86.74	3.53	12.56	178	0	5.18	36
8/15/2015 8:10		1.43	3.25	0.16	86.45	3.54	12.57	166	0	9.55	50
8/15/2015 8:15	13	1.43	3.25	0.16	86.45	2.75	12.79	155	0	11.96	38
8/15/2015 8:20		1.43	3.25	0.16	86.59	3.04	12.63	188	0	11.04	35
8/15/2015 9:15	12.99	1.51	3.19	0.16	86.59	3.95	12.43	149	0	9.31	54
8/15/2015 9:35		1.46	3.21	0.16	86.74	3.16	12.65	185	0	11.61	40
8/15/2015 10:50		1.45	3.31	0.16	86.88	4.09	12.37	149	0	9.48	50
8/15/2015 11:25		1.45	3.31	0.16	86.74	3.6	12.55	162	0	9.25	46
8/15/2015 11:30	12.98	1.44	3.22	0.16	86.74	3.26	12.62	172	0	10.51	35
8/15/2015 11:35		1.44	3.31	0.16	86.88	4.14	12.4	136	0	7.77	52

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/15/2015 11:40		1.45	3.37	0.16	86.88	3.84	12.54	165	0	5.87	45
8/15/2015 12:05		1.41	3.38	0.16	86.88	3.68	12.59	173	0	4.92	30
8/15/2015 16:40		1.44	3.32	0.16	87.91	3.05	12.64	178	0	11.69	35
8/15/2015 16:55		1.42	3.32	0.16	87.91	4.18	12.31	140	0	8.44	50
8/15/2015 18:45	12.93	1.44	3.38	0.16	88.2	3.38	12.6	184	0	10.11	44
8/15/2015 19:25		1.43	3.27	0.16	88.34	3.88	12.49	139	0	9.27	41
8/15/2015 19:30	12.92	1.43	3.27	0.16	88.2	3.03	12.74	191	0	11.95	35
8/15/2015 19:35		1.43	3.27	0.16	88.05	3.01	12.76	188	0	6.63	32
8/15/2015 22:50		1.44	3.23	0.16	88.2	4.05	12.43	141	0	7.07	46
8/16/2015 2:35		1.46	3.33	0.16	87.48	3.92	12.38	141	0	9.27	48
8/16/2015 3:50		1.48	3.09	0.16	87.19	1.57	12.52	164	0	11.65	35
8/16/2015 7:50		1.48	3.27	0.16	87.03	2.92	12.72	191	0	12.23	40
8/16/2015 9:25		1.44	3.25	0.16	87.19	3.8	12.52	156	0	5.89	41
8/16/2015 9:30	12.85	1.48	3.25	0.16	87.19	4.18	12.18	148	0	6.3	43
8/16/2015 10:10		1.46	3.23	0.16	87.33	3.51	12.54	165	0	9.24	45
8/16/2015 10:15	12.86	1.46	3.23	0.16	87.48	4.13	12.13	156	0	9.49	51
8/16/2015 10:20		1.46	3.23	0.16	87.48	3.98	12.19	154	0	9.46	47
8/16/2015 10:40		1.43	3.29	0.16	87.48	3.05	12.63	178	0	12.13	37
8/16/2015 10:45	12.86	1.43	3.29	0.16	87.62	3.68	12.41	148	0	8.67	54
8/16/2015 11:05		1.47	3.16	0.16	87.76	3.6	12.53	167	0	9.54	48
8/16/2015 11:10		1.47	3.16	0.16	87.76	3.96	12.26	149	0	8.71	40
8/16/2015 11:30	12.86	1.45	3.24	0.16	87.91	3.01	12.69	185	0	11.1	38
8/16/2015 12:25		1.45	3.23	0.16	87.76	3.51	12.55	167	0	10.74	37
8/16/2015 12:30	12.85	1.45	3.23	0.16	87.76	3.23	12.64	176	0	10.31	43
8/16/2015 12:35		1.45	3.23	0.16	87.76	3.25	12.61	173	0	10.45	40
8/16/2015 12:40		1.45	3.23	0.16	87.76	4.21	12.25	144	0	5.39	33
8/16/2015 12:45	12.8	1.45	3.23	0.16	87.76	3.9	12.33	154	0	8.7	41
8/16/2015 13:35		1.47	3.18	0.16	87.91	3.45	12.53	154	0	9.25	45
8/16/2015 13:40		1.47	3.18	0.16	87.91	3.63	12.34	146	0	9.06	45
8/16/2015 13:45	12.81	1.47	3.18	0.16	87.91	3.9	12.35	137	0	7.2	49
8/16/2015 13:50		1.47	3.18	0.16	87.91	3.45	12.56	160	0	9.38	47
8/16/2015 14:25		1.46	3.2	0.16	87.62	3.5	12.62	175	0	5.69	35
8/16/2015 14:30	12.85	1.46	3.2	0.16	87.62	3.12	12.71	191	0	11.14	36
8/16/2015 16:55		1.4	3.33	0.16	87.76	3.63	12.6	163	0	5.87	39
8/16/2015 17:00	12.83	1.4	3.33	0.16	87.62	2.84	12.73	191	0	12.59	29
8/16/2015 17:05		1.4	3.33	0.16	87.76	2.96	12.71	187	0	11.96	38
8/16/2015 17:10		1.4	3.33	0.16	87.76	3.76	12.52	144	0	8.82	60
8/16/2015 17:15	12.84	1.4	3.33	0.16	87.62	3.7	12.56	161	0	8.19	46
8/16/2015 17:20		1.44	3.4	0.16	87.48	4.03	12.22	142	0	8.26	53
8/16/2015 17:35		1.44	3.39	0.16	87.33	3.5	12.62	174	0	8.99	42
8/16/2015 19:00	12.79	1.47	3.27	0.16	87.33	3.58	12.59	158	0	9.28	45
8/16/2015 19:05		1.47	3.27	0.16	87.33	3.16	12.73	191	0	10.75	45

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 19:10		1.45	3.27	0.16	87.33	1.57	12.55	146	0	8.46	35
8/17/2015 13:05		1.44	3.32	0.16	87.33	3.61	12.56	174	0	10.01	41
8/17/2015 13:10		1.44	3.32	0.16	87.33	4.38	12.17	132	0	7.2	56
8/17/2015 13:15	12.76	1.44	3.32	0.16	87.33	4.42	12.04	147	0	7.6	55
8/17/2015 15:30	12.71	1.42	3.48	0.16	87.33	3.26	12.63	160	0	10.5	38
8/17/2015 15:35		1.39	3.42	0.16	87.33	3.52	12.62	156	0	9.56	36
8/17/2015 15:40		1.39	3.42	0.16	87.33	4.23	12.04	146	0	7.32	60
8/17/2015 15:45	12.74	1.39	3.42	0.16	87.33	4.4	11.9	147	0	7.22	55
8/17/2015 16:35		1.43	3.35	0.16	87.48	4.01	12.53	146	0	6.29	40
8/17/2015 17:00	12.73	1.43	3.45	0.16	87.48	3.42	12.62	173	0	10.11	47
8/17/2015 17:05		1.42	3.44	0.16	87.48	3.47	12.61	172	0	9.78	46
8/17/2015 17:10		1.42	3.38	0.16	87.48	3.67	12.54	141	0	8.96	42
8/17/2015 17:15	12.76	1.4	3.36	0.16	87.48	3.66	12.6	164	0	9.45	44
8/17/2015 17:25		1.4	3.36	0.16	87.48	3.8	12.53	148	0	9.01	44
8/17/2015 17:50		1.41	3.35	0.16	87.48	3.43	12.64	181	0	9.73	41
8/17/2015 18:45	12.74	1.42	3.33	0.16	87.33	3.63	12.58	156	0	9.1	42
8/17/2015 18:50		1.42	3.33	0.16	87.48	3.19	12.69	176	0	11.15	42
8/17/2015 18:55		1.42	3.33	0.16	87.48	3.33	12.69	170	0	6.96	36
8/17/2015 21:15	12.72	1.41	3.46	0.16	87.48	3.77	12.59	144	0	8.97	49
8/17/2015 21:20		1.41	3.46	0.16	87.48	3.28	12.67	167	0	11.03	41
8/17/2015 21:25		1.41	3.46	0.16	87.48	2.97	12.71	185	0	12.18	38
8/18/2015 6:00	12.71	1.41	3.34	0.16	86.74	3.64	12.6	176	0	7.71	48
8/18/2015 6:05		1.41	3.34	0.16	86.74	3.57	12.57	164	0	9.65	42
8/18/2015 6:20		1.42	3.31	0.16	86.59	3.85	12.56	140	0	5.98	46
8/18/2015 6:25		1.43	3.31	0.16	86.59	4.02	12.49	149	0	6.14	49
8/18/2015 8:50		1.44	3.41	0.16	86.31	3.72	12.6	154	0	9.27	48
8/18/2015 8:55		1.41	3.49	0.16	86.31	3.81	12.61	152	0	7.82	49
8/18/2015 9:00	12.69	1.41	3.49	0.16	86.31	4.05	12.42	145	0	8.11	49
8/18/2015 9:05		1.41	3.49	0.16	86.31	4.14	12.26	142	0	7.91	48
8/18/2015 18:25		1.44	3.26	0.16	86.74	2.77	12.75	191	0	12.98	38
8/18/2015 18:30	12.68	1.44	3.26	0.16	86.74	3.8	12.56	170	0	5.8	37
8/18/2015 20:20		1.39	3.38	0.16	86.88	2.78	12.74	184	0	13.94	33
8/18/2015 21:20		1.43	3.33	0.16	86.74	3.64	12.61	176	0	9.16	47
8/19/2015 2:40		1.45	3.22	0.16	86.59	3.69	12.51	149	0	9.85	38
8/19/2015 5:30	12.61	1.45	3.23	0.16	86.02	4.26	12.34	148	0	7.91	46
8/19/2015 5:35		1.45	3.35	0.16	86.02	3.94	12.56	167	0	5.01	30
8/19/2015 5:40		1.45	3.35	0.16	86.02	3.55	12.68	159	0	5.22	35
8/19/2015 5:45	12.64	1.44	3.24	0.16	86.02	3.23	12.67	168	0	11.62	40
8/19/2015 5:50		1.42	3.44	0.16	86.02	3.75	12.58	155	0	5.11	39
8/19/2015 5:55		1.42	3.44	0.16	86.02	4.05	12.49	140	0	8.02	47
8/19/2015 6:00	12.63	1.42	3.44	0.16	86.02	4.37	12.24	151	0	8.06	49
8/19/2015 17:55		1.41	3.39	0.16	86.74	3.21	12.64	154	0	11.36	42

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 18:45	12.61	1.42	3.29	0.16	86.88	3.41	12.66	167	0	4.45	33
8/19/2015 22:00	12.63	1.42	3.41	0.16	87.19	3.72	12.59	165	0	4.59	34
8/19/2015 22:05		1.42	3.41	0.16	87.19	4.01	12.47	151	0	8.75	49
8/19/2015 22:10		1.42	3.41	0.16	87.03	4.45	12.25	150	0	7.93	56
8/19/2015 22:50		1.42	3.33	0.16	87.03	3.09	12.69	174	0	13.32	31
8/20/2015 0:40		1.39	3.54	0.16	86.88	3.51	12.61	160	0	9.94	36
8/20/2015 0:45	12.61	1.39	3.37	0.16	86.88	3.67	12.6	161	0	4.02	30
8/20/2015 4:00	12.59	1.47	3.32	0.16	86.88	4.2	12.29	157	0	7.68	51
8/13/2015 19:25		1.39	3.25	0.15	85.73	3.52	12.64	168	0	10.92	41
8/13/2015 19:30	13.27	1.38	3.25	0.15	85.59	3.81	12.62	151	0	5.09	26
8/13/2015 19:35		1.38	3.25	0.15	85.73	3.97	12.47	137	0	10.86	37
8/13/2015 19:40		1.38	3.4	0.15	85.59	3.7	12.57	143	0	10.52	42
8/13/2015 19:45	13.3	1.38	3.4	0.15	85.73	3.39	12.63	163	0	11.84	38
8/13/2015 22:00	13.24	1.41	3.27	0.15	85.73	3.67	12.59	143	0	10.56	49
8/13/2015 22:05		1.41	3.27	0.15	85.73	3.12	12.73	156	0	10.59	31
8/13/2015 22:10		1.41	3.27	0.15	85.73	2.62	12.58	148	0	12.29	30
8/13/2015 22:45	13.27	1.39	3.2	0.15	85.73	3.77	12.59	145	0	6.78	42
8/14/2015 5:45	13.19	1.36	3.43	0.15	86.02	3.76	12.66	152	0	4.03	34
8/14/2015 6:05		1.34	3.43	0.15	86.02	4.04	12.38	135	0	10.6	47
8/14/2015 22:30	13.06	1.42	3.16	0.15	86.45	3.28	12.62	183	0	9.38	43
8/14/2015 22:35		1.44	3.08	0.15	86.45	2.84	12.53	124	0	10.79	44
8/14/2015 22:40		1.45	3	0.15	86.45	2.72	12.55	134	0	11.32	45
8/14/2015 22:45	13.06	1.45	3	0.15	86.45	3.43	12.59	173	0	8.83	43
8/15/2015 0:10		1.47	3.02	0.15	87.19	3.72	12.44	147	0	8.95	38
8/15/2015 0:20		1.47	3.02	0.15	87.19	3.16	12.55	178	0	10.09	45
8/15/2015 0:25		1.47	2.92	0.15	87.33	3.18	12.56	182	0	9.84	43
8/15/2015 0:50		1.45	3	0.15	87.33	4.09	12.34	149	0	5.95	47
8/15/2015 0:55		1.45	3	0.15	87.19	3.98	12.35	138	0	10.22	50
8/15/2015 2:15	13	1.41	3.13	0.15	87.19	2.95	12.67	136	0	11.01	34
8/15/2015 4:10		1.49	2.98	0.15	86.88	3.79	12.37	145	0	10.27	46
8/15/2015 4:35		1.44	3.18	0.15	86.74	3.41	12.56	175	0	6.98	41
8/15/2015 4:40		1.44	3.14	0.15	86.74	3.08	12.61	185	0	11.57	40
8/15/2015 4:45	13.01	1.44	3.14	0.15	86.88	3.08	12.6	175	0	10.37	38
8/15/2015 9:10		1.44	3.06	0.15	86.59	4.15	12.37	139	0	8.68	52
8/15/2015 16:45	12.9	1.42	3.23	0.15	87.91	3.21	12.65	177	0	12.29	35
8/15/2015 16:50		1.42	3.23	0.15	87.91	3.95	12.29	150	0	9.63	50
8/15/2015 18:50		1.4	3.19	0.15	88.34	2.96	12.69	188	0	12.17	38
8/15/2015 19:40		1.41	3.15	0.15	88.2	3.43	12.59	185	0	9.97	39
8/16/2015 2:30	12.86	1.43	3.07	0.15	87.48	3.36	12.65	180	0	3.75	30
8/16/2015 2:45	12.9	1.43	3.07	0.15	87.33	3.24	12.57	178	0	10.37	41
8/16/2015 2:50		1.43	3.07	0.15	87.33	2.9	12.69	187	0	13.03	33
8/16/2015 3:35		1.45	3.07	0.15	87.33	3.84	12.47	157	0	8.95	52

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 3:40		1.45	3.09	0.15	87.19	3.37	12.61	184	0	10.11	35
8/16/2015 3:45	12.88	1.45	3.09	0.15	87.19	1.95	12.57	147	0	8.19	41
8/16/2015 6:50		1.45	3.1	0.15	86.88	4.1	12.27	154	0	6.9	52
8/16/2015 8:25		1.43	3.21	0.15	87.03	2.78	12.73	189	0	13.55	37
8/16/2015 9:20		1.41	3.15	0.15	87.19	3.52	12.52	167	0	9.63	45
8/16/2015 10:50		1.43	3.18	0.15	87.62	3.43	12.53	158	0	9.02	45
8/16/2015 10:55		1.43	3.16	0.15	87.62	3.21	12.58	162	0	10.13	47
8/16/2015 11:45	12.86	1.45	2.98	0.15	87.76	3.95	12.5	160	0	5.42	38
8/16/2015 12:20		1.44	3.2	0.15	87.76	3.89	12.33	145	0	9.5	48
8/16/2015 15:25		1.4	3.17	0.15	87.48	3.46	12.6	161	0	9.23	49
8/16/2015 15:30	12.85	1.4	3.17	0.15	87.48	2.79	12.76	193	0	13.07	37
8/16/2015 17:40		1.39	3.2	0.15	87.33	3.12	12.74	190	0	4.57	30
8/16/2015 19:50		1.43	3.08	0.15	87.62	3.88	12.44	142	0	8.83	53
8/16/2015 19:55		1.43	3.08	0.15	87.62	2.91	12.58	88	0	12.7	37
8/16/2015 20:00	12.83	1.46	3.08	0.15	87.48	2.81	12.54	109	0	11.97	37
8/16/2015 22:30	12.81	1.46	3.08	0.15	87.76	3.37	12.66	182	0	10.28	42
8/16/2015 22:35		1.48	3.08	0.15	87.62	3.08	12.52	103	0	5.48	31
8/16/2015 22:40		1.48	3.08	0.15	87.62	2.77	12.61	72	0	11.98	38
8/17/2015 0:15	12.78	1.53	2.93	0.15	87.33	3.71	12.4	139	0	9.08	47
8/17/2015 0:40		1.46	2.98	0.15	87.33	2.84	12.54	141	0	13.5	32
8/17/2015 1:30	12.79	1.48	2.95	0.15	87.33	3.22	12.6	175	0	11.57	36
8/17/2015 1:35		1.52	2.95	0.15	87.33	2.6	12.48	153	0	4.71	21
8/17/2015 1:40		1.52	2.95	0.15	87.33	1.88	12.49	154	0	9.62	38
8/17/2015 2:40		1.56	2.68	0.15	88.05	3.53	12.51	148	0	9.73	45
8/17/2015 16:15	12.73	1.42	3.2	0.15	87.33	3.48	12.58	180	0	10.23	48
8/17/2015 16:20		1.42	3.2	0.15	87.48	3.98	12.51	138	0	7.07	49
8/17/2015 16:25		1.42	3.2	0.15	87.48	3.65	12.57	168	0	6.91	40
8/17/2015 16:30	12.75	1.42	3.21	0.15	87.48	3.5	12.58	154	0	9.34	48
8/17/2015 17:20		1.39	3.18	0.15	87.48	3.41	12.61	175	0	10.18	49
8/17/2015 18:40		1.41	3.26	0.15	87.33	4.12	12.46	146	0	6.54	53
8/17/2015 19:25		1.41	3.24	0.15	87.76	3.93	12.45	148	0	8.2	55
8/17/2015 19:30	12.75	1.42	3.24	0.15	87.62	3.39	12.58	153	0	9.02	40
8/17/2015 19:35		1.42	3.24	0.15	87.62	3.07	12.71	180	0	10.33	39
8/17/2015 19:40		1.42	3.11	0.15	87.62	2.73	12.78	195	0	14.53	37
8/17/2015 22:15	12.73	1.41	3.21	0.15	87.48	3.5	12.59	176	0	8.75	44
8/17/2015 22:20		1.41	3.21	0.15	87.48	2.95	12.73	192	0	12.72	36
8/17/2015 22:25		1.41	3.21	0.15	87.33	2.93	12.71	173	0	11.89	40
8/18/2015 5:50		1.4	3.26	0.15	86.74	3.75	12.59	171	0	5.7	42
8/18/2015 5:55		1.41	3.26	0.15	86.74	3.39	12.59	178	0	10.37	46
8/18/2015 6:10		1.41	3.31	0.15	86.74	3.6	12.58	158	0	9.5	42
8/18/2015 6:15	12.71	1.41	3.28	0.15	86.59	3.48	12.61	173	0	9.85	43
8/18/2015 19:25		1.4	3.31	0.15	86.88	3.61	12.6	174	0	10.16	42

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(°F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 19:30	12.68	1.4	3.31	0.15	87.03	4.15	12.45	149	0	8.4	51
8/18/2015 19:35		1.4	3.31	0.15	87.03	4.38	12.3	151	0	7.75	57
8/18/2015 21:05		1.43	3.19	0.15	86.74	3.47	12.57	161	0	10.46	42
8/18/2015 21:10		1.43	3.2	0.15	86.74	3.51	12.67	170	0	4.62	36
8/18/2015 21:25		1.39	3.2	0.15	86.74	3.36	12.66	164	0	10.79	40
8/19/2015 18:00	12.63	1.41	3.28	0.15	86.74	3.57	12.58	156	0	10.02	42
8/19/2015 18:05		1.41	3.28	0.15	86.74	3.94	12.52	142	0	8.82	52
8/19/2015 18:10		1.42	3.28	0.15	86.74	4.13	12.47	150	0	8.65	58
8/19/2015 18:50		1.41	3.15	0.15	86.88	2.89	12.7	185	0	14.06	37
8/19/2015 20:25		1.4	3.31	0.15	87.03	3.38	12.62	161	0	10.75	46
8/19/2015 22:55		1.41	3.13	0.15	87.03	2.84	12.59	130	0	13.99	38
8/20/2015 0:50		1.39	3.31	0.15	86.88	3.47	12.57	147	0	12.13	34
8/20/2015 0:55		1.4	3.22	0.15	86.88	3.31	12.55	149	0	11.72	37
8/20/2015 1:00	12.62	1.43	3.19	0.15	87.03	3.44	12.57	148	0	11.99	33
8/20/2015 1:05		1.43	3.16	0.15	87.03	3.35	12.57	164	0	11.82	37
8/20/2015 1:10		1.43	3.16	0.15	87.03	3.47	12.56	142	0	9.98	36
8/20/2015 1:15	12.62	1.44	3.16	0.15	87.03	3.67	12.49	143	0	10.54	43
8/20/2015 1:20		1.44	3.19	0.15	87.03	3.75	12.46	140	0	9.64	44
8/20/2015 1:45	12.57	1.42	3.17	0.15	86.88	2.22	12.62	144	0	9.34	40
8/20/2015 3:55		1.43	3.22	0.15	86.88	4	12.3	153	0	9.68	45
8/20/2015 6:15	12.6	1.39	3.22	0.15	86.45	4.08	12.42	162	0	8.77	54
8/13/2015 20:05		1.37	3.1	0.14	85.73	2.76	12.66	120	0	14.32	31
8/13/2015 21:00	13.26	1.37	3.13	0.14	85.73	3.42	12.63	168	0	10.59	47
8/13/2015 21:05		1.37	3.13	0.14	85.73	3.09	12.7	176	0	13.04	35
8/13/2015 21:10		1.37	3.13	0.14	85.73	2.89	12.77	166	0	12.53	43
8/13/2015 22:35		1.41	2.93	0.14	85.73	3.21	12.66	169	0	10.9	43
8/13/2015 22:40		1.39	3.06	0.14	85.73	3.35	12.67	181	0	11.2	41
8/13/2015 22:50		1.38	3.2	0.14	85.73	3.79	12.62	147	0	6.11	36
8/13/2015 23:00	13.27	1.38	3.06	0.14	85.73	2.91	12.61	109	0	12.09	36
8/14/2015 5:35		1.36	3.09	0.14	86.16	3.38	12.64	158	0	11	40
8/14/2015 5:40		1.36	3.09	0.14	86.16	3.38	12.67	174	0	7.49	36
8/14/2015 5:50		1.34	3.09	0.14	86.02	3.24	12.68	170	0	11.12	39
8/14/2015 20:25		1.38	3.08	0.14	86.45	3.36	12.62	163	0	10.42	36
8/14/2015 20:30	13.08	1.38	3.08	0.14	86.45	2.92	12.73	171	0	12.2	28
8/14/2015 20:35		1.4	3.08	0.14	86.45	2.61	12.6	144	0	13.06	36
8/14/2015 20:40		1.4	3.08	0.14	86.45	3.37	12.6	172	0	10.82	40
8/14/2015 22:50		1.45	2.78	0.14	86.45	3.01	12.52	141	0	10.73	42
8/14/2015 22:55		1.47	2.78	0.14	86.45	3.75	12.5	152	0	8.85	46
8/14/2015 23:10		1.48	2.78	0.14	86.45	2.56	12.53	131	0	9.64	41
8/15/2015 0:35		1.45	2.92	0.14	87.33	3.04	12.55	189	0	10.52	41
8/15/2015 0:40		1.45	2.92	0.14	87.48	3.26	12.55	179	0	10.57	38
8/15/2015 0:45	13.04	1.45	2.92	0.14	87.33	3.17	12.55	174	0	10.41	46

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/15/2015 2:20		1.38	3.05	0.14	87.19	2.81	12.69	148	0	12.16	39
8/15/2015 4:05		1.43	2.91	0.14	86.88	4.07	12.37	152	0	6.35	45
8/15/2015 7:15	12.98	1.4	2.95	0.14	86.88	3.22	12.6	178	0	10.92	39
8/15/2015 7:20		1.4	2.95	0.14	86.88	3.43	12.6	163	0	10.04	41
8/15/2015 7:25		1.4	2.95	0.14	86.88	2.95	12.69	190	0	11.19	40
8/15/2015 7:30	12.99	1.4	2.95	0.14	86.88	3.11	12.63	175	0	11.26	44
8/15/2015 9:40		1.39	3	0.14	86.88	2.91	12.7	194	0	10.84	42
8/15/2015 9:45	12.96	1.39	3	0.14	87.03	3.84	12.49	155	0	9.25	53
8/15/2015 9:50		1.39	3	0.14	86.88	4.38	12.08	137	0	8.78	50
8/15/2015 10:20		1.38	3.05	0.14	86.59	3.22	12.66	174	0	11.08	38
8/15/2015 10:45	12.98	1.37	3.03	0.14	86.74	3.96	12.42	147	0	9.15	43
8/15/2015 12:10		1.37	3.19	0.14	87.48	3.28	12.7	185	0	4.31	28
8/15/2015 18:55		1.4	3.1	0.14	88.48	3.05	12.68	190	0	11.12	38
8/15/2015 20:35		1.41	3.06	0.14	88.2	2.77	12.74	183	0	13.1	37
8/15/2015 20:40		1.38	3.01	0.14	88.2	2.62	12.63	103	0	14.37	36
8/15/2015 21:15	12.91	1.4	2.99	0.14	87.91	3.27	12.64	174	0	11.18	35
8/15/2015 21:20		1.4	2.99	0.14	87.91	2.96	12.71	188	0	13.48	35
8/16/2015 2:25		1.44	2.92	0.14	87.48	3.19	12.63	180	0	12.28	37
8/16/2015 2:55		1.43	2.98	0.14	87.33	2.84	12.72	193	0	13.07	35
8/16/2015 5:35		1.42	2.88	0.14	86.88	3.19	12.68	178	0	11.8	37
8/16/2015 6:45	12.88	1.36	3.06	0.14	86.88	3.76	12.47	147	0	9.04	56
8/16/2015 9:00	12.86	1.4	2.94	0.14	87.03	3.28	12.59	172	0	10.46	38
8/16/2015 9:05		1.4	2.96	0.14	87.19	3.53	12.56	179	0	10.44	45
8/16/2015 9:10		1.4	3.01	0.14	87.19	3.44	12.61	193	0	7.2	38
8/16/2015 9:15	12.86	1.41	3.03	0.14	87.19	3.3	12.59	179	0	9.33	42
8/16/2015 11:00	12.82	1.42	3.03	0.14	87.76	3.31	12.61	172	0	9.42	47
8/16/2015 11:35		1.4	2.98	0.14	88.05	3.21	12.66	177	0	9.43	45
8/16/2015 11:40		1.4	2.98	0.14	87.91	3.94	12.36	150	0	8.26	54
8/16/2015 11:50		1.39	3.13	0.14	87.76	3.41	12.61	166	0	9.78	44
8/16/2015 11:55		1.39	3.13	0.14	87.76	2.92	12.72	194	0	12.76	32
8/16/2015 12:00	12.83	1.39	3.13	0.14	87.62	3.08	12.67	180	0	11.36	39
8/16/2015 12:05		1.38	3.13	0.14	87.62	3.5	12.62	168	0	4.85	36
8/16/2015 12:10		1.38	3.13	0.14	87.62	3.4	12.56	165	0	9.62	39
8/16/2015 12:15	12.86	1.38	3.13	0.14	87.76	3.99	12.22	151	0	8.68	49
8/16/2015 14:35		1.38	3.15	0.14	87.62	3.46	12.72	133	0	10.13	41
8/16/2015 14:40		1.38	3.15	0.14	87.76	4.02	12.12	153	0	8.58	51
8/16/2015 14:45	12.84	1.38	3.2	0.14	87.76	4.08	12.15	137	0	9.42	53
8/16/2015 16:05		1.37	3.08	0.14	87.33	3.16	12.68	188	0	10.19	38
8/16/2015 16:25		1.44	2.88	0.14	87.33	3.77	12.43	151	0	9.27	43
8/16/2015 17:45	12.83	1.39	3.15	0.14	87.48	2.69	12.55	82	0	12.47	41
8/16/2015 18:05		1.45	2.91	0.14	87.62	3.41	12.52	159	0	9.75	46
8/16/2015 19:15	12.79	1.45	2.87	0.14	87.48	2.75	12.47	110	0	8.52	41

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 20:45	12.83	1.45	2.89	0.14	88.34	3.15	12.6	175	0	11.25	36
8/16/2015 20:50		1.46	2.89	0.14	88.05	1.99	12.54	144	0	7.81	33
8/16/2015 20:55		1.47	2.89	0.14	87.91	2.02	12.48	137	0	8.67	43
8/16/2015 21:00	12.82	1.46	2.89	0.14	88.2	3.42	12.71	140	0	5.38	27
8/16/2015 21:40		1.43	2.92	0.14	87.62	3.2	12.67	188	0	5.66	27
8/16/2015 21:45	12.79	1.45	2.92	0.14	87.48	2.76	12.55	118	0	12.05	42
8/16/2015 21:50		1.43	2.92	0.14	87.48	2.77	12.59	127	0	11.25	42
8/16/2015 22:25		1.46	2.84	0.14	87.91	3.93	12.52	155	0	4.93	34
8/16/2015 22:45	12.79	1.47	2.84	0.14	87.62	2.7	12.53	135	0	10.28	38
8/17/2015 0:45	12.79	1.46	2.78	0.14	87.33	2.87	12.49	96	0	12.54	31
8/17/2015 0:55		1.51	2.64	0.14	87.33	2.84	12.49	111	0	11.36	32
8/17/2015 1:00	12.79	1.51	2.62	0.14	87.33	2.59	12.51	136	0	10.5	40
8/17/2015 1:05		1.51	2.62	0.14	87.33	2.64	12.52	141	0	10.29	43
8/17/2015 1:25		1.48	2.71	0.14	87.33	3.82	12.14	139	0	10.6	40
8/17/2015 2:45	12.78	1.49	2.68	0.14	88.05	2.9	12.71	188	0	12.64	36
8/17/2015 5:00	12.79	1.44	2.82	0.14	87.76	3.54	12.31	148	0	11.94	42
8/17/2015 5:05		1.44	2.91	0.14	87.76	3.86	12.13	149	0	9.78	42
8/17/2015 17:55		1.37	3.14	0.14	87.48	2.87	12.74	189	0	13.02	38
8/17/2015 23:10		1.4	3.03	0.14	87.33	3.34	12.72	174	0	7.54	43
8/17/2015 23:15	12.71	1.4	3.03	0.14	87.33	2.64	12.75	200	0	15.46	34
8/18/2015 5:45	12.71	1.39	3.01	0.14	86.74	3.87	12.52	143	0	6.13	46
8/18/2015 21:00	12.67	1.35	3.24	0.14	86.74	4.1	12.32	157	0	8.56	49
8/18/2015 21:30	12.66	1.34	3.2	0.14	86.74	3.38	12.66	165	0	9.64	38
8/18/2015 22:05		1.38	3	0.14	86.59	3.28	12.62	165	0	10.57	41
8/18/2015 22:10		1.38	3	0.14	86.59	3.06	12.69	187	0	13.09	37
8/18/2015 22:15	12.68	1.38	3	0.14	86.59	3.21	12.71	180	0	10.25	46
8/19/2015 1:20		1.45	2.77	0.14	86.59	4.28	12.26	159	0	8.51	50
8/19/2015 18:55		1.34	3.11	0.14	87.03	3.38	12.66	171	0	11.25	40
8/19/2015 19:15	12.63	1.36	3.14	0.14	86.88	4.29	12.31	154	0	8.32	56
8/19/2015 20:30	12.63	1.38	3.1	0.14	87.03	2.86	12.7	186	0	13.36	37
8/19/2015 20:35		1.38	3.1	0.14	86.88	2.9	12.72	193	0	12.07	37
8/19/2015 23:20		1.38	3.14	0.14	86.88	3.49	12.62	172	0	10.24	44
8/19/2015 23:25		1.38	3.14	0.14	86.88	2.71	12.63	126	0	15.26	28
8/19/2015 23:30	12.61	1.38	3.14	0.14	86.88	2.61	12.62	153	0	11.83	35
8/20/2015 4:25		1.4	3.07	0.14	86.74	2.82	12.74	194	0	13.82	33
8/20/2015 5:50		1.38	3	0.14	86.59	3.28	12.63	168	0	11.53	37
8/20/2015 5:55		1.38	3.02	0.14	86.45	3.3	12.62	163	0	12.56	37
8/20/2015 6:00	12.56	1.39	3.11	0.14	86.45	3.43	12.61	151	0	10.57	40
8/20/2015 6:05		1.38	3.14	0.14	86.45	3.52	12.64	173	0	3.78	31
8/20/2015 6:10		1.38	3.14	0.14	86.45	3.69	12.54	152	0	10.3	44
8/13/2015 20:10		1.38	2.8	0.13	85.73	2.73	12.62	93	0	14.23	32
8/13/2015 20:50		1.34	2.92	0.13	85.73	3.99	12.52	133	0	5.27	41

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/13/2015 20:55		1.34	2.94	0.13	85.73	4.29	12.32	135	0	9.52	53
8/13/2015 21:55		1.35	2.97	0.13	85.87	3.68	12.58	139	0	9.91	38
8/13/2015 22:15	13.25	1.41	2.83	0.13	85.73	2.46	12.59	125	0	10.31	40
8/13/2015 22:20		1.41	2.77	0.13	85.73	2.99	12.45	72	0	9.6	39
8/13/2015 22:25		1.42	2.77	0.13	85.73	3.95	12.58	133	0	5.98	41
8/13/2015 22:30	13.25	1.42	2.77	0.13	85.73	3.49	12.61	155	0	11.08	42
8/13/2015 22:55		1.34	3.06	0.13	85.73	2.8	12.78	186	0	12.88	35
8/14/2015 1:10		1.37	2.81	0.13	85.73	2.43	12.63	155	0	8.24	39
8/14/2015 5:30	13.18	1.36	2.84	0.13	86.31	4.24	12.31	143	0	8.82	43
8/14/2015 5:55		1.34	3.08	0.13	86.02	3.31	12.66	165	0	11.09	36
8/14/2015 6:00	13.2	1.34	3.08	0.13	86.02	3.83	12.38	137	0	10.07	40
8/14/2015 20:00	13.08	1.38	2.9	0.13	86.45	3	12.7	180	0	12.29	38
8/14/2015 21:20		1.43	2.71	0.13	86.45	2.97	12.68	169	0	12.18	33
8/14/2015 21:25		1.4	2.71	0.13	86.45	2.64	12.62	148	0	14.08	33
8/14/2015 22:00	13.01	1.45	2.57	0.13	86.59	3.49	12.55	161	0	9.82	42
8/14/2015 22:05		1.46	2.57	0.13	86.59	3.69	12.44	171	0	9.14	48
8/14/2015 23:15	13.04	1.47	2.56	0.13	86.45	2.28	12.54	157	0	7.3	40
8/15/2015 2:50		1.46	2.55	0.13	86.88	3.87	12.37	147	0	9.17	49
8/15/2015 2:55		1.46	2.63	0.13	86.88	4.24	12.14	131	0	5.21	38
8/15/2015 3:15	13.01	1.42	2.82	0.13	86.74	1.97	12.58	152	0	8.53	42
8/15/2015 4:50		1.4	2.83	0.13	86.88	2.95	12.63	179	0	11.6	36
8/15/2015 4:55		1.4	2.82	0.13	86.88	2.59	12.56	155	0	14.9	29
8/15/2015 7:35		1.37	2.85	0.13	86.74	2.95	12.75	193	0	10.46	39
8/15/2015 9:05		1.33	3.02	0.13	86.74	3.45	12.49	159	0	10.29	41
8/15/2015 10:25		1.36	2.94	0.13	86.74	2.75	12.77	192	0	12.1	41
8/15/2015 10:30	12.96	1.36	2.89	0.13	86.74	2.57	12.64	154	0	13.08	39
8/15/2015 10:35		1.36	2.89	0.13	86.88	3.59	12.55	163	0	9.09	48
8/15/2015 10:40		1.36	2.94	0.13	86.74	3.31	12.63	164	0	10.55	43
8/15/2015 13:00	12.95	1.37	2.86	0.13	87.19	2.92	12.71	188	0	12.64	41
8/15/2015 20:15	12.93	1.36	2.97	0.13	88.93	4.25	12.21	122	0	9.55	56
8/15/2015 21:10		1.4	2.75	0.13	88.05	3.8	12.52	141	0	9.03	48
8/15/2015 21:25		1.36	2.99	0.13	87.91	2.84	12.71	188	0	13.37	36
8/15/2015 22:05		1.35	3	0.13	88.05	3.29	12.67	179	0	10.01	47
8/15/2015 22:10		1.33	3	0.13	88.05	2.88	12.71	185	0	12.84	41
8/15/2015 22:15	12.93	1.33	3	0.13	88.05	2.89	12.73	189	0	12.41	39
8/15/2015 22:45	12.9	1.37	2.97	0.13	88.34	3.85	12.46	146	0	9.47	47
8/15/2015 23:10		1.38	2.98	0.13	88.48	2.78	12.62	81	0	12.65	33
8/15/2015 23:15	12.91	1.38	2.77	0.13	88.34	3.03	12.62	90	0	4.73	30
8/15/2015 23:55		1.45	2.6	0.13	87.62	2.25	12.55	142	0	8.98	44
8/16/2015 0:00	12.92	1.45	2.6	0.13	87.76	2.26	12.55	142	0	7.59	38
8/16/2015 0:55		1.38	2.81	0.13	87.76	3.11	12.78	186	0	7.76	35
8/16/2015 1:00	12.9	1.38	2.81	0.13	87.76	2.02	12.62	157	0	7.91	43

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 1:45	12.88	1.44	2.78	0.13	87.62	3.06	12.71	191	0	11	37
8/16/2015 1:50		1.44	2.78	0.13	87.48	2.41	12.56	126	0	9.19	45
8/16/2015 1:55		1.38	2.78	0.13	87.33	2.2	12.62	149	0	8.31	46
8/16/2015 3:25		1.39	2.82	0.13	87.33	3.34	12.55	173	0	10.15	35
8/16/2015 3:30	12.88	1.43	2.82	0.13	87.33	3.37	12.48	144	0	10.14	39
8/16/2015 4:50		1.41	2.71	0.13	87.03	2.98	12.7	183	0	13.66	30
8/16/2015 4:55		1.41	2.71	0.13	87.03	1.84	12.54	163	0	9.42	40
8/16/2015 5:00	12.88	1.41	2.71	0.13	87.03	1.63	12.55	170	0	11.67	28
8/16/2015 5:40		1.34	2.88	0.13	86.88	2.79	12.74	188	0	14.33	34
8/16/2015 5:45	12.84	1.34	2.88	0.13	86.88	2.78	12.61	88	0	15.06	26
8/16/2015 7:55		1.35	2.86	0.13	87.03	3.04	12.71	188	0	10.45	41
8/16/2015 8:00	12.85	1.35	2.86	0.13	87.03	3.65	12.49	137	0	8.92	49
8/16/2015 8:05		1.35	2.86	0.13	87.03	4.06	12.41	158	0	6.58	47
8/16/2015 17:50		1.38	2.91	0.13	87.48	3.18	12.63	164	0	10.73	45
8/16/2015 17:55		1.38	2.83	0.13	87.76	2.42	12.62	137	0	8.57	39
8/16/2015 18:00	12.83	1.38	2.83	0.13	87.62	3.77	12.49	147	0	8.76	57
8/16/2015 18:10		1.38	2.91	0.13	87.48	2.88	12.72	188	0	12.94	40
8/16/2015 19:20		1.41	2.72	0.13	87.62	2.98	12.69	107	0	10.9	47
8/16/2015 20:05		1.46	2.67	0.13	87.62	2.7	12.58	154	0	11.93	37
8/16/2015 20:10		1.46	2.59	0.13	87.76	2.43	12.52	131	0	7.7	40
8/16/2015 21:05		1.4	2.89	0.13	88.05	3.29	12.69	174	0	10.58	41
8/16/2015 21:10		1.46	2.55	0.13	88.05	2.77	12.52	126	0	12.87	38
8/16/2015 21:15	12.83	1.45	2.55	0.13	87.91	2.63	12.55	135	0	8.32	41
8/16/2015 21:25		1.45	2.56	0.13	87.76	2.81	12.48	113	0	10.45	35
8/16/2015 21:30	12.81	1.48	2.56	0.13	87.62	3.92	12.5	148	0	4.09	41
8/16/2015 21:35		1.45	2.6	0.13	87.62	3.51	12.57	175	0	10.58	45
8/16/2015 22:00	12.8	1.45	2.59	0.13	87.62	2.82	12.55	105	0	12.79	36
8/16/2015 22:05		1.45	2.59	0.13	87.62	2.91	12.55	94	0	11.16	33
8/16/2015 22:10		1.45	2.59	0.13	87.62	3.03	12.69	183	0	10.33	38
8/16/2015 22:15	12.8	1.45	2.68	0.13	87.91	3.08	12.54	124	0	3.47	28
8/16/2015 22:20		1.45	2.76	0.13	87.91	3.96	12.43	145	0	6.3	54
8/17/2015 0:50		1.46	2.65	0.13	87.33	2.85	12.48	119	0	12.69	30
8/17/2015 2:50		1.45	2.68	0.13	88.05	2.44	12.56	139	0	9.33	48
8/17/2015 2:55		1.44	2.64	0.13	88.2	2.18	12.58	136	0	8.07	45
8/17/2015 4:55		1.44	2.73	0.13	87.91	2.99	12.66	173	0	11.33	35
8/17/2015 18:00	12.71	1.36	2.98	0.13	87.48	2.89	12.71	188	0	13.39	42
8/17/2015 19:00	12.75	1.31	3.03	0.13	87.48	3	12.71	182	0	12.6	40
8/17/2015 21:10		1.31	3.09	0.13	87.48	3.77	12.49	153	0	8.45	45
8/17/2015 21:30	12.74	1.33	2.99	0.13	87.48	2.74	12.79	197	0	13.53	40
8/17/2015 22:30	12.71	1.33	2.93	0.13	87.33	3.21	12.67	171	0	10.48	51
8/17/2015 23:05		1.4	2.73	0.13	87.33	3.65	12.57	146	0	8.8	47
8/17/2015 23:20		1.35	3.03	0.13	87.33	2.53	12.65	132	0	15.08	36

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 5:40		1.38	2.92	0.13	86.88	3.55	12.6	176	0	5.38	33
8/18/2015 18:35		1.36	2.98	0.13	86.74	3.26	12.64	170	0	10.76	41
8/18/2015 18:40		1.34	2.98	0.13	86.88	3.32	12.66	175	0	6.76	36
8/18/2015 18:45	12.65	1.34	2.98	0.13	86.88	2.97	12.69	175	0	12.94	41
8/18/2015 18:50		1.36	3.03	0.13	86.88	3.75	12.52	160	0	7.88	40
8/18/2015 18:55		1.36	3.03	0.13	86.88	4.63	12.01	162	0	8.02	64
8/18/2015 20:25		1.34	3.07	0.13	86.88	3.06	12.68	180	0	12.17	39
8/18/2015 20:55		1.32	3.03	0.13	86.74	4.21	12.48	159	0	5.95	45
8/18/2015 21:35		1.34	3.08	0.13	86.74	3.23	12.7	174	0	11.17	35
8/18/2015 21:40		1.34	3.07	0.13	86.74	2.79	12.77	192	0	13.98	35
8/19/2015 0:30	12.63	1.46	2.72	0.13	86.59	2.85	12.46	104	0	14.61	35
8/19/2015 2:35		1.35	3.01	0.13	86.59	3.75	12.5	142	0	8.63	41
8/19/2015 4:10		1.38	2.89	0.13	86.45	3.53	12.65	172	0	5.33	33
8/19/2015 4:15	12.63	1.36	2.96	0.13	86.45	3.64	12.64	167	0	5.46	34
8/19/2015 4:20		1.35	2.97	0.13	86.45	3.26	12.69	187	0	4.12	32
8/19/2015 4:25		1.36	2.97	0.13	86.45	2.76	12.54	126	0	17.55	30
8/19/2015 4:30	12.63	1.36	2.97	0.13	86.45	2.76	12.58	145	0	6.93	33
8/19/2015 5:25		1.39	2.79	0.13	86.02	3.51	12.55	151	0	10.33	39
8/19/2015 19:00	12.63	1.34	3.09	0.13	87.03	3.39	12.67	164	0	4.12	32
8/19/2015 19:05		1.34	3.09	0.13	87.03	3.43	12.64	169	0	4.17	35
8/19/2015 19:10		1.34	3.09	0.13	87.03	4.62	12.15	144	0	6.33	62
8/19/2015 21:05		1.42	2.68	0.13	87.19	3.71	12.51	141	0	10.38	34
8/19/2015 21:10		1.42	2.72	0.13	87.19	4.4	12.26	139	0	8.12	52
8/19/2015 23:00	12.63	1.4	2.81	0.13	87.03	3.06	12.7	175	0	10.45	33
8/19/2015 23:05		1.4	2.79	0.13	87.03	2.61	12.6	137	0	15.36	40
8/19/2015 23:10		1.38	2.79	0.13	87.03	3.43	12.62	157	0	10.47	47
8/19/2015 23:15	12.62	1.4	2.79	0.13	86.88	3.64	12.57	164	0	9.85	50
8/20/2015 5:40		1.34	2.93	0.13	86.59	3.39	12.6	170	0	10.98	35
8/20/2015 5:45	12.6	1.38	2.95	0.13	86.59	3.55	12.57	160	0	10.66	40
8/13/2015 11:15	13.41	1.28	2.94	0.12	97.09	4.07	12.48	121	-0.21	9.96	47
8/13/2015 20:15	13.29	1.34	2.72	0.12	85.73	3	12.73	166	0	13.44	38
8/13/2015 20:45	13.3	1.3	2.91	0.12	85.73	3.22	12.66	170	0	12.66	39
8/13/2015 21:15	13.27	1.3	2.81	0.12	85.73	3.01	12.72	167	0	12.26	36
8/13/2015 21:50		1.29	2.85	0.12	85.87	3.56	12.59	144	0	10.72	43
8/13/2015 23:05		1.38	2.67	0.12	85.73	2.53	12.66	121	0	14.75	31
8/14/2015 1:05		1.36	2.81	0.12	85.87	3.08	12.68	184	0	12.62	34
8/14/2015 1:15	13.23	1.36	2.81	0.12	85.73	2.15	12.64	158	0	8.01	45
8/14/2015 2:15	13.23	1.36	2.68	0.12	86.02	2.96	12.75	174	0	14.95	32
8/14/2015 2:20		1.35	2.68	0.12	86.02	2.14	12.66	148	0	10.25	42
8/14/2015 2:25		1.36	2.68	0.12	86.02	1.87	12.63	168	0	9.24	36
8/14/2015 5:25		1.33	2.8	0.12	86.45	4.32	12.19	149	0	5.95	45
8/14/2015 20:20		1.33	2.73	0.12	86.45	3.78	12.55	138	0	8.99	46

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/14/2015 20:45	13.08	1.38	2.65	0.12	86.45	2.82	12.78	145	0	12.32	39
8/14/2015 20:50		1.38	2.55	0.12	86.45	2.66	12.62	132	0	14.03	37
8/14/2015 21:15	13.04	1.43	2.42	0.12	86.59	3.85	12.49	137	0	9.66	38
8/14/2015 21:30	13.04	1.38	2.71	0.12	86.45	2.88	12.71	148	0	11.9	40
8/14/2015 21:35		1.38	2.62	0.12	86.59	2.72	12.5	117	0	11.7	40
8/14/2015 21:45	13.02	1.39	2.51	0.12	86.59	2.81	12.61	134	0	12.38	38
8/14/2015 21:50		1.4	2.51	0.12	86.45	2.72	12.54	153	0	10.8	39
8/14/2015 21:55		1.46	2.51	0.12	86.59	2.79	12.52	145	0	11.08	42
8/14/2015 23:20		1.47	2.36	0.12	86.59	1.58	12.51	144	0	7.55	35
8/14/2015 23:50		1.44	2.38	0.12	87.76	2.47	12.54	139	0	10.68	40
8/14/2015 23:55		1.46	2.45	0.12	87.76	3.51	12.5	171	0	9.81	44
8/15/2015 0:00	13.03	1.44	2.45	0.12	87.48	3.29	12.58	174	0	10.02	43
8/15/2015 0:05		1.46	2.45	0.12	87.33	2.61	12.53	141	0	13.11	39
8/15/2015 2:25		1.38	2.69	0.12	87.19	2.71	12.58	138	0	11.79	42
8/15/2015 2:40		1.42	2.54	0.12	87.03	2.86	12.54	138	0	12.65	39
8/15/2015 2:45	12.99	1.42	2.54	0.12	86.88	2.78	12.58	145	0	12.47	38
8/15/2015 5:00	13.01	1.39	2.7	0.12	86.88	2.18	12.62	143	0	11.55	42
8/15/2015 8:25		1.37	2.78	0.12	86.59	3	12.64	182	0	10.89	40
8/15/2015 8:30	12.94	1.37	2.78	0.12	86.59	3.37	12.59	164	0	10.97	44
8/15/2015 8:35		1.36	2.74	0.12	86.59	2.98	12.69	185	0	10.37	47
8/15/2015 8:40		1.36	2.77	0.12	86.59	3.04	12.69	190	0	11.59	32
8/15/2015 8:45	12.99	1.31	2.75	0.12	86.59	3.02	12.71	190	0	8.74	37
8/15/2015 8:50		1.31	2.77	0.12	86.59	3.33	12.56	167	0	9.62	47
8/15/2015 8:55		1.31	2.77	0.12	86.74	3.31	12.67	187	0	6.08	38
8/15/2015 9:00	12.97	1.31	2.77	0.12	86.59	2.89	12.69	189	0	11.53	38
8/15/2015 12:15	12.97	1.3	2.98	0.12	87.33	2.69	12.72	148	0	13.84	34
8/15/2015 13:05		1.31	2.79	0.12	87.19	2.89	12.71	193	0	12.85	33
8/15/2015 19:00	12.93	1.32	2.78	0.12	88.63	2.96	12.71	186	0	13.16	34
8/15/2015 19:05		1.32	2.75	0.12	88.93	3.02	12.68	191	0	11.8	38
8/15/2015 19:10		1.32	2.74	0.12	88.79	3	12.67	187	0	14.13	34
8/15/2015 19:15	12.9	1.32	2.75	0.12	88.79	3.56	12.57	172	0	9.81	41
8/15/2015 19:20		1.33	2.75	0.12	88.63	3.59	12.53	150	0	10	40
8/15/2015 19:45	12.94	1.32	2.75	0.12	88.34	2.79	12.68	131	0	12.67	37
8/15/2015 19:50		1.32	2.73	0.12	88.63	2.69	12.63	97	0	13.85	38
8/15/2015 19:55		1.35	2.73	0.12	88.63	3.25	12.65	187	0	11.03	36
8/15/2015 21:30	12.92	1.33	2.69	0.12	88.2	2.72	12.67	122	0	13.36	39
8/15/2015 22:40		1.34	2.77	0.12	88.34	3.25	12.66	186	0	10.13	41
8/15/2015 23:20		1.37	2.59	0.12	88.34	2.81	12.65	71	0	14.36	39
8/15/2015 23:30	12.9	1.38	2.57	0.12	88.2	2.71	12.6	80	0	16.18	31
8/15/2015 23:45	12.92	1.4	2.67	0.12	87.76	3.94	12.52	160	0	5.78	40
8/15/2015 23:50		1.4	2.6	0.12	87.62	2.87	12.75	187	0	13	31
8/16/2015 0:45	12.89	1.45	2.46	0.12	87.91	3.2	12.62	183	0	11.01	32

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 0:50		1.43	2.46	0.12	87.76	2.57	12.57	141	0	14.45	36
8/16/2015 2:20		1.46	2.49	0.12	87.48	3.61	12.51	152	0	9.19	38
8/16/2015 5:50		1.39	2.55	0.12	87.03	2.63	12.57	131	0	15.12	31
8/16/2015 5:55		1.39	2.53	0.12	87.03	2.54	12.57	153	0	9.59	43
8/16/2015 6:30	12.87	1.31	2.75	0.12	87.03	3.02	12.71	184	0	11.58	35
8/16/2015 6:35		1.32	2.88	0.12	87.03	3.19	12.64	174	0	10.17	43
8/16/2015 6:40		1.32	2.92	0.12	86.88	3.37	12.55	161	0	9.69	46
8/16/2015 8:55		1.3	2.93	0.12	87.03	3.19	12.6	179	0	11	42
8/16/2015 15:10		1.35	2.81	0.12	87.48	3.09	12.72	186	0	10.81	44
8/16/2015 15:15	12.84	1.35	2.81	0.12	87.48	3.81	12.46	148	0	8.22	49
8/16/2015 15:20		1.35	2.81	0.12	87.48	3.86	12.46	159	0	7.95	53
8/16/2015 16:10		1.32	2.88	0.12	87.33	2.76	12.68	115	0	11.6	31
8/16/2015 16:15	12.83	1.32	2.72	0.12	87.33	2.6	12.56	112	0	12.25	35
8/16/2015 16:20		1.32	2.72	0.12	87.33	3.92	12.52	152	0	5.77	37
8/16/2015 18:15	12.82	1.38	2.62	0.12	87.48	2.28	12.62	129	0	8.57	44
8/16/2015 18:20		1.39	2.62	0.12	87.48	2.66	12.61	118	0	13.59	40
8/16/2015 18:55		1.47	2.51	0.12	87.48	3.54	12.51	153	0	8.58	50
8/16/2015 19:25		1.4	2.54	0.12	87.76	2.76	12.6	85	0	11.02	42
8/16/2015 19:30	12.81	1.4	2.53	0.12	87.76	2.43	12.6	146	0	10.81	37
8/16/2015 19:35		1.4	2.53	0.12	87.76	2.59	12.57	160	0	8.53	44
8/16/2015 19:40		1.4	2.53	0.12	87.76	3.35	12.58	164	0	9.39	46
8/16/2015 19:45	12.82	1.42	2.53	0.12	87.76	3.87	12.48	141	0	5.71	45
8/16/2015 20:15	12.8	1.46	2.48	0.12	88.05	2.33	12.53	144	0	7.85	44
8/16/2015 20:40		1.47	2.46	0.12	88.63	3.62	12.52	155	0	9.28	53
8/16/2015 21:20		1.41	2.56	0.12	87.76	2.79	12.59	87	0	14.42	29
8/16/2015 21:55		1.43	2.59	0.12	87.48	2.81	12.5	119	0	10.44	36
8/16/2015 22:50		1.44	2.54	0.12	87.62	2.45	12.56	139	0	11.46	36
8/16/2015 22:55		1.47	2.49	0.12	87.62	1.76	12.49	155	0	9.49	38
8/16/2015 23:35		1.43	2.53	0.12	87.33	2.76	12.58	150	0	10.82	40
8/16/2015 23:40		1.43	2.53	0.12	87.33	2.42	12.53	147	0	7.26	34
8/16/2015 23:45	12.8	1.43	2.53	0.12	87.33	2.12	12.52	124	0	7.9	44
8/17/2015 1:10		1.49	2.43	0.12	87.33	2.62	12.52	135	0	10.62	38
8/17/2015 1:15	12.8	1.48	2.43	0.12	87.33	2.96	12.64	145	0	13.09	35
8/17/2015 1:20		1.48	2.43	0.12	87.33	3.76	12.15	135	0	11.3	42
8/17/2015 1:45	12.79	1.51	2.4	0.12	87.33	1.99	12.5	133	0	8.28	42
8/17/2015 18:05		1.29	2.92	0.12	87.48	3.21	12.71	174	0	10.73	43
8/17/2015 19:05		1.31	2.9	0.12	87.62	2.92	12.72	184	0	12.03	41
8/17/2015 19:45	12.73	1.32	2.79	0.12	87.62	2.99	12.68	178	0	12.11	43
8/17/2015 19:50		1.29	2.79	0.12	87.62	3.26	12.74	178	0	4.3	36
8/17/2015 20:25		1.28	2.85	0.12	87.48	3.14	12.73	186	0	7	31
8/17/2015 20:30	12.73	1.31	2.85	0.12	87.48	2.61	12.69	107	0	13.81	29
8/17/2015 20:35		1.31	2.85	0.12	87.48	2.74	12.73	123	0	13.76	39

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 23:25		1.31	2.83	0.12	87.33	3.11	12.69	172	0	12.4	39
8/18/2015 20:30	12.64	1.32	2.84	0.12	86.88	3.12	12.69	174	0	11.68	38
8/18/2015 20:35		1.31	2.79	0.12	86.88	2.98	12.74	191	0	11.5	44
8/18/2015 20:40		1.31	2.79	0.12	86.88	3.54	12.65	172	0	6.4	38
8/18/2015 20:45	12.68	1.32	2.84	0.12	86.88	3.32	12.68	171	0	10.99	42
8/18/2015 20:50		1.31	2.85	0.12	86.74	3.13	12.71	181	0	11.05	43
8/18/2015 21:45	12.66	1.3	2.94	0.12	86.74	2.92	12.74	186	0	12.62	41
8/18/2015 22:20		1.31	2.92	0.12	86.59	3.1	12.69	180	0	11.93	40
8/18/2015 22:25		1.31	2.82	0.12	86.59	2.81	12.72	193	0	12.71	40
8/18/2015 22:30	12.68	1.31	2.82	0.12	86.74	3.12	12.65	163	0	11.21	39
8/18/2015 22:35		1.31	2.82	0.12	86.74	3.06	12.68	184	0	11.81	39
8/18/2015 22:40		1.31	2.82	0.12	86.74	3.14	12.72	172	0	11.41	41
8/18/2015 22:45	12.67	1.32	2.79	0.12	86.74	2.6	12.66	127	0	13.03	35
8/18/2015 22:50		1.34	2.79	0.12	86.74	2.48	12.61	135	0	9.32	40
8/18/2015 23:15	12.66	1.44	2.45	0.12	86.59	2.66	12.56	137	0	11.2	40
8/18/2015 23:20		1.44	2.45	0.12	86.59	2.3	12.56	140	0	7.72	45
8/18/2015 23:25		1.44	2.45	0.12	86.59	2.15	12.48	157	0	8.59	34
8/19/2015 0:10		1.47	2.43	0.12	86.74	4.42	12.2	154	0	8.14	49
8/19/2015 0:50		1.37	2.61	0.12	86.59	2.67	12.59	130	0	14.18	38
8/19/2015 1:15	12.66	1.43	2.48	0.12	86.59	4.11	12.35	153	0	8.27	58
8/19/2015 2:25		1.35	2.78	0.12	86.59	3.05	12.69	177	0	13.25	34
8/19/2015 2:30	12.63	1.33	2.78	0.12	86.59	2.88	12.71	188	0	13.84	36
8/19/2015 2:45	12.65	1.33	2.78	0.12	86.59	2.97	12.67	179	0	14.25	33
8/19/2015 2:50		1.33	2.71	0.12	86.59	2.8	12.68	180	0	15.38	33
8/19/2015 2:55		1.33	2.75	0.12	86.59	3.02	12.71	179	0	13.86	36
8/19/2015 3:30	12.67	1.4	2.52	0.12	86.74	3.68	12.55	162	0	4.41	33
8/19/2015 3:35		1.4	2.57	0.12	86.59	2.83	12.72	191	0	13.58	37
8/19/2015 3:40		1.38	2.57	0.12	86.59	1.89	12.64	151	0	8.64	40
8/19/2015 3:45	12.65	1.37	2.57	0.12	86.59	1.88	12.63	158	0	9.63	36
8/19/2015 4:35		1.4	2.54	0.12	86.45	2.52	12.6	129	0	8.76	38
8/19/2015 4:40		1.4	2.53	0.12	86.31	2.02	12.61	143	0	8.56	39
8/20/2015 2:45	12.6	1.38	2.6	0.12	87.03	2.86	12.72	194	0	15.94	34
8/20/2015 2:50		1.38	2.6	0.12	86.88	2.72	12.63	116	0	12.83	22
8/20/2015 2:55		1.37	2.6	0.12	86.88	2.58	12.64	132	0	15.61	25
8/20/2015 4:30	12.6	1.32	2.73	0.12	86.74	2.56	12.68	119	0	18.42	25
8/13/2015 20:20		1.34	2.65	0.11	85.73	2.92	12.75	176	0	14.3	36
8/13/2015 20:25		1.27	2.65	0.11	85.73	3.21	12.76	164	0	4.13	28
8/13/2015 20:30	13.28	1.27	2.72	0.11	85.73	3.04	12.7	173	0	12.48	38
8/13/2015 20:35		1.27	2.77	0.11	85.73	3.2	12.66	183	0	11.56	42
8/13/2015 20:40		1.25	2.77	0.11	85.73	2.97	12.76	163	0	13.08	38
8/13/2015 21:20		1.28	2.81	0.11	85.73	3.12	12.74	169	0	12.57	38
8/13/2015 21:25		1.27	2.79	0.11	85.73	3.07	12.73	172	0	13.11	37

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/13/2015 21:30	13.27	1.27	2.74	0.11	85.73	3.02	12.72	182	0	12.16	33
8/13/2015 21:35		1.28	2.79	0.11	85.73	3.13	12.71	170	0	12.06	40
8/13/2015 21:40		1.28	2.83	0.11	85.73	3.25	12.65	179	0	9.65	43
8/13/2015 21:45	13.28	1.28	2.79	0.11	85.73	2.97	12.77	173	0	12.4	40
8/13/2015 23:10		1.36	2.53	0.11	85.73	2.36	12.64	133	0	8.92	34
8/13/2015 23:55		1.36	2.51	0.11	85.73	3.74	12.63	161	0	4.92	32
8/14/2015 0:00	13.26	1.37	2.51	0.11	85.73	2.5	12.62	164	0	13.31	31
8/14/2015 0:05		1.36	2.51	0.11	85.73	1.75	12.64	157	0	10.42	34
8/14/2015 3:25		1.31	2.51	0.11	86.31	2.77	12.77	178	0	15.6	32
8/14/2015 20:05		1.3	2.73	0.11	86.45	2.95	12.7	182	0	11.53	43
8/14/2015 20:10		1.3	2.68	0.11	86.45	2.84	12.67	185	0	12.03	43
8/14/2015 20:15	13.08	1.3	2.68	0.11	86.45	3.77	12.54	138	0	9.18	52
8/14/2015 20:55		1.4	2.44	0.11	86.45	2.27	12.6	133	0	8.78	41
8/14/2015 21:00	13.07	1.4	2.44	0.11	86.45	2.63	12.57	130	0	8.11	40
8/14/2015 21:05		1.4	2.42	0.11	86.45	2.53	12.6	141	0	13.67	40
8/14/2015 21:10		1.4	2.42	0.11	86.59	3.68	12.5	145	0	9.96	45
8/14/2015 21:40		1.38	2.51	0.11	86.59	2.6	12.6	136	0	11.78	44
8/14/2015 23:45	13.03	1.44	2.38	0.11	87.76	2.66	12.56	152	0	11.58	39
8/15/2015 2:30	13.02	1.36	2.56	0.11	87.19	2.75	12.64	128	0	11.44	41
8/15/2015 2:35		1.36	2.54	0.11	87.03	2.76	12.54	153	0	12.12	41
8/15/2015 4:00	13.01	1.43	2.33	0.11	86.88	3.17	12.61	176	0	10.3	43
8/15/2015 5:05		1.38	2.38	0.11	86.88	2.17	12.66	130	0	8.58	36
8/15/2015 5:10		1.37	2.38	0.11	86.88	2.7	12.7	173	0	12.75	38
8/15/2015 5:15	13.01	1.38	2.38	0.11	86.88	3.45	12.47	155	0	10.99	41
8/15/2015 5:20		1.36	2.46	0.11	86.88	2.92	12.64	190	0	13.34	37
8/15/2015 5:25		1.34	2.46	0.11	86.88	2.11	12.66	153	0	10.54	37
8/15/2015 5:30	13.01	1.34	2.46	0.11	86.88	1.91	12.67	161	0	7.55	28
8/15/2015 7:40		1.31	2.69	0.11	86.74	2.94	12.7	195	0	11.34	41
8/15/2015 7:45	13	1.31	2.68	0.11	86.59	2.8	12.68	189	0	10.41	40
8/15/2015 7:50		1.3	2.68	0.11	86.59	2.7	12.77	165	0	12.28	45
8/15/2015 7:55		1.3	2.55	0.11	86.59	2.63	12.67	144	0	12.6	43
8/15/2015 8:00	12.98	1.32	2.55	0.11	86.59	3.75	12.49	151	0	10	44
8/15/2015 8:05		1.33	2.55	0.11	86.45	4.17	12.23	141	0	9.84	50
8/15/2015 12:20		1.28	2.61	0.11	87.19	2.88	12.76	193	0	10.57	41
8/15/2015 12:25		1.28	2.61	0.11	87.03	2.76	12.78	141	0	13.48	35
8/15/2015 12:30	12.98	1.28	2.61	0.11	87.03	3.74	12.53	148	0	9.47	50
8/15/2015 12:35		1.28	2.61	0.11	87.03	4.1	12.37	134	0	8.71	51
8/15/2015 13:10		1.29	2.66	0.11	87.33	2.75	12.8	139	0	14.55	34
8/15/2015 13:15	12.96	1.29	2.63	0.11	87.33	2.51	12.67	128	0	14.98	34
8/15/2015 13:20		1.29	2.6	0.11	87.33	2.86	12.72	189	0	12.95	37
8/15/2015 13:25		1.29	2.6	0.11	87.48	3.89	12.42	144	0	9.44	48
8/15/2015 13:30	12.97	1.33	2.6	0.11	87.33	3.95	12.3	145	0	9.41	52

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/15/2015 20:00	12.92	1.36	2.54	0.11	88.93	2.71	12.64	77	0	14.41	38
8/15/2015 20:05		1.35	2.54	0.11	89.08	2.78	12.66	102	0	14.02	36
8/15/2015 20:10		1.36	2.54	0.11	89.08	3.78	12.49	160	0	9.53	45
8/15/2015 20:45	12.92	1.37	2.53	0.11	88.2	2.78	12.69	199	0	13.29	36
8/15/2015 20:50		1.31	2.53	0.11	88.2	3.04	12.76	163	0	4.9	26
8/15/2015 20:55		1.31	2.53	0.11	88.34	2.95	12.69	196	0	12	37
8/15/2015 21:00	12.93	1.31	2.56	0.11	88.2	2.79	12.6	114	0	13.7	34
8/15/2015 21:05		1.31	2.69	0.11	88.05	3.65	12.51	143	0	9.87	49
8/15/2015 21:35		1.33	2.58	0.11	88.2	2.7	12.61	82	0	12.85	41
8/15/2015 21:45	12.93	1.33	2.47	0.11	88.34	2.52	12.65	131	0	14.7	37
8/15/2015 21:50		1.33	2.47	0.11	88.34	2.8	12.77	132	0	12.98	40
8/15/2015 21:55		1.35	2.47	0.11	88.34	3.66	12.52	161	0	9.84	41
8/15/2015 22:00	12.91	1.35	2.53	0.11	88.2	3.89	12.51	136	0	9.23	48
8/15/2015 22:20		1.29	2.62	0.11	88.2	2.86	12.77	144	0	13.45	34
8/15/2015 22:25		1.29	2.62	0.11	88.2	3.04	12.69	185	0	11.5	39
8/15/2015 22:30	12.92	1.29	2.62	0.11	88.34	2.97	12.63	67	0	4.56	31
8/15/2015 22:35		1.31	2.72	0.11	88.34	3.51	12.56	175	0	10.77	38
8/15/2015 23:25		1.35	2.59	0.11	88.2	2.93	12.67	180	0	12.02	39
8/15/2015 23:35		1.36	2.57	0.11	88.2	2.74	12.64	84	0	15.15	34
8/15/2015 23:40		1.36	2.57	0.11	87.91	3.63	12.54	150	0	9.91	50
8/16/2015 1:05		1.38	2.36	0.11	87.76	1.88	12.56	164	0	10.42	32
8/16/2015 2:00	12.89	1.44	2.22	0.11	87.33	1.95	12.54	164	0	9.11	37
8/16/2015 3:00	12.87	1.31	2.64	0.11	87.33	2.83	12.72	188	0	12.68	38
8/16/2015 3:05		1.31	2.64	0.11	87.33	3.27	12.61	177	0	10.58	42
8/16/2015 3:10		1.31	2.64	0.11	87.33	3.09	12.67	181	0	12.15	38
8/16/2015 3:15	12.89	1.31	2.61	0.11	87.33	2.87	12.69	199	0	13.56	37
8/16/2015 3:20		1.33	2.61	0.11	87.33	2.65	12.57	112	0	16.03	27
8/16/2015 6:00	12.87	1.41	2.42	0.11	87.03	2.64	12.59	153	0	12.99	37
8/16/2015 6:05		1.41	2.42	0.11	87.03	2.88	12.73	179	0	12.77	33
8/16/2015 6:10		1.41	2.42	0.11	87.03	2.86	12.73	185	0	12.64	35
8/16/2015 6:15	12.87	1.32	2.57	0.11	87.03	2.82	12.68	113	0	13.45	39
8/16/2015 6:20		1.32	2.6	0.11	87.03	3.16	12.68	184	0	11.05	39
8/16/2015 6:25		1.31	2.62	0.11	87.03	3.36	12.69	182	0	4.99	29
8/16/2015 8:30	12.87	1.33	2.64	0.11	87.03	2.65	12.67	82	0	14.74	36
8/16/2015 8:35		1.3	2.53	0.11	87.03	2.78	12.7	195	0	13.37	37
8/16/2015 8:45	12.86	1.3	2.53	0.11	87.03	3.23	12.7	190	0	4.33	32
8/16/2015 8:50		1.3	2.6	0.11	87.03	3.23	12.6	177	0	10.77	39
8/16/2015 18:25		1.38	2.44	0.11	87.48	2.51	12.62	144	0	12.64	41
8/16/2015 18:30	12.81	1.38	2.44	0.11	87.62	3.07	12.73	185	0	10.76	38
8/16/2015 18:35		1.38	2.44	0.11	87.62	2.7	12.79	167	0	12.07	37
8/16/2015 18:40		1.36	2.44	0.11	87.48	2.75	12.64	79	0	12.22	40
8/16/2015 18:45	12.8	1.36	2.44	0.11	87.48	2.55	12.53	127	0	10.05	42

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 18:50		1.36	2.51	0.11	87.48	3.66	12.49	139	0	9.39	50
8/16/2015 20:20		1.47	2.24	0.11	88.34	1.38	12.48	150	0	8.41	30
8/16/2015 20:25		1.47	2.15	0.11	88.34	1.43	12.55	123	0	7.71	33
8/16/2015 20:30	12.8	1.47	2.15	0.11	88.34	2.67	12.56	142	0	10.39	39
8/16/2015 20:35		1.47	2.15	0.11	88.79	3.55	12.53	157	0	8.67	51
8/16/2015 23:00	12.8	1.47	2.25	0.11	87.48	1.74	12.5	157	0	8.62	39
8/16/2015 23:50		1.47	2.23	0.11	87.33	1.96	12.48	151	0	8.56	40
8/17/2015 1:50		1.51	2.06	0.11	87.33	2.23	12.49	158	0	8.31	40
8/17/2015 2:10		1.51	2.06	0.11	87.33	2.23	12.44	159	0	7.87	36
8/17/2015 2:30	12.81	1.56	2.02	0.11	88.34	2.89	12.44	102	0	10.59	38
8/17/2015 2:35		1.56	2.02	0.11	88.34	3.13	12.55	157	0	11.11	36
8/17/2015 3:00	12.77	1.42	2.24	0.11	88.34	2.28	12.58	144	0	8.51	41
8/17/2015 3:05		1.42	2.24	0.11	88.48	2.51	12.58	147	0	11.45	36
8/17/2015 3:45	12.79	1.41	2.23	0.11	87.91	2.43	12.59	138	0	9.3	43
8/17/2015 3:50		1.41	2.23	0.11	87.91	1.92	12.56	164	0	9.56	37
8/17/2015 3:55		1.41	2.23	0.11	88.05	1.71	12.55	171	0	10.46	36
8/17/2015 18:10		1.29	2.63	0.11	87.48	2.64	12.78	193	0	14.94	34
8/17/2015 19:10		1.29	2.73	0.11	87.62	2.79	12.78	197	0	13.33	41
8/17/2015 19:15	12.74	1.29	2.73	0.11	87.62	3.6	12.59	160	0	10	51
8/17/2015 19:20		1.29	2.73	0.11	87.62	3.52	12.55	179	0	10.31	42
8/17/2015 19:55		1.29	2.73	0.11	87.62	2.48	12.7	118	0	14.36	36
8/17/2015 21:05		1.31	2.57	0.11	87.48	3.84	12.51	147	0	8.73	46
8/17/2015 21:35		1.29	2.7	0.11	87.48	2.55	12.81	196	0	13.13	35
8/17/2015 22:10		1.33	2.48	0.11	87.48	3.72	12.47	145	0	8.85	49
8/17/2015 22:35		1.29	2.68	0.11	87.33	2.88	12.74	188	0	12.12	40
8/17/2015 22:40		1.29	2.66	0.11	87.33	2.46	12.68	142	0	12.53	33
8/17/2015 22:45	12.73	1.32	2.61	0.11	87.33	2.56	12.67	140	0	15.56	35
8/17/2015 22:50		1.32	2.61	0.11	87.33	3	12.7	177	0	11.6	36
8/17/2015 23:50		1.37	2.34	0.11	87.19	2.27	12.63	138	0	9.82	37
8/18/2015 0:20		1.38	2.41	0.11	87.19	2.67	12.78	149	0	15.48	28
8/18/2015 0:25		1.38	2.41	0.11	87.19	1.55	12.67	142	0	8.93	33
8/18/2015 1:30	12.72	1.33	2.45	0.11	87.03	2.69	12.67	90	0	13.88	38
8/18/2015 1:35		1.33	2.45	0.11	87.03	2.16	12.68	168	0	8.86	37
8/18/2015 1:40		1.39	2.45	0.11	87.03	1.33	12.61	155	0	13.58	29
8/18/2015 21:50		1.26	2.65	0.11	86.74	2.77	12.76	192	0	13.95	40
8/18/2015 21:55		1.26	2.65	0.11	86.74	3.85	12.53	142	0	9.32	50
8/18/2015 22:00	12.65	1.26	2.65	0.11	86.59	3.64	12.53	148	0	9.69	39
8/18/2015 23:05		1.39	2.37	0.11	86.74	3.55	12.6	169	0	11.3	34
8/18/2015 23:10		1.4	2.39	0.11	86.74	3.63	12.56	161	0	10.81	44
8/19/2015 0:35		1.32	2.7	0.11	86.59	2.86	12.68	180	0	14.98	33
8/19/2015 0:40		1.29	2.64	0.11	86.74	2.9	12.73	185	0	13.76	33
8/19/2015 0:45	12.65	1.32	2.63	0.11	86.59	2.75	12.63	124	0	15	30

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/19/2015 0:55		1.35	2.52	0.11	86.59	2.72	12.65	107	0	15.15	31
8/19/2015 1:00	12.65	1.37	2.48	0.11	86.59	2.6	12.55	145	0	12.63	37
8/19/2015 1:05		1.41	2.45	0.11	86.59	2.57	12.57	145	0	9.86	38
8/19/2015 1:10		1.41	2.45	0.11	86.59	3.04	12.67	170	0	12.9	35
8/19/2015 1:40		1.41	2.4	0.11	86.59	1.54	12.63	154	0	11.57	33
8/19/2015 3:00	12.65	1.32	2.71	0.11	86.59	2.93	12.7	182	0	14.48	34
8/19/2015 3:05		1.3	2.71	0.11	86.74	3.15	12.7	178	0	6.53	28
8/19/2015 3:10		1.3	2.67	0.11	86.74	2.78	12.76	182	0	15.06	36
8/19/2015 3:15	12.65	1.3	2.67	0.11	86.74	2.69	12.6	112	0	16.28	30
8/19/2015 3:20		1.3	2.52	0.11	86.74	2.67	12.56	133	0	15.48	24
8/19/2015 3:25		1.38	2.52	0.11	86.74	3.22	12.62	174	0	12.02	36
8/19/2015 4:45	12.65	1.4	2.31	0.11	86.31	1.86	12.61	173	0	9.78	36
8/19/2015 5:15	12.64	1.38	2.38	0.11	86.16	2.61	12.65	148	0	8.82	39
8/19/2015 5:20		1.39	2.48	0.11	86.16	3.64	12.54	164	0	10.39	42
8/19/2015 20:40		1.3	2.64	0.11	86.88	2.9	12.73	190	0	15.07	37
8/19/2015 20:45	12.63	1.3	2.63	0.11	87.03	2.7	12.57	110	0	13.67	40
8/19/2015 20:50		1.29	2.63	0.11	87.03	2.99	12.71	190	0	12.04	33
8/19/2015 20:55		1.29	2.63	0.11	87.03	2.88	12.71	189	0	13.37	39
8/19/2015 21:00	12.63	1.29	2.63	0.11	87.03	2.92	12.58	144	0	12.62	36
8/19/2015 23:35		1.38	2.48	0.11	86.74	2.52	12.59	162	0	11.65	37
8/19/2015 23:40		1.38	2.4	0.11	86.88	2.62	12.64	136	0	11.42	31
8/19/2015 23:45	12.62	1.38	2.4	0.11	86.88	2.66	12.58	150	0	10.44	40
8/19/2015 23:50		1.4	2.39	0.11	86.88	2.44	12.6	135	0	8.32	40
8/19/2015 23:55		1.4	2.31	0.11	86.88	2.47	12.61	144	0	9.09	39
8/20/2015 0:15	12.58	1.41	2.26	0.11	86.88	3.75	12.46	140	0	9.99	48
8/20/2015 1:50		1.4	2.45	0.11	86.88	2.5	12.62	151	0	8.91	34
8/20/2015 1:55		1.4	2.29	0.11	86.88	2.36	12.59	147	0	9.37	41
8/20/2015 2:10		1.36	2.48	0.11	86.88	2.71	12.64	103	0	14.21	37
8/20/2015 2:15	12.6	1.36	2.48	0.11	87.03	2.59	12.6	148	0	13.62	34
8/20/2015 2:20		1.36	2.48	0.11	87.03	2.51	12.63	153	0	11.09	41
8/20/2015 2:25		1.37	2.43	0.11	87.03	2.65	12.63	120	0	15.42	31
8/20/2015 2:30	12.63	1.37	2.38	0.11	87.03	2.55	12.62	148	0	12.39	36
8/20/2015 2:35		1.38	2.38	0.11	87.03	3.48	12.58	150	0	11.55	40
8/20/2015 2:40		1.38	2.43	0.11	87.03	3.65	12.55	136	0	10.75	39
8/20/2015 3:00	12.6	1.37	2.49	0.11	86.88	2.62	12.63	131	0	16.66	30
8/20/2015 3:05		1.36	2.47	0.11	86.88	2.7	12.65	103	0	15.07	33
8/20/2015 3:10		1.36	2.4	0.11	86.88	2.47	12.64	153	0	13.17	39
8/20/2015 3:15	12.58	1.36	2.36	0.11	86.88	2.18	12.66	138	0	8.61	41
8/20/2015 3:45	12.6	1.34	2.41	0.11	86.74	3.6	12.53	151	0	10.99	44
8/20/2015 3:50		1.38	2.43	0.11	86.88	3.5	12.57	161	0	12.01	31
8/20/2015 4:35		1.29	2.56	0.11	86.74	2.65	12.77	184	0	15.18	36
8/13/2015 23:15	13.23	1.34	2.31	0.1	85.73	2.07	12.66	149	0	8.65	43

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/13/2015 23:20		1.36	2.16	0.1	85.59	2.04	12.64	150	0	8.42	42
8/14/2015 0:10		1.37	2.29	0.1	85.73	1.8	12.53	148	0	8.64	38
8/14/2015 1:20		1.37	2.22	0.1	85.73	1.99	12.63	144	0	9.43	40
8/14/2015 3:30	13.21	1.29	2.51	0.1	86.31	2.5	12.75	103	0	18.2	29
8/14/2015 3:35		1.26	2.51	0.1	86.31	2.48	12.74	121	0	18.1	31
8/14/2015 23:25		1.46	2.1	0.1	87.03	2.27	12.57	135	0	8.16	43
8/14/2015 23:30	13.04	1.46	2.09	0.1	87.33	1.71	12.57	161	0	8.81	37
8/14/2015 23:35		1.46	2.09	0.1	87.48	2.58	12.53	155	0	10.98	30
8/14/2015 23:40		1.44	2.09	0.1	87.62	2.66	12.56	142	0	11.01	40
8/15/2015 3:20		1.42	2.09	0.1	86.74	1.8	12.57	179	0	9.71	38
8/15/2015 3:55		1.43	2	0.1	86.88	3.25	12.59	182	0	10.45	45
8/15/2015 6:20		1.35	2.28	0.1	87.03	2.49	12.6	142	0	13.25	42
8/15/2015 6:25		1.35	2.28	0.1	87.03	2	12.67	151	0	9.71	40
8/15/2015 6:30	12.97	1.33	2.28	0.1	87.03	1.89	12.68	165	0	9.99	35
8/15/2015 6:50		1.35	2.17	0.1	87.19	3.85	12.48	155	0	6.33	42
8/15/2015 21:40		1.31	2.48	0.1	88.2	2.71	12.69	77	0	13.95	41
8/16/2015 0:05		1.45	2.1	0.1	87.62	2.28	12.54	152	0	8.56	33
8/16/2015 0:10		1.45	2.08	0.1	87.76	1.15	12.55	153	0	8.12	26
8/16/2015 0:15	12.88	1.45	2.07	0.1	87.62	1.98	12.55	149	0	9.58	33
8/16/2015 0:20		1.45	1.97	0.1	87.62	2.14	12.57	149	0	9.14	38
8/16/2015 0:40		1.45	1.97	0.1	88.2	3.56	12.55	165	0	10.27	44
8/16/2015 2:05		1.44	2.01	0.1	87.48	2.04	12.56	140	0	8.04	45
8/16/2015 2:10		1.44	2.01	0.1	87.48	2.71	12.57	101	0	14.45	33
8/16/2015 2:15	12.88	1.44	2.01	0.1	87.48	3.65	12.54	146	0	9.08	44
8/16/2015 4:45	12.88	1.44	2.04	0.1	87.03	3.36	12.59	177	0	9.89	43
8/16/2015 8:40		1.29	2.53	0.1	87.03	2.86	12.71	187	0	12.78	39
8/16/2015 23:55		1.48	1.96	0.1	87.33	1.69	12.5	164	0	11.82	34
8/17/2015 1:55		1.51	1.87	0.1	87.33	2.03	12.5	136	0	7.57	45
8/17/2015 2:00	12.8	1.51	1.87	0.1	87.33	2.31	12.48	146	0	7.55	41
8/17/2015 2:05		1.51	1.89	0.1	87.33	2.05	12.49	158	0	8.04	44
8/17/2015 2:15	12.79	1.52	1.89	0.1	87.33	2.04	12.44	152	0	8.85	39
8/17/2015 2:20		1.56	1.89	0.1	87.76	1.91	12.4	165	0	9.2	38
8/17/2015 2:25		1.56	1.89	0.1	88.05	2.18	12.42	159	0	5.88	25
8/17/2015 3:10		1.42	2.09	0.1	88.48	2.2	12.57	132	0	8.26	45
8/17/2015 3:15	12.8	1.42	2.02	0.1	88.63	2.18	12.52	155	0	9.03	39
8/17/2015 3:20		1.42	2.02	0.1	88.79	1.3	12.61	147	0	8.42	29
8/17/2015 3:25		1.43	2.01	0.1	88.79	1.94	12.56	147	0	9.13	42
8/17/2015 4:25		1.41	2.21	0.1	87.91	2.41	12.59	147	0	12.04	37
8/17/2015 4:30	12.79	1.41	2.21	0.1	88.05	2.36	12.57	149	0	9.02	48
8/17/2015 4:35		1.41	2.21	0.1	88.2	2.1	12.51	151	0	8.54	38
8/17/2015 4:40		1.43	2.17	0.1	88.34	1.96	12.53	153	0	8.41	40
8/17/2015 4:45	12.75	1.43	2.17	0.1	88.48	3.07	12.58	168	0	11.82	35

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/17/2015 4:50		1.44	2.17	0.1	88.2	3.16	12.56	167	0	11.34	38
8/17/2015 18:15	12.74	1.26	2.6	0.1	87.48	2.51	12.78	103	0	16.49	34
8/17/2015 18:20		1.25	2.63	0.1	87.48	2.91	12.75	180	0	12.47	39
8/17/2015 18:35		1.25	2.64	0.1	87.33	3.75	12.58	146	0	9.69	45
8/17/2015 20:00	12.74	1.26	2.47	0.1	87.62	2.62	12.76	141	0	15.48	35
8/17/2015 20:05		1.28	2.37	0.1	87.62	2.45	12.72	143	0	14.38	34
8/17/2015 20:20		1.28	2.37	0.1	87.62	3.73	12.57	151	0	9.11	38
8/17/2015 20:40		1.31	2.49	0.1	87.48	2.56	12.66	129	0	12.51	33
8/17/2015 20:45	12.75	1.31	2.38	0.1	87.48	2.48	12.63	156	0	10.44	37
8/17/2015 20:50		1.31	2.34	0.1	87.48	2.44	12.69	116	0	15.56	30
8/17/2015 20:55		1.31	2.34	0.1	87.48	2.84	12.75	191	0	13	37
8/17/2015 21:00	12.73	1.31	2.34	0.1	87.48	3.4	12.73	181	0	5.78	37
8/17/2015 21:40		1.29	2.47	0.1	87.48	2.35	12.7	158	0	16.08	33
8/17/2015 21:45	12.71	1.26	2.47	0.1	87.48	2.91	12.74	191	0	11.99	41
8/17/2015 22:00	12.74	1.26	2.43	0.1	87.48	2.74	12.77	193	0	12.69	36
8/17/2015 22:05		1.26	2.48	0.1	87.48	4.05	12.43	139	0	8.38	48
8/17/2015 22:55		1.32	2.38	0.1	87.33	2.58	12.54	128	0	8.61	45
8/17/2015 23:00	12.72	1.33	2.38	0.1	87.33	3.65	12.6	174	0	6.05	42
8/17/2015 23:30	12.71	1.28	2.53	0.1	87.33	2.79	12.74	191	0	13.66	36
8/17/2015 23:35		1.31	2.39	0.1	87.33	2.56	12.63	101	0	16.03	25
8/17/2015 23:40		1.35	2.34	0.1	87.33	2.56	12.65	119	0	13.04	35
8/17/2015 23:45	12.7	1.35	2.34	0.1	87.19	2.36	12.58	134	0	9.15	46
8/17/2015 23:55		1.37	2.17	0.1	87.33	1.84	12.68	162	0	9.95	36
8/18/2015 0:15	12.69	1.38	2.14	0.1	87.19	3.65	12.58	168	0	5.08	35
8/18/2015 0:30	12.72	1.33	2.41	0.1	87.19	1.31	12.67	162	0	9.36	29
8/18/2015 2:40		1.34	2.25	0.1	87.03	2.46	12.66	152	0	9.22	37
8/18/2015 2:45	12.71	1.34	2.25	0.1	87.03	2.34	12.66	143	0	9.31	34
8/18/2015 2:50		1.34	2.25	0.1	87.03	2.35	12.66	141	0	10.94	38
8/18/2015 3:55		1.34	2.24	0.1	87.19	1.59	12.66	170	0	10.7	34
8/18/2015 22:55		1.34	2.37	0.1	86.74	2.47	12.65	138	0	9.45	37
8/18/2015 23:00	12.68	1.35	2.37	0.1	86.74	2.6	12.56	134	0	12.3	36
8/18/2015 23:30	12.66	1.44	2.11	0.1	86.59	1.85	12.58	156	0	10.53	31
8/18/2015 23:35		1.44	1.99	0.1	86.59	1.91	12.53	144	0	8.83	35
8/18/2015 23:55		1.47	1.92	0.1	86.74	2.1	12.66	159	0	9.77	34
8/19/2015 0:05		1.36	2.36	0.1	86.74	4	12.42	155	0	8.5	46
8/19/2015 2:15	12.67	1.36	2.18	0.1	86.59	3.29	12.65	175	0	10.97	40
8/19/2015 2:20		1.36	2.19	0.1	86.59	3.5	12.55	160	0	10.52	43
8/19/2015 4:05		1.38	2.17	0.1	86.45	2.36	12.57	149	0	9.31	40
8/19/2015 5:05		1.38	2.16	0.1	86.16	3.06	12.66	137	0	4.66	28
8/19/2015 5:10		1.38	2.29	0.1	86.16	2.71	12.61	110	0	14.27	35
8/20/2015 0:00	12.61	1.39	2.26	0.1	86.88	2.32	12.62	144	0	8.54	42
8/20/2015 0:05		1.4	2.24	0.1	86.88	2.43	12.59	135	0	10.72	40

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/20/2015 0:10		1.4	2.24	0.1	86.88	4.18	12.47	150	0	6.08	47
8/20/2015 2:00	12.59	1.38	2.29	0.1	86.88	2.74	12.65	132	0	13.73	36
8/20/2015 2:05		1.38	2.29	0.1	86.88	2.81	12.69	133	0	15.04	38
8/20/2015 3:20		1.36	2.26	0.1	86.88	2.34	12.64	143	0	9.95	38
8/20/2015 3:40		1.34	2.25	0.1	86.74	2.65	12.62	122	0	14.25	34
8/20/2015 4:40		1.29	2.4	0.1	86.74	2.35	12.68	153	0	15.8	33
8/20/2015 4:45	12.61	1.29	2.33	0.1	86.74	2.28	12.71	148	0	9.88	40
8/20/2015 5:15	12.59	1.31	2.28	0.1	86.59	2.52	12.76	103	0	15.75	37
8/20/2015 5:20		1.31	2.28	0.1	86.59	2.07	12.71	156	0	9.63	32
8/13/2015 23:50		1.36	1.98	0.09	85.73	3.32	12.65	162	0	11.64	34
8/14/2015 0:15	13.24	1.37	2.04	0.09	85.73	2.23	12.66	135	0	10.1	46
8/14/2015 1:25		1.37	1.97	0.09	85.73	1.54	12.62	160	0	10.94	34
8/14/2015 2:10		1.36	1.93	0.09	86.16	3.45	12.63	160	0	10.46	41
8/14/2015 2:30	13.2	1.35	1.98	0.09	86.02	2.17	12.65	143	0	8.81	40
8/14/2015 2:35		1.34	1.98	0.09	86.02	2.18	12.69	138	0	9.51	35
8/14/2015 2:40		1.34	1.98	0.09	86.02	2.24	12.67	144	0	9.72	34
8/14/2015 2:45	13.21	1.33	1.99	0.09	86.02	2.52	12.68	144	0	16	33
8/14/2015 2:50		1.33	2.04	0.09	86.02	2.61	12.67	126	0	14.37	34
8/14/2015 2:55		1.32	2.04	0.09	86.16	2.15	12.69	142	0	10.66	36
8/14/2015 3:00	13.22	1.32	2.04	0.09	86.16	1.42	12.74	140	0	9.64	33
8/14/2015 3:05		1.31	2.08	0.09	86.31	2.28	12.69	148	0	15.91	28
8/14/2015 3:10		1.31	2.07	0.09	86.31	2.28	12.71	150	0	12.87	33
8/14/2015 3:15	13.22	1.31	2.07	0.09	86.31	2.99	12.69	173	0	12.67	34
8/14/2015 3:20		1.31	2.08	0.09	86.31	3.35	12.62	162	0	12.7	35
8/14/2015 3:40		1.26	2.27	0.09	86.31	2.26	12.72	158	0	15.67	33
8/14/2015 3:45	13.21	1.25	2.25	0.09	86.31	1.84	12.75	170	0	10.8	30
8/14/2015 4:30	13.22	1.29	2.22	0.09	86.45	2.45	12.75	128	0	19.43	27
8/14/2015 4:35		1.29	2.22	0.09	86.45	2.2	12.73	155	0	12.54	33
8/14/2015 4:40		1.27	2.22	0.09	86.59	2.1	12.75	134	0	8.87	27
8/15/2015 3:50		1.44	1.78	0.09	86.88	2.52	12.51	150	0	9.56	37
8/15/2015 5:35		1.36	1.93	0.09	86.88	1.08	12.64	167	0	11.57	24
8/15/2015 6:35		1.33	2.17	0.09	87.03	2.38	12.66	158	0	12.78	36
8/15/2015 6:40		1.34	2.04	0.09	87.03	2.23	12.65	151	0	12.26	42
8/15/2015 6:45	13.01	1.34	2.04	0.09	87.19	3.79	12.44	157	0	10.09	44
8/16/2015 0:25		1.45	1.87	0.09	87.62	2.03	12.5	158	0	9.91	29
8/16/2015 0:30	12.91	1.45	1.82	0.09	87.91	1.76	12.55	158	0	10.43	37
8/16/2015 0:35		1.45	1.87	0.09	88.2	2.69	12.63	132	0	11.88	35
8/16/2015 1:10		1.43	1.92	0.09	87.76	2.09	12.55	158	0	8.89	32
8/16/2015 1:15	12.91	1.43	1.85	0.09	87.91	1.91	12.57	181	0	4.1	16
8/16/2015 1:20		1.44	1.76	0.09	87.91	1.75	12.52	172	0	10.29	38
8/16/2015 1:30	12.91	1.47	1.76	0.09	87.76	2.01	12.53	159	0	4.51	19
8/16/2015 1:35		1.47	1.76	0.09	87.76	3.17	12.66	177	0	12.71	44

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 1:40		1.47	1.85	0.09	87.62	3.42	12.56	170	0	10.23	44
8/16/2015 3:55		1.45	1.79	0.09	87.19	1.84	12.55	154	0	9.48	35
8/16/2015 23:05		1.5	1.72	0.09	87.48	1.86	12.47	153	0	10.12	32
8/16/2015 23:25		1.51	1.72	0.09	87.48	3.6	12.58	167	0	4.4	33
8/16/2015 23:30	12.81	1.5	1.83	0.09	87.48	3.36	12.57	163	0	8.96	44
8/17/2015 0:00	12.8	1.5	1.81	0.09	87.33	1.66	12.47	154	0	10.77	34
8/17/2015 0:05		1.5	1.81	0.09	87.33	3.17	12.5	110	0	4.5	28
8/17/2015 0:10		1.52	1.81	0.09	87.33	3.61	12.35	157	0	9.47	42
8/17/2015 3:30	12.77	1.43	1.78	0.09	88.93	1.62	12.58	155	0	10.17	37
8/17/2015 18:25		1.24	2.39	0.09	87.48	2.55	12.76	93	0	17.21	29
8/17/2015 18:30	12.72	1.24	2.39	0.09	87.33	3.55	12.59	142	0	9.03	43
8/17/2015 20:10		1.27	2.26	0.09	87.62	2.35	12.73	152	0	15.19	33
8/17/2015 20:15	12.72	1.28	2.26	0.09	87.62	3.83	12.58	142	0	7.26	48
8/17/2015 21:50		1.24	2.43	0.09	87.48	2.68	12.76	191	0	13.79	35
8/17/2015 21:55		1.26	2.36	0.09	87.48	2.59	12.67	133	0	14.88	33
8/18/2015 0:00	12.72	1.35	2.14	0.09	87.19	2.35	12.7	154	0	8.52	37
8/18/2015 0:05		1.37	2.08	0.09	87.19	1.68	12.62	166	0	8.91	36
8/18/2015 0:10		1.37	2.08	0.09	87.19	3.46	12.61	163	0	10.03	41
8/18/2015 1:45	12.72	1.37	1.97	0.09	87.03	1.41	12.63	182	0	12.76	31
8/18/2015 2:55		1.34	2.15	0.09	87.03	1.96	12.7	140	0	9.9	38
8/18/2015 3:00	12.72	1.34	2.14	0.09	87.03	1.79	12.73	167	0	10.58	36
8/18/2015 3:45	12.7	1.3	2.24	0.09	87.19	2.46	12.7	127	0	12.67	26
8/18/2015 3:50		1.3	2.24	0.09	87.19	1.59	12.72	138	0	9.85	34
8/18/2015 5:05		1.26	2.32	0.09	86.88	2.57	12.8	189	0	17.08	34
8/18/2015 5:10		1.28	2.32	0.09	86.88	2.18	12.72	157	0	15.1	28
8/18/2015 5:15	12.71	1.28	2.32	0.09	86.88	2.23	12.74	152	0	12.46	34
8/18/2015 23:40		1.47	1.87	0.09	86.59	2.03	12.52	169	0	8.78	26
8/18/2015 23:45	12.67	1.47	1.87	0.09	86.59	2.22	12.64	158	0	8.87	42
8/18/2015 23:50		1.47	1.87	0.09	86.59	2.64	12.53	139	0	9.45	42
8/19/2015 0:00	12.66	1.36	2.03	0.09	86.74	2.59	12.71	97	0	14.46	35
8/19/2015 4:50		1.39	1.85	0.09	86.31	1.62	12.63	179	0	11.61	36
8/19/2015 4:55		1.39	1.85	0.09	86.31	2.36	12.62	157	0	8.21	37
8/19/2015 5:00	12.63	1.39	1.85	0.09	86.31	2.5	12.61	146	0	9.49	34
8/20/2015 3:25		1.35	2.14	0.09	86.88	2.34	12.66	137	0	8.86	38
8/20/2015 3:30	12.59	1.34	2.14	0.09	86.88	2.46	12.66	148	0	8.98	37
8/20/2015 3:35		1.34	2.14	0.09	86.74	2.64	12.67	107	0	14.96	34
8/20/2015 4:50		1.32	2.14	0.09	86.74	1.67	12.67	165	0	10.35	36
8/20/2015 4:55		1.3	2.07	0.09	86.59	2.28	12.7	134	0	11.77	34
8/20/2015 5:00	12.56	1.31	2.07	0.09	86.59	2.35	12.69	117	0	12.6	41
8/20/2015 5:05		1.31	2.07	0.09	86.59	3.22	12.62	167	0	12.75	37
8/20/2015 5:10		1.33	2.14	0.09	86.59	3.47	12.59	171	0	9.12	40
8/20/2015 5:25		1.29	2.28	0.09	86.59	2.25	12.74	152	0	11.99	31

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(~F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/20/2015 5:30	12.6	1.29	2.28	0.09	86.59	3.23	12.66	173	0	12.06	41
8/20/2015 5:35		1.29	2.28	0.09	86.59	3.2	12.62	170	0	12.29	37
8/13/2015 11:10		0.8	3.83	0.08	98.1	4.41	12.06	123	-0.09	10.47	48
8/13/2015 23:25		1.36	1.89	0.08	85.59	1.83	12.64	166	0	9	40
8/13/2015 23:30	13.24	1.36	1.87	0.08	85.59	2.01	12.61	162	0	9.07	28
8/13/2015 23:35		1.36	1.87	0.08	85.59	2.17	12.64	165	0	8.76	37
8/13/2015 23:40		1.36	1.84	0.08	85.59	1.82	12.61	167	0	10.68	35
8/13/2015 23:45	13.25	1.36	1.84	0.08	85.73	2.76	12.7	94	0	12.84	39
8/14/2015 0:45	13.24	1.41	1.73	0.08	85.87	1.89	12.64	147	0	9.14	36
8/14/2015 0:50		1.44	1.58	0.08	86.02	1.72	12.55	163	0	9.84	34
8/14/2015 0:55		1.41	1.73	0.08	86.02	3.18	12.67	178	0	11.92	35
8/14/2015 1:00	13.23	1.38	1.73	0.08	86.02	3.44	12.62	139	0	11.21	36
8/14/2015 1:30	13.24	1.37	1.82	0.08	85.73	1.17	12.66	171	0	11.94	26
8/14/2015 1:35		1.36	1.79	0.08	85.73	1.96	12.66	145	0	9.32	29
8/14/2015 1:40		1.34	1.79	0.08	85.73	2.12	12.69	154	0	8.32	41
8/14/2015 1:45	13.23	1.34	1.79	0.08	85.87	2.01	12.64	154	0	9.08	40
8/14/2015 1:50		1.34	1.84	0.08	85.87	2.12	12.68	163	0	7.95	37
8/14/2015 1:55		1.34	1.84	0.08	85.87	1.46	12.62	157	0	9.54	33
8/14/2015 2:00	13.18	1.35	1.84	0.08	86.16	1.75	12.65	172	0	11.21	33
8/14/2015 2:05		1.36	1.84	0.08	86.16	3.42	12.64	132	0	10.45	45
8/14/2015 3:50		1.26	2.05	0.08	86.31	1.65	12.71	162	0	10.32	34
8/14/2015 4:45	13.21	1.26	2	0.08	86.59	1.88	12.74	168	0	10.77	34
8/14/2015 4:50		1.26	1.9	0.08	86.45	1.66	12.71	178	0	11.56	35
8/14/2015 4:55		1.26	1.9	0.08	86.59	2.11	12.74	141	0	12.29	43
8/14/2015 5:20		1.25	1.94	0.08	86.45	3.06	12.64	169	0	12.92	32
8/15/2015 3:25		1.41	1.81	0.08	86.74	1.44	12.59	166	0	13.81	30
8/15/2015 3:30	12.98	1.42	1.78	0.08	86.74	1.93	12.55	150	0	9.75	36
8/15/2015 3:35		1.42	1.78	0.08	86.74	2.18	12.58	157	0	8.73	38
8/15/2015 3:40		1.43	1.78	0.08	86.74	1.94	12.56	168	0	9.09	32
8/15/2015 3:45	12.99	1.43	1.78	0.08	86.74	1.73	12.57	170	0	10.86	26
8/15/2015 5:40		1.34	1.74	0.08	86.88	1.39	12.67	182	0	13.74	30
8/15/2015 6:15	13.01	1.34	1.81	0.08	87.03	2.82	12.72	179	0	11.32	42
8/16/2015 1:25		1.45	1.73	0.08	87.76	1.85	12.52	155	0	10.59	34
8/16/2015 4:00	12.88	1.45	1.69	0.08	87.19	1.75	12.53	162	0	11.12	36
8/16/2015 4:05		1.47	1.61	0.08	87.19	1.47	12.53	168	0	12.08	32
8/16/2015 4:10		1.47	1.61	0.08	87.19	1.78	12.55	167	0	10.79	32
8/16/2015 4:15	12.86	1.45	1.64	0.08	87.19	2.01	12.56	150	0	9.13	39
8/16/2015 4:20		1.47	1.61	0.08	87.19	1.71	12.52	176	0	11.45	34
8/16/2015 4:25		1.47	1.6	0.08	87.19	1.73	12.52	173	0	10.82	32
8/16/2015 4:30	12.87	1.48	1.6	0.08	87.19	1.56	12.52	161	0	9.04	35
8/16/2015 4:35		1.48	1.6	0.08	87.03	2.22	12.56	158	0	8.82	32
8/16/2015 4:40		1.48	1.6	0.08	87.03	3.41	12.63	170	0	5.64	38

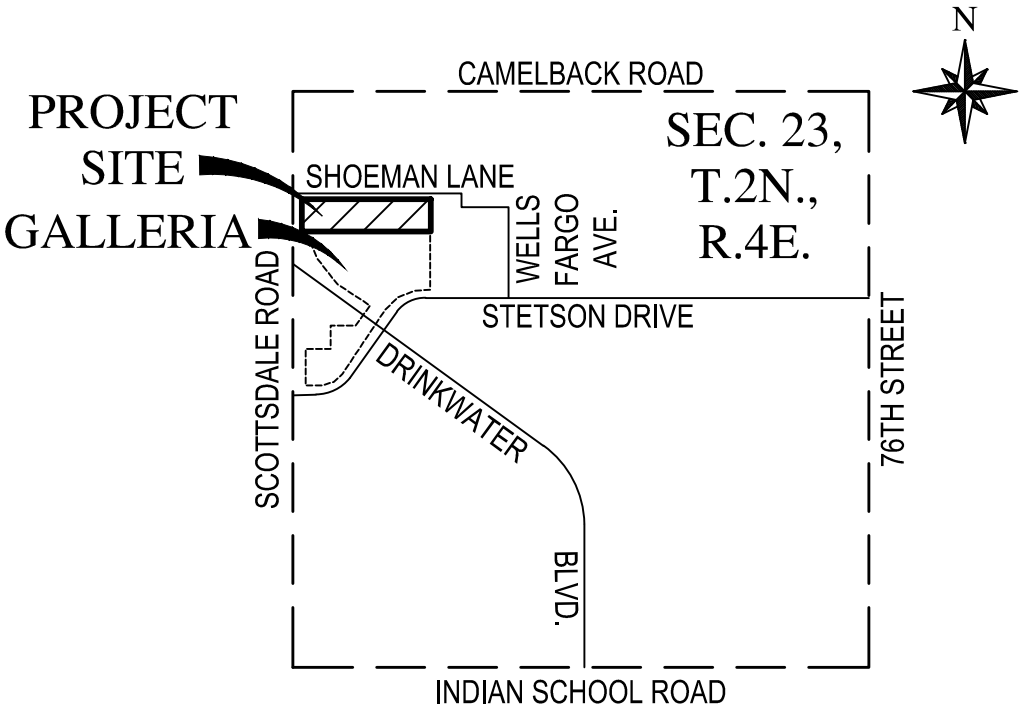
Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/16/2015 5:05		1.45	1.69	0.08	86.88	1.47	12.54	176	0	12.94	31
8/16/2015 23:10		1.5	1.63	0.08	87.48	1.71	12.5	152	0	8.39	36
8/16/2015 23:15	12.81	1.51	1.61	0.08	87.48	1.59	12.49	177	0	11.83	34
8/16/2015 23:20		1.51	1.61	0.08	87.48	1.98	12.48	159	0	10.39	34
8/17/2015 3:35		1.42	1.78	0.08	88.63	3.67	12.59	164	0	5.11	37
8/17/2015 3:40		1.41	1.78	0.08	88.34	3.41	12.63	180	0	3.73	28
8/17/2015 4:00	12.8	1.43	1.77	0.08	88.05	1.68	12.57	159	0	10.96	36
8/17/2015 4:05		1.44	1.57	0.08	87.91	1.7	12.55	164	0	11.17	35
8/17/2015 4:10		1.44	1.56	0.08	87.91	1.23	12.58	147	0	10.26	27
8/18/2015 1:15	12.72	1.3	1.86	0.08	87.19	2.16	12.7	137	0	10.49	42
8/18/2015 1:20		1.3	1.89	0.08	87.19	3.25	12.6	183	0	10.78	42
8/18/2015 1:25		1.3	1.97	0.08	87.03	3.56	12.59	177	0	6.97	39
8/18/2015 3:05		1.3	1.95	0.08	87.03	2.14	12.71	147	0	10.9	34
8/18/2015 4:55		1.26	1.91	0.08	87.19	3.13	12.59	187	0	12.44	37
8/18/2015 5:00	12.71	1.26	1.91	0.08	87.03	3.17	12.57	175	0	12.03	42
8/18/2015 5:20		1.26	2.02	0.08	86.88	1.22	12.76	136	0	10.56	27
8/18/2015 5:25		1.26	1.98	0.08	86.88	2.08	12.74	143	0	11.41	20
8/18/2015 5:30	12.68	1.26	1.98	0.08	86.88	3.29	12.62	174	0	9.59	39
8/18/2015 5:35		1.26	2.02	0.08	86.88	3.19	12.61	179	0	11.15	41
8/19/2015 1:45	12.67	1.39	1.84	0.08	86.59	1.78	12.61	159	0	10.4	36
8/19/2015 3:50		1.37	1.73	0.08	86.59	1.79	12.61	175	0	10.19	37
8/19/2015 3:55		1.37	1.73	0.08	86.59	3.23	12.62	163	0	13.73	33
8/19/2015 4:00	12.67	1.37	1.73	0.08	86.45	3.17	12.66	168	0	8.51	29
8/14/2015 0:20		1.37	1.66	0.07	85.73	1.62	12.63	157	0	9.26	36
8/14/2015 0:25		1.36	1.66	0.07	85.73	1.98	12.65	151	0	9.54	38
8/14/2015 0:30	13.2	1.37	1.66	0.07	85.73	1.6	12.56	172	0	11.78	35
8/14/2015 0:35		1.37	1.48	0.07	86.02	1.27	12.55	194	0	17.75	26
8/14/2015 0:40		1.41	1.48	0.07	86.02	1.89	12.59	169	0	10.83	31
8/14/2015 3:55		1.27	1.67	0.07	86.45	1.17	12.73	154	0	11.25	27
8/14/2015 5:00	13.19	1.26	1.71	0.07	86.59	1.63	12.77	167	0	10.66	36
8/14/2015 5:05		1.26	1.71	0.07	86.45	2.14	12.76	153	0	10.67	35
8/14/2015 5:15	13.17	1.25	1.91	0.07	86.59	3.11	12.67	184	0	12	42
8/15/2015 6:00	12.99	1.34	1.55	0.07	86.88	1.98	12.66	165	0	9.82	38
8/15/2015 6:05		1.34	1.55	0.07	86.88	1.66	12.63	165	0	12.26	30
8/15/2015 6:10		1.35	1.63	0.07	87.03	2.91	12.65	190	0	11.49	43
8/16/2015 5:10		1.46	1.5	0.07	86.88	1.15	12.54	198	0	17.7	25
8/16/2015 5:15	12.88	1.46	1.35	0.07	86.88	1.23	12.55	196	0	15.81	25
8/17/2015 4:15	12.79	1.43	1.56	0.07	87.91	3.23	12.71	185	0	6.16	33
8/17/2015 4:20		1.42	1.56	0.07	87.76	2.7	12.76	171	0	13.55	37
8/18/2015 1:05		1.3	1.6	0.07	87.19	1.76	12.71	158	0	12.48	32
8/18/2015 1:10		1.29	1.6	0.07	87.19	2.08	12.71	147	0	9.25	40
8/18/2015 2:20		1.32	1.65	0.07	87.03	1.81	12.71	167	0	9.28	41

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(-F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 2:25		1.32	1.7	0.07	87.03	1.85	12.61	149	0	8.74	40
8/18/2015 2:30	12.71	1.32	1.7	0.07	87.03	3.28	12.58	171	0	10.1	37
8/18/2015 2:35		1.3	1.7	0.07	87.03	2.94	12.73	185	0	13.25	40
8/18/2015 3:10		1.29	1.78	0.07	87.03	1.44	12.74	160	0	9.98	30
8/18/2015 3:15	12.68	1.29	1.63	0.07	87.03	1.65	12.71	164	0	11.5	25
8/18/2015 4:00	12.71	1.3	1.72	0.07	87.19	1.89	12.73	154	0	8.91	37
8/19/2015 1:50		1.37	1.63	0.07	86.59	1.59	12.64	144	0	11.66	32
8/19/2015 1:55		1.37	1.45	0.07	86.59	1.44	12.63	158	0	11.49	32
8/19/2015 2:00	12.65	1.37	1.45	0.07	86.59	1.64	12.62	158	0	11	35
8/19/2015 2:05		1.37	1.5	0.07	86.59	2.38	12.64	130	0	9.76	37
8/19/2015 2:10		1.36	1.5	0.07	86.59	2.4	12.67	126	0	8.7	40
8/14/2015 4:00	13.22	1.27	1.5	0.06	86.45	1.48	12.75	163	0	10.06	31
8/14/2015 4:05		1.26	1.5	0.06	86.45	1.73	12.74	165	0	10.21	36
8/14/2015 4:10		1.27	1.37	0.06	86.45	1.51	12.72	174	0	12.46	32
8/14/2015 4:20		1.28	1.37	0.06	86.45	3.12	12.63	178	0	12.32	34
8/14/2015 4:25		1.29	1.57	0.06	86.59	3.16	12.62	166	0	13.66	25
8/14/2015 5:10		1.25	1.53	0.06	86.59	1.69	12.75	159	0	11.18	36
8/15/2015 5:45	13	1.34	1.39	0.06	86.88	1.52	12.66	179	0	13.32	29
8/15/2015 5:50		1.34	1.39	0.06	86.88	1.69	12.64	159	0	10.37	31
8/15/2015 5:55		1.34	1.39	0.06	86.88	1.79	12.67	167	0	10.66	34
8/16/2015 5:20		1.46	1.26	0.06	86.88	1.37	12.54	189	0	14.66	29
8/16/2015 5:25		1.46	1.26	0.06	86.88	3.15	12.66	181	0	10.17	44
8/16/2015 5:30	12.86	1.45	1.26	0.06	86.88	3.58	12.58	165	0	9.8	49
8/18/2015 0:35		1.33	1.41	0.06	87.19	1.41	12.63	152	0	10.53	33
8/18/2015 0:40		1.33	1.33	0.06	87.19	1.46	12.65	177	0	12.71	30
8/18/2015 0:45	12.71	1.35	1.29	0.06	87.19	1.4	12.65	170	0	10.25	31
8/18/2015 0:50		1.35	1.29	0.06	87.19	1.76	12.71	154	0	9.98	38
8/18/2015 0:55		1.35	1.33	0.06	87.19	2.04	12.7	165	0	8.2	31
8/18/2015 1:00	12.71	1.3	1.43	0.06	87.19	1.57	12.7	155	0	9.93	35
8/18/2015 1:50		1.35	1.34	0.06	87.03	1.47	12.65	160	0	11.35	30
8/18/2015 1:55		1.37	1.34	0.06	87.03	1.51	12.63	168	0	13.02	32
8/18/2015 2:00	12.71	1.37	1.34	0.06	87.03	1.64	12.67	164	0	11.44	34
8/18/2015 2:05		1.35	1.38	0.06	87.03	2.42	12.68	136	0	13.41	34
8/18/2015 2:10		1.33	1.5	0.06	87.03	2.5	12.68	138	0	12.86	34
8/18/2015 2:15	12.71	1.32	1.5	0.06	87.03	1.61	12.7	147	0	8.98	33
8/18/2015 3:20		1.29	1.5	0.06	87.03	1.3	12.7	180	0	15.27	29
8/18/2015 4:05		1.28	1.45	0.06	87.19	1.56	12.75	168	0	10.58	34
8/18/2015 4:10		1.28	1.44	0.06	87.19	1.48	12.71	162	0	11.28	33
8/18/2015 4:15	12.72	1.27	1.44	0.06	87.19	1.59	12.73	164	0	11.36	35
8/18/2015 4:20		1.27	1.41	0.06	87.19	1.37	12.74	171	0	11.16	30
8/18/2015 4:35		1.26	1.44	0.06	87.03	2.15	12.77	134	0	10.87	33
8/18/2015 4:40		1.25	1.59	0.06	87.03	2.11	12.75	156	0	12.7	35

Date Time	Power Supply(V)	Level(in)	Vel (fps)	Flow(cfs)	Temp(−F)	Surface Velocity(fps)	Dist (in)	Reading Counts	Sur-charge Level (in)	PMR()	NOS()
8/18/2015 4:45	12.71	1.25	1.59	0.06	87.03	1.64	12.74	170	0	9.89	35
8/18/2015 4:50		1.26	1.59	0.06	87.19	1.22	12.74	174	0	13.9	28
8/14/2015 4:15	13.17	1.27	1.34	0.05	86.45	1.3	12.71	183	0	15.04	29
8/18/2015 3:25		1.29	1.31	0.05	87.19	1.29	12.7	193	0	18.77	23
8/18/2015 3:30	12.68	1.3	1.18	0.05	87.19	1.16	12.7	167	0	11.18	26
8/18/2015 3:35		1.3	1.18	0.05	87.19	3.27	12.57	183	0	11.37	35
8/18/2015 3:40		1.3	1.18	0.05	87.19	3.13	12.6	182	0	11.63	31
8/18/2015 4:25		1.26	1.35	0.05	87.19	1.25	12.75	168	0	11.01	28
8/18/2015 4:30	12.72	1.27	1.35	0.05	87.19	1.75	12.72	161	0	10	38
8/13/2015 11:05		0	1.92	0	99.41	4.22	12.72	132	-0.21	8.19	47
8/13/2015 11:00	13.17										

EXHIBIT 1

VICINITY MAP



VICINITY MAP

N.T.S.

Z:\2017\174722\Project Support\Reports\Sewer BOD\Exhibits\4722 - EXHIBIT 1 - VICINITY MAP.dwg

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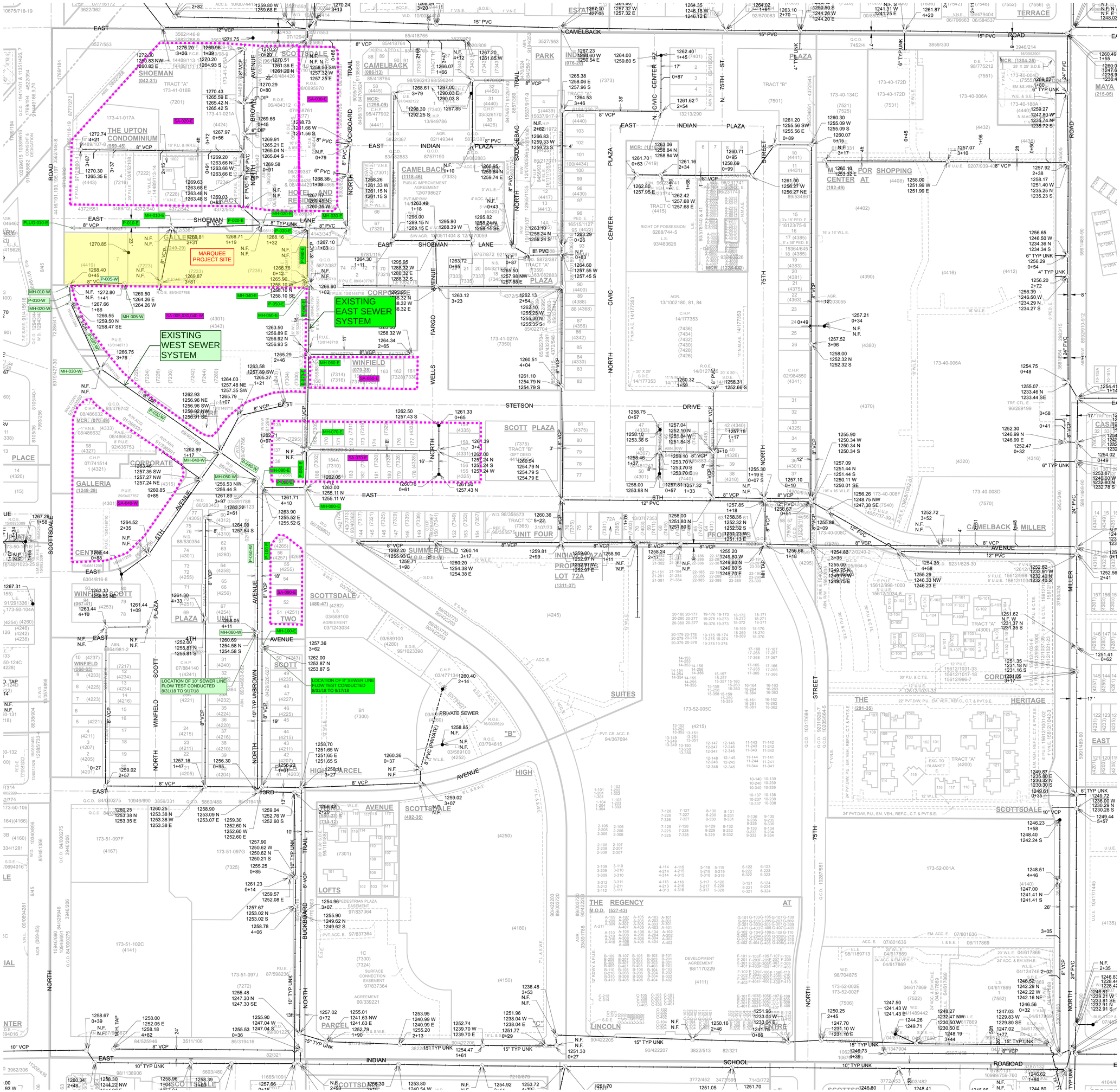
MARQUEE

EXHIBIT 1 - VICINITY MAP

DATE: 02-15-2019	SCALE: N.T.S.	SHEET 1 OF 1
JOB NO.: 174722.01	DESIGN: DCN	
	DRAWN: ZNR	

EXHIBIT 2

SEWER QUARTER SECTION MAP MARKUP



GENERAL NOTES:

- THIS IS A COMPUTER GENERATED DRAWING. FOR ANY REVISIONS PLEASE CONTACT THE CITY OF SCOTTSDALE GIS DEPARTMENT AT (480) 312-7792.
- THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER, 1991. BEARINGS ARE NAD 83 GRID AND DISTANCES ARE FLATTENED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS 'CALCULATED' ON THE MAP.

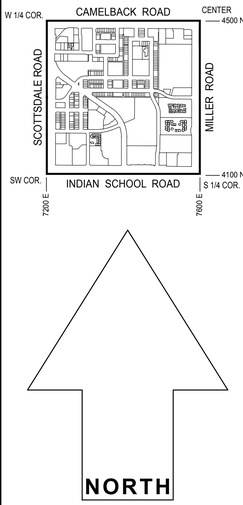
LEGEND:

- Cleanout
- Lift Station
- Manhole
- Non-GPS Point
- Plug
- Sewer Service Point
- Sewer Tap Point
- Sewer Valve
- Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force
- Sewer Main - Private

MARK-UP EXHIBIT LEGEND

P-010-E	EXISTING EAST SEWER SYSTEM PIPE LABEL
MH-010-E	EXISTING EAST SEWER SYSTEM MANHOLE LABEL
P-010-W	EXISTING WEST SEWER SYSTEM PIPE LABEL
MH-010-W	EXISTING WEST SEWER SYSTEM MANHOLE LABEL
SA-070-E	CONTIBUTING SEWER AREA BOUNDARY AND LABEL

VICINITY MAP



SCALE: 1" = 100'

0 50 100 200

The map scale of 1" = 100' is based on a full size print of 30" x 36"

SEWER

QUARTER SECTION MAP

17-45

SW 1/4 SEC. 23 T2N R4E

EXHIBIT 2 - SEWER QUARTER SECTION MAP MARKUP

WOOD/PATEL
02/15/2019

CITY OF SCOTTSDALE
SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS
3629 North Drinkwater Boulevard
Scottsdale, Arizona 85251

N O T I C E

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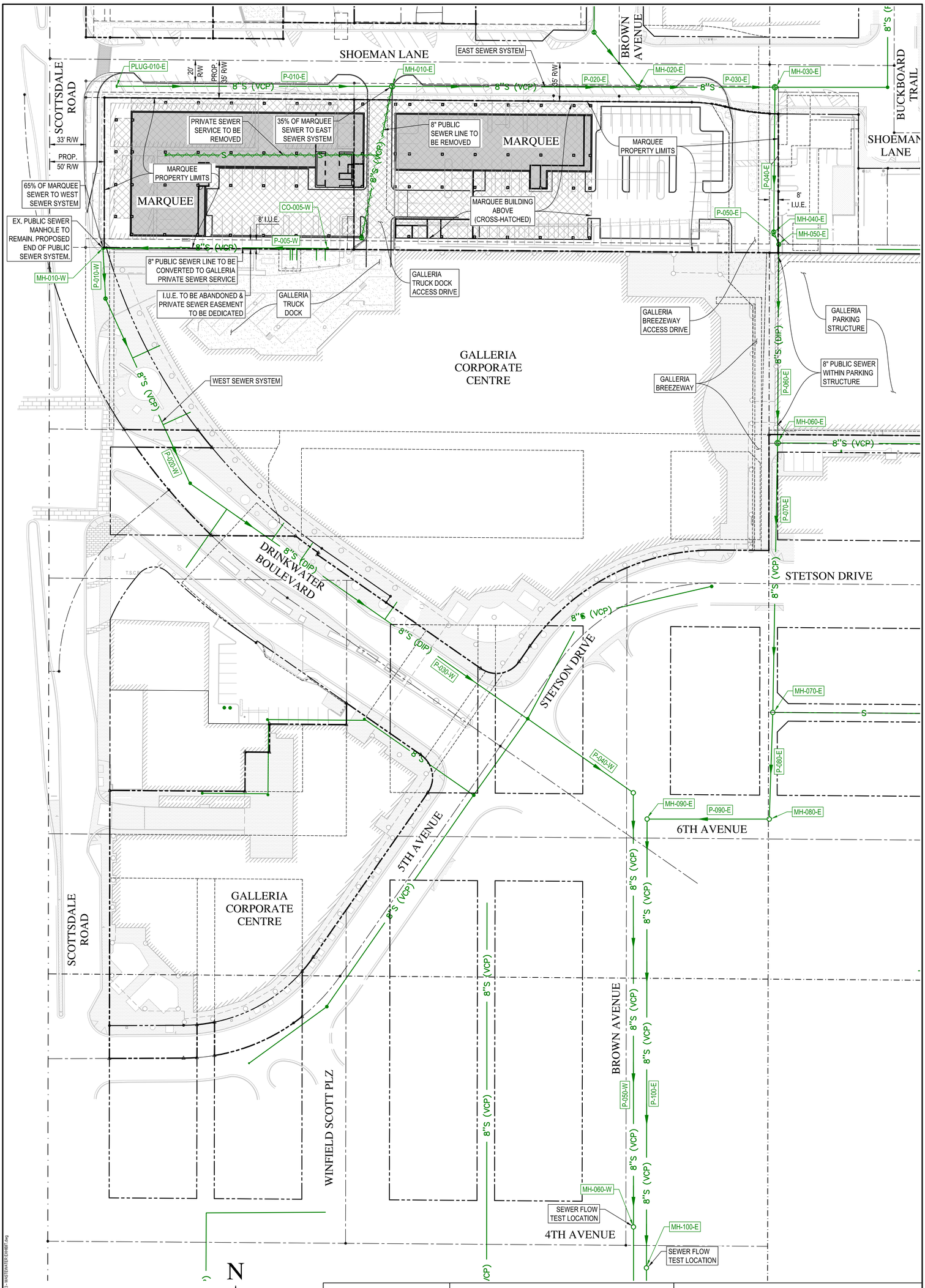
THE CITY OF SCOTTSDALE

EXHIBIT 3

WASTEWATER EXHIBIT



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MARQUEE

EXHIBIT 3 - WASTEWATER EXHIBIT

DATE: 02/15/2019	SCALE: 1" = 40'	SHEET 1 OF 1
JOB NO.: 174722.01	DESIGN: DCN	
	DRAWN: DCN	