

CITY OF MASSILLON/STARK COUNTY

REGIONAL SANITARY SEWER SYSTEM

**CITY OF MASSILLON
FLOW MONITORING REPORT**

August, 1998

CTI Project No. E8019



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LIST OF ABBREVIATIONS

diam.	Diameter
E	East
EPA	Environmental Protection Agency
ft.	Feet
fps	Feet Per Second
I/I	Infiltration/Inflow
hr.	Hour
Hse	House
MH	Manhole
Max.	Maximum
MGD	Million Gallons per Day
Min.	Minimum
Mos.	Months
N	North
NE	Northeast
NW	Northwest
No.	Number
SSO	Sanitary Sewer Overflow
S	South
SE	Southeast
SW	Southwest
SR	State Route
vs	Versus
WWTP	Wastewater Treatment Plant
W	West

1.0 INTRODUCTION

Flow monitoring in the City of Massillon/Stark County Regional Sanitary Sewer System was performed for a period of 60 days, beginning the last part of the month of April, 1998, and finishing the middle of July, 1998. This report is an extension of the flow monitoring previously performed in the sewer system (from the middle of April, 1997, through the middle of August, 1997) to further define and quantify areas of excessive I/I. Twenty-nine (29) flow meters and three (3) rain gauges were previously installed within the regional sewer system. Of the twenty-nine (29) meters installed, thirteen (13) were placed within the Stark County portion of the sanitary sewer system, while the remaining sixteen (16) were placed within the City of Massillon.

This study placed three (3) rain gauges in the system at the same locations as the previous study (two [2] gauges through a contract with the City, and one [1] through a contract with Stark County). Fourteen (14) flow meters were installed within the City of Massillon portion of the sanitary sewer system and six (6) flow meters were installed within the Stark County portion through a separate contract with Stark County. Information for this report includes only the City of Massillon's portion. A separate report has been prepared for the Stark County flow meters. Information from all three (3) rain gauges has been included within both reports.

2.0 OBJECTIVE

The objective of this study is the following:

- To identify and quantify significant I/I in areas of the City which have exhibited excessive I/I in the past.
- To increase the available data necessary to determine the design peak wet weather flow of the system for use in facility planning.

3.0 SCOPE OF WORK

The City of Massillon has engaged CTI Environmental, Inc. to perform an infiltration and inflow flow monitoring study for the Massillon portion of the Massillon/Stark County Regional Sanitary Sewer System.

The work performed by CTI Environmental, Inc., (CTI) included the following:

A. General

- Flow monitors and rain gauges were to be located in the sanitary sewer system to support sanitary sewer system monitoring and to determine major areas of I/I.
- The flow meters were to be located in fourteen (14) City collector and trunk sanitary sewers.
- Fourteen (14) flow monitors and two (2) rain gauges were to be deployed throughout the City's sanitary sewer system for a period of sixty (60) days.
- Develop and review all data associated with flow monitoring, including site reports describing each monitor location, calibration reports, wet vs dry hydro-graphs for selected wet and dry periods, and tabular summaries of daily maximum, minimum, and average depth, velocity, and flow, as well as associated rainfall data.

B. Flow Monitoring Reporting

CTI shall submit to the City a Flow Monitoring Report which summarizes the flow monitoring and rainfall measurements. The report will indicate the wet weather response of the sanitary sewers, and make recommendations for further investigation, if necessary. Three (3) copies of the report shall be furnished and shall include information from the flow data generated for the entire monitoring period.

The following information is to be provided in the Flow Monitoring Report:

- Technical Summary including descriptions of equipment, field procedures, and calibration procedures.
- Map showing flow monitoring locations.
- Tables of hourly flow averages at each of the monitoring locations for every hour of the monitoring period, along with rainfall data.
- Table of daily flow averages, maximums, and minimums at each of the monitoring locations, and rainfall data for every day of the monitoring period.
- Field summaries for each flow monitoring site including site reports, calibration data, calibration reports, depth and velocity ranges, and characterization of flow conditions.

- Dry weather flow summary for each site listing:
 - 1) Average daily flows
 - 2) Peak dry reading
 - 3) Minimum reading

- Wet weather flow summary for the several rain events mentioned above.
For each event the summary shall, for each site, include:
 - 1) Raw rainfall data from each rain gauge
 - 2) Storm duration and size
 - 3) Peak flow rate
 - 4) Combined graph of event and normal data
 - 5) Estimate of volume of water per day per rain event from I/I

4.0 FLOW MONITORING EQUIPMENT AND PROCEDURES

For this flow monitoring study, fourteen (14) American Sigma Model 910, 920, and 950 flow meters were installed and maintained by CTI to monitor the flow within the City of Massillon portion of the regional sanitary sewer system. Appendix A presents information on the flow monitoring equipment used.

During the monitoring period, confined space entry equipment and procedures were utilized during the installation, troubleshooting, maintenance, and removal of the flow monitoring equipment. Representative copies of the confined space pre-entry check lists and entry permits used are presented in Appendix B.

5.0 FLOW MONITORING LOCATIONS

Fourteen (14) American Sigma flow monitors were installed within the City of Massillon portion of the sanitary sewer system. Table 5.1 presents the meter locations, size of pipe in which the meter was installed, the installation and removal dates, and site I.D. numbers.

TABLE 5.1
FLOW MONITOR INFORMATION

SITE I.D. NUMBER	PIPE DIAMETER (INCHES)	INSTALLATION DATE	REMOVAL DATE	METER LOCATION
1	8	4/22/98	7/14/98	Rolling Hills Mobile Home Park
2	21	4/22/98	7/14/98	New Brookfield Interceptor
3	15	4/21/98	7/14/98	Old Brookfield Trunk
4	12	4/22/98	7/14/98	Wooster Trunk @ MH Behind House on Lincoln Way
5	10	4/21/98	7/14/98	Wooster Trunk @ MH West of Gas Well
6	8	4/21/98	7/14/98	Fire Station No. 2
7	18	4/23/98	7/14/98	Railroad Easement off 16 th Street
8	54	4/24/98	7/14/98	54-inch Trunk Line
9	48	4/23/98	7/14/98	48-inch Trunk Line @ 2 nd Street SW @ Masonic Temple
10	66	4/29/98	7/14/98	WWTP Influent
11	12	4/23/98	7/14/98	Harsh Avenue
12	10	4/29/98	7/14/98	First and McCadden
13	8	4/24/98	7/14/98	Amherst and Medill
14	10	4/22/98	7/14/98	Erie Avenue @ Sand and Gravel Area

Although two (2) rain gauges were to be provided for this study, additional rain gauge information was also obtained from one (1) other site for this same time period. Table 5.2 describes the locations of the three (3) tipping bucket rain gauges. Rain gauge equipment information is presented in Appendix C.

TABLE 5.2
RAIN GAUGE LOCATIONS

RAIN GAUGE NUMBER	RAIN GAUGE LOCATION
1	On the roof of Fire Station No. 2
2	At Stark County's Nobles Pond Lift Station
3	At Stark County's Shoreline Lift Station

Figure 5.1 presents a location map showing the locations of the fourteen (14) flow monitors and three (3) rain gauges. The associated sanitary sewer system which collects through each flow monitor is also shown on the location map and identified as mini systems. Appendix D presents site photographs of the flow monitoring locations as well as photos looking into the manholes. Appendix E presents the Flow Monitoring Site Reconnaissance forms and Manhole Inspection forms which describe the site conditions.

Figure 5.2 presents a schematic diagram showing the locations of the flow monitoring sites, as well as which sites are upstream or downstream of other sites.

6.0 HOURLY FLOW AVERAGES

Due to the large quantity of information presented, tables of the hourly flow averages for all fourteen (14) flow monitoring sites, along with graphical summaries, are provided as a separate volume.

7.0 DAILY FLOW AVERAGES, MAXIMUMS, AND MINIMUMS

Tables of the daily flow averages, maximums, and minimums as well as graphical summaries, are presented in Appendix F. The time of day in which the maximum and minimum flow for each day is also presented.

8.0 FIELD SUMMARIES

This section describes the field conditions for each flow monitoring site. Weekly flow monitoring checklists from the monitoring period have been included in Appendix G, while Depth vs Velocity scatter graphs are presented in Appendix H. All scatter graphs were constructed using five (5) minute data intervals.

The scatter graph is a useful way of graphically determining the accuracy of the flow monitoring equipment, and visualizing how the collection system responds during storm events. The scatter graph presents a plot of level versus velocity over a certain time period. Ideally, there should be a single line generated showing a correlation between the two (2) independent variables. The data points should point to zero on both the X and Y axis of the graph. If not, this may indicate a belly in the pipe, or grit accumulation. Should the data points dip at a level less than the diameter of the pipe in which the flow meter was installed, this could indicate a downstream blockage. Should the data points extend beyond the diameter of the metered pipe, surcharge conditions, or possibly SSO conditions could be indicated. Even the way in which the data points extend beyond the diameter of the pipe can indicate either upstream or downstream restrictions or overflows. The following presents an interpretation of the scatter graphs generated for each monitoring site.

- Monitor Site No. 1
Rolling Hills Mobile Home Park - 8-inch diam. pipe

For this monitoring site, data was removed from the beginning of the installation until May 9, 1998, at 5:00 AM due to a faulty probe. The scatter graph represents the information obtained after the probe change. As shown in the graph, the meter had some drifting occur. The graph indicates that levels ranged for the most part between 0.75 and 2 inches, while velocities ranged between 1.5 and 4.5 fps. This site showed strong responses to storm events.

- Monitor Site No. 2

New Brookfield Interceptor - 21-inch diam. pipe

As shown in the scatter graph, the meter performed well during the monitoring period. Levels for the most part ranged from ≈ 1 to 4 inches, while velocities ranged from 1.5 to 3 fps. This site showed strong responses to storm events.

- Monitor Site No. 3

Old Brookfield Trunk - 15-inch diam. pipe

As shown on the scatter graph, the meter performed well during the monitoring period. Due to grit accumulation in the pipe, the meter probe was offset approximately 1.5 inches. Water levels ranged for the most part from < 1 inch to 5 inches, while velocities ranged from 0.75 to 2.25 fps. This site showed strong responses to storm events.

- Monitor Site No. 4

Wooster Trunk @ MH Behind House on Lincoln Way - 12-inch diam. pipe

For this site, velocities dropped out on May 13, 1998, from 11:55 AM until 10:35 PM. Since level information remained available, a Manning equation was used to calculate the flow for this time period. The meter performed reasonably well for this site, although some drifting occurred. Water levels ranged for the most part from 1 inch to 2 inches, while velocities ranged from 3 to 6.5 fps. This site showed strong responses to storm events.

Monitor Site No. 5

Wooster Trunk @ MH West of Gas Well - 10-inch diam. pipe

A faulty probe on the meter was changed on May 5, 1998. Data information from May 24, 1998 at 12:00 AM, to the beginning, was removed due to the faulty probe and also due to unrealistic level readings. Data for the remainder of the monitoring period appears reasonable as shown in the scatter graph. As shown in the graph, velocity readings dropped when flow levels became greater than 2 inches. This may be an indication of a partial downstream blockage in the pipe. Water levels for the most part ranged from 1.3 inches to 3 inches with velocities ranging from 1.5 to 3 fps. This site showed strong responses to storm events.

- Monitor Site No. 6

Fire Station No. 2 - 8-inch diam. pipe

There are two (2) scatter graphs for this location due to the meter being relocated one manhole upstream from the original location. The meter was relocated due to the high velocities in the pipe. By moving the meter upstream, flow was less turbulent. The meter was relocated on May 5, 1998 at 3:15 PM. As shown in the scatter graph from April 21, 1998 thru May 5, 1998, the meter showed two different flow profiles. The meter performed better in the second location with the velocities dropping from an average of 5.5 fps in the first location, to an average of 3 fps in the second. For the second site, levels for the most part ranged from 1 inch to 3.5 inches, while velocities ranged from 1.75 fps to 4 fps. This site showed strong responses to storm events.

- Monitor Site No. 7

Railroad Easement off 16th Street - 18-inch diam. pipe

As shown in the scatter graph, the meter performed well at this site. Levels for the most part ranged from 3 inches to 5.5 inches, while velocities ranged from 3 fps to 4 fps. This site showed responses to storm events.

- Monitor Site No. 8

Trunk Line @ 1st Street SW - 54-inch diam. pipe

As shown in the scatter graph, the meter performed well at this site. Levels for the most part ranged from 15 inches to 25 inches, while velocities ranged from 1.5 fps to 1.8 fps. No grit was found in the pipe. This line appears to carry most of the flow to the treatment plant.

- Monitor Site No. 9

Trunk Line @ 2nd Street SW @ Masonic Temple - 48-inch diam. pipe

Approximately 1.25 ft. of heavy grit lays at the bottom of this 48-inch diam. sewer. Due to the grit layer, the meter probe was offset 15 inches from the invert of the pipe. The meter performed well at this location, although some velocity dropout can be seen in the scatter graph due to the shifting of the grit within the line. Since the probe was offset within the pipe, levels shown on the graph need to have an additional 15 inches added to show actual water levels. By adding 15 inches, actual water levels for the most part ranged from 21.5 inches to 25 inches. Velocities ranged from 0.6 fps to 1.4 fps.

- Monitor Site No. 10

City of Massillon WWTP Influent Trunk Line - 66-inch diam. pipe

As shown in the scatter graph, the meter performed reasonably well during the monitoring period. Levels for the most part ranged from 10 inches to 20 inches, while velocities ranged from 2.75 fps to 3.75 fps.

- Monitor Site No. 11
Harsh Avenue - 12-inch diam. pipe

As shown in the scatter graph, the meter performed reasonably well during the monitoring period. Low velocity readings were apparent from June 11, 1998 through June 14, 1998, and again from July 4, 1998 through July 6, 1998. Flow data in these two ranges were obtained using a Manning equation. Levels for the most part ranged from 1.5 inches to 4 inches with velocities ranging from 1.5 fps to 4 fps. As shown, surcharging does occur in this pipe. This site showed strong responses to storm events.

- Monitor Site No. 12
1st Street and McCadden - 10-inch diam. pipe

As shown in the scatter graph, the meter performed reasonably well during the monitoring period, although some drifting above and below the data points occurred. Levels for the most part ranged from 2.75 inches to 4.25 inches, while velocities ranged from 1.5 fps to 5 fps. This site showed responses to storm events.

- Monitor Site No. 13
Amherst and Medill - 8-inch diam. pipe

Approximately 1 inch of grit formed within the bottom of this 8-inch diam. pipe. Due to the low water level, the meter probe could not be offset without being placed above the water level. Velocity readings dropped out during most of the

monitoring period, although level measurements remained accurate. Flow information for this site was obtained using Manning's equation. Although surcharging did not occur, the site showed strong responses to storm events.

- Monitor Site No. 14
Eerie Avenue @ Sand and Gravel Area - 10-inch diam. pipe

The probe for this meter was changed on May 5, 1998, due to erroneously high level readings. After that period, the scatter graph shows that the meter performed reasonably well, although some stray readings would occur. Levels for the most part ranged from 0.5 inches to 2.5 inches, while velocities ranged from 0.5 fps to 3.75 fps. This site showed strong responses to storm events.

9.0 DRY WEATHER FLOW SUMMARIES

Table 9.1 presents a summary of the dry weather flows listing the average daily flows, the peak dry reading, and the minimum dry reading. For this monitoring period, the dry period occurred during the last half of May, and the first half of June.

Average daily flows were determined for a one-week time period from May 31st through June 6th. The peak dry readings and the minimum dry readings were determined from the same time period.

TABLE 9.1
SUMMARY OF DRY WEATHER FLOWS

Flow monitoring Location No.	Average Daily Flow (MGD)	Minimum Dry Reading (MGD)	Peak Dry Reading (MGD)
1	0.09	0.014	0.21
2	0.17	0.062	0.33
3	0.09	0.027	0.16
4	0.16	0.06	0.32
5	0.12	0.034	0.25
6	0.13	0.061	0.21
7	0.98	0.59	1.84
8	5.70	2.80	8.42
9	1.61	0.84	2.28
10	8.63	5.14	12.0
11	0.14	0.056	0.43
12	0.33	0.104	0.54
13	0.05	0.005	0.12
14	0.11	0.00	0.30

10.0 WET WEATHER FLOW SUMMARIES

This section presents the sanitary sewer system's response to wet weather events. Rain events were defined as any storm in which the total rainfall amount was greater than 0.15 inches, and the hourly average dry period between events was 6 hours or larger. Although rainfall data from the three (3) rain gauges were averaged to determine the amount of rain which had fallen over the entire drainage basin, data from the Shoreline Lift Station rain gauge and the Nobles Pond rain gauge was suspect during the last portion of the monitoring period. The Nobles Pond rain gauge recorded no rain during the latter part of the month of June. The Shoreline Lift Station rain gauge read inaccurately for this same time period due to debris passing through the rain gauge screen and clogging the funnel to the tipping bucket. For the storm events which occurred in the last half of June, the rainfall data from the Fire Station No. 2 rain gauge only was used. A total of eighteen (18) rain events occurred during this monitoring period which matches the criteria presented above. Table 10.1 presents each rainfall event's duration, average hourly intensity, peak hourly storm intensity, and volume of water deposited. The water volume was calculated assuming the rain event occurred over the entire facility drainage area. A graph of the hourly rainfall, along with a table, is presented in Appendix I for the entire monitoring period.

TABLE 10.1
RAINFALL EVENTS

Rainfall Event Number	Date	Rainfall Amount (inches)	Rainfall Duration (hours)	Average Hourly Intensity (in./hr.)	Peak Hourly Intensity (in./hr.)	Rainfall Volume (MG)	Return Period
1	4/25/98 10:10 PM 4/26/98 6:10 PM	0.967	20	0.048	0.133	1,109	< 2 mos
2	5/2/98 4:30 AM 5/2/98 8:00 PM	1.60	15.5	0.103	0.45	1,835	< 9 mos
3	5/3/98 3:20 PM 5/3/98 11:15 PM	0.553	7.9	0.07	0.273	634	< 2 mos
4	5/7/98 5:30 PM 5/7/98 9:50 PM	0.333	4.3	0.08	0.253	382	< 2 mos
5	5/8/98 2:55 PM 5/8/98 7:55 PM	0.173	5	0.03	0.11	198	< 2 mos
6	5/29/98 3:40 PM 5/29/98 4:20 PM	0.277	0.67	0.416	0.277	318	< 2 mos
7	5/31/98 5:50 PM 5/31/98 9:00 PM	0.2	3.2	0.063	0.113	229	< 2 mos
8	6/12/98 12:40 AM 6/12/98 1:45 AM	0.29	1.08	0.27	0.285	333	< 2 mos
9	6/12/98 9:00 PM 6/13/98 12:05 AM	0.735	3.08	0.24	0.42	843	2 mos
10	6/16/98 12:00 PM 6/16/98 5:55 PM	0.775	5.9	0.13	0.51	889	< 2 mos
11	6/26/98 5:25 PM 6/26/98 5:40 PM	0.32	0.25	1.28	0.32	367	2 mos
12	6/27/98 7:15 AM 6/27/98 9:10 AM	0.95	1.92	0.5	0.85	1,089	6 mos
13	6/28/98 6:30 PM 6/28/98 8:20 PM	0.84	1.83	0.46	0.62	963	< 6 mos
14	6/29/98 5:05 AM 6/29/98 6:35 AM	0.39	1.5	0.26	0.33	447	< 2 mos
15	6/29/98 11:15 AM 6/29/98 12:00 PM	0.34	0.75	0.45	0.34	390	< 2 mos
16	6/29/98 7:35 PM 6/29/98 8:30 PM	0.20	0.92	0.22	0.20	229	< 2 mos
17	6/30/98 1:50 PM 6/30/98 6:15 PM	0.97	4.42	0.22	0.61	1,112	≈ 4 mos
18	7/8/98 12:30 AM 7/8/98 3:45 AM	0.517	3.25	0.16	0.27	592	< 2 mos

As shown, most of the rain events had less than a 2 month return period based on information provided by the Rainfall Frequency Atlas of the Midwest for the Northeast Hills section of Ohio (Section 7). A copy of the Mean Frequency Distribution Table is presented in Appendix J. Figure 10.1 presents the graphical frequency-depth-duration curves for this section of Ohio. Figure 10.2 presents the return frequencies of the rain for this monitoring period.

As discussed in Section 8.0, Field Summaries, all flow monitoring sites showed responses to the storm events. Table 10.2 presents the peak hourly flow rate at each of these flow monitoring sites for each of the above listed storm events. The first column presents the average daily dry weather flow as a reference point. The remaining columns represent the peak hourly flow as a result of the storm event. As shown, rainfall event No. 17 provided the greatest system response. Although this rainfall event was not the largest event to occur during the monitoring period, antecedent conditions from rainfall events that occurred the previous days raised the base flows.

Frequency-Depth-Duration Curve

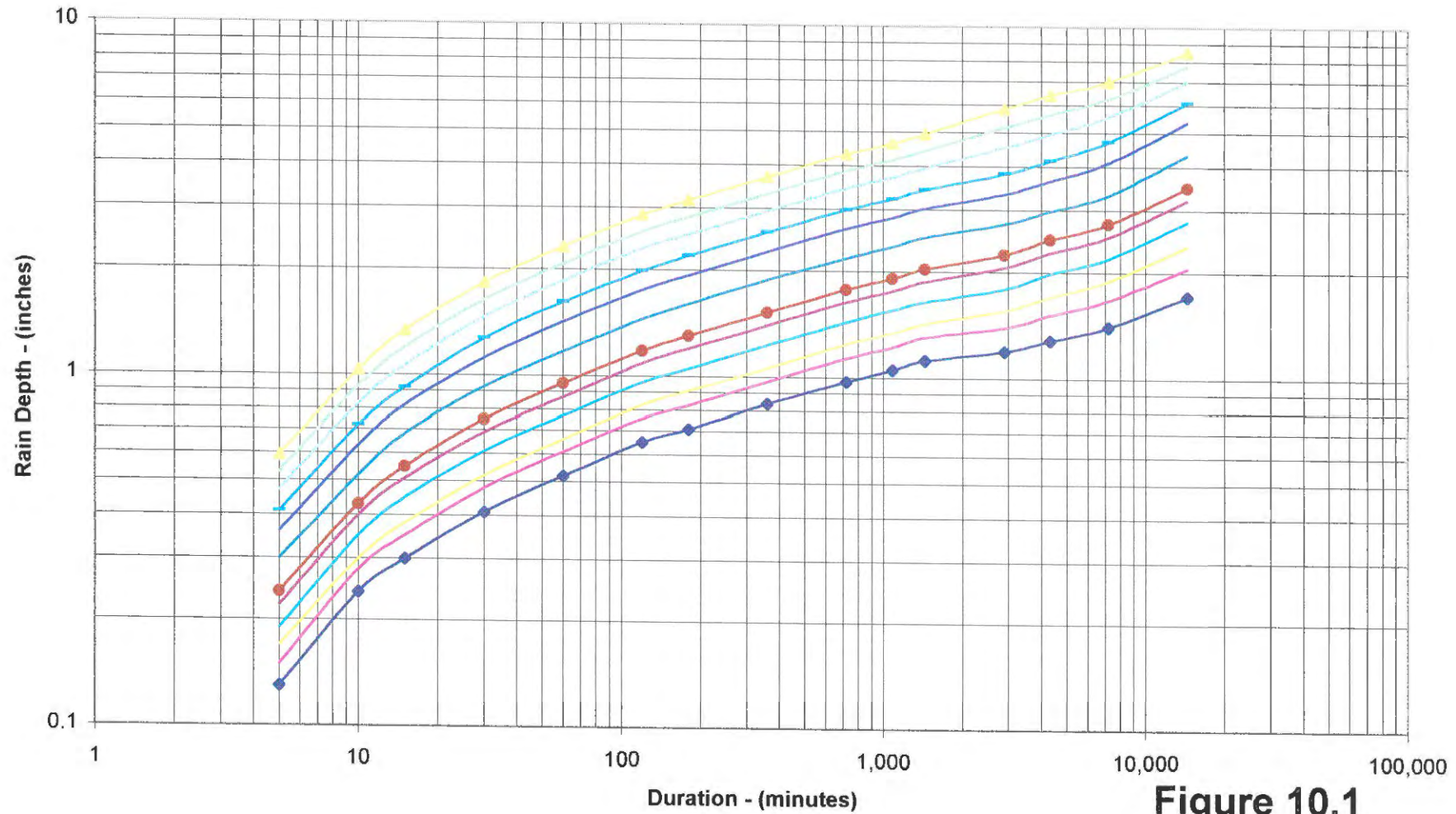
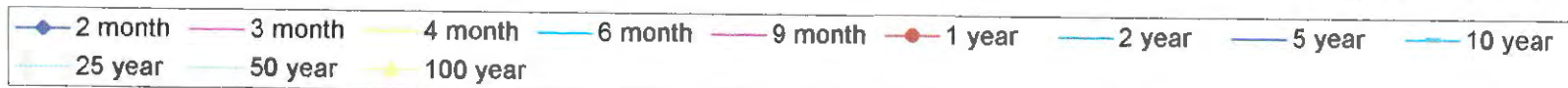


Figure 10.1



Frequency-Depth-Duration Curve

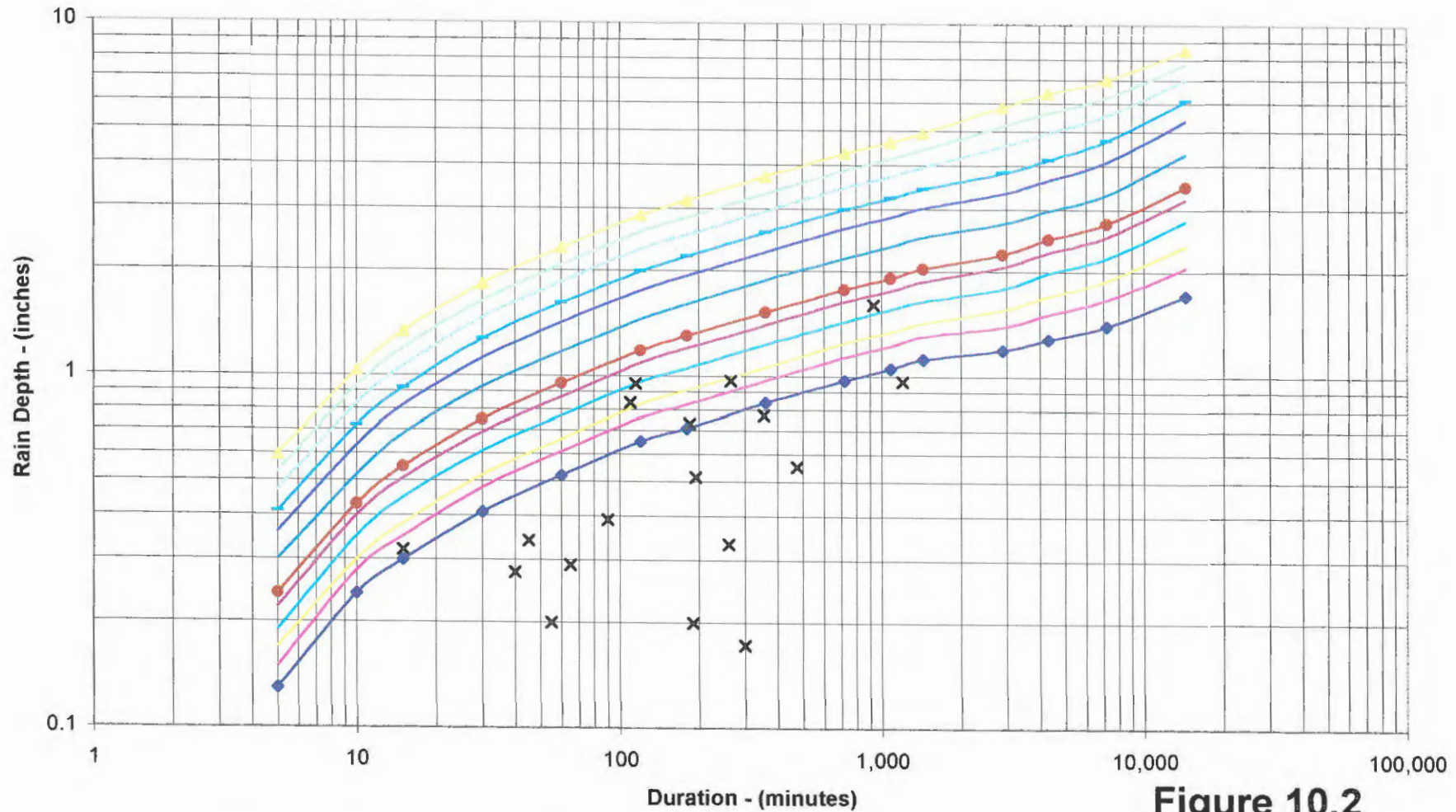


Figure 10.2

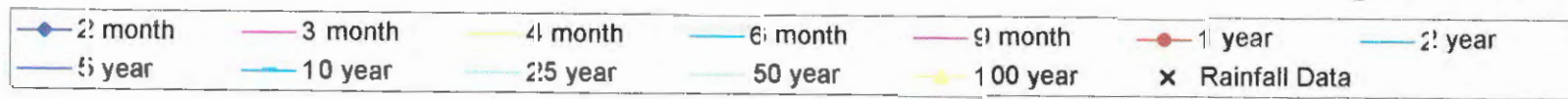


Table 10.3 presents the peaking factor for each site as a result of rainfall event No. 17 and the antecedent conditions. The peaking factor for this table is the peak hourly storm response flow divided by the average day dry weather flow.

Only flow monitoring site Nos. 1 and 6 showed higher peak hourly flows for a different rainfall event.

TABLE 10.3

Flow Monitoring Site No.	Average Day Dry Weather Flow (MGD)	Peak Hourly Storm Response Flow (MGD)	Peaking Factor
1	0.09	0.46	5.1
2	0.17	1.25	7.4
3	0.09	1.02	11.3
4	0.16	2.32	14.5
5	0.12	0.97	8.1
6	0.13	0.78	6.0
7	0.98	3.98	4.1
8	5.70	18.01	3.2
9	1.61	6.79	4.2
10	8.63	29.89	3.5
11	0.14	1.94	13.9
12	0.33	1.79	5.4
13	0.05	0.49	9.8
14	0.11	1.08	9.8

Rainfall event No. 2 gave the second largest system response for this flow monitoring period. Although this rainfall event was larger than rainfall event No. 17, base flows were not as high. Table 10.4 presents the pipe surcharge conditions for rainfall event Nos. 2

and 17. The table shows the pipe diameter, the depth of the manhole from invert of the pipe to the rim casting, and the highest water level recorded during each particular rain event. The difference in the water levels for flow monitoring site Nos. 8 and 9 between the two rain events is due to the valve at the influent to the City's WWTP being partially closed to restrict flow into the plant. Appendix K presents the hourly flows of each site for a one-week period beginning June 26th vs the dry weather base flows.

TABLE 10.4
FLOW MONITORING SITE SURCHARGING

Location	Pipe Diam. (in.)	Manhole Depth (ft.)	May 2, 1998 Rain Event (No. 2) Surcharge Level (in.)	June 27, 1998 Rain Event (No. 17) Surcharge Level (in.)
Site No. 1	8	11.6	--	4.4
Site No. 2	21	12.5	5.23	6.1
Site No. 3	15	6.45	7.9	7.4
Site No. 4	12	6.15	6.2	7.0
Site No. 5	10	6.4	--	4.1
Site No. 6	8	--	--	5.1
Site No. 7	18	9.4	9.2	9.0
Site No. 8	54	16.75	85.0	32.2
Site No. 9	48	14.37	74.6	27.6
Site No. 10	66	--	--	--
Site No. 11	12	9.70	18.8	10.5
Site No. 12	10	7.05	8.5	6.4
Site No. 13	8	12.45	7.9	7.5
Site No. 14	10	11.0	--	6.9

11.0 10-YEAR WWTP DESIGN FLOW SUMMARY

For this flow monitoring period, the largest rainfall event had less than a 9-month return period. The Northeast District office of the Ohio EPA requires that the WWTP and collection system be able to contain all flows that enter the sanitary sewer system as a result of rainfall events up to a 10-year 1-hr. event. This would be equal to a 1-hr. storm which produces 1.61 inches of rain. The peak hourly rainfall intensity is 1.61 inches/hr. To determine what the wastewater flow to the WWTP as a result of a 10-year 1-hr. rainfall event would be, flow monitoring data as a result of rainfall events must be extrapolated upward. To perform the extrapolation, all rainfall events which had a return period of 2 Mos. or greater from this study and the previous study, were selected. This resulted in a total of nine events. Next, the peak 1-hr. rainfall intensity from each event was determined by analyzing the 5-minute average rainfall data from the three (3) rain gauges. After the peak hourly rainfall intensity has been determined, the peak 1-hr. recorded wastewater flow to the WWTP as a result of the rain event, was determined. The dry weather base wastewater flow was determined based on the 1-week dry weather flows for the same day of the week and time of the day in which the peak measured wastewater flow for the rainfall even occurred. Antecedent flows, as a result of previous rainfall events, were determined by taking the measured wastewater flow at the beginning of the rain event and subtracting the dry weather base flow that occurred for the same day of the week and time of day in which the rainfall event started. The peak I/I dependent wastewater flow was determined by subtracting the base flow and antecedent flow from the peak hourly measured flow.

These calculations were performed on all nine (9) rain events. To extrapolate the rainfall events which occurred during the monitoring periods up to a 10-year 1-hr. rainfall event, a peaking factor was applied. The peaking factor was the peak 10-year 1-hr. rainfall intensity (1.61 inches/hr.) divided by the measured peak 1-hr. rainfall intensity for each rainfall event. The peaking factors were then multiplied to the peak I/I dependent

wastewater flows to determine the 10-year design storm I/I flow for each event. An average of these flows was then determined. By adding the peak 1-hr. dry day flow to the 10-year design storm I/I flow, the design peak 10-year storm hourly wastewater flow could be determined. Table 11.1 presents the results of the previous discussion.

TABLE 11.1
10-YEAR WWTP DESIGN HOURLY FLOW

Rain Event	Rainfall Peak Intensity (in./hr.)	Peak Hour Measured Flow (MGD)	Base Flow (MGD)	Antecedent Flow (MGD)	Peak I/I Dependent Flow (MGD)	Peaking Factor	10-year Design Storm I/I Rate (MGD)
5/18/97 4:00 PM 5/18/97 5:00 PM	0.52	21.59	8.33	1.94	11.32	3.1	35.09
5/24/97 11:00 PM 5/25/97 8:00 PM	0.417	24.92	7.77	1.34	15.81	3.86	61.03
5/31/97 10:00 AM 6/1/97 8:00 PM	0.51	26.09	8.32	2.81	14.96	3.16	47.27
6/12/97 5:00 PM 6/13/97 5:00 PM	0.603	12.54	7.96	1.37	3.21	2.67	8.57
6/12/98 9:00 PM 6/13/98 12:05 AM	0.42	14.17	8.18	0.72	5.27	3.83	20.18
6/26/98 5:25 PM 6/26/98 5:40 PM	0.32	11.38	9.14	0.85	1.39	5.03	6.99
6/27/98 7:15 AM 6/27/98 9:10 AM	0.85	20.27	10.24	1.01	9.02	1.89	17.05
6/28/98 6:30 PM 6/28/98 8:20 PM	0.62	17.85	11.64	0	6.21	2.60	16.15
6/30/98 1:50 PM 6/30/98 6:15 PM	0.61	29.89	9.05	5.61	15.23	2.64	40.21
Average							28.06 MGD
Peak 1-hr. Dry Day							12.0 MGD
10-year WWTP Design Hourly Flow							40.06 MGD

12. MINI-SYSTEM ANALYSIS

Of the fourteen (14) different flow monitoring sites, there were several sites which were a sub-system to a larger mini-system. By creating graphs of one site versus another during the same time period, it can be determined if excessive flows to the larger system come from a sub-system within the mini-system. The graphical analysis is useful in pinpointing where to look for the excessive flows. The following sites have been graphed based on an hourly flow and presented as figures:

- Figure 12.1 Site No. 12 vs Site No. 13
- Figure 12.2 Site No. 7 vs site No. 11
- Figure 12.3 Site No. 3 vs Site No. 1
- Figure 12.4 Site No. 4 vs Site No. 5 plus 6

For Site No. 12 versus 13 (Figure 12.1), it appears from the graph that excessive flows are coming from both mini-systems. Future investigations should continue with both mini-systems.

For Site No. 7 versus 11 (Figure 12.2), it appears that both mini-systems contribute to the excessive flows. Future investigations should continue with both mini-systems.

Figure No. 12.3 presents Site No. 3 versus Site No. 1. It appears from the graph that a major portion of the excessive flows being seen at Site No. 3 come from Site No. 1. Future investigations should concentrate on the Site No. 1 mini-system to determine the causes of the excessive flows experienced.

Figure 12.4 presents a graph of Site No. 4 versus Site Nos. 5 plus 6. As shown, it appears that the majority of the excessive flow seen at Site No. 4 is due to the Site Nos. 5 and 6 mini-systems. Future investigations should concentrate in these two mini-system rather than the entire Site No. 4 mini-system.

Hourly Flows of Site No. 12 vs Site No. 13

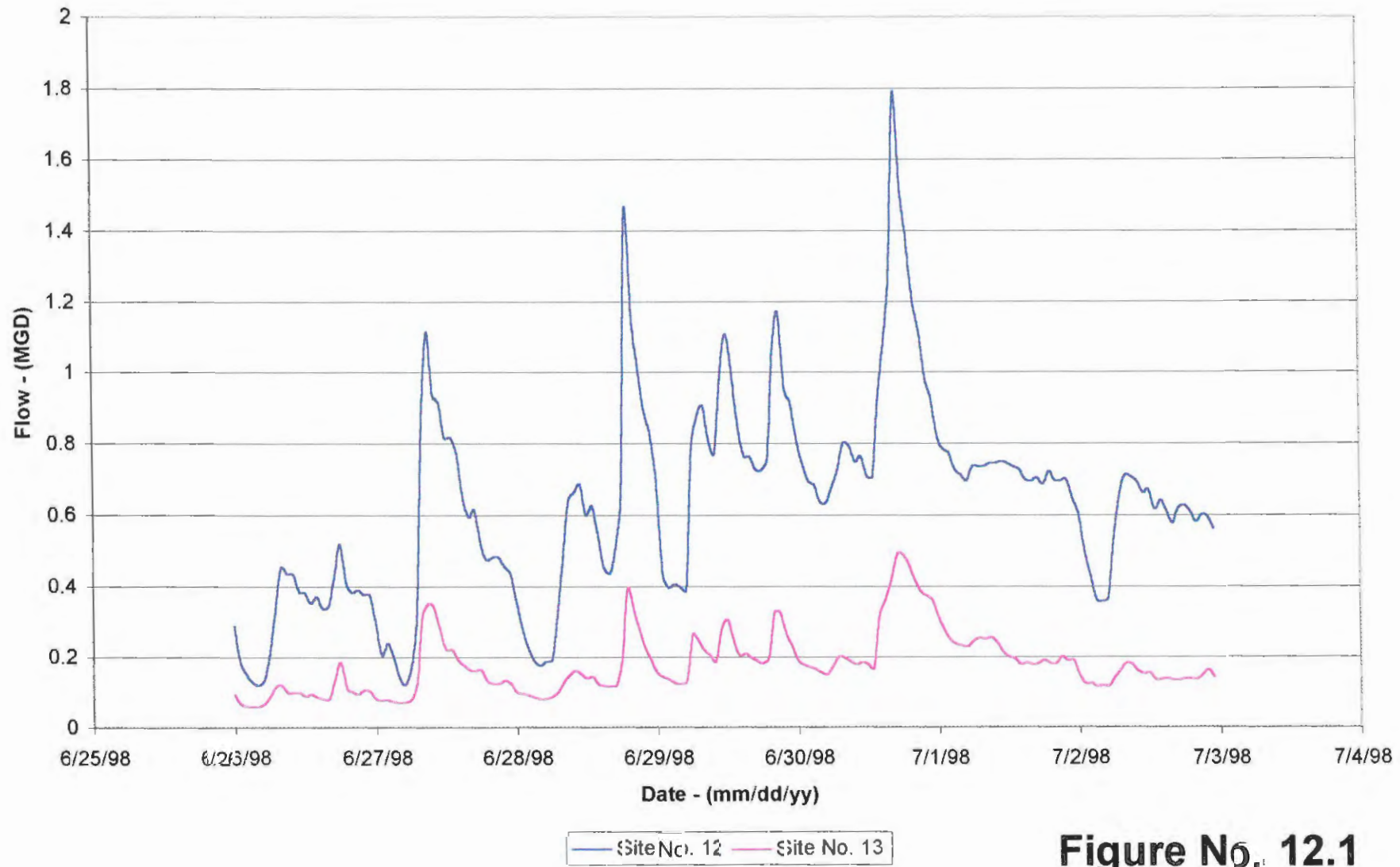


Figure No. 12.1

Hourly Flows of Site No. 7 vs Site No. 11

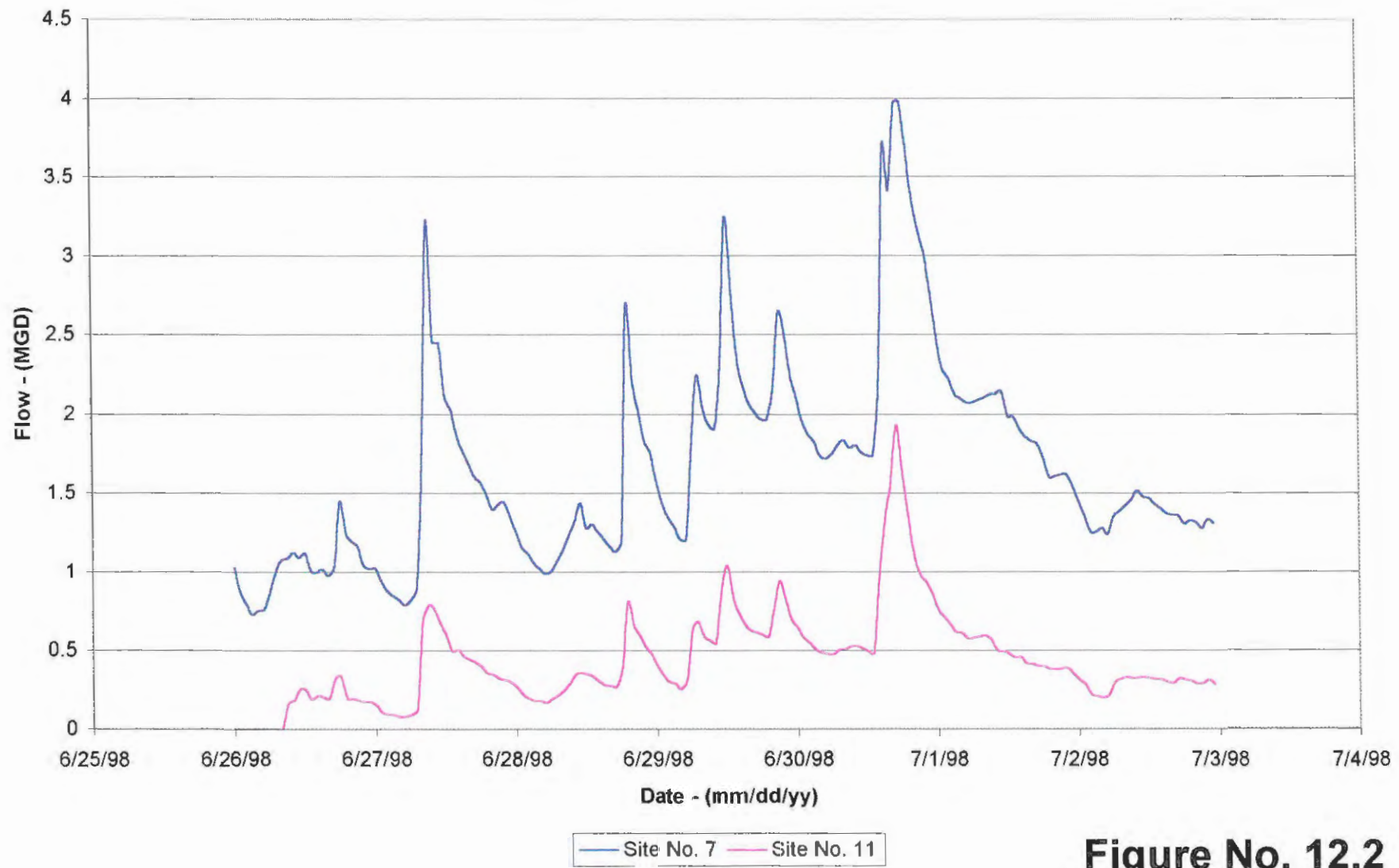


Figure No. 12.2

Hourly Flows of Site No. 3 vs Site No. 1

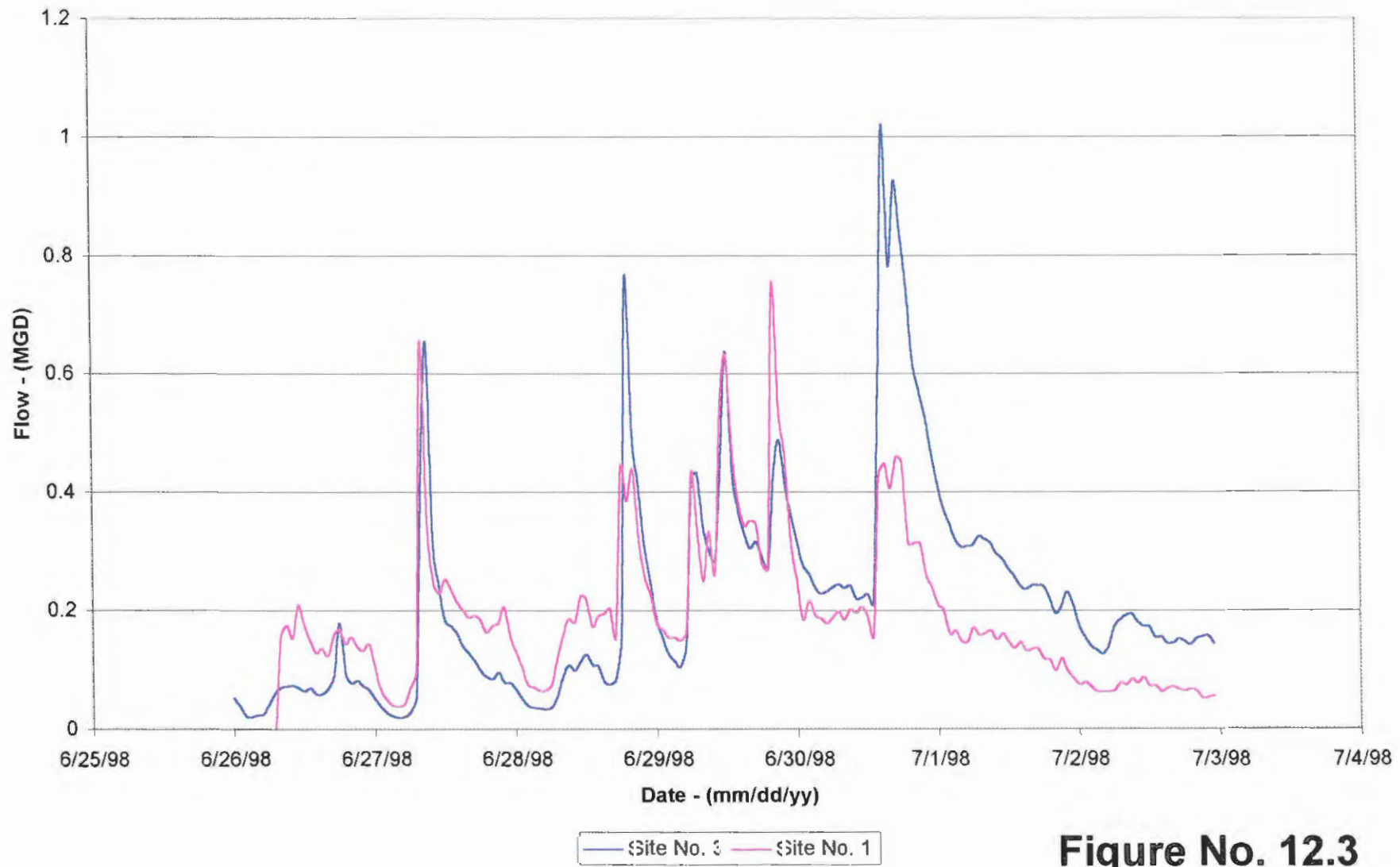


Figure No. 12.3

Hourly Flows of Site No. 4 vs Site Nos. 5 plus 6

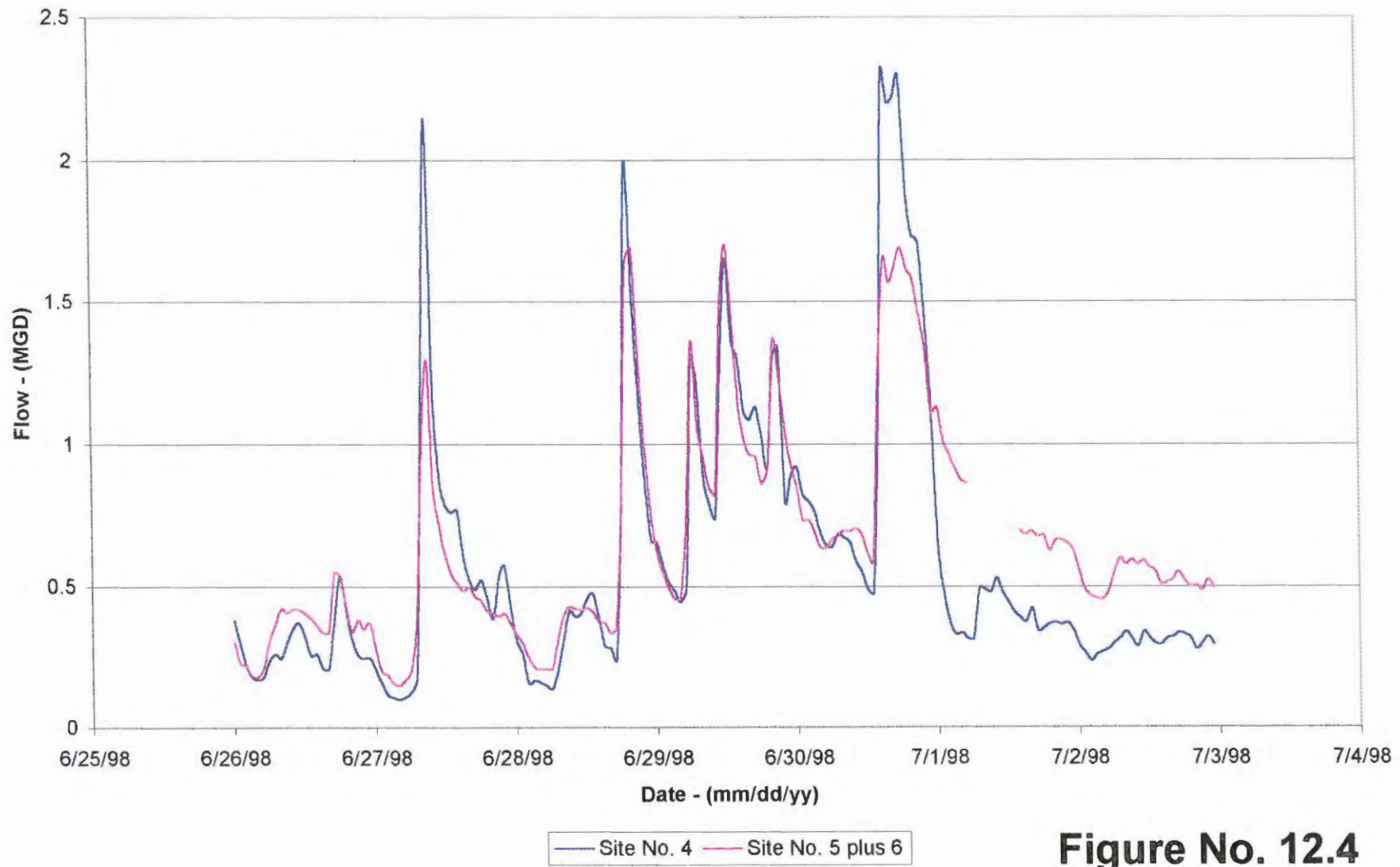


Figure No. 12.4

13.0 CONCLUSIONS AND RECOMMENDATIONS

This study has achieved the objectives of increasing the available data necessary to determine the design peak wet weather flow of the system to the WWTP, and identifying and quantifying significant I/I in areas of the City.

Nine (9) rainfall events, ranging from 2 mos. to 1 year return periods, were used from this study and the previous one to predict the system response to the WWTP in the event of a 10-year 1-hr. rainfall event. The predicted peak hourly flow to the WWTP is 40 MGD.

Although the collection system showed strong responses to rainfall events at every one of the sites monitored, this study was able to isolate where excessive flows were coming from for two of the mini-systems. For Site No. 3 (Old Brookfield Trunk), it appears from this study that the majority of the excessive flows are coming from Site No. 1 (Rolling Hills Mobile Home Park).

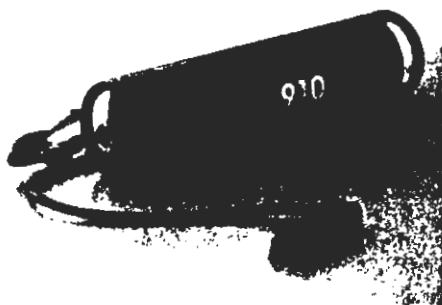
For Site No. 4 (Wooster Trunk @ the MH Behind House on Lincoln Way), it appears that the majority of the excessive flows exhibited were coming from Site No. 5 (Wooster Trunk @ MH West of Gas Well) and Site No. 6 (Fire Station No. 2).

It is CTI's recommendation that the City embark on a program which will identify the causes of excessive I/I in the collection system, and continue with the facility plan update. Wet weather facilities at the WWTP would be designed based on the information provided in this study. Should the City be able to identify the excessive flows through the use of smoke testing and/or dye testing and be able to eliminate some flows, this will provide a factor of safety for the size of the wet weather facilities and the continual aging of the collection system.

Appendices

APPENDIX A
Flow Monitoring Equipment

Sigma 910



The 910 is small and lightweight for easier field use, but still has the advanced Sigma 1 MHz Doppler.



▲ Hard to access manholes aren't a problem with the eight pound 910 Flow Meter

▼ The 4 5/8" diameter 910 can be mounted to one side of the manhole ladder allowing access without removing the flow meter



Portable Area Velocity Flow Meter

Short and sweet. That's the idea behind the Sigma 910. It's designed especially for short term monitoring. At an affordable price. Without compromising accuracy.

The industry's most accurate flow meter is also the smallest and simplest to set up. The lightweight, 4-1/2" diameter Sigma 910 is easy to transport, easy to install. Maintenance is greatly reduced, thanks to Sigma's exclusive low-profile probe with its side-exiting cable. It avoids solids in the water and is not susceptible to fouling by oil and grease for more reliable operation.

Plus, the 910's rugged, sealed design survives prolonged surcharge conditions.

Sigma's advanced Doppler technology assures accurate data whether in low flow, full pipe, or reversed flow conditions ... *without the need for site profiling*. Accuracy is further enhanced by a proprietary technology that corrects for the effects of temperature and velocity on level measurement.

Lower costs, better data, more time to do more monitoring. It doesn't get any easier than this.

- Advanced 1 MHz Doppler ... avoids signal dropouts.
- Level Accuracy ... corrects the effects of temperature and velocity on level measurement.
- Easy Installation ... only 4-1/2" diameter, no profiling.
- NEMA 6P ... sealed to withstand submergence.
- Low Profile, Non-Fouling Probe ... low maintenance.

SIGMA
Innovation in water monitoring

Sigma 910AV Design Specifications

Dimensions: 4.5" dia. x 17.625" L
(11.4 cm dia. x 44.8 cm L).

Weight: 7.8 lbs. (3.54 kg) with battery.

Enclosure Material: PVC.

Enclosure Rating: NEMA 6P (IP67).

Operating Temperature Range: 0 to 140°F (-18 to 60°C).

Storage Temperature Range: -40 to 140°F (-40 to 60°C).

Power Source: One (6V) Alkaline lantern battery.

Battery Life: 30 days typical with a 15 minute recording interval, 1 level and 1 velocity, data download once per week, at 50°F (10°C) (also affected by site conditions).

User Interface: IBM compatible PC.

Monitoring Intervals: 1, 2, 3, 5, 6, 10, 12, 15, 20, 30, 60 minutes.

Program Memory: Non-volatile, programmable flash, can be updated via RS-232 port.

Time Based Accuracy: ±1 second per day.

Units of Measurement:

Level - in., m, cm, ft.

Flow - GPM, GPH, LPS, LPM, LPH, MGD, AFD, CFS, CFM, CFH, CFD, M3S, M3M, M3H, M3D.

Totalized Flow - gal., ft.³, acre-ft., L, m³.

Data Storage:

Capacity - 90 days of 1 level reading and 1 velocity reading at a 15 minute recording interval.

Data Types - Level and velocity.

Storage Mode - Wrap or slate.

Communications: Serial connection to IBM compatible computer with Sigma data analysis software.

Velocity Measurement Accuracy:

Method: Doppler ultrasonic.

Transducer Type: Twin 1 MHz piezoelectric crystals.

Typical minimum depth for velocity: 8 in. (2 cm).

Range: -5 to 20 fps (-1.52 to 6.10 m/s).

Zero Stability: <.05 fps (.015 m/s).

Accuracy: ±2% of reading.

Operating Temperature: 0 to 140°F (-18 to 60°C).

**Integral Submerged Depth/
Velocity Sensor Accuracy:**

Level Measurement (non-linearity and hysteresis):

Standard - .018 to 11.5 ft. ±.023 ft.
(.005 m - 3.5 m ± .007 m).

Extended - .018 to 34.6 ft. ± .07 ft.
(.005 - 10.5 m ± .021 m).

Maximum Allowable Level: 3x over pressure.

Operating Temperature Range: 32 to 160°F (0-71°C).

Compensated Temperature Range: 32 to 86°F (0-30°C).

Temperature Error: .018-11.5 ft. ±.004 ft./°F (.005 m - 3.5 m ± .0022 m/°C).

.018 - 34.6 ft. ±.012 ft./°F (.018-10.5 m ± .006 m/°C) (maximum error within compensated temperature range - per degree of change).

Velocity Induced Error on Depth (patent pending): 0 to 10 ft/sec. (0 to 3.05 m/s) = .085% of reading.

Air Intake: Atmospheric pressure reference is desiccant protected.

Material: Polymer body with stainless steel diaphragm.

Cable: Urethane sensor cable with air vent.

Cable Length: 25' (7.6 m) standard. 250' (76 m) maximum.

Dimensions (combination sensor): .8" H x 1.5" W x 5" L (2 cm x 3.8 cm x 12.7 cm).

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SALES ASSISTANCE 1-800-635-4567

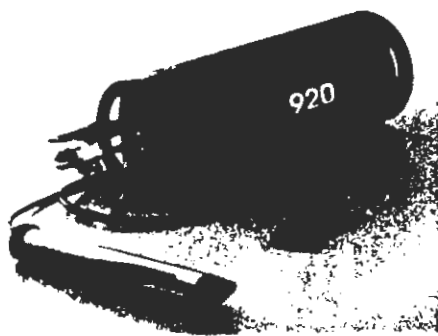
24 HOUR HELP LINE 1-800-635-1230

email: sigma@americansigma.com



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Sigma 920

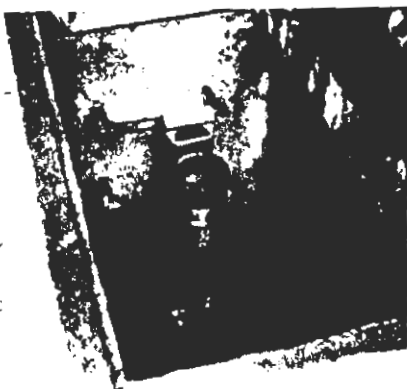


The 920 is ideal for multiple channel monitoring. Choose the depth velocity probe and zero deadband ultrasonic level sensor shown, or two depth velocity sensors.



▲ Setup is easy. No profiling and quick programming save time and money.

▼ The manhole ladder rung bracket shown here secures the 920 for surcharge conditions.



Portable Area Velocity Flow Meter

Portable power. That's what the 920 brings to sewer system monitoring. Not to mention simplicity.

First, the power. It comes from Sigma's advanced Doppler velocity measurement technology. Multiple channel monitoring. And sensor options that best suit your application.

Simplicity? Quicker setups, low-profile probes less susceptible to fouling and ragging and a system that withstands surcharges means you do less work to get more information.

The 920 lets you accurately characterize the complete sewer system. Right down to the smaller diameter residential lines. Sigma's advanced Doppler technology measures velocity in as little as 1" of depth without using default numbers or the Manning equation. And because you don't have to profile, you'll set up more sites in a day than ever before.

For CSO applications, you can measure level and velocity in two channels or level and velocity in one and level only in another. Then review your data with one of Sigma's easy-to-use flow software programs.

With the Sigma 920, your data is better. And your job is simpler.

- Advanced 1 MHz Doppler ... avoids signal dropouts.
- Level Accuracy ... corrects the effects of temperature and velocity on level measurement.
- Low Power Draw ... 90 day battery life.
- Easy Installation ... fast setup, no profiling.
- NEMA 6P ... withstands prolonged submergence.
- Sampler Pacing ... ideal for CSO and Storm Water.
- Multiple Sensors ... redundancy, averaging and multiple pipe monitoring.
- Rainfall Logging ... record and characterize rain events.

SIGMA
Innovation in water monitoring

Sigma 920AV Design Specifications

Dimensions: 6.625" dia. x 17.625"
L x 16.8 cm dia. x 44.7 cm L)

Weight: 16.5 lbs. (7.5 kg) with batteries.

Enclosure Material: PVC.

Enclosure Rating: NEMA 6P (IP67).

Operating Temperature Range: 0 to 140°F (-18 to 60°C).

Storage Temperature Range: -40 to 140°F (-40 to 60°C).

Power Source: Two (6V) Alkaline Lantern Batteries.

Battery Life: 90 days typical with a 15 minute recording interval, 1 level and 1 velocity, data download once per week, at 50°F (10°C) (also affected by site conditions).

User Interface: IBM compatible PC.

Monitoring Intervals: 1, 2, 3, 5, 6, 10, 12, 15, 20, 30, 60 minutes.

Program Memory: Non-volatile, programmable flash, can be updated via RS-232 port.

Time Based Accuracy: ±1 second per day.

Units of Measurement:

Level - in., m, cm, ft.

Flow - GPS, GPM, GPH, LPS, LPM, LPH, MGD, AFD, CFS, CFM, CFH, CFD, M3S, M3M, M3H, M3D.

Totalized Flow - gal., ft.³, acre-ft., L, m³.

Data Storage:

Capacity - 240 days of 2 level readings, 2 velocity readings and rain at a 15 minute recording interval.

Data Types - Level, velocity, rainfall.

Storage Mode - Wrap or slate.

Output Conditions: Set point on level, velocity, rainfall, flow, or flow rate of change.

Sampler Output: 6-12 VDC pulse, 100 mA max. at 500 ms duration.

Communications: Serial connection to IBM compatible computer with Sigma data analysis software.

Modem: Bell 212

Baud - 1200 or 2400

Transfer protocol - Binary

-OR-

14400, V.32 bis, V.42,

MNP2-4 error correction.

V.42 bis, MNP5 data compression.

MNP10EC Cellular Protocol.

Local Terminal - RS232 at 19.2k baud.

Velocity Measurement Accuracy:

Method: Doppler ultrasonic.

Transducer Type: Twin 1 MHz

piezoelectric crystals.

Typical minimum depth for velocity: .8 in. (2 cm).

Range: -5 to 20 fps (-1.52 to 6.10 m/s).

Zero Stability: <.05 fps. (.015 m/s).

Accuracy: ±2% of reading.

Operating Temperature: 0 to 140°F (-18 to 60°C).

**Integral Submerged Depth/
Velocity Sensor Accuracy**

Level Measurement (non-linearity and hysteresis):

Standard - .018 to 11.5 ft. ±.023 ft.

(.005 m - 3.5 m ±.007 m).

Extended - .018 to 34.6 ft. ±.07 ft.

(.005 - 10.5 m ±.021 m).

Maximum Allowable Level: 3x over pressure.

Operating Temperature Range: 32 to 160°F (0-71°C).

Compensated Temperature Range: 32 to 86°F (0-30°C).

Temperature Error: .018-11.5 ft. ±.004 ft./°F (.005 m - 3.5 m ±.0022 m/°C).

.018 - 34.6 ft. ±.012 ft./°F (.018-10.5 m ±.006 m/°C) (maximum error within compensated temperature range - per degree of change).

Velocity Induced Error on Depth (patent pending): 0 to 10 ft/sec. (0 to 3.05 m/s) = .085% of reading.

Air Intake: Atmospheric pressure reference is desiccant protected.

Material: Polymer body with stainless steel diaphragm.

Cable: Urethane sensor cable with air vent.

Cable Length: 25' (7.6 m) standard. 250' (76 m) maximum.

Dimensions (combination sensor): .8" H x 1.5" W x 5" L (2 cm x 3.8 cm x 12.7 cm).

Zero Deadband Ultrasonic Level and Velocity Sensor Accuracy

Velocity Sensor:

Dimensions: .44 in. H x 1.5 in. W x 2.7 in. L (1.12 cm x 3.81 cm x 6.86 cm).

Nose Angle: 20 deg from horizontal.

Cable Length: Standard range probe - 25' (7.6 m); custom cable lengths to 250' (76 m); cable diameter - .225 in. (.57 cm).

Materials: Sensor - polymer; cable - urethane; sensor mounting hardware - stainless steel.

Ultrasonic Level Sensor (In-pipe):

Accuracy: At 72°F (22°C) still air, 40-70% relative humidity from .125 to 15 ft. - ±.01 ft. (.038 to 4.57 m ±.003 m).

Range: Minimum distance from sensor to liquid 0 in. (0 cm).

Maximum distance from sensor to liquid 15 ft. (4.57 m).

Span: .125 - 15 ft. (.038 - 4.57 m).

Ambient Operating Temperature: 0 - 140°F (-18 - 60°C).

Temperature Error: ±.0001 ft./°F (±.00005 m/°C) (maximum error within compensated temperature range - per degree of change).

Resolution: .0075 in. (.019 cm).

Material: Stainless steel housing with PVC acoustic window.

Cable: 4 conductor.

Cable Length: 25' (7.6 m) standard, 1000' (305 m) using RS485 two wire remote sensor option.

Crystal Specification: 75 KHz, 7° beam angle.

Dimensions: 1.5" dia. x 12" L (3.81 x 30 cm).

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SALES ASSISTANCE 1-800-635-4567

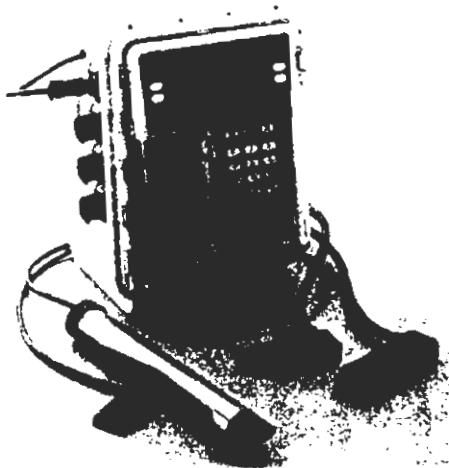
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email: sigma@americansigma.com



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Sigma 950 AV

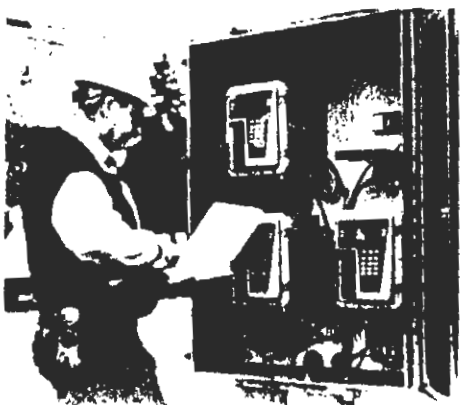


The 950AV provides maximum versatility with the choice of three depth measurement technologies with velocity. OptiFlo-AV offers all three in one meter.



▲ *Easy setup and minimum maintenance allows this consultant to monitor more sites without increasing manpower.*

▼ *With solar power and radio communications, these 950AV's monitor three billing sites.*



SIGMA 950 Portable Area Velocity Flow Meter

Why Compromise? With the self-contained 950AV you can achieve the greatest degree of flow accuracy over the broadest range of site conditions. With exceptional ease and speed.

Its unique 8 line x 40 character display makes it simple to check your data instantly, right in the field, in graphic or tabular formats. All with the help of a clear, menu-driven program. No laptop necessary.

The 950AV's higher frequency one-megahertz Doppler with signal amplifiers provides reliable velocity readings even in low levels and clean water. And because velocity measurements are taken from the full cross section of flow, average velocity is calculated without the need for site profiling. Sigma's proprietary technology for level and velocity measurement can even correct the effects of temperature and velocity on level measurement.

Since site conditions vary, the 950AV lets you configure a system with the greatest accuracy for your application. Choose a submerged pressure sensor, bubbler or ultrasonic depth measurement in combination with velocity. Or the three-in-one 950AV OptiFlo. Plus, with as many as 12 datalogging channels you can simultaneously monitor pH, temperature, ORP, dissolved oxygen, conductivity and rainfall. All in a rugged, tightly sealed NEMA 4X,6 case.

That's the Sigma 950AV. A smart, tough, independent little meter with a passion for accuracy.

- Keypad and Graphics Display ... makes the use of laptops in the field optional.
- Advanced 1 MHz Doppler ... avoids signal dropouts.
- Level Accuracy ... corrects the effects of temperature and velocity on level measurement.
- Low Profile, Non-Fouling Probe ... reduces maintenance.
- Water Quality Data ... identify upsets that affect your plant.
- NEMA 4X,6 ... sealed for the harshest environments.
- Sampler Pacing ... document the extent of overflow problems.
- Rainfall Logging ... record and characterize rain events.

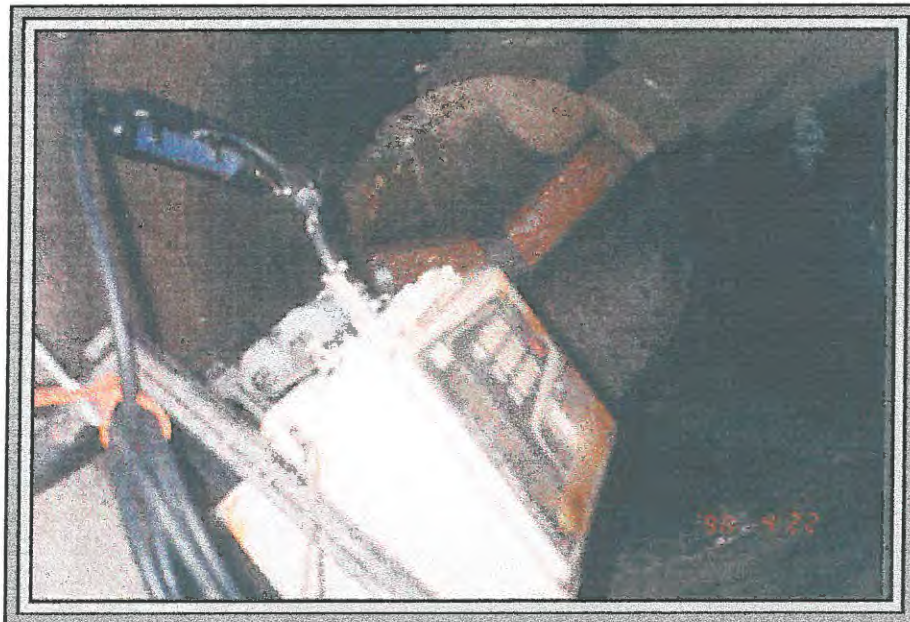
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APPENDIX D

Site Photographs



Flow Monitoring Site.

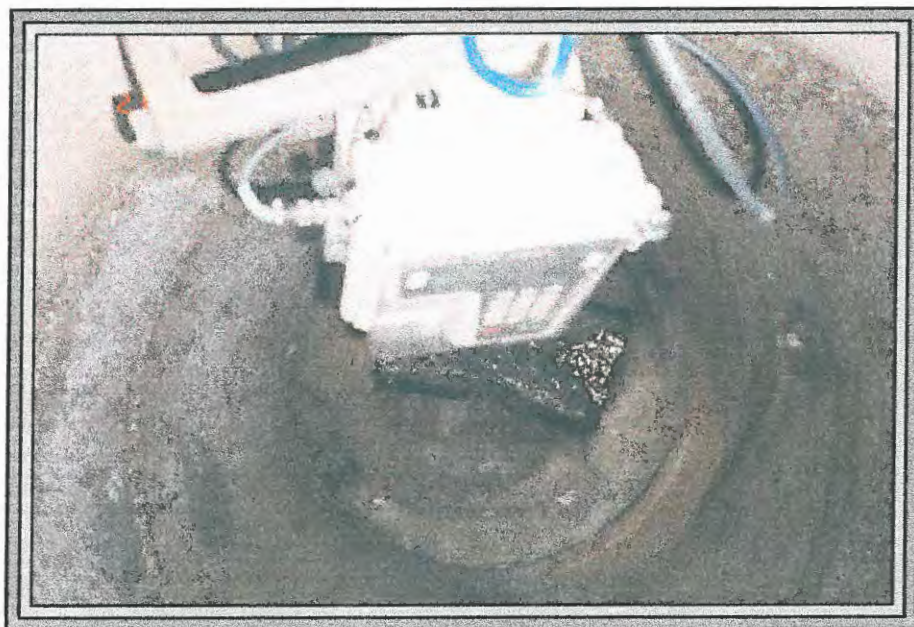


View looking into
manhole

Montoring Site No. 1
Rolling Hills Mobile
Park Home



Flow Monitoring Site.



View looking into
manhole

Monitoring Site No. 2
New Brookfield
Interceptor



Flow Monitoring Site

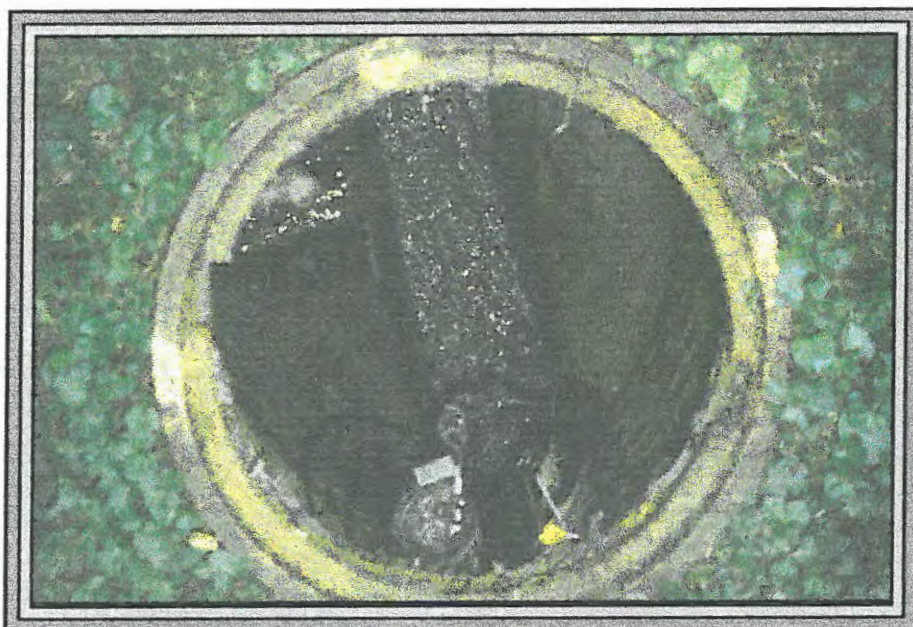


View looking into
manhole

Monitoring Site No.3
Old Brookfield Trunk



Flow monitoring site.



View looking into
manhole.

Monitoring Site No. 4
Wooster Trunk Behind House
On Lincoln Way



Flow Monitoring Site

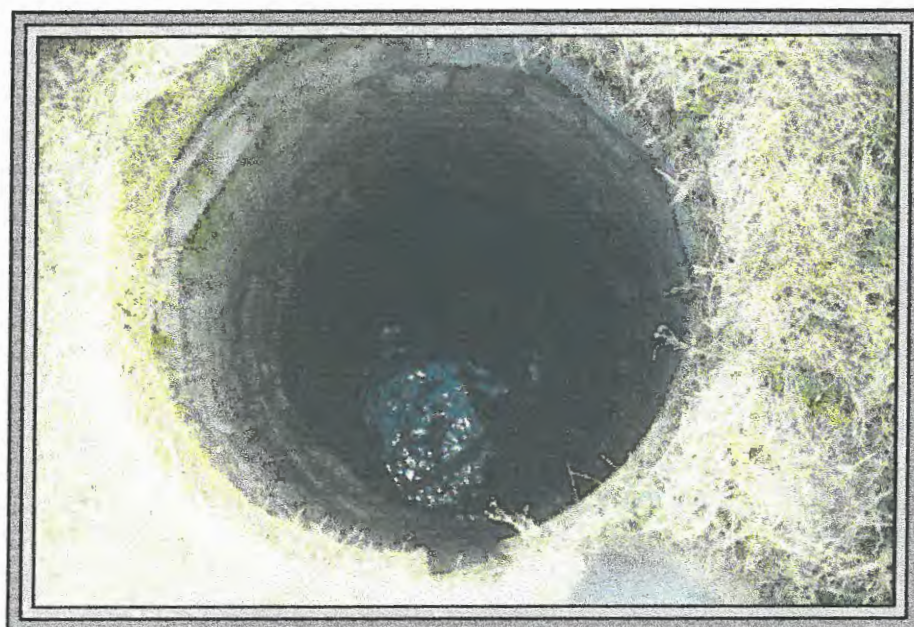


View looking into
manhole

Monitoring Site No. 5
Wooster Trunk West of
Gas Well



Flow Monitoring Site



View looking into
manhole

Monitoring Site No. 6
Across from Firehouse
No. 2



Flow Monitoring Site

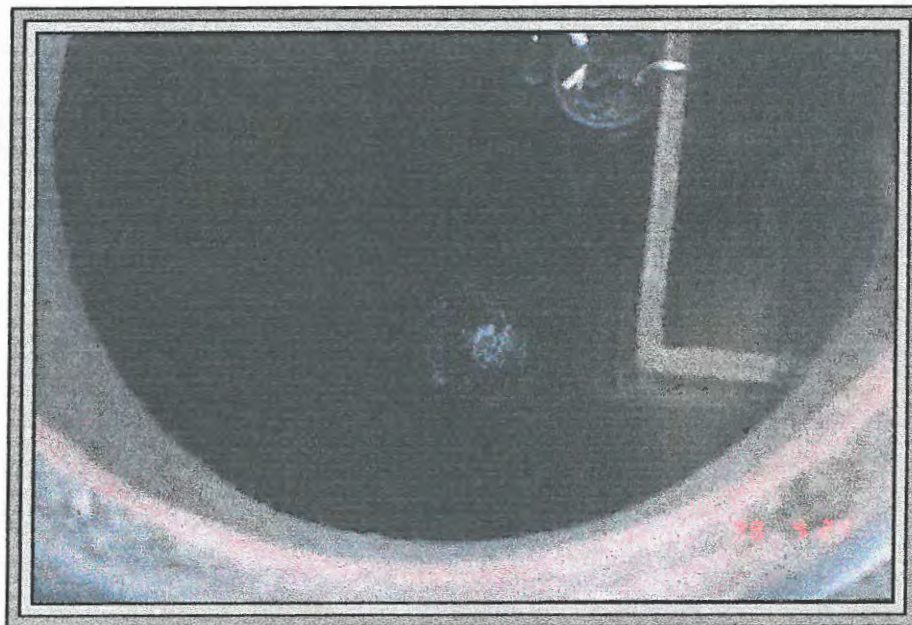


View looking into
manhole

Monitoring Site No.7
Railroad Easement off 16th Street



Flow Monitoring Site

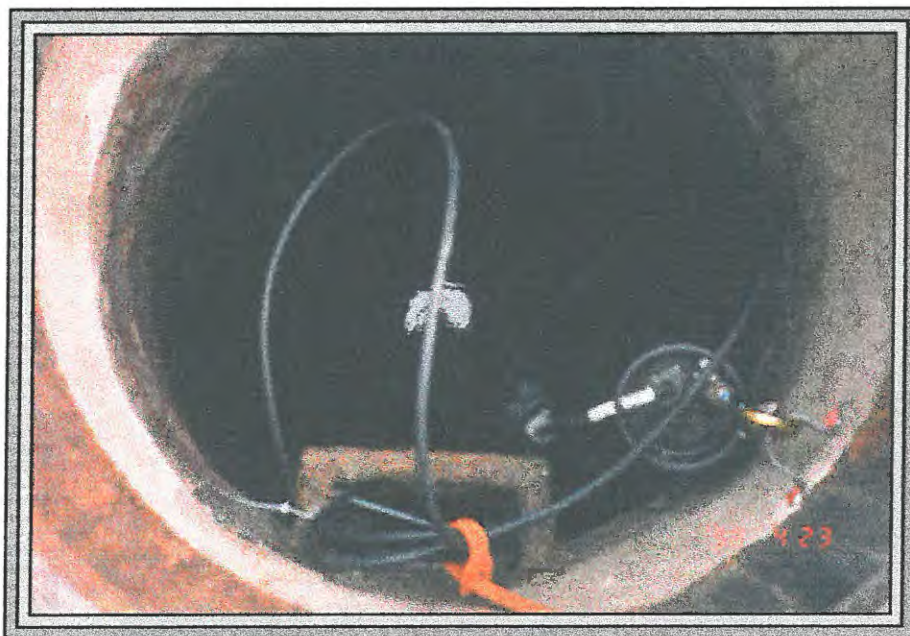


View looking into
manhole

Monitoring Site No.8
54 inch Trunk Line



Flow Monitoring Site

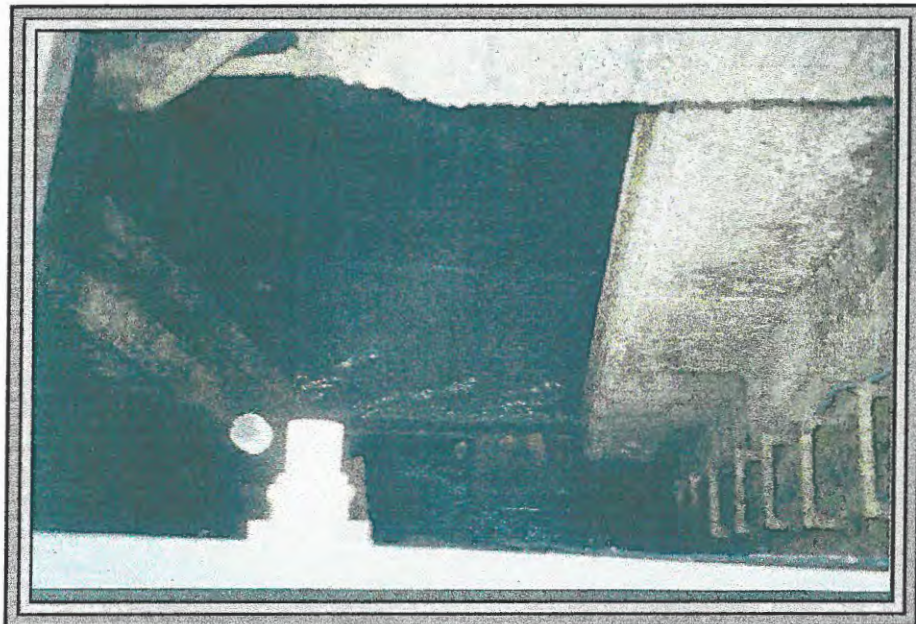


View looking into
manhole

Monitoring Site No.9
48 inch Trunk Line
2nd St. SW at Masonic Temple



Flow monitoring site.

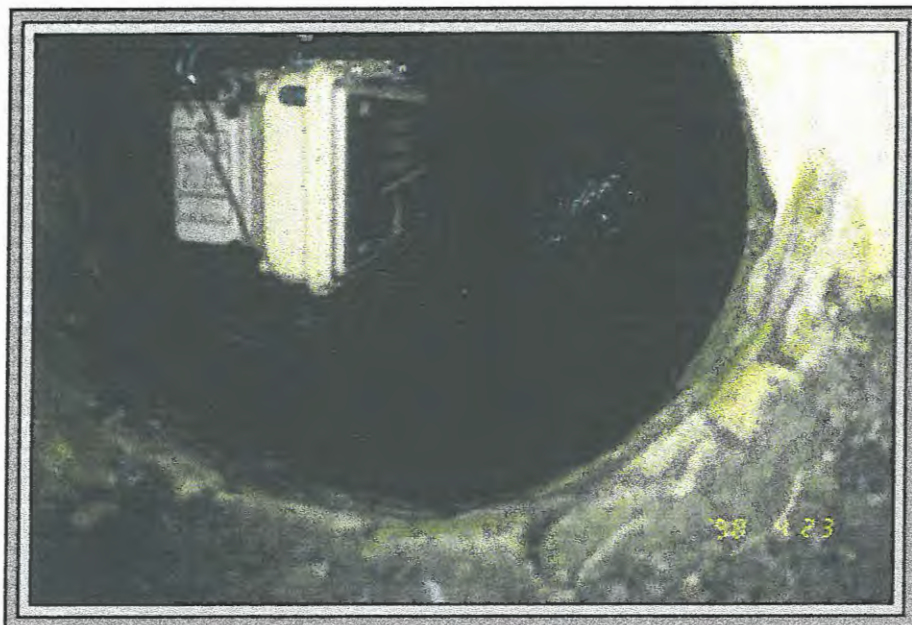


View looking into
manhole.

Monitoring Site No. 10
Influent chamber Massillon
Wastewater Treatment Plant



Flow Monitoring Site

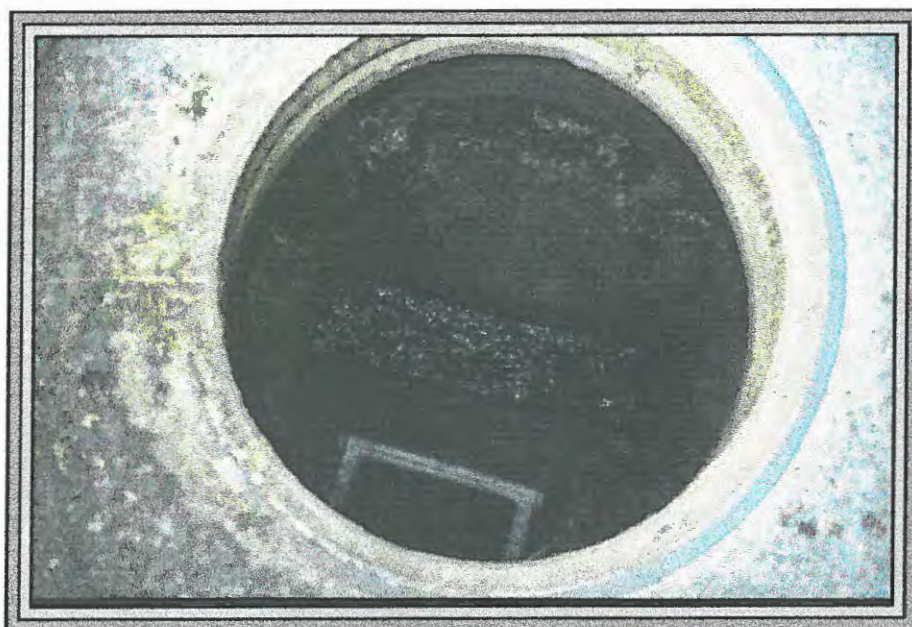


View looking into
manhole

Monitoring Site No.11
Harsh Avenue



Flow monitoring site.



View looking into
manhole.

Monitoring Site No. 12
1st Street and McCadden



Flow Monitoring Site.

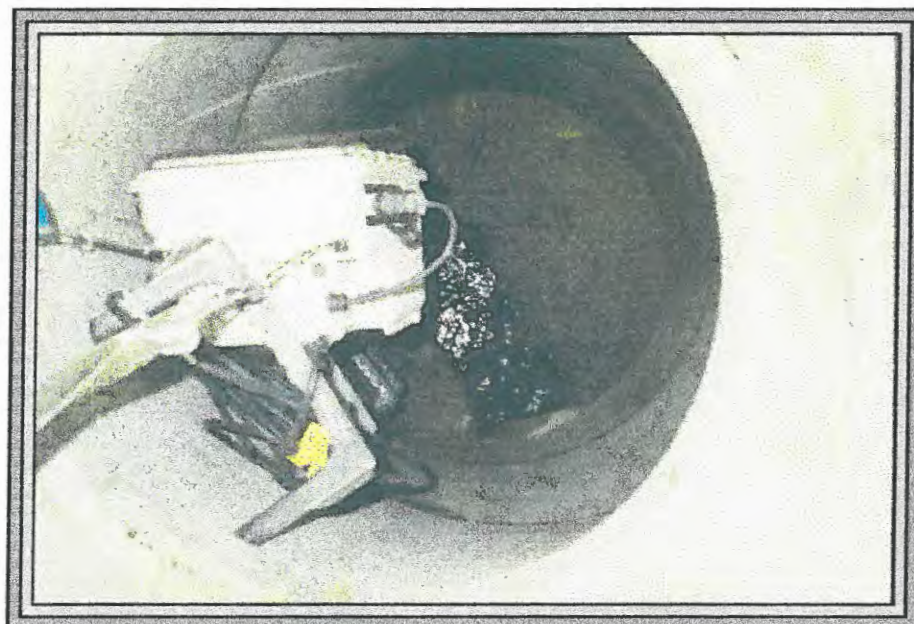


View looking into
manhole

Monitoring Site No. 13
Amherst and Merdell



Flow Monitoring Site.



View looking into
manhole

Monitoring Site No. 14
Erie Avenue Sand and
Gravel Area

APPENDIX E
Flow Monitoring Site
Reconnaissance Forms and
Manhole Inspection Forms

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I (SITE #1)
 Project Number: E 8019
 Date: 4/22/98 Initials: AJP
 Location: ROLLING HILLS MHP
 Site ID: 98001 Meter Serial No: HA029GAVB06212BND
 PROBE NO. H02054

Weather: ☐ Rain ☐ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☐ Junction ☒ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 11.60 Pipe Size: Incoming Line 1 8" Outlet 8"
 Line 2 _____

LOCATION MAP CLUBHOUSE & OFFICE ROLLING HILL PARK ROLLING HILL PARK S. 27TH LINCOLN WAY	PLAN CHAIN GRAVEL RD TENNIS COURTS CLUBHOUSE PARKING ROAD	CROSS SECTION PROBE
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Comments: _____

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON Project No. E8019
 Location ROLLINGHILLS MOBILE HOME PARK
 M.H. NO. 1 Basin _____ Sub-Basin _____
 Description NEAR CURB/SE DEAD END
 Weather 58° SUNNY
 Ground Condition _____

Date 4/13/98
 Initials AJP



N

PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☐ Local Street ☒ Easement
4. Manhole Depth ☒ 0 - 10 Ft. 11.6 ☐ 10 - 15 Ft. ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity _____ 7. Odor _____ 8. Solids _____
9. Comments _____

FRAME AND LID

10. Type ☒ Cast Iron ☐ Other ☐ Lock Mech./Bolts ☐ Solid
11. No. of Holes 4-3/4 ☐ Dia. of Holes _____
12. Location ☐ Crown ☐ Curb ☒ Grass ☐ Driveway ☐ Sump/Depression
13. Defect ☐ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
- ☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☐ Cast Iron ☒ Plastic ☐ Aluminum ☐ Unsafe ☐ None

CORBEL

16. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
18. Inflow (Est.) _____ GPM
19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
22. Defect ☐ Cracked ☐ Bad Joint(s) ☐ Missing Brick ☐ Loose Mortar
23. Infiltration ☐ Stream ☐ Sheet ☐ Wet ☐ Dry
24. Depth of Wetness _____ Ft.
25. Infiltration Rate (Est.) _____ GPM
26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☒ Concrete ☐ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☒ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

MANHOLE GOOD SHAPE ⇒ FLOW GOOD NO CRT.
 PIPE-VIT. CLAY

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE #2
 Project Number: E8019
 Date: 4/22/98 Initials: DBK
 Location: NEW BROOKFIELD INTERCEPTOR
 Site ID: 98002 Meter Serial No: _____

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

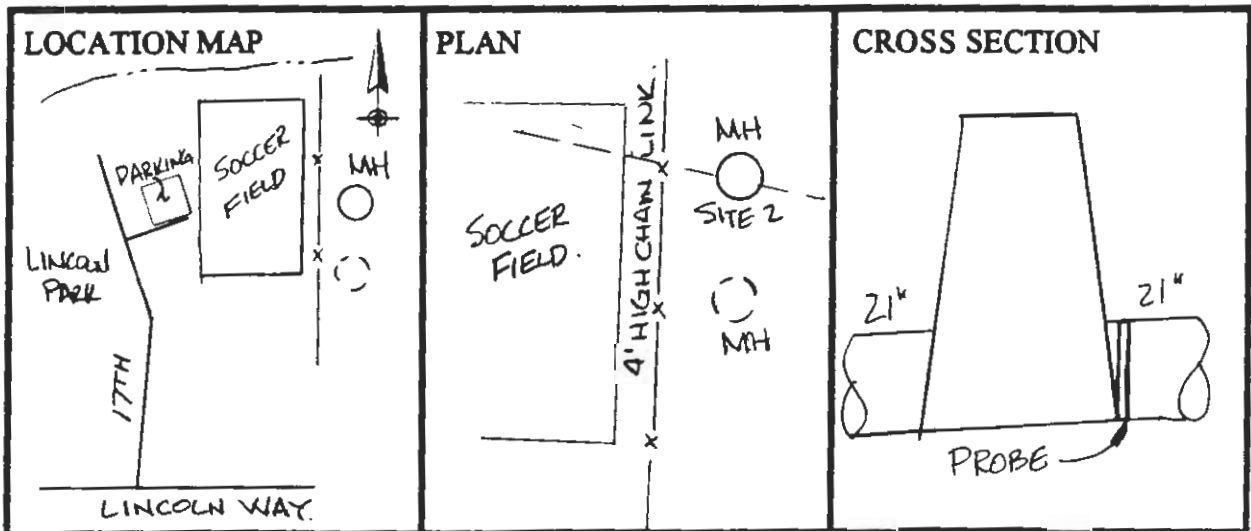
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 12.5 Pipe Size: Incoming Line 1 21" Outlet 21"
 Line 2 _____



Comments: _____

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. 88019

Date 4/14/98

Location OFF 17TH ST BEHIND WIRE FENCE EAST OF SOCCER FIELD

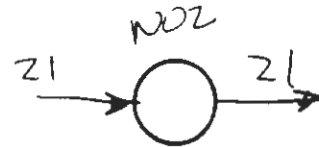
Initials _____

M.H. NO. 2 Basin _____ Sub-Basin _____

Description NEW BROOKFIELD INTERCEPTOR

Weather CA* SUNNY

Ground Condition _____



PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☐ Local Street ☒ Easement
4. Manhole Depth ☐ 0 - 10 Ft. ☒ 10 - 15 Ft. 12.5 ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity _____ 7. Odor _____ 8. Solids _____
9. Comments _____

FRAME AND LID

10. Type ☐ Cast Iron ☐ Other ☐ Lock Mech/Bolts ☐ Solid
11. No. of Holes 4-1/2 ☐ Dia. of Holes _____
12. Location ☐ Crown ☐ Curb ☐ Grass ☐ Driveway ☐ Sump/Depression
13. Defect ☐ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
- ☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☐ Cast Iron ☒ Plastic ☐ Aluminum ☐ Unsafe ☐ None

CORBEL

16. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
18. Inflow (Est.) _____ GPM
19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
22. Defect ☐ Cracked ☐ Bed Joint(s) ☐ Missing Brick ☐ Loose Mortar
23. Infiltration ☐ Stream ☐ Sheet ☐ Wet ☐ Dry
24. Depth of Wetness _____ Ft.
25. Infiltration Rate (Est.) _____ GPM
26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☒ Concrete ☐ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE #3.
 Project Number: EB09
 Date: 4/21/98 Initials: AJP
 Location: OLD BROOKFIELD INTERCEPTOR
 Site ID: 98003 Meter Serial No: AA0497010186 PBT
 PROBE H02062

Weather: ☐ Rain ☐ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

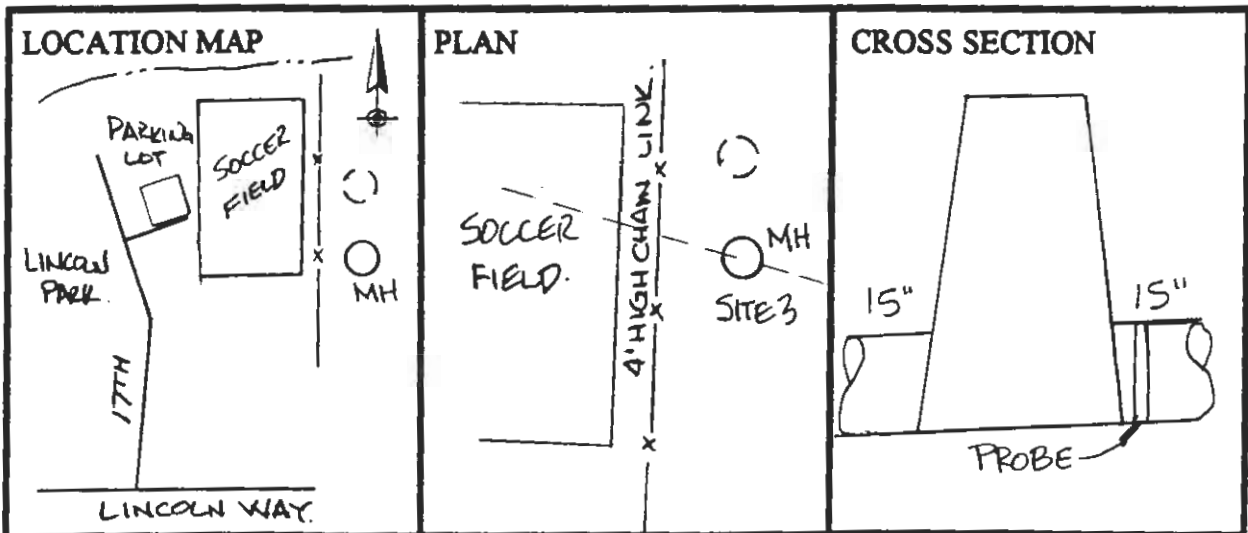
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☐ Good ☒ Silting ☐ Oil/Grease ☐ Surge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 6.45' Pipe Size: Incoming Line 1 15" Outlet 15"
 Line 2 _____



Comments: SURCHARGE CONDITION GRIT IN LINE
GROUND SINKING AROUND MH EVIDENCE OF INFLOW.
⇒ 1.3" OFFSET FOR DEPTH ←

MANHOLE INSPECTION FORM CTI ENVIRONMENTAL, INC.

Project MASSILLON I/E Project No. EEC19

Date 4/13/98

Location SAME AS NO2

Initials AJP

M.H. NO. 3 Basin _____ Sub-Basin _____

Description OLD BROOKFIELD INTERCEPTOR

Weather _____

Ground Condition _____



N
↑
Z

PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☐ Local Street ☒ Easement
4. Manhole Depth ☒ 0 - 10 Ft. 6.45 ☐ 10 - 15 Ft. ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity _____ 7. Odor _____ 8. Solids _____
9. Comments _____

FRAME AND LID

10. Type A-4 ☒ Cast Iron ☐ Other ☐ Lock Mech/Bolts ☐ Solid
11. No. of Holes _____ Dis. of Holes _____
12. Location ☐ Crown ☐ Curb ☐ Grass ☐ Driveway ☐ Sump/Depression
13. Defect ☐ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
- ☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☒ Cast Iron ☐ Plastic ☐ Aluminum ☐ Unsafe ☐ None

CORBEL

16. Type ☐ Precast ☐ Concrete Block ☐ Brick ☐ Other
17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
18. Inflow (Est.) _____ GPM
19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☐ Precast ☐ Concrete Block ☒ Brick ☐ Other
22. Defect ☐ Cracked ☐ Bad Joint(s) ☐ Missing Brick ☐ Loose Mortar
23. Infiltration ☐ Streams ☐ Sheet ☐ Wet ☐ Dry
24. Depth of Wetness _____ Ft.
25. Infiltration Rate (Est.) _____ GPM
26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☐ Concrete ☒ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

SURCHARGE CONDITIONS
GRT IN LINE

PIPE = VCP
ground sinking around MH

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE #4
 Project Number: E8019
 Date: 4/22/98 Initials: _____
 Location: WOOSTER TRUNK BEHIND HSE # 1244 LINCOLN WAY.
 Site ID: 98004 Meter Serial No: AA0497010192 PB4
H02184

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☒ within past 24 hrs.

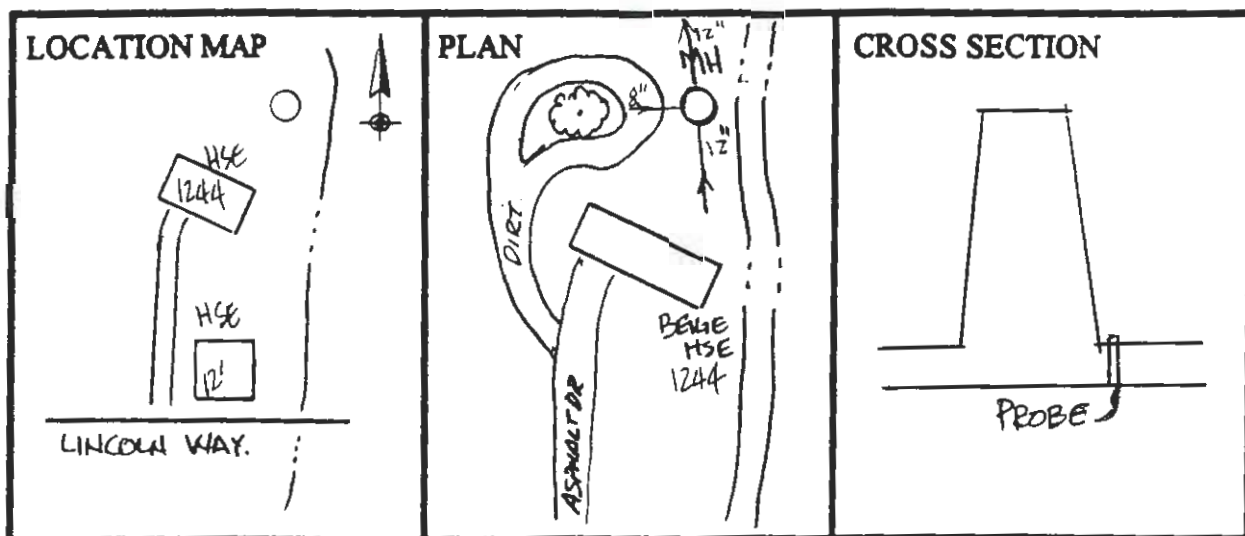
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

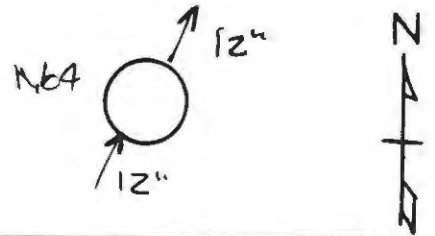
Manhole Depth: 6.15' Pipe Size: Incoming Line 1 12" Outlet 12"
 Line 2 8"



Comments: _____

MANHOLE INSPECTION FORM CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. E8019 Date 4/3/98
 Location BEHIND HSE #1244 WOOSTER TRUNK Initials _____
 M.H. NO. 4 Basin _____ Sub-Basin _____
 Description OFF LINCOLN WAY, WEST HEPPS ON
SAME SIDE BEHIND WHITE HSE
 Weather 51° SUNNY
 Ground Condition _____



PHYSICAL CHARACTERISTICS			
1. Type	☒ Sanitary	☐ Combined	☐ Storm
2. Age	_____ years		
3. Manhole Location	☐ Freeway	☐ Arterial	☐ Local Street
4. Manhole Depth	☒ 0 - 10 Ft. <u>6.15</u>	☐ 10 - 15 Ft.	☐ 15 - 25 Ft.
			☒ Easement ☐ Special
FLOW CHARACTERISTICS			
5. Estimated Depth, Flow Direction, Time	_____		
6. Clarity	_____	7. Odor	_____
9. Comments	_____		
FRAME AND LID			
10. Type	☒ Cast Iron	☐ Other	☒ Lock Mech/Bolts ☐ Solid
11. No. of Holes	<u>7-3/4</u>	Dia. of Holes _____	
12. Location	☐ Crown	☐ Curb	☒ Grass ☐ Driveway ☐ Sump/Depression
13. Defect	☐ Frame Ajar	☐ Frame Leak	☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution	☐ Reset Frame	☐ Mortar Frame	☐ New Cover ☐ New Frame _____ inches
	☐ Adjust Casting _____ inches		
STEPS			
15. Type and Condition	☒ Cast Iron	☐ Plastic	☐ Aluminum ☐ Unsafe ☐ None
CORBEL			
16. Type	☐ Precast	☐ Concrete Block	☒ Brick ☐ Other
17. Defect	☐ Cracked	☐ Missing Brick	☐ Loose Mortar ☐ Inflow
18. Inflow (Est.)	_____ GPM		
19. Solution	☐ Seal Cracks	☐ Replace Brick	☐ Repair Mortar ☐ Replace
20. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
WALL			
21. Type	☐ Precast	☐ Concrete Block	☒ Brick ☐ Other
22. Defect	☐ Cracked	☐ Bad Joint(s)	☐ Missing Brick ☐ Loose Mortar
23. Infiltration	☐ Stream	☐ Sheet	☐ Wet ☐ Dry
24. Depth of Wetness	_____ Ft.		
25. Infiltration Rate (Est.)	_____ GPM		
26. Solution	☐ Seal Cracks	☐ Repair Joint	☐ Replace Brick ☐ Repair Mortar
27. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
BENCH			
28. Type	☐ Concrete	☒ Brick & Mortar	☐ Pipe Trough ☐ Other
29. Infiltration	_____ GPM		
30. Solution	☐ Seal Cracks	☐ Brick & Mortar	☐ New Pipe ☐ Other
31. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
MISCELLANEOUS DEFECTS			
32. Type	☐ House Connection	☐ Stubline	☐ Surcharge MH Surcharge Depth _____ Ft.
33. Solution	☐ Inspect Connection	☐ Plug/Seal	☐ Inspect MH Replace MH
REMARKS			
<u>Flow ⇒ Good No GRIT. Pipe VCP</u>			

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I SITE #5
 Project Number: E9019
 Date: _____ Initials: _____
 Location: WOOSTER TRUCK 2ND MH WEST OF GAS WELL & TANK
 Site ID: 98005 Meter Serial No: _____

Weather: ☐ Rain ☐ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

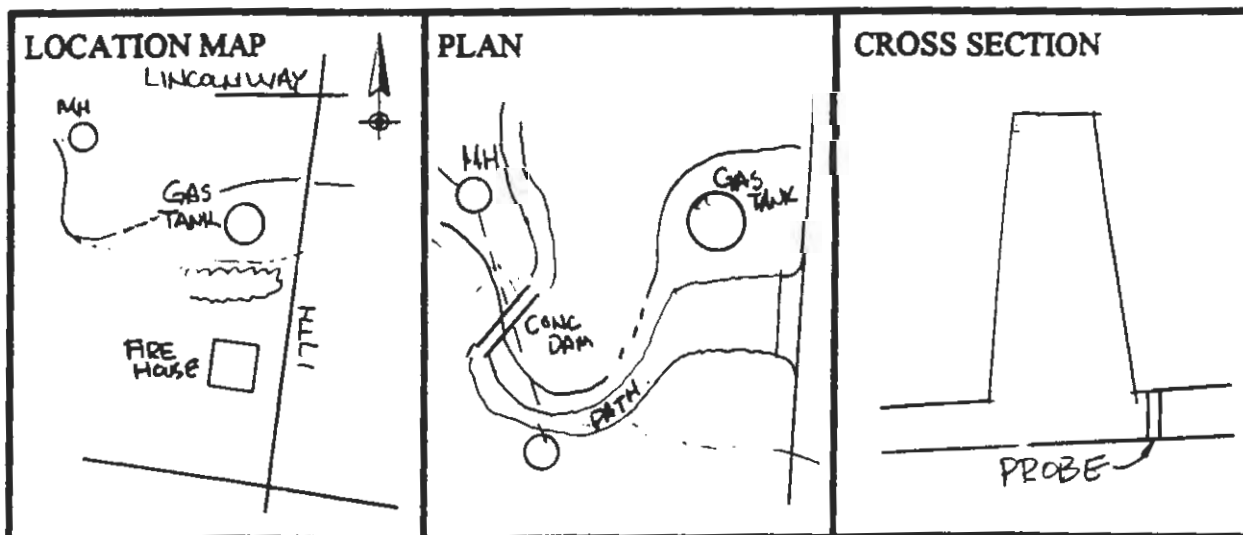
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Siting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 6.4 Pipe Size: Incoming Line 1 10" Outlet 12"
 Line 2 _____



Comments: _____

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. EG019 Date 4-13-98
 Location EASEMENT OFF 17TH ST STARTS @ GAS TANKS S00'E Initials APF
 M.H. NO. 5 Basin _____ Sub-Basin _____
 Description OFF 17TH ST S00'E OF GAS WELL & TANK
 Weather CL. SUNNY
 Ground Condition _____



PHYSICAL CHARACTERISTICS			
1. Type	☒ Sanitary	☐ Combined	☐ Storm
2. Age	_____ years		
3. Manhole Location	☐ Freeway	☐ Arterial	☐ Local Street
4. Manhole Depth	☒ 0 - 10 Ft. <u>6.4 ft</u>	☐ 10 - 15 Ft.	☐ 15 - 25 Ft.
			☒ Easement ☐ Special
FLOW CHARACTERISTICS			
5. Estimated Depth, Flow Direction, Time	_____		
6. Clarity	7. Odor	8. Solids	
9. Comments	<u>GRIT & DEBRIS IN MH WATCH CHILDREN</u>		
FRAME AND LID			
10. Type	☒ Cast Iron	☐ Other	☐ Lock Mech/Bolts ☐ Solid
11. No. of Holes	_____ Dia. of Holes _____		
12. Location	☐ Crown	☐ Curb	☐ Grass ☐ Driveway ☐ Sump/Depression
13. Defect	☐ Frame Ajar	☐ Frame Leak	☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution	☐ Reset Frame	☐ Mortar Frame	☐ New Cover ☐ New Frame _____ inches
	☐ Adjust Casting _____ inches		
STEPS			
15. Type and Condition	☒ Cast Iron	☐ Plastic	☐ Aluminum ☐ Unsafe ☐ None
CORBEL			
16. Type	☐ Precast	☐ Concrete Block	☒ Brick ☐ Other
17. Defect	☐ Cracked	☐ Missing Brick	☐ Loose Mortar ☐ Inflow
18. Inflow (Est.)	_____ GPM		
19. Solution	☐ Seal Cracks	☐ Replace Brick	☐ Repair Mortar ☐ Replace
20. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
WALL			
21. Type	☐ Precast	☐ Concrete Block	☒ Brick ☐ Other
22. Defect	☐ Cracked	☐ Bad Joint(s)	☐ Missing Brick ☐ Loose Mortar
23. Infiltration	☐ Stream	☐ Sheet	☐ Wet ☐ Dry
24. Depth of Wetness	_____ Ft.		
25. Infiltration Rate (Est.)	_____ GPM		
26. Solution	☐ Seal Cracks	☐ Repair Joint	☐ Replace Brick ☐ Repair Mortar
27. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
BENCH			
28. Type	☐ Concrete	☒ Brick & Mortar	☐ Pipe Trough ☐ Other
29. Infiltration	_____ GPM		
30. Solution	☐ Seal Cracks	☐ Brick & Mortar	☐ New Pipe ☐ Other
31. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
MISCELLANEOUS DEFECTS			
32. Type	☐ House Connection	☐ Subline	☐ Surcharge MH Surcharge Depth _____ Ft.
33. Solution	☐ Inspect Connection	☐ Plug/Seal	☐ Inspect MH Replace MH
REMARKS			
<u>GRIT IN LINE DUE TO DEBRIS FROM CHILDREN SHOULD BE OK</u>			

6 REVISED

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON J/I ADDITIONAL SITE # 6 REVISED.
 Project Number: EB019
 Date: 5-5-98 Initials: AJP
 Location: WESLEY UNITED MED. CHURCH
 Site ID: 98006 Meter Serial No: FA0495FMA022830JL
 PROBE NO. H02060

Weather: ☐ Rain ☒ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: _____ Pipe Size: Incoming Line 1 8 Outlet 8
 Line 2 6 PRIVATE.

LOCATION MAP	PLAN	CROSS SECTION

Comments: NO STEPS.

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON Project No. EB019

Date 5-5-98

Location WESLEY UNITED METHOD CHURCH

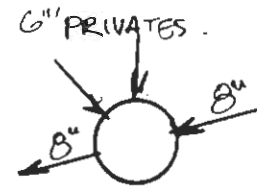
Initials ADP.

M.H. NO. _____ Basin _____ Sub-Basin _____

Description IN LAWN ON EAST OF STREET

Weather 70° CLOUDY

Ground Condition _____



242

PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☐ Local Street ☒ Easement
4. Manhole Depth ☒ 0 - 10 Ft. ☐ 10 - 15 Ft. ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity CLEAR 7. Odor _____ 8. Solids _____
9. Comments _____

FRAME AND LID

- | | | | | |
|------------------|---|---------------------------------------|---|---|
| 10. Type | ☒ Cast Iron | ☐ Other | ☐ Lock Mech/Bolts | ☐ Solid |
| 11. No. of Holes | <u>6</u> | <u>1/2</u> | | |
| 12. Location | ☐ Crown | ☐ Curb | ☒ Grass | ☐ Driveway |
| 13. Defect | ☐ Frame Ajar | ☐ Frame Leak | ☐ Cover Inflow | ☐ Broken Frame |
| 14. Solution | ☐ Reset Frame | ☐ Mortar Frame | ☐ New Cover | ☐ Depressure Depth |
| | ☐ Adjust Casting | _____ inches | ☐ New Frame | _____ inches |

STEPS

15. Type and Condition ☐ Cast Iron ☐ Plastic ☐ Aluminum ☐ Unsafe ☒ None

CORBEL

- | | | | | |
|-------------------|--------------------------------------|---|---|----------------------------------|
| 16. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 17. Defect | ☐ Cracked | ☐ Missing Brick | ☐ Loose Mortar | ☐ Inflow |
| 18. Inflow (Est.) | _____ GPM | | | |
| 19. Solution | ☐ Seal Cracks | ☐ Replace Brick | ☐ Repair Mortar | ☐ Replace |
| 20. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

WALL

- | | | | | |
|------------------------------|--------------------------------------|---|---|--|
| 21. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 22. Defect | ☐ Cracked | ☐ Bad Joint(s) | ☐ Missing Brick | ☐ Loose Mortar |
| 23. Infiltration | ☐ Stream | ☐ Sheet | ☐ Wet | ☐ Dry |
| 24. Depth of Wetness | _____ PL | | | |
| 25. Infiltration Rate (Est.) | _____ GPM | | | |
| 26. Solution | ☐ Seal Cracks | ☐ Repair Joint | ☐ Replace Brick | ☐ Repair Mortar |
| 27. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

BENCH

28. Type ☐ Concrete ☒ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stibline ☐ Surchage MH Surchage Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH Replace MH _____

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE # 7
 Project Number: E8019
 Date: 4/23/98 Initials: DBK
 Location: RR EASEMENT 1100' WEST OF 16TH
 Site ID: 98007 Meter Serial No: AA0497010535 Q83
 PROBE NO. H02063

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

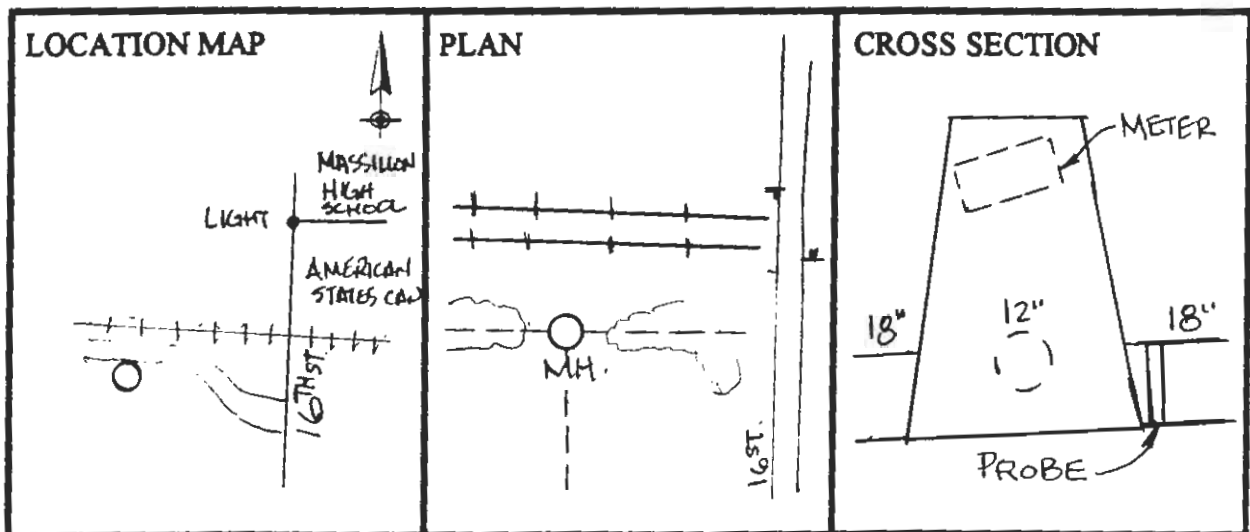
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☒ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 9.4 FEET Pipe Size: Incoming Line 1 18" Outlet 18"
 Line 2 12"



Comments: STEPS ERODED.

MANHOLE INSPECTION FORM CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. ES019

Date 4-13-98

Location RE EASEMENT 1100' WEST OF 15TH

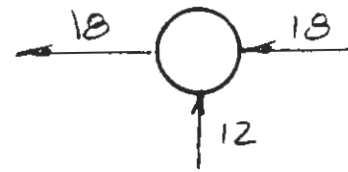
Initials AJP

M.H. NO. 7 Basin _____ Sub-Basin _____

Description OFF 16TH ST ALONG RR 25' SOUTH IN
BUSH & TREES APPROX 3/4 MILE FROM ST

Weather _____

Ground Condition _____



PHYSICAL CHARACTERISTICS

- | | | | |
|---------------------|--|---|--|
| 1. Type | ☒ Sanitary | ☐ Combined | ☐ Storm |
| 2. Age | _____ years | | |
| 3. Manhole Location | ☐ Freeway | ☐ Arterial | ☐ Local Street |
| 4. Manhole Depth | ☐ 0 - 10 Ft. | ☒ 10 - 15 Ft. | ☐ 15 - 25 Ft. |
| | | | ☒ Easement |
| | | | ☐ Special |

FLOW CHARACTERISTICS

- | | | |
|--|---------|-----------|
| 5. Estimated Depth, Flow Direction, Time | | |
| 6. Clarity | 7. Odor | 8. Solids |
| 9. Comments | | |

FRAME AND LID

- | | | | | |
|------------------|---|---------------------------------------|---|---------------------------------------|
| 10. Type | ☒ Cast Iron | ☐ Other | ☐ Lock Mech/Bolts | ☐ Solid |
| 11. No. of Holes | <u>4</u> | <u>1/2</u> | | |
| 12. Location | ☐ Crows | ☐ Curb | ☒ Grass | ☐ Driveway |
| 13. Defect | ☐ Frame Ajar | ☐ Frame Leak | ☐ Cover Inflow | ☐ Broken Frame |
| 14. Solution | ☐ Reast Frame | ☐ Mortar Frame | ☐ New Cover | ☐ New Frame |
| | ☐ Adjust Casting | _____ inches | | _____ inches |

STEPS

- | | | | | | |
|------------------------|------------------------------------|----------------------------------|-----------------------------------|--|--|
| 15. Type and Condition | ☐ Cast Iron | ☐ Plastic | ☐ Aluminum | ☒ Unsafe | ☒ None |
|------------------------|------------------------------------|----------------------------------|-----------------------------------|--|--|

CORREL

- | | | | | |
|-------------------|--------------------------------------|---|---|----------------------------------|
| 16. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 17. Defect | ☐ Cracked | ☐ Missing Brick | ☐ Loose Mortar | ☐ Inflow |
| 18. Inflow (Est.) | _____ GPM | | | |
| 19. Solution | ☐ Seal Cracks | ☐ Replace Brick | ☐ Repair Mortar | ☐ Replace |
| 20. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

WALL

- | | | | | |
|------------------------------|--------------------------------------|---|---|--|
| 21. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 22. Defect | ☐ Cracked | ☐ Bad Joint(s) | ☐ Missing Brick | ☐ Loose Mortar |
| 23. Infiltration | ☐ Stream | ☐ Sheet | ☐ Wet | ☐ Dry |
| 24. Depth of Wetness | _____ Ft. | | | |
| 25. Infiltration Rate (Est.) | _____ GPM | | | |
| 26. Solution | ☐ Seal Cracks | ☐ Repair Joint | ☐ Replace Brick | ☐ Repair Mortar |
| 27. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

BENCH

- | | | | | |
|------------------|--------------------------------------|--|--------------------------------------|--------------------------------|
| 28. Type | ☐ Concrete | ☒ Brick & Mortar | ☐ Pipe Trough | ☐ Other |
| 29. Infiltration | _____ GPM | | | |
| 30. Solution | ☐ Seal Cracks | ☐ Brick & Mortar | ☐ New Pipe | ☐ Other |
| 31. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

MISCELLANEOUS DEFECTS

- | | | | | |
|--------------|---|------------------------------------|---------------------------------------|---------------------------|
| 32. Type | ☐ House Connection | ☐ Stubline | ☐ Surcharge MH | Surcharge Depth _____ Ft. |
| 33. Solution | ☐ Inspect Connection | ☐ Plug/Seal | ☐ Inspect MH | Replace MH |

REMARKS

VERY STEAMY, HOT FLOW

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL (SITE #3)
 Project Number: E8019
 Date: 4/21/98 Initials: DBK
 Location: FIRST ST SW S/2ND STREET (AT BROWN LUMBER
 Site ID: 98008 Meter Serial No: AA0497010183 P8Q

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

Tributary Area: ☐ Residential ☒ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☐ Junction ☒ Bend ☐ Drop ☐ Overflow

Pipe Type: ☐ VCP ☒ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 16.75 FEET Pipe Size: Incoming Line 1 54" Outlet 54"
 Line 2 _____

LOCATION MAP	PLAN	CROSS SECTION

Comments: _____

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. E8C19

Date 4-13-98

Location 1ST STREET NORTH TRESTLE SOUTH OF 2ND ST.

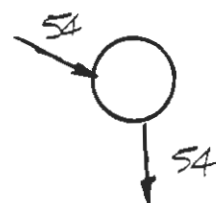
Initials AJP

M.H. NO. 8 Basin _____ Sub-Basin _____

Description CENTER OF 1ST N. OF RR TRESTLE AND SOUTH OF 2ND ST.

Weather _____

Ground Condition _____



PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☒ Local Street ☐ Easement
4. Manhole Depth ☐ 0 - 10 Ft. ☐ 10 - 15 Ft. ☒ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity _____ 7. Odor _____ 8. Solids _____
9. Comments _____

FRAME AND LID

10. Type ☒ Cast Iron ☐ Other ☐ Lock Mech./Bolts ☐ Solid
11. No. of Holes _____ Dia. of Holes _____
12. Location ☐ Crown ☐ Curb ☐ Grass ☐ Driveway/ ☐ Sump/Depression
13. Defect ☐ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
- ☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☒ Cast Iron ☐ Plastic ☒ Aluminum ☐ Unsafe ☐ None

CORSEL

16. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
18. Inflow (Est.) _____ GPM
19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
22. Defect ☐ Cracked ☐ Bad Joint(s) ☐ Missing Brick ☐ Loose Mortar
23. Infiltration ☐ Stains ☐ Sheet ☐ Wet ☐ Dry
24. Depth of Wetness _____ Ft.
25. Infiltration Rate (Est.) _____ GPM
26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☒ Concrete ☐ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE #9
 Project Number: EB019
 Date: 4/23/98 Initials: DBK
 Location: 2ND ST AT MASON TEMPLE
 Site ID: 98009 Meter Serial No: AA0497010190 PB2

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

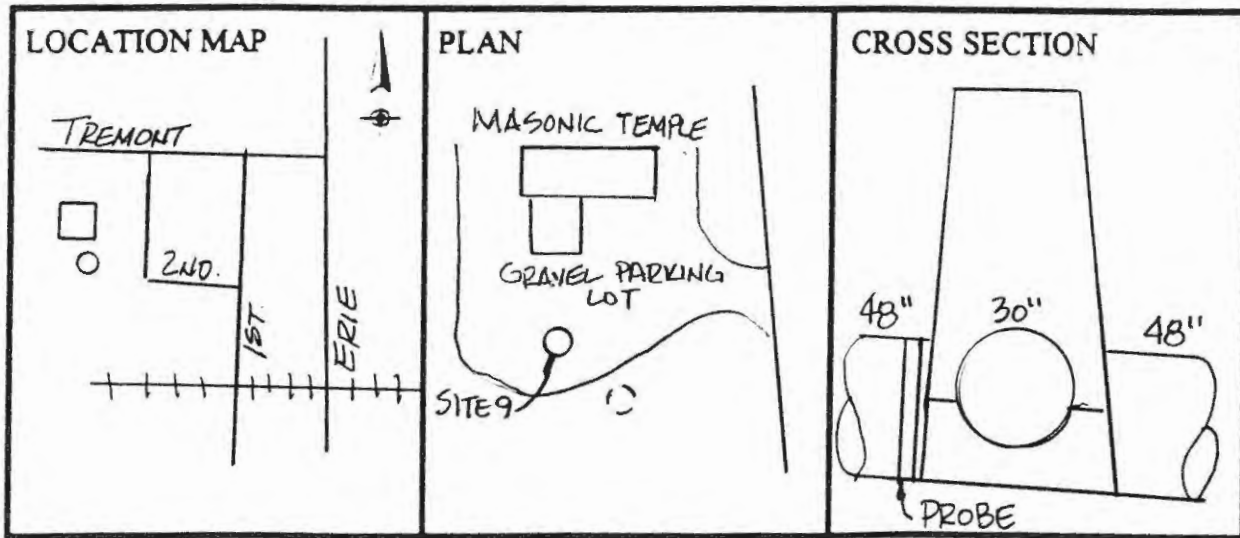
Tributary Area: ☐ Residential ☒ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☐ Good ☒ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☒ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 14.37 FEET Pipe Size: Incoming Line 1 48" Outlet 48"
 Line 2 30" (PLUGGED)

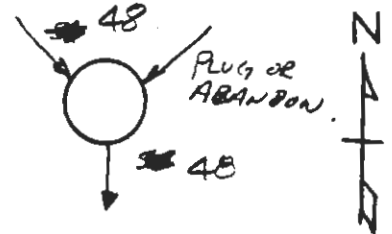


Comments: ABOUT 1.25 FEET OF HEAVY GRIT IN BOTTOM OF PIPE
OFFSET 15.0 INCHES

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. EBC19 Date 4-13-98
 Location MASONIC TEMPLE PARKING LOT SOUTHSIDE OFF 2ND ST Initials ASP
 M.H. NO. 9 Basin _____ Sub-Basin _____
 Description _____
 Weather 72° SUNNY
 Ground Condition _____



PHYSICAL CHARACTERISTICS			
1. Type	☐ Sanitary	☐ Combined	☐ Storm
2. Age	_____ years		
3. Manhole Location	☐ Freeway	☐ Arterial	☐ Local Street
4. Manhole Depth	☐ 0 - 10 Ft.	☐ 10 - 15 Ft. <u>132'</u>	☐ 15 - 20 Ft.
			☒ Easement ☐ Special

FLOW CHARACTERISTICS			
5. Estimated Depth, Flow Direction, Time	_____		
6. Clarity	7. Odor	8. Solids	
9. Comments	_____		

FRAME AND LID			
10. Type	☒ Cast Iron	☐ Other	☐ Lock Mech/Bolts
11. No. of Holes	<u>4-3/4</u>	☐ Dia. of Holes	☐ Solid
12. Location	☐ Crown	☐ Curb	☐ Grass
13. Defect	☐ Frame Ajar	☐ Frame Leak	☐ Cover Inflow
14. Solution	☐ Reset Frame	☐ Mortar Frame	☐ New Cover
	☐ Adjust Casting	_____ inches	☐ New Frame
		<u>PARKING LOT.</u>	☐ Sump/Depression ☐ Broken Frame ☐ Depression Depth _____ inches

STEPS			
15. Type and Condition	☒ Cast Iron	☐ Plastic	☐ Aluminum
		☐ Unsafe	☐ None

CORBEL			
16. Type	☐ Precast	☐ Concrete Block	☒ Brick
17. Defect	☐ Cracked	☐ Missing Brick	☐ Loose Mortar
18. Inflow (Est.)	_____ GPM		☐ Inflow
19. Solution	☐ Seal Cracks	☐ Replace Brick	☐ Repair Mortar
20. Cost Impact	☐ High	☐ Medium	☐ Low
			☐ Replace ☐ None

WALL			
21. Type	☐ Precast	☐ Concrete Block	☒ Brick
22. Defect	☐ Cracked	☐ Bed Joint(s)	☐ Missing Brick
23. Infiltration	☐ Stream	☐ Sheet	☐ Wet
24. Depth of Wetness	_____ Ft.		☐ Other
25. Infiltration Rate (Est.)	_____ GPM		☐ Loose Mortar
26. Solution	☐ Seal Cracks	☐ Repair Joint	☐ Replace Brick
27. Cost Impact	☐ High	☐ Medium	☐ Low
			☐ Repair Mortar ☐ None

BENCH			
28. Type	☐ Concrete	☒ Brick & Mortar	☐ Pipe Trough
29. Infiltration	_____ GPM		☐ Other
30. Solution	☐ Seal Cracks	☐ Brick & Mortar	☐ New Pipe
31. Cost Impact	☐ High	☐ Medium	☐ Low
			☐ Other ☐ None

MISCELLANEOUS DEFECTS			
32. Type	☐ House Connection	☐ Stubline	☐ Surcharge MH
33. Solution	☐ Inspect Connection	☐ Plug/Seal	☐ Inspect MH
			Surcharge Depth _____ Ft. Replace MH

REMARKS			
<u>MH PARKING LOT GRIT IN LINE</u>			

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE # 10
 Project Number: E8019
 Date: 4/29/98 Initials: AJP
 Location: MASSILLON WWTP INFLUENT
 Site ID: 98010 Meter Serial No: H40296AVB05201BNW
 PROBE NO. E05705498 H020C7

Weather: ☐ Rain ☒ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

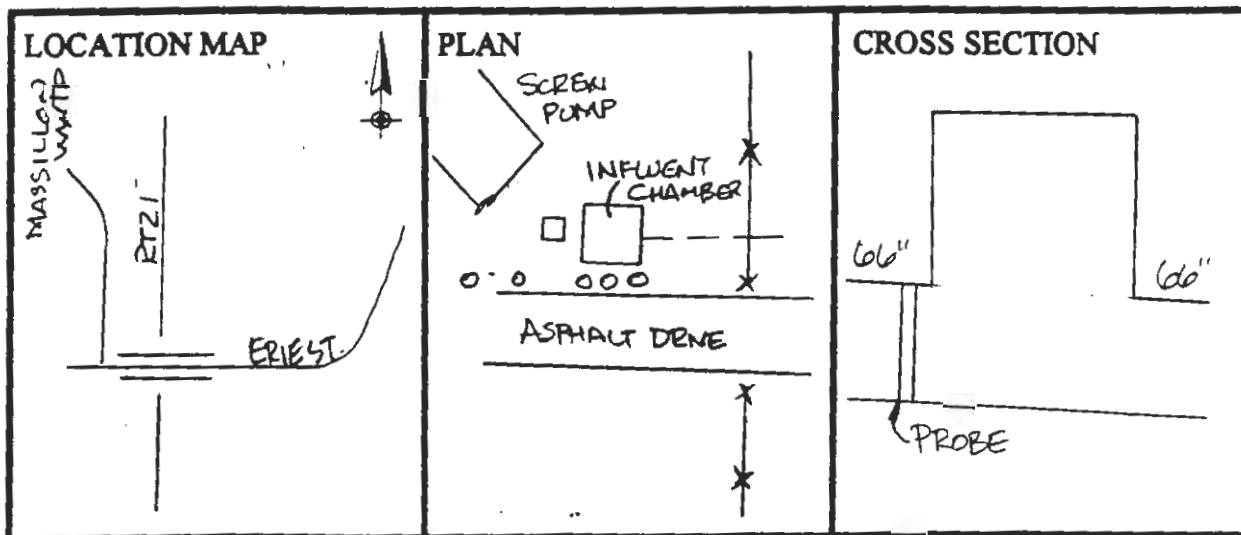
Tributary Area: ☒ Residential ☒ Commercial ☐ Undeveloped ☒ Industrial

Manhole Condition: ☐ Good ☒ Silting ☒ Oil/Grease ☒ Surcharge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☐ VCP ☐ Conc. ☐ PVC ☒ Brick ☐ Other _____

Manhole Depth: _____ Pipe Size: Incoming Line 1 66" Outlet 66"
 Line 2 _____



Comments: _____

MANHOLE INSPECTION FORM CTI ENVIRONMENTAL, INC.

Project MASSILLON I/F Project No. EB019
Location MASSILLON WWTTP

Date 4-14-98
Initial AJP

M.H. NO. 10 Baffle Sub-Basin

Description FRONT OF WWTTP - FRONT OF SCREEN
PUMP

Weather

Ground Condition



N
↑
A
↑
B

PHYSICAL CHARACTERISTICS

- | | | |
|--|--------------------------------------|--|
| 1. Type ☒ Sewery | ☐ Combined | ☐ Storm |
| 2. Age <u> </u> years | | |
| 3. Manhole Location ☐ Freeway | ☐ Arterial | ☐ Residential |
| 4. Manhole Depth ☐ 0 - 10 Ft. | ☐ 10 - 15 Ft. | ☒ Local Street |
| | | ☐ 15 - 25 Ft. |
| | | ☐ Special |

FLOW CHARACTERISTICS

- | | | |
|--|-------------------------------------|---------------------------------------|
| 5. Estimated Depth, Flow Direction, Time | 7. Odor <u> </u> | 8. Solids <u> </u> |
| 6. Clarity <u> </u> | | |
| 9. Comments <u> </u> | | |

FRAME AND LID

- | | | | |
|---|--|---|--|
| 10. Type ☐ Cast Iron | ☒ Other | ☐ Lock Wash/Bolt | ☐ Solid |
| 11. No. of Holes <u> </u> | | | |
| 12. Location ☐ Crown | ☐ Curb | ☒ Grass | ☐ Driveway |
| 13. Defect ☐ Fringe Ajar | ☐ Fringe Leak | ☐ Cover Inflow | ☐ Broken Fringe |
| 14. Solution ☐ Seal Fringe | ☐ Mortar Fringe | ☐ New Cover | ☐ New Fringe |
| | ☐ Adjust Casting <u> </u> inches | | ☐ Sump/Depression |
| | | | ☐ Deposition Depth <u> </u> inches |

STEPS

- | | | | | |
|--|----------------------------------|-----------------------------------|---------------------------------|-------------------------------|
| 15. Type and Condition ☒ Cast Iron | ☐ Plastic | ☐ Aluminum | ☐ Unsafe | ☐ None |
|--|----------------------------------|-----------------------------------|---------------------------------|-------------------------------|

CORREL.

- | | | | |
|--|---|--|----------------------------------|
| 16. Type ☒ Precast | ☐ Concrete Block | ☐ Brick | ☐ Other |
| 17. Defect ☐ Cracked | ☐ Missing Brick | ☐ Loose Mortar | ☐ Inflow |
| 18. Inflow (Gal.) <u> </u> GPM | | | |
| 19. Solution ☐ Seal Cracks | ☐ Replace Brick | ☐ Repair Mortar | ☐ Replace |
| 20. Cost Impact ☐ High | ☐ Medium | ☐ Low | ☐ None |

WALL

- | | | | |
|--|---|--|--|
| 21. Type ☒ Precast | ☐ Concrete Block | ☐ Brick | ☐ Other |
| 22. Defect ☐ Cracked | ☐ Bad Joint(s) | ☐ Missing Brick | ☐ Loose Mortar |
| 23. Inflow (Gal.) <u> </u> GPM | ☐ Stair | ☐ Wet | ☐ Dry |
| 24. Depth of Wetness <u> </u> Ft. | | | |
| 25. Infiltration Rate (Gal.) <u> </u> GPM | | | |
| 26. Solution ☐ Seal Cracks | ☐ Repair Joint | ☐ Replace Brick | ☐ Repair Mortar |
| 27. Cost Impact ☐ High | ☐ Medium | ☐ Low | ☐ None |

BENCH

- | | | | |
|---|---|--------------------------------------|--------------------------------|
| 28. Type ☒ Concrete | ☐ Brick & Mortar | ☐ Pipe Trough | ☐ Other |
| 29. Infiltration <u> </u> GPM | | | |
| 30. Solution ☐ Seal Cracks | ☐ Brick & Mortar | ☐ New Pipe | ☐ Other |
| 31. Cost Impact ☐ High | ☐ Medium | ☐ Low | ☐ None |

MISCELLANEOUS DEFECTS

- | | | | |
|---|------------------------------------|---------------------------------------|---|
| 32. Type ☐ House Connection | ☐ Stubline | ☐ Surcharge MH | Surcharge Depth <u> </u> Ft. |
| 33. Solution ☐ Impact Connection | ☐ Plug/Seal | ☐ Impact MH | Replace MH <u> </u> |

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name MASSILLON I/I ADDITIONAL SITE 11
 Project Number EB019
 Date 4/23/98 Initials: DBL
 Location: HARSH AVENUE
 Site ID: 98011 Meter Serial No: _____

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

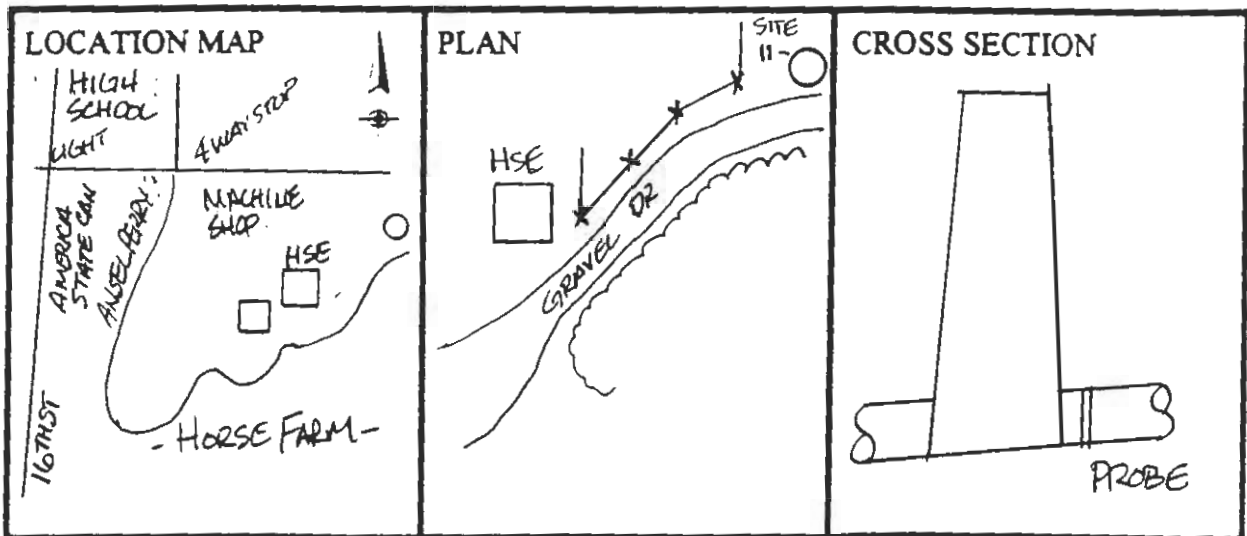
Tributary Area: ☐ Residential ☐ Commercial ☒ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☐ Junction ☒ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: _____ Pipe Size: Incoming Line 1 12" Outlet 12"
 Line 2 _____

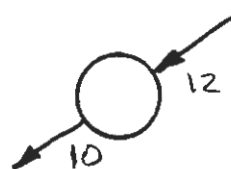


Comments: CASTING HAS BEEN MOVED OFF-CENTER APPROX 5"

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. E8019 Date 4/13/92
 Location CLYDEDALE FARM HOLDERBAUM PROPERTY - HARSH Initials AJP
 M.H. NO. 11 Basin _____ Sub-Basin _____
 Description CLYDEDALE FARM ON HOLDERBAUM PROPERTY
FAIR STREET
 Weather _____
 Ground Condition _____



PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storms
 2. Age _____ years
 3. Manhole Location ☐ Freeway ☐ Arterial ☐ Local Street ☒ Easement
 4. Manhole Depth ☒ 0 - 10 Ft. 9.70 ☐ 10 - 15 Ft. ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
 6. Clarity _____ 7. Odor _____ 8. Solids _____
 9. Comments _____

FRAME AND LID

10. Type 2-12 ☒ Cast Iron ☐ Other ☐ Lock Mech/Bolts ☐ Solid
 11. No. of Holes _____ Dia. of Holes _____
 12. Location ☐ Crown ☐ Curb ☒ Grass ☐ Driveway ☐ Sump/Depression
 13. Defect ☒ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
 14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☒ Cast Iron ☐ Plastic ☐ Aluminum ☒ Unsafe ☐ None

CORBEL

16. Type ☐ Precast ☐ Concrete Block ☒ Brick ☐ Other
 17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
 18. Inflow (Est.) _____ GPM
 19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
 20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☐ Precast ☐ Concrete Block ☒ Brick ☐ Other
 22. Defect ☐ Cracked ☐ Bad Joint(s) ☐ Missing Brick ☐ Loose Mortar
 23. Infiltration ☐ Stream ☐ Sheet ☐ Wet ☐ Dry
 24. Depth of Wetness _____ Ft.
 25. Infiltration Rate (Est.) _____ GPM
 26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
 27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☐ Concrete ☒ Brick & Mortar ☐ Pipe Trough ☐ Other
 29. Infiltration _____ GPM
 30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
 31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
 33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE #12
 Project Number: E8019
 Date: 4/29/98 Initials: AJP
 Location: 1ST & MCCADDEN
 Site ID: 98012 Meter Serial No: BA0498015017QSP
 PROBENO: I03703

Weather: ☐ Rain ☒ within past 24 hrs. ☐ Dry Period ☐ within past 24 hrs.

Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☒ Good ☐ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☒ Straight Thru ☐ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: _____ Pipe Size: Incoming Line 1 10" Outlet _____
 Line 2 10"

LOCATION MAP	PLAN	CROSS SECTION

Comments: _____

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. EB019

Date 4/13/98

Location FIRST & MCCADDEN

Initials ANP

M.H. NO. 12 Basin _____ Sub-Basin _____

Description ON MCCADDEN 1ST MH N/S OF STR. IN RD.

Weather 72 SUNNY

Ground Condition _____



N
↑
Z

PHYSICAL CHARACTERISTICS

1. Type ☒ Sanitary ☐ Combined ☐ Storm
2. Age _____ years
3. Manhole Location ☐ Freeway ☐ Arterial ☒ Local Street ☐ Easement
4. Manhole Depth ☒ 0 - 10 Ft. 7.05' ☐ 10 - 15 Ft. ☐ 15 - 25 Ft. ☐ Special

FLOW CHARACTERISTICS

5. Estimated Depth, Flow Direction, Time _____
6. Clarity _____ 7. Odor _____ 8. Solids _____
9. Comments FAST

FRAME AND LID

10. Type ☒ Cast Iron ☐ Other ☐ Lock Mech/Bolts ☐ Solid
11. No. of Holes 4-3/4 Dia. of Holes _____
12. Location ☐ Crown ☒ Curb ☐ Grass ☐ Driveway ☐ Sump/Depression
13. Defect ☐ Frame Ajar ☐ Frame Leak ☐ Cover Inflow ☐ Broken Frame ☐ Depression Depth
14. Solution ☐ Reset Frame ☐ Mortar Frame ☐ New Cover ☐ New Frame _____ inches
- ☐ Adjust Casting _____ inches

STEPS

15. Type and Condition ☒ Cast Iron ☐ Plastic ☐ Aluminum ☐ Unsafe ☐ None

CORBEL

16. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
17. Defect ☐ Cracked ☐ Missing Brick ☐ Loose Mortar ☐ Inflow
18. Inflow (Est.) _____ GPM
19. Solution ☐ Seal Cracks ☐ Replace Brick ☐ Repair Mortar ☐ Replace
20. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

WALL

21. Type ☒ Precast ☐ Concrete Block ☐ Brick ☐ Other
22. Defect ☐ Cracked ☐ Bad Joint(s) ☐ Missing Brick ☐ Loose Mortar
23. Infiltration ☐ Stream ☐ Sheet ☐ Wet ☐ Dry
24. Depth of Wetness _____ Ft.
25. Infiltration Rate (Est.) _____ GPM
26. Solution ☐ Seal Cracks ☐ Repair Joint ☐ Replace Brick ☐ Repair Mortar
27. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

BENCH

28. Type ☒ Concrete ☐ Brick & Mortar ☐ Pipe Trough ☐ Other
29. Infiltration _____ GPM
30. Solution ☐ Seal Cracks ☐ Brick & Mortar ☐ New Pipe ☐ Other
31. Cost Impact ☐ High ☐ Medium ☐ Low ☐ None

MISCELLANEOUS DEFECTS

32. Type ☐ House Connection ☐ Stubline ☐ Surcharge MH ☐ Surcharge Depth _____ Ft.
33. Solution ☐ Inspect Connection ☐ Plug/Seal ☐ Inspect MH ☐ Replace MH

REMARKS

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name MASSILLON I/I ADDITIONAL SITE #13.
 Project Number EB019
 Date 4/24/93 Initials: DBK
 Location: AMHERST & MERDILL
 Site ID: 98013 Meter Serial No: _____

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

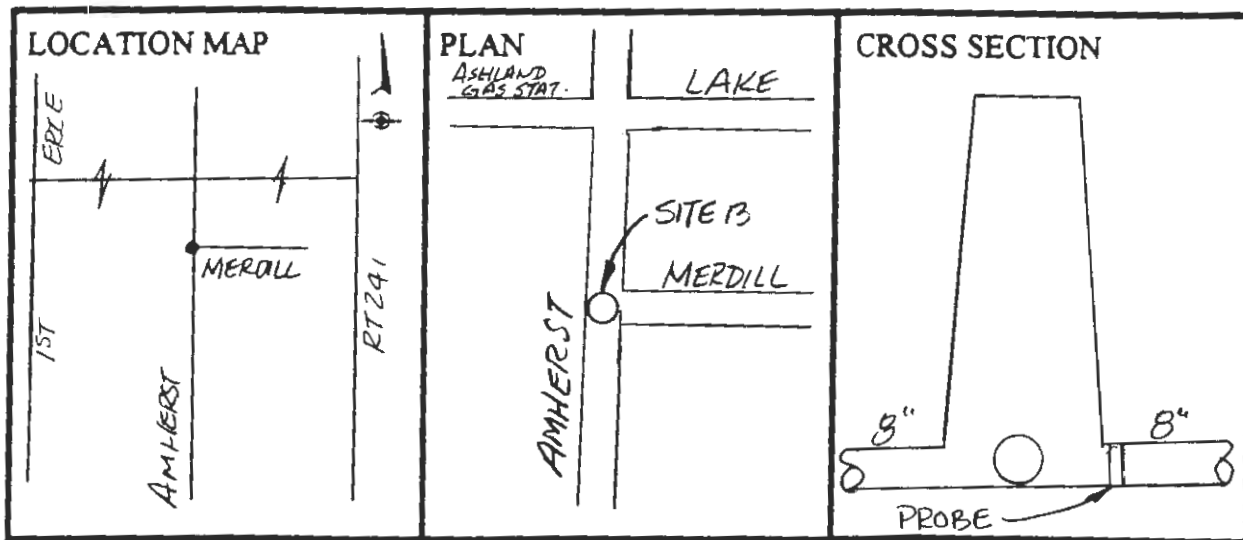
Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☐ Good ☒ Silting ☐ Oil/Grease ☐ Surcharge

Manhole Type: ☐ Straight Thru ☒ Junction ☐ Bend ☐ Drop ☐ Overflow

Pipe Type: ☒ VCP ☐ Conc. ☐ PVC ☐ Brick ☐ Other _____

Manhole Depth: 12.45 FEET Pipe Size: Incoming Line 1 8" Outlet 8"
 Line 2 8"



Comments: MANHOLE STEPS RUSTED AWAY

13

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLONI I/I Project No. EB019

Date 4/13/98

Location AMHERST & MERDILL

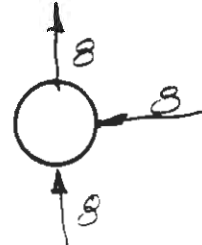
Initials _____

M.H. NO. 13 Basin _____ Sub-Basin _____

Description CENTER OF AMHERST @ INTERSECTION OF AMHERST & MERDILL

Weather _____

Ground Condition _____



PHYSICAL CHARACTERISTICS

- | | | | |
|---------------------|--|---|--|
| 1. Type | ☒ Sanitary | ☐ Combined | ☐ Storm |
| 2. Age | _____ years | | |
| 3. Manhole Location | ☐ Freeway | ☐ Arterial | ☒ Local Street |
| 4. Manhole Depth | ☐ 0 - 10 Ft. | ☒ 10 - 15 Ft. | ☐ 15 - 25 Ft. |
| | | | ☐ Easement |
| | | | ☐ Special |

FLOW CHARACTERISTICS

- | | | | | | |
|--|-------|---------|-------|-----------|-------|
| 5. Estimated Depth, Flow Direction, Time | _____ | 7. Odor | _____ | 8. Solids | _____ |
| 6. Clarity | _____ | | | | |
| 9. Comments | _____ | | | | |

FRAME AND LID

- | | | | | |
|------------------|---|---------------------------------------|--|---|
| 10. Type | ☒ Cast Iron | ☐ Other | ☐ Lock Mech/Bolts | ☐ Solid |
| 11. No. of Holes | <u>4 3/4</u> | 12. Location | ☐ Crown | ☐ Curb |
| 13. Defect | ☐ Frame Ajar | ☐ Frame Leak | ☐ Grass | ☐ Driveway |
| 14. Solution | ☐ Reset Frame | ☐ Mortar Frame | ☐ Cover Inflow | ☐ Broken Frame |
| | ☐ Adjust Casting | _____ inches | ☐ New Cover | ☐ New Frame |
| | | | | ☐ Sump/Depression |
| | | | | ☐ Depression Depth |
| | | | | _____ inches |

STEPS

- | | | | | | |
|------------------------|------------------------------------|----------------------------------|-----------------------------------|---------------------------------|--|
| 15. Type and Condition | ☐ Cast Iron | ☐ Plastic | ☐ Aluminum | ☐ Unsafe | ☒ None |
|------------------------|------------------------------------|----------------------------------|-----------------------------------|---------------------------------|--|

CORBEL

- | | | | | |
|-------------------|--------------------------------------|---|---|----------------------------------|
| 16. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 17. Defect | ☐ Cracked | ☐ Missing Brick | ☐ Loose Mortar | ☐ Inflow |
| 18. Inflow (Est.) | _____ GPM | | | |
| 19. Solution | ☐ Seal Cracks | ☐ Replace Brick | ☐ Repair Mortar | ☐ Replace |
| 20. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

WALL

- | | | | | |
|------------------------------|--------------------------------------|---|---|--|
| 21. Type | ☐ Precast | ☐ Concrete Block | ☒ Brick | ☐ Other |
| 22. Defect | ☐ Cracked | ☐ Bad Joint(s) | ☐ Missing Brick | ☐ Loose Mortar |
| 23. Infiltration | ☐ Stream | ☐ Sheet | ☐ Wet | ☐ Dry |
| 24. Depth of Wetness | _____ Ft. | | | |
| 25. Infiltration Rate (Est.) | _____ GPM | | | |
| 26. Solution | ☐ Seal Cracks | ☐ Repair Joint | ☐ Replace Brick | ☐ Repair Mortar |
| 27. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

BENCH

- | | | | | |
|------------------|--------------------------------------|--|--------------------------------------|--------------------------------|
| 28. Type | ☐ Concrete | ☒ Brick & Mortar | ☐ Pipe Trough | ☐ Other |
| 29. Infiltration | _____ GPM | | | |
| 30. Solution | ☐ Seal Cracks | ☐ Brick & Mortar | ☐ New Pipe | ☐ Other |
| 31. Cost Impact | ☐ High | ☐ Medium | ☐ Low | ☐ None |

MISCELLANEOUS DEFECTS

- | | | | | |
|--------------|---|------------------------------------|-------------------------------------|---------------------------|
| 32. Type | ☐ House Connection | ☐ Stubline | ☐ Surge MH | Surcharge Depth _____ Ft. |
| 33. Solution | ☐ Inspect Connection | ☐ Plug/Seal | ☐ Inspect MH | Replace MH |

REMARKS

GRIT

FLOW MONITORING SITE RECONNAISSANCE FORM

Project Name: MASSILLON I/I ADDITIONAL SITE 14

Project Number: EB019

Date: 4/22/98 Initials: DRK

Location: ERIE AVE @ SAND AND GRAVEL PITS

Site ID: 98014 Meter Serial No: HA046AUB006292BVV

PROBE No: H02084

Weather: ☐ Rain ☐ within past 24 hrs. ☒ Dry Period ☐ within past 24 hrs.

Tributary Area: ☒ Residential ☐ Commercial ☐ Undeveloped ☐ Industrial

Manhole Condition: ☐ Good ☒ Silting ☐ Oil/Grease ☐ Surge

Manhole Type: ☐ Straight Thru ☐ Junction ☒ Bend ☐ Drop ☐ Overflow

Pipe Type: ☐ VCP ☐ Conc. ☒ PVC ☐ Brick ☐ Other _____

Manhole Depth: 11.0 FEET Pipe Size: Incoming Line 1 10" Outlet 10"
Line 2 _____

LOCATION MAP	PLAN	CROSS SECTION

Comments: MANHOLE NEEDS RAISED; ALREADY HAS THREE
6" GRADE RINGS.

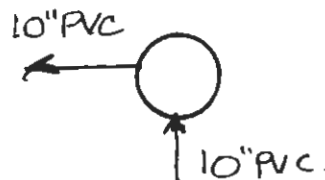


ENVIRONMENTAL, INC.
ENGINEERS IN WATER AND EARTH SCIENCES
UNIONTOWN, OHIO

MANHOLE INSPECTION FORM

CTI ENVIRONMENTAL, INC.

Project MASSILLON I/I Project No. E8019 Date 4/13/98
 Location ERIE ST (1ST) 600'E NEXT FENCE (SAND & GRAVEL PLACE) Initials AJP
 M.H. NO. 14 Basin _____ Sub-Basin _____
 Description OFF ERIE ST (HW CONSTRUCTION) FIELD
 Weather 72° SUNNY
 Ground Condition _____



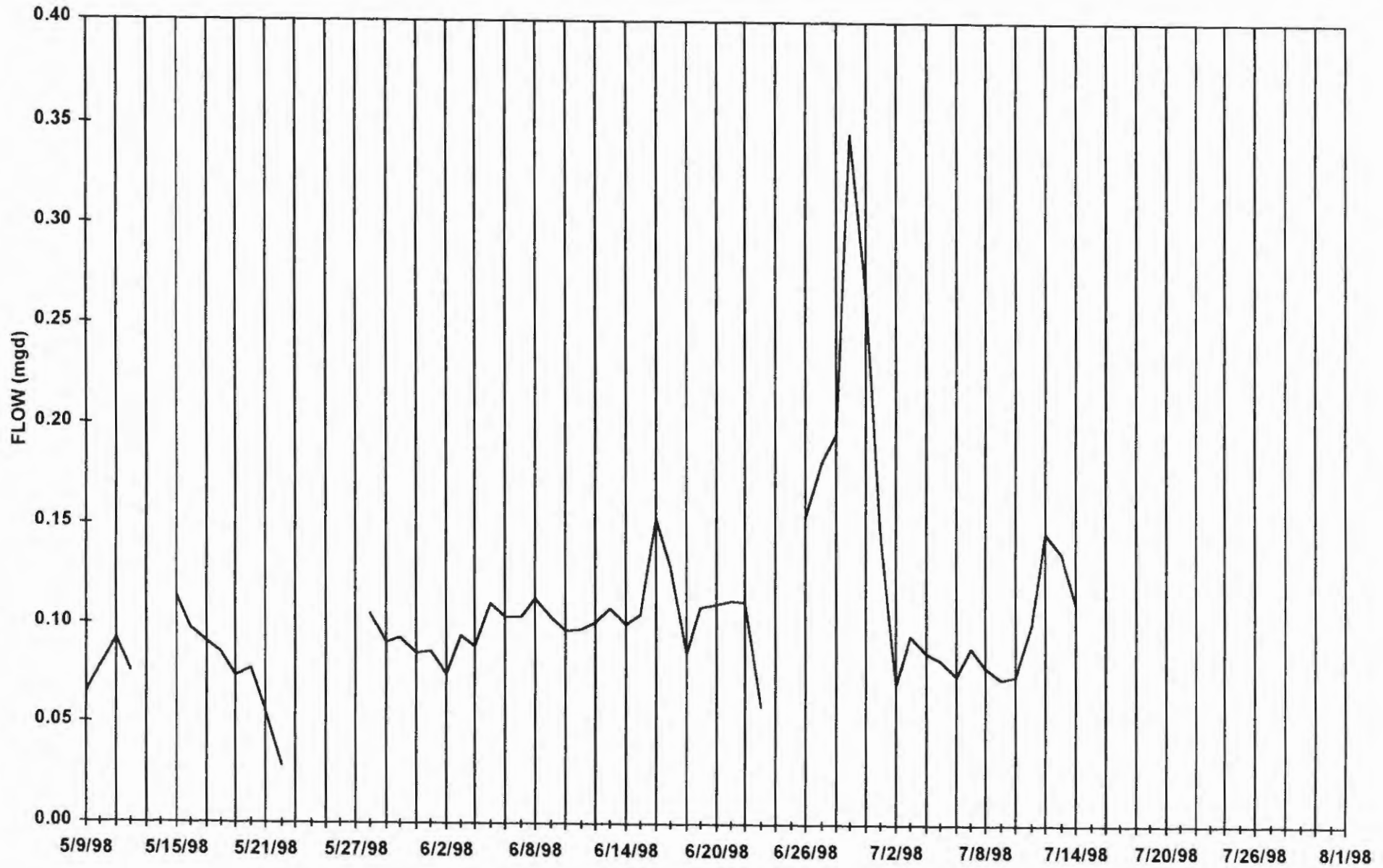
PHYSICAL CHARACTERISTICS			
1. Type	☒ Sanitary	☐ Combined	☐ Storm
2. Age	_____ years		
3. Manhole Location	☐ Freeway	☐ Arterial	☐ Local Street
4. Manhole Depth	☐ 0 - 10 Ft.	☐ 10 - 15 Ft. <u>11.1</u>	☐ 15 - 25 Ft.
☐ Basement ☐ Special			
FLOW CHARACTERISTICS			
5. Estimated Depth, Flow Direction, Time	7. Odor _____		
6. Clarity	8. Solids _____		
9. Comments	<u>GOOD FLOW</u>		
FRAME AND LID			
10. Type	☒ Cast Iron	☐ Other	☐ Lock Mech./Bolts ☐ Solid
11. No. of Holes	Dia. of Holes _____		
12. Location	☐ Crown	☐ Curb	☐ Grate ☐ Driveway ☐ Sump/Depression
13. Defect	☐ Frame Ajar	☐ Frame Leak	☐ Cover In/low ☐ Broken Frame ☐ Depression Depth _____ inches
14. Solution	☐ Reset Frame	☐ Mortar Frame	☐ New Cover ☐ New Frame
	☐ Adjust Casting _____ inches		
STEPS			
15. Type and Condition	☐ Cast Iron	☐ Plastic	☐ Aluminum ☐ Unsafe ☐ None
CORBEL			
16. Type	☒ Precast	☐ Concrete Block	☐ Brick ☐ Other
17. Defect	☐ Cracked	☐ Missing Brick	☐ Loose Mortar ☐ Inflow
18. Inflow (Est.)	_____ GPM		
19. Solution	☐ Seal Cracks	☐ Replace Brick	☐ Repair Mortar ☐ Replace
20. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
WALL			
21. Type	☒ Precast	☐ Concrete Block	☐ Brick ☐ Other
22. Defect	☐ Cracked	☐ Bad Joint(s)	☐ Missing Brick ☐ Loose Mortar
23. Infiltration	☐ Stream	☐ Sheet	☐ Wet ☐ Dry
24. Depth of Wetness	_____ Ft.		
25. Infiltration Rate (Est.)	_____ GPM		
26. Solution	☐ Seal Cracks	☐ Repair Joint	☐ Replace Brick ☐ Repair Mortar
27. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
BENCH			
28. Type	☒ Concrete	☐ Brick & Mortar	☐ Pipe Trough ☐ Other
29. Infiltration	_____ GPM		
30. Solution	☐ Seal Cracks	☐ Brick & Mortar	☐ New Pipe ☐ Other
31. Cost Impact	☐ High	☐ Medium	☐ Low ☐ None
MISCELLANEOUS DEFECTS			
32. Type	☐ House Connection	☐ Stubline	☐ Surge MH ☐ Surcharge Depth _____ Ft.
33. Solution	☐ Inspect Connection	☐ Plug/Seal	☐ Inspect MH ☐ Replace MH
REMARKS			

APPENDIX F
Daily Flow Averages, Maximums
and Minimums Weekly
Flow Monitoring Checklist

MONITOR SITE NO. 1
Rolling Hills Mobile Home Park

Daily Flow vs Time

Site:00098001



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .6666666666534882

Location:
Site ID: 00098001
Serial#: BND

Daily Flow Summary Report

Site:00098001

Daterange: 04/22/98-07/15/98

Primary Device: Area Velocity

Location:

Territory: TERRITORY 6/25/98

Shape: Round Pipe

Site ID: 00098001

12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .666666686534882

Serial#: BND

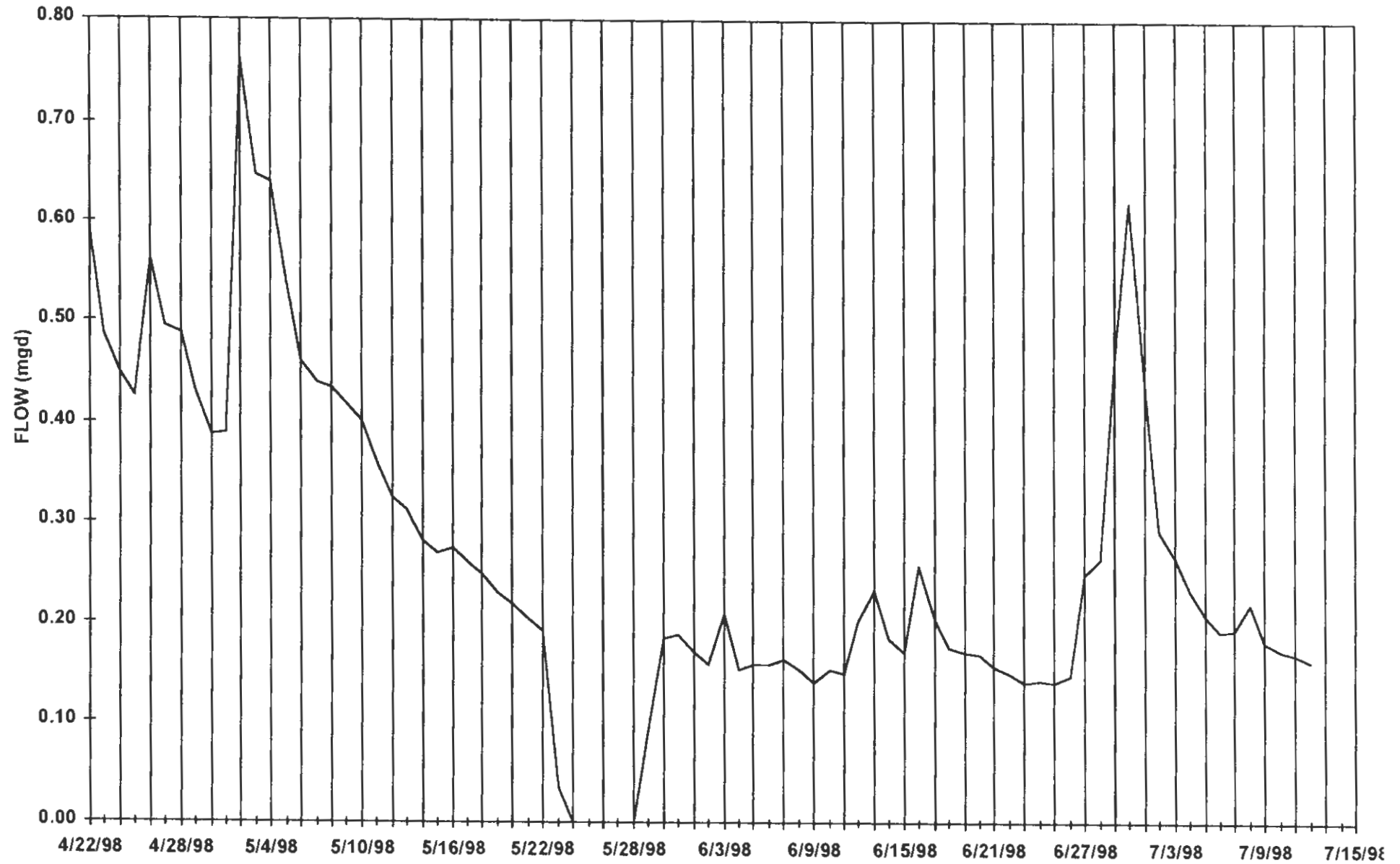
Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/22/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/23/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/24/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/25/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/26/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/27/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/28/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/29/98	.0000	.0000	.0000	11:55 pm	11:55 pm
04/30/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/01/98	.0000	.0000	.0000	12:00 pm	12:00 pm
05/02/98					
05/03/98					
05/04/98					
05/05/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/06/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/07/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/08/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/09/98	.0651	.0000	.1529	04:55 am	04:00 pm
05/10/98	.0784	.0313	.1534	10:25 am	10:50 am
05/11/98	.0918	.0323	.1514	02:20 am	04:30 pm
05/12/98	.0752	.0360	.1390	03:40 am	12:10 am
05/13/98					
05/14/98					
05/15/98	.1140	.0744	.1792	11:55 pm	11:50 am
05/16/98	.0972	.0280	.1787	02:15 am	11:50 am
05/17/98	.0900	.0233	.1739	04:25 am	11:30 am
05/18/98	.0850	.0291	.1423	02:40 am	10:10 pm
05/19/98	.0739	.0262	.1380	05:05 am	06:45 am
05/20/98	.0777	.0241	.1658	03:55 am	04:55 pm
05/21/98	.0551	.0166	.1083	04:00 am	08:55 pm
05/22/98	.0283	.0129	.0684	03:40 am	12:05 am
05/23/98					
05/24/98					
05/25/98					
05/26/98					
05/27/98					
05/28/98	.1051	.0572	.1635	04:30 pm	09:55 pm
05/29/98	.0906	.0208	.2038	04:00 am	04:05 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/30/98	.0931	.0252	.1961	04:15 am	11:00 am
05/31/98	.0854	.0141	.1884	04:55 am	03:35 pm
06/01/98	.0855	.0197	.1685	03:45 am	07:00 pm
06/02/98	.0742	.0217	.1469	03:05 am	09:20 pm
06/03/98	.0938	.0203	.1824	04:00 am	01:00 pm
06/04/98	.0889	.0296	.1767	02:10 am	11:10 pm
06/05/98	.1103	.0258	.2061	05:05 am	01:25 pm
06/06/98	.1034	.0193	.1874	04:55 am	01:25 pm
06/07/98	.1034	.0275	.1926	04:55 am	05:35 pm
06/08/98	.1131	.0414	.2069	03:00 am	02:50 pm
06/09/98	.1034	.0158	.2098	04:00 am	10:10 am
06/10/98	.0966	.0233	.1557	02:10 am	12:55 pm
06/11/98	.0968	.0363	.1652	02:55 am	04:20 pm
06/12/98	.1010	.0543	.1835	04:30 am	10:25 pm
06/13/98	.1074	.0496	.1834	03:50 am	04:10 pm
06/14/98	.0995	.0249	.1816	05:05 am	09:55 am
06/15/98	.1050	.0235	.1927	02:45 am	05:20 pm
06/16/98	.1523	.0218	.7322	05:10 am	04:45 pm
06/17/98	.1295	.0603	.3077	03:10 am	08:05 am
06/18/98	.0853	.0302	.1792	03:05 am	11:25 am
06/19/98	.1088	.0233	.2467	03:15 am	11:30 am
06/20/98	.1106	.0241	.1990	03:30 am	02:10 pm
06/21/98	.1115	.0230	.2052	04:20 am	12:45 pm
06/22/98	.1106	.0150	.2006	04:15 am	10:30 pm
06/23/98	.0594	.0291	.1092	02:30 am	12:10 am
06/24/98					
06/25/98					
06/26/98	.1540	.0944	.3101	05:10 pm	11:40 am
06/27/98	.1816	.0335	1.6021	03:55 am	08:40 am
06/28/98	.1953	.0508	1.2678	05:55 am	06:40 pm
06/29/98	.3455	.1180	1.0824	04:30 am	08:30 pm
06/30/98	.2658	.1119	.8311	01:30 pm	03:00 pm
07/01/98	.1462	.0510	.2880	11:55 pm	12:00 am
07/02/98	.0706	.0414	.1368	11:10 pm	11:15 am
07/03/98	.0942	.0394	.2000	04:15 am	12:10 pm
07/04/98	.0855	.0288	.2002	04:45 am	11:55 am
07/05/98	.0828	.0248	.2029	05:15 am	09:05 am
07/06/98	.0748	.0280	.1535	05:50 pm	09:25 pm
07/07/98	.0886	.0290	.1740	03:15 am	10:30 am
07/08/98	.0787	.0260	.1551	07:35 am	11:30 am
07/09/98	.0728	.0302	.1509	02:45 am	12:15 pm
07/10/98	.0744	.0225	.1357	02:40 am	08:10 pm
07/11/98	.1003	.0236	.2437	03:45 am	10:30 pm
07/12/98	.1469	.0256	.3232	04:05 am	09:50 am
07/13/98	.1359	.0229	.2914	05:05 am	09:10 am
07/14/98	.1106	.0269	.2563	03:55 am	09:05 am

MONITOR SITE NO. 2
New Brookfield Interceptor

Daily Flow vs Time

Site:00980002



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1.75

Location:
Site ID: 00980002
Serial#: CTL

Daily Flow Summary Report

Site:00980002

Daterange: 04/22/98-08/12/98

Primary Device: Area Velocity

Location:

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00980002

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 1.75

Serial#: CTL

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/22/98	.5843	.4547	.8767	11:45 pm	05:00 pm
04/23/98	.4855	.3448	.6486	04:40 am	07:55 am
04/24/98	.4470	.2907	.6548	05:15 am	07:50 am
04/25/98	.4255	.2966	.6561	05:45 am	11:55 am
04/26/98	.5626	.2734	.8708	01:40 am	06:15 pm
04/27/98	.4948	.3808	.6635	04:25 am	10:05 am
04/28/98	.4874	.2953	.6851	03:10 am	10:55 am
04/29/98	.4300	.2950	.6261	03:30 am	07:45 am
04/30/98	.3878	.2363	.5438	04:10 am	08:15 am
05/01/98	.3880	.2536	.5847	02:45 am	10:35 pm
05/02/98	.7598	.2841	1.2348	04:50 am	01:20 pm
05/03/98	.6470	.5306	.8675	07:20 pm	12:05 am
05/04/98	.6400	.5224	.8321	11:40 pm	07:25 am
05/05/98	.5359	.4351	.7362	04:15 pm	07:45 am
05/06/98	.4593	.3589	.6138	04:30 am	07:05 am
05/07/98	.4388	.3195	.7083	04:10 am	07:00 pm
05/08/98	.4342	.2689	.5842	04:00 am	07:40 am
05/09/98	.4177	.2781	.5985	04:20 am	10:00 am
05/10/98	.4006	.2473	.5495	04:10 am	10:00 am
05/11/98	.3606	.2443	.4801	04:15 am	08:35 am
05/12/98	.3250	.2084	.4425	02:45 am	07:50 am
05/13/98	.3120	.1670	.4802	04:10 am	10:10 pm
05/14/98	.2816	.1597	.4157	04:35 am	07:20 am
05/15/98	.2698	.1447	.3732	04:25 am	09:05 am
05/16/98	.2749	.1713	.4139	04:40 am	09:20 am
05/17/98	.2597	.1375	.4203	04:15 am	11:25 am
05/18/98	.2484	.1224	.3580	04:00 am	11:00 am
05/19/98	.2285	.1175	.3881	05:30 am	08:30 am
05/20/98	.2182	.0996	.3450	04:45 am	03:00 pm
05/21/98	.2022	.0994	.3330	05:20 am	08:50 am
05/22/98	.1902	.0889	.2707	05:10 am	07:40 am
05/23/98	.0350	.0000	.2246	11:55 pm	12:00 am
05/24/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/25/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/26/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/27/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/28/98	.0000	.0000	.0000	11:55 pm	11:55 pm
05/29/98	.0928	.0000	.4108	01:55 pm	05:10 pm

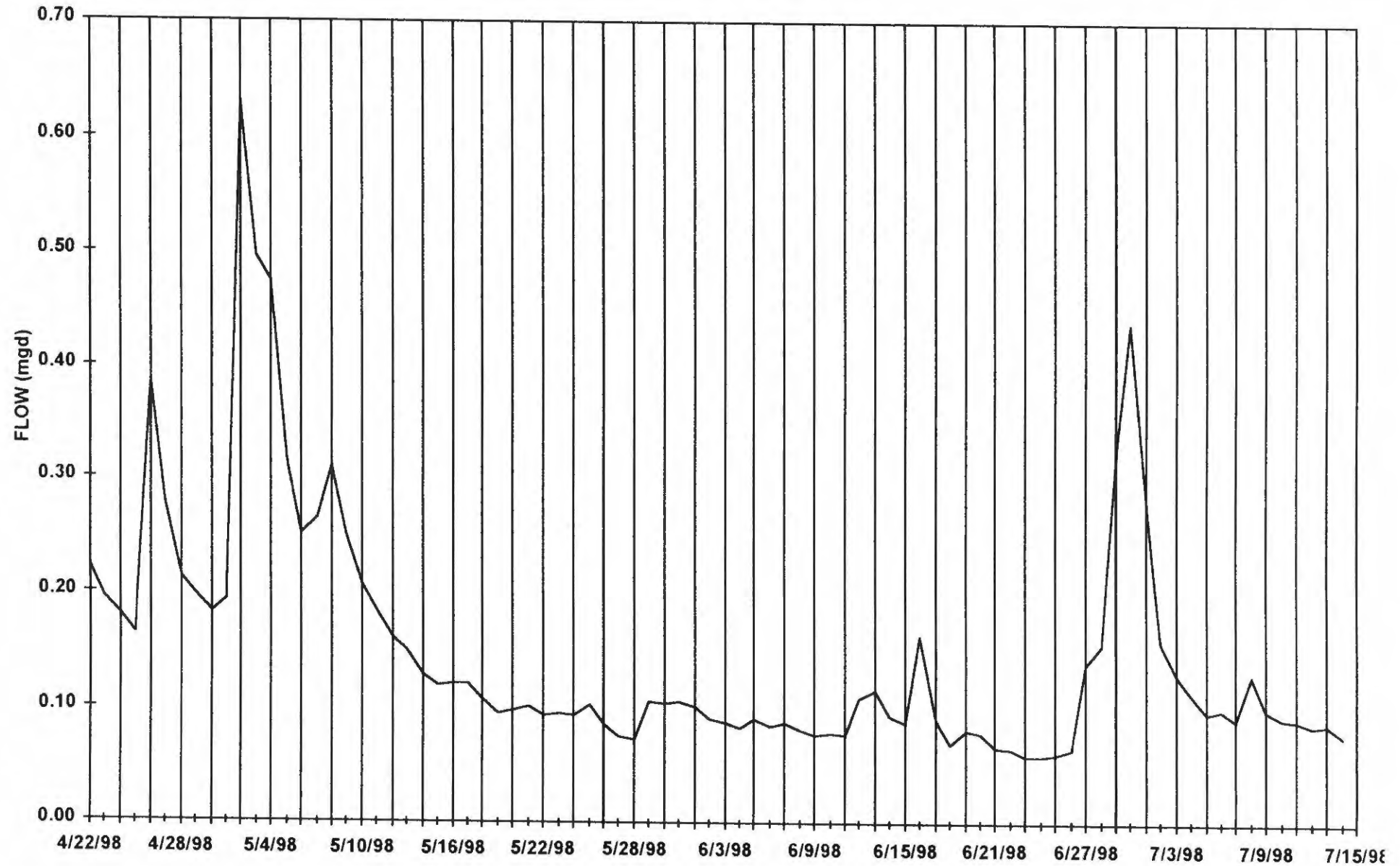
Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/30/98	.1845	.0861	.2934	04:45 am	09:50 am
05/31/98	.1874	.0899	.2830	06:20 am	01:15 pm
06/01/98	.1700	.0745	.2488	05:20 am	11:50 am
06/02/98	.1584	.0746	.2683	05:25 am	11:25 pm
06/03/98	.2076	.0807	.3297	04:30 am	06:30 pm
06/04/98	.1529	.0630	.2313	05:15 am	10:40 pm
06/05/98	.1578	.0624	.2392	05:55 am	03:15 pm
06/06/98	.1582	.0672	.2582	05:40 am	12:30 pm
06/07/98	.1635	.0749	.2781	03:55 am	11:15 am
06/08/98	.1526	.0677	.2235	03:15 am	10:25 pm
06/09/98	.1409	.0580	.2328	05:45 am	10:20 pm
06/10/98	.1520	.0671	.2245	04:55 am	07:40 pm
06/11/98	.1488	.0738	.2129	04:05 am	09:55 pm
06/12/98	.2015	.1061	.5545	05:20 am	11:50 pm
06/13/98	.2329	.1409	.4779	07:55 am	12:05 am
06/14/98	.1845	.1068	.3005	04:00 am	12:05 pm
06/15/98	.1701	.0835	.2509	04:35 am	11:35 am
06/16/98	.2570	.0884	1.3473	04:50 am	05:20 pm
06/17/98	.2039	.1299	.3119	03:40 am	12:25 pm
06/18/98	.1760	.1059	.2460	04:05 am	11:00 am
06/19/98	.1709	.0851	.2498	04:30 am	12:05 pm
06/20/98	.1685	.0844	.2805	04:35 am	11:55 am
06/21/98	.1566	.0783	.2354	04:20 am	10:40 am
06/22/98	.1489	.0722	.2262	04:55 am	12:35 pm
06/23/98	.1413	.0720	.2364	05:05 am	11:10 pm
06/24/98	.1428	.0692	.2155	04:00 am	10:55 pm
06/25/98	.1399	.0638	.2213	04:35 am	10:35 pm
06/26/98	.1483	.0633	.3464	04:35 am	06:20 pm
06/27/98	.2481	.0651	1.3070	04:55 am	09:25 am
06/28/98	.2632	.0978	.9742	05:15 am	07:20 pm
06/29/98	.4595	.1798	1.0637	04:05 am	12:05 pm
06/30/98	.6194	.3032	1.4159	01:10 pm	03:20 pm
07/01/98	.4353	.3268	.6423	08:05 pm	12:30 am
07/02/98	.2923	.2171	.3947	05:10 am	11:05 am
07/03/98	.2656	.1724	.3825	03:05 am	10:55 am
07/04/98	.2326	.1450	.4108	06:30 am	11:25 am
07/05/98	.2073	.1228	.3198	05:55 am	11:30 am
07/06/98	.1900	.0985	.2806	05:25 am	12:30 pm
07/07/98	.1929	.1078	.2678	04:35 am	08:05 pm
07/08/98	.2189	.1381	.3303	01:40 am	03:20 am
07/09/98	.1800	.1050	.2534	04:05 am	12:05 am
07/10/98	.1725	.0839	.2336	05:05 am	08:50 am
07/11/98	.1686	.0930	.2685	04:35 am	11:45 am
07/12/98	.1613	.0902	.2609	05:25 am	11:20 am
07/13/98					
07/14/98					
07/15/98					
07/16/98					

MONITOR SITE NO. 3
Old Brookfield Trunk

CTI Environmental, Inc.

Daily Flow vs Time

Site:00098003 OLD BROOKFIELD TRUNK - STARK



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1.25

Location: OLD BROOKFIELD TRUNK - STARK
Site ID: 00098003
Serial#: P8T

Daily Flow Summary Report

Site: 00098003 OLD BROOKFIELD TRUNK - STARK

Daterange: 04/22/98-08/12/98

Primary Device: Area Velocity

Location: OLD BROOKFIELD TRUNK - STARK

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098003

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 1.25 (15.0)"

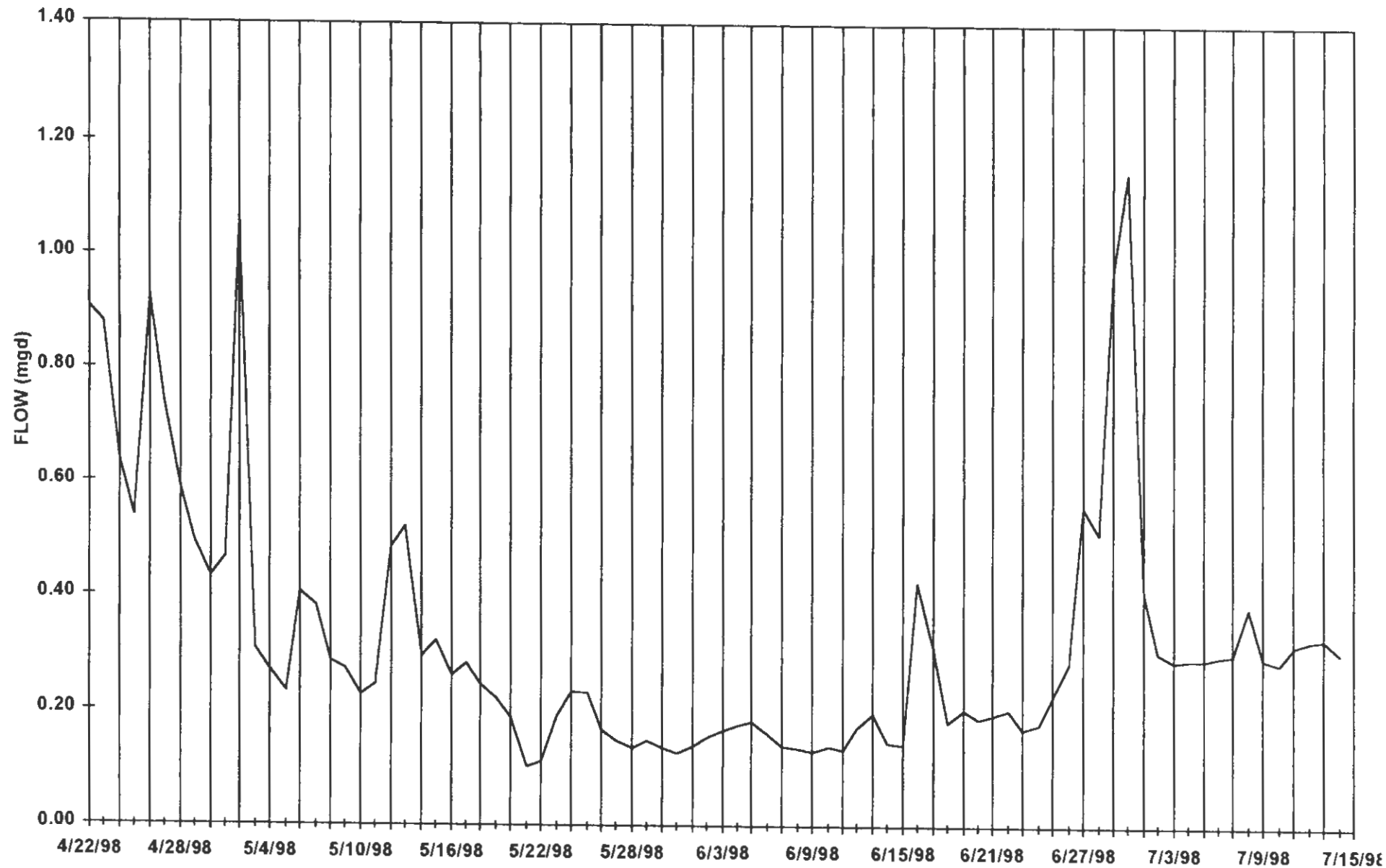
Serial#: P8T

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/22/98	.2233	.1585	.2974	04:40 am	08:30 am
04/23/98	.1960	.1346	.2824	03:30 am	08:15 am
04/24/98	.1811	.1071	.3223	04:10 am	06:00 pm
04/25/98	.1637	.0972	.2631	02:45 am	09:10 am
04/26/98	.3856	.1285	.7006	03:35 am	04:20 pm
04/27/98	.2779	.2062	.3633	10:40 pm	08:25 am
04/28/98	.2138	.1428	.3336	04:45 am	09:40 pm
04/29/98	.1969	.1328	.2853	04:10 am	07:05 am
04/30/98	.1839	.1085	.2830	03:35 am	08:25 pm
05/01/98	.1946	.1066	.4349	03:05 am	09:50 pm
05/02/98	.6295	.1428	1.2178	04:00 am	12:35 pm
05/03/98	.4948	.3793	.8270	05:10 pm	11:10 pm
05/04/98	.4736	.3225	.6353	11:55 pm	07:00 am
05/05/98	.3143	.2338	.4261	11:40 pm	07:00 am
05/06/98	.2515	.1925	.3495	04:50 am	07:00 am
05/07/98	.2663	.1508	.7134	02:30 am	06:15 pm
05/08/98	.3110	.2210	.4801	03:15 am	04:10 pm
05/09/98	.2500	.1870	.3510	04:30 am	09:40 am
05/10/98	.2082	.1347	.3129	04:45 am	10:05 am
05/11/98	.1852	.1150	.2693	04:10 am	07:30 am
05/12/98	.1606	.0976	.2224	04:15 am	07:30 am
05/13/98	.1498	.0826	.2240	03:50 am	10:00 pm
05/14/98	.1297	.0714	.2140	03:55 am	08:20 am
05/15/98	.1207	.0660	.2119	03:20 am	08:20 am
05/16/98	.1217	.0595	.2311	03:00 am	10:35 am
05/17/98	.1209	.0548	.2084	04:05 am	09:35 pm
05/18/98	.1071	.0435	.1845	03:30 am	07:10 am
05/19/98	.0958	.0411	.1604	03:55 am	10:30 pm
05/20/98	.0985	.0428	.2189	05:15 am	09:05 pm
05/21/98	.1019	.0434	.1676	03:50 am	10:05 pm
05/22/98	.0947	.0420	.1582	04:05 am	09:00 am
05/23/98	.0956	.0335	.2118	04:40 am	11:05 am
05/24/98	.0940	.0324	.1765	03:15 am	12:00 pm
05/25/98	.1031	.0287	.2183	04:20 am	12:20 pm
05/26/98	.0872	.0240	.1599	03:30 am	10:10 am
05/27/98	.0762	.0318	.1379	03:55 am	09:45 pm
05/28/98	.0725	.0252	.1344	03:10 am	08:00 am
05/29/98	.1065	.0274	.8724	05:10 am	11:20 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/30/98	.1052	.0407	.1966	04:10 am	09:25 am
05/31/98	.1066	.0000	.2458	02:30 am	06:25 pm
06/01/98	.1013	.0037	.1807	02:05 am	07:55 am
06/02/98	.0917	.0318	.1620	02:40 am	08:35 am
06/03/98	.0887	.0000	.1645	03:35 am	08:00 am
06/04/98	.0834	.0000	.1426	04:35 am	08:20 am
06/05/98	.0916	.0280	.1589	03:25 am	12:30 pm
06/06/98	.0855	.0271	.1586	04:30 am	11:10 am
06/07/98	.0881	.0263	.1694	06:05 am	12:10 pm
06/08/98	.0813	.0207	.1623	04:25 am	11:10 am
06/09/98	.0768	.0238	.1309	04:00 am	08:25 am
06/10/98	.0782	.0246	.1301	03:05 am	10:15 am
06/11/98	.0782	.0241	.1419	04:10 am	09:40 pm
06/12/98	.1100	.0286	.4519	04:30 am	11:00 pm
06/13/98	.1173	.0508	.3878	05:55 am	12:10 am
06/14/98	.0941	.0309	.1618	03:15 am	08:45 pm
06/15/98	.0888	.0278	.1685	05:05 am	09:15 am
06/16/98	.1642	.0261	1.2162	04:50 am	04:50 pm
06/17/98	.0910	.0695	.1563	04:55 am	09:15 am
06/18/98	.0699	.0211	.1375	03:00 am	11:00 am
06/19/98	.0815	.0310	.1370	03:10 am	07:25 am
06/20/98	.0783	.0279	.1615	01:45 am	11:40 am
06/21/98	.0665	.0224	.1076	06:25 am	12:05 pm
06/22/98	.0651	.0174	.1240	05:20 am	10:25 pm
06/23/98	.0589	.0181	.1076	04:50 am	10:40 am
06/24/98	.0589	.0139	.1049	05:00 am	11:30 pm
06/25/98	.0604	.0180	.1037	04:15 am	10:35 pm
06/26/98	.0659	.0154	.2896	05:40 am	06:05 pm
06/27/98	.1395	.0100	1.1734	03:10 am	08:55 am
06/28/98	.1563	.0299	1.1304	05:50 am	07:05 pm
06/29/98	.3211	.0979	.8318	04:40 am	12:00 pm
06/30/98	.4376	.1838	1.3839	10:30 am	02:55 pm
07/01/98	.2810	.1655	.4690	08:55 pm	12:05 am
07/02/98	.1595	.1100	.2212	09:10 pm	09:30 am
07/03/98	.1306	.0754	.2216	05:20 am	11:20 am
07/04/98	.1143	.0567	.2226	05:50 am	11:40 am
07/05/98	.0973	.0394	.1674	05:10 am	02:05 pm
07/06/98	.0997	.0361	.1678	04:05 am	10:15 am
07/07/98	.0909	.0365	.1408	03:45 am	09:25 am
07/08/98	.1307	.0616	.2713	12:40 am	02:25 am
07/09/98	.1000	.0362	.1799	05:10 am	10:25 am
07/10/98	.0924	.0308	.1772	03:30 am	10:40 am
07/11/98	.0905	.0349	.1633	04:30 am	10:35 pm
07/12/98	.0873	.0272	.1575	05:15 am	10:55 am
07/13/98	.0874	.0265	.1475	05:05 am	09:15 am
07/14/98	.0780	.0264	.1280	04:55 am	09:15 am
07/15/98					
07/16/98					

MONITOR SITE NO. 4
Wooster Trunk @ MH Behind House on
Lincoln Way

Daily Flow vs Time
Site:00098004 WOOSTER TRUNK - MASSILLON



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1

Location: WOOSTER TRUNK - MASSILLON
Site ID: 00098004
Serial#: P84

Daily Flow Summary Report

Site:00098004 WOOSTER TRUNK - MASSILLON

Daterange: 04/22/98-08/12/98

Primary Device: Area Velocity

Location: WOOSTER TRUNK -
MASSILLON

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098004

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 1

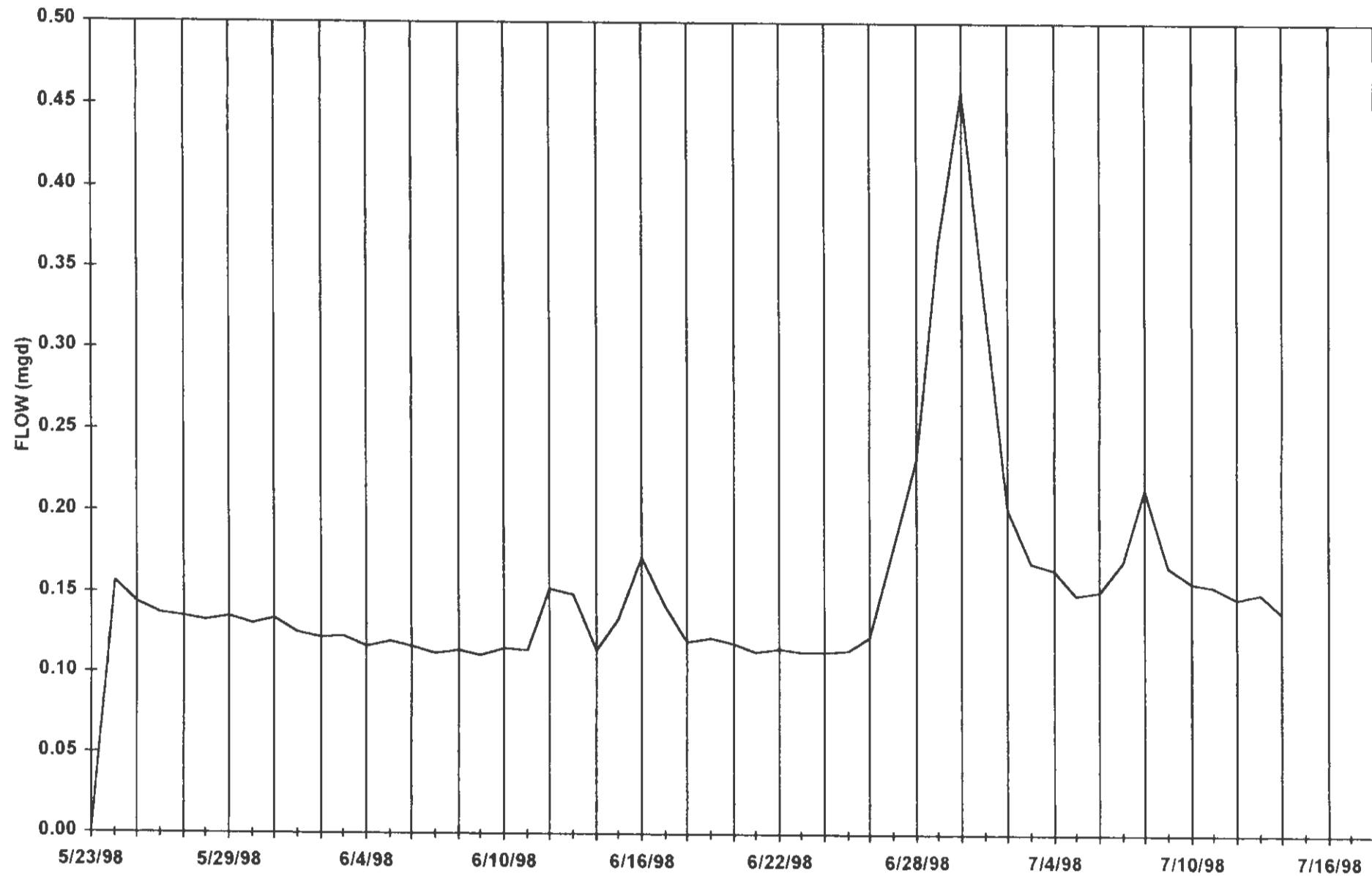
Serial#: P84

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/22/98	.9049	.7326	1.0861	11:35 pm	06:10 pm
04/23/98	.8791	.5516	1.2846	03:45 am	08:25 am
04/24/98	.6377	.4248	.8745	04:20 am	06:05 pm
04/25/98	.5412	.3081	.8134	04:00 am	10:20 am
04/26/98	.9241	.4376	1.9001	03:30 am	04:20 pm
04/27/98	.7394	.5020	.9916	04:55 pm	12:00 am
04/28/98	.5889	.4100	.7801	01:45 am	06:45 am
04/29/98	.4939	.3259	.7835	03:45 am	06:15 pm
04/30/98	.4329	.2490	.7250	05:25 am	07:45 pm
05/01/98	.4662	.2152	.8815	01:20 pm	09:45 pm
05/02/98	1.0541	.3705	2.4585	05:00 am	01:00 pm
05/03/98	.3068	.1774	.8568	08:55 am	04:40 am
05/04/98	.2690	.1728	.4698	12:05 pm	06:35 am
05/05/98	.2342	.1729	.3918	03:30 am	10:25 am
05/06/98	.4056	.1480	1.0286	02:30 am	03:50 pm
05/07/98	.3815	.1071	1.0001	02:40 am	07:05 pm
05/08/98	.2868	.1274	.8124	04:35 am	04:25 pm
05/09/98	.2739	.1318	1.0011	07:25 pm	08:35 pm
05/10/98	.2274	.1100	.4226	07:05 pm	08:30 am
05/11/98	.2459	.1314	.3622	03:30 am	09:30 pm
05/12/98	.4848	.1302	.9325	04:55 am	09:05 pm
05/13/98	.5233	.2167	.9563	07:45 pm	07:10 am
05/14/98	.2955	.1276	.6037	05:50 am	09:20 am
05/15/98	.3216	.1330	.7648	05:30 am	07:10 am
05/16/98	.2598	.1176	.5509	04:25 pm	11:55 am
05/17/98	.2810	.0970	.8055	05:40 am	09:05 pm
05/18/98	.2449	.1166	.5128	03:45 am	12:25 pm
05/19/98	.2208	.0795	.3629	05:50 am	06:45 pm
05/20/98	.1881	.0652	.3540	11:50 pm	07:40 am
05/21/98	.1022	.0526	.1874	11:45 pm	09:55 am
05/22/98	.1137	.0583	.1866	06:15 am	09:35 am
05/23/98	.1903	.0787	.3902	01:35 am	09:35 am
05/24/98	.2340	.1235	.4316	07:15 am	11:00 am
05/25/98	.2301	.1170	.4388	03:30 am	12:20 pm
05/26/98	.1672	.1055	.2498	10:30 am	08:35 am
05/27/98	.1477	.0893	.2733	02:20 am	07:05 am
05/28/98	.1370	.0597	.2846	08:45 pm	09:35 pm
05/29/98	.1498	.0458	1.1749	06:05 am	04:10 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/30/98	.1357	.0536	.2420	11:00 pm	12:50 pm
05/31/98	.1288	.0600	.2356	08:05 am	06:30 pm
06/01/98	.1391	.0864	.2546	10:45 pm	10:55 pm
06/02/98	.1553	.0902	.2566	06:05 pm	07:50 am
06/03/98	.1667	.0640	.2655	03:45 am	05:40 pm
06/04/98	.1752	.0711	.2839	03:15 am	08:30 am
06/05/98	.1825	.0666	.2866	04:05 am	03:00 pm
06/06/98	.1623	.0712	.3186	04:40 am	09:55 am
06/07/98	.1408	.0833	.2330	03:20 am	10:40 am
06/08/98	.1380	.0577	.2370	04:05 am	01:55 pm
06/09/98	.1320	.0434	.2146	04:25 am	02:25 pm
06/10/98	.1409	.0673	.3206	11:45 pm	10:10 pm
06/11/98	.1327	.0745	.2351	05:10 am	10:15 pm
06/12/98	.1717	.0810	.5110	05:25 pm	10:35 pm
06/13/98	.1978	.0801	.4128	08:45 pm	12:45 am
06/14/98	.1472	.0933	.2368	06:20 am	10:00 am
06/15/98	.1418	.0695	.2477	02:15 am	09:35 am
06/16/98	.4240	.0626	1.8036	02:00 am	04:45 pm
06/17/98	.3111	.1600	.5653	11:30 pm	12:00 am
06/18/98	.1811	.0917	.2876	02:25 am	10:15 pm
06/19/98	.2022	.0859	.3659	03:50 am	10:10 am
06/20/98	.1870	.0726	.3307	02:45 am	09:10 am
06/21/98	.1934	.0520	.3137	04:10 am	11:35 am
06/22/98	.2021	.0684	.3033	04:20 am	10:30 am
06/23/98	.1696	.0719	.2627	03:40 am	10:30 pm
06/24/98	.1788	.0591	.2792	05:10 am	11:35 pm
06/25/98	.2287	.0809	.5794	03:20 am	10:30 pm
06/26/98	.2869	.1374	1.1706	03:25 am	05:55 pm
06/27/98	.5578	.0842	3.0628	03:40 am	09:10 am
06/28/98	.5136	.1028	3.0838	06:20 am	07:00 pm
06/29/98	.9713	.3863	2.2188	05:10 am	11:45 am
06/30/98	1.1462	.3855	3.1881	01:50 pm	03:15 pm
07/01/98	.4112	.2257	1.4044	06:10 am	12:00 am
07/02/98	.3030	.1871	.4247	02:20 am	06:05 pm
07/03/98	.2881	.1790	.4229	06:55 am	11:30 am
07/04/98	.2900	.1828	.4938	11:15 pm	10:30 am
07/05/98	.2912	.1382	.4081	04:50 am	10:40 am
07/06/98	.2969	.1419	.4422	04:10 am	09:55 am
07/07/98	.2992	.1375	.4165	05:25 am	09:25 pm
07/08/98	.3816	.2220	.6814	12:55 am	02:25 am
07/09/98	.2949	.1594	.4662	02:45 am	10:05 pm
07/10/98	.2865	.1332	.3995	05:20 am	11:50 am
07/11/98	.3148	.1365	.5385	05:35 am	10:50 am
07/12/98	.3244	.1380	.4955	05:00 am	01:20 pm
07/13/98	.3276	.1529	.4954	03:20 am	10:00 pm
07/14/98	.3043	.1337	.5196	03:40 am	10:10 am
07/15/98					
07/16/98					

MONITOR SITE NO. 5
Wooster Trunk @ MH West of Gas Well

Daily Flow vs Time
Site: 00098005 WOOSTER TRUNK W OF GAS WELL



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .833333313465118

Location: WOOSTER TRUNK W OF GAS WELL
Site ID: 00098005
Serial#: P8R

Daily Flow Summary Report

Site:00098005 WOOSTER TRUNK W OF GAS WELL

Daterange: 05/24/98-07/19/98

Primary Device: Area Velocity

Location: WOOSTER TRUNK W OF GAS WELL

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098005

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .833333313465118

Serial#: P8R

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/24/98	.1560	.0000	.2646	12:00 am	09:20 am
05/25/98	.1432	.0631	.2847	02:00 am	12:00 pm
05/26/98	.1368	.0413	.2564	03:45 am	09:30 pm
05/27/98	.1345	.0429	.2392	04:35 am	07:30 am
05/28/98	.1319	.0341	.2170	05:00 am	09:50 pm
05/29/98	.1348	.0375	.3044	02:15 am	04:05 pm
05/30/98	.1306	.0491	.2259	06:10 am	12:00 pm
05/31/98	.1330	.0366	.2496	06:05 am	08:30 pm
06/01/98	.1247	.0444	.2040	01:55 am	05:00 pm
06/02/98	.1214	.0342	.2029	01:55 am	03:50 pm
06/03/98	.1224	.0462	.1921	03:35 am	05:35 pm
06/04/98	.1161	.0469	.1851	04:10 am	12:30 pm
06/05/98	.1196	.0363	.1930	02:15 am	09:40 am
06/06/98	.1156	.0359	.1986	03:35 am	09:40 am
06/07/98	.1116	.0364	.2002	03:05 am	09:45 pm
06/08/98	.1137	.0313	.2093	02:55 am	07:30 am
06/09/98	.1102	.0293	.1817	04:05 am	10:45 pm
06/10/98	.1153	.0264	.1952	03:55 am	10:00 pm
06/11/98	.1138	.0353	.1962	03:00 am	10:15 am
06/12/98	.1515	.0566	.4989	04:50 am	10:55 pm
06/13/98	.1481	.0700	.4314	04:35 am	12:00 am
06/14/98	.1139	.0349	.2025	03:55 am	12:35 pm
06/15/98	.1332	.0355	.2525	04:10 am	05:50 pm
06/16/98	.1716	.0324	.6753	01:20 am	05:00 pm
06/17/98	.1410	.0655	.2263	04:35 am	10:55 am
06/18/98	.1189	.0435	.1954	03:40 am	10:15 pm
06/19/98	.1218	.0330	.2062	03:30 am	08:20 am
06/20/98	.1181	.0406	.2338	03:00 am	09:00 am
06/21/98	.1132	.0320	.1928	02:35 am	10:30 pm
06/22/98	.1155	.0380	.1933	04:05 am	03:10 pm
06/23/98	.1127	.0285	.1943	03:50 am	10:25 pm
06/24/98	.1123	.0375	.1890	03:50 am	07:00 pm
06/25/98	.1140	.0289	.1921	04:35 am	11:15 pm
06/26/98	.1223	.0366	.2685	03:40 am	05:45 pm
06/27/98	.1772	.0262	.9037	04:45 am	08:45 am
06/28/98	.2324	.0513	1.2734	05:45 am	06:55 pm
06/29/98	.3652	.0832	.9156	02:55 am	12:15 pm
06/30/98	.4575	.1315	1.1909	06:20 am	06:55 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
07/01/98	.3237	.1731	.6765	07:15 pm	12:30 am
07/02/98	.2022	.1477	.3570	03:10 pm	05:50 pm
07/03/98	.1682	.0922	.3244	05:50 am	12:40 pm
07/04/98	.1638	.0653	.3586	05:25 am	10:35 am
07/05/98	.1490	.0742	.2684	06:00 am	10:50 am
07/06/98	.1503	.0609	.2786	06:15 am	11:40 am
07/07/98	.1692	.0680	.2692	05:10 am	01:05 pm
07/08/98	.2139	.0887	.3820	07:50 pm	03:00 am
07/09/98	.1663	.0714	.2890	03:45 am	12:40 pm
07/10/98	.1560	.0575	.2711	04:10 am	01:15 pm
07/11/98	.1543	.0559	.2542	03:40 am	10:35 am
07/12/98	.1469	.0500	.2340	05:45 am	07:15 pm
07/13/98	.1494	.0489	.2402	02:35 am	10:20 am
07/14/98	.1375	.0515	.2598	05:10 am	10:15 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					

Sigma 950AV Design Specifications

Dimensions: 13.5" H x 10.0" W x 9.5" D
34.3 cm x 25.4 cm x 24.1 cm

Weight: 15 lbs (6.8 kg) including power source.

Enclosure Material: ABS, UV resistant, stable from -40 to 176°F (-40 to 80°C).

Enclosure Rating: NEMA 4X, 6 with front door open or closed.

Operating Temperature Range: +14 to 150°F (-10 to 65.5°C).

Storage Temperature Range: -40 to 176°F (-40 to 80°C).

Power Sources: 12 VDC supplied from 7 amp-hr. gel or 4 amp-hr. Ni-Cad battery or two 6V alkaline, or 115 VAC, 230 VAC, or 100 VAC power supply/battery charger.

Battery Life: 150 days typical with a 15 minute recording interval, 1 level and 1 velocity, data download once per week, at 50°F (10°C) (also affected by site conditions).

Monitoring Intervals: 1, 2, 3, 5, 6, 10, 12, 15, 20, 30 or 60 minute intervals.

Program Memory: Non-volatile, program-mable flash; can be updated via RS-232 port.

Time Based Accuracy: ±1 second per day.

Units of Measurement: Level - in., m, cm, ft.; Flow - GPM, GPH, LPS, LPM, LPH, MGD, AFD, CFS, CFM, CFH, CFD, M3S, M3M, M3H, M3D.

Totalized Flow: gal., ft.³, acre-ft., L, m³.

Data Storage:

Capacity - 402 days of level, velocity and rainfall readings at 15 minute intervals plus 300 events.; Data Types - Level, velocity, flow rate, rainfall, samples, and water quality. Storage Modes - Slate or wrap.

Output Conditions: Set point on level, velocity, rainfall, flow, flow rate of change and water quality.

Sampler Output: 12-17 VDC pulse, 100 mA max at .500 ms duration.

Communications: Serial connection to IBM compatible computer with Sigma Data Analysis Software.

Modem: Bell 212, Baud - 1200 or 2400., Transfer protocol - Binary. Local terminal - RS232 at 19.2k baud.

Velocity Measurement: Method: Doppler ultrasonic; Transducer Type: Twin 1 MHz piezoelectric crystals; Typical Minimum Depth for Velocity: .8 in. (2 cm); Range: .5 to 20 fms (-1.52 to 6.10 m/s).

Zero Stability: <.05 fms. (.015 m/s), Accuracy: ± 2% of reading; Operating Temperature: 0 to 140°F (-18 to 60°C).

Integral Submerged Depth/ Velocity Sensor Accuracy

Level Measurement (non-linearity and hysteresis): Standard - .018 to 11.5 ft. ±.023 ft. (.005 m - 3.5 m ± .007 m).

Extended - .018 to 34.6 ft ± .07 ft. (.005 - 10.5 m ± .021 m).

Maximum Allowable Level: 3x over pressure. Operating Temperature Range: 32 to 160°F (0 to 71°C).

Compensated Temperature Range: 32 to 86°F (0 to 30°C).

Temperature Error: .018-11.5 ft. ±.004 ft./°F (.005 m - 3.5 m ± .0022 m/°C).

.018 - 34.6 ft. ±.012 ft./°F (.018-10.5 m ± .006 m/°C) (maximum error within compensated temperature range - per degree of change).

Velocity Induced Error on Depth (patent pending): 0 to 10 ft/sec. (0 to 3.05 m/s) = .085% of reading.

Air Intake: Atmospheric pressure reference is desiccant protected.

Material: Polymer body with stainless steel diaphragm.

Cable: Urethane sensor cable with air vent. Cable Length: 25' (7.6 m) standard. 250' (76 m) maximum.

Dimensions (combination sensor): .8" H x 1.5" W x 5" L (2 cm x 3.8 cm x 12.7 cm).

Integral Bubbler/Velocity Sensor Accuracy

Level Measurement: (non-linearity and hysteresis) from .01 to 11.75 ft. - ± .011 ft. (± .003 m).

Range: .01 to 11.75 ft. (.003 - 3.6 m).

Ambient Operating Temperature Range: 0 to 145°F (-18 to 63°C).

Temperature Error: ± .0003 ft./°F (± .0002 m/°C) (maximum error within compensated temperature range per degree of change).

Air Intakes: Bubble source and reference port desiccant protected. Fittings provided for remote intakes.

Filters: 10 micron on bubble source intake.

Line Purge: Bubble line is high pressure

purge at programmed intervals, or in manual mode on demand.

Line Size: 1/8" (.32 cm) standard.

Line Lengths: 500 ft. (150 m) maximum.

Materials: Sensor - Polymer body; Cable - Urethane.

Cable Length: Standard range probe - 25' (7.6 m); Custom cable lengths to 200' (61 m); Cable Diameter - .4 in. (1 cm).

Dimensions: 3.7" L x .8" H x 1.5" W (9.7 cm x 2 cm x 3.8 cm).

Zero Deadband Ultrasonic Level and Velocity Sensor Accuracy

Velocity Sensor: Dimensions: .44 in. H x 1.5 in. W x 2.7 in. L (1.12 cm x 3.81 cm x 6.86 cm).

Nose Angle: 20 deg from horizontal.

Cable Length: Standard range probe - 25' (7.6 m); custom cable lengths to 250' (76 m); cable diameter - .225 in. (.57 cm).

Materials: Sensor - polymer; cable - urethane; sensor mounting hardware - stainless steel.

Ultrasonic Level Sensor (In-pipe):

Accuracy: At 72°F (22°C) still air, 40-70% relative humidity from .125 to 15 ft. - ± .01 ft. (.038 to 4.57 m ± .003 m).

Range: Minimum distance from sensor to liquid 0 in. (0 cm). Maximum distance from sensor to liquid 15 ft. (4.57 m).

Span: .125 - 15 ft. (.038 - 4.57 m).

Ambient Operating Temperature: 0 to 140°F (-18 to 60°C).

Temperature Error: +.0001 ft./°F (.00005 m/°C) (maximum error within compensated temperature range - per degree of change).

Resolution: .0075 in. (.019 cm).

Material: Stainless steel housing with Buna-N acoustic window.

Cable: 4 conductor.

Cable Length: 25' (7.6 m) standard, 1000' (305 m) using RS485 two wire remote sensor option.

Crystal Specification: 75 KHz, 7° beam angle.

Dimensions: 1.5" dia. x 12" L (3.81 x 30 cm).

*Optional

SIGMA
Innovation in water monitoring

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24 HOUR HELP LINE 1-800-635-1230
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APPENDIX B

Confined Space Forms

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: Rolling Hills MHP Date: 4/22/98

Client: City of Macallen

Purpose of Entry: Install Flow Meter

Name(s) of Entrant(s): Rick Reed

Name(s) of Attendant(s): Jim King, Dave Kehlmaier

Name of Nearest Emergency Services: Macallen Comm. Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()

Initial Atmospheric Check:

Time 4:00 Oxygen (%) 21.5 Explosive (% LEL) 0 Toxic (ppm) 0

Source Isolation:

Pumps or Lines Blinded (x) () ()

Pumps or Lines Disconnected or Blocked (x) () ()

Ventilation:

Mechanical (x) () ()

Natural Ventilation Only () (x) ()

Atmospheric Check After Isolation and Ventilation:

Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____

Acceptable Limits: Oxygen (%) 19.5 minimum Explosive (% LEL) 10 Toxic (ppm) 10 H₂S

Comments:

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: David Goldens Date: _____

Approved By (Supervisor): Richard W. Paul Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

Date: 4/22/98

Expiration: _____

Name(s) of Entrant(s): Rick Reed

Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

N/A	Yes	No
-----	-----	----

- | | | | |
|---|-----|-----|-----|
| 2. Equipment: | | | |
| Direct Reading Gas Monitor Tested | () | X | () |
| Safety Harness and Lifeline | () | X | () |
| Hoisting Equipment | () | X | () |
| Radio or Telephone Available Nearby | () | X | () |
| First-aid Kit | () | X | () |
| Protective Clothing | () | X | () |
| Ventilation Fan | () | X | () |
| Traffic Cones or Barricades | () | () | X |
| Self-Contained Breathing Apparatus | () | () | X |
| Non-Sparking or Explosion Proof Equipment | () | X | X |

3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):
- | | | | |
|------------------|------------------------|----------------------------|----------------------|
| Time <u>4:00</u> | Oxygen (%) <u>21.5</u> | Explosive (% LEL) <u>0</u> | Toxic (ppm) <u>0</u> |
| Time _____ | Oxygen (%) _____ | Explosive (% LEL) _____ | Toxic (ppm) _____ |
| Time _____ | Oxygen (%) _____ | Explosive (% LEL) _____ | Toxic (ppm) _____ |
| Time _____ | Oxygen (%) _____ | Explosive (% LEL) _____ | Toxic (ppm) _____ |

- | | | | |
|--|--------------|-----|-----|
| 4. Source Isolation: | | | |
| Pumps or Lines Blinded | 0 | () | () |
| Pumps or Lines Disconnected or Blocked | 0 | () | () |

- | | | | |
|--------------------------|-----|----------------|----------------|
| 5. Ventilation: | | | |
| Mechanical | () | () | () |
| Natural Ventilation Only | () | () | () |

- Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments: _____

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: Fred Goldstein Date: 4/22/98

Approved By (Supervisor): Richard W. Paul Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

1 1 CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: ROLLING HILLS MHP Date: 5-5-98

Client: MASSILLON

Purpose of Entry: METER CHECK

Name(s) of Entrant(s): RICIE REED

Name(s) of Attendant(s): ART PORCANE AND JIM KINK

Name of Nearest Emergency Services: Massillon Hospital Phone: 911

Pre-Entry (See Safety Procedure)

- | | N/A | Yes | No |
|--|-----|-----|-----|
| 1. Entrant and Attendant: | | | |
| Trained | () | (x) | () |
| On Approved List | () | (x) | () |
| 2. Equipment: | | | |
| Direct Reading Gas Monitor Tested | () | (x) | () |
| Safety Harness and Lifeline | () | (x) | () |
| Hoisting Equipment | () | (x) | () |
| Radio or Telephone Available Nearby | () | (x) | () |
| First-aid Kit | () | (x) | () |
| Protective Clothing | () | (x) | () |
| Ventilation Fan | (x) | () | () |
| Traffic Cones or Barricades | (x) | () | () |
| 3. Initial Atmospheric Check: | | | |
| Time <u>1:40</u> Oxygen (%) <u>21.0</u> Explosive (% LEL) _____ Toxic (ppm) _____ | | | |
| 4. Source Isolation: | | | |
| Pumps or Lines Blinded | (x) | () | () |
| Pumps or Lines Disconnected or Blocked | (x) | () | () |
| 5. Ventilation: | | | |
| Mechanical | (x) | () | () |
| Natural Ventilation Only | (x) | (x) | () |
| 6. Atmospheric Check After Isolation and Ventilation: | | | |
| Time <u>1:40</u> Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____ | | | |
| Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u> | | | |
| 7. Comments: | | | |

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 5-5-98

Approved By (Supervisor): [Signature] Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

Site Location: Relling Hills MHP Date: 5/5/98
 Client: Marcellan Expiration: _____
 Purpose of Entry: Meter Check
 Name(s) of Entrant(s): Rick Reed
 Name(s) of Attendant(s): Art Pokopac, Jim King
 Name of Nearest Emergency Services: Marcellan Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>8:45</u> Oxygen (%) <u>30.8</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	(x)	()	()
Pumps or Lines Disconnected or Blocked	(x)	()	()
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments:

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: Arthur J. King Date: 5/5/98

Approved By (Supervisor): Richard W. King Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE PRE-ENTRY CHECK LIST

2

Site Location: New Brookfield Interceptor Date: 4/22/98
 Client: City of Massillon
 Purpose of Entry: Install FLOW METER
 Name(s) of Entrant(s): RICK REEA
 Name(s) of Attendant(s): LIM KING, DAVE KOHLMEIER
 Name of Nearest Emergency Services: MASSILLON COMM. HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	X	()
On Approved List	()	X	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	X	()
Safety Harness and Lifeline	()	X	()
Hoisting Equipment	()	X	()
Radio or Telephone Available Nearby	()	X	()
First-aid Kit	()	X	()
Protective Clothing	()	X	()
Ventilation Fan	()	()	X
Traffic Cones or Barricades	()	()	X
3. Initial Atmospheric Check:			
Time <u>4:45</u> Oxygen (%) <u>21.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	X	()	()
Pumps or Lines Disconnected or Blocked	X	()	()
5. Ventilation:			
Mechanical	()	()	X
Natural Ventilation Only	()	X	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) <u>21.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			

7. Comments: _____

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: David Johnson Date: 4/22/98
 Approved By (Supervisor): Robert W. [Signature] Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

2

CONFINED SPACE ENTRY PERMIT

Site Location: New Brookfield Interceptor Date: 4/22/98
 Client: City of Massillon Expiration: _____
 Purpose of Entry: Install Flow Meter
 Name(s) of Entrant(s): Rick Reed
 Name(s) of Attendant(s): Jim King, Dave Kolhmer
 Name of Nearest Emergency Services: Massillon Comm. Hosp. Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	☒	()
Traffic Cones or Barricades	()	()	☒
Self-Contained Breathing Apparatus	()	()	☒
Non-Sparking or Explosion Proof Equipment	()	()	☒
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>4:50</u> Oxygen (%) <u>21.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	☒
Pumps or Lines Disconnected or Blocked	()	()	☒
5. Ventilation:			
Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments:

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature] Date: _____

Approved By (Supervisor): [Signature] Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

2

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: NEW BROOK FIELD Date: 4-21-98
 Client: MASSILLON
 Purpose of Entry: METER INSTALLATION
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POIKOPAL AND JIM KING
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(✓)	()
On Approved List	()	(✓)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(✓)	()
Safety Harness and Lifeline	()	(✓)	()
Hoisting Equipment	()	(✓)	()
Radio or Telephone Available Nearby	()	(✓)	()
First-aid Kit	()	(✓)	()
Protective Clothing	()	(✓)	()
Ventilation Fan	(✓)	()	()
Traffic Cones or Barricades	(✓)	()	()
3. Initial Atmospheric Check:			
Time <u>1:05</u> Oxygen (%) <u>20.6</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(✓)
Pumps or Lines Disconnected or Blocked	()	()	(✓)
5. Ventilation:			
Mechanical	()	(✓)	(✓)
Natural Ventilation Only	()	(✓)	(✓)
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S.</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4-21-98
 Approved By (Supervisor): [Signature] Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

2

Site Location: NEW BROOKFIELD INTERCEPTOR

Date: 4/21/98

Client: MASSILLON

Expiration: _____

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): ART POKOPAC AND JIM KING

Name of Nearest Emergency Services: Massillon Comm. Hospital

Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()

3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):

Time <u>1:11</u>	Oxygen (%) <u>20.6</u>	Explosive (% LEL) _____	Toxic (ppm) _____
Time _____	Oxygen (%) _____	Explosive (% LEL) _____	Toxic (ppm) _____
Time _____	Oxygen (%) _____	Explosive (% LEL) _____	Toxic (ppm) _____
Time _____	Oxygen (%) _____	Explosive (% LEL) _____	Toxic (ppm) _____

4. Source Isolation:

Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)

Ventilation:

Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments:

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature]

Date: 4-21-98

Approved By (Supervisor): [Signature]

Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

3 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: OLD BROOKFIELD INCEPTOR Date: 4-21-98
 Client: MASSILLON
 Purpose of Entry: METER INSTALLATION
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKOPAC & JIM KING
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	(x)	()	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
3. Initial Atmospheric Check:			
Time <u>12:30</u> Oxygen (%) <u>20.9</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4-21-98
 Approved By (Supervisor): [Signature] Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

3

Site Location: OLD BROOKFIELD INTERCEPTOR

Date: 4/21/98

Client: MASSILLON

Expiration: _____

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RIK REED

Name(s) of Attendant(s): ART POKOPAC & JIM KING

Name of Nearest Emergency Services: Massillon Comm. Hospital

Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(X)	()
On Approved List	()	(X)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(X)	()
Safety Harness and Lifeline	()	(X)	()
Hoisting Equipment	()	(X)	()
Radio or Telephone Available Nearby	()	(X)	()
First-aid Kit	()	(X)	()
Protective Clothing	(X)	()	()
Ventilation Fan	(X)	()	()
Traffic Cones or Barricades	(X)	()	()
Self-Contained Breathing Apparatus	(X)	()	()
Non-Sparking or Explosion Proof Equipment	(X)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>12:29</u> Oxygen (%) <u>20.9</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(X)
Pumps or Lines Disconnected or Blocked	()	()	(X)
5. Ventilation:			
Mechanical	()	()	(X)
Natural Ventilation Only	()	(X)	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments:

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature]

Date: 4-21-98

Approved By (Supervisor): [Signature]

Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

4 CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: WILCOX TRUNK BEHIND HOUSE # Date: 4/22/98
 Client: CITY OF MASSILLON
 Purpose of Entry: INSTALL FLOW METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIR
 Name of Nearest Emergency Services: MASSILLON COMM. HOSP. Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	()	()
On Approved List	()	()	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	()	()
Safety Harness and Lifeline	()	()	()
Hoisting Equipment	()	()	()
Radio or Telephone Available Nearby	()	()	()
First-aid Kit	()	()	()
Protective Clothing	()	()	()
Ventilation Fan	()	()	()
Traffic Cones or Barricades	()	()	()
3. Initial Atmospheric Check:			
Time <u>8:23</u> Oxygen (%) <u>21.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	()
Pumps or Lines Disconnected or Blocked	()	()	()
5. Ventilation:			
Mechanical	()	()	()
Natural Ventilation Only	()	()	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S.</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: _____
 Approved By (Supervisor): [Signature] Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

4

Site Location: WOOSTER TRUNK BEHIND HOUSE #

Date: 4/22/98

Client: CITY OF MASSILLON

Expiration: _____

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIER

Name of Nearest Emergency Services: MASSILLON COMM. HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	()	☒
Traffic Cones or Barricades	()	()	☒
Self-Contained Breathing Apparatus	()	()	☒
Non-Sparking or Explosion Proof Equipment	()	☒	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>5:23</u> Oxygen (%) <u>21.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	☒	()	()
Pumps or Lines Disconnected or Blocked	☒	()	()
5. Ventilation:			
Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments: _____

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: David Kohlmeier Date: 4/22/98

Approved By (Supervisor): Richard W. Paul Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

(REV)

**CONFINED SPACE
PRE-ENTRY CHECK LIST**

Site Location: WESLEY UNITED MED. CHURCH Date: 5-5-98
ACROSS FROM FIREHOUSE
 Client: MASSILLON
 Purpose of Entry: REINSTALL METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKORSKI & JIM KING
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	(x)	()	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
3. Initial Atmospheric Check:			
Time <u>3:30</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			

7. Comments: _____

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 5-5-98
 Approved By (Supervisor): [Signature] Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

CREW

Site Location: WESLEY UNITED MED. CHURCH Date: 5-5-98
ACROSS FROM FIREHOUSE.
 Client: MASSILLON Expiration: _____
 Purpose of Entry: METER INSTALLATION
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKORSKI & JIM KIRBY
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(X)	()
On Approved List	()	(X)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(X)	()
Safety Harness and Lifeline	()	(X)	()
Hoisting Equipment	()	(X)	()
Radio or Telephone Available Nearby	()	(X)	()
First-aid Kit	()	(X)	()
Protective Clothing	()	(X)	()
Ventilation Fan	(X)	()	()
Traffic Cones or Barricades	(X)	()	()
Self-Contained Breathing Apparatus	(X)	()	()
Non-Sparking or Explosion Proof Equipment	(X)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>3:35</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(X)
Pumps or Lines Disconnected or Blocked	()	()	(X)
5. Ventilation:			
Mechanical	()	(X)	(X)
Natural Ventilation Only	()	(X)	()
6. Rescue (See Safety Procedure)	Authorized _____	Not Authorized _____	
7. Comments:	_____ _____ _____		

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature] Date: 5/5/98
 Approved By (Supervisor): [Signature] Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

6 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: FIREHOUSE No 2 Date: 4/5/98

Client: MASSILLON

Purpose of Entry: METER CHECK

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): ART PORCARI JIM - KING

Name of Nearest Emergency Services: Massillon Comm Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(X)	()
On Approved List	()	(X)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(X)	()
Safety Harness and Lifeline	()	(X)	()
Hoisting Equipment	()	(X)	()
Radio or Telephone Available Nearby	()	(X)	()
First-aid Kit	()	(X)	()
Protective Clothing	(X)	()	()
Ventilation Fan	(X)	()	()
Traffic Cones or Barricades	(X)	()	()
3. Initial Atmospheric Check:			
Time <u>3:10</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(X)
Pumps or Lines Disconnected or Blocked	()	()	(X)
5. Ventilation:			
Mechanical	()	()	(X)
Natural Ventilation Only	()	(X)	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4.5.98

Approved By (Supervisor): [Signature] Date: 4/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

6

Site Location: FIREHOUSE NO2 Date: 5/5/98
 Client: MASSILLON Expiration: _____
 Purpose of Entry: METER CHECK
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKOPAC & Jim Kline
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>3:15</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments:

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature] Date: 5/5/98
 Approved By (Supervisor): [Signature] Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

6 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: FIREHOUSE #2 Date: 4-21-98

Client: MASSILLON

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): ART POKOPAC AND JIM KING

Name of Nearest Emergency Services: Massillon General Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Initial Atmospheric Check:			
Time <u>3:50</u> Oxygen (%) <u>20.8</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()
Atmospheric Check After Isolation and Ventilation:			
Time <u>3:50</u> Oxygen (%) <u>20.8</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S</u>			

7. Comments:

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4-21-98

Approved By (Supervisor): [Signature] Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

6

Site Location: FIREHOUSE #2 Date: 4-21-98
 Client: CITY OF MASSILLON Expiration: _____
 Purpose of Entry: METER INSTALLATION
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKOPAC AND JIM KING
 Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>3:43</u> Oxygen (%) <u>20.8</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()
6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____			
7. Comments:			

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature] Date: 4-21-98
 Approved By (Supervisor): [Signature] Date: 4/21/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

7

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: R.R. Easement off 16TH ST. Date: 4/23/98

Client: CITY OF MASSILLON

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): DAVE KOHLMEIER, JIM KING

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	X	()
On Approved List	()	X	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	X	()
Safety Harness and Lifeline	()	X	()
Hoisting Equipment	()	X	()
Radio or Telephone Available Nearby	()	X	()
First-aid Kit	()	X	()
Protective Clothing	()	X	()
Ventilation Fan	()	()	X
Traffic Cones or Barricades	()	()	X
3. Initial Atmospheric Check:			
Time <u>3:58</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	X	()	()
Pumps or Lines Disconnected or Blocked	X	()	()
5. Ventilation:			
Mechanical	()	()	X
Natural Ventilation Only	()	X	()
6. Atmospheric Check After Isolation and Ventilation:			
Time <u>3:59</u> Oxygen (%) <u>20.1</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: David Kohlmeier Date: 4/23/98

Approved By (Supervisor): Richard W. Reed Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

Site Location: R.R. EASEMENT OFF 16TH ST.

Date: 4/23/98

Client: CITY OF MASSILLON

Expiration: _____

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): DAVE KOHLMEIER, JIM KING

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	()	☒
Traffic Cones or Barricades	()	()	☒
Self-Contained Breathing Apparatus	()	☒	☒
Non-Sparking or Explosion Proof Equipment	()	☒	☒
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>4:00</u> Oxygen (%) <u>20.1</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	☒	()	()
Pumps or Lines Disconnected or Blocked	☒	()	()
5. Ventilation:			
Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments: _____

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: David Kohlmeier

Date: 4/23/98

Approved By (Supervisor): Rick Reed

Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

8 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: FIRST STREET SW S. of 2ND STREET Date: 4/24/98

Client: CITY OF MASSILLON

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIER

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	()	()
On Approved List	()	()	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	()	()
Safety Harness and Lifeline	()	()	()
Hoisting Equipment	()	()	()
Radio or Telephone Available Nearby	()	()	()
First-aid Kit	()	()	()
Protective Clothing	()	()	()
Ventilation Fan	()	()	()
Traffic Cones or Barricades	()	()	()
3. Initial Atmospheric Check:			
Time <u>9:47</u> Oxygen (%) <u>21.0</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	()
Pumps or Lines Disconnected or Blocked	()	()	()
5. Ventilation:			
Mechanical	()	()	()
Natural Ventilation Only	()	()	()
6. Atmospheric Check After Isolation and Ventilation:			
Time <u>9:52</u> Oxygen (%) <u>19.8</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: David Kohlmeier Date: 4/24/98

Approved By (Supervisor): Richard W. Reed Date: 4/24/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

8

CONFINED SPACE ENTRY PERMIT

Site Location: FIRST ST SW S. of 2ND ST (BROWN LUMBER)

Date: 4/24/98

Client: CITY OF MASSILLON

Expiration: _____

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): DAVE KOHLMEIER, JIM KING

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	☒	()
Traffic Cones or Barricades	()	☒	()
Self-Contained Breathing Apparatus	()	☒	()
Non-Sparking or Explosion Proof Equipment	()	☒	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>10:00</u> Oxygen (%) <u>19.7</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>10:25</u> Oxygen (%) <u>20.0</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>10:45</u> Oxygen (%) <u>20.0</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	☒	()	()
Pumps or Lines Disconnected or Blocked	☒	()	()
5. Ventilation:			
Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments: _____

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: David Hollander

Date: 4/24/98

Approved By (Supervisor): Richard W. [Signature]

Date: 4/24/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

9 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: 2ND Street SW at Masonic Temple Date: 4/23/98
 Client: CITY OF MASSILLON
 Purpose of Entry: INSTALL FLOW METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): LIM KING, DAVE KOHLMEIER
 Name of Nearest Emergency Services: MASSILLON COMM. HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	()	☒
Traffic Cones or Barricades	()	()	☒

Initial Atmospheric Check:
 Time 10:50 Oxygen (%) 21.7 Explosive (% LEL) 0 Toxic (ppm) 0

Source Isolation:
 Pumps or Lines Blinded ☒ () ()
 Pumps or Lines Disconnected or Blocked ☒ () ()

Ventilation:
 Mechanical () () ()
 Natural Ventilation Only () ☒ ()

Atmospheric Check After Isolation and Ventilation:
 Time 11:05 Oxygen (%) 21.8 Explosive (% LEL) 0 Toxic (ppm) 0
 Acceptable Limits: Oxygen (%) 19.5 minimum Explosive (% LEL) 10 Toxic (ppm) 10 H₂S

Comments:

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: Dave Kohlmeier Date: 4/23/98
 Approved By (Supervisor): Robert W. ... Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

9

Site Location: 2nd Street SW at Masonic Temple

Date: 4/23/98

Client: CITY OF MASSILLON

Expiration: _____

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIER

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	☒	☒
Traffic Cones or Barricades	()	☒	☒
Self-Contained Breathing Apparatus	()	☒	☒
Non-Sparking or Explosion Proof Equipment	()	☒	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>11:05</u> Oxygen (%) <u>21.0</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>11:20</u> Oxygen (%) <u>20.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>11:35</u> Oxygen (%) <u>20.9</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>11:50</u> Oxygen (%) <u>20.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	☒	()	()
Pumps or Lines Disconnected or Blocked	☒	()	()
5. Ventilation:			
Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments: _____

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: David Kalhauer

Date: 4/23/98

Approved By (Supervisor): Robert W. R.

Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

10

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: MASSILLON WWTTP Date: 5/5/88

Client: MASSILLON

Purpose of Entry: BO CHECK METER

Name(s) of Entrant(s): RICK REED & JIM KINGS

Name(s) of Attendant(s): ART POKORAC, ANNETTE THRELLION & RAY FRIDLEY

Name of Nearest Emergency Services: Massillon General Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
Entrant and Attendant:			
Trained	()	(<u>✓</u>)	()
On Approved List	()	(<u>✓</u>)	()
Equipment:			
Direct Reading Gas Monitor Tested	()	(<u>✓</u>)	()
Safety Harness and Lifeline	()	(<u>✓</u>)	()
Hoisting Equipment	()	(<u>✓</u>)	()
Radio or Telephone Available Nearby	()	(<u>✓</u>)	()
First-aid Kit	()	(<u>✓</u>)	()
Protective Clothing	(<u>✓</u>)	()	()
Ventilation Fan	(<u>✓</u>)	()	()
Traffic Cones or Barricades	(<u>✓</u>)	()	()

Initial Atmospheric Check:
Time 11:20 Oxygen (%) 20.4 Explosive (% LEL) 0 Toxic (ppm) 0

Source Isolation:
Pumps or Lines Blinded () () (✓)
Pumps or Lines Disconnected or Blocked () () (✓)

Ventilation:
Mechanical () () (✓)
Natural Ventilation Only () (✓) ()

Atmospheric Check After Isolation and Ventilation:
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____
Acceptable Limits: Oxygen (%) 19.5 minimum Explosive (% LEL) 10 Toxic (ppm) 10 H.S.

Comments: _____

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 5/5/88

Approved By (Supervisor): [Signature] Date: 5/5/88

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

10

Site Location: MASSILLON WWTP

Date: 5/5/98

Client: MASSILLON

Expiration: _____

Purpose of Entry: CHECK METER

Name(s) of Entrant(s): RICK REED & JIM KING

Name(s) of Attendant(s): ART POKORAC, ANNETTE THIBELLION & RAY FRIBLEY

Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	()	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>11:25</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			

4. Source Isolation:

Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)

Ventilation:

Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments: _____

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature] Date: 5/5/98

Approved By (Supervisor): [Signature] Date: 5/5/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

10 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: MASSILLON WWTP Date: 4-29-98

Client: MASSILLON

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RICK REED & JIM KING

Name(s) of Attendant(s): ART POLKOPAC & ~~JIM KING~~ ANNETTE THEBELLION

Name of Nearest Emergency Services: Mass. Hn Comm. Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
3. Initial Atmospheric Check:			
Time <u>10:09</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4-29-98

Approved By (Supervisor): [Signature] Date: 4/29/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

1

10

CONFINED SPACE ENTRY PERMIT

Site Location: MASSILLON IIT

Date: 4-29-98

Client: MASSILLON

Expiration: _____

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RICK REED & JIM KING

Name(s) of Attendant(s): ART POKOPAC ANNETTE THEBELLION

Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(✓)	()
On Approved List	()	(✓)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(✓)	()
Safety Harness and Lifeline	()	(✓)	()
Hoisting Equipment	()	()	()
Radio or Telephone Available Nearby	()	(✓)	()
First-aid Kit	()	(✓)	()
Protective Clothing	()	(✓)	()
Ventilation Fan	(✓)	()	()
Traffic Cones or Barricades	(✓)	()	()
Self-Contained Breathing Apparatus	(✓)	()	()
Non-Sparking or Explosion Proof Equipment	(✓)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>10:15</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(✓)
Pumps or Lines Disconnected or Blocked	()	()	(✓)
5. Ventilation:			
Mechanical	()	()	(✓)
Natural Ventilation Only	()	(✓)	()
6. Rescue (See Safety Procedure)	Authorized _____	Not Authorized _____	
7. Comments:			

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature]

Date: 4-29-98

Approved By (Supervisor): [Signature]

Date: 4/29/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

11 1 CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: HARSH Avenue Date: 4/23/98

Client: CITY OF MASSILLON

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): DAVE KOHLMEIER, JIM KING

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	X	()
On Approved List	()	X	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	X	()
Safety Harness and Lifeline	()	X	()
Hoisting Equipment	()	X	()
Radio or Telephone Available Nearby	()	X	()
First-aid Kit	()	X	()
Protective Clothing	()	X	()
Ventilation Fan	()	()	X
Traffic Cones or Barricades	()	()	X
3. Initial Atmospheric Check:			
Time <u>3:10</u> Oxygen (%) <u>20.3</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	X	()	()
Pumps or Lines Disconnected or Blocked	X	()	()
5. Ventilation:			
Mechanical	()	()	X
Natural Ventilation Only	()	X	()
6. Atmospheric Check After Isolation and Ventilation:			
Time <u>3:15</u> Oxygen (%) <u>20.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H.S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4/23/98

Approved By (Supervisor): [Signature] Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

11

Site Location: HARSH AVENUE Date: 4/23/98
 Client: CITY OF MASSILLON Expiration: _____
 Purpose of Entry: INSTALL FLOW METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ALIM KING, DAVE KOHLMEIER
 Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	X	()
On Approved List	()	X	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	X	()
Safety Harness and Lifeline	()	X	()
Hoisting Equipment	()	X	()
Radio or Telephone Available Nearby	()	X	()
First-aid Kit	()	X	()
Protective Clothing	()	X	()
Ventilation Fan	()	X	()
Traffic Cones or Barricades	X	()	X
Self-Contained Breathing Apparatus	X	()	X
Non-Sparking or Explosion Proof Equipment	()	X	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>3:17</u> Oxygen (%) <u>20.2</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	X	()	()
Pumps or Lines Disconnected or Blocked	X	()	()
5. Ventilation:			
Mechanical	()	()	X
Natural Ventilation Only	()	X	()
6. Rescue (See Safety Procedure)	Authorized _____	Not Authorized _____	

Comments:

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: Paul Kohler Date: 4/23/98
 Approved By (Supervisor): Richard W. Paul Date: 4/23/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

12

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: 1ST AND MCCADDEN Date: 4-29-98
 Client: MASSILLON
 Purpose of Entry: METER INSTALLATION
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): ART POKOPAC AND JIM KING
 Name of Nearest Emergency Services: Massillon Common Hospital Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(✓)	()
On Approved List	()	(✓)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(✓)	()
Safety Harness and Lifeline	()	(✓)	()
Hoisting Equipment	()	(✓)	()
Radio or Telephone Available Nearby	()	(✓)	()
First-aid Kit	()	()	()
Protective Clothing	(✓)	()	()
Ventilation Fan	(✓)	()	()
Traffic Cones or Barricades	(✓)	()	()
3. Initial Atmospheric Check:			
Time _____ Oxygen (%) <u>20.1</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(✓)
Pumps or Lines Disconnected or Blocked	()	()	(✓)
5. Ventilation:			
Mechanical	()	()	(✓)
Natural Ventilation Only	()	(✓)	()
6. Atmospheric Check After Isolation and Ventilation:			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			
7. Comments:			

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: [Signature] Date: 4-29-98
 Approved By (Supervisor): [Signature] Date: 4/29/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

12

Site Location: 1ST & MCCADDEN

Date: 4/29/98

Client: MASSILLON

Expiration: _____

Purpose of Entry: METER INSTALLATION

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): AR-POLAPAC AND JIM KING

Name of Nearest Emergency Services: Massillon Comm. Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time _____ Oxygen (%) <u>20.1</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
4. Source Isolation:			
Pumps or Lines Blinded	()	()	(x)
Pumps or Lines Disconnected or Blocked	()	()	(x)
5. Ventilation:			
Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

6. Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

7. Comments: _____

We have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: [Signature]

Date: 4-29-98

Approved By (Supervisor): [Signature]

Date: 4/29/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

13 **CONFINED SPACE PRE-ENTRY CHECK LIST**

Site Location: Amherst @ MEDILL Date: 4/24/98

Client: CITY OF MASSILLON

Purpose of Entry: INSTALL FLOW METER

Name(s) of Entrant(s): RICK REED

Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIER

Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	X	()
On Approved List	()	X	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	X	()
Safety Harness and Lifeline	()	X	()
Hoisting Equipment	()	X	()
Radio or Telephone Available Nearby	()	X	()
First-aid Kit	()	X	()
Protective Clothing	()	X	()
Ventilation Fan	()	X	X
Traffic Cones or Barricades	()	X	()
3. Initial Atmospheric Check:			
Time <u>2:45</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
4. Source Isolation:			
Pumps or Lines Blinded	X	()	()
Pumps or Lines Disconnected or Blocked	X	()	()
5. Ventilation:			
Mechanical	()	()	X
Natural Ventilation Only	()	X	()
6. Atmospheric Check After Isolation and Ventilation:			
Time <u>2:46</u> Oxygen (%) <u>20.3</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Acceptable Limits: Oxygen (%) <u>19.5 minimum</u> Explosive (% LEL) <u>10</u> Toxic (ppm) <u>10 H₂S</u>			

Comments:

I have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: Paul Hollman Date: 4/24/98

Approved By (Supervisor): Paul W. R. Date: 4/24/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

13

Site Location: AMHERST @ MEDILL Date: 4/24/98
 Client: CITY OF MASSILLON Expiration: _____
 Purpose of Entry: INSTALL FLOW METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): JIM KING, DAVE KOHLMEIER
 Name of Nearest Emergency Services: MASSILLON HOSPITAL Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	☒	()
Traffic Cones or Barricades	()	☒	()
Self-Contained Breathing Apparatus	()	☒	()
Non-Sparking or Explosion Proof Equipment	()	☒	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>2:45</u> Oxygen (%) <u>20.4</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time <u>2:50</u> Oxygen (%) <u>19.8</u> Explosive (% LEL) <u>1.0</u> Toxic (ppm) <u>0</u>			
Time <u>3:00</u> Oxygen (%) <u>20.1</u> Explosive (% LEL) <u>1.0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			

Source Isolation:

Pumps or Lines Blinded	☒	()	()
Pumps or Lines Disconnected or Blocked	☒	()	()

Ventilation:

Mechanical	()	()	☒
Natural Ventilation Only	()	☒	()

Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments:

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

Check List Prepared By: Paul Gallman Date: 4/24/98

Approved By (Supervisor): Robert W. Paul Date: 4/24/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

11 14

CONFINED SPACE PRE-ENTRY CHECK LIST

Site Location: ERIE AVE @ SAND & GRAVEL PITS Date: 4/22/98
 Client: CITY OF MASSILLON
 Purpose of Entry: INSTALL FLOW METER
 Name(s) of Entrant(s): RICK REED
 Name(s) of Attendant(s): JIM KINS & DAVE KOHLMEIER
 Name of Nearest Emergency Services: MASSILLON COMM HOSPITAL Phone: 911

Pre-Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	☒	()
On Approved List	()	☒	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	☒	()
Safety Harness and Lifeline	()	☒	()
Hoisting Equipment	()	☒	()
Radio or Telephone Available Nearby	()	☒	()
First-aid Kit	()	☒	()
Protective Clothing	()	☒	()
Ventilation Fan	()	()	☒
Traffic Cones or Barricades	()	()	☒

Initial Atmospheric Check:
 Time 6:30 Oxygen (%) 21.3 Explosive (% LEL) 0 Toxic (ppm) 0

Source Isolation:
 Pumps or Lines Blinded ☒ () ()
 Pumps or Lines Disconnected or Blocked ☒ () ()

Ventilation:
 Mechanical () () ☒
 Natural Ventilation Only () ☒ ()

Atmospheric Check After Isolation and Ventilation:
 Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____
 Acceptable Limits: Oxygen (%) 19.5 minimum Explosive (% LEL) 10 Toxic (ppm) 10 H₂S

Comments:

We have reviewed the work covered by this checklist and the information contained herein. Appropriate instructions and safety procedures have been issued. Entry permit is required if safe atmosphere cannot be assured by means of ventilation alone.

Check List Prepared By: David Kahler Date: 4/22/98
 Approved By (Supervisor): Richard W. [Signature] Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

CONFINED SPACE ENTRY PERMIT

19

Site Location: Eriz Ave @ Sand & Gravel Pits Date: 4/22/98
 Client: City of Massillon Expiration: _____
 Purpose of Entry: Install Flow Meter
 Name(s) of Entrant(s): Rick Reed
 Name(s) of Attendant(s): Jim King, Dave Kellmeyer
 Name of Nearest Emergency Services: Massillon Comm Hospital Phone: 911

Entry (See Safety Procedure)

	N/A	Yes	No
1. Entrant and Attendant:			
Trained	()	(x)	()
On Approved List	()	(x)	()
2. Equipment:			
Direct Reading Gas Monitor Tested	()	(x)	()
Safety Harness and Lifeline	()	(x)	()
Hoisting Equipment	()	(x)	()
Radio or Telephone Available Nearby	()	(x)	()
First-aid Kit	()	(x)	()
Protective Clothing	()	(x)	()
Ventilation Fan	(x)	()	()
Traffic Cones or Barricades	(x)	()	()
Self-Contained Breathing Apparatus	(x)	()	()
Non-Sparking or Explosion Proof Equipment	(x)	()	()
3. Atmospheric Checks (Continuous Monitoring - Record every 2 hours):			
Time <u>8:35</u> Oxygen (%) <u>21.5</u> Explosive (% LEL) <u>0</u> Toxic (ppm) <u>0</u>			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			
Time _____ Oxygen (%) _____ Explosive (% LEL) _____ Toxic (ppm) _____			

4. Source Isolation:

Pumps or Lines Blinded	(x)	()	()
Pumps or Lines Disconnected or Blocked	(x)	()	()

Ventilation:

Mechanical	()	()	(x)
Natural Ventilation Only	()	(x)	()

Rescue (See Safety Procedure) Authorized _____ Not Authorized _____

Comments:

I have reviewed the work covered by this permit and the information contained herein. Appropriate instructions and safety procedures have been issued. (Entry cannot be approved if any squares are marked in the "No" column.)

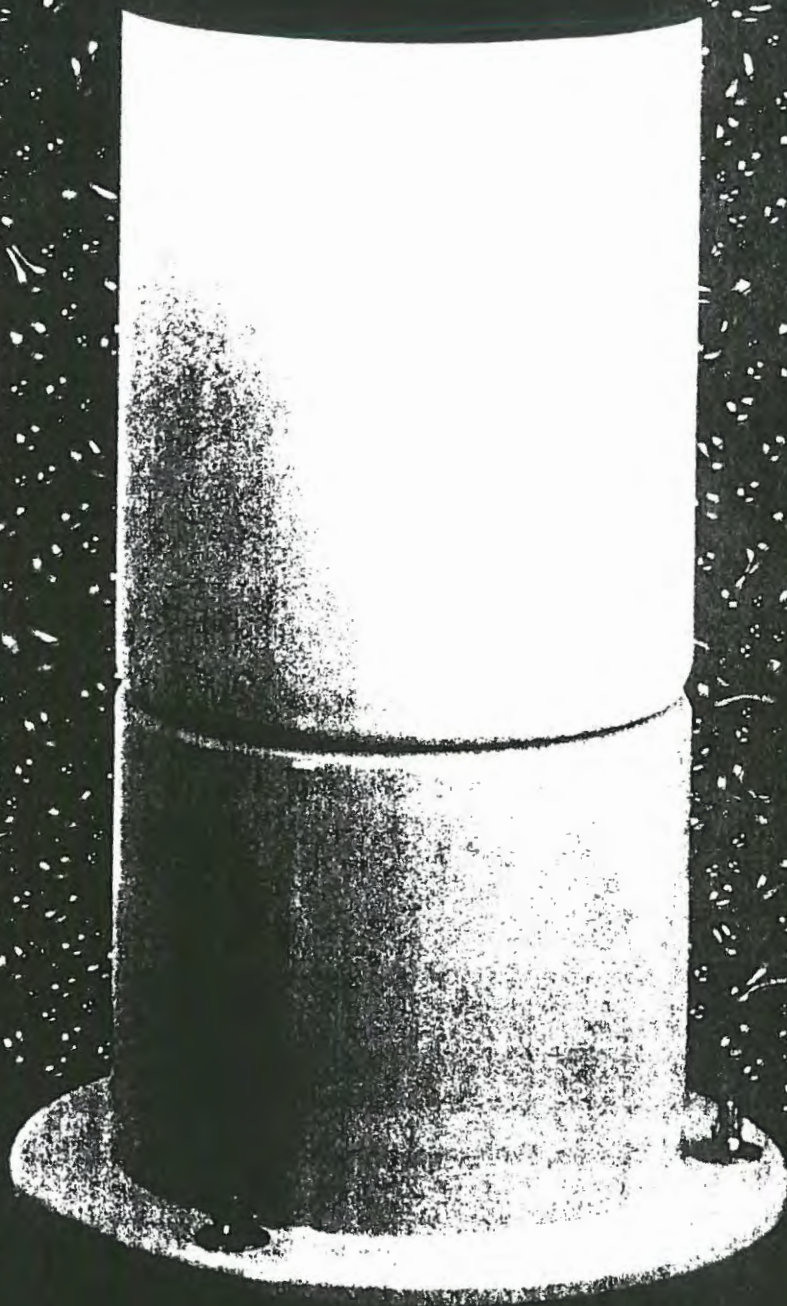
Check List Prepared By: Tom Golden Date: _____

Approved By (Supervisor): Robert W. R. Date: 4/22/98

This checklist is to be kept at job site. Return to Safety Officer following job completion.

APPENDIX C
Rain Gauge
Equipment Information

SIGMA



RAIN LOGGER

Automatic Data Logging Rain Gauges

Design Specifications

RAIN GAUGE

Type:	Tipping bucket with 8" diameter collector/funnel
Overall Dimensions:	18"H x 12"W x 12"D (45.7 cm x 30.5 cm x 30.5 cm)
Weight:	9.25 lbs. (4.2 kg)
Resolution:	0.01" rainfall per bucket tip
Accuracy:	0.5% at 0.5" per hour
Base Mounting Plate:	Spring loaded, 3 point adjustable
Materials Of Construction:	Epoxy coated aluminum and anodized aluminum (funnel screen is stainless steel)

RAINLOGGER

Enclosure:	Impact resistant plastic
Type:	Solid state memory, battery backed
Dimensions:	1" x 2.75" x 4.125" (2.54 cm x 7 cm x 10.5 cm)
Weight:	8.5 oz. (.24 kg)
Electronics:	CMOS, protected to NEMA 4x, 6 requirements
Operating Temperature:	32° to 135° F (0° to 57° C)
Storage Temperature:	-20° to 150° F (-29° to 66° C)
Power Requirements:	Replaceable 9VDC alkaline battery
Battery Life:	6 months, typical
Data Capacity:	10,080 readings (ie. 7 days at 1 minute recording intervals, 70 days at 10 minute recording intervals)
Time Base Accuracy:	±1 minute per month over operating temperature range
Battery Life Indicator:	L.E.D. flashing once every 2.5 seconds indicates a good battery
Data Interface:	L.E.D. optically coupled RS-232 interface

RAINLOG SOFTWARE

Hardware Requirements:
IBM PC or 100% IBM compatible computer.
Hercules mono, EGA or VGA color or monochrome graphics monitor.
RAM Memory Requirements: 640K min.
Hard Disk Drive Requirements: 800K free disk space for program.
Floppy Disk Drive Requirements: 1.2 MB 5 1/4" disk drive -OR- 720K 3 1/2" disk drive.
Serial communications port
Parallel printer port (optional)
Mouse (optional)

On-Screen Programming Of RAINLOGGER:
User entered recorder site identification - 80 character field.
Selectable recording interval - 1, 2, 3, 5, and 10 minute intervals.
Settable real time clock.
Battery life indicator - displays RAINLOGGER 9VDC battery condition.

Memory Modes:
"Slate" or "Wrap" memory modes.
Slate Mode - Recording stops with full memory.
Wrap Mode - Upon full memory, recording continues, oldest data is dropped as new data is recorded.

RAIN READER

Enclosure:	Impact resistant plastic
Dimensions:	1" x 2.75" x 4.125" (2.54 cm x 7 cm x 10.5 cm)
Weight:	8.5 oz. (.24 kg)
Electronics:	CMOS
Power Requirements:	9VDC, nominal; supplied via 115 VAC/9VDC power adapter
Data Interface:	L.E.D. optically coupled RS-232 interface
Data Transfer Rate:	4800 baud
Computer Interface:	RS-232 serial cable, IBM PC compatible

Data Collection Modes:

- Record Immediately - Data logging starts immediately after any command that clears memory.
- Record On First Bucket Tip - Data logging starts upon the first bucket tip. (Each bucket tip represents 0.01" rainfall.)

Data Transfer Gauge:

Indicates data transfer time when transferring data from the RAINLOGGER to PC.

Graphing Data:

Produces rainfall x-y graph.

Two selectable graph formats:

- Intensity Plot
- Cumulative Plot

"Zoom" feature lets you inspect any area of the graph more closely.

"Data cursor" lets you see individual readings by moving a cursor to the desired point on the graph.

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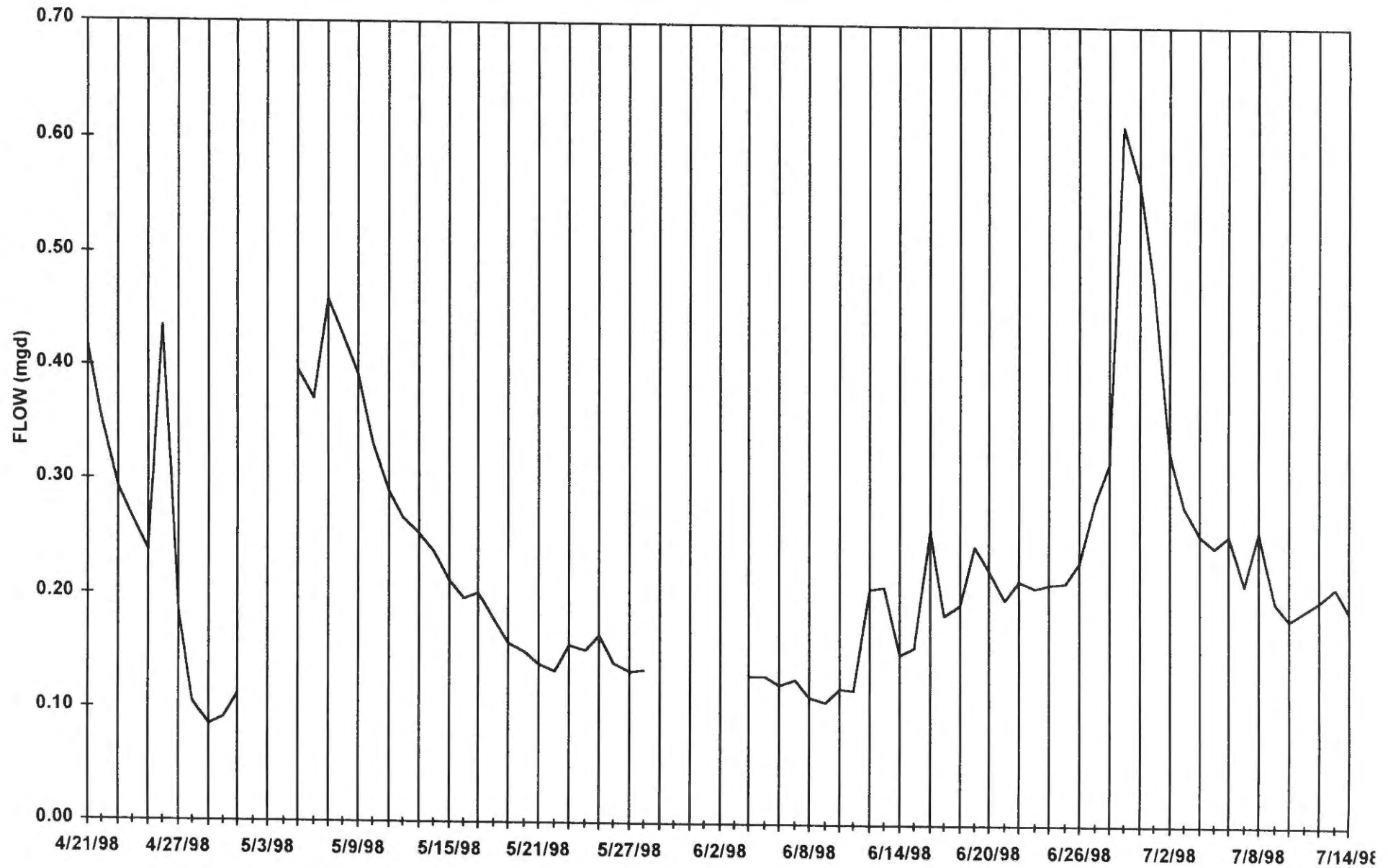
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MONITOR SITE NO. 6
Fire Station No. 2

Daily Flow vs Time

Site:00098006



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .666666686534882

Location:
Site ID: 00098006
Serial#: QJL

Daily Flow Summary Report

Site:00098006

Daterange: 04/21/98-08/11/98

Primary Device: Area Velocity

Location:

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098006

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .666666686534882

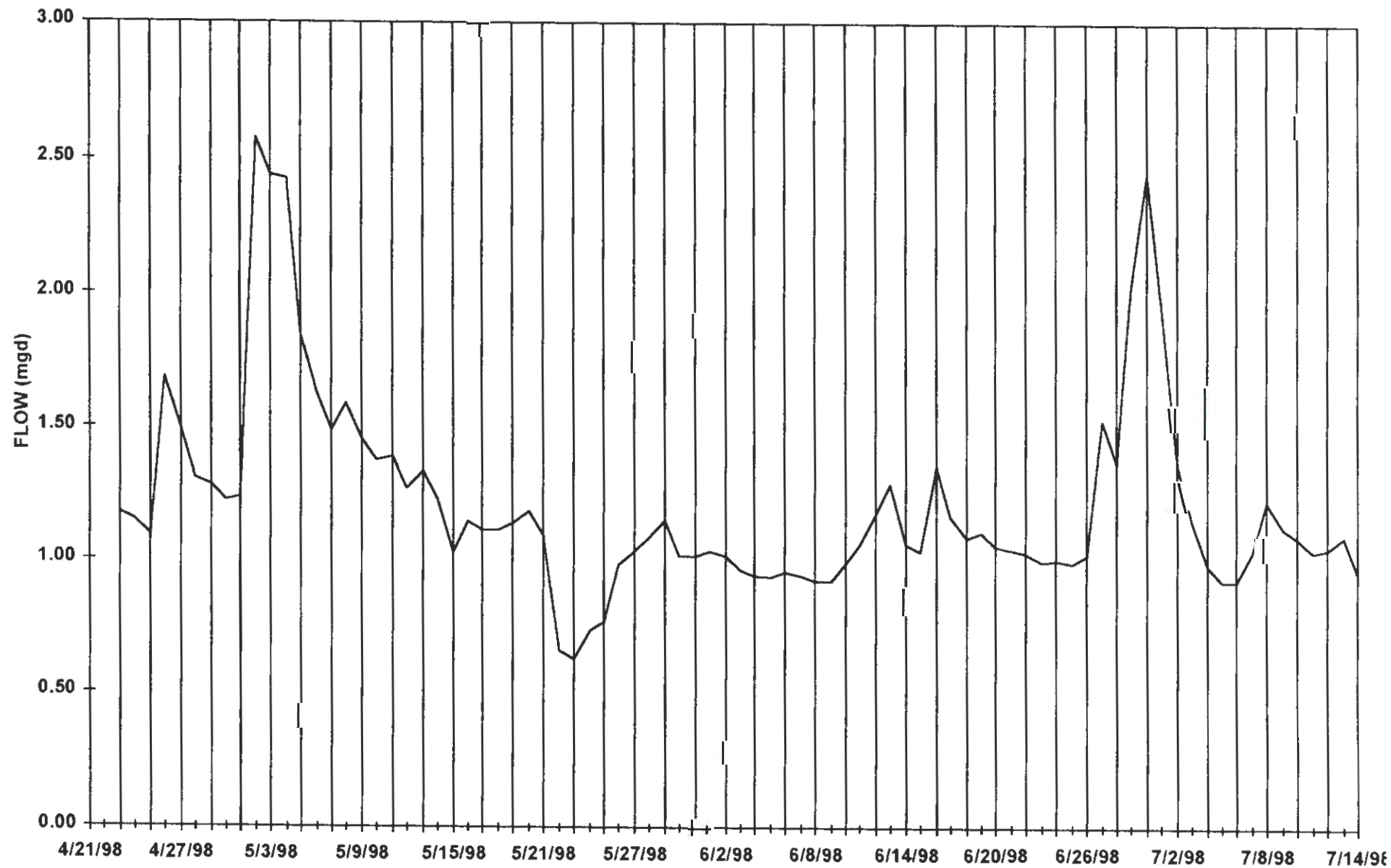
Serial#: 0JL

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/21/98	.4156	.2629	.5441	04:55 pm	10:00 pm
04/22/98	.3502	.2634	.5229	11:55 pm	07:20 am
04/23/98	.2938	.2086	.3905	11:55 pm	09:15 pm
04/24/98	.2655	.1819	.3610	01:50 am	07:00 am
04/25/98	.2385	.1609	.3653	04:50 am	10:10 am
04/26/98	.4335	.1869	.8059	03:40 am	04:30 pm
04/27/98	.1853	.0970	.2981	11:50 pm	07:00 am
04/28/98	.1040	.0800	.1570	11:45 pm	08:30 am
04/29/98	.0843	.0571	.1175	03:30 am	08:20 am
04/30/98	.0911	.0450	.2003	10:45 am	06:10 pm
05/01/98	.1130	.0827	.1673	03:50 am	07:45 am
05/02/98					
05/03/98					
05/04/98					
05/05/98	.3959	.0000	.4878	03:45 pm	04:40 pm
05/06/98	.3701	.3124	.4558	03:40 am	07:05 am
05/07/98	.4586	.3915	.5335	11:40 pm	10:00 pm
05/08/98	.4267	.3052	.7879	03:25 am	04:15 pm
05/09/98	.3913	.3066	.4858	11:55 pm	11:15 am
05/10/98	.3321	.2515	.4627	11:50 pm	09:40 am
05/11/98	.2900	.2247	.3631	02:15 am	09:35 am
05/12/98	.2669	.1940	.3953	02:40 am	09:55 pm
05/13/98	.2537	.1722	.3423	03:40 am	09:35 pm
05/14/98	.2390	.1551	.3410	02:35 am	07:40 am
05/15/98	.2126	.1451	.3050	03:25 am	06:55 am
05/16/98	.1967	.1026	.2849	03:10 am	11:00 am
05/17/98	.2018	.0984	.3067	04:55 am	12:35 pm
05/18/98	.1797	.0826	.2977	02:45 am	09:50 pm
05/19/98	.1580	.0585	.2718	02:40 am	07:20 am
05/20/98	.1510	.0722	.2625	04:30 am	09:50 pm
05/21/98	.1398	.0637	.2437	04:25 am	09:30 pm
05/22/98	.1344	.0410	.2806	04:05 am	07:55 am
05/23/98	.1568	.0651	.2771	03:20 am	10:30 am
05/24/98	.1516	.0707	.2687	04:05 am	11:45 am
05/25/98	.1658	.0647	.2948	03:10 am	11:45 am
05/26/98	.1415	.0594	.2263	04:30 am	07:50 am
05/27/98	.1339	.0536	.2527	02:50 am	10:05 pm
05/28/98	.1355	.0490	.2365	01:50 am	07:25 am

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/29/98					
05/30/98					
05/31/98					
06/01/98					
06/02/98					
06/03/98					
06/04/98	.1309	.0992	.1781	02:00 pm	05:35 pm
06/05/98	.1300	.0605	.2140	03:50 am	02:40 pm
06/06/98	.1224	.0638	.1993	04:30 am	08:55 am
06/07/98	.1281	.0586	.2095	05:30 am	12:25 pm
06/08/98	.1131	.0408	.1865	03:20 am	08:00 am
06/09/98	.1071	.0386	.1646	04:30 am	05:30 pm
06/10/98	.1193	.0576	.1917	04:15 am	10:20 pm
06/11/98	.1178	.0452	.1818	02:50 am	10:25 pm
06/12/98	.2078	.0726	.7230	12:40 am	10:50 pm
06/13/98	.2098	.1066	.6443	06:15 am	12:00 am
06/14/98	.1507	.0527	.2903	04:45 am	11:40 am
06/15/98	.1559	.0577	.2793	03:00 am	11:00 am
06/16/98	.2594	.0465	.8639	04:25 am	12:25 pm
06/17/98	.1856	.1166	.2905	05:15 am	10:15 pm
06/18/98	.1936	.0901	.3016	03:15 am	09:50 pm
06/19/98	.2464	.1023	.3488	03:10 am	08:25 am
06/20/98	.2240	.1050	.3855	04:10 am	10:45 am
06/21/98	.1992	.0779	.3296	03:55 am	10:40 am
06/22/98	.2152	.0763	.3416	03:45 am	10:15 pm
06/23/98	.2094	.0872	.3228	04:05 am	10:15 pm
06/24/98	.2118	.0813	.3262	04:40 am	10:15 am
06/25/98	.2139	.0869	.3563	04:35 am	10:15 pm
06/26/98	.2321	.1088	.6402	04:20 am	05:35 pm
06/27/98	.2861	.0890	1.0148	03:40 am	08:25 am
06/28/98	.3186	.1034	.9693	04:35 am	08:15 pm
06/29/98	.6132	.2791	1.1426	04:50 am	11:50 am
06/30/98	.5651	.3822	.9579	12:10 pm	02:30 pm
07/01/98	.4761	.3604	.6854	11:55 pm	12:00 am
07/02/98	.3272	.2674	.3961	05:00 am	09:00 am
07/03/98	.2802	.1920	.3835	03:15 am	08:55 am
07/04/98	.2565	.1510	.3853	04:30 am	11:35 am
07/05/98	.2458	.1440	.3440	03:15 am	10:25 am
07/06/98	.2564	.1378	.3614	02:40 am	11:40 am
07/07/98	.2120	.1018	.3074	05:05 am	09:40 am
07/08/98	.2594	.1632	.5460	03:30 pm	02:00 am
07/09/98	.1980	.1048	.2962	03:10 am	10:20 pm
07/10/98	.1827	.0865	.2661	03:20 am	11:35 am
07/11/98	.1918	.0780	.3223	05:00 am	10:30 am
07/12/98	.1992	.0680	.3242	04:00 am	10:50 am
07/13/98	.2104	.0609	.3332	03:30 am	09:25 am
07/14/98	.1892	.0637	.3076	02:40 am	08:55 am
07/15/98					

MONITOR SITE NO. 7
Railroad Easement off 16th Street

Daily Flow vs Time
Site:00098007 RR EASEMENT



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 2.5

Location: RR EASEMENT
Site ID: 00098007
Serial#: QB3

Daily Flow Summary Report

Site:00098007 RR EASEMENT

Daterange: 04/21/98-08/11/98

Primary Device: Area Velocity

Location: RR EASEMENT

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098007

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 2.5

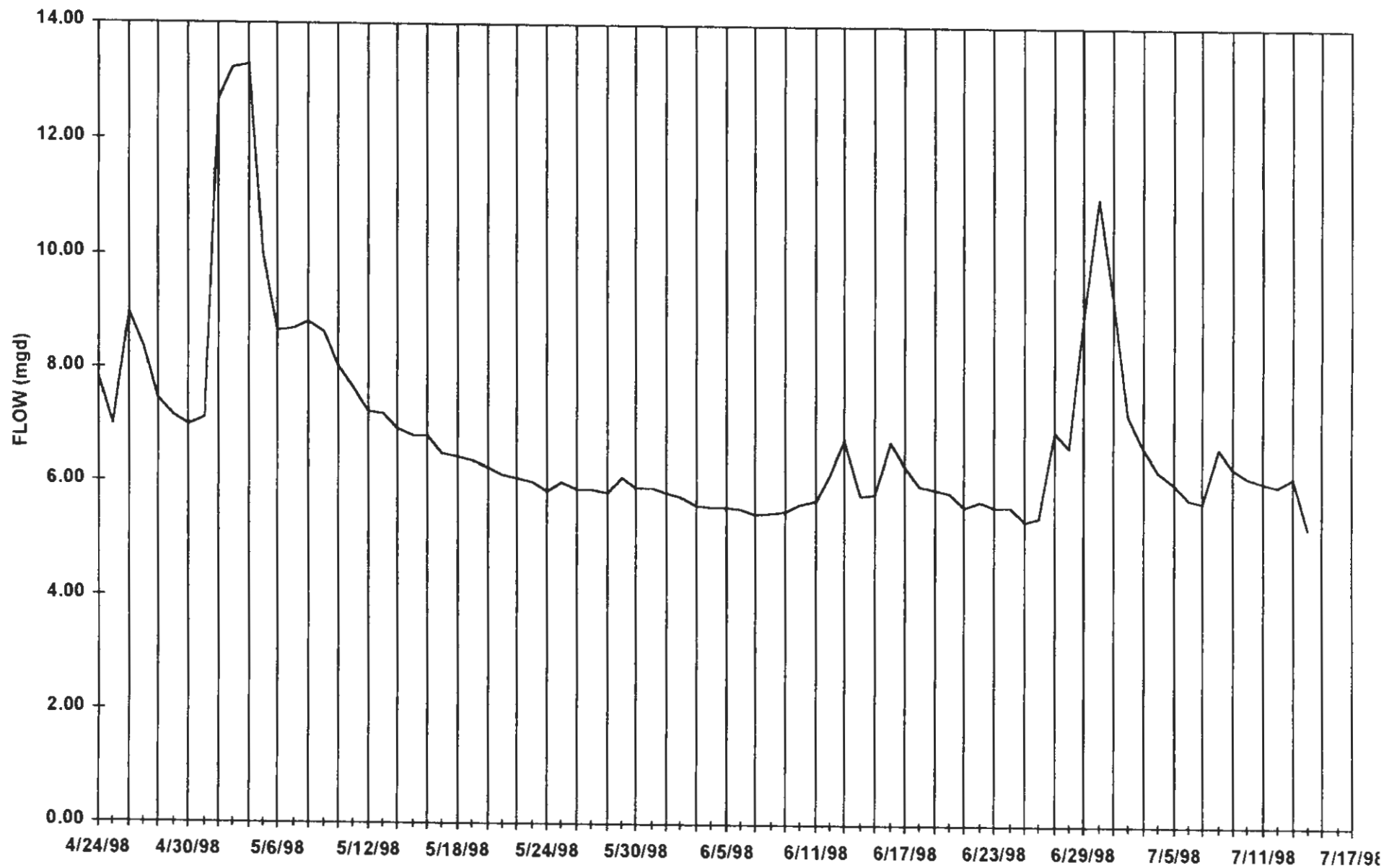
Serial#: QB3

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/21/98					
04/22/98					
04/23/98	1.1748	1.0015	1.3339	04:15 pm	10:05 pm
04/24/98	1.1494	.7986	1.4086	04:25 am	10:55 am
04/25/98	1.0915	.8433	1.3581	05:00 am	06:35 pm
04/26/98	1.6773	.9877	2.5712	01:05 am	04:40 pm
04/27/98	1.4929	1.2368	1.8243	04:10 pm	12:00 am
04/28/98	1.3051	1.0241	1.5816	02:20 am	09:55 pm
04/29/98	1.2851	1.0566	1.4691	03:50 am	10:10 pm
04/30/98	1.2256	1.0172	1.4767	05:15 am	01:25 pm
05/01/98	1.2358	.9800	1.5267	04:25 am	10:45 pm
05/02/98	2.5752	1.0897	3.8129	03:45 am	12:10 pm
05/03/98	2.4397	2.0199	3.2380	06:50 pm	12:20 am
05/04/98	2.4246	1.9813	3.0288	11:55 pm	12:10 am
05/05/98	1.8334	1.5777	2.0500	11:45 pm	06:35 am
05/06/98	1.6207	1.3766	1.9783	08:45 pm	10:00 am
05/07/98	1.4846	1.0938	2.1304	02:35 am	10:35 pm
05/08/98	1.5837	1.2788	1.8528	03:30 am	12:05 pm
05/09/98	1.4514	1.1446	1.6481	05:40 am	11:30 am
05/10/98	1.3721	1.1045	1.6585	05:20 am	12:30 pm
05/11/98	1.3839	1.0749	1.9177	03:40 am	02:30 pm
05/12/98	1.2672	.9098	1.5708	04:10 am	10:15 am
05/13/98	1.3309	.9549	1.6952	01:40 am	12:15 pm
05/14/98	1.2316	.9246	1.5910	08:50 pm	09:20 am
05/15/98	1.0260	.6790	1.4158	04:05 am	08:55 pm
05/16/98	1.1468	.8923	1.4067	02:35 am	11:50 am
05/17/98	1.1135	.8211	1.4191	04:15 am	09:25 pm
05/18/98	1.1140	.7529	1.3987	04:30 am	01:00 pm
05/19/98	1.1408	.8155	1.4233	02:35 am	12:00 pm
05/20/98	1.1835	.8381	1.6325	04:35 am	10:35 am
05/21/98	1.0957	.6205	1.5912	11:45 pm	09:45 pm
05/22/98	.6564	.3689	.9344	03:50 am	12:00 pm
05/23/98	.6266	.4073	.9091	05:00 am	12:40 pm
05/24/98	.7325	.4788	1.0554	04:40 am	01:25 pm
05/25/98	.7690	.4089	1.3208	03:50 am	09:45 pm
05/26/98	.9819	.5510	1.3577	04:25 am	09:35 am
05/27/98	1.0338	.6711	1.5645	02:30 am	01:20 pm
05/28/98	1.0859	.7379	1.4023	02:50 am	10:50 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/29/98	1.1537	.7469	2.1480	01:45 am	04:35 pm
05/30/98	1.0147	.6557	1.3244	05:50 am	09:40 pm
05/31/98	1.0164	.6399	1.8449	06:45 am	08:55 pm
06/01/98	1.0371	.7481	1.3544	05:10 am	10:15 am
06/02/98	1.0141	.6929	1.2848	04:35 am	10:40 am
06/03/98	.9640	.5901	1.2548	04:20 am	10:20 am
06/04/98	.9408	.5991	1.2039	04:10 am	11:55 am
06/05/98	.9377	.6506	1.1850	03:35 am	06:00 pm
06/06/98	.9545	.6109	1.1973	04:50 am	01:25 pm
06/07/98	.9461	.6768	1.1911	04:50 am	03:00 pm
06/08/98	.9227	.6056	1.3229	03:45 am	11:20 am
06/09/98	.9221	.5882	1.3571	02:40 am	07:15 pm
06/10/98	.9921	.6354	1.5708	04:00 am	01:55 pm
06/11/98	1.0594	.7482	1.4705	04:50 am	05:50 pm
06/12/98	1.1797	.8838	2.0348	01:15 am	11:15 pm
06/13/98	1.2899	.9931	2.0773	06:30 am	12:25 am
06/14/98	1.0605	.7656	1.2881	05:40 am	11:05 am
06/15/98	1.0369	.7182	1.3459	04:40 am	10:35 am
06/16/98	1.3523	.7200	2.6858	04:40 am	05:25 pm
06/17/98	1.1667	.9385	1.4713	03:50 am	12:20 am
06/18/98	1.0872	.7681	1.3130	04:50 am	02:10 pm
06/19/98	1.1050	.7963	1.3585	03:55 am	10:25 am
06/20/98	1.0572	.7264	1.3346	04:50 am	11:35 am
06/21/98	1.0433	.7717	1.5821	04:50 am	11:40 am
06/22/98	1.0300	.7069	1.3655	04:45 am	12:45 pm
06/23/98	.9931	.6414	1.2581	04:35 am	10:15 am
06/24/98	1.0010	.6529	1.4144	04:40 am	10:55 am
06/25/98	.9904	.6252	1.2385	05:35 am	05:15 pm
06/26/98	1.0192	.6816	1.6727	03:50 am	06:10 pm
06/27/98	1.5260	.7499	3.7318	06:00 am	09:10 am
06/28/98	1.3692	.8487	3.1729	05:50 am	07:20 pm
06/29/98	2.0152	1.0610	3.4947	05:20 am	12:00 pm
06/30/98	2.4448	1.5288	4.2279	12:35 pm	04:55 pm
07/01/98	1.9622	1.4314	2.7448	11:45 pm	12:05 am
07/02/98	1.3657	1.1573	1.5893	05:40 am	10:00 am
07/03/98	1.1540	.9636	1.5699	05:35 am	12:10 pm
07/04/98	.9856	.6353	1.3945	06:10 am	12:55 pm
07/05/98	.9219	.6663	1.2401	05:30 am	11:45 am
07/06/98	.9227	.6042	1.2002	04:50 am	11:00 am
07/07/98	1.0319	.6546	1.4535	05:15 am	10:30 am
07/08/98	1.2260	.9126	1.5847	01:05 am	11:05 am
07/09/98	1.1248	.8391	1.3783	05:05 am	10:15 pm
07/10/98	1.0866	.8302	1.3582	05:20 am	11:55 am
07/11/98	1.0362	.8076	1.3253	04:35 am	12:35 pm
07/12/98	1.0483	.7616	1.5140	04:45 am	03:35 pm
07/13/98	1.0908	.8071	1.3296	05:00 am	09:00 pm
07/14/98	.9578	.7725	1.1502	05:05 am	09:25 am
07/15/98					

MONITOR SITE NO. 8
54-inch Trunk Line

Daily Flow vs Time
Site: 00098008 SOUTH STREET AT RR BRIDGE



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 4.5

Location: SOUTH STREET AT RR BRIDGE
Site ID: 00098008
Serial#: P8Q

Daily Flow Summary Report

Site:00098008 SOUTH STREET AT RR BRIDGE

Daterange: 04/24/98-08/14/98

Primary Device: Area Velocity

Location: SOUTH STREET AT RR BRIDGE

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098008

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 4.5

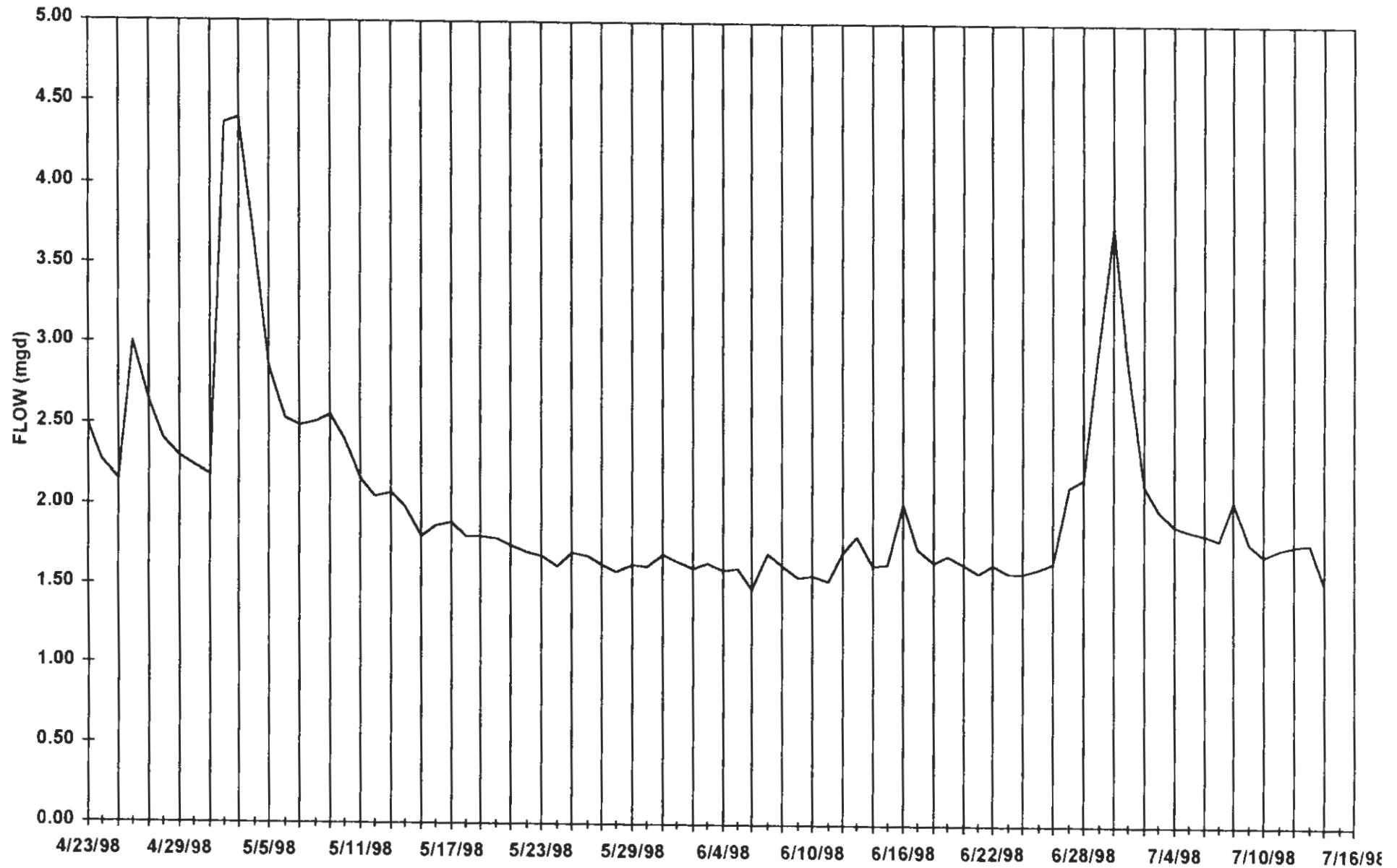
Serial#: P8Q

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/24/98	7.8022	6.2410	9.4333	07:00 pm	11:15 am
04/25/98	6.9904	4.1690	10.2647	05:55 am	11:30 am
04/26/98	8.9563	5.1872	13.9788	06:00 am	10:50 pm
04/27/98	8.3430	5.5669	11.0697	04:50 am	10:40 am
04/28/98	7.4346	4.7730	10.2473	06:30 am	11:05 pm
04/29/98	7.1252	4.3556	10.0571	05:00 am	12:05 am
04/30/98	6.9698	4.1527	9.1011	05:25 am	09:55 pm
05/01/98	7.1190	4.1769	9.6172	05:05 am	10:50 am
05/02/98	12.6769	5.0961	19.8698	05:20 am	02:00 pm
05/03/98	13.2022	10.5477	18.4513	08:25 am	01:40 am
05/04/98	13.2613	9.8325	16.2184	10:45 pm	10:25 am
05/05/98	9.9922	6.8990	12.7014	06:00 am	09:10 am
05/06/98	8.6522	5.7396	11.2637	06:15 am	10:55 am
05/07/98	8.6790	5.8731	11.5427	03:50 am	08:20 pm
05/08/98	8.7965	5.9329	11.3857	06:20 am	12:15 pm
05/09/98	8.6168	5.8481	11.7383	06:10 am	12:15 pm
05/10/98	8.0175	5.0955	11.5073	06:55 am	01:05 pm
05/11/98	7.6655	4.9803	9.5022	05:35 am	03:50 pm
05/12/98	7.2333	4.4754	9.7873	05:30 am	11:15 pm
05/13/98	7.2013	4.3610	9.3418	05:10 am	12:35 pm
05/14/98	6.9255	4.2289	9.0428	04:55 am	10:00 am
05/15/98	6.8083	3.9658	8.9556	06:05 am	01:00 am
05/16/98	6.7889	4.1104	9.5804	06:55 am	12:25 pm
05/17/98	6.5103	3.2963	9.4579	06:25 am	01:25 pm
05/18/98	6.4267	3.3543	8.5327	05:30 am	11:10 am
05/19/98	6.3919	3.5097	8.3690	06:10 am	10:40 pm
05/20/98	6.2626	3.6003	8.2489	06:05 am	10:40 am
05/21/98	6.1493	3.4317	8.3712	07:05 am	11:35 pm
05/22/98	6.0864	3.2928	8.6242	05:15 am	11:30 am
05/23/98	6.0083	3.3248	8.8895	06:45 am	12:55 pm
05/24/98	5.8683	3.0724	8.8869	04:40 am	01:05 pm
05/25/98	6.0249	3.1989	9.4003	07:40 am	01:20 pm
05/26/98	5.9015	3.2508	8.4355	04:50 am	12:20 pm
05/27/98	5.8919	3.1507	7.8381	04:20 am	11:25 am
05/28/98	5.8444	3.2071	7.7749	06:00 am	10:35 am
05/29/98	6.1014	3.4347	8.2430	06:25 am	07:00 pm
05/30/98	5.9342	2.7521	8.5947	04:40 am	12:00 pm
05/31/98	5.9285	3.1499	8.4238	05:50 am	03:10 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
06/01/98	5.8329	3.0823	7.5216	06:00 am	11:15 pm
06/02/98	5.7585	3.1080	8.1524	06:00 am	11:10 am
06/03/98	5.6139	2.8630	7.5087	05:50 am	10:55 am
06/04/98	5.5932	3.0472	7.5222	06:50 am	11:25 am
06/05/98	5.5872	3.0146	7.5866	05:20 am	11:20 am
06/06/98	5.5674	2.8020	7.9689	06:40 am	12:20 pm
06/07/98	5.4627	2.9152	7.9792	06:50 am	01:40 pm
06/08/98	5.5080	2.8010	7.4130	04:50 am	01:40 pm
06/09/98	5.5418	2.9521	7.2639	06:25 am	11:30 am
06/10/98	5.6631	3.0676	7.3306	05:30 am	02:50 pm
06/11/98	5.7232	2.9262	7.3556	06:20 am	11:25 pm
06/12/98	6.1526	3.7205	9.0546	05:50 am	11:25 pm
06/13/98	6.7761	3.8395	10.0919	06:25 am	12:45 am
06/14/98	5.8079	2.8922	8.5089	05:40 am	01:25 pm
06/15/98	5.8269	2.8961	7.8903	05:45 am	12:40 pm
06/16/98	6.7360	3.0682	10.8857	05:45 am	08:05 pm
06/17/98	6.3255	3.6166	8.4830	06:10 am	12:00 am
06/18/98	5.9945	3.3605	8.5210	05:45 am	11:15 am
06/19/98	5.9176	3.3344	8.1176	05:10 am	10:50 am
06/20/98	5.8470	3.0071	8.6575	07:05 am	01:30 pm
06/21/98	5.6184	2.7457	8.1129	07:00 am	02:25 pm
06/22/98	5.7193	2.7370	7.7172	06:30 am	12:20 pm
06/23/98	5.6330	2.9580	7.4731	06:00 am	12:55 am
06/24/98	5.6131	2.8431	7.3863	06:00 am	12:05 pm
06/25/98	5.3741	2.5179	8.6908	05:20 am	11:25 pm
06/26/98	5.4379	2.3998	8.4574	05:15 am	02:15 pm
06/27/98	6.9192	2.6130	13.1685	06:45 am	01:00 pm
06/28/98	6.6441	3.5189	12.4109	06:00 am	10:00 pm
06/29/98	8.8848	4.1389	14.0292	05:20 am	11:15 pm
06/30/98	11.0099	5.6445	19.7762	05:30 am	07:05 pm
07/01/98	9.2718	5.7385	16.8612	04:10 pm	12:25 am
07/02/98	7.2135	4.4283	10.3065	05:45 am	11:20 am
07/03/98	6.6431	3.9583	9.2688	05:10 am	02:35 pm
07/04/98	6.2643	3.5234	9.2809	06:30 am	01:40 pm
07/05/98	6.0443	3.5324	8.4791	06:15 am	01:45 pm
07/06/98	5.7550	3.2158	8.6152	05:25 am	11:15 am
07/07/98	5.7158	3.2452	8.1515	06:10 am	09:35 pm
07/08/98	6.6533	4.8438	8.4340	02:00 am	01:25 pm
07/09/98	6.3297	3.5544	8.3632	05:20 am	02:20 pm
07/10/98	6.1698	3.5556	8.3473	05:50 am	12:00 pm
07/11/98	6.0675	2.9923	9.1448	07:00 am	12:25 pm
07/12/98	6.0114	2.9661	8.9436	06:15 am	12:30 pm
07/13/98	6.1547	3.4704	8.2507	05:30 am	01:05 pm
07/14/98	5.2854	3.1707	7.6394	06:10 am	10:55 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					

MONITOR SITE NO. 9
48-inch Trunk Line @ 2nd Street
SW @ Masonic Temple

Daily Flow vs Time
Site:00098009 MASONIC LODGE



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 4

Location: MASONIC LODGE
Site ID: 00098009
Serial#: P82

Daily Flow Summary Report

Site:00098009 MASONIC LODGE

Daterange: 04/23/98-08/13/98

Primary Device: Area Velocity

Location: MASONIC LODGE

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098009

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): 4

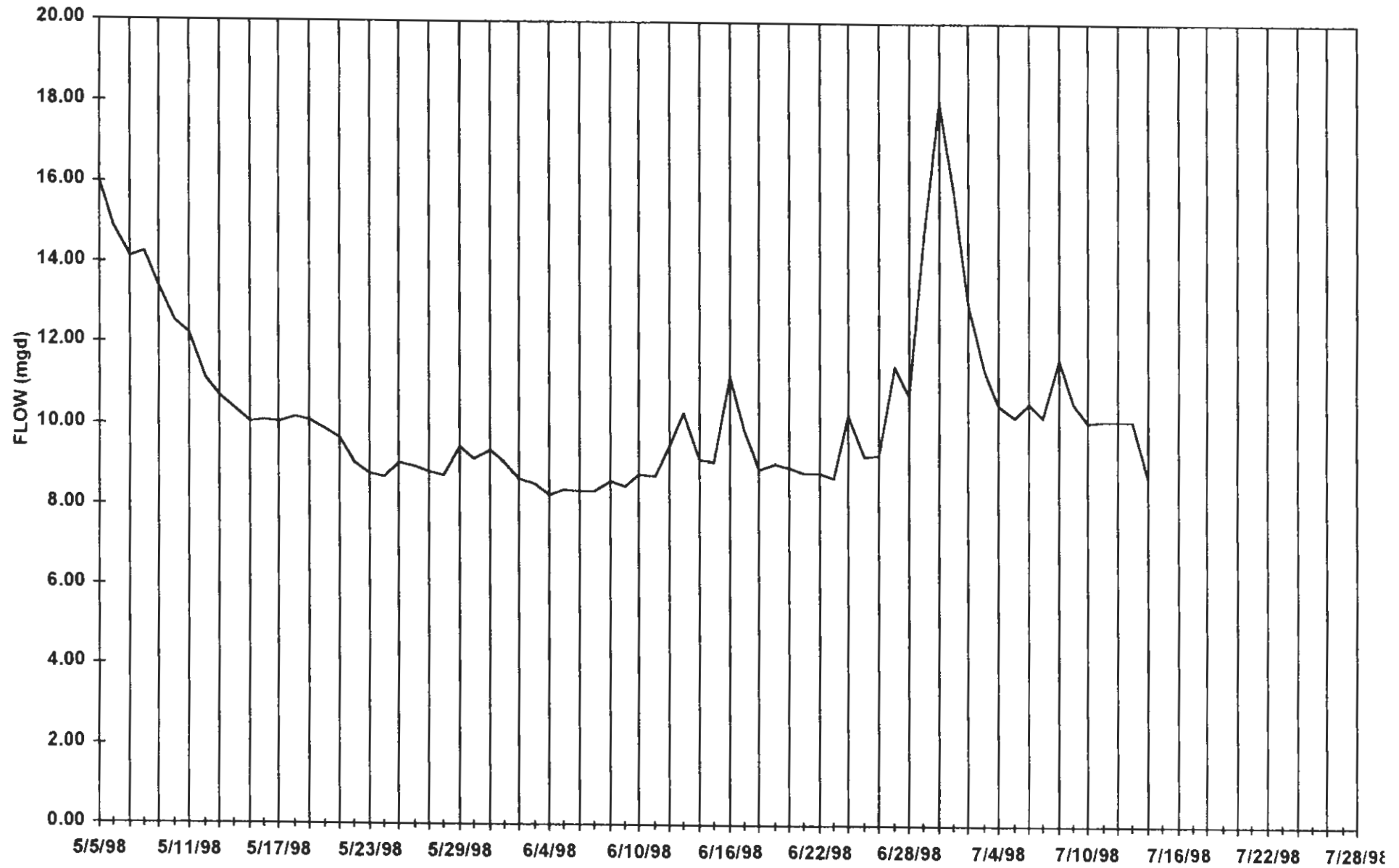
Serial#: P82

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/23/98	2.4807	2.2169	2.7972	03:50 pm	10:25 pm
04/24/98	2.2556	1.5183	2.7392	03:30 am	12:00 pm
04/25/98	2.1456	1.4409	2.7625	04:15 am	11:35 am
04/26/98	3.0004	1.8193	4.2200	02:00 am	06:15 pm
04/27/98	2.6357	1.7352	3.1591	04:40 am	12:20 pm
04/28/98	2.4016	1.5176	2.9456	03:25 am	01:05 pm
04/29/98	2.2913	1.5716	2.7608	04:15 am	10:40 pm
04/30/98	2.2290	1.4102	2.6651	04:30 am	09:30 pm
05/01/98	2.1854	.0000	2.9175	03:40 am	11:20 pm
05/02/98	4.3700	1.5811	6.9726	05:05 am	01:30 pm
05/03/98	4.4030	3.3791	6.3404	08:30 pm	02:00 am
05/04/98	3.6293	2.9585	4.4700	03:50 am	12:25 am
05/05/98	2.8521	2.2321	3.3801	03:10 am	11:10 am
05/06/98	2.5307	1.9683	2.9209	02:50 am	09:15 am
05/07/98	2.4835	1.6475	3.3136	04:00 am	07:30 pm
05/08/98	2.5108	1.8130	3.3565	04:55 am	05:05 pm
05/09/98	2.5480	1.6575	3.2753	05:40 am	10:10 am
05/10/98	2.4023	1.6366	3.0585	05:55 am	11:00 am
05/11/98	2.1564	1.4648	2.5854	04:40 am	10:10 pm
05/12/98	2.0545	1.2991	2.6176	03:10 am	10:50 pm
05/13/98	2.0724	1.2931	2.5497	03:40 am	12:25 pm
05/14/98	1.9866	1.2330	2.3944	04:55 am	10:30 pm
05/15/98	1.7951	1.1871	2.2029	05:50 am	12:15 pm
05/16/98	1.8650	1.0606	2.4306	06:25 am	11:35 am
05/17/98	1.8897	1.1160	2.4446	06:05 am	12:20 pm
05/18/98	1.8012	1.0715	2.2965	05:20 am	10:05 pm
05/19/98	1.7976	1.1235	2.3122	02:55 am	10:10 pm
05/20/98	1.7843	1.0963	2.2380	05:20 am	10:30 pm
05/21/98	1.7476	1.0040	2.1796	05:40 am	10:00 am
05/22/98	1.7062	1.0027	2.1629	05:55 am	11:15 am
05/23/98	1.6767	.9829	2.3003	06:00 am	10:55 am
05/24/98	1.6171	.9243	2.1926	07:10 am	02:05 pm
05/25/98	1.6998	.9180	2.3431	05:35 am	12:35 pm
05/26/98	1.6844	.9878	2.1173	04:55 am	12:05 pm
05/27/98	1.6292	.8644	1.9943	04:20 am	11:05 pm
05/28/98	1.5823	.8515	2.0649	05:45 am	10:15 pm
05/29/98	1.6223	.9342	2.6873	05:25 am	04:15 pm
05/30/98	1.6171	.9805	2.0642	06:00 am	02:05 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/31/98	1.6907	.9339	2.2761	05:30 am	01:30 pm
06/01/98	1.6501	.9667	2.0743	04:40 am	09:45 pm
06/02/98	1.6035	.8381	2.0137	05:15 am	11:45 pm
06/03/98	1.6363	.9414	2.0794	04:55 am	07:45 pm
06/04/98	1.5986	.9203	2.1175	05:25 am	11:55 am
06/05/98	1.6065	.8843	2.1186	05:40 am	12:40 pm
06/06/98	1.4697	.8578	2.0756	06:10 am	05:05 pm
06/07/98	1.7029	1.0812	2.2273	06:50 am	02:00 pm
06/08/98	1.6312	1.0812	2.0615	05:10 am	01:20 pm
06/09/98	1.5517	.8813	1.9623	04:45 am	02:35 pm
06/10/98	1.5568	.9809	1.9623	03:55 am	10:30 pm
06/11/98	1.5340	.9378	1.8963	05:05 am	11:25 pm
06/12/98	1.7106	1.0514	2.8629	05:25 am	11:20 pm
06/13/98	1.8074	1.0904	2.9155	07:25 am	12:25 am
06/14/98	1.6262	.8881	2.2449	05:05 am	01:35 pm
06/15/98	1.6332	.9202	2.1264	05:45 am	11:30 am
06/16/98	2.0154	.9349	4.6496	05:50 am	05:50 pm
06/17/98	1.7373	1.1439	2.1682	03:30 am	12:10 am
06/18/98	1.6437	.9325	2.0370	05:35 am	12:35 pm
06/19/98	1.6880	.9713	2.1538	05:35 am	12:05 pm
06/20/98	1.6358	.9243	2.1911	05:55 am	10:45 am
06/21/98	1.5824	.8884	2.1303	06:15 am	01:25 pm
06/22/98	1.6362	.9354	2.1815	05:50 am	01:20 pm
06/23/98	1.5880	.9175	1.9780	03:45 am	01:45 pm
06/24/98	1.5872	.9117	2.0336	04:40 am	11:10 pm
06/25/98	1.6116	.8899	2.0422	04:50 am	10:50 pm
06/26/98	1.6490	.8802	2.4270	05:05 am	06:35 pm
06/27/98	2.1286	.8716	4.9301	06:10 am	09:25 am
06/28/98	2.1805	1.0057	4.8986	05:55 am	07:30 pm
06/29/98	3.0101	1.6254	4.7711	05:20 am	12:25 pm
06/30/98	3.7493	2.0046	7.4041	05:15 am	07:00 pm
07/01/98	2.8826	2.2487	4.8550	05:45 pm	12:20 am
07/02/98	2.1390	1.5091	2.5471	04:40 am	12:00 am
07/03/98	1.9852	1.2408	2.5723	06:05 am	12:05 pm
07/04/98	1.8877	1.1978	2.6401	06:45 am	12:15 pm
07/05/98	1.8538	1.1515	2.4960	05:45 am	12:45 pm
07/06/98	1.8347	1.1870	2.4075	05:35 am	12:10 pm
07/07/98	1.8035	1.0966	2.2564	05:00 am	12:45 pm
07/08/98	2.0358	1.6211	2.3908	06:25 am	02:55 am
07/09/98	1.7749	1.1229	2.1766	05:20 am	12:30 pm
07/10/98	1.7006	1.0800	2.1814	06:20 am	12:25 pm
07/11/98	1.7416	.9878	2.3189	06:00 am	01:40 pm
07/12/98	1.7642	.9973	2.3212	06:25 am	12:15 pm
07/13/98	1.7830	1.0235	2.4247	05:05 am	12:50 pm
07/14/98	1.5143	1.0389	2.0560	04:35 am	09:20 am
07/15/98					
07/16/98					
07/17/98					

MONITOR SITE NO. 10
WWTP Influent

Daily Flow vs Time
Site:00000000 Massillon WWTP



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Location: Massillon WWTP
Site ID: 00000000
Serial#: 000

Daily Flow Summary Report

Site:00000000 Massillon WWTP

Daterange: 05/05/98-07/28/98

Location: Massillon WWTP

Territory: TERRITORY 6/25/98

Site ID: 00000000

12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED

Serial#: 000

6/25/98 12:20:15 PM

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/05/98	16.0082	12.9312	17.9966	05:00 am	11:00 pm
05/06/98	14.8619	11.6148	17.2574	05:00 am	12:00 am
05/07/98	14.1492	10.9559	17.0933	05:00 am	10:00 pm
05/08/98	14.2773	10.3816	16.4904	05:00 am	08:00 pm
05/09/98	13.3983	10.4618	15.9984	06:00 am	01:00 pm
05/10/98	12.5186	9.2820	14.6803	07:00 am	11:00 pm
05/11/98	12.2141	8.9110	14.1091	06:00 am	12:00 am
05/12/98	11.1228	8.4570	12.9089	05:00 am	11:00 pm
05/13/98	10.6711	7.9772	12.4961	05:00 am	12:00 am
05/14/98	10.3820	7.4113	12.2022	05:00 am	12:00 am
05/15/98	10.0402	7.0701	11.6470	06:00 am	12:00 pm
05/16/98	10.0665	6.9680	12.3813	06:00 am	01:00 pm
05/17/98	10.0100	6.5546	12.4354	07:00 am	01:00 pm
05/18/98	10.1393	7.0461	11.8642	06:00 am	12:00 am
05/19/98	10.0438	6.9720	11.7923	06:00 am	11:00 pm
05/20/98	9.8656	7.0070	11.5614	06:00 am	12:00 am
05/21/98	9.6316	6.6796	11.3379	06:00 am	12:00 am
05/22/98	9.0285	6.1908	10.5473	06:00 am	12:00 pm
05/23/98	8.7637	5.7215	11.5521	07:00 am	02:00 pm
05/24/98	8.6717	5.6993	11.2769	07:00 am	02:00 pm
05/25/98	9.0111	5.5555	12.2845	07:00 am	02:00 pm
05/26/98	8.9503	5.9144	10.6546	05:00 am	11:00 am
05/27/98	8.8235	6.1601	10.2170	06:00 am	11:00 am
05/28/98	8.7226	5.9884	10.6141	06:00 am	11:00 pm
05/29/98	9.3960	6.1228	11.8437	06:00 am	05:00 pm
05/30/98	9.0957	6.0918	11.3738	07:00 am	01:00 pm
05/31/98	9.3457	5.7109	11.9964	07:00 am	02:00 pm
06/01/98	9.0071	6.0872	11.0904	05:00 am	12:00 am
06/02/98	8.6118	5.9446	10.2662	06:00 am	11:00 pm
06/03/98	8.5011	5.6845	10.0198	06:00 am	12:00 am
06/04/98	8.2314	5.4939	9.6823	05:00 am	11:00 pm
06/05/98	8.3815	5.6345	9.5630	05:00 am	12:00 pm
06/06/98	8.3116	5.1480	10.5880	07:00 am	01:00 pm
06/07/98	8.3268	5.1739	11.2410	07:00 am	02:00 pm
06/08/98	8.5764	5.4895	10.5837	05:00 am	01:00 pm
06/09/98	8.4517	5.6840	9.9375	07:00 am	09:00 pm
06/10/98	8.7824	6.0305	10.3006	06:00 am	02:00 pm
06/11/98	8.7208	6.0445	10.0429	06:00 am	11:00 pm

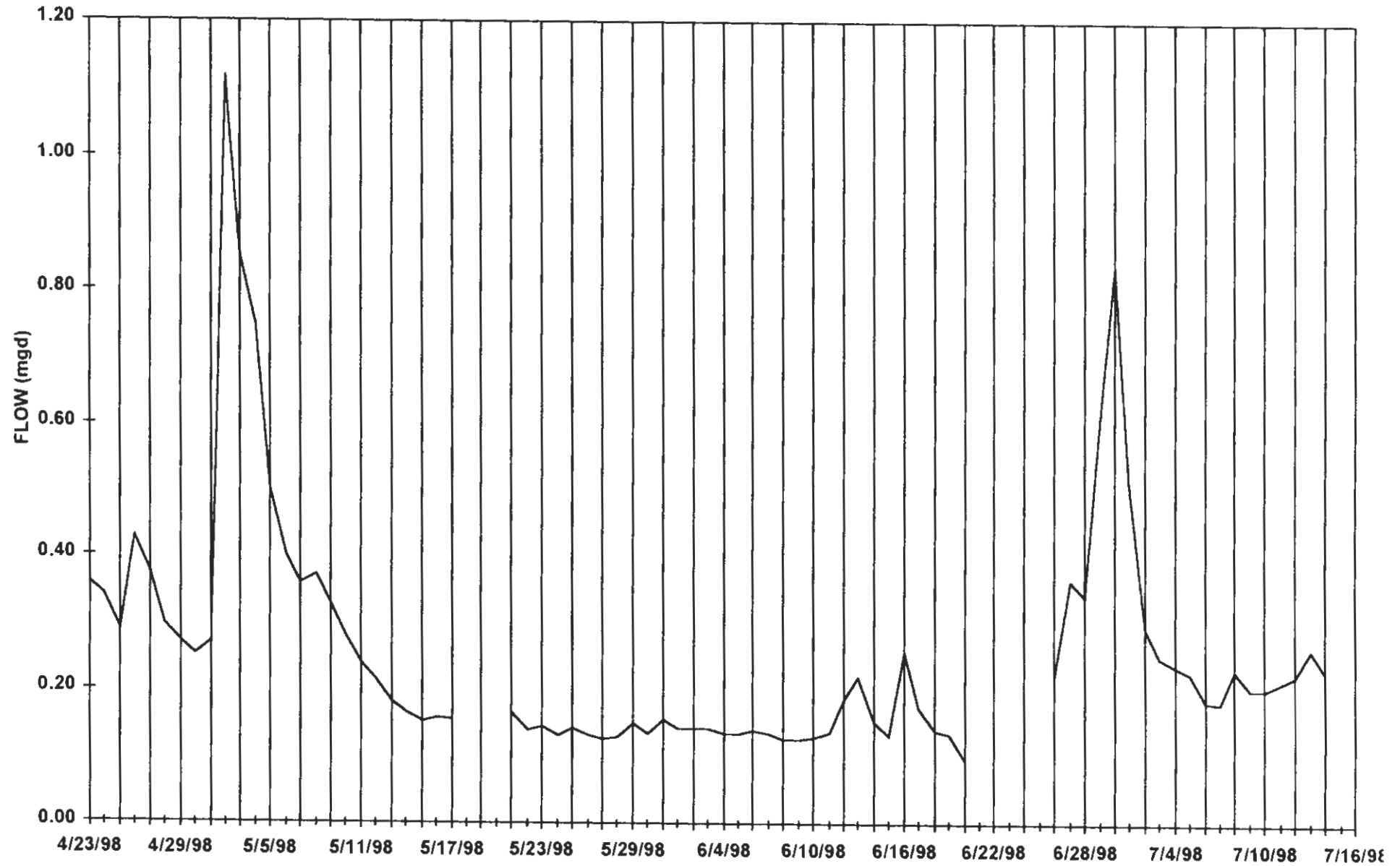
Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
06/12/98	9.4427	7.1868	12.4867	06:00 am	11:00 pm
06/13/98	10.2874	7.0210	14.1749	07:00 am	01:00 am
06/14/98	9.1000	5.6100	12.1646	07:00 am	02:00 pm
06/15/98	9.0885	5.8466	11.1416	05:00 am	01:00 pm
06/16/98	11.1843	5.9708	19.0574	06:00 am	02:00 pm
06/17/98	9.8652	7.3471	12.7206	06:00 am	12:00 am
06/18/98	8.9114	6.2907	10.2876	06:00 am	12:00 pm
06/19/98	9.0278	6.3988	10.3483	06:00 am	03:00 pm
06/20/98	8.9238	5.7409	11.0451	08:00 am	02:00 pm
06/21/98	8.8061	5.5736	11.1590	07:00 am	02:00 pm
06/22/98	8.8196	5.8253	10.3540	05:00 am	01:00 pm
06/23/98	8.6942	5.4868	10.2543	06:00 am	11:00 pm
06/24/98	10.2582	5.9534	17.4429	06:00 am	10:00 am
06/25/98	9.1923	6.1958	11.4329	06:00 am	11:00 am
06/26/98	9.2453	6.3101	11.3788	06:00 am	07:00 pm
06/27/98	11.4369	6.1547	20.2730	07:00 am	12:00 pm
06/28/98	10.7036	6.3240	17.8492	06:00 am	08:00 pm
06/29/98	14.6056	8.3442	19.2910	05:00 am	11:00 pm
06/30/98	18.0643	10.9779	29.8933	05:00 am	07:00 pm
07/01/98	15.8038	12.5858	22.3325	05:00 am	12:00 am
07/02/98	13.0334	10.5960	15.7107	06:00 am	12:00 am
07/03/98	11.3836	8.4416	13.9420	06:00 am	01:00 pm
07/04/98	10.4934	7.1805	14.2054	07:00 am	02:00 pm
07/05/98	10.1936	7.1529	12.3204	07:00 am	02:00 pm
07/06/98	10.5560	7.2124	12.8917	05:00 am	01:00 pm
07/07/98	10.1737	6.7690	11.8518	06:00 am	11:00 pm
07/08/98	11.6307	10.6125	12.6694	06:00 am	02:00 pm
07/09/98	10.5436	7.4450	12.3682	06:00 am	12:00 pm
07/10/98	10.0861	7.3714	11.8186	06:00 am	12:00 am
07/11/98	10.0996	7.2458	12.9485	07:00 am	01:00 pm
07/12/98	10.1216	6.9476	12.8808	07:00 am	01:00 pm
07/13/98	10.0981	7.0881	11.5704	05:00 am	01:00 pm
07/14/98	8.7352	6.7905	11.1732	06:00 am	12:00 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					
07/19/98					
07/20/98					
07/21/98					
07/22/98					
07/23/98					
07/24/98					
07/25/98					
07/26/98					
07/27/98					

MONITOR SITE NO. 11
Harsh Avenue

CTI Environmental, Inc.

Daily Flow vs Time

Site:00098011



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1

Location:
Site ID: 00098011
Serial#: OLH

Daily Flow Summary Report

Site:00098011

Daterange: 04/23/98-08/13/98

Primary Device: Area Velocity

Location:

Territory: TERRITORY 6/25/98

Shape: Round Pipe

Site ID: 00098011

12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED

Diameter(ft): 1

Serial#: 0LH

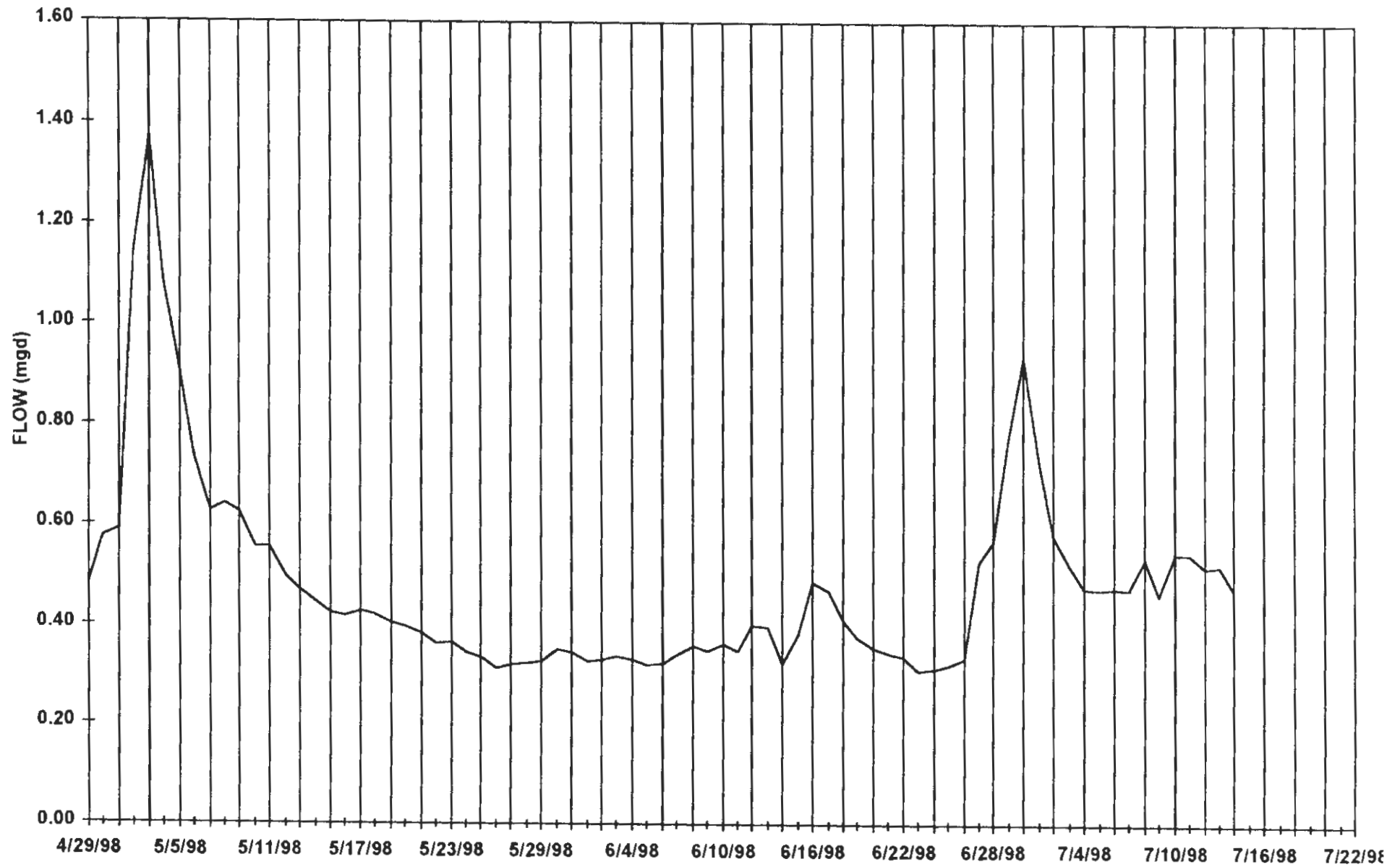
6/25/98 12:20:15 PM

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/23/98	.3604	.2674	.4635	03:20 pm	05:25 pm
04/24/98	.3401	.1651	.4635	04:05 am	05:40 pm
04/25/98	.2890	.1850	.4439	11:50 pm	09:40 am
04/26/98	.4299	.1734	.6751	12:55 am	04:45 pm
04/27/98	.3761	.2637	.4450	11:50 pm	12:00 am
04/28/98	.2971	.1858	.4026	04:40 am	09:20 am
04/29/98	.2712	.1570	.3687	02:50 am	07:45 pm
04/30/98	.2536	.1517	.3854	02:40 am	09:15 pm
05/01/98	.2704	.1508	.5000	01:45 am	09:55 pm
05/02/98	1.1164	.2576	2.4456	04:50 am	11:15 am
05/03/98	.8509	.6091	1.3437	08:05 pm	12:00 am
05/04/98	.7465	.5550	1.0576	11:35 pm	12:20 am
05/05/98	.5029	.4156	.5839	11:55 pm	12:05 am
05/06/98	.3998	.3176	.4697	11:55 pm	07:55 am
05/07/98	.3597	.2493	.6020	04:05 am	06:35 pm
05/08/98	.3710	.3050	.4645	03:25 am	06:55 pm
05/09/98	.3280	.2401	.4124	05:25 am	08:50 am
05/10/98	.2799	.1671	.3881	04:30 am	12:45 pm
05/11/98	.2408	.1442	.3602	03:25 am	05:40 pm
05/12/98	.2163	.0212	.3127	01:15 am	09:10 pm
05/13/98	.1825	.1026	.2803	03:35 am	09:45 pm
05/14/98	.1654	.0836	.2975	04:15 am	09:35 pm
05/15/98	.1548	.0780	.2125	04:00 am	10:55 am
05/16/98	.1596	.0803	.3228	04:55 am	02:25 pm
05/17/98	.1550	.0760	.3046	02:30 am	03:10 pm
05/18/98					
05/19/98					
05/20/98					
05/21/98	.1656	.1395	.1992	03:15 pm	08:50 pm
05/22/98	.1395	.0670	.2701	03:35 am	04:10 pm
05/23/98	.1453	.0596	.3313	04:35 am	12:15 pm
05/24/98	.1325	.0616	.2420	05:15 am	10:00 pm
05/25/98	.1425	.0604	.3754	05:35 am	01:50 pm
05/26/98	.1329	.0600	.2855	04:30 am	12:45 pm
05/27/98	.1274	.0572	.1928	04:00 am	10:05 am
05/28/98	.1306	.0525	.2784	04:15 am	10:10 pm
05/29/98	.1514	.0541	.5497	04:15 am	04:20 pm
05/30/98	.1361	.0534	.3184	04:25 am	09:20 pm

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/31/98	.1567	.0612	.4343	05:30 am	08:35 pm
06/01/98	.1424	.0742	.2431	04:45 am	12:50 pm
06/02/98	.1432	.0629	.2210	01:25 am	09:15 pm
06/03/98	.1425	.0656	.2930	04:10 am	07:25 pm
06/04/98	.1356	.0609	.1963	04:45 am	11:25 am
06/05/98	.1349	.0588	.2044	04:10 am	01:55 pm
06/06/98	.1412	.0564	.2970	04:05 am	10:50 am
06/07/98	.1355	.0661	.2646	05:00 am	12:35 pm
06/08/98	.1278	.0533	.1814	02:15 am	12:15 pm
06/09/98	.1268	.0533	.3362	03:35 am	06:45 pm
06/10/98	.1310	.0501	.2866	04:15 am	08:25 pm
06/11/98	.1372	.0583	.2788	03:55 am	05:30 pm
06/12/98	.1883	.0768	.5807	01:05 am	10:55 pm
06/13/98	.2219	.1442	.4959	11:35 pm	12:10 am
06/14/98	.1528	.0760	.2867	04:45 am	02:10 pm
06/15/98	.1317	.0576	.2599	03:10 am	01:20 pm
06/16/98	.2567	.0592	.7428	03:00 am	05:00 pm
06/17/98	.1746	.1037	.3376	04:55 am	08:15 pm
06/18/98	.1404	.0755	.2254	04:55 am	11:30 am
06/19/98	.1365	.0576	.3131	04:20 am	08:40 am
06/20/98	.0971	.0706	.1351	02:10 am	12:20 am
06/21/98					
06/22/98					
06/23/98					
06/24/98					
06/25/98					
06/26/98	.2205	.1466	.6342	02:00 pm	05:50 pm
06/27/98	.3635	.0697	1.1785	04:30 am	08:55 am
06/28/98	.3410	.1578	.9415	05:45 am	07:05 pm
06/29/98	.6150	.2420	1.2808	04:55 am	11:50 am
06/30/98	.8351	.4483	2.1483	05:30 am	04:45 pm
07/01/98	.5087	.3218	.8284	11:55 pm	12:00 am
07/02/98	.2954	.1842	.3681	04:25 am	08:55 am
07/03/98	.2505	.1444	.3615	03:55 am	10:10 am
07/04/98	.2370	.1726	.3811	04:20 am	12:20 pm
07/05/98	.2268	.1598	.3118	05:15 am	12:25 pm
07/06/98	.1848	.0986	.2617	02:35 am	10:40 am
07/07/98	.1825	.0926	.3110	04:20 am	06:10 pm
07/08/98	.2315	.1397	.4465	12:50 am	04:20 am
07/09/98	.2026	.1036	.3545	02:50 am	10:35 pm
07/10/98	.2035	.1114	.3847	04:30 am	08:05 pm
07/11/98	.2134	.1140	.3619	04:00 am	10:40 am
07/12/98	.2243	.1068	.3823	05:50 am	11:20 am
07/13/98	.2629	.1304	.4403	04:15 am	03:00 pm
07/14/98	.2284	.1512	.3378	02:30 am	07:40 am
07/15/98					
07/16/98					
07/17/98					

MONITOR SITE NO. 12
First and McCadden

Daily Flow vs Time
Site: 00098012 1ST AND MCCADDEN



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .833333313465118

Location: 1ST AND MCCADDEN
Site ID: 00098012
Serial#: QSP

Daily Flow Summary Report

Site:00098012 1ST AND MCCADDEN

Daterange: 04/29/98-08/19/98

Primary Device: Area Velocity

Location: 1ST AND MCCADDEN

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098012

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .833333313465118

Serial#: QSP

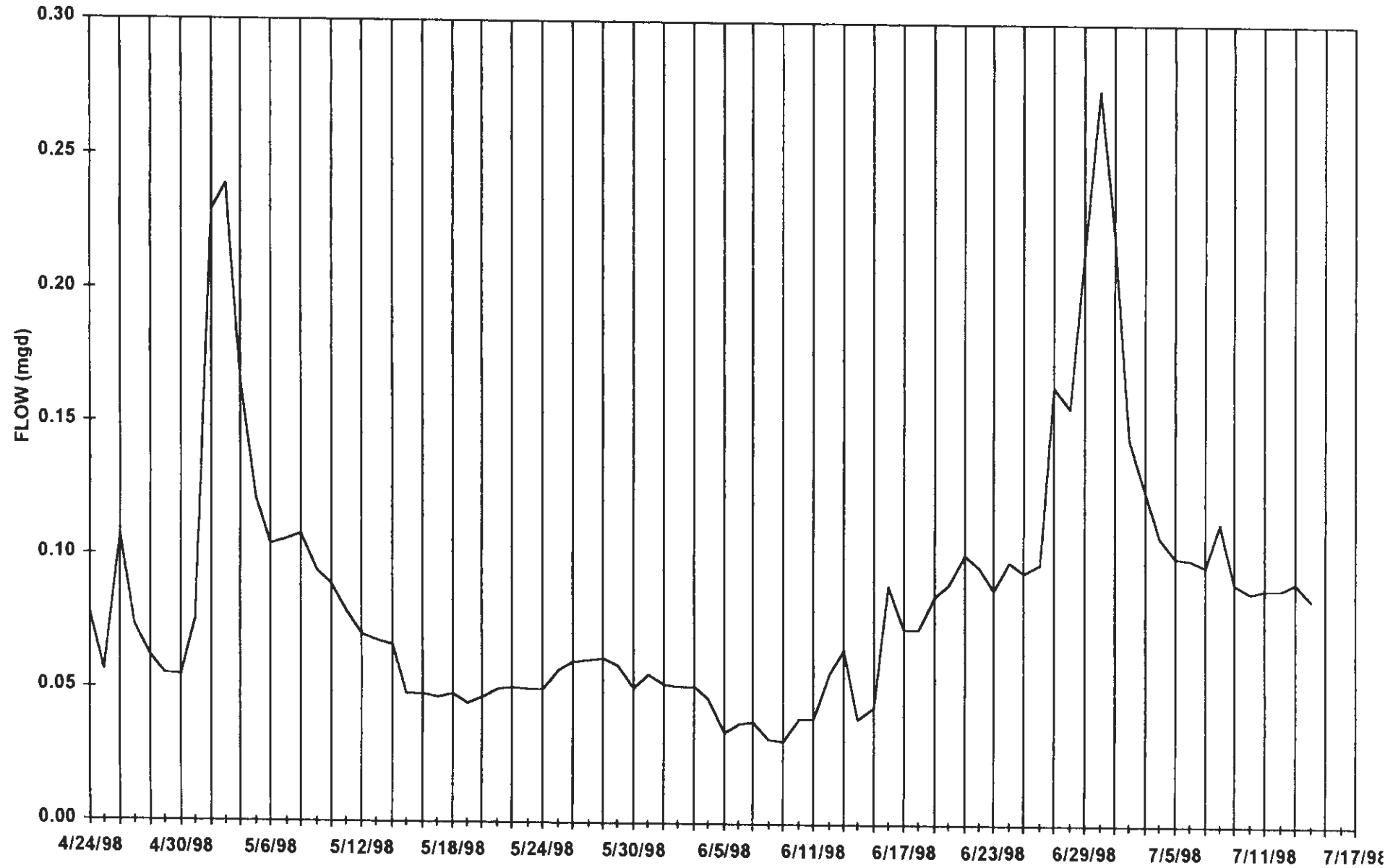
Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/29/98	.4811	.0000	.7689	12:35 pm	05:55 pm
04/30/98	.5772	.2628	.8376	02:05 am	09:30 pm
05/01/98	.5887	.2281	.9637	02:55 am	09:35 pm
05/02/98	1.1467	.3447	2.2037	02:30 am	08:25 pm
05/03/98	1.3715	1.1134	1.7476	08:20 pm	12:25 am
05/04/98	1.0811	.8300	1.5119	01:50 pm	07:10 am
05/05/98	.9013	.7259	1.0276	01:10 am	07:15 am
05/06/98	.7307	.5803	.9255	03:45 am	07:30 am
05/07/98	.6281	.3833	.8064	03:55 am	10:00 pm
05/08/98	.6423	.4248	.8031	01:40 am	04:30 pm
05/09/98	.6250	.4734	.7938	03:45 am	11:55 am
05/10/98	.5556	.2947	.7674	04:25 am	10:00 am
05/11/98	.5541	.3210	.7224	01:10 am	12:50 pm
05/12/98	.4950	.2351	.6821	03:50 am	07:45 am
05/13/98	.4683	.2146	.6724	03:10 am	08:45 am
05/14/98	.4456	.1756	.6874	02:40 am	09:30 pm
05/15/98	.4219	.1923	.7040	04:50 am	08:45 am
05/16/98	.4168	.1511	.7507	05:05 am	09:30 am
05/17/98	.4256	.1435	.6927	05:00 am	10:40 am
05/18/98	.4210	.1690	.6640	03:40 am	09:35 am
05/19/98	.4031	.1659	.6247	05:05 am	09:30 am
05/20/98	.3966	.1573	.5819	02:40 am	09:40 pm
05/21/98	.3823	.1521	.5700	03:15 am	07:20 am
05/22/98	.3623	.1394	.5488	03:20 am	01:00 pm
05/23/98	.3651	.1013	.6231	05:20 am	11:05 am
05/24/98	.3428	.1086	.5736	06:05 am	10:40 am
05/25/98	.3349	.1141	.5629	05:50 am	01:00 pm
05/26/98	.3114	.1187	.4672	04:45 am	10:20 am
05/27/98	.3199	.1302	.4700	04:25 am	09:30 pm
05/28/98	.3233	.1169	.4620	03:50 am	08:25 am
05/29/98	.3248	.1319	.5000	03:05 am	04:15 pm
05/30/98	.3491	.1291	.5835	05:45 am	10:30 am
05/31/98	.3425	.1259	.4976	04:55 am	12:50 pm
06/01/98	.3257	.1207	.4467	04:40 am	11:35 am
06/02/98	.3299	.1291	.5050	02:45 am	07:55 am
06/03/98	.3356	.1160	.4848	03:30 am	01:40 pm
06/04/98	.3304	.1043	.4950	04:40 am	09:35 am
06/05/98	.3194	.1084	.5139	04:05 am	10:50 am

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
06/06/98	.3244	.1069	.5415	05:15 am	09:15 am
06/07/98	.3416	.1088	.5411	04:10 am	12:05 pm
06/08/98	.3560	.1015	.5130	04:50 am	12:40 pm
06/09/98	.3460	.1367	.5368	04:20 am	06:35 pm
06/10/98	.3606	.1219	.5286	04:50 am	09:15 am
06/11/98	.3467	.1111	.5464	04:05 am	10:20 am
06/12/98	.4001	.1555	.6940	05:10 am	11:20 pm
06/13/98	.3955	.2417	.6200	03:50 am	12:25 am
06/14/98	.3234	.1323	.4844	05:30 am	09:40 am
06/15/98	.3807	.1236	.6360	04:20 am	10:00 am
06/16/98	.4846	.1347	1.0044	04:10 am	05:10 pm
06/17/98	.4679	.1620	.7311	04:35 am	10:55 am
06/18/98	.4097	.1444	.7581	03:25 am	09:10 am
06/19/98	.3742	.1315	.6414	04:05 am	10:35 am
06/20/98	.3535	.1103	.6478	04:20 am	10:05 am
06/21/98	.3430	.1001	.6310	05:30 am	10:30 am
06/22/98	.3354	.0918	.5373	04:40 am	09:00 am
06/23/98	.3099	.0968	.5281	04:50 am	09:10 pm
06/24/98	.3117	.0802	.4872	05:20 am	07:30 am
06/25/98	.3203	.0856	.5515	04:10 am	10:40 am
06/26/98	.3319	.0997	.5812	04:45 am	05:50 pm
06/27/98	.5263	.1082	1.3569	05:10 am	09:05 am
06/28/98	.5675	.1473	1.7764	05:10 am	07:10 pm
06/29/98	.7774	.3604	1.5324	02:25 am	08:55 pm
06/30/98	.9327	.5655	1.8984	06:00 am	05:40 pm
07/01/98	.7261	.5787	.9388	03:55 pm	12:00 am
07/02/98	.5804	.3235	.7858	02:50 am	09:50 am
07/03/98	.5195	.2710	.7103	05:15 am	09:30 am
07/04/98	.4769	.2399	.8113	04:25 am	11:55 am
07/05/98	.4717	.1974	.6998	06:15 am	11:10 am
07/06/98	.4738	.1759	.7108	04:10 am	10:30 am
07/07/98	.4710	.1870	.7114	04:35 am	09:35 pm
07/08/98	.5331	.3535	.7474	12:50 am	03:20 am
07/09/98	.4601	.1619	.6853	04:25 am	08:40 am
07/10/98	.5456	.2046	.7586	03:55 am	01:45 pm
07/11/98	.5445	.2145	.8750	04:30 am	09:20 am
07/12/98	.5159	.1671	.9343	03:45 am	09:35 am
07/13/98	.5197	.1916	.8675	03:10 am	09:05 am
07/14/98	.4709	.1864	.8360	04:05 am	08:20 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					
07/19/98					
07/20/98					
07/21/98					
07/22/98					
07/23/98					

MONITOR SITE NO. 13
Amherst and Medill

Daily Flow vs Time

Site:00098013 AMHERST AND MERDILL



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Manning Equation
Shape: Round Pipe
Diameter(ft): .667 Roughness: .013
Slope: .0035

Location: AMHERST AND MERDILL
Site ID: 00098013
Serial#: QB2

Daily Flow Summary Report

Site:00098013 AMHERST AND MERDILL

Daterange: 04/24/98-08/14/98

Primary Device: Manning Equation

Location: AMHERST AND MERDILL

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098013

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .667Roughness: .013
Slope: .0035

Serial#: QB2

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
04/24/98	.0778	.0000	.1087	03:05 pm	06:15 pm
04/25/98	.0568	.0204	.1150	03:40 am	10:10 am
04/26/98	.1075	.0288	.2406	03:50 am	12:50 pm
04/27/98	.0733	.0338	.1380	03:45 am	10:25 am
04/28/98	.0617	.0248	.1312	04:00 am	09:15 pm
04/29/98	.0552	.0208	.1118	03:40 am	09:35 pm
04/30/98	.0545	.0164	.1156	01:10 am	10:15 am
05/01/98	.0753	.0203	.2275	01:25 am	09:30 pm
05/02/98	.2291	.0402	.4931	03:05 am	07:50 pm
05/03/98	.2388	.1563	.3318	09:45 pm	12:30 am
05/04/98	.1654	.0919	.2221	11:35 pm	07:35 am
05/05/98	.1208	.0714	.1734	04:15 am	07:40 am
05/06/98	.1042	.0551	.1628	03:05 am	07:35 am
05/07/98	.1061	.0531	.2686	04:45 am	06:00 pm
05/08/98	.1079	.0567	.2456	01:25 am	04:10 pm
05/09/98	.0943	.0565	.1474	06:05 am	09:20 am
05/10/98	.0890	.0435	.1474	04:00 am	10:00 pm
05/11/98	.0791	.0375	.1423	03:50 am	07:40 am
05/12/98	.0700	.0347	.1276	04:50 am	10:05 pm
05/13/98	.0681	.0294	.1276	04:10 am	08:45 pm
05/14/98	.0665	.0320	.1374	04:50 am	07:35 am
05/15/98	.0484	.0182	.0938	04:55 am	07:40 am
05/16/98	.0480	.0127	.1191	04:10 am	10:35 am
05/17/98	.0467	.0135	.1019	02:35 am	09:45 pm
05/18/98	.0478	.0138	.1020	01:40 am	08:30 pm
05/19/98	.0447	.0195	.0999	02:00 pm	07:40 am
05/20/98	.0469	.0122	.1088	02:00 am	11:00 pm
05/21/98	.0502	.0157	.1171	01:35 am	06:55 am
05/22/98	.0506	.0222	.1069	03:50 am	08:35 am
05/23/98	.0501	.0193	.1199	12:25 am	11:55 am
05/24/98	.0501	.0176	.1072	03:45 am	11:20 am
05/25/98	.0572	.0162	.1349	07:05 am	11:35 am
05/26/98	.0605	.0215	.1275	01:35 am	08:15 am
05/27/98	.0615	.0285	.1235	04:25 pm	08:50 pm
05/28/98	.0621	.0287	.1225	12:50 am	09:45 pm
05/29/98	.0595	.0160	.2634	04:10 am	04:10 pm
05/30/98	.0509	.0185	.1086	04:35 am	04:30 pm
05/31/98	.0560	.0129	.1249	04:20 am	09:25 am

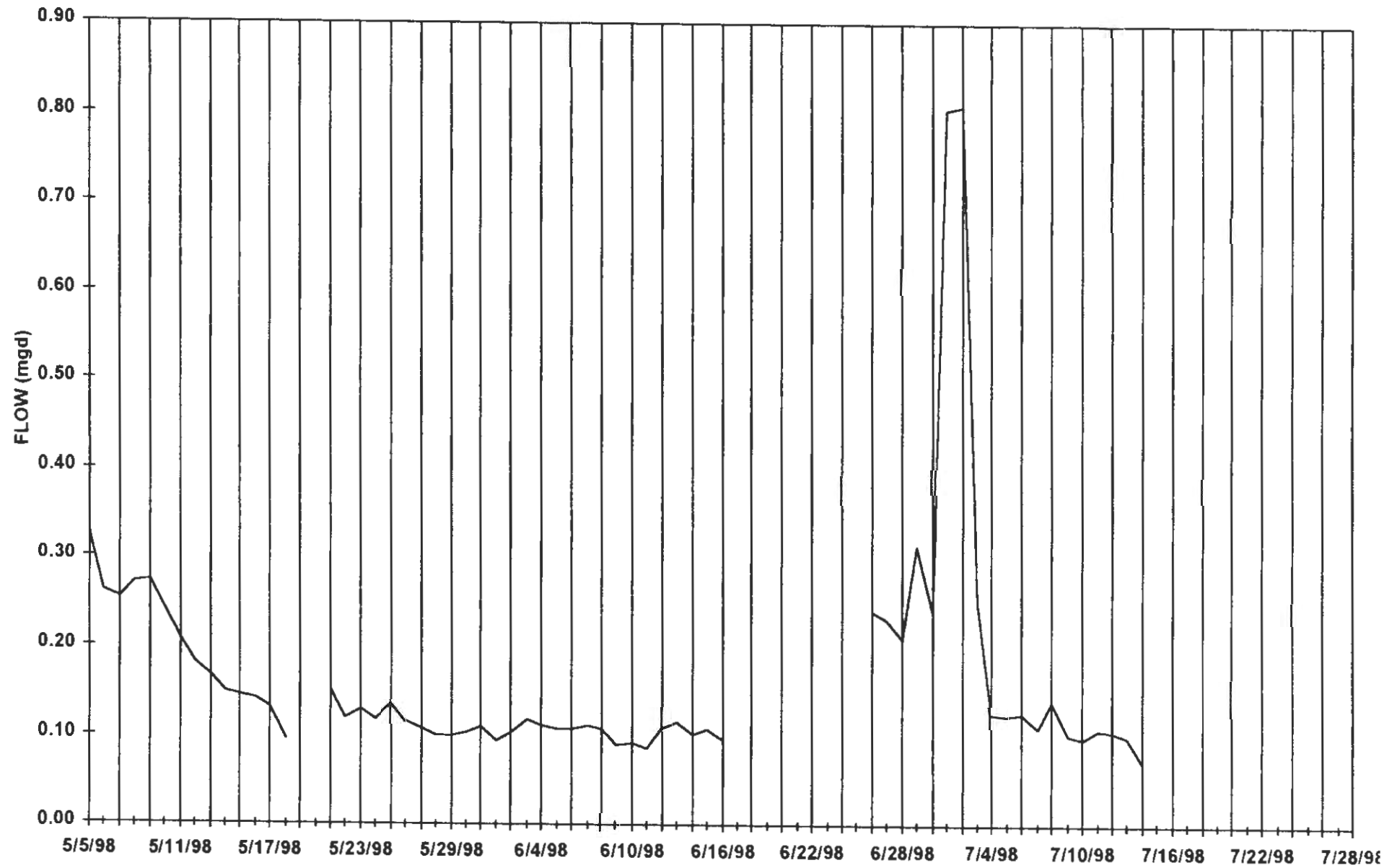
Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
06/01/98	.0518	.0129	.1012	04:25 am	09:15 pm
06/02/98	.0514	.0149	.1025	03:30 am	07:05 pm
06/03/98	.0515	.0126	.1034	04:30 am	11:10 am
06/04/98	.0466	.0151	.0956	02:55 am	09:50 pm
06/05/98	.0347	.0073	.0736	04:45 am	10:20 am
06/06/98	.0376	.0045	.1026	04:55 am	09:45 am
06/07/98	.0383	.0070	.1146	05:45 am	10:00 am
06/08/98	.0322	.0066	.0743	05:00 am	06:15 pm
06/09/98	.0315	.0076	.0652	03:10 am	10:20 am
06/10/98	.0398	.0117	.0834	04:10 am	09:20 pm
06/11/98	.0395	.0096	.0857	03:15 am	08:30 am
06/12/98	.0565	.0145	.2826	05:35 am	10:55 pm
06/13/98	.0658	.0249	.2191	05:10 pm	12:15 am
06/14/98	.0400	.0103	.0989	04:10 am	09:25 am
06/15/98	.0440	.0122	.0965	05:45 am	08:50 am
06/16/98	.0698	.0115	.4931	04:25 am	05:00 pm
06/17/98	.0735	.0490	.1181	09:45 pm	10:35 pm
06/18/98	.0734	.0457	.1276	02:00 pm	06:05 pm
06/19/98	.0860	.0516	.1228	11:00 am	11:00 pm
06/20/98	.0902	.0531	.1474	05:50 am	09:55 am
06/21/98	.1017	.0636	.1628	05:45 am	11:10 am
06/22/98	.0967	.0565	.1474	04:40 am	09:40 pm
06/23/98	.0884	.0600	.1474	04:15 am	10:25 pm
06/24/98	.0986	.0565	.1474	03:45 am	10:15 pm
06/25/98	.0951	.0600	.1841	05:00 am	09:40 pm
06/26/98	.0985	.0565	.3147	04:10 am	05:50 pm
06/27/98	.1640	.0647	.4931	01:35 am	08:45 am
06/28/98	.1562	.0789	.4931	05:50 am	07:05 pm
06/29/98	.2147	.1181	.3970	04:25 am	11:50 am
06/30/98	.2754	.1423	.4931	05:05 am	06:45 pm
07/01/98	.2212	.1628	.3318	05:10 pm	12:55 am
07/02/98	.1454	.1134	.2061	05:35 am	09:40 am
07/03/98	.1255	.0829	.1895	04:50 am	09:20 am
07/04/98	.1090	.0711	.1787	05:40 am	10:15 am
07/05/98	.1008	.0565	.1787	06:05 am	12:30 pm
07/06/98	.1000	.0600	.1628	02:35 am	09:10 pm
07/07/98	.0977	.0600	.1787	04:40 am	07:50 pm
07/08/98	.1141	.0697	.2061	02:10 pm	02:20 am
07/09/98	.0911	.0565	.1681	04:40 am	10:15 pm
07/10/98	.0880	.0557	.1474	02:15 pm	10:15 am
07/11/98	.0893	.0509	.2005	06:20 pm	11:50 am
07/12/98	.0893	.0531	.1628	05:05 am	10:10 am
07/13/98	.0916	.0580	.1474	03:35 pm	11:45 am
07/14/98	.0852	.0565	.1423	05:15 am	09:55 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					

MONITOR SITE NO. 14
Erie Avenue @ Sand and Gravel Area

CTI Environmental, Inc.

Daily Flow vs Time

Site:00098014



Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .833333313465118

Location:
Site ID: 00098014
Serial#: BVV

Daily Flow Summary Report

Site:00098014

Daterange: 05/05/98-07/28/98

Primary Device: Area Velocity

Location:

Territory: TERRITORY 6/25/98
12:20:15 PM

Shape: Round Pipe

Site ID: 00098014

Region: LEVEL2 SYSTEM DEFINED
6/25/98 12:20:15 PM

Diameter(ft): .833333313465118

Serial#: BVV

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
05/05/98	.3269	.2511	.4097	11:50 pm	09:20 pm
05/06/98	.2616	.1385	.3728	03:35 am	07:55 am
05/07/98	.2539	.0973	.3751	03:25 am	06:40 pm
05/08/98	.2708	.1347	.3759	02:55 am	04:00 pm
05/09/98	.2740	.1510	.4134	04:40 am	09:15 am
05/10/98	.2421	.0939	.4205	05:10 am	09:50 am
05/11/98	.2063	.0553	.3283	03:35 am	08:00 am
05/12/98	.1809	.0409	.3314	03:40 am	07:05 am
05/13/98	.1655	.0235	.2949	03:25 am	07:50 am
05/14/98	.1487	.0107	.2982	03:30 am	07:35 am
05/15/98	.1437	.0108	.2960	04:00 am	07:25 am
05/16/98	.1401	.0100	.2878	02:05 am	11:15 am
05/17/98	.1301	.0046	.2940	04:50 am	11:45 am
05/18/98	.0958	.0005	.2620	04:30 am	08:00 am
05/19/98					
05/20/98					
05/21/98	.1497	.0698	.2418	11:50 pm	10:00 pm
05/22/98	.1199	.0014	.2610	03:50 am	07:50 am
05/23/98	.1298	.0002	.3058	03:10 am	09:50 am
05/24/98	.1162	.0000	.2831	05:15 am	10:00 am
05/25/98	.1352	.0001	.3099	03:40 am	11:40 am
05/26/98	.1154	.0001	.2481	02:15 am	09:15 pm
05/27/98	.1065	-.0002	.2467	01:00 am	07:30 am
05/28/98	.1002	.0000	.2356	04:15 am	07:45 am
05/29/98	.1005	.0001	.2438	03:55 am	07:05 am
05/30/98	.1038	.0000	.2483	02:35 am	09:45 am
05/31/98	.1095	.0000	.2378	05:20 am	10:00 am
06/01/98	.0931	.0000	.2222	04:45 am	07:25 am
06/02/98	.1031	.0001	.2438	03:00 am	09:55 pm
06/03/98	.1170	.0001	.2715	03:25 am	07:10 am
06/04/98	.1107	.0006	.2598	02:10 am	07:55 am
06/05/98	.1064	.0001	.2165	04:00 am	07:30 am
06/06/98	.1072	.0003	.3022	03:40 am	10:45 am
06/07/98	.1116	.0000	.2562	04:25 am	09:40 am
06/08/98	.1079	.0001	.2401	01:45 am	10:35 am
06/09/98	.0900	.0000	.2499	01:50 am	07:30 am
06/10/98	.0912	.0003	.1862	02:10 am	07:30 am
06/11/98	.0858	.0000	.1972	05:05 am	08:40 am

Date	Flow Avg (mgd)	Flow Min (mgd)	Flow Max (mgd)	Flow Time of Min	Flow Time of Max
06/12/98	.1085	.0002	.2417	04:50 am	10:30 pm
06/13/98	.1150	.0003	.2678	04:15 am	11:30 am
06/14/98	.1010	.0007	.2660	03:55 am	01:15 pm
06/15/98	.1077	.0001	.2423	01:50 am	08:25 am
06/16/98	.0950	.0000	.2817	04:20 am	02:50 pm
06/17/98					
06/18/98					
06/19/98					
06/20/98					
06/21/98					
06/22/98					
06/23/98					
06/24/98					
06/25/98					
06/26/98	.2401	.0000	.9373	11:30 pm	09:50 am
06/27/98	.2310	.0000	1.0869	06:30 pm	08:35 am
06/28/98	.2089	.0000	.8780	05:35 pm	11:10 am
06/29/98	.3139	.0377	.7371	07:40 pm	11:40 am
06/30/98	.2377	.0000	.8171	02:05 pm	11:00 pm
07/01/98	.8037	.5152	1.1184	04:50 pm	07:15 am
07/02/98	.8075	.5116	1.3098	02:20 pm	08:20 am
07/03/98	.2519	.0366	.6988	05:50 am	12:15 am
07/04/98	.1248	.0050	.2926	03:20 am	10:55 am
07/05/98	.1234	.0005	.2471	04:50 am	10:45 am
07/06/98	.1258	.0050	.2426	04:10 am	09:30 am
07/07/98	.1097	.0009	.2316	02:45 am	11:30 am
07/08/98	.1379	.0420	.2369	12:50 am	11:40 am
07/09/98	.1012	.0000	.2059	04:05 am	09:15 am
07/10/98	.0975	.0001	.2012	03:00 am	07:50 am
07/11/98	.1073	.0005	.2790	05:50 am	10:55 am
07/12/98	.1064	.0011	.2393	05:10 am	09:35 am
07/13/98	.0989	.0007	.2004	02:25 am	01:35 pm
07/14/98	.0708	.0003	.1569	04:55 am	09:15 am
07/15/98					
07/16/98					
07/17/98					
07/18/98					
07/19/98					
07/20/98					
07/21/98					
07/22/98					
07/23/98					
07/24/98					
07/25/98					
07/26/98					
07/27/98					

APPENDIX G
Weekly Flow Monitoring
Checklist

MASSILLON FLOW MONITORING

Week of: 4/27/98 thru 5/1/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	5/1/98		12.4		Not getting depth reading, Fixed 5/1/98 @ 3:20 pm
2	950	21"	04/22/98	5/1/98		12.0		
3	910	15"	04/21/98	5/1/98		5.4	72%	
4	910	12"	04/22/98	5/1/98		5.1	100%	
5	910	10"	04/21/98	5/1/98		5.3	100%	Not getting depth reading, Fixed 5/1/98 @ 3:45 pm
6	950	8"	04/21/98	5/1/98		11.8		
7	920	18"	04/23/98	5/1/98		11.7	100%	
8	910	54"	04/24/98	5/1/98		5.3	78%	
9	910	48"	04/23/98	5/1/98		5.3	46%	
10	950	66"	04/29/98					
11	950	12"	04/23/98	5/1/98		12.8		
12	910	10"	04/29/98	4/30/98		5.4	100%	
13	920	8"	04/24/98	4/30/98		11.8	75%	
14	910	10"	04/22/98	4/30/98		12.7		Depth reads 14" (pipe not surcharged) pulled meter 5/1/98

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98				

MASSILLON FLOW MONITORING

Week of : 5/4/98 thru 5/8/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98					
2	950	21"	04/22/98	5/7/98	5/7/98	10.3	80%	
3	910	15"	04/21/98	5/7/98		5.4	68%	
4	910	12"	04/22/98	5/7/98		5.4	100%	
5	910	10"	04/21/98					
6	950	8"	04/21/98	5/7/98	5/7/98	—	—	Meter found not running, moved to new location (5/6/98)
7	920	18"	04/23/98	5/7/98		11.3	100%	
8	910	54"	04/24/98	5/7/98		5.4	83%	
9	910	48"	04/23/98	5/7/98		5.3	70%	
10	950	66"	04/29/98	5/7/98				Checked flow only
11	950	12"	04/23/98	5/7/98		12.5		
12	910	10"	04/29/98	5/7/98		5.4	100%	
13	920	8"	04/24/98	5/7/98			0%	No velocity
14	910	10"	04/22/98					

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98				

MASSILLON FLOW MONITORING

Week of: 5/11/98 thru 5/15/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	5/15/98	5/15/98	13.4		Battery died on 5/12/98 @ 8:00am
2	950	21"	04/22/98	5/15/98		12.2		
3	910	15"	04/21/98	5/15/98		5.3	56%	
4	910	12"	04/22/98	5/15/98		4.9	100%	
5	910	10"	04/21/98	5/15/98		5.6	100%	
6	950	8"	04/21/98	5/15/98		12.7		
7	920	18"	04/23/98	5/15/98		10.2	100%	
8	910	54"	04/24/98	5/15/98		5.2	86%	
9	910	48"	04/23/98	5/15/98		5.2	62%	
10	950	66"	04/29/98	5/15/98		11.7		
11	950	12"	04/23/98	5/15/98		11.7		
12	910	10"	04/29/98	5/15/98		5.2	100%	
13	920	8"	04/24/98	5/15/98		11.9	59%	
14	910	10"	04/22/98	5/15/98		11.2		

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98	5/15/98			

MASSILLON FLOW MONITORING

Week of : 5/16/98 thru 5/22/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	5/21/98		11.7		
2	950	21"	04/22/98	5/21/98		11.5		
3	910	15"	04/21/98	5/21/98		5.2	89%	
4	910	12"	04/22/98	5/21/98		4.7	100%	
5	910	10"	04/21/98	5/21/98		4.9	100%	
6	950	8"	04/21/98	5/21/98		12.4		
7	920	18"	04/23/98	5/21/98		11.1	100%	
8	910	54"	04/24/98	5/21/98		5.2	78%	
9	910	48"	04/23/98	5/21/98		5.2	45%	Probe needs checked
10	950	66"	04/29/98	5/21/98	5/21/98	13.2	98%	
11	950	12"	04/23/98	5/21/98	5/21/98	13.4		
12	910	10"	04/29/98	5/21/98		5.2	100%	
13	920	8"	04/24/98	5/21/98		11.1	15%	Probe needs checked
14	910	10"	04/22/98	5/21/98	5/21/98	13.4	97%	

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98				

MASSILLON FLOW MONITORING

Week of : 5/25/98 thru 5/29/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	5/28/98	5/28/98	13.2	100%	
2	950	21"	04/22/98	5/28/98	5/28/98	13.3	89%	
3	910	15"	04/21/98	5/29/98		5.1	68%	
4	910	12"	04/22/98	5/29/98	5/28/98	4.5	100%	changed disicant
5	910	10"	04/21/98	5/28/98		5.3	100%	
6	950	8"	04/21/98	5/28/98		11.7		
7	920	18"	04/23/98	5/29/98		11.0	100%	
8	910	54"	04/24/98	5/28/98		5.4	81%	
9	910	48"	04/23/98	5/28/98		5.0	49%	
10	950	66"	04/29/98	5/28/98		12.5	99%	
11	950	12"	04/23/98	5/29/98		12.8	98%	
12	910	10"	04/29/98	5/28/98		5.4	100%	
13	920	8"	04/24/98	5/28/98		11.0	48%	
14	910	10"	04/22/98	5/28/98		12.2	94%	

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98	5/28/98			
Nobles Pond	04/24/98	5/28/98			

MASSILLON FLOW MONITORING

Week of: 5/29/98 thru 6/4/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	6/4/98		12.5	100%	
2	950	21"	04/22/98	6/4/98		12.4	89%	
3	910	15"	04/21/98	6/4/98		5.4	91%	
4	910	12"	04/22/98	6/4/98		5.4	100%	
5	910	10"	04/21/98	6/4/98		5.4	100%	
6	950	8"	04/21/98	6/4/98	6/4/98	—	—	Meter lost power
7	920	18"	04/23/98	6/4/98		11.3	100%	
8	910	54"	04/24/98	6/4/98		5.0	81%	
9	910	48"	04/23/98	6/4/98		5.0	54%	
10	950	66"	04/29/98	6/4/98		12.4	91%	
11	950	12"	04/23/98	6/4/98		12.4	92%	
12	910	10"	04/29/98	6/4/98		5.4	100%	
13	920	8"	04/24/98	6/4/98		11.1	97%	
14	910	10"	04/22/98	6/4/98		12.3	95%	

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98				

MASSILLON FLOW MONITORING

Week of: 6/8/98 thru 6/12/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	6/11/98		12.2	100%	
2	950	21"	04/22/98	6/11/98	6/11/98	-	89%	
3	910	15"	04/21/98					
4	910	12"	04/22/98					
5	910	10"	04/21/98					
6	950	8"	04/21/98	6/11/98		12.7	92%	
7	920	18"	04/23/98					
8	910	54"	04/24/98	6/11/98	6/11/98	-		
9	910	48"	04/23/98	6/11/98	6/11/98	-	29%	Velocity signal low
10	950	66"	04/29/98	6/11/98	6/11/98	11.7	92%	
11	950	12"	04/23/98					
12	910	10"	04/29/98					
13	920	8"	04/24/98					
14	910	10"	04/22/98					

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98				

MASSILLON FLOW MONITORING

Week of : 6/22/98 thru 6/26/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	6/26/98	6/26/98			Battery died, program forced off
2	950	21"	04/22/98	6/26/98	6/26/98	11.0	73%	
3	910	15"	04/21/98	6/26/98	6/26/98	4.6	87%	
4	910	12"	04/22/98	6/26/98		5.4	100%	
5	910	10"	04/21/98	6/26/98		5.4	100%	
6	950	8"	04/21/98	6/26/98		11.3	80%	
7	920	18"	04/23/98	6/26/98		10.6	100%	
8	910	54"	04/24/98	6/26/98		5.4	44%	
9	910	48"	04/23/98	6/26/98		5.4	54%	
10	950	66"	04/29/98	6/26/98		12.4	100%	
11	950	12"	04/23/98	6/26/98	6/26/98			Battery died, program forced off
12	910	10"	04/29/98	6/26/98	6/26/98	4.8	100%	
13	920	8"	04/24/98	6/26/98		10.8	0%	Low Velocity signal
14	910	10"	04/22/98	6/26/98	6/26/98		95%	Battery died - program forced off

RAIN GAUGES:

Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98				
Nobles Pond	04/24/98	6/25/98			

MASSILLON FLOW MONITORING

Week of: 6/29/98 thru 7/3/98

CITY OF MASSILLON								
Site I.D.	Meter Type	Sewer Size	Date Installed	Date	Battery		Velocity Signal	Remarks
					Chg'd	Volts		
1	950	8"	04/22/98	7/1/98		12.9	100%	
2	950	21"	04/22/98	7/1/98		12.5	75%	
3	910	15"	04/21/98	7/1/98		5.9	97%	
4	910	12"	04/22/98	7/1/98	7/1/98	5.0	100%	
5	910	10"	04/21/98	7/1/98		5.6	100%	
6	950	8"	04/21/98	7/1/98	7/1/98			Battery died, program complete
7	920	18"	04/23/98	7/1/98	7/1/98	10.4	100%	
8	910	54"	04/24/98	7/1/98		5.3	7%	Low velocity signals
9	910	48"	04/23/98	7/1/98		5.4	60%	Low velocity signals
10	950	66"	04/29/98	7/1/98	7/1/98			Program forced off, water in battery case
11	950	12"	04/23/98	7/1/98		12.6	100%	
12	910	10"	04/29/98	7/1/98		5.4	100%	
13	920	8"	04/24/98	7/1/98	7/1/98	10.4		
14	910	10"	04/22/98	7/1/98		12.4	100%	

RAIN GAUGES:

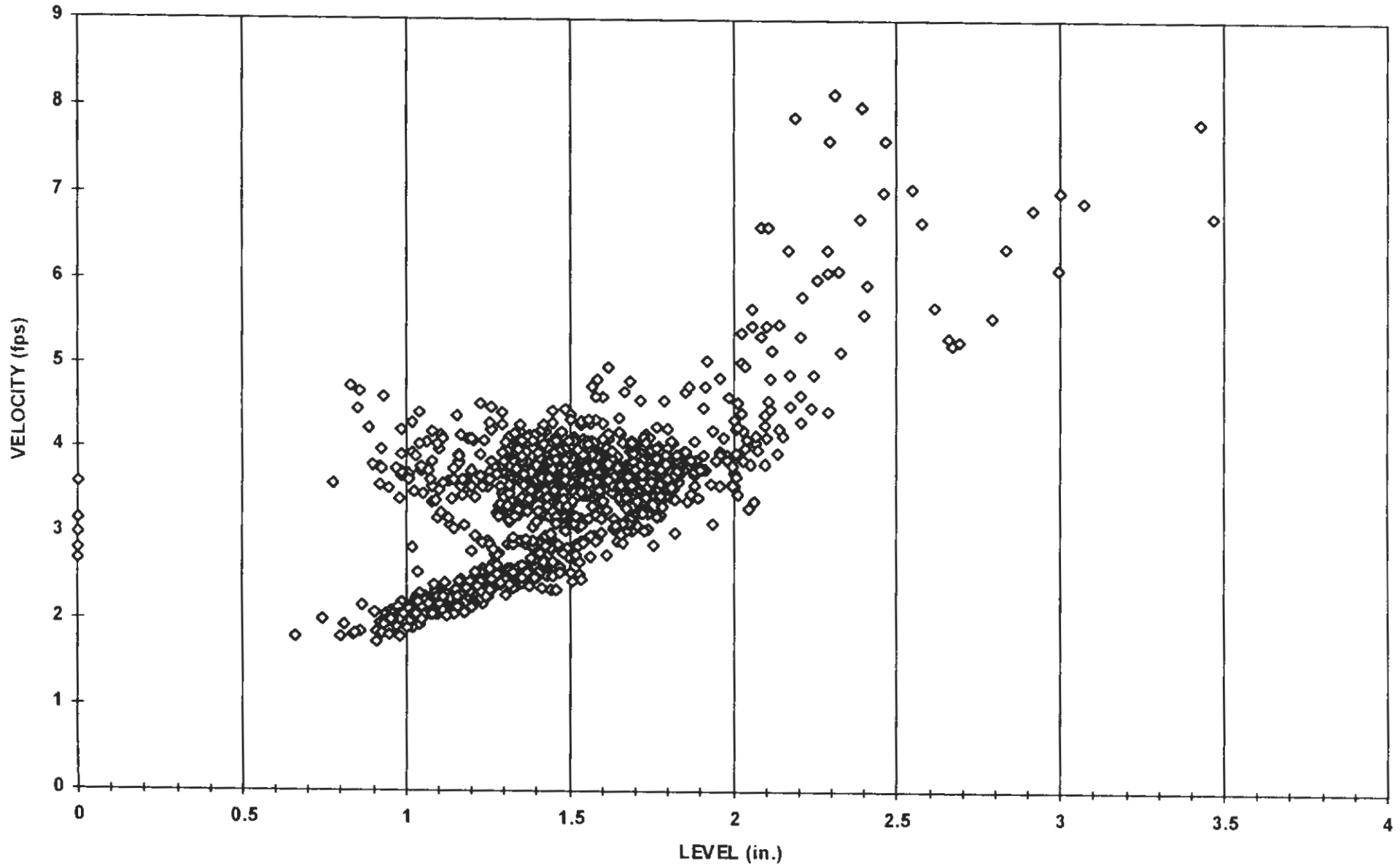
Location	Installed	Date	Remarks		
Fire Station No. 2	04/24/98	7/2/98			
Nobles Pond	04/24/98	7/1/98			

APPENDIX H

Depth vs. Velocity Scatter Graphs

Hourly Level vs Velocity

Site:00098001



Daterange: 05/09/98-07/04/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): .666666686534882

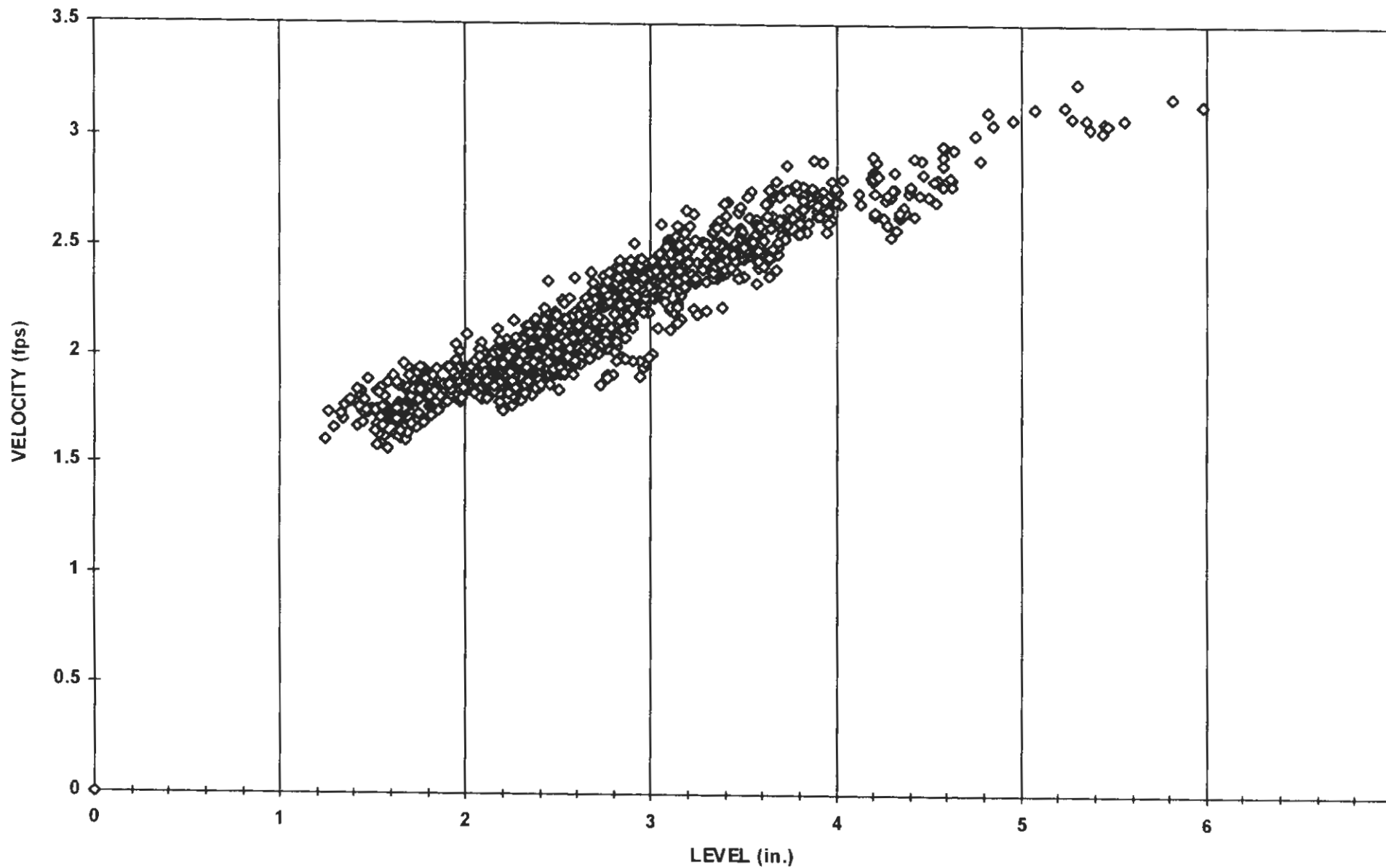
Location:

Site ID: 00098001

Serial#: BND

Hourly Level vs Velocity

Site:00980002



Daterange: 04/29/98-06/24/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

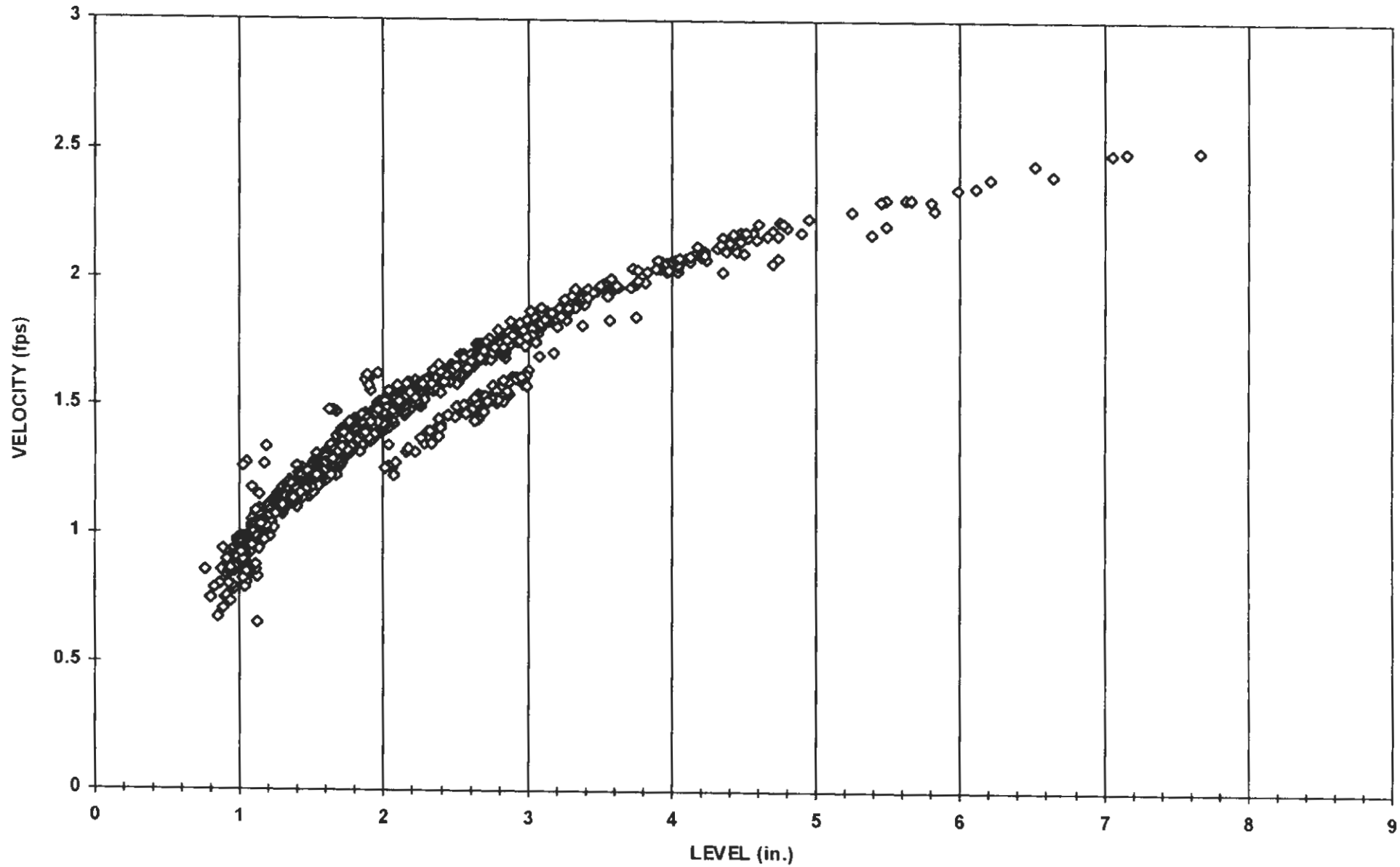
Diameter(ft): 1.75

Location:

Site ID: 00980002

Serial#: CTL

Hourly Level vs Velocity
Site: 00098003 OLD BROOKFIELD TRUNK - STARK

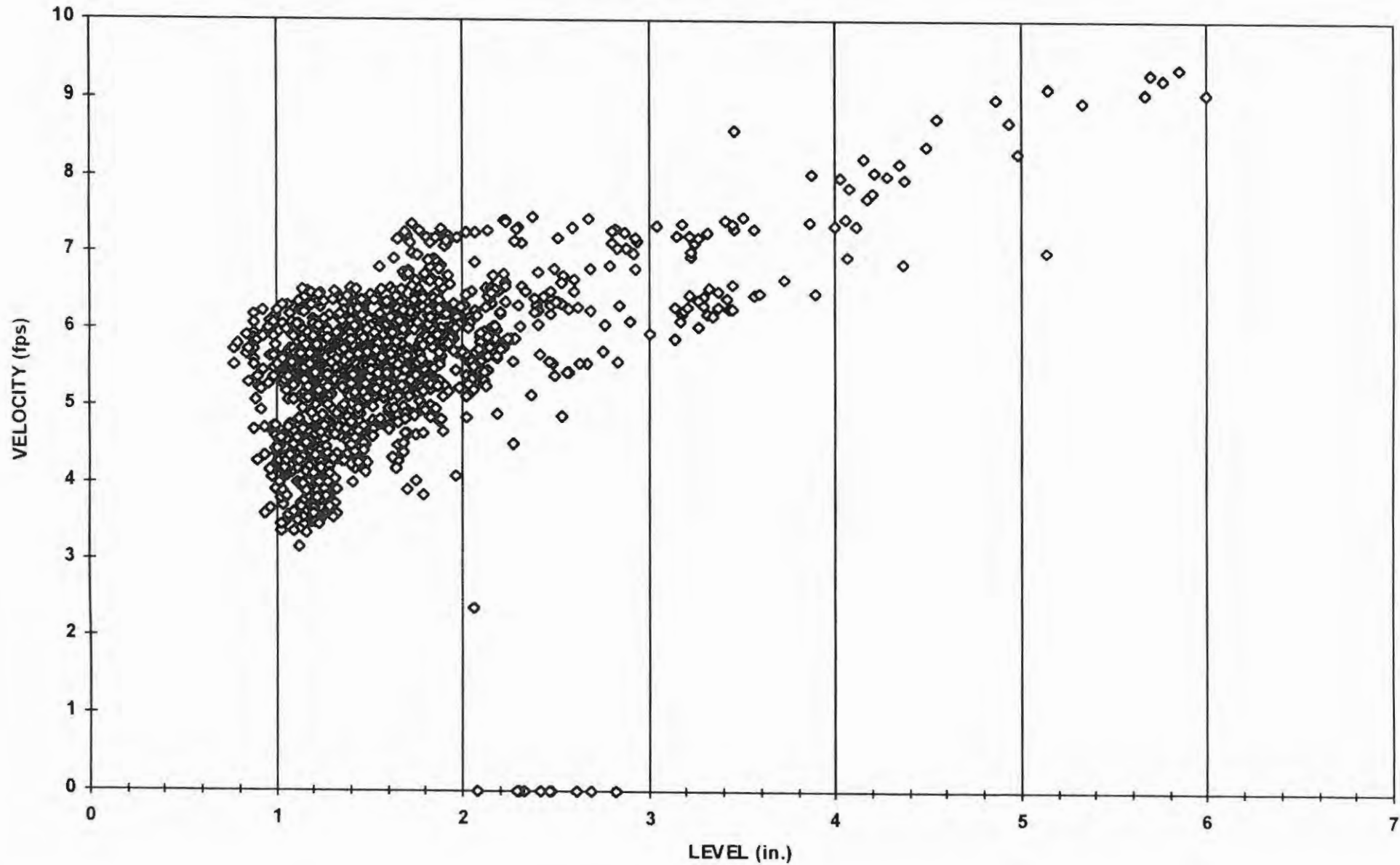


Daterange: 04/29/98-06/24/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1.25

Location: OLD BROOKFIELD TRUNK - STARK
Site ID: 00098003
Serial#: P8T

Hourly Level vs Velocity
Site:00098004 WOOSTER TRUNK - MASSILLON

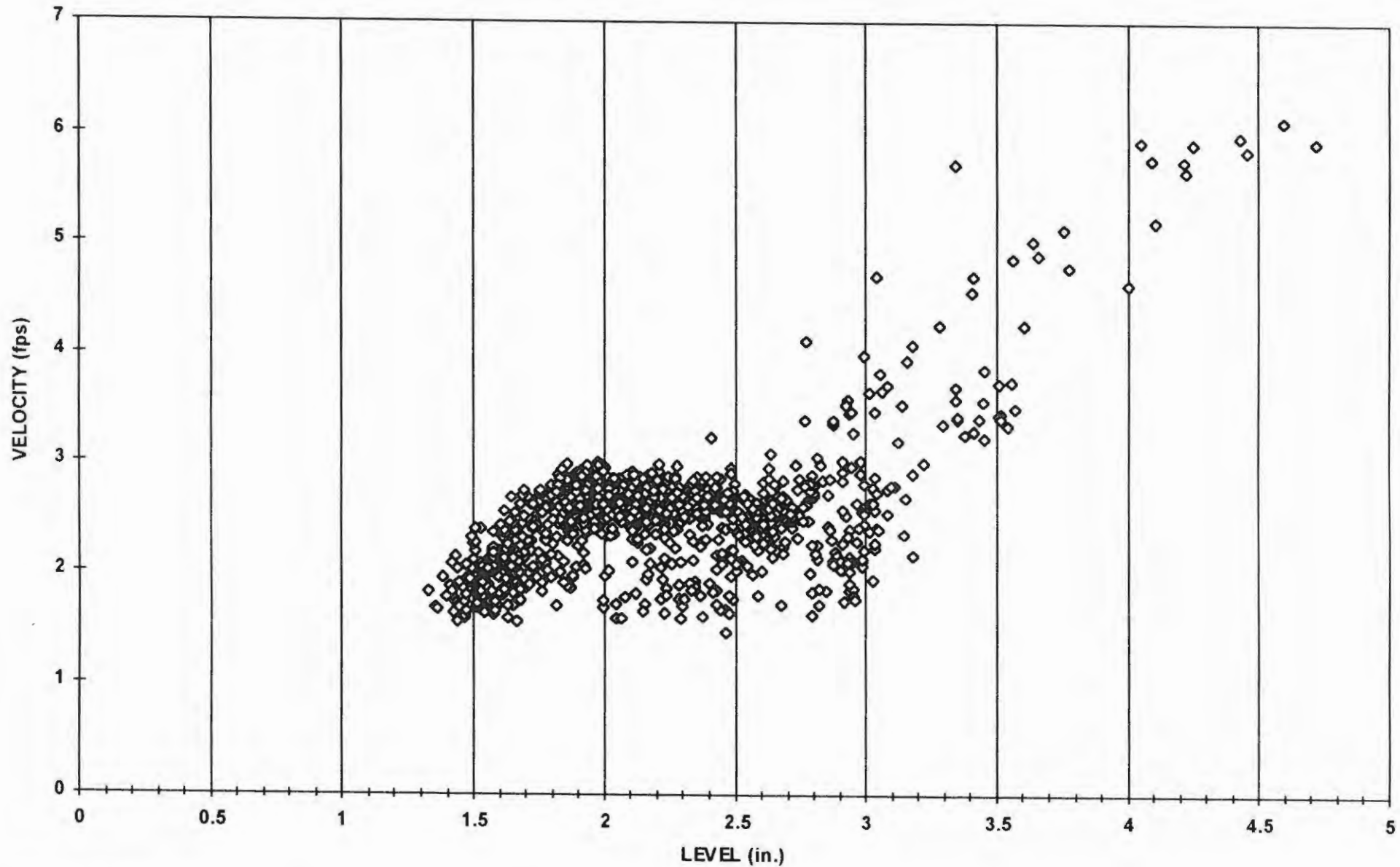


Daterange: 05/12/98-07/07/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 1

Location: WOOSTER TRUNK - MASSILLON
Site ID: 00098004
Serial#: P84

Hourly Level vs Velocity
Site:00098005 WOOSTER TRUNK W OF GAS WELL



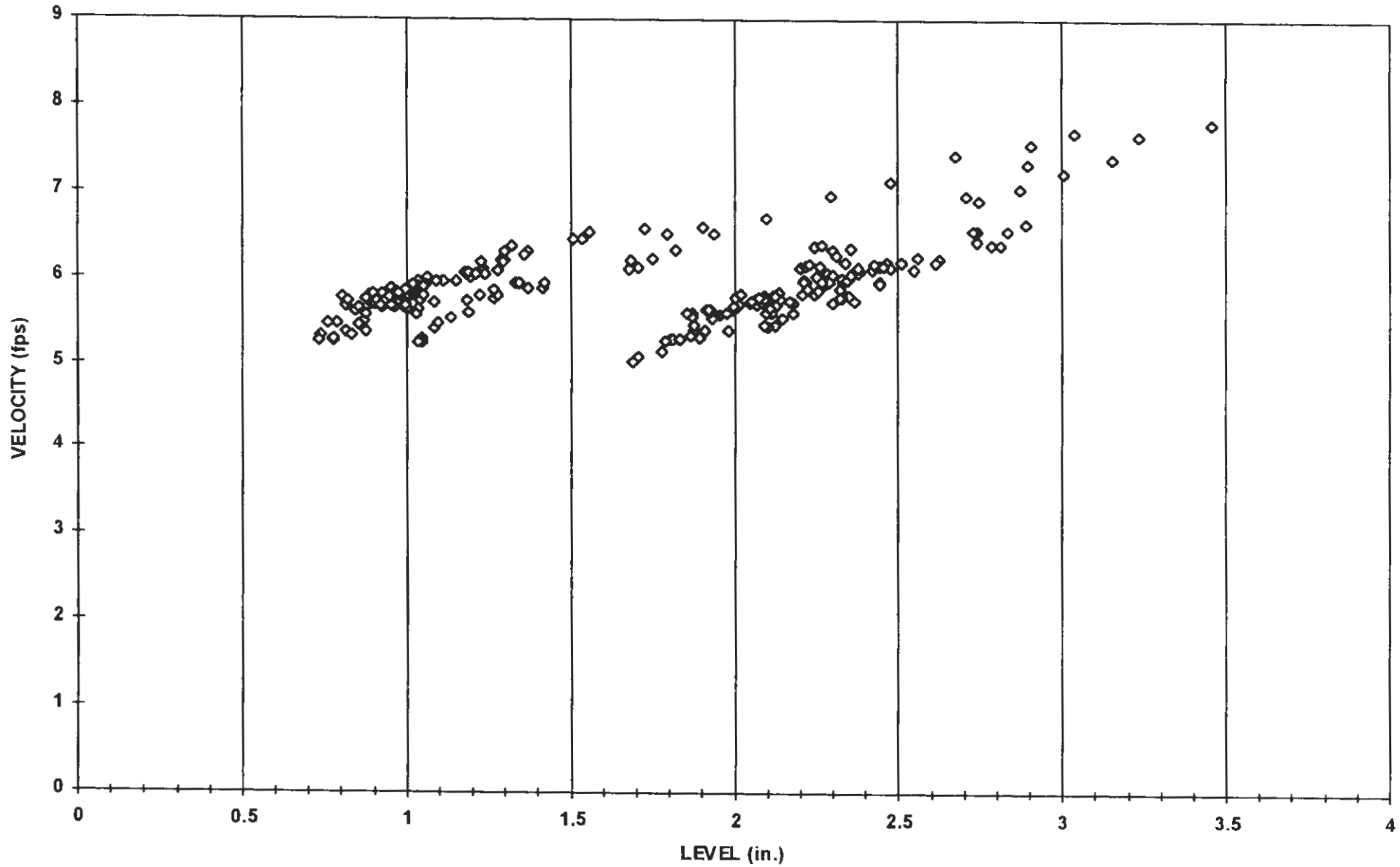
Daterange: 05/25/98-07/20/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .833333313465118

Location: WOOSTER TRUNK W OF GAS WELL
Site ID: 00098005
Serial#: P8R

Hourly Level vs Velocity

Site:00098006



Daterange: 04/21/98-05/05/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): .666666686534882

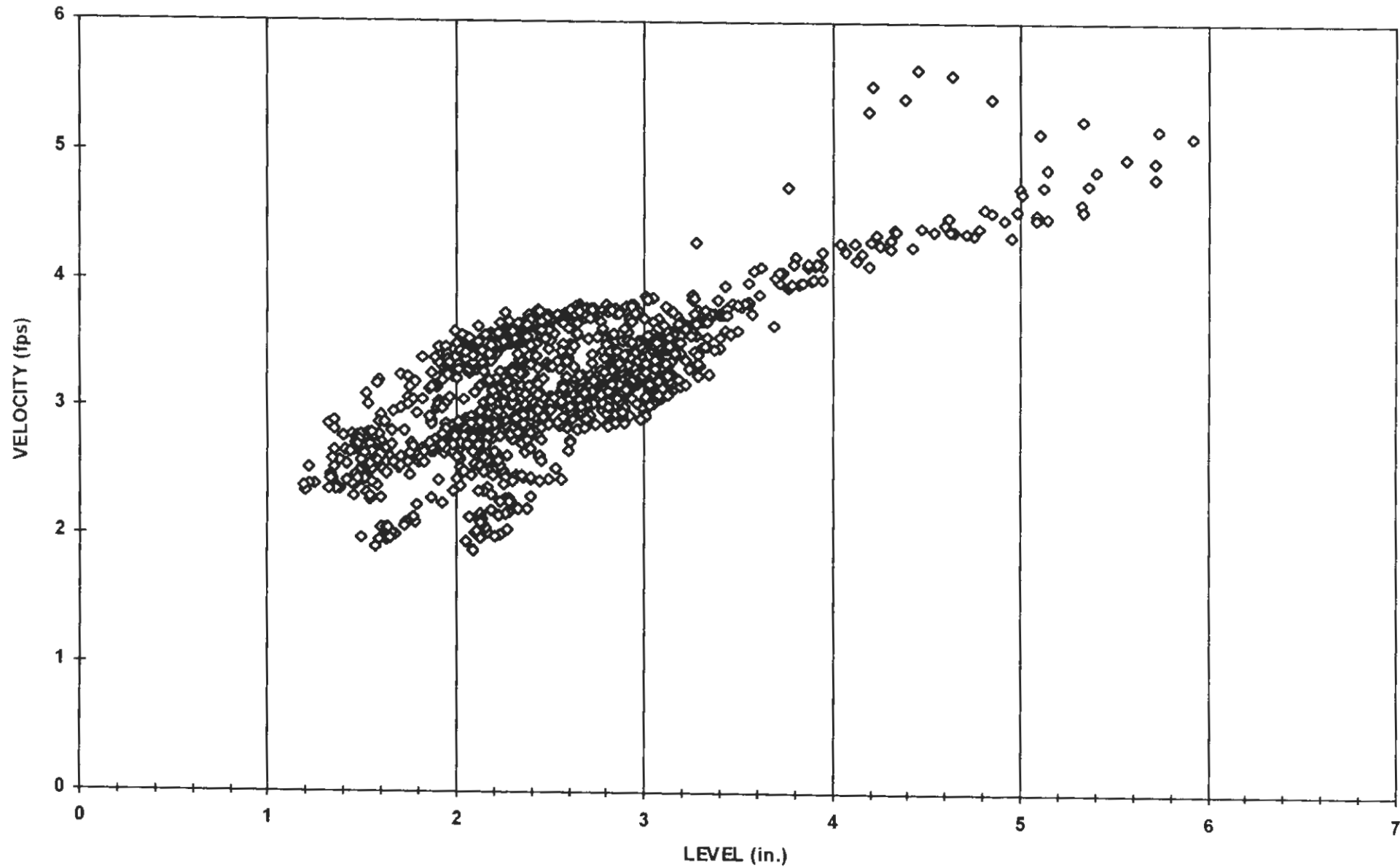
Location:

Site ID: 00098006

Serial#: QJL

Hourly Level vs Velocity

Site:00098006



Daterange: 05/13/98-07/08/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): .666666686534882

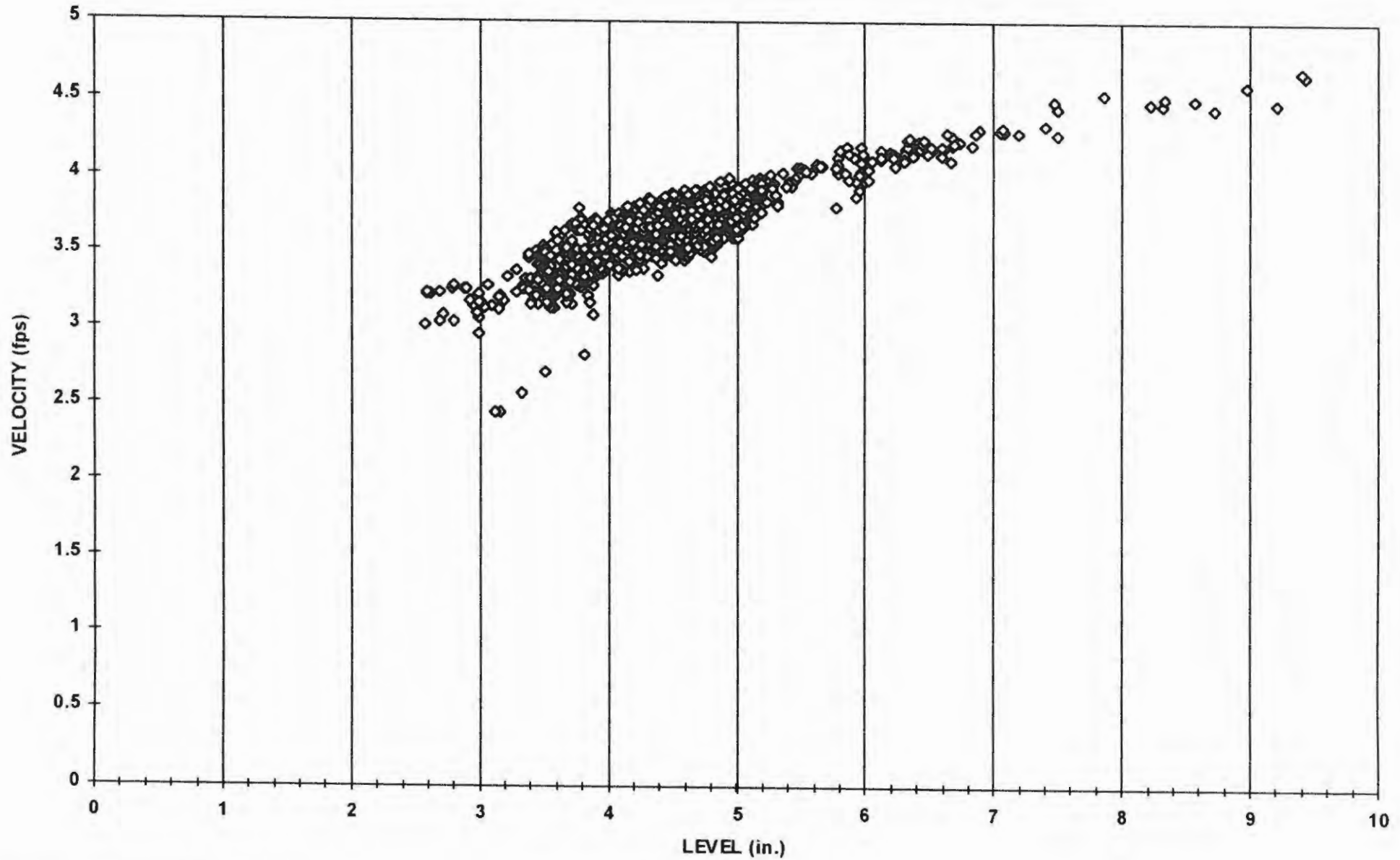
Location:

Site ID: 00098006

Serial#: QJL

Hourly Level vs Velocity

Site:00098007 RR EASEMENT



Daterange: 05/18/98-07/13/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

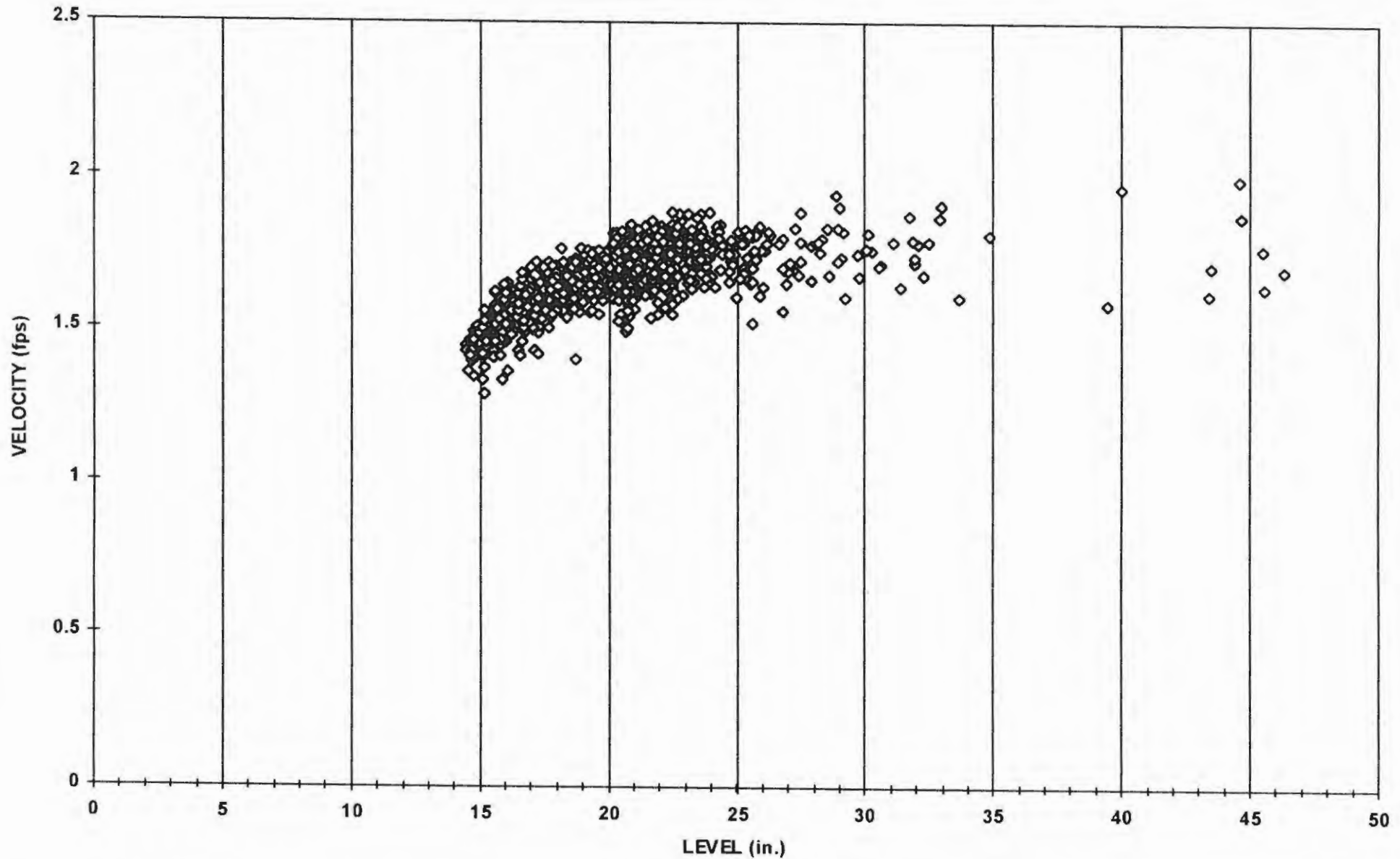
Diameter(ft): 2.5

Location: RR EASEMENT

Site ID: 00098007

Serial#: QB3

Hourly Level vs Velocity
Site:00098008 SOUTH STREET AT RR BRIDGE



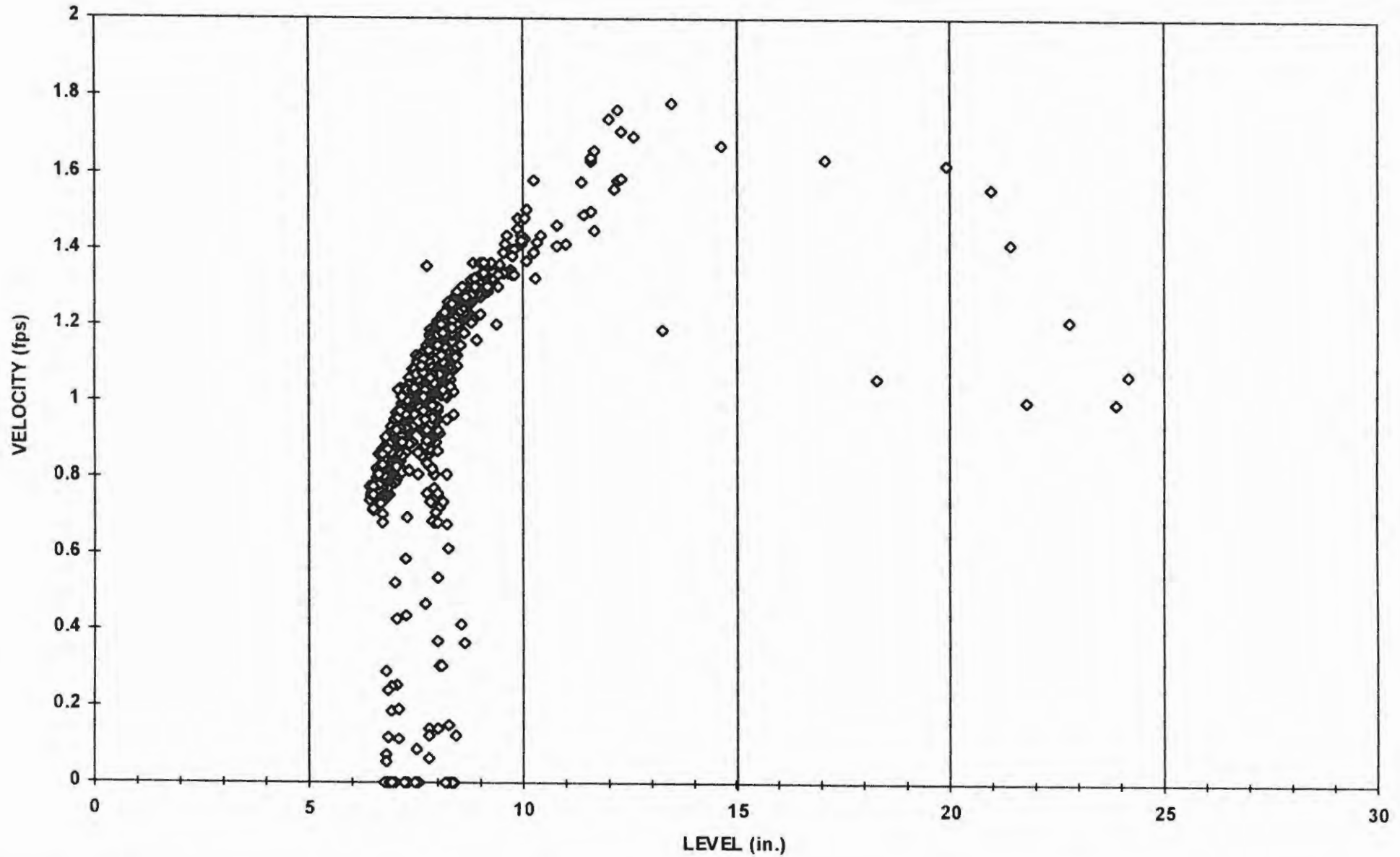
Daterange: 05/18/98-07/13/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): 4.5

Location: SOUTH STREET AT RR BRIDGE
Site ID: 00098008
Serial#: PBQ

Hourly Level vs Velocity

Site:00098009 MASONIC LODGE



Daterange: 05/18/98-07/13/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): 4

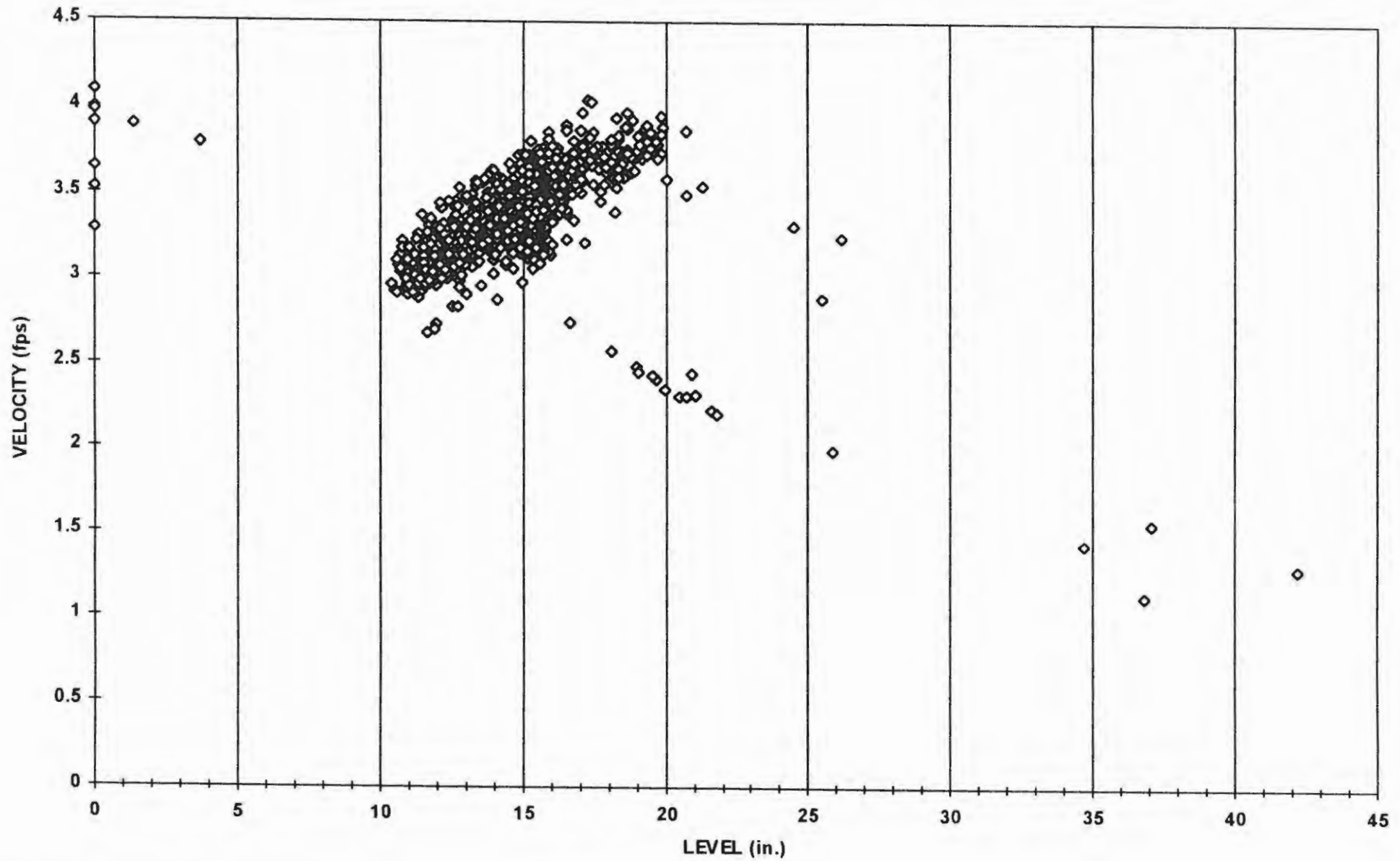
Location: MASONIC LODGE

Site ID: 00098009

Serial#: P82

Hourly Level vs Velocity

Site:00098010



Daterange: 05/06/98-07/01/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): 5.66666650772095

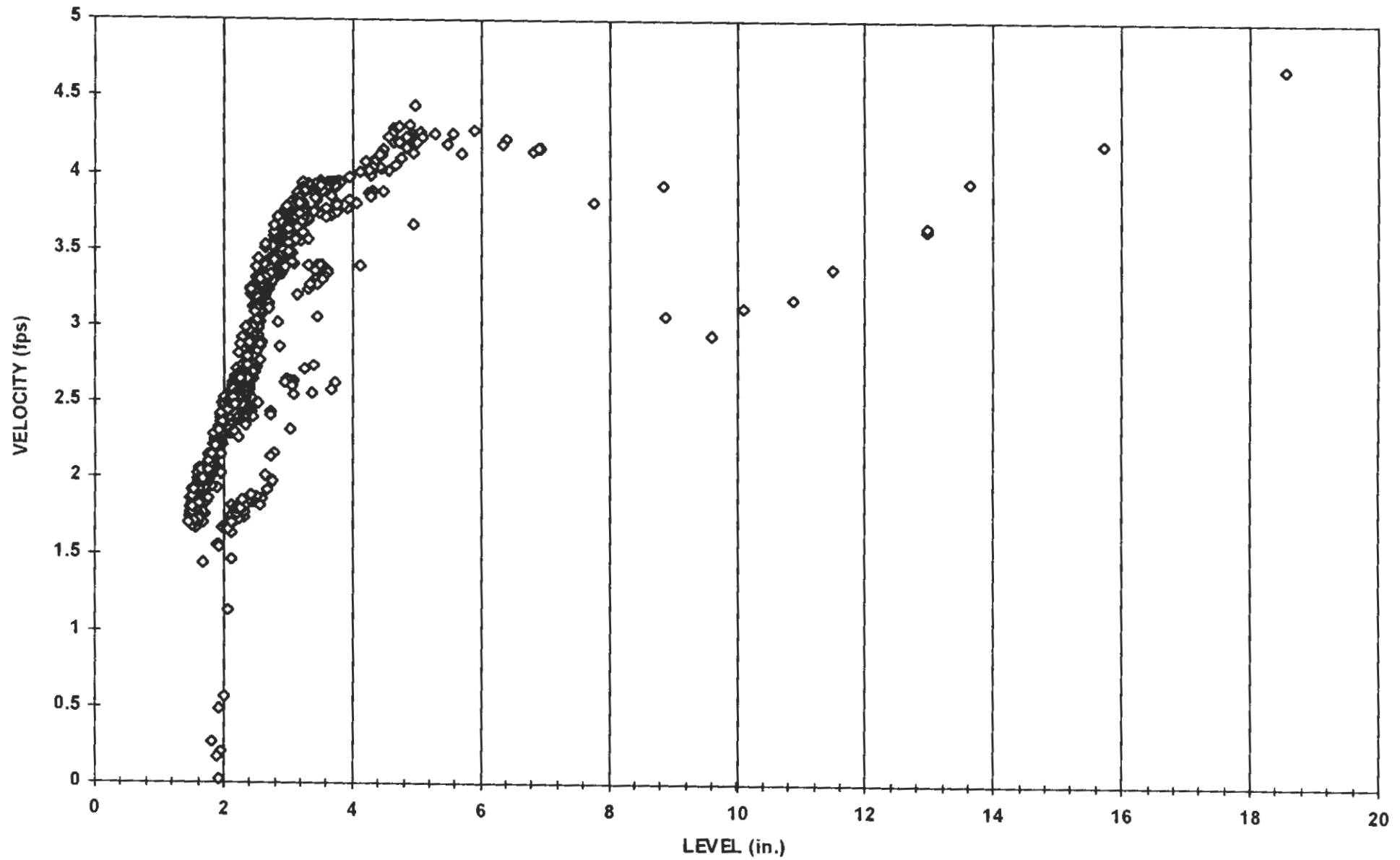
Location:

Site ID: 00098010

Serial#: BNW

Hourly Level vs Velocity

Site:00098011



Daterange: 04/24/98-06/19/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

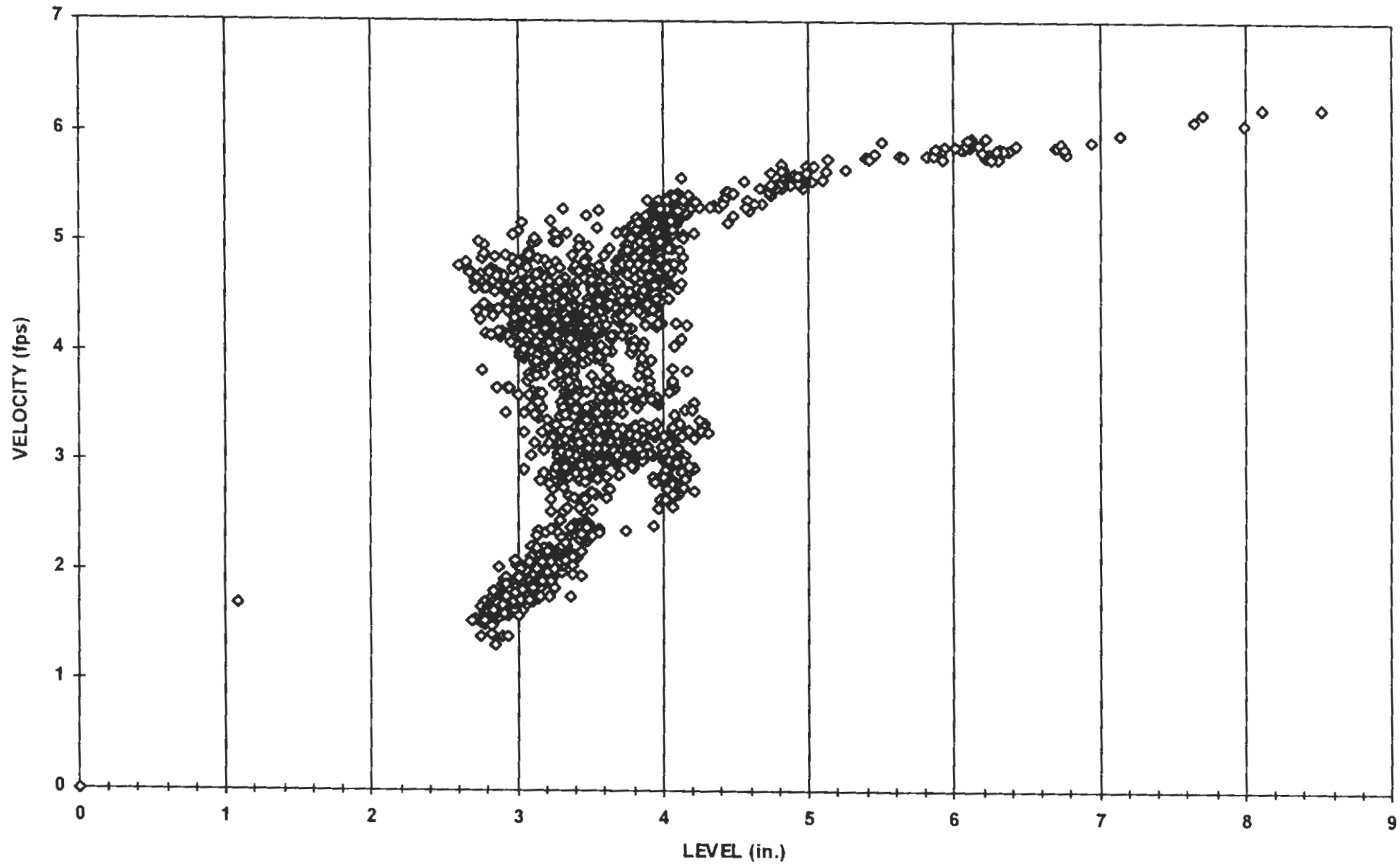
Diameter(ft): 1

Location:

Site ID: 00098011

Serial#: OLH

Hourly Level vs Velocity
Site:00098012 1ST AND MCCADDEN

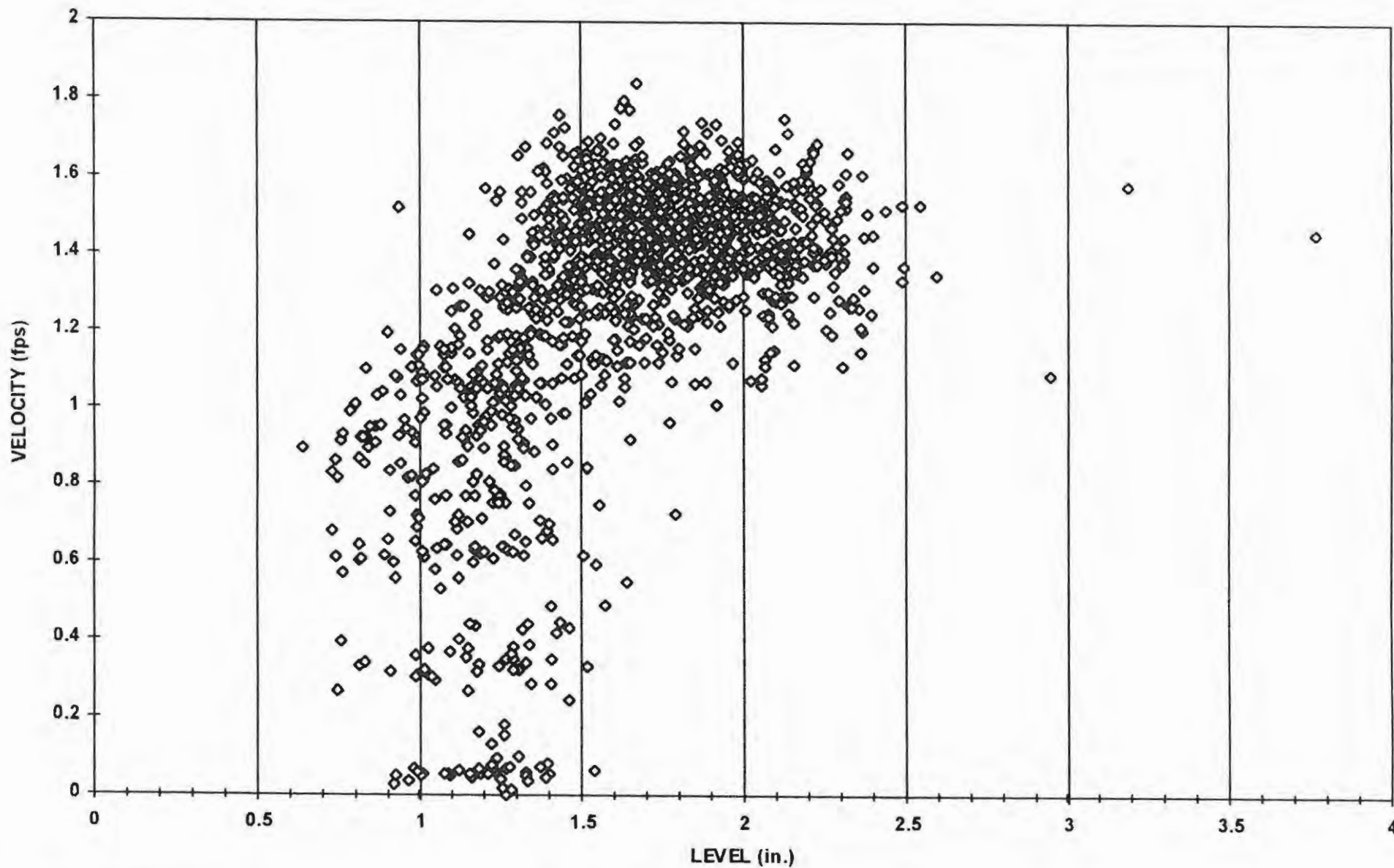


Daterange: 04/29/98-06/24/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity
Shape: Round Pipe
Diameter(ft): .833333313465118

Location: 1ST AND MCCADDEN
Site ID: 00098012
Serial#: QSP

Hourly Level vs Velocity
Site:00098013 AMHERST AND MERDILL



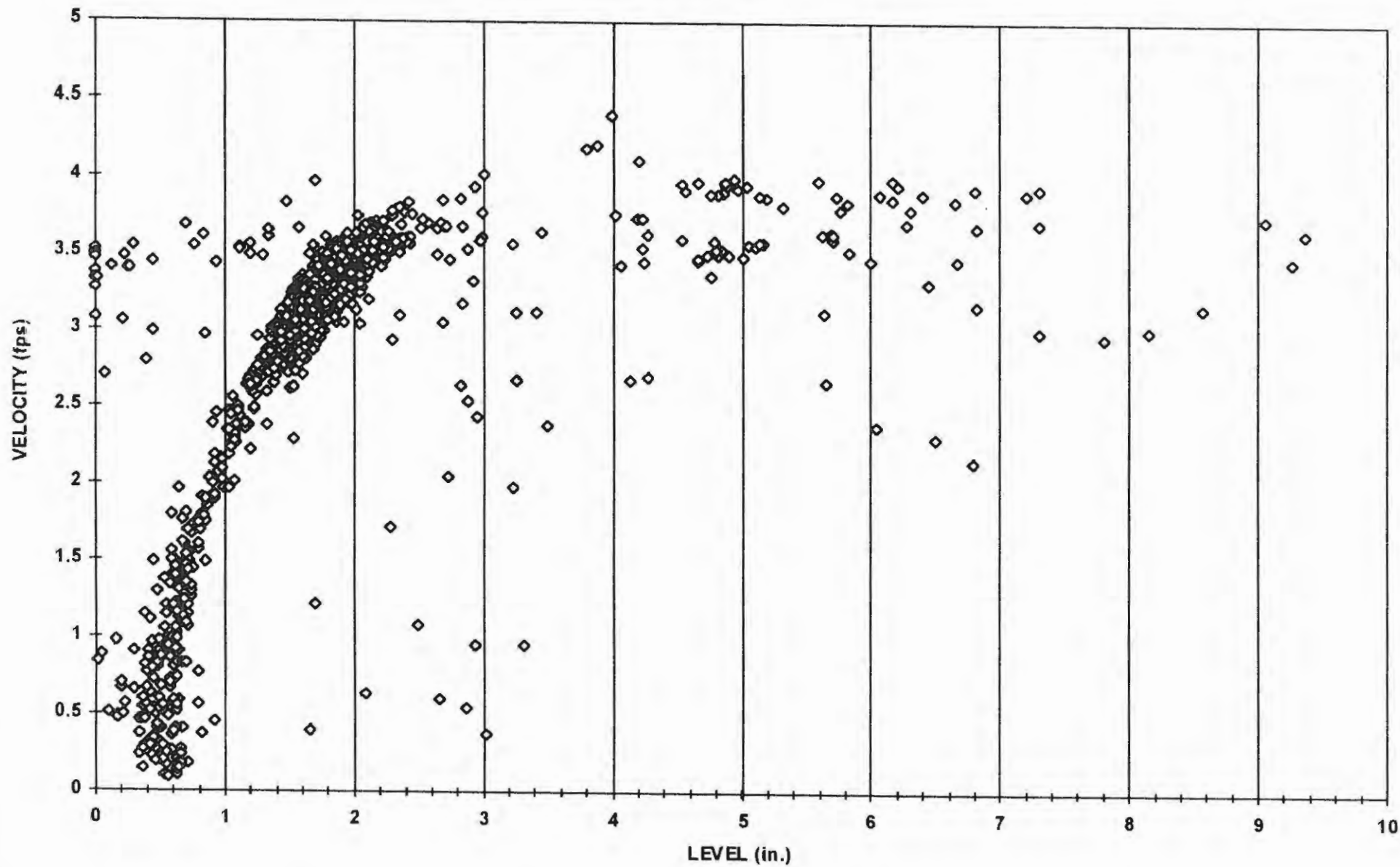
Daterange: 05/29/98-06/12/98
Territory: TERRITORY 6/25/98 12:20:15 PM
Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Manning Equation
Shape: Round Pipe
Diameter(ft): .667Roughness: .013
Slope: .0035

Location: AMHERST AND MERDILL
Site ID: 00098013
Serial#: QB2

Hourly Level vs Velocity

Site:00098014



Daterange: 05/20/98-07/15/98

Territory: TERRITORY 6/25/98 12:20:15 PM

Region: LEVEL2 SYSTEM DEFINED 6/25/98 12:20:15 PM

Primary Device: Area Velocity

Shape: Round Pipe

Diameter(ft): .833333313465118

Location:

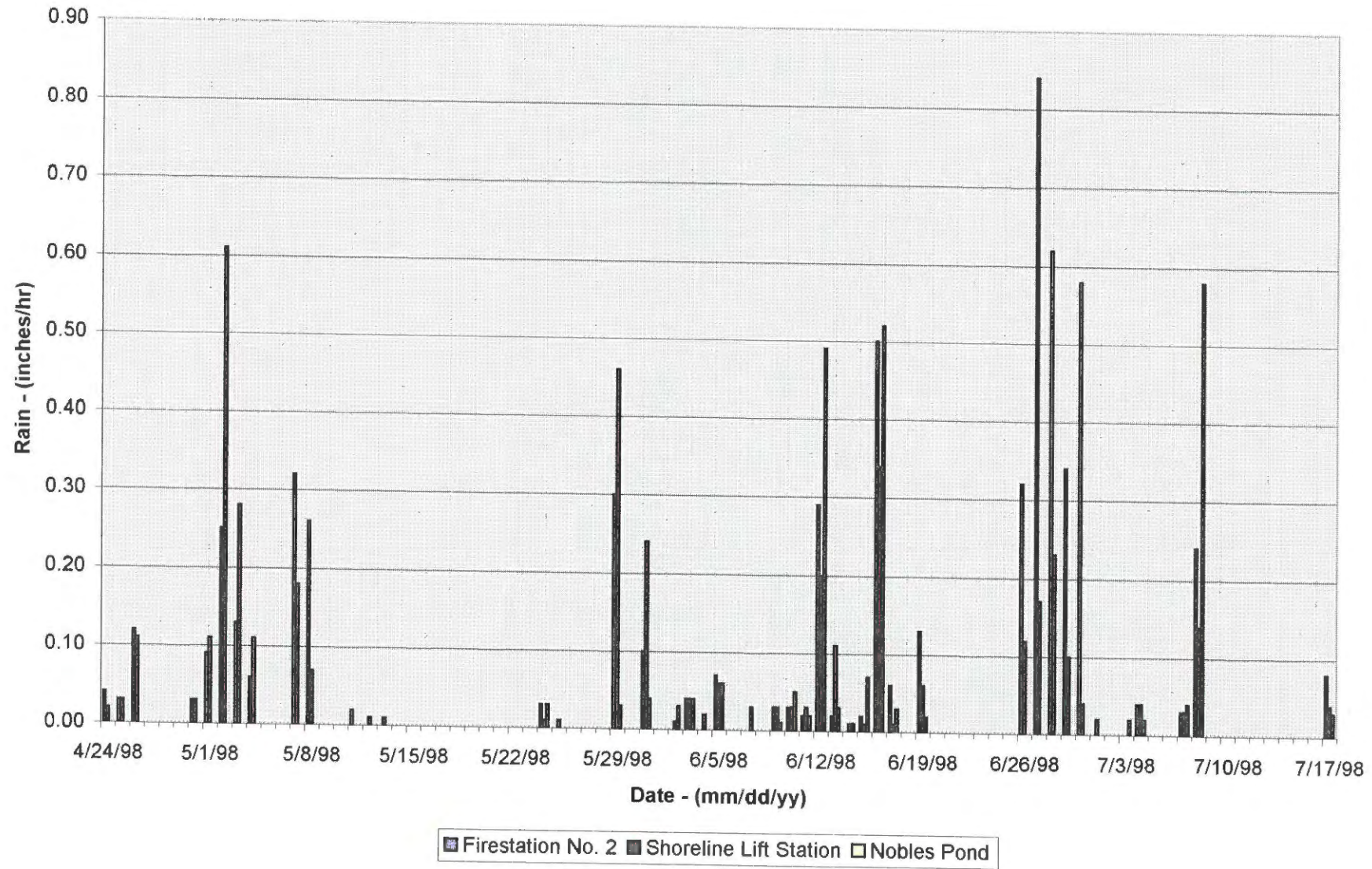
Site ID: 00098014

Serial#: BVV

APPENDIX I
Hourly Rainfall Information

CTI Environmental, Inc.

Hourly Rain Events



Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
4/24/98 1:00 PM	0.02		
4/24/98 2:00 PM	0.00		
4/24/98 3:00 PM	0.00		
4/24/98 4:00 PM	0.03		
4/24/98 5:00 PM	0.04	0.02	
4/24/98 6:00 PM	0.00	0.00	
4/24/98 7:00 PM	0.00	0.00	
4/24/98 8:00 PM	0.00	0.00	
4/24/98 9:00 PM	0.00	0.01	
4/24/98 10:00 PM	0.00	0.00	
4/24/98 11:00 PM	0.00	0.00	
4/25/98 12:00 AM	0.00	0.00	
4/25/98 1:00 AM	0.00	0.00	
4/25/98 2:00 AM	0.00	0.00	
4/25/98 3:00 AM	0.00	0.00	
4/25/98 4:00 AM	0.00	0.00	
4/25/98 5:00 AM	0.00	0.00	
4/25/98 6:00 AM	0.00	0.00	
4/25/98 7:00 AM	0.00	0.00	
4/25/98 8:00 AM	0.00	0.00	
4/25/98 9:00 AM	0.00	0.00	
4/25/98 10:00 AM	0.00	0.00	
4/25/98 11:00 AM	0.00	0.00	
4/25/98 12:00 PM	0.00	0.00	
4/25/98 1:00 PM	0.00	0.00	
4/25/98 2:00 PM	0.00	0.00	
4/25/98 3:00 PM	0.00	0.00	
4/25/98 4:00 PM	0.00	0.00	
4/25/98 5:00 PM	0.00	0.00	
4/25/98 6:00 PM	0.00	0.00	
4/25/98 7:00 PM	0.00	0.00	
4/25/98 8:00 PM	0.00	0.00	
4/25/98 9:00 PM	0.00	0.00	
4/25/98 10:00 PM	0.03	0.02	
4/25/98 11:00 PM	0.03	0.03	
4/26/98 12:00 AM	0.03	0.02	
4/26/98 1:00 AM	0.06	0.06	
4/26/98 2:00 AM	0.01	0.01	
4/26/98 3:00 AM	0.09	0.09	
4/26/98 4:00 AM	0.05	0.05	
4/26/98 5:00 AM	0.08	0.09	
4/26/98 6:00 AM	0.02	0.03	
4/26/98 7:00 AM	0.00	0.00	
4/26/98 8:00 AM	0.02	0.02	
4/26/98 9:00 AM	0.05	0.05	
4/26/98 10:00 AM	0.08	0.07	
4/26/98 11:00 AM	0.03	0.04	
4/26/98 12:00 PM	0.08	0.10	
4/26/98 1:00 PM	0.01	0.02	
4/26/98 2:00 PM	0.05	0.03	
4/26/98 3:00 PM	0.12	0.11	
4/26/98 4:00 PM	0.03	0.06	
4/26/98 5:00 PM	0.07	0.07	
4/26/98 6:00 PM	0.00	0.01	
4/26/98 7:00 PM	0.00	0.00	
4/26/98 8:00 PM	0.00	0.00	
4/26/98 9:00 PM	0.00	0.00	
4/26/98 10:00 PM	0.00	0.00	
4/26/98 11:00 PM	0.00	0.00	
4/27/98 12:00 AM	0.00	0.00	
4/27/98 1:00 AM	0.00	0.00	
4/27/98 2:00 AM	0.00	0.00	
4/27/98 3:00 AM	0.00	0.00	
4/27/98 4:00 AM	0.00	0.00	
4/27/98 5:00 AM	0.00	0.00	
4/27/98 6:00 AM	0.00	0.00	
4/27/98 7:00 AM	0.00	0.00	
4/27/98 8:00 AM	0.00	0.00	

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
4/27/98 9:00 AM	0.00	0.00	0.00
4/27/98 10:00 AM	0.00	0.00	0.00
4/27/98 11:00 AM	0.00	0.00	0.00
4/27/98 12:00 PM	0.00	0.00	0.00
4/27/98 1:00 PM	0.00	0.00	0.00
4/27/98 2:00 PM	0.00	0.00	0.00
4/27/98 3:00 PM	0.00	0.00	0.00
4/27/98 4:00 PM	0.00	0.00	0.00
4/27/98 5:00 PM	0.00	0.00	0.00
4/27/98 6:00 PM	0.00	0.00	0.00
4/27/98 7:00 PM	0.00	0.00	0.00
4/27/98 8:00 PM	0.00	0.00	0.00
4/27/98 9:00 PM	0.00	0.00	0.00
4/27/98 10:00 PM	0.00	0.00	0.00
4/27/98 11:00 PM	0.00	0.00	0.00
4/28/98 12:00 AM	0.00	0.00	0.00
4/28/98 1:00 AM	0.00	0.00	0.00
4/28/98 2:00 AM	0.00	0.00	0.00
4/28/98 3:00 AM	0.00	0.00	0.00
4/28/98 4:00 AM	0.00	0.00	0.00
4/28/98 5:00 AM	0.00	0.00	0.00
4/28/98 6:00 AM	0.00	0.00	0.00
4/28/98 7:00 AM	0.00	0.00	0.00
4/28/98 8:00 AM	0.00	0.00	0.00
4/28/98 9:00 AM	0.00	0.00	0.00
4/28/98 10:00 AM	0.00	0.00	0.00
4/28/98 11:00 AM	0.00	0.00	0.00
4/28/98 12:00 PM	0.00	0.00	0.00
4/28/98 1:00 PM	0.00	0.00	0.00
4/28/98 2:00 PM	0.00	0.00	0.00
4/28/98 3:00 PM	0.00	0.00	0.00
4/28/98 4:00 PM	0.00	0.00	0.00
4/28/98 5:00 PM	0.00	0.00	0.00
4/28/98 6:00 PM	0.00	0.00	0.00
4/28/98 7:00 PM	0.00	0.00	0.00
4/28/98 8:00 PM	0.00	0.00	0.00
4/28/98 9:00 PM	0.00	0.00	0.00
4/28/98 10:00 PM	0.00	0.00	0.00
4/28/98 11:00 PM	0.00	0.00	0.00
4/29/98 12:00 AM	0.00	0.00	0.00
4/29/98 1:00 AM	0.00	0.00	0.00
4/29/98 2:00 AM	0.00	0.00	0.00
4/29/98 3:00 AM	0.00	0.00	0.00
4/29/98 4:00 AM	0.00	0.00	0.00
4/29/98 5:00 AM	0.00	0.00	0.00
4/29/98 6:00 AM	0.00	0.00	0.00
4/29/98 7:00 AM	0.00	0.00	0.00
4/29/98 8:00 AM	0.00	0.00	0.00
4/29/98 9:00 AM	0.00	0.00	0.00
4/29/98 10:00 AM	0.00	0.00	0.00
4/29/98 11:00 AM	0.00	0.00	0.00
4/29/98 12:00 PM	0.00	0.00	0.00
4/29/98 1:00 PM	0.00	0.00	0.00
4/29/98 2:00 PM	0.00	0.00	0.00
4/29/98 3:00 PM	0.00	0.00	0.00
4/29/98 4:00 PM	0.00	0.00	0.00
4/29/98 5:00 PM	0.00	0.00	0.00
4/29/98 6:00 PM	0.00	0.00	0.00
4/29/98 7:00 PM	0.00	0.00	0.00
4/29/98 8:00 PM	0.00	0.00	0.00
4/29/98 9:00 PM	0.00	0.00	0.00
4/29/98 10:00 PM	0.00	0.00	0.00
4/29/98 11:00 PM	0.00	0.00	0.00
4/30/98 12:00 AM	0.00	0.00	0.00
4/30/98 1:00 AM	0.00	0.00	0.00
4/30/98 2:00 AM	0.00	0.00	0.00
4/30/98 3:00 AM	0.00	0.00	0.00
4/30/98 4:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
4/30/98 5:00 AM	0.00	0.00	
4/30/98 6:00 AM	0.00	0.00	
4/30/98 7:00 AM	0.00	0.00	
4/30/98 8:00 AM	0.00	0.00	
4/30/98 9:00 AM	0.00	0.00	
4/30/98 10:00 AM	0.00	0.00	
4/30/98 11:00 AM	0.03	0.03	
4/30/98 12:00 PM	0.02	0.03	
4/30/98 1:00 PM	0.00	0.00	
4/30/98 2:00 PM	0.00	0.01	
4/30/98 3:00 PM	0.00	0.00	
4/30/98 4:00 PM	0.00	0.00	
4/30/98 5:00 PM	0.00	0.00	
4/30/98 6:00 PM	0.00	0.00	
4/30/98 7:00 PM	0.00	0.00	
4/30/98 8:00 PM	0.00	0.00	
4/30/98 9:00 PM	0.00	0.00	
4/30/98 10:00 PM	0.00	0.00	
4/30/98 11:00 PM	0.00	0.00	
5/1/98 12:00 AM	0.00	0.00	
5/1/98 1:00 AM	0.00	0.00	
5/1/98 2:00 AM	0.00	0.00	
5/1/98 3:00 AM	0.02	0.04	
5/1/98 4:00 AM	0.01	0.02	
5/1/98 5:00 AM	0.01	0.01	
5/1/98 6:00 AM	0.00	0.00	
5/1/98 7:00 AM	0.00	0.00	
5/1/98 8:00 AM	0.00	0.00	
5/1/98 9:00 AM	0.00	0.00	
5/1/98 10:00 AM	0.00	0.00	
5/1/98 11:00 AM	0.00	0.00	
5/1/98 12:00 PM	0.00	0.01	
5/1/98 1:00 PM	0.01	0.01	
5/1/98 2:00 PM	0.01	0.03	
5/1/98 3:00 PM	0.00	0.01	
5/1/98 4:00 PM	0.00	0.00	
5/1/98 5:00 PM	0.00	0.00	
5/1/98 6:00 PM	0.00	0.00	
5/1/98 7:00 PM	0.01	0.00	
5/1/98 8:00 PM	0.03	0.00	
5/1/98 9:00 PM	0.09	0.11	
5/1/98 10:00 PM	0.03	0.02	
5/1/98 11:00 PM	0.01	0.01	
5/2/98 12:00 AM	0.00	0.00	
5/2/98 1:00 AM	0.00	0.00	
5/2/98 2:00 AM	0.00	0.00	
5/2/98 3:00 AM	0.00	0.00	
5/2/98 4:00 AM	0.04	0.11	
5/2/98 5:00 AM	0.25	0.26	
5/2/98 6:00 AM	0.11	0.09	
5/2/98 7:00 AM	0.01	0.00	
5/2/98 8:00 AM	0.00	0.01	
5/2/98 9:00 AM	0.01	0.23	
5/2/98 10:00 AM	0.10	0.61	
5/2/98 11:00 AM	0.25	0.13	
5/2/98 12:00 PM	0.06	0.01	
5/2/98 1:00 PM	0.00	0.01	
5/2/98 2:00 PM	0.01	0.00	
5/2/98 3:00 PM	0.01	0.00	
5/2/98 4:00 PM	0.14	0.00	
5/2/98 5:00 PM	0.01	0.06	
5/2/98 6:00 PM	0.03	0.12	
5/2/98 7:00 PM	0.01	0.24	
5/2/98 8:00 PM	0.00	0.01	
5/2/98 9:00 PM	0.00	0.00	
5/2/98 10:00 PM	0.00	0.00	
5/2/98 11:00 PM	0.00	0.00	
5/3/98 12:00 AM	0.00	0.00	

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/3/98 1:00 AM	0.00	0.00	0.00
5/3/98 2:00 AM	0.00	0.00	0.00
5/3/98 3:00 AM	0.00	0.00	0.00
5/3/98 4:00 AM	0.00	0.00	0.00
5/3/98 5:00 AM	0.00	0.00	0.00
5/3/98 6:00 AM	0.00	0.00	0.00
5/3/98 7:00 AM	0.00	0.00	0.00
5/3/98 8:00 AM	0.00	0.00	0.00
5/3/98 9:00 AM	0.00	0.00	0.00
5/3/98 10:00 AM	0.00	0.00	0.00
5/3/98 11:00 AM	0.00	0.00	0.00
5/3/98 12:00 PM	0.00	0.00	0.00
5/3/98 1:00 PM	0.00	0.00	0.00
5/3/98 2:00 PM	0.00	0.00	0.00
5/3/98 3:00 PM	0.00	0.07	0.00
5/3/98 4:00 PM	0.00	0.01	0.00
5/3/98 5:00 PM	0.00	0.00	0.00
5/3/98 6:00 PM	0.00	0.01	0.00
5/3/98 7:00 PM	0.00	0.02	0.00
5/3/98 8:00 PM	0.00	0.07	0.00
5/3/98 9:00 PM	0.09	0.28	0.00
5/3/98 10:00 PM	0.13	0.23	0.00
5/3/98 11:00 PM	0.00	0.03	0.00
5/4/98 12:00 AM	0.01	0.00	0.00
5/4/98 1:00 AM	0.00	0.00	0.00
5/4/98 2:00 AM	0.00	0.00	0.00
5/4/98 3:00 AM	0.01	0.01	0.00
5/4/98 4:00 AM	0.06	0.11	0.00
5/4/98 5:00 AM	0.03	0.01	0.00
5/4/98 6:00 AM	0.00	0.00	0.00
5/4/98 7:00 AM	0.00	0.00	0.00
5/4/98 8:00 AM	0.00	0.00	0.00
5/4/98 9:00 AM	0.00	0.00	0.00
5/4/98 10:00 AM	0.00	0.00	0.00
5/4/98 11:00 AM	0.00	0.00	0.00
5/4/98 12:00 PM	0.00	0.00	0.00
5/4/98 1:00 PM	0.00	0.00	0.00
5/4/98 2:00 PM	0.00	0.00	0.00
5/4/98 3:00 PM	0.00	0.00	0.00
5/4/98 4:00 PM	0.00	0.00	0.00
5/4/98 5:00 PM	0.00	0.00	0.00
5/4/98 6:00 PM	0.00	0.00	0.00
5/4/98 7:00 PM	0.00	0.00	0.00
5/4/98 8:00 PM	0.00	0.00	0.00
5/4/98 9:00 PM	0.00	0.00	0.00
5/4/98 10:00 PM	0.00	0.00	0.00
5/4/98 11:00 PM	0.00	0.00	0.00
5/5/98 12:00 AM	0.00	0.00	0.00
5/5/98 1:00 AM	0.00	0.00	0.00
5/5/98 2:00 AM	0.00	0.00	0.00
5/5/98 3:00 AM	0.00	0.00	0.00
5/5/98 4:00 AM	0.00	0.00	0.00
5/5/98 5:00 AM	0.00	0.00	0.00
5/5/98 6:00 AM	0.00	0.00	0.00
5/5/98 7:00 AM	0.00	0.00	0.00
5/5/98 8:00 AM	0.00	0.00	0.00
5/5/98 9:00 AM	0.00	0.00	0.00
5/5/98 10:00 AM	0.00	0.00	0.00
5/5/98 11:00 AM	0.00	0.00	0.00
5/5/98 12:00 PM	0.00	0.00	0.00
5/5/98 1:00 PM	0.00	0.00	0.00
5/5/98 2:00 PM	0.00	0.00	0.00
5/5/98 3:00 PM	0.00	0.00	0.00
5/5/98 4:00 PM	0.00	0.00	0.00
5/5/98 5:00 PM	0.00	0.00	0.00
5/5/98 6:00 PM	0.00	0.00	0.00
5/5/98 7:00 PM	0.00	0.00	0.00
5/5/98 8:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/5/98 9:00 PM	0.00	0.00	
5/5/98 10:00 PM	0.00	0.00	
5/5/98 11:00 PM	0.00	0.00	
5/6/98 12:00 AM	0.00	0.00	
5/6/98 1:00 AM	0.00	0.00	
5/6/98 2:00 AM	0.00	0.00	
5/6/98 3:00 AM	0.00	0.00	
5/6/98 4:00 AM	0.00	0.00	
5/6/98 5:00 AM	0.00	0.00	
5/6/98 6:00 AM	0.00	0.00	
5/6/98 7:00 AM	0.00	0.00	
5/6/98 8:00 AM	0.00	0.00	
5/6/98 9:00 AM	0.00	0.00	
5/6/98 10:00 AM	0.00	0.00	
5/6/98 11:00 AM	0.00	0.00	
5/6/98 12:00 PM	0.00	0.00	
5/6/98 1:00 PM	0.00	0.00	
5/6/98 2:00 PM	0.00	0.00	
5/6/98 3:00 PM	0.00	0.00	
5/6/98 4:00 PM	0.00	0.00	
5/6/98 5:00 PM	0.00	0.00	
5/6/98 6:00 PM	0.00	0.00	
5/6/98 7:00 PM	0.00	0.00	
5/6/98 8:00 PM	0.00	0.00	
5/6/98 9:00 PM	0.00	0.00	
5/6/98 10:00 PM	0.00	0.00	
5/6/98 11:00 PM	0.00	0.00	
5/7/98 12:00 AM	0.00	0.00	
5/7/98 1:00 AM	0.00	0.00	
5/7/98 2:00 AM	0.00	0.00	
5/7/98 3:00 AM	0.00	0.00	
5/7/98 4:00 AM	0.00	0.00	
5/7/98 5:00 AM	0.00	0.00	
5/7/98 6:00 AM	0.00	0.00	
5/7/98 7:00 AM	0.00	0.00	
5/7/98 8:00 AM	0.00	0.00	
5/7/98 9:00 AM	0.00	0.00	
5/7/98 10:00 AM	0.00	0.00	
5/7/98 11:00 AM	0.00	0.00	
5/7/98 12:00 PM	0.00	0.00	
5/7/98 1:00 PM	0.00	0.00	
5/7/98 2:00 PM	0.00	0.00	
5/7/98 3:00 PM	0.00	0.00	
5/7/98 4:00 PM	0.00	0.00	
5/7/98 5:00 PM	0.32	0.18	
5/7/98 6:00 PM	0.04	0.04	
5/7/98 7:00 PM	0.01	0.02	
5/7/98 8:00 PM	0.01	0.01	
5/7/98 9:00 PM	0.04	0.04	
5/7/98 10:00 PM	0.01	0.00	
5/7/98 11:00 PM	0.00	0.00	
5/8/98 12:00 AM	0.00	0.00	
5/8/98 1:00 AM	0.00	0.00	
5/8/98 2:00 AM	0.01	0.00	
5/8/98 3:00 AM	0.01	0.07	
5/8/98 4:00 AM	0.00	0.01	
5/8/98 5:00 AM	0.00	0.00	
5/8/98 6:00 AM	0.00	0.00	
5/8/98 7:00 AM	0.00	0.00	
5/8/98 8:00 AM	0.00	0.00	
5/8/98 9:00 AM	0.00	0.00	
5/8/98 10:00 AM	0.00	0.00	
5/8/98 11:00 AM	0.00	0.00	
5/8/98 12:00 PM	0.00	0.00	
5/8/98 1:00 PM	0.00	0.00	
5/8/98 2:00 PM	0.04	0.00	
5/8/98 3:00 PM	0.26	0.03	
5/8/98 4:00 PM	0.04	0.04	

Date/Time	Firestation No 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/8/98 5:00 PM	0.00	0.00	0.00
5/8/98 6:00 PM	0.00	0.00	0.00
5/8/98 7:00 PM	0.00	0.00	0.02
5/8/98 8:00 PM	0.00	0.00	0.00
5/8/98 9:00 PM	0.00	0.00	0.00
5/8/98 10:00 PM	0.00	0.00	0.00
5/8/98 11:00 PM	0.00	0.00	0.00
5/9/98 12:00 AM	0.00	0.00	0.00
5/9/98 1:00 AM	0.00	0.00	0.00
5/9/98 2:00 AM	0.00	0.00	0.00
5/9/98 3:00 AM	0.00	0.00	0.00
5/9/98 4:00 AM	0.00	0.00	0.00
5/9/98 5:00 AM	0.00	0.00	0.00
5/9/98 6:00 AM	0.00	0.00	0.00
5/9/98 7:00 AM	0.00	0.00	0.00
5/9/98 8:00 AM	0.00	0.00	0.00
5/9/98 9:00 AM	0.00	0.00	0.00
5/9/98 10:00 AM	0.00	0.00	0.00
5/9/98 11:00 AM	0.00	0.00	0.00
5/9/98 12:00 PM	0.00	0.00	0.00
5/9/98 1:00 PM	0.00	0.00	0.00
5/9/98 2:00 PM	0.00	0.00	0.00
5/9/98 3:00 PM	0.00	0.00	0.00
5/9/98 4:00 PM	0.00	0.00	0.00
5/9/98 5:00 PM	0.00	0.00	0.00
5/9/98 6:00 PM	0.00	0.00	0.00
5/9/98 7:00 PM	0.00	0.00	0.00
5/9/98 8:00 PM	0.00	0.00	0.00
5/9/98 9:00 PM	0.00	0.00	0.00
5/9/98 10:00 PM	0.00	0.00	0.00
5/9/98 11:00 PM	0.00	0.00	0.00
5/10/98 12:00 AM	0.00	0.00	0.00
5/10/98 1:00 AM	0.00	0.00	0.00
5/10/98 2:00 AM	0.00	0.00	0.00
5/10/98 3:00 AM	0.00	0.00	0.00
5/10/98 4:00 AM	0.00	0.00	0.00
5/10/98 5:00 AM	0.00	0.00	0.00
5/10/98 6:00 AM	0.00	0.00	0.00
5/10/98 7:00 AM	0.00	0.00	0.00
5/10/98 8:00 AM	0.00	0.00	0.00
5/10/98 9:00 AM	0.00	0.00	0.00
5/10/98 10:00 AM	0.00	0.00	0.00
5/10/98 11:00 AM	0.00	0.00	0.00
5/10/98 12:00 PM	0.00	0.00	0.00
5/10/98 1:00 PM	0.00	0.00	0.00
5/10/98 2:00 PM	0.00	0.00	0.00
5/10/98 3:00 PM	0.00	0.00	0.00
5/10/98 4:00 PM	0.00	0.00	0.00
5/10/98 5:00 PM	0.00	0.00	0.00
5/10/98 6:00 PM	0.00	0.00	0.00
5/10/98 7:00 PM	0.00	0.00	0.00
5/10/98 8:00 PM	0.00	0.00	0.00
5/10/98 9:00 PM	0.00	0.00	0.00
5/10/98 10:00 PM	0.00	0.00	0.00
5/10/98 11:00 PM	0.00	0.00	0.00
5/11/98 12:00 AM	0.00	0.00	0.00
5/11/98 1:00 AM	0.00	0.00	0.00
5/11/98 2:00 AM	0.00	0.00	0.00
5/11/98 3:00 AM	0.00	0.00	0.00
5/11/98 4:00 AM	0.00	0.00	0.00
5/11/98 5:00 AM	0.00	0.00	0.00
5/11/98 6:00 AM	0.00	0.00	0.00
5/11/98 7:00 AM	0.00	0.00	0.00
5/11/98 8:00 AM	0.00	0.00	0.00
5/11/98 9:00 AM	0.00	0.00	0.00
5/11/98 10:00 AM	0.02	0.00	0.00
5/11/98 11:00 AM	0.00	0.00	0.00
5/11/98 12:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/11/98 1:00 PM	0.00	0.00	
5/11/98 2:00 PM	0.00	0.00	
5/11/98 3:00 PM	0.00	0.00	
5/11/98 4:00 PM	0.00	0.00	
5/11/98 5:00 PM	0.00	0.00	
5/11/98 6:00 PM	0.00	0.00	
5/11/98 7:00 PM	0.00	0.00	
5/11/98 8:00 PM	0.00	0.00	
5/11/98 9:00 PM	0.00	0.00	
5/11/98 10:00 PM	0.00	0.00	
5/11/98 11:00 PM	0.00	0.00	
5/12/98 12:00 AM	0.00	0.00	
5/12/98 1:00 AM	0.00	0.00	
5/12/98 2:00 AM	0.00	0.00	
5/12/98 3:00 AM	0.00	0.00	
5/12/98 4:00 AM	0.00	0.00	
5/12/98 5:00 AM	0.00	0.00	
5/12/98 6:00 AM	0.00	0.00	
5/12/98 7:00 AM	0.00	0.00	
5/12/98 8:00 AM	0.00	0.01	
5/12/98 9:00 AM	0.00	0.00	
5/12/98 10:00 AM	0.00	0.00	
5/12/98 11:00 AM	0.00	0.00	
5/12/98 12:00 PM	0.00	0.00	
5/12/98 1:00 PM	0.00	0.00	
5/12/98 2:00 PM	0.00	0.00	
5/12/98 3:00 PM	0.00	0.00	
5/12/98 4:00 PM	0.00	0.00	
5/12/98 5:00 PM	0.00	0.00	
5/12/98 6:00 PM	0.00	0.00	
5/12/98 7:00 PM	0.00	0.00	
5/12/98 8:00 PM	0.00	0.00	
5/12/98 9:00 PM	0.00	0.00	
5/12/98 10:00 PM	0.00	0.00	
5/12/98 11:00 PM	0.00	0.00	
5/13/98 12:00 AM	0.00	0.00	
5/13/98 1:00 AM	0.00	0.00	
5/13/98 2:00 AM	0.00	0.00	
5/13/98 3:00 AM	0.00	0.00	
5/13/98 4:00 AM	0.00	0.00	
5/13/98 5:00 AM	0.00	0.00	
5/13/98 6:00 AM	0.00	0.00	
5/13/98 7:00 AM	0.00	0.00	
5/13/98 8:00 AM	0.00	0.00	
5/13/98 9:00 AM	0.00	0.01	
5/13/98 10:00 AM	0.00	0.00	
5/13/98 11:00 AM	0.00	0.00	
5/13/98 12:00 PM	0.00	0.00	
5/13/98 1:00 PM	0.00	0.00	
5/13/98 2:00 PM	0.00	0.00	
5/13/98 3:00 PM	0.00	0.00	
5/13/98 4:00 PM	0.00	0.00	
5/13/98 5:00 PM	0.00	0.00	
5/13/98 6:00 PM	0.00	0.00	
5/13/98 7:00 PM	0.00	0.00	
5/13/98 8:00 PM	0.00	0.00	
5/13/98 9:00 PM	0.00	0.00	
5/13/98 10:00 PM	0.00	0.00	
5/13/98 11:00 PM	0.00	0.00	
5/14/98 12:00 AM	0.00	0.00	
5/14/98 1:00 AM	0.00	0.00	
5/14/98 2:00 AM	0.00	0.00	
5/14/98 3:00 AM	0.00	0.00	
5/14/98 4:00 AM	0.00	0.00	
5/14/98 5:00 AM	0.00	0.00	
5/14/98 6:00 AM	0.00	0.00	
5/14/98 7:00 AM	0.00	0.00	
5/14/98 8:00 AM	0.00	0.00	

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/14/98 9:00 AM	0.00	0.00	
5/14/98 10:00 AM	0.00	0.00	
5/14/98 11:00 AM	0.00	0.00	
5/14/98 12:00 PM	0.00	0.00	
5/14/98 1:00 PM	0.00	0.00	
5/14/98 2:00 PM	0.00	0.00	
5/14/98 3:00 PM	0.00	0.00	
5/14/98 4:00 PM	0.00	0.00	
5/14/98 5:00 PM	0.00	0.00	
5/14/98 6:00 PM	0.00	0.00	
5/14/98 7:00 PM	0.00	0.00	
5/14/98 8:00 PM	0.00	0.00	
5/14/98 9:00 PM	0.00	0.00	
5/14/98 10:00 PM	0.00	0.00	
5/14/98 11:00 PM	0.00	0.00	
5/15/98 12:00 AM	0.00	0.00	
5/15/98 1:00 AM	0.00	0.00	
5/15/98 2:00 AM	0.00	0.00	
5/15/98 3:00 AM	0.00	0.00	
5/15/98 4:00 AM	0.00	0.00	
5/15/98 5:00 AM	0.00	0.00	
5/15/98 6:00 AM	0.00	0.00	
5/15/98 7:00 AM	0.00	0.00	
5/15/98 8:00 AM	0.00	0.00	
5/15/98 9:00 AM	0.00	0.00	
5/15/98 10:00 AM	0.00	0.00	
5/15/98 11:00 AM	0.00	0.00	
5/15/98 12:00 PM	0.00	0.00	
5/15/98 1:00 PM	0.00	0.00	
5/15/98 2:00 PM	0.00	0.00	
5/15/98 3:00 PM	0.00	0.00	
5/15/98 4:00 PM	0.00	0.00	
5/15/98 5:00 PM	0.00	0.00	
5/15/98 6:00 PM	0.00	0.00	
5/15/98 7:00 PM	0.00	0.00	
5/15/98 8:00 PM	0.00	0.00	
5/15/98 9:00 PM	0.00	0.00	
5/15/98 10:00 PM	0.00	0.00	
5/15/98 11:00 PM	0.00	0.00	
5/16/98 12:00 AM	0.00	0.00	
5/16/98 1:00 AM	0.00	0.00	
5/16/98 2:00 AM	0.00	0.00	
5/16/98 3:00 AM	0.00	0.00	
5/16/98 4:00 AM	0.00	0.00	
5/16/98 5:00 AM	0.00	0.00	
5/16/98 6:00 AM	0.00	0.00	
5/16/98 7:00 AM	0.00	0.00	
5/16/98 8:00 AM	0.00	0.00	
5/16/98 9:00 AM	0.00	0.00	
5/16/98 10:00 AM	0.00	0.00	
5/16/98 11:00 AM	0.00	0.00	
5/16/98 12:00 PM	0.00	0.00	
5/16/98 1:00 PM	0.00	0.00	
5/16/98 2:00 PM	0.00	0.00	
5/16/98 3:00 PM	0.00	0.00	
5/16/98 4:00 PM	0.00	0.00	
5/16/98 5:00 PM	0.00	0.00	
5/16/98 6:00 PM	0.00	0.00	
5/16/98 7:00 PM	0.00	0.00	
5/16/98 8:00 PM	0.00	0.00	
5/16/98 9:00 PM	0.00	0.00	
5/16/98 10:00 PM	0.00	0.00	
5/16/98 11:00 PM	0.00	0.00	
5/17/98 12:00 AM	0.00	0.00	
5/17/98 1:00 AM	0.00	0.00	
5/17/98 2:00 AM	0.00	0.00	
5/17/98 3:00 AM	0.00	0.00	
5/17/98 4:00 AM	0.00	0.00	

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/17/98 5:00 AM	0.00	0.00	0.00
5/17/98 6:00 AM	0.00	0.00	0.00
5/17/98 7:00 AM	0.00	0.00	0.00
5/17/98 8:00 AM	0.00	0.00	0.00
5/17/98 9:00 AM	0.00	0.00	0.00
5/17/98 10:00 AM	0.00	0.00	0.00
5/17/98 11:00 AM	0.00	0.00	0.00
5/17/98 12:00 PM	0.00	0.00	0.00
5/17/98 1:00 PM	0.00	0.00	0.00
5/17/98 2:00 PM	0.00	0.00	0.00
5/17/98 3:00 PM	0.00	0.00	0.00
5/17/98 4:00 PM	0.00	0.00	0.00
5/17/98 5:00 PM	0.00	0.00	0.00
5/17/98 6:00 PM	0.00	0.00	0.00
5/17/98 7:00 PM	0.00	0.00	0.00
5/17/98 8:00 PM	0.00	0.00	0.00
5/17/98 9:00 PM	0.00	0.00	0.00
5/17/98 10:00 PM	0.00	0.00	0.00
5/17/98 11:00 PM	0.00	0.00	0.00
5/18/98 12:00 AM	0.00	0.00	0.00
5/18/98 1:00 AM	0.00	0.00	0.00
5/18/98 2:00 AM	0.00	0.00	0.00
5/18/98 3:00 AM	0.00	0.00	0.00
5/18/98 4:00 AM	0.00	0.00	0.00
5/18/98 5:00 AM	0.00	0.00	0.00
5/18/98 6:00 AM	0.00	0.00	0.00
5/18/98 7:00 AM	0.00	0.00	0.00
5/18/98 8:00 AM	0.00	0.00	0.00
5/18/98 9:00 AM	0.00	0.00	0.00
5/18/98 10:00 AM	0.00	0.00	0.00
5/18/98 11:00 AM	0.00	0.00	0.00
5/18/98 12:00 PM	0.00	0.00	0.00
5/18/98 1:00 PM	0.00	0.00	0.00
5/18/98 2:00 PM	0.00	0.00	0.00
5/18/98 3:00 PM	0.00	0.00	0.00
5/18/98 4:00 PM	0.00	0.00	0.00
5/18/98 5:00 PM	0.00	0.00	0.00
5/18/98 6:00 PM	0.00	0.00	0.00
5/18/98 7:00 PM	0.00	0.00	0.00
5/18/98 8:00 PM	0.00	0.00	0.00
5/18/98 9:00 PM	0.00	0.00	0.00
5/18/98 10:00 PM	0.00	0.00	0.00
5/18/98 11:00 PM	0.00	0.00	0.00
5/19/98 12:00 AM	0.00	0.00	0.00
5/19/98 1:00 AM	0.00	0.00	0.00
5/19/98 2:00 AM	0.00	0.00	0.00
5/19/98 3:00 AM	0.00	0.00	0.00
5/19/98 4:00 AM	0.00	0.00	0.00
5/19/98 5:00 AM	0.00	0.00	0.00
5/19/98 6:00 AM	0.00	0.00	0.00
5/19/98 7:00 AM	0.00	0.00	0.00
5/19/98 8:00 AM	0.00	0.00	0.00
5/19/98 9:00 AM	0.00	0.00	0.00
5/19/98 10:00 AM	0.00	0.00	0.00
5/19/98 11:00 AM	0.00	0.00	0.00
5/19/98 12:00 PM	0.00	0.00	0.00
5/19/98 1:00 PM	0.00	0.00	0.00
5/19/98 2:00 PM	0.00	0.00	0.00
5/19/98 3:00 PM	0.00	0.00	0.00
5/19/98 4:00 PM	0.00	0.00	0.00
5/19/98 5:00 PM	0.00	0.00	0.00
5/19/98 6:00 PM	0.00	0.00	0.00
5/19/98 7:00 PM	0.00	0.00	0.00
5/19/98 8:00 PM	0.00	0.00	0.00
5/19/98 9:00 PM	0.00	0.00	0.00
5/19/98 10:00 PM	0.00	0.00	0.00
5/19/98 11:00 PM	0.00	0.00	0.00
5/20/98 12:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/20/98 1:00 AM	0.00	0.00	
5/20/98 2:00 AM	0.00	0.00	
5/20/98 3:00 AM	0.00	0.00	
5/20/98 4:00 AM	0.00	0.00	
5/20/98 5:00 AM	0.00	0.00	
5/20/98 6:00 AM	0.00	0.00	
5/20/98 7:00 AM	0.00	0.00	
5/20/98 8:00 AM	0.00	0.00	
5/20/98 9:00 AM	0.00	0.00	
5/20/98 10:00 AM	0.00	0.00	
5/20/98 11:00 AM	0.00	0.00	
5/20/98 12:00 PM	0.00	0.00	
5/20/98 1:00 PM	0.00	0.00	
5/20/98 2:00 PM	0.00	0.00	
5/20/98 3:00 PM	0.00	0.00	
5/20/98 4:00 PM	0.00	0.00	
5/20/98 5:00 PM	0.00	0.00	
5/20/98 6:00 PM	0.00	0.00	
5/20/98 7:00 PM	0.00	0.00	
5/20/98 8:00 PM	0.00	0.00	
5/20/98 9:00 PM	0.00	0.00	
5/20/98 10:00 PM	0.00	0.00	
5/20/98 11:00 PM	0.00	0.00	
5/21/98 12:00 AM	0.00	0.00	
5/21/98 1:00 AM	0.00	0.00	
5/21/98 2:00 AM	0.00	0.00	
5/21/98 3:00 AM	0.00	0.00	
5/21/98 4:00 AM	0.00	0.00	
5/21/98 5:00 AM	0.00	0.00	
5/21/98 6:00 AM	0.00	0.00	
5/21/98 7:00 AM	0.00	0.00	
5/21/98 8:00 AM	0.00	0.00	0.00
5/21/98 9:00 AM	0.00	0.00	0.00
5/21/98 10:00 AM	0.00	0.00	0.00
5/21/98 11:00 AM	0.00	0.00	0.00
5/21/98 12:00 PM	0.00	0.00	0.00
5/21/98 1:00 PM	0.00	0.00	0.00
5/21/98 2:00 PM	0.00	0.00	0.00
5/21/98 3:00 PM	0.00	0.00	0.00
5/21/98 4:00 PM	0.00	0.00	0.00
5/21/98 5:00 PM	0.00	0.00	0.00
5/21/98 6:00 PM	0.00	0.00	0.00
5/21/98 7:00 PM	0.00	0.00	0.00
5/21/98 8:00 PM	0.00	0.00	0.00
5/21/98 9:00 PM	0.00	0.00	0.00
5/21/98 10:00 PM	0.00	0.00	0.00
5/21/98 11:00 PM	0.00	0.00	0.00
5/22/98 12:00 AM	0.00	0.00	0.00
5/22/98 1:00 AM	0.00	0.00	0.00
5/22/98 2:00 AM	0.00	0.00	0.00
5/22/98 3:00 AM	0.00	0.00	0.00
5/22/98 4:00 AM	0.00	0.00	0.00
5/22/98 5:00 AM	0.00	0.00	0.00
5/22/98 6:00 AM	0.00	0.00	0.00
5/22/98 7:00 AM	0.00	0.00	0.00
5/22/98 8:00 AM	0.00	0.00	0.00
5/22/98 9:00 AM	0.00	0.00	0.00
5/22/98 10:00 AM	0.00	0.00	0.00
5/22/98 11:00 AM	0.00	0.00	0.00
5/22/98 12:00 PM	0.00	0.00	0.00
5/22/98 1:00 PM	0.00	0.00	0.00
5/22/98 2:00 PM	0.00	0.00	0.00
5/22/98 3:00 PM	0.00	0.00	0.00
5/22/98 4:00 PM	0.00	0.00	0.00
5/22/98 5:00 PM	0.00	0.00	0.00
5/22/98 6:00 PM	0.00	0.00	0.00
5/22/98 7:00 PM	0.00	0.00	0.00
5/22/98 8:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/22/98 9:00 PM	0.00	0.00	0.00
5/22/98 10:00 PM	0.00	0.00	0.00
5/22/98 11:00 PM	0.00	0.00	0.00
5/23/98 12:00 AM	0.00	0.00	0.00
5/23/98 1:00 AM	0.00	0.00	0.00
5/23/98 2:00 AM	0.00	0.00	0.00
5/23/98 3:00 AM	0.00	0.00	0.00
5/23/98 4:00 AM	0.00	0.00	0.00
5/23/98 5:00 AM	0.00	0.00	0.00
5/23/98 6:00 AM	0.00	0.00	0.00
5/23/98 7:00 AM	0.00	0.00	0.00
5/23/98 8:00 AM	0.00	0.00	0.00
5/23/98 9:00 AM	0.00	0.00	0.00
5/23/98 10:00 AM	0.00	0.00	0.00
5/23/98 11:00 AM	0.00	0.00	0.00
5/23/98 12:00 PM	0.00	0.00	0.00
5/23/98 1:00 PM	0.00	0.00	0.00
5/23/98 2:00 PM	0.00	0.00	0.00
5/23/98 3:00 PM	0.00	0.00	0.00
5/23/98 4:00 PM	0.00	0.00	0.00
5/23/98 5:00 PM	0.00	0.00	0.00
5/23/98 6:00 PM	0.00	0.00	0.00
5/23/98 7:00 PM	0.00	0.00	0.00
5/23/98 8:00 PM	0.00	0.00	0.00
5/23/98 9:00 PM	0.00	0.00	0.00
5/23/98 10:00 PM	0.00	0.00	0.00
5/23/98 11:00 PM	0.00	0.00	0.00
5/24/98 12:00 AM	0.00	0.00	0.00
5/24/98 1:00 AM	0.00	0.00	0.00
5/24/98 2:00 AM	0.00	0.00	0.00
5/24/98 3:00 AM	0.00	0.00	0.00
5/24/98 4:00 AM	0.00	0.00	0.00
5/24/98 5:00 AM	0.00	0.00	0.00
5/24/98 6:00 AM	0.00	0.00	0.00
5/24/98 7:00 AM	0.00	0.00	0.00
5/24/98 8:00 AM	0.00	0.00	0.00
5/24/98 9:00 AM	0.03	0.01	0.00
5/24/98 10:00 AM	0.01	0.00	0.01
5/24/98 11:00 AM	0.00	0.00	0.00
5/24/98 12:00 PM	0.00	0.00	0.00
5/24/98 1:00 PM	0.00	0.00	0.00
5/24/98 2:00 PM	0.00	0.00	0.00
5/24/98 3:00 PM	0.01	0.01	0.03
5/24/98 4:00 PM	0.00	0.00	0.00
5/24/98 5:00 PM	0.01	0.00	0.00
5/24/98 6:00 PM	0.00	0.00	0.00
5/24/98 7:00 PM	0.00	0.00	0.00
5/24/98 8:00 PM	0.00	0.00	0.00
5/24/98 9:00 PM	0.00	0.00	0.00
5/24/98 10:00 PM	0.00	0.00	0.00
5/24/98 11:00 PM	0.00	0.00	0.00
5/25/98 12:00 AM	0.00	0.00	0.00
5/25/98 1:00 AM	0.00	0.00	0.00
5/25/98 2:00 AM	0.00	0.00	0.00
5/25/98 3:00 AM	0.00	0.00	0.00
5/25/98 4:00 AM	0.00	0.00	0.00
5/25/98 5:00 AM	0.00	0.00	0.00
5/25/98 6:00 AM	0.00	0.00	0.00
5/25/98 7:00 AM	0.00	0.00	0.00
5/25/98 8:00 AM	0.00	0.00	0.00
5/25/98 9:00 AM	0.00	0.00	0.00
5/25/98 10:00 AM	0.00	0.00	0.00
5/25/98 11:00 AM	0.00	0.00	0.00
5/25/98 12:00 PM	0.00	0.00	0.00
5/25/98 1:00 PM	0.00	0.00	0.00
5/25/98 2:00 PM	0.00	0.00	0.00
5/25/98 3:00 PM	0.00	0.01	0.00
5/25/98 4:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/25/98 5:00 PM	0.00	0.00	0.00
5/25/98 6:00 PM	0.00	0.00	0.00
5/25/98 7:00 PM	0.00	0.00	0.00
5/25/98 8:00 PM	0.00	0.00	0.00
5/25/98 9:00 PM	0.00	0.00	0.00
5/25/98 10:00 PM	0.00	0.00	0.00
5/25/98 11:00 PM	0.00	0.00	0.00
5/26/98 12:00 AM	0.00	0.00	0.00
5/26/98 1:00 AM	0.00	0.00	0.00
5/26/98 2:00 AM	0.00	0.00	0.00
5/26/98 3:00 AM	0.00	0.00	0.00
5/26/98 4:00 AM	0.00	0.00	0.00
5/26/98 5:00 AM	0.00	0.00	0.00
5/26/98 6:00 AM	0.00	0.00	0.00
5/26/98 7:00 AM	0.00	0.00	0.00
5/26/98 8:00 AM	0.00	0.00	0.00
5/26/98 9:00 AM	0.00	0.00	0.00
5/26/98 10:00 AM	0.00	0.00	0.00
5/26/98 11:00 AM	0.00	0.00	0.00
5/26/98 12:00 PM	0.00	0.00	0.00
5/26/98 1:00 PM	0.00	0.00	0.00
5/26/98 2:00 PM	0.00	0.00	0.00
5/26/98 3:00 PM	0.00	0.00	0.00
5/26/98 4:00 PM	0.00	0.00	0.00
5/26/98 5:00 PM	0.00	0.00	0.00
5/26/98 6:00 PM	0.00	0.00	0.00
5/26/98 7:00 PM	0.00	0.00	0.00
5/26/98 8:00 PM	0.00	0.00	0.00
5/26/98 9:00 PM	0.00	0.00	0.00
5/26/98 10:00 PM	0.00	0.00	0.00
5/26/98 11:00 PM	0.00	0.00	0.00
5/27/98 12:00 AM	0.00	0.00	0.00
5/27/98 1:00 AM	0.00	0.00	0.00
5/27/98 2:00 AM	0.00	0.00	0.00
5/27/98 3:00 AM	0.00	0.00	0.00
5/27/98 4:00 AM	0.00	0.00	0.00
5/27/98 5:00 AM	0.00	0.00	0.00
5/27/98 6:00 AM	0.00	0.00	0.00
5/27/98 7:00 AM	0.00	0.00	0.00
5/27/98 8:00 AM	0.00	0.00	0.00
5/27/98 9:00 AM	0.00	0.00	0.00
5/27/98 10:00 AM	0.00	0.00	0.00
5/27/98 11:00 AM	0.00	0.00	0.00
5/27/98 12:00 PM	0.00	0.00	0.00
5/27/98 1:00 PM	0.00	0.00	0.00
5/27/98 2:00 PM	0.00	0.00	0.00
5/27/98 3:00 PM	0.00	0.00	0.00
5/27/98 4:00 PM	0.00	0.00	0.00
5/27/98 5:00 PM	0.00	0.00	0.00
5/27/98 6:00 PM	0.00	0.00	0.00
5/27/98 7:00 PM	0.00	0.00	0.00
5/27/98 8:00 PM	0.00	0.00	0.00
5/27/98 9:00 PM	0.00	0.00	0.00
5/27/98 10:00 PM	0.00	0.00	0.00
5/27/98 11:00 PM	0.00	0.00	0.00
5/28/98 12:00 AM	0.00	0.00	0.00
5/28/98 1:00 AM	0.00	0.00	0.00
5/28/98 2:00 AM	0.00	0.00	0.00
5/28/98 3:00 AM	0.00	0.00	0.00
5/28/98 4:00 AM	0.00	0.00	0.00
5/28/98 5:00 AM	0.00	0.00	0.00
5/28/98 6:00 AM	0.00	0.00	0.00
5/28/98 7:00 AM	0.00	0.00	0.00
5/28/98 8:00 AM	0.00	0.00	0.00
5/28/98 9:00 AM	0.00	0.00	0.00
5/28/98 10:00 AM	0.00	0.00	0.00
5/28/98 11:00 AM	0.00	0.00	0.00
5/28/98 12:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/28/98 1:00 PM	0.00	0.00	0.00
5/28/98 2:00 PM	0.00	0.00	0.00
5/28/98 3:00 PM	0.00	0.00	0.00
5/28/98 4:00 PM	0.00	0.00	0.00
5/28/98 5:00 PM	0.00	0.00	0.00
5/28/98 6:00 PM	0.00	0.00	0.00
5/28/98 7:00 PM	0.00	0.00	0.00
5/28/98 8:00 PM	0.00	0.00	0.00
5/28/98 9:00 PM	0.00	0.00	0.00
5/28/98 10:00 PM	0.00	0.00	0.00
5/28/98 11:00 PM	0.00	0.00	0.00
5/29/98 12:00 AM	0.00	0.00	0.00
5/29/98 1:00 AM	0.00	0.00	0.00
5/29/98 2:00 AM	0.00	0.00	0.00
5/29/98 3:00 AM	0.00	0.00	0.00
5/29/98 4:00 AM	0.00	0.00	0.00
5/29/98 5:00 AM	0.00	0.00	0.00
5/29/98 6:00 AM	0.00	0.00	0.00
5/29/98 7:00 AM	0.00	0.00	0.00
5/29/98 8:00 AM	0.00	0.00	0.00
5/29/98 9:00 AM	0.00	0.00	0.00
5/29/98 10:00 AM	0.00	0.00	0.00
5/29/98 11:00 AM	0.00	0.00	0.03
5/29/98 12:00 PM	0.00	0.00	0.00
5/29/98 1:00 PM	0.00	0.00	0.00
5/29/98 2:00 PM	0.00	0.00	0.00
5/29/98 3:00 PM	0.30	0.04	0.01
5/29/98 4:00 PM	0.02	0.46	0.00
5/29/98 5:00 PM	0.00	0.00	0.00
5/29/98 6:00 PM	0.00	0.00	0.00
5/29/98 7:00 PM	0.00	0.00	0.00
5/29/98 8:00 PM	0.00	0.00	0.00
5/29/98 9:00 PM	0.00	0.00	0.00
5/29/98 10:00 PM	0.00	0.00	0.00
5/29/98 11:00 PM	0.00	0.00	0.00
5/30/98 12:00 AM	0.00	0.00	0.00
5/30/98 1:00 AM	0.00	0.00	0.00
5/30/98 2:00 AM	0.00	0.00	0.00
5/30/98 3:00 AM	0.00	0.00	0.00
5/30/98 4:00 AM	0.00	0.00	0.00
5/30/98 5:00 AM	0.00	0.00	0.00
5/30/98 6:00 AM	0.00	0.00	0.00
5/30/98 7:00 AM	0.00	0.00	0.00
5/30/98 8:00 AM	0.00	0.00	0.00
5/30/98 9:00 AM	0.00	0.00	0.00
5/30/98 10:00 AM	0.00	0.00	0.00
5/30/98 11:00 AM	0.00	0.00	0.00
5/30/98 12:00 PM	0.00	0.00	0.00
5/30/98 1:00 PM	0.00	0.00	0.00
5/30/98 2:00 PM	0.00	0.00	0.00
5/30/98 3:00 PM	0.00	0.00	0.00
5/30/98 4:00 PM	0.00	0.00	0.00
5/30/98 5:00 PM	0.00	0.00	0.00
5/30/98 6:00 PM	0.00	0.00	0.00
5/30/98 7:00 PM	0.00	0.00	0.00
5/30/98 8:00 PM	0.00	0.00	0.00
5/30/98 9:00 PM	0.00	0.00	0.00
5/30/98 10:00 PM	0.00	0.00	0.00
5/30/98 11:00 PM	0.00	0.00	0.00
5/31/98 12:00 AM	0.00	0.00	0.00
5/31/98 1:00 AM	0.00	0.00	0.00
5/31/98 2:00 AM	0.00	0.00	0.00
5/31/98 3:00 AM	0.00	0.00	0.00
5/31/98 4:00 AM	0.00	0.00	0.00
5/31/98 5:00 AM	0.00	0.00	0.00
5/31/98 6:00 AM	0.00	0.00	0.00
5/31/98 7:00 AM	0.00	0.00	0.00
5/31/98 8:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
5/31/98 9:00 AM	0.00	0.00	0.00
5/31/98 10:00 AM	0.00	0.00	0.00
5/31/98 11:00 AM	0.00	0.00	0.00
5/31/98 12:00 PM	0.00	0.00	0.00
5/31/98 1:00 PM	0.00	0.00	0.00
5/31/98 2:00 PM	0.00	0.00	0.00
5/31/98 3:00 PM	0.00	0.00	0.00
5/31/98 4:00 PM	0.00	0.00	0.00
5/31/98 5:00 PM	0.04	0.00	0.00
5/31/98 6:00 PM	0.10	0.08	0.04
5/31/98 7:00 PM	0.00	0.00	0.00
5/31/98 8:00 PM	0.09	0.24	0.01
5/31/98 9:00 PM	0.00	0.01	0.00
5/31/98 10:00 PM	0.00	0.00	0.00
5/31/98 11:00 PM	0.00	0.00	0.00
6/1/98 12:00 AM	0.00	0.00	0.00
6/1/98 1:00 AM	0.00	0.00	0.00
6/1/98 2:00 AM	0.00	0.00	0.00
6/1/98 3:00 AM	0.00	0.00	0.00
6/1/98 4:00 AM	0.00	0.00	0.00
6/1/98 5:00 AM	0.00	0.00	0.00
6/1/98 6:00 AM	0.00	0.00	0.00
6/1/98 7:00 AM	0.00	0.00	0.00
6/1/98 8:00 AM	0.00	0.00	0.00
6/1/98 9:00 AM	0.00	0.00	0.00
6/1/98 10:00 AM	0.00	0.00	0.00
6/1/98 11:00 AM	0.00	0.00	0.00
6/1/98 12:00 PM	0.00	0.00	0.00
6/1/98 1:00 PM	0.00	0.00	0.00
6/1/98 2:00 PM	0.00	0.00	0.00
6/1/98 3:00 PM	0.00	0.00	0.00
6/1/98 4:00 PM	0.00	0.00	0.00
6/1/98 5:00 PM	0.00	0.00	0.00
6/1/98 6:00 PM	0.00	0.00	0.00
6/1/98 7:00 PM	0.00	0.00	0.00
6/1/98 8:00 PM	0.00	0.00	0.00
6/1/98 9:00 PM	0.00	0.00	0.00
6/1/98 10:00 PM	0.00	0.00	0.00
6/1/98 11:00 PM	0.00	0.00	0.00
6/2/98 12:00 AM	0.00	0.00	0.00
6/2/98 1:00 AM	0.00	0.00	0.00
6/2/98 2:00 AM	0.00	0.00	0.00
6/2/98 3:00 AM	0.00	0.00	0.00
6/2/98 4:00 AM	0.00	0.00	0.00
6/2/98 5:00 AM	0.00	0.00	0.00
6/2/98 6:00 AM	0.00	0.00	0.00
6/2/98 7:00 AM	0.00	0.00	0.00
6/2/98 8:00 AM	0.00	0.00	0.00
6/2/98 9:00 AM	0.00	0.00	0.00
6/2/98 10:00 AM	0.00	0.00	0.00
6/2/98 11:00 AM	0.00	0.00	0.00
6/2/98 12:00 PM	0.00	0.00	0.00
6/2/98 1:00 PM	0.00	0.00	0.00
6/2/98 2:00 PM	0.00	0.00	0.00
6/2/98 3:00 PM	0.00	0.00	0.03
6/2/98 4:00 PM	0.00	0.00	0.00
6/2/98 5:00 PM	0.00	0.01	0.02
6/2/98 6:00 PM	0.00	0.00	0.00
6/2/98 7:00 PM	0.00	0.00	0.00
6/2/98 8:00 PM	0.00	0.00	0.00
6/2/98 9:00 PM	0.00	0.00	0.00
6/2/98 10:00 PM	0.00	0.00	0.00
6/2/98 11:00 PM	0.00	0.00	0.00
6/3/98 12:00 AM	0.00	0.00	0.00
6/3/98 1:00 AM	0.00	0.00	0.00
6/3/98 2:00 AM	0.00	0.00	0.00
6/3/98 3:00 AM	0.00	0.00	0.00
6/3/98 4:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/3/98 5:00 AM	0.00	0.00	0.00
6/3/98 6:00 AM	0.00	0.00	0.00
6/3/98 7:00 AM	0.00	0.00	0.00
6/3/98 8:00 AM	0.00	0.00	0.00
6/3/98 9:00 AM	0.00	0.00	0.00
6/3/98 10:00 AM	0.00	0.00	0.00
6/3/98 11:00 AM	0.00	0.00	0.00
6/3/98 12:00 PM	0.00	0.00	0.00
6/3/98 1:00 PM	0.00	0.00	0.00
6/3/98 2:00 PM	0.00	0.00	0.00
6/3/98 3:00 PM	0.01	0.02	0.01
6/3/98 4:00 PM	0.04	0.04	0.04
6/3/98 5:00 PM	0.01	0.01	0.00
6/3/98 6:00 PM	0.00	0.00	0.00
6/3/98 7:00 PM	0.00	0.00	0.00
6/3/98 8:00 PM	0.00	0.00	0.00
6/3/98 9:00 PM	0.00	0.00	0.00
6/3/98 10:00 PM	0.00	0.00	0.00
6/3/98 11:00 PM	0.00	0.00	0.00
6/4/98 12:00 AM	0.00	0.00	0.00
6/4/98 1:00 AM	0.00	0.00	0.00
6/4/98 2:00 AM	0.00	0.00	0.00
6/4/98 3:00 AM	0.00	0.00	0.00
6/4/98 4:00 AM	0.00	0.00	0.00
6/4/98 5:00 AM	0.00	0.00	0.00
6/4/98 6:00 AM	0.00	0.00	0.00
6/4/98 7:00 AM	0.00	0.00	0.00
6/4/98 8:00 AM	0.00	0.00	0.00
6/4/98 9:00 AM	0.00	0.00	0.00
6/4/98 10:00 AM	0.00	0.00	0.00
6/4/98 11:00 AM	0.00	0.00	0.00
6/4/98 12:00 PM	0.00	0.00	0.00
6/4/98 1:00 PM	0.00	0.01	0.00
6/4/98 2:00 PM	0.00	0.02	0.00
6/4/98 3:00 PM	0.00	0.00	0.00
6/4/98 4:00 PM	0.00	0.00	0.00
6/4/98 5:00 PM	0.00	0.00	0.00
6/4/98 6:00 PM	0.00	0.00	0.00
6/4/98 7:00 PM	0.00	0.00	0.00
6/4/98 8:00 PM	0.00	0.00	0.00
6/4/98 9:00 PM	0.00	0.00	0.00
6/4/98 10:00 PM	0.00	0.00	0.00
6/4/98 11:00 PM	0.00	0.00	0.00
6/5/98 12:00 AM	0.00	0.00	0.00
6/5/98 1:00 AM	0.00	0.00	0.00
6/5/98 2:00 AM	0.00	0.00	0.00
6/5/98 3:00 AM	0.00	0.00	0.00
6/5/98 4:00 AM	0.00	0.00	0.00
6/5/98 5:00 AM	0.00	0.00	0.00
6/5/98 6:00 AM	0.00	0.00	0.00
6/5/98 7:00 AM	0.00	0.00	0.00
6/5/98 8:00 AM	0.00	0.00	0.00
6/5/98 9:00 AM	0.00	0.00	0.00
6/5/98 10:00 AM	0.00	0.00	0.00
6/5/98 11:00 AM	0.01	0.00	0.01
6/5/98 12:00 PM	0.07	0.06	0.06
6/5/98 1:00 PM	0.03	0.02	0.01
6/5/98 2:00 PM	0.03	0.04	0.04
6/5/98 3:00 PM	0.00	0.01	0.00
6/5/98 4:00 PM	0.00	0.00	0.00
6/5/98 5:00 PM	0.00	0.00	0.00
6/5/98 6:00 PM	0.00	0.00	0.00
6/5/98 7:00 PM	0.00	0.00	0.00
6/5/98 8:00 PM	0.00	0.00	0.00
6/5/98 9:00 PM	0.00	0.00	0.00
6/5/98 10:00 PM	0.00	0.00	0.00
6/5/98 11:00 PM	0.00	0.00	0.00
6/6/98 12:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/6/98 1:00 AM	0.00	0.00	0.00
6/6/98 2:00 AM	0.00	0.00	0.00
6/6/98 3:00 AM	0.00	0.00	0.00
6/6/98 4:00 AM	0.00	0.00	0.00
6/6/98 5:00 AM	0.00	0.00	0.00
6/6/98 6:00 AM	0.00	0.00	0.00
6/6/98 7:00 AM	0.00	0.00	0.00
6/6/98 8:00 AM	0.00	0.00	0.00
6/6/98 9:00 AM	0.00	0.00	0.00
6/6/98 10:00 AM	0.00	0.00	0.00
6/6/98 11:00 AM	0.00	0.00	0.00
6/6/98 12:00 PM	0.00	0.00	0.00
6/6/98 1:00 PM	0.00	0.00	0.00
6/6/98 2:00 PM	0.00	0.00	0.00
6/6/98 3:00 PM	0.00	0.00	0.00
6/6/98 4:00 PM	0.00	0.00	0.00
6/6/98 5:00 PM	0.00	0.00	0.00
6/6/98 6:00 PM	0.00	0.00	0.00
6/6/98 7:00 PM	0.00	0.00	0.00
6/6/98 8:00 PM	0.00	0.00	0.00
6/6/98 9:00 PM	0.00	0.00	0.00
6/6/98 10:00 PM	0.00	0.00	0.00
6/6/98 11:00 PM	0.00	0.00	0.00
6/7/98 12:00 AM	0.00	0.00	0.00
6/7/98 1:00 AM	0.00	0.00	0.00
6/7/98 2:00 AM	0.00	0.00	0.00
6/7/98 3:00 AM	0.00	0.00	0.00
6/7/98 4:00 AM	0.00	0.00	0.00
6/7/98 5:00 AM	0.00	0.00	0.00
6/7/98 6:00 AM	0.00	0.00	0.00
6/7/98 7:00 AM	0.00	0.00	0.00
6/7/98 8:00 AM	0.00	0.00	0.03
6/7/98 9:00 AM	0.00	0.00	0.00
6/7/98 10:00 AM	0.00	0.00	0.00
6/7/98 11:00 AM	0.00	0.00	0.00
6/7/98 12:00 PM	0.00	0.00	0.00
6/7/98 1:00 PM	0.00	0.00	0.00
6/7/98 2:00 PM	0.00	0.00	0.00
6/7/98 3:00 PM	0.00	0.00	0.00
6/7/98 4:00 PM	0.00	0.00	0.00
6/7/98 5:00 PM	0.00	0.00	0.00
6/7/98 6:00 PM	0.00	0.00	0.00
6/7/98 7:00 PM	0.00	0.00	0.00
6/7/98 8:00 PM	0.00	0.00	0.00
6/7/98 9:00 PM	0.00	0.00	0.00
6/7/98 10:00 PM	0.00	0.00	0.00
6/7/98 11:00 PM	0.00	0.00	0.00
6/8/98 12:00 AM	0.00	0.00	0.00
6/8/98 1:00 AM	0.00	0.00	0.00
6/8/98 2:00 AM	0.00	0.00	0.00
6/8/98 3:00 AM	0.00	0.00	0.00
6/8/98 4:00 AM	0.00	0.00	0.00
6/8/98 5:00 AM	0.00	0.00	0.00
6/8/98 6:00 AM	0.00	0.00	0.00
6/8/98 7:00 AM	0.00	0.00	0.00
6/8/98 8:00 AM	0.00	0.00	0.00
6/8/98 9:00 AM	0.00	0.00	0.00
6/8/98 10:00 AM	0.00	0.00	0.00
6/8/98 11:00 AM	0.00	0.00	0.00
6/8/98 12:00 PM	0.00	0.00	0.00
6/8/98 1:00 PM	0.00	0.00	0.00
6/8/98 2:00 PM	0.00	0.00	0.00
6/8/98 3:00 PM	0.00	0.00	0.00
6/8/98 4:00 PM	0.00	0.00	0.00
6/8/98 5:00 PM	0.00	0.00	0.00
6/8/98 6:00 PM	0.00	0.00	0.00
6/8/98 7:00 PM	0.00	0.00	0.00
6/8/98 8:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/8/98 9:00 PM	0.00	0.00	0.00
6/8/98 10:00 PM	0.00	0.00	0.00
6/8/98 11:00 PM	0.00	0.00	0.00
6/9/98 12:00 AM	0.00	0.00	0.00
6/9/98 1:00 AM	0.00	0.00	0.00
6/9/98 2:00 AM	0.00	0.00	0.00
6/9/98 3:00 AM	0.00	0.00	0.00
6/9/98 4:00 AM	0.00	0.00	0.00
6/9/98 5:00 AM	0.00	0.00	0.00
6/9/98 6:00 AM	0.00	0.00	0.00
6/9/98 7:00 AM	0.00	0.00	0.00
6/9/98 8:00 AM	0.00	0.00	0.00
6/9/98 9:00 AM	0.00	0.00	0.00
6/9/98 10:00 AM	0.00	0.00	0.00
6/9/98 11:00 AM	0.00	0.01	0.00
6/9/98 12:00 PM	0.01	0.01	0.01
6/9/98 1:00 PM	0.01	0.01	0.00
6/9/98 2:00 PM	0.00	0.00	0.00
6/9/98 3:00 PM	0.00	0.00	0.00
6/9/98 4:00 PM	0.00	0.00	0.00
6/9/98 5:00 PM	0.00	0.00	0.00
6/9/98 6:00 PM	0.00	0.00	0.00
6/9/98 7:00 PM	0.00	0.00	0.00
6/9/98 8:00 PM	0.00	0.00	0.00
6/9/98 9:00 PM	0.00	0.00	0.00
6/9/98 10:00 PM	0.03	0.03	0.01
6/9/98 11:00 PM	0.01	0.00	0.00
6/10/98 12:00 AM	0.00	0.02	0.00
6/10/98 1:00 AM	0.01	0.01	0.02
6/10/98 2:00 AM	0.00	0.00	0.00
6/10/98 3:00 AM	0.00	0.00	0.00
6/10/98 4:00 AM	0.03	0.03	0.05
6/10/98 5:00 AM	0.01	0.01	0.00
6/10/98 6:00 AM	0.00	0.00	0.00
6/10/98 7:00 AM	0.00	0.00	0.00
6/10/98 8:00 AM	0.00	0.00	0.00
6/10/98 9:00 AM	0.00	0.00	0.00
6/10/98 10:00 AM	0.00	0.00	0.00
6/10/98 11:00 AM	0.00	0.00	0.00
6/10/98 12:00 PM	0.00	0.00	0.00
6/10/98 1:00 PM	0.00	0.00	0.00
6/10/98 2:00 PM	0.00	0.00	0.00
6/10/98 3:00 PM	0.00	0.00	0.00
6/10/98 4:00 PM	0.00	0.00	0.00
6/10/98 5:00 PM	0.00	0.00	0.00
6/10/98 6:00 PM	0.00	0.00	0.00
6/10/98 7:00 PM	0.00	0.00	0.00
6/10/98 8:00 PM	0.00	0.00	0.00
6/10/98 9:00 PM	0.00	0.00	0.00
6/10/98 10:00 PM	0.00	0.00	0.00
6/10/98 11:00 PM	0.00	0.00	0.00
6/11/98 12:00 AM	0.00	0.00	0.00
6/11/98 1:00 AM	0.00	0.00	0.00
6/11/98 2:00 AM	0.00	0.00	0.00
6/11/98 3:00 AM	0.00	0.00	0.00
6/11/98 4:00 AM	0.00	0.00	0.00
6/11/98 5:00 AM	0.00	0.00	0.00
6/11/98 6:00 AM	0.00	0.00	0.00
6/11/98 7:00 AM	0.00	0.00	0.00
6/11/98 8:00 AM	0.00	0.00	0.00
6/11/98 9:00 AM	0.00	0.00	0.00
6/11/98 10:00 AM	0.00	0.00	0.00
6/11/98 11:00 AM	0.00	0.00	0.00
6/11/98 12:00 PM	0.00	0.00	0.00
6/11/98 1:00 PM	0.00	0.03	0.02
6/11/98 2:00 PM	0.00	0.02	0.00
6/11/98 3:00 PM	0.00	0.01	0.01
6/11/98 4:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/11/98 5:00 PM	0.00	0.00	0.00
6/11/98 6:00 PM	0.00	0.00	0.00
6/11/98 7:00 PM	0.02	0.01	0.01
6/11/98 8:00 PM	0.02	0.03	0.02
6/11/98 9:00 PM	0.00	0.00	0.00
6/11/98 10:00 PM	0.00	0.00	0.00
6/11/98 11:00 PM	0.00	0.00	0.00
6/12/98 12:00 AM	0.01	0.01	0.03
6/12/98 1:00 AM	0.29	0.08	0.26
6/12/98 2:00 AM	0.00	0.09	0.00
6/12/98 3:00 AM	0.01	0.07	0.00
6/12/98 4:00 AM	0.00	0.02	0.00
6/12/98 5:00 AM	0.00	0.00	0.00
6/12/98 6:00 AM	0.00	0.00	0.00
6/12/98 7:00 AM	0.00	0.00	0.00
6/12/98 8:00 AM	0.01	0.01	0.00
6/12/98 9:00 AM	0.00	0.01	0.00
6/12/98 10:00 AM	0.00	0.01	0.00
6/12/98 11:00 AM	0.00	0.00	0.00
6/12/98 12:00 PM	0.00	0.00	0.00
6/12/98 1:00 PM	0.00	0.00	0.00
6/12/98 2:00 PM	0.00	0.00	0.00
6/12/98 3:00 PM	0.00	0.00	0.00
6/12/98 4:00 PM	0.00	0.00	0.00
6/12/98 5:00 PM	0.00	0.00	0.00
6/12/98 6:00 PM	0.00	0.00	0.00
6/12/98 7:00 PM	0.00	0.00	0.00
6/12/98 8:00 PM	0.00	0.00	0.00
6/12/98 9:00 PM	0.27	0.12	0.49
6/12/98 10:00 PM	0.21	0.20	0.23
6/12/98 11:00 PM	0.13	0.15	0.12
6/13/98 12:00 AM	0.02	0.11	0.01
6/13/98 1:00 AM	0.02	0.04	0.01
6/13/98 2:00 AM	0.00	0.00	0.00
6/13/98 3:00 AM	0.00	0.01	0.00
6/13/98 4:00 AM	0.00	0.00	0.00
6/13/98 5:00 AM	0.00	0.00	0.00
6/13/98 6:00 AM	0.00	0.00	0.00
6/13/98 7:00 AM	0.00	0.00	0.00
6/13/98 8:00 AM	0.00	0.00	0.00
6/13/98 9:00 AM	0.02	0.01	0.02
6/13/98 10:00 AM	0.00	0.00	0.00
6/13/98 11:00 AM	0.00	0.00	0.03
6/13/98 12:00 PM	0.00	0.01	0.01
6/13/98 1:00 PM	0.00	0.00	0.00
6/13/98 2:00 PM	0.00	0.00	0.00
6/13/98 3:00 PM	0.00	0.00	0.00
6/13/98 4:00 PM	0.00	0.00	0.01
6/13/98 5:00 PM	0.00	0.00	0.00
6/13/98 6:00 PM	0.00	0.00	0.00
6/13/98 7:00 PM	0.00	0.00	0.00
6/13/98 8:00 PM	0.00	0.00	0.00
6/13/98 9:00 PM	0.00	0.00	0.00
6/13/98 10:00 PM	0.00	0.00	0.00
6/13/98 11:00 PM	0.00	0.00	0.00
6/14/98 12:00 AM	0.00	0.01	0.01
6/14/98 1:00 AM	0.00	0.01	0.00
6/14/98 2:00 AM	0.00	0.00	0.00
6/14/98 3:00 AM	0.00	0.00	0.00
6/14/98 4:00 AM	0.00	0.00	0.00
6/14/98 5:00 AM	0.00	0.00	0.00
6/14/98 6:00 AM	0.00	0.00	0.00
6/14/98 7:00 AM	0.00	0.00	0.00
6/14/98 8:00 AM	0.00	0.00	0.00
6/14/98 9:00 AM	0.00	0.00	0.00
6/14/98 10:00 AM	0.00	0.00	0.00
6/14/98 11:00 AM	0.00	0.00	0.00
6/14/98 12:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/14/98 1:00 PM	0.00	0.00	0.00
6/14/98 2:00 PM	0.00	0.00	0.00
6/14/98 3:00 PM	0.00	0.00	0.00
6/14/98 4:00 PM	0.00	0.00	0.00
6/14/98 5:00 PM	0.00	0.00	0.00
6/14/98 6:00 PM	0.00	0.00	0.00
6/14/98 7:00 PM	0.00	0.00	0.00
6/14/98 8:00 PM	0.00	0.00	0.00
6/14/98 9:00 PM	0.00	0.00	0.00
6/14/98 10:00 PM	0.00	0.00	0.00
6/14/98 11:00 PM	0.00	0.00	0.00
6/15/98 12:00 AM	0.00	0.00	0.00
6/15/98 1:00 AM	0.00	0.00	0.00
6/15/98 2:00 AM	0.00	0.00	0.00
6/15/98 3:00 AM	0.00	0.00	0.00
6/15/98 4:00 AM	0.00	0.00	0.00
6/15/98 5:00 AM	0.01	0.00	0.01
6/15/98 6:00 AM	0.00	0.00	0.01
6/15/98 7:00 AM	0.02	0.01	0.07
6/15/98 8:00 AM	0.01	0.01	0.05
6/15/98 9:00 AM	0.01	0.00	0.01
6/15/98 10:00 AM	0.00	0.00	0.00
6/15/98 11:00 AM	0.00	0.00	0.00
6/15/98 12:00 PM	0.00	0.00	0.00
6/15/98 1:00 PM	0.00	0.00	0.00
6/15/98 2:00 PM	0.00	0.00	0.00
6/15/98 3:00 PM	0.00	0.00	0.00
6/15/98 4:00 PM	0.00	0.00	0.00
6/15/98 5:00 PM	0.00	0.00	0.00
6/15/98 6:00 PM	0.00	0.00	0.00
6/15/98 7:00 PM	0.00	0.00	0.00
6/15/98 8:00 PM	0.00	0.00	0.00
6/15/98 9:00 PM	0.00	0.00	0.00
6/15/98 10:00 PM	0.00	0.00	0.00
6/15/98 11:00 PM	0.00	0.00	0.00
6/16/98 12:00 AM	0.00	0.00	0.00
6/16/98 1:00 AM	0.00	0.00	0.00
6/16/98 2:00 AM	0.00	0.00	0.00
6/16/98 3:00 AM	0.00	0.00	0.00
6/16/98 4:00 AM	0.00	0.00	0.00
6/16/98 5:00 AM	0.00	0.00	0.00
6/16/98 6:00 AM	0.00	0.00	0.00
6/16/98 7:00 AM	0.00	0.00	0.00
6/16/98 8:00 AM	0.00	0.00	0.00
6/16/98 9:00 AM	0.00	0.00	0.00
6/16/98 10:00 AM	0.00	0.00	0.00
6/16/98 11:00 AM	0.00	0.00	0.00
6/16/98 12:00 PM	0.50	0.08	0.52
6/16/98 1:00 PM	0.00	0.09	0.01
6/16/98 2:00 PM	0.00	0.07	0.00
6/16/98 3:00 PM	0.06	0.07	0.00
6/16/98 4:00 PM	0.28	0.17	0.10
6/16/98 5:00 PM	0.04	0.34	0.04
6/16/98 6:00 PM	0.00	0.25	0.00
6/16/98 7:00 PM	0.00	0.08	0.00
6/16/98 8:00 PM	0.00	0.00	0.00
6/16/98 9:00 PM	0.00	0.00	0.00
6/16/98 10:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/16/98 11:00 PM	0.00	0.00	0.00
6/17/98 12:00 AM	0.00	0.00	0.00
6/17/98 1:00 AM	0.00	0.00	0.00
6/17/98 2:00 AM	0.00	0.00	0.00
6/17/98 3:00 AM	0.00	0.00	0.00
6/17/98 4:00 AM	0.00	0.00	0.00
6/17/98 5:00 AM	0.00	0.00	0.00
6/17/98 6:00 AM	0.00	0.00	0.00
6/17/98 7:00 AM	0.00	0.00	0.00
6/17/98 8:00 AM	0.00	0.00	0.00
6/17/98 9:00 AM	0.00	0.01	0.00
6/17/98 10:00 AM	0.01	0.01	0.00
6/17/98 11:00 AM	0.00	0.00	0.00
6/17/98 12:00 PM	0.00	0.00	0.00
6/17/98 1:00 PM	0.00	0.00	0.00
6/17/98 2:00 PM	0.00	0.00	0.03
6/17/98 3:00 PM	0.00	0.00	0.00
6/17/98 4:00 PM	0.06	0.00	0.00
6/17/98 5:00 PM	0.00	0.00	0.00
6/17/98 6:00 PM	0.00	0.00	0.00
6/17/98 7:00 PM	0.00	0.00	0.00
6/17/98 8:00 PM	0.00	0.00	0.00
6/17/98 9:00 PM	0.00	0.00	0.00
6/17/98 10:00 PM	0.00	0.00	0.00
6/17/98 11:00 PM	0.00	0.00	0.00
6/18/98 12:00 AM	0.00	0.00	0.00
6/18/98 1:00 AM	0.00	0.00	0.00
6/18/98 2:00 AM	0.00	0.00	0.00
6/18/98 3:00 AM	0.00	0.00	0.00
6/18/98 4:00 AM	0.00	0.00	0.00
6/18/98 5:00 AM	0.00	0.00	0.00
6/18/98 6:00 AM	0.00	0.00	0.00
6/18/98 7:00 AM	0.00	0.00	0.00
6/18/98 8:00 AM	0.00	0.00	0.00
6/18/98 9:00 AM	0.00	0.00	0.00
6/18/98 10:00 AM	0.00	0.00	0.00
6/18/98 11:00 AM	0.00	0.00	0.00
6/18/98 12:00 PM	0.00	0.00	0.00
6/18/98 1:00 PM	0.00	0.00	0.00
6/18/98 2:00 PM	0.00	0.00	0.00
6/18/98 3:00 PM	0.00	0.00	0.00
6/18/98 4:00 PM	0.00	0.00	0.00
6/18/98 5:00 PM	0.00	0.00	0.00
6/18/98 6:00 PM	0.00	0.00	0.00
6/18/98 7:00 PM	0.00	0.00	0.00
6/18/98 8:00 PM	0.00	0.00	0.00
6/18/98 9:00 PM	0.00	0.00	0.00
6/18/98 10:00 PM	0.00	0.00	0.00
6/18/98 11:00 PM	0.00	0.00	0.00
6/19/98 12:00 AM	0.00	0.00	0.00
6/19/98 1:00 AM	0.00	0.00	0.00
6/19/98 2:00 AM	0.00	0.00	0.00
6/19/98 3:00 AM	0.00	0.00	0.00
6/19/98 4:00 AM	0.00	0.00	0.00
6/19/98 5:00 AM	0.13	0.06	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/19/98 6:00 AM	0.03	0.03	0.01
6/19/98 7:00 AM	0.01	0.02	0.02
6/19/98 8:00 AM	0.01	0.01	0.00
6/19/98 9:00 AM	0.00	0.00	0.00
6/19/98 10:00 AM	0.00	0.00	0.00
6/19/98 11:00 AM	0.00	0.00	0.00
6/19/98 12:00 PM	0.00	0.00	0.00
6/19/98 1:00 PM	0.00	0.00	0.00
6/19/98 2:00 PM	0.00	0.00	0.00
6/19/98 3:00 PM	0.00	0.00	0.00
6/19/98 4:00 PM	0.00	0.00	0.00
6/19/98 5:00 PM	0.00	0.00	0.00
6/19/98 6:00 PM	0.00	0.00	0.00
6/19/98 7:00 PM	0.00	0.00	0.00
6/19/98 8:00 PM	0.00	0.00	0.00
6/19/98 9:00 PM	0.00	0.00	0.00
6/19/98 10:00 PM	0.00	0.00	0.00
6/19/98 11:00 PM	0.00	0.00	0.00
6/20/98 12:00 AM	0.00	0.00	0.00
6/20/98 1:00 AM	0.00	0.00	0.00
6/20/98 2:00 AM	0.00	0.00	0.00
6/20/98 3:00 AM	0.00	0.00	0.00
6/20/98 4:00 AM	0.00	0.00	0.00
6/20/98 5:00 AM	0.00	0.00	0.00
6/20/98 6:00 AM	0.00	0.00	0.00
6/20/98 7:00 AM	0.00	0.00	0.00
6/20/98 8:00 AM	0.00	0.00	0.00
6/20/98 9:00 AM	0.00	0.00	0.00
6/20/98 10:00 AM	0.00	0.00	0.00
6/20/98 11:00 AM	0.00	0.00	0.00
6/20/98 12:00 PM	0.00	0.00	0.00
6/20/98 1:00 PM	0.00	0.00	0.00
6/20/98 2:00 PM	0.00	0.00	0.00
6/20/98 3:00 PM	0.00	0.00	0.00
6/20/98 4:00 PM	0.00	0.00	0.00
6/20/98 5:00 PM	0.00	0.00	0.00
6/20/98 6:00 PM	0.00	0.00	0.00
6/20/98 7:00 PM	0.00	0.00	0.00
6/20/98 8:00 PM	0.00	0.00	0.00
6/20/98 9:00 PM	0.00	0.00	0.00
6/20/98 10:00 PM	0.00	0.00	0.00
6/20/98 11:00 PM	0.00	0.00	0.00
6/21/98 12:00 AM	0.00	0.00	0.00
6/21/98 1:00 AM	0.00	0.00	0.00
6/21/98 2:00 AM	0.00	0.00	0.00
6/21/98 3:00 AM	0.00	0.00	0.00
6/21/98 4:00 AM	0.00	0.00	0.00
6/21/98 5:00 AM	0.00	0.00	0.00
6/21/98 6:00 AM	0.00	0.00	0.00
6/21/98 7:00 AM	0.00	0.00	0.00
6/21/98 8:00 AM	0.00	0.00	0.00
6/21/98 9:00 AM	0.00	0.00	0.00
6/21/98 10:00 AM	0.00	0.00	0.00
6/21/98 11:00 AM	0.00	0.00	0.00
6/21/98 12:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/21/98 1:00 PM	0.00	0.00	0.00
6/21/98 2:00 PM	0.00	0.00	0.00
6/21/98 3:00 PM	0.00	0.00	0.00
6/21/98 4:00 PM	0.00	0.00	0.00
6/21/98 5:00 PM	0.00	0.00	0.00
6/21/98 6:00 PM	0.00	0.00	0.00
6/21/98 7:00 PM	0.00	0.00	0.00
6/21/98 8:00 PM	0.00	0.00	0.00
6/21/98 9:00 PM	0.00	0.00	0.00
6/21/98 10:00 PM	0.00	0.00	0.00
6/21/98 11:00 PM	0.00	0.00	0.00
6/22/98 12:00 AM	0.00	0.00	0.00
6/22/98 1:00 AM	0.00	0.00	0.00
6/22/98 2:00 AM	0.00	0.00	0.00
6/22/98 3:00 AM	0.00	0.00	0.00
6/22/98 4:00 AM	0.00	0.00	0.00
6/22/98 5:00 AM	0.00	0.00	0.00
6/22/98 6:00 AM	0.00	0.00	0.00
6/22/98 7:00 AM	0.00	0.00	0.00
6/22/98 8:00 AM	0.00	0.00	0.00
6/22/98 9:00 AM	0.00	0.00	0.00
6/22/98 10:00 AM	0.00	0.00	0.00
6/22/98 11:00 AM	0.00	0.00	0.00
6/22/98 12:00 PM	0.00	0.00	0.00
6/22/98 1:00 PM	0.00	0.00	0.00
6/22/98 2:00 PM	0.00	0.00	0.00
6/22/98 3:00 PM	0.00	0.00	0.00
6/22/98 4:00 PM	0.00	0.00	0.00
6/22/98 5:00 PM	0.00	0.00	0.00
6/22/98 6:00 PM	0.00	0.00	0.00
6/22/98 7:00 PM	0.00	0.00	0.00
6/22/98 8:00 PM	0.00	0.00	0.00
6/22/98 9:00 PM	0.00	0.00	0.00
6/22/98 10:00 PM	0.00	0.00	0.00
6/22/98 11:00 PM	0.00	0.00	0.00
6/23/98 12:00 AM	0.00	0.00	0.00
6/23/98 1:00 AM	0.00	0.00	0.00
6/23/98 2:00 AM	0.00	0.00	0.00
6/23/98 3:00 AM	0.00	0.00	0.00
6/23/98 4:00 AM	0.00	0.00	0.00
6/23/98 5:00 AM	0.00	0.00	0.00
6/23/98 6:00 AM	0.00	0.00	0.00
6/23/98 7:00 AM	0.00	0.00	0.00
6/23/98 8:00 AM	0.00	0.00	0.00
6/23/98 9:00 AM	0.00	0.00	0.00
6/23/98 10:00 AM	0.00	0.00	0.00
6/23/98 11:00 AM	0.00	0.00	0.00
6/23/98 12:00 PM	0.00	0.00	0.00
6/23/98 1:00 PM	0.00	0.00	0.00
6/23/98 2:00 PM	0.00	0.00	0.00
6/23/98 3:00 PM	0.00	0.00	0.00
6/23/98 4:00 PM	0.00	0.00	0.00
6/23/98 5:00 PM	0.00	0.00	0.00
6/23/98 6:00 PM	0.00	0.00	0.00
6/23/98 7:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/23/98 8:00 PM	0.00	0.00	0.00
6/23/98 9:00 PM	0.00	0.00	0.00
6/23/98 10:00 PM	0.00	0.00	0.00
6/23/98 11:00 PM	0.00	0.00	0.00
6/24/98 12:00 AM	0.00	0.00	0.00
6/24/98 1:00 AM	0.00	0.00	0.00
6/24/98 2:00 AM	0.00	0.00	0.00
6/24/98 3:00 AM	0.00	0.00	0.00
6/24/98 4:00 AM	0.00	0.00	0.00
6/24/98 5:00 AM	0.00	0.00	0.00
6/24/98 6:00 AM	0.00	0.00	0.00
6/24/98 7:00 AM	0.00	0.00	0.00
6/24/98 8:00 AM	0.00	0.00	0.00
6/24/98 9:00 AM	0.00	0.00	0.00
6/24/98 10:00 AM	0.00	0.00	0.00
6/24/98 11:00 AM	0.00	0.00	0.00
6/24/98 12:00 PM	0.00	0.00	0.00
6/24/98 1:00 PM	0.00	0.00	0.00
6/24/98 2:00 PM	0.00	0.00	0.00
6/24/98 3:00 PM	0.00	0.00	0.00
6/24/98 4:00 PM	0.00	0.00	0.00
6/24/98 5:00 PM	0.00	0.00	0.00
6/24/98 6:00 PM	0.00	0.00	0.00
6/24/98 7:00 PM	0.00	0.00	0.00
6/24/98 8:00 PM	0.00	0.00	0.00
6/24/98 9:00 PM	0.00	0.00	0.00
6/24/98 10:00 PM	0.00	0.00	0.00
6/24/98 11:00 PM	0.00	0.00	0.00
6/25/98 12:00 AM	0.00	0.00	0.00
6/25/98 1:00 AM	0.00	0.00	0.00
6/25/98 2:00 AM	0.00	0.00	0.00
6/25/98 3:00 AM	0.00	0.00	0.00
6/25/98 4:00 AM	0.00	0.00	0.00
6/25/98 5:00 AM	0.00	0.00	0.00
6/25/98 6:00 AM	0.00	0.00	0.00
6/25/98 7:00 AM	0.00	0.00	0.00
6/25/98 8:00 AM	0.00	0.00	0.00
6/25/98 9:00 AM	0.00	0.00	0.00
6/25/98 10:00 AM	0.00	0.00	0.00
6/25/98 11:00 AM	0.00	0.00	0.00
6/25/98 12:00 PM	0.00	0.00	0.00
6/25/98 1:00 PM	0.00	0.00	0.00
6/25/98 2:00 PM	0.00	0.00	0.00
6/25/98 3:00 PM	0.00	0.00	0.00
6/25/98 4:00 PM	0.00	0.00	0.00
6/25/98 5:00 PM	0.00	0.00	0.00
6/25/98 6:00 PM	0.00	0.00	0.00
6/25/98 7:00 PM	0.00	0.00	0.00
6/25/98 8:00 PM	0.00	0.00	0.00
6/25/98 9:00 PM	0.00	0.00	0.00
6/25/98 10:00 PM	0.00	0.00	0.00
6/25/98 11:00 PM	0.00	0.00	0.00
6/26/98 12:00 AM	0.00	0.00	0.00
6/26/98 1:00 AM	0.00	0.00	0.00
6/26/98 2:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/26/98 3:00 AM	0.00	0.00	0.00
6/26/98 4:00 AM	0.00	0.00	0.00
6/26/98 5:00 AM	0.00	0.00	0.00
6/26/98 6:00 AM	0.00	0.00	0.00
6/26/98 7:00 AM	0.00	0.00	0.00
6/26/98 8:00 AM	0.00	0.00	0.00
6/26/98 9:00 AM	0.00	0.00	0.00
6/26/98 10:00 AM	0.00	0.00	0.00
6/26/98 11:00 AM	0.00	0.00	0.00
6/26/98 12:00 PM	0.00	0.00	0.00
6/26/98 1:00 PM	0.00	0.00	0.00
6/26/98 2:00 PM	0.00	0.00	0.00
6/26/98 3:00 PM	0.00	0.00	0.00
6/26/98 4:00 PM	0.00	0.00	0.00
6/26/98 5:00 PM	0.32	0.11	0.00
6/26/98 6:00 PM	0.00	0.12	0.00
6/26/98 7:00 PM	0.00	0.00	0.00
6/26/98 8:00 PM	0.00	0.00	0.00
6/26/98 9:00 PM	0.00	0.00	0.00
6/26/98 10:00 PM	0.00	0.00	0.00
6/26/98 11:00 PM	0.00	0.00	0.00
6/27/98 12:00 AM	0.00	0.00	0.00
6/27/98 1:00 AM	0.00	0.00	0.00
6/27/98 2:00 AM	0.00	0.00	0.00
6/27/98 3:00 AM	0.00	0.00	0.00
6/27/98 4:00 AM	0.00	0.00	0.00
6/27/98 5:00 AM	0.00	0.00	0.00
6/27/98 6:00 AM	0.00	0.00	0.00
6/27/98 7:00 AM	0.10	0.03	0.00
6/27/98 8:00 AM	0.84	0.13	0.00
6/27/98 9:00 AM	0.01	0.17	0.00
6/27/98 10:00 AM	0.03	0.15	0.00
6/27/98 11:00 AM	0.00	0.14	0.00
6/27/98 12:00 PM	0.00	0.11	0.00
6/27/98 1:00 PM	0.00	0.10	0.00
6/27/98 2:00 PM	0.00	0.12	0.00
6/27/98 3:00 PM	0.00	0.13	0.00
6/27/98 4:00 PM	0.00	0.01	0.00
6/27/98 5:00 PM	0.00	0.00	0.00
6/27/98 6:00 PM	0.00	0.00	0.00
6/27/98 7:00 PM	0.00	0.00	0.00
6/27/98 8:00 PM	0.00	0.00	0.00
6/27/98 9:00 PM	0.00	0.00	0.00
6/27/98 10:00 PM	0.00	0.00	0.00
6/27/98 11:00 PM	0.00	0.00	0.00
6/28/98 12:00 AM	0.00	0.00	0.00
6/28/98 1:00 AM	0.00	0.00	0.00
6/28/98 2:00 AM	0.00	0.00	0.00
6/28/98 3:00 AM	0.00	0.00	0.00
6/28/98 4:00 AM	0.00	0.00	0.00
6/28/98 5:00 AM	0.00	0.00	0.00
6/28/98 6:00 AM	0.00	0.00	0.00
6/28/98 7:00 AM	0.00	0.00	0.00
6/28/98 8:00 AM	0.00	0.00	0.00
6/28/98 9:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/28/98 10:00 AM	0.00	0.00	0.00
6/28/98 11:00 AM	0.00	0.00	0.00
6/28/98 12:00 PM	0.00	0.00	0.00
6/28/98 1:00 PM	0.00	0.00	0.00
6/28/98 2:00 PM	0.00	0.00	0.00
6/28/98 3:00 PM	0.00	0.00	0.00
6/28/98 4:00 PM	0.00	0.00	0.00
6/28/98 5:00 PM	0.00	0.00	0.00
6/28/98 6:00 PM	0.62	0.15	0.00
6/28/98 7:00 PM	0.09	0.23	0.00
6/28/98 8:00 PM	0.13	0.17	0.00
6/28/98 9:00 PM	0.00	0.04	0.00
6/28/98 10:00 PM	0.00	0.00	0.00
6/28/98 11:00 PM	0.00	0.00	0.00
6/29/98 12:00 AM	0.00	0.00	0.00
6/29/98 1:00 AM	0.00	0.00	0.00
6/29/98 2:00 AM	0.00	0.00	0.00
6/29/98 3:00 AM	0.00	0.00	0.00
6/29/98 4:00 AM	0.00	0.00	0.00
6/29/98 5:00 AM	0.19	0.04	0.00
6/29/98 6:00 AM	0.20	0.10	0.00
6/29/98 7:00 AM	0.00	0.08	0.00
6/29/98 8:00 AM	0.00	0.04	0.00
6/29/98 9:00 AM	0.00	0.00	0.00
6/29/98 10:00 AM	0.00	0.00	0.00
6/29/98 11:00 AM	0.34	0.05	0.00
6/29/98 12:00 PM	0.00	0.09	0.00
6/29/98 1:00 PM	0.00	0.07	0.00
6/29/98 2:00 PM	0.00	0.07	0.00
6/29/98 3:00 PM	0.00	0.05	0.00
6/29/98 4:00 PM	0.02	0.04	0.00
6/29/98 5:00 PM	0.00	0.03	0.00
6/29/98 6:00 PM	0.00	0.03	0.00
6/29/98 7:00 PM	0.07	0.01	0.00
6/29/98 8:00 PM	0.14	0.04	0.00
6/29/98 9:00 PM	0.00	0.05	0.00
6/29/98 10:00 PM	0.00	0.04	0.00
6/29/98 11:00 PM	0.01	0.04	0.00
6/30/98 12:00 AM	0.00	0.04	0.00
6/30/98 1:00 AM	0.00	0.04	0.00
6/30/98 2:00 AM	0.00	0.03	0.00
6/30/98 3:00 AM	0.00	0.03	0.00
6/30/98 4:00 AM	0.00	0.02	0.00
6/30/98 5:00 AM	0.00	0.02	0.00
6/30/98 6:00 AM	0.00	0.01	0.00
6/30/98 7:00 AM	0.00	0.02	0.00
6/30/98 8:00 AM	0.00	0.00	0.00
6/30/98 9:00 AM	0.00	0.00	0.00
6/30/98 10:00 AM	0.00	0.00	0.00
6/30/98 11:00 AM	0.00	0.00	0.00
6/30/98 12:00 PM	0.00	0.00	0.00
6/30/98 1:00 PM	0.05	0.00	0.00
6/30/98 2:00 PM	0.58	0.01	0.00
6/30/98 3:00 PM	0.00	0.02	0.00
6/30/98 4:00 PM	0.23	0.02	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
6/30/98 5:00 PM	0.09	0.03	0.00
6/30/98 6:00 PM	0.02	0.02	0.00
6/30/98 7:00 PM	0.00	0.03	0.00
6/30/98 8:00 PM	0.00	0.03	0.00
6/30/98 9:00 PM	0.00	0.03	0.00
6/30/98 10:00 PM	0.00	0.02	0.00
6/30/98 11:00 PM	0.00	0.03	0.00
7/1/98 12:00 AM	0.00	0.02	0.00
7/1/98 1:00 AM	0.00	0.02	0.00
7/1/98 2:00 AM	0.00	0.02	0.00
7/1/98 3:00 AM	0.00	0.02	0.00
7/1/98 4:00 AM	0.00	0.02	0.00
7/1/98 5:00 AM	0.00	0.02	0.00
7/1/98 6:00 AM	0.00	0.02	0.00
7/1/98 7:00 AM	0.00	0.02	0.00
7/1/98 8:00 AM	0.00	0.02	
7/1/98 9:00 AM	0.00	0.00	
7/1/98 10:00 AM	0.00	0.00	
7/1/98 11:00 AM	0.00	0.00	
7/1/98 12:00 PM	0.00	0.00	
7/1/98 1:00 PM	0.00	0.00	
7/1/98 2:00 PM	0.00	0.00	
7/1/98 3:00 PM	0.00	0.00	
7/1/98 4:00 PM	0.00	0.00	
7/1/98 5:00 PM	0.00	0.00	
7/1/98 6:00 PM	0.00	0.00	
7/1/98 7:00 PM	0.00	0.00	
7/1/98 8:00 PM	0.00	0.00	
7/1/98 9:00 PM	0.00	0.00	
7/1/98 10:00 PM	0.00	0.00	
7/1/98 11:00 PM	0.00	0.00	
7/2/98 12:00 AM	0.00	0.00	
7/2/98 1:00 AM	0.00	0.00	
7/2/98 2:00 AM	0.00	0.00	
7/2/98 3:00 AM	0.00	0.00	
7/2/98 4:00 AM	0.00	0.00	
7/2/98 5:00 AM	0.00	0.00	
7/2/98 6:00 AM	0.00	0.00	
7/2/98 7:00 AM	0.00	0.00	
7/2/98 8:00 AM	0.00	0.00	
7/2/98 9:00 AM	0.00	0.00	
7/2/98 10:00 AM	0.00	0.00	
7/2/98 11:00 AM	0.00	0.00	
7/2/98 12:00 PM	0.00	0.00	
7/2/98 1:00 PM	0.00	0.00	
7/2/98 2:00 PM	0.00	0.00	
7/2/98 3:00 PM	0.00	0.00	
7/2/98 4:00 PM	0.00	0.00	
7/2/98 5:00 PM	0.00	0.00	
7/2/98 6:00 PM	0.00	0.00	
7/2/98 7:00 PM	0.00	0.00	
7/2/98 8:00 PM	0.00	0.00	
7/2/98 9:00 PM	0.00	0.00	
7/2/98 10:00 PM	0.00	0.00	
7/2/98 11:00 PM	0.00	0.00	

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/3/98 12:00 AM	0.00	0.00	
7/3/98 1:00 AM	0.00	0.00	
7/3/98 2:00 AM	0.00	0.00	
7/3/98 3:00 AM	0.00	0.00	
7/3/98 4:00 AM	0.00	0.00	
7/3/98 5:00 AM	0.00	0.00	
7/3/98 6:00 AM	0.00	0.00	
7/3/98 7:00 AM	0.00	0.00	
7/3/98 8:00 AM	0.00	0.00	
7/3/98 9:00 AM	0.00	0.00	
7/3/98 10:00 AM	0.00	0.00	
7/3/98 11:00 AM	0.00	0.00	
7/3/98 12:00 PM	0.00	0.00	
7/3/98 1:00 PM	0.00	0.00	
7/3/98 2:00 PM	0.00	0.00	0.02
7/3/98 3:00 PM	0.00	0.00	0.00
7/3/98 4:00 PM	0.00	0.00	0.00
7/3/98 5:00 PM	0.00	0.00	0.00
7/3/98 6:00 PM	0.00	0.00	0.00
7/3/98 7:00 PM	0.00	0.00	0.00
7/3/98 8:00 PM	0.00	0.00	0.00
7/3/98 9:00 PM	0.00	0.00	0.00
7/3/98 10:00 PM	0.00	0.00	0.00
7/3/98 11:00 PM	0.00	0.00	0.00
7/4/98 12:00 AM	0.00	0.00	0.00
7/4/98 1:00 AM	0.00	0.00	0.00
7/4/98 2:00 AM	0.00	0.00	0.00
7/4/98 3:00 AM	0.00	0.00	0.00
7/4/98 4:00 AM	0.00	0.00	0.00
7/4/98 5:00 AM	0.00	0.00	0.00
7/4/98 6:00 AM	0.00	0.00	0.00
7/4/98 7:00 AM	0.01	0.00	0.00
7/4/98 8:00 AM	0.04	0.04	0.02
7/4/98 9:00 AM	0.01	0.01	0.02
7/4/98 10:00 AM	0.00	0.00	0.00
7/4/98 11:00 AM	0.00	0.00	0.00
7/4/98 12:00 PM	0.00	0.00	0.00
7/4/98 1:00 PM	0.00	0.00	0.00
7/4/98 2:00 PM	0.00	0.00	0.00
7/4/98 3:00 PM	0.00	0.00	0.00
7/4/98 4:00 PM	0.00	0.00	0.00
7/4/98 5:00 PM	0.00	0.01	0.02
7/4/98 6:00 PM	0.00	0.00	0.00
7/4/98 7:00 PM	0.00	0.00	0.00
7/4/98 8:00 PM	0.00	0.00	0.00
7/4/98 9:00 PM	0.00	0.00	0.00
7/4/98 10:00 PM	0.00	0.00	0.00
7/4/98 11:00 PM	0.00	0.00	0.00
7/5/98 12:00 AM	0.00	0.00	0.00
7/5/98 1:00 AM	0.00	0.00	0.00
7/5/98 2:00 AM	0.00	0.00	0.00
7/5/98 3:00 AM	0.00	0.00	0.00
7/5/98 4:00 AM	0.00	0.00	0.00
7/5/98 5:00 AM	0.00	0.00	0.00
7/5/98 6:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/5/98 7:00 AM	0.00	0.00	0.00
7/5/98 8:00 AM	0.00	0.00	0.00
7/5/98 9:00 AM	0.00	0.00	0.00
7/5/98 10:00 AM	0.00	0.00	0.00
7/5/98 11:00 AM	0.00	0.00	0.00
7/5/98 12:00 PM	0.00	0.00	0.00
7/5/98 1:00 PM	0.00	0.00	0.00
7/5/98 2:00 PM	0.00	0.00	0.00
7/5/98 3:00 PM	0.00	0.00	0.00
7/5/98 4:00 PM	0.00	0.00	0.00
7/5/98 5:00 PM	0.00	0.00	0.00
7/5/98 6:00 PM	0.00	0.00	0.00
7/5/98 7:00 PM	0.00	0.00	0.00
7/5/98 8:00 PM	0.00	0.00	0.00
7/5/98 9:00 PM	0.00	0.00	0.00
7/5/98 10:00 PM	0.00	0.00	0.00
7/5/98 11:00 PM	0.00	0.00	0.00
7/6/98 12:00 AM	0.00	0.00	0.00
7/6/98 1:00 AM	0.00	0.00	0.00
7/6/98 2:00 AM	0.00	0.00	0.00
7/6/98 3:00 AM	0.00	0.00	0.00
7/6/98 4:00 AM	0.00	0.00	0.00
7/6/98 5:00 AM	0.00	0.00	0.00
7/6/98 6:00 AM	0.00	0.00	0.00
7/6/98 7:00 AM	0.00	0.00	0.00
7/6/98 8:00 AM	0.00	0.00	0.00
7/6/98 9:00 AM	0.00	0.00	0.00
7/6/98 10:00 AM	0.00	0.00	0.00
7/6/98 11:00 AM	0.00	0.00	0.00
7/6/98 12:00 PM	0.00	0.00	0.00
7/6/98 1:00 PM	0.00	0.00	0.00
7/6/98 2:00 PM	0.00	0.00	0.00
7/6/98 3:00 PM	0.00	0.00	0.00
7/6/98 4:00 PM	0.00	0.00	0.00
7/6/98 5:00 PM	0.00	0.00	0.00
7/6/98 6:00 PM	0.00	0.00	0.00
7/6/98 7:00 PM	0.00	0.00	0.00
7/6/98 8:00 PM	0.00	0.00	0.00
7/6/98 9:00 PM	0.00	0.00	0.00
7/6/98 10:00 PM	0.00	0.00	0.00
7/6/98 11:00 PM	0.00	0.00	0.00
7/7/98 12:00 AM	0.00	0.00	0.00
7/7/98 1:00 AM	0.00	0.00	0.00
7/7/98 2:00 AM	0.00	0.00	0.00
7/7/98 3:00 AM	0.00	0.00	0.00
7/7/98 4:00 AM	0.00	0.00	0.00
7/7/98 5:00 AM	0.00	0.00	0.00
7/7/98 6:00 AM	0.00	0.00	0.00
7/7/98 7:00 AM	0.00	0.00	0.00
7/7/98 8:00 AM	0.00	0.00	0.00
7/7/98 9:00 AM	0.00	0.00	0.00
7/7/98 10:00 AM	0.00	0.00	0.00
7/7/98 11:00 AM	0.00	0.00	0.00
7/7/98 12:00 PM	0.00	0.00	0.00
7/7/98 1:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/7/98 2:00 PM	0.00	0.00	0.00
7/7/98 3:00 PM	0.00	0.00	0.00
7/7/98 4:00 PM	0.00	0.00	0.00
7/7/98 5:00 PM	0.00	0.00	0.00
7/7/98 6:00 PM	0.00	0.00	0.03
7/7/98 7:00 PM	0.03	0.03	0.03
7/7/98 8:00 PM	0.01	0.02	0.04
7/7/98 9:00 PM	0.01	0.01	0.01
7/7/98 10:00 PM	0.00	0.00	0.03
7/7/98 11:00 PM	0.00	0.01	0.00
7/8/98 12:00 AM	0.04	0.03	0.10
7/8/98 1:00 AM	0.24	0.13	0.13
7/8/98 2:00 AM	0.09	0.14	0.58
7/8/98 3:00 AM	0.03	0.04	0.02
7/8/98 4:00 AM	0.00	0.00	0.01
7/8/98 5:00 AM	0.00	0.01	0.00
7/8/98 6:00 AM	0.00	0.00	0.00
7/8/98 7:00 AM	0.00	0.00	0.00
7/8/98 8:00 AM	0.00	0.00	0.05
7/8/98 9:00 AM	0.00	0.00	0.04
7/8/98 10:00 AM	0.00	0.01	0.00
7/8/98 11:00 AM	0.00	0.00	0.00
7/8/98 12:00 PM	0.00	0.00	0.00
7/8/98 1:00 PM	0.00	0.00	0.00
7/8/98 2:00 PM	0.00	0.00	0.00
7/8/98 3:00 PM	0.00	0.00	0.00
7/8/98 4:00 PM	0.00	0.00	0.00
7/8/98 5:00 PM	0.00	0.00	0.00
7/8/98 6:00 PM	0.00	0.00	0.00
7/8/98 7:00 PM	0.00	0.00	0.00
7/8/98 8:00 PM	0.00	0.00	0.00
7/8/98 9:00 PM	0.00	0.00	0.00
7/8/98 10:00 PM	0.00	0.00	0.00
7/8/98 11:00 PM	0.00	0.00	0.00
7/9/98 12:00 AM	0.00	0.00	0.00
7/9/98 1:00 AM	0.00	0.00	0.00
7/9/98 2:00 AM	0.00	0.00	0.00
7/9/98 3:00 AM	0.00	0.00	0.00
7/9/98 4:00 AM	0.00	0.00	0.00
7/9/98 5:00 AM	0.00	0.00	0.00
7/9/98 6:00 AM	0.00	0.00	0.00
7/9/98 7:00 AM	0.00	0.00	0.00
7/9/98 8:00 AM	0.00	0.00	0.00
7/9/98 9:00 AM	0.00	0.00	0.00
7/9/98 10:00 AM	0.00	0.00	0.00
7/9/98 11:00 AM	0.00	0.00	0.00
7/9/98 12:00 PM	0.00	0.00	0.00
7/9/98 1:00 PM	0.00	0.00	0.00
7/9/98 2:00 PM	0.00	0.00	0.00
7/9/98 3:00 PM	0.00	0.00	0.00
7/9/98 4:00 PM	0.00	0.00	0.00
7/9/98 5:00 PM	0.00	0.00	0.00
7/9/98 6:00 PM	0.00	0.00	0.00
7/9/98 7:00 PM	0.00	0.00	0.00
7/9/98 8:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/9/98 9:00 PM	0.00	0.00	0.00
7/9/98 10:00 PM	0.00	0.00	0.00
7/9/98 11:00 PM	0.00	0.00	0.00
7/10/98 12:00 AM	0.00	0.00	0.00
7/10/98 1:00 AM	0.00	0.00	0.00
7/10/98 2:00 AM	0.00	0.00	0.00
7/10/98 3:00 AM	0.00	0.00	0.00
7/10/98 4:00 AM	0.00	0.00	0.00
7/10/98 5:00 AM	0.00	0.00	0.00
7/10/98 6:00 AM	0.00	0.00	0.00
7/10/98 7:00 AM	0.00	0.00	0.00
7/10/98 8:00 AM	0.00	0.00	0.00
7/10/98 9:00 AM	0.00	0.00	0.00
7/10/98 10:00 AM	0.00	0.00	0.00
7/10/98 11:00 AM	0.00	0.00	0.00
7/10/98 12:00 PM	0.00	0.00	0.00
7/10/98 1:00 PM	0.00	0.00	0.00
7/10/98 2:00 PM	0.00	0.00	0.00
7/10/98 3:00 PM	0.00	0.00	0.00
7/10/98 4:00 PM	0.00	0.00	0.00
7/10/98 5:00 PM	0.00	0.00	0.00
7/10/98 6:00 PM	0.00	0.00	0.00
7/10/98 7:00 PM	0.00	0.00	0.00
7/10/98 8:00 PM	0.00	0.00	0.00
7/10/98 9:00 PM	0.00	0.00	0.00
7/10/98 10:00 PM	0.00	0.00	0.00
7/10/98 11:00 PM	0.00	0.00	0.00
7/11/98 12:00 AM	0.00	0.00	0.00
7/11/98 1:00 AM	0.00	0.00	0.00
7/11/98 2:00 AM	0.00	0.00	0.00
7/11/98 3:00 AM	0.00	0.00	0.00
7/11/98 4:00 AM	0.00	0.00	0.00
7/11/98 5:00 AM	0.00	0.00	0.00
7/11/98 6:00 AM	0.00	0.00	0.00
7/11/98 7:00 AM	0.00	0.00	0.00
7/11/98 8:00 AM	0.00	0.00	0.00
7/11/98 9:00 AM	0.00	0.00	0.00
7/11/98 10:00 AM	0.00	0.00	0.00
7/11/98 11:00 AM	0.00	0.00	0.00
7/11/98 12:00 PM	0.00	0.00	0.00
7/11/98 1:00 PM	0.00	0.00	0.00
7/11/98 2:00 PM	0.00	0.00	0.00
7/11/98 3:00 PM	0.00	0.00	0.00
7/11/98 4:00 PM	0.00	0.00	0.00
7/11/98 5:00 PM	0.00	0.00	0.00
7/11/98 6:00 PM	0.00	0.00	0.00
7/11/98 7:00 PM	0.00	0.00	0.00
7/11/98 8:00 PM	0.00	0.00	0.00
7/11/98 9:00 PM	0.00	0.00	0.00
7/11/98 10:00 PM	0.00	0.00	0.00
7/11/98 11:00 PM	0.00	0.00	0.00
7/12/98 12:00 AM	0.00	0.00	0.00
7/12/98 1:00 AM	0.00	0.00	0.00
7/12/98 2:00 AM	0.00	0.00	0.00
7/12/98 3:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/12/98 4:00 AM	0.00	0.00	0.00
7/12/98 5:00 AM	0.00	0.00	0.00
7/12/98 6:00 AM	0.00	0.00	0.00
7/12/98 7:00 AM	0.00	0.00	0.00
7/12/98 8:00 AM	0.00	0.00	0.00
7/12/98 9:00 AM	0.00	0.00	0.00
7/12/98 10:00 AM	0.00	0.00	0.00
7/12/98 11:00 AM	0.00	0.00	0.00
7/12/98 12:00 PM	0.00	0.00	0.00
7/12/98 1:00 PM	0.00	0.00	0.00
7/12/98 2:00 PM	0.00	0.00	0.00
7/12/98 3:00 PM	0.00	0.00	0.00
7/12/98 4:00 PM	0.00	0.00	0.00
7/12/98 5:00 PM	0.00	0.00	0.00
7/12/98 6:00 PM	0.00	0.00	0.00
7/12/98 7:00 PM	0.00	0.00	0.00
7/12/98 8:00 PM	0.00	0.00	0.00
7/12/98 9:00 PM	0.00	0.00	0.00
7/12/98 10:00 PM	0.00	0.00	0.00
7/12/98 11:00 PM	0.00	0.00	0.00
7/13/98 12:00 AM	0.00	0.00	0.00
7/13/98 1:00 AM	0.00	0.00	0.00
7/13/98 2:00 AM	0.00	0.00	0.00
7/13/98 3:00 AM	0.00	0.00	0.00
7/13/98 4:00 AM	0.00	0.00	0.00
7/13/98 5:00 AM	0.00	0.00	0.00
7/13/98 6:00 AM	0.00	0.00	0.00
7/13/98 7:00 AM	0.00	0.00	0.00
7/13/98 8:00 AM	0.00	0.00	0.00
7/13/98 9:00 AM	0.00	0.00	0.00
7/13/98 10:00 AM	0.00	0.00	0.00
7/13/98 11:00 AM	0.00	0.00	0.00
7/13/98 12:00 PM	0.00	0.00	0.00
7/13/98 1:00 PM	0.00	0.00	0.00
7/13/98 2:00 PM	0.00	0.00	0.00
7/13/98 3:00 PM	0.00	0.00	0.00
7/13/98 4:00 PM	0.00	0.00	0.00
7/13/98 5:00 PM	0.00	0.00	0.00
7/13/98 6:00 PM	0.00	0.00	0.00
7/13/98 7:00 PM	0.00	0.00	0.00
7/13/98 8:00 PM	0.00	0.00	0.00
7/13/98 9:00 PM	0.00	0.00	0.00
7/13/98 10:00 PM	0.00	0.00	0.00
7/13/98 11:00 PM	0.00	0.00	0.00
7/14/98 12:00 AM	0.00	0.00	0.00
7/14/98 1:00 AM	0.00	0.00	0.00
7/14/98 2:00 AM	0.00	0.00	0.00
7/14/98 3:00 AM	0.00	0.00	0.00
7/14/98 4:00 AM	0.00	0.00	0.00
7/14/98 5:00 AM	0.00	0.00	0.00
7/14/98 6:00 AM	0.00	0.00	0.00
7/14/98 7:00 AM	0.00	0.00	0.00
7/14/98 8:00 AM	0.00	0.00	0.00
7/14/98 9:00 AM	0.00	0.00	0.00
7/14/98 10:00 AM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/14/98 11:00 AM	0.00	0.00	0.00
7/14/98 12:00 PM	0.00	0.00	0.00
7/14/98 1:00 PM	0.00	0.00	0.00
7/14/98 2:00 PM	0.00	0.00	0.00
7/14/98 3:00 PM	0.00	0.00	0.00
7/14/98 4:00 PM	0.00	0.00	0.00
7/14/98 5:00 PM	0.00	0.00	0.00
7/14/98 6:00 PM	0.00	0.00	0.00
7/14/98 7:00 PM	0.00	0.00	0.00
7/14/98 8:00 PM	0.00	0.00	0.00
7/14/98 9:00 PM	0.00	0.00	0.00
7/14/98 10:00 PM	0.00	0.00	0.00
7/14/98 11:00 PM	0.00	0.00	0.00
7/15/98 12:00 AM	0.00	0.00	0.00
7/15/98 1:00 AM	0.00	0.00	0.00
7/15/98 2:00 AM	0.00	0.00	0.00
7/15/98 3:00 AM	0.00	0.00	0.00
7/15/98 4:00 AM	0.00	0.00	0.00
7/15/98 5:00 AM	0.00	0.00	0.00
7/15/98 6:00 AM	0.00	0.00	0.00
7/15/98 7:00 AM	0.00	0.00	0.00
7/15/98 8:00 AM	0.00	0.00	0.00
7/15/98 9:00 AM	0.00	0.00	0.00
7/15/98 10:00 AM	0.00	0.00	0.00
7/15/98 11:00 AM	0.00	0.00	0.00
7/15/98 12:00 PM	0.00	0.00	0.00
7/15/98 1:00 PM	0.00	0.00	0.00
7/15/98 2:00 PM	0.00	0.00	0.00
7/15/98 3:00 PM	0.00	0.00	0.00
7/15/98 4:00 PM	0.00	0.00	0.00
7/15/98 5:00 PM	0.00	0.00	0.00
7/15/98 6:00 PM	0.00	0.00	0.00
7/15/98 7:00 PM	0.00	0.00	0.00
7/15/98 8:00 PM	0.00	0.00	0.00
7/15/98 9:00 PM	0.00	0.00	0.00
7/15/98 10:00 PM	0.00	0.00	0.00
7/15/98 11:00 PM	0.00	0.00	0.00
7/16/98 12:00 AM	0.00	0.00	0.00
7/16/98 1:00 AM	0.00	0.00	0.00
7/16/98 2:00 AM	0.00	0.00	0.00
7/16/98 3:00 AM	0.00	0.00	0.00
7/16/98 4:00 AM	0.00	0.00	0.00
7/16/98 5:00 AM	0.00	0.00	0.00
7/16/98 6:00 AM	0.00	0.00	0.00
7/16/98 7:00 AM	0.00	0.00	0.00
7/16/98 8:00 AM	0.00	0.00	0.00
7/16/98 9:00 AM	0.00	0.00	0.00
7/16/98 10:00 AM	0.00	0.00	0.00
7/16/98 11:00 AM	0.00	0.00	0.00
7/16/98 12:00 PM	0.00	0.00	0.00
7/16/98 1:00 PM	0.00	0.00	0.00
7/16/98 2:00 PM	0.00	0.00	0.00
7/16/98 3:00 PM	0.00	0.00	0.00
7/16/98 4:00 PM	0.00	0.00	0.00
7/16/98 5:00 PM	0.00	0.00	0.00

Date/Time	Firestation No. 2 (inches)	Shoreline Lift Station (inches)	Nobles Pond (inches)
7/16/98 6:00 PM	0.00	0.00	0.00
7/16/98 7:00 PM	0.00	0.00	0.00
7/16/98 8:00 PM	0.00	0.00	0.00
7/16/98 9:00 PM	0.00	0.00	0.00
7/16/98 10:00 PM	0.00	0.00	0.00
7/16/98 11:00 PM	0.00	0.00	0.00
7/17/98 12:00 AM	0.00	0.00	0.00
7/17/98 1:00 AM	0.00	0.00	0.00
7/17/98 2:00 AM	0.00	0.00	0.00
7/17/98 3:00 AM	0.00	0.00	0.00
7/17/98 4:00 AM	0.00	0.00	0.00
7/17/98 5:00 AM	0.00	0.00	0.00
7/17/98 6:00 AM	0.00	0.00	0.00
7/17/98 7:00 AM	0.00	0.00	0.00
7/17/98 8:00 AM	0.00	0.00	0.00
7/17/98 9:00 AM	0.00	0.00	0.00
7/17/98 10:00 AM	0.08	0.04	0.03
7/17/98 11:00 AM	0.00	0.03	0.00

APPENDIX J
Mean Rainfall Frequency
Distribution Table



RAINFALL FREQUENCY ATLAS OF THE MIDWEST

by Floyd A. Huff and James R. Angel

Title: Rainfall Frequency Atlas of the Midwest.

Abstract: This report presents the results and methodology of an intense study of rainfall frequency relationships throughout the Midwest (Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin). Using primarily 275 long-term daily reporting stations from the National Weather Service (NWS) cooperative network supplemented by 134 daily reporting stations with shorter records, rainfall amounts have been determined for recurrence intervals from 2 months to 100 years and for durations of 5 minutes to 10 days. The results are presented as maps and as climate division averages in tabular form. Several special raingage networks were used to develop relationships between amounts for 24 hours and less. This report also examines the time distributions of heavy rainfall over time, and other storm characteristics such as storm orientation and movement. The assumption of spatially independent observations between stations is also discussed.

Reference: Huff, Floyd A., and James R. Angel. Rainfall Frequency Atlas of the Midwest. Illinois State Water Survey, Champaign, Bulletin 71, 1992.

Indexing Terms: Climatology, heavy rainfall, hydroclimatology, hydrometeorology, Midwest, extreme value distributions, climate change.

(MCC) with Stanley Changnon and Peter J. Lamb as the co-principal investigators. The work was continued and completed under the general direction of Kenneth Kunkel, present MCC Director.

Special appreciation goes to Stan Changnon for his foresight, guidance, and encouragement in establishing and accomplishing the program objectives. He and Ken Kunkel reviewed the report and made useful comments and suggestions. Special thanks go to Richard Katz, National Center for Atmospheric Research; Tibor Farago, Hungarian Meteorological Service; and J.R.M. Hosking, IBM Research Division, for providing software for some of the extreme rainfall

analyses. Fred Nummerger, Michigan State Climatologist, provided valuable long-term precipitation data for his state as well as comments on the manuscript. We also thank the following state climatologists for their review and comments on this project: Wayne Wendland, Illinois; Ken Scheeringa, Indiana; Harry Hillaker, Iowa; Glen Conner, Kentucky; Jim Zandlo, Minnesota; Wayne Decker, Missouri; Jeff Rogers, Ohio; and Pam Naber-Knox, Wisconsin.

John Brother and Linda Hascall supervised the extensive drafting work required for the report. Jean Dennison typed and assembled the report, which Eva Kingston edited and formatted.

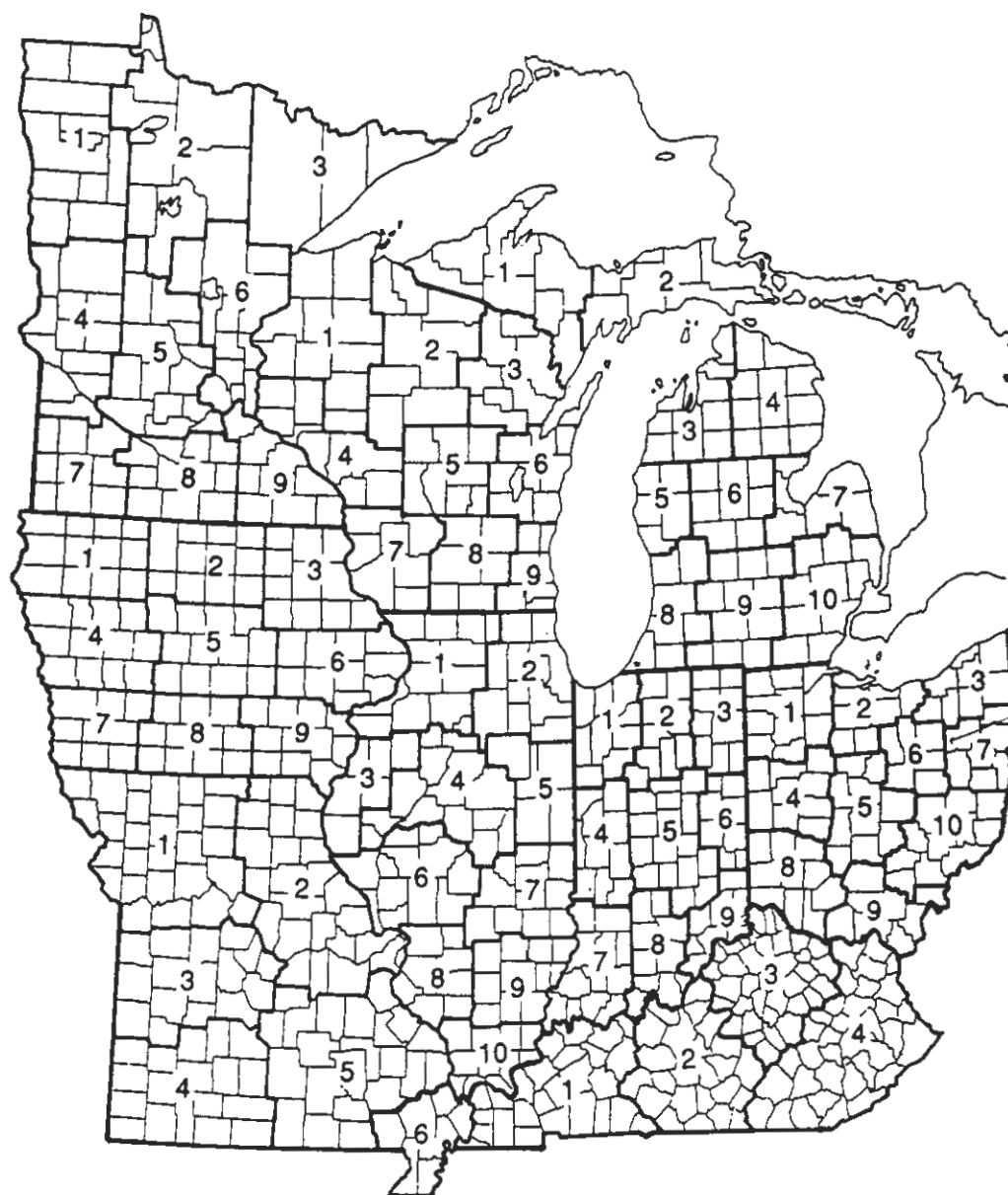


Figure 1. Climatic sections for the Midwest

Table 8. Sectional Mean Frequency Distributions for Storm Periods of 5 Minutes to 10 Days and Recurrence Intervals of 2 Months to 100 Years in Ohio

Sectional code (see figure 1 on page 4)

01 - Northwest 06 - Central Hills
02 - North Central 07 - Northeast Hills
03 - Northeast 08 - Southwest
04 - West Central 09 - South Central
05 - Central 10 - Southeast

Rainfall (inches) for given recurrence interval

Section	Duration	2-month	3-month	4-month	6-month	9-month	1-year	2-year	5-year	10-year	25-year	50-year	100-year
01	10-day	1.69	2.04	2.35	2.76	3.17	3.45	4.22	5.17	5.89	6.83	7.56	8.31
01	5-day	1.42	1.70	1.93	2.23	2.57	2.79	3.43	4.29	4.92	5.81	6.51	7.26
01	72-hr	1.27	1.49	1.69	1.96	2.25	2.45	3.05	3.77	4.33	5.17	5.89	6.71
01	48-hr	1.17	1.36	1.52	1.76	2.02	2.20	2.74	3.43	3.96	4.74	5.40	6.14
01	24-hr	1.12	1.30	1.42	1.64	1.87	2.03	2.52	3.18	3.70	4.43	5.05	5.73
01	18-hr	1.05	1.22	1.34	1.55	1.76	1.91	2.37	2.99	3.48	4.16	4.75	5.39
01	12-hr	0.97	1.13	1.24	1.43	1.63	1.77	2.19	2.77	3.22	3.85	4.39	4.99
01	6-hr	0.84	0.97	1.06	1.23	1.40	1.52	1.89	2.38	2.78	3.32	3.79	4.30
01	3-hr	0.71	0.83	0.91	1.05	1.20	1.30	1.61	2.04	2.37	2.84	3.23	3.67
01	2-hr	0.65	0.76	0.83	0.96	1.09	1.18	1.46	1.84	2.15	2.57	2.93	3.32
01	1-hr	0.52	0.61	0.66	0.77	0.87	0.95	1.18	1.49	1.74	2.08	2.37	2.69
01	30-min	0.41	0.48	0.52	0.61	0.69	0.75	0.93	1.18	1.37	1.64	1.87	2.12
01	15-min	0.30	0.35	0.38	0.45	0.51	0.55	0.68	0.86	1.00	1.20	1.36	1.55
01	10-min	0.24	0.28	0.30	0.35	0.40	0.43	0.53	0.67	0.78	0.93	1.06	1.20
01	5-min	0.13	0.15	0.17	0.19	0.22	0.24	0.30	0.38	0.44	0.53	0.61	0.69
02	10-day	1.63	1.96	2.26	2.66	3.05	3.32	4.19	5.31	6.19	7.40	8.35	9.35
02	5-day	1.35	1.61	1.82	2.11	2.43	2.64	3.33	4.32	5.10	6.21	7.14	8.14
02	72-hr	1.22	1.43	1.61	1.87	2.15	2.34	2.93	3.69	4.34	5.39	6.33	7.39
02	48-hr	1.14	1.33	1.48	1.72	1.98	2.15	2.67	3.37	3.94	4.86	5.70	6.68
02	24-hr	1.09	1.27	1.39	1.60	1.82	1.98	2.44	3.06	3.55	4.35	5.08	5.92
02	18-hr	1.02	1.19	1.30	1.51	1.71	1.86	2.29	2.88	3.34	4.09	4.78	5.56
02	12-hr	0.95	1.10	1.20	1.39	1.58	1.72	2.12	2.66	3.09	3.78	4.42	5.15
02	6-hr	0.82	0.95	1.04	1.21	1.37	1.49	1.83	2.30	2.66	3.26	3.81	4.44
02	3-hr	0.70	0.81	0.89	1.03	1.17	1.27	1.56	1.96	2.27	2.78	3.25	3.79
02	2-hr	0.63	0.74	0.80	0.93	1.06	1.15	1.42	1.77	2.06	2.52	2.95	3.43
02	1-hr	0.51	0.60	0.65	0.75	0.86	0.93	1.15	1.44	1.67	2.04	2.39	2.78
02	30-min	0.40	0.47	0.51	0.59	0.67	0.73	0.90	1.13	1.31	1.61	1.88	2.19
02	15-min	0.29	0.34	0.37	0.43	0.49	0.53	0.66	0.83	0.96	1.17	1.37	1.60
02	10-min	0.23	0.27	0.29	0.34	0.39	0.42	0.51	0.64	0.75	0.91	1.07	1.24
02	5-min	0.13	0.15	0.17	0.19	0.22	0.24	0.29	0.37	0.43	0.52	0.61	0.71
03	10-day	1.70	2.05	2.36	2.78	3.19	3.47	4.29	5.34	6.17	7.30	8.19	9.14
03	5-day	1.37	1.64	1.86	2.15	2.47	2.69	3.34	4.23	4.95	5.96	6.82	7.74
03	72-hr	1.26	1.48	1.67	1.94	2.23	2.42	2.99	3.72	4.34	5.31	6.15	7.09
03	48-hr	1.18	1.38	1.53	1.78	2.04	2.22	2.75	3.42	3.99	4.87	5.66	6.55
03	24-hr	1.12	1.31	1.43	1.65	1.88	2.04	2.50	3.10	3.60	4.39	5.11	5.89
03	18-hr	1.06	1.23	1.34	1.56	1.77	1.92	2.35	2.91	3.38	4.13	4.80	5.54
03	12-hr	0.97	1.13	1.24	1.43	1.63	1.77	2.17	2.70	3.13	3.82	4.45	5.12
03	6-hr	0.84	0.98	1.07	1.24	1.41	1.53	1.88	2.32	2.70	3.29	3.83	4.42
03	3-hr	0.72	0.84	0.92	1.06	1.21	1.31	1.60	1.98	2.30	2.81	3.27	3.77
03	2-hr	0.65	0.76	0.83	0.96	1.09	1.18	1.45	1.80	2.09	2.55	2.96	3.42
03	1-hr	0.53	0.61	0.67	0.78	0.88	0.96	1.17	1.46	1.69	2.06	2.40	2.77
03	30-min	0.41	0.48	0.52	0.61	0.69	0.75	0.93	1.15	1.33	1.62	1.89	2.18
03	15-min	0.30	0.35	0.38	0.45	0.51	0.55	0.68	0.84	0.97	1.19	1.38	1.59
03	10-min	0.24	0.28	0.30	0.35	0.40	0.43	0.52	0.65	0.76	0.92	1.07	1.24
03	5-min	0.13	0.15	0.17	0.19	0.22	0.24	0.30	0.37	0.43	0.53	0.61	0.71

Table 8. Continued

Rainfall (inches) for given recurrence interval

Section	Duration	2-month	3-month	4-month	6-month	9-month	1-year	2-year	5-year	10-year	25-year	50-year	100-year
04	10-day	1.85	2.23	2.57	3.02	3.48	3.78	4.59	5.63	6.43	7.48	8.30	9.19
04	5-day	1.54	1.84	2.08	2.41	2.77	3.01	3.65	4.54	5.22	6.17	6.92	7.74
04	72-hr	1.36	1.59	1.80	2.09	2.40	2.61	3.19	3.88	4.46	5.33	6.12	6.97
04	48-hr	1.25	1.46	1.62	1.88	2.16	2.35	2.91	3.58	4.09	4.88	5.56	6.35
04	24-hr	1.18	1.38	1.50	1.74	1.98	2.15	2.69	3.34	3.80	4.46	5.06	5.70
04	18-hr	1.11	1.29	1.41	1.64	1.86	2.02	2.53	3.14	3.57	4.19	4.76	5.36
04	12-hr	1.03	1.20	1.31	1.51	1.72	1.87	2.34	2.91	3.31	3.88	4.40	4.96
04	6-hr	0.89	1.03	1.13	1.30	1.48	1.61	2.02	2.50	2.85	3.35	3.80	4.27
04	3-hr	0.76	0.88	0.97	1.12	1.27	1.38	1.72	2.14	2.43	2.85	3.24	3.65
04	2-hr	0.69	0.80	0.88	1.01	1.15	1.25	1.56	1.94	2.20	2.59	2.93	3.31
04	1-hr	0.56	0.65	0.71	0.82	0.93	1.01	1.26	1.57	1.79	2.10	2.38	2.68
04	30-min	0.44	0.51	0.56	0.65	0.74	0.80	1.00	1.24	1.41	1.65	1.87	2.11
04	15-min	0.32	0.37	0.41	0.47	0.53	0.58	0.73	0.90	1.03	1.20	1.37	1.54
04	10-min	0.25	0.29	0.31	0.36	0.41	0.45	0.56	0.70	0.80	0.94	1.06	1.20
04	5-min	0.14	0.17	0.18	0.21	0.24	0.26	0.32	0.40	0.46	0.54	0.61	0.68
05	10-day	1.81	2.18	2.51	2.95	3.39	3.69	4.69	5.93	6.78	7.82	8.56	9.27
05	5-day	1.49	1.78	2.01	2.34	2.69	2.92	3.67	4.65	5.39	6.37	7.11	7.89
05	72-hr	1.36	1.59	1.80	2.09	2.40	2.61	3.23	3.99	4.54	5.36	6.09	6.92
05	48-hr	1.27	1.48	1.65	1.91	2.20	2.39	2.97	3.67	4.21	5.02	5.72	6.50
05	24-hr	1.19	1.39	1.52	1.76	2.00	2.17	2.70	3.35	3.86	4.64	5.33	6.06
05	18-hr	1.12	1.31	1.43	1.65	1.88	2.04	2.54	3.15	3.63	4.36	5.01	5.70
05	12-hr	1.04	1.21	1.32	1.53	1.74	1.89	2.35	2.91	3.36	4.04	4.64	5.27
05	6-hr	0.90	1.04	1.14	1.32	1.50	1.63	2.03	2.51	2.89	3.48	4.00	4.55
05	3-hr	0.76	0.89	0.97	1.13	1.28	1.39	1.73	2.14	2.47	2.97	3.41	3.88
05	2-hr	0.69	0.81	0.88	1.02	1.16	1.26	1.57	1.94	2.24	2.69	3.09	3.51
05	1-hr	0.56	0.65	0.71	0.83	0.94	1.02	1.27	1.57	1.81	2.18	2.51	2.85
05	30-min	0.44	0.51	0.56	0.65	0.74	0.80	1.00	1.24	1.43	1.72	1.97	2.24
05	15-min	0.32	0.38	0.41	0.48	0.54	0.59	0.73	0.90	1.04	1.25	1.44	1.64
05	10-min	0.25	0.29	0.32	0.37	0.42	0.46	0.57	0.70	0.81	0.97	1.12	1.27
05	5-min	0.14	0.17	0.18	0.21	0.24	0.26	0.32	0.40	0.46	0.56	0.64	0.73
06	10-day	1.72	2.08	2.39	2.82	3.24	3.52	4.35	5.47	6.38	7.61	8.66	9.74
06	5-day	1.41	1.68	1.90	2.21	2.54	2.76	3.33	4.24	4.98	6.15	7.12	8.21
06	72-hr	1.30	1.53	1.73	2.00	2.30	2.50	2.99	3.72	4.41	5.53	6.54	7.69
06	48-hr	1.22	1.43	1.59	1.85	2.13	2.31	2.78	3.44	4.09	5.12	6.06	7.17
06	24-hr	1.16	1.35	1.48	1.71	1.94	2.11	2.51	3.11	3.68	4.57	5.41	6.39
06	18-hr	1.09	1.27	1.39	1.60	1.82	1.98	2.36	2.92	3.46	4.30	5.09	6.01
06	12-hr	1.01	1.18	1.29	1.49	1.69	1.84	2.18	2.71	3.20	3.98	4.71	5.56
06	6-hr	0.87	1.01	1.11	1.28	1.45	1.58	1.88	2.33	2.76	3.43	4.06	4.79
06	3-hr	0.74	0.86	0.94	1.09	1.24	1.35	1.61	1.99	2.36	2.92	3.46	4.09
06	2-hr	0.67	0.78	0.85	0.99	1.12	1.22	1.46	1.80	2.13	2.65	3.14	3.71
06	1-hr	0.54	0.63	0.69	0.80	0.91	0.99	1.18	1.46	1.73	2.15	2.54	3.00
06	30-min	0.43	0.50	0.55	0.63	0.72	0.78	0.93	1.15	1.36	1.69	2.00	2.36
06	15-min	0.31	0.36	0.40	0.46	0.52	0.57	0.68	0.84	0.99	1.23	1.46	1.73
06	10-min	0.24	0.28	0.31	0.36	0.40	0.44	0.53	0.65	0.77	0.96	1.14	1.34
06	5-min	0.14	0.16	0.17	0.20	0.23	0.25	0.30	0.37	0.44	0.55	0.65	0.77

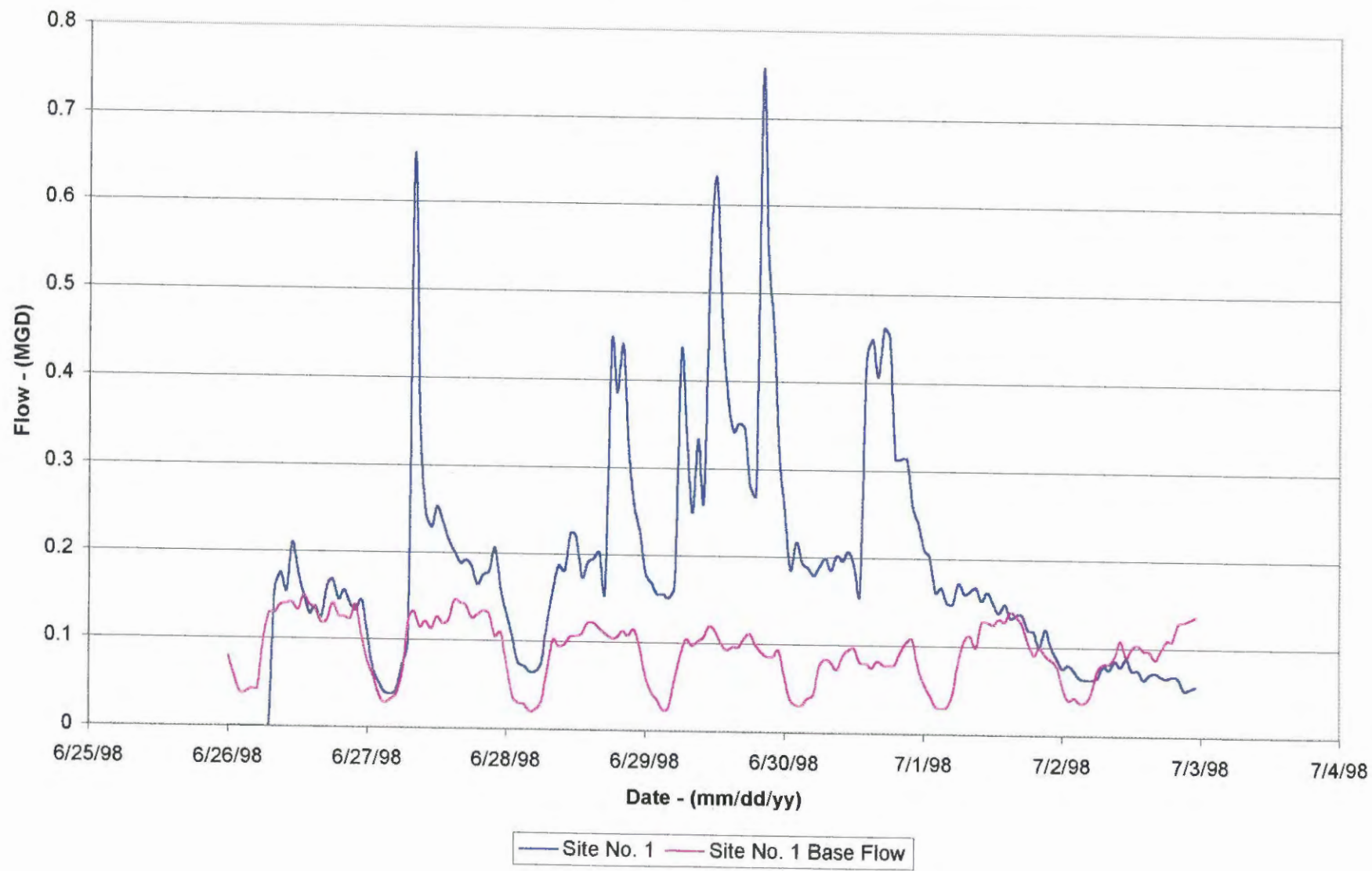
Table 8. Continued

Rainfall (inches) for given recurrence interval

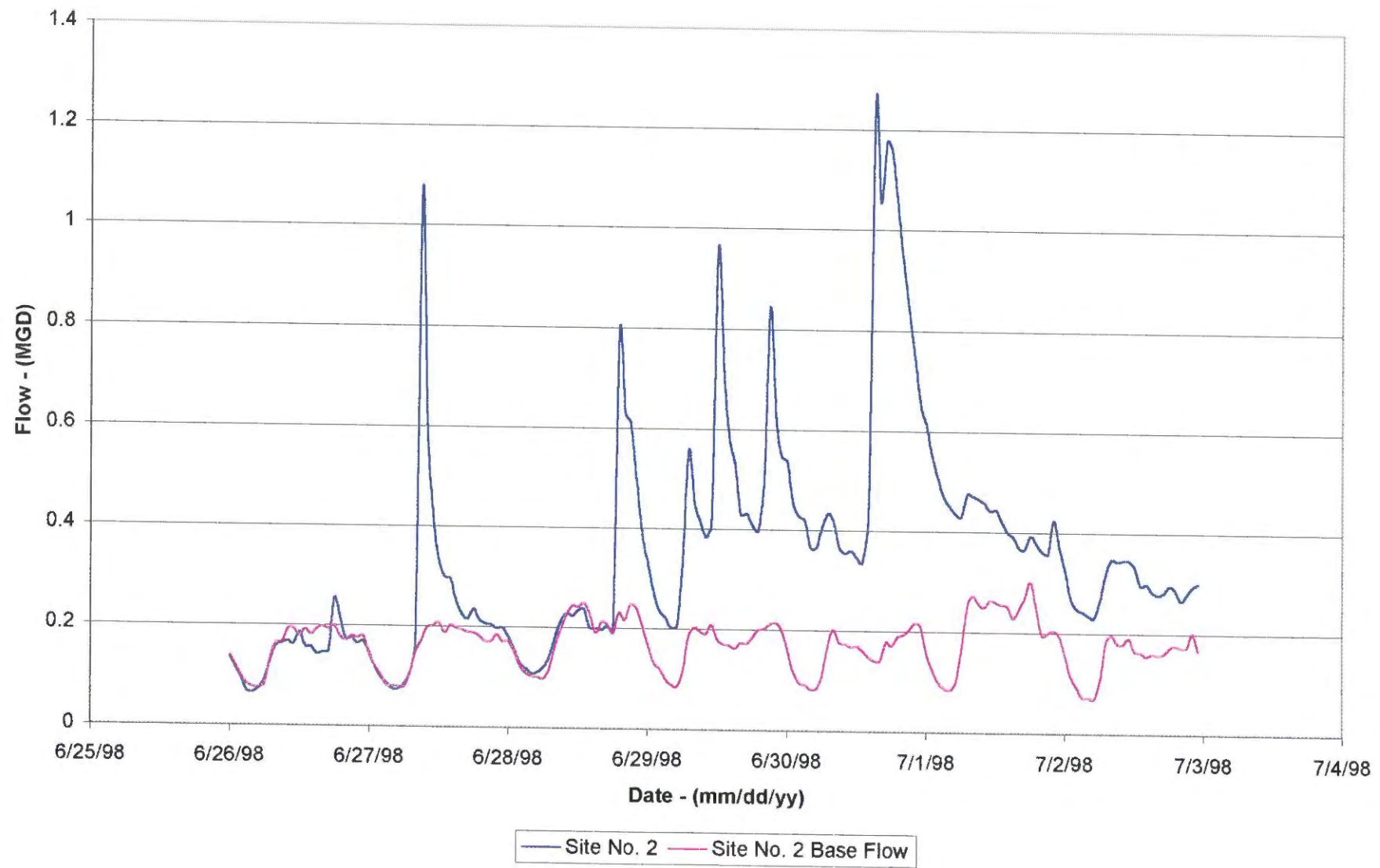
Section	Duration	2-month	3-month	4-month	6-month	9-month	1-year	2-year	5-year	10-year	25-year	50-year	100-year
07	10-day	1.71	2.06	2.37	2.79	3.21	3.49	4.33	5.37	6.10	7.03	7.77	8.48
07	5-day	1.40	1.67	1.89	2.19	2.52	2.74	3.32	4.11	4.72	5.55	6.26	6.99
07	72-hr	1.28	1.51	1.70	1.98	2.27	2.47	2.98	3.64	4.15	4.94	5.63	6.39
07	48-hr	1.19	1.39	1.55	1.79	2.06	2.24	2.73	3.33	3.81	4.53	5.15	5.81
07	24-hr	1.12	1.30	1.42	1.64	1.87	2.03	2.50	3.02	3.42	3.94	4.41	4.92
07	18-hr	1.05	1.22	1.34	1.55	1.76	1.91	2.35	2.84	3.21	3.70	4.15	4.62
07	12-hr	0.97	1.13	1.24	1.43	1.63	1.77	2.17	2.63	2.98	3.43	3.84	4.28
07	6-hr	0.84	0.97	1.06	1.23	1.40	1.52	1.88	2.26	2.57	2.95	3.31	3.69
07	3-hr	0.71	0.83	0.91	1.05	1.20	1.30	1.60	1.93	2.19	2.52	2.82	3.15
07	2-hr	0.65	0.76	0.83	0.96	1.09	1.18	1.45	1.75	1.98	2.29	2.56	2.85
07	1-hr	0.52	0.61	0.66	0.77	0.87	0.95	1.17	1.42	1.61	1.85	2.07	2.31
07	30-min	0.41	0.48	0.52	0.61	0.69	0.75	0.93	1.12	1.27	1.46	1.63	1.82
07	15-min	0.30	0.35	0.38	0.45	0.51	0.55	0.68	0.82	0.92	1.06	1.19	1.33
07	10-min	0.24	0.28	0.30	0.35	0.40	0.43	0.52	0.63	0.72	0.83	0.93	1.03
07	5-min	0.13	0.15	0.17	0.19	0.22	0.24	0.30	0.36	0.41	0.47	0.53	0.59
08	10-day	1.96	2.35	2.71	3.19	3.67	3.99	4.97	6.15	7.02	8.09	8.89	9.71
08	5-day	1.59	1.90	2.15	2.49	2.86	3.11	3.92	4.94	5.66	6.58	7.32	8.05
08	72-hr	1.45	1.70	1.92	2.22	2.56	2.78	3.43	4.22	4.83	5.70	6.47	7.29
08	48-hr	1.35	1.58	1.76	2.04	2.35	2.55	3.15	3.87	4.44	5.26	5.98	6.77
08	24-hr	1.28	1.49	1.63	1.89	2.14	2.33	2.86	3.49	3.99	4.70	5.32	6.04
08	18-hr	1.20	1.40	1.53	1.77	2.01	2.19	2.69	3.28	3.75	4.42	5.00	5.66
08	12-hr	1.12	1.30	1.42	1.64	1.87	2.03	2.49	3.04	3.47	4.09	4.63	5.25
08	6-hr	0.96	1.12	1.23	1.42	1.61	1.75	2.14	2.62	2.99	3.52	3.99	4.53
08	3-hr	0.82	0.95	1.04	1.21	1.37	1.49	1.83	2.23	2.55	3.01	3.40	3.87
08	2-hr	0.74	0.86	0.94	1.09	1.24	1.35	1.66	2.02	2.31	2.73	3.09	3.50
08	1-hr	0.61	0.70	0.77	0.89	1.01	1.10	1.34	1.64	1.88	2.21	2.50	2.84
08	30-min	0.47	0.55	0.60	0.70	0.79	0.86	1.06	1.29	1.48	1.74	1.97	2.23
08	15-min	0.35	0.40	0.44	0.51	0.58	0.63	0.77	0.94	1.08	1.27	1.44	1.63
08	10-min	0.27	0.31	0.34	0.40	0.45	0.49	0.60	0.73	0.84	0.99	1.12	1.27
08	5-min	0.15	0.18	0.20	0.23	0.26	0.28	0.34	0.42	0.48	0.56	0.64	0.72
09	10-day	1.91	2.30	2.65	3.12	3.59	3.90	4.91	6.09	6.92	7.92	8.62	9.35
09	5-day	1.61	1.92	2.17	2.52	2.90	3.15	3.92	4.92	5.66	6.65	7.43	8.24
09	72-hr	1.46	1.71	1.94	2.25	2.59	2.81	3.42	4.20	4.82	5.78	6.65	7.58
09	48-hr	1.35	1.58	1.76	2.04	2.35	2.55	3.10	3.79	4.39	5.31	6.14	7.08
09	24-hr	1.26	1.47	1.60	1.85	2.11	2.29	2.79	3.42	4.01	4.87	5.66	6.50
09	18-hr	1.18	1.36	1.50	1.74	1.98	2.15	2.62	3.21	3.77	4.58	5.32	6.11
09	12-hr	1.09	1.27	1.39	1.61	1.83	1.99	2.43	2.98	3.49	4.24	4.92	5.66
09	6-hr	0.95	1.10	1.20	1.39	1.58	1.72	2.09	2.57	3.01	3.65	4.24	4.88
09	3-hr	0.81	0.94	1.03	1.19	1.35	1.47	1.79	2.19	2.57	3.12	3.62	4.16
09	2-hr	0.73	0.85	0.93	1.08	1.22	1.33	1.62	1.98	2.33	2.82	3.28	3.77
09	1-hr	0.59	0.69	0.76	0.87	0.99	1.08	1.31	1.61	1.88	2.29	2.66	3.06
09	30-min	0.47	0.54	0.60	0.69	0.78	0.85	1.03	1.27	1.48	1.80	2.09	2.40
09	15-min	0.34	0.40	0.43	0.50	0.57	0.62	0.75	0.92	1.08	1.31	1.53	1.76
09	10-min	0.26	0.31	0.34	0.39	0.44	0.48	0.59	0.72	0.84	1.02	1.19	1.37
09	5-min	0.15	0.17	0.19	0.22	0.25	0.27	0.33	0.41	0.48	0.58	0.68	0.78

APPENDIX K
Rain Event Hourly Flow vs.
Base Hourly Flows

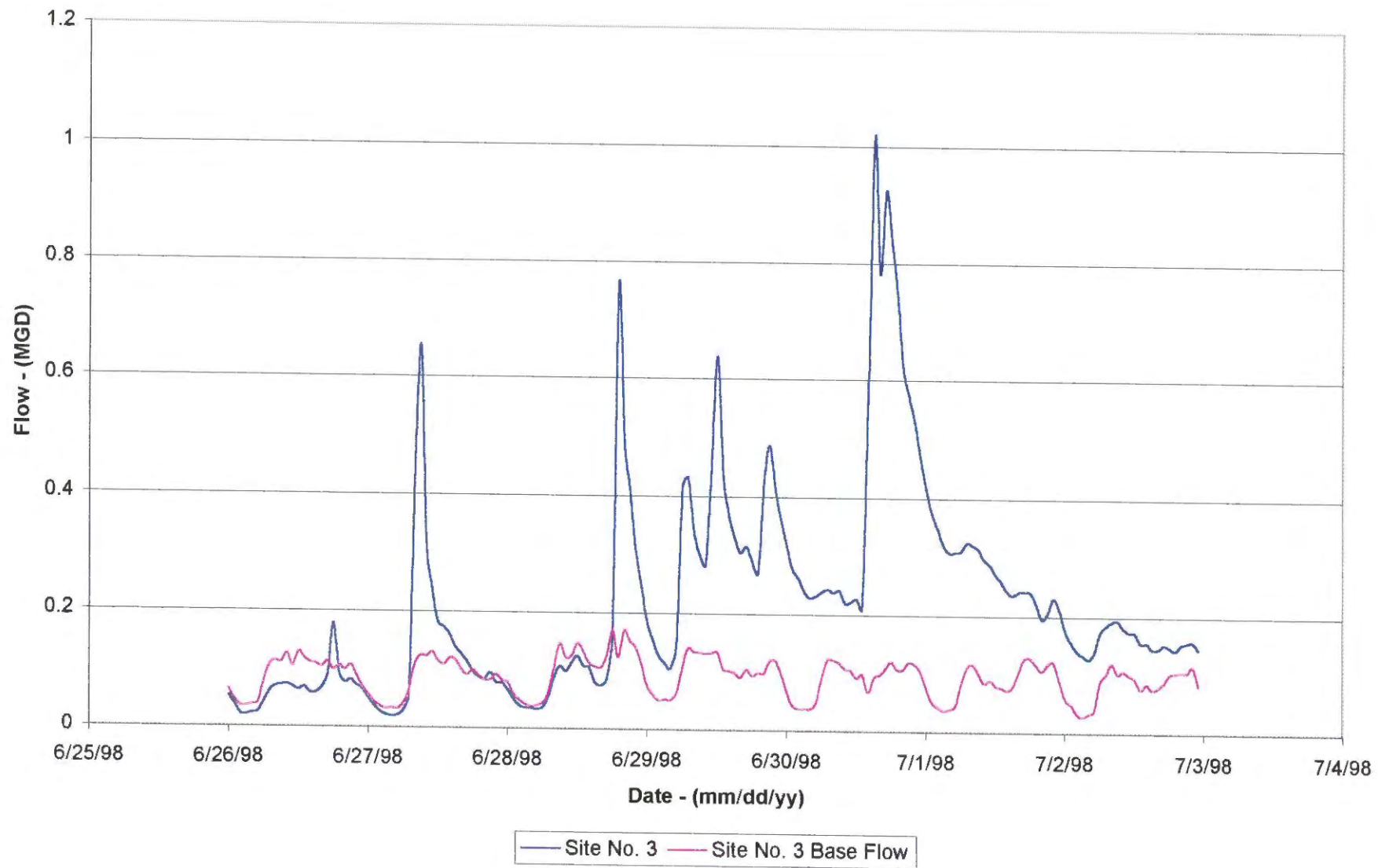
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 1



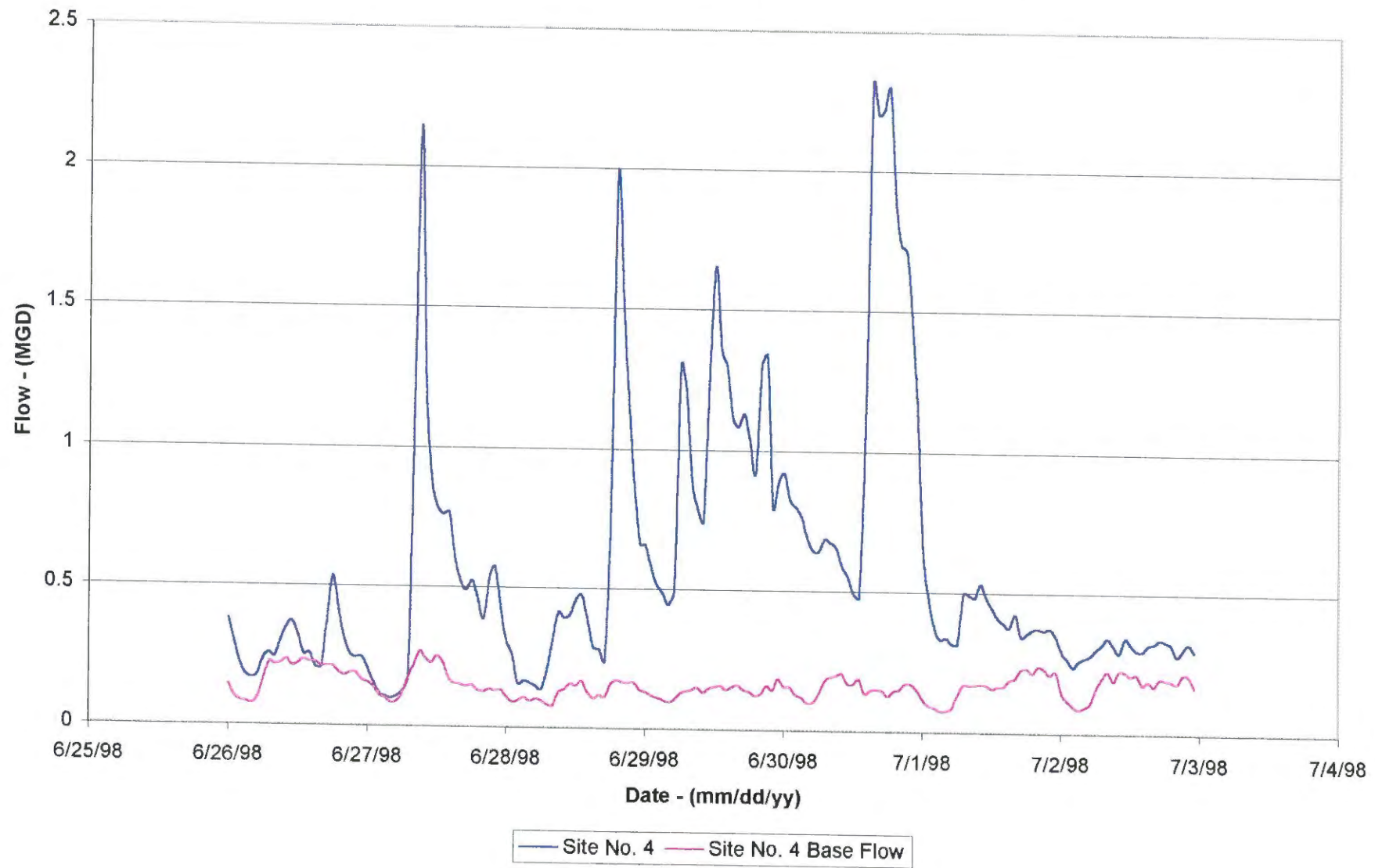
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 2



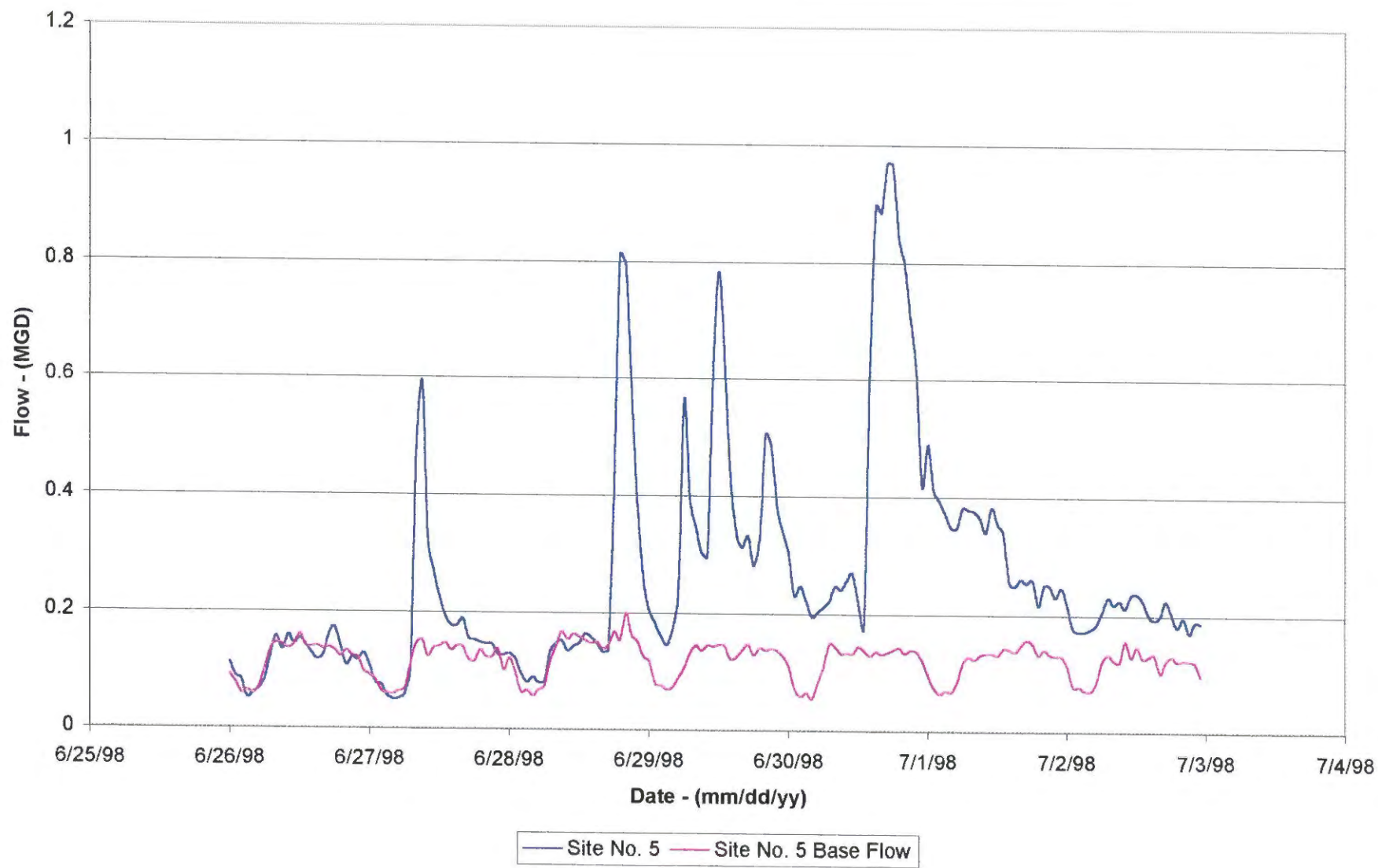
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 3



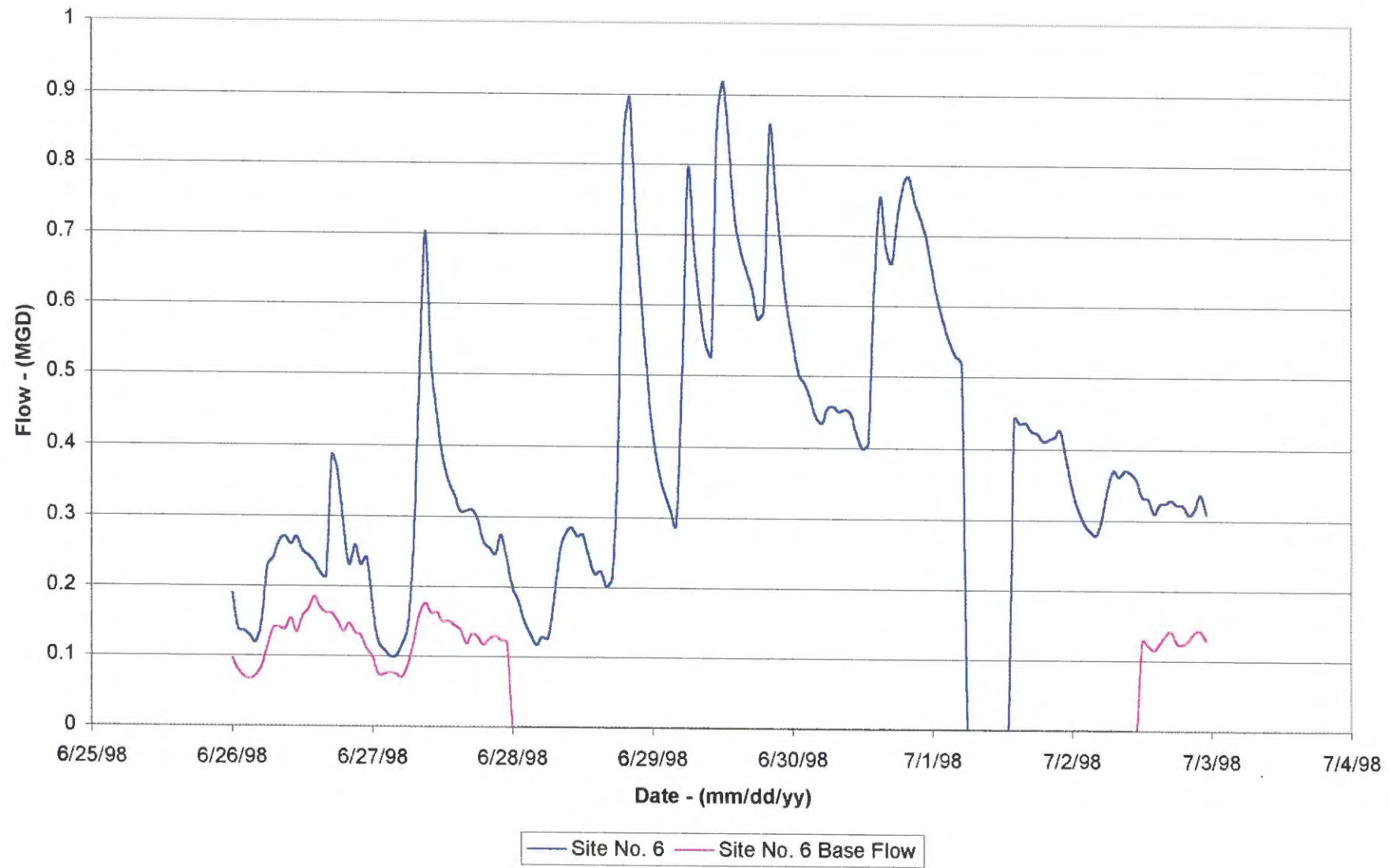
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 4



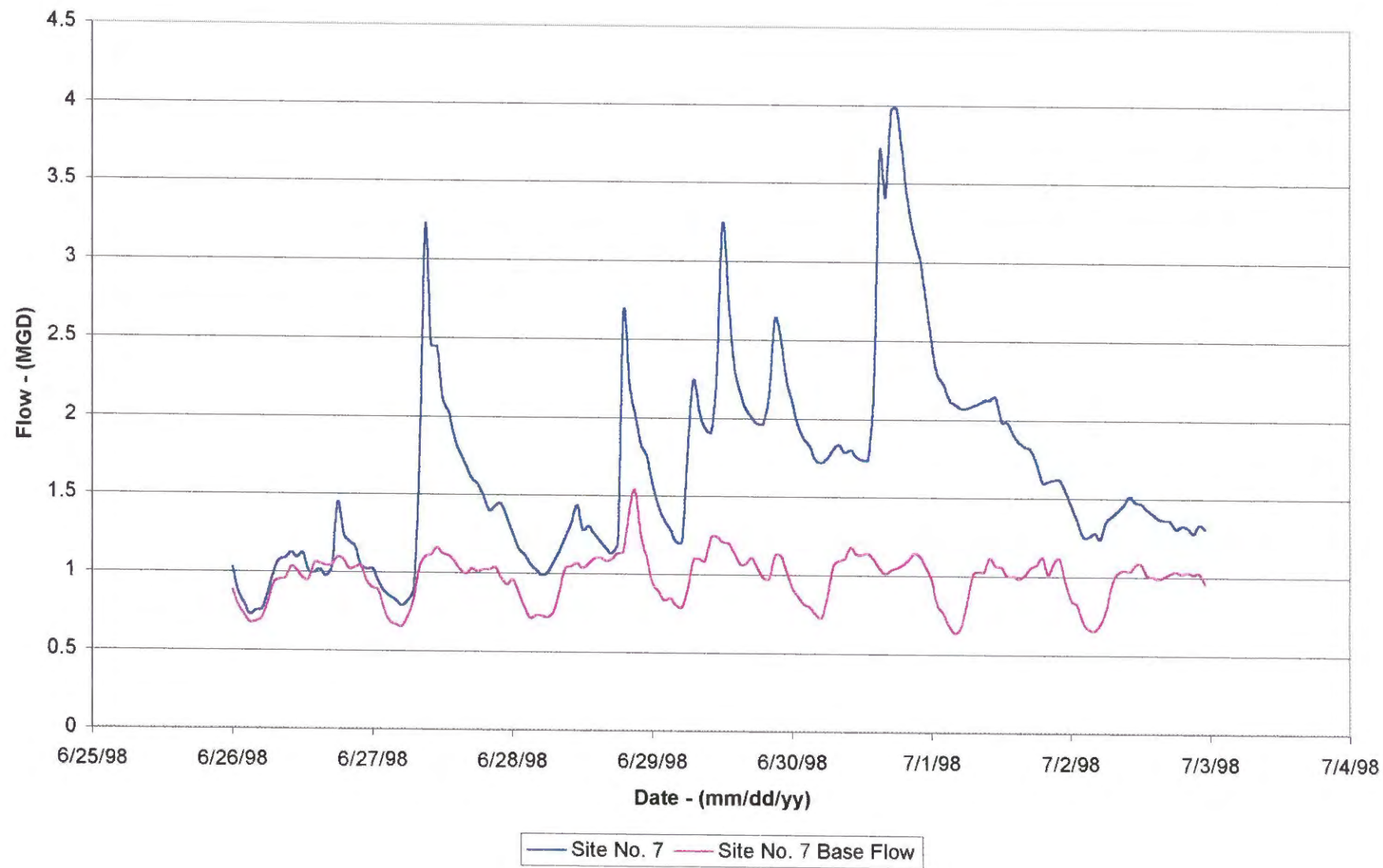
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 5



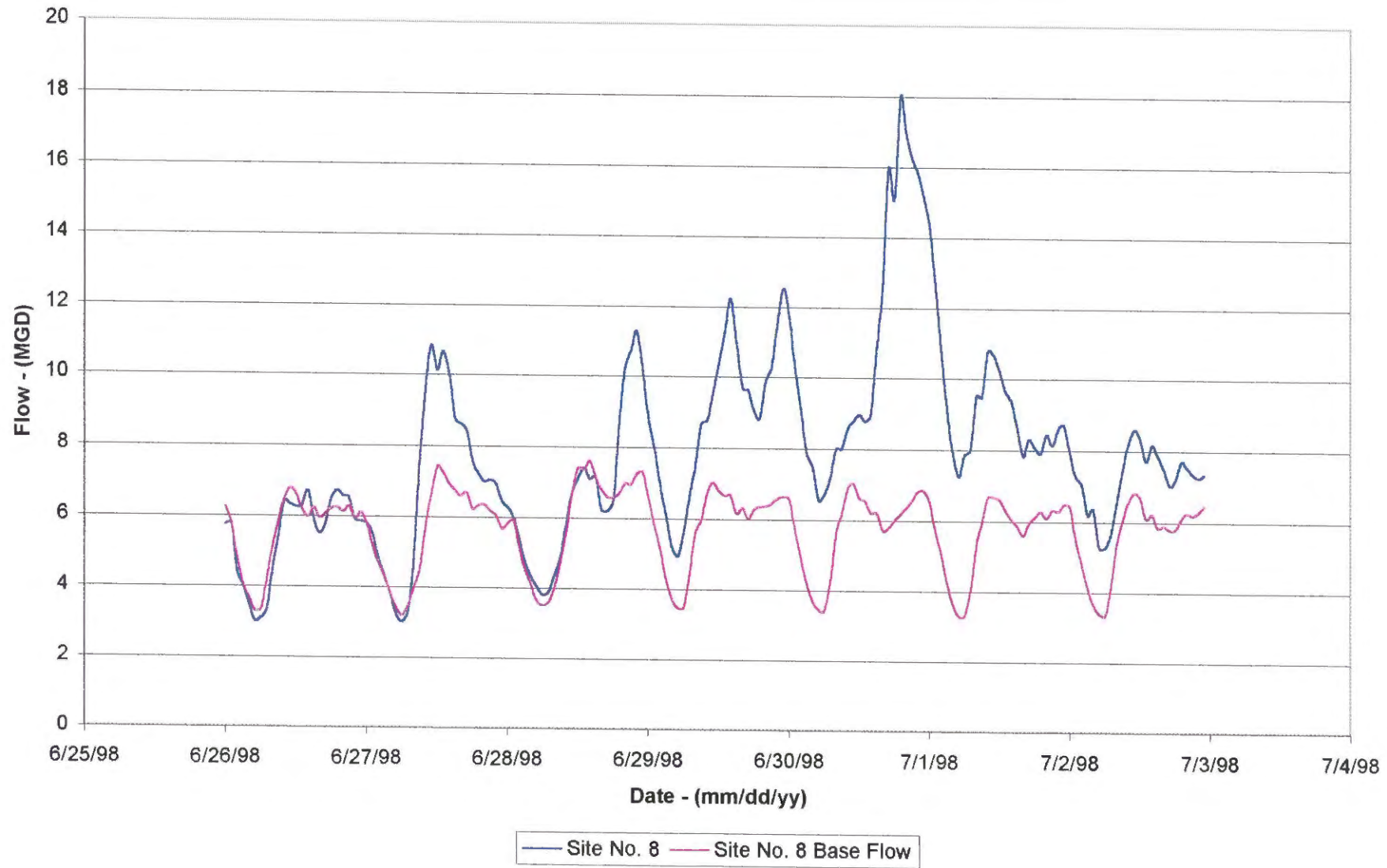
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 6



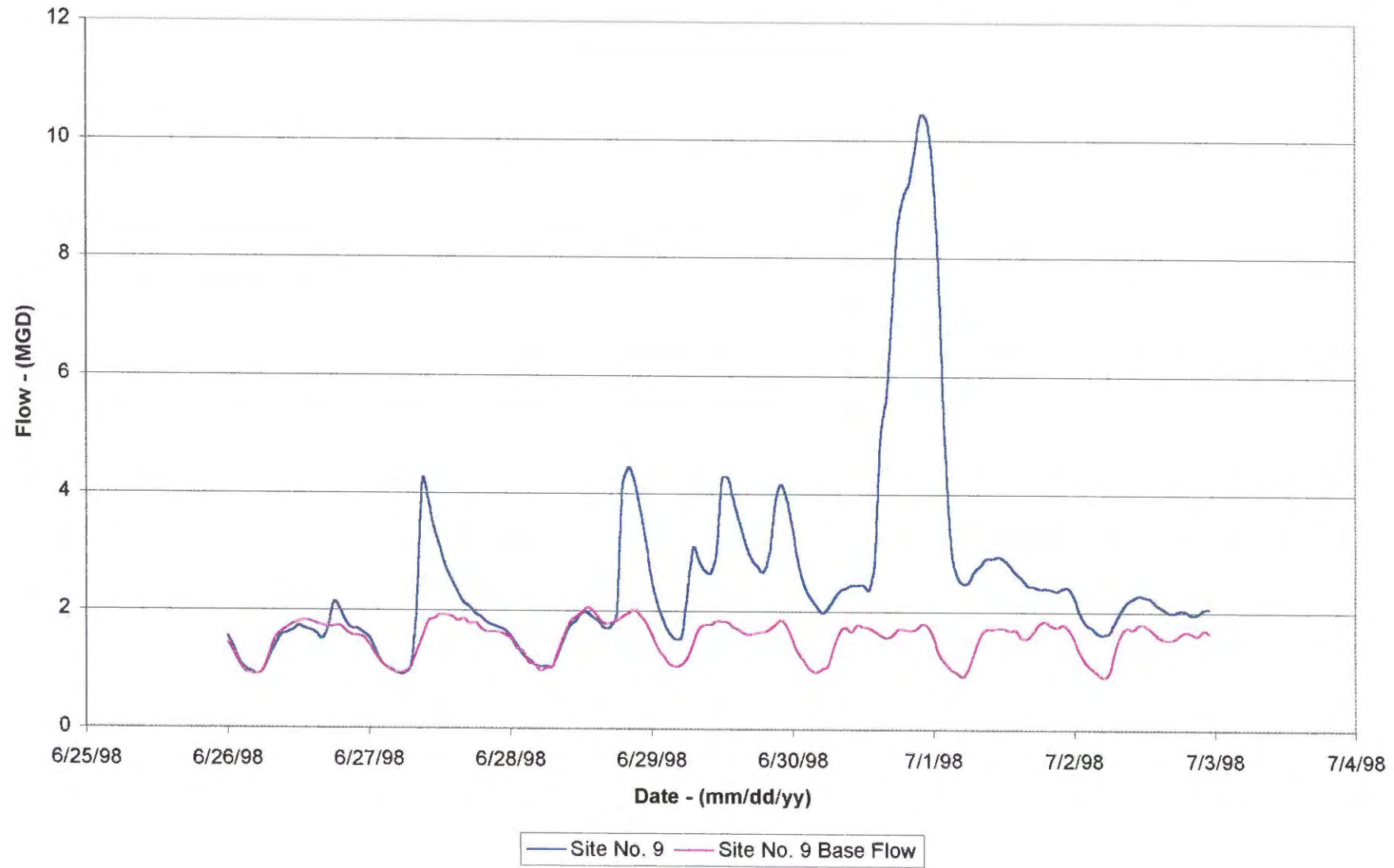
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 7



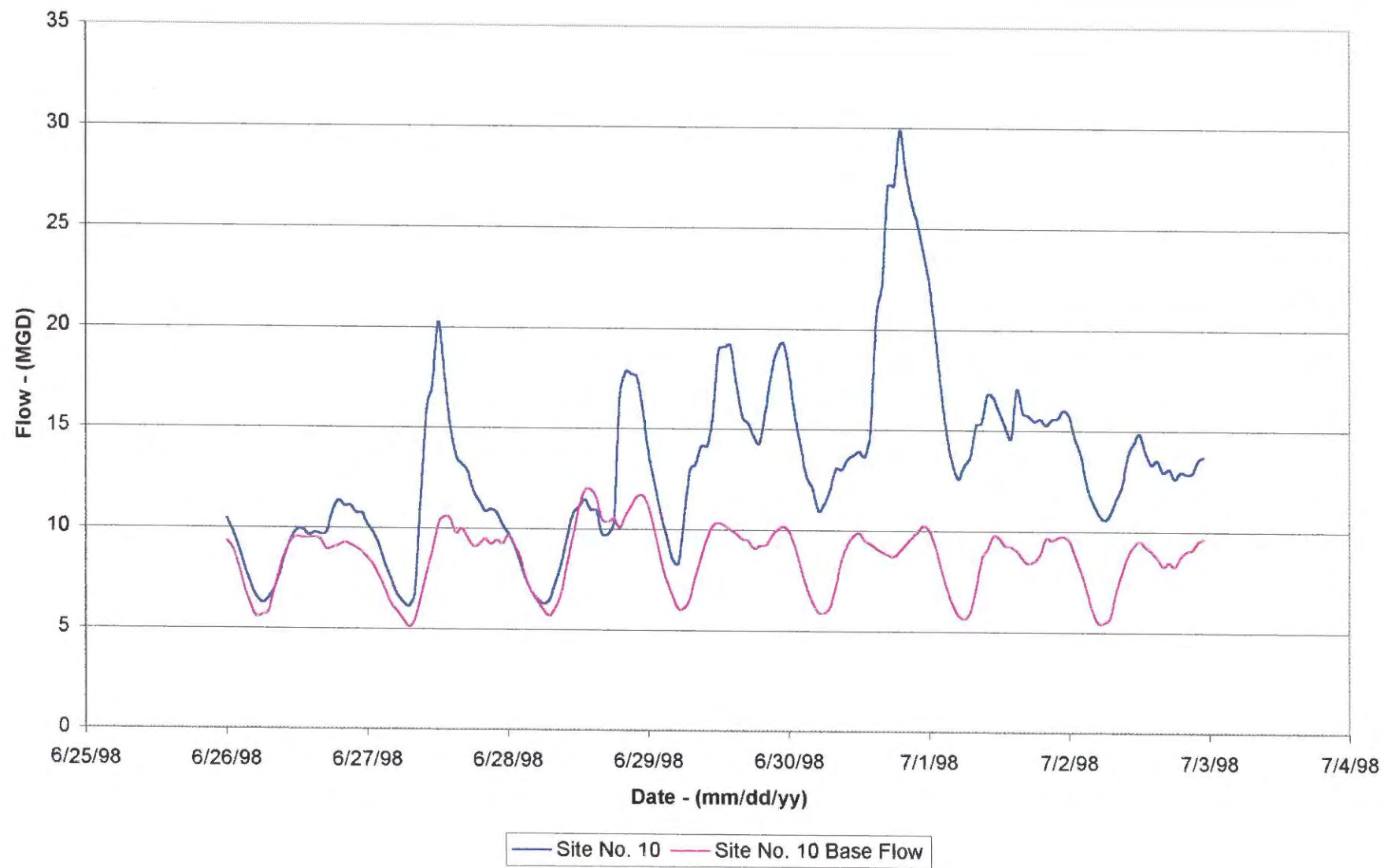
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 8



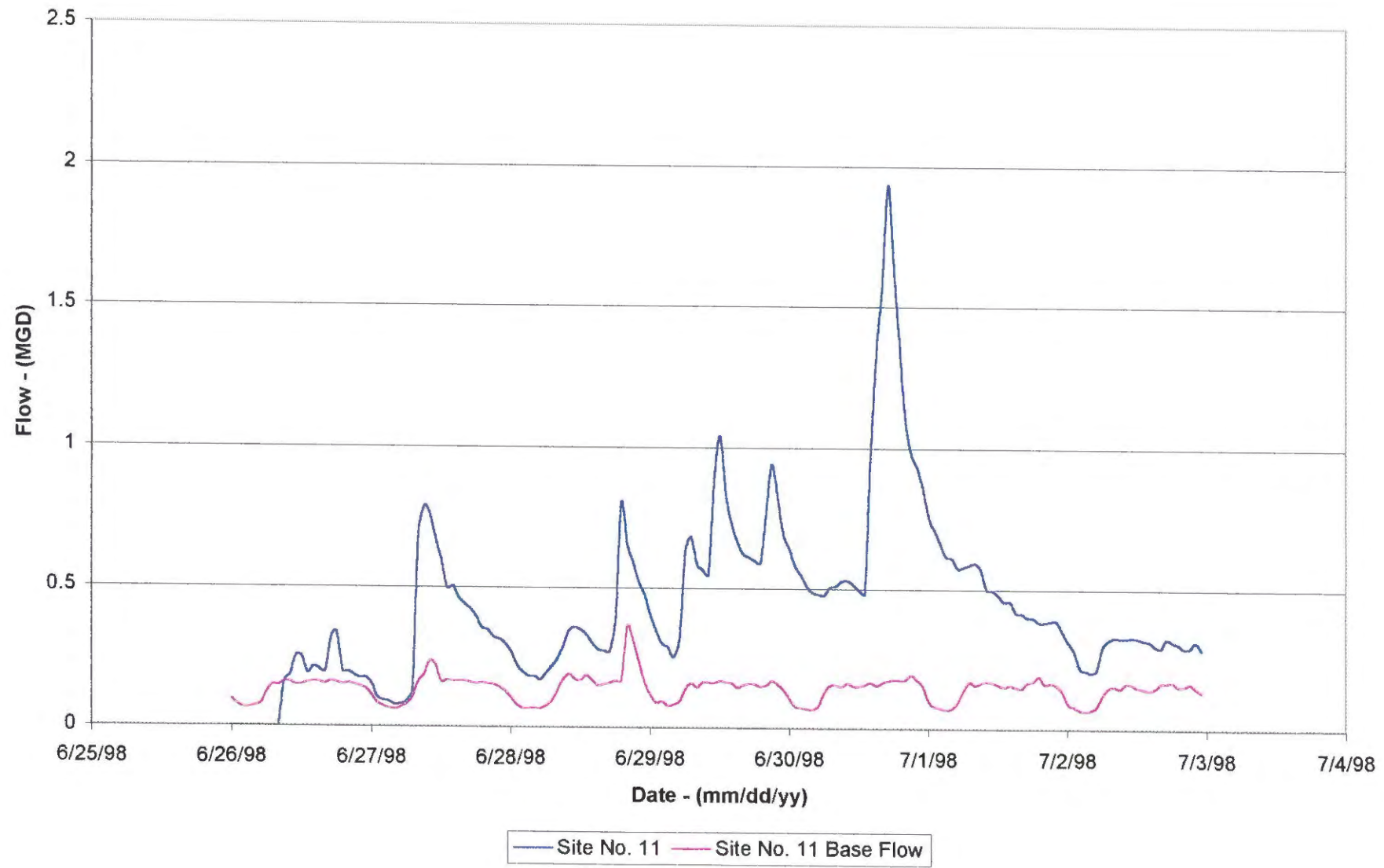
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 9



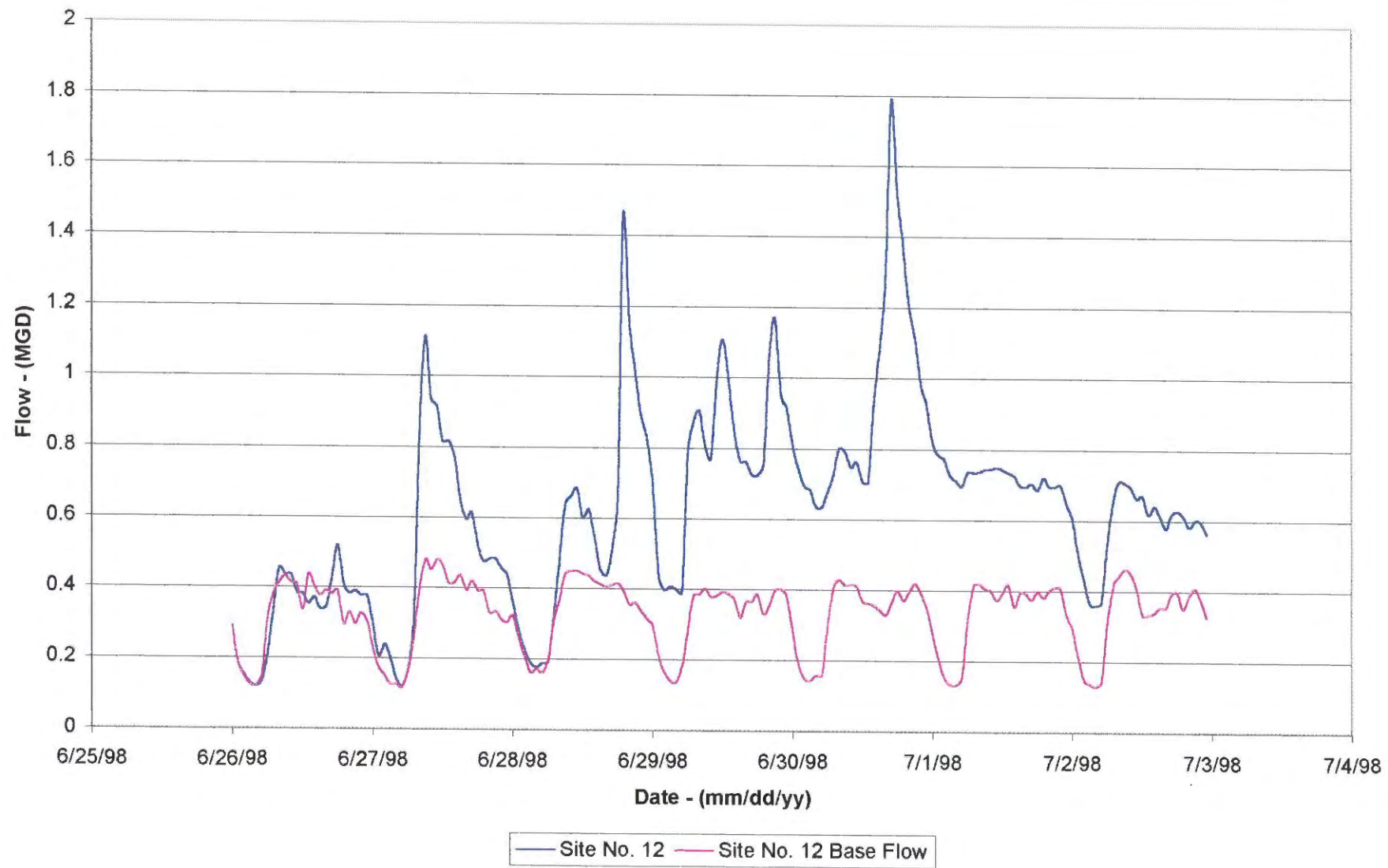
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 10



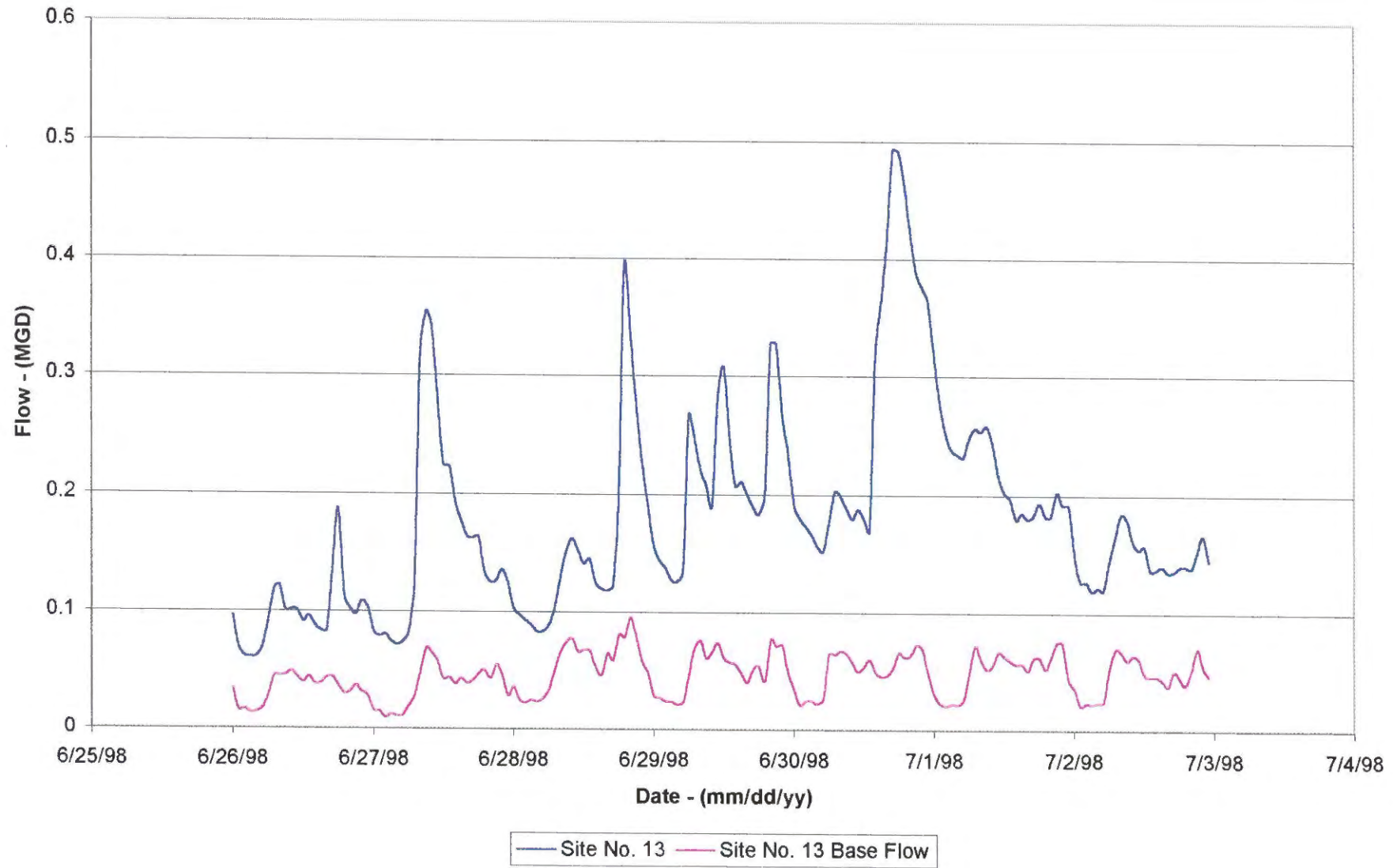
Rain Event Hourly Flows vs Base Hourly Flows of Site No. 11



Rain Event Hourly Flows vs Base Hourly Flows of Site No. 12



Rain Event Hourly Flows vs Base Hourly Flows of Site No. 13



Rain Event Hourly Flows vs Base Hourly Flows of Site No. 14

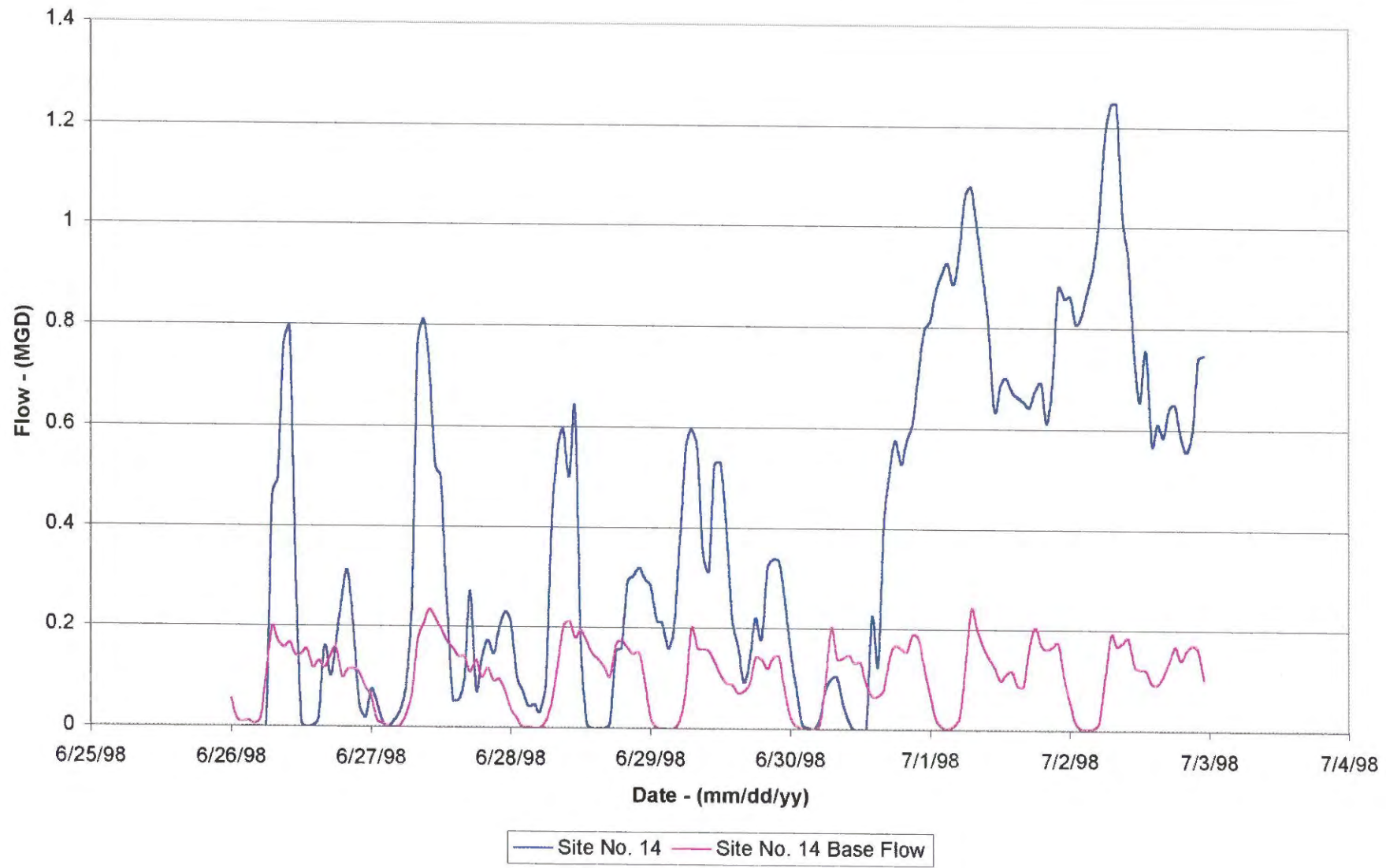


TABLE 10.2

PEAK HOURLY STORM EVENT FLOW RATES

Flow Monitoring Site No.	Average Day Dry Weather Flow (MGD)	Rainfall Event No. 1 (MGD)	Rainfall Event No. 2 (MGD)	Rainfall Event No. 3 (MGD)	Rainfall Event No. 4 (MGD)	Rainfall Event No. 5 (MGD)	Rainfall Event No. 6 (MGD)	Rainfall Event No. 7 (MGD)	Rainfall Event No. 8 (MGD)	Rainfall Event No. 9 (MGD)	Rainfall Event No. 10 (MGD)	Rainfall Event No. 11 (MGD)	Rainfall Event No. 12 (MGD)	Rainfall Event No. 13 (MGD)	Rainfall Event No. 14 (MGD)	Rainfall Event No. 15 (MGD)	Rainfall Event No. 16 (MGD)	Rainfall Event No. 17 (MGD)	Rainfall Event No. 18 (MGD)
Rain duration		4/25/98 10:10 PM 4/26/98 6:10 PM	5/2/98 4:30 AM 5/2/98 8:00 PM	5/3/98 3:20 PM 5/3/98 11:15 PM	5/7/98 5:30 PM 5/7/98 9:50 PM	5/8/98 2:55 PM 5/8/98 7:55 PM	5/29/98 3:40 PM 5/29/98 4:20 PM	5/31/98 5:50 PM 5/31/98 9:00 PM	6/12/98 12:40 AM 6/12/98 1:45 AM	6/12/98 9:00 PM 6/13/98 12:05 AM	6/16/98 12:00 PM 6/16/98 5:55 PM	6/26/98 5:25 PM 6/26/98 5:40 PM	6/27/98 7:15 AM 6/27/98 9:10 AM	6/28/98 6:30 PM 6/28/98 8:20 PM	6/29/98 5:05 AM 6/29/98 6:35 AM	6/29/98 11:15 AM 6/29/98 12:00 PM	6/29/98 7:35 PM 6/29/98 8:30 PM	6/30/98 1:50 PM 6/30/98 6:15 PM	7/8/98 12:30 AM 7/8/98 3:45 AM
Return Period		<2 mos	<9 mos	<2 mos	<2 mos	<2 mos	<2 mos	<2 mos	<2 mos	2 mos	<2 mos	2 mos	6 mos	<6 mos	<2 mos	<2 mos	<2 mos	≈4 mos	<2 mos
1	0.09	--	--	--	--	--	0.13	0.12	0.10	0.12	0.42	0.17	0.65	0.44	0.43	0.63	0.75	0.46	0.07
2	0.17	0.81	1.15	0.70	0.63	0.53	0.33	0.25	0.20	0.46	1.01	0.25	1.07	0.79	0.56	0.96	0.85	1.25	0.31
3	0.09	0.32	1.13	0.70	0.58	0.45	0.39	0.17	0.13	0.38	0.39	0.18	0.65	0.76	0.43	0.64	0.49	1.02	0.25
4	0.16	1.27	1.82	0.39	0.75	0.45	0.68	0.17	0.20	0.35	1.45	0.54	2.15	1.98	1.30	1.65	1.34	2.32	0.63
5	0.12	--	--	--	--	--	0.22	0.20	0.21	0.37	0.42	0.17	0.59	0.82	0.56	0.78	0.51	0.97	0.29
6	0.13	0.73	--	--	0.49	0.74	--	--	0.28	0.65	0.68	0.39	0.70	0.90	0.79	0.92	0.85	0.78	0.50
7	0.98	2.39	3.65	2.91	1.95	1.68	1.73	1.54	1.55	1.96	2.37	--	--	2.67	2.24	3.24	2.64	3.98	1.36
8	5.70	11.86	17.55	14.22	10.16	10.07	6.99	7.01	6.39	8.98	10.10	6.74	10.85	11.29	8.79	12.24	12.54	18.01	6.30
9	1.61	4.07	6.36	4.30	3.19	3.16	2.37	2.12	1.68	2.76	4.11	2.29	4.57	4.52	3.42	4.45	4.02	6.79	2.23
10	8.63	--	--	--	17.09	16.49	11.63	11.67	10.53	14.17	19.06	11.38	20.27	17.85	13.23	19.18	17.89	29.89	11.22
11	0.14	0.64	2.38	1.14	0.51	0.41	0.40	0.36	0.28	0.49	0.65	0.34	0.79	0.81	0.68	1.04	0.94	1.94	0.31
12	0.33	--	1.99	1.34	0.77	0.76	0.45	0.41	0.47	0.60	0.95	0.52	1.11	1.46	0.90	1.11	1.17	1.79	0.71
13	0.05	0.19	0.48	0.23	0.21	0.20	0.15	0.10	0.10	0.21	0.35	0.19	0.35	0.39	0.27	0.31	0.33	0.49	0.18
14	0.11	--	--	--	0.35	0.35	.015	0.20	0.04	0.21	--	0.31	0.81	0.32	0.60	0.53	0.34	1.08	0.19