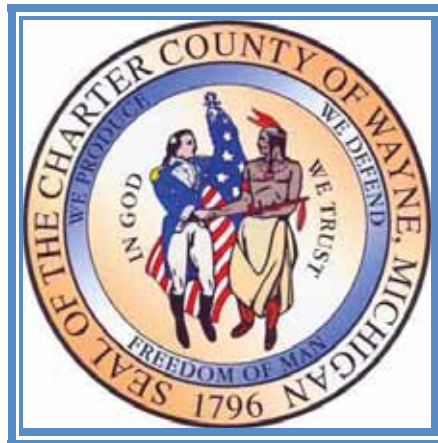


Wayne County Rouge Valley Sewage Disposal System Quarterly Flow Monitoring Report October through December 2013



Prepared: March 14, 2014

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Table of Contents

<u>Section</u>	<u>Page</u>
1) Monitoring Network	1
2) Flow Summaries for System Meters	6
3) Community Flow Summaries	10
4) Maximum Hourly Flow Rates by Community	13
5) Summary of Rainfall Events	15
6) Peak Hydraulic Gradeline Summary	17
7) Rainfall Event Summary Tables	19
8) Dry/Wet Weather Day Count by Month	22
9) Flow Rate Data Flags	24
10) Data Edits	28
11) System Flow Rate Checks	30
12) Quarterly Meter Reports	34
Appendix A - System Reach Maps	74

Section 1

Monitoring Network

Table 1
Rouge Valley Sewage Disposal System
Flow Monitoring Meters

Wayne County Meters	P1, P3, P7, P8, P9, P10, P11, P12, P13, P14, P15, P17, P19, P20, P21, P24, P25, LVBasin, M22, WE14, WE25, & WE28	
Community Meters	City of Livonia	LV4, LV11, LV14, LV15, & LV16
	Garden City	M1 & M2
	City of Novi	BG1
	WTUA*	FE19, FE20, A, B, & C
DWSD Meters	WCS1, WCS2, & WCS3	

*Western Townships Utility Authority (WTUA)

Table 2
Rouge Valley Sewage Disposal System
Rain Gages

Rain Gage	Operated By	Location
DTW	NOAA	Wayne County Metro Airport, Romulus
R10	Wayne County	11111 Wayne Road, Romulus
R11	Wayne County	14973 Northville Road, Northville Township
R12	Wayne County	7651 Merriman Road, Westland
R13	Wayne County	3501 Henry Ruff Road, Inkster
R14	Wayne County	Willow Run Airport, Van Buren Township
R15	Wayne County	20195 Trolley, Taylor
R18	Wayne County	130 4th Street, Belleville
R27	Wayne County	2001 Inkster Road, Inkster
R28	Wayne County	23800 Hines Drive, Dearborn Heights
R29	Wayne County	15145 Beech Daly Road, Redford
PG009	DWSD	Curtis and Southfield Freeway, Detroit
PG010	DWSD	16540 Rotunda Drive, Dearborn
PG012	DWSD	15600 West Grand River Avenue, Detroit
PG030	DWSD	Stoepel Park and W. Chicago, Detroit
PG032	DWSD	20920 East Street, Southfield
PG033	DWSD	30365 Schoolcraft, Livonia
PG034	DWSD	20650 West Warren, Detroit
RG01	Livonia	Schoolcraft Road, Livonia
RG02	Livonia	Whispering Willows Golf Course, Livonia
MR	WTUA	Joy Road and Haggerty Road, Canton
LR	WTUA	Michigan Avenue and Haggerty Road, Canton

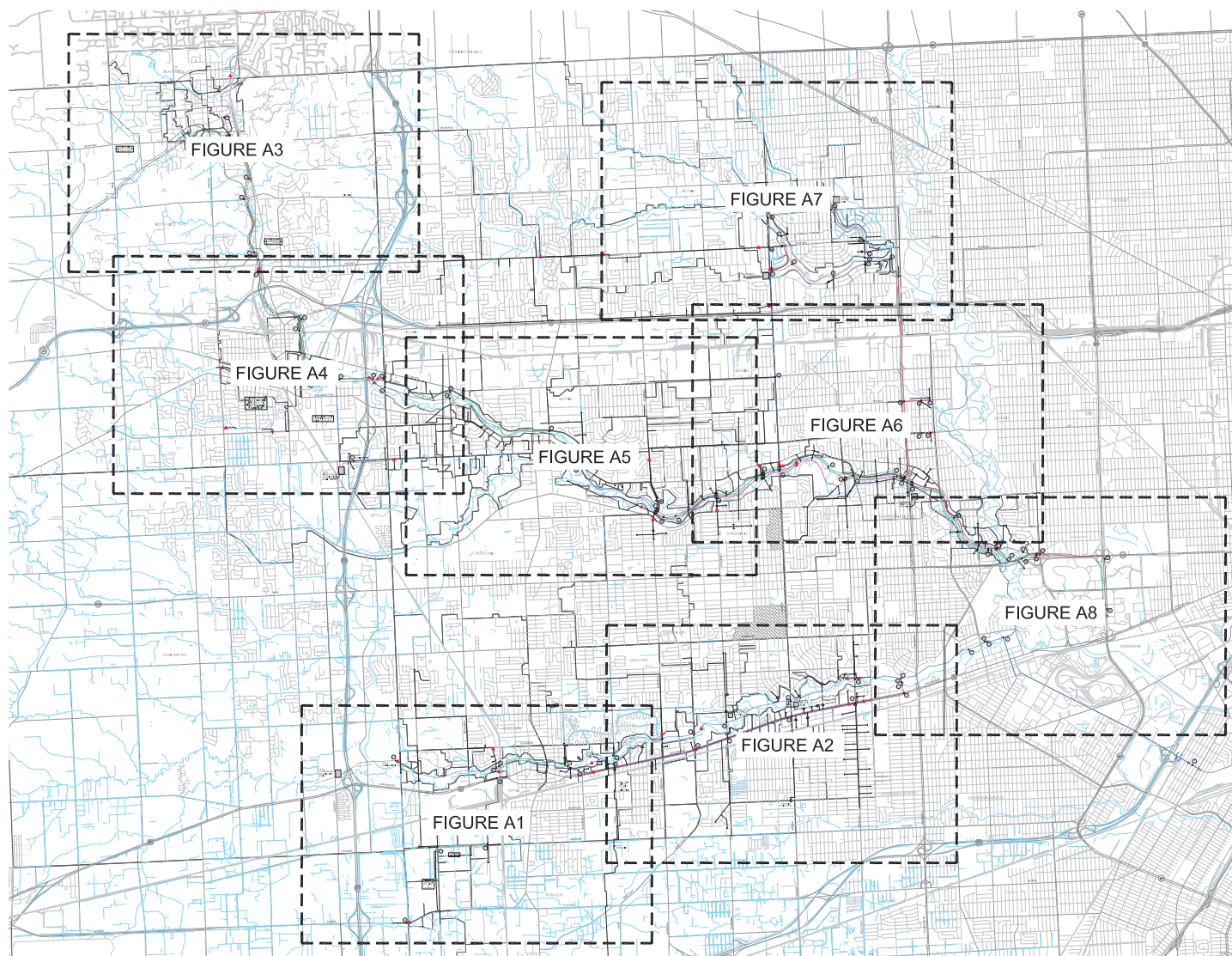
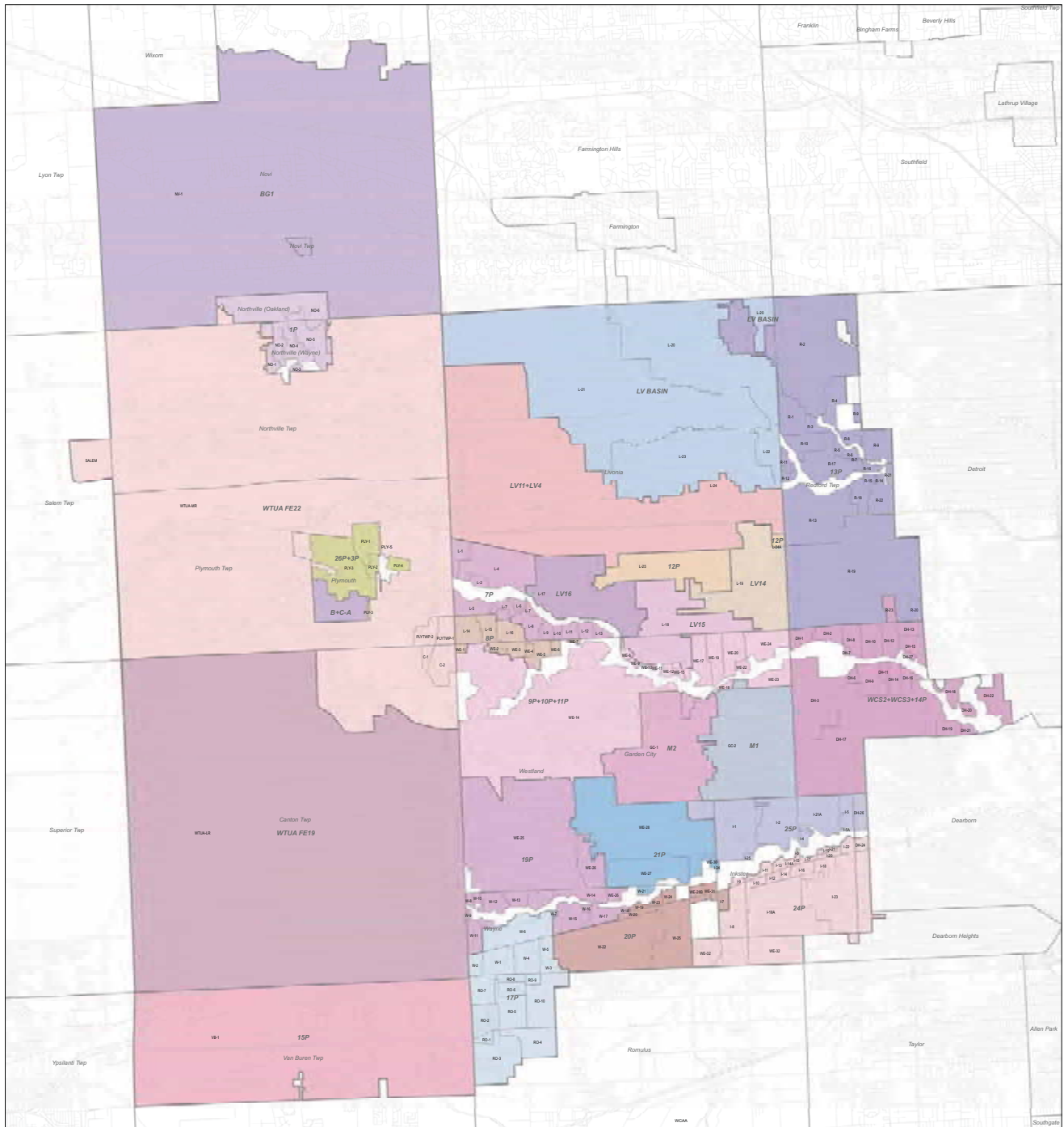


FIGURE 1
ROUGE VALLEY SEWAGE DISPOSAL SYSTEM
INTERCEPTOR SCHEMATIC



SYSTEM
MONITORING
INDEX SHEET



Rouge Valley Sewage Disposal System Incremental Meter District Map



Figure 2

Revised October 31, 2012

Section 2

Flow Summaries for System Meters

Table 3-1
Rouge Valley Sewage Disposal System

Average Flow Summary based on System Flow Meters, Prorated by Community Tributary Population -- October 2013

Branch	Sewage Flow Meter	Community	Year 2000 Residential Population	Year 2000 Employment	Year 2000 Equivalent Population ²	Total Developed Land (acres)	1988 Capacity Allocation (MGD)	Average Flow Rate (MGD)	Average Flow Rate ³ (gal/capita/day)	Average Dry Weather Flow Rate (MGD)	Average Dry Weather Flow Rate (gal/capita/day)
Middle Rouge at Inkster Road	9P+10P+11P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.2	96.5	4.2	92.8
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	0.9		0.8	
		Northville City	6,129	5,909	7,015	964	4.9	0.6		0.5	
		Garden City	30,044	11,437	31,760	3,647	15.8	2.8		2.7	
		Livonia	98,412	102,826	113,836	18,244	68.0	9.2		8.8	
		Westland	43,995	13,745	46,057	4,874	26.2	4.1		3.9	
		Total	226,344	170,226	251,878	36,629	135.6	21.9		21.0	
Middle Rouge Outlet	WCS2+WCS3+14P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.2	118.4	4.2	110.6
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	0.9		0.8	
		Northville City	6,129	5,909	7,015	964	4.9	0.6		0.5	
		Garden City	30,044	11,437	31,760	3,647	15.8	2.8		2.7	
		Livonia	100,511	105,019	116,264	18,597	68.8	13.3		12.2	
		Westland	43,995	13,745	46,057	4,874	26.2	4.1		3.9	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	6.6		6.1	
Lower Rouge Outlet	24P+25P-WTUA FE19	Dearborn Heights	35,023	9,095	36,387	3,738	38.6	4.6	93.8	4.2	84.2
		Total	313,694	199,982	343,691	46,794	208.3	37.1		34.7	
		Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.5		0.4	
		Romulus	1,991	2,364	2,346	752	2.3	0.2		0.2	
		Wayne	19,039	16,564	21,524	2,833	18.0	1.8		1.6	
		Westland	42,650	13,324	44,649	4,802	25.5	4.0		3.6	
		Inkster	30,122	5,788	30,990	3,113	17.2	2.8		2.5	
		Dearborn Heights	2,429	631	2,524	379	3.7	0.2		0.2	
RVSDS Outlet	WCS1+WCS2+WCS3	Total	101,234	44,409	107,895	13,546	70.0	9.5	102.4	8.5	95.3
		Novi	38,451	28,025	42,655	8,086	13.2	4.2		4.2	
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	1,209	3.1	1.7		1.6	
		Northville City	6,129	5,909	7,015	964	4.9	0.6		0.6	
		Garden City	30,044	11,437	31,760	3,647	15.8	3.1		2.9	
		Livonia	100,511	105,019	116,264	18,597	68.8	10.3		9.5	
		Westland	86,645	27,069	90,705	9,676	51.7	8.9		8.2	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	5.2		4.8	
		Dearborn Heights	37,452	9,726	38,911	4,117	42.3	3.8		3.6	
		Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.5		0.5	
		Romulus	1,991	2,364	2,346	752	2.3	0.2		0.2	
		Wayne	19,039	16,564	21,524	2,833	18.0	2.0		1.8	
		Inkster	30,122	5,788	30,990	3,113	17.2	3.1		2.9	
		WTUA ²	41,949	19,540	44,879	8,626	19.4	3.2		2.9	
		Total	456,877	263,931	496,466	69,379	294.2	46.8		43.6	

Notes:

1) Data shown for Northville Twp. applies only to that portion which is directly discharged to RVSDS and not included in data shown for WTUA.

2) The Western Townships Utilities Authority (WTUA) has two metered flow outlets to the Rouge Valley Sewage Disposal System (RVSDS) and an outlet to the Ypsilanti Community Utilities Authority (YCUA). The split of flow between the RVSDS and YCUA is varied by WTUA. The reported average flow split for October 2013 was 33.5% to the RVSDS with the remainder to YCUA. The WTUA flow rates to the RVSDS are included at the outlet with this percentage of the population used in the per capita flow rate calculations. It is necessary to deduct the WTUA metered flow rates from the RVSDS flow rates when characterizing the Middle Rouge and Lower Rouge branches separately because of the variability of the flow split. WTUA includes all of Canton Twp.; all of Plymouth Twp.; a small portion of Plymouth City not metered by C-B-A; and all of Northville Twp. except for about 18 acres of parcel area with about 145 residents.

3) Average community flow rates by branch are computed by multiplying the average metered branch outlet flow rate by each community's ratio of the total residential population served by the branch, with the exception of Novi and WTUA. For Novi and WTUA, the metered flow rate from BG1, FE22, FE19, C, B and A are used to compute the community average flow rates, since these meters capture the entire community flow and were found to be reliable during previous studies.

4) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Table 3-2
Rouge Valley Sewage Disposal System

Average Flow Summary based on System Flow Meters, Prorated by Community Tributary Population -- November 2013

Branch	Sewage Flow Meter	Community	Year 2000 Residential Population	Year 2000 Employment	Year 2000 Equivalent Population ²	Total Developed Land (acres)	1988 Capacity Allocation (MGD)	Average Flow Rate (MGD)	Average Flow Rate ³ (gal/capita/day)	Average Dry Weather Flow Rate (MGD)	Average Dry Weather Flow Rate (gal/capita/day)
Middle Rouge at Inkster Road	9P+10P+11P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.5	117.3	4.4	107.3
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	1.1		1.0	
		Northville City	6,129	5,909	7,015	964	4.9	0.7		0.7	
		Garden City	30,044	11,437	31,760	3,647	15.8	3.5		3.2	
		Livonia	98,412	102,826	113,836	18,244	68.0	11.6		10.4	
		Westland	43,995	13,745	46,057	4,874	26.2	5.2		4.7	
		Total	226,344	170,226	251,878	36,629	135.6	26.6		24.3	
Middle Rouge Outlet	WCS2+WCS3+14P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.5	151.4	4.4	128.1
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	1.1		1.0	
		Northville City	6,129	5,909	7,015	964	4.9	0.7		0.7	
		Garden City	30,044	11,437	31,760	3,647	15.8	3.5		3.2	
		Livonia	100,511	105,019	116,264	18,597	68.8	17.6		14.2	
		Westland	43,995	13,745	46,057	4,874	26.2	5.2		4.7	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	8.8		7.1	
Lower Rouge Outlet	24P+25P-WTUA FE19	Dearborn Heights	35,023	9,095	36,387	3,738	38.6	6.1	116.5	5.0	102.9
		Total	313,694	199,982	343,691	46,794	208.3	47.5		40.2	
		Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.6		0.5	
		Romulus	1,991	2,364	2,346	752	2.3	0.2		0.2	
		Wayne	19,039	16,564	21,524	2,833	18.0	2.2		2.0	
		Westland	42,650	13,324	44,649	4,802	25.5	5.0		4.4	
		Inkster	30,122	5,788	30,990	3,113	17.2	3.5		3.1	
		Dearborn Heights	2,429	631	2,524	379	3.7	0.3		0.2	
RVSDS Outlet	WCS1+WCS2+WCS3	Total	101,234	44,409	107,895	13,546	70.0	11.8	133.1	10.4	111.9
		Novi	38,451	28,025	42,655	8,086	13.2	4.5		4.4	
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	1,209	3.1	2.0		1.9	
		Northville City	6,129	5,909	7,015	964	4.9	0.9		0.7	
		Garden City	30,044	11,437	31,760	3,647	15.8	4.2		3.4	
		Livonia	100,511	105,019	116,264	18,597	68.8	14.2		11.5	
		Westland	86,645	27,069	90,705	9,676	51.7	12.2		9.9	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	7.1		5.7	
		Dearborn Heights	37,452	9,726	38,911	4,117	42.3	5.3		4.3	
		Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.7		0.6	
		Romulus	1,991	2,364	2,346	752	2.3	0.3		0.2	
		Wayne	19,039	16,564	21,524	2,833	18.0	2.7		2.2	
		Inkster	30,122	5,788	30,990	3,113	17.2	4.2		3.4	
		WTUA ²	41,792	19,467	44,712	8,594	19.4	2.6		3.0	
		Total	456,720	263,858	496,299	69,347	294.2	60.8		51.1	

Notes:

1) Data shown for Northville Twp. applies only to that portion which is directly discharged to RVSDS and not included in data shown for WTUA.

2) The Western Townships Utilities Authority (WTUA) has two metered flow outlets to the Rouge Valley Sewage Disposal System (RVSDS) and an outlet to the Ypsilanti Community Utilities Authority (YCUA). The split of flow between the RVSDS and YCUA is varied by WTUA. The reported average flow split for November 2013 was 33.4% to the RVSDS with the remainder to YCUA. The WTUA flow rates to the RVSDS are included at the outlet with this percentage of the population used in the per capita flow rate calculations. It is necessary to deduct the WTUA metered flow rates from the RVSDS flow rates when characterizing the Middle Rouge and Lower Rouge branches separately because of the variability of the flow split. WTUA includes all of Canton Twp.; all of Plymouth Twp.; a small portion of Plymouth City not metered by C-B-A; and all of Northville Twp. except for about 18 acres of parcel area with about 145 residents.

3) Average community flow rates by branch are computed by multiplying the average metered branch outlet flow rate by each communities ratio of the total residential population served by the branch, with the exception of Novi and WTUA. For Novi and WTUA, the metered flow rate from BG1, FE22, FE19, C, B and A are used to compute the community average flow rates, since these meters capture the entire community flow and were found to be reliable during previous studies.

4) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Table 3-3
Rouge Valley Sewage Disposal System

Average Flow Summary based on System Flow Meters, Prorated by Community Tributary Population -- December 2013

Branch	Sewage Flow Meter	Community	Year 2000 Residential Population	Year 2000 Employment	Year 2000 Equivalent Population ²	Total Developed Land (acres)	1988 Capacity Allocation (MGD)	Average Flow Rate (MGD)	Average Flow Rate ³ (gal/capita/day)	Average Dry Weather Flow Rate (MGD)	Average Dry Weather Flow Rate (gal/capita/day)
Middle Rouge at Inkster Road	9P+10P+11P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.5	120.3	4.4	104.5
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	1.1		0.9	
		Northville City	6,129	5,909	7,015	964	4.9	0.7		0.6	
		Garden City	30,044	11,437	31,760	3,647	15.8	3.6		3.1	
		Livonia	98,412	102,826	113,836	18,244	68.0	11.9		10.1	
		Westland	43,995	13,745	46,057	4,874	26.2	5.3		4.5	
		Total	226,344	170,226	251,878	36,629	135.6	27.2		23.7	
Middle Rouge Outlet	WCS2+WCS3+14P -WTUA FE22+C-B-A	Novi	38,451	28,025	42,655	8,086	13.2	4.5	162.4	4.4	137.4
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	796	3.1	1.1		0.9	
		Northville City	6,129	5,909	7,015	964	4.9	0.7		0.6	
		Garden City	30,044	11,437	31,760	3,647	15.8	3.6		3.1	
		Livonia	100,511	105,019	116,264	18,597	68.8	19.3		16.0	
		Westland	43,995	13,745	46,057	4,874	26.2	5.3		4.5	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	9.6		8.0	
		Dearborn Heights	35,023	9,095	36,387	3,738	38.6	6.7		5.6	
		Total	313,694	199,982	343,691	46,794	208.3	50.9		43.1	
Lower Rouge Outlet	24P+25P-WTUA FE19	Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.7	134.1	0.5	104.1
		Romulus	1,991	2,364	2,346	752	2.3	0.3		0.2	
		Wayne	19,039	16,564	21,524	2,833	18.0	2.6		2.0	
		Westland	42,650	13,324	44,649	4,802	25.5	5.7		4.4	
		Inkster	30,122	5,788	30,990	3,113	17.2	4.0		3.1	
		Dearborn Heights	2,429	631	2,524	379	3.7	0.3		0.3	
		Total	101,234	44,409	107,895	13,546	70.0	13.6		10.5	
RVSDS Outlet	WCS1+WCS2+WCS3	Novi	38,451	28,025	42,655	8,086	13.2	4.5	144.5	4.4	118.7
		Northville Twp ¹	145	48	152	18	0.1	0.0		0.0	
		Plymouth City	9,168	8,237	10,404	1,209	3.1	2.1		1.9	
		Northville City	6,129	5,909	7,015	964	4.9	1.0		0.8	
		Garden City	30,044	11,437	31,760	3,647	15.8	4.7		3.9	
		Livonia	100,511	105,019	116,264	18,597	68.8	15.8		13.0	
		Westland	86,645	27,069	90,705	9,676	51.7	13.6		11.2	
		Redford Twp	50,228	18,468	52,998	6,074	34.2	7.9		6.5	
		Dearborn Heights	37,452	9,726	38,911	4,117	42.3	5.9		4.9	
		Van Buren Twp	5,003	5,738	5,864	1,667	3.2	0.8		0.6	
		Romulus	1,991	2,364	2,346	752	2.3	0.3		0.3	
		Wayne	19,039	16,564	21,524	2,833	18.0	3.0		2.5	
		Inkster	30,122	5,788	30,990	3,113	17.2	4.7		3.9	
		WTUA ²	46,530	21,674	49,781	9,568	19.4	2.4		0.9	
		Total	461,458	266,065	501,368	70,321	294.2	66.7		54.8	

Notes:

1) Data shown for Northville Twp. applies only to that portion which is directly discharged to RVSDS and not included in data shown for WTUA.

2) The Western Townships Utilities Authority (WTUA) has two metered flow outlets to the Rouge Valley Sewage Disposal System (RVSDS) and an outlet to the Ypsilanti Community Utilities Authority (YCUA). The split of flow between the RVSDS and YCUA is varied by WTUA. The reported average flow split for December 2013 was 37.2% to the RVSDS with the remainder to YCUA. The WTUA flow rates to the RVSDS are included at the outlet with this percentage of the population used in the per capita flow rate calculations. It is necessary to deduct the WTUA metered flow rates from the RVSDS flow rates when characterizing the Middle Rouge and Lower Rouge branches separately because of the variability of the flow split. WTUA includes all of Canton Twp.; all of Plymouth Twp.; a small portion of Plymouth City not metered by C-B-A; and all of Northville Twp. except for about 18 acres of parcel area with about 145 residents.

3) Average community flow rates by branch are computed by multiplying the average metered branch outlet flow rate by each communities ratio of the total residential population served by the branch, with the exception of Novi and WTUA. For Novi and WTUA, the metered flow rate from BG1, FE22, FE19, C, B and A are used to compute the community average flow rates, since these meters capture the entire community flow and were found to be reliable during previous studies.

4) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Section 3

Community Flow Summaries

Table 4
Rouge Valley Sewage Disposal System
Average Flow Summary by Community Based on Community Meter Math -- July through December 2013

Community	Sewage Flow Meter Math ²	Year 2000 Residential Population	Total Developed Land (acres)	1988 Capacity Allocation (MGD)	Average Monthly Flow Rate (MGD)						Average Flow Rate (MGD)	Portion of Average Monthly Flow Rate	Average Per Capita Flow Rate (GPCD)	Maximum Monthly Flow Rate (MGD)	Portion of Maximum Monthly Flow Rate
					Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13					
Novi	100%[BG1]	38,451	8,086	13.23	4.58	4.36	4.30	4.24	4.48	4.49	4.41	8%	114.65	4.58	6%
Plymouth City	11.5%[3P+26P] + C - B - A + 0.5%[WTUA FE22]	9,168	1,209	3.10	2.14	1.69	1.56	1.49	1.64	1.74	1.71	3%	186.56	2.14	3%
Northville City	13.7%[1P] + 0.5%[WTUA FE22 + C - B - A]	6,129	964	4.92	0.70	0.65	0.63	0.61	0.65	0.66	0.65	1%	105.97	0.70	1%
Garden City	98.4%[M1] + 94.8% [M2]	30,044	3,647	15.76	6.62	3.58	2.80	3.00	3.93	4.41	4.06	7%	135.00	6.62	9%
Livonia	7P - 26P + LV16 + 55.4%[8P - WTUA FE22] + 64.7%[LV15] + LV14 + 12P + 4.1%[13P]	100,511	18,597	68.81	17.42	11.74	10.96	10.67	12.82	12.92	12.75	23%	126.89	17.42	23%
Westland ¹	44.6%[8P - WTUA FE22] + 35.3%[LV15] + WE14 + 5.2%[M2] + 1.6%[M1] + 4.5%[9P + 10P + 11P - WTUA FE22] + WE25 + 6.2%[19P - WTUA FE19] + WE28 + 11.2%[21P - WTUA FE19] + 1.8%[25P - WTUA FE19] + 3.4%[20P] + 9.9%[24P]	86,645	9,676	51.71	12.18	9.19	8.13	7.65	9.32	9.66	9.36	17%	107.98	12.18	16%
Redford Twp	95.9%[13P] + 0.2%[WCS2 + WCS3 + 14P - WTUA FE22]	50,228	6,074	34.17	8.77	5.40	4.94	4.65	5.83	6.97	6.10	11%	121.37	8.77	12%
Dearborn Heights	11.3%[WCS2 + WCS3 + 14P - WTUA FE22] + 5.4%[24P] + 0.8%[25P - WTUA FE19]	37,452	4,117	42.29	6.42	4.06	4.00	3.89	5.16	5.57	4.85	9%	129.51	6.42	9%
Van Buren Twp	[15P]	5,003	1,667	3.23	1.04	0.92	0.82	0.70	0.84	0.88	0.87	2%	173.23	1.04	1%
Romulus	24.5% [17P]	1,991	752	2.33	0.53	0.51	0.47	0.40	0.44	0.40	0.46	1%	230.52	0.53	1%
Wayne	13.9% [17P] + 15.4%[19P - WTUA FE19] + 94.3%[20P] + 0.2%[21P - WTUA FE19]	19,039	2,833	18.04	4.15	2.99	2.50	2.62	3.29	3.55	3.18	6%	167.12	4.15	6%
Inkster	2.3%[20P] + 0.1%[21P - WTUA FE19] + 44.7%[24P] + 21.4%[25P - WTUA FE19]	30,122	3,113	17.22	5.35	3.66	2.99	2.91	3.56	4.03	3.75	7%	124.47	5.35	7%
WTUA	99.0% [WTUA FE22] - [C] + [A] + [B] + [WTUA FE19] + 0.3%[1P]	32,745	6,734	19.39	4.27	4.65	3.93	3.14	2.54	2.41	3.49	6%	106.59	4.65	6%
A	Sum of Community Flow Rates (MGD):				74.16	53.39	48.03	45.98	54.50	57.70	--				
B	Sum of Outlet Meter Flow Rates (MGD):				78.41	52.86	49.91	46.80	61.68	68.49					

Notes:
1) Meters WE14 and WE25 were installed in February 2013 and WE28 was installed in March 2013 and were added to the meter math algorithm.
2) Sewage flow meter math based on populations as shown in Final Order of Abatement 2117 (August 30, 2013)
3) Community flow rates vary between Tables 3-1 through 3-3 and Table 4. Tables 3-1 through 3-1 parses large tributary areas with less meters and estimates community flow rates based on population. Table 4 parses the tributary areas of each community and utilizes all available meters.

4) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Table 5
Rouge Valley Sewage Disposal System
Dry Weather Flow Summary by Community Based on Community Meter Math -- July through December 2013

Community	Sewage Flow Meter Math ²	Year 2000 Residential Population	Total Developed Land (acres)	1988 Capacity Allocation (MGD)	Average Monthly Dry Weather Flow Rate (MGD)						Average Flow Rate (MGD)	Portion of Average Monthly Flow Rate	Average Per Capita Flow Rate (GPCD)	Maximum Monthly Flow Rate (MGD)	Portion of Maximum Monthly Flow Rate
					Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13					
Novi	100%[BG1]	38,451	8,086	13.23	4.39	4.30	4.26	4.17	4.36	4.37	4.31	9%	112.05	4.39	7%
Plymouth City	11.5%[3P + 26P] + C - B - A + 0.5%[WTUA FE22]	9,168	1,209	3.10	2.02	1.69	1.56	1.45	1.46	1.70	1.65	3%	179.49	2.02	3%
Northville City	13.7%[1P] + 0.5%[WTUA FE22 + C - B - A]	6,129	964	4.92	0.67	0.64	0.62	0.60	0.63	0.63	0.63	1%	103.12	0.67	1%
Garden City	98.4%[M1] + 94.8% [M2]	30,044	3,647	15.76	4.31	3.11	2.65	2.63	3.25	3.25	3.20	7%	106.54	4.31	7%
Livonia	7P - 26P + LV16 + 55.4%[8P - WTUA FE22] + 64.7%[LV15] + LV14 + 12P + 4.1%[13P]	100,511	18,597	68.81	14.40	11.09	10.49	10.27	11.83	11.10	11.53	23%	114.73	14.40	24%
Westland ¹	44.6%[8P - WTUA FE22] + 35.3%[LV15] + WE14 + 5.2%[M2] + 1.6%[M1] + 4.5%[9P + 10P + 11P - WTUA FE22] + WE25 + 6.2%[19P - WTUA FE19] + WE28 + 11.2%[21P - WTUA FE19] + 1.8%[25P - WTUA FE19] + 3.4%[20P] + 9.9%[24P]	86,645	9,676	51.71	10.29	8.51	7.91	7.34	8.56	8.33	8.49	17%	97.97	10.29	17%
Redford Twp	95.9%[13P] + 0.2%[WCS2 + WCS3 + 14P - WTUA FE22]	50,228	6,074	34.17	7.23	4.91	4.42	4.23	5.18	5.56	5.25	11%	104.57	7.23	12%
Dearborn Heights	11.3%[WCS2 + WCS3 + 14P - WTUA FE22] + 5.4%[24P] + 0.8%[25P - WTUA FE19]	37,452	4,117	42.29	4.67	3.59	3.60	3.63	4.15	4.91	4.09	8%	109.25	4.91	8%
Van Buren Twp	[15P]	5,003	1,667	3.23	0.94	0.80	0.77	0.67	0.75	0.77	0.78	2%	156.57	0.94	2%
Romulus	24.5% [17P]	1,991	752	2.33	0.47	0.45	0.45	0.39	0.42	0.38	0.43	1%	215.14	0.47	1%
Wayne	13.9% [17P] + 15.4%[19P - WTUA FE19] + 94.3%[20P] + 0.2%[21P - WTUA FE19]	19,039	2,833	18.04	3.36	2.59	2.41	2.40	2.93	3.02	2.78	6%	146.21	3.36	5%
Inkster	2.3%[20P] + 0.1%[21P - WTUA FE19] + 44.7%[24P] + 21.4%[25P - WTUA FE19]	30,122	3,113	17.22	3.90	3.12	2.86	2.62	3.15	3.21	3.14	6%	104.29	3.90	6%
WTUA	99.0% [WTUA FE22] - [C] + [A] + [B] + [WTUA FE19] + 0.3%[1P]	32,745	6,734	19.39	3.08	4.24	3.62	2.88	2.96	0.91	2.95	6%	90.01	4.24	7%
A	Sum of Community Flow Rates (MGD):				59.72	49.03	45.62	43.29	49.62	48.13	--				
B	Sum of Outlet Meter Flow Rates (MGD):				56.10	46.34	45.15	43.56	51.09	57.34					

Notes:
1) Meters WE14 and WE25 were installed in February 2013 and WE28 was installed in March 2013 and were added to the meter math algorithm.
2) Sewage flow meter math based on populations as shown in Final Order of Abatement 2117 (August 30, 2013)
3) Community flow rates vary between Tables 3-1 through 3-3 and Table 5. Tables 3-1 through 3-1 parses large tributary areas with less meters and estimates community flow rates based on population. Table 5 parses the tributary areas of each community and utilizes all available meters.

4) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Section 4

Maximum Hourly Flow Rates by Community

Table 6
Rouge Valley Sewage Disposal System
Estimated Maximum Hourly Flow Rates by Community - October through December 2013

Community	Sewage Flow Meter Math	1988 Capacity Allocation (MGD)	Event 1 10/30/2013 - 11/1/2013 1.72 in		Event 2 12/19/2013 - 12/22/2013 1.19 in	
			Maximum Hourly Flow Rate (MGD)	Peaking Factor	Maximum Hourly Flow Rate (MGD)	Peaking Factor
Novi	100%[BG1]	13.2	6.6	1.6	7.7	1.8
Plymouth City	11.5%[3P+26P] + C - B - A + 0.5%[WTUA FE22]	3.1	2.6	1.8	4.5	2.8
Northville City	13.7%[1P] + 0.5%[WTUA FE22 + C - B - A]	4.9	0.9	1.5	1.2	1.8
Garden City	98.4%[M1] + 94.8% [M2]	15.8	21.7	7.4	18.0	5.5
Livonia	7P - 26P + LV16 + 55.4%[8P - WTUA FE22] + 64.7%[LV15] + LV14 + 12P + 4.1%[13P]	68.8	26.8	2.4	29.4	2.6
Westland	44.6%[8P - WTUA FE22] + 35.3%[LV15] + WE14 + 5.2%[M2] + 1.6%[M1] + 4.5%[9P + 10P + 11P - WTUA FE22] + WE25 + 6.2%[19P - WTUA FE19] + WE28 + 11.2%[21P - WTUA FE19] + 1.8%[25P - WTUA FE19] + 3.4%[20P] + 9.9%[24P]	51.7	19.6	2.5	22.0	2.6
Redford Twp	95.9%[13P] + 0.2%[WCS2 + WCS3 + 14P - WTUA FE22]	34.2	19.3	4.1	21.5	3.9
Dearborn Heights	11.3%[WCS2 + WCS3 + 14P - WTUA FE22] + 5.4%[24P] + 0.8%[25P - WTUA FE19]	42.3	11.8	2.9	13.6	2.7
Van Buren Twp	[15P]	3.2	1.8	2.5	2.3	3.0
Romulus	24.5% [17P]	2.3	1.0	2.5	0.9	2.4
Wayne	13.9% [17P] + 15.4%[19P - WTUA FE19] + 94.3%[20P] + 0.2%[21P - WTUA FE19]	18.0	10.2	3.8	9.8	3.3
Inkster	2.3%[20P] + 0.1%[21P - WTUA FE19] + 44.7%[24P] + 21.4%[25P - WTUA FE19]	17.2	11.1	3.9	12.9	4.3
WTUA	99.0% [WTUA FE22] - [C] + [A] + [B] + [WTUA FE19] + 0.3%[1P]	19.4	9.4	2.3	11.3	2.5

Legend:

xx.x	Exceeds the 1988 Capacity Allocation by 0 to 10%
xx.x	Exceeds the 1988 Capacity Allocation by more than 10%

Notes:

- 1) The peaking factor is a ratio of the maximum flow rate observed during the event to the average monthly dry weather flow rate.
- 2) The maximum hourly flow rates do not account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Section 5

Summary of Rainfall Events

Table 7
Rouge Valley Sewage Disposal System
Summary of Rainfall Events

Period: 10/1/2013 through 12/31/2013

Significant Event No. **	Start Date/Time	Stop Date/Time	Duration (hours)	Preceding Week Rainfall (inches)	Rainfall Depth (inches)				Coefficient of Variation*
					Minimum	Average	Maximum	Std. Dev	
1	10/30/2013 18:00	11/1/2013 6:00	36.0	0.13	1.42	1.72	2.07	0.20	12%
2	12/19/2013 0:00	12/22/2013 12:00	84.0	0.14	0.32	1.19	1.97	0.49	41%

*The coefficient of variation (CV) is the ratio of the standard deviation to the average. It provides a normalized assessment of the degree of spatial variability for a given event. This allows comparisons to be made between events regarding their uniformity over the service area independent of the magnitude of each event. A low CV means the storm event's rainfall was evenly distributed over the district, a high CV means the storm event had pockets of intense rainfall within the district.

**Events where the average rainfall depth exceeds 1 inch are considered significant events and are numbered.

Section 6

Peak Hydraulic Gradeline Summary

Table 8-1
Rouge Valley Sewage Disposal System
Peak Hydraulic Gradeline Summary

Meter	Manhole ID	Interceptor Branch	Interceptor Height (inches)	Interceptor Rim (feet)	Interceptor Invert (feet)	10/30/2013 Event				12/19/2013 Event			
						Peak Recorded Hourly Flow Rate (MGD)	Time	Peak Recorded Depth (feet)	Time	Peak Recorded Hourly Flow Rate (MGD)	Time	Peak Recorded Depth (feet)	Time
RVSDS_NOVI_BG1	NT 25	Novi Trunk Sewer	42	821.41	797.58	6.62	11/2/13 11:55	--	--	7.66	12/22/13 13:20	--	--
RVSDS_P01	NAI 1-13A	NAI	48	742.00	716.74	6.57	11/2/13 12:30	1.15	O	7.99	12/22/13 13:45	1.31	O
RVSDS_P03	MRIR 5C-01	MRIR	36	681.87	652.92	7.90	11/2/13 14:30	1.18	O	10.12	12/19/13 11:55	1.46	O
RVSDS_P26	PWI 2-05	PWI	30	663.49	648.29	0.32	11/2/13 15:15	0.30	O	0.76	12/19/13 12:50	0.52	O
RVSDS_P07	PWI I-03	PWI	48	649.29	625.68	1.80	11/2/13 15:35	1.02	O	2.41	12/22/13 15:35	1.14	O
LIVONIA_LV16	--	Community Sewer	48	--	--	2.88	11/2/13 10:45	0.95	O	3.36	12/22/13 6:15	0.99	O
WTUA_FE-22	RVI 10-11	RVI	48	685.33	645.83	10.98	10/31/13 22:30	1.67	O	13.39	12/22/13 12:45	1.81	O
PLYMOUTH_A	--	Community Sewer	21	--	--	0.91	10/31/13 13:00	0.58	O	1.04	12/22/13 9:00	0.59	O
PLYMOUTH_B	--	Community Sewer	36	--	--	1.56	10/30/13 20:30	0.59	O	2.06	12/21/13 23:00	0.65	O
PLYMOUTH_C	--	Community Sewer	30	--	--	3.83	10/31/13 22:00	0.78	O	5.81	12/22/13 12:00	0.83	O
RVSDS_P08	RVI 9-20	Rouge Valley	48	646.00	622.76	11.70	11/1/13 0:00	1.48	O	14.65	12/22/13 14:00	1.66	O
LIVONIA_LV15	--	Community Sewer	60	--	--	3.64	10/31/13 21:45	2.91	O	3.70	12/22/13 9:45	3.80	O
RVSDS_M22	--	Community Sewer	42	--	--	--	--	5.88	⊗	--	--	8.18	⊗
GARDENCITY_M2	--	Community Sewer	72	--	608.00	6.30	10/31/13 22:15	1.55	O	7.35	12/22/13 1:45	1.73	O
GARDENCITY_M1	--	Community Sewer	72	--	--	19.22	10/31/13 1:15	4.85	O	11.27	12/22/13 0:30	6.51	⊗
LIVONIA_LV14	--	Community Sewer	60	632.00	606.54	4.98	10/31/13 22:30	1.26	O	4.19	12/22/13 1:15	1.12	O
LIVONIA_LV20	--	Community Sewer	54	--	--	0.10	11/3/13 13:45	0.27	O	0.11	12/19/13 17:05	0.27	O
RVSDS_LVBASIN	RVI 12-12	RVI	54	631.29	602.99	11.48	11/1/13 1:00	3.39	O	14.56	12/22/13 14:55	3.78	O
LIVONIA_LV04	--	Community Sewer	30	--	--	5.27	10/31/13 22:00	1.78	O	5.64	12/22/13 13:30	1.82	O
LIVONIA_LV11	--	Community Sewer	42	630.00	612.00	5.54	10/31/13 22:30	1.09	O	5.37	12/22/13 1:45	1.04	O
RVSDS_P12	RVI 12-01	RVI	60	623.21	598.65	16.63	11/1/13 0:05	2.46	O	17.79	12/22/13 1:40	2.59	O
RVSDS_P09	NHV 3-34	MRIR	42	609.00	597.48	7.44	10/31/13 23:50	2.19	O	9.30	12/22/13 1:20	2.51	O
RVSDS_P10	RVI 6-50	RVI	66	608.09	596.00	37.64	10/31/13 23:40	2.90	O	43.13	12/22/13 1:30	3.21	O
RVSDS_P11	MR II-18	MRPIE	48	608.32	597.15	20.19	10/31/13 23:45	2.97	O	22.14	12/22/13 1:35	3.22	O
RVSDS_P13	MR IV -07	MRPIE	54	625.79	587.33	19.99	11/1/13 0:00	2.70	O	22.30	12/22/13 0:40	2.89	O
RVSDS_P14	RVI 4-16A	RVI	78	606.04	571.93	58.03	11/1/13 1:25	4.22	O	62.37	12/22/13 1:30	0.00	O
WCS2	MR 1A-C2	MRPIE	93	618.74	568.92	22.17	11/1/13 0:50	--	--	32.91	12/22/13 2:45	--	--
WCS3	MRIR 1-01B	MRIR	48	600.00	561.45	10.38	11/3/13 18:55	--	--	10.40	12/22/13 18:55	--	--
RVSDS_P15	WRVI - 54	Wayne Romulus	24	666.93	652.11	1.77	10/31/13 23:25	1.08	O	2.28	12/22/13 2:15	1.20	O
RVSDS_P17	LRIR 9-17	LRIR	30	641.65	632.83	4.08	10/31/13 18:25	1.00	O	3.68	12/22/13 15:00	0.93	O
WTUA_FE-19	--	Community Sewer	--	--	--	0.00	10/30/13 11:00	--	--	0.00	12/19/13 10:00	--	--
RVSDS_P19	RVI 15-17	RVI	48	630.00	622.50	8.14	10/31/13 18:20	1.52	O	10.39	12/22/13 14:55	1.73	O
RVSDS_P21	RVI 14-19	RVI	54	625.18	609.11	13.06	11/1/13 0:05	1.58	O	14.91	12/22/13 15:05	1.68	O
RVSDS_P25	RVI 5-14	RVI	60	598.55	589.05	26.84	11/1/13 3:15	2.27	O	35.99	12/22/13 14:05	2.40	O
RVSDS_P20	WI E-35	WI	48	626.00	620.40	9.07	10/31/13 22:40	2.58	O	8.40	12/22/13 1:30	2.40	O
RVSDS_P24	WI E-08	WI	52	623.24	599.99	11.80	11/1/13 0:10	1.45	O	12.18	12/22/13 1:25	1.49	O
WCS1	MR I 05B	RVI	66	585.00	554.30	102.26	11/1/13 5:30	--	--	110.20	12/22/13 5:15	--	--
RVSDS_WE25	--	Community Sewer	27	--	--	3.70	10/31/13 23:10	1.14	O	4.16	12/21/13 23:55	1.22	O
RVSDS_WE28	--	Community Sewer	30	--	--	2.99	10/31/13 22:40	0.87	O	3.49	12/22/13 1:30	0.93	O
RVSDS_WE14	--	Community Sewer	42	--	--	5.69	10/31/13 22:30	1.61	O	6.09	12/22/13 14:05	1.67	O

Key
 LRIR Lower Rouge Interceptor Relief
 MR Middle Rouge
 MRIR Middle Rouge Interceptor Relief
 NAI Northville Arm Interceptor
 NHV North Huron Valley
 NT Novi Truck Sewer
 PWI Parkway Interceptor
 RVI Rouge Valley Interceptor
 WIE Wayne Interceptor Extension
 WRVI Wayne-Romulus-Van Buren Interceptor

Key
 O Within sewer:
 ⊗ Surcharging sewer, grade elevation unknown:
 ⊗ Surcharging sewer, grade elevation known:
 ● Above grade:
 -- Data Not Available:

Section 7
Rainfall Event Summary Tables

Table 9-1
Rouge Valley Sewage Disposal System
Rainfall Event Summary Table

Start Date/Time: 10/30/2013 18:00

Stop Date/Time: 11/1/2013 6:00

Gage ID	Peak Hour (in)	Peak 3 Hour (in)	Peak 6 Hour (in)	Peak 12 Hour (in)	Peak 24 Hour (in)	Event Total (in)
R10	0.52	0.82	1.03	1.20	1.97	2.07
R11	0.19	0.42	0.57	0.79	1.44	1.56
R12	0.38	0.59	0.75	0.89	1.71	1.80
R13	0.37	0.59	0.77	0.90	1.52	1.68
R14	0.36	0.59	0.81	0.98	1.93	2.04
R15	0.49	0.71	0.92	1.10	1.72	1.93
R18	0.34	0.71	0.91	1.05	1.74	1.84
R27	0.44	0.69	0.89	1.05	1.83	1.97
R28	0.56	0.76	0.91	1.05	1.90	2.02
R29	0.30	0.53	0.70	0.88	1.69	1.78
PG009	0.22	0.48	0.63	0.78	1.52	1.52
PG010	0.35	0.67	0.79	0.89	1.58	1.59
PG012	0.33	0.58	0.69	0.84	1.58	1.59
PG030	0.29	0.64	0.76	0.90	1.68	1.68
PG032	0.18	0.39	0.53	0.80	1.50	1.50
PG033	0.29	0.45	0.63	0.96	1.65	1.67
PG034	0.28	0.62	0.76	0.88	1.64	1.64
Garden City-RG1	0.33	0.55	0.71	0.86	1.61	1.71
Livonia-RG1	0.25	0.41	0.58	0.73	1.39	1.48
Livonia-RG2	0.24	0.40	0.59	0.76	1.34	1.42
No Data	Minimum (in):					1.42
	Average (in):					1.72
	Maximum (in):					2.07
	Standard Deviation (in):					0.20
	Coefficient of Variation:					12%

Table 9-2
Rouge Valley Sewage Disposal System
Rainfall Event Summary Table

Start Date/Time: 12/19/2013 0:00

Stop Date/Time: 12/22/2013 12:00

Gage ID	Peak Hour (in)	Peak 3 Hour (in)	Peak 6 Hour (in)	Peak 12 Hour (in)	Peak 24 Hour (in)	Event Total (in)
R10	0.11	0.30	0.54	0.81	1.25	1.61
R11	0.10	0.27	0.47	0.74	1.04	1.97
R12	0.10	0.25	0.45	0.73	1.00	1.46
R13	--	--	--	--	--	--
R14	0.10	0.28	0.46	0.73	1.08	1.48
R15	0.10	0.28	0.49	0.72	1.13	1.48
R18	0.11	0.30	0.49	0.77	1.17	1.57
R27	0.12	0.29	0.54	0.83	1.21	1.63
R28	0.11	0.29	0.54	0.83	1.21	1.72
R29	0.10	0.26	0.48	0.75	1.05	1.53
PG009	0.13	0.20	0.30	0.36	0.58	1.16
PG010	0.18	0.21	0.24	0.29	0.41	0.86
PG012	0.16	0.23	0.29	0.33	0.39	0.61
PG030	0.13	0.24	0.29	0.37	0.44	1.09
PG032	0.06	0.12	0.17	0.23	0.29	0.47
PG033	0.13	0.23	0.29	0.33	0.37	0.53
PG034	0.09	0.16	0.23	0.30	0.43	0.56
Garden City-RG1	0.09	0.19	0.32	0.52	0.74	1.15
Livonia-RG1	0.04	0.07	0.12	0.16	0.28	0.32
Livonia-RG2	0.10	0.24	0.43	0.68	0.94	1.40

No Data	Minimum (in):	0.32
	Average (in):	1.19
	Maximum (in):	1.97
	Standard Deviation (in):	0.49
	Coefficient of Variation:	41%

Section 8

Dry/Wet Weather Day Count by Month

Table 10
Rouge Valley Sewage Disposal System
Dry/Wet Weather Day Count by Month - July through September 2013

Month	Number of Dry Weather Days	Number of Wet Weather Days
Jul-13	11	20
Aug-13	24	7
Sep-13	26	4
Oct-13	18	13
Nov-13	12	18
Dec-13	16	15
Total	107	77

Notes:

1) Three statistical passes were used for screening out dry and wet weather days using daily average flow rate traces for the end of system Meters 9P, 10P, 11P, 13P, 24P, and 25P. These meters were chosen because they are near the downstream end of the interceptor system, include some dewatering flow rates, and provide a well defined sort of dry/wet days. The first pass was designed to flag days that exhibited abrupt changes in average flow from the preceding or following days. This criterion was selected because storm events that cause a wet weather response will raise the daily average by an observable amount when compared to the preceding day. Likewise, the daily average flow rate on the day following a storm event will exhibit a decrease as the flow rates subside. Through trial and error, a 10% increase or a 10% decrease were selected as the threshold values for the determination of a wet day. The second and third passes were designed to flag wet days that remained after the first pass. For these passes, the daily average flow rate was constrained to remain below one and a half standard deviations of the quarterly average. Any day with a daily average above this was flagged as a wet day. The second pass threshold value was calculated from all days in the quarter, and the third pass threshold value was calculated from the dry days remaining after the first two passes. Lastly, the sort of dry and wet weather days were visually checked and adjusted.

2) The same set of dry days was used to estimate the dry weather flow rates for all of the meters.

Section 9

Flow Rate Data Flags

Figure 3-1
Rouge Valley Sewage Disposal System
October 2013 Flow Rate Flags

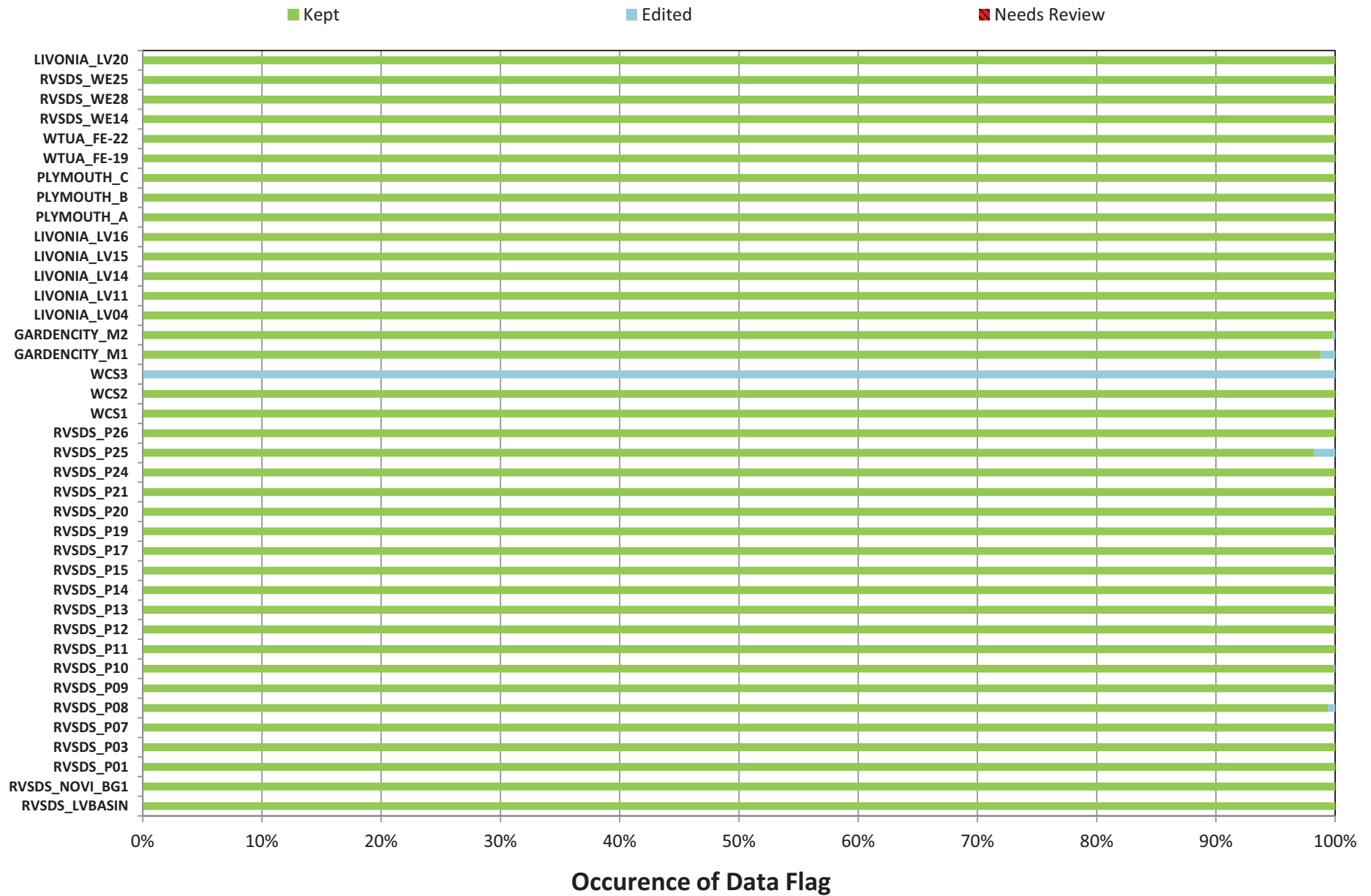


Figure 3-2
Rouge Valley Sewage Disposal System
November 2013 Flow Rate Flags

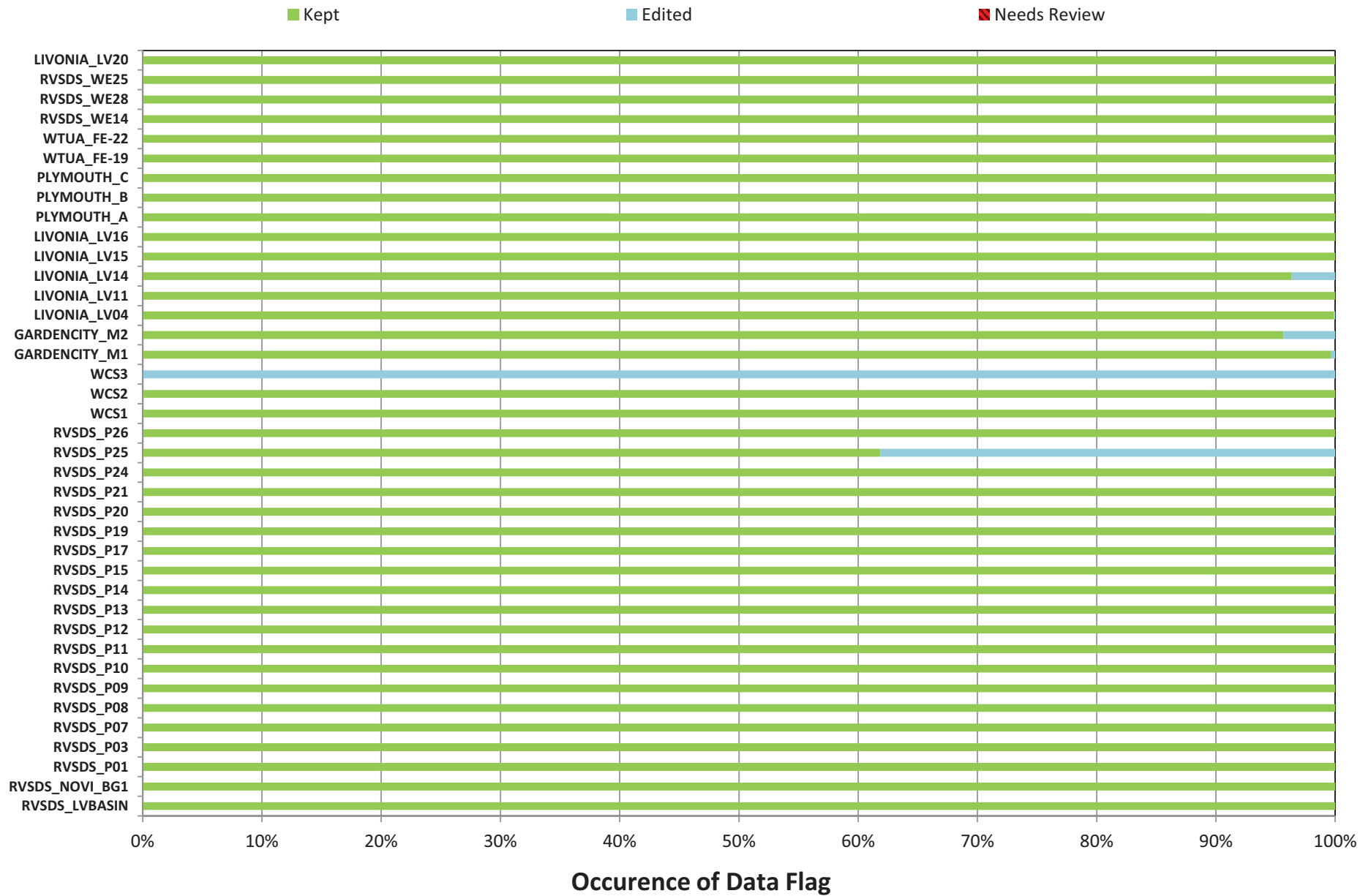
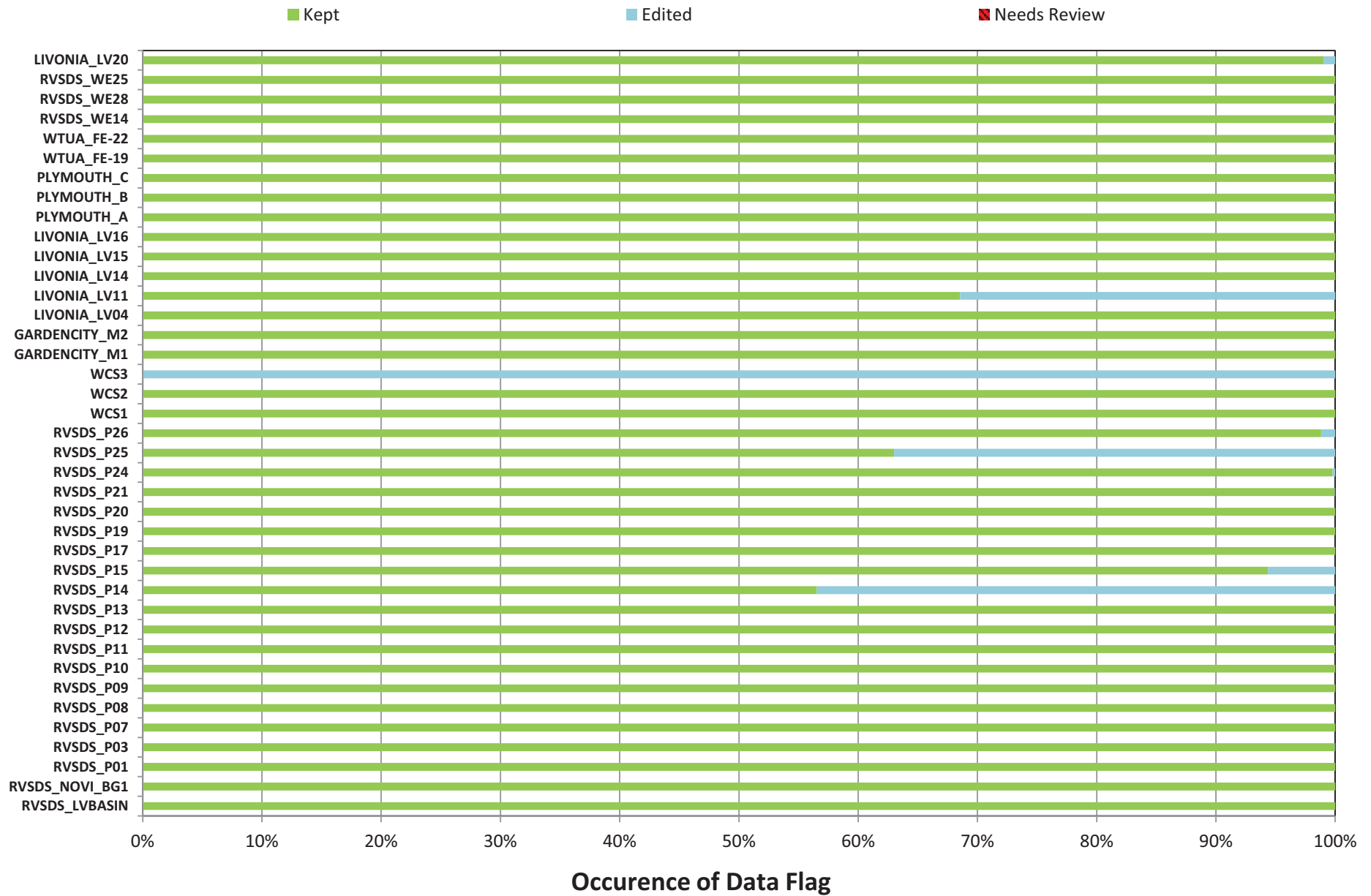


Figure 3-3
Rouge Valley Sewage Disposal System
December 2013 Flow Rate Flags



Section 10

Data Edits

Table 11
Rouge Valley Sewage Disposal System
Notable Data Edits -- October 2013 through December 2013

Meter	Period		Fix Applied
	Start	Stop	
Garden City M2	11/13/2013	11/13/2013	Diurnal Pattern
	11/14/2013	11/14/2013	Diurnal Pattern
	11/19/2013	11/19/2013	Linear Interpolation
	11/19/2013	11/19/2013	Linear Interpolation
Livonia LV11	12/22/2013	12/31/2013	Correlation to LV14
Livonia LV14	11/19/2013	11/20/2013	Diurnal Pattern
Livonia LV20	12/5/2013	12/5/2013	Diurnal Pattern
	12/6/2013	12/6/2013	Diurnal Pattern
FE-22	11/24/2013	11/24/2013	Linear Interpolation
P-8	10/31/2013	10/31/2013	Linear Interpolation
P-14	12/18/2013	12/31/2013	Correlation to P10
P-15	12/30/2013	12/31/2013	Diurnal Pattern
P-25	10/8/2013	10/8/2013	Diurnal Pattern
	11/29/2013	12/12/2013	Correlation to P21
P-26	12/5/2013	12/5/2013	Correlation to P7
	12/7/2013	12/7/2013	Correlation to P7
WCS3 ¹	10/1/2013	12/31/2013	Correlation to WCS2 and P14

1) Meter WCS3 was out of service for the majority of this quarterly period. Missing Meter WCS3 data were filled-in by DWSD using the GDRSS Trend method. The trend will match the expected meter volume fairly well, but will not reflect any wet weather events. Therefore, for the purposes of the RVSDS quarterly report, Meter WCS3 was correlated to Meters WCS2 and P14 for the entire period to show wet/dry weather variability.

Section 11

System Flow Rate Checks

Table 12
Rouge Valley Sewage Disposal System
Flow Rate Continuity Check -- July through September 2013

Meter Grouping	Relative Location	Monthly Average Dry Weather Flow Rate (MGD)					
		Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Comparison 1							
WCS1	Downstream	43.8	37.2	34.7	33.2	37.5	42.6
P14+P24+P25	Upstream	43.9	36.3	33.6	32.0	36.1	40.6
	Incremental	-0.1	1.0	1.1	1.1	1.4	2.0
Comparison 2							
WCS2 + WCS3 + P14	Downstream	43.0	34.9	34.4	33.9	39.3	42.2
P9 + P10 + P11 + P13	Upstream	39.4	32.2	29.8	28.3	32.6	30.3
	Incremental	3.6	2.7	4.6	5.7	6.7	11.9
Comparison 3							
P12	Downstream	9.0	6.9	6.6	6.5	7.5	6.9
LVBasin + LV11	Upstream	9.1	6.7	6.5	6.6	7.9	7.8
	Incremental	-0.1	0.2	0.1	-0.1	-0.4	-0.9
Comparison 4							
P3 + P26	Downstream	6.6	5.8	5.7	5.5	5.7	6.0
P1	Upstream	4.7	4.4	4.4	4.2	4.4	4.5
	Incremental	1.9	1.3	1.3	1.3	1.3	1.4
Comparison 5							
P1	Downstream	4.7	4.4	4.4	4.2	4.4	4.5
BG1	Upstream	4.4	4.3	4.3	4.2	4.4	4.4
	Incremental	0.3	0.1	0.1	0.0	0.1	0.1
Comparison 6							
P24 + P25	Downstream	13.3	10.5	9.6	8.5	10.4	10.6
P20 + P21	Upstream	9.2	7.1	6.7	6.0	7.2	7.3
	Incremental	4.1	3.4	2.9	2.5	3.2	3.3
Comparison 7							
P21	Downstream	6.6	5.3	5.0	4.2	5.0	4.9
P19 + WE28	Upstream	5.3	4.3	4.1	3.7	4.5	4.4
	Incremental	1.4	1.0	0.9	0.5	0.5	0.5
Comparison 8							
P19	Downstream	4.4	3.7	3.6	3.2	3.8	3.7
P17 + WE25 + FE19	Upstream	4.0	3.4	3.4	3.0	3.3	3.2
	Incremental	0.5	0.2	0.2	0.3	0.5	0.6

Notes:

1) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Table 13
Rouge Valley Sewage Disposal System
Monthly Average Dry Weather Flow Rate Versus Residential Population Check -- July through September 2013

Meter Grouping	Year 2000 Residential Population	Metric	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Percent of Area as Residential	Residential Area (acres)	Total Developed Land (Acres)
BG1	38,451	MGD	4.4	4.3	4.3	4.2	4.4	4.4	74%	5,957	8,086
		GPCD	114.2	111.8	110.8	108.4	113.4	113.7			
P1	44,725	MGD	4.7	4.4	4.4	4.2	4.4	4.5	75%	6,764	9,068
		GPCD	104.6	99.0	97.5	94.1	98.8	100.8			
P3 + P26	50,555	MGD	6.6	5.8	5.7	5.5	5.7	6.0	73%	7,234	9,864
		GPCD	130.2	113.9	112.7	109.0	112.2	117.7			
LV16	5,303	MGD	1.3	1.0	1.0	0.9	1.0	1.0	65%	739	1,138
		GPCD	247.0	190.5	181.0	175.4	186.7	190.5			
C-B-A	3,338	MGD	1.2	1.0	0.9	0.8	0.9	0.9	79%	325	413
		GPCD	371.5	299.6	263.6	239.7	266.6	275.6			
LV15	11,131	MGD	1.5	1.1	1.0	1.0	1.3	1.2	86%	982	1,141
		GPCD	131.2	95.2	89.8	93.4	114.1	111.4			
WE14	27,062	MGD	3.7	3.3	3.0	2.9	3.2	3.2	64%	2,119	3,289
		GPCD	136.0	120.5	111.6	105.3	119.7	119.7			
M2	14,602	MGD	2.4	1.8	1.4	1.3	1.7	1.7	82%	1,469	1,791
		GPCD	166.4	126.0	98.6	89.7	115.7	118.5			
M1	16,473	MGD	2.0	1.4	1.3	1.4	1.7	1.6	80%	1,557	1,936
		GPCD	123.8	84.4	79.5	85.6	101.4	99.6			
LV14	6,535	MGD	1.4	1.0	0.9	0.8	1.1	1.0	64%	748	1,175
		GPCD	217.3	157.6	134.7	127.0	162.2	150.0			
LV11+LV4	30,871	MGD	4.9	4.0	3.9	4.0	4.6	4.5	58%	3,272	5,628
		GPCD	157.1	129.9	127.3	128.9	150.0	144.8			
LV11+LVBasin	71,640	MGD	9.1	6.7	6.5	6.6	7.9	7.8	71%	9,124	12,896
		GPCD	127.5	93.3	91.3	92.0	110.6	109.0			
P12	72,665	MGD	9.0	6.9	6.6	6.5	7.5	6.9	67%	9,145	13,688
		GPCD	123.7	94.6	91.3	89.8	103.3	95.6			
P9+P10+P11-FE22	223,006	MGD	27.6	21.9	20.7	20.2	23.4	22.7	70%	25,728	36,629
		GPCD	123.6	98.1	92.7	90.6	104.9	102.0			
P13	51,708	MGD	7.5	5.1	4.5	4.3	5.3	5.7	76%	4,834	6,369
		GPCD	144.2	97.7	87.9	84.1	103.0	110.4			
WCS2 + WCS3 + P14 - FE22	310,356	MGD	38.6	29.6	29.9	30.2	35.4	40.4	72%	33,775	46,794
		GPCD	124.5	95.3	96.3	97.3	114.1	130.2			
P15	5,003	MGD	0.9	0.8	0.8	0.7	0.8	0.8	61%	1,010	1,667
		GPCD	187.9	159.9	153.9	133.9	149.9	153.9			
P17	8,125	MGD	1.9	1.9	1.9	1.6	1.7	1.5	45%	1,364	3,038
		GPCD	236.3	227.7	227.7	198.2	211.7	189.5			
WE25	15,600	MGD	2.0	1.6	1.5	1.3	1.6	1.6	77%	1,583	2,069
		GPCD	130.1	100.6	97.4	85.9	100.0	101.9			
P19 - FE19	30,256	MGD	4.4	3.7	3.6	3.2	3.8	3.7	59%	3,631	6,125
		GPCD	146.7	121.0	119.3	105.8	125.6	122.3			
WE28	14,400	MGD	0.8	0.6	0.5	0.5	0.7	0.7	81%	1,201	1,479
		GPCD	56.9	43.8	36.8	33.3	46.5	45.1			
P21 - FE19	50,487	MGD	6.6	5.3	5.0	4.2	5.0	4.9	65%	5,224	8,070
		GPCD	131.3	104.6	99.2	83.6	98.8	96.9			
P25 - FE19	66,447	MGD	9.0	7.0	6.4	5.3	6.7	6.7	68%	6,492	9,560
		GPCD	135.1	104.8	96.3	79.7	101.1	100.7			
P20	13,928	MGD	2.5	1.9	1.7	1.8	2.2	2.4	64%	933	1,462
		GPCD	182.4	133.5	120.6	127.8	159.4	169.4			
P24	34,787	MGD	4.3	3.5	3.2	3.2	3.7	3.8	71%	2,841	3,986
		GPCD	122.9	101.4	92.8	92.8	106.2	110.5			
WCS1 + WCS2 + WCS3 - FE19 - FE22 + C-B-A	414,928	MGD	53.0	42.1	41.5	40.7	48.1	53.9	71%	43,433	60,753
		GPCD	127.7	101.4	100.0	98.0	115.9	129.9			

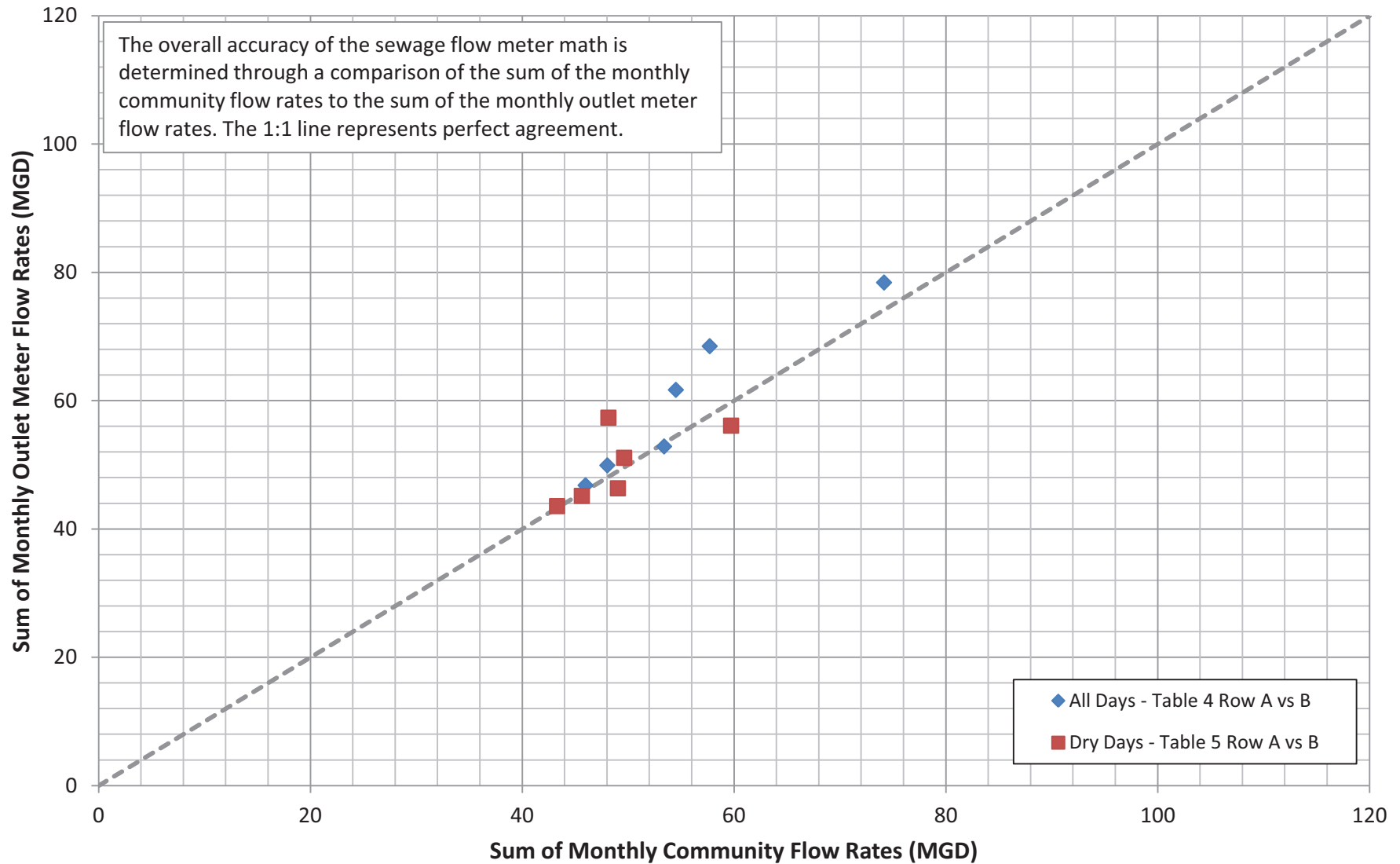
Legend:

XX.X	Per capita flow rates are 20% greater than the district-wide average.
XX.X	Per capita flow rates are 20% less than the district-wide average.

Notes:

1) Flow rates have been adjusted to account for WTUA bypass pumping from sewer lining projects during November and December 2013.

Figure 4
Rouge Valley Sewage Disposal System
End of System Monthly Flow Rate Comparison - July through December 2013



Section 12
Quarterly Meter Reports

Rouge Valley Sewage Disposal System

Quarterly Meter Report

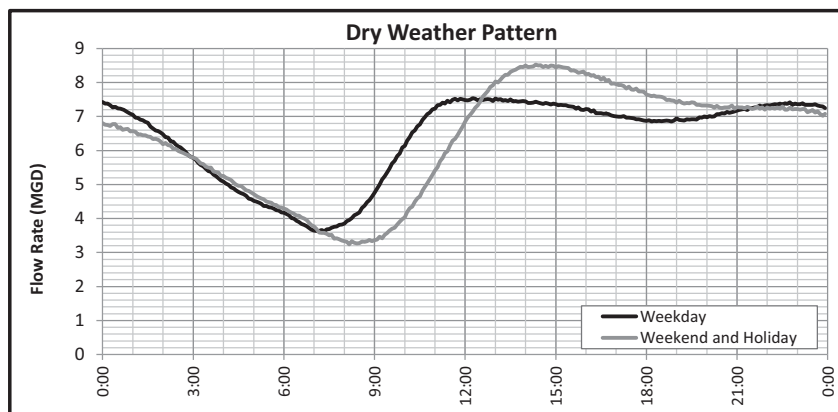
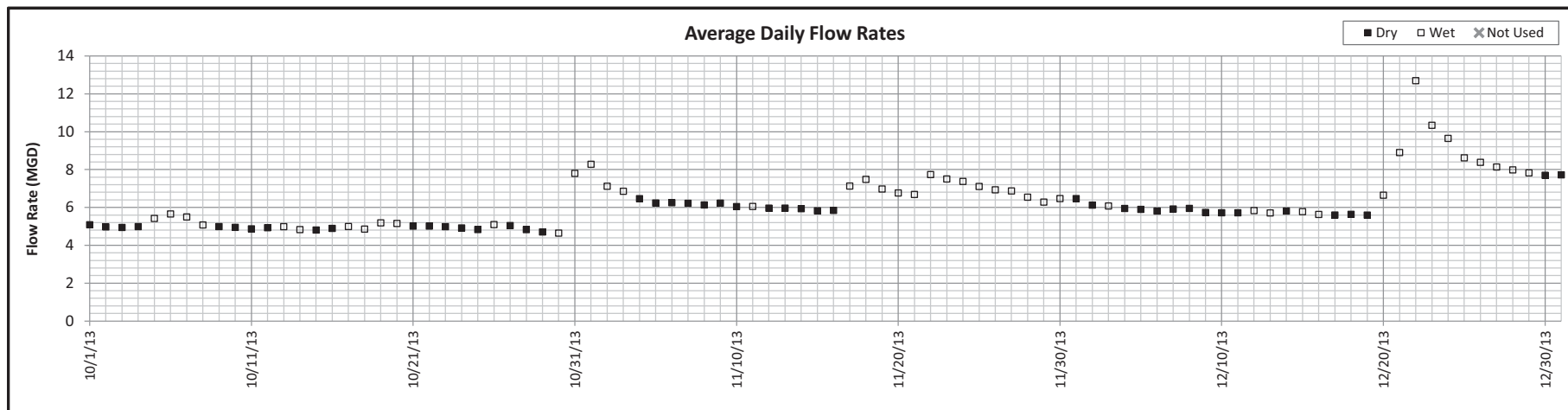
Meter: RVSDS_LVBASIN

Location: Inkster Road and Oakley Street

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 12-12

Interceptor Branch: Middle Rouge



Month	Monthly Statistics					
	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	5.1	158.0	4.9	152.4	18	13
Nov-13	6.6	199.3	6.1	184.9	12	18
Dec-13	7.0	215.6	6.1	182.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	11.5	11/1/13 1:00	3.4	10/31/13 5:20
1	1.19	12/19/2013 0:00	12/22/2013 12:00	14.6	12/22/13 14:55	3.8	12/22/13 1:10

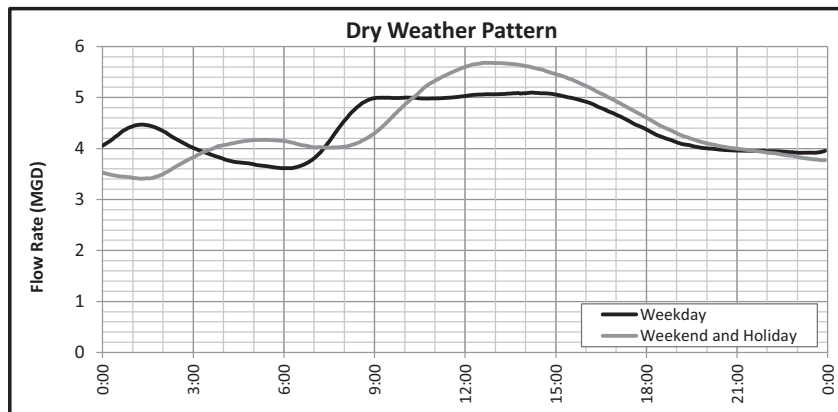
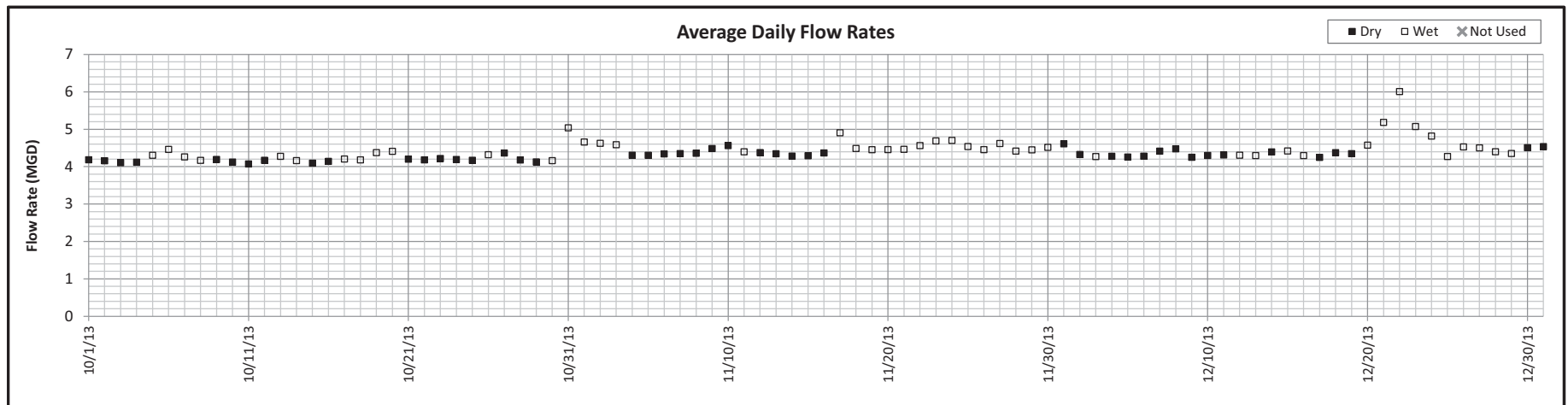
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: RVSDS_NOVI_BG1
Interceptor Manhole ID: NT 25

Location: 8 Mile Road
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.2	131.4	4.2	128.3	18	13
Nov-13	4.5	134.4	4.4	133.1	12	18
Dec-13	4.5	139.2	4.4	133.3	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	6.6	11/2/13 11:55	0.0	10/30/13 0:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	7.7	12/22/13 13:20	0.0	12/20/13 9:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

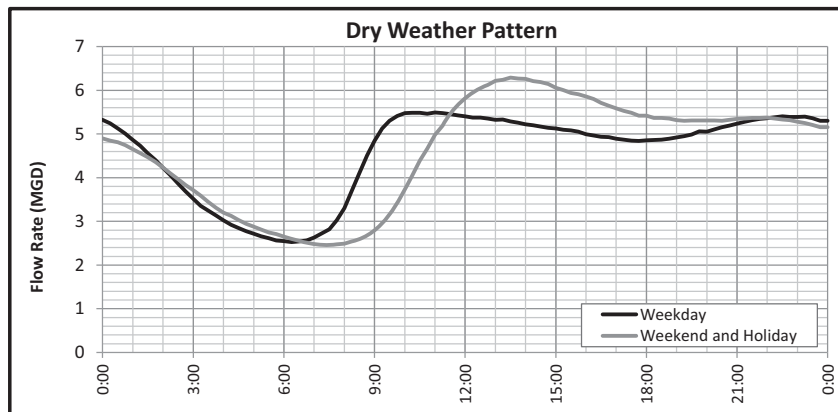
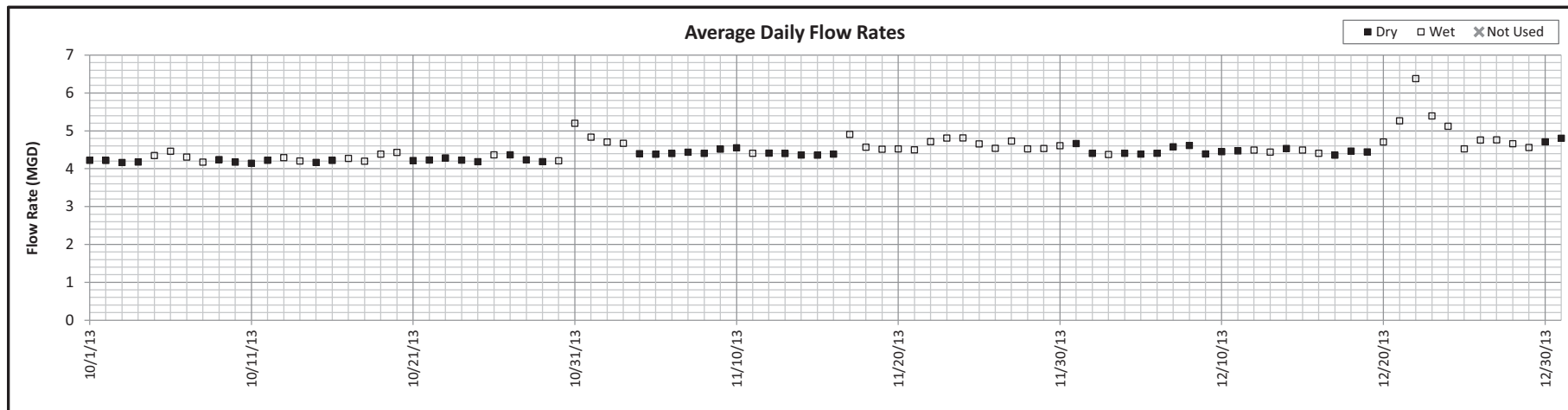
Meter: RVSDS_P01

Location: 5 Mile Road and Hines Drive

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: NAI 1-13A

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.3	132.7	4.2	129.3	18	13
Nov-13	4.6	136.5	4.4	134.6	12	18
Dec-13	4.7	144.5	4.5	136.8	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	6.6	11/2/13 12:30	1.1	11/2/13 12:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	8.0	12/22/13 13:45	1.3	12/22/13 13:30

Rouge Valley Sewage Disposal System

Quarterly Meter Report

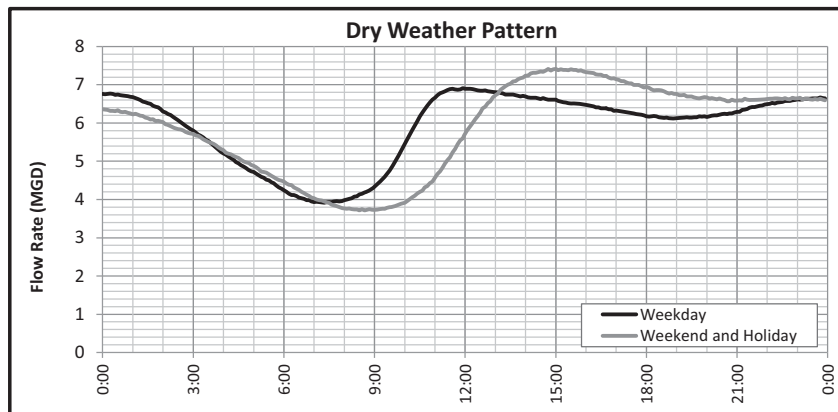
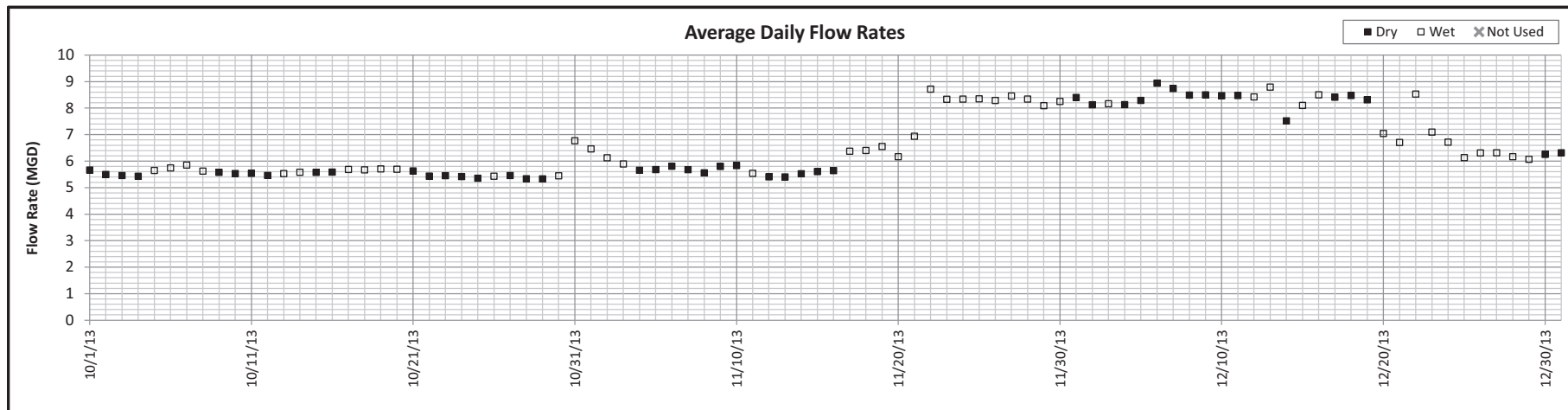
Meter: RVSDS_P03

Location: Plymouth Road East of I-275

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: MRIR 5C-01

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	5.6	173.0	5.5	166.7	18	13
Nov-13	6.6	199.2	5.6	170.9	12	18
Dec-13	7.7	239.0	8.1	246.0	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	7.9	11/2/13 14:30	1.2	11/2/13 13:25
1	1.19	12/19/2013 0:00	12/22/2013 12:00	10.1	12/19/13 11:55	1.5	12/19/13 11:55

Rouge Valley Sewage Disposal System

Quarterly Meter Report

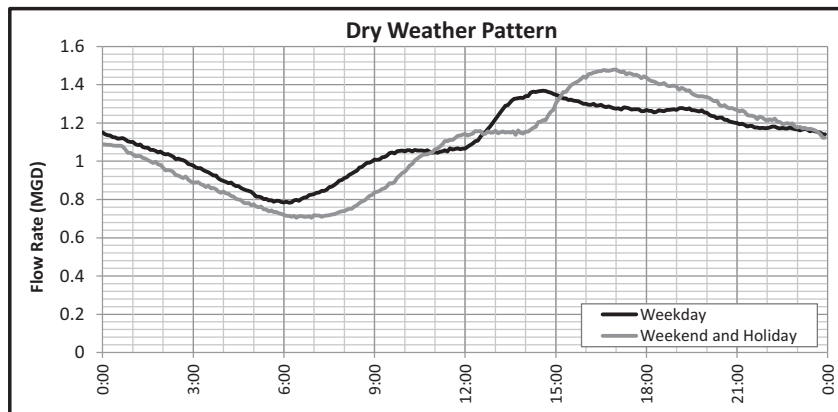
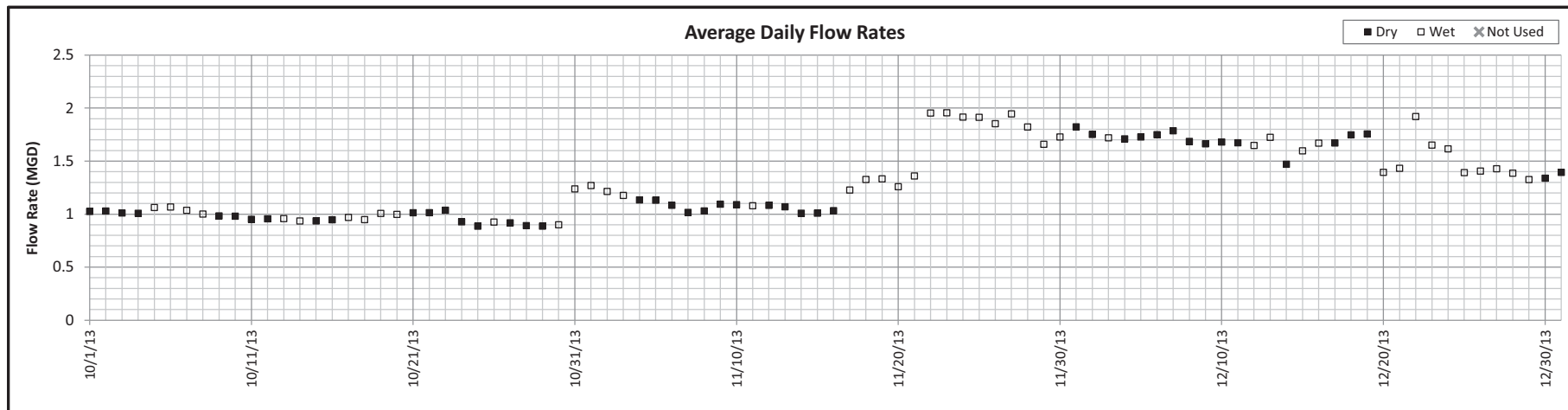
Meter: RVSDS_P07

Location: Joy Road West of Farmington Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: PWI I-03

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.0	30.4	1.0	29.1	18	13
Nov-13	1.4	40.8	1.1	32.8	12	18
Dec-13	1.6	49.9	1.7	50.4	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	1.8	11/2/13 15:35	1.0	10/31/13 22:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	2.4	12/22/13 15:35	1.1	12/19/13 13:40

Rouge Valley Sewage Disposal System

Quarterly Meter Report

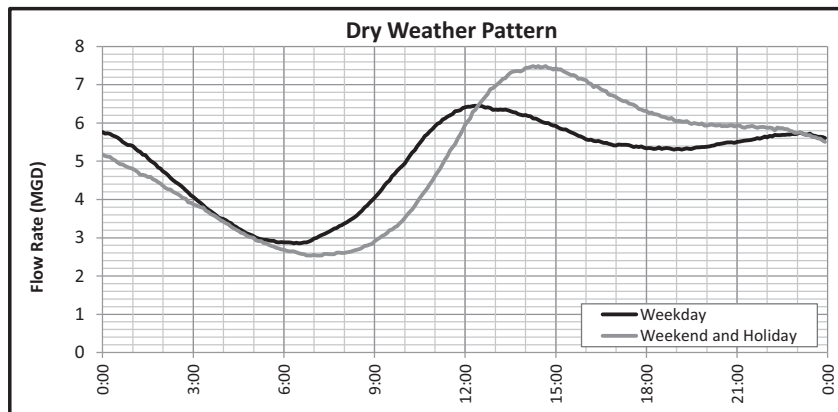
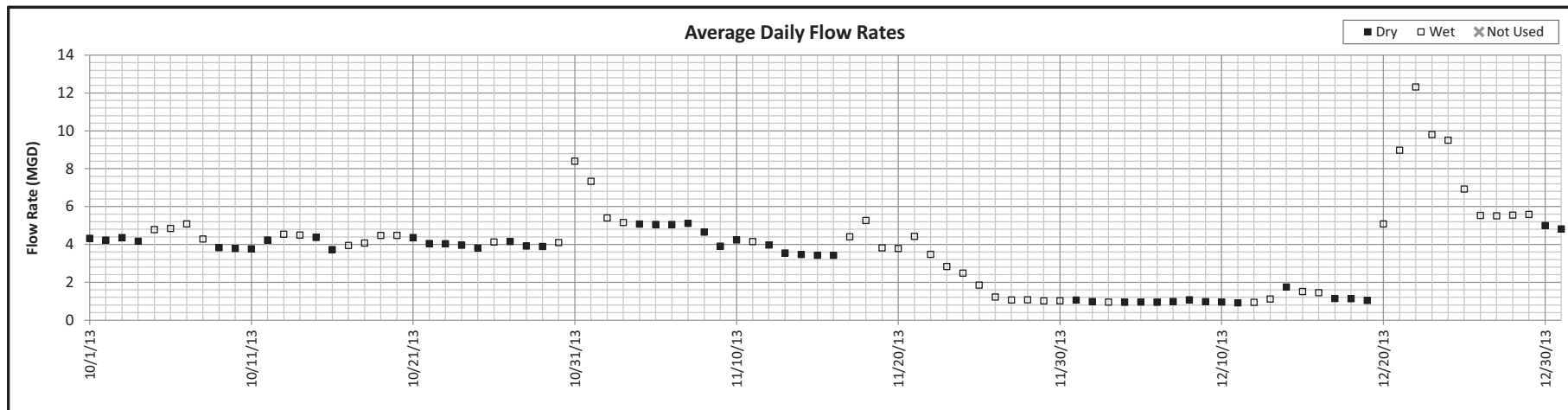
Meter: RVSDS_P08

Interceptor Manhole ID: RVI 9-20

Location: Joy Road West of Farmington Road

Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.3	134.5	4.1	124.2	18	13
Nov-13	3.7	110.7	4.2	128.5	12	18
Dec-13	3.4	105.4	1.5	47.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	11.7	11/1/13 0:00	1.5	10/31/13 23:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	14.6	12/22/13 14:00	1.7	12/22/13 13:35

Rouge Valley Sewage Disposal System

Quarterly Meter Report

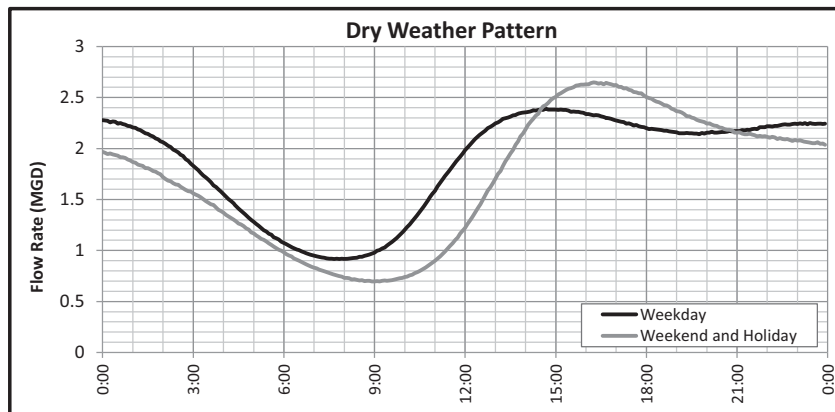
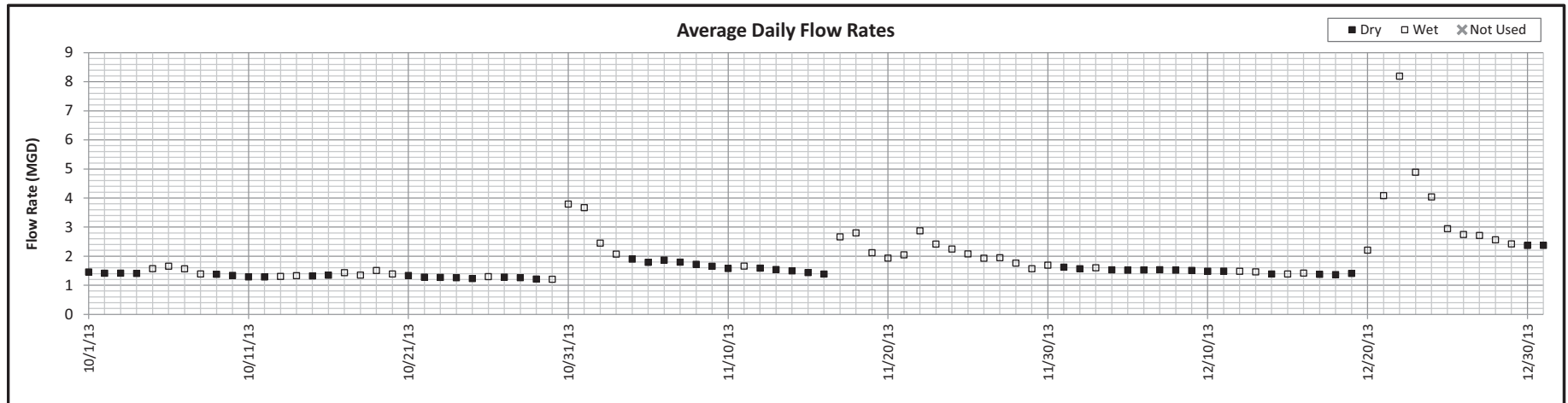
Meter: RVSDS_P09

Location: Hines Drive East of Inkster Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: NHV 3-34

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.4	44.6	1.3	40.3	18	13
Nov-13	2.0	59.6	1.6	49.3	12	18
Dec-13	2.3	69.8	1.6	49.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	7.4	10/31/13 23:50	2.2	10/31/13 23:25
1	1.19	12/19/2013 0:00	12/22/2013 12:00	9.3	12/22/13 1:20	2.5	12/22/13 1:05

Rouge Valley Sewage Disposal System

Quarterly Meter Report

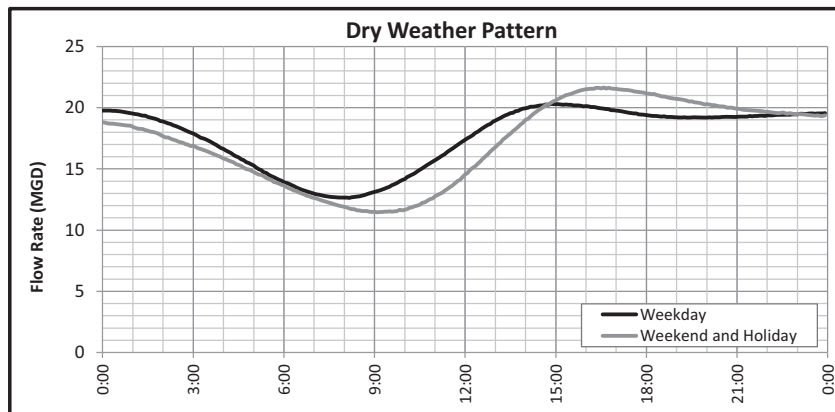
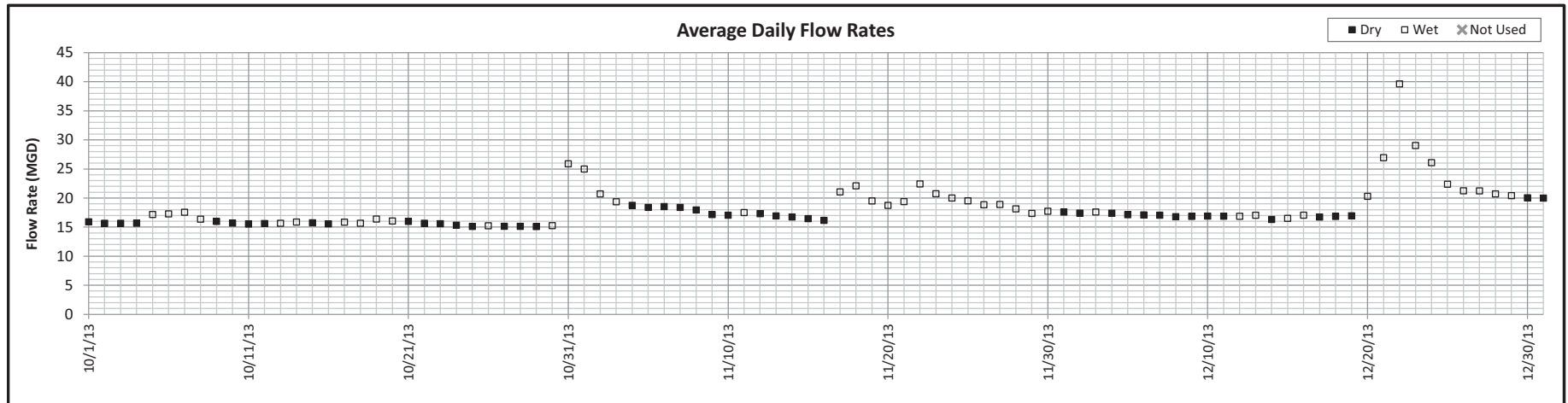
Meter: RVSDS_P10

Interceptor Manhole ID: RVI 6-50

Location: Hines Drive East of Inkster Road

Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	16.1	500.3	15.6	480.3	18	13
Nov-13	18.9	566.7	17.5	526.6	12	18
Dec-13	19.7	611.1	17.4	526.2	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	37.6	10/31/13 23:40	2.9	10/31/13 23:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	43.1	12/22/13 1:30	3.2	12/22/13 1:00

Rouge Valley Sewage Disposal System

Quarterly Meter Report

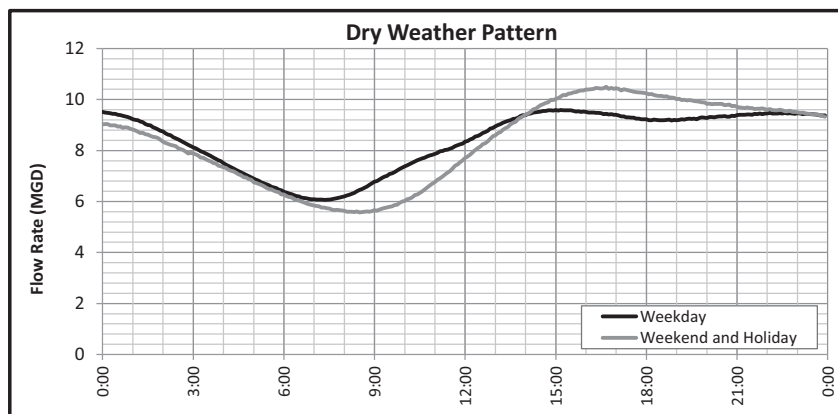
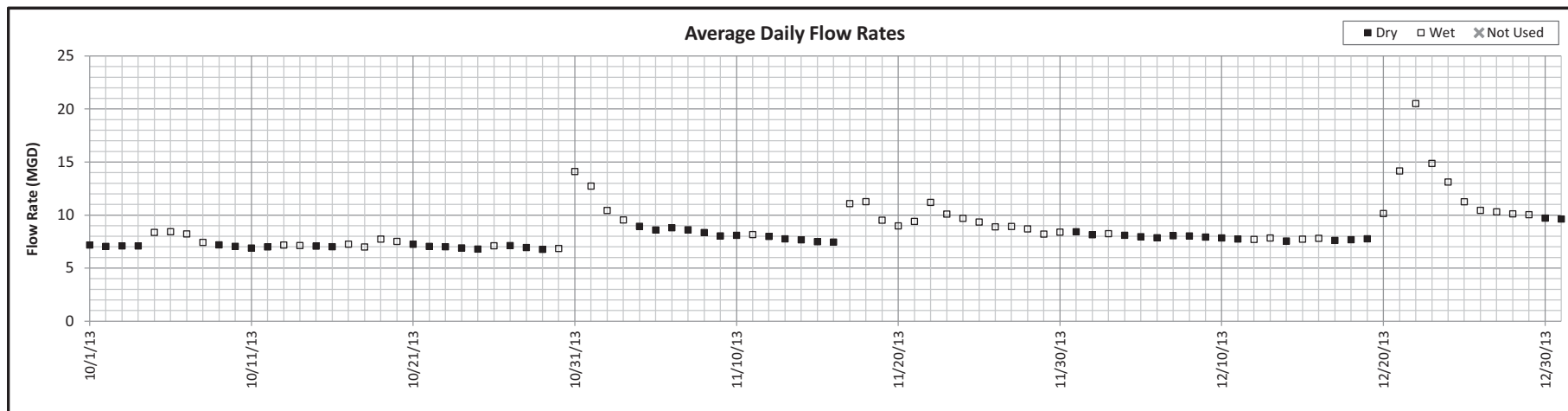
Meter: RVSDS_P11

Location: Hines Drive East of Inkster Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: MR II-18

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	7.4	230.6	7.0	214.6	18	13
Nov-13	9.1	272.3	8.1	251.9	12	18
Dec-13	9.5	294.4	8.1	247.9	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	20.2	10/31/13 23:45	3.0	10/31/13 23:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	22.1	12/22/13 1:35	3.2	12/22/13 0:50

Rouge Valley Sewage Disposal System

Quarterly Meter Report

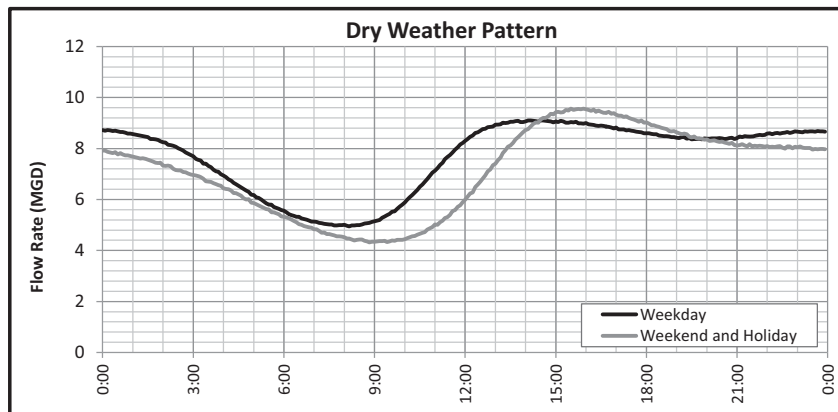
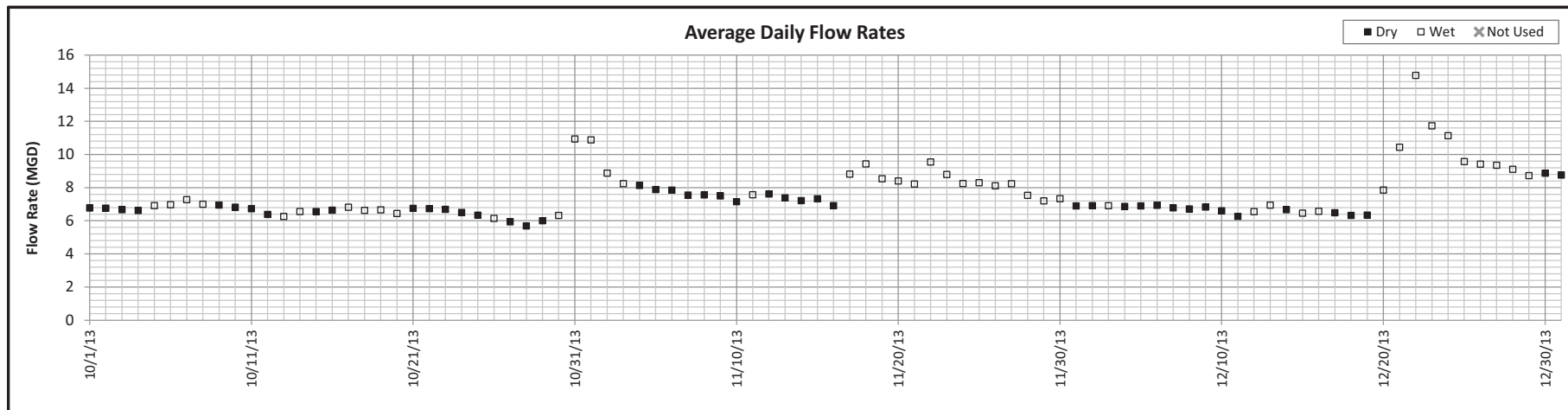
Meter: RVSDS_P12

Interceptor Manhole ID: RVI 12-01

Location: Inkster Road North of Hines Drive

Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	6.7	208.4	6.5	197.6	18	13
Nov-13	8.1	242.5	7.5	232.1	12	18
Dec-13	8.0	246.6	6.9	208.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	16.6	11/1/13 0:05	2.5	10/31/13 23:25
1	1.19	12/19/2013 0:00	12/22/2013 12:00	17.8	12/22/13 1:40	2.6	12/22/13 1:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

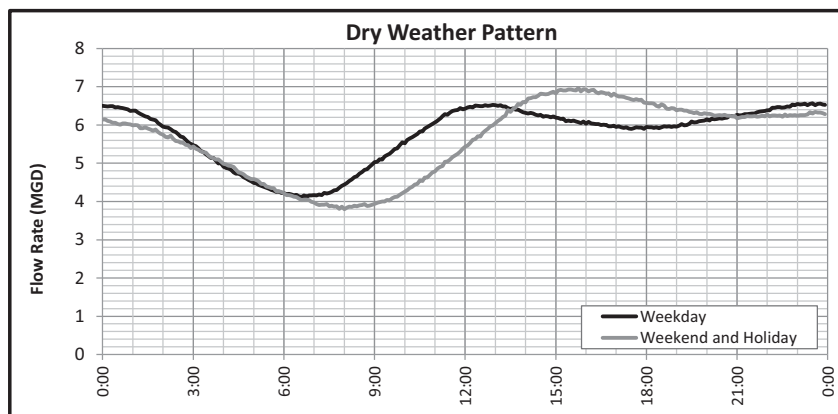
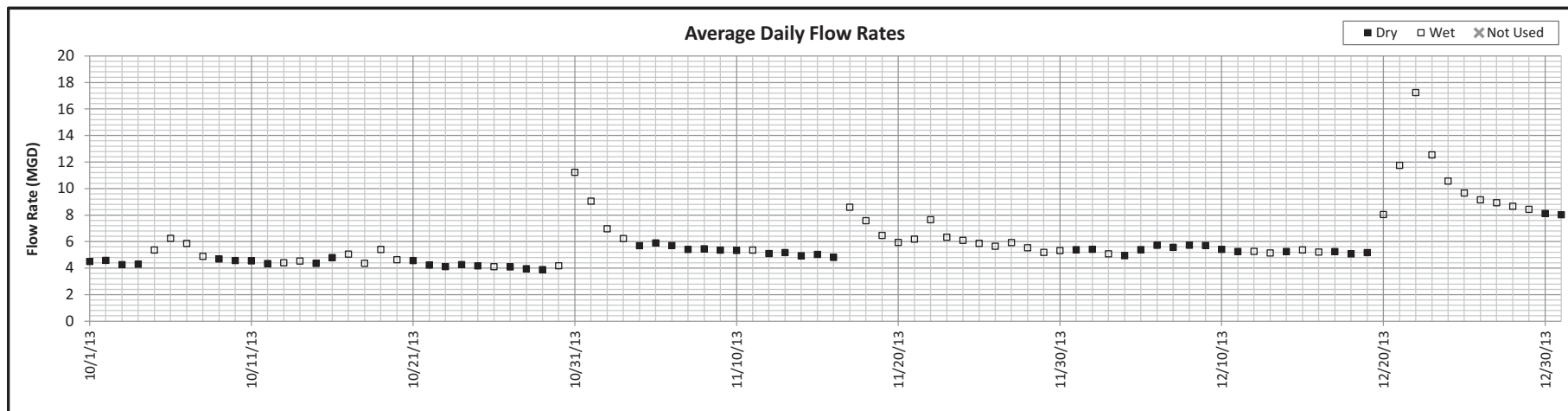
Meter: RVSDS_P13

Location: Telegraph Road North of Joy Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: MR IV -07

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.8	148.3	4.3	131.4	18	13
Nov-13	6.0	179.7	5.3	159.8	12	18
Dec-13	7.2	222.5	5.7	176.0	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	20.0	11/1/13 0:00	2.7	10/31/13 23:35
1	1.19	12/19/2013 0:00	12/22/2013 12:00	22.3	12/22/13 0:40	2.9	12/22/13 0:05

Rouge Valley Sewage Disposal System

Quarterly Meter Report

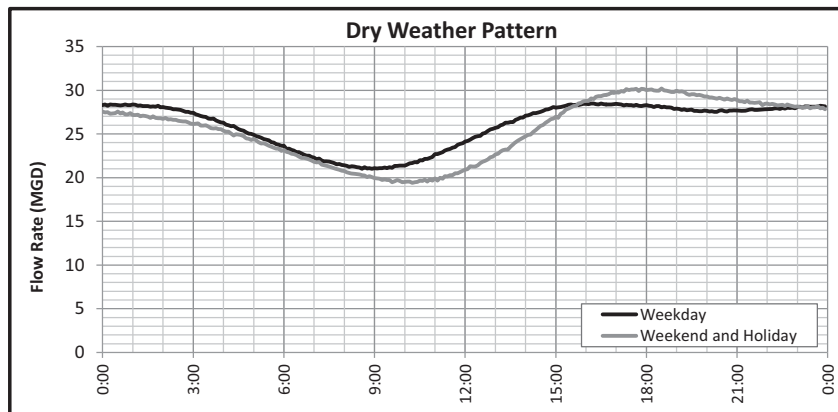
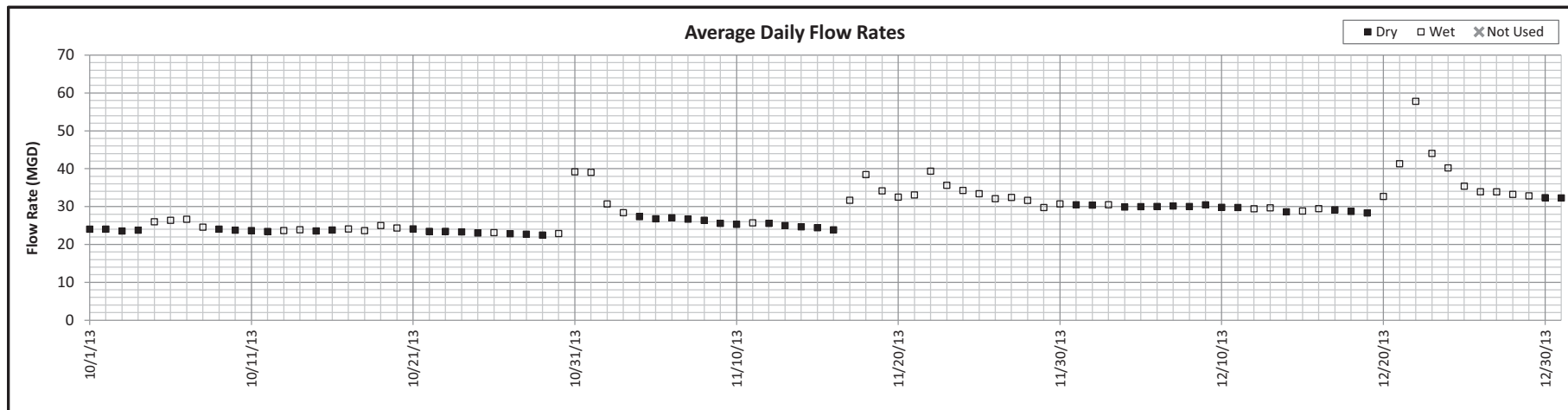
Meter: RVSDS_P14

Location: Brady Road near Willoway Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 4-16A

Interceptor Branch: Lower Rouge



Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	24.4	756.1	23.5	719.1	18	13
Nov-13	30.0	901.4	25.7	795.9	12	18
Dec-13	32.7	1013.5	30.0	849.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	58.0	11/1/13 1:25	4.2	11/1/13 0:50
1	1.19	12/19/2013 0:00	12/22/2013 12:00	62.4	12/22/13 1:30	0.0	12/20/13 9:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

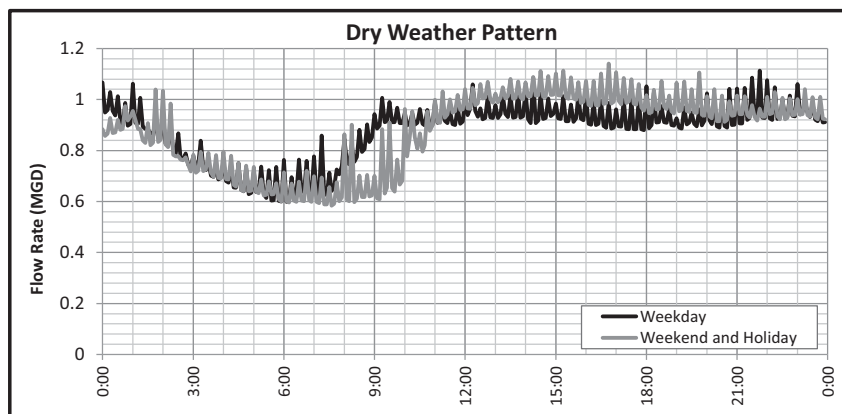
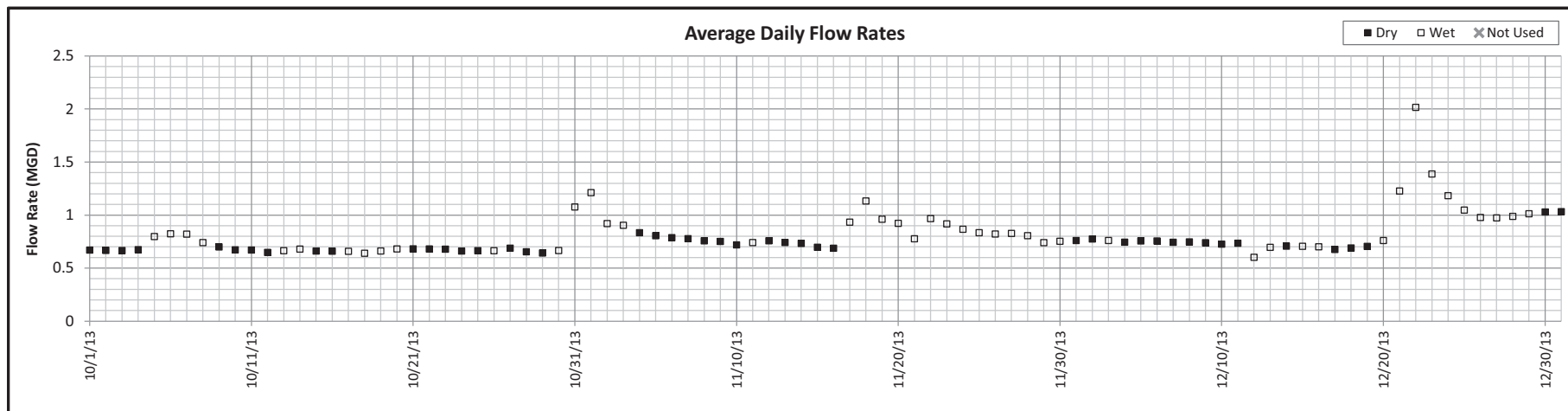
Meter: RVSDS_P15

Location: Ecorse Road and Hannan Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: WRVI - 54

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.7	21.7	0.7	20.3	18	13
Nov-13	0.8	25.2	0.8	22.6	12	18
Dec-13	0.9	27.3	0.8	23.2	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	1.8	10/31/13 23:25	1.1	10/31/13 22:55
1	1.19	12/19/2013 0:00	12/22/2013 12:00	2.3	12/22/13 2:15	1.2	12/22/13 1:40

Rouge Valley Sewage Disposal System

Quarterly Meter Report

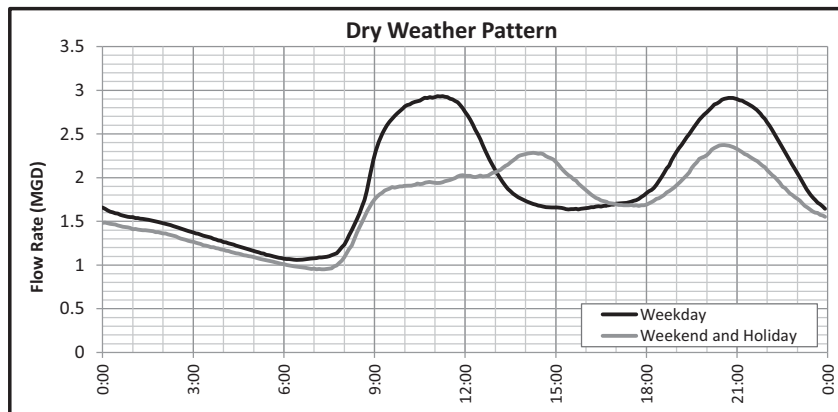
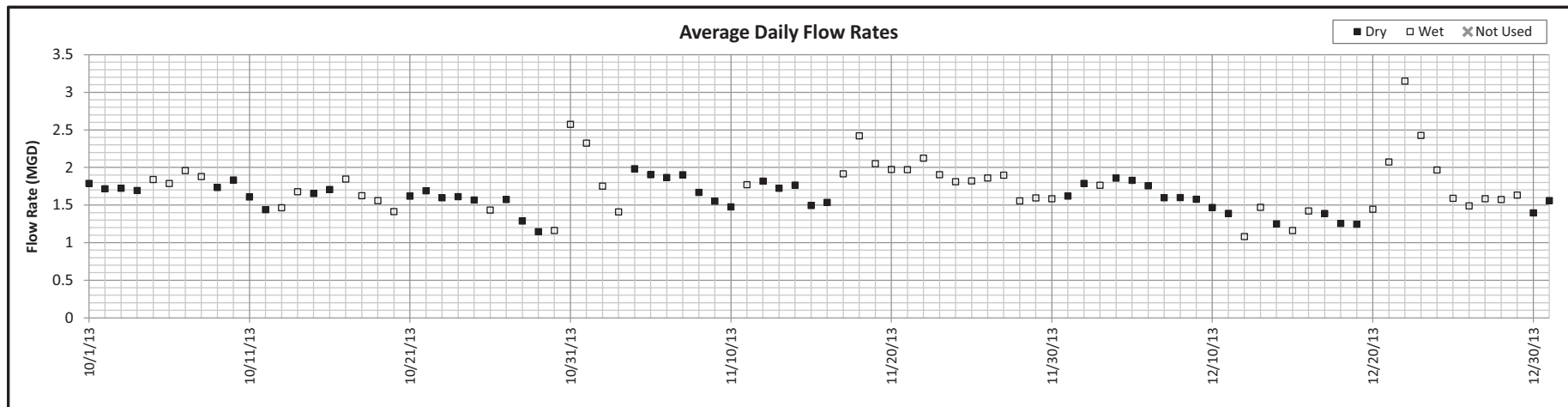
Meter: RVSDS_P17

Interceptor Manhole ID: LRIR 9-17

Location: North of Michigan Avenue along Railroad

Interceptor Branch: Lower Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.7	51.2	1.6	48.9	18	13
Nov-13	1.8	54.3	1.7	51.9	12	18
Dec-13	1.6	50.5	1.5	46.8	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	4.1	10/31/13 18:25	1.0	10/31/13 18:05
1	1.19	12/19/2013 0:00	12/22/2013 12:00	3.7	12/22/13 15:00	0.9	12/22/13 14:25

Rouge Valley Sewage Disposal System

Quarterly Meter Report

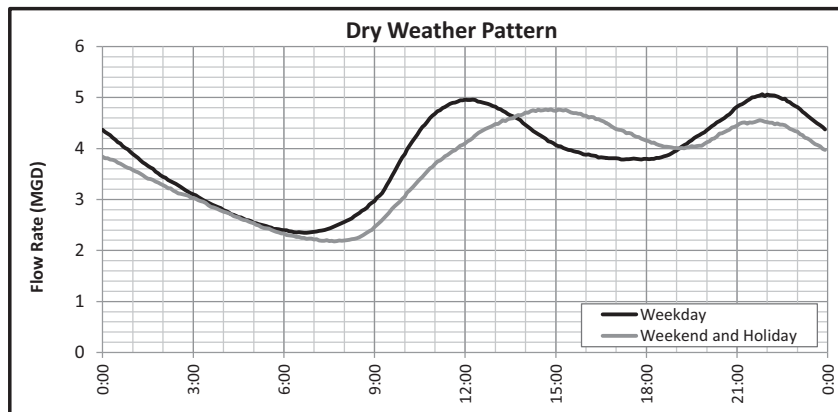
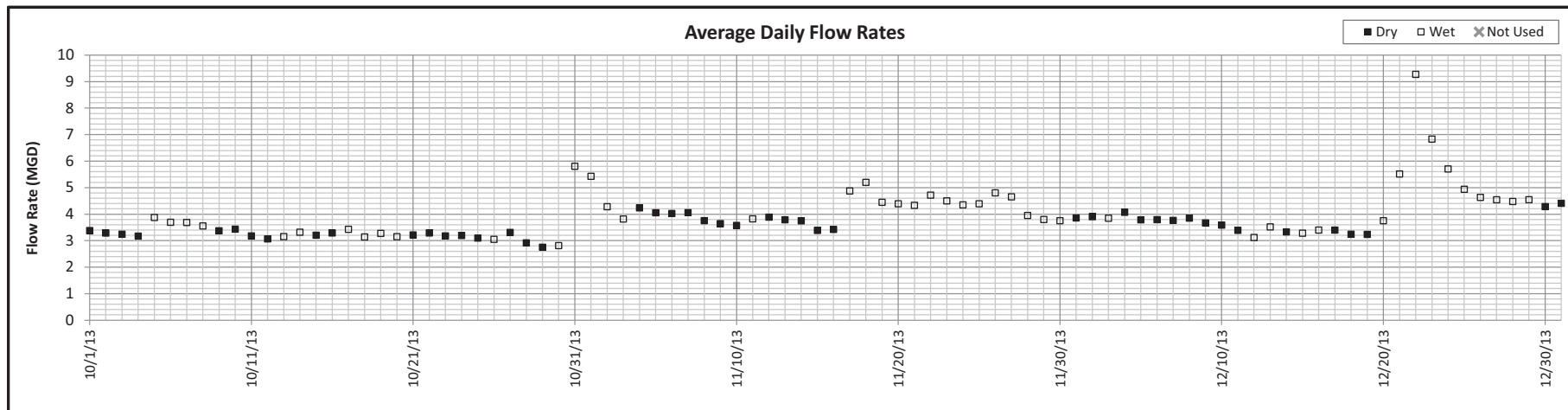
Meter: RVSDS_P19

Location: Josephine Street and Lower Rouge River

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 15-17

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	3.3	103.5	3.2	98.1	18	13
Nov-13	4.2	125.1	3.8	117.2	12	18
Dec-13	4.2	130.8	3.7	114.5	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	8.1	10/31/13 18:20	1.5	10/31/13 18:25
1	1.19	12/19/2013 0:00	12/22/2013 12:00	10.4	12/22/13 14:55	1.7	12/22/13 14:00

Rouge Valley Sewage Disposal System

Quarterly Meter Report

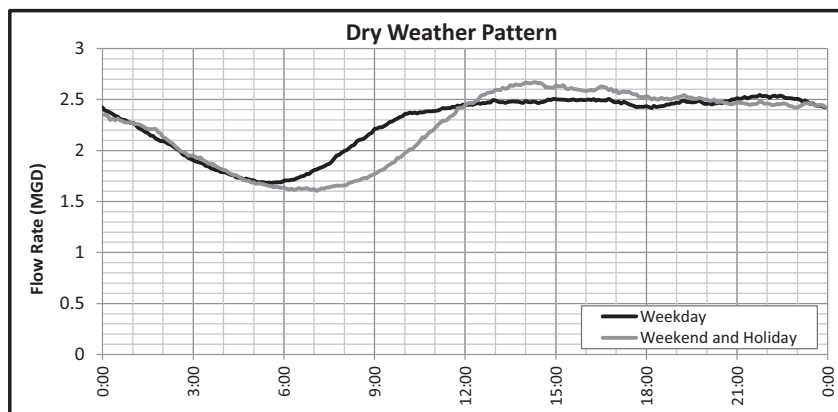
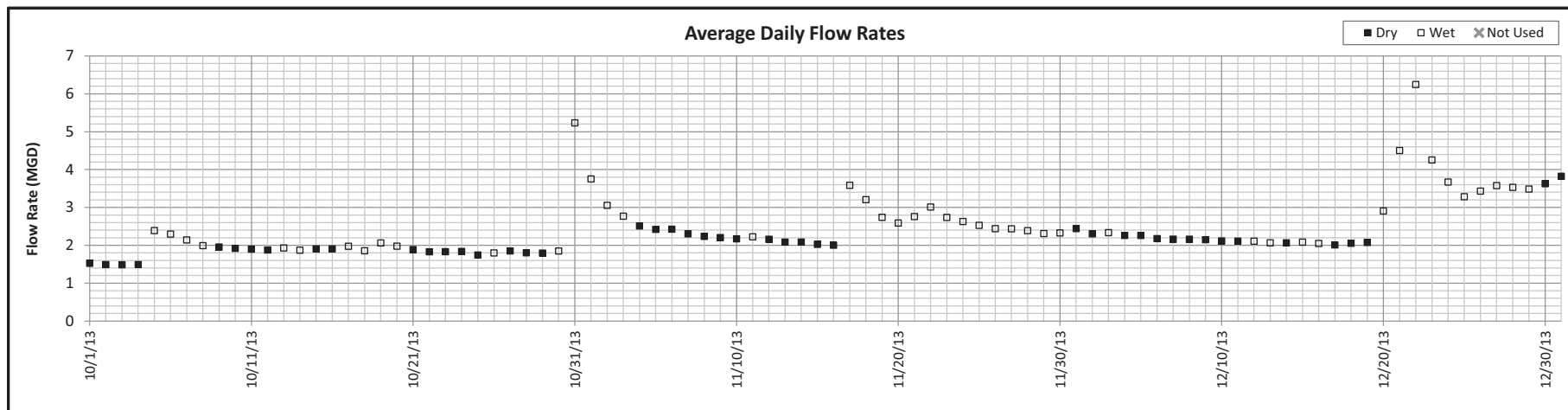
Meter: RVSDS_P20

Location: Michigan Avenue and Henry Ruff Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: WI E-35

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	2.0	61.4	1.8	53.4	18	13
Nov-13	2.5	76.2	2.2	67.6	12	18
Dec-13	2.8	87.4	2.4	71.2	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	9.1	10/31/13 22:40	2.6	10/31/13 22:05
1	1.19	12/19/2013 0:00	12/22/2013 12:00	8.4	12/22/13 1:30	2.4	12/22/13 0:35

Rouge Valley Sewage Disposal System

Quarterly Meter Report

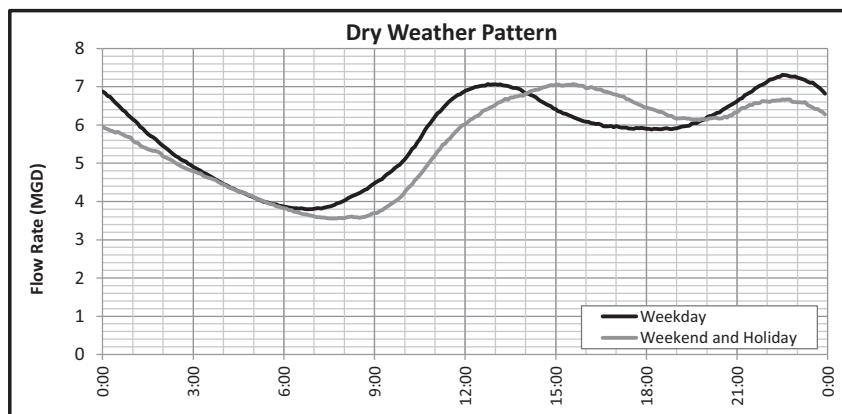
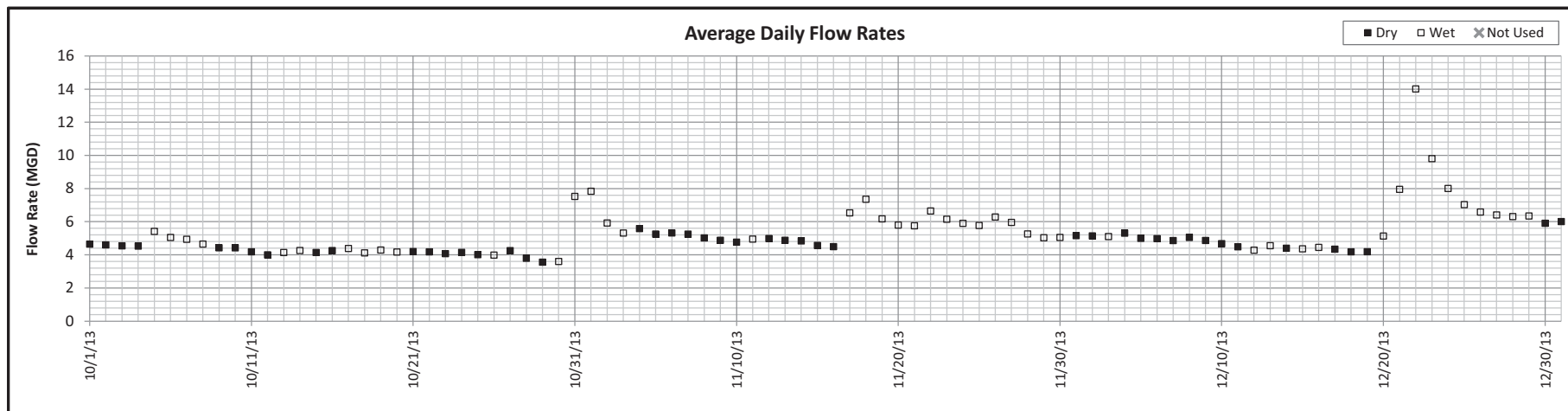
Meter: RVSDS_P21

Location: Merriman Road and Lower Rouge River

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 14-19

Interceptor Branch: Lower Rouge



Month	Monthly Statistics					
	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.4	136.4	4.2	129.1	18	13
Nov-13	5.6	167.4	5.0	151.8	12	18
Dec-13	5.8	178.9	4.9	148.4	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	13.1	11/1/13 0:05	1.6	10/31/13 23:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	14.9	12/22/13 15:05	1.7	12/22/13 0:55

Rouge Valley Sewage Disposal System

Quarterly Meter Report

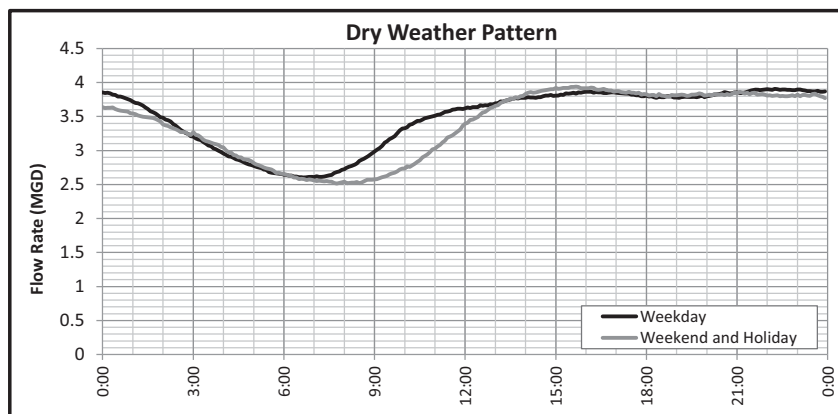
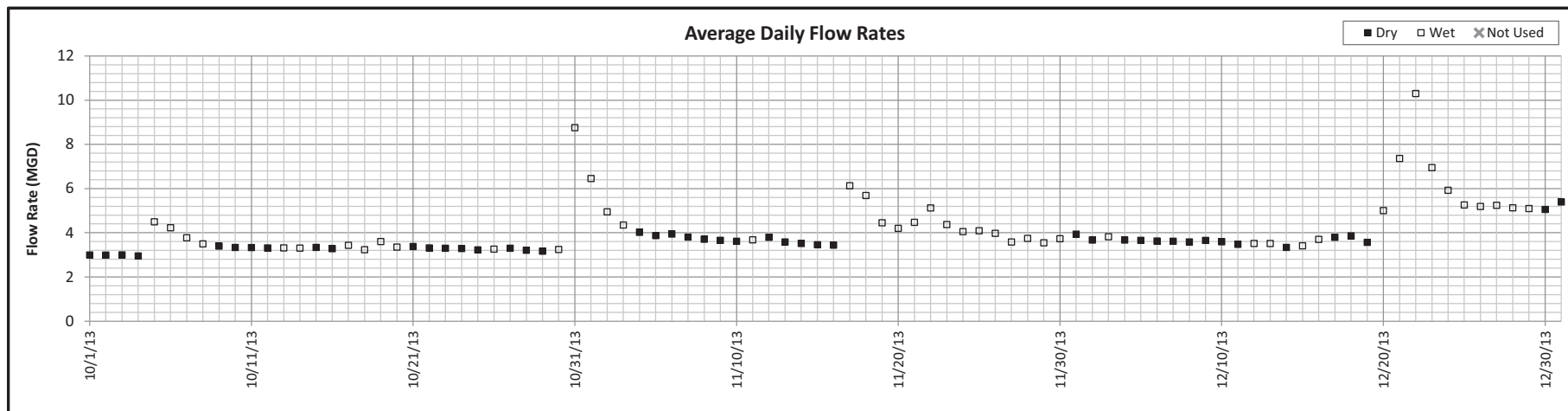
Meter: RVSDS_P24

Location: Michigan Avenue West of Beech Daly Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: WI E-08

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	3.5	109.7	3.2	98.4	18	13
Nov-13	4.2	124.9	3.7	114.0	12	18
Dec-13	4.5	140.8	3.8	117.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	11.8	11/1/13 0:10	1.5	10/31/13 23:40
1	1.19	12/19/2013 0:00	12/22/2013 12:00	12.2	12/22/13 1:25	1.5	12/22/13 1:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

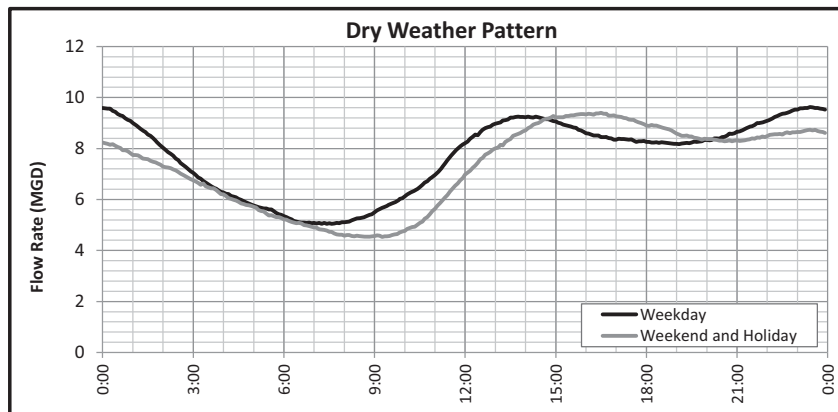
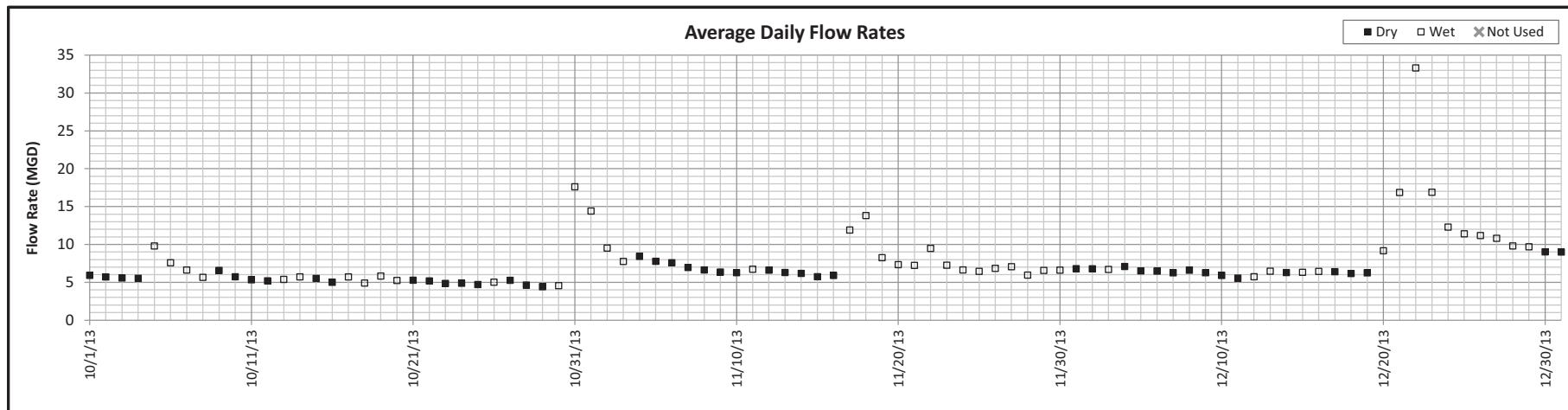
Meter: RVSDS_P25

Location: Lower Rouge River West of Beech Daly Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 5-14

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	6.0	184.8	5.3	159.1	18	13
Nov-13	7.7	230.5	6.7	203.7	12	18
Dec-13	9.0	280.3	6.7	207.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	26.8	11/1/13 3:15	2.3	10/30/13 13:20
1	1.19	12/19/2013 0:00	12/22/2013 12:00	36.0	12/22/13 14:05	2.4	12/19/13 14:50

Rouge Valley Sewage Disposal System

Quarterly Meter Report

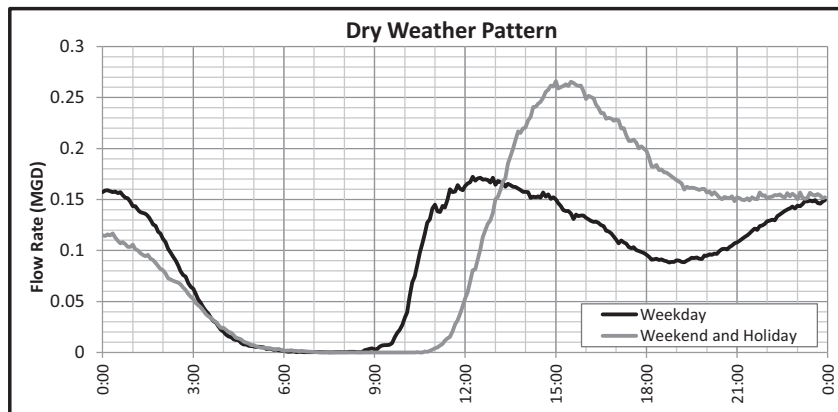
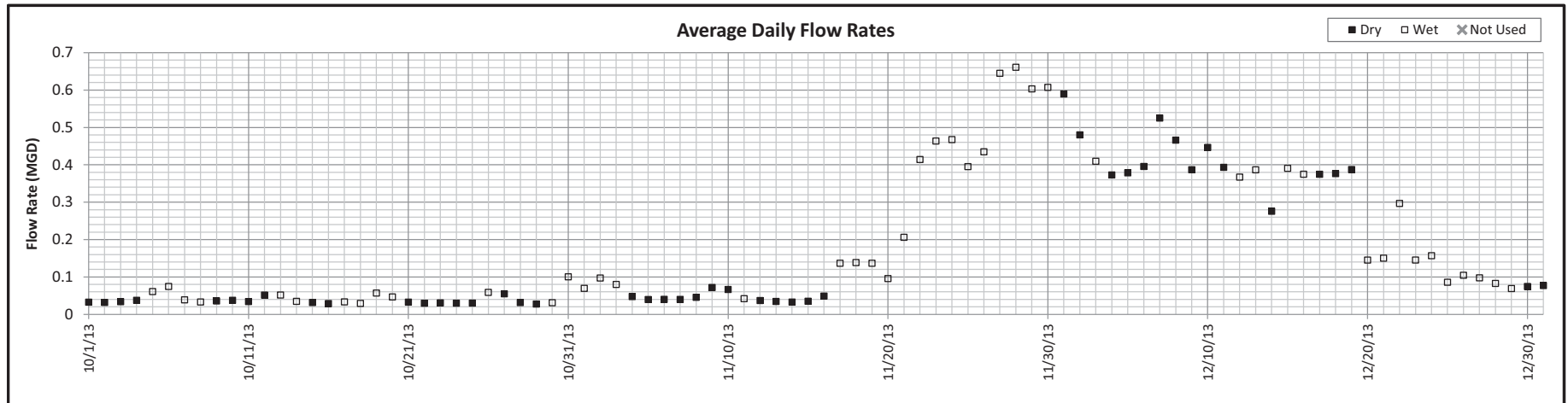
Meter: RVSDS_P26

Location: Plymouth Road East of I-275

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: PWI 2-05

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.0	1.2	0.0	0.9	18	13
Nov-13	0.2	6.3	0.0	1.2	12	18
Dec-13	0.3	9.3	0.4	11.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	0.3	11/2/13 15:15	0.3	11/2/13 14:35
1	1.19	12/19/2013 0:00	12/22/2013 12:00	0.8	12/19/13 12:50	0.5	12/19/13 12:00

Rouge Valley Sewage Disposal System

Quarterly Meter Report

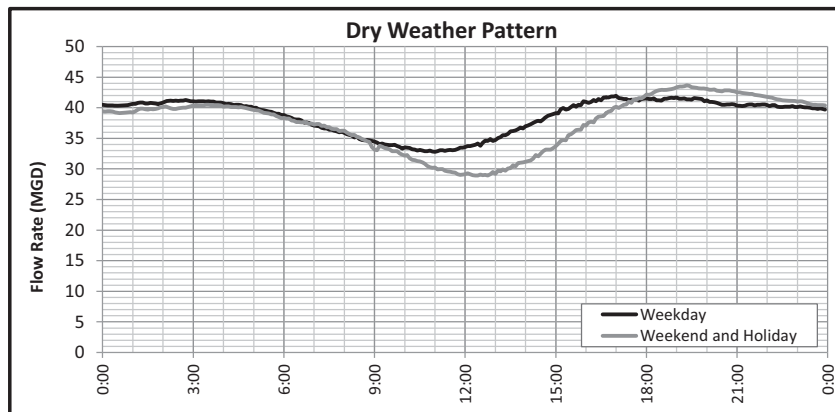
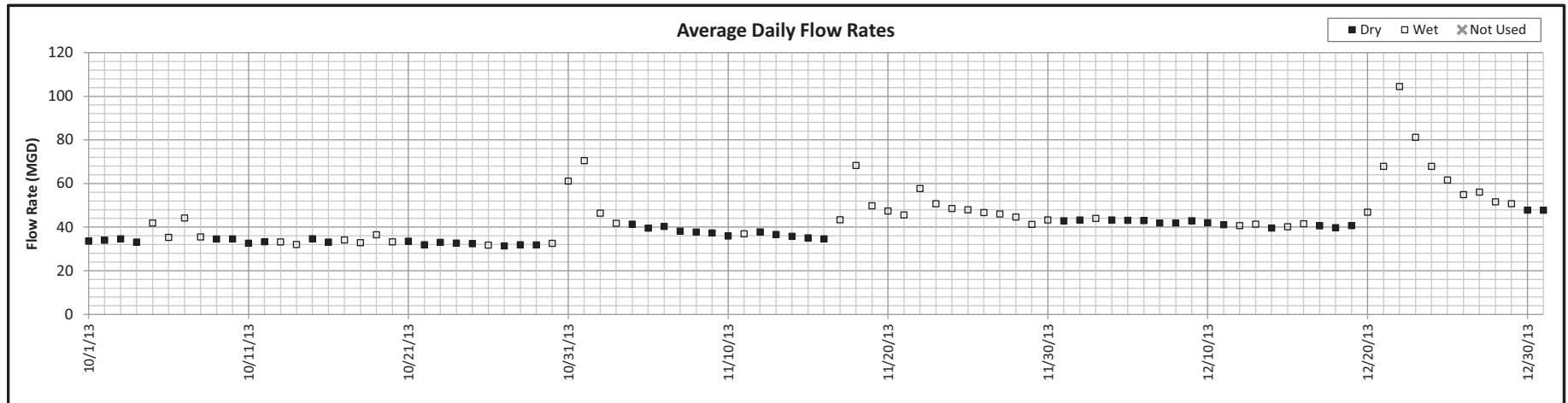
Meter: WCS1

Location: Fort Street and Bayside Street

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: MR I 05B

Interceptor Branch: Lower Rouge



Month	Monthly Statistics					
	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	34.9	1081.0	33.2	932.5	18	13
Nov-13	44.2	1326.9	37.5	1079.5	12	18
Dec-13	49.4	1532.3	42.6	1217.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	102.3	11/1/13 5:30	0.0	10/30/13 0:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	110.2	12/22/13 5:15	0.0	12/20/13 9:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

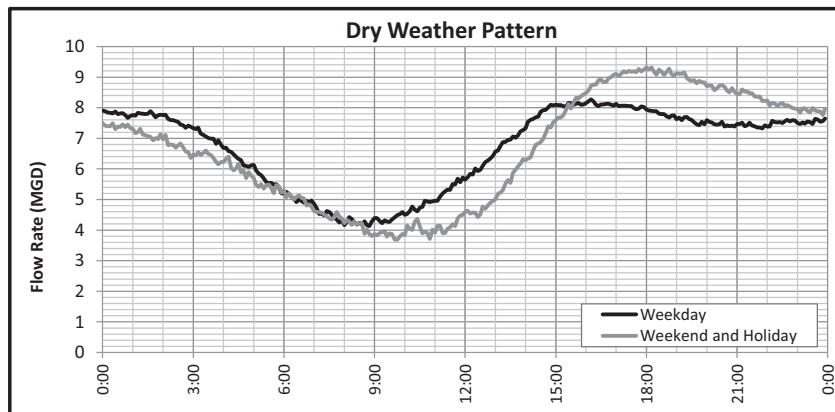
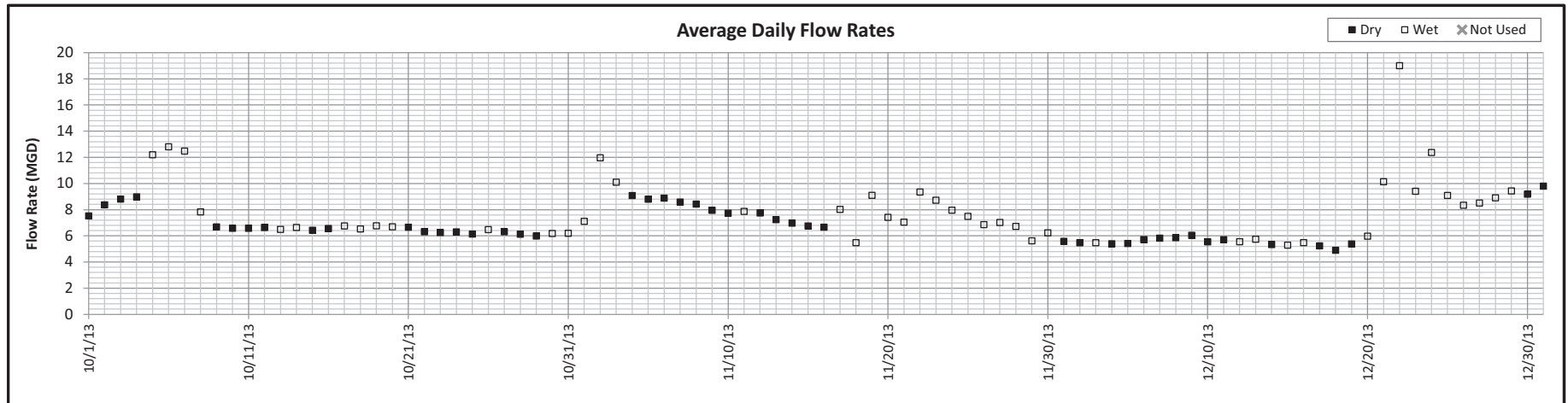
Meter: WCS2

Location: Ford Road West of Evergreen Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: MR 1A-C2

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	7.3	227.2	6.9	210.1	18	13
Nov-13	7.8	234.9	7.9	238.3	12	18
Dec-13	7.3	225.1	6.0	185.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	22.2	11/1/13 0:50	0.0	10/30/13 0:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	32.9	12/22/13 2:45	0.0	12/20/13 9:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

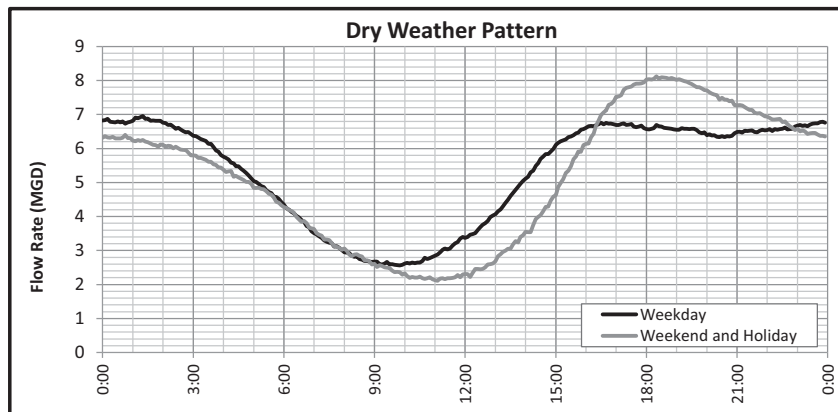
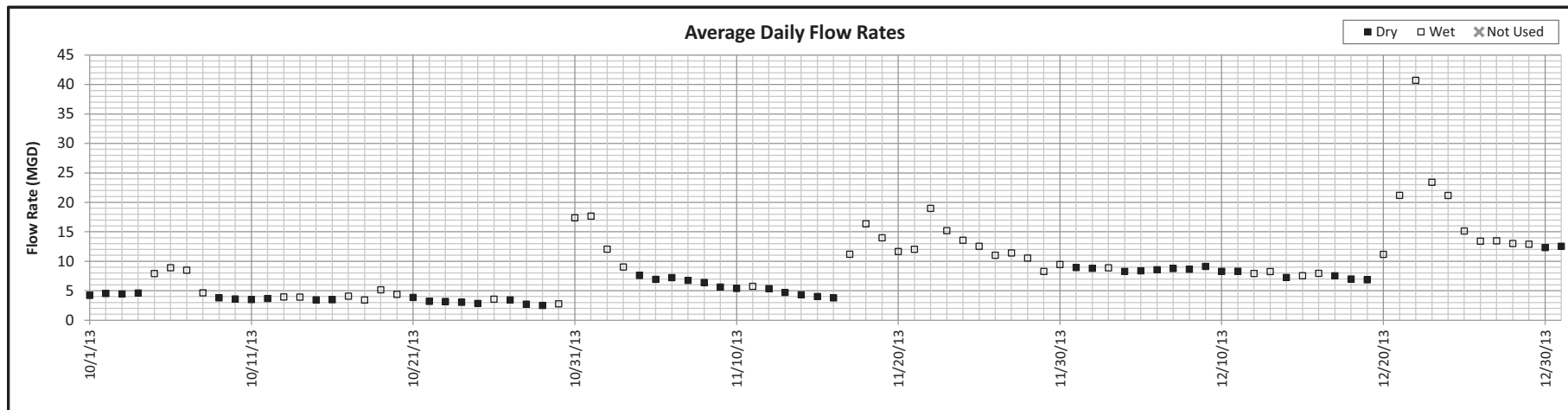
Meter: WCS3

Interceptor Manhole ID: MRIR 1-01B

Location: Southfield Road and Mercury Drive

Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.6	142.6	3.6	108.2	18	13
Nov-13	9.6	288.6	5.7	172.3	12	18
Dec-13	11.8	365.8	8.7	263.3	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	10.4	11/3/13 18:55	0.0	10/30/13 0:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	10.4	12/22/13 18:55	0.0	12/20/13 9:20

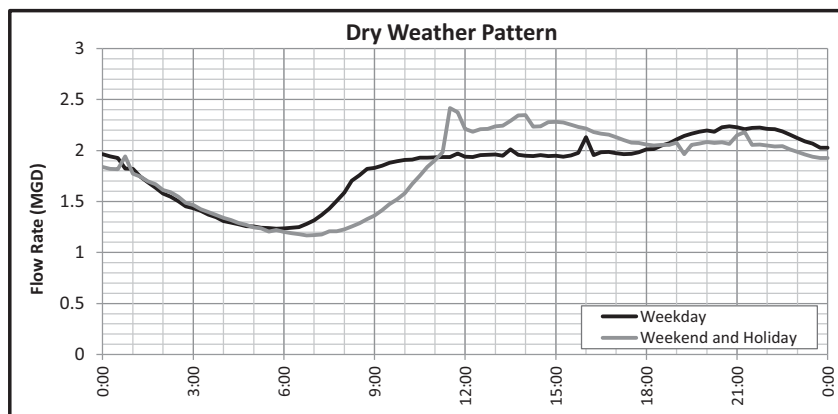
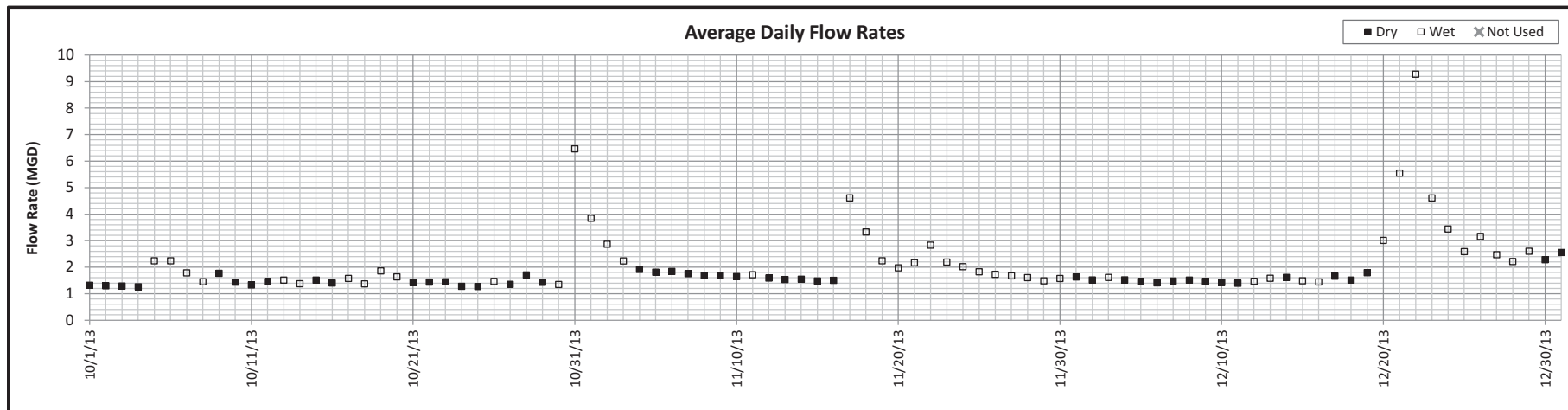
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: GARDENCITY_M1
Interceptor Manhole ID: --

Location: Middlebelt Road North of Rush
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.7	51.8	1.4	42.8	18	13
Nov-13	2.1	61.8	1.7	51.7	12	18
Dec-13	2.4	72.9	1.6	50.3	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	19.2	10/31/13 1:15	4.8	10/31/13 22:30
1	1.19	12/19/2013 0:00	12/22/2013 12:00	11.3	12/22/13 0:30	6.5	12/22/13 7:45

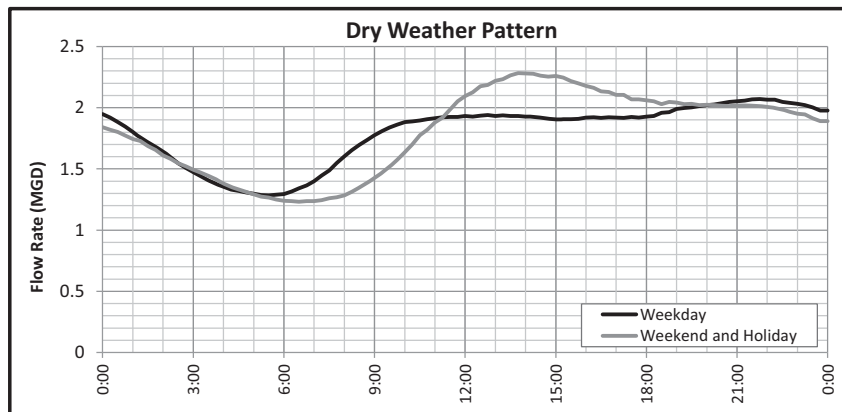
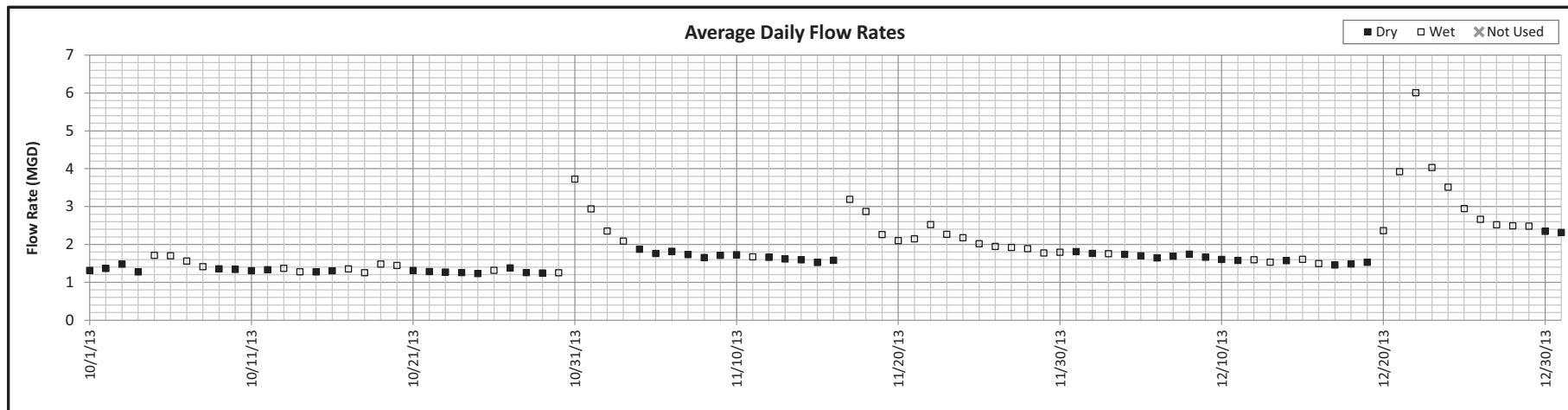
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: GARDENCITY_M2
Interceptor Manhole ID: --

Location: Merriman Road South of Hines Drive
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.4	44.3	1.3	40.0	18	13
Nov-13	2.0	60.3	1.7	52.4	12	18
Dec-13	2.2	68.5	1.7	53.3	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	6.3	10/31/13 22:15	1.6	10/30/13 4:10
1	1.19	12/19/2013 0:00	12/22/2013 12:00	7.4	12/22/13 1:45	1.7	12/19/13 0:10

Rouge Valley Sewage Disposal System

Quarterly Meter Report

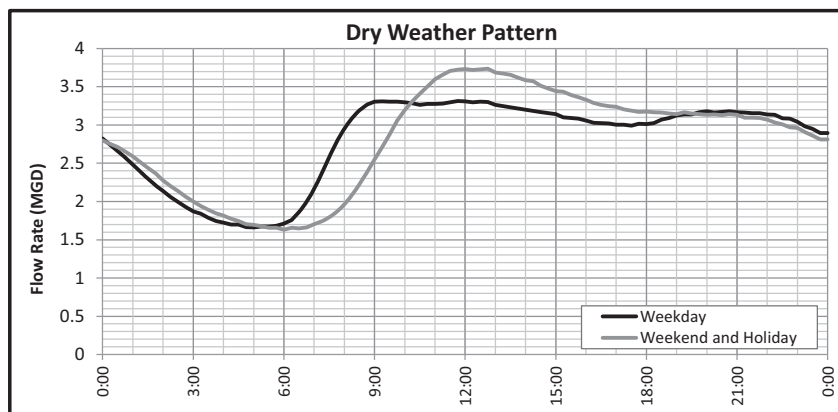
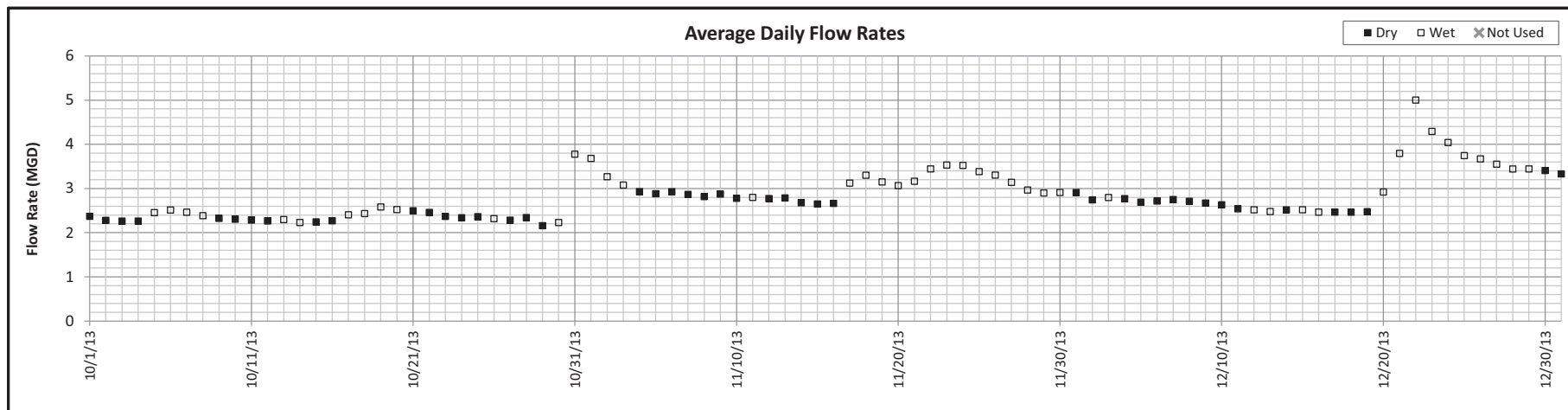
Meter: LIVONIA_LV04

Location: Alpine Road and 5 Mile Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	2.4	74.4	2.3	71.0	18	13
Nov-13	3.0	91.2	2.8	86.7	12	18
Dec-13	3.1	94.6	2.7	84.8	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	5.3	10/31/13 22:00	1.8	10/31/13 21:45
1	1.19	12/19/2013 0:00	12/22/2013 12:00	5.6	12/22/13 13:30	1.8	12/21/13 7:10

Rouge Valley Sewage Disposal System

Quarterly Meter Report

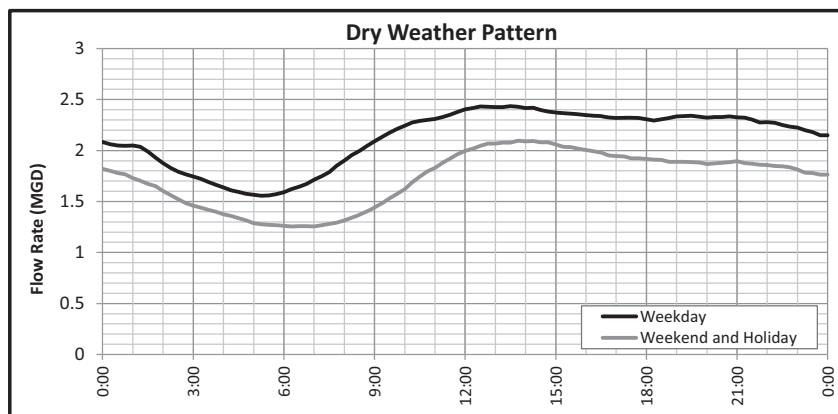
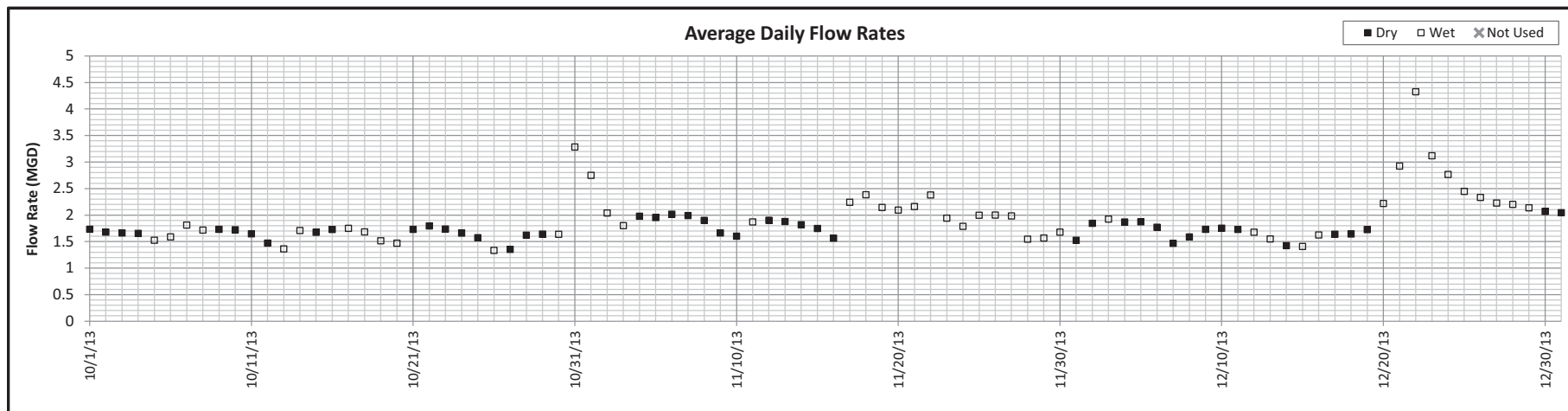
Meter: LIVONIA_LV11

Location: Lyndon Road and Inkster Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.7	52.1	1.7	50.3	18	13
Nov-13	2.0	58.5	1.8	55.0	12	18
Dec-13	2.0	62.6	1.7	53.6	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	5.5	10/31/13 22:30	1.1	10/30/13 18:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	5.4	12/22/13 1:45	1.0	12/22/13 1:15

Rouge Valley Sewage Disposal System

Quarterly Meter Report

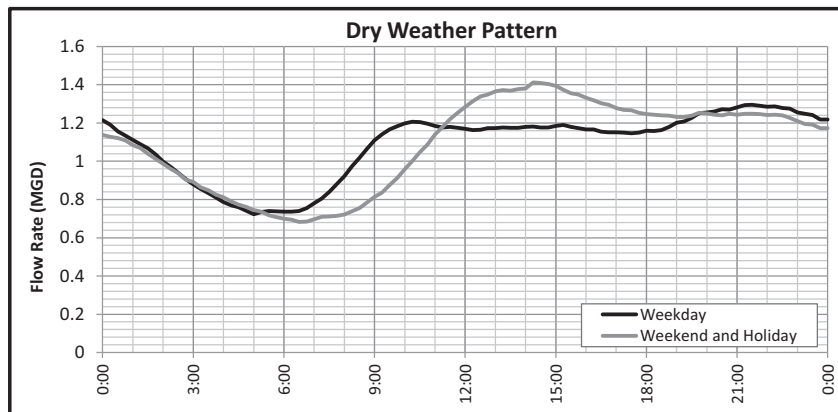
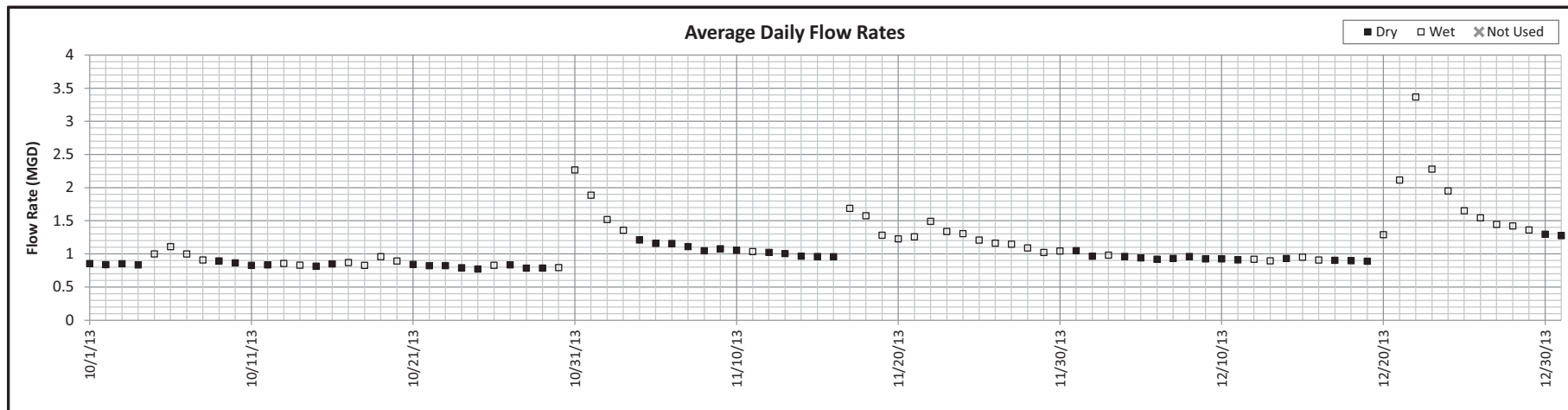
Meter: LIVONIA_LV14

Location: West of Cavell South of Ann Arbor Trail

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Month	Monthly Statistics					
	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.9	27.9	0.8	25.0	18	13
Nov-13	1.2	36.3	1.1	32.6	12	18
Dec-13	1.3	38.8	1.0	30.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	5.0	10/31/13 22:30	1.3	10/30/13 19:45
1	1.19	12/19/2013 0:00	12/22/2013 12:00	4.2	12/22/13 1:15	1.1	12/19/13 12:30

Rouge Valley Sewage Disposal System

Quarterly Meter Report

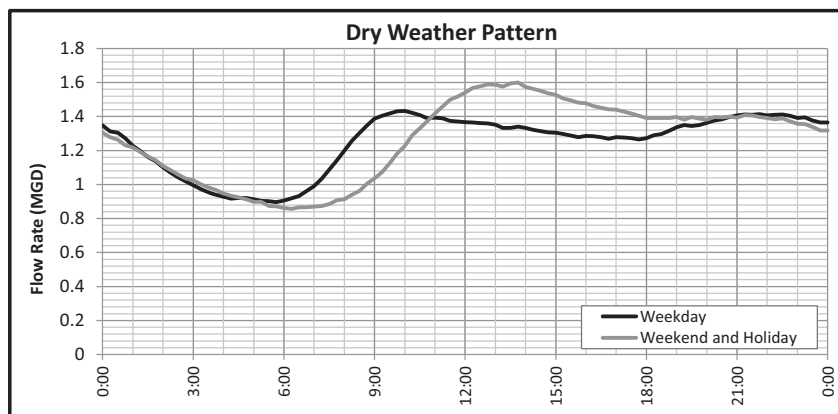
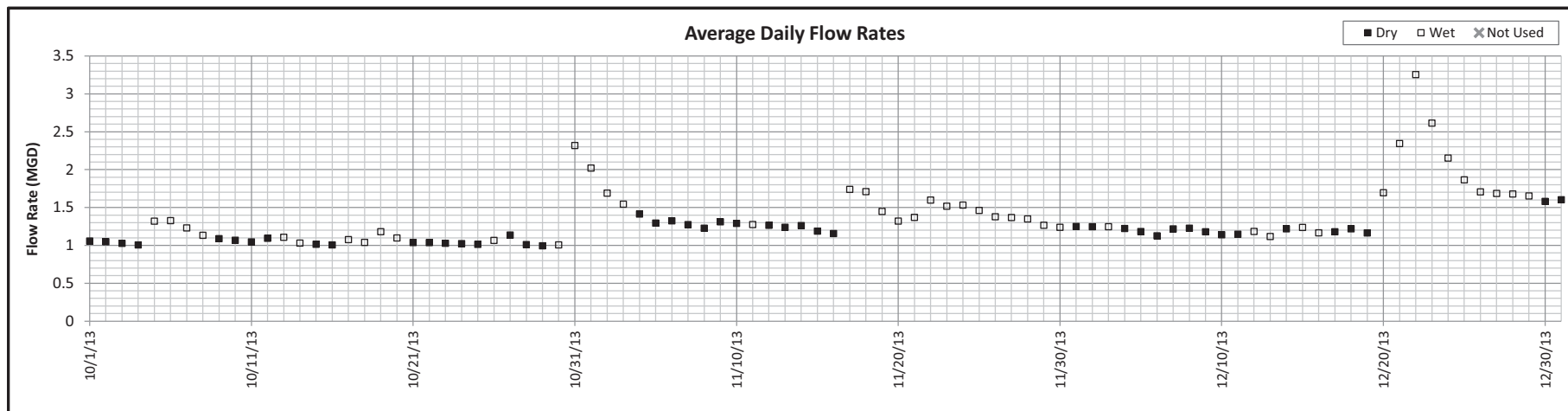
Meter: LIVONIA_LV15

Location: Merriman Road at Geraldine Street

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.1	34.7	1.0	32.1	18	13
Nov-13	1.4	42.0	1.3	38.9	12	18
Dec-13	1.5	46.5	1.2	37.8	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	3.6	10/31/13 21:45	2.9	10/31/13 23:30
1	1.19	12/19/2013 0:00	12/22/2013 12:00	3.7	12/22/13 9:45	3.8	12/22/13 7:30

Rouge Valley Sewage Disposal System

Quarterly Meter Report

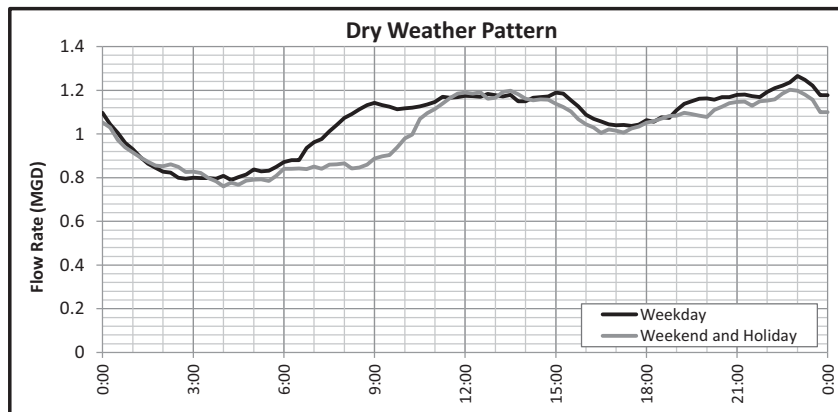
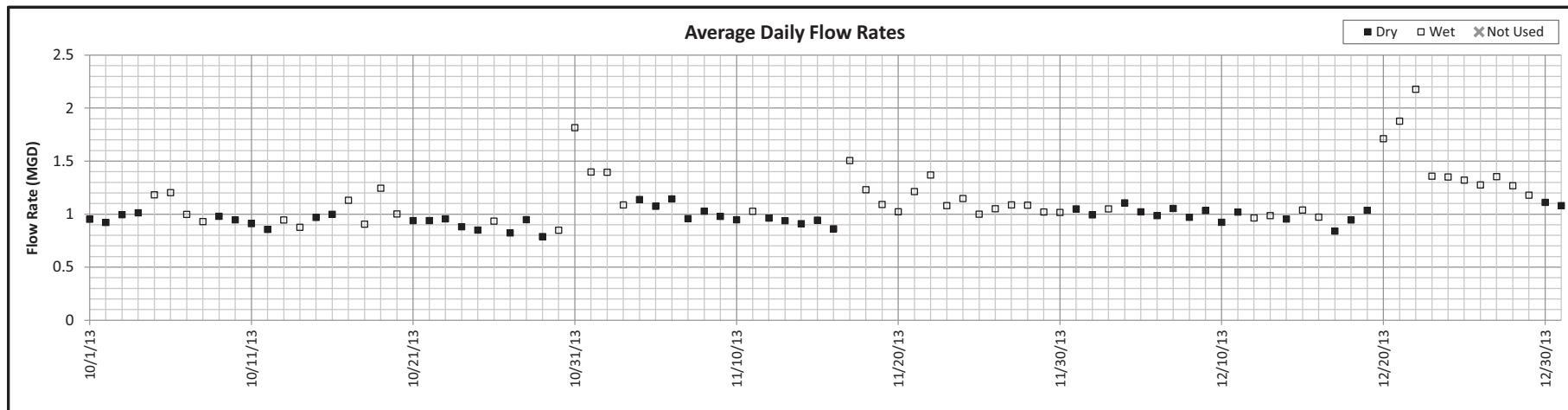
Meter: LIVONIA_LV16

Location: 8914 Farmington Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.0	30.7	0.9	27.9	18	13
Nov-13	1.1	32.7	1.0	30.6	12	18
Dec-13	1.2	36.0	1.0	31.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	2.9	11/2/13 10:45	1.0	10/31/13 12:55
1	1.19	12/19/2013 0:00	12/22/2013 12:00	3.4	12/22/13 6:15	1.0	12/20/13 15:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

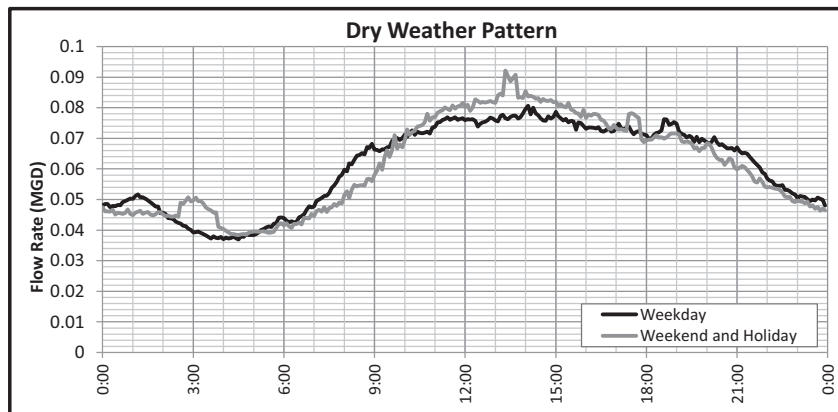
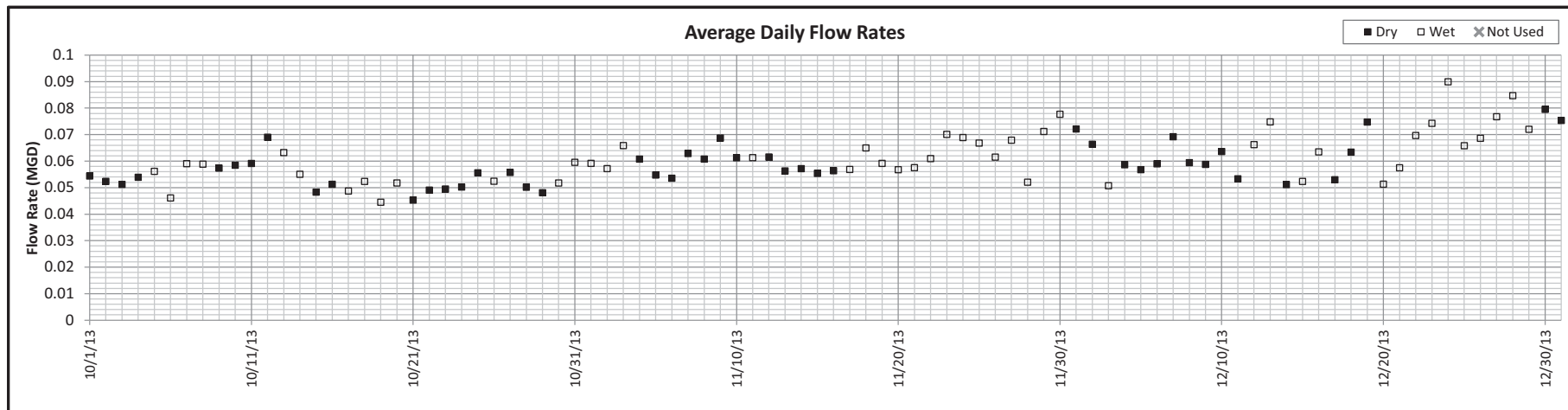
Meter: LIVONIA_LV20

Location:

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch:



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.1	1.6	0.1	1.5	18	13
Nov-13	0.1	1.8	0.1	1.9	12	18
Dec-13	0.1	2.2	0.1	1.9	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	0.1	11/3/13 13:45	0.3	10/30/13 0:15
1	1.19	12/19/2013 0:00	12/22/2013 12:00	0.1	12/19/13 17:05	0.3	12/22/13 8:55

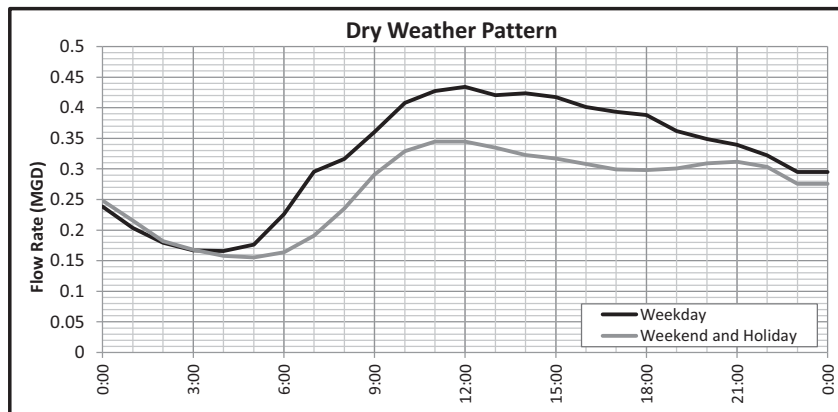
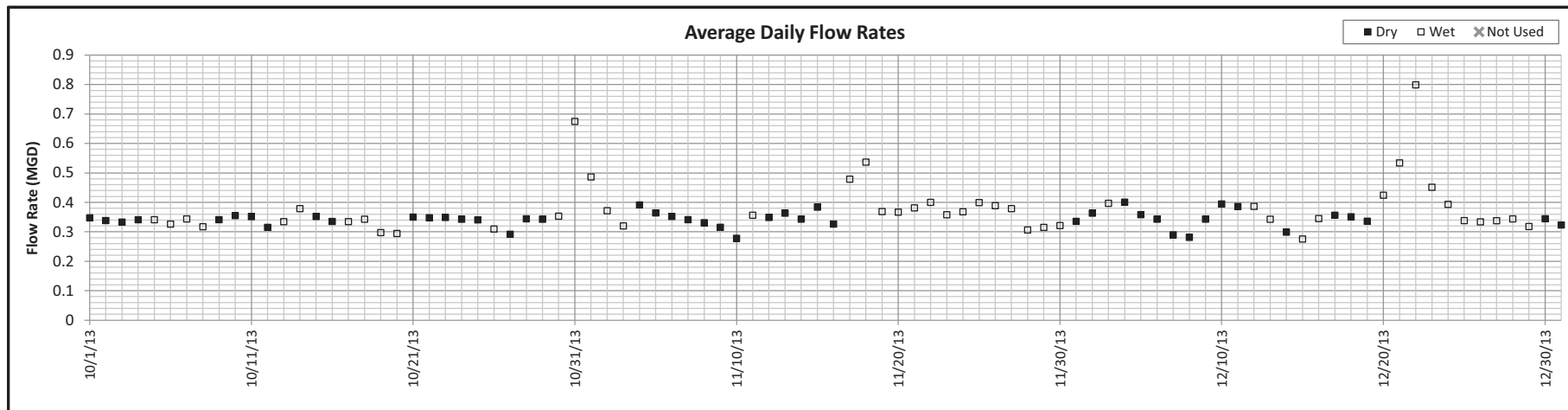
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: PLYMOUTH_A
Interceptor Manhole ID: --

Location: Sheldon Road South of North Territorial
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.4	10.9	0.3	10.4	18	13
Nov-13	0.4	11.1	0.3	10.4	12	18
Dec-13	0.4	11.5	0.3	10.4	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	0.9	10/31/13 13:00	0.6	10/31/13 14:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	1.0	12/22/13 9:00	0.6	12/22/13 9:00

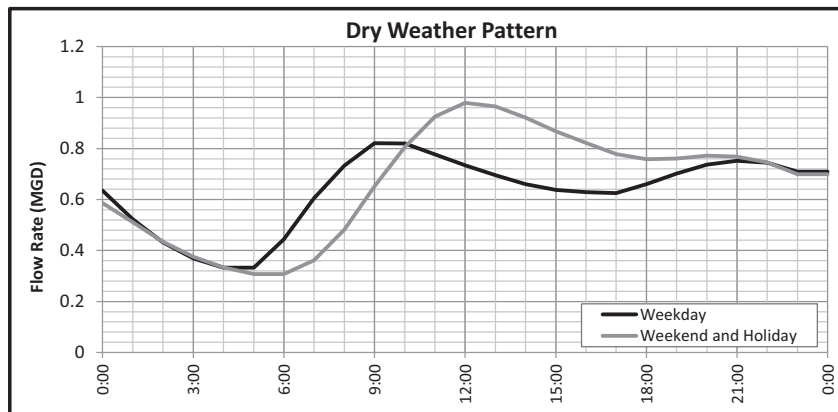
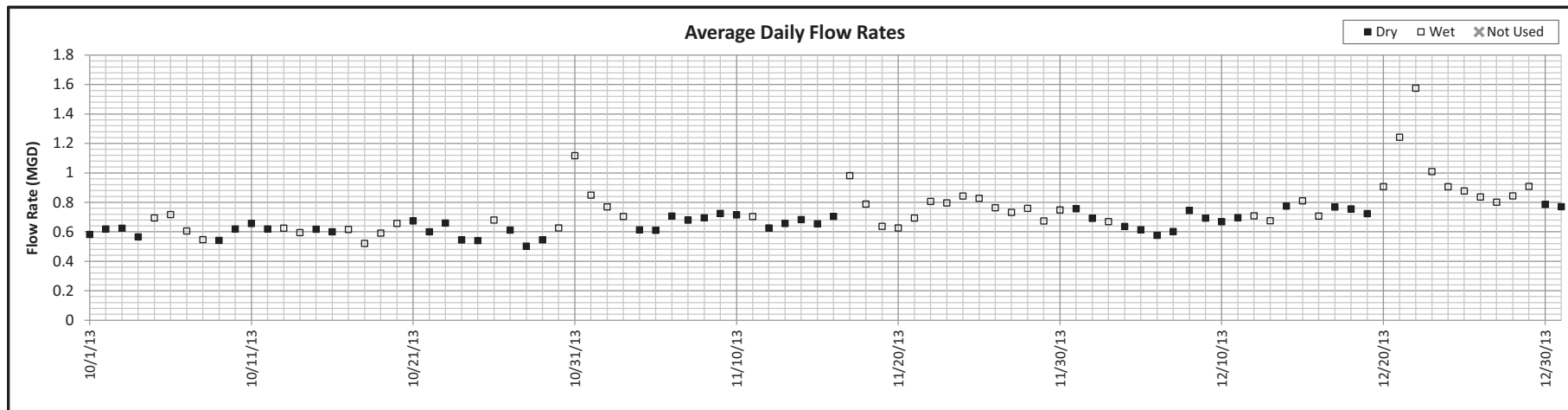
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: PLYMOUTH_B
Interceptor Manhole ID: --

Location: Sheldon Road North of Ann Arbor Road
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.6	19.2	0.6	18.2	18	13
Nov-13	0.7	21.9	0.7	20.3	12	18
Dec-13	0.8	24.8	0.7	21.1	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	1.6	10/30/13 20:30	0.6	10/31/13 21:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	2.1	12/21/13 23:00	0.6	12/19/13 10:20

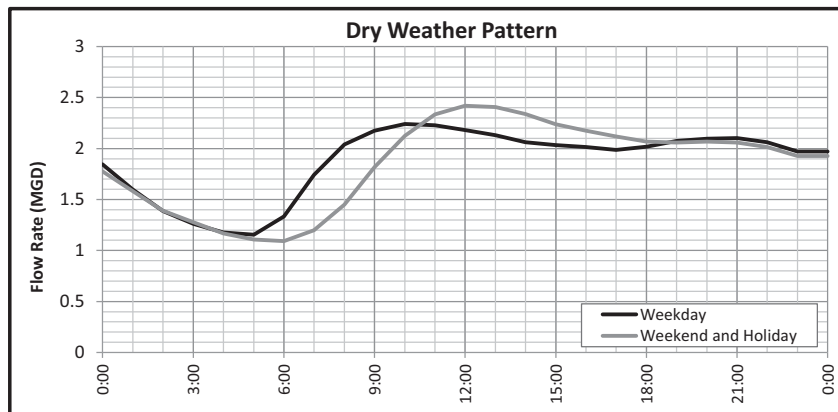
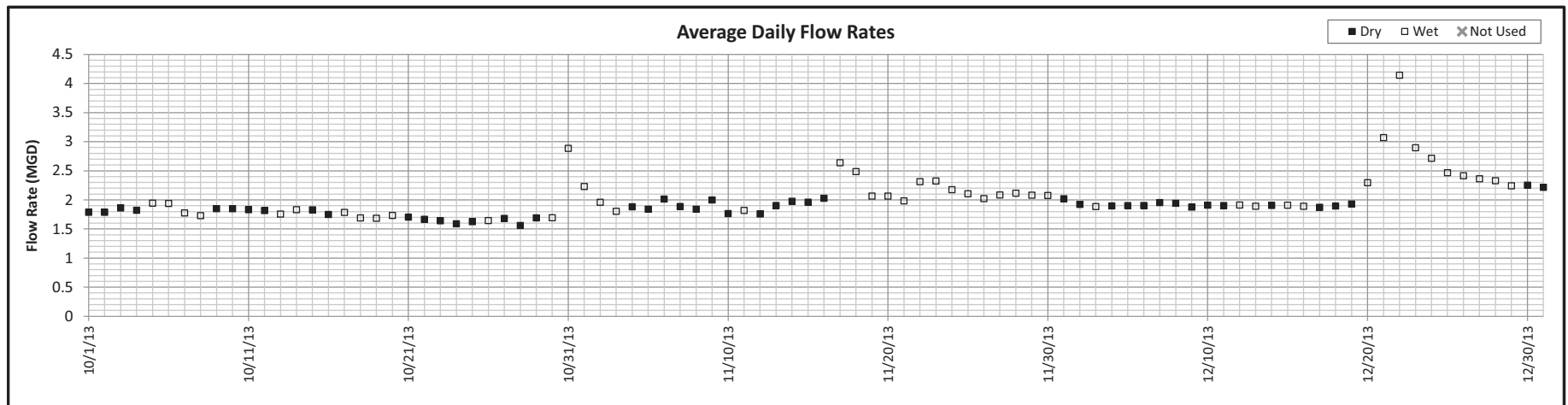
Rouge Valley Sewage Disposal System

Quarterly Meter Report

Meter: PLYMOUTH_C
Interceptor Manhole ID: --

Location: Ann Arbor Road West of Lilley Road
Interceptor Branch: Middle Rouge

Period: 10/1/2013 through 12/31/2013



Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.8	55.5	1.7	52.6	18	13
Nov-13	2.0	61.2	1.9	58.8	12	18
Dec-13	2.2	67.6	2.0	60.4	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	3.8	10/31/13 22:00	0.8	10/31/13 22:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	5.8	12/22/13 12:00	0.8	12/19/13 4:25

Rouge Valley Sewage Disposal System

Quarterly Meter Report

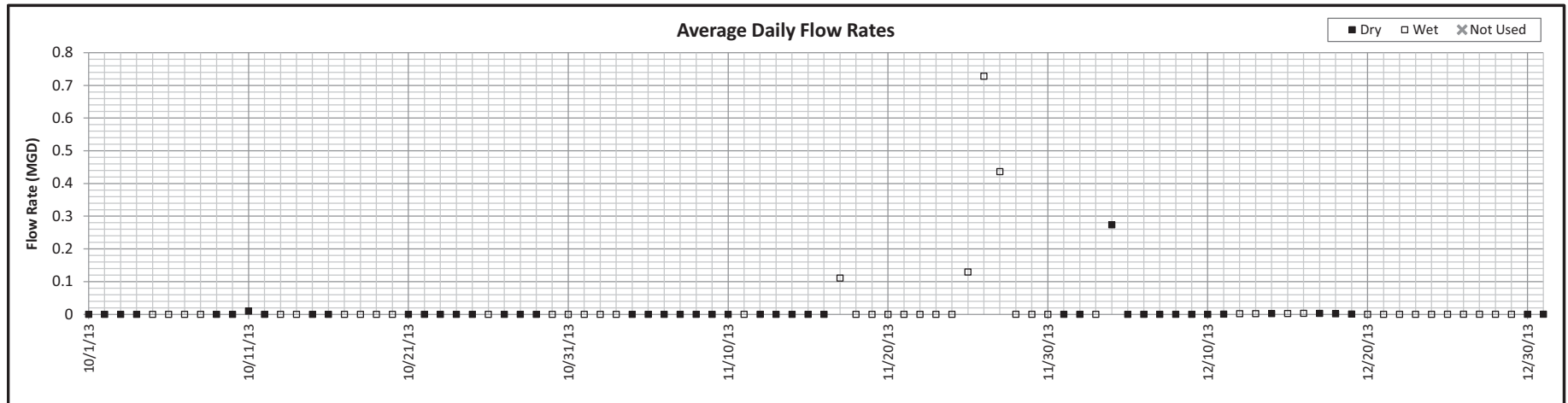
Meter: WTUA_FE-19

Location: Haggerty Road North of Michigan Avenue

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Lower Rouge



Dry weather pattern not applicable to this meter

Monthly Statistics

Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.0	0.0	0.0	0.0	18	13
Nov-13	0.1	1.5	0.0	0.0	12	18
Dec-13	0.0	0.3	0.0	0.6	15	15

Statistics for Significant Wet Weather Events

Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	0.0	10/30/13 11:00	0.0	10/30/13 0:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	0.0	12/19/13 10:00	0.0	12/20/13 9:20

Rouge Valley Sewage Disposal System

Quarterly Meter Report

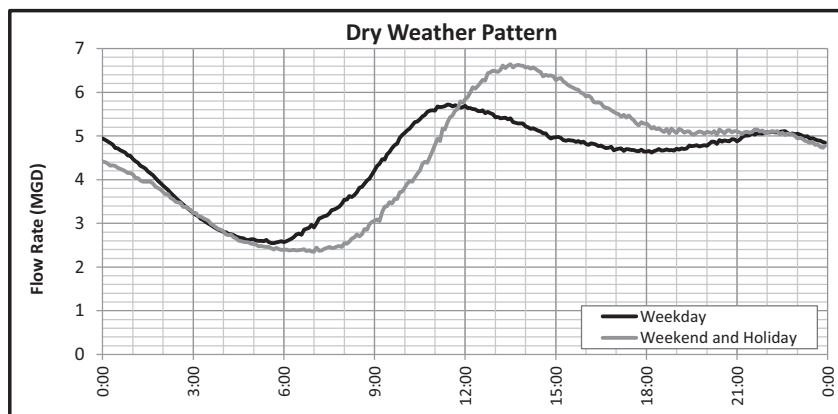
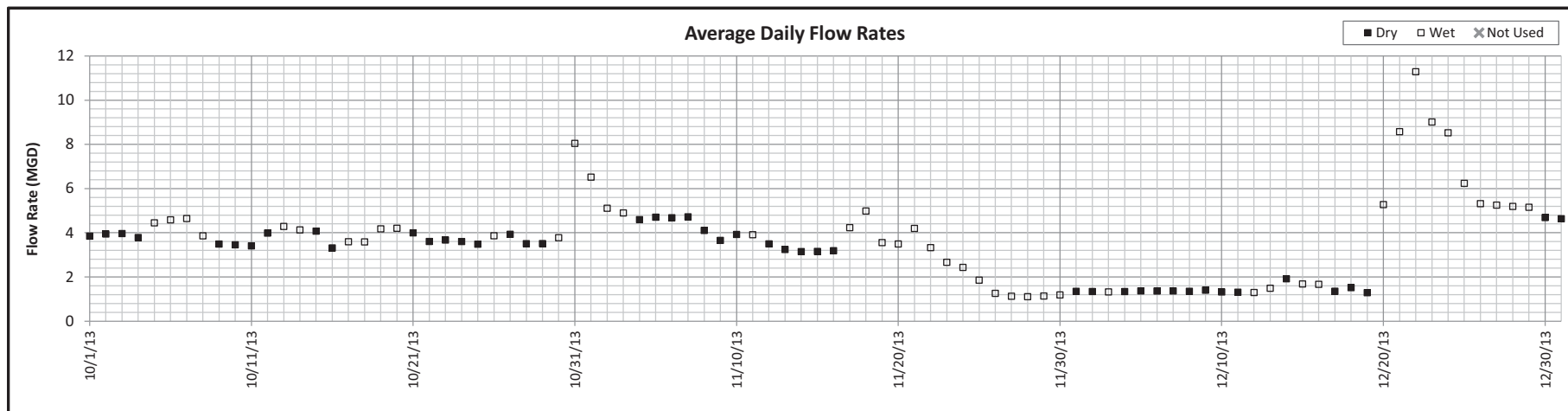
Meter: WTUA_FE-22

Location: Eckles Road and Joy Road

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: RVI 10-11

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	4.0	123.7	3.7	111.0	18	13
Nov-13	3.5	103.5	3.9	118.5	12	18
Dec-13	3.4	106.3	1.8	55.3	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	11.0	10/31/13 22:30	1.7	10/31/13 22:00
1	1.19	12/19/2013 0:00	12/22/2013 12:00	13.4	12/22/13 12:45	1.8	12/22/13 13:00

Rouge Valley Sewage Disposal System

Quarterly Meter Report

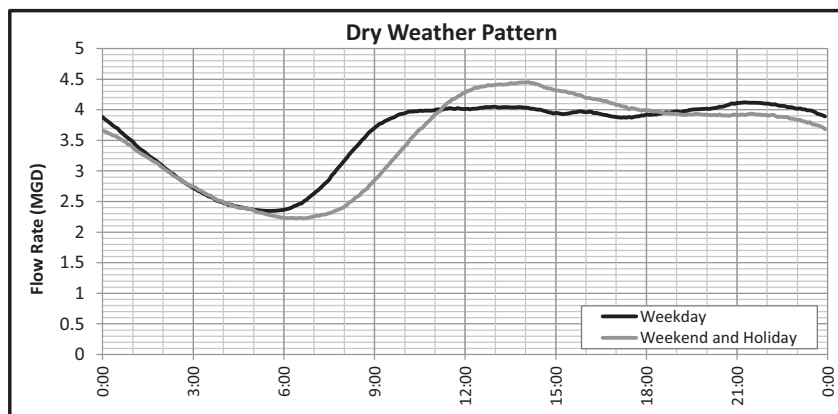
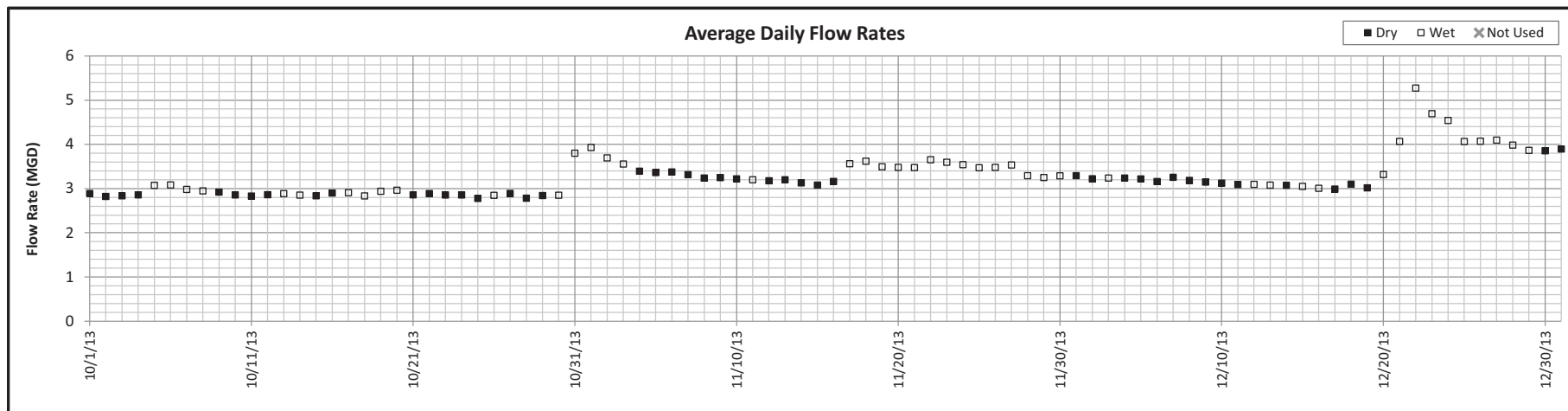
Meter: RVSDS_WE14

Location: Hines Drive West of Merriman

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Middle Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	2.9	90.2	2.9	85.8	18	13
Nov-13	3.4	102.0	3.2	99.1	12	18
Dec-13	3.5	109.4	3.2	98.7	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	5.7	10/31/13 22:30	1.6	10/31/13 22:10
1	1.19	12/19/2013 0:00	12/22/2013 12:00	6.1	12/22/13 14:05	1.7	12/22/13 13:15

Rouge Valley Sewage Disposal System

Quarterly Meter Report

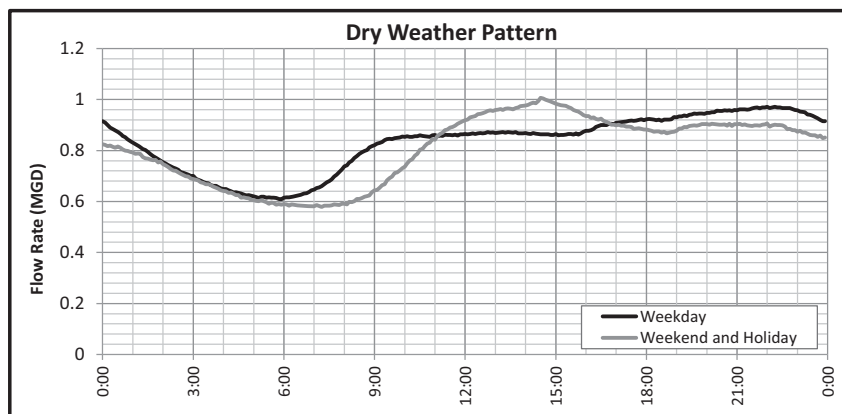
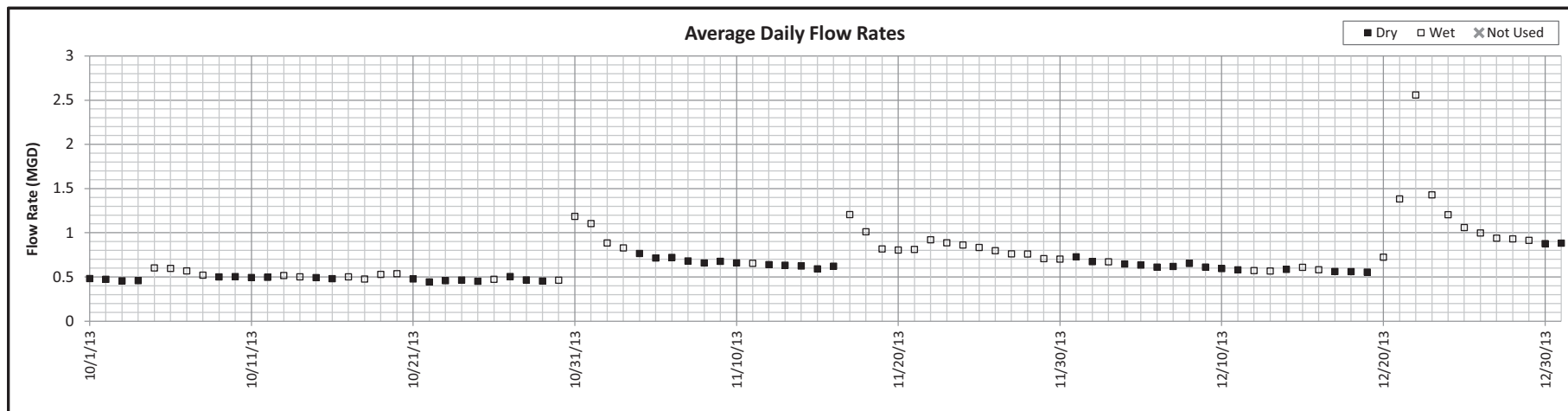
Meter: RVSDS_WE28

Location: Merriman Road and Lower Rouge River

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	0.5	16.1	0.5	14.6	18	13
Nov-13	0.8	23.4	0.7	20.2	12	18
Dec-13	0.8	25.4	0.7	19.6	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	3.0	10/31/13 22:40	0.9	10/31/13 22:10
1	1.19	12/19/2013 0:00	12/22/2013 12:00	3.5	12/22/13 1:30	0.9	12/22/13 0:40

Rouge Valley Sewage Disposal System

Quarterly Meter Report

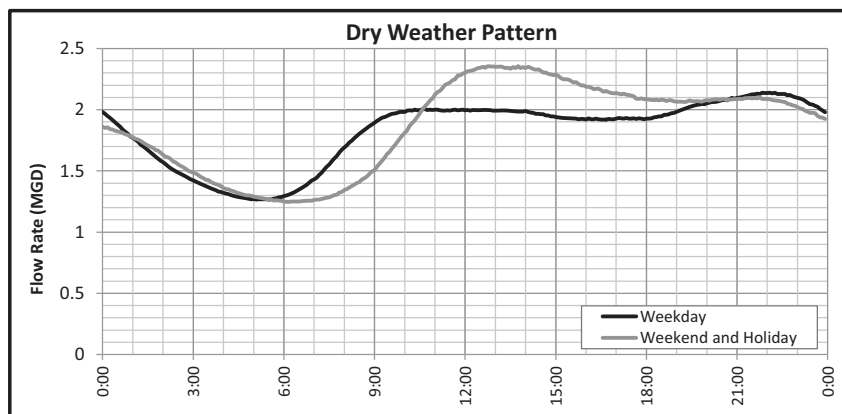
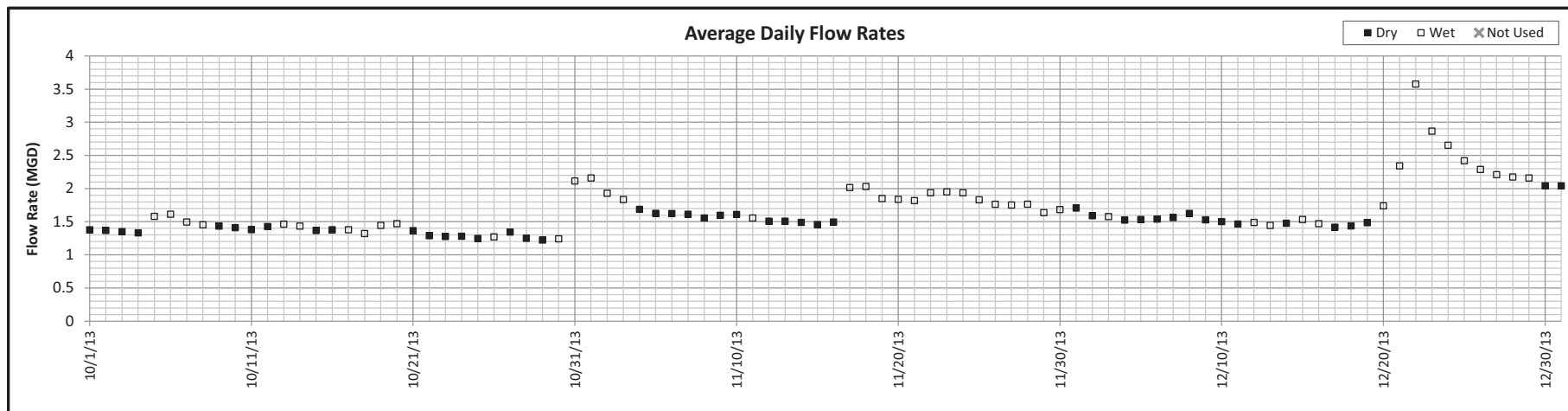
Meter: RVSDS_WE25

Location: Thinbark Road at Lower Rouge River

Period: 10/1/2013 through 12/31/2013

Interceptor Manhole ID: --

Interceptor Branch: Lower Rouge



Monthly Statistics						
Month	All Days		Dry Days			
	Avg. (MGD)	Vol. (MG)	Avg. (MGD)	Vol. (MG)	# Dry Days	# Wet Days
Oct-13	1.4	43.4	1.3	41.0	18	13
Nov-13	1.7	52.2	1.6	47.2	12	18
Dec-13	1.9	57.4	1.6	47.9	15	15

Statistics for Significant Wet Weather Events							
Event No.	Rainfall (in)	Start Date/Time	End Date/Time	Flow Rate		Depth	
				Max. Hour	Date/Time	Max. (in)	Date/Time
1	1.72	10/30/2013 18:00	11/1/2013 6:00	3.7	10/31/13 23:10	1.1	10/31/13 22:40
1	1.19	12/19/2013 0:00	12/22/2013 12:00	4.2	12/21/13 23:55	1.2	12/21/13 23:35

Appendix A

System Reach Maps

