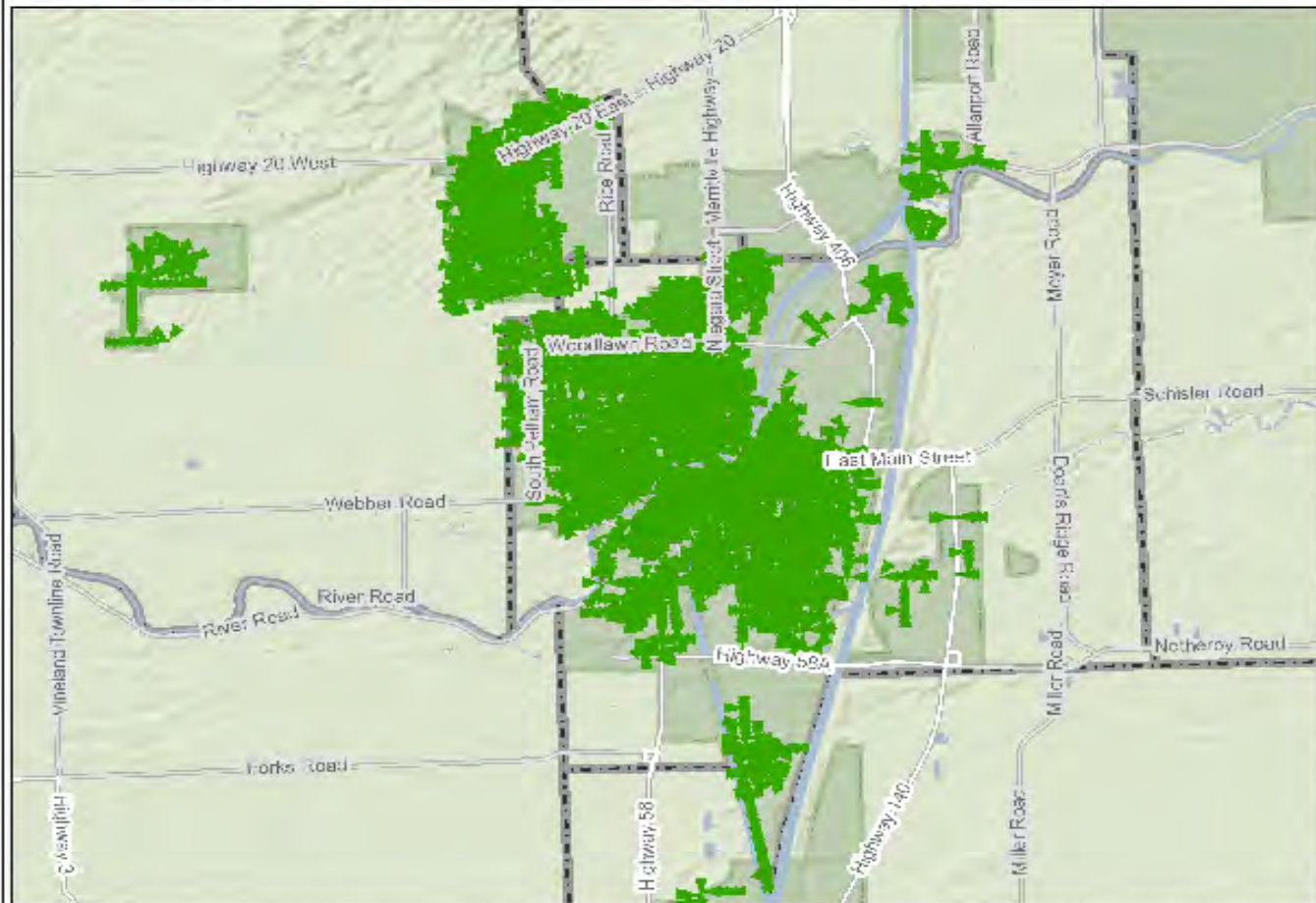




Welland Regulator Monitoring Project

November 8th, 2010

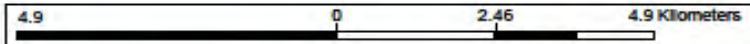
City of Welland Sewer System



Legend

- LAM Sanitary Gravity Main Streets (50k -200k)
- Provincial
- Regional
- Regional Shields**
- Waterbodies
- Niagara River
- Welland Canal
- Municipal Boundaries
- Built Up Areas
- Surround**
- Outside Niagara
- Lake Erie, Lake Ontario
- Hillshade**
- High : 255
- Hillshade
- Low : 0
- Background

1: 96,939

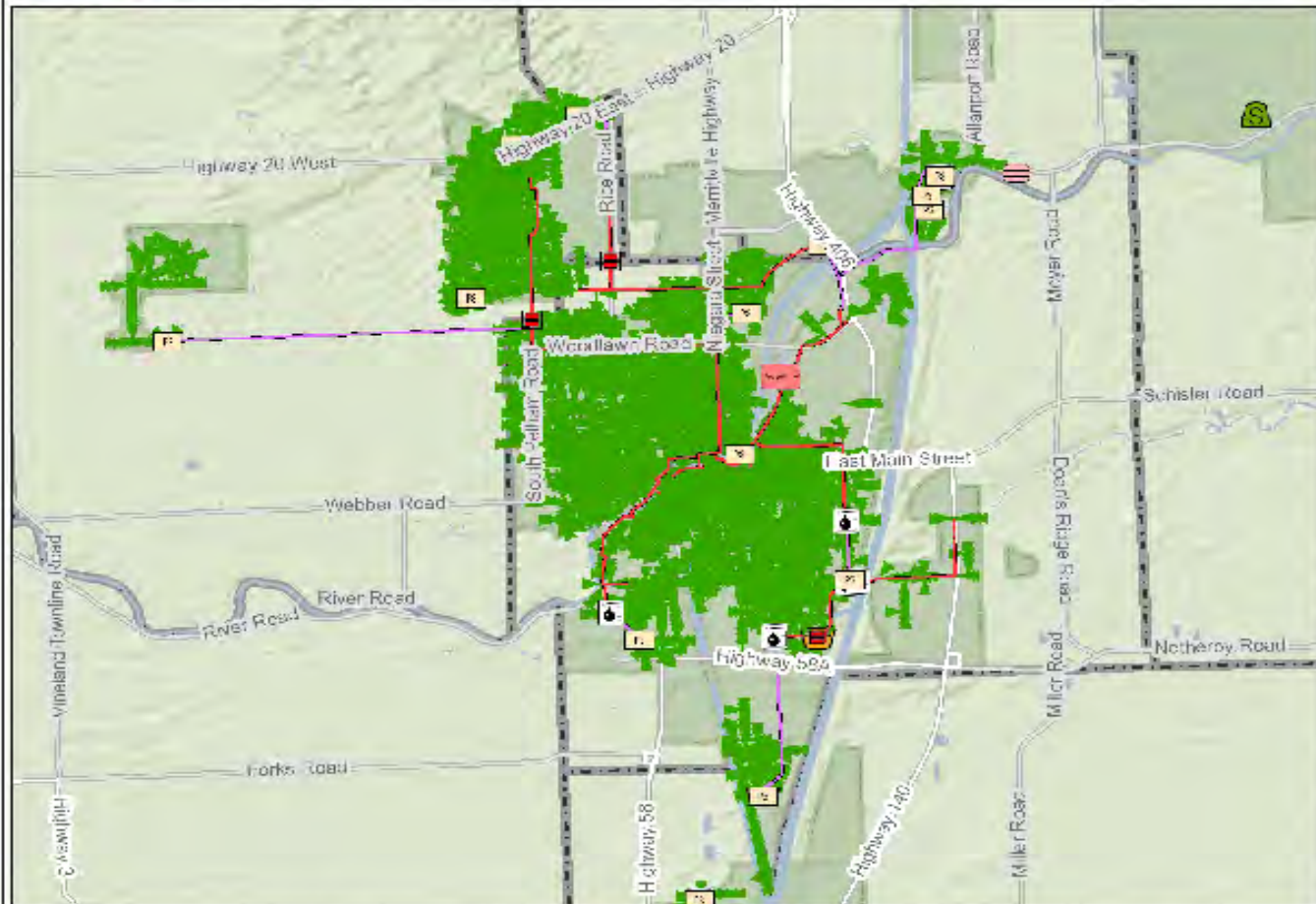


©Niagara Region

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THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes
Enter a brief map description

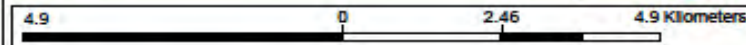
Regional Sanitary System



Legend

- RMON Sanitary Facility Point
 - Odour Control Facility
 - Pump
 - Leachate Pumping Station
 - Combined Sewage Detention Facility
 - Sewage Detention Facility
 - Sewage Pumping Station
 - Storm Water Pumping Station
 - Wastewater Treatment Plant
- RMON Sanitary Pumping Station
- RMON Sanitary Sampling Location
- RMON Sanitary Force Main
 - Drain, Active
 - Force Main, Active
 - Force Main, Under Construction
- RMON Sanitary Gravity Main
 - Sanitary Gravity Pipe, Active
 - Sanitary Gravity Pipe, Under Construction
 - Combined Sewer Overflow, Active
 - Combined Sewer Overflow, Under Construction
 - Sanitary Siphon, Active
 - Sanitary Siphon, Under Construction
 - Wastewater Effluent, Active
 - Wastewater Effluent, Under Construction
 - Sanitary In-line Storage, Active
 - Sanitary In-line Storage, Under Construction
- LAM Sanitary Gravity Main
- Streets (50k -200k)
 - Provincial
 - Regional
- Regional Shields

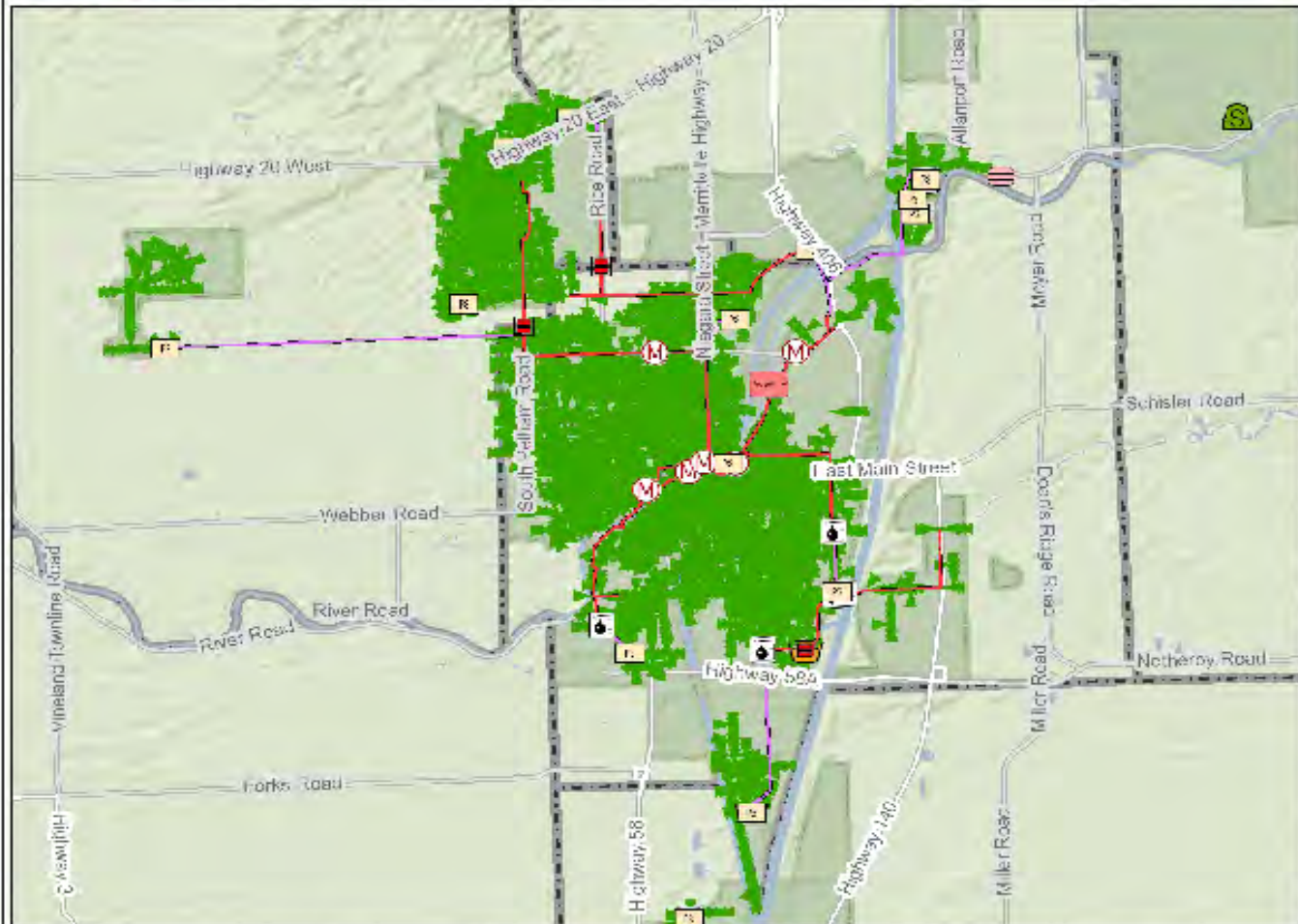
Scale: 1:96,939



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THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes
Enter a brief map description

Permanent Flow Monitoring Locations



Legend

- RMON Sanitary Facility Point**
 - Odour Control Facility
 - Flume
 - Lagoon
 - Biosolids Storage Facility
 - Leachate Pumping Station
 - Combined Sewage Detention Facility
 - Sewage Detention Facility
 - Sewage Pumping Station
 - Storm Water Pumping Station
 - Wastewater Treatment Plant
- RMON Sanitary Pumping Station**
- RMON Sanitary Permanent Monitoring Point**
- RMON Sanitary Sampling Location**
- RMON Sanitary Force Main**
 - Drain, Active
 - Force Main, Active
 - Force Main, Under Construction
- RMON Sanitary Gravity Main**
 - Sanitary Gravity Pipe, Active
 - Sanitary Gravity Pipe, Under Construction
 - Combined Sewer Overflow, Active
 - Combined Sewer Overflow, Under Construction
 - Sanitary Siphon, Active
 - Sanitary Siphon, Under Construction
 - Wastewater Effluent, Active
 - Wastewater Effluent, Under Construction
 - Sanitary In-line Storage, Active
 - Sanitary In-line Storage, Under Construction
- LAM Sanitary Gravity Main Streets (50k -200k)**
 - Provincial
 - Regional

1: 96,939



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Notes
 Enter a brief map description

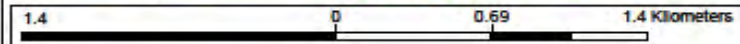
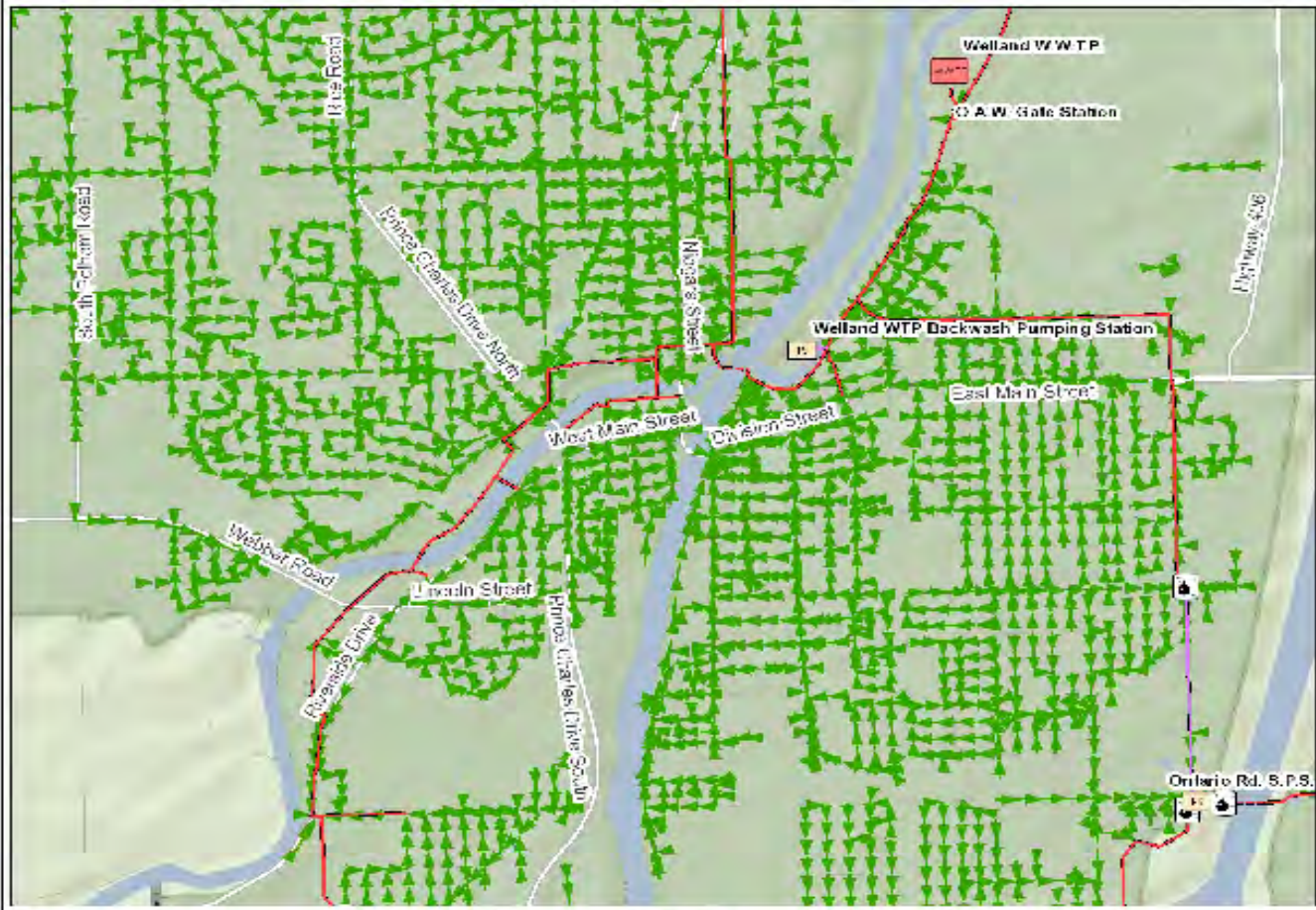
CSO Monitoring Area



Legend

- RMoN Sanitary Facility Point
 - Odour Control Facility
 - Flume
 - Lagoon
 - Biosolids Storage Facility
 - Leachate Pumping Station
 - Combined Sewage Detention Facility
 - Sewage Detention Facility
 - Sewage Pumping Station
 - Storm Water Pumping Station
 - Wastewater Treatment Plant
- RMoN Sanitary Pumping Station
- RMoN Sanitary Sampling Location
- RMoN Sanitary Force Main
 - Drain, Active
 - Force Main, Active
 - Force Main, Under Construction
- RMoN Sanitary Gravity Main
 - Sanitary Gravity Pipe, Active
 - Sanitary Gravity Pipe, Under Const
 - Combined Sewer Overflow, Active
 - Combined Sewer Overflow, Under Const
 - Sanitary Siphon, Active
 - Sanitary Siphon, Under Construction
 - Wastewater Effluent, Active
 - Wastewater Effluent, Under Const
 - Sanitary Inline Storage, Active
 - Sanitary Inline Storage, Under Const
- LAM Sanitary Gravity Main
- Streets (D-50K)
 - Provincial
 - Regional
 - Municipal & Other
- Regional Shields

1: 26,984



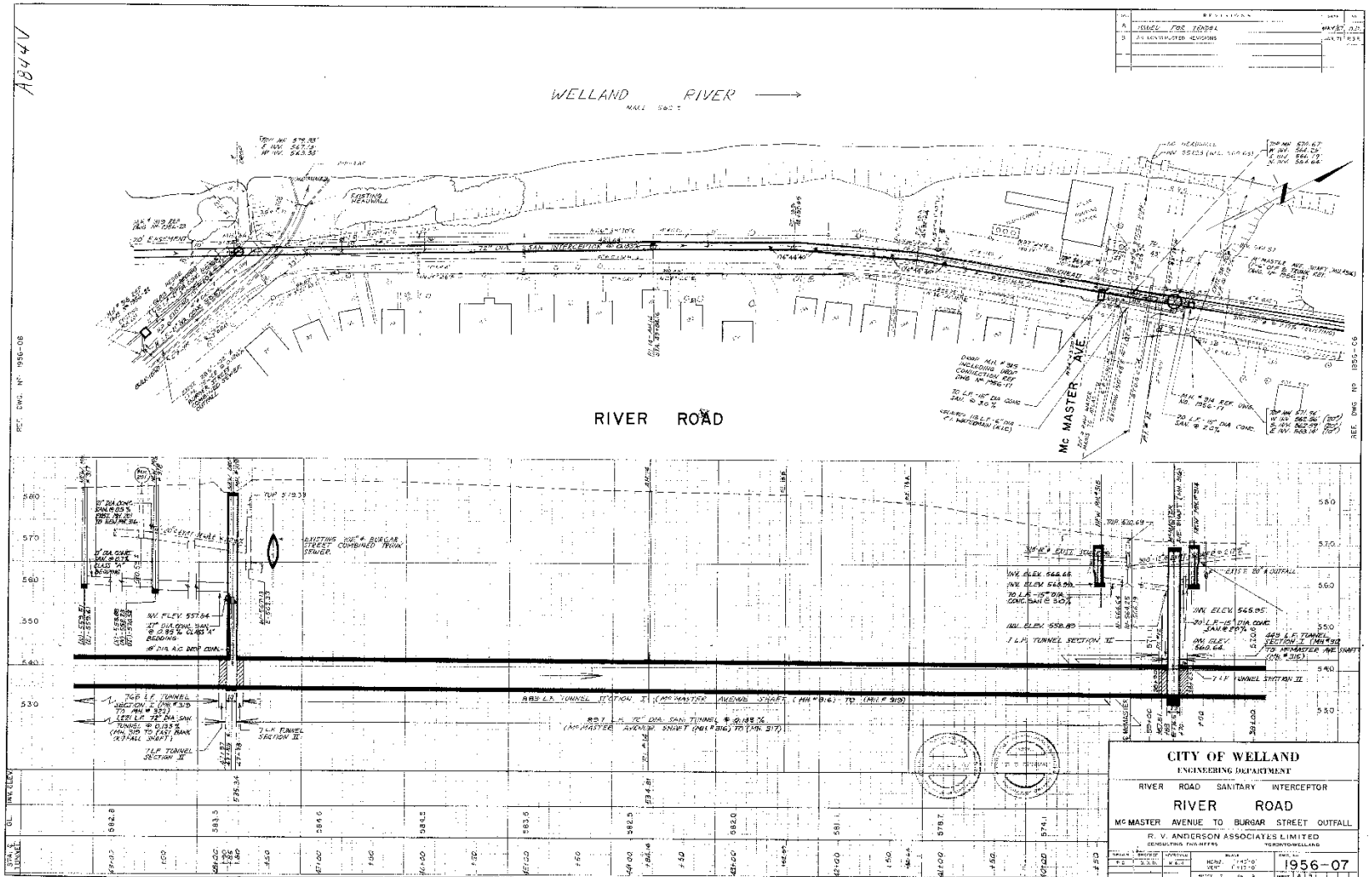
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Notes
Enter a brief map description

Site # 8 – Hellems Street Regulator



Site # 8 – Hellems Street Regulator



CITY OF WELLAND
ENGINEERING DEPARTMENT
RIVER ROAD SANITARY INTERCEPTOR
RIVER ROAD
MC MASTER AVENUE TO BURGAR STREET OUTFALL

R. V. ANDERSON ASSOCIATES LIMITED
 CONSULTING ENGINEERS

1956-07

DATE: 7-11-56
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

Zoom Camera – Site Reconnaissance



Confined Space Entry



Sample Volumes

LivingWEB Dynamic Server Graph

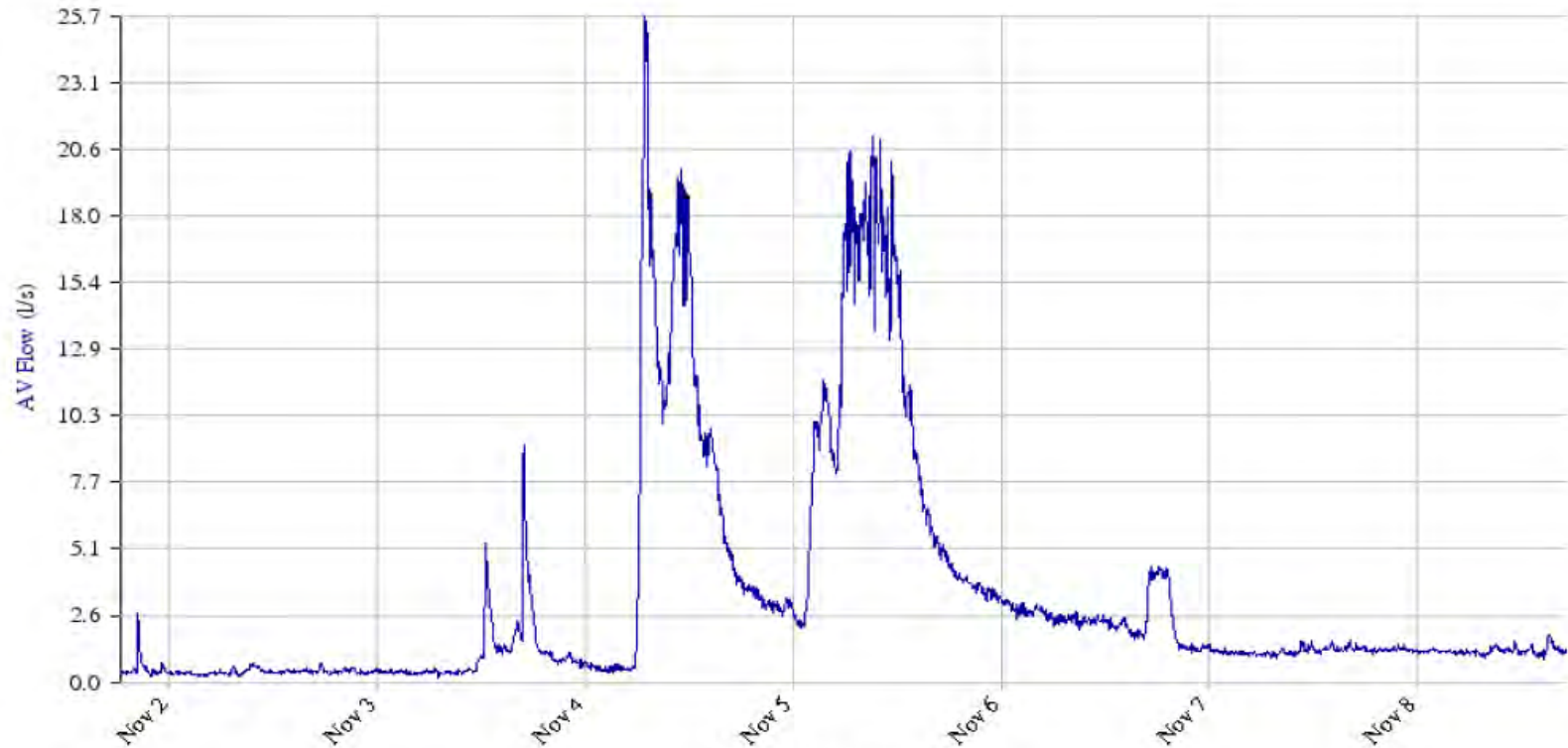
Site: Site 5(B) Aqueduct St - Outflow

Address: 39 Merritt East

Starting: 2010-11-1 18:17 EST

Ending: 2010-11-8 17:17 EST

Project Local Time: 20:19:03, 08 Nov 2010



Time: 2010-11-1 18:17 EST
Sensor Graph Of Duration vs. AV Flow

Bypass Incident Report

2008-06-18 S 3:45 12:25 18.870 No Heavy Precipitation Yes

System: Welland

Location: Welland Plant

Sampled Results

Date	Type	Start Time	Duration (hhh:mm)	Volume (ML)	Disinfect	Reason 1	Sampled	BOD5 mg/l	TSS mg/l	TP mg/l
2008-06-16	S	0:40	20:35	28.515	No	Heavy Precipitation	Yes			
2008-06-14	S	0:00	9:50	15.790	No	Heavy Precipitation	Yes			
2008-06-01	S	15:00	16:15	15.445	No	Heavy Precipitation	Yes			
2008-05-11	S	21:15	2:50	3.925	No	Heavy Precipitation	Yes			
2008-05-07	S	22:25	6:00	9.285	No	Heavy Precipitation	Yes			
2008-05-03	S	15:45	12:00	20.765	No	Heavy Precipitation	Yes			
2008-04-28	S	8:25	9:50	14.195	No	Heavy Precipitation	Yes			
2008-04-14	S	13:06	12:09	7.945	No	Other	Yes			
2008-04-11	S	6:15	67:28	104.458	No	Heavy Precipitation	Yes			
2008-04-05	S	14:45	9:45	12.833	No	Snow Melt	Yes			
2008-04-04	S	11:00	21:00	30.715	No	Heavy Precipitation	Yes			
2008-03-25	S	10:15	235:15	370.068	No	Heavy Precipitation	Yes			
2008-03-24	S	12:30	16:00	21.565	No	Heavy Precipitation	Yes			
2008-03-14	S	14:30	231:50	358.450	No	Heavy Precipitation	No			
2008-03-13	S	18:25	9:05	13.085	No	Snow Melt	Yes			
2008-03-12	S	19:35	5:30	7.355	No	Snow Melt	Yes			
2008-03-07	S	22:09	4:56	7.105	No	Snow Melt	No			
2008-03-06	S	16:50	8:00	10.135	No	Snow Melt	Yes			
2008-03-03	S	11:45	38:45	61.689	No	Snow Melt	Yes			
2008-02-17	S	14:00	41:40	75.138	No	Heavy Precipitation	Yes			
2008-02-04	S	15:30	125:15	188.808	No	Heavy Precipitation	Yes			
2008-01-10	S	21:00	30:00	39.450	No	Snow Melt	Yes			
2008-01-06	S	14:30	77:37	106.702	No	Heavy Precipitation	Yes			
2008-01-01	S	16:40	5:20	7.325	No	Snow Melt	Yes			

Location Total:	1,759:29	2,607.777	Total Bypasses:	58
Plant Total:	1,759:29	2,607.777	Total Bypasses:	58
Report Total:	1,759:29	2,607.777	Total Bypasses:	58

Questions / Comments?