



DOWNSTREAM SANITARY SEWER CAPACITY ANALYSIS REPORT

for

Uptown Apartments
2190-2200 Wehrle Drive
Town of Amherst, Erie County, New York

Prepared for

Young Development Inc.

1120 Bullis Road
Elma, New York 14059

Prepared by

Carmina Wood Design

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June 2025



Project Description

This project is a development of a 24.9 acre site located at 2190 & 2200 Wehrle Drive in the Town of Amherst. Construction will consist of mixture of two or four story multi-family building totaling 332 units, with attached garage buildings, associated utility, lighting and landscaping improvements.

An existing 8" public sanitary sewer main is located along Wehrle Drive and will be utilized for this project. A new 8" PVC private sanitary sewer lateral will be installed and connected to this existing sewer.

Wastewater from the proposed project will flow east on Wehrle Drive, north to Sheridan Drive, then west Sheridan Drive, and then north along Youngs Road. Flows are then conveyed west through the 60" Peanut Line sewer, and ultimately north to the Town of Amherst Wastewater Treatment Facility. Refer to the sewer routing map located in the TECSmith monitoring section of this downstream sewer capacity analysis report.

Node 1 - Ferndale Rd & Wehrle Dr (8"):

Existing Peak Flow measured (wet weather event)	= 0.011 cfs (0.007 mgd)*
Proposed Multi-Family Peak Flow	= 0.380 cfs**
Proposed Total Peak Flow	= 0.391 cfs

Theoretical capacity of existing 8" PVC pipe @ 0.36% = 0.856 cfs

Conclusion: The proposed total peak flow is less than the capacity of the 8" PVC pipe, therefore there is sufficient capacity. At no time during the monitoring period did flow depth exceed the pipe diameter at Node 1 of the downstream monitoring points during the rain events monitored.

Node 2 - Main St & Brompton Rd (12"):

Existing Peak Flow measured (wet weather event)	= 1.374 cfs (0.888 mgd)*
Proposed Multi-Family Peak Flow	= 0.380 cfs**
Proposed Total Peak Flow	= 1.754 cfs

Theoretical capacity of existing 12" PVC pipe @ 0.22% = 1.973 cfs

Conclusion: The proposed total peak flow is less than the capacity of the 12" PVC pipe, therefore there is sufficient capacity. At no time during the monitoring period did flow depth exceed the pipe diameter at Node 2 of the downstream monitoring points during the rain events monitored.

Node 3 - Peanut Line (60"):

Existing Peak Flow measured (wet weather event)	= 56.466 cfs (36.50 mgd)*
Proposed Uptown Apartments Peak Flow	= 0.265 cfs**
Proposed Total Peak Flow	= 56.731 cfs

Capacity of existing 60" Peanut Line sewer = 88.798 cfs (57.4 mgd)

Conclusion: The proposed total peak flow is less than the capacity of the 60" Peanut Line sewer, therefore there is sufficient capacity.

Foot Notes:

Downstream capacity node information provided by Town of Amherst Engineering Department

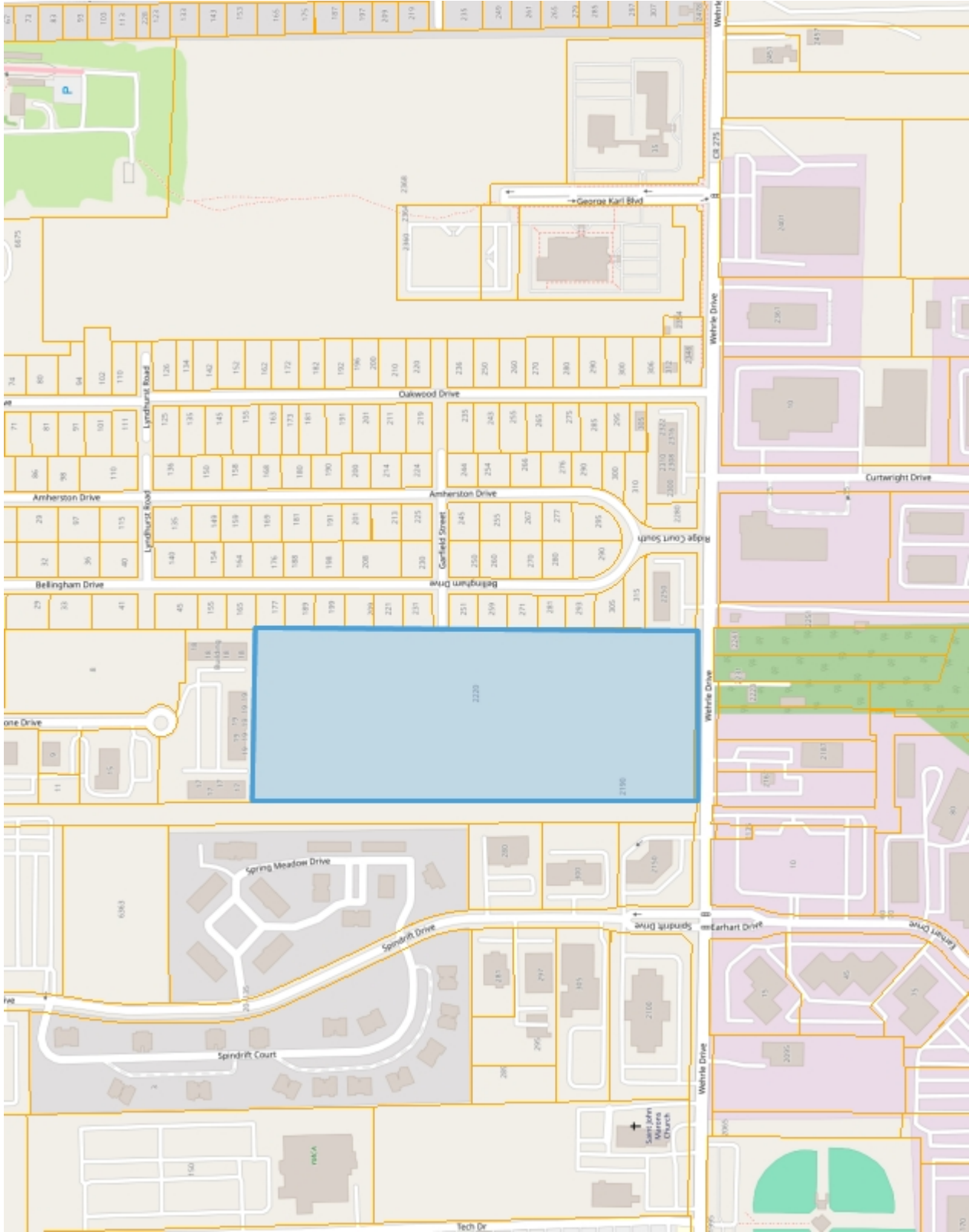
*Converted from measurements in TECSmith report dated 4/9/25

**See Sanitary Sewage Demand Calculations

Location Map



Erie County On-Line Mapping Application



Legend
Parcels

0 0.14 0.3 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere
THIS MAP IS NOT TO BE USED FOR NAVIGATION

ERIE COUNTY
DEPARTMENT OF ENVIRONMENT & PLANNING
OFFICE OF GIS

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

1: 9,028



Sanitary Demand Calculations

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Project No.: 25-4006 Date: 6/9/2025
Project Name: Uptown Apartments
Project Address: 2190-2200 Wehrle Drive Amherst, NY
Subject: Sanitary Sewer & Water Demand Calcs
Sheet: 1 of 2

Sanitary Sewage Demand Calculations:

110 gal/d/unit	x	114 unit	=	12,540 gpd	*use 110 gallons per unit per day (1 bdrm)
220 gal/d/unit	x	198 unit	=	43,560 gpd	*use 220 gallons per unit per day (2 bdrm)
330 gal/d/unit	x	20 unit	=	6,600 gpd	*use 330 gallons per unit per day (3 bdrm)

Total Site Sanitary Demand: = 62,700 gpd

Find Peak Sanitary Demand:

Peaking Factor based on Population:

Total demand: 62,700 gpd / 100 gpcd = 627 per capita

Population (P) = 627 people

Peaking Factor : $(18 + \sqrt{P}) / (4 + \sqrt{P})$ where P is in thousands

Peaking Factor = 3.92

Peak Sanitary Demand = 62,700 x 3.92 = 245,887 gpd
= 0.246 MGD
= 0.380 cfs

Required Infiltration and Inflow Mitigation:

Peak Sanitary Flow = 245,887 gpd = 170.75 gpm

4:1 offset flow per NYSDEC requirements = 170.75 x 4 = 683.02 gpm req'd

Mitigation Credit = \$250 / gpm

Mitigation Agreement Amount = \$170,754.63

TECSmith Monitoring Report

Date	Node 1			Node 2			Rain (inches)
	Ferndale Rd & Wehrle Dr (8")			Main St & Brompton Rd (12")			
	FLOW (GAL x 1,000)	PEAK FLOW (MGD)	PEAK LEVEL (IN)	FLOW (GAL x 1,000)	PEAK FLOW (MGD)	PEAK LEVEL (IN)	
3/6/2025	3.190	0.009	3.353	250.390	0.883	9.023	0
3/7/2025	7.170	0.008	3.127	467.359	0.807	8.796	0
3/8/2025	6.927	0.007	2.902	410.805	0.723	8.552	0
3/9/2025	6.996	0.007	2.902	361.424	0.673	8.935	0
3/10/2025	6.888	0.009	3.296	353.179	0.747	8.608	0
3/11/2025	6.713	0.008	3.184	370.404	0.744	8.458	0
3/12/2025	6.800	0.008	2.959	326.065	0.661	8.315	0
3/13/2025	6.870	0.008	3.015	250.580	0.693	8.326	0
3/14/2025	6.870	0.008	3.015	260.516	0.723	8.392	0
3/15/2025	6.760	0.007	2.779	218.171	0.710	8.010	0.03
3/16/2025	6.625	0.007	2.902	249.974	0.787	8.634	0.3
3/17/2025	6.875	0.007	2.913	266.733	0.701	8.210	0.04
3/18/2025	6.736	0.008	3.197	266.140	0.756	8.336	0
3/19/2025	6.446	0.008	3.088	252.990	0.699	8.390	0
3/20/2025	6.446	0.007	2.870	240.724	0.762	9.012	0
3/21/2025	6.612	0.007	2.945	219.384	0.653	8.213	0
3/22/2025	6.532	0.007	2.925	203.180	0.641	8.210	0.09
3/23/2025	6.535	0.007	2.703	205.250	0.728	8.728	0.02
3/24/2025	6.346	0.007	2.655	236.652	0.774	8.740	0
3/25/2025	5.690	0.007	2.621	201.267	0.621	7.813	0
3/26/2025	5.428	0.008	3.071	216.208	0.623	8.243	0.03
3/27/2025	5.434	0.007	2.677	207.866	0.638	8.755	0
3/28/2025	5.470	0.007	2.677	222.267	0.659	8.655	0.23
3/29/2025	5.468	0.006	2.508	225.624	0.762	8.299	0.23
3/30/2025	5.865	0.006	2.628	263.182	0.730	8.314	0.25
3/31/2025	6.299	0.007	2.790	305.824	0.797	9.021	0.02
4/1/2025	6.243	0.007	2.902	284.003	0.729	8.070	0
4/2/2025	6.315	0.007	2.733	373.197	0.888	9.042	0.82
4/3/2025	4.003	0.007	2.846	293.288	0.895	9.201	0.3
							2.36

Date: April 9, 2025

SANITARY SEWER FLOW CAPACITY STUDY – Summary Review

Prepared For: 2190 Wehrle - Downstream Monitoring Capacity Analysis.

Patrick Sheedy Jr., P.E.
CARMINAWOOD DESIGN
80 Silo City Row
Buffalo, New York 14203

Project Name: 2190 Wehrle - Downstream Monitoring Capacity Analysis.

Flow Monitoring Period: March 6, 2025 to April 3, 2025

Rain Events (> 0.5-inches) Monitored: April 2 (0.82")

Number of Monitoring Nodes: Two (2) downstream manholes

Node Locations and Descriptions:

- Node 1 Ferndale Rd & Wehrle Dr (8")
- Node 2 Main St & Brompton Rd (12")

Summary Conclusion:

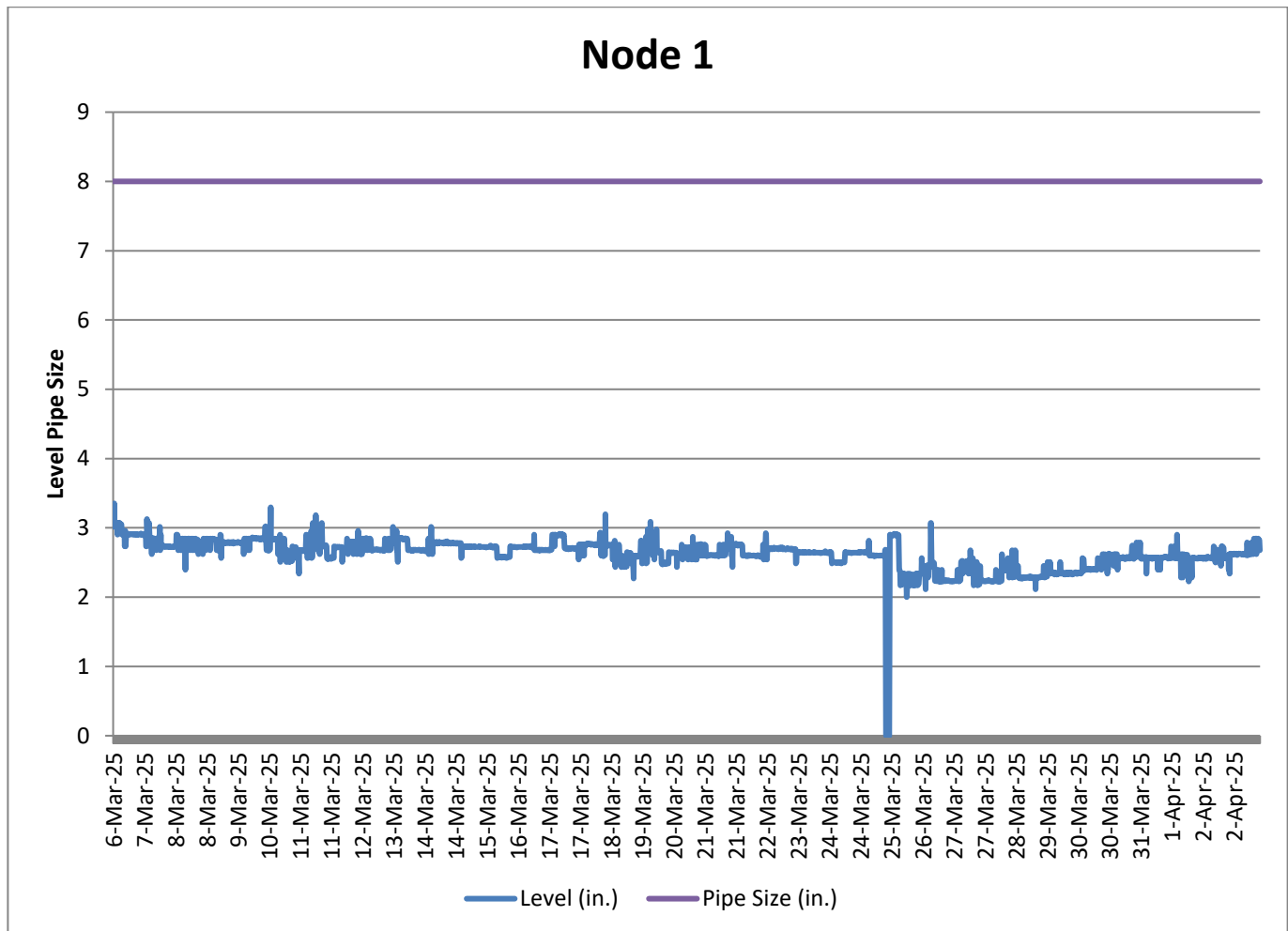
Based on the data presented in this report, specifically the flow depth measurements recorded (see graphs below)

- At no time did the flow depth exceed pipe diameter at any of the downstream monitoring points during the wet weather vents monitored.
- At no time during the monitoring period did the flow at any point slow or stall which would have caused a backup or flooding at the manhole.

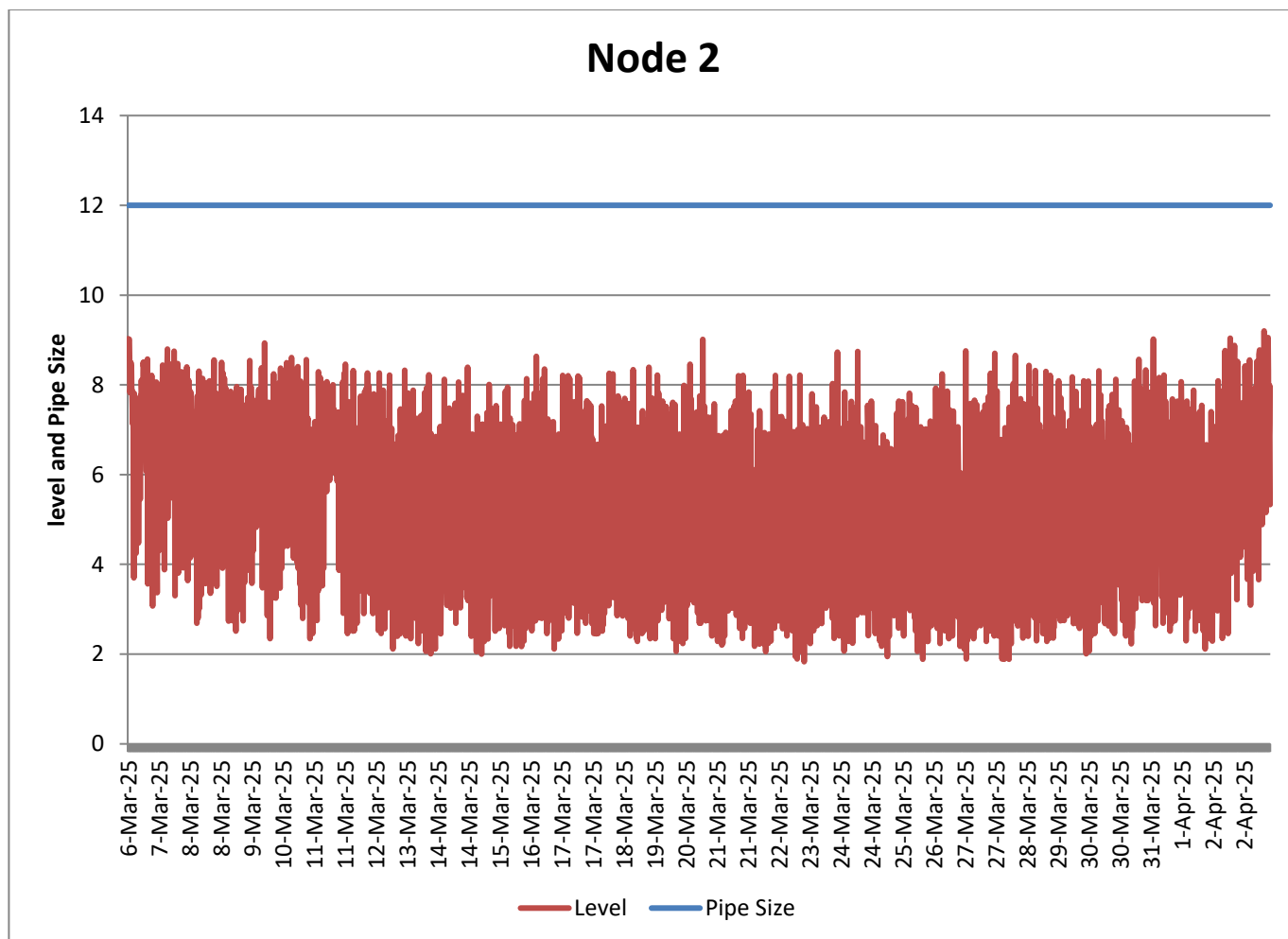
Depth of Flow Capacity Summary:

Depth of flow capacity is based on diameter of pipe. See graphs below.

- At no time during the monitoring period did depth of flow exceed pipe diameter at Node



- At no time during the monitoring period did depth of flow exceed pipe diameter at Node 2

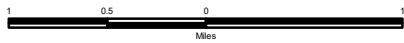


Town of Amherst Sanitary Sewer Downstream Routing Maps

TOWN OF AMHERST

Erie County, New York

Downstream Sewer Routing
2190 Wehrle Drive



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Legend

- ★ Project Location
- Flow Location (Updated 2/4/2020)
- Downstream Routing
- Town Boundary
- Trunk Sewer
- Roads
- Hydrography
- Williamsville
- University at Buffalo

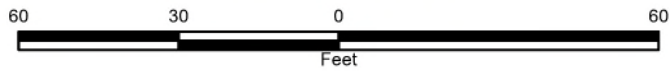
60-inch Peanut Line
Capacity: 57.4 mgd
8.37 mgd Avg. Daily Flow
11.55 mgd Daily Peak Flow
36.60 mgd 2yr.-6hr. Flow

TOWN OF AMHERST

Erie County, New York

Sanitary Sewer Downstream Routing

Proposed Meter Location



8"

Ferndale Rd

Wehrle Dr

Wehrle Dr

8" PVC @ 0.36%
Depth: 10.85'

8"

6"

TOWN OF AMHERST

Erie County, New York

Sanitary Sewer Downstream Routing

Proposed Meter Location



12" PVC @ 0.22%
Depth: 12.45'