



**ENGINEER'S REPORT**  
for  
3027 & 3045 SENECA STREET  
WEST SENECA, NEW YORK

January 19, 2021

Prepared for:  
Dr. Gregory Phillies  
101 Oakgrove Drive  
Williamsville, New York 14221

Project M-1738

Prepared by:  
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Michael J. Metzger, P.E.  
License No. 066786

### Project Description:

The project consists of a mixed used development on 7.2 acres of land on Seneca Street in West Seneca, New York. The site currently has a single family home, two sheds, two commercial buildings and a communications tower. The existing structures will remain. The new development will add an addition connecting the two commercial structures and create 5 new high bay lease structures. The land has been disturbed previously by various past uses and structures.

### Flood zone:

The south end of the site does lie within the current flood zone mapping and the rear of the site is located in the floodway. No development is being proposed within the floodway.

### Water Supply System:

The potable water needs shall be met by a new tap on the existing 8" diameter water main on Seneca Street. A new private hydrant will provide the fire protection for the buildings. MCE has contacted the Erie County Water Authority to find that the main has a static pressure of 86 psi and adequate flow to service the development. Construction, inspection and testing of the new water service will be in conformance with all applicable Town, County, AWWA, New York State Health Department, and the "Ten State" standards.

The water lines will be protected by a Reduced Pressure Zone (RPZ) and reduced pressure detector assembly (RPDA) to be located in a hot box as shown on the design plans in accordance with Erie County Water Authority and New York State Department of Health standards.

### Sanitary Sewer System:

Individual buildings will be served by 4" service laterals. The laterals will feed into a private sanitary sewer main that shall be 8" diameter PVC - SDR-35 pipe. The private main will be tied into the existing Town owned 8" municipal sewer along Seneca Street in front of the site. Construction, inspection and testing will be in conformance with all Town, Erie County Sewer District, and "Ten State" standards. Details of the sanitary sewer installation are shown on MCE detail sheet DT -5.

Storm Drainage System:

Drainage of surface water runoff will be accomplished via a proposed network consisting of roof gutters and downspouts, and a storm drainage system utilizing catch basins, and piping.

To meet the NYSDEC stormwater requirements for Green Infrastructure the site will be served by a bioretention area. Storm water from a 0.9 acre portion of the site is being directed into a level spreader which will allow the water to pool and calm flows and then cascade over the crest of the spreader to a grass filter strip and to the bioretention area This will collect, detain and treat the water prior to discharge at a controlled rate.

The stormwater from the bioretention area will be collected and detained by a wet detention pond before being discharged through a control outlet structure.

The flows from the pond will be controlled by an outlet control structure. The structure has been designed so that the post development 25 year flows will not exceed the 10 year predevelopment flows to meet the Town of West Seneca requirements as well as additional criteria required by the NYSDEC outlined below.

The outlet structure has been designed to attenuate the storm to handle the following storm events:

- 1 Year Storm - NYSDEC Required - Channel Protection Volume
- 10 Year Storm - NYSDEC Required - Overbank flood protection
- 25 Year Storm - Town Required - detain to a 10 year predevelopment flow
- 100 year Storm - NYSDEC Required - Extreme Storm protection

A “Notice of Intent” will be submitted to the NYSDEC prior to construction. Complete drainage calculations are included in the SWPPP report.

Site flow analysis:

<u>Pre development flow (cfs)</u>				<u>Post development flow (cfs)</u>			
1 year	10 year	25 year	100 year	1 year	10 year	25 year	100 year
4.91	13.50	17.25	31.10	0.32	0.35	10.98	31.10



**ENGINEER'S REPORT**  
for  
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WEST SENECA, NEW YORK

**APPENDIX A**  
PIPE SIZING CALCULATIONS

DESIGN POINT	LINE TYPE	OUTLET PIPE FROM DESIGN POINT (FT)	DRAINAGE AREA			TIME OF FLOW IN SECTION (MIN)	i (IN/HR)	TOTAL CA	TOTAL RUNOFF (CFS)	DESIGN POINT (RIM) INLET ELEV. (FT)	OUTLET PIPE FROM DESIGN POINT									
			PAVMT	GUTTER	LAWN						ACRES	SUBTOTAL	H.G. ELEV.			DIA. (IN.)	SLOPE (%)	V (FPS)	CAP. ACITY (CFS)	
													C=	CROWN ELEV.	INVERT ELEV.					FALL
CB1	HDPE	84	0.20	0.20	0.20	10.00	4.10	0.20	0.80	625.50	623.50	622.44	1.06	12	1.26	5.5	4.3			
			0.00	0.00	0.00						623.50	622.44	1.06							
			0.00	0.00	0.00						622.50	621.44	1.06							
CB2	HDPE	82	0.15	0.15	0.15	10.00	4.10	0.15	0.60	623.80	623.10	622.94	0.16	12	0.19	2.2	1.7			
			0.00	0.00	0.00						622.60	622.44	0.16							
			0.00	0.00	0.00						621.60	621.44	0.16							
CB3	HDPE	82	0.09	0.24	0.24	10.63	4.04	0.24	0.80	625.00	622.94	622.77	0.17	12	0.21	2.2	1.8			
			0.00	0.00	0.00						622.44	622.27	0.17							
			0.00	0.00	0.00						621.44	621.27	0.17							
CB4	HDPE	100	0.63	0.87	0.85	11.24	3.98	0.85	0.80	626.08	622.77	622.57	0.20	18	0.20	2.9	5.1			
			0.00	0.00	0.00						622.77	622.57	0.20							
			0.00	0.00	0.00						621.27	621.07	0.20							
CB5	HDPE	100	0.39	1.26	1.23	11.82	3.92	1.23	0.80	626.08	622.57	622.32	0.25	18	0.25	3.2	5.7			
			0.00	0.00	0.00						622.57	622.32	0.25							
			0.00	0.00	0.00						621.07	620.82	0.25							
CB6	HDPE	100	0.25	1.51	1.48	12.34	3.84	1.48	0.80	626.08	622.32	621.96	0.36	18	0.36	3.9	6.8			
			0.00	0.00	0.00						622.32	621.96	0.36							
			0.00	0.00	0.00						620.82	620.46	0.36							
CB7 & 8	HDPE	43	0.40	1.91	1.87	12.77	3.76	1.87	0.80	624.80	621.96	621.76	0.20	18	0.46	4.4	7.8			
			0.00	0.00	0.00						621.96	621.76	0.20							
			0.00	0.00	0.00						620.46	620.26	0.20							
CB9	HDPE	82	0.30	2.21	2.17	12.93	3.72	2.17	0.80	624.80	621.76	621.21	0.55	18	0.67	5.3	9.3			
			0.00	0.00	0.00						621.76	621.21	0.55							
			0.00	0.00	0.00						620.26	619.71	0.55							
CB10	HDPE	220	0.00	2.21	2.17	13.19	3.69	2.17	0.80	624.80	621.21	617.00	4.21	18	1.91	8.9	15.7			
			0.00	0.00	0.00						621.21	617.00	4.21							
			0.00	0.00	0.00						619.71	615.50	4.21							

DESIGN POINT	LINE TYPE	OUTLET PIPE FROM DESIGN POINT (FT)	DRAINAGE AREA			TIME OF FLOW IN SECTION (MIN)	TIME OF FLOW (IN/HR)	TOTAL CA	TOTAL RUNOFF (CFS)	DESIGN POINT (RIM) INLET ELEV. (FT)	OUTLET PIPE FROM DESIGN POINT								
			PAVMT	GUTTER	LAWN						SUBTOTAL ACRES	SUB TOTAL CA	H.G. ELEV.			DIA. (IN.)	SLOPE (%)	V (FPS)	CAP. ACITY (CFS)
													C=	INVERT ELEV.	FALL				
CB11	HDPE	100	0.30	0.30	0.29	10.00	0.44	4.10	0.29	1.21	623.20	621.70	621.10	0.60	0.60	3.8	3.0		
			0.00	0.00	0.00							621.70	621.10	0.60					
			0.00	0.00	0.00							<b>620.70</b>	<b>620.10</b>	<b>0.60</b>			<b>3.8</b>	<b>3.0</b>	
CB12	HDPE	117	0.33	0.63	0.62	10.44	0.18	4.06	0.62	2.51	623.20	621.10	615.50	5.60	5.60	10.7	8.4		
			0.00	0.00	0.00							621.10	615.50	5.60					
			0.00	0.00	0.00							<b>620.10</b>	<b>614.50</b>	<b>5.60</b>			<b>10.7</b>	<b>8.4</b>	
CB20	HDPE	90	0.22	0.22	0.22	10.00	0.68	4.10	0.22	0.88	628.00	627.00	626.82	0.18	0.18	2.2	1.7		
			0.00	0.00	0.00							627.00	626.82	0.18					
			0.00	0.00	0.00							<b>626.00</b>	<b>625.82</b>	<b>0.18</b>			<b>2.20</b>	<b>1.7</b>	
CB21	HDPE	184	0.18	0.40	0.39	10.68	0.74	4.04	0.39	1.58	628.00	626.82	625.50	1.32	1.32	4.2	3.3		
			0.00	0.00	0.00							626.82	625.50	1.32					
			0.00	0.00	0.00							<b>625.82</b>	<b>624.50</b>	<b>1.32</b>			<b>4.2</b>	<b>3.3</b>	
CB22	HDPE	196	0.10	0.50	0.49	11.42	0.50	3.96	0.49	1.94	627.00	625.50	622.00	3.50	3.50	6.6	5.2		
			0.00	0.00	0.00							625.50	622.00	3.50					
			0.00	0.00	0.00							<b>624.50</b>	<b>621.00</b>	<b>3.50</b>			<b>6.6</b>	<b>5.2</b>	
CB23	HDPE	208	0.22	0.72	0.71	11.92	0.51	3.91	0.71	2.76	623.50	622.00	618.00	4.00	4.00	6.8	5.3		
			0.00	0.00	0.00							622.00	618.00	4.00					
			0.00	0.00	0.00							<b>621.00</b>	<b>617.00</b>	<b>4.00</b>			<b>6.8</b>	<b>5.3</b>	
CB24	HDPE	60	0.22	0.94	0.92	12.43	0.13	3.82	0.92	3.52	619.50	618.00	616.50	1.50	1.50	7.8	6.1		
			0.00	0.00	0.00							618.00	616.50	1.50					
			0.00	0.00	0.00							<b>617.00</b>	<b>615.50</b>	<b>1.50</b>			<b>7.8</b>	<b>6.1</b>	



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WEST SENECA, NEW YORK

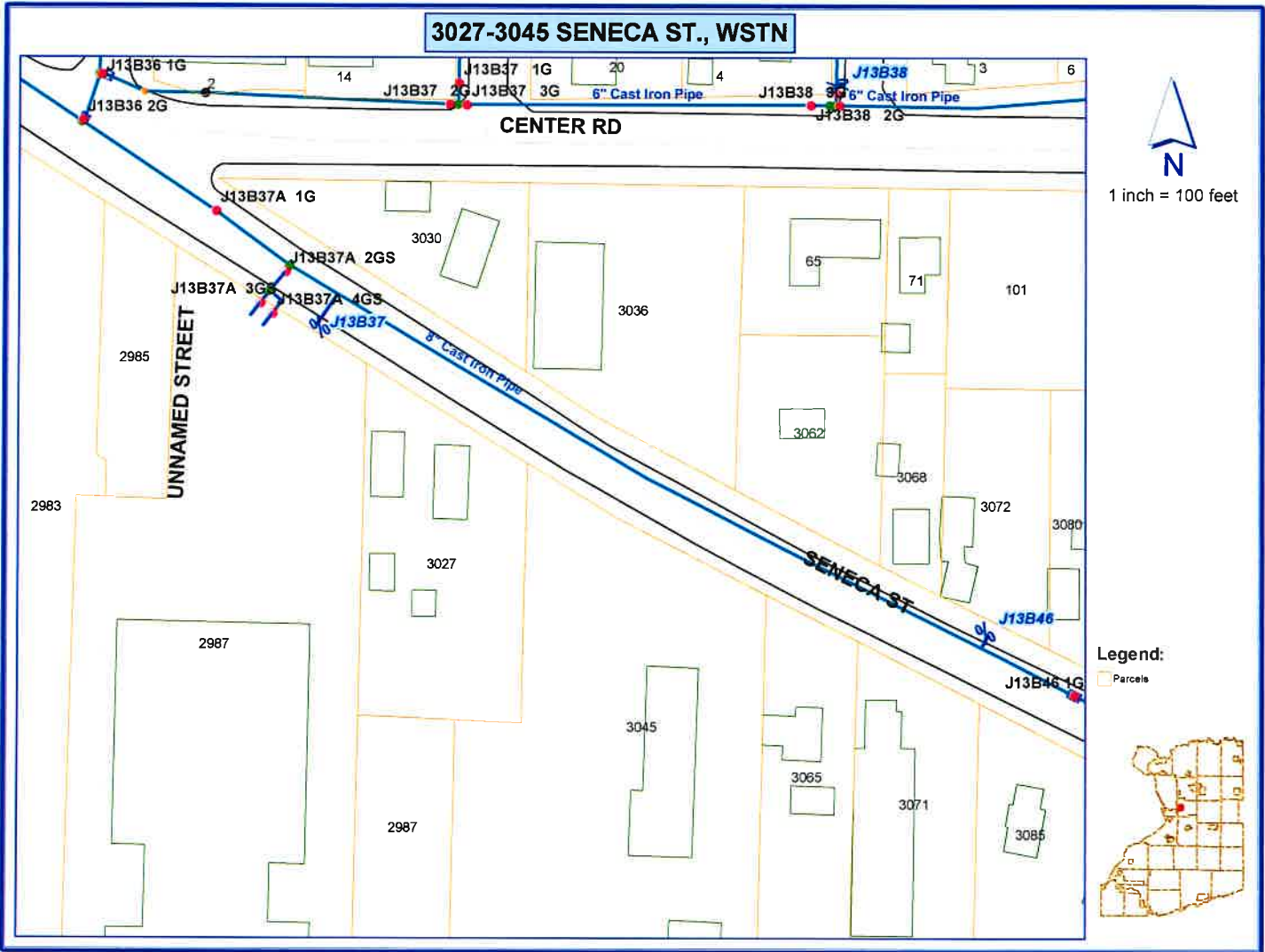
**APPENDIX B**

**WATERLINE FLOW TEST RESULTS  
WATER LINE PRESSURE FLOW ANALYSIS**





3027-3045 SENECA ST., WSTN

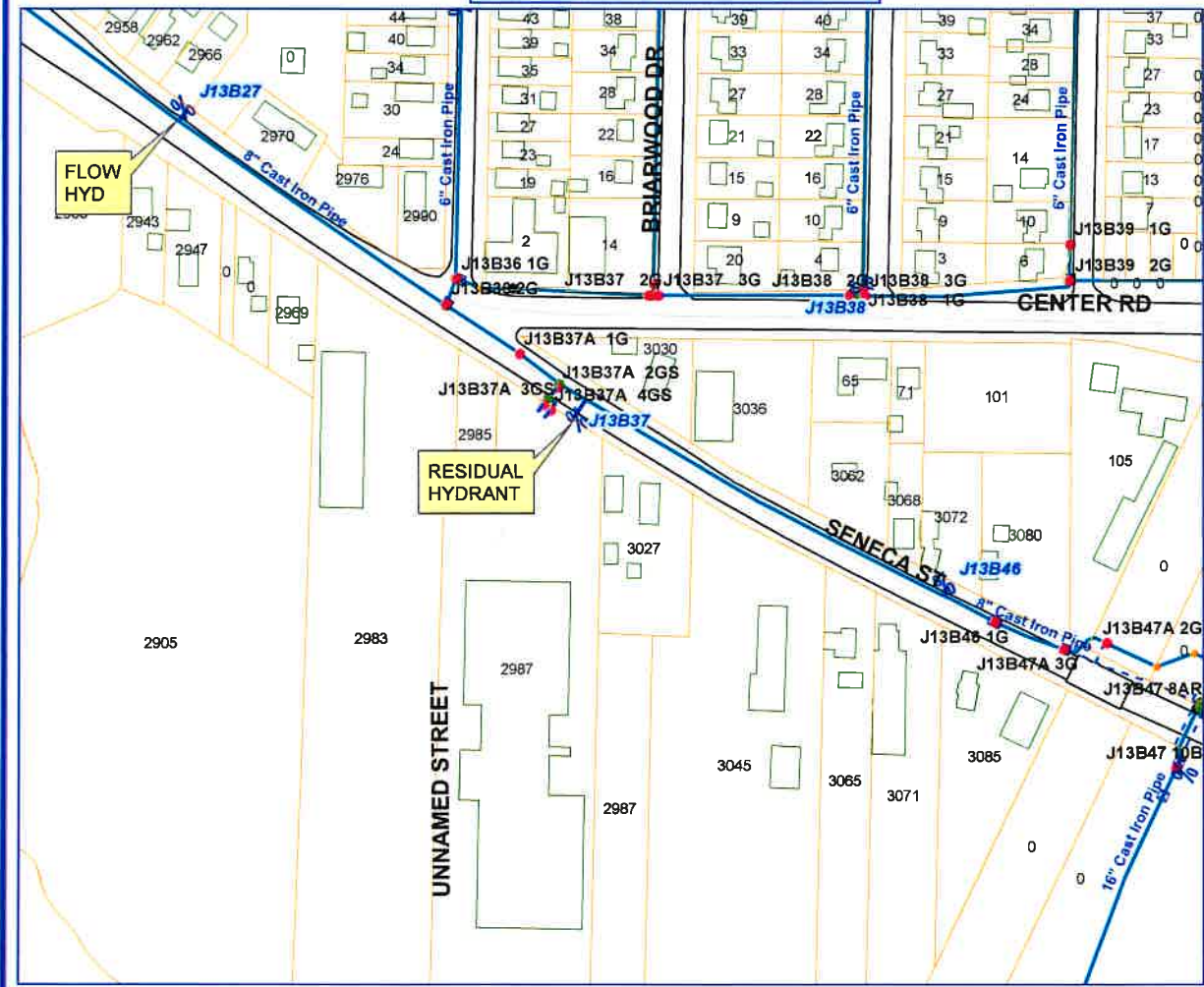


1 inch = 100 feet

Legend:

- Parcels

3027-3045 SENECA ST., WSTN



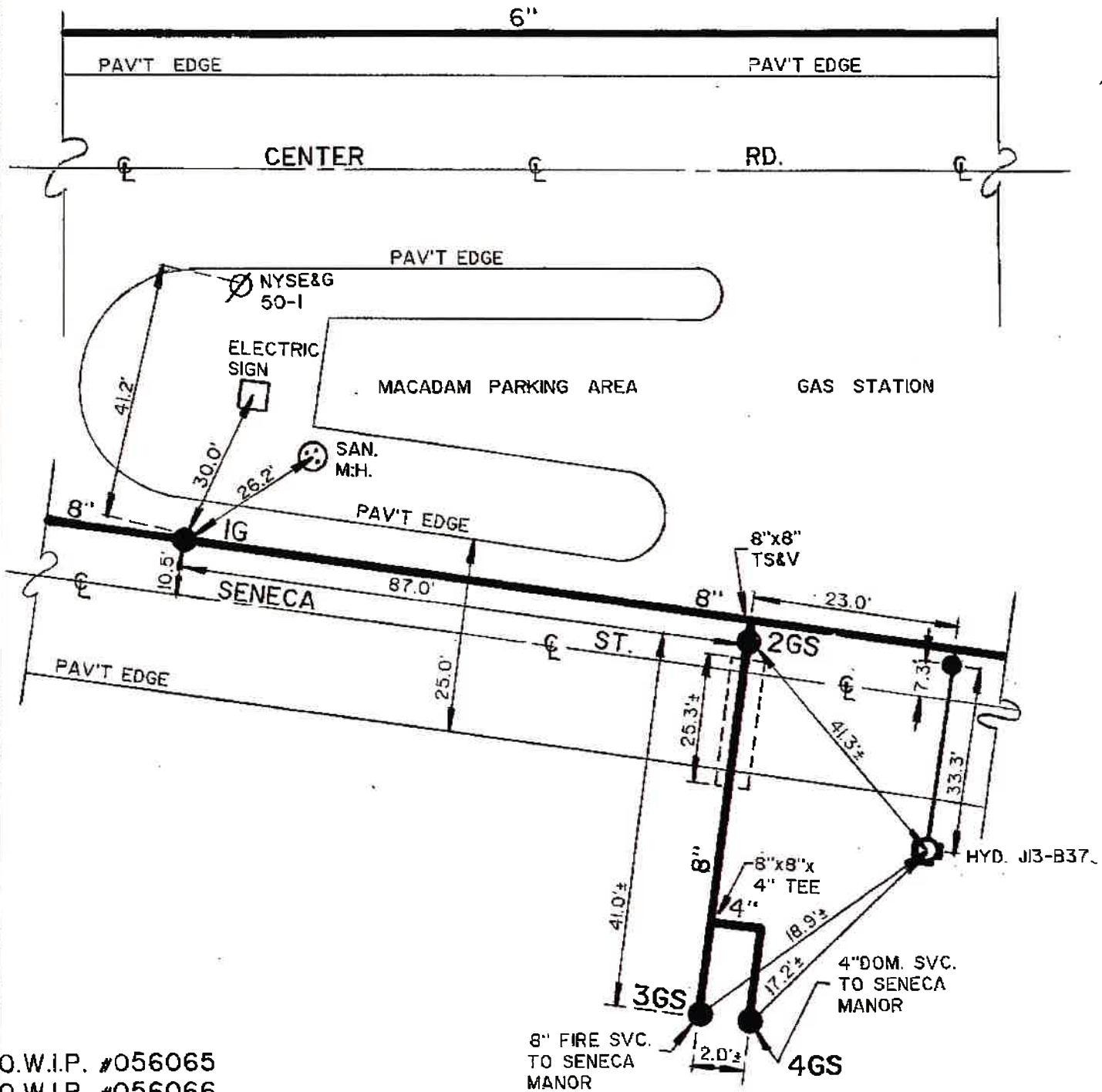
1 inch = 200 feet

Legend:

Parcels



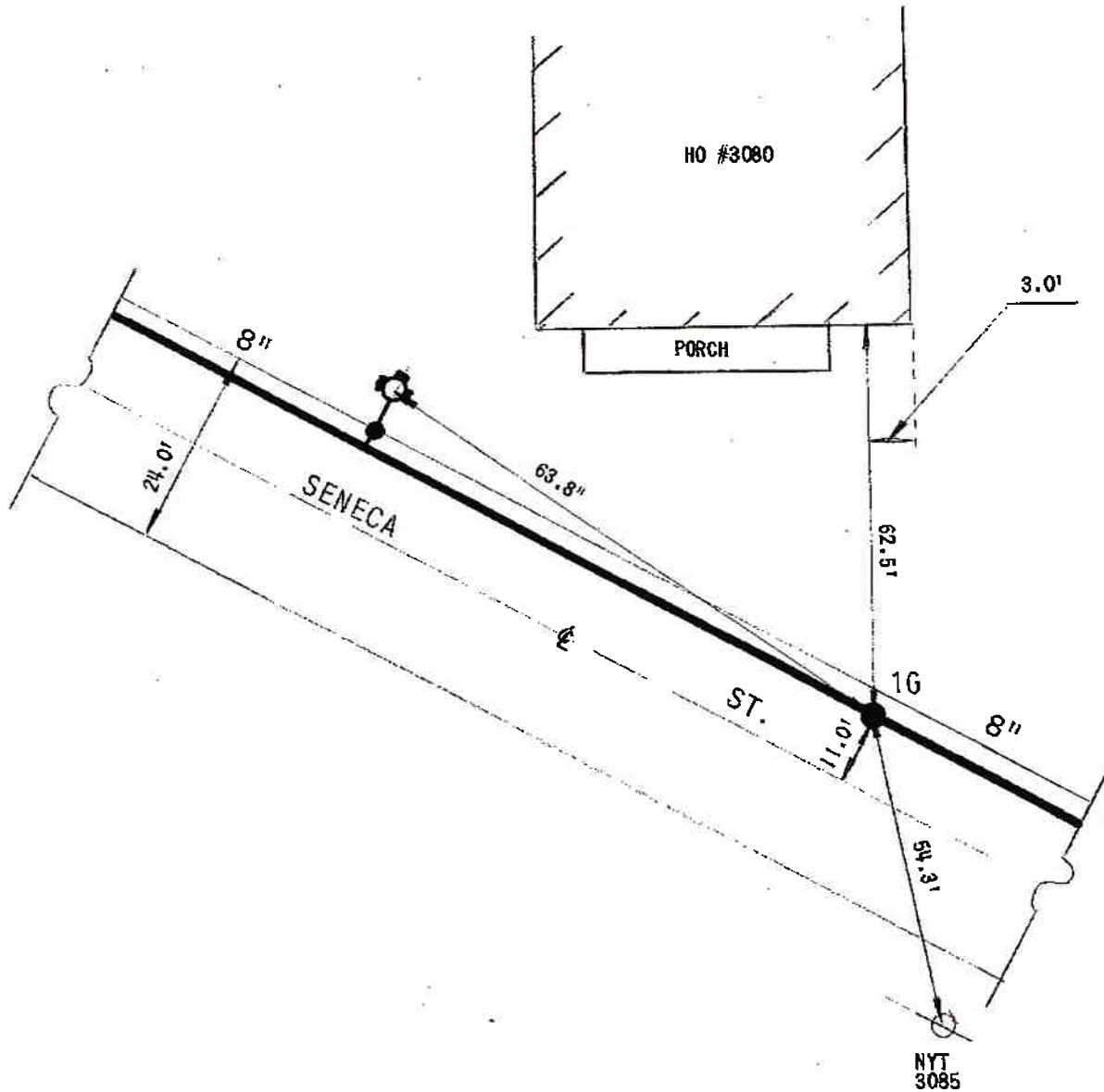
NOTE: ± DIMENSIONS ARE TAKEN FROM FIELD BOOK, NOT FIELD CHECKED



O.W.I.P. #056065  
 O.W.I.P. #056066  
 F.B. 436/56  
 CONT. 008T-8500-PD  
 WSTN-799-740I-PC

REPROGRAPH 63-590

<b>ERIE COUNTY WATER AUTHORITY</b> BUFFALO, NEW YORK	REVISED DR. BY: J.F.	TN OF WEST SENECA  E.C.W.A.	JI3-B37A  DETAIL SHEET NO.
	DATE: 7-7-89		
	NOT TO SCALE		



OCP-12A(1902)PL. 59

**EC** **ERIE COUNTY**  
**WA** **WATER AUTHORITY**  
BUFFALO, NEW YORK

DR. BY: JCW  
DATE: 4/16/71  
SCALE: NONE

TOWN OF WEST SENECA  
E.C.W.A.

DETAIL SHEET NO.

J13-B46



**METZGER CIVIL ENGINEERING**  
Water Demand & Pressure Analysis  
Seneca Street  
Town of West Seneca, NY  
M-1738  
2/25/2020

Number of Employees	56
Water usage per employee	15 gpd
Water useage per day	840 gpd
Average Daily Flow	840 gpd
Average Daily Flow	0.0008 MGD
Maximum Daily peaking factor	2.00 per ECWA design manual 3.10
Maximum Daily Flow	1680 gpd - Average Daily Flow x peaking factor
Maximum Daily Flow	0.0017 MGD - Average Daily Flow x peaking factor
Maximum Daily Flow	1.2 gpm
Peak Hourly peaking factor	3.00 per ECWA design manual 3.10
Peak Hourly Flow	0.0025 MGD - Average Daily Flow x peaking factor
Peak Hourly Flow	1.8 gpm - Average Daily Flow x peaking factor
Required Fire flow	1000.0 gpm
Total Peak Flow	1001.8 gpm

**Flow Test Data**

Date of Hydrant test	10.15.19
Location of Hydrant	2997 Sececa Street
Hydrant A - static pressure before test	86 psi
Hydrant A - residual pressure during test	66 psi
Hydrant B - Flow during test (Qf)	1300 gpm
Desired residual pressure	20 psi
Static pressure - desired pressure (Hr)	66 psi
Pressure drop during test (Hf)	20 psi
Calculate flow at 20 psi	
$Q_r = Q_f \times H_r^{0.54} / H_f^{0.54}$	2477 gpm
Peak flow needed at 20 psi	1001.8 gpm
Calculate residual pressure at peak flow	
Static $-(\text{Peak flow} \times (H_f^{0.54})^{1.8518519} / Q_f$	73.7 psi





**METZGER CIVIL ENGINEERING**  
Water Demand & Pressure Analysis  
8" Dedicated fire service  
Town of West Seneca, NY  
M-1738  
2/25/2020

Static Pressure at Main during fire flow	73.7 psi	
Existing Flow of Main at 20 psi	2477 gpm	
Peak Flow needed at 20 psi	1002 gpm	
Elevation difference connection to design pt	-4 feet	To Hydrant
Length of Pipe in Feet	430	
Number of Fittings in line 45 deg or less	3	
Number of Tees in Line - In line flow	0	
Number of Tees in Line - 90 deg bend	0	
Number of Valves in Line	1	
"D" Diameter of Waterline in inches	8	
Type of Pipe	PVC	
Standard Diameter Ratio	35	
AWWA Specification	C900	
"C" Hazen Williams Coefficient	100	
Equivalent Length of Each 45 deg	6.3 feet	
Equivalent Length of Each Tee - in line	3.9 feet	
Equivalent Length of Each Tee - 90 deg bend	20.0 feet	
Equivalent Length of Each Valve in feet	2.7 feet	
"L" Design Length of Pipe in feet	451.6 feet	
Friction Loss "hf" of Pipe in feet		
$\frac{"hf" = (10.44 \times "L") \times ("gpm" ^ 1.85)}{("C" ^ 1.85) \times ("D" ^ 4.8655)}$	-13.52 feet	
"hf" in psi (2.3 feet = 1 psi)	-5.9 psi	
Head due to elevation in psi	1.7 psi	
Loss through RPDA	-12.0 psi	
Total difference in psi	-16.1 psi	
Pressure Available in psi ( existing - loss)	57.5 psi	
Pressure Required in psi	20 psi	

Calculations By: ARH  
Checked By: JCM



**METZGER CIVIL ENGINEERING**  
Water Demand & Pressure Analysis  
2" Domestic service  
Town of West Seneca, NY  
M-1738  
2/25/2020

Static Pressure at Main during fire flow	73.7 psi	
Existing Flow of Main at 20 psi	2477 gpm	
Peak Flow needed at 20 psi	2 gpm	
Elevation difference connection to design pt	-6 feet	To end of line
Length of Pipe in Feet	764	
Number of Fittings in line 45 deg or less	0	
Number of Tees in Line - In line flow	0	
Number of Tees in Line - 90 deg bend	0	
Number of Valves in Line	1	
"D" Diameter of Waterline in inches	2	
Type of Pipe	PVC	
Standard Diameter Ratio	NA	
AWWA Specification	C900	
"C" Hazen Williams Coefficient	100	
Equivalent Length of Each 45 deg	1.7 feet	
Equivalent Length of Each Tee - in line	1.8 feet	
Equivalent Length of Each Tee - 90 deg bend	6.6 feet	
Equivalent Length of Each Valve in feet	2.6 feet	
"L" Design Length of Pipe in feet	766.6 feet	
Friction Loss "hf" of Pipe in feet		
"hf" = $(10.44 \times "L") \times ("gpm" ^ 1.85)$	-0.20 feet	
$( "C" ^ 1.85) \times ("D" ^ 4.8655)$		
"hf" in psi (2.3 feet = 1 psi)	-0.1 psi	
Head due to elevation in psi	2.6 psi	
Loss through RPZ and Meter	-12.0 psi	
Total difference in psi	-9.5 psi	
Pressure Available in psi ( existing - loss)	64.2 psi	
Pressure Required in psi	20 psi	

Calculations By: ARH  
Checked By: JCM

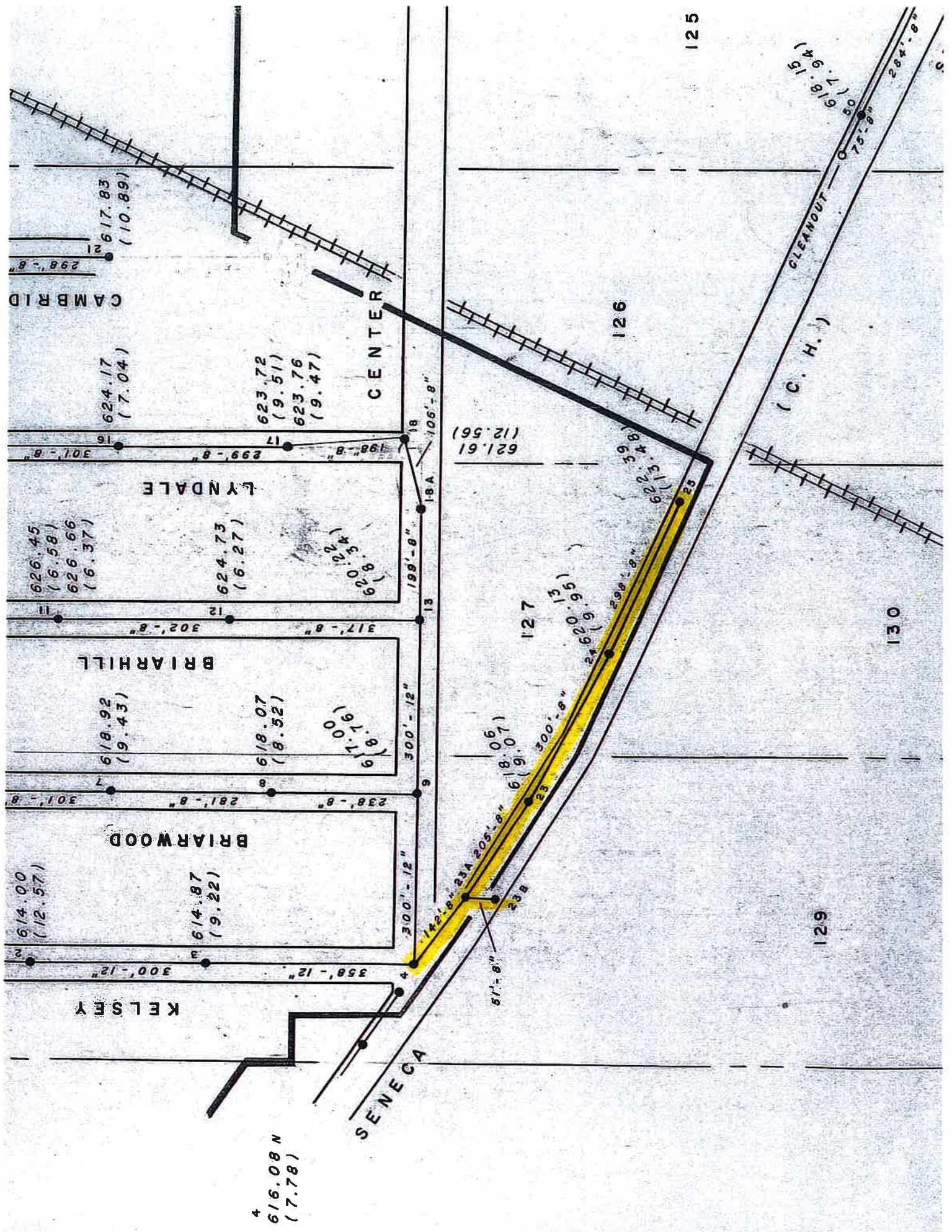


**ENGINEER'S REPORT**  
for  
3027 & 3045 SENECA STREET  
WEST SENECA, NEW YORK

**APPENDIX C**

SANITARY SEWER RECORD DATA  
SANITARY SEWER FLOWCALCULATIONS





4  
616.08 N  
(7.78)

KELSEY

BRIARWOOD

BRIARHILL

LYNDALE

CAMBRID

SENECA

CENTER

(C. H.)

CLEANOUT

125

126

127

129

130

298'-8"

301'-8"

302'-8"

301'-8"

300'-12"

299'-8"

317'-8"

238'-8"

358'-12"

198'-8"

199'-8"

300'-12"

300'-12"

300'-12"

106'-8"

18A

13

9

4

621.61  
(12.56)

618.06  
(9.07)

618.07  
(9.07)

51'-8"

623.72  
(9.51)

623.76  
(9.47)

618.06  
(9.07)

618.07  
(9.07)

51'-8"

624.17  
(7.04)

626.45  
(6.58)

618.92  
(9.43)

614.87  
(9.22)

614.00  
(12.57)

623.72  
(9.51)

626.45  
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(7.04)

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614.87  
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618.92  
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614.87  
(9.22)

614.00  
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624.17  
(7.04)

626.45  
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618.92  
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614.87  
(9.22)

614.00  
(12.57)

616.08 N  
(7.78)

617.83  
(10.89)

618.15  
(10.94)

75'-8"

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Project:	Seneca Street	By:	ARH	Date:	2/28/2020
Location:	Town of West Seneca, New York	Checked:	JCM	Date:	

### Sanitary Sewer Flow Calculations

No. of employees per day = 56 users  
 Flow per user = 15 gpd  
 Design Population, p = 12

Hydraulic Loading = 15 gpd per employee = Design Average Flow  
840 gpd = 0.001 mgd

Peaking Factor, PF =  $[(18 + ((p/1000)^{0.5})) / (4 + ((p/1000)^{0.5}))]$  = 4.41

**Maximum Design Flow = Design Average Flow x Peaking Factor = 3702 gpd = 0.004 mgd**

NOTE: Per the "Recommended Standards for Wastewater Facilities, 1997 Edition - Section 11.243, b.  
 "The 100 gpcd figure shall be used in conjunction with a peaking factor from Figure 1(as calculated above),  
 is intended to cover normal infiltration for systems built with modern construction techniques."



**ENGINEERS REPORT  
FOR APPROVAL OF  
BACKFLOW PREVENTION DEVICES**

**ERIE COUNTY WATER AUTHORITY  
3030 UNION ROAD  
CHEEKTOWAGA, NY 14227-1097  
(716) 684-1510 (Phone)  
(716) 684-3937 (Fax)**

**A. Facility/Project**

Name: 3045 Seneca Street

Mailing Address: 3045 Seneca Street

West Seneca, N.Y. 14224

Town/Village/City: Town of West Seneca

**B. Customer/Owner**

Contact Person Kevin Judge

Company Kevin Judge

Mailing Address 20 North Lake Drive

Orchard Park, New York 14127

**C. Engineer/Architect**

Contact Person Michael J. Metzger, P.E.

Company Metzger Civil Engineering, PLLC

Mailing Address 8245 Sheridan Drive

Williamsville, N.Y. 14221

**D. Facility/Project Type**  
(Check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Apartments                     | <input type="checkbox"/> Funeral Home             |
| <input type="checkbox"/> Retail Stores(s)               | <input type="checkbox"/> Public School            |
| <input type="checkbox"/> Professional/Office            | <input type="checkbox"/> Private School           |
| <input type="checkbox"/> Restaurant                     | <input type="checkbox"/> Church                   |
| <input type="checkbox"/> Laundromat/Dry Cleaner         | <input type="checkbox"/> Automotive Sales/Service |
| <input type="checkbox"/> Hotel/Model                    | <input type="checkbox"/> Patio Homes              |
| <input type="checkbox"/> Car Wash                       | <input type="checkbox"/> Condominiums             |
| <input type="checkbox"/> Medical/Dental                 | <input type="checkbox"/> Nursery                  |
| <input type="checkbox"/> Hospital                       | <input type="checkbox"/> Veterinarian             |
| <input checked="" type="checkbox"/> Warehouse/describe: | <u>High Bay lease space &amp; commercial</u>      |
| <input type="checkbox"/> Manufacturing/describe:        | _____   |
| <input type="checkbox"/> Industrial/describe:           | _____   |
| <input type="checkbox"/> Agricultural/describe:         | _____   |
| <input type="checkbox"/> Other/describe:                | _____   |

**E. Number of Buildings**

Square Footage per Floor	<u>7</u>	Number of Floors	<u>1</u>
First Floor Elevation	<u>Varies</u>	Basement	Yes <u>   </u> No <u>  X  </u>
	<u>624- 629 +/-</u>		

**F. List all Uses of Public Water**

New domestic service for lease space bathrooms

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New dedicated fire service for private hydrant

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- G.** List all water services to the site. Describe the size, type (domestic, private fire protection, combination), location, and whether the service is proposed or exiting. The Engineer's Report must address all water serves.

A proposed 8" service tap and new 2" RPZ for domestic service and 8" RPDA for the private fire hydrant.

Both to be housed in a hot box located off Seneca Street.

- H.** **Domestic Service** \_\_\_\_\_ Check if none

**Service Connection**

Size \_\_\_\_\_ 4 \_\_\_\_\_ inch

Existing or Proposed \_\_\_\_\_ Proposed \_\_\_\_\_

Maximum Demand \_\_\_\_\_ 2 gpm \_\_\_\_\_ gpm

**Backflow Preventer**

**Describe Location**

3" RPZ to be installed in a hot box along Seneca Street.

**Device Type**

Size \_\_\_\_\_ RPZ \_\_\_\_\_ 2" \_\_\_\_\_ inch

Make and model \_\_\_\_\_ Watts LF909 NRS RPZ

Included in USC FCCCHR Approved Devices List \* Yes \_\_\_\_\_ x \_\_\_\_\_ No \_\_\_\_\_

Upstream Pressure \_\_\_\_\_ 73 \_\_\_\_\_ psi

Downstream Pressure \_\_\_\_\_ 61 \_\_\_\_\_ psi

- I.** **Private Fire Protection Service** \_\_\_\_\_ Check if none

**Service Connection**

Size \_\_\_\_\_ 8" \_\_\_\_\_ inch

Existing or Proposed \_\_\_\_\_ Proposed \_\_\_\_\_

Maximum Demand \_\_\_\_\_ 1002 \_\_\_\_\_ gpm

**Backflow Preventer**

**Describe Location**

8" Watts 909 RPDA to be installed in a hot box along Seneca Street.

Device Type (RPDA, RPZ, DCDA, DCVA) RPDA  
 Size 8" inch  
 Make and Model Watts 909  
 Included in USC FCCCHR Approved Devices List \* Yes X No \_\_\_\_\_  
 Upstream Pressure 74 psi  
 Downstream Pressure 61 psi

**J. Combination Service**

Service Connection  
 Size \_\_\_\_\_ inch  
 Existing or Proposed \_\_\_\_\_  
 Maximum Demand \_\_\_\_\_ gpm  
Backflow Preventer  
 Describe Location \_\_\_\_\_

x Check if none

Device Type RPZ  
 Size \_\_\_\_\_ inch  
 Make and Model \_\_\_\_\_  
 Included in USC FCCCHR Approved Devices List \* Yes \_\_\_\_\_ No \_\_\_\_\_  
 Upstream Pressure \_\_\_\_\_ psi  
 Downstream Pressure \_\_\_\_\_ psi

\* List of Approved Backflow Prevention Assemblies University of Southern California Foundation For Cross Connection Control and Hydraulic Research

**K.** Will the facility/project receive water supply from an auxiliary water source such as a well, cistern, spring, or other municipal water supply? Yes \_\_\_\_\_ No X

**L.** Does the facility/project require dual backflow preventers to allow for a continuous water supply? Yes \_\_\_\_\_ No X

**M.** Is the facility located within the 100 year flood plan? Yes \_\_\_\_\_ No X

N. Will the area where the backflow preventer is located be adequately heated to prevent freezing? Yes  No

O. Will the area where the backflow preventer is located be adequately lighted to allow for maintenance and testing? Yes  No

P. RPZs and RPDAs  Check if none

Where does the discharge for the relief port drain to?  
(Check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Sanitary Sewer       | <input type="checkbox"/> Floor                    |
| <input type="checkbox"/> Storm Sewer          | <input checked="" type="checkbox"/> Outside Grade |
| <input type="checkbox"/> Sump Pump            | <input type="checkbox"/> Septic System            |
| <input type="checkbox"/> Other/describe _____ |   |

Is the drain system adequately sized to accommodate the maximum discharge without flooding the area: Yes  No

Is the relief port provided with a suitable air gap? Yes  No

Is the relief port at least 12 inches above the 100 year flood elevation?  
(  check if not applicable) Yes  No

If the relief port drains to a storm sewer, is the connection equipped with a backwater valve?  
(  check if not applicable) Yes  No

If the relief port drains to a sanitary sewer, is the connection equipped with a trap and a backwater valve?  
(  check if not applicable) Yes  No

If the relief port drains to a sump pump, is it provided with emergency power and a water level alarm?  
(  check if not applicable) Yes  No

If the RPZ/RPDA is located in a basement, is there sufficient volume below the relief port?  
(  check if not applicable) Yes  No

**Q. Private Fire Protection Services**  
**Fire Suppression System**

  x   Check if none

       Dry Pipe  
       Wet Pipe

Provision for Chemical Addition  
(fire retardants, corrosion, inhibitors, antifreeze, etc.)

Yes        No   x  

Private fire hydrants

Yes   x   No       

Connections to a secondary water supply?

Yes        No   x  

If the facility within 1,700 feet of an alternative source  
of water such as a pond, lake, river, or retention pond,  
are there provisions to “draft” this water for fire fighting  
purposes?

(   x   check if not applicable)

Yes        No       

**R. Booster Pump System**

      x       Check if none

       Domestic Service  
       Private Fire Protection Service  
       Combination Service

Include a separate sheet with the Engineers Report describing all existing and proposed booster pump systems which addresses net positive suction head for the booster pumps, pressure cutoff switch settings, and operating pressures in both, the public water distribution system and in the facility internal plumbing. Refer to NYS DOH “Guidelines for Designing Backflow Prevention Assembly Installations”, Supplement to the 1981 Cross Connection Control Manual.

**S. Comments**

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**T. Signatures**



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Engineer/Architect  
Seal and Signature

10/29/20

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Date