



**COLD SPRINGS PENINSULA SANITARY SEWER STUDY**

Town of Lysander

May 2024



# Cold Springs Peninsula Sewer Study Area



Figure 1 – Cold Springs Peninsula Study Area

# Location of Existing Dry Sewers Included in Study Area



Figure 2 – Streets with Existing Dry Sewers

# Current Issues Affecting Study Area

- Seneca River Pollution – Existing private septic systems not meeting current design standards contributing to pollution in the waterway
- Climate Change - Increasing flood risk along the Seneca River further contributing to pollution
- Many existing septic systems in the study area are nearing or past their anticipated service life resulting in expensive replacement costs for existing residents (Conventional system replacement is typically >\$20,000 raised bed systems >\$40,000)
- Large tracts of undeveloped land between the WWTP and the existing population included in the study area

# Population Trends and Growth Potential

- United States Census Bureau, the population increased from 21,759 to 23,074 from 2010 to 2020, which represents an annual growth rate of 0.6%.
- Micron's arrival & expected creation of approximately 50,000 jobs, it is likely that the Town will experience a significant population increase amid a current housing shortage in the greater Syracuse area.
- Undeveloped Land included in the study area was projected to be developed at a density of 2 units per acre.

# Existing and Proposed Number of Units Included in the Study Area

Table 1 – Summary of Sewer District EDUs

Category	Number of Parcels	Standard Assigned EDU	Total EDUs per Category
Single Family Units	844	1	845
1 Existing House/Structure	48	1	48
Multi-family Residences	11	0.75/unit	17
Commercial, Industrial, or Institutional	13	Varies – per NYSDEC guidelines	56
Developable to 2 units/acre	143	Acreage * 2	1553
Partially Developable, Wetland Impacts	4	Varies	38
Development Not Anticipated	51	0	0
Development Not Anticipated – Ex. Residence	10	1	10
Projected Development Plans	9	Varies	692
<b>Totals</b>	<b>1133</b>	-	<b>3259</b> <b>(651,800 gpd)</b>

# Topographic Overview of Study Area

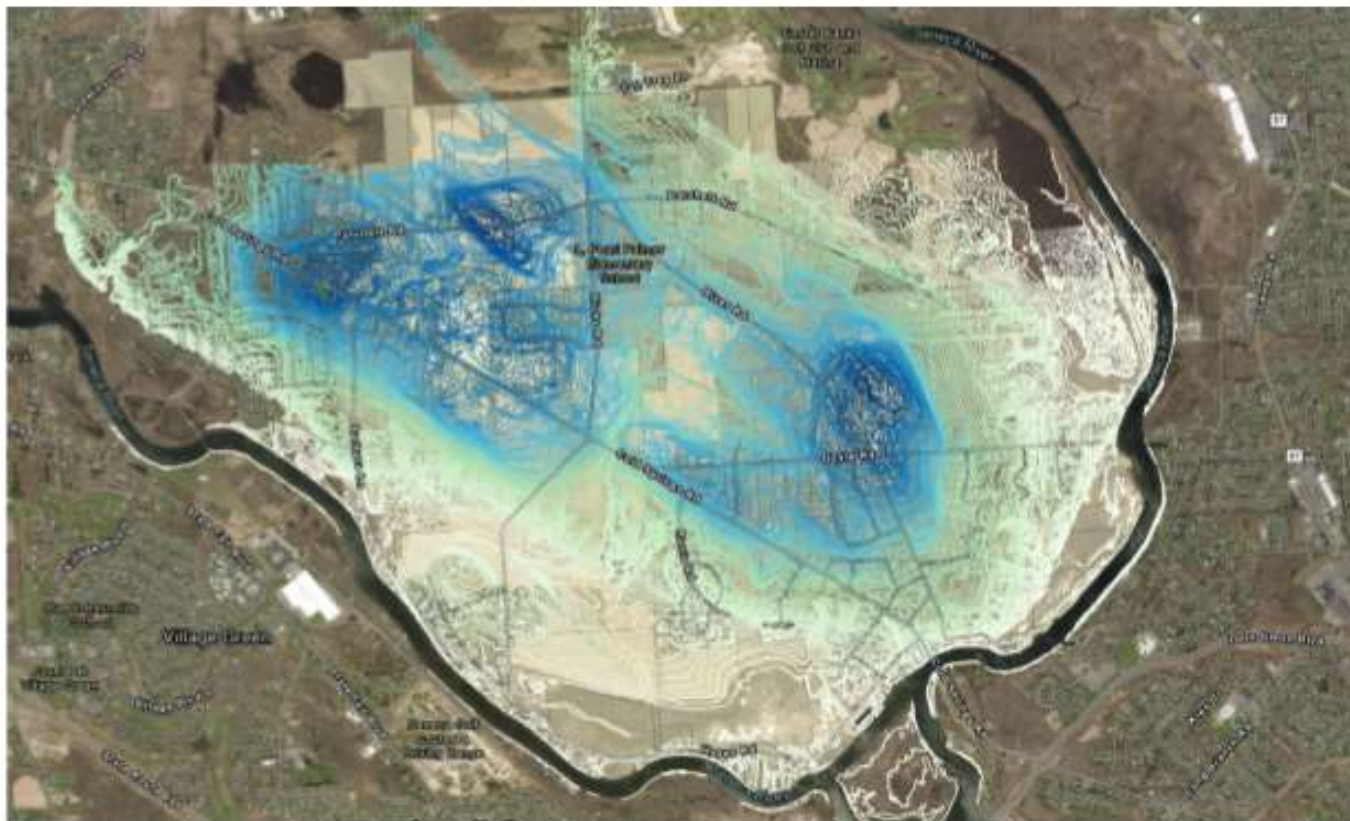
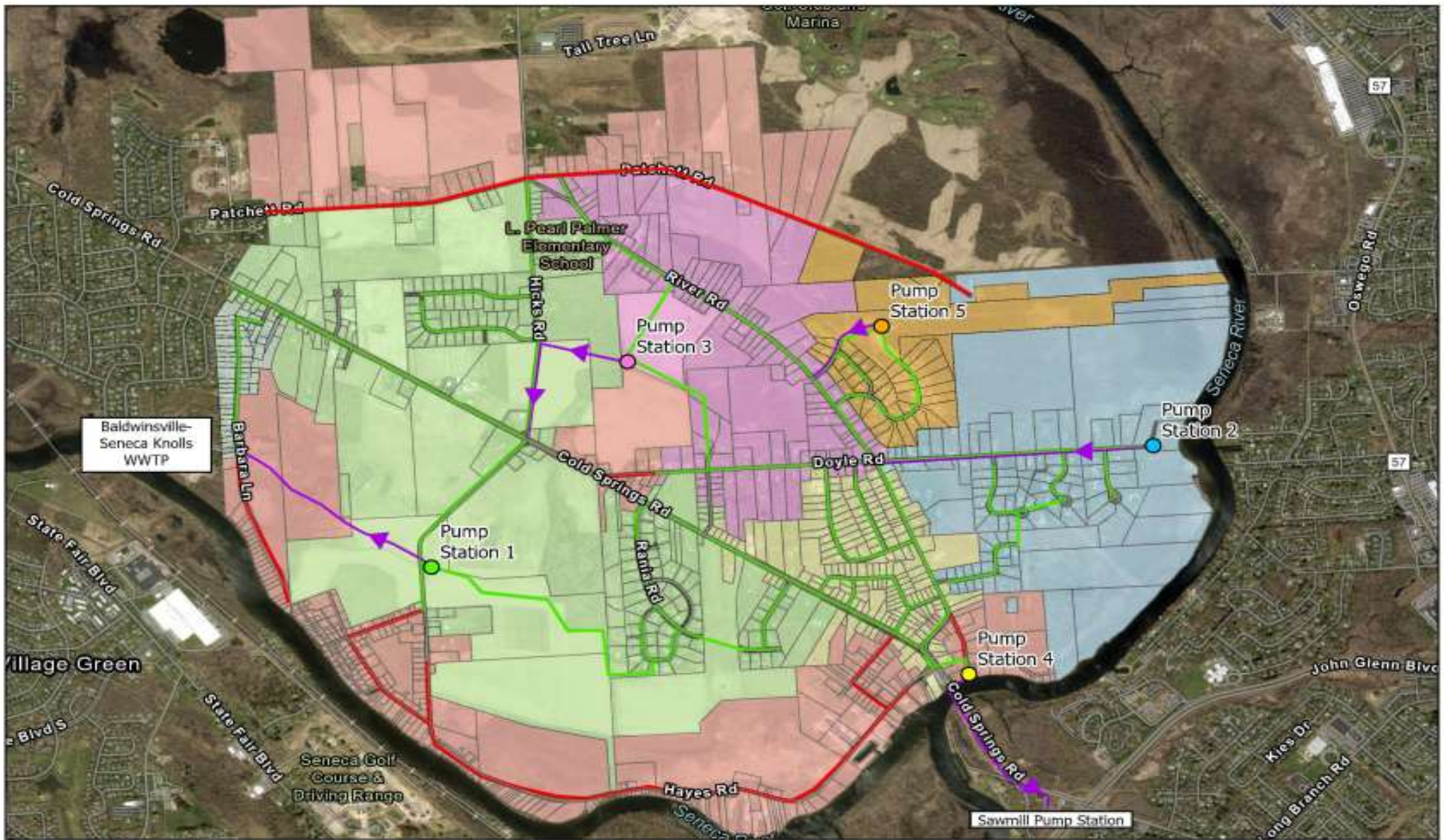


Figure 3 – Topographic Overview (Higher elevations shown in blue)

# Sewer Alternatives








- Alternative 1 – No Action
- Alternative 2 – Gravity Sewers with Five Pump Stations (with wider LPS areas)
- Alternative 3 – Gravity Sewers with Seven Pump Stations (with limited LPS areas)





## Alternative 2 Comprehensive Map

Cold Springs Peninsula Sewer Study  
Town of Lysander

- |  |  |
|--|--|
|  Parcels Served by Low Pressure System |  Parcels Directly to WWTP |
|  Parcels Tributary to PS 1             |  Low Pressure Network     |
|  Parcels Tributary to PS 2             |  Gravity Sewer            |
|  Parcels Tributary to PS 3             |  Force Mains              |
|  Parcels Tributary to PS 4             |  |
|  Parcels Tributary to PS 5             |  |

0 0.25 0.5 Miles



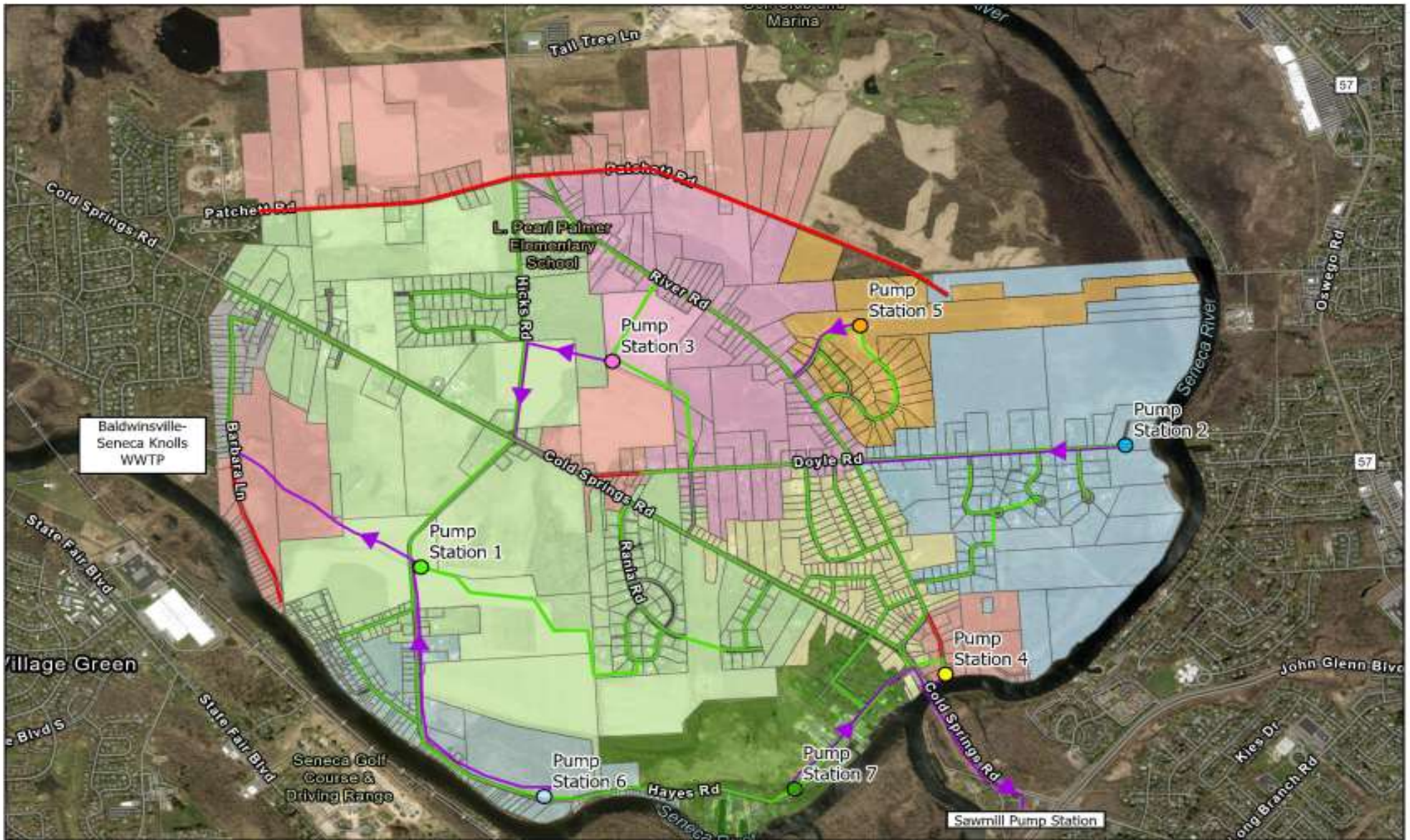
Town of Lyander  
Cold Springs Peninsula Sewer Study  
Preliminary Cost Estimate

**Alternative 2 - Gravity Sewers with Five Pump Stations (with wider LPS areas)**

**OPINION OF PROBABLE CAPITAL COST**

Item	Quantity	Unit	Unit Price	Total Item Cost
8-inch PVC SDR-26 Gravity Sewer Main (Open Trench)	54,000	LF	\$ 175	\$9,450,000
12-inch PVC SDR-26 Gravity Sewer Main (Open Trench)	3,000	LF	\$ 200	\$600,000
Hicks Road Deep Sewer Install / Microtunnel / Siphon	1,800	LF	\$ 800	\$1,440,000
Precast Concrete Manholes, 5-ft dia., avg depth 8-ft	160	EA	\$ 10,000	\$1,600,000
Pump Station (Large)	2	EA	\$ 1,000,000	\$2,000,000
Pump Station (Mid)	1	EA	\$ 800,000	\$800,000
Pump Station (Small)	2	EA	\$ 600,000	\$1,200,000
3-inch HDPE DR-11 Sewer Force Main	32,000	LF	\$ 120	\$3,840,000
4-inch HDPE DR-11 Force Main	4,300	LF	\$ 140	\$602,000
6-inch HDPE DR-11 Force Main	4,700	LF	\$ 180	\$846,000
8-inch HDPE DR-11 Force Main	3,400	LF	\$ 215	\$731,000
12-inch HDPE DR-11 Force Main	3,500	LF	\$ 275	\$962,500
Seneca River Bridge Crossing / HDD Crossing	500	LF	\$ 800	\$400,000
LPS Sewer lateral connections	727	EA	\$ 10,000	\$7,270,000
Air Release Valves and Structures	10	EA	\$ 15,000	\$150,000
Cleanout Structures	10	EA	\$ 15,000	\$150,000
Restoration; Asphalt Pavement	8000	SY	\$ 150	\$1,385,000
Restoration; Topsoil & Seeding	47,000	SY	\$ 35	\$1,645,000
Mobilization and Demobilization (10%)	1	LS	\$ 3,502,000	\$3,502,000
<b>Construction Subtotal</b>				<b>\$22,634,000</b>
Construction Contingency (30%)				\$6,790,000
<b>Construction Total</b>				<b>\$29,424,000</b>
Engineering Costs (15%)				\$4,414,000
Legal, Fiscal, Administrative Costs (5%)				\$1,471,000
<b>Capital Cost Total</b>				<b>\$35,309,000</b>

- Notes:
1. Rock Removal is not included.
  2. Grinder Pumps and Laterals to ROW responsibility of Property Owners.
  3. Lateral Connections assumed as 1-1/4" HDPE piping to ROW, 1-1/4" curb stop, and 1-1/4" corporation stop.
  4. Opinion of Probable Cost in 2024 Dollars.
  5. Cost for General Conditions and Maintenance and Protection of Traffic included in pipe price.



## Alternative 3 Comprehensive Map

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Town of Lysander

- Parcels Serviced by Low Pressure System
- Parcels Tributary to PS 1
- Parcels Tributary to PS 2
- Parcels Tributary to PS 3
- Parcels Tributary to PS 4
- Parcels Tributary to PS 5
- Parcels Tributary to PS 6
- Parcels Tributary to PS 7
- Parcels Directly to WWTP
- Low Pressure Network
- Gravity Sewer
- Force Mains

0 0.25 0.5 Miles



**Town of Lyander  
Cold Springs Peninsula Sewer Study  
Preliminary Cost Estimate**

**Alternative 3 - Gravity Sewers with Seven Pump Stations (with limited LPS areas)**

**OPINION OF PROBABLE CAPITAL COST**

Item	Quantity	Unit	Unit Price	Total Item Cost
8-inch PVC SDR-26 Gravity Sewer Main (Open Trench)	69,000	LF	\$ 175	\$12,075,000
12-inch PVC SDR-26 Gravity Sewer Main (Open Trench)	3,000	LF	\$ 100	\$600,000
Hicks Road Deep Sewer Install / Microtunnel / Siphon	1,800	LF	\$ 800	\$1,440,000
Precast Concrete Manholes, 5-ft dia., avg depth 8-ft	182	EA	\$ 10,000	\$1,820,000
Pump Station (Large)	2	EA	\$ 1,000,000	\$2,000,000
Pump Station (Mid)	1	EA	\$ 800,000	\$800,000
Pump Station (Small)	4	EA	\$ 600,000	\$2,400,000
3-inch HDPE DR-11 Low Pressure Sewer Force Main	19,000	LF	\$ 120	\$2,280,000
4-inch HDPE DR-11 Force Main	4,300	LF	\$ 140	\$602,000
6-inch HDPE DR-11 Force Main	4,700	LF	\$ 180	\$846,000
8-inch HDPE DR-11 Force Main	12,000	LF	\$ 215	\$2,580,000
12-inch HDPE DR-11 Force Main	4,000	LF	\$ 275	\$1,100,000
Seneca River Bridge Crossing / HDD Crossing	500	LF	\$ 800	\$400,000
LPS Sewer lateral connections	382	EA	\$ 10,000	\$3,820,000
Air Release Valves and Structures	7	EA	\$ 15,000	\$105,000
Cleanout Structures	7	EA	\$ 15,000	\$105,000
Restoration; Asphalt Pavement	11000	SY	\$ 150	\$1,650,000
Restoration; Topsoil & Seeding	52,000	SY	\$ 35	\$1,820,000
Mobilization and Demobilization (10%)	1	LS	\$ 3,644,000	\$3,644,000
<b>Construction Subtotal</b>				<b>\$24,252,000</b>
Construction Contingency (30%)				\$7,246,000
<b>Construction Total</b>				<b>\$31,398,000</b>
Engineering Costs (15%)				\$4,710,000
Legal, Fiscal, Administrative Costs (5%)				\$1,570,000
<b>Capital Cost Total</b>				<b>\$37,678,000</b>

**Notes:**

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2. Grinder Pumps and Laterals to ROW responsibility of Property Owners.
3. Lateral Connections assumed as 3-1/4" HDPE piping to ROW, 3-1/4" curb stop, and 3-1/4" corporation stop.
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# Anticipated Resident Costs

- Annual County Sewer Treatment Fee \$445
- Anticipated Annual Debt Service With Undeveloped Land Developed at 2 Units Per Acre \$621/yr
- Anticipated Annual Debt Service With Undeveloped Land Developed at 4 Units Per Acre \$420/yr
- Anticipated Annual Debt Service With Undeveloped Land Developed at 2 Units Per Acre With Town Supplying Low Pressure Grinder Pumps \$726/yr
- Anticipated Annual Debt Service With Additional Development \$2,152
- Debt Service Calculated Using 4% Bond Rate For 30yrs With No Developer Contribution

# Anticipated User Costs With Developer Contribution

- Developer Contribution of \$24 Million Debt Service Drops to \$203 Annually
- Developer Contribution of \$12 Million Debt Service Drops to \$412 Annually

# Recommended Steps to Proceed

- Continued Coordination with OCWEP
- Apply for NYSEFC Clean Water State Revolving Fund (CWSRF) Grant Funding
- Apply for NYSDEC Water Quality Improvement Project (WQIP) Program
- Apply for NYSEFC Water Infrastructure Improvement Act (WIIA) Grant
- Apply for Funding Through Infrastructure Investment and Jobs Act (IIJA)