Map, Plan, and Report

Cold Springs Sewer District #1

Town of Lysander

Onondaga County, New York

Eric Hirschmann, P.E.
CHA Consulting, Inc.

October 2025

Map, Plan, and Report

Cold Springs Sewer District #1

Prepared for:

Town of Lysander

8220 Loop Road

Baldwinsville, NY 13207

Prepared by:

CHA Consulting, Inc.

CHA Project No.: 86716

Date: October 14, 2025

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Version Control

Rev No	Date Issued	Description	Approved by
0	10/14/2025	Draft for Town Review	ETH

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1 Introduction

1.1 Background

In 2024, CHA was tasked with performing a sewer study for the area referred to as the Cold Springs Peninsula, within the Town of Lysander, New York. The Town identified a need to evaluate the potential for a complete sewer system for the residents in the Peninsula, knowing the economic limitations that typically accompany septic-dependent communities. The region is currently served by septic systems, with some newer developments having dry sewer infrastructure installed as part of the Town's future initiatives. Residents near the Seneca River have reported water quality issues in the past, which could be indicative of aging or failing septic systems. In addition, the Town anticipates greater population growth in conjunction with the new Micron semiconductor facility in nearby Clay, NY. With the expected creation of up to 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.

The 2024 Sewer Study assessed the feasibility and cost of a comprehensive sewer system in the Peninsula to best prepare the area for an influx of housing. The study considered potential pump station locations, the implementation of gravity sewers where topography was favorable, and using low-pressure sewer sub-systems in flatter areas (i.e. close to the Seneca River).

Due to the projected high costs needed to provide public sewer service to the entire peninsula, the 2024 Sewer Study recommended that the project be completed in phases, starting with the pump station located closest to the Melvin Farms parcels, and the gravity sewers that would be directly tributary to that pump station. This area is poised for development in the immediate future (i.e. Melvin Farms) and has the highest need for public sewers. This stage of sewer expansion within the Peninsula is also beneficial because it would connect existing dry sewers to the system and provide public sewer to Palmer Elementary School, whose existing septic system is nearing the end of its anticipated service life.

This extension of public sewer will be referred to as the **Cold Springs Sewer District #1** and is described in this Map, Plan, and Report (MPR). A location map is provided as Figure 1.

Figure 1 – Cold Springs Peninsula Study Area

1.2 Purpose & Scope

The Town of Lysander has retained CHA to prepare this MPR for the extension of public sewers into the proposed Cold Springs Sewer District #1. This document includes the following:

- Summary of existing sewer infrastructure;
- Description of the proposed sewer district boundaries;
- Estimates of wastewater flow for the district;
- General plan for the required sewer infrastructure;
- Estimated construction, operational, and maintenance costs; and
- Implementation Plan.

2 Existing Sewer Infrastructure

Currently, the area is not serviced by public sewers. All current residents and business within the study area are served by privately owned septic systems.

Some neighborhoods of more recent construction have installed "dry sewers", at the requirement of the Town as a condition of development. These dry sewers are not yet connected to any municipal treatment system. The locations of the dry sewers are shown in Figure 2. It was the intention of the Lysander Planning Board that these dry gravity sewers would be utilized upon the construction of a collector sewer system.

Figure 2 – Streets with Existing Dry Sewers

The Onondaga County Department of Water Environment Protection (WEP) is responsible for wastewater treatment and transmission to the area within the Consolidated Sanitary District (CSD). All of the parcels contained within the proposed Cold Springs Sewer District #1 are already part of the Onondaga County CSD.

There is existing public sewer infrastructure operated by WEP just beyond the Cold Springs Peninsula, including the Baldwinsville-Seneca Knolls (BSK) wastewater treatment plant (WWTP) to the west, the Timber Banks pump station to the north, and the Sawmill pump station to the south (across the Seneca River). The Wetzel Road WWTP is also located to the east of the peninsula on the other side of the Seneca River. The BSK WWTP is the closest treatment facility and would be best suited to receive wastewater from the Cold Springs Sewer District #1.

3 Proposed Sewer District

3.1 District Boundary

The Town intends to implement public sewers in the Peninsula using a phased approach, to service the greatest number of parcels at an affordable user cost. The first phase for sewer expansion within the Peninsula leverages the planned Melvin Farms development on Hayes Road (south of Cold Springs Road), and also would provide sewer service to the parcels with frontage along Hicks Road and Hayes Road (from Patchett Road to Perryville Road), and the parcels currently serviced by dry sewers on Rania Rd, Nuha St, Brickwalk Way, and Gloria Drive. The homes on Camerondale Road (just north of Gloria Drive) would also be included by way of a new sewer branch. This phase of sewer infrastructure would allow Palmer Elementary School to upgrade from their current septic system, which is in need of replacement.

A boundary map of the proposed Cold Springs Sewer District #1 is included as Appendix A. This map shows the area to be served by the sewer district and each of the parcels proposed to be serviced by public sewer. All properties that are included in the proposed district would be required to connect to the sewer system per Onondaga County Plumbing Code requirements, once constructed and commissioned.

A list of all properties which would be included in the District, based on available tax roll information, is included as Appendix B. Appendix C contains a legal description of the proposed district boundary (this will be developed after the district boundary is finalized).

3.2 Wastewater Flow Calculation

Wastewater flow estimates for the proposed district were based on equivalent dwelling units (EDUs). Within the Town, an EDU is defined as the wastewater generated for a single-family residence, with a water use of 73,000 gallons per year (200 gallons per day). Each parcel included in the sewer district was assessed a quantity of EDUs. All parcels designated as single family residences were assigned 1 EDU. Parcels within the district that were vacant (no house/structure), but potentially developable, were assigned 0.5 EDUs. The Melvin Farms parcels, where development plans are approved, were assigned EDUs based on the number of units planned, for a total of 537 EDUs across several lots. Commercial parcels, such as Palmer Elementary School, were assigned EDUs for each 73,000 gallons consumed (or part thereof) based on water billing records. The school's EDU assessment was scaled to account for full occupancy.

This evaluation resulted in a total of 681 EDUs within the new sewer district. A full list of properties included in the proposed district, as well as their assigned EDU value, is included as Appendix B. Based on the 73,000 gal/yr rate, each EDU will contribute 200 gallons per day. In total, this results in an average sewer district flow of 136,200 gallons per day, or 95 gallons per minute (gpm). Based on guidance in *Recommended Standards for Wastewater Facilities (Great Lakes - Upper Mississippi River Board Of State And Provincial Public Health And Environmental Managers),* a peaking factor (i.e. the ratio of average day flow to peak hourly flow) of 3.7 is appropriate, based on the population size of the district. Therefore, the design flow rate for the Cold Springs Sewer District #1 will be approximately 352 gpm.

It should be noted that the creation of this sewer district is the first in what the Town hopes will be continued phasing of the entire Cold Springs Peninsula. As more of the peninsula is connected to the sewer network, it is

anticipated that flow will be received from other regions of the Peninsula. In the 2024 Sewer Study for the Cold Springs Peninsula, it was estimated that the flow could reach peak values of up to 1,408 gpm peak flow at full buildout. Therefore, the sewer infrastructure will be sized to accept additional flows in the future. The flow calculations are included as Appendix D, and summarized below.

Total EDUs	681
Annual Flow per EDU (200 gpd)	73,000 gal/yr
District #1 Flow, Average Day	136,200 gal/day (95 gpm)
Approximate Population (2 people/unit)	1,362
Peak Factor	3.7
District #1 Peak Flow	352 gpm

3.3 Required Sewer Infrastructure

Wastewater from the parcels within the proposed district would be conveyed via gravity sewers. The primary sewer alignment would be along Hicks Road, starting just south of Patchett Road, flowing south, across Cold Springs Road, and along Hayes Road, discharging into a new pump station, hereafter referred to as the Melvin Farms Pump Station. The Melvin Farms PS would convey flow through a pressurized force main to the BSK WWTP for treatment. This pump station would be designed with multiple pumps to allow for staged growth of the sewer district as noted above.

The dry sewers on Brickwalk Way, Rania Rd/Nuha Street, and Gloria Drive would all be connected to the collection system through branch gravity sewer connections. It is not expected that the dry sewers will need rehabilitation or replacement prior to connecting to the new system, as they have never been used for wastewater conveyance. A new gravity sewer would be constructed along Camerondale Road, connecting at Hicks Road. An overview figure showing the location of the proposed infrastructure is included as Appendix E. The preliminary quantities of the required infrastructure is included as part of the opinion of probable cost, in Appendix F.

4 District Formation Costs

4.1 Capital Costs

The capital cost for the formation of the sewer district and associated new sewer infrastructure is approximately $6,982,000, including all construction, legal, fiscal, engineering, and administration costs. The construction cost portion associated with the new sewer infrastructure is $5,818,000. The Melvin Farms developer is anticipated to finance certain components of the infrastructure, namely the construction of the pump station, force main, and gravity sewers transiting their parcels, as a condition of development. When considering these allocations, the public share of capital cost that the Town is responsible for is anticipated to be approximately $3,170,000. A breakdown of the opinion of probable cost is included as Appendix F.

4.2 Operating & Maintenance Costs

Operation and maintenance (O&M) costs are based on the day-to-day work involved in providing continued sewer service within the proposed district. It is expected that the Town will take ownership of the sewers, manholes, pump station, and force main within this District, but they will be operated and maintained by WEP as part of a lease agreement. WEP assesses a sewer unit charge for service, which finances the system. The unit charge is only applied to properties in the district with a sewer connection; vacant parcels would not be assessed a WEP unit charge. The 2025 sewer charge was $453.00 per unit.

5 Implementation Plan

5.1 Cost Apportionment & User Cost Summary

Cost apportionment for the debt service is based on the EDU system. The proposed district includes 681 EDUs, as discussed in Section 3.2. If the developer pays for the items outlined in Appendix F, the annual debt service charge to the Town is approximately $267 per EDU, assuming a 30-year loan period with a 4% annual rate. The O&M cost per user would be $453 per year, for a total annual sewer charge of $720 per EDU.

The New York Office of the State Comptroller (OSC) publishes Special District Average Estimated Cost Thresholds; for 2025, the corresponding sewer charge is $663. Towns and counties proposing to issue debt to finance the construction of Special Districts are required to apply for the permission of the OSC if the cost to the typical property is above the OSC-calculated average estimated cost threshold. Grant opportunities may also present options for funding to offset project costs and lower the per-user debt service. Financing options are discussed in Section 5.2.

5.2 Construction Financing

The total estimated capital cost that the Town is expected to be responsible for Cold Springs Sewer District #1 is approximately $3.17 million. Based on the anticipated number of EDUs in the district, grant opportunities would help to make this option more affordable for the residents. Potential funding sources include:

- Clean Water State Revolving Fund (CWSRF, administered by EFC); and
- New York State Regional Economic Development Programs (capital improvements for Pro-Housing Communities)

Other wastewater grant programs administered by the DEC and EFC are not typically applicable to sewer extension projects. It is recommended that the Town further evaluates these funding options. The Town is in the process of being designated as a Pro-Housing community, which gives eligibility to receive funding via the Regional Economic Development program.

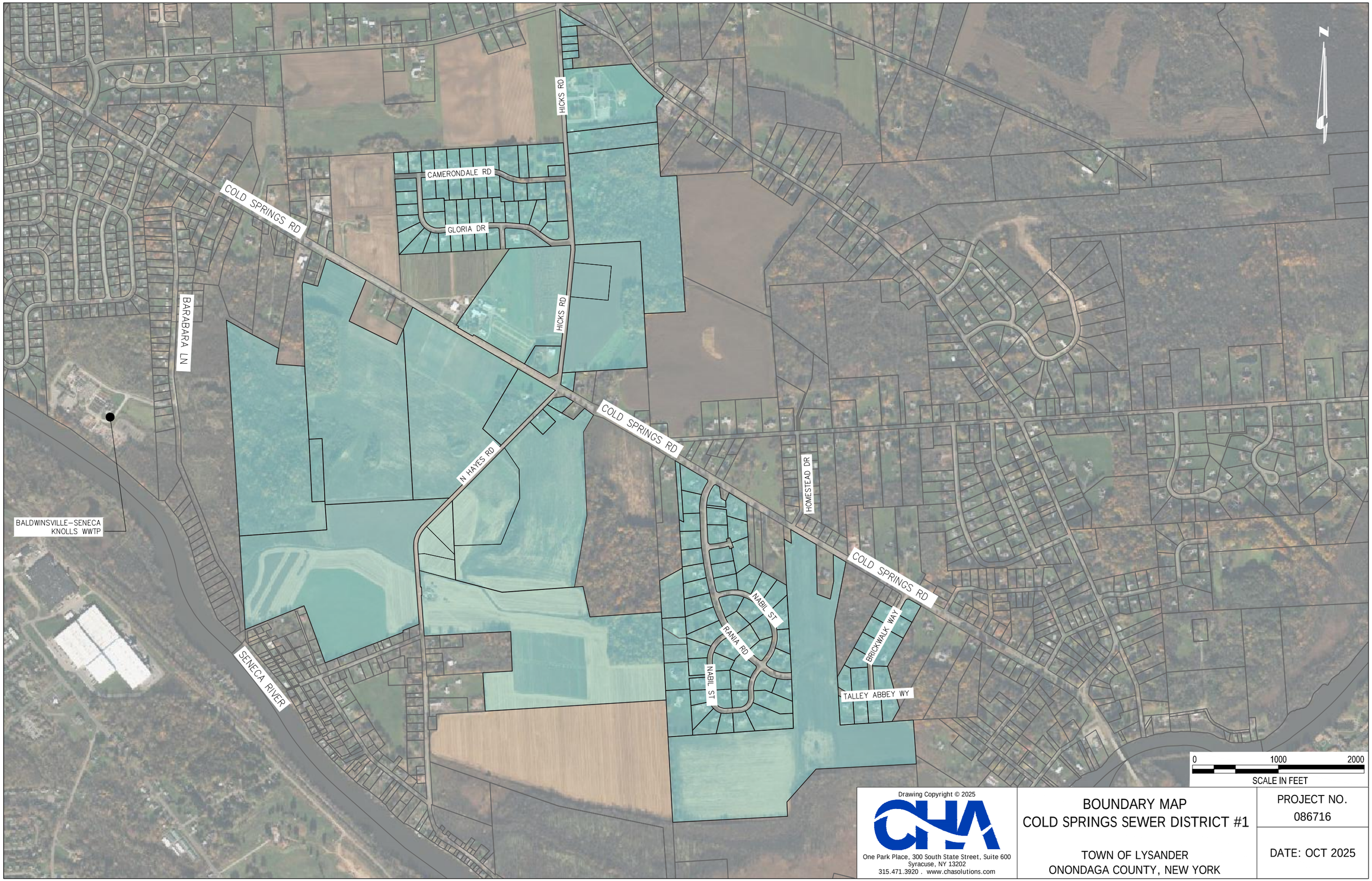
5.3 Implementation Schedule

The anticipated project schedule for the Cold Springs Sewer District #1 is as follows:

- Sewer District Map, Plan, and Report: October 2025
- County and NYSDEC review of MPR November-December 2025
- Town Board Special District December 2025
- Detailed Design December 2025 – May 2026
- Regulatory Review of Design May 2026-June 2026
- Project Construction Summer 2026 – Summer 2027

APPENDIX A

BOUNDARY MAP



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BOUNDARY MAP
COLD SPRINGS SEWER DISTRICT #1

TOWN OF LYSANDER
ONONDAGA COUNTY, NEW YORK

PROJECT NO.
086716

DATE: OCT 2025

File: V:\PROJECTS\ANY\K6\086716.000\09_DESIGN\EXHIBITS\GIS EXPORTS\LYSANDER COLD SPRINGS SEWER DISTRICT #1 PARCELS.DWG Saved: 10/8/2025 3:20:39 PM Plotted: 10/8/2025 3:23:10 PM Current User: Piskun, Julia LastSavedBy: 8667

APPENDIX B

PARCEL IDENTIFICATION

Parcel ID	Address	Owner	EDUs
060.-01-14.1	3238 Cold Springs Rd	Landmark Challenger LLc	242.0
060.-01-16.1	3354 Cold Springs Rd	Cold Springs Development LLC	0.5
060.-01-16.2	3354 Cold Springs Rd	Landmark Challenger LLc	242.0
060.-01-17.1	7550 N Hayes Rd	370 JPB LLC	0.5
060.-01-18.0	Barbara Ln	Landmark Challenger LLc	0.0
060.-01-21.0	3262 Cold Springs Rd	Landmark Challenger LLc	0.0
060.-02-06.0	3333 Cold Springs Rd	Oakes Family Revocable Trust	1.0
060.-02-07.1	3293 Cold Springs Rd	Abbott Windsor J	1.0
064.-03-01.1	3366 Cold Springs Rd	Pavlus Family Trust	1.0
064.-03-02.1	3400 Cold Springs Rd	Landmark Challenger LLC	0.0
064.-03-02.2	7666 N Hayes Rd	Lee James	1.0
064.-03-02.4	Cold Springs Rd	Landmark Challenger LLC	53.0
064.-03-03.2	Cold Springs Rd	Anthony Joseph	0.5
064.-03-04.0	3470 Cold Springs Rd	Padron Mishel Rd	0.0
064.1-04-01.0	7604 Rania Rd	McManus Jeffrey D	1.0
064.1-04-02.0	7600 Rania Rd	Padron Mishel R D	1.0
064.1-04-03.0	7596 Rania Rd	Jabaji Nadim Nabil F	1.0
064.1-04-04.0	7592 Rania Rd	Masella Rodney R	1.0
064.1-04-05.0	7588 Rania Rd	Rayo Susan L	1.0
064.1-04-06.0	7584 Rania Rd	Anthony Joseph G	1.0
064.1-04-07.0	7580 Rania Rd	McIntyre Kenneth R	1.0
064.1-04-08.0	7576 Rania Rd	Jones Jason A	1.0
064.1-04-09.0	7572 Rania Rd	Morelli Abraham N Jr	1.0
064.1-04-11.0	2994 Nuha St	Heywood Stephen	1.0
064.1-04-12.0	2990 Nuha St	Peters William J	1.0
064.1-04-13.1	3430 Mary Jayne Mnr	Williams Michael	1.0
064.1-04-14.0	2986 Nuha St	Pawelek Christopher T	1.0
064.1-04-15.0	2980 Nuha St	Rutherford Kayla	1.0
064.1-04-16.0	2978 Nuha St	Sherman Robert	1.0
064.1-04-17.0	2974 Nuha St	Cunningham David M	1.0
064.1-04-18.0	2970 Nuha St	Kenny Bryan P	1.0
064.1-04-20.0	3424 Mary Jayne Manor	Breen Stephen A	1.0

Parcel ID	Address	Owner	EDUs
064.1-05-01.0	3464 Fadi Dr	Burns & Anthony Rev. Trust	1.0
064.1-05-02.0	3465 Fadi Dr	Spinosa Jon G	1.0
064.1-05-03.0	7601 Rania Rd	Wojnowicz William W	1.0
064.1-05-04.0	7605 Rania Rd	Ward Jason R	1.0
064.1-05-05.0	7597 Rania Rd	Gildemeyer Michele A	1.0
064.1-05-06.0	3461 Fadi Dr	VanPatten Peter	1.0
064.1-05-07.0	3460 Fadi Dr	3460 Fadi Drive LLC	1.0
064.1-05-08.0	7585 Rania Rd	Ciotti John M	1.0
064.1-05-09.0	2997 Nabil St	Curtiss Christopher M	1.0
064.1-05-10.0	2993 Nabil St	Cavallaro Rick	1.0
064.1-05-11.0	2989 Nabil St	Emerson Matthew J	1.0
064.1-05-12.0	2985 Nabil St	Ajemian Richard	1.0
064.1-05-13.0	2981 Nabil St	Ciotti Richard J	1.0
064.1-05-15.0	2977 Nabil St	Moore Raymond J	1.0
064.1-05-16.0	2973 Nabil St	Christiano Peter	1.0
064.1-06-01.0	2996 Nabil St	Ludwig Walter M	1.0
064.1-06-02.0	2992 Nabil St	Nocevski Michael T	1.0
064.1-06-03.0	2988 Nabil St	Morra Joseph G	1.0
064.1-06-04.0	7565 Rania Rd	Jaquin Richard C	1.0
064.1-06-05.0	7569 Rania Rd	Ciotti James A	1.0
064.1-06-06.0	7573 Rania Rd	Alharbi Abdulhamed M	1.0
064.1-07-01.1	7564 Rania Rd	Arnone Irrevocable Trust Philip & Gloria	1.0
064.1-07-02.1	2991 Nuha St	Cacciola Scott A	1.0
064.1-07-03.0	7560 Rania Rd	May Robert P	1.0
064.1-07-04.0	2955 Nuha St	Stanley Mark S	1.0
064.1-07-05.0	2961 Nuha St	Lester C. Richard	1.0
064.1-07-06.0	2977 Nuha St	Owens Bernard J	1.0
064.1-07-07.0	2987 Nuha St	Abu-Manneh Fayez M	1.0
064.1-08-02.0	2966 Nuha St	Cuthbert Barbara E	1.0
064.1-08-03.0	2962 Nuha St	Corp Revocable Trust	1.0
064.1-08-04.0	2958 Nuha St	Taylor Douglas C	1.0
064.1-08-05.0	7556 Rania Rd	Sienel Beth E	1.0

Parcel ID	Address	Owner	EDUs
064.1-08-06.0	7552 Rania Rd	Woods Paul W	1.0
064.1-08-11.2	3514 Cold Springs Rd	The Wetland Trust, Inc.	0.0
064.1-09-01.0	3039 Brick Walk Way	Davies Richard J	1.0
064.1-09-02.0	3035 Brick Walk Way	Montanaro Brian	1.0
064.1-09-03.0	3031 Brick Walk Way	Henty Andrew J	1.0
064.1-09-04.0	3027 Brick Walk Way	Devine James L III	1.0
064.1-09-05.0	3023 Brick Walk Way	Turakhia Jitendra G	1.0
064.1-09-06.0	7535 Talley Abbey Way	Bausch Donald S	1.0
064.1-10-01.0	3042 Brick Walk Way	Procopio Living Trust	1.0
064.1-10-02.0	3038 Brick Walk Way	McManus Brian A	1.0
064.1-10-04.1	3030 Brick Walk Way	Fabrizio Nicola A	1.0
064.1-10-05.0	3024 Brick Walk Way	Sisto Daniel R	1.0
064.1-12-01.0	7536 Talley Abbey Way	Steinfest Clay G	1.0
064.1-12-02.0	7532 Talley Abbey Way	Brisson Anne	1.0
064.1-12-03.0	7528 Talley Abbey Way	Pietricola Steven J	1.0
064.1-12-04.0	7524 Talley Abbey Way	McManus William J	1.0
070.-02-01.0	7821 Hicks Rd	Cold Sprngs Chrstn Rfrm Church	1.0
070.-02-02.0	7823 Hicks Rd	Christian Reformed	1.0
070.-02-03.2	3014 Camerondale Rd	Dodd Douglas P	1.0
070.-02-04.1	3016 Camerondale Rd	Thomas Gerard	1.0
070.-02-05.0	3018 Camerondale Rd	Graham Daniel P	1.0
070.-02-06.0	3020 Camerondale Rd	DeCarr Wayne F	1.0
070.-02-07.0	3022 Camerondale Rd	Reddinger Family Trust	1.0
070.-02-08.0	3024 Camerondale Rd	Mazzye Irrevocable Trust	1.0
070.-02-09.0	3026 Camerondale Rd	Pirro David	1.0
070.-02-10.0	3028 Camerondale Rd	Chambers William	1.0
070.-02-11.0	3030 Camerondale Rd	Ripa Michael II	1.0
070.-02-12.0	3032 Camerondale Rd	Ososkalo Nikolai Jr	1.0
070.-03-03.0	7797 Gloria Dr	Mead Berton E	1.0
070.-03-04.0	3029 Camerondale Rd	Rudka Vladimir	1.0
070.-03-05.0	3027 Camerondale Rd	Sanders Keiko	1.0
070.-03-06.0	3025 Camerondale Rd	Johnson Gregory C	1.0

Parcel ID	Address	Owner	EDUs
070.-03-07.0	3023 Camerondale Rd	Eckel Vincent L	1.0
070.-03-08.0	3021 Camerondale Rd	Iozzo Stephen J	1.0
070.-03-09.0	3019 Camerondale Rd	Tyo Jeffrey D	1.0
070.-03-10.0	3017 Camerondale Rd	Wright Charles L	1.0
070.-03-11.0	3015 Camerondale Rd	Capucilli Jo Anne E	1.0
070.-03-12.0	3011 Camerondale Rd	Burgess John W	1.0
070.-03-13.2	7805 Hicks Rd	Regan Daniel	1.0
070.-03-14.0	7767 Gloria Dr	Vance Christopher R	1.0
070.-03-15.0	7769 Gloria Dr	Niver Kristen L	1.0
070.-03-16.0	7771 Gloria Dr	Harper John R Jr	1.0
070.-03-17.0	7773 Gloria Dr	Bryant Robert C	1.0
070.-03-18.0	7775 Gloria Dr	Kudarauskas Michael A	1.0
070.-03-19.0	7777 Gloria Dr	Melonson David G	1.0
070.-03-20.0	7779 Gloria Dr	Salisbury Daniel E	1.0
070.-03-21.0	7781 Gloria Dr	Simmons Joseph A	1.0
070.-03-22.0	7783 Gloria Dr	Myllymaki Revocable Trust	1.0
070.-03-23.0	7791 Gloria Dr	Slack Irrevocable Trust	1.0
070.-04-01.0	7800 Gloria Dr	Sousou Irrevocable Trust	1.0
070.-04-02.0	7798 Gloria Dr	Martin Charles E	1.0
070.-04-03.0	7796 Gloria Dr	Fashho Salim K	1.0
070.-04-04.0	7794 Gloria Dr	McOmber Gerald S	1.0
070.-04-05.0	7792 Gloria Dr	Pompo Joseph S Jr	1.0
070.-04-06.0	7790 Gloria Dr	Mazza Philip A	1.0
070.-04-07.0	7788 Gloria Dr	Lape Douglas R	1.0
070.-04-08.0	7786 Gloria Dr	Dufour Daniel N	1.0
070.-04-09.0	7784 Gloria Dr	Walcott Daniel	1.0
070.-04-10.0	7782 Gloria Dr	Sabourin Jean-Pierre Y	1.0
070.-04-11.0	7780 Gloria Dr	Stevens Philip Gregory	1.0
070.-04-12.0	7778 Gloria Dr	Meanor James A	1.0
070.-05-01.0	7770 Gloria Dr	Ioannidis Nikolaos	1.0
071.-02-01.0	7916 Hicks Rd	Lawrence Family Irrev. Trust	1.0
071.-02-02.1	7912 Hicks Rd	Kowalski Jacqueline G	1.0

Parcel ID	Address	Owner	EDUs
071.-02-04.0	7864 Hicks Rd	Baldwinsville Central	14.0
071.-02-52.0	3363 Cold Springs Rd	Humphrey Kenneth L	1.0
071.-02-54.0	7800 Hicks Rd	Petta Nicholas A III	1.0
071.-02-55.0	7804 Hicks Rd	Giegengack-Jureller Mary	1.0
071.-02-56.0	7890 Hicks Rd	Candee Alexander J	1.0
071.-02-57.0	7896 Hicks Rd	Spencer Charles E	1.0
071.-02-58.0	7900 Hicks Rd	Bedard Antoine	1.0
071.-02-59.0	7906 Hicks Rd	St Denny John	1.0
064.1-04-10.1	2998 Nuha St	Funiciello John P	1.0
064.1-04-19.1	2999 Nuha St	Funiciello John P	0.5
071.-02-53.1	7780 Hicks Rd	Abbott Revocable Trust Windsor J	0.5
071.-02-53.3	Hicks Rd	Abbott Revocable Trust Windsor J	0.5
064.-03-29.1	7484 N Hayes Rd	Abbott Revocable Trust Windsor J	0.5
064.-03-29.3	7572 N Hayes Rd	Abbott Revocable Trust Windsor J	0.5
064.-03-29.4	7556 N Hayes Rd	Abbott Revocable Trust Windsor J	0.5
064.-03-29.2	7584 N Hayes Rd	Abbott Revocable Trust Windsor J	0.5

APPENDIX C

BOUNDARY DESCRIPTION

(TO BE DEVELOPED)

APPENDIX D

WASTEWATER FLOW CALCULATIONS

Completed By:	JMP		**Job No**	86716	
Checked By	ETH		**Page**	1 **of**	1
Project Name:	Cold Springs Sewer District #1		**Date:**	Oct-25	
Subject:	Wastewater Flow Calculations				

Objective: Determine the average daily flows and maximum flows for the proposed sewer district

Known:

Equivalent Dwelling Unit Annual Usage =	73,000	gal/yr	*Town of Lysander*
Number of EDUs in proposed sewer district =	681	EDUs	*Refer to Appendix B*

Assumptions:

District Population	1,362	*Assuming 2 people/Unit*

Calculations:

Average Daily Usage

$$\text{Daily Flow per EDU} = \frac{73{,}000 \text{ gal/year}}{365 \text{ days/year}} = 200 \text{ gal/day}$$

District Flow =	136,200	gal/day
District Flow, gpm =	95	gal/min

Peak Hourly Flow

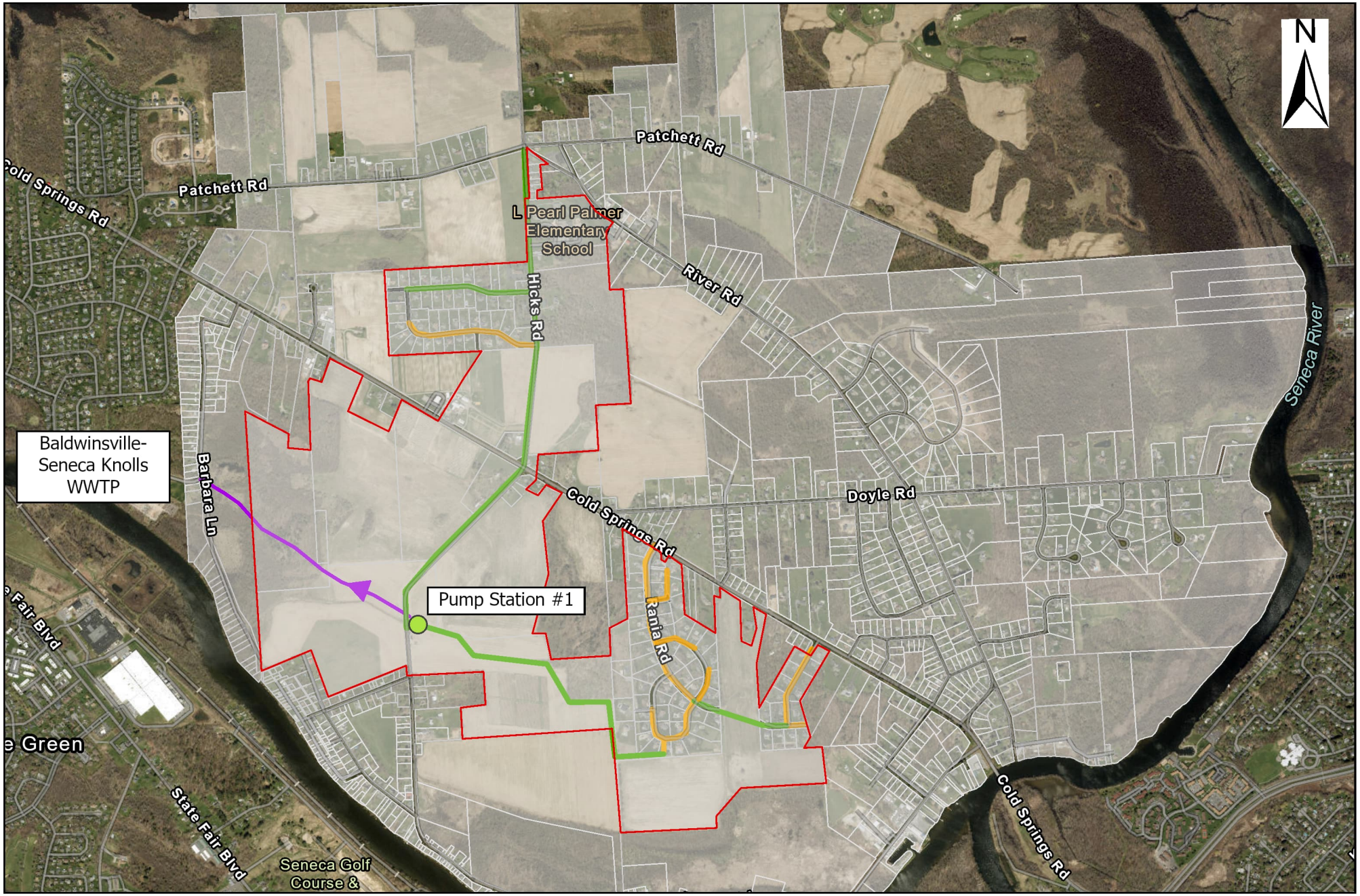
Peaking Factor =	3.7	*Refer to 10 States*
Peak Flow, gpm =	350	

Flows to PS #1 - Future Buildout

Peak hourly flows to PS #1, gal/min	1,408	*Refer to July 2024 Sewer Study*

APPENDIX E

CONCEPTUAL SEWER INFRASTRUCTURE LAYOUT



Conceptual Sewer Infrastructure Plan

Cold Springs Sewer District #1

Town of Lysander

- Parcels within Cold Spring Peninsula Sewer Study Area
- Existing Dry Sewers
- Parcels included in Sewer District #1
- Proposed Gravity Sewers
- Force Main
- Melvin Farms Pump Station

0 0.25 0.5 Miles

APPENDIX F

ENGINEER'S OPINION OF PROBABLE COST

Town of Lysander
Cold Springs Peninsula Sewer District #1
Preliminary Cost Estimate

Map, Plan, and Report - Sewer Expansion Project

OPINION OF PROBABLE CAPITAL COST

Item	Quantity	Unit	Unit Price	Total Item Cost
8-inch PVC SDR-26 Gravity Sewer Main	3,890	LF	$ 140	$544,600
8-inch PVC SDR-26 Gravity Sewer Main (Hicks Rd Deep Installation)	1,750	LF	$ 400	$700,000
8-inch PVC SDR-26 Gravity Sewer Main (Melia Park Connection)	5,360	LF	$ 110	$589,600
Precast Concrete Manholes, 5-ft dia., avg depth 8-ft	25	EA	$ 5,500	$137,500
Sewer laterals to property line	1	LS	$ 100,000	$100,000
12-inch PVC SDR-26 Gravity Sewer Main	3,000	LF	$ 175	$525,000
Precast Concrete Manholes, 5-ft dia., avg depth 8-ft	15	EA	$ 5,500	$82,500
Pump Station 1	1	EA	$ 1,200,000	$1,200,000
12-inch HDPE DR-11 Force Main	3,700	LF	$ 200	$740,000
Air Release Valves and Structures	1	EA	$ 15,000	$15,000
Cleanout Structures	1	EA	$ 15,000	$15,000
Restoration; Asphalt Pavement	333	SY	$ 150	$50,000
Mulch & Seeding	1,233	SY	$ 15	$18,500
Restoration; Asphalt Pavement	627	SY	$ 150	$94,000
Mulch & Seeding	2,400	SY	$ 15	$36,000
Construction Subtotal				*$4,848,000*
			Construction Contingency (20%)	$970,000
			Construction Total	$5,818,000
			Engineering Costs (15%)	$873,000
			Legal, Fiscal, Administrative Costs (5%)	$291,000
			Capital Cost Total	$6,982,000
			Construction Cost Total (Excluding Developer Paid Items)	$2,642,000
			Capital Cost Total (Excluding Developer Paid Items)	$3,170,000

Notes:

1. Opinion of Probable Cost in 2025 Dollars.
2. Cost for General Conditions and Maintenance and Protection of Traffic included in pipe price
3. Items in red are expected to be paid for by the developer of the Melvin Farms parcels, as agreed upon with the Town.
4. Costs are presented for comparison purposes only. Other required costs may exist that are not listed.