

Ellicottville Drinking Water Source Protection Program (DWSP2) Plan

Ellicottville Water Division

Prepared for

Town & Village of Ellicottville

1 Washington Street
Ellicottville, New York

Final
October 2022



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Town & Village of Ellicottville, Cattaraugus County, New York

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Water Division, Town & Village of Ellicottville
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ABBREVIATIONS

AEM	Agriculture Environmental Management
AWQR	Annual Water Quality Report
BMP	Best Management Practice
BNW	Buffalo Niagara Waterkeeper
CBS	Chemical Bulk Storage
CCE	Cornell Cooperative Extension
CFR	Code of Federal Regulations
CWSRF	Clean Water State Revolving Fund
DOT	Department of Transportation
DPW	Department of Public Works
DWSP2	Drinking Water Source Protection Program
EDR	Environmental Database Report
EQIP	Environmental Quality Incentives Program
gpd	Gallons per day
gpm	Gallons per minute
GIGP	Green Innovation Grant Program
GIS	Geographical Information System
LID	Low Impact Development
MCL	Maximum Contaminant Level
MGD	Million gallons per day
NRCS	Natural Resources Conservation Service
NYCRR	New York Code of Rules and Regulations
NYS	New York State
NYSAGM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOS	New York State Department of State
NYSEFC	New York State Environmental Facilities Corporation
PBS	Petroleum Bulk Storage
PCS	Potential Contaminant Source
PFAS	Per- and Polyfluorinated Substances

ABBREVIATIONS (CONTINUED)

PWS-ID	Public Water System Identification Number
SEQRA	State Environmental Quality Review Act
SDWA	Safe Drinking Water Act
SPCC	Spill Prevention, Countermeasure, and Control
SPDES	State Pollutant Discharge Elimination System
SVS	Simplified Variable Shapes
SWAP	Source Water Assessment Program
SWCD	Soil and Water Conservation District
TCA	Trichloroacetic acid
TCE	Trichloroethene
TOT	Time-of-travel
TRI	Toxic Release Inventory
USDA NRCS	United States Department of Agriculture Natural Resources Conservation Service
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VFE	Volumetric flow equation
WQIP	Water Quality Improvement Project
WRR	Watershed Rules and Regulations
ZOC	Zone-of-contribution

INTRODUCTION

The objective of this Drinking Water Source Protection Program (DWSP2) Plan for the Town and Village of Ellicottville is to ensure that the community retains access to a safe and reliable supply of drinking water. The term source water refers to surface waters and groundwater aquifers that reach private and public drinking water supply intakes. Source water protection measures protect public health by preventing pollutants from entering the drinking water supply. Preventing pollution at the source ultimately decreases water treatment costs and increases public confidence in their drinking water supply. In many communities, source water protection efforts increase public awareness and strengthen intermunicipal partnerships during both planning and implementation phases.

Provisions of the 1996 Safe Drinking Water Act (SDWA) required each public water system to evaluate the source or sources of their drinking water. To meet this requirement, the New York State Department of Health (NYSDOH) developed a Source Water Assessment Program (SWAP) for public water supplies. Under the SWAP, staff from NYSDOH and regional planning agencies delineated contributing land areas (watersheds and/or aquifer recharge areas), inventoried potential contaminant sources, and analyzed the susceptibility of a public water supply to contamination. The SWAP reports did not include an implementation strategy to protect susceptible areas or a provision to update the plan based on emerging issues. SWAP reports were prepared for the Village of Ellicottville in 2003 and Town of Ellicottville in 2004. The Town and Village now operate a consolidated Water Division, which oversees the production, treatment, and distribution of the public water supply within the Town and Village.

In contrast to the SWAP initiative, the DWSP2 focuses on source water protection and embraces an adaptive management approach. The program is designed to engage community stakeholders to define priority issues and potential solutions. The core of the DWSP2 report is an implementation plan that identifies specific issues and threats to the drinking water supply, priority actions, resources, and a timeline required for implementation. A local Plan Management Team is tasked with evaluating and reporting progress. These changes to the initial SWAP approach were made to help ensure that protection of the drinking water supply remains a focus of community decisions and actions.

To guide municipalities and water providers in developing their DWSP2 plans, representatives of key state agencies including New York State Department of Environmental Conservation (NYSDEC), NYSDOH, New York State Department of State (NYSDOS), and New York State Department of Agriculture and Markets (NYSAGM) among others created a draft Framework to guide communities through a structured process to develop their DWSP2. Public water supply providers were invited to apply for state support in utilizing the draft Framework to develop a DWSP2 tailored to their specific source water supply, land use and development conditions and trends, and community goals. This targeted NYS funding supports a Technical Assistance Provider to work with participants. Ellicottville was among the communities selected to participate and the Barton & Loguidice team was assigned to the Town and Village as their Technical Assistance Provider. The NYS agencies are building on the experiences and knowledge gained from the initial round of participants and will continue to refine the Framework.

The Framework guides participating public water suppliers through four (4) phases and eight (8) key components (Table 0-1). The sequence of tasks is structured to ensure that participants can successfully protect the quality of their drinking water supply for years to come.

Table 0-1: Phases and Key Components

Phase 1. Stakeholder Group
1.1 Form a Stakeholder Group
1.2 Establish Goals and Formulate a Vision
Phase 2. Drinking Water Source Assessment
2.1 Develop an Overview of the Water System
2.2 Prepare a Drinking Water Source Protection Map
2.3 Create a Potential Contaminant Source Inventory
Phase 3. Protection and Implementation Strategies
3.1 Identify Protection and Management Methods
3.2 Develop an Implementation Timeline
Phase 4. Progression and Maintenance
4.1 Designate a Plan Management Team

The Town and Village of Ellicottville DWSP2 report was developed through a series of steps aligned with the phases listed in Table 0-1. The first step was to identify a stakeholder group with local knowledge of current conditions of the water supply and emerging issues and trends. The stakeholder group met on a regular basis with the technical assistance team as the team progressed through the Framework phases and components.

An initial task for the stakeholder group was to define their vision and goals for the Town and Village water supply. The goals identified during this first phase echo throughout Ellicottville's plan and form the basis of the adaptive management approach to assessment and re-evaluation. The second phase of the Framework was to assess the status of the water supply system and the nature of the source water contributing area. During this step, the stakeholder group and technical assistance providers documented the condition of their current water system, mapped contributing areas, and queried multiple databases to identify and locate potential sources of contamination. The Town and Village provided annual water quality reports, local laws assessment, and their 2003 and 2004 SWAP reports to assist the team with compiling information and data.

Once the existing conditions and source water areas were delineated, the third step was to identify effective strategies and methods for long-term protection. This process evaluated current measures and considered what additional measures could be effective given the nature of the environmental setting, land use and trends, and institutional partnerships. A key component of this third step was to develop a timeline for implementing the recommended actions: including lead agencies, priority, timelines, and estimated costs.

The fourth and final step of the Framework is progression and maintenance. A Plan Management Team is identified; this group will be responsible for ensuring the DWSP2 recommended actions for protection of the Town and Village of Ellicottville water supply are implemented, reporting progress to NYSDEC, NYSDOH, and the community at-large and updating the plan on a regular, five (5)-year basis.

BACKGROUND

This Drinking Water Source Protection Plan was prepared for the Village and Town of Ellicottville, New York. Since January 1, 2020, public water supply systems for the Village and Town have been consolidated and operated as one system, Town of Ellicottville Consolidated Water District No. 1. The system is assigned Public Water ID NY0412217. The supply is groundwater drawn from the Great Valley sand and gravel aquifer. A second water district (Great Valley Town Water District No. 2) purchases all its water from the Town of Ellicottville; this system is assigned Public Water ID NY0430002.

As reported in the Annual Drinking Water Quality report, the Town of Ellicottville Consolidated Water District No. 1 serves 1,420 people through 1,471 service taps and Great Valley Town Water District #2 serves approximately 320 people through 91 service connections. The Town of Ellicottville owns and operates three (3) wells:

- Holiday Valley Well is approximately 52 feet deep and can produce 400 gallons a minute.
- Village North Well is 70 feet deep and can produce 450 gallons per minute.
- Trailer Park Well is 70 feet deep and can produce 400 gallons per minute.

Water drawn from the three wells is disinfected by the addition of chlorine prior to being pumped into the distribution system. A unique feature of the Ellicottville water supply is its seasonal fluctuations in demand for water resulting from the winter tourism industry.

Comprehensive improvements to the water system are currently underway. The Town and Village received grant and low-interest loan funding to address issues of auxiliary power supply, expanding water service connections, rehabilitation of reservoirs, and other infrastructure improvement.

1.0 STAKEHOLDER GROUP

1.1. Form a Stakeholder Group

The first step in developing the Town and Village of Ellicottville’s DWSP2 Plan was forming a stakeholder group; the group consists of people with different backgrounds and knowledge including the Water Division Supervisor, Village of Ellicottville Mayor, Agricultural Advisory Member as well as other representatives from the Town and Village Offices, and the County Health Department. A summary table of all stakeholders and their affiliation is shown in Table 1-1 below. The stakeholder group established monthly meetings with the technical assistance provider to work through the Framework and maintain progress of the DWSP2 Plan, refer to Appendix A.2 for the meeting schedule and summaries. The stakeholder group assisted in creating a vision statement and goals for the Town and Village of Ellicottville. They also provided local knowledge and feedback during the drinking water source assessment phase and protection and implementation strategies phase. Finally, they assisted in making important decisions on individuals and groups that should be included in the Plan Management Team.

Table 1-1: Ellicottville Stakeholder Group

<u>Name</u>	<u>Relevant Affiliation(s)</u>
Ben Slotman	Town Engineer
Bonnie Koschir	Town Planning Board & Holiday Valley Board
Carl Calarco	Supervisor, Town of Mansfield
Dick Rivers	Cornell Cooperative Extension – Agricultural Advisory Member
Edward Imhoff	Counselor, Town of Ellicottville
Eric Wohlers	Cattaraugus County Health Department- Environmental Health Director
Greg Keyser	Ellicottville Planner
Jesse Klahn	Water Division Supervisor – Lead water operator for Town water system.
John Burrell	Mayor, Village of Ellicottville
John Pfeffer	Supervisor, Town of Ashford
Matthew J. McAndrew	Supervisor, Town of Ellicottville
Richard Dayton	Chairman, Town of Ellicottville Planning Board
Robert Breton	Supervisor, Town of Franklinville
Tim Zerfas	Cattaraugus County Health Department-Water Resources Specialist

1.2. Vision Statement and Goals

The Town and Village of Ellicottville stakeholder group created a vision statement that is tailored to their goals for their DWSP2 Plan. The goals of the Drinking Water Source Protection Plan are as follows:

1. Protect public health
2. Increase communication with relevant local industries
3. Evaluate current land use and plan for future land use
4. Provide quality tasting water
5. Avoid increased treatment costs or the need to look elsewhere for water sources

After consideration of the community's goals, the vision statement was created and followed during the project. The statement reads: *"The Town and Village of Ellicottville are committed to leading public and private sector partners in developing and implementing a comprehensive source water protection program for our primary wellhead areas to ensure that our municipal water supply drawn from the Great Valley Aquifer continues as a reliable and cost-effective source of excellent quality potable water meeting the highest public health standards."*

2.0 DRINKING WATER SOURCE ASSESSMENT

This section of the plan provides an overview of the Town and Village of Ellicottville’s Water System and the hydrologic setting. The assessment also includes the drinking water source protection areas, critical areas, and potential contaminants of concern within the watershed.

2.1. Water System Overview

The Town and Village of Ellicottville share a water district. The Town of Ellicottville Consolidated Water District #1 serves water through 1,974 service connections. The sources of the water for this system are three groundwater wells. See Table 2-1 below for a summary of the wells.

Table 2-1: Ellicottville Groundwater Wells Summary

Well	Location	Depth (feet)	Pumping Rate (gpm)
Holiday Valley Well	Holiday Valley	52	400
North Well	North of Village	70	450
Trailer Park Well	Trailer Park	70	400

Water obtained from the wells is chlorinated prior to distribution to users, there is no additional treatment to the water. The system includes four water storage tanks, two booster stations, and miles of distribution main throughout the Town and Village of Ellicottville. The Holiday Valley well pumps on average 300 gpm, the North Well pumps on average of 375 gpm and the Trailer Park Well pumps on average of 280 gpm. The Town relies upon the North Well the most, then the Holiday Valley Well, and the Trailer Park well is used weekly, but not regularly. A water quantity summary is provided in Table 2-2 below. The Town and Village of Ellicottville do not have a water withdrawal permit expiration date, but the Town and Village are required to submit a water withdrawal reporting form every year.

Table 2-2: Ellicottville Water Quantity Summary

Total Permitted Water Withdrawal Capacity*	1,250 GPM
Total Permitted Water Withdrawal Capacity*	1.8 MGD
Average Daily Water Demand	0.15 MGD
Maximum Daily Water Demand	0.37 MGD
Daily Water Losses	0.015 MGD
*Total for all wells. The individual Water Withdrawal Permits from the DEC do not have an expiration date.	

Based weekly production data provided by the Water Department, it was possible to quantify the average well production. Table 2-3 shows the average well production for each quarter for the year 2020. The data used was the well production (in gallons) for each of the three (3) wells on the first Monday of every week in the year 2020. In Table 2-3, it is clear to see Ellicottville’s seasonal production. The system produces more water in the winter months as it is a ski resort Town and attracts tourists during this time.

Table 2-3: Ellicottville Well Production

Well	1st Quarter (Jan-Mar)	2nd Quarter (Apr-Jun)	3rd Quarter (Jul-Sept)	4th Quarter (Oct-Dec)
Holiday Valley Well	807,369	363,962	524,415	537,531
North Well	855,650	662,666	868,702	796,841
Trailer Park Well	162,873	140,775	131,919	123,597

There are no known maximum contaminant level (MCL) violations in the last five years for the system, and no water quality violations were reported in the 2021 Annual Water Quality Report. Trichloroethene (TCE) and trichloroacetic acid (TCA) have been previously detected in the Holiday Valley Well.

2.2. Drinking Water Source Protection Mapping

2.2.1. Hydrogeological Setting

The Town and Village wells are located near the surface of the northern end of the Great Valley Aquifer. The Great Valley Aquifer is a large, highly productive (>100 gpm), unconsolidated, unconfined Principal Aquifer in a buried glacial valley. The wells are in a line oriented north to south-southeast. Groundwater flow direction, creek flow direction, and surface gradient are also oriented from north to south-southeast.

The Great Valley Aquifer is composed of sand and gravel of high transmissivity and with saturated thickness greater than 10 feet. The municipal wells are installed in glacially deposited outwash sand and gravel. The depths of the three wells range from 52 to 70 feet. The permeability of the Great Valley Aquifer allows surface water recharge in response to water level changes induced by pumping of the supply wells. The largely unconfined nature of the system makes it susceptible to contamination from surface activities.

The primary sources of recharge include direct infiltration of precipitation to the unconfined aquifer and inflow from numerous stream systems. Bedrock, or bedrock with a mantle of glacial till, is present on the valley walls and floor (underlying valley bottom sediments). Bedrock in this area is mapped as shale or siltstone of the Conneaut Group. Bedrock and till areas are assumed to contribute a relatively minor volume of recharge to the aquifer.

2.2.2. Drinking Water Source Protection Areas

Drinking water source protection areas are established to protect against different classes or types of contaminants. For wells serving public water systems, there are various protection areas that can be identified. These include: (1) the ownership and control area (required); (2) the critical area; and (3) the source water area.

The ownership and control area is established in the New York State Sanitary Code as well as DEC permits. The area a purveyor of public water supply must own around the well is a minimum 100 feet radius, and control land activities within 200 feet of the well. The critical area is the immediate space surrounding the supply well(s), where it takes relatively less time to reach the drinking water source. Ideally, this is based upon a certain time-of-travel to the well. Finally, the source water area is beyond the critical area and includes an area that still contributes water to the well(s) either at a longer time-of-travel or indirectly such as through surface water runoff for eventual groundwater recharge.

For further information relating to the data, analysis, and methodology used to delineate and map the critical and source water areas, refer to Appendix B.

2.2.3. Drinking Water Source Protection Map

ArcGIS Online was used to generate the drinking water source protection maps. Figure 1, the System Overview and Project Location Map, displays the location of the Town and Village of Ellicottville within NYS and an overview of the drinking water system, including locations of the three wells. Figure 2 displays the locations and delineates the extent of the three (3) protection areas described above: ownership and control area, critical area, and the source water area.

Figures 3-7 provide an overview of conditions within the critical and source water areas. They are:

- Figure 3 – Topography and Drainage
- Figure 4 – Aquifer Overview
- Figure 5 – Land Cover Map
- Figure 6 – Zoning Map
- Figure 7 – Potential Contaminant Sources

2.3. **Potential Contaminant Source Inventory**

The potential contaminant source inventory was assembled for the Town and Village of Ellicottville and includes a list of potential contaminant sources (PCS) that may impact the quality of drinking water sources, if improperly managed. The inventory of potential contaminant sources was based on radius reports compiled by EDR, Environmental Data Resources, LLC. EDR created a comprehensive collection of environmental records by searching hundreds of databases. The EDR report meets the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) as well as ASTM standards for Environmental Site Assessments. This information is provided in report format along with a downloadable excel file and an interactive map. Appendix A.6 shows the potential contaminant source (PCS) Inventory, and Figure 7 shows the locations of all potential contaminant sources mapped within the critical and source water areas.

The data provided lists the facility, address, and information source in addition to key attributes associated with proximity to the drinking water source and critical areas. The data are grouped by overall potential source category and then categorized into the potential sources as defined in the Framework. Some sources are categorized as “other”, which means that they did not fall into the dedicated common categories of potential sources. Some were not able to be categorized due to lack of context provided by the EDR reports. Most of the “other” category came from the Facility Index System (FINDS), which is a centralized inventory of facilities monitored or regulated by the EPA. All potential contaminant sources were assigned a contaminant category of concern (physical, chemical, or biological) to further assist with priority identification, and they were also listed by status, active or closed. All information listed in the PCS inventory is helpful to identify threats to the drinking water sources. See Table 2-4 for the list of potential contaminant source categories and sources. Although EDR searched for all potential contaminant sources listed in Table 2-4, not all were found within the critical and source water areas; however, many could be future potential contaminant sources.

Table 2-4: Potential Contaminant Source Categories and Sources

Bulk Storage*	Transportation
Chemical Bulk Storage	Airports
Major Oil Storage Facilities	Transportation Corridors
Petroleum Bulk Storage Facilities*	Road and Maintenance Facilities
Waste Management and Disposal*	Salt and Deicers Storage
Active Landfills	Agriculture
Inactive Landfills (Title 12)	Agricultural Activities
Hazardous Waste Management Facilities*	Residential Sources
Land Application Sites	On-site Septic Systems
Vehicle Dismantling Facilities	Lawn and Garden chemicals
Contamination Sites or Incidents*	Waterfront Property Management
Remediation Sites*	Conveyances and Pipelines
Spill Incidents*	Oil and Gas Pipelines
Mineral Extraction Sites	Other*
Oil and Gas Wells	Golf Courses
Orphan Oil and Gas Wells	Marinas and Boat Launches
Mines	Stormwater
Historical Abandoned Mines	Toxic Release Inventory (TRI) Facilities
Discharge to Water*	Fire Training and Dedicated Fire Training Facilities
State Pollutant Discharge Elimination System Permitted (SPDES) Facilities*	Nutrient Loading (Lakes Only)
Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs)	Saltwater Intrusion

	Road Salt Application
	Other*

*Discovered in the EDR report

3.0 PROTECTION AND IMPLEMENTATION STRATEGIES

Since the Town and Village of Ellicottville are fully dependent on groundwater for their drinking water source, it is crucial to implement effective strategies for current and future source water protection. Implementation of these strategies will allow the vision and goals of the Ellicottville stakeholder group to be met, which include protecting public health, planning for future land use, providing quality tasting water, and avoiding increased treatment costs.

3.0.1 Priority Issues

Discussions were held with the Ellicottville stakeholder group to understand the municipality's priority issues. These issues were ranked in order of importance by the stakeholder group. With each priority issue, a targeted potential contaminant source was identified, along with goals to reduce or mitigate the issue. Refer to Appendix C for the complete list of project profiles with implementation steps and protection and management methods for each priority issue.

The first priority issue for Ellicottville is that they do not have verified ownership of the area around the Village South Well. At the time of this report, the Town is working to document that the lands had been conveyed and that they hold clear title to support their authority to control the wellhead area. Due to the risk of contamination to the wellhead and the threat to the community's capacity to provide potable water, this issue is their highest priority.

The second priority for the Town and Village of Ellicottville is 'Potential Contaminants Entering the Aquifer within the Critical Area.' Two major potential sources of contamination are agricultural activities (infiltration and runoff from agricultural lands may be a source of chemicals to groundwater) and Holiday Valley (infiltration and runoff from the recreational area may contribute PFAS and other contaminants from fertilizers and chemicals applied to maintain the golf course). Excessive contaminants can impair the aquifer and increase treatment costs at the water treatment plant for their removal. The goal is to reduce the risk of contamination from these sources.

The third priority for the Town and Village of Ellicottville is 'Transportation Related-Contamination in the Critical Area.' Two of Ellicottville's transportation corridors, Highway Route 219 and the railroad, traverse the critical aquifer recharge area and pose a potential threat to the drinking water supply wells. These potential threats include spills from vehicles as well as ongoing winter road maintenance activities. The goals are to mitigate the threat of contamination from transportation corridors and reduce the application of deicing salts.

The stakeholder group identified their fourth priority as 'Herbicides and Pesticides in the Critical Area.' This priority is related to priority 2 but extends consideration of the risk of

herbicide and pesticide contamination to include residential properties, agricultural properties, and the golf course. These contaminants can impact soil, water, public health, and other non-target organisms. Ellicottville will strive to reduce the application of herbicides and pesticides within the source water area.

Ellicottville's fifth priority addresses concerns related to future land use changes. 'Enacting Protection Methods to Protect the Watershed from Future Development in the Source Water Area' reflects the stakeholders understanding that their current suite of land use regulation tools may not adequately prevent future sources of chemical, physical, and/or biological contamination within the land area that recharges their public water supply wells.

The Town and Village of Ellicottville's sixth priority issue is 'Management of Regulated Potential Contaminant Sources.' The targeted potential contaminant sources include aboveground/ underground storage tanks, chemical bulk storage tanks, waste management and disposal, SPDES discharges, oil and gas pipelines, and septic systems. Leaks and spills may allow contaminants to enter the groundwater or waterbody directly, necessitating increased treatment costs, and could cause restrictions on the use of the wells.

3.1. Protection and Management Methods

The protection and management methods recommended to address Ellicottville's priority issues and potential contaminant sources can help protect the source water. There are several regulatory and non-regulatory methods that the municipality can explore.

3.1.1. Land Use Tools and Methods

Under the broad scope of land use tools and methods, many methods of drinking water source protection are available. Land use tools and methods include zoning ordinances, special use permits, site plan reviews, subdivision controls, critical environmental area, watershed rules and regulations, intermunicipal agreements, land purchase or voluntary conservation easements, encouraging or incentivizing the use of BMPs, and others.

3.1.2. Monitoring and Reporting

Reviewing existing data and expanding monitoring are another two potential strategies. Reviewing existing data would provide additional insight regarding the contaminants and sources affecting the drinking water wells. This would allow directed efforts to be focused on pollution control. Additional monitoring would potentially uncover previously unknown contaminants, which can help the Town and Village plan and adjust protection methods.

3.1.3. Public Education and Outreach

The following questions should be considered when identifying potential outreach approaches:

1. Who are your target audience(s) and what do you want them to do in response to your project (e.g., what behaviors you seek to change, or actions you want them to take as a result of the information provided)?
2. What are your key messages and where do you want to direct people to get more information on the topic?
3. Are messages short, long, require graphics, etc.?
4. How do you plan to get the information out (in person, email, digitally, direct mail)?
5. Who are partners who can help you get the information out?
6. What is your budget?

Some strategies for education and outreach include digital/social media, paid advertising, press release, newsletters, factsheets and flyers, email blasts, signage, tabling/presenting, community events, and training.

Each priority issue includes an identified potential contaminant source, goal(s), and various protection and management methods to reduce the risk or mitigate the threat. Refer to Appendix C for a list of project profiles for implementation of the protection and management methods. Refer to Appendix D for a cost estimate for each project profile.

The long-term protection of the Town and Village water supply will require leadership and oversight to manage implementation of the recommended actions. Designating a Watershed Coordinator to lead this effort is highly recommended. This position could be newly created, or tasks can be assigned to existing staff. Opportunities to partner with regional or state resources for technical support and funding should be explored.

3.2. Implementation Timeline

For each protection and management method identified, the stakeholder group has established a step-by-step process for implementation. Refer to Appendix C for the project profiles, which identify project leaders and partnerships needed, potential funding sources, costs, project timing, and step-by-step implementation processes. Refer to Appendix A.7 for a table summary of the implementation timeline for each protection and management method.

4.0 PLAN PROGRESSION AND MAINTENANCE

This DWSP2 plan was developed to provide the Town and Village of Ellicottville with the tools and information, including the potential contaminant source list and implementation timeline, needed to protect their drinking water. A Plan Management Team has been created and tasked with overseeing implementation of the plan. The Plan Management Team is also responsible for generating and sharing progress reports with the community. Table 4-1 provides a list of Town and Village of Ellicottville’s Plan Management Team members. Members were selected based on their knowledge of the water system, position, and potential to lead or contribute to implementation of the recommended actions. The Plan Management Team is encouraged to include two members from each organization to enable transfer of institutional knowledge and succession planning.

The Team will meet on a regular basis to review progress toward implementation and review any issues or emerging concerns. Members are expected to coordinate with their respective organizations to share the ideas and methods contained within the plan. The Plan Management Team was provided with an editable Microsoft Excel file to track progress on all implementation steps. Annual progress reports should be produced after adoption of the DWSP2. These progress reports shall be shared with NYSDEC and NYSDOH and with the community at large via the Town and Villages respective websites, at workshops, or at board meetings. The Plan Management Team is expected to update their DWSP2 to reflect progress and emerging issues every five years.

Table 4-1: Plan Management Team

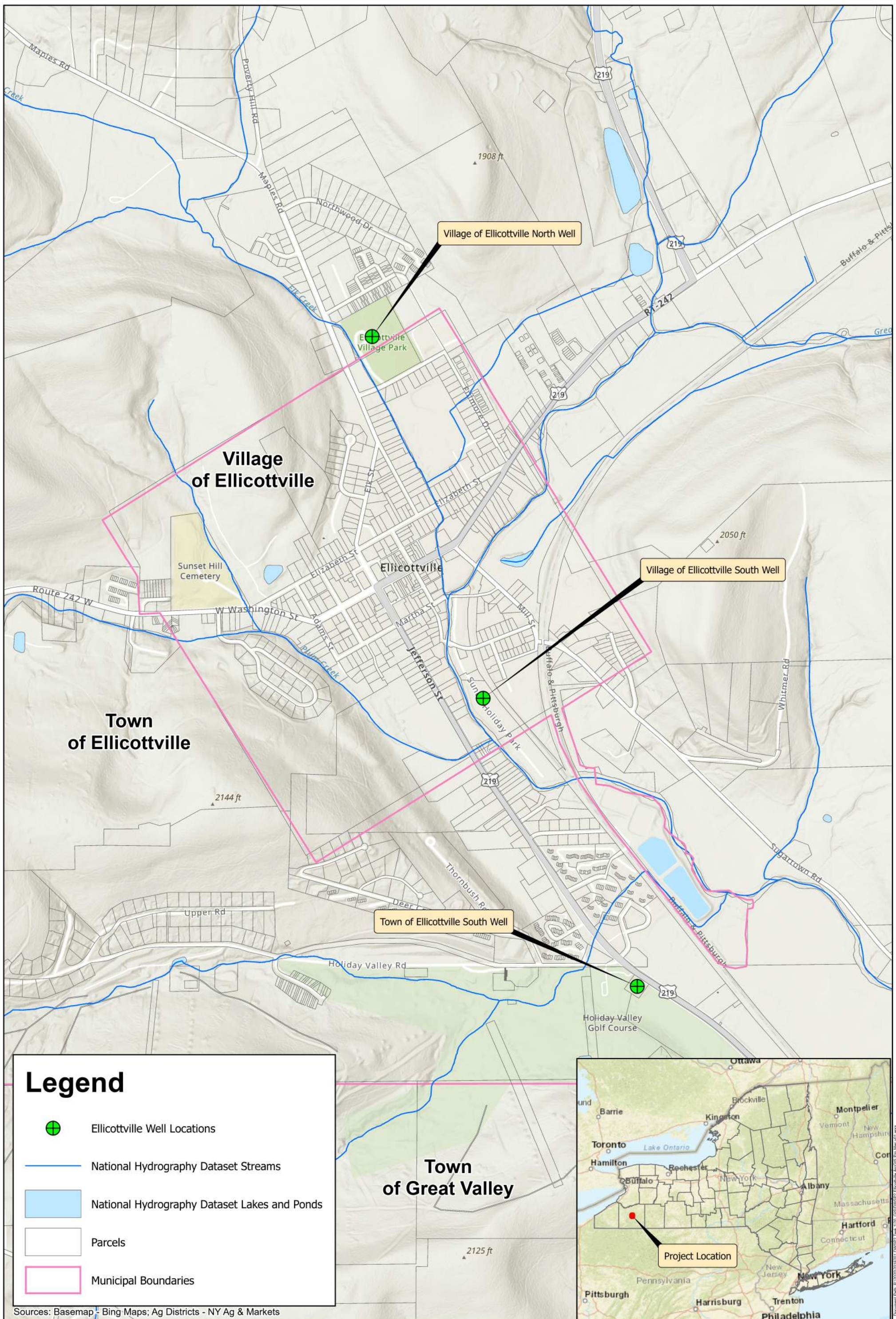
Name	Email	Relevant Affiliation(s)
Greg Keyser	Greg.keyser@evlengineering.com	Town Planning Board, Planner
Dick Rivers	Rer263@cornell.edu	Cornell Cooperative Extension, Agricultural Advisory Member
Jesse Klahn	Jesse.klahn@evlengineering.com	Water Division Supervisor
Matt Schaefer	mschaefer@cattcoswcd.org	Cattaraugus County Soil & Water Conservation District, District Technician
Carl Calarco	Crcalarco@verizon.net	Town of Mansfield Supervisor
Matthew McAndrew		Town of Ellicottville Supervisor
Ben Slotman	Ben.slotman@evlengineering.com	Town Engineer
Tim Zerfas	Tdzerfas@cattco.org	Cattaraugus County Health Department, Water Resource Specialist
John Burrell	Mayorevl@gmail.com	Mayor, Village of Ellicottville
Bonnie Koschir	Bkoschir@gmail.com	Holiday Valley Board Representative
Robert Breton	Franklinvillesupervisor@gmail.com	Franklinville Supervisor
Robert Ring		Cattaraugus County Health Department- Environmental Health Director

5.0 CONCLUSION

This DWSP2 plan serves to guide the Town and Village of Ellicottville toward implementation of various methods designed to protect their drinking water sources, Town “Holiday Valley” Well, Village North Well, and Village “Trailer Park” Well. The drinking water maps outline the source water area and critical environmental area that are a priority for protection, and the potential contaminant source inventory within these priority areas identifies potential point and nonpoint sources of contamination within the watershed. The project profiles included in Appendix C of this plan outline specific goals, partnerships, funding opportunities, and implementation steps to complete a variety of projects that align with the Town and Village of Ellicottville’s goals and vision. The Town and Village of Ellicottville Plan Management Team will use this plan to progress forward with their drinking water source protection.

Figures

Figure 1
System Overview Project Location Map

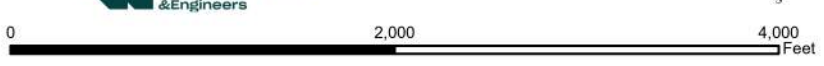


Legend

- Ellicottville Well Locations
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Parcels
- Municipal Boundaries



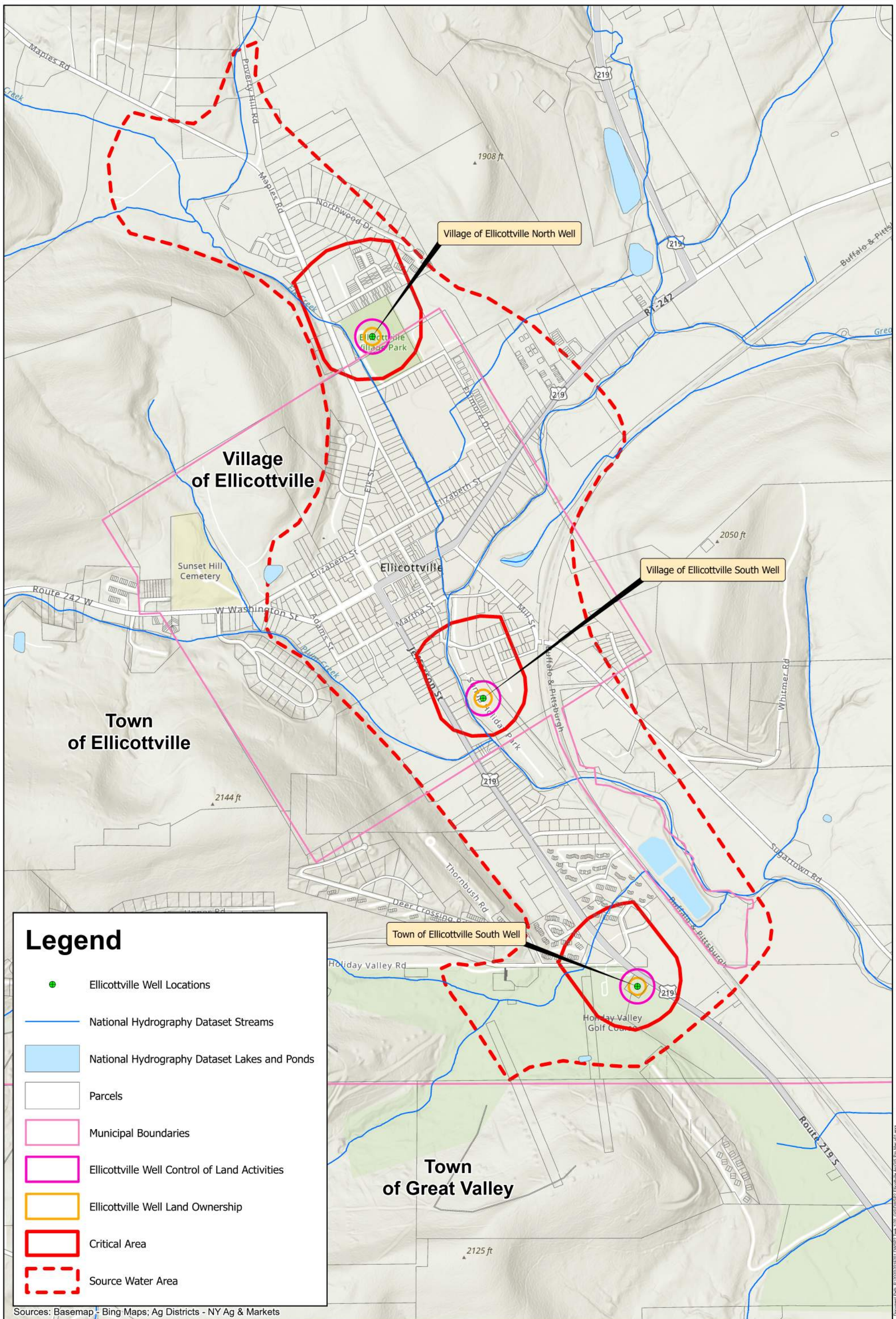
Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
System Overview/Project Location Map
 Cattaraugus County June 2022 New York

Figure
 1
 Project
 No.
 2367.003

Figure 2
Critical Source Water Ownership Control Areas



Legend

- Ellicottville Well Locations
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Parcels
- Municipal Boundaries
- Ellicottville Well Control of Land Activities
- Ellicottville Well Land Ownership
- Critical Area
- Source Water Area

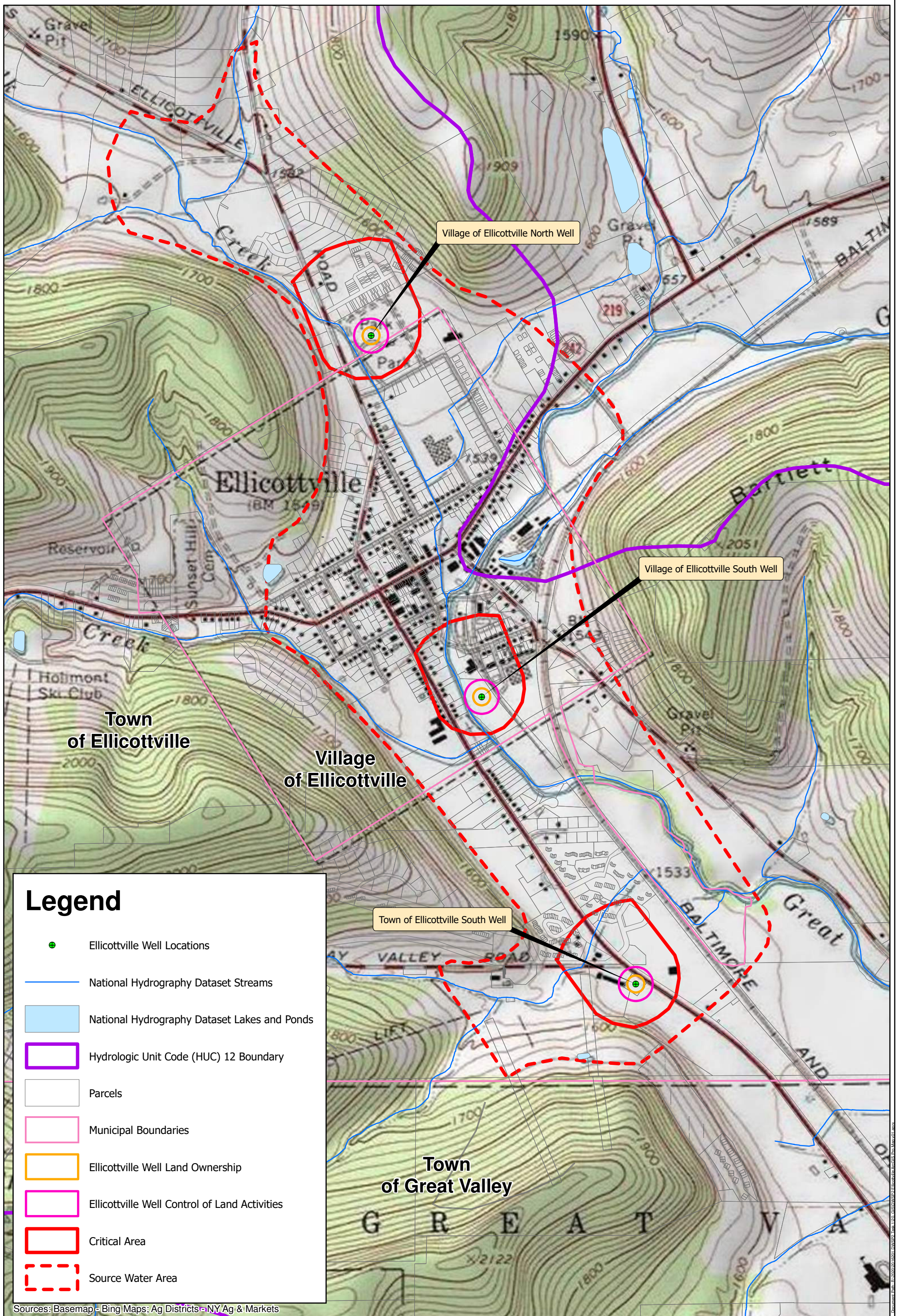
Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
**Critical, Source Water,
 and Ownership and Control Areas**
 Cattaraugus County June 2022 New York

Figure
 2
 Project
 No.
 2367.003

Figure 3
Topography and Drainage



Village of Ellicottville North Well

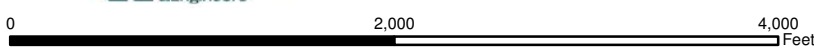
Village of Ellicottville South Well

Town of Ellicottville South Well

Legend

- Ellicottville Well Locations
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Hydrologic Unit Code (HUC) 12 Boundary
- Parcels
- Municipal Boundaries
- Ellicottville Well Land Ownership
- Ellicottville Well Control of Land Activities
- Critical Area
- - - Source Water Area

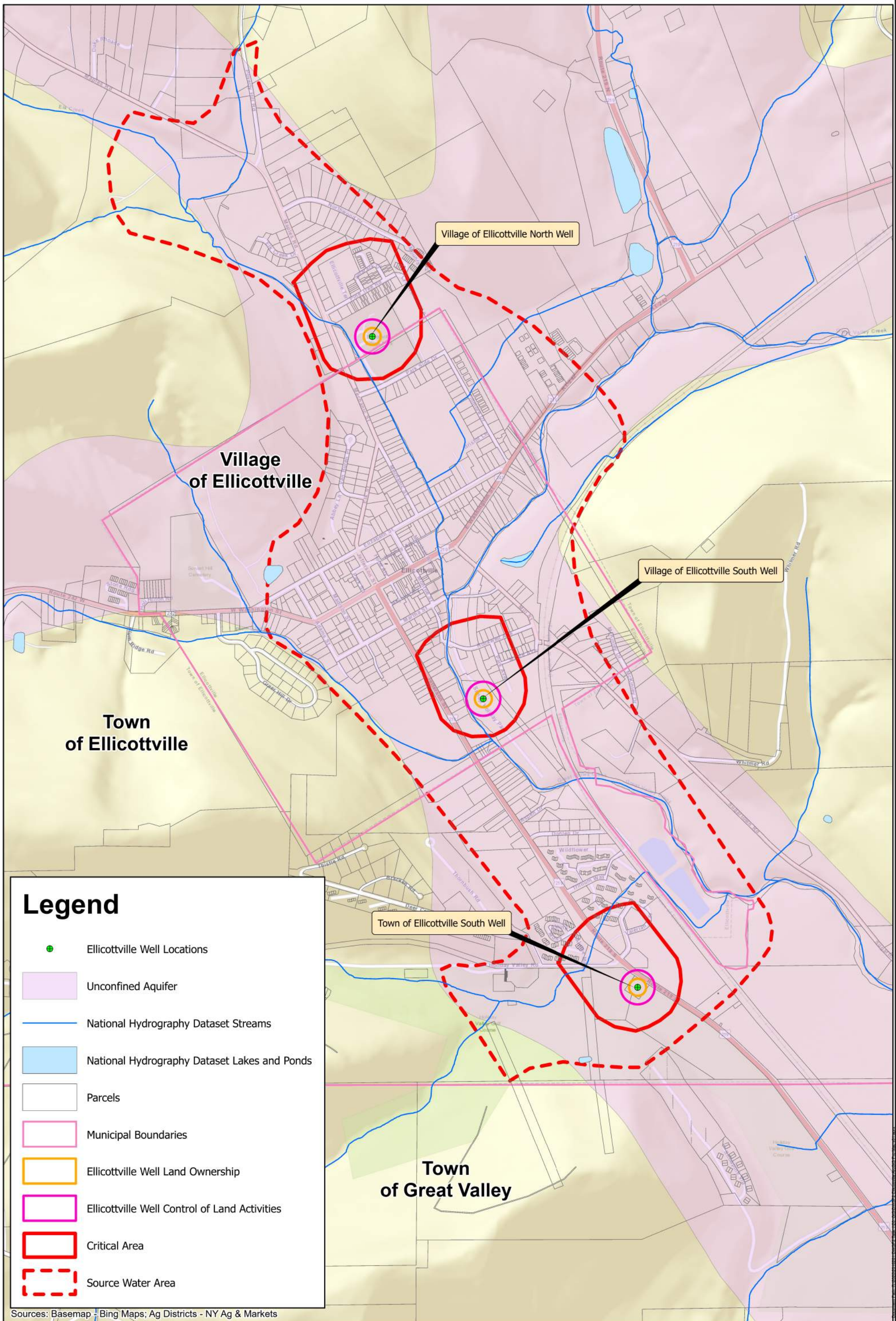
Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
Topography and Drainage
 Cattaraugus County August 2022 New York

Figure
 3
 Project
 No.
 2367.003

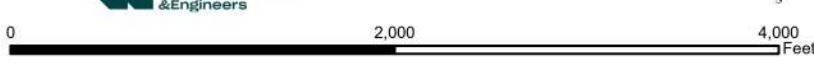
Figure 4
Aquifer Overview



Legend

- Ellicottville Well Locations
- Unconfined Aquifer
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Parcels
- Municipal Boundaries
- Ellicottville Well Land Ownership
- Ellicottville Well Control of Land Activities
- Critical Area
- Source Water Area

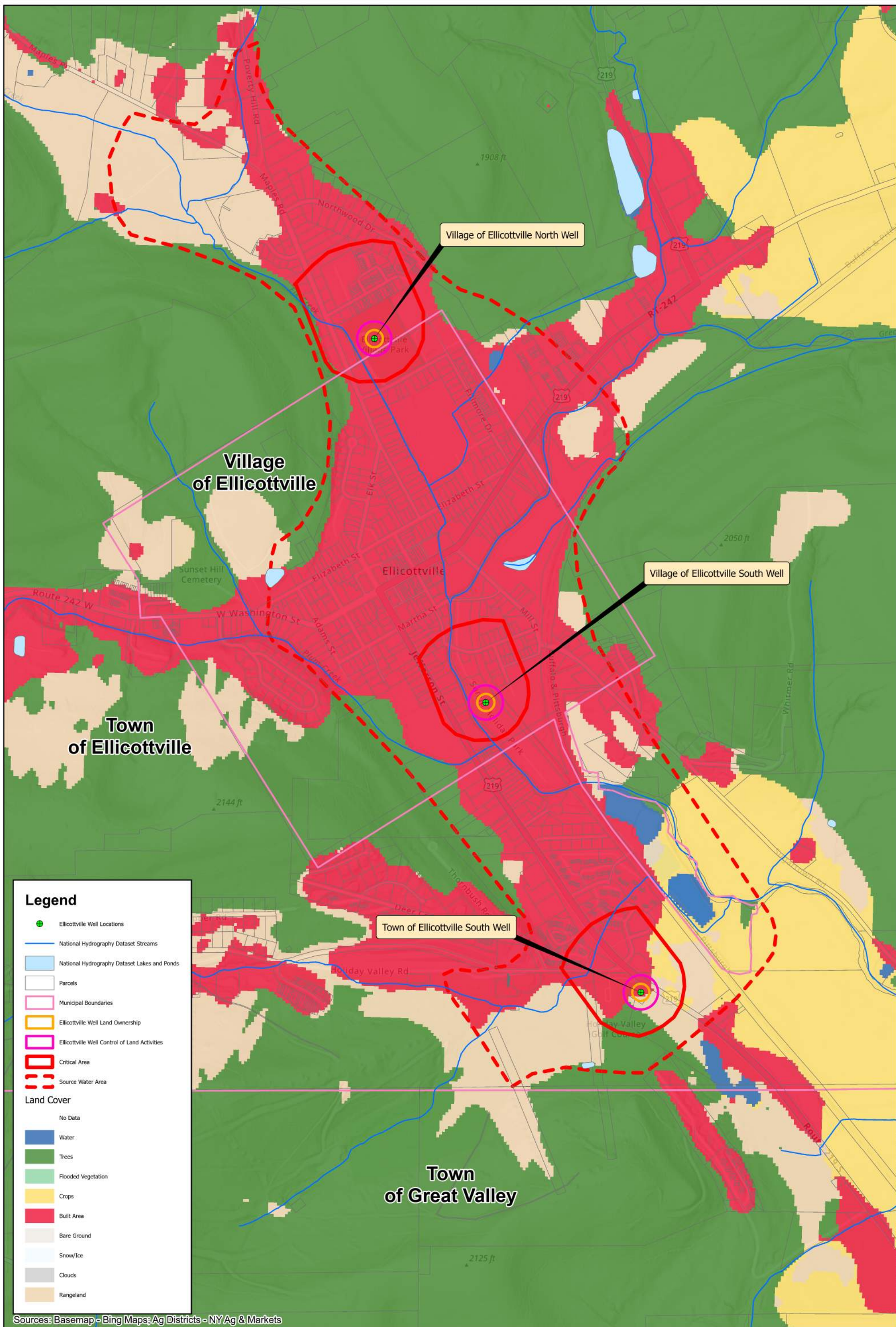
Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
Aquifer Overview
 Cattaraugus County August 2022 New York

Figure 4
 Project No. 2367.003

Figure 5
Land Cover Map



Legend

- Ellicottville Well Locations
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Parcels
- Municipal Boundaries
- Ellicottville Well Land Ownership
- Ellicottville Well Control of Land Activities
- Critical Area
- Source Water Area

Land Cover

- No Data
- Water
- Trees
- Flooded Vegetation
- Crops
- Built Area
- Bare Ground
- Snow/Ice
- Clouds
- Rangeland

Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Watts Architects & Engineers

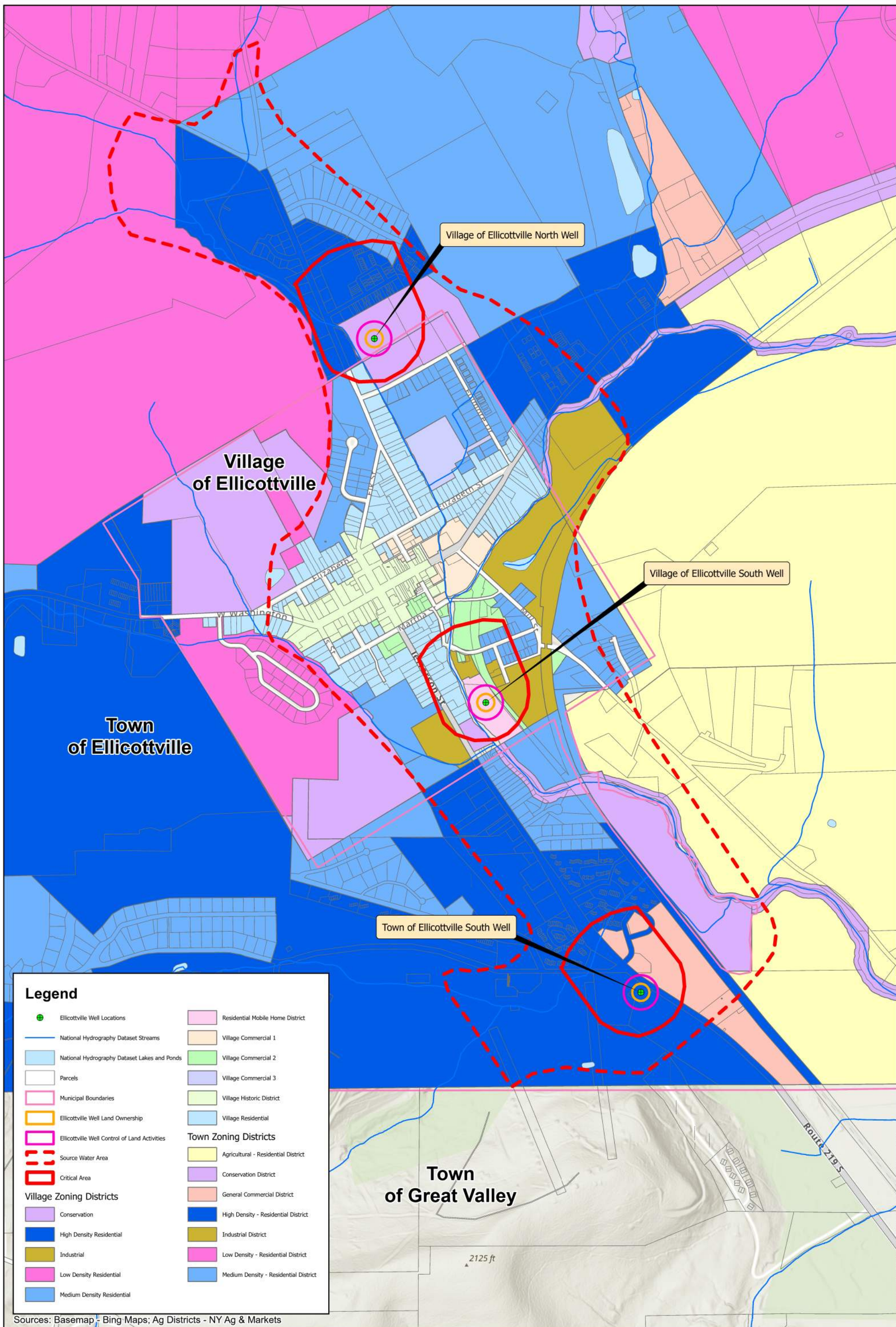


Town and Village of Ellicottville
Drinking Water Source Protection Program Plan
Land Cover Map

Cattaraugus County August 2022 New York

Figure
5
Project
No.
2367.003

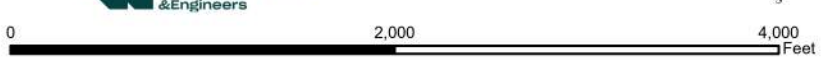
Figure 6
Zoning Map



Legend

Ellicottville Well Locations	Residential Mobile Home District
National Hydrography Dataset Streams	Village Commercial 1
National Hydrography Dataset Lakes and Ponds	Village Commercial 2
Parcels	Village Commercial 3
Municipal Boundaries	Village Historic District
Ellicottville Well Land Ownership	Village Residential
Ellicottville Well Control of Land Activities	Town Zoning Districts
Source Water Area	Agricultural - Residential District
Critical Area	Conservation District
Village Zoning Districts	General Commercial District
Conservation	High Density - Residential District
High Density Residential	Industrial District
Industrial	Low Density - Residential District
Low Density Residential	Medium Density - Residential District
Medium Density Residential	

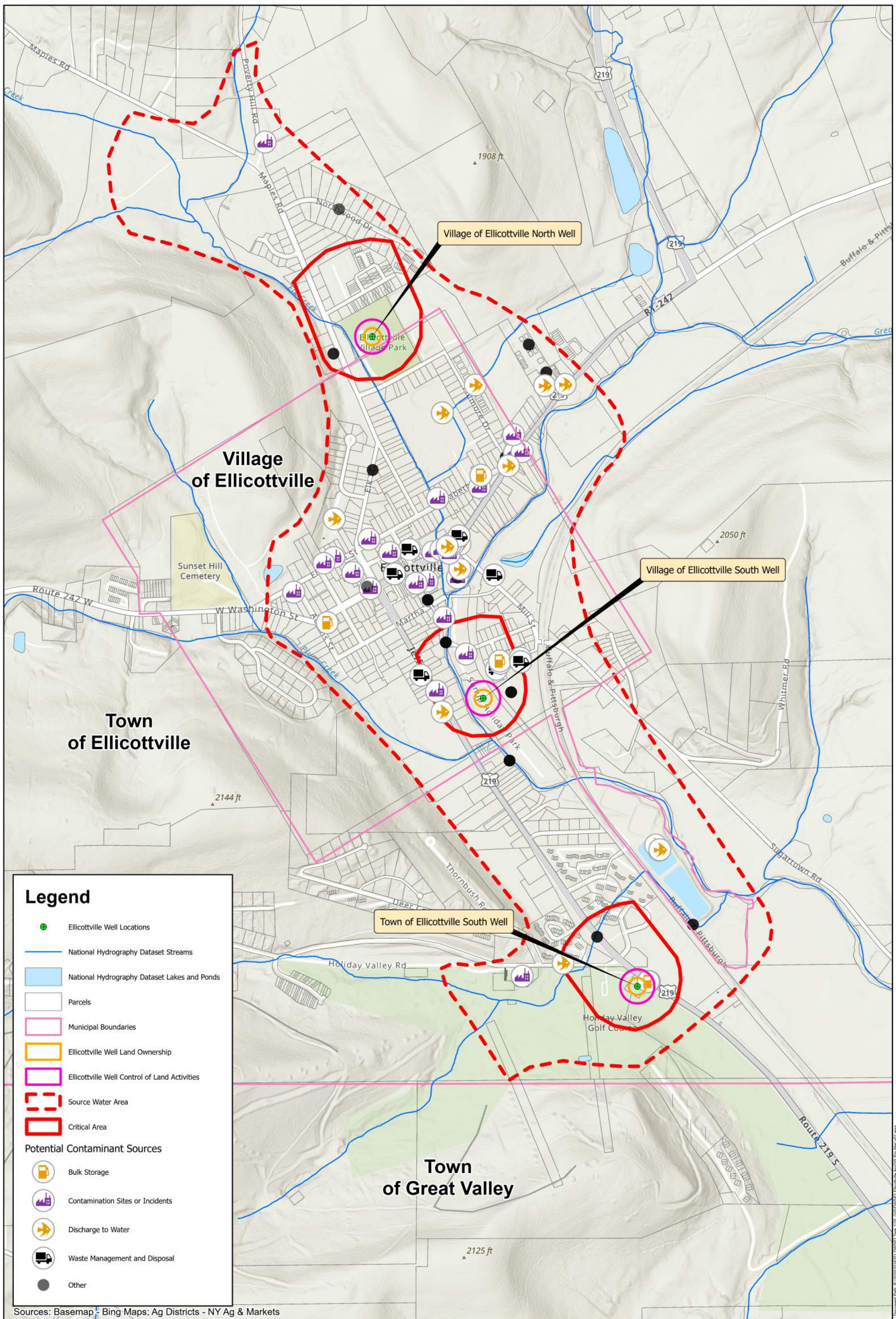
Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
Zoning Map
 Cattaraugus County August 2022 New York

Figure
 6
 Project
 No.
 2367.003

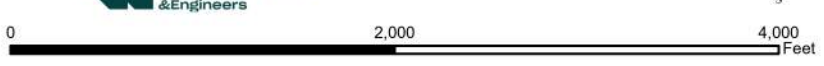
Figure 7
Potential Contaminant Sources



Legend

- Ellicottville Well Locations
- National Hydrography Dataset Streams
- National Hydrography Dataset Lakes and Ponds
- Parcels
- Municipal Boundaries
- Ellicottville Well Land Ownership
- Ellicottville Well Control of Land Activities
- Source Water Area
- Critical Area
- Potential Contaminant Sources**
- Bulk Storage
- Contamination Sites or Incidents
- Discharge to Water
- Waste Management and Disposal
- Other

Sources: Basemap - Bing Maps; Ag Districts - NY Ag & Markets



Town and Village of Ellicottville
 Drinking Water Source Protection Program Plan
Potential Contaminant Sources
 Cattaraugus County August 2022 New York

Figure
 7
 Project
 No.
 2367.003

Appendices

Appendix A
DWSP2 Data Summary

Appendix A.1
DWSP2 Plan Check List

Drinking Water Source Protection Program (DWSP2) Plan Data Summary

Description:
 This DWSP2 Plan Data Summary is a tool to summarize data gathered throughout the protection planning process using the DWSP2 Framework. The sections in this Data Summary align with the components of the DWSP2 Framework.

Communities may seek to include information beyond what is outlined in this document and should make additions based on local needs. The tables and information in this document will be valuable to include within a community's DWSP2 Plan.

For guidance on writing a DWSP2 Plan, refer to the DWSP2 Plan Template. The DWSP2 Plan Template specifies where the tables from the data summary can be included in a DWSP2 Plan.

DWSP2 Plan Checklist	
This checklist can be used throughout the protection planning process to keep track of components that are in-process or complete. Select "in-process" or "complete" under the status dropdown menu for each component.	
Component	Status
Phase 1. Stakeholder Group	Complete
1.1 Form a Stakeholder Group	Complete
1.2 Establish Goals and Formulate a Vision	Complete
Phase 2. Drinking Water Source Assessment	Complete
2.1 Develop an Overview of the Water System	Complete
2.2 Prepare a Drinking Water Source Protection Map	Complete
2.3 Create a Potential Contaminant Source Inventory	Complete
Phase 3. Protection and Implementation Strategies	Complete
3.1 Identify Protection and Management Methods	Complete
3.2 Develop an Implementation Timeline	Complete
Phase 4. Progression and Maintenance	Complete
4.1 Designate a Plan Management Team	Complete

Appendix A.2
Stakeholder Group

1.1 Form a Stakeholder Group		
Name	Contact Information	
	Email	Relevant Affiliation(s)
Ben Slotman	ben.slotman@evlengineering.com	Town Engineer
Bonnie Koschir	bkoschir@gmail.com	Town Planning Board & Holiday Valley Board
Carl Calarco	crcalarco@verizon.net	Mansfield Representative
Dan Brown	danbrown5346@gmail.com	*Has not confirmed to be a Stakeholder Great Valley Supervisor
Dick Rivers	Rer263@cornell.edu	Cornell Coop Ext – Agricultural Advisory Member
Edward Imhoff	eimhoff3@gmail.com	Councilman
Eric Wohlers	ewwohlers@cattco.org	Local Health Department: EH Director
Greg Keyser	greg.keyser@evlengineering.com	Ellicottville Planner
Jesse Klahn	Jesse.klahn@evlengineering.com	Water Division Supervisor - Lead water operator for Town water system.
John Burrell	mayorevl@gmail.com	Village Mayor
John Pfeffer	ashfordnysupervisor@gmail.com	Ashford Supervisor (West Valley)
Matthew J. McAndrew	mjmellcottville@wny.twcbc.com	Town Supervisor
Megan Boberg	moberg@cattcoswcd.org	Catt Co Soil and Water Conservation District
Richard Dayton	rd8hippo@gmail.com	Chairman of the Town Planning Board
Robert Breton	franklinvillesupervisor@gmail.com	Franklinville Supervisor
Steve Crowley	crowley716@aol.com	*Stakeholder to loop in as needed Board Member/Holiday Valley
Tim Zerfas	tdzerfas@cattco.org	Local Health Department: Water Resource Specialist

Stakeholder Group Meetings			
Date	Time	Stakeholder Group Meeting #	Topic(s) Covered
9/22/2021	4:00PM	SG1	Stakeholder Group Kickoff Meeting: Detailed presentation outlining the DWSP2 Framework. Addressed any additional stakeholders that could be a voice. Vimeo Video Link: https://vimeo.com/612840977/8a86835d75
10/26/2021	4:00PM	SG2	Vision and Goals Session: Formulated a vision statement. Introduced Framework Component 2: Drinking Water Source Assessment. *Not recorded*
11/23/2021	4:00PM	SG3	Water System Overview: Finalized the Vision statement. Went through the "Overview of Water System" tab in the Data Summary Excel Spreadsheet. Began to talk about Potential Contaminant Sources. Vimeo Video Link: https://vimeo.com/651194145/1ee84e2bdf
12/28/2021	4:00PM	SG4	PCS Listing Discussion: Presented preliminary mapping to the stakeholder group and reviewed the PCS Inventory. Vimeo Video Link: https://vimeo.com/663079125/d1e63b31da
1/25/2022	4:00PM	SG5	Final PCS Listing, Mapping and Initial Protection & Management Methods Discussion: Presented initial mapping, quick overview of PCS Inventory and began the discussion on protection and management methods. Vimeo Video Link: https://vimeo.com/663074359/a283c1eca7
2/22/2022	4:00PM	SG6	Protection & Management Methods Appropriate for the Watershed: Reviewed mapping, and PCS inventory, presented protection & man methods that are written out in the framework. Vimeo video link: https://vimeo.com/680899708/f4f869d5fb
4/26/2022	4:00PM	SG7	Discussion on Issues to be Addressed by the Plan and Present Implementation Timeline Vimeo video link: https://vimeo.com/703727725/4ab96a1fdc
5/24/2022	4:00PM	SG8	This meeting was a discussion of protection and management methods, potential partnerships, and implementation strategies. Vimeo video link: https://vimeo.com/714115297/2cb59da20b
6/28/2022	4:00PM	SG9	This meeting will be a chance for stakeholders to provide comments and discuss the DWSP2 plan. This meeting was held on Zoom and the meeting recording can be found at: https://vimeo.com/725417618/824e6cea7d
7/26/2022	4:00PM	SG10	Review public meeting presentation and confirm public meeting logistics: https://vimeo.com/742424732/0cf6756794
9/27/2022	4:00PM	Public Workshop	Public Meeting Vimeo video link: https://vimeo.com/754500950/2848f7317e

Appendix A.3
Goals and Vision Statement

1.2 Establish Goals and Formulate a Vision

Vision Statement		
<p>"The Town and Village of Ellicottville commits to leading public and private sector partners in developing and implementing a comprehensive source water protection program for our primary wellhead areas to ensure that our municipal water supply drawn from the Great Valley Aquifer continues as a reliable and cost-effective source of excellent quality potable water meeting the highest public health standards."</p>	Goal #1	Protect public health
	Goal #2	Increase communication with relevant local industries
	Goal #3	Evaluate current land use and plan for future land use
	Goal #4	Provide quality tasting water
	Goal #5	Avoid increased treatment costs or the need to look elsewhere for water sources

Appendix A.4
Overview of Water System

Public Water Supply (PWS) Information	
PWS Name:	Ellicottville Town, Ellicottville Village
PWS ID:	NY0412214, NY0400338
Type of Sources identified in plan:	Groundwater
Name(s) of sources being protected (if different than PWS Name):	Town "Holiday Valley" Well

2.1 Develop an Overview of the Water System			
Water system name:	Ellicottville Town Water District (Previously two, now one (1) district)		
NYS PWS ID:	NY0412217, NY0400338		
Type of water system (e.g. community, non-community, transient, non-transient):	Community		
Name of the community, or communities, served by the system:	Town of Ellicottville, Village of Ellicottville, Town of Great Valley (Purchase water, seasonal), Town of Mansfield		
Population served by the system:	Varies Depending on the Season		
# of service connections:	1,974 (Billing Data)		
Summary of wells, intakes, infiltration galleries, and/or springs including name, depth, screen length and pumping rates where applicable:	The system has 4 storage tanks and 2 booster stations.		
	SOURCE NAME	Holiday Valley Well	Trailer Park Well
	ID #	2550175	2550319
	DEPTH	52	70
	SCREEN LENGTH (FT)	10	10
	PUMPING RATE (GPM)	400	400
	DIAMETER (IN)		
	CRITICAL AREA (RADIUS, FT)	2991	2991
	NOTES		
General treatment information:	The Ellicottville Town Water district uses Chlorine Gas to disinfect the water before it is distributed to consumers.		
Summary of hydrogeographic setting of drinking water sources including watershed information and/or type of aquifer and aquifer materials (this information may be gathered after delineating protection areas in section 2.2):	The Village and Town wells are located near the surface of the north end of the Great Valley Aquifer, a large, highly productive (>100gpm), unconsolidated, unconfined Principal Aquifer. The Great Valley Aquifer is composed of sand and gravel of high transmissivity and with saturated thickness greater than 10 ft. The characteristics of the Great Valley Aquifer are associated with surface water sourcing through pumping-induced recharge, and its largely unconfined characteristic make it susceptible to contamination through surface activities.		
Water quality summary including any known ambient water quality information, finished water detections, and/or history of maximum contaminant level (MCL) violations*:	Do not recall of any regulated MCL violations last 5yrs. There has been TCE and TCA in the Holiday Valley Well previously. Susceptibility to contamination as: high for enteric bacteria, enteric viruses, halogenated solvents, herbicides/pesticides, metals, nitrates, other industrial organics and petroleum products; medium-high for protozoa		
Water quantity summary:	Current Water Withdrawal Permit Expiration Date(s)	NA	
	Total Permitted Water Withdrawal Capacity	1,250	GPM
	Average Daily Water Demand (= Yearly Usage / 365)	0.15	MGD
	Maximum Daily Water Demand (Unofficial 3-day average in peak month - e.g. July)	0.37	MGD
	Daily Water Losses (can be obtained from Water Conservation Program form)	0.015	MGD

Appendix A.5
DWSP2 Map Creation

2.2 Prepare a Drinking Water Source Protection Map

Provide a description of established drinking water source protection areas below, including distances and/or time of travel information. In addition, make note of any applicable studies (e.g. Wellhead Protection Plan) or technical assistance that were used to determine each protection area and/or delineation method:

Protection Areas	Holiday Valley Well Description	Holiday Valley Well Delineation Method	Trailer Park Well Description	Trailer Park Well Delineation Method	North Well Description	North Well Delineation Method
Ownership and Control Area (for groundwater) or Control and Monitoring Area (for surface water)	Ownership and Control Area of 100 and 200-foot buffers for land ownership and control of land activities, respectively.	Arbitrary fixed radius	Ownership and Control Area of 100 and 200-foot buffers for land ownership and control of land activities, respectively.	Arbitrary fixed radius	Ownership and Control Area of 100 and 200-foot buffers for land ownership and control of land activities, respectively.	Arbitrary fixed radius
Critical Area	Calculated shape around the well based on the EPA SVS method	EPA Simplified Variable Shapes Method	Calculated shape around the well based on the EPA SVS method	EPA Simplified Variable Shapes Method	Calculated shape around the well based on the EPA SVS method	EPA Simplified Variable Shapes Method
Source Water Area	Calculated shape based on EPA SVS methods, taking into consideration surficial geology and topography	Hydrogeologic mapping and EPA SVS	Calculated shape based on EPA SVS methods, taking into consideration surficial geology and topography	Hydrogeologic mapping and EPA SVS	Calculated shape based on EPA SVS methods, taking into consideration surficial geology and topography	Hydrogeologic mapping and EPA SVS

Provide a description of the map layers created or acquired to create the source water protection map below:

Layer	Date Created or Acquired	Description
Well Locations	2/10/2022	Created a new layer from maps received by the municipality.
Potential Contaminant Sources Data Summary	1/20/2022	Created a shapefile from database search performed by Environmental Data Resources (EDR).
Critical Area	6/9/2022	Created a shapefile in coordination with NYSDEC.
Source Water Area	6/9/2022	Created a shapefile in coordination with NYSDEC.
Well Control Area	2/10/2022	Area around well under municipal control (200 feet).
Well Land Ownership	2/10/2022	Area around well under municipal ownership (100 feet).
Unconsolidated Aquifers at 1:250,000 (includes confined and unconfined aquifers)	3/28/2008	Includes confined and unconfined aquifers (https://env1.ny.gov/gisdata/inventories/details.cfm?TSID=1141).
National Hydrography Dataset (streams and lakes)	2/10/2022	USDA NRCS Dataset (https://datagateway.nrcs.usda.gov/GDGOrder.aspx)
Esri 2020 Land Cover	6/24/2021	Land use/land cover (LULC). The map is derived from ESA Sentinel-2 imagery at 10m resolution - Authoritative (https://env1.arcgis.com/arcgis/services/Sentinel2_10m_LandCover/ImageServer)
12 Digit Watershed Boundary (HUC-12)	2/10/2022	12 Digit Watershed Boundary Dataset. (USDA-NRCS-Geospatial Data Gateway:Order Data - https://datagateway.nrcs.usda.gov/GDGOrder.aspx)
Cattaraugus County Parcels	3/4/2022	Cattaraugus County Real Property and GIS Services. (https://www.cattco.org/real-property-and-gis/)
Municipal Civil Boundaries	NA	Municipal Civil Boundaries from ESRI (https://giservices.its.ny.gov/arcgis/rest/services/NYS_Civil_Boundaries/FeatureServer)
Town Zoning	1/4/2022	New York State Department of Health
Village Zoning	1/4/2022	New York State Department of Health
USGS Mapping	NA	Choose ESRI Basemap USGS National Map from available basemaps (mapping by National Map and maintained by ESRI).

URL	Publicly Available Data
https://data.ny.gov/	• Bulk Storage Facilities
	• Solid Waste Management Facilities
	• Environmental Remediation Sites
	• Superfund Sites
	• Spill Incidents
	• Oil, Gas and Other Regulated Wells
	• SPDES Multi-Sector General Permit
	• Combined Sewer Overflows (CSOs)
	• Water Withdrawals by Facility
	• Boat Launch Sites
https://gis.ny.gov/	• Inventory & Priority Waterbodies
	• State Pollutant Discharge Elimination System
	• NYS DDT Facilities
	• NYS Tax Parcels
https://mric.gov/	• USGS Digital Raster Graphic Quadrangle
	• NYS Tax Parcels
http://opdsip.dos.ny.gov/index.html#home	• NLCD Land Cover
https://datagateway.nrcs.usda.gov/GDGOrder.aspx	• Unconsolidated Aquifers
https://www.conservationsesment.us/	• NRCS Conservation Easement Areas by State
https://datagateway.nrcs.usda.gov/GDGOrder.aspx	• Conservation Easement Areas US
http://www.dec.ny.gov/lands/5374.html	• National Hydrography Dataset 1:24,000
https://www.eia.gov/	• Mines
https://www.epa.gov/	• Pipelines
	• TRI Basic Data Files

Appendix A.6
Potential Contaminant Source Inventory

Unique ID	Potential Source Category	Potential Source	Facility	Contaminant Category of Concern	Specific Contaminants	Protection Area(s) Impacted	Status Current/Active Closed/Historic Future	Relevant Information	Latitude	Longitude	Map	Street	City	ZIP	Distance (Miles)	Direction	Well Radius Affected	Elevation (Ft)	Database Name	Database Meaning	Identification	Spill Date	Spill Number/Closed Date
ELL0106	Other	Other	GREAT VALLEY CRK/OLD HWY BLDG	Chemical	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27928	-78.667235	B15	ROUTE 219	ELLCOTTVILLE	14731	0.398	SE	Village North Well	1525	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019114714	NA	NA
ELL0109	Other	Other	COLTON CORNERS SUBDIVISION	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.279	-78.66712	B20	FILLMORE DRIVE	ELLCOTTVILLE	14731	0.414	SE	Village North Well	1525	FINDS	Facility Index System/Facility Registration System	Registry ID: 110064684596	NA	NA
ELL0116	Other	Other	KWIK FILL M0293	Chemical	Petroleum -	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27946	-78.666526	C21	47 WASHINGTON ST BOX 1140	ELLCOTTVILLE	14731	0.418	SE	Village North Well	1523	FINDS	Facility Index System/Facility Registration System	Registry ID: 110004468031	NA	NA
ELL0117	Other	Other	COLTON CORNERS SUBDIVISION	Unknown	Unknown	Source Water Area	Unknown	NA	42.279	-78.66712	B20	FILLMORE DRIVE	ELLCOTTVILLE	14731	0.414	SE	Village North Well	1525	ECHO	Enforcement & Compliance History Information	Registry ID: 110064684596	NA	NA
ELL0118	Other	Other	ELLCOTTVILLE SUBSTATION	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2763	-78.671416	26	12 MONROE ST	ELLCOTTVILLE	14731	0.479	S	Village North Well	1540	FINDS	Facility Index System/Facility Registration System	Registry ID: 110004393344	NA	NA
ELL0120	Other	Other	KWIK FILL M0293	Unknown	Unknown	Source Water Area	Unknown	N/A	42.27946	-78.666526	C21	47 WASHINGTON ST BOX 1140	ELLCOTTVILLE	14731	0.418	SE	Village North Well	1523	ECHO	Enforcement & Compliance History Information	Registry ID: 110004468031	NA	NA
ELL0126	Other	Other	SALAMANCA TRUST COMPANY	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27646	-78.669656	E31	54 WASHINGTON STREET	ELLCOTTVILLE	14731	0.491	SSE	Village North Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110055286417	NA	NA
ELL0128	Other	Other	ELLCOTTVILLE SUBSTATION	Unknown	Unknown	Source Water Area	Unknown	N/A	42.2763	-78.671416	26	12 MONROE ST	ELLCOTTVILLE	14731	0.479	S	Village North Well	1540	ECHO	Enforcement & Compliance History Information	Registry ID: 110004393344	NA	NA
ELL0134	Other	Other	FITZPATRICK & WELLER INC	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27547	-78.667741	D36	12 MILL STREET	ELLCOTTVILLE	14731-9614	0.492	SSE	Village North Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110001601446	NA	NA
ELL0141	Other	Other	KWIK-FILL	Chemical	Petroleum -	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27647	-78.669221	D43	1 EAST WASHINGTON STREET	ELLCOTTVILLE	14731	0.498	SSE	Village North Well	1526	FINDS	Facility Index System/Facility Registration System	Registry ID: 110046275865	NA	NA
ELL0143	Other	Other	ELLCOTTVILLE INN	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2755	-78.672053	G52	10 WASHINGTON ST	ELLCOTTVILLE	14731	0.526	S	Village North Well	1545	FINDS	Facility Index System/Facility Registration System	Registry ID: 110038899430	NA	NA
ELL0144	Other	Other	FITZPATRICK & WELLER INC	Unknown	Unknown	Source Water Area	Unknown	Lumber and Wood Component Manufacturer/Distributor	42.27547	-78.667741	D36	12 MILL STREET	ELLCOTTVILLE	14731-9614	0.492	SSE	Village North Well	1530	ECHO	Enforcement & Compliance History Information	Registry ID: 110001601446	NA	NA
ELL0162	Other	Other	ELLCOTTVILLE (V) STP	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2751	-78.673244	J57	1 WEST WASHINGTON STREET	ELLCOTTVILLE	14731	0.553	S	Village North Well	1551	FINDS	Facility Index System/Facility Registration System	Registry ID: 110009829276	NA	NA
ELL0163	Other	Other	ELLCOTTVILLE INN	Unknown	Unknown	Source Water Area	Unknown	N/A	42.2755	-78.672053	G52	10 WASHINGTON ST	ELLCOTTVILLE	14731	0.526	S	Village North Well	1545	ECHO	Enforcement & Compliance History Information	Registry ID: 110038899430	NA	NA
ELL0166	Other	Other	WINGATE INN	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27538	-78.66932	H61	11 MILL ST - 120 FT S OF WASHINGTON ST	ELLCOTTVILLE	14731	0.566	SSE	Village North Well	1521	FINDS	Facility Index System/Facility Registration System	Registry ID: 110024235996	NA	NA
ELL0171	Other	Other	ELLCOTTVILLE (V) STP	Unknown	Unknown	Source Water Area	Unknown	NA	42.2751	-78.673244	J57	1 WEST WASHINGTON STREET	ELLCOTTVILLE	14731	0.553	S	Village North Well	1551	ECHO	Enforcement & Compliance History Information	Registry ID: 110009829276	NA	NA
ELL0177	Other	Other	GREAT VALLEY CREEK	Chemical	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27467	-78.670607	72	THROUGHOUT VILLAGE	ELLCOTTVILLE	14731	0.596	SSE	Village North Well	1541	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019114563	NA	NA
ELL0178	Other	Other	WINGATE INN	Unknown	Unknown	Source Water Area	Unknown	N/A	42.27538	-78.66932	H61	11 MILL ST - 120 FT S OF WASHINGTON ST	ELLCOTTVILLE	14731	0.566	SSE	Village North Well	1521	ECHO	Enforcement & Compliance History Information	Registry ID: 110024235996	NA	NA
ELL0180	Other	Other	ELLCOTTVILLE BRIDGE #53	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.2733	-78.669823	79	ROCKWELL & MONROE STREETS	ELLCOTTVILLE	14731	0.696	SSE	Village North Well	1513	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019687301	NA	NA
ELL0206	Other	Other	BURRELL CUTLERY CO	Unknown	Unknown	Critical Area	Historic	EPA Monitored or Regulated Site	42.2729	-78.66894	P92	24 ROCKWELL ST	ELLCOTTVILLE	14731	0.734	SSE	Village North Well	1524	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019578884	NA	NA
ELL0213	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27224	-78.670899	Q96	43 JEFFERSON RD	ELLCOTTVILLE	14731	0.758	S	Village North Well	1531	FINDS	Facility Index System/Facility Registration System	Registry ID: 110002379863	NA	NA
ELL0220	Other	Other	YORK MERIT PRODUCTS INC	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.27263	-78.667471	R103	PARK & MAPLE STS	ELLCOTTVILLE	14731	0.777	SSE	Village North Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110008003365	NA	NA
ELL0226	Other	Other	MERITOOL	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.27244	-78.667632	R106	5 PARK AVE	ELLCOTTVILLE	14731	0.787	SSE	Village North Well	1529	FINDS	Facility Index System/Facility Registration System	Registry ID: 110004558103	NA	NA
ELL0229	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	Q96	43 JEFFERSON RD	ELLCOTTVILLE	14731	0.758	S	Village North Well	1531	ECHO	Enforcement & Compliance History Information	Registry ID: 110002379863	NA	NA
ELL0235	Other	Other	FITZPATRICK & WELLER INC PLANT 6	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	Unknown	Unknown	S108	2-16 MAPLE AVENUE	ELLCOTTVILLE	14731	0.793	SSE	Village North Well	1535	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019091613	NA	NA
ELL0241	Other	Other	CLAIRE MFG	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.2717	-78.66699	112	PARK AVE	ELLCOTTVILLE	14731	0.844	SSE	Village North Well	1531	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019628241	NA	NA

Unique ID	Potential Source Category	Potential Source	Facility	Contaminant Category of Concern	Specific Contaminants	Protection Area(s) Impacted	Status Current/Active Closed/Historic Future	Relevant Information	Latitude	Longitude	Map	Street	City	ZIP	Distance (Miles)	Direction	Well Radius Affected	Elevation (Ft)	Database Name	Database Meaning	Identification	Spill Date	Spill Number/Closed Date
ELL0242	Other	Other	YORK MERIT PRODUCTS INC	Unknown	Unknown	Critical Area	Unknown	NA	42.27263	-78.667471	R103	PARK & MAPLE STS	ELLCOTTVILLE	14731	0.777	SSE	Village North Well	1530	ECHO	Enforcement & Compliance History Information	Registry ID: 110008003365	NA	NA
ELL0246	Other	Other	ELLCOTTVILLE - V SANITARY SEWERS	Chemical	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2695	-78.667056	115	VILLAGE-WIDE	ELLCOTTVILLE	14731	0.988	SSE	Village North Well	1512	FINDS	Facility Index System/Facility Registration System	Registry ID: 110022444345	NA	NA
ELL0247	Other	Other	MERITOOL	Unknown	Unknown	Critical Area	Unknown	NA	42.27244	-78.667632	R106	5 PARK AVE	ELLCOTTVILLE	14731	0.787	SSE	Village North Well	1529	ECHO	Enforcement & Compliance History Information	Registry ID: 110004558103	NA	NA
ELL0250	Other	Other	CLAIRE MFG	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.2717	-78.66699	1	PARK AVE	ELLCOTTVILLE	14731	0.063	ENE	Village South Well	1531	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019628241	NA	NA
ELL0251	Other	Other	FITZPATRICK & WELLER INC PLANT 7	Unknown	Unknown	Source Water Area	Unknown	Lumber and Wood Component Manufacturer/Distributor	Unknown	Unknown	S108	2-16 MAPLE AVENUE	ELLCOTTVILLE	14731	0.793	SSE	Village North Well	1535	ECHO	Enforcement & Compliance History Information	Registry ID: 110019091613	NA	NA
ELL0255	Other	Other	MERITOOL	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.27244	-78.667632	A2	5 PARK AVE	ELLCOTTVILLE	14731	0.071	NNE	Village South Well	1529	FINDS	Facility Index System/Facility Registration System	Registry ID: 110004558103	NA	NA
ELL0260	Other	Other	YORK MERIT PRODUCTS INC	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.27263	-78.667471	A5	PARK & MAPLE STS	ELLCOTTVILLE	14731	0.087	NNE	Village South Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110008003365	NA	NA
ELL0261	Other	Other	BURRELL CUTLERY CO	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.2729	-78.66894	C11	24 ROCKWELL AVE	ELLCOTTVILLE	14731	0.107	NNW	Village South Well	1524	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019578884	NA	NA
ELL0262	Other	Other	FITZPATRICK & WELLER INC PLANT 8	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site			D13	2-16 MAPLE AVENUE	ELLCOTTVILLE	14731	0.116	NE	Village South Well	1535	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019091613	NA	NA
ELL0263	Other	Other	MERITOOL	Unknown	Unknown	Critical Area	Unknown	N/A	42.27244	-78.667632	A2	5 PARK AVE	ELLCOTTVILLE	14731	0.071	NNE	Village South Well	1529	ECHO	Enforcement & Compliance History Information	Registry ID: 110004558103	NA	NA
ELL0268	Other	Other	ELLCOTTVILLE - V SANITARY SEWERS	Chemical	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2695	-78.667056	15	VILLAGE-WIDE	ELLCOTTVILLE	14731	0.149	SSE	Village South Well	1512	FINDS	Facility Index System/Facility Registration System	Registry ID: 110022444345	NA	NA
ELL0269	Other	Other	YORK MERIT PRODUCTS INC	Unknown	Unknown	Critical Area	Unknown	N/A	42.27263	-78.667471	A5	PARK & MAPLE STS	ELLCOTTVILLE	14731	0.087	NNE	Village South Well	1530	ECHO	Enforcement & Compliance History Information	Registry ID: 110008003365	NA	NA
ELL0277	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27224	-78.670899	E16	43 JEFFERSON RD	ELLCOTTVILLE	14731	0.149	WNW	Village South Well	1531	FINDS	Facility Index System/Facility Registration System	Registry ID: 110002379863	NA	NA
ELL0279	Other	Other	ELLCOTTVILLE BRIDGE #53	Unknown	Unknown	Critical Area	Current/Active	EPA Monitored or Regulated Site	42.2733	-78.669823	22	ROCKWELL & MONROE STREETS	ELLCOTTVILLE	14731	0.151	NW	Village South Well	1513	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019687301	NA	NA
ELL0280	Other	Other	FITZPATRICK & WELLER INC PLANT 9	Unknown	Unknown	Source Water Area	Unknown	Lumber and Wood Component Manufacturer/Distributor	Unknown	Unknown	D13	2-16 MAPLE AVENUE	ELLCOTTVILLE	14731	0.116	NE	Village South Well	1535	ECHO	Enforcement & Compliance History Information	Registry ID: 110019091613	NA	NA
ELL0282	Other	Other	GREAT VALLEY CREEK	Chemical	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27467	-78.670607	24	THROUGHOUT VILLAGE	ELLCOTTVILLE	14731	0.252	NNW	Village South Well	1541	FINDS	Facility Index System/Facility Registration System	Registry ID: 110019114563	NA	NA
ELL0283	Other	Other	WINGATE INN	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27538	-78.66932	F26	11 MILL ST - 120 FT S OF WASHINGTON ST	ELLCOTTVILLE	14731	0.275	NNW	Village South Well	1521	FINDS	Facility Index System/Facility Registration System	Registry ID: 110024235996	NA	NA
ELL0286	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	E16	43 JEFFERSON RD	ELLCOTTVILLE	14731	0.149	WNW	Village South Well	1531	ECHO	Enforcement & Compliance History Information	Registry ID: 110002379863	NA	NA
ELL0297	Other	Other	ELLCOTTVILLE INN	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2755	-78.672053	J39	10 WASHINGTON ST	ELLCOTTVILLE	14731	0.342	NW	Village South Well	1545	FINDS	Facility Index System/Facility Registration System	Registry ID: 110038899430	NA	NA
ELL0299	Other	Other	KWIK-FILL	Chemical	Petroleum -	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27647	-78.669221	K45	1 EAST WASHINGTON STREET	ELLCOTTVILLE	14731	0.348	N	Village South Well	1526	FINDS	Facility Index System/Facility Registration System	Registry ID: 110046275865	NA	NA
ELL0301	Other	Other	SALAMANCA TRUST COMPANY	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27646	-78.669656	I54	54 WASHINGTON STREET	ELLCOTTVILLE	14731	0.351	NNW	Village South Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110055286417	NA	NA
ELL0302	Other	Other	WINGATE INN	Unknown	Unknown	Source Water Area	Unknown	NA	42.27538	-78.66932	F26	11 MILL ST - 120 FT S OF WASHINGTON ST	ELLCOTTVILLE	14731	0.275	NNW	Village South Well	1521	ECHO	Enforcement & Compliance History Information	Registry ID: 110024235996	NA	NA
ELL0303	Other	Other	FITZPATRICK & WELLER INC	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.27547	-78.667741	K57	12 MILL STREET	ELLCOTTVILLE	14731-9614	0.352	N	Village South Well	1530	FINDS	Facility Index System/Facility Registration System	Registry ID: 110001601446	NA	NA
ELL0320	Other	Other	ELLCOTTVILLE (V) STP	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2751	-78.673244	L60	1 WEST WASHINGTON STREET	ELLCOTTVILLE	14731	0.36	NW	Village South Well	1551	FINDS	Facility Index System/Facility Registration System	Registry ID: 110009829276	NA	NA
ELL0321	Other	Other	ELLCOTTVILLE INN	Unknown	Unknown	Source Water Area	Unknown	N/A	42.2755	-78.672053	J39	10 WASHINGTON ST	ELLCOTTVILLE	14731	0.342	NW	Village South Well	1545	ECHO	Enforcement & Compliance History Information	Registry ID: 110038899430	NA	NA
ELL0328	Other	Other	ELLCOTTVILLE SUBSTATION	Unknown	Unknown	Source Water Area	Current/Active	EPA Monitored or Regulated Site	42.2763	-78.671416	62	12 MONROE ST	ELLCOTTVILLE	14731	0.37	NNW	Village South Well	1540	FINDS	Facility Index System/Facility Registration System	Registry ID: 110004393344	NA	NA

Unique ID	Potential Source Category	Potential Source	Facility	Contaminant Category of Concern	Specific Contaminants	Protection Area(s) Impacted	Status Current/Active Closed/Historic Future	Relevant Information	Latitude	Longitude	Map	Street	City	ZIP	Distance (Miles)	Direction	Well Radius Affected	Elevation (Ft)	Database Name	Database Meaning	Identification	Spill Date	Spill Number/Closed Date
ELL0234	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	Q98	43 JEFFERSON STREET	ELLCOTTVILLE	14731	0.758	S	Village North Well	1531	PRP	Potentially Responsible Parties	Unknown: Unknown	NA	NA
ELL0256	Contamination Sites or Incidents	Remediation Sites	SIGNORE INC.	Chemical	Numerous	Critical Area	Unknown	Former furniture Manufacturer	42.27106	-78.669977	T113	55 JEFFERSON STREET	ELLCOTTVILLE	14731	0.846	S	Village North Well	1526	BROWNFIELD S	Brownfields	Site Code: 400724	NA	NA
ELL0258	Contamination Sites or Incidents	Remediation Sites	SIGNORE INC.	Unknown	Unknown	Critical Area	Unknown	Former furniture Manufacturer	42.27106	-78.669977	T113	55 JEFFERSON STREET	ELLCOTTVILLE	14731	0.846	S	Village North Well	1526	INST CONTROL	Institutional Control	Site Code: 400724	NA	NA
ELL0273	Contamination Sites or Incidents	Remediation Sites	SIGNORE INC.	Chemical	Numerous	Critical Area	Unknown	Former furniture Manufacturer	42.27106	-78.669977	B9	55 JEFFERSON STREET	ELLCOTTVILLE	14731	0.097	WSW	Village South Well	1526	BROWNFIELD S	Brownfields	Site Code: 400724	NA	NA
ELL0275	Contamination Sites or Incidents	Remediation Sites	SIGNORE INC.	Unknown	Unknown	Critical Area	Unknown	Former furniture Manufacturer	42.27106	-78.669977	B9	55 JEFFERSON STREET	ELLCOTTVILLE	14731	0.097	WSW	Village South Well	1526	INST CONTROL	Institutional Control	Site Code: 400724	NA	NA
ELL0290	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	E19	43 JEFFERSON STREET	ELLCOTTVILLE	14731	0.149	WNW	Village South Well	1531	PRP	Potentially Responsible Parties	Unknown: Unknown	NA	NA
ELL0295	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	E21	43 JEFFERSON ST	ELLCOTTVILLE	14731	0.149	WNW	Village South Well	1531	VAPOR REOPENED	Vapor Intrusion Legacy Site List	Facility Status: Underway	NA	NA
ELL0296	Other	Other	SIGNORE INC.	Unknown	Unknown	Source Water Area	Unknown	Former furniture Manufacturer	42.27224	-78.670899	E21	43 JEFFERSON ST	ELLCOTTVILLE	14731	0.149	WNW	Village South Well	1531	VAPOR REOPENED	Vapor Intrusion Legacy Site List	Site Code: 905023	NA	NA
ELL0345	Other	Other	FITZPATRICK & WELLER INC	Unknown	Unknown	Source Water Area	Unknown	Lumber and Wood Component Manufacturer/Distributor	42.27547	-78.667741	K57	12 MILL STREET	ELLCOTTVILLE	14731-9614	0.352	N	Village South Well	1530	US AIRS	Air facility system data	EPA plant ID.: 110001601446	NA	NA

Appendix A.7
Implementation Timeline

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Strategy Timeline

Priority #	Priority Issue (Indicate Area)	Targeted Potential Contaminant Source(s)	What is the Threat?	For larger public audience: Why does it matter? What is the Risk?	Goal (Reduce or Mitigate the Threat)	Protection Method and/or Management Method (Strategies to Reduce the Risk or Mitigate the Threat)	Potential Funding Sources	Project Leader and Partnerships Needed	Implementation Timing	Implementation Start Date
1	Do not own the critical area around the Village South Well	Direct contamination to the wellhead	Direct contamination to the wellhead threatens the municipalities ability to provide potable water to its customers.	Not having potable water is a serious public health concern.	Reduce the possibility of direct wellhead contamination.	Land acquisition for a 100' radius around the wellhead Work with the attorneys	WQIP Land Acquisition for source water protection	-Town of Ellicottville -Village of Ellicottville -Plan Management Team -Owner of the wellhead area (if Town not already the owners)	1 Year	Jan-26
2	Potential Contaminants entering the aquifer within the critical area	Agricultural Activities	Infiltration from agricultural land (crops, pasture) bringing excess contaminants and nutrients into the groundwater	Excess contaminants can impair the aquifer, and increase treatment costs at the WTP to remove the contaminants	Mitigate the amount of contaminants seeping into the groundwater.	Vegetative buffers, tree planting Maintain communication with Cattaraugus County Soil and Water	NYSAGM Soil and Water Conservation Committee Agricultural Nonpoint Source Abatement & Control Grant Program, USDA NRCS Agricultural Conservation Easement Program, NYSAGM Soil and Water Conservation Committee Source Water Buffer Program, NYSDEC Water Quality Improvements Project (WQIP)/EQIP, NYS Agricultural Environmental Management (AEM) Program, Trees for Tribes	-County S&W Conservation Dist Rep -Ag business rep -Ag advisory committee member -Community farmers -Affected landowners	~2 Years	Jan-26
		Holiday Valley	PFAs from ski wax, nutrients used to maintain golf course	Contaminants can impair the aquifer, and increase treatment costs at the WTP to remove the contaminants	Mitigate the amount of contaminants seeping into the groundwater.	Vegetative buffers, tree planting Encourage raingardens and retention ponds for aquifer recharge Communication with the Golf Course	-Holiday Valley representative (Bonnie Koschir) -Golf course owners -Town of Ellicottville -Plan management team			
3	Transportation Related Contamination in the Critical Area	Transportation Corridors Highway Rt 219 Railroad	Chemical, physical or biological spills directly entering the waterbody from vehicles using the corridors	Chemicals from spills can contaminate the waterbody and affect the ecosystem	To reduce the likelihood of spills in the corridors, more specifically around the Town Well	-Emergency Response Plan/Team -Spill team in place with Catt County ->Hazmat contractor for any spills on route 219 (County oversees contractor) -Volunteer firefighters -DEC response team -Hazmat and the county would be called out for any railroad accidents	Budgeting priority and dedicated paid staff or interns	-Cattaraugus County Spill Team -Hazmat contractor -NYSDEC response team -Town of Ellicottville	~3-5 Years	Jan-26
			Deicing materials directly entering the waterbody from vehicles spreading the materials and vehicles that transport it on their vehicle (tires, frame, etc.) as they traverse the corridor	Deicing materials from spills can contaminate the waterbody (sodium and chloride loading), increase treatment costs and affect the ecosystem	Reduce the amount of deicing materials entering the waterbody	-Establish a partnership with the Department of Transportation that is responsible for salting the major highways that run by the well locations. -Roadway BMPs -Review All Hazard mitigation plan that was adopted in 2020, amend to include man-produced spills/railway spills	Dedicated paid staff or interns, Transit Security Grant (FEMA), budgeting priority	-NYSDOT -Town of Ellicottville Highway Department -Village of Ellicottville -Railroad owners -Cornell Local Roads Program -Ellicottville DPW -Plan management team		

Priority #	Priority Issue (Indicate Area)	Targeted Potential Contaminant Source(s)	What is the Threat?	For larger public audience: Why does it matter? What is the Risk?	Goal (Reduce or Mitigate the Threat)	Protection Method and/or Management Method (Strategies to Reduce the Risk or Mitigate the Threat)	Potential Funding Sources	Project Leader and Partnerships Needed	Implementation Timing	Implementation Start Date
4	Herbicides and Pesticides in the Critical Area	Agricultural Activities	Infiltration from agricultural land (crops, pasture) bringing excess chemicals into the aquifer	Herbicides and pesticides can contaminate, soil, water and non-target plants and be toxic to humans and other organisms	Reduce the amount of herbicides and pesticides applied in the source water area	>Crop rotation, increased monitoring. >Integrated Pest Management Plan. https://www.epa.gov/safepestcontrol/tips-reducing-pesticide-impacts-wildlife#farmers >Can sign up for training and certification on the use of herbicides and pesticides through Cornell Coop Ext.	Agriculture Nonpoint Source Abatement and Control Grant Program, Conservation Reserve Enhancement Program, Trees for Tribes, Tompkins County Stream Corridor Restoration and Flood Hazard Mitigation Program, Water Quality Improvement Project, NYS AGM/NYS Soil and Water Conservation Committee Source Water Buffer Program, USDA NRCS Agricultural Conservation Easement Program	-Cornell Cooperative Extension -Nannen Arboretum -Owners of the Golf Course -Plan management team -Town and Village of Ellicottville -Cattaraugus County Soil and Water Conservation District	~2 Years	Jan-26
		Residential Sources: Lawn and Garden Chemicals	Infiltration from residential land bringing excess chemicals into the aquifer			>Education on the use of herbicides and pesticides and how they affect the groundwater and the homeowners drinking water source. >Master gardener program through Cornell Coop Ext.	EPA Environmental Education Grants, dedicated paid staff or interns	-Cornell Cooperative Extension -Nannen Arboretum -Plan management team -Town and Village of Ellicottville -Cattaraugus County Soil and Water Conservation District	~3 Months	Jan-23
		Recreational Activities: Golf Course	Infiltration from the golf course bringing excess chemicals into the creek			-Continue conversations with Holiday Valley -Educate the golf course on herbicide and pesticide uses -Plans on handling herbicides/pesticides (Integrated Pest Management, integrated vegetation) -Encourage the golf course to look at BMPs www.nysgolfbmp.cals.cornell.edu/ny_bmp_feb2014.pdf	EPA Environmental Education Grants, dedicated paid staff or interns	-Cornell Cooperative Extension -Nannen Arboretum -Plan management team -Town and Village of Ellicottville -Cattaraugus County Soil and Water Conservation District	~3 Months	Jan-23

Priority #	Priority Issue (Indicate Area)	Targeted Potential Contaminant Source(s)	What is the Threat?	For larger public audience: Why does it matter? What is the Risk?	Goal (Reduce or Mitigate the Threat)	Protection Method and/or Management Method (Strategies to Reduce the Risk or Mitigate the Threat)	Potential Funding Sources	Project Leader and Partnerships Needed	Implementation Timing	Implementation Start Date	
5	Enacting protection methods to protect the watershed from future development in the source water area	SPDES Discharges (in the context of the SPDES general permit for stormwater discharges)	Development associated with potential contaminant sources could occur in sensitive areas of the watershed with little consideration to the source water or best management practices.	Unregulated development could contaminate the water source	Reduce and manage the amount of development in the source water area to protect the drinking water source	-Monitor Development -Potential for investment buying, rental properties -Evaluate current land use -Build-out Analysis -Raingardens to encourage infiltration	WQIP, NYSDEC Climate Smart Communities Grant Program, GIGP Grant, Dedicated paid staff or interns	-Plan management team -Town of Ellicottville -Village of Ellicottville -Town planner	~1-2 Years Ongoing	Jan-26	
		Future sources of chemical, physical or biological contamination				New York State Watershed Rules and Regulations (WRR)	Dedicated paid staff or interns	-Plan management team -Town of Ellicottville -Village of Ellicottville			
						Future Land Plans: (focus on the lands that are a high priority/will contribute the most to the source water) -Land acquisition, easements -Conservation subdivisions -Look into Aquifer Overlay Zones/Stormwater review -Special use permits	WQIP Land Acquisition for source water protection, GIGP Grant, Trees for Tribes	-Plan management team -Town of Ellicottville -Village of Ellicottville			
		Hydrologic Resilience				Encourage raingardens and retention ponds for aquifer recharge in areas with low risk to contamination within the source water area. Stormwater review	GIGP Grant, Trees for Tribes, WQIP	-Plan management team -Town of Ellicottville -Village of Ellicottville			
6	Management of Regulated Potential Contaminant Sources	Bulk Storage	Chemical, biological or physical leaks and spills may allow contaminants to enter the groundwater or waterbody directly	Chemical, biological or physical contaminants from associated spills, leaks or operating and maintenance activities can enter the groundwater and/or be deposited in the waterbody by overland flow	To enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand the nature of the threat as associated risk and response efforts.	-Refer to the DWSP maps and the PCS inventory for any storage tanks in the critical or source water area. Monitor and inspect these tanks as they could leak causing a contaminant plume.	Internal funding necessary, mandatory regulatory compliance obligations, dedicated paid staff or interns	-Plan management team -Town of Ellicottville -Village of Ellicottville -NYSDOH -Local PBS and CBS facilities -NYSDEC	~5 Months	Jan-26	
		Contamination Sites & Spills				-Refer to the DWSP2 maps and the PCS inventory for any spills in the critical or source water area. Monitor and inspect spills.		-Plan management team -Town of Ellicottville -Village of Ellicottville -NYSDOH -Local PBS and CBS facilities -NYSDEC			
		Waste Management and Disposal				-Refer to the DWSP maps and the PCS inventory for any waste sites in the critical or source water area. Monitor and inspect these sites		USDA Solid Waste Management Grants, NYSDEC Climate Smart Communities Grant Program			-Plan management team -Town of Ellicottville -Village of Ellicottville DPW -NYSDOH -Waste Management
		SPDES Discharges (facility discharges)				Review existing permits and compliance information		Internal funding necessary, mandatory regulatory compliance obligations, dedicated paid staff or interns			-Plan management team -Town of Ellicottville -NYSDEC Division of Water -Village of Ellicottville -NYSDOH

*The start date provided is an estimated date based on the implementation timeline set by the Stakeholder Group. Actual start dates will be determined by the Plan Management Team.

Appendix A.8
Plan Management Team

4.1 Designate a Plan Management Team

Name	Contact Information	Relevant Affiliation(s)
	E-mail	
Greg Keyser	greg.keyser@evlengineering.com	Town Planning Board, Planner
Dick Rivers	rer263@cornell.edu	Cornell Cooperative Extension, Agricultural Advisory Member
Jesse Klahn	jesse.klahn@evlengineering.com	Water Division Supervisor
Matt Schaefer	mschaefer@cattcoswcd.org	Cattaraugus County Soil & Water Conservation District, District Technician
Carl Calarco	cccalarco@verizon.net	Town of Mansfield Supervisor
Ben Slotman	Ben.slotman@evlengineering.com	Town Engineer
Tim Zefras	tdzefras@cattco.org	Cattaraugus County Health Department, Water Resource Specialist
Matthew McAndrew	mjmellcottville@wny.twcbc.com	Town of Ellicottville Supervisor
Bonnie Koschir	bkoschir@gmail.com	Holiday Valley Board Representative
Robert Breton	franklinvillesupervisor@gmail.com	Franklinville Supervisor
John Burrel	Mayorevl@gmail.com	Mayor, Village of Ellicottville

Use the table below to document the Plan Management strategy for keeping the DWSP2 Plan up to date:

Plan Management Summary	
Item	Status
Designate a Plan Management Team	In Process
Determine progress report frequency	
Months	
Share progress reports	
Review and share the plan	
Verification from NYS DOH and DEC for completeness	
Create a revision schedule	

Use the table below to track updates and revisions to the DWSP2 Plan. Use the notes section to detail changes made in each update and/or revision:

Update/Revision Tracker		
Report	Date	Notes
First report:		
Update/Revision 1		
Update/Revision 2		
Update/Revision 3		
Update/Revision 4		
Update/Revision 5		
Update/Revision 6		
Update/Revision 7		
Update/Revision 8		

Appendix B

Data, Analysis, and Methodology

Data and Analysis used to Delineate and Map Critical and Source Water Areas

A combination of United States Environmental Protection Agency (USEPA)-approved Simplified Variable Shapes (SVS) analysis and hydrogeologic mapping was selected as the most appropriate delineation methods for the following reasons:

1. Lack of available pumping test and observation well data to constrain select aquifer coefficients and variables required for analytical or numerical modeling (e.g., storage coefficient, hydraulic gradient, transmissivity, hydraulic conductivity, etc.).
2. Availability of hydrogeologic, topographic and hydrographic data to aid in application of the selected methods, including a defensible determination of general groundwater flow direction and topographic drainage contributions.
3. Availability of well construction information to reasonably constrain upgradient Zone-of-Contribution (ZOC) null points utilizing the Volumetric Flow Equation (VFE).

It was generally found that, for groundwater sources, application of the VFE or variations thereof (e.g., the “half-circle” method), were inadequate as a sole delineation method. The half-circle method underestimates groundwater capture of areas directly downgradient of pumping wells. Similarly, analytical and numerical groundwater modeling was judged to be infeasible due to a lack of available data. Any model would be fraught with assumptions to the point of being indefensible.

SVS is a delineation method approved by USEPA to serve as an intermediate level between rudimentary methods (such as VFE and half-circle calculations) and far more complicated and information-rich methods (such as analytical and numerical modeling). Given the USEPA guidance for application of this method, along with the inappropriateness of other delineation options, it was decided that the combination of SVS and hydrogeologic mapping as the appropriate delineation method for the three (3) Ellicottville wells.

Selection of an appropriate delineation method is an essential step for every Source Water Protection Plan. Many factors contribute to the selection process, including but not limited to, availability of data/information, hydrogeologic setting, natural groundwater flow and gradient, and other local considerations. In most cases, data availability is the overriding factor, as the technical defensibility of delineations depends on data quality and completeness.

The project team applied professional judgment and engaged in extensive consultations to ensure that the delineations would be technically defensible and achieve the primary goal of effective source water protection. The approach to selecting delineation methods was guided by the DWSP2 Framework, USEPA guidance documents (United States Environmental Protection Agency, 1987; United States Environmental Protection Agency 1992), available published hydrogeologic, topographic and hydrographic information, records made available to us by the subject municipality, feedback received from approving agencies, and overall professional experience.

Methodology

The following subsections describe the approach to delineating the critical and source water area for the three wells serving the Ellicottville public water system, including the step-wise procedure employed to complete the delineations.

Data Constraints and Assumptions

Following discussions with NYSDEC, a conservative porosity of 0.2 was assumed for unconsolidated materials. Due to the shallow well construction depths, the wells were assumed to be screened in the shallow unconsolidated aquifer. Where no data was available, the project hydrogeologists assumed that groundwater flow direction paralleled surface water flow direction.

The 2021 Water Withdrawal Reporting Form for Ellicottville was reviewed. It identified a reported annualized combined wellfield withdrawal amount of 213,577 gpd (or approximately 150 gpm). The groundwater modeling assumed that any of the three wells might be required to supply the full annualized demand. Therefore, a withdrawal rate of 150 gpm was assigned to each of the three wells.

Step 1: Selection of USEPA-Derived Standardized Form – USEPA Simplified Variable Shapes were generated to function as surrogate delineations (i.e., “standardized forms” or shapes) for wells pumping under similar conditions. The standardized forms were derived via analytical models, such as the uniform-flow equation for downgradient and lateral extents and calculated Time-of-Travel (TOT) equations, such as VFE, for upgradient extents. Following derivation of these standardized forms, pumping well discharge amounts guided the selection of the appropriate shape for each individual well. In the case of the three (3) Ellicottville wells, and as per USEPA guidance, the 150 gpm (or 216,000 gpd) withdrawal that was assumed for each well falls in the range of non-pumping (e.g., a natural spring) and below 5-megaliters per day, or approximately 1,320,000 gallons per day. For this reason, the “fingernail-shaped” standard form was selected to represent the critical and source water areas.

Step 2: Upgradient Extent of ZOC – As per USEPA guidance, the upgradient extent of the ZOC was estimated through use of the VFE:

Volumetric Flow Equation: $r = \sqrt{(Qt/\pi nH)}$, where:

Input	Description	Unit
r =	Upgradient Extent of ZOC	feet
Q =	Pumping Rate of Well	feet ³ /day
t =	Time of Pumping	days
π =	pi	pi
n =	Porosity	% as decimal
H =	Well Screen Length	feet

For each of the three (3) Ellicottville wells, this process was completed first for the critical area (assuming a 1-year TOT), and then a second time for the source water area (assuming a 10-year TOT). Resultant upgradient null points were estimated as follows:

Table 1: Upgradient Null Points

Well Name	Upgradient Extent of ZOC (1-yr Critical Area)	Upgradient Extent of ZOC (10-yr Source Water Area)
Holiday Valley (Town) Well	1,277 feet	4,039 feet
Village North Well	1,543 feet	4,880 feet
Village South (Trailer Park) Well	1,277 feet	4,039 feet

Step 3: Downgradient and Lateral Extents of ZOC – Because available data were insufficient to calculate the downgradient and lateral extents of each ZOC in a defensible manner, it was assumed that the selected USEPA standardized form would be representative of pumping conditions unless an available and reliable data source invalidated this assumption. The overall size of the representative shapes was constrained based on the calculated upgradient extent of the ZOC and assumed that the downgradient and lateral extents would size themselves proportionally. This resulted in a 1.75:1.0 upgradient-to-lateral extent ratio and a 1.75:0.75 upgradient-to-downgradient extent ratio. These ratios were applied to both the 1-year TOT critical areas and the 10-year TOT source water areas. Resultant lateral and downgradient null points were estimated as follows:

Table 2: Lateral and Downgradient Null Points

Well Name	Lateral Extent of ZOC (1-yr Critical Area)	Downgradient Extent of ZOC (1-yr Critical Area)	Lateral Extent of ZOC (10-yr Source Water Area)	Downgradient Extent of ZOC (10-yr Source Water Area)
Holiday Valley (Town) Well	728 feet	549 feet	2,302 feet	1,737 feet
Village North Well	880 feet	664 feet	2,782 feet	2,098 feet
Village South (Trailer Park) Well	728 feet	549 feet	2,302 feet	1,737 feet

The three (3) source water area delineations overlapped so the areas were merged to create one source water area.

Step 4: Topographic Considerations – Following generation of representative shapes for the critical and source water areas, available topographic information, including USGS 7.5-minute Topographic Quadrangle map for Ellicottville and surficial hydrology contours, was used to refine source water delineations. The topographic data were used to identify areas within the source water areas where surface, and presumably groundwater, recharging groundwater would flow in a direction away from the capture zones for the supply wells. However, the project hydrogeologists were concerned that

overreliance on the flow path simulations might diminish overall protection of the source water supply wells. Consequently, adjustments to the contributing areas based on topography were limited to the larger source water area and not reflected in the delineated boundaries of the critical area. For the source water area, the project team identified several areas where drainage divides supported modest trimming.

Step 5: Geologic Mapping Considerations – Surficial geology was also considered in the context of revising the source water area. The source water area resultant from topographic considerations was further clipped to remove areas of surficial geology with low recharge potential (e.g., till) and extended to include surficial geology areas of high recharge potential (e.g., outwash sand and gravel and alluvial fan deposits).

Sensitivity Analysis – A sensitivity analysis of key inputs for the VFE was performed and concluded that the calculation was most sensitive to pumping rate and well screen length. As the pumping rate increased, so did the size of the delineated areas of contribution. As noted above, a conservative assumption, that each of the three wells might need to deliver the full annualized demand, was used during the model calculations.

The project hydrogeologists noted that even minor adjustments to the assumed well screen length resulted in substantial changes to the projected upgradient extent of the ZOC; longer well screen resulted in shorter distances. This is illustrated by the larger source area for the North Village Well, which has a screen length of 6.85 feet compared to the 10 foot screen lengths of the other wells. Given the lack of well construction information for the Trailer Park well, it was assumed that the 10 foot screen length from the Synology Drive Water System Information is accurate. Fortunately, well construction information was available for the other two Ellicottville wells, so there was no need to assume a well screen length in the model calculations. No other elements of the step-wise procedure lent themselves to a sensitivity analysis.

Appendix C
Project Profiles

Project Profile Summary and Notes

The project profiles outlined in this document are meant to be a suggested guide for the protection and management methods and implementation timeline and steps. Each project profile also outlines a priority issue, targeted potential contaminant source and threat, goals and priorities for the project, potential costs, funding sources, potential partnerships for project success, and implementation steps.

Potential costs are classified into low, medium and high. Low-cost projects are those that would ideally be able to be completed with the existing Town budget or with a budget amendment. Medium-cost projects may require the use of capital funding, and may require external or new personnel. High-cost projects would require capital funding and would require additional staff or contracted personnel. Detailed cost estimates are included in Appendix D.

Project schedules have been classified into short (1-2 years), medium (3-5 years), and long (5+ years).

Many project profiles include education and outreach as a protection and management method. For simplicity, the broad implementation steps have been condensed into a protection and management highlight, included at the beginning of this document.

Although all projects are important to the Town and Village of Ellicottville, they are shown in this appendix according to their priority, which was set by the Town and Village based on their immediate needs and priorities.

Protection and Management Method Highlight: Outreach and Education

Implementation Steps:

1. Gather information via community surveys, local knowledge, and reports of issues. This includes:
 - a. Current efforts to reach out to community members and organizations
 - b. Current community state of knowledge
 - c. Any specific information on current contaminants
 - d. Example survey questions:
 - i. “What, if any, organizations can you name that are working to get the community involved in reducing erosion in your area?”
 - ii. “What do you know about how erosion happens?”
 - iii. “What do you know about how erosion can affect local waterways?”
 - iv. “Are you experiencing issues with erosion on your property?”
2. Consider combining outreach and education efforts for each project profile to consolidate and streamline efforts.
3. Research best management practices to combat the specific issue. Identify gaps in knowledge or actions based on best management practices for the specific issue.
4. Present findings in a simple, but informative manner to the public and involved parties. This may include: social media outreach, informational mailings, website postings, newspaper postings, public meetings or workshops, and/or event outreach.
5. Provide extended efforts to engage and educate the community. Ask for feedback and send another community survey at a later date to quantify progress.

Project Profile 1: Ownership of the Critical Area around the Village South Well

TARGETED POTENTIAL CONTAMINANT SOURCE: Direct Contamination to the Wellhead

Without the Town holding the deed to the property, unregulated activities surrounding the wellhead may cause direct contamination of the groundwater, which threatens the municipalities' ability to provide potable water to its customers.

GOALS AND PRIORITIES:

- Reduce the possibility of direct wellhead contamination by purchasing land around the well.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Locate the deed and/or work with current landowners.
- If no deed is found, land acquisition for a 200' radius around the wellhead.
- Work with attorneys to ensure proper paperwork has been established.
- Record and save paperwork and the deed from this process.

POTENTIAL COSTS:

Potential costs include: Planning costs, potential land purchases

Classification: Low

POTENTIAL FUNDING SOURCES:

- WQIP Land Acquisition for Source Water Protection

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Town of Ellicottville
- Village of Ellicottville
- Owner of the wellhead area (if Ellicottville does not already own area)
- Plan Management Team

SUGGESTED TIMELINE:

Length: Short (1 year)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Locating the original deed of the property if it exists
- Determining if Ellicottville already owns the land around the wellhead
- Storing existing and new documents related to ownership around the wellhead moving forward

IMPLEMENTATION STEPS:

1. Locate paperwork and existing deed (if possible).
2. If the Town is not listed as the property owner, move forward with property acquisition
3. Discuss situation and work with the owner of the wellhead area if Ellicottville does not already own the land.
4. Obtain proper documentation of ownership with the assistance of attorneys.
5. Record and save paperwork and the deed acquired from this process.

Project Profile 2.1: Potential Contaminants entering the Aquifer within the Critical Area from Agricultural Activities

TARGETED POTENTIAL CONTAMINANT SOURCE:

Water infiltrating from agricultural land (crops, pasture) can bring excess contaminants into the groundwater. The contaminants can impair wells and increase treatment costs.

GOALS AND PRIORITIES:

- Mitigate the amount of contaminants seeping into the groundwater.
- Enhance communication and working partnerships with local farms and Cattaraugus County Soil and Water Conservation District.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Vegetative buffers, tree planting.
- Cover crops, crop rotation.
- Monitoring existing conditions.
- Maintain communication with Cattaraugus County Soil and Water Conservation District.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to identify priority areas, potential buffer materials, construction, and design, and costs to implement a monitoring system.

Classification: High

POTENTIAL FUNDING SOURCES:

- NYSAGM Soil and Water Conservation Committee Agricultural Nonpoint Source Abatement & Control Grant Program
 - Program can assist farms in preventing water pollution from agricultural activities with BMPs such as riparian buffers.
- USDA NRCS Agricultural Conservation Easement Program
- NYSAGM/NYS Soil and Water Conservation Committee Source Water Buffer Program
- NYSDEC Water Quality Improvements Project (WQIP)
 - Projects that reduce polluted runoff, improve water quality and restore habitat in NY's waterbodies. Riparian buffers are a priority practice through this program.
- Environmental Quality Incentives Program (EQIP)
- NYS Agricultural Environmental Management (AEM) Program
 - Incentive-based program available to farmers through SWCD.

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Cattaraugus County Soil and Water Conservation District
- Agricultural business representative
- Agricultural advisory committee member
- Local farmers
- Plan Management Team

- Town of Ellicottville
- Village of Ellicottville

SUGGESTED TIMELINE:

Length: Medium (2 years)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Private landowner participation in projects and programs.
- Funding for vegetative riparian buffers and maintenance
- Funding and incentive opportunities

IMPLEMENTATION STEPS:

1. Gather information on soil type and testing schedules, crop uptake and current management practices. Information on fertilizer use (type(s), quantity, timing and schedule of application and management) will also be collected.
2. Partner with the Cattaraugus County Soil and Water Conservation District and agricultural representatives to work to engage farmers in the source water and critical areas. Explore potential of participating in AEM program to properly manage agricultural lands.
3. Prepare grant proposals, continue outreach efforts to target the farming community.
4. If awarded grants, conduct environmental planning of nutrient management and fertilizer application plans, look into cover crops and crop rotations. Encourage farmers through financial incentives to participate. If awarded funds from source buffer program or WQIP, purchase conservation easements on agricultural land.
5. Develop outreach materials and educational tools that highlight benefits (health, financial) of participation.
6. Implement plans, build communication efforts between SWCD and farmers, and develop monitoring system.

Project Profile 2.2: Potential Contaminants entering the Aquifer within the Critical Area from Commercial and Residential Sources (Holiday Valley, Golf Course, Homes)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Potential Per- and Polyfluorinated Substances (PFAs) from ski wax as well as miscellaneous contaminants from Holiday Valley, chemicals and nutrients used to maintain the golf course. These contaminants can impair the groundwater, and increase treatment costs at the water treatment plant to remove them.

GOALS AND PRIORITIES:

Mitigate the amount of contaminants seeping into the groundwater.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Vegetative buffers, tree planting.
- Encourage rain gardens and retention ponds for recharge.
- Increase communication with the Golf Course, build a relationship.
- Educate major private users of lawn and garden chemicals on best management practices.

POTENTIAL COSTS:

Potential costs include: Monitoring costs, meetings, construction/material/design costs for green infrastructure and vegetative buffers, staffing to create and maintain green infrastructure and vegetative buffers.

Classification: Medium

POTENTIAL FUNDING SOURCES:

- Trees for Tribes
 - Provides landowners, municipalities, and conservation organizations with low/no cost native plants and free technical assistance.
- Water Quality Improvement Project (WQIP)
 - Projects that reduce polluted runoff, improve water quality and restore habitat in NY's waterbodies. Riparian buffers are a priority practice through this program.
- Environmental Quality Incentives Program (EQIP)

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Holiday Valley representative (Bonnie Koschir)
- Golf Course owners
- Town of Ellicottville
- Village of Ellicottville
- Plan Management Team

SUGGESTED TIMELINE:

Length: Medium (2 years)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Funding for vegetative riparian buffers and maintenance (equipment, staffing)
- Funding and incentive opportunities

IMPLEMENTATION STEPS:

1. Gather information on any previous soil or groundwater testing, fertilizer/herbicide/pesticide use (brand, frequency, quantity, and location of heavy usage).
2. Research fertilizer alternative, BMPs for applying fertilizer.
3. Present this information to Holiday Valley.
4. Provide extended efforts to reach out and educate the public. Keep up with all forms of communication and monitor feedback received.

Project Profile 3.1: Transportation Related-Contamination in the Critical Area (Spills)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Chemical, physical or biological spills that may directly enter the groundwater from vehicles using transportation corridors such as Highway Route 219 and the railroad.

GOALS AND PRIORITIES:

- To reduce the likelihood of spills in the corridors, more specifically around the Town Well.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Regularly updating Emergency Response Plans/Teams.
- Stay in contact with Cattaraugus County Spill Team.
- Maintain regular communication with Hazmat contractor to keep track of any spills on Highway Route 219 (Cattaraugus County oversees contractor).
- NYSDEC response team.
- Hazmat and the county would be called out for any railroad accidents.
- Review All Hazard Mitigation Plan.
- Signage and speed limit changes

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, potential site visit assessment costs, and effort hours to create and update emergency response plans.

Classification: Low

POTENTIAL FUNDING SOURCES:

Internal funding necessary to fund staffing to establish and maintain partnerships, track roadway and railway best management practice compliance.

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Cattaraugus County Spill Team
- Cattaraugus County Office of Emergency Services
- Hazmat contractor
- NYSDEC response team
- Town of Ellicottville Highway Department
- Village of Ellicottville
- Plan Management Team
- Ellicottville Fire Company
- Village DPW

SUGGESTED TIMELINE:

Length: Medium, Ongoing efforts

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Anticipating and quickly responding to spills
- State and County-owned roads are out of the Town and Village's jurisdiction
- Coordination with various partners (listed above)

IMPLEMENTATION STEPS:

1. Reach out to Ellicottville DPW, County and State highway departments to establish a relationship and gain information on current practices (emergency response plans, timing of washing salts off of bridges and roadways, ditch management).
2. Review All Hazard Mitigation Plan and make amendments as necessary to protect the source water from railway and roadway accidents.
3. Educate DPW and highway departments on roadway best management practices. Includes decreasing the frequency that salts are washed off of bridges and roadways, proper ditch management and understanding emergency response plans in case of spills.
 - a. Consider the potential of lowering speed limits in areas of high concern. Conduct traffic studies and identify areas that would benefit from a reduced speed.
4. Continue to utilize and update the PCS inventory to track spills, bridges and/or roadways of concern, and ditches.
5. In the event of a spill, contact the Hazmat contractor and Cattaraugus County Spill Team. Report any railroad accidents to Cattaraugus County Office of Emergency Services.
6. Educate DPW and highway departments that they are located in a critical area for source water.
7. Add signage to roads that say "Entering a Critical Source Water Area".

Project Profile 3.2: Transportation Related-Contamination in the Critical Area (Deicing Materials)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Deicing materials directly entering the groundwater from vehicles that transport it on their tires, frames, etc., as they traverse the transportation corridors (Highway Route 219 and the railroad).

GOALS AND PRIORITIES:

- Reduce the amount of deicing materials entering the groundwater.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Establish partnerships with NYSDOT and highway departments that are responsible for salting the major highways that are located near the well locations.
- Roadway BMPs.
- Review All Hazard mitigation plan that was adopted in 2020, amend to include man-produced spills/railway spills.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, allocating internal funding, effort hours to meet with potential partnerships and subsequent progress meetings, potential site visit assessment costs, and costs to track timing of salt being washed off of bridges and roadways.

Classification: Low

POTENTIAL FUNDING SOURCES:

Internal funding necessary to fund staffing to track roadway best management practice compliance and maintaining relationship with DPW.

- Transit Security Grant (FEMA)

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Cattaraugus County Highway Department/DPW
- Railroad owners
- NYSDOT
- Plan Management Team
- Town of Ellicottville Highway Department
- Ellicottville DPW
- Village of Ellicottville
- Cornell Local Roads Program

SUGGESTED TIMELINE:

Length: Medium (3-5 years)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- State, county, and federal roads are out of the Town and Village's jurisdiction.

- Funding opportunities
- Coordination with various partners on projects (listed above)

IMPLEMENTATION STEPS:

1. Reach out to Ellicottville DPW, County and State highway departments to establish a relationship and gain information on current practices (timing of washing salts off of bridges and roadways, ditch management).
2. Review Hazard Mitigation Plans and make amendments as necessary to protect the source water from railway and roadway accidents.
3. Educate DPW and highway departments on best roadway management practices. Includes decreasing the frequency that salts are washed off of bridges and roadways, proper ditch management and understanding emergency response plans in case of spills.
4. Continue to utilize and update the PCS inventory to track spills, bridges and/or roadways of concern, and ditches.

Project Profile 4.1: Herbicides and Pesticides in the Critical Area (Agricultural Activities)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Infiltration from agricultural land (crops, pastures) brings excess chemicals into the groundwater.

GOALS AND PRIORITIES:

- Reduce the amount of herbicides and pesticides applied in the source water area.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Crop rotation, increased monitoring.
- Integrated Pest Management Plan.
- Can sign up for training and certification on herbicide and pesticide usage through Cornell Cooperative Extension.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to research current conditions, outreach materials and efforts, potential buffer materials, construction, and design, and costs to implement a monitoring system.

Classification: Medium

POTENTIAL FUNDING SOURCES:

- Agriculture Nonpoint Source Abatement and Control Grant Program
 - Assist farmers in preventing water pollution from agricultural activities, riparian buffers are an eligible practice.
- Conservation Reserve Enhancement Program
 - Federal program for protection and restoration of riparian buffers on agricultural land.
- Trees for Tribes
 - Provides landowners, municipalities, and conservation organizations with low/no-cost native plants and free technical assistance.
- Water Quality Improvement Project (WQIP)
 - Distributes money for projects that reduce polluted runoff, improve water quality and restore habitat in New York's waterbodies. Riparian buffers on non-agricultural land are a priority practice through this program.
- NYSAGM/NYS Soil and Water Conservation Committee Source Water Buffer Program
- USDA NRCS Agricultural Conservation Easement Program

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Cornell Cooperative Extension
- Nannen Arboretum
- Owners of the Golf Course
- Plan Management Team

- Town of Ellicottville
- Village of Ellicottville
- Cattaraugus County Soil and Water Conservation District

SUGGESTED TIMELINE:

Length: Medium (2 years)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Ability and feasibility for a farmer to practice crop rotation
- Funding and incentive opportunities

IMPLEMENTATION STEPS:

1. Reach out and meet with SWCD about current BMPs being implemented.
2. Gather information on specific herbicides and pesticides being applied by farmers and residents.
3. Gather information on current riparian buffers and on any historical removal of vegetation in the streambank.
4. Partner with local farmers to address site-specific issues.
5. Apply for funding.

Project Profile 4.2: Herbicides and Pesticides in the Critical Area (Residential and Commercial Sources)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Infiltration from residential land brings excess chemicals into the groundwater. Holiday Valley and the golf course are some of the main focuses.

GOALS AND PRIORITIES:

- Reduce the amount of herbicides and pesticides applied in the source water area.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Increased monitoring and research on usage of herbicides and pesticides.
- Education on the use of herbicides and pesticides and how they affect the groundwater and the homeowner's drinking water source.
- Collaboration with Holiday Valley and Holimont on BMPs.
- Collaboration with Golf Course on BMPs
- Master Gardener program through Cornell Cooperative Extension.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to research current conditions, potential outreach costs (mailings, website fees, etc.), and costs to implement a monitoring system.

Classification: Medium

POTENTIAL FUNDING SOURCES:

- EPA Environmental Education Grants

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Cornell Cooperative Extension
- Nannen Arboretum
- Holiday Valley Golf Course
- Plan Management Team
- Town of Ellicottville
- Village of Ellicottville
- Cattaraugus County Soil and Water Conservation District

SUGGESTED TIMELINE:

Length: Short (<1 year)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Private landowner participation in projects and programs
- Funding and incentive opportunities

IMPLEMENTATION STEPS:

1. Gather information on the current use of herbicides and pesticides. Gather information on what residents currently know about how their use of outdoor chemicals can impact the source water. Gather information on previous efforts to combat this issue.
2. Research BMPs for applying pesticides and herbicides. Research natural alternatives that will not release chemicals into the environment.
3. Present this information to the public and to Holiday Valley. Options include: social media, mailing information, website, email list, public forum, event outreach etc.
4. Provide extended efforts to reach out and educate the public. Keep up with all forms of communication and monitor feedback received.

Project Profile 5: Enacting Protection Methods to Protect the Watershed from Future Development in the Source Water Area

TARGETED POTENTIAL CONTAMINANT SOURCE:

Future contamination from facility operations, land use, and SPDES discharges from unregulated development impacting the groundwater quality. Ellicottville is a resort Town/Village, and attracts high numbers of seasonal employees and tourists.

GOALS AND PRIORITIES:

- Reduce and manage the amount of development in the source water area to protect the drinking water source.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Monitor Development.
 - Potential for investment buying of short-term vacation rentals.
 - General new development.
- Evaluate current land use.
- Build-out Analysis.
- Find opportunities with new development projects to add green infrastructure.
 - Install rain gardens, porous pavement, and other green infrastructure practices to encourage infiltration.
- Future Land Plans - Focus on the lands that are a high priority/will contribute the most to the source water.
- Land acquisition, easements.
- Conservation subdivisions.
- Look into Aquifer Overlay Zones/Stormwater review.
- Look into Wellhead protection areas.
- Special use permits.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to research potential future issues, potential land acquisition costs, potential engineering planning costs, construction, and design, and costs to implement a monitoring system.

Classification: Low/Medium

POTENTIAL FUNDING SOURCES:

- WQIP Land Acquisition for Source Water Protection
- NYSDEC Climate Smart Communities Grant Program
- Green Innovation Grant Program (GIGP)
- NYSDOS Smart Growth Comprehensive Grant Program

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- Plan Management Team

- Town of Ellicottville
- Village of Ellicottville
- Municipal Planner/County Planning Division

SUGGESTED TIMELINE:

Length: Short initial implementation, ongoing monitoring.

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Balancing land protection and economic development
- The land north of the North Well is owned by developers and rented by farmers
- Funding opportunities

IMPLEMENTATION STEPS:

1. Create a monitoring plan for new development. Follow up with new land purchases within the critical and source water area.
2. Educate new landowners on best practices to maintain lawns, gardens, and general properties.
 - a. Create a renter's guide for pollution prevention to include in any rental properties.
3. Consider land purchases for conservation easements. Apply for grant funding.

Build-Out Analysis (See [Build-Out Analysis : ConservationTools](#) for more information)

1. Choose a scale for conducting the build-out analysis. Simple or comprehensive. A comprehensive investigation will require more resources.
2. Start with all parcels within the Town Boundary.
3. Using GIS, create a layer with parcels and land areas that cannot be developed. These areas may be wetlands, conservation easements, unbuildable lot (I.e. slopes >20%).
4. Evaluate current zoning regulations. Integrate maximum lot coverage and building height per district, current or pending development application, identification of existing vacant, developable lots or lots targeted for redevelopment.
5. The result would be maximum development potential in square feet by zoning district, assessment of build-out potential and related traffic impacts, and the ability to make recommendations related to land use and transportation improvements.

Project Profile 6.1: Management of Regulated Potential Contaminant Sources (Bulk Storage and Spill Incidents)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Chemical leaks and spills of petroleum, diesel fuel, or various chemicals stored in aboveground or underground bulk storage tanks may allow contaminants to enter the groundwater within the critical area or source water area. Spill incidents from facilities of this nature or other sources are a threat as well. This could contaminate the water source, necessitating increased treatment/costs as well as other restrictions on the use of the water source. This could cause further environmental and ecosystem damage as well.

GOALS AND PRIORITIES:

Enhance communication with specific facilities or NYSDEC staff that work with these regulated facilities to understand the nature of the threat and associated risk and response efforts.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include a thorough review of and appropriate response to potential regulatory and environmental issues regarding chemical and petroleum bulk storage facilities.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to research current conditions and to research databases, potential site visit assessment costs, potential spill response costs, potential engineering planning costs, construction, and design, and costs to implement a monitoring system.

Classification: Low

POTENTIAL FUNDING SOURCES:

Internal funding necessary to ensure regulatory compliance.

Any facilities found to be out of compliance would not receive funding, as this is a due-diligence instance of legal regulatory compliance.

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- NYSDEC Climate Smart Communities Grant Program
- NYSDOH
- Local PBS and CBS facilities
- Facilities with history of spills or those at high risk of spills.
- Plan Management Team
- Town and Village of Ellicottville

SUGGESTED TIMELINE:

Length: Short (<1 year)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Funding opportunities

- Participation from private companies

IMPLEMENTATION STEPS:

1. Use NYSDEC PBS, CBS, and spills databases to finalize list of regulated facilities within the critical area. The PCS inventory is up to date with this information as of 2021.
2. Conduct a site visit to all facilities to confirm the location and status of tanks. Take note of any aging or deficient tanks. Identify any violations cited at any facility.
3. Partner with owners of facilities and review requirements for facilities to have [Spill Prevention, Countermeasure, and Control \(SPCC\) Plans](#) (40 CFR Part 112) or Spill Prevention Reports (6 NYCRR 598.1(k)), if applicable.
4. Create required plans for each facility, ensure that plans are up to date and are compliant with NY Code of Rules and Regulations (NYCRR). Bulk storage regulations can be found in [NYCRR Subchapter E](#). Applicable CBS regulations can be found in Parts 596-599, and PBS regulations are found in Part 613.
5. Create a monitoring system for plan upkeep and adherence.

Project Profile 6.2: Management of Regulated Potential Contaminant Sources (Waste Management and Disposal)

TARGETED POTENTIAL CONTAMINANT SOURCE:

Contaminants from leachate or other sources from a waste management and disposal site (such as a Hazardous Waste Management Facility) could contaminate groundwater, causing environmental issues as well as increasing the need for treatment.

GOALS AND PRIORITIES:

To enhance communication and monitoring of local facilities within the critical area that manage and handle disposal of various wastes.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Review of current operations including contaminants of concern.
- Quantify the frequency, quantity, and type of waste disposal.
- Review site status.

POTENTIAL COSTS:

Potential costs include: Effort hours to apply for funding, effort hours to meet with potential partnerships and subsequent progress meetings, effort hours to research current conditions and to research databases, potential site visit assessment costs, potential waste management costs, potential engineering planning costs, construction, and design, and costs to implement a monitoring system.

Classification: Low

POTENTIAL FUNDING SOURCES:

Internal funding necessary to ensure regulatory compliance.

- USDA Waste Management Grants
- NYSDEC Climate Smart Communities Grant Program

Any waste management facilities found to be out of compliance would not receive funding, as this is a due-diligence instance of legal regulatory compliance.

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- NYSDEC Climate Smart Communities Grant Program
- Town and Village of Ellicottville
- NYSDOH
- Plan Management Team
- Waste Management
- Village DPW

SUGGESTED TIMELINE:

Length: Short (<1 year)

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Facility willingness to participate in efforts.
- Funding opportunities
- Regarding Watershed Rules and Regulations:
 - Funding (both updating the document and staffing).
 - Time needed to be accepted by the municipalities and state agencies.

IMPLEMENTATION STEPS:

1. Reach out to facilities to establish a relationship, gather information about status of sites, type, quantity and frequency of waste disposed, documentation such as hazardous waste manifests, and previous efforts completed.
2. Conduct a site visit to screen for potential issues.
3. Identify any potential contaminant sites or conclude that no contamination is occurring.
4. Work with the facility to bring all operations into compliance.
5. Create a monitoring system for upkeep with operations.

Project Profile 6.3: Management of Regulated Potential Contaminant Sources (SPDES Facilities Discharges)

TARGETED POTENTIAL CONTAMINANT SOURCE:

SPDES discharges (facility discharges) causing chemical, biological or physical leaks and spills may allow contaminants to enter the groundwater.

GOALS AND PRIORITIES:

- To enhance communication with specific facilities or NYSDEC staff that work with these regulated facilities to understand the nature of the threat as associated risk and response efforts.

SUMMARY OF PROTECTION AND MANAGEMENT METHODS:

Methods to reduce the risk and mitigate the threat include:

- Review existing permits and compliance information.

POTENTIAL COSTS:

Potential costs include: Effort hours to meet with SPDES permitted facilities and subsequent progress meetings, effort hours to research current conditions and to research databases, potential site visit assessment costs, and costs to implement a monitoring system.

Classification: Low

POTENTIAL FUNDING SOURCES:

Internal funding would be required for monitoring and reviewing of facilities.

Any SPDES permitted facilities found to be out of compliance would not receive funding, as this is a due-diligence instance of legal regulatory compliance.

POTENTIAL PARTNERSHIPS - PEOPLE AND AGENCIES INVOLVED:

- NYSDEC Division of Water
- NYSDOH
- SPDES permitted facilities
- Plan Management Team
- Town of Ellicottville
- Village of Ellicottville

SUGGESTED TIMELINE:

Length: Short

CONSIDERATIONS FOR THE PLAN MANAGEMENT TEAM:

- Facility willingness to participate in efforts.
- Funding and incentive opportunities

IMPLEMENTATION STEPS:

1. Reach out to facilities to establish a relationship, gather information about status of sites, type, quantity and frequency of waste disposed, documentation such as hazardous waste manifests, and previous efforts completed.
2. Conduct a site visit to screen for potential issues.
3. Identify any potential contaminant sites or conclude that no contamination is occurring.
4. Work with the facility to bring all operations into compliance.
5. Create a monitoring system for upkeep with operations.

Appendix D
Cost Estimates

Preliminary Cost Estimate

Note: These estimates are based on an opinion of time requirement. Dependent on emerging needs or altered priorities, these could change. It is recommended that dedicated staff are designated to assist with these efforts, and it is not assumed that consultants will be hired to lead these efforts. The wage rate is based on one staff person with a salary of \$77,000, including a 75% increase for staff benefits, overhead costs, etc. This cost estimate is based off of occupational wage rates estimated by NYS Department of Labor in Q1 2021 dollars for an average environmental scientist. Estimates do not include any materials or construction costs. Estimated costs only include effort hours, and time requirements are outlined below. Please note that many efforts across various projects can be combined to save costs. For the purposes of this estimate, each project is estimated individually. It is likely that actual costs will be lower given that efforts for steps like education and outreach are combined.

	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Time Requirements	Weekly Hourly Requirements	Hours Required	Labor Cost per Hour (NYS DOL Wages)	Total Cost
1	Do not own the critical area around the Village South Well	Reduce the possibility of direct wellhead contamination.	Land acquisition for a 100' radius around the wellhead Work with the attorneys	1 Year	Meetings, site visits, drafting purchasing.	1	52	\$64.78	\$3,369
2	Potential Contaminants entering the aquifer within the critical area	Mitigate the amount of contaminants seeping into the groundwater.	Vegetative buffers, tree planting Maintain communication with Cattaraugus County Soil and Water	~2 Years	Site visits, design, meetings.	20	2080	\$64.78	\$134,750
			Vegetative buffers, tree planting Encourage raingardens and retention ponds for aquifer recharge Communication with the Golf Course	~2 Years	Site visits, design, meetings.	20	2080	\$64.78	\$134,750
3	Transportation Related-Contamination in the Critical Area	To reduce the likelihood of spills in the corridors, more specifically around the Town Well	-Emergency Response Plan/Team -Spill team in place with Catt County >>Hazmat contractor for any spills on Route 219 (County oversees contractor) -Volunteer firefighters -DEC response team -Hazmat and the county would be called out for any railroad accidents	~3-5 Years	Developing plan, meetings.	1	260	\$64.78	\$16,844
		Reduce the amount of deicing materials entering the waterbody	-Establish a partnership with the Department of Transportation that is responsible for salting the major highways that run by the well locations. -Roadway BMPs -Review All Hazard mitigation plan that was adopted in 2020, amend to include man-produced spills/railway spills	~3-5 Years	Partnering meetings, developing plan.	1	260	\$64.78	\$16,844

Preliminary Cost Estimate

Note: These estimates are based on an opinion of time requirement. Dependent on emerging needs or altered priorities, these could change. It is recommended that dedicated staff are designated to assist with these efforts, and it is not assumed that consultants will be hired to lead these efforts. The wage rate is based on one staff person with a salary of \$77,000, including a 75% increase for staff benefits, overhead costs, etc. This cost estimate is based off of occupational wage rates estimated by NYS Department of Labor in Q1 2021 dollars for an average environmental scientist. Estimates do not include any materials or construction costs. Estimated costs only include effort hours, and time requirements are outlined below. Please note that many efforts across various projects can be combined to save costs. For the purposes of this estimate, each project is estimated individually. It is likely that actual costs will be lower given that efforts for steps like education and outreach are combined.

	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Time Requirements	Weekly Hourly Requirements	Hours Required	Labor Cost per Hour (NYSDOL Wages)	Total Cost
4	Herbicides and Pesticides in the Critical Area	Reduce the amount of herbicides and pesticides applied in the source water area	<ul style="list-style-type: none"> >Crop rotation, increased monitoring. >Integrated Pest Management Plan. https://www.epa.gov/safepestcontrol/tips-reducing-pesticide-impacts-wildlife#farmers >Can sign up for training and certification on the use of herbicides and pesticides through Cornell Coop Ext. 	~2 Years	Developing plan, meetings.	1	104	\$64.78	\$6,738
			<ul style="list-style-type: none"> >Education on the use of herbicides and pesticides and how they affect the groundwater and the homeowners drinking water source. >Master gardener program through Cornell Coop Ext. 	~3 Months	Meetings, preparing outreach material, preparing surveys, attending outreach events.	5	65	\$64.78	\$4,211
			<ul style="list-style-type: none"> -Continue conversations with Holiday Valley -Educate the golf course on H&P uses -Plans on handling H&P (IPM, integrated vegetation) -Encourage the golf course to look at BMPs 	~3 Months	Meetings, preparing outreach material, preparing surveys, attending outreach events.	4	52	\$64.78	\$3,369

Preliminary Cost Estimate

Note: These estimates are based on an opinion of time requirement. Dependent on emerging needs or altered priorities, these could change. It is recommended that dedicated staff are designated to assist with these efforts, and it is not assumed that consultants will be hired to lead these efforts. The wage rate is based on one staff person with a salary of \$77,000, including a 75% increase for staff benefits, overhead costs, etc. This cost estimate is based off of occupational wage rates estimated by NYS Department of Labor in Q1 2021 dollars for an average environmental scientist. Estimates do not include any materials or construction costs. Estimated costs only include effort hours, and time requirements are outlined below. Please note that many efforts across various projects can be combined to save costs. For the purposes of this estimate, each project is estimated individually. It is likely that actual costs will be lower given that efforts for steps like education and outreach are combined.

	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Time Requirements	Weekly Hourly Requirements	Hours Required	Labor Cost per Hour (NYSDOL Wages)	Total Cost
5	Enacting protection methods to protect the watershed from future development in the source water area	Reduce and manage the amount of development in the source water area to protect the drinking water source	-Monitor Development -Potential for investment buying, VRBO -Evaluate current land use -Build-out Analysis -Raingardens to encourage infiltration	Ongoing, efforts concentrated in one year	Meetings, monitoring, site visits.	5	260	\$64.78	\$16,844
			New York State Watershed Rules and Regulations (WRR)	10 years	Planning, meetings, rules and regulations research, updating WRR	5	2600	\$64.78	\$168,438
			Future Land Plans: (focus on the lands that are a high priority/will contribute the most to the source water) -Land acquisition, easements -Conservation subdivisions -Look into Aquifer Overlay Zones/Stormwater review -Special use permits	Ongoing, efforts concentrated in one year	Meetings, land acquisition planning.	5	260	\$64.78	\$16,844
		Hydrologic Resilience	Encourage raingardens and retention ponds for aquifer recharge in areas with low risk to contamination within the source water area. Stormwater review	3 years	Design, Meetings, site visits	5	260	\$64.78	\$16,844
6	Management of Regulated Potential Contaminant Sources	To enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand the nature of the threat as associated risk and response efforts.	-Refer to the DWSP maps and the PCS inventory for any storage tanks in the critical or source water area. Monitor and inspect these tanks as they could leak causing a contaminant plume.	~5 Months	Meetings, Site visits for monitoring.	2	43	\$64.78	\$2,807
			-Refer to the DWSP maps and the PCS inventory for any spills in the critical or source water area. Monitor and inspect spills.	~5 Months	Meetings, monitoring, site visits.	2	43	\$64.78	\$2,807
			-Refer to the DWSP maps and the PCS inventory for any waste sites in the critical or source water area. Monitor and inspect these sites	~5 Months	Meetings, monitoring, site visits.	2	43	\$64.78	\$2,807
			Review existing permits and compliance information	~1 Year	Meetings	1	52	\$64.78	\$3,369
			Review existing pipeline information.	~5 Months	Meetings	0.75	16	\$64.78	\$1,053
*Cost estimates are based on existing labor resources. For projects beyond the scope of internal resources that require contractual support, costs will be higher; excepted range is 30-70% increase from base estimates. The Plan Management Team and the Town and Village of Ellicottville should have a more in-depth discussion about the capital construction costs of the implementation actions prior to submitting grant applications.								Total	\$552,700.00

Barton
& **Loguidice**



SHUMAKER
Consulting Engineering & Land Surveying, P.C.



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