TOWN OF WESTFIELD

Village Wastewater Study

Preliminary Engineering Report - 60% Draft

Vermont State Department of Environmental Conservation

Prepared for the:

Town of Westfield
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1 PROJECT PLANNING

1.1 Location

The Town of Westfield is located in Orleans County in northern Vermont. The Town borders the Town of Jay to the North, the Town of Troy to the East, the Town of Lowell to the South, and the Town of Montgomery to the west. Refer to Figure 1.1: *Project Location Map*. **The Town lies within the Lake Champlain drainage basin**.

The project is focused on the Designated Village Center area within the Town of Westfield. The report study area extends slightly beyond the Designated Village Center, as shown in Figure 1.2: Sewer Service Area, to include nearby areas within ¼-mile of the Village Center into the project. The Sewer Service Area is defined solely to identify the geographic limits of the project evaluation and does not represent the extent of any potential **future wastewater solution**.

1.2 Environmental Resources Present

The Town of Westfield is located adjacent to mountainous terrain, agricultural farmlands and flood zones, as well as the Missisquoi River. This section briefly discusses the environmental resources present in and around the project area. Additional information is provided in the Environmental Information Document (EID), which is included in Appendix A.

1.2.1 Landmarks and Historic Features

The Town of Westfield has two buildings that are treasured by the community. The Hitchcock Museum and Library and the Community Center serve as gathering places and anchor the village center.

The Hitchcock Museum and Library is a Westfield landmark, built in 1899 with funds donated by Aaron E. Hitchcock, a local farmer, businessman, and real estate investor of the time. The museum currently houses a natural history collection, wild game trophies from around the world, ships-in-bottled, Town historical photos, documents, and farming objects.

The Westfield Community Center was formerly the Village School, circa 1860. The building has been modernized and raised onto a foundation, and is now used for senior meals and activities, civic groups, and Town/board meetings.

The Long Trail runs through the Town of Westfield, and a portion known as Hazen's Notch is a scenic and historic area. The Notch has been designated a Natural Heritage Site. Most of the land is owned by the State, but some private ownership provides access to some forests and camps.

1.2.2 Archeological Sites

The Missisquoi River, on the east side of the Town and a main water body in the Village, is designated as a corridor of "expected archeological sensitivity". Due to the nature of the land topography and slopes, and considering the distances to water, food, and other natural resources, the likelihood that archeological sites

are present in this area are significant. Care will be taken during the soils investigation to coordinate with the Vermont Division for Historic Preservation (VDHP) and have an archeologist on site during test pits.

Once the Town board has selected the Alternative and directed the engineer to proceed with Step 2 and the design of the infrastructure, the preliminary design documents of infrastructure improvements will be submitted to VDHP again for a final determination of any impact on archaeological and/or historic resources.

1.2.3 Wetlands

According to the Westfield Town Plan, there are 444 acres of wetlands in the Town. While many of these are comprised of small areas scattered throughout the town, the majority of the wetlands in and near the project area lie in the fields along the Missisquoi River, as shown in Figure 1.3: *Village Wetlands*.

1.2.4 Floodplains

Changes in local weather patterns in recent years have increased the frequency of severe and intense storms in Vermont, which have emphasized the need to verify that proposed work can withstand the 100-year (one percent recurrence interval) and possibly the 500-year (0.5 per cent recurrence interval) flooding events. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) are used to determine the extent of the (100) year and (500) year flood.

Refer to Figure 1.4: *FEMA Flood Hazard Areas* shows that areas within the project adjacent to the Missisquoi River and its tributaries are prone to flooding. These areas have been designated as Zone A on the Flood Hazard Boundary Map, indicating they are areas with a 1% annual chance of flooding. Detailed analyses have not been performed for these areas and therefore there is no known base flood elevation, however it is known that these areas are prone to flooding and should be avoided for a potential wastewater disposal area. Refer to *Figure 1.4: FEMA Flood Hazard Areas.*

1.2.5 Existing Soils

Hydrologic Soil Groups are classifications developed by the U.S. Department of Agriculture's Natural Resources Conservation Service (USDA-NRCS) to estimate the runoff potential of soils. Soils are assigned to one of four groups – A, B, C, or D – based on the infiltration rate of the soil and water transmission potential under conditions of maximum wetness (i.e., when the soil is thoroughly wetted and vegetative cover is established). Classifications may also appear as dual groups – A/D, B/D, or C/D – where drainage conditions significantly alter the soil's hydrologic behavior. These classifications are commonly used in wastewater planning and stormwater management to assess site suitability, determine appropriate system design, and evaluate potential environmental impacts.

The Proposed Sewer Service Area includes a mixture of different soil types and hydrologic soil group classifications. Much of the Proposed Service Area includes soils designated as Group B, C, D, or in dual groups. Below is a description of each hydrologic soil group description and discussion of suitability for wastewater discharge. Refer to Figure 1.5 for mapping and additional descriptions of the soils present in the

Proposed Sewer Service Area and Village of Westfield.

Soils in Group A have a high infiltration rate when thoroughly wetted, and are generally consisting of deep, well-drained sands or gravels with low runoff potential. Soils in this group are most favorable for infiltration-based systems, such as mounds or infiltration beds due to excellent percolation and transmissivity.

Soils in Group B have a moderate infiltration rate when thoroughly wetted, and are generally well-drained soils with moderate rates of water transmission (i.e., loams). Soils in this group are typically suitable for many wastewater disposal methods, though site-specific conditions must still be evaluated. Transmissivity and percolation are adequate but may be sensitive to compaction or seasonal saturation.

Soils in Group C have a slow infiltration rate when thoroughly wetted, and are generally consisting of finer texture (e.g., clay loams) with restrictive layers or moderately high water table. Soils in this group may require engineered solutions or alternative designs to address the slow percolation and limited water movement. These soils are not typically desirable for wastewater disposal methods, though site-specifical conditions must still be evaluated.

Soils in Group D have a very slow infiltration rate when thoroughly wetted, and are generally consisting of clays, silty clays, or soils with a high water table or shallow impermeable layer. Soils in this group are the least favorable for infiltration-based systems and often require advanced treatment or alternative discharge methods. Mound systems with engineered fill are typical for soils in this group.

Some soils are classified as dual groups (A/D, B/D, C/D) when natural drainage is poor (D), but improved drainage (by artificial means such as underdrains or mounding) can elevate the soil's performance to match a better hydrologic group (A, B, or C). These soils initially have low permeability and transmissivity due to shallow water tables or restrictive layers. With engineered improvements, such as underdrain installation or mounding above the seasonal high groundwater, the soil potential may be restored for higher percolation and acceptable design performance.

While USGS-NRCS mapping is a good indicator of the soils present in a location, it is necessary to confirm the presence of soils through site evaluation including methods of soil borings, percolation testing, soil excavations and seasonal high water table identification to determine if the dual classification can be relied upon for design. Dual group designations emphasize the need for long-term performance considerations, especially for systems relying on infiltration in marginal or seasonally saturated conditions.

1.2.6 Farmland and Agricultural Lands

A large portion of the report study area to the south of Route 100 is designated as agricultural land cover. Refer to Figure 1.6: *Agricultural Land Cover*. Furthermore, nearly the entire Designated Village Center is comprised of primary agricultural soils, see Figure 1.6.1: *Prime Ag Soils*. Prime agricultural soils are defined by the USDA as soils that have the physical and chemical characteristics necessary to produce sustained

high yields of food, feed, forage, fiber, and oilseed crops with minimal inputs (such as fertilizers or irrigation). According to the USDA-NRCS, prime farmland soils possess traits of good moisture retention and drainage, favorable soil texture and structure, adequate depth and fertility, minimal risk of erosion or flooding, and consistent temperature and growing season length. In Vermont, prime agricultural soils are especially valuable because of the state's limited flat and fertile land. These soils are typically identified and classified by the Soil Survey data (SSURGO) and are protected under various state and federal policies. Most of this land is designated as conserved farmland through the Vermont Land Trust, see Figure 1.5: *Conserved Land and HSG*.

For consideration of wastewater impact to farmland and prime agricultural soils, projects proposed on or adjacent to prime agricultural soils may require mitigation or avoidance strategies to minimize soil disturbance. Wastewater design systems (such as leach fields or soil-based disposal) should account for the preservation of agricultural productivity to ensure that soil health, compaction, and nutrient management are addressed.

1.2.7 Conserved Lands

The Designated Village Center is surrounded by conserved lands to the south of Route 100. Many of these lands coincide with agricultural lands and prime ag soils, as discussed above. Furthermore, there are large portions of land that lie along Route 100 towards the Town of Troy that are also conserved as shown in Figure 1.5.

1.2.8 Coastal Zones

There are no coastal zones in or near the project area. As Figure 1.1: *Project Location Map* and Figure 1.2: *Sewer Service Area* show, the Town of Westfield is landlocked in northern, central Vermont. The Designated Village Center and sewer service area are not near any major water bodies, besides the Missisquoi River.

1.2.9 Rivers

The Sewer Service Area is adjacent to the Missisquoi River, and its tributaries run through the Village. The Missisquoi River runs across the northwestern part of Vermont and into southern Quebec. These rivers and streams provide cultural, scenic, and recreational value to the community. With a mix of high-elevation cold-water and slower-flowing warm water, the river supports a variety of fish and wildlife.

1.2.10 Fish and Wildlife

According to the Vermont ANR Atlas, there are no fish and wildlife habitat blocks or management areas within the sewer service area or the surrounding lands.

1.2.11 Endangered Species

The Vermont ANR Atlas indicates there are no endangered species present in the project area or along the Route 100 corridor leading to the Town of Troy. **Statewide bat species are known to occur throughout Vermont and may utilize forested areas for roosting and foraging. Several of these species including Indiana bat (*Myotis sodalis*), Northern long-eared bat (*Myotis septentrionalis*), Little brown bat (*Myotis***

lucifugus), Eastern small-footed bat (_Myotis leibii_), and Tricolored bat (_Perimyotis subflavus_) are listed as state threatened or species of concern, and the Northern long-eared bat is federally listed as threatened. While the ANR Atlas does not identify mapped endangered species occurrences within the project area as shown in Figure 1.7, statewide bat species must be considered if project activities involve tree clearing or forest disturbance.

ANR guidance indicates that the bat active season generally extends from June 1 through October 31, with the maternity season occurring from June 1 through July 31. No tree clearing is currently proposed; however, if a selected alternative requires forest disturbance, additional evaluation and coordination with ANR will be completed during design and permitting, and appropriate seasonal restrictions or avoidance measures will be implemented as necessary.

1.2.12 Hazardous Sites & Waste Production Locations

The Vermont Agency of Natural Resources (ANR) Atlas and the Vermont Environmental Research Tool (ERT) indicate that there are several locations within the Town of Westfield that are identified with hazardous materials activities, storage, and management. These include documented hazardous sites, underground storage tanks (USTs), and waste production or transfer facilities as shown in Figure 1.8. A summary of each location, the type of hazardous material activity, and any known or potential impacts to the project area is provided below.

1.2.12.1 Hazardous Sites

AOT Westfield – The ANR Atlas identifies this site (HazSites ID 880236) as associated with historical petroleum releases from underground storage tanks at the Vermont Agency of Transportation (AOT) facility in Westfield. The site includes documented contamination from gasoline-related releases. The VTDEC evaluates and tracks this location through its HazSites program. The current designation for this site is No Further Action Planned (NFAP), indicating that DEC oversight has concluded, and no ongoing remedial activities are required. No active hazardous conditions have been reported that would affect areas beyond the immediate site.

Meunier's/Westfield Garage and Crane Residence – This location appears in the ANR Atlas under HazSites ID 982392. It is mapped based on historical petroleum storage and releases associated with Meunier's Garage and the Crane Residence. The site has undergone investigation and subsequent management activity by DEC. Like the AOT Westfield site, it is designated No Further Action Planned (NFAP), indicating that documented releases have been addressed, and no additional cleanup work is currently

required. There is no record of active contamination affecting groundwater or surrounding properties based on ANR Atlas data.

1.2.12.2 Underground Storage Tanks

Westfield General Store

The Westfield General Store is listed in the ANR Underground Storage Tank database as an active petroleum storage facility. The site has two operating gasoline tanks with capacities of 6000 gallons and 4000 gallons, for a total of 10000 gallons of active storage. Several older tanks have been removed. There is no active hazardous site record for this property, and no documented releases that require additional management. The active tanks remain regulated under the Vermont DEC UST program.

1.2.12.3 Hazardous Waste Production/Storage Locations

Westfield General Store

In addition to USTs, the store may produce small quantities of hazardous waste typical of general retail or service operations, such as solvents, cleaning agents, or other regulated materials. These wastes are managed under Vermont hazardous waste regulations applicable to Very Small Quantity Generators (VSQGs).

Westfield Recycling & Transfer Station

The Westfield Recycling & Transfer Station serves as a collection point for municipal solid waste and recyclables and may periodically handle household hazardous waste during district-organized collection events. The facility does not generate hazardous waste in significant quantities but serves as a temporary consolidation point for materials such as fluorescent lamps, batteries, used oil, and paints. Appropriate containment and storage practices are regulated through the regional waste district and Vermont DEC oversight.

VTrans – Westfield Maintenance Facility

The VTrans facility located in Westfield stores fuels, lubricants, antifreeze, and other maintenance-related materials. Such facilities typically generate small quantities of hazardous waste and implement Spill Prevention, Control, and Countermeasure (SPCC) procedures. Available ANR data do not indicate any active hazardous site record associated with the VTrans Westfield location.

1.2.12.4 Other Locations Beyond Town of Westfield

Several mapped hazardous sites and USTs exist in the Town of Troy, south of Westfield. These sites are outside the project planning area and are not expected to influence groundwater conditions within Westfield.

1.3 Population Trends

According to the 2020 census from the U.S. Census Bureau, the population of Westfield at that time was 534. This is a slight decrease from the 2010 census that reported a population of 536.

Census Year	Population[1]	↑ or ↓	% Change
1900	646		
1910	613	↓	5.11%
1920	490	↓	20.07%
1930	448	↓	8.57%
1940	354	↓	20.98%
1950	358	↑	1.13%
1960	347	↓	3.07%
1970	375	↑	8.07%
1980	418	↑	11.47%
1990	422	↑	0.95%
2000	503	↑	19.19%
2010	536	↑	6.56%
2020	534	↓	0.37%

[1]*Source: United States Census Bureau*

The census data demonstrates population decline in the Town from 1900 to 1960, but then it began to increase in the latter half of the 20th century until the most recent Census. The trend from the last 40 years indicates that the population of the Town may be stabilizing.

The Village is not listed separately in the census data, however based on the 2023 American Community Survey, the average household size is approximately 2.68. With an estimated 63 parcels included in the Sewer Service Area, it gives an estimated Village population of 168, about 32% of the Town's population.

In the last 20 years, the Town population has increased about six percent. Assuming similar trends in the Village, the village population is estimated to grow to about 178. Based on recent studies looking at infill development in urban areas, dedicated efforts to expand residential housing in the Village indicates population growth could be expected to increase by about 5% in addition to natural population growth.

1.4 Community Engagement

The Town is committed to maintaining clear and consistent communication with community members throughout the planning and feasibility phase of a potential wastewater project. To initiate public outreach, the Town mailed a survey to property owners and residents within the Proposed Service Area. These letters included a summary of the project scope and information on where additional resources and updates could be accessed. Later sections of this report include discussion of survey results. Refer to Chapter 2. *Existing Facilities.*

At the Town's request, AES Northeast assisted in the development of a project overview that has been published on the Town's official website. This page includes project background, timelines and information regarding upcoming public meetings/workshops.

In compliance with Vermont DEC funding and public participation requirements, the Town will hold a series of three public meetings at the 30%, 60%, and 90% completion stages of the Preliminary Engineering Report. These meetings will serve as formal opportunities to present the project status, share technical findings, and gather input from community members. Each session will be structured to encourage inclusive dialogue, use accessible language, and ensure that questions and concerns from all stakeholders are heard and considered. These meetings will include pertinent information such as understanding of project need, discussion of potential alternatives, the utility operational service levels that may be required, and funding and revenue strategies to meet VTDEC requirements, along with other applicable considerations.

The Town and AES Northeast recognize the value of community input and are committed to ensuring that the engagement process is respectful, transparent, and responsive. Feedback collected during these meetings will be used to inform project decisions and ensure that community concerns are meaningfully addressed as the project advances through potential design and permitting.

Discussion of feedback collected during these meetings will be addressed in later sections of this report along with feasibility analysis of the alternatives.

2 EXISTING FACILITIES

The Town of Westfield does not currently have a municipal sewer system. The homes and businesses in the Designated Village Center and surrounding area are served by individual, private septic systems located on their properties. The Town sent a survey to the 65 properties included in the Proposed Sewer Service Area (PSSA) asking for information on the existing wastewater systems. The Town received responses from 28 property owners (43%), which helped to inform the general statements made in Chapter 2 and Chapter 3 of this report.

A blank copy of the survey is attached in Appendix B.

2.1 Existing Facilities Mapping

Since the Town does not have their own municipal wastewater infrastructure, the Town does not possess a map of existing individual, private septic systems used by residents. The Town plans to perform site visits to each location within the PSSA to flag at-grade where wastewater pipes exit structures and pathways to existing septic systems, if known. The Town intends to perform this work with assistance from property owners within the PSSA. These locations will be integrated into GIS to map the existing wastewater systems and serve as a reference for the design phase when it may be necessary to determine connection points for a potential new collection system.

The Vermont ANR Public Water Sources and Drinking Water databases indicate that Westfield Fire District 1 operates a regulated public water supply serving portions of the Town of Westfield. This system includes one or more public wells and associated distribution infrastructure that supply potable water to customers within the Fire District service area. In addition to the public system, properties outside the Fire District are served by individual private wells or springs, which are not regulated as public water supplies but provide drinking water for residential use.

The location of the public water supply and Fire District service area is shown on Figure 2.1: Westfield Public Wells. The majority of properties within the service area depend on private wells, and the approximate locations of these private drinking water sources are shown on Figure 2.2: Westfield Private Wells.

The reliance on private wells for drinking water, combined with the presence of a limited public water system, highlights the importance of protecting groundwater quality within the service area. Improved wastewater collection and treatment could reduce the potential for groundwater contamination and provide indirect protection of both public and private drinking water sources. Water supply considerations will be reviewed during design and permitting to ensure compatibility with the selected wastewater alternative and protection of existing sources.

2.2 History

It is unknown when most of the privately owned septic systems were constructed. Many are thought to be original to the construction of the buildings, though some have been replaced in recent years. All 26 survey responses gave an indication of when their system was built. Twelve percent of respondents indicated their system was constructed before 1970, 19% between 1970 and 1989, 15% between 1990 and 2006, 19% after 2007, and 31% didn't know. A more detailed evaluation of septic system status and dates of construction will be completed during design. There have not been any recorded violations of regulatory requirements for any of the privately owned septic systems in Westfield.

2.3 Condition of Existing Facilities

The Town and property owners have indicated that the majority of these septic systems use traditional in-ground trench disposal fields. Some properties may have another type of system such as a mound, at-grade system, or other. Through discussions with the Town, it was understood that the existing systems are frequently inundated by flooding and are at the end of their useful life. However, of the 26 property owners that answered the survey, the majority (62%) of respondents indicated that they do not have any issues with their septic system, 23% didn't answer, and 15% indicated they may occasionally experience wetness, sewage on the ground, or basement backups.

Most of the properties in the PSSA are residential, and from the survey it appears that the majority of the homes are 3-bedroom. Very few property owners have a copy of the design documents, as it is assumed that most of the systems were constructed prior to State Wastewater permits (and therefore exempt from the permit requirements). However, it is assumed that the systems have the capacity to handle the wastewater flows from their respective buildings. Many of the existing systems do not have any capacity to add additional connections.

The estimated wastewater flows for current usage are summarized in the table below. These design flow estimates were calculated in accordance with Section 1-803 of the Vermont Wastewater System and Potable Water Supply Rules (effective November 6, 2023). There are approximately 71 parcels within the proposed sewer service area, of which the majority are residential. Design flow for residential parcels was estimated based on a standard 3-bedroom single-family residence at 70 gallons per day (gpd) per bedroom, unless otherwise specified in survey responses. The remaining parcels include commercial, institutional, or mixed-use properties, for which flow estimates were determined using appropriate unit rates, such as 15 gpd per employee or seat, depending on the specific type of use (Refer to Appendix C for design flow calculations).

Type of Connection	Design Flow (gpd)
Residential (59)	26,110
Commercial (12)	4,970
Total Estimated Daily Flow	**31,080**

Future wastewater demand is influenced by various factors, including population growth, regional development, and commercial expansion. For this study, projections are based on the current estimated flows and anticipated growth trends. Applying a projected 6% population increase over the next 20 years, along with an additional 5% increase attributed to infill development, the future wastewater flow is estimated to reach approximately 35,000 gpd.

2.4 Financial Status of any Existing Facilities

The existing septic systems are privately owned, and therefore residents do not pay a sewer tax quarterly or annually, and there are no shared O&M costs associated with wastewater disposal. Without a municipal system, the Town does not currently have any existing debts or reserve accounts related to a wastewater utility. The American Community Survey reported the median household income (MHI) in 2023 to be $90,625. This is higher than the MHI reported throughout the State of Vermont in 2023 as $81,211.

2.5 Water/Energy/Waste Audits

At this time, the Town of Westfield has not conducted any water, energy, or waste audits associated with this project.

3 NEED FOR PROJECT

3.1 Health, Sanitation, and Security

The Town has reported many of the existing septic systems are frequently inundated by flooding and are at the end of their useful life. When septic systems age and start to fail it raises health concerns for the community. Groundwater or surface water may become contaminated if the soil is not properly treating the wastewater. Furthermore, raw sewage exposure becomes hazardous in yards or basements from backups or overflows and can result in unpleasant odors. Slow drains or toilet overflows can lead to sanitation concerns inside the home, and standing sewage on lawns can attract pests, insects, and rodents.

3.2 Aging Infrastructure

The Town has reported ongoing challenges with many of the existing septic systems in the Village, indicating that these systems are nearing the end of their useful life. There have been complaints of a sewage odor throughout the Village during the springtime, which is evidence that the systems are not functioning properly.

A wastewater permit search revealed that some of the properties in the Sewer Service Area have already replaced their original septic system. A detailed search should be incorporated during design to make sure that the properties that need to upgrade their system are included in the project and those that already have are not.

3.3 Reasonable Growth

In 2024, Vermont introduced Act 181, new legislation aimed at revising land use planning, including a focus on infill development of vacant areas within the Designated Village Center. The intent is to balance growth, protecting natural resources, and the state's rural character. Studies have shown that infill development leads to population growth by increasing population density by building residential housing on vacant or underutilized parcels to accommodate more residents. Infill development may specifically encourage the creation of multi-family units and accessory dwelling units (ADUs), which can help meet housing demand and affordability challenges. The Town hopes to take advantage of this new law to encourage the expansion of infill with these higher density dwellings in the village area. However, the existing wastewater infrastructure in the Village does not currently support such development. This report seeks to study alternatives that will improve wastewater disposal and treatment in the Village and allow for increased density.

Based on recent studies that evaluated infill development in urban areas, dedicated infill efforts to expand residential housing in the Village indicate population growth could be expected to increase by about 5% in addition to natural population growth. Much of the undeveloped land in the Sewer Service Area is conserved as dedicated farmland by the Vermont Land Trust and cannot be developed in the future. This limits infill development to increasing density through multi-family housing and accessory dwelling units.

4 ALTERNATIVES CONSIDERED

Wastewater planning for small rural communities in Vermont has increasingly emphasized solutions that are compatible with local environmental constraints, long term affordability, and manageable operational requirements. While conventional centralized wastewater treatment facilities have proven effective in larger municipalities, they are often economically and technically impractical for small village centers such as Westfield due to limited flows, dispersed development, and challenging site conditions. As a result, state and federal agencies, including the VT Department of Environmental Conservation and the U.S. Environmental Protection Agency (EPA), encourage evaluation of decentralized and semi centralized wastewater systems as viable long term strategies for rural communities, while also recognizing that regional treatment solutions may be appropriate where existing infrastructure is available.

Based on the needs identified above in Chapter 3, this study evaluates both regional and local wastewater management approaches. These include conveying wastewater to an existing permitted treatment facility outside of Westfield as well as local indirect discharge systems that rely on soil based treatment and dispersal. Indirect discharge systems collect and treat wastewater prior to dispersal into the subsurface through methods such as leachfields, mounds, or geotextile sand filter systems, rather than discharging directly to surface waters.

Given the size of the Designated Village Center, an estimated design flow of approximately 35,000 gallons per day, and the proximity of the service area to the Missisquoi River and associated flood hazard areas, construction of a new direct discharge wastewater treatment facility within Westfield was determined to be neither feasible nor permittable. Accordingly, the alternatives evaluated in this chapter focus on either connection to an existing regional treatment facility or implementation of local soil based treatment and dispersal systems that comply with Vermont regulatory requirements.

Preliminary screening of potential wastewater treatment and disposal locations within Westfield incorporated available soil surveys, geologic mapping, parcel information, and input from local Town officials. Areas within or near the Village Center that appeared to provide adequate land area, suitable soils, and sufficient separation from groundwater and bedrock were prioritized for further consideration. As the project advances, site specific investigations including soil borings, percolation testing, and evaluation of seasonal high groundwater levels will be completed to confirm suitability and refine system design. Results from these investigations will inform the final selection and design of the wastewater treatment and disposal alternative for the Village of Westfield. Based on this planning framework, Section 4.1 introduces the general wastewater management options applicable to Westfield, including collection, conveyance, treatment, and disposal methods. These options form the building blocks for the complete wastewater alternatives evaluated later in this chapter. Subsequent sections combine these components into defined alternatives and apply consistent criteria to support comparison and selection of a preferred wastewater solution.

4.1 Wastewater Collection/Conveyance

Wastewater collection and conveyance systems transport wastewater from individual properties within the service area to a centralized treatment or disposal location. The selection of an appropriate collection and conveyance approach is a key component of overall system feasibility, as it directly affects capital cost, constructability, long term operation and maintenance requirements, and the ability to accommodate future growth within the Village of Westfield. For this study, multiple collection and conveyance methods commonly used in small rural communities were evaluated at a conceptual level to determine their applicability to local conditions.

4.1.1 Gravity

A gravity sewer system conveys wastewater through sloped piping that allows it to flow naturally by gravity from where it is generated to the treatment or disposal location. These systems are usually installed with a consistent slope and alignment so that flow velocities remain high enough to keep solids suspended and prevent blockages. Because they depend entirely on downward flow, gravity sewers must maintain a continuous slope along their entire length.

In areas with uneven terrain, the pipes may need to be placed quite deep in the ground, sometimes more than 12 feet, especially where the ground surface rises or the system extends over a long distance. Manholes are installed at regular intervals, generally not more than 300 feet apart, and at any location where the pipe alignment, grade, or diameter changes. Where changes in elevation make continuous gravity flow impossible, pump stations are required to lift wastewater to a higher elevation so that it can continue flowing by gravity toward the treatment or disposal site. The pressurized pipe, or forcemain, connected to a pump station is typically a minimum of 4 inches in diameter.

Within the Westfield Village Center, existing development patterns and roadway alignments provide sufficient opportunity to maintain gravity flow across much of the proposed service area, allowing gravity sewer collection to serve as the primary collection method for the Village.

Gravity sewer systems offer several advantages for operation and maintenance. They typically have lower annual costs than mechanical or pressure systems and are easier to expand as new service connections are needed. The presence of manholes allows for simple inspection and maintenance access, and additional laterals can be connected without significant disruption. These characteristics make gravity sewers particularly suitable for a small municipal system intended to support long term Village use and potential infill development.

4.1.2 Low Pressure Force Main

Low pressure sewer systems convey wastewater through small diameter pressurized pipes rather than relying on gravity flow. Wastewater from each building is collected in a small tank containing a grinder pump that macerates solids and pumps the wastewater into a shared pressurized main. These systems operate automatically, with pumps cycling on and off based on wastewater levels within each unit wet well. The

pressurized network then transports wastewater through shallow buried piping to the treatment or disposal location. The grinder pumps used in low pressure systems are submersible units typically housed within precast concrete or polyethylene vaults installed outside of each home or building. Because conveyance occurs under pressure, piping can follow natural ground contours without requiring precise slopes or deep excavation. This flexibility can reduce excavation depth, limit conflicts with existing utilities, and minimize disruption to roadways when compared to conventional gravity sewer systems.

For the Village of Westfield, low pressure sewer systems could be considered for areas where site conditions such as uneven topography, shallow bedrock, or high groundwater could increase the depth and cost of gravity sewer installation. The reduced excavation depth and smaller pipe diameters associated with low pressure systems can offer construction flexibility in localized constrained areas.

However, low pressure sewer systems require mechanical pumping equipment at each connected property, resulting in higher electrical demand and increased operation and maintenance responsibilities over the life of the system. Long term performance depends on proper maintenance and periodic replacement of individual grinder pumps, which adds operational complexity for a small municipal wastewater utility. Each installation must also include adequate emergency storage capacity, and the pressurized mains may require periodic flushing to maintain system performance. Future system expansion can be more costly than gravity sewer extensions, and installation of pump units and associated controls requires access to private properties.

Based on these considerations, low pressure sewer systems were not selected as the primary method of wastewater collection for the Village of Westfield.

4.1.3 STEP/STEG

Septic Tank Effluent Pump (STEP) and Septic Tank Effluent Gravity (STEG) systems combine onsite primary treatment with centralized conveyance. Each property is equipped with a septic tank that provides solids separation prior to discharge to a shared collection network. Clarified effluent is either pumped through a low pressure main or conveyed by gravity to a shared pump station, where it is transported to the treatment or disposal location. Septic tanks provide additional storage capacity during temporary power loss or equipment malfunction.

While these systems reduce solids conveyance and pumping energy compared to grinder pump systems, they introduce several operational and administrative challenges. Each property requires installation, inspection, and periodic pumping of a septic tank, increasing long term maintenance obligations and the need for coordinated management across the service area. System performance depends on consistent maintenance at all properties, and failure at individual locations can affect downstream conveyance and treatment.

Smaller diameter piping limits hydraulic capacity and can constrain future system expansion. STEP configurations require pump installation and electrical service at each property, increasing energy demand,

equipment replacement costs, and operational complexity. STEG configurations still require centralized pumping and rely on sufficient slopes between properties and the pump station. Both approaches require access to private properties for maintenance and repairs, which can complicate municipal operations and increase administrative burden. Based on these considerations, STEP and STEG systems were not further evaluated.

4.1.4 Centralized Pump Station(s)

A centralized pump station system collects wastewater from various parts of the service area and conveys it to a single or limited number of pump stations for transfer to the final treatment and disposal site. This approach is often selected where natural slopes do not allow continuous gravity flow or where combining several smaller collection areas into one system provides operational efficiencies.

In this type of system, wastewater is conveyed through gravity or low pressure sewers to a central wet well, where submersible pumps lift the flow into a force main that carries it under pressure to the discharge point. Each pump station is generally equipped with duplex pumps for redundancy, automatic controls, and essential appurtenances such as valves, flow meters, and alarms. The stations are designed to handle variable flows and can be expanded or modified to accommodate future development within the service area.

For Westfield, a centralized pumping configuration could provide a balance between decentralized systems and a regional connection. Consolidating wastewater flows into one or two main pumping stations would reduce the number of individual pump units, simplify maintenance responsibilities, and centralize electrical and monitoring systems. This can also make the system easier to monitor and maintain over time, particularly if operated under municipal or shared utility management.

However, centralized pump stations involve higher capital costs and require careful siting to minimize environmental impacts. These facilities must be carefully located to minimize visual, noise, and odor impacts and must include backup power and alarm systems to ensure reliability during power outages or peak flow. Regular inspection and preventive maintenance are essential to maintain consistent performance and prevent mechanical failures. Overall, a centralized pump station option could provide Westfield with a dependable and manageable wastewater conveyance system, particularly in areas where full gravity service is not feasible, but a combined collection and pumping network is desired.

4.2 Wastewater Treatment and Disposal

Soil-based wastewater treatment and disposal systems are the most common method of onsite wastewater management in Vermont. These systems rely on a combination of primary treatment in a septic tank and secondary treatment and dispersal through soil, which provides both filtration and biological treatment. Onsite wastewater disposal in Vermont often requires alternative system designs due to the prevalence of shallow soils, high groundwater, and restrictive site conditions. In these situations, traditional in-ground leachfields may not provide the required vertical separation for effective treatment. One widely used soil-based alternative is a mound system.

4.2.1 Traditional Mound

Mound systems are a widely used onsite wastewater disposal method in Vermont, especially where soils are shallow, slow-draining, or bedrock/groundwater is located close to the surface. A traditional mound system consists of a septic tank, a dosing tank with a pump, a mound of engineered structure (sand, gravel built above the native soils), and a pressure distribution network of pipes within the mound. Mound systems are designed to elevate the wastewater disposal area above limiting site conditions.

The wastewater flows into a traditional septic tank, where solids settle to the bottom and lighter materials float to the top. Between the two layers, there is a layer of partially clarified effluent that would flow through the tank to the dosing tank pump chamber/wetwell. The partially clarified effluent is collected in the dosing tank pump chamber/wetwell where it is pumped in controlled doses to the mound, ensuring even distribution across the designated mound area. The partially clarified effluent is dosed to prevent overloading within the mound system and enhances aeration of the treatment zone. The mound structure is composed of an internal perforated and pressurized pipe network surrounded by layers of varying permeation media (sand, gravel) and set above the existing native soils. The pipes are perforated to allow for the effluent to disperse through the perforations into the variably sized media (sand, gravel) where it trickles downward through the layers for organic material and pathogen breakdown. This process involves aerobic bacterial breakdown through the sand and gravel layers. After the treated effluent passes through the mound system, the effluent reaches the native soils below where final filtration and purification can occur.

While mound systems are effective under many site conditions, they have several disadvantages that are important for municipal scale applications. Mound systems require substantial land area and significant quantities of imported sand and gravel, increasing construction cost and site disturbance may limit placement in areas with flood hazard constraints or adjacent land uses. Long term performance depends on careful dosing, vegetation management, and protection from compaction or disturbance. In addition, expansion of mound systems to accommodate future flow increases can be difficult once the initial footprint is established. Due to these limitations, traditional mound systems were considered but not advanced as the primary disposal method for Westfield.

4.2.2 Soil-Based Disposal with Geotextile Sand Filter

A soil-based disposal system utilizing Geotextile Sand Filter (GSF) technology provides an effective, low-maintenance approach for wastewater treatment and dispersal in areas with restrictive soils or challenging site conditions. These systems enhance traditional septic tank performance by adding a modular, fabric-based filtration stage that significantly improves effluent quality prior to subsurface infiltration.

In a typical configuration, wastewater first enters a equalization tank where solids settle to the bottom and scum rises to the surface, allowing partially clarified effluent to collect in the middle layer. This liquid flows from the septic tank into the GSF modules. Each module consists of a corrugated plastic core wrapped in a geotextile fabric and surrounded by a sand layer. The effluent is distributed evenly across the modules, where it seeps through the geotextile material. The fabric surface supports a thin biological film that promotes aerobic

treatment, allowing naturally occurring microorganisms to break down remaining organic matter and nutrients.

As the effluent moves downward, it passes through the surrounding sand layer, which provides additional filtration and polishing by physically removing suspended solids and facilitating further biological and chemical treatment. The combination of the geotextile fabric and sand media enhances pathogen and nutrient reduction while maintaining a stable hydraulic capacity. Once treated, the effluent infiltrates into the underlying native soil, completing the final phase of treatment and groundwater recharge.

For Westfield, the use of GSF units could provide a reliable option where site constraints such as shallow soils, high groundwater, or limited land area make conventional leachfields less effective. Compared to conventional mound systems, GSF enhanced mounds require less overall footprint and reduced sand volume while providing more consistent treatment performance under variable site conditions. The modular design allows the system to be scaled to fit available space, and future expansion needs while meeting Vermont DEC's performance standards for indirect discharge systems.

GSF mound systems do require careful design, controlled dosing, and periodic inspection to ensure proper performance of the filtration media. However, these requirements are compatible with municipal operation and maintenance practices. Based on overall performance, reduced footprint, and adaptability, GSF enhanced mound systems were carried forward for inclusion in the wastewater alternatives evaluated later in this chapter.

4.2.3 Soil-based Drip Dispersal Systems

Soil based drip dispersal systems distribute treated wastewater through a network of small diameter tubing installed near the ground surface. Effluent is applied in small, timed doses at evenly spaced emitters, allowing uniform infiltration into the upper soil horizon. The tubing is typically installed at shallow depths, which can reduce surface disturbance during construction and allow the system to follow existing topography and avoid obstacles.

Drip dispersal systems can be land efficient and visually unobtrusive, making them suitable for some constrained sites. However, their performance is highly dependent on shallow soil conditions and consistent system operation. Because the dispersal zone is located close to the ground surface, these systems are sensitive to seasonal high groundwater, freezing conditions, and soil saturation. These factors can limit reliability in areas with variable groundwater levels or flood prone conditions.

Drip dispersal systems also require increased mechanical and operational oversight. Reliable performance depends on continuous operation of pumps, filtration units, control panels, and automatic flushing systems. Emitters are susceptible to clogging and require routine monitoring and maintenance to prevent system failure. For municipal scale applications, the cumulative operation and maintenance demands increase long term cost and complexity. In addition, large scale soil based drip dispersal systems are less commonly implemented in Vermont, which can introduce permitting uncertainty and limit operational familiarity. Expansion of drip

dispersal systems to accommodate future flow increases may also be constrained by shallow soil conditions and available land area. Therefore, soil based drip dispersal systems were considered but not advanced for further evaluation as part of the wastewater alternatives for Westfield.

4.3 Evaluation of Alternatives for Westfield Village Wastewater System

4.3.1 Alternative 1 – Gravity Sewer Collection and Forcemain to Troy Pump Station

This alternative consists of the Town of Westfield establishing a municipal utility to collect Village wastewater via collection system and pump untreated wastewater to the Troy-Jay Regional Wastewater Treatment Facility (WWTF) for treatment. A regional connection to the Troy-Jay WWTF was evaluated as one potential alternative for long-term wastewater management in Westfield. The Troy-Jay WWTF is located along VT Route 101 in the Village of Troy, approximately 4 miles north of Westfield's Village Center. The facility provides secondary treatment and discharges to the Missisquoi River under an active discharge permit (Permit No.: 3-1311) managed by the Troy-Jay Wastewater Treatment District. The plant currently serves both the Towns of Troy and Jay, including Jay Peak Resort, and has established collection and pumping infrastructure that could be extended to accommodate additional flow from Westfield.

4.3.1.1 Description

A new gravity collection system would be constructed within Westfield Village to collect wastewater from connected properties, consistent with the approach described in Section 4.1. Flow would be directed to a central pump station located near the southern edge of the service area, which would then discharge through a new forcemain along VT Route 100/101 to the existing Troy pump station located at 6849 Route 100, approximately 2 miles north of Westfield Village Center. The centralized pump station would include duplex submersible wastewater pumps, a wet well, control panel, backup power, and telemetry for system monitoring. The forcemain would consist of high-density polyethylene (HDPE) pipe, approximately 4 inches in diameter, designed to maintain minimum velocities of 2 feet per second. Installation of the gravity collection piping would require open-trench construction, with depths generally ranging from 5 to 12 feet. PVC sewer mains (8-inch minimum diameter) would be laid at a minimum slope to promote gravity flow, with precast concrete manholes spaced about 250 feet apart. Cleanouts and air release valves would be placed along the forcemain alignment.

Based on topography, approximately 2 miles of forcemain would be required between Westfield Village and the Troy pump station. Intermediate air release and isolation valve structures would be needed at high points and road crossings. The Troy-Jay WWTF would receive untreated wastewater from Westfield and provide full secondary treatment.

4.3.1.2 Design Criteria

Design criteria for this alternative are based on the Vermont Environmental Protection Rules Chapter 1 – Wastewater System and Potable Water Supply Rules and applicable VTDEC guidance for wastewater conveyance systems.

4.3.1.3 Map

A schematic layout map depicting the proposed gravity collection network in the Village, the new centralized pump station location, and the forcemain alignment following VT Route 100/101 to the Troy–Jay PS in shown in Figure 4.1.

4.3.1.4 Environmental Impacts

The proposed regional connection would occur primarily within existing road rights-of-way, minimizing impacts on undisturbed land. Potential temporary construction impacts include soil disturbance, erosion, and traffic disruption during trenching and pipeline installation. No direct impacts are anticipated on wetlands, floodplains, or critical habitats. The Missisquoi River will continue to receive treated effluent under the existing Troy-Jay WWTF permit. Any new pump station site would be reviewed for archaeological and historic resources prior to construction.

4.3.1.5 Land Requirements

Land requirements include a relatively small easement or acquisition of approximately 2400 SF for the new pump station and easements or rights-of-way for sewer and forcemain installation along Route 100/101. Most of the alignment would utilize public or municipal right-of-way. Permanent access easements may be required for forcemain, air release structures and valve boxes.

4.3.1.6 Potential Construction Problems

Potential challenges include areas of shallow ledge and high groundwater near the river valley, as well as limited access for trenching along narrow road corridors. Blasting or rock removal may be required in some areas. Traffic management along Route 100/101 will also be a consideration during construction. Proper trench safety and dewatering procedures will be required to manage groundwater and maintain construction stability.

4.3.1.7 Sustainability Considerations

The regional connection approach supports regionalized wastewater management, reducing the number of small decentralized systems requiring oversight. It allows the Town of Westfield to partner with an established treatment facility, leveraging existing infrastructure and professional operations staff. While this approach requires continuous pumping of wastewater to the regional facility, operational activities would be largely limited to collection system maintenance and pump station operation. Treatment process control, compliance monitoring, and discharge permitting would remain the responsibility of the regional utility.

4.3.1.8 Water and Energy Efficiency

This alternative does not provide opportunities for water reuse or on-site recycling, but energy efficiency can be incorporated through variable frequency drives (VFDs), energy-efficient pumps, and SCADA monitoring to optimize pump run times.

4.3.1.9 *Green Infrastructure*

The project does not directly incorporate green stormwater infrastructure; however, construction will follow erosion prevention and sediment control best practices.

4.3.1.10 *Other*

Operational resilience can be enhanced through redundant pumps, backup power generation, and remote monitoring. The system's simplicity allows for reliable operation, though dependence on mechanical systems increases the need for ongoing maintenance and skilled personnel.

4.3.1.11 *Cost Estimates*

The construction costs for this alternative include installation of the Village collection system, construction of a new centralized pump station, and installation of the forcemain extending from Westfield to the Troy–Jay Pump Station. These costs include excavation and backfilling, placement of gravity sewer piping and manholes, construction of the pump station structure and associated electrical and control components, and installation of approximately 2 miles of 4-inch HDPE forcemain with the required air-release and isolation valve structures. Additional construction elements include roadway restoration, erosion control, traffic management during installation, and rock excavation where ledge is encountered. The Opinion of Probable Construction Cost for Alternative 1 is presented in the table below.

Item	**Cost**	
Collection System Construction	$	3,427,218
Conveyance to Troy Pump Station Construction	$	1,998,098
Design, Permitting, Land Acquisition, Legal, Bonding etc.	$	2,581,907
Opinion of Probable Total Project Costs	**$**	**8,007,222**

**Refer to Appendix D for detailed cost estimates*

4.3.2 Alternative 2 – Soil-Based Disposal (Gravity Sewer Collection and On-Site Treatment)

Alternative 2 includes the collection and conveyance of wastewater from connected properties within the proposed sewer service area through a common 8" gravity sewer. Wastewater from the Proposed Sewer Service Area will flow by gravity to a central location where it will receive primary treatment in an equalization tank and be pumped through a dosing station to an engineered soil-based disposal system utilizing Eljen Geotextile Sand Filter modules. This alternative represents a fully decentralized, indirect discharge wastewater solution consistent with Vermont's Wastewater System and Potable Water Supply Rules and the Indirect Discharge Rules.

A conceptual location for the centralized treatment and disposal area is shown in Figure 4.2.: On-Site Treatment System. The mapped site south of the Village Center appears to have initial feasibility for a GSF mound disposal system, subject to field confirmation through borings, percolation tests, and groundwater

monitoring.

4.3.3 Design Criteria

Vermont's Wastewater System and Potable Water Supply Rules (effective November 6, 2023) and Indirect Discharge Rules were used to estimate wastewater flows from the study area based on available information and the results of the needs analysis discussed in Section 3. These standards will guide the sizing of the septic tank, dosing system, and soil-based disposal system and will be refined during final design once site-specific geotechnical information is available.

4.3.4 Map

A layout map of Alternative 2, depicting the gravity collection system and on-site soil based treatment and disposal is provided in Figure 4.2

4.3.5 Environmental Impacts

Construction of a local treatment and disposal system would require site disturbance associated with excavation, placement of engineered fill, and installation of treatment components. Temporary impacts may include soil disturbance, erosion, and construction traffic. Long term environmental performance would depend on proper system operation, monitoring, and protection of the disposal area. Environmental resource mapping completed for this study indicates that no endangered species have been identified in the vicinity of the conceptual disposal area, and that a properly selected parcel would be expected to avoid Class II and Class III wetlands as well as the flood hazard zones associated with the Missisquoi River shown in Figure 1.4.

4.3.6 Land Requirements

The collection system will be constructed within the Town of Westfield's right-of-way area. The Town has not yet determined whether connection to a Village wastewater system will be mandatory or voluntary. Once a determination has been made, the Town may proceed with securing easements for individual connections during final design. This alternative will require property acquisition or an easement on the selected disposal parcel for the construction, operation, and long-term maintenance of the wastewater disposal system. The extent of the acquisition or easement and the total land area needed will depend on which parcel is ultimately selected and on the configuration required for the Eljen GSF soil-based disposal system.

4.3.7 Potential Construction Problems

Potential construction challenges for this alternative include subsurface rock, shallow groundwater, and restrictive soils that may affect excavation and placement of the GSF sand beds. Access limitations, natural resource constraints, and site impairments may also influence feasibility, particularly if multiple parcels are evaluated for the disposal area, as each may present different conditions. Construction within Village roads will require maintaining traffic and navigating around existing utilities, with the potential for utility conflicts or specialized excavation where rock or groundwater is encountered. Private sanitary services will need to remain operational during construction, and their configurations will be verified during preliminary design.

4.3.8 Sustainability Considerations

This alternative could support sustainable wastewater management by relying on natural soil treatment processes that require minimal mechanical equipment and low energy input. Long term sustainability depends on consistent operation, monitoring, and maintenance of treatment components and protection of the disposal area. The Town would be responsible for ongoing compliance with indirect discharge permit requirements.

4.3.9 Water and Energy Efficiency

Energy use for this alternative would be limited primarily to the dosing pump serving the disposal field, resulting in lower operational energy demand. Water efficiency measures may be incorporated into the Town's wastewater ordinance through requirements for water-efficient fixtures, with applicability to existing and new properties to be determined during final design.

4.3.10 Green Infrastructure

The project does not directly incorporate green stormwater infrastructure; however, construction will follow erosion prevention and sediment control best practices.

4.3.11 Other

Long term system reliability depends on continued access to the treatment and disposal site, maintenance of system components, and timely response to equipment failures or performance issues. Any future modifications or expansions would require additional permitting and potentially additional land.

4.3.12 Cost Estimates

Construction costs for Alternative 2 include installation of the gravity collection system within existing roadways, construction of the equalization tank and dosing station, and installation of the Eljen GSF soil-based disposal system. These costs mainly include trench excavation and backfilling, placement of sewer piping and manholes, installation of equalization tank, dosing chamber and pump, construction of distribution piping, placement of the engineered sand layer, and installation of the GSF modules. Site grading, erosion prevention measures, and restoration of disturbed areas are also included in the overall construction cost.

Item	Cost	
Collection System Construction	$	3,233,988
Wastewater Treatment & Disposal System	$	2,839,868
Design, Permitting, Land Acquisition, Legal, Bonding etc.	$	4,410,631
Opinion of Probable Total Project Costs	**$**	**10,484,487**

**Refer to Appendix D for detailed cost estimates*

4.4 Alternative 3 – No Action

4.4.1 Description

Under the No Action alternative, properties within the Designated Village Center would continue to rely on existing private septic systems for wastewater collection, treatment, and disposal. No new municipal wastewater infrastructure would be constructed, and the Town would not establish a wastewater utility. Operation, maintenance, and replacement of onsite systems would remain the responsibility of individual property owners. This alternative represents continuation of current conditions without intervention by the Town.

4.4.2 Environmental Impacts

Environmental resource mapping and field observations conducted as part of this study indicate that a number of existing onsite wastewater systems within the Village are located in areas constrained by shallow soils, high groundwater, and proximity to surface waters. Continued reliance on individual septic systems increases the potential for system failures, particularly during high groundwater conditions and flooding events associated with the Missisquoi River and adjacent low lying areas.

Failed or underperforming systems can result in untreated or partially treated wastewater reaching groundwater, nearby wetlands, drainage features, and surface waters. This may contribute to nutrient loading, bacterial contamination, and degradation of water quality, with potential impacts to environmental resources and neighboring properties. Under the No Action alternative, these risks would remain unaddressed and may increase over time as systems age and development pressures change.

4.4.3 Land Requirements

This alternative does not require acquisition of land or easements.

4.4.4 Potential Construction Problems

This alternative has not been evaluated for construction impacts as it does not require action to be made by the Town of Westfield

4.4.5 Sustainability Considerations

This alternative does not address sustainability concerns for the Town, Designated Village Center or neighboring communities. This No Action alternative does not provide benefits to the community though sustainable utility management practices because the Town will not act to form a utility that would require management. There are no environmental, social, or economic benefits that have been evaluated for this alternative.

4.4.6 Water and Energy Efficiency

This alternative does not include practices to promote water reuse, conservation, or efficiency improvements. This alternative does not require the Town to act as a utility to provide efficiency of water and energy practices, as no infrastructure will be produced by this alternative. The Town will not be responsible for management of

the private septic systems.

4.4.7 Green Infrastructure

This alternative does not implement green infrastructure.

4.4.8 Cost Estimates

This alternative has no immediate capital cost assumed by the Town of Westfield. By implementing this No Action alternative, the maintenance cost of septic system continues to fall on private septic system owners. The cost to the Town of Westfield for implementing this alternative would be $0.

5 SELECTION OF AN ALTERNATIVE

The purpose of this chapter is to evaluate the technically feasible wastewater alternatives identified in Chapter 4 and to determine the alternative that best meets the long-term needs of the Town of Westfield. The evaluation considers both life cycle cost and non-monetary factors, including environmental protection, operational considerations, regulatory requirements, and community impacts. These considerations are used together to support the selection of a practical and reliable wastewater solution.

Three alternatives were evaluated:

Alternative 1 – Gravity Sewer Collection and Forcemain to Troy Pump Station;

Alternative 2 – Gravity Sewer Collection and On-Site Treatment; and

Alternative 3 – No Action.

Alternatives 1 and 2 represent implementable wastewater solutions, while Alternative 3 is included for comparison purposes but does not address existing or future wastewater needs.

5.1 Life Cycle Cost Analysis

A life cycle present worth cost analysis was performed to compare the action alternatives on a consistent economic basis. The analysis summarized in the table below converts capital and operation and maintenance costs to present day dollars over a defined planning period and allows alternatives with different cost structures to be compared directly.

Option	Capital Cost	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1 - Gravity Sewer Collection and Forcemain to Troy Pump Station	$ 8,007,222	$ 44,516	20	2.2%	16.04	$ 714,047	$ -	**$ 8,721,269**
Alternative 2 - Gravity Sewer Collection and On-Site Treatment	$ 10,484,487	$ 61,905	20	2.2%	16.04	$ 992,971	$ -	**$ 11,477,458**
Alternative 3 - No Action	$ -	$ -	-	-	-	$ -	$ -	**$ -**

Capital cost includes both construction and non-construction costs. Construction cost includes all direct construction items, while non construction cost includes engineering design, permitting, legal, land acquisition, bonding and other administrative or soft costs. Annual operation and maintenance (O&M) costs include power, routine maintenance, inspection, and other recurring activities required to operate the system, and are based on estimated O&M cost 2025 dollars, inflated 3% until construction year 2030. The uniform series present worth (USPW) multiplier is based on a 20-year planning period and a real interest rate of 2.2 percent as per the latest OMB Circular No. A-94. Salvage value at the end of the planning period was assumed to be zero for this planning level evaluation. Net present value (NPV) represents the sum of capital cost and the present worth of operation and maintenance costs.

The analysis indicates that while both action alternatives require substantial initial investment, Alternative 2 results in higher capital costs and higher long term operation and maintenance costs. As a result, Alternative 2 has a significantly higher net present value over the planning period. Under the no action alternative, no municipal wastewater infrastructure would be constructed, and no municipal capital or operation and maintenance costs are assumed. Costs associated with private onsite system maintenance and replacement are borne by individual property owners and are not included in this analysis.

5.2 Non-Monetary Factors

Non-monetary factors were also reviewed to compare the alternatives. These include environmental considerations, public health protection, land requirements, permitting, construction impacts, and long term operation and maintenance responsibility.

Alternative 1 would convey wastewater to an existing regional treatment facility that operates under an active SPDES permit. This approach limits reliance on local soil and groundwater conditions and places final treatment and discharge outside the Village. Construction within Westfield would largely be confined to existing road corridors and a pump station site. Operation of the system would focus on the local collection and pumping infrastructure, with treatment provided by the regional facility.

Alternative 2 would involve treatment and disposal of wastewater within Westfield using a soil based system. This alternative would require identification and long-term control of a suitable disposal parcel, completion of detailed site investigations, and ongoing monitoring and maintenance of the disposal system. Long term performance would depend on soil conditions, groundwater levels, and continued management of the treatment area, increasing operational responsibility for the Town.

The no action alternative would leave existing onsite systems in place and does not address aging infrastructure, potential system failures, or future development needs. Continued reliance on individual systems may increase the risk of water quality impacts over time.

When cost and non-cost factors are considered together, the alternatives differ in overall financial commitment, operational complexity, environmental risk, and long term management needs. These differences provide a basis for decision making as the project advances to the next phase.

6 FIGURES

Figure 1.1: Project Location Map

Figure 1.2: Sewer Service Area

Figure 1.3: Wetlands Map

Figure 1.4: FEMA Flood Hazard Areas

Figure 1.5: Conserved Lands & Soils Map

Figure 1.6: Agricultural Land Cover

Figure 1.6.1: Prime Ag Soils

Figure 1.7: Endangered Species Map

Figure 1.8: Hazardous Sites Map

Figure 2.1: Westfield Public Wells

Figure 2.2: Westfield Private Wells

Figure 4.1: Alternative 1: Connection to Troy-Jay PS

Figure 4.2: Alternative 2: On-Site Treatment System

7 APPENDICES

Appendix A: Environmental Information Document (EID)

Appendix B: Village Wastewater Survey Form

Appendix C: Design Flow Calculations

Appendix D: Detailed Cost Estimates – Alternatives 1 & 2

Appendix E: VTDEC 30% PER Comment Responses

Appendix F: Existing Wastewater Permit Inventory

FIGURES

AES

1 inch = 6,445 feet

5301
Town of Westfield
Village Wastewater Study

Figure 1.1:
Project Location Map

AES

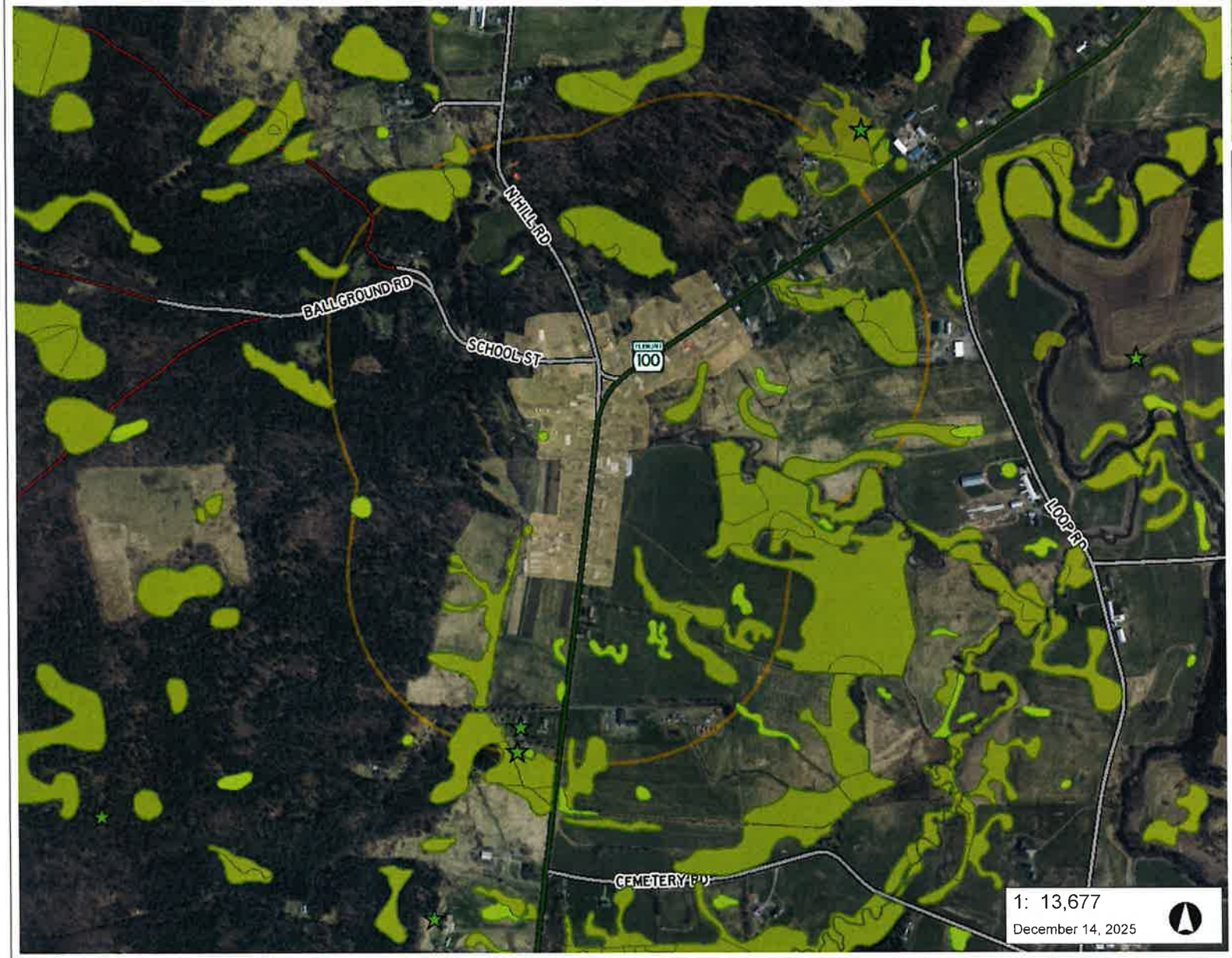
5301
Town of Westfield
Village Wastewater Study

Figure 1.2:
Sewer Service Area
Designated Village Center + 1/4 mile radius

Westfield Wetlands Map

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Wetland Projects
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Wetland Buffer
- Wetlands Advisory Layer
- Roads
  - Interstate
  - US Highway, 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads
- Town Boundary
- Village Center Boundary
- Village Center 0.25 mile buffer

NOTES

Map created using ANR's Natural Resources Atlas

695.0 0 348.00 695.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1140 Ft. 1cm = 137 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

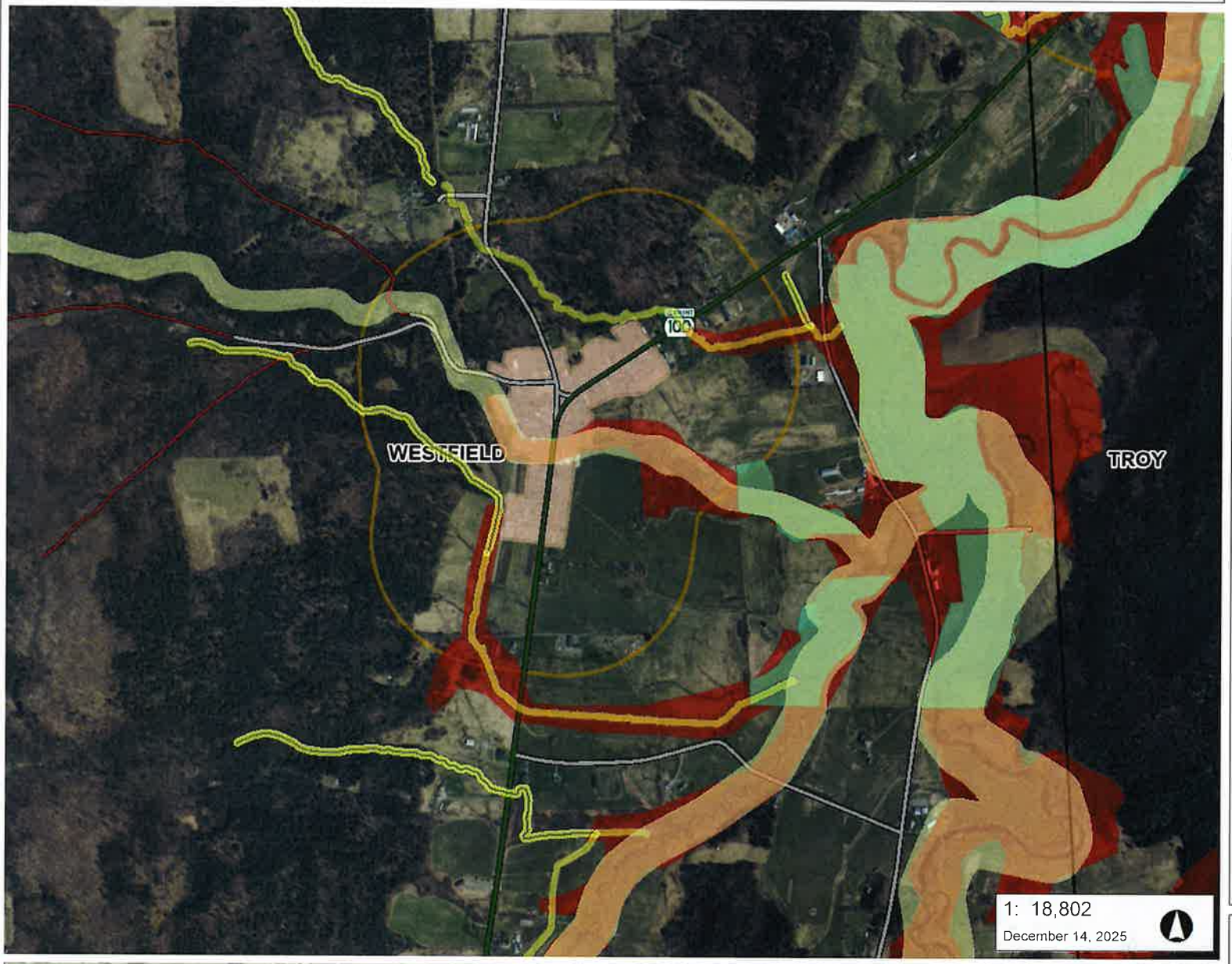
Figure 1.3

VERMONT

Westfield FEMA Flood Hazard Areas

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Political Jurisdictions
- Profile Baselines
- Flood Hazard Boundaries
  - Limit Lines
  - SFHA / Flood Zone Boundary
  - Flowage Easement Boundary
- Flood Hazard Zones
  - 1% Annual Chance Flood Hazard
  - Regulatory Floodway
  - Special Floodway
  - Area of Undetermined Flood Hazar
  - 0.2% Annual Chance Flood Hazard
  - Future Conditions 1% Annual Chan
  - Area with Reduced Risk Due to Lev
  - Area with Risk Due to Levee
- High Water Marks
- River Corridors (Aug 27, 2019)
  - .5 - 2 sqmi.
  - .25-.5 sqmi.
- River Corridor Easement
- Flood Hazard Areas Non-Offici msc.fema.gov/fmc)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2 3)

NOTES

Map created using ANR's Natural Resources Atlas

955.0 0 478.00 955.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1567 Ft 1cm = 188 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

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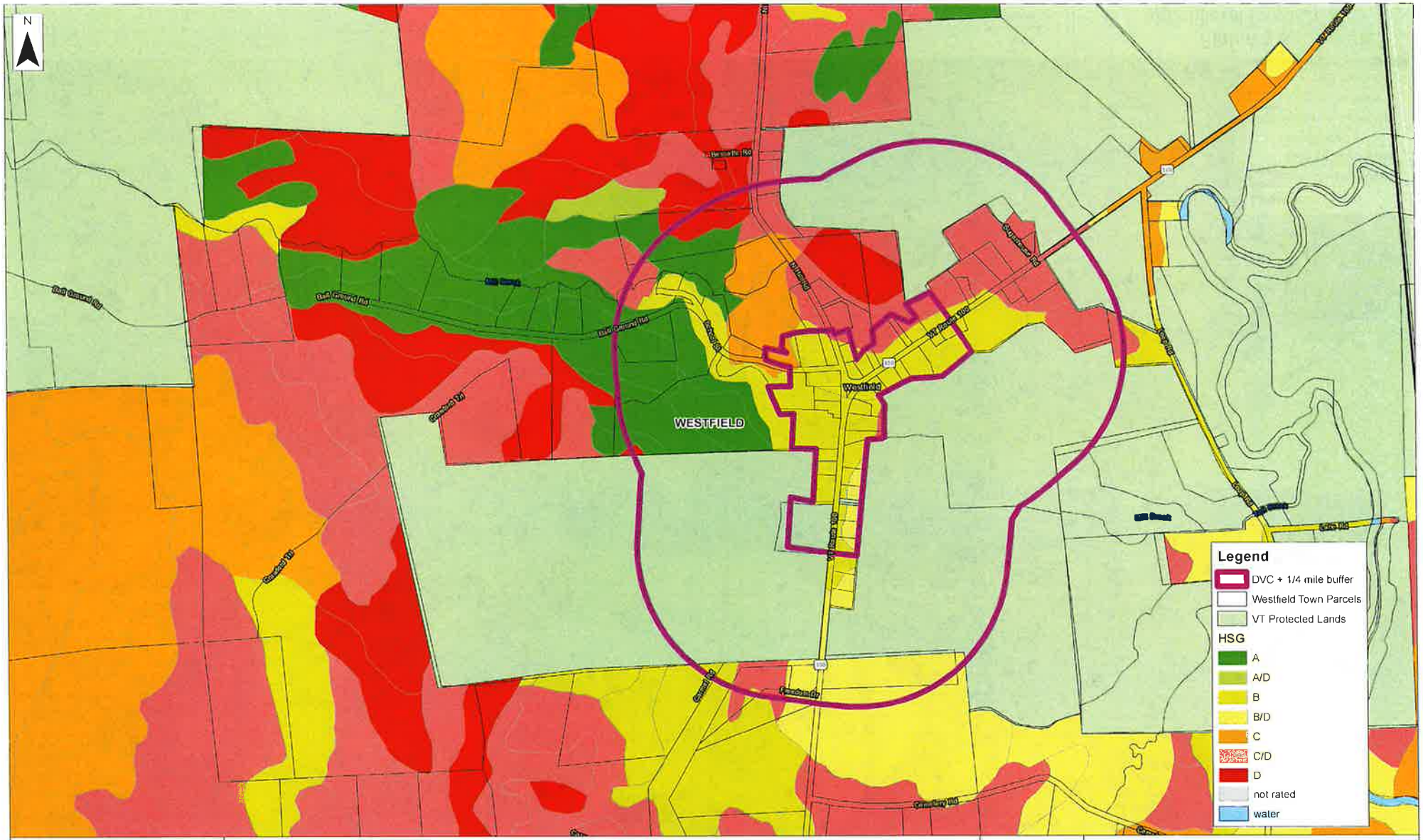
Figure 1.4

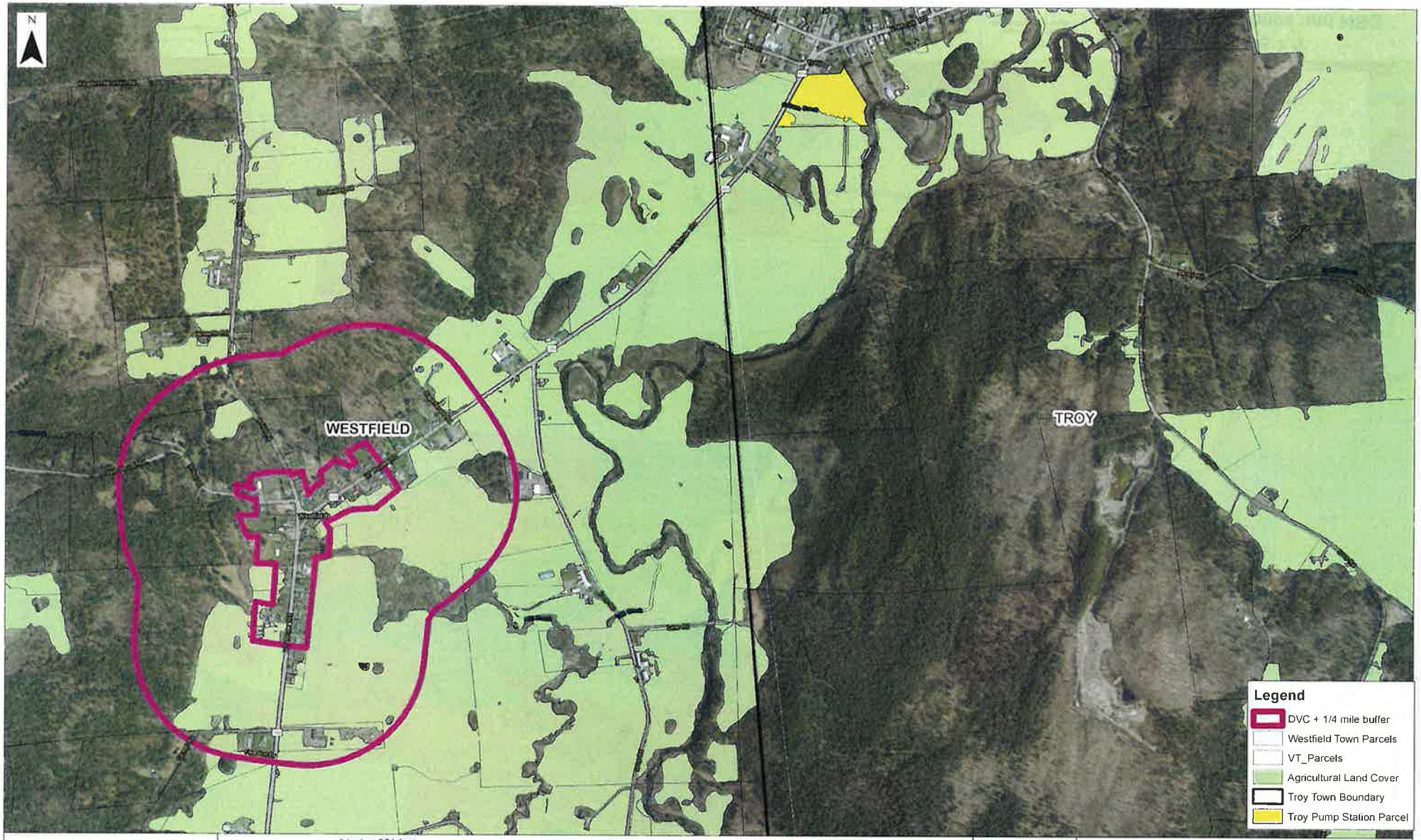


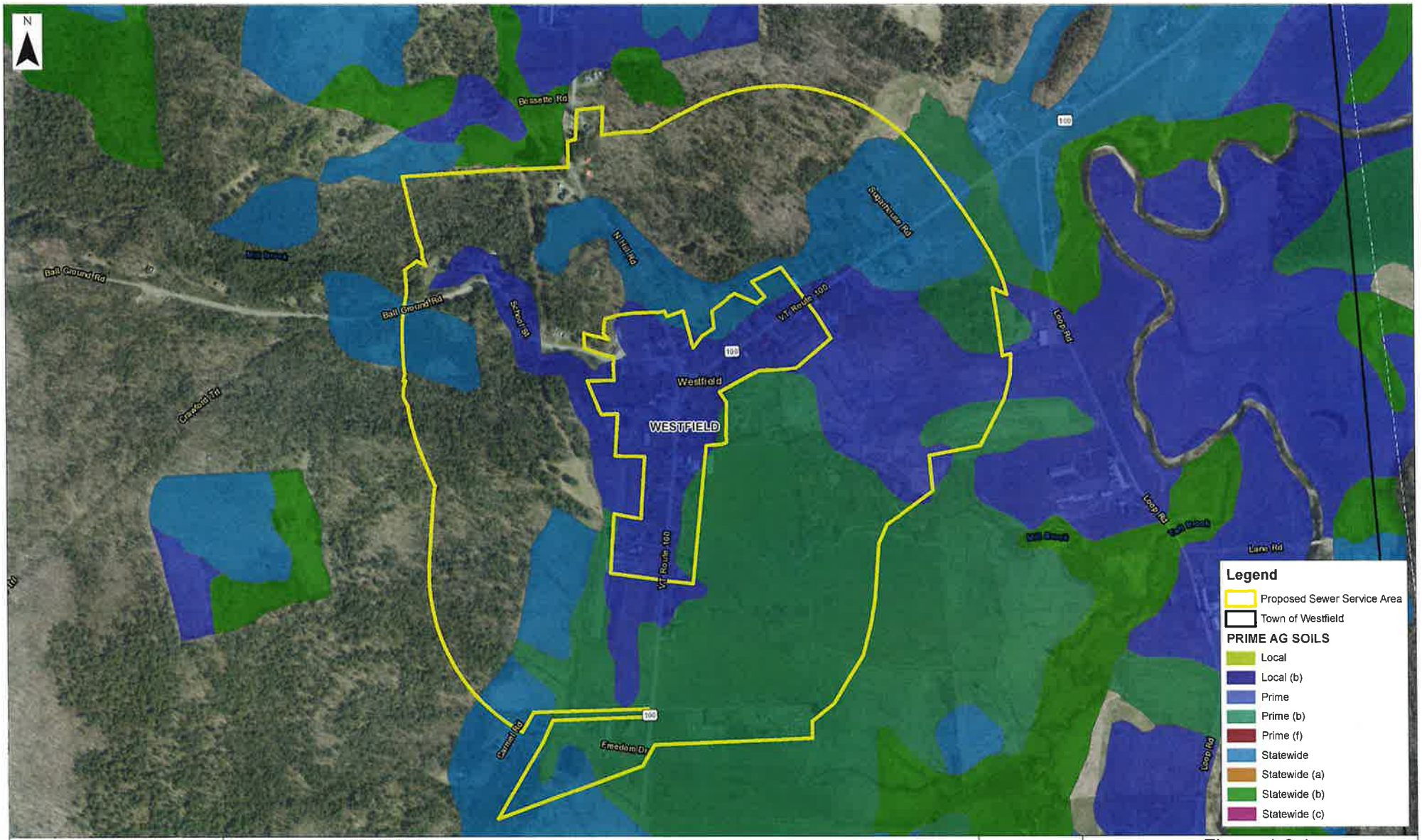
AES

1 inch = 751 feet

5301
Town of Westfield, VT
Village Wastewater Study

Figure 1.5:
Conserved Lands and HSG


N
WESTFIELD
TROY
Legend
DVC + 1/4 mile buffer
Westfield Town Parcels
VT_Parcels
Agricultural Land Cover
Troy Town Boundary
Troy Pump Station Parcel
1 inch = 961 feet
AES
5301
Town of Westfield, VT
Village Wastewater Study
Figure 1.6:
Agricultural Land Cover



AES 74 South Park St Middlebury, New York 12901 Phone: (518) 561-1598 | www.aesnortheast.com

1 inch = 625 feet

0 310 620 1,250 Feet

5301
Town of Westfield, VT
Village Wastewater Study

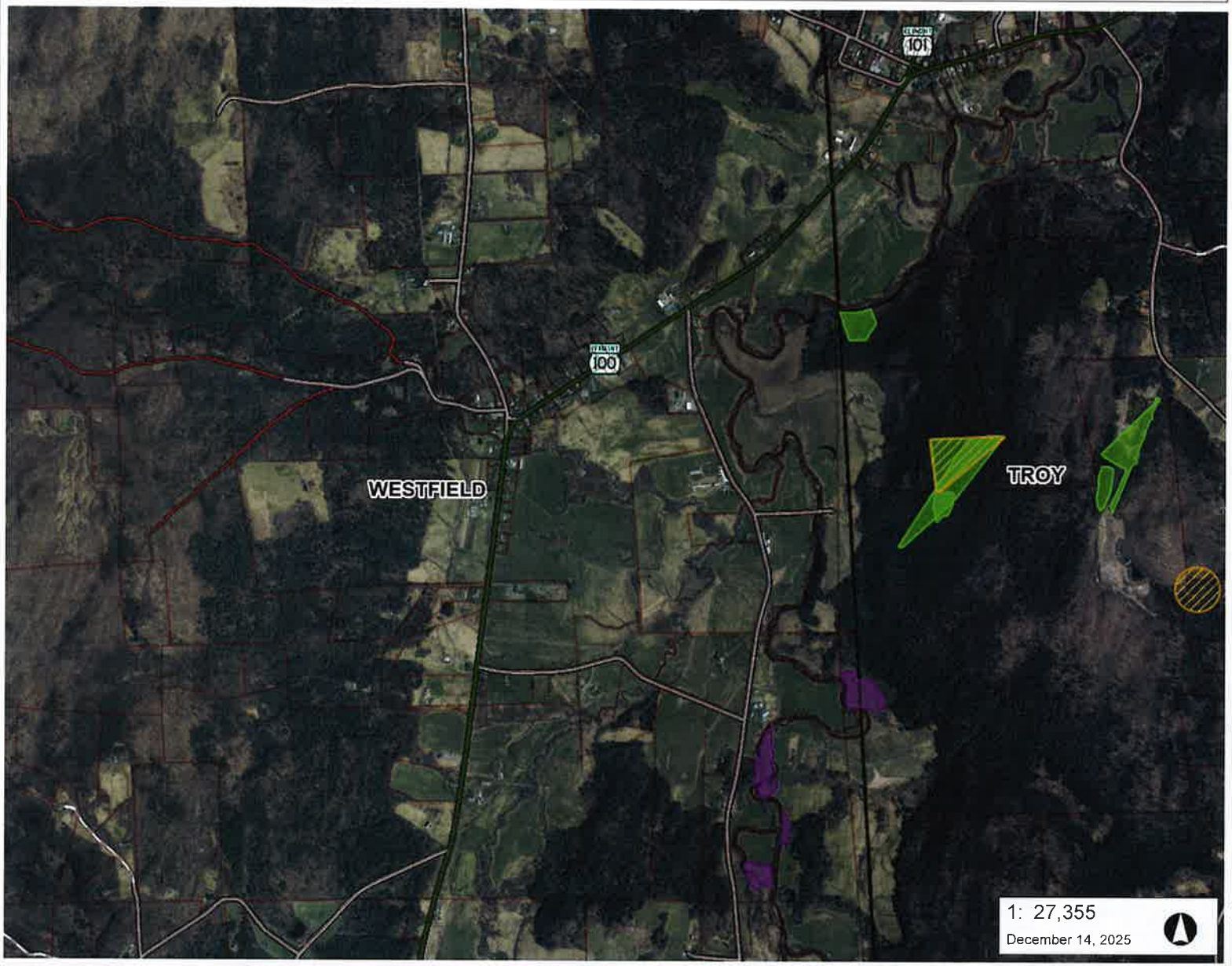
Figure 1.6.1:
Prime Ag Soils

Agriculturally Important Soil Units

Westfield Endangered Species Map

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Uncommon Species and other
  - Plant
  - Animal
  - Natural Community
- Rare Threatened and Endange
  - RTE Animal
  - RTE Plant
- Significant Natural Communitie
- Deer Wintering Areas
- Indiana Bat Hibernacula
- Indiana Bat Summer Range
  - Observed
  - Potential
- Northern Long-Eared Bat
- Tricolored Bat
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway

NOTES

Map created using ANR's Natural Resources Atlas

1,390.0 0 695.00 1,390.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2280 Ft 1cm = 274 Meters

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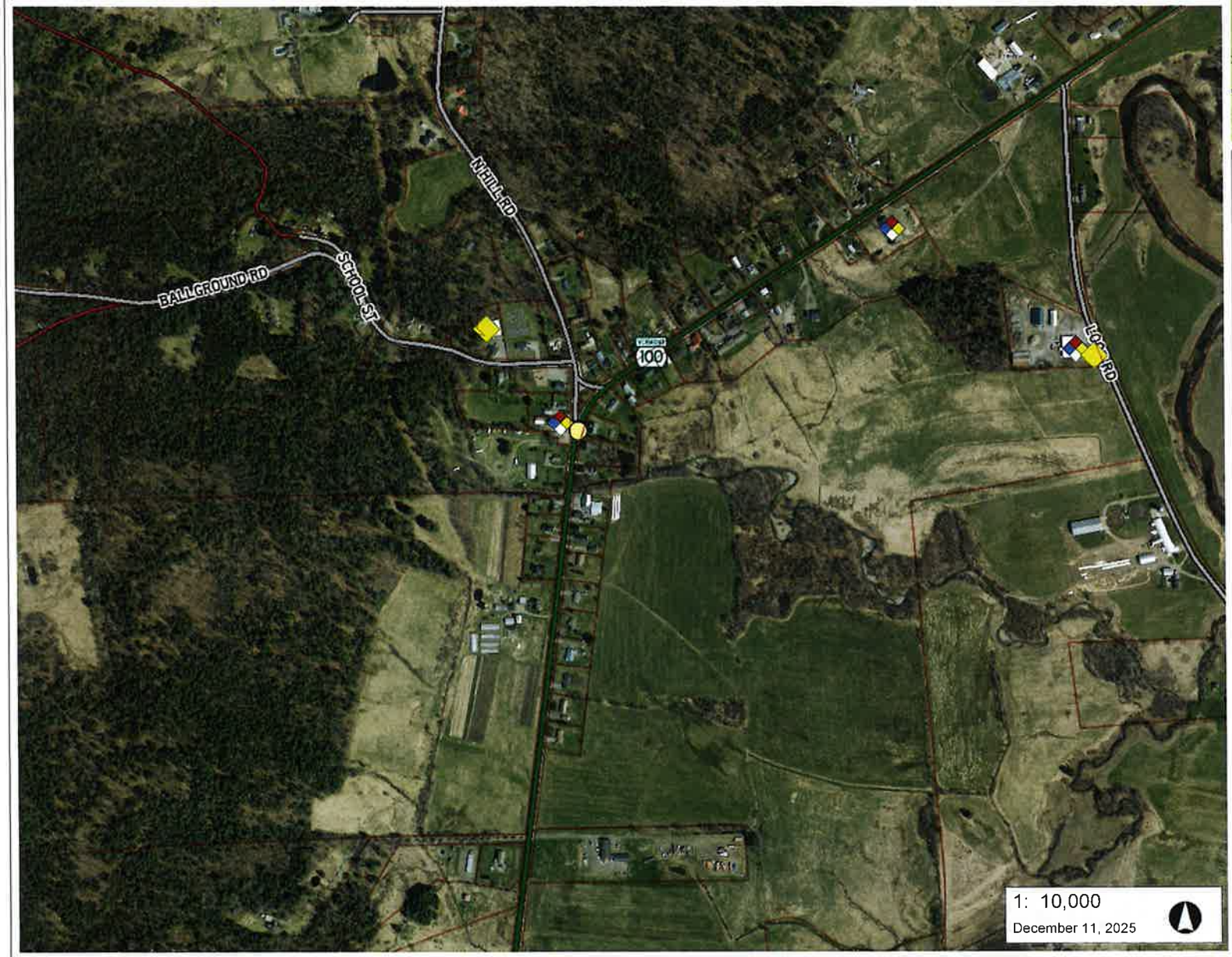
Figure 1.7

Westfield Hazardous Sites Map

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Landfills
- OPERATING
- CLOSED

Land Use Restrictions
- Class IV GW Reclass
- Class VI GW Reclass
- Deed Restriction
- Easement
- Land Record Notice
- Other

- Hazardous Site
- Hazardous Waste Generators
- Brownfields
- Salvage Yard
- Aboveground Storage Tank
- Underground Storage Tank (w
- Dry Cleaner
- Architectural Waste Recycling
- Parcels (standardized)

Roads
- Interstate
- US Highway: 1
- State Highway
- Town Highway (Class 1)
- Town Highway (Class 2,3)
- Town Highway (Class 4)
- State Forest Trail

NOTES

Map created using ANR's Natural Resources Atlas

Figure 1.8

508.0 0 254.00 508.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 833 Ft 1cm = 100 Meters

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Westfield Public Well Locations

Vermont Agency of Natural Resources

vermont.gov

LEGEND

Public Water Sources
- Active
- Inactive
- Proposed
- Active Non-Public, Previously Perm
- Inactive Non-Public, Previously Per

Roads
- Interstate
- US Highway; 1
- State Highway
- Town Highway (Class 1)
- Town Highway (Class 2,3)
- Town Highway (Class 4)
- State Forest Trail
- National Forest Trail
- Legal Trail
- Private Road/Driveway
- Proposed Roads

Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

Figure 2.1

657.0 0 328.00 657.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1078 Ft 1cm = 129 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

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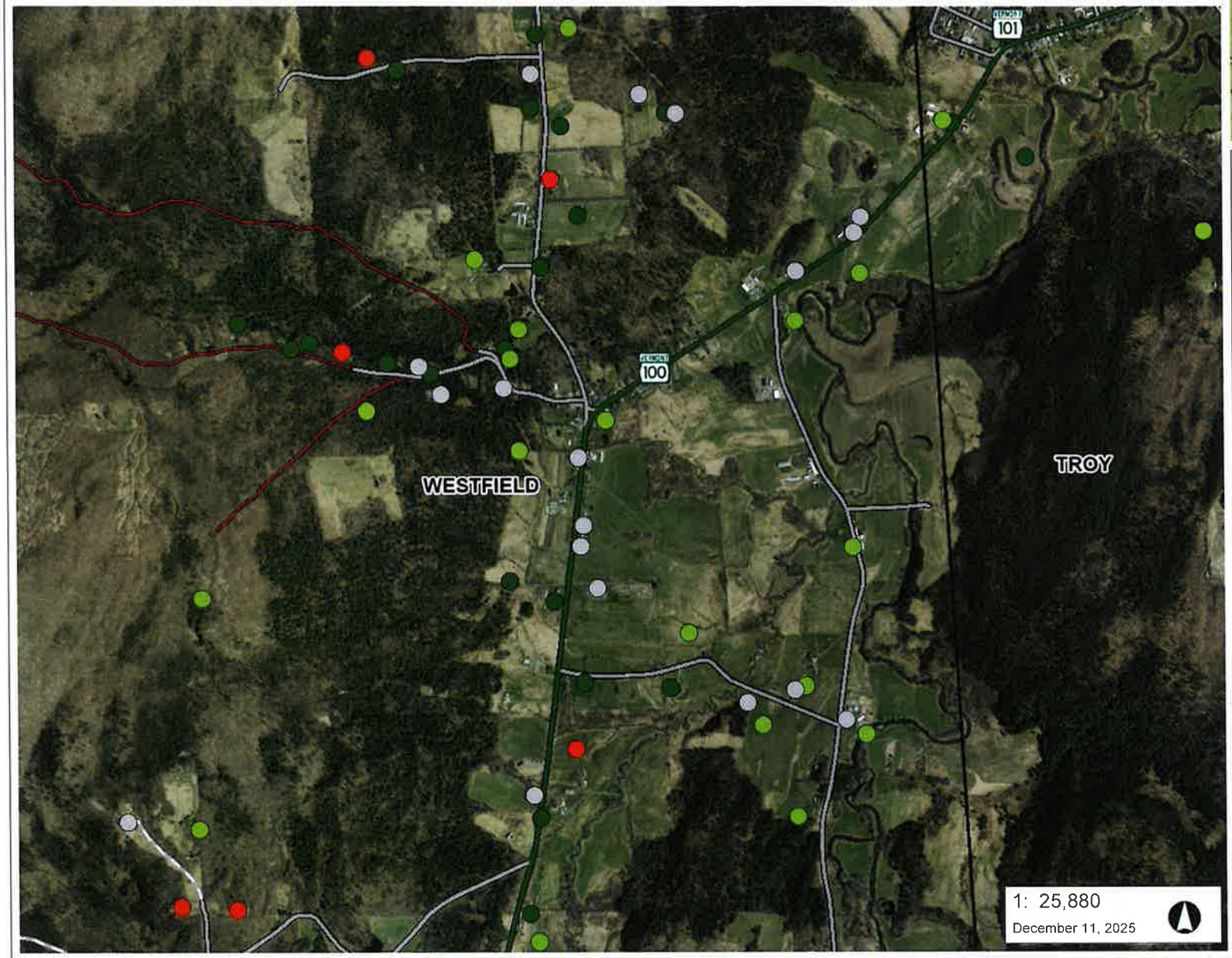
Westfield Private Well Locations

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Private Wells
- GPS Located
- Screen Digitized
- E911 Address Matched
- Welldriller/Clarion
- Unknown Location Method
- Incorrectly Located

Roads
- Interstate
- US Highway; 1
- State Highway
- Town Highway (Class 1)
- Town Highway (Class 2,3)
- Town Highway (Class 4)
- State Forest Trail
- National Forest Trail
- Legal Trail
- Private Road/Driveway
- Proposed Roads

Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

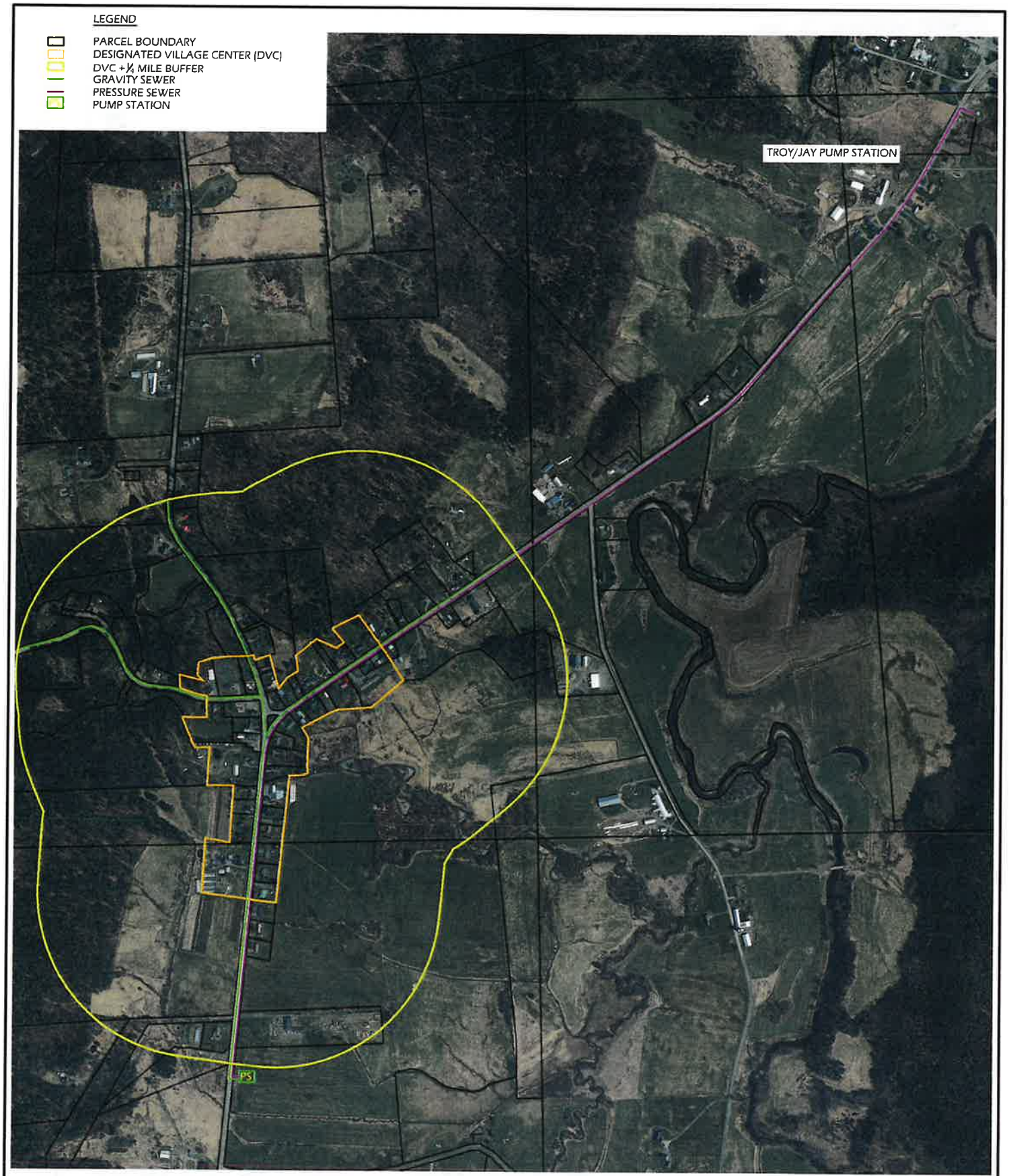
1,315.0 0 658.00 1,315.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2157 Ft 1cm = 259 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

Figure 2.2



SCALE: 1" = 1000'

AES Northeast
Architecture, Engineering, and Land Surveying Northeast, PLLC
www.aesnortheast.com

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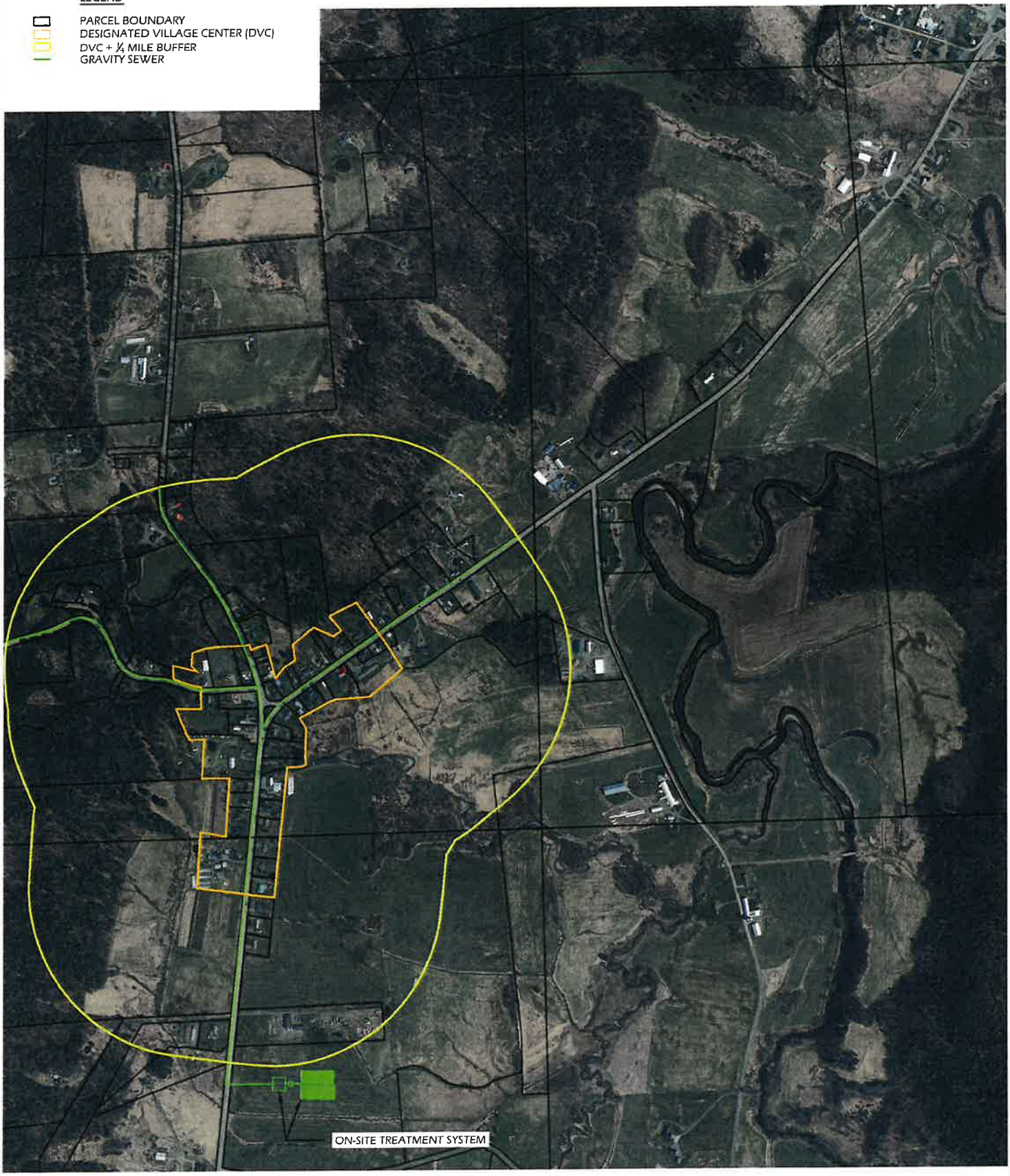
Plattsburgh, NY 12901
P. (518) 561-1598
Vermont Office:
Chace Mill, 1 Mill Street, Suite 370,
Burlington, VT 05401
P. (802) 876-0417

PROJECT TITLE:	TOWN OF WESTFIELD VILLAGE WASTEWATER STUDY			
DRAWING TITLE:	CONNECTION TO TROY/JAY PUMP STATION			
DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:	FIGURE NO.
DJG	KRF	11/20/2025	5301	4.1

Plot Date: 12/15/2025 Plot Time: 11:07 AM



SCALE: 1" = 1000'

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Chace Mill, 1 Mill Street, Suite 370,
Burlington, VT 05401
P. (802) 876-0417

PROJECT TITLE:	TOWN OF WESTFIELD VILLAGE WASTEWATER STUDY			
DRAWING TITLE:	ON-SITE TREATMENT SYSTEM			
DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:	FIGURE NO.
DJG	KRF	11/20/2025	5301	4.2

Plot Date: 12/15/2025 Plot Time: 11:03 AM

APPENDICES

APPENDIX A

Environmental Information Document

VERMONT
ENVIRONMENTAL CONSERVATION

EnvRep-103

Appendix H

Water Investment Division

Environmental Information Document
and Environmental Report

Project Name _____

Project Owner _____ Address _____

Project Location _____

Drinking Water System Name _____ WSID No._____

State Assigned Drinking Water Revolving Loan (DWSRF) Number RF3-_____

Wastewater and/or Stormwater System Name_____

List Existing Permit Numbers: _____

State Assigned Clean Water Revolving Loan (CWSRF) Number RF1-___

All Projects: USEPA Grant (STAG) Number_____

Federal Fiscal Years (s) of USEPA Grant Appropriation _____

Applicants are strongly encouraged to consult early and frequently with our staff to ensure that all environmental issues are described, evaluated, and impacts appropriately considered and mitigated, in order to expedite the application process and SRF review and approval of a proposed project

SRF design review staff will independently evaluate and verify accuracy of information supplied in the project environmental report, and issue the CATEX, FONSI or ROD determination.

If an SRF determination is made that an Environmental Assessment or an Environmental Impact Statement is required, for projects with a greater complexity of impacts and mitigation, the SRF staff will be responsible for initiating the preparation of this document internally or by a third party.

The EIS will result in a Record of Decision determination, instead of a CATEX or FONSI.

Through a memorandum of understanding between United States Department of Agriculture-Rural Development and the Vermont Agency of Natural Resources, this environmental report format is acceptable to both funding agencies.

Please note that Environmental Review Determination eligibility, public comment, and public notice requirements may differ among the funding agencies.

Provide the "need of project" statement:	
Provide the "purpose of project" statement:	
Provide a brief description of the project scope and design as detailed in the Preliminary Engineering Report:	
Highlight the project features that will likely have an environmental impact or impact to historical resources or involve environmental justice issues. The level of project detail should be in keeping with the scope and magnitude of the construction project.	

Program Loan	Information Request	YES	NO	WID
Projects requiring **no** Mitigation measures will qualify to proceed with a Categorical Exclusion (CATEX) process. Projects requiring Mitigation may qualify for a Finding of No Significant Impact (FONSI).				
CWSRF and DWSRF	Is the Project likely to have no or very minimal effects?	○	◉	☐
CWSRF and DWSRF	Does the project require mitigation measures?	○	○	☐
CWSRF and DWSRF	Does the authorized project representative make a written request for a Categorical Exclusion, for Projects likely to have no or very minimal effects (included)?	○	○	☐
Projects of greater complexity and impact will require an Environmental Impact Statement (EIS) and result in a Record of Decision (ROD)				
CWSRF and DWSRF	Does the project involve greater complexity and impact or controversy[1]?	○	○	☐
CWSRF and DWSRF	Attach ***additional information*** such as a qualified consultant assessment or determination letters, permits from regulatory authorities, and mapping	○	○	☐
Projects limited to the existing footprint of a building (e.g., a UV disinfection project)				
CWSRF and DWSRF	No Impact Certification Statement, submitted?	○	○	☐
CWSRF and DWSRF	The project is restricted to the footprint of the existing building:	○	○	☐
Project Scope				
DWSRF	Will the project expand capacity to serve more than 500 additional users or a 30% increase in the existing population, whichever is greater?	○	○	☐
CWSRF	Will the project increase hydraulic (flow) treatment capacity by more than 20%	○	○	☐
CWSRF	Percent increase in hydraulic capacity	0%		
CWSRF	Will the project increase influent 5-day biochemical oxygen demand (BOD5) organic treatment capacity by more than 30% ?	○	○	☐
CWSRF	Percent increase in BOD5 capacity	0%		☐
CWSRF	Existing hydraulic capacities		gal.	☐
CWSRF	Existing organic capacities		mg/l	☐
CWSRF	Proposed hydraulic capacities		gal.	☐
CWSRF	Proposed organic capacities		mg/l	☐
Sole Source Aquifer				
DWSRF and CWSRF	Will the project take place in an area designated by the Environmental Protection Agency as a "Sole Source Aquifer"?	○	○	☐
New Project Features				
DWSRF	Does the project call for a jurisdictionally new withdrawal of groundwater or of surface water (10 V.S.A. § 1042(b))?	○	○	☐
CWSRF	Does the project include a new discharge to surface water or groundwater?	○	○	☐
DWSRF	Will the project result in a 30% increase in groundwater or surface water withdrawal at an existing site?	○	○	☐
DWSRF	Percent increase in groundwater/surface water withdrawal	0.00%		☐
Mitigation				
DWSRF and CWSRF	Do you believe your project qualifies for a Categorical Exclusion in accordance with the Environmental Review Procedures for projects funded through the Vermont/EPA Drinking Water Revolving Loan Program and/or the Vermont/EPA Clean Water Revolving Loan Program, based on the environmental information and documentation, presented in the attached form?	○	○	☐
DWSRF and CWSRF	With your applicant's signature below, do you request a Categorical Exclusion for your project?	○	○	☐
DWSRF and CWSRF	If "No" above (Not a CATEX project), you must fill out all affected environmental and historical considerations below. If you answer "Yes" you will also need to provide the mitigation measures or an alternative action plan			

[1] Environmental controversy. Controversy includes not only scientific disagreement about the mitigation's effectiveness, but also public interest or debate. Controversy is an unresolved group opposition, disagreement or concern to the proposed project within the affected community

WID

1. Environmental Justice Considerations

Considerations	Yes or No	Basis for Determination and Documentation	
The WID uses this form to establish compliance with NEPA requirements. The WID determination of NEPA compliance does not extend to other permitting by other agencies. The intention of the WID review/determination is to establish that the project development takes into account all direct and indirect aggregated environmental impacts of the project.			
Sensitive Communities include persons who: may have reduced mobility; persons who reside in hospitals, nursing homes, convalescent homes, intermediate care facilities, board and care facilities, and retirement service centers; communities disenfranchised due to economic condition; communities disenfranchised by minority status, such as ethnic, religious, race, color or sexual identity. Sensitive communities includes children and elderly individuals within each of the definitions above.			
Will the project adversely affect a sensitive population? Present a map produced using the online EJSCREEN tool, showing the project perimeter.	○ ◉		☐
Will the project affect sensitive populations? Project characteristics that may result in effects on sensitive populations include: Measures to avoid loss of life or injury during flood or storm events; construction or operation dust, odor or noise control measures; storage of hazardous chemicals in areas of sensitive communities; limitations on transportation access etc.	○ ○		☐
Is the project known or expected to have a significant negative effect on the quality of the human environment? Consider the cumulative and also the long term effects of the project on the community. Provide a narrative of anticipated effects.	○ ○		☐
Will the project contribute to significant changes to the socioeconomic makeup of the area?	○ ○		☐
Is the project unaffordable? Provide an evaluation of the projected effect on user rates versus the affordability analysis.	◉ ○		☐
Has the project undergone an alternatives analysis evaluating practicable alternatives to address the pollutant or pollutants of concern (Criterion 9 of Chapter 2)?	○ ○		☐
Does the project implement the least cost alternative based upon a Life Cycle Cost Analysis (Criterion 9 of Chapter 2)?	○ ○		☐
Does the project implement the least cost alternative of the Long-Term Cost Effectiveness Analysis per (Criterion 9 of Chapter 2)?	○ ○		☐
Does the project impact an "existing use" contact recreational activity (on or after November 28, 1975) such as a swimming hole listed in a published Tactical Basin Plan?	○ ○		☐

2. Cultural, Historic and Archaeological Resources

Considerations	Yes or No	Basis for Determination and Documentation	WID
Projects shall protect cultural, historical and archaeological resources as they are of value to the community. Qualified consultants will assist and coordinate with WID and SHPO staff in **making determinations** and concurring with project applicant.			
Historic Sites Act: Will the project adversely affect a federal [16 U.S.C. sec. 461-467, (1935)] historic site?	○ ○		☐
Will the project adversely affect a state Vermont historic preservation act historic site? (*Please include copies of the historic resources assessment or archeological reports and subsequent phases as needed. List the qualified consultant, agencies and groups consulted.)*	○ ○		☐
National Historic Preservation Act [16 U.S.C. §470 et. seq. (1966)]: Will the project adversely affect historic buildings, over 50 years old, or listed in the National Register of Historic Places? https://www.nps.gov/subjects/nationalregister/database-research.htm Provide a list of any listed buildings, buildings over 50 years old, in the project area, and photos of each building, or a report by a qualified ACCD listed consultant.	○ ○		☐
Vermont listed historic preservation resource: Will the project adversely affect a Vermont listed historic resource? https://accd.vermont.gov/historic-preservation/identifying-resources Provide a list of any listed buildings, buildings over 50 years old, in the project area, and photos of each building, or a report by a qualified ACCD listed consultant.	○ ○		☐
Archaeological and Historic Preservation Act: Will the project adversely affect cultural resources? [16 U.S.C. §469a-1 (1974)] current 54 U.S.C. chapter 3125	○ ○		☐
Vermont archaeological and historic preservation: Does the project adversely affect a Vermont listed cultural archaeological or historic resource? https://accd.vermont.gov/historic-preservation/resources-rules https://accd.vermont.gov/historic-preservation/identifying-resources Provide documentation that the project perimeter has been evaluated for presence of these resources.	○ ○		☐
Executive Order 11593: **Will the project adversely affect cultural resources** "Protection and Enhancement of the Cultural Environment" https://www.archives.gov/federal-register/codification/executive-order/11593.html	○ ○		☐

3. Land Use

Considerations	Yes or No	Basis for Determination and Documentation	WID
Project applicant should identify related General Land Use features such as: a) Existing zoning ordinances, land use plans, development plans, etc.; b) Total land area required and/or proposed for purchase and the area that will be disturbed by construction for and operation of the proposed project; c) Current land uses in the area affected by the proposal, such as residential, commercial, agricultural, rangeland, forest land, recreational, etc; d) Compatibility of the proposed project with existing, if any: local, regional or state land use plans or controls; e) Any necessary mitigation measures.			
Does the project directly or indirectly adversely affect existing current land use? Provide mapping and information from local, regional, and state planning documents. Provide documentation of consultation with local and regional planning officials.	○ ○		☐
Will the project convert federally classified Agricultural Soils to non-agricultural uses?	○ ○		☐
Present a map showing the project along with Natural Resources Conservation Service (NRCS) soil classifications. [NRCS soil mapping survey]	○ ○		☐
Farmland Protection Policy Act; Present a completed AD-1006 Farmland Conversion Impact Rating form. [7 U.S.C. §4201 et. seq. (1981)]	○ ○		☐
Submit a determination by the federal Natural Resources Conservation Service List agencies and groups consulted.	○ ○		☐
Does the project involve new impacts to identified primary agricultural soils, that may require mitigation of such impacts, to comply with Vermont Statute Act 250 Criterion 9(B)? State primary agricultural soils are defined: [10 V.S.A. Section 6001(15)]	○ ○		☐
Refer to the online NRCS soil mapping survey and submit a map showing the project tract along with NRCS soil classifications [focused on rated Prime, Statewide, or Local soils of agricultural value group 1-7].	○ ○		☐
Provide a pre-application review letter from the Vermont Agency of Agriculture, Food & Markets.	○ ○		☐
If offsite mitigation is anticipated to be proposed, please review the online "Fee Memo" indicating the current year estimated cost of offsite farmland mitigation acres (subject to annual revision), to present an estimated fee. Please note that all mitigation is subject to approval by the District Commission, and a proposed use of off-site mitigation outside a designated area would be subject to the Commission's findings as to appropriate circumstances. See 10 V.S.A. Section 6093.	○ ○	Estimate Mitigation Fee $ 0.00	☐
Is Land Use and Development review and approval under Act 250 necessary? Attach a copy of the ANR Project Review Sheet, or Permit Navigator output, including the District Environmental Commission determination on Act 250 permit requirements. *List agencies and groups consulted.*	○ ○	A Project Review Sheet, that reflects the full current project scope, is always required.	☐

				WID
Does the project contribute to sprawl growth outside of Designated Growth Centers? Present a map showing the project in relation to the Designated Growth Center. Attach copies of the Town Plan. Discuss using the Growth Center and Growth Management Document. List agencies and groups consulted.	○	○		☐
Will the project cause other significant environmental impacts, including secondary impacts? List agencies and groups consulted.	○	○		☐
Does the project alter or affect Formally Classified Lands (properties that are administered by either Federal, State, or local agencies)? Present a project area map, identifying each of the administered lands, from resources below as applicable. Federally Administered: Federal Tribal Lands BIA (download geospatial data) Surface Management Agency DoI (downloadable polygon) U.S. Forest Service (USFS) U.S. National Park Service (NPS) Nationwide Rivers Inventory Nat. Bureau Land Management BLM National Parks Conservation Association US Wildlife Refuges (USFWS) State and local land management and planning agencies: parks, and other state-owned and state administered lands (State Game Refuges, State Conservation Camps, State Fishing Access Areas, State Wildlife Management Areas etc.)	○	○		☐

4. Intergovernmental Review of Federal Programs

Considerations	Yes or No		Basis for Determination and Documentation	
Does the project coordinate local government concerns in the review of proposed Federal financial assistance and direct Federal development? Executive Order 12372, Intergovernmental Review of Federal Programs	○	○	Private projects must present a letter of municipal support. For Municipal projects check Yes.	☐

5. Wetlands, floodplains, coastal zones, wild and scenic rivers

Considerations	Yes or No		Basis for Determination and Documentation	
A qualified wetland professional is responsible for mapping lands meeting the definition of a wetland and its buffer area, to ensure proper continued function. The project applicant must demonstrate viability of the project without deterioration of wetland function.				
Will there be construction in a wetland or wetland buffer? Executive Order 11990, "Protection of Wetlands;" as amended by Executive Order No. 12608 (1997) A wetland buffer perimeter compliant with Vermont Wetland Rules applies A qualified consultant's assessment and/or the regulatory authority's determination must be attached for any construction in wetlands.	○	○		☐

For any new construction please provide the wetlands classification delineation. List agencies and groups consulted. Indicate if a State permit or US Army Corps of Engineers permit is required. Qualified consultants are listed at: https://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list Present a printout of the map for the project location using: https://anrmaps.vermont.gov/websites/WetlandProjects/default.html The map should show the perimeter of the project, the wetlands in the project area and their corresponding **buffer zone**.	○	○	☐
Floodplain and Floodway hazard considerations. A detailed description of floodplain construction and a qualified consultant's assessment and/or the regulatory authority's determination must be attached. Show locations of all utility infrastructure on the Flood Insurance Rate Map (FIRM). Flood map available from Flood Insurance Rate Map. Refer to the SRF Guidance Document 37 on Floodplain management for additional information. **Caution**: ANR ATLAS (floodready) contains digital DFIRM mapping for 6 of the 14 Vermont counties: (Bennington, Chittenden, Rutland, Washington, Windham and Windsor County) and seven communities: (Bradford Village, Hardwick, Jay, Montgomery, Newbury, Stowe, and Wolcott). "About half of the flood hazard data in Vermont has been officially digitized". **Note:** TR-16 and other standard require that Critical Infrastructure is expected to be protected from a 500-year flood event. List agencies and groups consulted. All projects must comply with EO 11988 as amended by EO 13690 and reinstated by EO 14030.			
Will the project involve construction in a floodway? Publicly funded infrastructure should not be located within the floodway. Linear projects may have to cross a floodway but must be vertically located sufficiently above or below to avoid impacts. Include floodway boundaries on site plans and profiles.	○	○	☐
Will the project involve construction in a 100-year floodplain? Executive Order 11988, "Floodplain Management," as amended by Executive Order 12148 (1979) Publicly funded infrastructure should not be located within the 100-year floodplain. Linear projects may have to cross a 100-year floodplain, but must be vertically located sufficiently above or below to avoid impacts. All efforts to be made to locate critical infrastructure outside of floodplains to avoid impacts, however where unavoidable infrastructure shall be protected in accordance with the Executive Order and accepted standards. Include 100-year floodplain boundaries on site plans and profiles. Consult state guidance documents: https://floodtraining.vermont.gov/sites/floodtraining/files/documents/Accessory-Structures-Checklist.pdf	○	○	☐
Will the project involve construction in a 500 year floodplain? Publicly funded infrastructure should not be located within the 500-year floodplain (24 CFR §55.2(3)(i)&(4)). Linear projects may have to cross a 500-year floodplain, but may be vertically located sufficiently above or below to avoid impacts. All efforts to be made to locate critical infrastructure outside of floodplains to avoid impacts, however where unavoidable infrastructure shall be protected in accordance with accepted	○	○	☐

standards. Include 500-year floodplain boundaries on site plans and profiles.			WID
Will the project involve construction in a Vermont River Corridor? Provide a map created using the River Corridor layer of the ANR ATLAS, showing the perimeter of the project. Publicly funded infrastructure should not be located in the river corridor, as defined by the Vermont "Flood Hazard Area and River Corridor Protection Procedure" wherever practicable.	○	○	☐
Is a local zoning permit required for work in the flood hazard zone? Present copies of correspondence with local zoning official.	○	○	☐
Does the project require a hydraulic hydrologic study to comply with Act 250 Criterion 1(D)? Attach the hydraulic study as an appendix to the application.	○	○	☐
Coastal Zone Management Act; [16 U.S.C. § 1451 et. seq. (1972)] Vermont does not participate in the Coastal Zone Management program.	NO	○	☐
Coastal Barriers Resources Act; [16 U.S.C. §3501 et. seq. (1982)] Vermont waters are not affected by tidal action, therefore the Coastal Barrier Resource Act of 1982 does not apply.	NO	◉	☐
Will the project impact a wild, scenic or recreational river area and create conditions inconsistent with the character of the river? Discuss if the project is within a quarter-mile of a river on the National Park Service's Nationwide Rivers Inventory. A listing of rivers on the Nationwide Rivers Inventory is available at: Wild and Scenic Rivers Act; [16 U.S.C. §1271 et. seq. (1968)] *List agencies and groups consulted.*	○	◉	☐
Will the project involve construction in a stream? A qualified consultant's assessment and/or the regulatory authority's permit for stream alteration determination must be attached for construction in streams. List agencies and groups consulted.	○	◉	☐
Will the project involve: directional drilling under a stream, or an aerial crossing over a stream? Explain how the project was designed to address flood resiliency. List agencies and groups consulted (VTDEC Rivers Program, VTRANS).	○	○	☐
Does the project involve earthen impoundment of more than 500,000 CF (4 MG) of wastewater (Vermont Dam Safety Rule §37-108)? Explain if the impoundment is a Dam under the jurisdiction of the VT-ANR and what additional engineering and design standards apply.	○	○	☐

6. Fish and wildlife, and endangered species.

Considerations	Yes or No	Basis for Determination and Documentation	WID
The preservation of Vermont's natural fauna is an objective of all CWSRF funded projects. The EID related efforts should ensure that affected species are **not identified by name**, to protect their habitat.			
Will the project affect coastal fishing? Magnuson-Stevens Act (Rule at Fed. Reg. 85 FR 44220) and Essential Fish Habitat Consultation Process [as amended 16 U.S.C. §1801 et. seq (1996)]	No ◉	Vermont does not have Exclusive Economic Zones.	☐
Will the project: impound, divert, or otherwise control or modify the waters of any stream or body of water of the State? Fish and Wildlife Coordination Act [16 U.S.C. 661-667e (1934); as amended 1936, 1946, 1947, 1948, 1949, 1958, 1965] Identify the affected waters of the state. Provide citation and/or ANR Atlas map. Detail how many gallons will be impounded, what controls will be implemented, and the engineering and design standards applied, as well as any additional permiting, monitoring and reporting.	○ ◉		☐
Is the project likely to adversely affect birds covered by the Migratory Bird Treaty Act (MBTA) [(16 U.S.C. 703–712 (1918)]? All Vermont birds are listed and migratory and will affect consideration of proposed project designs. Involuntary "take" of birds should be identified in the project definition.	○ ◉		☐
Does the project affect an eagle habitat or nest? Bald and Golden Eagle Protection Act	○ ◉		☐
Is the project likely to adversely affect an federally endangered or threatened species? Endangered Species Act [16 U.S.C. §1531 et. seq. (1973)] *A qualified consultant's assessment and/or the regulatory authority's determination must be attached demonstrating compliance with US Fish & Wildlife guidance.* *List agencies and groups consulted. Submit IPaC summary.*	○ ◉	Do NOT name endangered species.-	☐
Is the project likely to adversely affect a Vermont state listed rare, threatened or endangered species? https://legislature.vermont.gov/statutes/section/10/123/05406 *A qualified consultant's assessment and/or the regulatory authority's determination must be attached*	○ ○	Do NOT name endangered species.-	☐
Is the project likely to adversely affect an ubiquitous statewide bat population? (area of tree removal) *VTrans Ind Bat and Northern Long Eared Tree Cutting Guidance by Region.pdf (vermont.gov)*	○ ○	Do NOT name endangered species.-	☐
	○ ○		☐

7. Drinking water and Groundwater Protection

Considerations	Yes or No	Basis for Determination and Documentation	
Project Objectives shall safeguard the sources of drinking water and be protective of the groundwaters of the state, which are held in public trust. The Safe Drinking Water Act - 42 U.S.C. 300f et. seq. as amended in 1976, 1986, and 1996, and the State of Vermont Groundwater Protection Rules provide a framework for these objectives.			WID
Are there Sole Source Aquifers in the project area? Present a map showing the project perimeter area using the EPA online map "EPA_Sole_Source_Aquifers": and indicate any "sole source aquifers". https://geopub.epa.gov/DWWidgetApp/	○ ◉	(As of August 2022, Vermont has no identified sole source aquifers).	☐
Will there be negative direct impacts to groundwater quality or quantity? Discuss positive and negatives impacts to nutrients, groundwater, existing drinking water supplies	○ ◉		☐
Subsurface Contamination and Constituents of Concern			
Has the desktop review of reasonably available information identified a need for a workplan submittal for approval by SMS to address recognized environmental conditions (RECs), contamination or suspected contamination? Links to guidance: 1) "**Linear Construction Projects Guidance** Document" for projects that take place within a public or private roadway, railroad, utility line, or rights-of-way (ROW). 2) "**Guidance For Construction of Public** Works Projects in Areas Where Contamination is Suspected or Known" 3) Resources: **ANR ATLAS** layers- Hazardous Sites Hazardous Waste Generators Brownfields Salvage Yard Aboveground Storage Tank Underground Storage Tank Additional ANR ATLAS layers: Dry Cleaners – verify PFAS results – where known Urban Soil Background Areas Land use restrictions status Others as needed	○ ○	Summarize Findings:	☐
4) Does the desktop review identify any potential **Emerging Contaminants**?	○ ○		☐

8. Air Quality, Noise and Emissions

Considerations	Yes or No	Basis for Determination and Documentation	
Construction, related to the installation and upgrade of infrastructure, and operation of water and wastewater facilities can potentially have emissions and may be required to meet federal and state air emission thresholds. Air Quality - Clean Air Act, as amended in 1990. [42 U.S.C. §7401 et. seq.]			WID
Will there be any changes to air quality (VTDEC Air Control Regulations)?	○ ◉		☐
Is an Air Pollution Control Permit required? Note: Emergency generators/pumps are only subject to limited requirements provided they are used strictly for emergency purposes (includes limited emergency demand response programs) and do not participate in peak shaving programs.	○ ◉		☐
Will there be any changes in emissions?	○ ◉		☐
Is your digester unequipped and operated without a flare?	○ ◉		☐
Are there any other non-emergency combustion devices at your facility, including but not limited to: stationary internal combustion engines such as diesel generators/ pumps, boilers or space heaters greater than 3 million BTU, or combustion turbines and/or boilers?	○ ◉		☐
Will there be any changes in noise levels?	○ ◉		☐
Will there be any changes in atmospheric dust levels?	○ ○		☐
Will there be any explosive dust generation?	○ ○		☐
Will there be any odor generation?	○ ○		☐

9. NEPA Related Considerations

Considerations	Yes or No		Basis for Determination and Documentation	
Project planning and development should consider both direct and indirect impacts of the project on archaeological, cultural, and environmental site features. These are further defined in the federal NEPA language.				WID
Is there a controversy[2] with respect to environmental effects of the project based on reasonable and substantial issues?	○	○		☐
Is the project significantly greater (requiring a new Act 250 permit, or permit amendment) in scope than normal projects for the area?	○	○		☐
Does the project have significant unusual characteristics (defined at 23 CFR 771.117 (b))?	○	○		☐
Does the project establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects (cumulative impact based on current information)?	○	○		☐
Does the project have significant adverse direct or indirect effects on federal or state parkland, other public lands, or areas of recognized Scenic or recreational value?	○	○		☐
Cumulative Impacts: Will the project cause other significant environmental impacts, including secondary impacts? *List agencies and groups consulted.*	○	○		☐
Will the project provide new drinking water facilities to serve a population greater than 2,000 persons, using population metrics consistent with the Public Water System regulatory program?	○	○	Current DW Population 37 New DW Population 23	☐

[2] Environmental controversy. Controversy includes not only scientific disagreement about the mitigation's effectiveness. but also public interest or debate. Controversy is an unresolved group opposition. disagreement or concern to the proposed project within the affected community.

10. Mitigation Measures and/or Alternative Plans of Action

Mitigation measures are applicable, to minimize adverse effects. Explain how mitigation measures will be achieved and monitored (Special Grant Condition or review of Plans and Specifications). Remember to consider structural and non-structural methods.	
Affected Environmental or Archeological Resources	**Mitigation Measures or Alternative Plan of Action**
A.)	
B.)	
C.)	
D.)	

Potential Mitigation Measure Decisions, must evaluate consider the following:
The adverse effect must have a **reasonable chance of occurring** in the foreseeable future; mitigation measures are only useful and appropriate when there is a compelling reason to address an identified impact. If an adverse effect has a low expectancy in the foreseeable future, mitigation is not likely necessary.
Mitigation measures must be **reasonable and enforceable**. There must be a reasonable expectation that the measure can be implemented and have the desired outcome.
The WID often relies on other federal state and local permitting entities to **monitor and enforce implementation**; environmental regulatory or natural resource agencies are technically in the best position to accomplish this. As much as possible, the WID will work with applicants to ensure mitigation follow-up. This may require a brief mitigation plan or need to be detailed in loan agreements.
Measures must balance the potential for impact on a resource and the resource's relative environmental value. Potential impacts on unique or scarce resources, for example, may require a strong mitigation measure (e.g. restrictive measure).

10. Mitigation Measures and/or Alternative Plans of Action continued

Mitigation measures are applicable, to minimize adverse effects. Explain how mitigation measures will be achieved and monitored (Special Grant Condition or review of Plans and Specifications). Remember to consider structural and non-structural methods.	
Affected Environmental or Archeological Resources	**Mitigation Measures or Alternative Plan of Action**
E.)	
F.)	
G.)	
H.)	

Potential Mitigation Measure Decisions, must evaluate consider the following:
The adverse effect must have a **reasonable chance of occurring** in the foreseeable future; mitigation measures are only useful and appropriate when there is a compelling reason to address an identified impact. If an adverse effect has a low expectancy in the foreseeable future, mitigation is not likely necessary.
Mitigation measures must be **reasonable and enforceable**. There must be a reasonable expectation that the measure can be implemented and have the desired outcome.
The WID often relies on other federal state and local permitting entities to **monitor and enforce implementation**; environmental regulatory or natural resource agencies are technically in the best position to accomplish this. As much as possible, the WID will work with applicants to ensure mitigation follow-up. This may require a brief mitigation plan or need to be detailed in loan agreements.
Measures must balance the potential for impact on a resource and the resource's relative environmental value. Potential impacts on unique or scarce resources, for example, may require a strong mitigation measure (e.g. restrictive measure).

Prepared By	Date	Title
Reviewed By	Date	Authorized Representative

*Basis for Determination and Documentation

The basis for determination and documentation information must be traceable and establish the factual data to support the response to each question. Any environmental concerns that are raised by federal, state, or local agencies or the public must be addressed as completely as possible and resolved before the environmental report will be considered complete. All supporting documentation (e.g., correspondence and exhibits) should be attached and easily cross-referenced back into the main body of the environmental report. Types of information to be included in this column are outlined below.

1. FIELD OBSERVATION: A site visit that does not usually involve any testing or measurements. FIELD OBSERVATION is an important method for initial screening of the issues, but for some of the categories it may be inadequate for final evaluation. Support documentation should include date of the site visit and by whom.

2. PERSONAL CONTACT: Personal contacts are useful when the individual contacted is an accepted authority on the subject(s) and the interview is documented. Supporting documentation should include the name, organization, and title of the person contacted and the date of the conversation. *Copies of written site inspection reports and determinations by regulatory authorities on applicability of regulations and permit requirements should be attached.*

3. PRINTED MATERIALS: These are useful sources of detailed information, materials such as comprehensive land use plans, maps, statistical surveys, and studies. Information must be current, i.e., not so old that changing conditions make them irrelevant and must represent accepted methodologies. Citations for the material should include enough information so that an outside reviewer can locate the specific reference.

4. SPECIAL STUDY: This is a study conducted for an individual factor or resource, and should be performed by a qualified person using accepted methodologies. Some tests are relatively simple to perform but others may require elaborate equipment or personnel with additional expertise. The preparer is responsible for obtaining assistance from others in order to have the appropriate test or studies conducted. Copy of the study must be appended or referenced as for Printed Materials.

5. CONTRIBUTOR EXPERIENCE: The professional judgment of the persons contributing to this environmental report can be useful provided their expertise is relevant. The contributor may have previous knowledge from familiarity with the area, or may have professional background to make judgments about a specific factor. Provide information of the person's qualification in addition to name, organization and position.

SUBMIT

APPENDIX B

Village Wastewater Survey Form

Village Wastewater Survey

This survey is for the Town of Westfield to better understand the current wastewater needs of the village area and its residents. The information gathered will be used for study purposes only.

Property Owner(s) Name: _____
Property Address: _____
Phone: _____
Mailing Address: _____
Size of Lot: _____ square feet or _____ acres (please approximate if not sure)

YOUR EXISTING WASTEWATER TREATMENT AND DISPOSAL SYSTEM

1. When was your septic system built? (Circle one)

Before 1970 1970-1989 1990-2006 2007-Present I Don't know

2. a. Does your system have a state WW permit?
   b. Do you have any design plans?

3. If yours is a residential property:
   a. How many bedrooms does your home have? ____
   b. Do you have an accessory dwelling (apartment, etc.)? __ Yes __ No
   c. Is the property vacant? __ Yes __ No

4. If yours is a commercial or non-residential property:
   a. Describe the building use: _____
   _____
   _____
   b. How many employees do you have? _____
   c. Provide information on the capacity and size of the building, campground, facility, etc:
   _____
   _____
   _____
   _____
   _____
   d. Is the property vacant? __ Yes __ No

5. Indicate the components of your septic system by circling 1 or more below:

Cesspool/ Dry Well/Seepage Pit
Leach Field
Absorption Trench
At Grade System
Mound System
Pump Station
Siphon
Distribution Box
Septic Tank
Effluent Filter
VW Bug
Pipe to a Ditch

a. Does your system use an Advanced or Innovative/Alternative Treatment System? What kind? (i.e. Manufacturer, type) _____

_____

6. Do you have any additional information about the property, sewer system or connections?

_____

_____

_____

_____

_____

7. How often is the septic tank pumped?

Never Every Two Years Every 4 Years Every Decade Other_____

Year that septic tank was last pumped, if known: _____

8. Has your wastewater disposal system experienced any of the following conditions? When?

Sewage on Ground Surface Ongoing Wetness Basement Backups Sewage Smells Sink Holes

Other: _____

9. Have you made any upgrades or repairs to your septic system within the last 10 years? __ Yes __ No
Describe: _____

_____

_____

YOUR WATER SUPPLY SYSTEM

Municipal Connection Drilled Well Shallow Well or Spring

If a well, what is the distance from the well to the nearest septic system? _____

COMMENTS

1. Do you have any comments about the wastewater needs for the Town of Westfield?

_____

_____

_____

2. If you had no limits on your property, what might you change? (examples: accessory apartment, more restaurant seats, etc.)

_____

_____

SKETCH OF PROPERTY

Please provide a sketch of your parcel with the location of buildings, driveways, nearest road, septic tank, leach field, property line, well/spring, brook or ponds.

APPENDIX C

Design Flow Calculations

wn of Westfield - Village Wastewater Study: Wastewater Design Flow Estimates

		Residential				Commercial		
			Assumed			Assumed		
SPAN	Acreage	Type	# Bedrooms	Design Flow	Use	# Users		Design Flow
717 228 10539	0.37	Single Family	3 reported from survey	280				
717 228 10538	1.27	Single Family	3*	420				
717 228 10356	2.78				Storage Facility	1	15gpd/employee + 100 gpd for commercial unit	115
717 228 10441	1.87					10	15gpd/employee	150
717 228 10086	188.76							
717 228 10276	0.89	Single Family	3*	420				
717 228 10552	0.89	Single Family	3 reported from survey	420				
717 228 10584	0.58	Single Family	3 reported from survey	420				
717 228 10220	0.69	Single Family	3*	420				
717 228 10035	0.89	Single Family	3*	420				
717 228 10282	0.73	Duplex	2*	560				
717 228 10061	0.89	Single Family	3*	420				
717 228 10222	0.55	Single Family	3*	420				
717 228 10135	1.00	Single Family	3*	420				
717 228 10093	137.80	Single Family	3*	420 Farm		3	15gpd/employee + 100 gpd for commercial unit	130
717 228 10139	1.20	Single Family	3*	420				
717 228 10588	0.90				Library with 3 employees per WW survey	30	15gpd/unit + 15gpd/employee	165
717 228 10155	0.30	Single Family	3*	420				
717 228 10196	1.00	Single Family	3*	420				
717 228 10029	0.80	Single Family	3 reported from survey	420				
717 228 10244	1.20	Single Family	3*	420				
717 228 10558	0.80	Single Family	3*	420				
717 228 10109	1.00	Single Family	3 reported from survey	420				
717 228 10418	3.90	Single Family	4 reported from survey	490 Store with 3 employees per WW survey		3	15gpd/employee + 100 gpd for commercial unit	145
717 228 10106	3.70	Single Family	4 reported from survey	490				
717 228 10251	1.30	Single Family	4 reported from survey	490				
717 228 10295	29.40	Single Family	3*	420 HOME & CAMPGROUND R2		10	75 gpd/site	2250
717 228 10583	0.31				TOWN OFFICE with 3 employees per WW Survey	3	15gpd/employee	45
717 228 10424	9.38	Single Family	3*	420				
717 228 10129	2.63	Single Family	3 reported from survey	420				
717 228 10275	3.30	Single Family	3*	420				
717 228 10247	1.25	Single Family	2 reported from survey	280				
717 228 10336	2.20	Senior housing family (11 units) plus 2 storage	3*	280 APARTMENT HOUSE CA		11	140gpd/unit	1540
717 228 10233	9.29	Two 1-BR units, one 2-BR unit	*	560 APARTMENT HOUSE D				
717 228 10334	0.28	Single Family	3*	420				
717 228 10081	3.00	Single Family	3 reported from survey	420				
717 228 10031	13.00	Single Family	3*	420 PARCEL R2				
717 228 10075	3.76	Single Family	1 reported from survey	140 MOBILE HOME PARK				
717 228 10384	1.90				LAND AND TOWN GARAGE with 1 employee per WW survey	1	15gpd/employee	15
717 228 10071	0.29	Single Family	3*	420 MOBILE HOME PARK				
	1.96	Single Family	3 reported from survey	280				
	1.62	Single Family	3 reported from survey	420				
	1.92	Single Family	3 reported from survey	420				
					Cemetery with 50 people per WW survey	50	1gpd/visit	100
717 228 10423	1.20	Single Family	2 reported from survey	280				
717 228 10034	1.70	Single Family	4 reported from survey	490				
717 228 10197	1.20	Single Family	2 reported from survey	280				
717 228 10478	11.97	Single Family	3 reported from survey	420				
717 228 10293	3.73	Single Family	3 reported from survey	420				
717 228 10098	3.27	Single Family	3 reported from survey	420				
717 228 10125	2.73	Single Family	1 reported from survey	280				
717 228 10264		Single Family	3 reported from survey	420				
717 228 10422	1.17	Single Family	2 reported from survey	490				
717 228 10321	7.81				LAND AND STORAGE UNITS	1	15gpd/employee	15
717 228 10402	1.70	Single Family	3*	420				
717 228 10177	1.93	Single Family	3*	420				
717 228 10554	1.81	Single Family	3*	420				
717 228 10118	1.06	Single Family	3*	420				
717 228 10163	1.00	Single Family	3*	420				
717 228 10420	1.19	Single Family	3*	420				
717 228 10540	8.00	Single Family	3*	420				
717 228 10573	1.81	Single Family	3*	420				
717 228 10310	2.92	Single Family	3*	420				
717 228 10577	7.20	Single Family	3*	420 PARCEL R2				
717 228 10330	2.73	Single Family	3*	420				
717 228 10578	2.10	Single Family	3*	420				
717 228 10579	1.00	Single Family	3*	420				
717 228 10580	1.20	Single Family	3*	420 PARCEL R2				
717 228 10574	2.22	Single Family	3*	420				
717 228 10287	1.80	Single Family	3*	420				
717 228 10259					PARCEL R	100	15gpd/employee	1500
717 228 10576	7.97	Single Family	3*	420 MOBILE HOME PARK				
			Subtotal	26110				4970
				31080				
				1000				
			Total Design Flow	34580 gpd				

APPENDIX D

Detailed Cost Estimates

TOWN OF WESTFIELD - VT ROUTE 100
GRAVITY SEWER COLLECTION SEWER MAIN TO PUMP STATION AND SANITARY FORCEMAIN TO TROY PUMP STATION
35,000 GPD TOTAL DESIGN FLOW

12/16/2025

PRELIMINARY ENGINEER'S CONSTRUCTION COST ESTIMATE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	COST/UNIT	TOTAL AMOUNT
COLLECTION SYSTEM CONSTRUCTION					
203.2800	EXCAVATION OF SURFACES AND PAVEMENTS	CY	2156.9	$30.00	$64,706.67
203.3100	SAND BORROW	CY	16802	$28.97	$486,753.94
204.2000	TRENCH EXCAVATION OF EARTH	CY	20861	$22.36	$466,451.96
301.1500	SUBBASE OF GRAVEL	CY	5855	$64.49	$377,547.73
406.0230	BITUMINOUS CONCRETE PAVEMENT, TYPE IIIS, QA TIER III (BASE COURSE)	TON	1268	$202.41	$256,706.62
406.0330	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III (WEARING COURSE)	TON	761	$222.65	$169,426.37
604.2200	SANITARY SEWER MANHOLE	EA	21	$7,001.93	$147,040.53
604.5600	CAST IRON COVER WITH FRAME, SEWER	EA	21	$1,250.00	$26,250.00
628.1416	PVC SEWER PIPE, 4 INCH (LATERALS)	LF	7000	$75.05	$525,350.00
628.1432	PVC SEWER PIPE, 8 INCH	LF	9706	$90.06	$874,122.36
641.1100	TRAFFIC CONTROL, ALL INCLUSIVE	LS	1	$10,000.00	$10,000.00
649.1100	GEOTEXTILE FOR ROADBED SEPARATOR	SY	8628	$1.94	$16,715.89
651.1500	TURF ESTABLISHMENT, GENERAL SEED	SY	44	$11.14	$495.11
651.3500	TOPSOIL	CY	5	$39.81	$199.05
653.1200	STRAW MULCH	TON	0.03	$1,216.64	$36.50
653.4701	SILT FENCE, TYPE I	LF	100	$4.15	$415.00
681.1010	REMOVE AND RELOCATE LANDSCAPE ITEMS	EA	10	$500.00	$5,000.00
	SUBTOTAL				**$3,427,217.72**
CONVEYANCE TO TROY PUMP STATION CONSTRUCTION					
AES004	SANITARY PUMP STATION, BACKBOARD, CONTROLS	EA	2	$50,000.00	$100,000.00
203.2800	EXCAVATION OF SURFACES AND PAVEMENTS	CY	731.5	$30.00	$21,945.83
203.3100	SAND BORROW	CY	4834	$28.97	$140,040.98
204.2000	TRENCH EXCAVATION OF EARTH	CY	14895	$22.36	$333,048.06
301.1500	SUBBASE OF GRAVEL	CY	2979	$64.49	$192,098.43
406.0230	BITUMINOUS CONCRETE PAVEMENT, TYPE IIIS, QA TIER III (BASE COURSE)	TON	1314	$202.41	$265,910.60
406.0330	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III (WEARING COURSE)	TON	788	$222.65	$175,501.00
628.1416	PVC SEWER PIPE, 4 INCH (FORCE MAIN)	LF	10054	$75.05	$754,552.70
AES0010	FORCE MAIN AIR RELEASE VALVE	EA	3	5000	$15,000.00
	SUBTOTAL				**$1,998,097.60**
OVERHEAD, CONTIGENCY, OTHER					
AES005	LAND ACQUISITION	AC	1	$5,000.00	$5,000.00
635.1100	MOBILIZATION/DEMOBILIZATION (4%)	LS	1	$137,088.71	$137,088.71
AES008	ENGINEERING DESIGN (15%)	LS	1	$514,082.66	$514,082.66
AES001	SURVEY OPERATIONS	LS	1	$6,854.44	$6,854.44
AES002	FIELD CHANGE PAYMENT	DC	1	$171,000.00	$171,000.00
AES003	CONTIGENCY (30%)	DC	1	$1,028,165.32	$1,028,165.32
AES007	CONSTRUTION INSPECTION/CONSTRUCTION SUPPORT (18%)	LS	1	$616,899.19	$616,899.19
AES009	CONSTRUCTION COST INDEX ESCALATION - YEAR 2030	LS	1	$102,816.53	$102,816.53
	SUBTOTAL				**$2,581,906.84**
	TOTAL CONSTRUCTION COSTS				**$8,007,222.17**

TOWN OF WESTFIELD - VT ROUTE 100
GRAVITY SEWER COLLECTION SEWER MAIN AND ON-SITE TREATMENT SYSTEM
35,000 GPD TOTAL DESIGN FLOW

12/16/2025

ENGINEER'S PRELIMINARY CONSTRUCTION COST ESTIMATE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	COST/UNIT	TOTAL AMOUNT
COLLECTION SYSTEM CONSTRUCTION					
203.2800	EXCAVATION OF SURFACES AND PAVEMENTS	CY	2156.8889	$30.00	$64,706.67
203.3100	SAND BORROW	CY	16165	$28.97	$468,300.05
204.2000	TRENCH EXCAVATION OF EARTH	CY	20861	$22.36	$466,451.96
301.1500	SUBBASE OF GRAVEL	CY	2876	$64.49	$185,449.31
406.0230	BITUMINOUS CONCRETE PAVEMENT, TYPE IIIS, QA TIER III (BASE COURSE)	TON	1268	$202.41	$256,706.62
406.0330	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III (WEARING COURSE)	TON	761	$222.65	$169,426.37
604.2200	SANITARY SEWER MANHOLE	EA	21	$7,001.93	$147,040.53
604.5600	CAST IRON COVER WITH FRAME, SEWER	EA	21	$1,250.00	$26,250.00
628.1416	PVC SEWER PIPE, 4 INCH (LATERALS)	LF	7000	$75.05	$525,350.00
628.1432	PVC SEWER PIPE, 8 INCH	LF	9706	$90.06	$874,122.36
641.1100	TRAFFIC CONTROL, ALL INCLUSIVE	LS	1	$10,000.00	$10,000.00
649.1100	GEOTEXTILE FOR ROADBED SEPARATOR	SY	8628	$1.94	$16,715.89
651.1500	TURF ESTABLISHMENT, GENERAL SEED	SY	600	$11.14	$6,684.00
651.3500	TOPSOIL	CY	67	$39.81	$2,667.27
653.1200	STRAW MULCH	TON	0.3	$1,216.64	$401.49
653.4701	SILT FENCE, TYPE I	LF	2100	$4.15	$8,715.00
681.1010	REMOVE AND RELOCATE LANDSCAPE ITEMS	EA	10	$500.00	$5,000.00
	SUBTOTAL				**$3,233,987.51**
WASTEWATER TREATMENT SYSTEM CONSTRUCTION					
AES004	ELJEN DISPERSION FIELDS	LS	1	$1,483,526.00	$1,483,526.00
AES005	EQUALIZATION TANK	LS	1	$1,000,000.00	$1,000,000.00
AES0010	SANITARY DOSING SYSTEM	LS	1	$200,000.00	$200,000.00
203.1700	UNCLASSIFIED EXCAVATION	CY	6171	$25.34	$156,342.29
	SUBTOTAL				**$2,839,868.29**
OVERHEAD, CONTIGENCY, OTHER					
AES005	LAND ACQUISITION	AC	5	$5,000.00	$25,000.00
635.1100	MOBILIZATION/DEMOBILIZATION (4%)	LS	1	$242,954.23	$242,954.23
AES008	ENGINEERING DESIGN (15%)	LS	1	$728,862.70	$728,862.70
AES001	SURVEY OPERATIONS	LS	1	$12,147.71	$12,147.71
AES002	FIELD CHANGE PAYMENT	DC	1	$304,000.00	$304,000.00
AES003	CONTIGENCY (30%)	DC	1	$1,822,156.74	$1,822,156.74
AES007	CONSTRUTION INSPECTION/CONSTRUCTION SUPPORT (18%)	LS	1	$1,093,294.04	$1,093,294.04
AES009	CONSTRUCTION COST INDEX ESCALATION - YEAR 2030	LS	1	$182,215.67	$182,215.67
	SUBTOTAL				**$4,410,631.09**
	TOTAL CONSTRUCTION COSTS				**$10,484,487.00**

APPENDIX E

VTDEC 30% PER Comment Responses

Project:	Town of Westfield - Village Wastewater Study
Project Ref:	5301
Title:	PER 35% Review Comments - VT DEC

VTDEC Reviewer:	Lynnette Claudon Achouak Arfaoui

Design Comments Log

Report Section	PDF Page No.	Reference	Commenter	VT DEC Comment	AES Response/Corrective Action	Added/Addressed in Report
Coverpage	1		Lynnette Claudon	It's not necessary to include DEC on the cover. But it is necessary to include our loan number on the cover. The final report will need to be signed and stamped by a qualified, registered Vermont PE.	VT DEC CWSRF Loan No. added to the cover sheet. Noted about final report PE stamp.	☑
1.1	4	*The Town lies within the **Memphremagog** drainage basin.*	Lynnette Claudon	Change this to Lake Champlain drainage basin (highlighted pink)	The sentence has been revised to the following: "The Town lies within the Lake Champlain drainage basin."	☑
1.1	4	*future wastewater system*	Lynnette Claudon	The quarter mile statutory buffer is generally considered part of the designated area.		☑
1.1	4	*future **wastewater system***	Lynnette Claudon	I suggest: wastewater solution, but is necessary to define limits for this study and areas that may be eligible for future public funding.	The sentence has been revised to the following: "The Sewer Service Area is defined solely to identify the geographic limits of the project evaluation and does not represent the extent of any potential future wastewater solution."	☑
1.2	4	*Additional information will be provided in the Environmental Information Document (EID), which is included in Appendix A.*	Lynnette Claudon	Please also include a brief discussion of any hazardous waste sites in the study area.	Acknowledged. A section with discussion of hazardous waste sites in proximity of the project has been included under Section 1.2.12.	☑
1.2.3	5	*the majority of the wetlands in and near the project area lie in the fields along the Missisquoi River.*	Achouak Arfaoui	[highlight but no comments/text]	N/A	--
1.2.4	5	*Detailed analyses have not been performed for these areas and therefore there is no known base flood elevation, however it is known that these areas are prone to flooding and should be avoided for a potential wastewater disposal area.*	Achouak Arfaoui	[highlight but no comments/text]	N/A	--
1.2.5	6	*It is **helpful** to confirm the presence of soils*	Lynnette Claudon	suggest: necessary	Acknowledged. The sentence has been revised to replace "helpful" with "necessary" in Section 1.2.5.	☑
		It is helpful to confirm the presence of soils through site evaluation including methods of soil borings, percolation testing, and seasonal high water table identification to determine if the dual classification can be relied upon for design. Dual group designations emphasize the need for long-term performance considerations, especially for systems relying on infiltration in marginal or seasonally saturated conditions.	Lynnette Claudon	and soil excavations	Acknowledged. The sentence has been revised to include soil excavations in the methods of site evaluations. Refer to Section 1.2.5.	☑
1.2.9	7	*The Sewer Service Area is adjacent to the Missisquoi River and its tributaries run through the Village Center.*	Lynnette Claudon	The Missisquoi is part of the Lake Champlain basin, while the location lists this as being in the Memphremagog Basin, please correct as necessary.	Acknowledged. The reference has been revised to reflect the Lake Champlain basin.	☑
1.2.11	7	*The Vermont ANR Atlas indicates there are no endangered species present in the project area or along the Route 100 corridor leading to the Town of Troy.*	Lynnette Claudon	There are state wide bat species that should be mentioned. would need evaluation if any proposed solution involves tree cutting, evaluations will be needed for bat impacts.	Acknowledged. This section has been revised to include the state-recognized endangered bat species and requirements to avoid the species and minimize impact for any future project.	☑
1.3	8	*In the last 20 years, the Town population has increased about six percent. Assuming similar trends in the Village Center, the village population is estimated to grow to about 178. Based on recent studies looking at infill development in urban areas, dedicated efforts to expand residential housing in the Village Center indicates population growth could be expected to increase by about 5% in addition to natural population growth.*	Lynnette Claudon	to complete a project priority list application, several other data points are needed. see first page and the affordability page and include enough data here that it will substantiate the application.	Noted.	--
1.4	9	*Discussion of feedback collected during these meetings will be addressed in later sections of this report along with feasibility analysis of the alternatives. Refer to Chapter 5. Selection of an Alternative (when available).*	Lynnette Claudon	If the town wants points towards a build project in the PPL, please note any planning above and beyond the minimum required. This documents 1 direct mailing. The efforts need to be multiple and diverse to get the point.	Noted.	--
General	10	*N/A*	Lynnette Claudon	Thank you for using an ADA compliant font. We are just learning of the ADA requirements for documents that will be posted on line, so I do not have more guidance, but if you could please try to keep this report compliant with this new ADA requirement.	N/A	--
2	10	*The Town of Westfield does not currently have a municipal sewer system. The homes and businesses in the Designated Village Center and surrounding area are served by individual, private septic systems*	Achouak Arfaoui	[highlight but no comments/text]	N/A	--
2.1	10	*Since the Town does not have their own municipal wastewater infrastructure, the Town does not possess a map of existing individual, private septic systems used by residents. The Town plans to perform site visits to each location within the PSSA to flag all grade where wastewater pipes exit structures and pathways to existing septic systems, if known. The Town intends to perform this work with assistance from property owners within the PSSA. These locations will be integrated into GIS to map the existing wastewater systems and serve as a reference for the design phase when it may be necessary to determine connection points for a potential new collection system.*	Achouak Arfaoui	Please provide also an overview of the water supply systems in the service area, even though the feasibility study is focused on wastewater	Acknowledged. Section 2.1 has been revised to include a discussion on the water supply system in Westfield.	☑
2.2	10	*A more detailed evaluation of septic system status and dates of construction will be completed during design. There have not been any recorded violations of regulatory requirements for any of the privately owned septic systems in Westfield.*	Lynnette Claudon	Please search the WW permit database for any properties in Westfield that are in the service area and list those systems by permit number for the number of systems that were replacements for a failed system. This inventory can help establish the age of some of the systems and is used to calculate priority points for the PPL. New failed system can also be added, but are unlikely to be reported at this stage of a project.	Noted. A running list of existing WW permits has been included in the draft report; will be updated in the final draft.	☑
			Achouak Arfaoui	Same comment as Lynnette regarding the documentation of eventual existing WW permits. That will allow also to gather information about soils and the depth of seasonal high groundwater table.		--

2.3	10	*It was understood that the existing systems are frequently inundated by flooding and are at the end of their useful life. However, of the 26 property owners that answered the survey, the majority (62%) of respondents indicated that they do not have any issues with their septic system, 23% didn't answer, and 15% indicated they may occasionally experience wetness, sewage on the ground, or basement backups.*	Achouak Arfaoui	Is a site visit anticipated to check the status of the wastewater infrastructure?	Yes; however, please note that a detailed evaluation of existing individual on-site septic systems is not included in the current planning/report scope.	--
	10	*majority of the homes are 3-bedroom*	Achouak Arfaoui	[highlight but no comments/text]	N/A	--
	11	*There are approximately 71 parcels within the proposed sewer service area, of which the majority are residential.*	Achouak Arfaoui	[highlight but no comments/text]	N/A	--
		TABLE: Type of Connection	Lynnette Claudon	Please take another look at the flow development tables from Chapter 1. There are reduced values based on number of connections. Please include calculations in an appendix.	Design Flow Calculations included in the Appendix.	☑
			Achouak Arfaoui	The flows can be more accurately determined based on the proposed WW alternatives and the number of units served/system (at a more advanced stage of the project)	Noted.	--
2.5	11	*AES HIGHLIGHTED NOTE: Add info on existing water utility within DVC. Confirm energy audits have not been conducted.*	Lynnette Claudon	I concur. Without any infrastructure, there is likely no applicable audit.	N/A	--
3.1	12	*Furthermore, raw sewage exposure becomes hazardous in yards or basements from backups or overflows and can result in unpleasant odors. Slow drains or toilet overflows can lead to sanitation concerns inside the home, and standing sewage on lawns can attract pests, insects, and rodents.*	Lynnette Claudon	Please look at the PPL application and document any points that might be wanted in the public health and water quality section here.	Noted.	--
3.2	12	*A detailed search should be incorporated during design to make sure that the properties that need to upgrade their system are included in the project and remove previously improved systems.*	Lynnette Claudon	To get refurbishment points in the PPL there are specific determinations that need to be made. A table relative to those labels and your replacement findings would be a good addition here.	Noted.	--
FIGURE 1.2	15	*Proposed Sewer Service Area*	Lynnette Claudon	Please also show the statutory buffer. You can download it from the State Planning Atlas.	Figures have been revised to show the statutory buffer.	☑
FIGURE 1.3	16	*Wetlands Map*	Lynnette Claudon	For the EID you will need a map that is prescribed from the wetlands group. There are some missing layers here.	Revised Figure 1.3 to show wetlands map.	☑
FIGURE 1.4	17	*FEMA Flood Hazard Areas*	Lynnette Claudon	Please also include any flood hazard areas mapped from the Vermont ANR Atlas. This will show the river corridors. Also be aware that there is an effort statewide to update mapping, so this map is likely to be replaced relatively soon.	Noted. Revised Figure 1.4 to include FEMA layers from VT ANR Atlas.	☑
APPENDIX A	23	*VTDEC Environmental Information Document (blank)*	Lynnette Claudon	We have a draft updated form that is almost ready to be posted. Please check back in with me and/or online before completing this form.	Noted.	--

APPENDIX F

Existing Wastewater Permits

Permit No.	Applicant Name	Street Adreess	Permit Issue Date	Project Description
WW-7-3197	Megan Fazio	1036 VT ROUTE 100		Replace a failed wastewater disposal system to a 4-bedroom single family residence served by municipal water supply.
WW-7-3921-1	Chad and Victoria Prue,Roger Audet	1628 VT Route 100, Westfield VT	1/24/2018	This project, consisting of amending permit WW-7-3921 to reconfiguring the boundary lines between existing Lot 1 and Lot 2 and to further subdivide Lot 1: Lot 1A to be 3.78± acres with the existing storage units created with "Notice of Permit Requirements"; Lot 1B to be 1.27± acres with the existing 3-bedroom single family residence; Lot 2 will now be 5.07± acres with an existing primitive camp created with "Notice of Permit Requirements", located at 1628 VT Route 100, in Westfield
WW-7-3921-2	Tyson Properties, Inc	55 Freedom Drive, Westfield, VT	6/28/2023	This project consists of amending permit no. WW-7-3921-1 to upgrade the existing wastewater disposal system on lot 2 at 55 Freedom Drive in the town of Westfield, VT. The lot is currently developed with a 2-bedroom single family dwelling served by an on-site shallow spring and holding tank. The holding tank will be removed, and the existing wastewater disposal system will be upgraded with an on-site performance-based mound.
WW-7-1223-2	Richard & Jan Degre	1571 VT Route 100	9/7/2012	Amendment to convert an existing storage building into a preschool with 4 teachers and 17 students to be served by existing on-site water supply and existing on-site wastewater disposal.
WW-7-1223-3	Richard & Jan Degre	1572 VT Route 100	5/14/2015	Amendment to Lot #1 to divide 30.07 into 2 lots: Lot #1 to be 7.9 acres with an existing auction house & preschool with existing drilled well and existing on-site wastewater disposal system. Lot #2 to be 22.1 acres to be created with Notice of Permit Requirements.
WW-7-4080	Alice Gonyaw	632 North Hill Road	7/2/2014	Wastewater Disposal Design for a proposed 2 bedroom house.
WW-7-3921	Roger Audet	22 FREEDOM DR	10/10/2013	Divide 10.12 acres into 2 lots: Lot #1 to be 5.06 acres with an existing 3-bedroom single family residence served by on-site water supply and on-site wastewater disposal system. Lot #2 to be 5.06 acres to be created with Notice of Permit Requirements.
WW-7-3625	John C. Jacques	220 BUCK HILL RD	6/20/2012	Construction of 3-bedroom single family residence to be served by on-site water supply and on-site wastewater disposal system.
WW-7-5606	Scenic View Ruraledge, LLC	979 VT Route 1000	6/28/2021	Convert an existing 19 bed Community Care Home for use as senior housing. The building was originally a motel which was converted to the bed facility in 1986 when the motel was subdivided from the 2 unit apartment house. see EC-7-1072 and EC-7-1072-1 (1997 boundary adjustment). The previous project documents identify that the Care Home was designed for 2375gpd. The active primary disposal area is identified on the plans for 2500gpd and the replacement area is shown designed for 1530 gpd. The
WW-7-6719	Nancy L. Carter	NORTH HILL RD	8/19/2025	This project consists of constructing a 2-bedroom single family residence (SFR) on 3.9 acres located on North Hill Road in the town of Westfield, VT. The SFR will be served by a municipal water service connected to Westfield Fire District 1 water system and an on-site in-ground wastewater disposal system.
WW-7-6243	Rachel Quintal	2491 VT-100, Westfield, VT	9/12/2023	This project consists of replacing a failed wastewater disposal system serving the residence at 2491 VT Route 100 in the town of Westfield, VT. The residence is currently served by an on-site drilled well and on-site wastewater disposal system which is currently surfacing. The existing system will be replaced by an off-site in-ground wastewater disposal system.
WW-7-3232-1	Charles A. Traniello,Linda D. Traniello	2532 VT ROUTE 100	10/7/2019	This application, consisting of amending permit WW-7-3232 to replace a failed wastewater disposal system for the existing 3-bedroom single family residence served by an on-site water supply, located at 2532 Vermont Route 100, in Westfield