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TO: All Bidders / Respondents

FROM: Rob Wick, PMP Project Manager

DATE: February 25th, 2019

SUBJECT: Addendum #1 Wadhams WWTP Disinfection Upgrades Engineering RFP

1. **Response to Request for Information on lack of Engineering Report in the RFP for reference:**

   a. The previous Engineering Report did not include a Basis of Design, and a Basis of Design is one of the requested RFP deliverables, so it was not included in the original RFP posting. Since this document has been submitted to NYS DEC as part of this project, and since there has been multiple requests, it has been included as **Appendix B-2** as further reference in the event it will assist respondents in development of effective proposals.

2. **Technical Point of Contact for Site Visits:**

   a. Town Wastewater Operator, John Crandall: (518) 962-4419.

END OF ADDENDUM # 1

Town of Westport

Wadhams WWTP Disinfection Evaluation

NYSEFC Engineering Planning Grant (EPG)
Project No.: 4524

Prepared for the
Town of Westport
22 Champlain Avenue
PO Box 465
Westport, NY 12993

June 1, 2018

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EXECUTIVE SUMMARY

PROJECT BACKGROUND & HISTORY

ALTERNATIVE ANALYSIS

SUMMARY & COMPARISON OF ALTERNATIVES

RECOMMENDED ALTERNATIVE

FIGURES

TABLES

APPENDICES

Contents

1) EXECUTIVE SUMMARY 4

1.1 Background 4

1.2 Purpose 4

1.3 Evaluations Conducted 4

1.4 Recommendations 4

2) PROJECT BACKGROUND & HISTORY 5

2.1 Relevant Documentation, Previous Reports, Local Planning Documents, Jurisdictional Permitting Agencies, and Regulatory Design Manuals. 5

2.1.1 Relevant Documentation 5

2.1.2 Previous Reports 5

2.1.3 Local Planning Documents 5

2.1.4 Jurisdictional Permitting Agencies 5

2.1.5 Regulatory Design Manuals 7

2.2 Site Information 7

2.2.1 Location 7

2.2.2 Land Use 7

2.2.3 Geologic Conditions 8

2.2.4 Environmental Resources 8

2.2.5 Floodplain Considerations 9

2.3 Ownership and Service Area 10

2.3.1 Sewer District 10

2.3.2 Industrial Discharges or Hauled Waste (e.g. source, volume, composition) 10

2.3.3 Population Trends and Growth 10

2.4 Existing Facilities & Present Condition 10

2.4.1 General Description & History 10

2.4.2 Permit Conditions 11

2.4.3 Existing Flow and Waste Loads 12

2.4.4 Existing Energy Consumption. 12

2.4.5 Site Layout / Overall Schematic Drawing / Photos 12

2.4.6 History of Storm Damage 12

2.4.7 Unit Process Evaluation 12

2.5 Definition of the Problem 15
2.5.1 Health, Sanitation, and Security 15
2.5.2 Aging Infrastructure 15
2.5.3 Infiltration 15
2.5.4 Reasonable Growth 16
2.5.5 Water, Energy, and/or Waste 16
2.5.6 Suitability for Continued Use 16
2.5.7 Storm and Flood Impacts 16
2.5.8 Compliance with Accepted Standards 17
2.6 Financial Status 17
3) ALTERNATIVE ANALYSIS 18
3.1 Alternative Descriptions 18
3.1.1 Primary Common Components 18
3.1.2 Alternative 1: UV Disinfection 20
3.1.3 Alternative 2: Chlorine Disinfection 21
3.1.4 Alterative 3: Discharge to Groundwater through Infiltration 22
3.1.5 Alterative 4: No Action Alternative 22
3.1.6 Other Alternatives Considered 22
3.2 Design Criteria 22
3.3 Map 23
3.4 Environmental Impacts 23
3.4.1 Land Requirements 23
3.4.2 Potential Construction Problems 24
3.4.3 Sustainability Considerations 24
3.4.4 Impact on Existing Facilities 25
3.4.5 Schedule and Constructability 25
3.5 Permits 25
3.6 Cost Estimates 25
3.7 Non-Monetary Factors 25
4) SUMMARY & COMPARISON OF ALTERNATIVES 27
5) RECOMMENDED ALTERNATIVE 28
5.1 Proposed Project 28
5.1.1 Basis of Selection 28

5.1.2 Project Map 28
5.1.3 Total Project Cost Estimate 28
5.1.4 Project Schedule 28
5.2 Additional Documentation 28
5.2.1 Attached Signed Engineering Report Certification 28
5.2.2 Attached Signed Smart Growth Assessment 29
5.3 Next Steps 29
6) FIGURES 30
7) TABLES 31
8) APPENDICES 32

1) EXECUTIVE SUMMARY

1.1 Background

The Town of Westport owns and operates a small sewer collection and wastewater treatment system for the Hamlet of Wadham's Sewer District, a small Hamlet area located in the Town of Westport, Essex County, New York, located along the Boquet River, just north of the Westport Hamlet area along NYS State Route 22. The plant is currently authorized to discharge up to 15,000 gallons per day (GPD) of treated wastewater from this facility.

1.2 Purpose

In 2013, the Town of Westport received notification from New York State Department of Environmental Conservation on a permit modification affecting the operation of the Town's Wastewater Treatment Plant (WWTP). The WWTP is required to disinfect the effluent and does not currently.

The scope of this report is to evaluation alternatives to bring the Town's WWTP effluent into compliance with the new SPDES Permit. This report includes an evaluation of UV disinfection, chlorine-based chemical disinfection and discharge through groundwater infiltration. The report also provides are review and recommendation for repair of the remaining unit processes of the treatment plant as well as key areas of the collection system.

1.3 Evaluations Conducted

AES Northeast gathered existing mapping, performed a WWTP inspection, gathered background data from the operators, and performed targeted manhole inspections in order to provide a conditions assessment of the treatment plant and collection system and provide recommendations for repair and upgrade. Deficiencies in the current plant were identified, which included repairs need to the septic tank access ports, the dosing chamber concrete, the sand bed media, flow monitoring, as well as site security and manhole repair.

1.4 Recommendations

Three alternatives to meet the requirements of the permit modification were evaluated, UV disinfection, chlorine-based chemical disinfection and discharge through groundwater infiltration. After weighing the alternatives, UV disinfection is recommended along with repairs to the deficient unit processes mentioned above.

2) PROJECT BACKGROUND & HISTORY

2.1 Relevant Documentation, Previous Reports, Local Planning Documents, Jurisdictional Permitting Agencies, and Regulatory Design Manuals.

2.1.1 Relevant Documentation

The following documents have been included for easy reference.

a. NYS DEC Correspondence

- York State Department of Environmental Conservation (NYSDEC) Permit # NY-0217760
- Permit Modification Letter
- Inspection Report

Refer to Appendix A: *NYS DEC Correspondence*.

2.1.2 Previous Reports

The following reports were reviewed as in preparation of this report.

- **Town of Westport Wastewater Treatment Plant Flow Management Plan and Performance Evaluation – July 9, 2010: AES Northeast, PLLC.**

- **Town of Westport Wadhams Wastewater Treatment Plant Engineering Report for the Implementation of Effluent Disinfection – December 20, 2013: AES Northeast, PLLC.**

2.1.3 Local Planning Documents

- **Wadhams Sewer District, Town of Westport, N.Y. Essex County – July 15, 1988: Adirondack Engineering Associates**

2.1.4 Jurisdictional Permitting Agencies

a. Town of Wadhams (SEQR)

Per the NYSDEC website *"In New York State, most projects or activities proposed by a state agency or unit of local government, and all discretionary approvals (permits) from a NYS agency or unit of local government, require an environmental impact assessment as prescribed by. [Statutory authority: Environmental Conservation Law Sections 3-0301(1) (b), 3-0301(2)(m) and 8-0113]. SEQR requires the sponsoring or approving governmental body to identify and mitigate the significant environmental impacts of the activity it is proposing or permitting.*

Environmental assessments are standardized through use of the Environmental Assessment Form (EAF). The Environmental Assessment Forms are in a pdf format that can be filled and saved. To assist applicants in preparing the Part 1 of either the Short or Full EAF, the NYSDEC has developed EAF Workbooks and a GIS mapping program (the EAF Mapper) that searches spatial data bases and provides answers to location-based questions which are automatically filled onto a pdf copy of an EAF and provided to the user. The spatial data used by the EAF mapping program to complete the new EAFs is based on the GIS data sets used and maintained by DEC, or actively maintained by various agencies and shared with DEC.

The Legislature has made SEQR self-enforcing; that is, each agency of government is responsible to see that it meets its own obligations to comply."

b. New York's State Historic Preservation Office (SHPO)

(SHPO) helps communities identify, evaluate, preserve, and revitalize their historic, archeological, and cultural resources. The SHPO administers programs authorized by both the National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980. The SHPO is responsible to review archeological reports prepared on behalf of the town, as the town will be required to retain a professional archeologist for review of any projects receiving state or federal aid. If archeological finds are discovered, the SHPO will direct how they are addressed and preserved. SHPO utilizes an online mapper, Cultural Resource Informational System (CRIS) that can be accessed to identify potential cultural resources that may be located in the project planning area.

c. Adirondack Park Agency (APA)

For communities located within the Adirondack Park, the Adirondack Park Agency has land use designations that can affect improvement projects and set restrictions and setbacks from natural resources such as streams and wetlands. The project planning area falls within the hamlet area of the town. Hamlets are the least regulated areas (by the APA) of the park, however certain criteria, specifically wetlands if present, may require an APA permit.

d. The New York State Department of Environmental Conservation (NYSDEC)

(NYSDEC) also has environmental regulatory review for all major projects involving the surface waters of the State of New York, both discharging to, and the taking of, water from those natural resources, discharges and taking of groundwater aquifer water resources, and various storm water and wetland regulations that may pertain to the planning process for a community. NYSDEC also is responsible to verify that all sanitary sewer projects comply with all applicable regulations.

e. The New York State Department of Transportation (NYSDOT)

NYSDOT owns and operates state highways, as well as manages preservation efforts for scenic byways and highways. NYSDOT typically owns, or secures through easement, a Right-of-Way (ROW) to allow maintenance and protection of the roads that it manages. NYSDOT allows municipalities to install infrastructure, such as utility lines, within the NYSDOT ROW. All installations must comply with all NYSDOT standards and must not adversely impact the roadways. NYSDOT requires review of all engineering plans for work within the ROW and must approve the plans. In addition, highway work permits are required of the contractor that dictate traffic control, bonding, etc.

f. U.S. Army Corps of Engineering (ACOE)

ACOE is a U.S. Federal Agency under the Department of Defense. It is one of the world's largest public engineering, design, and construction management agencies. The ACOE's regulatory program is authorized to protect the Nation's aquatic resources through evaluation of permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. Waters of the United States include all navigable waters, tributaries to navigable waters, and adjacent wetlands. Navigable waters are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently being used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The Corps must first determine if the waters at the project site are jurisdictional and subject to the requirements of the Section 404 permitting program. Once jurisdiction has been established, permit review and authorization follows a sequential process that encourages avoidance of impacts, followed by minimizing impacts and, finally, requiring mitigation for unavoidable impacts to the aquatic environment.

g. Environmental Protection Agency (EPA)

The US EPA develops the regulations and implementation strategies that are required of municipalities with regard to water quality. In New York, regulation and enforcement is typically handled through the NYSDEC, however EPA can in certain cases, become involved.

2.1.5 Regulatory Design Manuals

a. NYSDEC Design Manual

New York State Department of Environmental Conservation, *"Design Standards for Intermediate –Sized Wastewater Treatment Systems*," published in 2012.

b. "10 States Standards"

Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities," published in 2004.

2.2 Site Information

2.2.1 Location

The WWTP is located on NYS-22 approximately 0.25 miles east of the intersection of NYS-22 and Lewis-Wadhams Road in the Hamlet of Wadhams, NY 12993. The land is located within the Town of Westport. The entirety of this project will fall on land owned by the Town of Westport.

Refer to Figure 2.1: *General Location Map.*

2.2.2 Land Use

a. State Conservation Areas – Wild Forests and Wilderness Areas

All land, both public and private, within the Adirondack Park has been designated a land use classification by the APA. The land use classification sets restrictions on land use and development, and establishes setbacks from natural resources. The purpose of the APA land use classifications is to balance private ownership and economic growth and development with maintaining the natural character of the Adirondack Park. The treatment facilities are located within a Hamlet. (*APA River Corridors – August 20, 2013*)

Refer to Figure 2.2: *APA Land Use Designations.*

Refer to Appendix B: *APA Jurisdictional Inquiry Correspondence.*

b. Scenic Byways

New York State and the federal government both have programs that identify historically and visually significant highways and manage projects in and around these highways to avoid disturbing aesthetics of the areas around the highways. Designated highways are known as Scenic Byways. NYSDOT is the agency responsible for managing this program. A review of the list of NYS Scenic Byways reveals that the project will have no effect on scenic byways.

Refer to Figure 2.3: *NYSDOT Scenic Byway*.

c. Zoning

The Town of Westport does have applicable zoning or land use laws for the location of the project. However, the project will not be affected in regards to requiring re-zoning permits or being restricted to specific zoning districts within the scope of this report. The Hamlet of Wadhams falls under the Approved Local Land Use Program

Wadhams does fall under the APA Hamlet classification which requires 50-foot setback for any new building.

APA also designates a minimum 100-foot setback for any new leaching facility which includes groundwater infiltration beds, drainage fields and seepage pits.

Refer to Appendix C: *Westport Land Use Laws.*

Refer to Appendix D: *APA Shoreline Restrictions*.

Refer to Figure 2.4: *Land Use Designation.*

2.2.3 Geologic Conditions

a. Topography

The land that the WWTP is located on is relatively flat. Portions of Wadhams Wastewater Treatment Plant site have been filled during previous construction.

Refer to Figure 2.5: *Hamlet of Wadhams Topography*.

b. Soils

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service operates the Web Soil Survey, which includes the soils of Essex County (NRCS USDA, 2013). The soils in the area of the existing effluent structure is fill from previous upgrade and installation.

Soil Borings were performed across the site to gather accurate representation of the geological material onsite. A series of three soil borings were performed across the property to determine the soil composition.

Refer to Figure 2.6: *USDA Soil Map.*

Refer to Appendix E: *ATL Soil Boring Report.*

2.2.4 Environmental Resources

a. Water Bodies

The Town of Wadhams WWTP discharges to the surface water body of Boquet River. The Boquet is considered a Class A water body by NYS DEC. The Boquet River is a tributary to Lake Champlain fed by several rivers and streams.

b. Wetlands

With its abundance of surface water resources, the hamlet and surrounding areas have several APA designated wetlands. The area around Boquet River shows the characteristics of Freshwater Forested and Shrub Wetlands with the presence of Freshwater Ponds and Freshwater Wetlands. The Adirondack Park Agency mapping of wetlands is usually the most comprehensive source of wetland mapping within the Park, however the wetland mapping does not delineate wetlands within the planning area. Wetlands under 1 acre may not be jurisdictional by the APA, however the ACOE will likely take jurisdiction if any work disturbs the wetlands (even temporarily).

Refer to Figure 2.7*: National Wetlands Inventory*.

c. Endangered Species

Both the New York Department of Environmental Conservation (NYSDEC) and United States Fish & Wildlife Service (USFWS) online databases were utilized to determine the presence of potential endangered species in the project planning area. The NYSDEC mapper showed that there is a presence of an endangered species. From the USFWS resource search indicated that the Indiana Bat and the Northern Long-Eared Bat have the potential to be impacted within the Hamlet of Wadhams. However, within the scope of the project there is little chance for the species to be affected as the project site is mostly open field.

Refer to Figure 2.8: *USFWS IPAC System Trust Resources.*

Refer to Figure 2.9: *NYSDEC Environmental Resource Mapper*.

Working in areas that may impact the Indiana Bat places requirements related to tree cutting. Tree cutting is generally restricted to November 1st to March 31st, or if cutting must occur outside of those months, then biologists must be called in to determine if there will be any impacts to the bat. Previous work done on site shows a developed area for renovation and construction. The Northern Long-Eared Bat is federally listed as a threatened species. Both bats typically hibernate in caves/mines in the winter and roost in trees in the summer. Similar precautions should be taken to protect both species, although the requirements for protection of the Indiana Bat are more stringent based on its classification as Endangered.

Refer to Figure 2.10: *USFWS Bat Fact Sheets.* for the USFWS details for working in an area inhabited by the Indiana Bat and Northern Long Eared Bat.

This Hamlet of Wadhams has observed fourteen known species of migratory birds. In the scope of the project it is unlikely that any harm will come to the birds as the site is relatively developed and the proposed work should not affect the migratory bird population.

2.2.5 Floodplain Considerations

Changes in local weather patterns in recent years causing the increased frequency of severe and intense storms, including hurricanes/tropical storms in Upstate New York, have emphasized the need to verify that proposed work can withstand the 100 year and possibly the 500-year flooding events. Climate models predict that the region in and around the Town of Westport is likely to become warmer and wetter, and experience more extreme weather 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.

The most recent flood insurance study performed for the Town of Westport is dated September 4, 1987. The Boquet River, which is the receiving water for the Wadhams WWTP effluent and is located adjacent to the WWTP site, was studied by approximate methods per the flood insurance study report. The Boquet River 100-year flood extents on the FIRM map are designated as Zone A – No base flood elevation determined. This approximate 100-year flood boundary was overlaid on orthoimagery to determine how far onto the WWTP site the flood boundary encroached. It appears that the approximate flood elevation occurs at or below elevation 295'.

In addition, the WWTP Operator observed flood waters overtopping the sand filter berms during the 2011 flooding associated with Hurricane Irene. This flood event exceeded water levels associated with a 100-year flood in the vicinity of the WWTP and elsewhere. In some areas flooding associated with Hurricane Irene was determined to be a 500-year flood or greater.

The WWTP sand filter top of berm elevation is approximately 297'. The sand filter collection lines purportedly range from elevation 289.75 at the invert out of MH 17 to 294.4' at the high end of the underdrains. During normal spring runoff and high water levels and water table levels water purportedly backs up into the underdrain system, but limited access to the underdrains prevents the extent of the back-up from being fully determined.

Refer to Figure 2.11: *FEMA Flood Insurance Rate Map and Town of Westport Flood Insurance Study.*

2.3 Ownership and Service Area

2.3.1 Sewer District

The main sewer district is bounded on one side by the Boquet River and on the other side by the extents of the main population area. The primary collection system was established circa 1987. The primary collection and treatment facilities is comprised now of roughly (48) parcels within the sewer district boundaries, (45) of which are billable users. An extension of the sewer district was established in 1995 adding (11) billable parcels and a single non-billable parcel. The sewer district extension is located on the west side of the Boquet River, all flow is collected at a pump station and pumped across the river and discharges to an existing manhole upstream from the WWTP.

Refer to Figure 2.12: *Collection System District and Parcel Map.*

2.3.2 Industrial Discharges or Hauled Waste (e.g. source, volume, composition)

The WWTP does not accept hauled waste from septage haulers. There are no industrial discharges in the collection system.

2.3.3 Population Trends and Growth

The Town of Wadhams did not participated in the 2010 census, the population data analyzed is that of Westport. In regards to potential user growth, the WWTP currently serves approximately 56 users who generate the average flow of around 4,000 GPD. The SPDES permitted flow rate for the WWTP is 15,000 GPD. With this information, it can be extrapolated that the WWTP could handle a growth in the town's population without the need for expansion of the collection and treatment systems. The average water usage of the Hamlet is upwards of 5,000 gallons per day, which conservatively equates to 100 gallons per day per household. Assuming that 100 GPD per household holds true for new homes, the system can treat up to an additional 94 users, a 167% expansion. Using typical per-unit hydraulic loading rates from DEC Design Standards for Intermediate –Sized Wastewater Treatment Systems, and assuming 110 GPD/br, and 3 bedroom houses, the system could accept a total of 136 users, including the existing 56 users, or an additional 80 users.

Testing of the septic tank effluent/sand bed influent indicated a BOD_5 of 200 mg/L. Based on a BOD of 200 mg/L, a maximum organic loading to the sand beds of 0.005 lb BOD_5/ft^2/day per DEC Design Stds., and operation of two sand beds online and two sand beds resting, flow to the system is limited to approximately 10,570 GPD. At 10,570 GPD the system could accept a total of 96 users, including the existing 56 users, or an additional 40 users and 71% expansion.

Due to its remote location from stores and population centers and lack of nearby sources of employment, very little growth is anticipated to occur within the hamlet of Wadhams over the next 20 years. Any growth that does occur should not cause the WWTP to exceed its design capacity as it currently has excess capacity based on the current flow and loading conditions.

2.4 Existing Facilities & Present Condition

2.4.1 General Description & History

a. Community History

(source: http://www.westportny.net/meet-the-administration/history/)

The Hamlet of Westport is incorporated under the Town of Westport and their history stretches back until 1642. A regional history can be found in documents on the Town of Westport's website.

b. Wastewater Collection System

The existing wastewater Collection system is functioning adequately for the state of the wastewater treatment plant. The wastewater collection system was designed and installed in 1987. The system is approximately one and a half miles in length comprised of PVC pipe and one half mile of force main. The main collection lines are 8" PVC pipes and the lateral sewers are 6" PVC pipe. The system is primarily gravity fed but there are four pump stations present in the system. A sewer district expansion occurred in 1995, adding users from the west side of the Boquet River. Wastewater from the sewer district expansion area is collected in a pump station located between NYS Route 22 and the Boquet River and is pumped across the river in a 3" diameter PVC force main. It discharges into one of the existing 1987 manholes, and continues by gravity to the WWTP.

c. Wastewater Treatment System

The present wastewater treatment plant and sewer collection system were constructed and have been in service since 1987. The treatment plant generally consists of the following:

- Primary Treatment: The influent enters a system of three septic tanks in series to reduce BOD and provide for gravitational separation to reduce solids. From the septic tanks the primary effluent passes through a weir chamber/sampling structure where it can be sampled and its flow measured. This weir chamber is currently nonfunctional due to corrosion caused by sulfide attack. Flow measurement was achieved by dose counting, but the dose counter is also nonfunctional. Flow is currently estimated based on observation of the number of doses to the filter beds.
- Secondary Treatment: After the weir chamber/sampling structure the primary effluent flows into a dosing chamber where a Flout system is present that automatically doses primary effluent to the open sand filters. Valving is used to turn on/off pairs of filters. The online filters are then alternately dosed by the Flout system. The open sand filters reduce BOD and TSS. There is limited phosphorous removal from open sand filters.
- Effluent and Outfall: The effluent from the beds is combined into a single flow and piped out to discharge in the surface water of the Boquet River.
- Flow passes through the entire WWTP by gravity.

2.4.2 Permit Conditions

All permit conditions are included in the SPDES permit.

a. Regulatory Compliance Requirements

The Town of Westport is not currently subjected to an Order of Consent; however, the required permit modification has the same effect as an Order on Consent and the Hamlet of Wadhams must follow the requirements of the modification. All modified permit conditions are included in the SPDES permit.

b. Design Flow and Waste Loads

The existing flow data and service area of the WWTP shows that the facility currently experiences an average of 4,000 GPD. This recent historical flow data is based upon a count of doses from dosing chamber to the sand filter

beds and an estimated flow per dose, and is therefore only an approximate flow calculation method. The basis of design and evaluation of disinfection alternatives will therefore utilize the existing WWTP permitted flow and maximum permitted discharge of TSS, BOD, and Fecal Coliform for design parameters.

- Design Average Day Flow: 15,000 GPD (30-day mean per permit) (note – this flow is the design flow into the septic tanks, which temper peak flows. Flow to the sand beds is dosed. Dose volume remains reasonably consistent but dose frequency changes with changes in incoming flow.
- Design Average Sand Bed Dose: 1,080 gal/dose/bed
- Design Peak Sand Bed Dose: 2,030 gal/dose
- Design Peak Hourly and Instantaneous Flow to Disinfection: 150 gpm (pumped flow to disinfection)
- Septic Tank Influent Design Average BOD: 250 mg/L
- Septic Tank Primary Effluent (Sand Bed Influent) Design Average BOD: 200 mg/L
- Effluent BOD: 30mg/l (Month Avg)
- Effluent TSS: 30 mg/l (Month Avg)
- Effluent Fecal Coliform: 200/100 ml (30 Geometric Mean)
- Effluent Total Chlorine Residual: 2 mg/l (daily maximum) – if chlorine disinfection is implemented

2.4.3 Existing Flow and Waste Loads

a. Incoming Wastewater Flow Analysis

Wastewater treatment plant flow and loading data was compiled for the past 2 years (2016 and 2017 Discharge Monitoring Reports (DMRs)) and summarized in Table 2.1: *One Year Monthly Data Summary 2016-2017* and Table 2.2: *One Year Monthly Data Summary 2017-2018*, respective to each year. This information, compiled on a monthly and quarterly basis, will be utilized to evaluate loading conditions to the plant. Data was also compiled from these reports to evaluate flow conditions and peak loading periods from data recorded by the operator from 2016 to 2018. The flow to the WWTP consists of residential/domestic wastewater.

The following is pertinent flow information from the review of the above data:

- Peak Month Average Day Flow 2016: (0.005 mgd)
- Average Monthly Flow 2016: (0.004 mgd)
- Peak Month Average Day Flow 2017: (0.005 mgd)
- Average Monthly Flow 2017: (0.004 mgd)

2.4.4 Existing Energy Consumption.

There is no current power draw from the Wadhams wastewater treatment plant.

2.4.5 Site Layout / Overall Schematic Drawing / Photos

Refer to Figure 2.13: *Existing Plant Map*.

2.4.6 History of Storm Damage

There is no reported recent storm damage at the time of writing this report.

2.4.7 Unit Process Evaluation

The installation of disinfection requires an evaluation of the entire treatment process. The condition and hydraulic capabilities of the components are critical to the evaluation and selection disinfection method.

Refer to Appendix F: *Unit Process Evaluation* for visual and detailed assessments.

Refer to Appendix G: *Design Standards Evaluation* for analysis of the treatment facilities using the "New York State Design Standards for Intermediate Sized Wastewater Treatment Systems."

a. Existing Hydraulic Profile

The design sand bed top of sand elevation is 296.0' per the original WWTP plans. The existing sand bed top of sand elevations are approximately 295.5'. Existing sand bed effluent main invert out (MH 17) elevation is purportedly 289.75'. The existing sampling manhole purported invert out is 286.0'. The estimated 100-year flood elevation is approximately 295'. The Boquet River and groundwater regularly backs up into the sand bed underdrains and collection lines during spring thaw/runoff.

Pumping sand bed effluent up to a higher elevation and letting it flow through the disinfection system will disconnect the sand filter collection lines from the river and groundwater level, reducing the impact of high river and groundwater levels on sand filter bed performance.

Refer to Appendix H: *WWTP Existing Hydraulic Profile*.

b. Septic Tanks

The influent is treated in a series of three septic tanks with a storage capacity of 8,000 gallons each. Each septic tank is outfitted with two risers with the aim of easing access for cleaning. Each septic tank was pumped in 2017. Yearly pumping is recommended to maintain the septic tanks operating at optimal efficiency, prevent solids from migrating into the sand beds, and to reduce long term maintenance costs. During pumping, the concrete side walls were purportedly in good condition and showed no signs of degradation. The tanks should be inspected every time they are pumped out and photos should be taken to provide a conditions assessment record. The covers of the tanks are made of plywood and are degrading due to weathering, compromising security and safety.

c. Weir Chamber

The weir chamber houses a 22.5 degree V-notch weir and a primary sampling area. The v-notch weir was used to monitors the flow of the primary effluent but due to sulfide attack the concrete channel has deteriorated, allowing flow around the weir and rendering it unusable for flow measurement. Once the weir was rendered unusable, flow monitoring was performed using a dose counter in the dosing chamber, but the dose counter also succumbed to sulfide attack and there currently is no flow measurement system in place. Flow is determined by observation of bed dosing frequency. There is no current way to measure the influent flows of the Wadhams WWTP. An alternative and more reliable means of flow monitoring and measurement should be provided. The structure that houses the weir chamber is not equipped with power, heat, or ventilation. It is of limited usefulness.

d. Dosing Chambers

The siphon dosing chamber is purported to have a capacity of 2,033 gallons/dose. The dosing system is currently using a Flout ™ dosing system with a purported 1,080.7 gallons/dose. The dosing system alternates dosing through two 8" dosing barrels to a system of filter beds. Recent draining of the chamber showed that the lower section of concrete appeared to be in relatively good condition, however the riser section and top are in poor condition and require replacement.

The dosing chamber has two manhole openings with risers to access the Flout dosing system. This set-up requires the operator to get into the structure to adjust the Flout dosing sequence. A new hatch located over to Flout should be installed to improve access and safety for operations and maintenance.

e. Filter Bed System

There are four open sand filter beds onsite, each with a designed surface area of 1,764 ft^2. The beds operate with two beds online while two beds are offline. The offline beds will dry out in preparation for when they are brought back online. At the permitted flow rate of 15,000 GPD, with two beds online and two beds resting, the hydraulic loading is 4.25 GPD/ft^2, which is less than the maximum hydraulic loading of 5 gpm/ft^2 for open sand filters per the DEC Design Standards for Intermediate-Sized Wastewater Treatment Facilities (DEC Design Stds). Based on average day flow for the past three years (2016, and 2017) of approximately 4,000 GPD, current hydraulic load on the sand beds with two beds online is calculated roughly to be 1.1 GPD/ft^2.

Septic tank effluent/sand bed influent BOD and TSS testing performed during the report investigation had initial results of 200 mg/L for BOD^5 and 94 mg/L for TSS. At the permitted flow rate of 15,000 GPD, and a sand bed influent BOD of 200 mg/L the organic loading on the sand beds would be 0.007 lb BOD/ft^2/day, which exceeds the DEC Design Stds. recommended organic loading of less than or equal to 0.005 lb BOD/ft^2/day and indicates that filter bed organic loading is a limiting factor for future expansion of the collection system. Based on average day flow for the past three years (2016, and 2017) of approximately 4,000 GPD, and a sand bed influent BOD loading of 200 mg/L, current organic load on the sand beds with two beds online is calculated roughly to be 0.002 lb BOD/ft^2/day, which is within DEC Design Stds.

The individual sand beds are in relative disrepair and should be refurbished. The beds have many issues with excessive plant growth. This growth can be linked to improper application of maintenance techniques such as rototilling and excessive raking instead of preventative weeding. There is evidence of scum on the surfaces of the beds which needs to be skimmed off and removed. Scraping and removing media over the years to address plant growth, media blinding, and ponding has reduced the total media depth. An estimated eight to ten (8-10) inches of material from the top of the northern beds and five to six (5-6) inches of material from the southern beds is compromised and needs to be removed and replaced with new media.

f. Sand Bed Berms

The sand bed berms are constructed of dense compacted clay and, together with the compacted clay bed liner, provide an impermeable barrier to keep the wastewater within the beds and keep groundwater out of the beds. During the 2011 flood event associated with Hurricane Irene the sand bed berms were overtopped and the beds were flooded. Flooding of the beds results in deposition of silts and other fines in the beds, which can migrate through the sand layer blocking pore spaces and leading to blinding and premature bed failure. Raising of the sand bed berms above elevation 298' would provide protection from the highest flood of recent record.

g. Fencing

The fencing surrounding the filter beds is inadequate and in disrepair. There is evidence of people climbing the fence and gate, likely to retrieve balls from the adjacent basketball court and soccer field. The fencing should be removed and replaced with taller and more secure fencing to prevent unauthorized access to the sand filters and prevent exposure of the public to undisinfected septic tank effluent (e.g. soccer ball kicked into a sand bed, ball is retrieved, soccer game continues with that ball).

h. Effluent and Outfall

A portion of the effluent pipe prior to the last manhole appears to be leaking, causing a sink hole. This pipe should be replaced.

All of the effluent is collected in a common header. The effluent travels through a sampling manhole at the bank of the Boquet River and out an effluent pipe located at the bottom of the river discharge point.

The sampling manhole structure is a precast 4-foot diameter manhole. The entrance is 24 inches and is secured with a locking cover. The structure appears to be sound and secure.

The effluent discharge pipe was unable to be assessed due to river conditions but is purported to be 8" Schedule 80 PVC pipe with nozzles facing downstream.

i. Disinfection System

None.

2.5 Definition of the Problem

2.5.1 Health, Sanitation, and Security

Currently the WWTP does not have a disinfection system for the effluent being discharged into the nearby surface water of the Boquet River. The installation of a disinfection system will provide for a cleaner and safer surface water and all waterways downstream. There is an immediate need for a disinfection treatment system. The WWTP is required by law to have a form of effluent treatment in place to ensure all TSS and bacterial organisms conform to predetermined limits.

An issue that is known to the town is the security of the secondary treatment process. The location of the open sand beds is 25 feet from a high traffic recreational area. The four-foot woven wire fence is not an adequate deterrent to keep trespassers out of the facility. There is visible evidence of trespassers shown by disconnected fence, bent fencing and fence posts where there is high traffic and boards placed in the beds. The determined main cause of trespassing is the adjacent soccer field and basketball court which are placed in such a way that the sporting implements will often bounce into the facility.

2.5.2 Aging Infrastructure

At the time of the inspection, it was noted that several of the locking mechanisms for the septic tank risers were corroding and nearing the point of failure. Combined with the rotting wood holding the locking mechanisms in place the security of the tanks is diminishing. One of the mechanisms had been dislodged while another section of wood fell away and currently allows access to the septic tanks, effectively leaving the riser covering without security.

The open sand beds are in need of an overhaul. The beds are experiencing a slow draining effect. The filters are being plagued by excessive growth of plant material. This might be in part to prior maintenance activities in which the top layers of filter media have been rototilled and no longer possess the necessary qualities to be used as filter sand. While this activity was a valiant attempt to deal with abundant plant growth, it causes organics to be driven deep into the filter media, leading to blinding, ponding, and further plant growth issues. This sand should be stripped and replaced with newly recharged materials. Without taking a representative soil sample and testing it the estimated depth to remove is roughly eight to ten inches of the top layers of filter media.

There has been an ongoing instance of a sink hole located at a portion of the secondary effluent pipe outside of the fenced area. If left unresolved, the sinkhole could pose a threat to those who use the recreational facility adjacent to the wastewater treatment facility.

2.5.3 Infiltration

A review of the collection system, revealed that the collections system was in relatively good condition at the time of inspection. The collection system was installed in 1987 and consists of precast manholes and pvc pipe. A system of this construction and vintage would be expected to be in good repair. Two manholes were found to be a source of

I&I due to leakage through the covers. It is recommended that the covers be replaced with sealed covers and/or raised due to the locations in ditch lines.

Refer to Appendix I: *Collection System Evaluation.*

2.5.4 Reasonable Growth

The Hamlet of Wadhams produces an average of 4,000 gallons of water per day. This average usage means that the original standards still hold and the collection and treatment system are prepared to handle an influx of users if the area begins to increase in population.

2.5.5 Water, Energy, and/or Waste

The existing treatment plant does not use electricity or water. Waste generation is limited to septic tank pumpout which is disposed of for treatment at a larger regional WWTP facility.

2.5.6 Suitability for Continued Use

In general, the wastewater treatment plant layout and functionality can meet the needs of the Town. Several components have reached or exceeded their useful life and need to be repaired/replaced. The installation of a disinfection system will make the effluent discharge compliant with necessary codes to ensure a safe and efficient working WWTP.

In addition to the addition of the disinfection system, the required upgrades are generally summarized as the following:

- Repairs to septic tank and dosing chamber covers
- Replacement of flow monitoring
- Replacement fencing
- Repairs to the sand beds.

One item to note, the septic tanks were designed with the intention of annual pumping of sludge and non-biodegradable materials as preventative maintenance. Annual pumping will allow the Town to avoid events where they would have to pay a large lump sum at an increased rate for the large amount of sludge being removed. This would also aid in the effectiveness and longevity of the subsequent processes in the plant and reduce the number of issues plaguing the wastewater treatment plant.

Following proper maintenance procedures for ensuring the efficacy of the filter beds is essential to the treatment plant.

2.5.7 Storm and Flood Impacts

The majority of the site is outside of the FEMA Zone A 100 year mapped flood plain, although, this flood boundary was only determined by approximate methods per the 1987 flood insurance study. The treatment plant surface infrastructure is above +/- 295' elevation, which appears to be the approximate 100-year flood elevation of the Boquet River in the vicinity of the WWTP. All infrastructure should be designed in such a way to be protected in the case of a major flooding event. The location of the effluent pipe and effluent sampling manhole are located within the flood plain that is known to flood to a level that would damage the new disinfection system if it were placed in that area.

The wastewater treatment plant experienced major flooding in 2011 from Hurricane Irene. The water level rose above the infiltration bed berms (approximate elevation of 297') and flooded the beds.

The tree line adjacent to Bouquet River experiences a flooding and pooling effect during heavy rains and during the spring thaw. This flooding impacts the operator's ability to access the effluent structure in a safe manner but does not significantly affect the plant processes.

An elevation of 298' is deemed to be above the 100-year flood elevation, and approximately the level reached by Hurricane Irene flooding in 2011. All structures and equipment shall be designed to be protected from damage of flood waters reaching an elevation of 298'.

The sand filter collection lines purportedly range from elevation 289.75' at the invert out of MH 17 to 294.4' at the high end of the collection lines. During normal spring thaw/runoff high groundwater levels purportedly back up into the underdrain system and collection lines, but limited access to these lines prevents the extent of the back-up from being fully determined.

2.5.8 Compliance with Accepted Standards

The existing WWTP processes does not disinfect the effluent water before discharging into the nearby surface water. The ultimate need for this project is the requirement that the WWTP create a structure to house a system to disinfect the discharged effluent. Previous upgrades accounted for the inevitable need of a disinfection system and designed an effluent structure accordingly to allow for the implementation of a disinfection system without extensive construction.

2.6 Financial Status

The Sewer District currently has no debt and users are charge $300/year for O&M.

3) ALTERNATIVE ANALYSIS

3.1 Alternative Descriptions

The proposed project is to add disinfection to the WWTP to achieve WWTP effluent fecal coliform below 200 units/100 ml as required by the Town's permit modification. In addition, a groundwater disposal alternative will be reviewed.

There are several components that also require upgrades at the plant to allow for the town to meet permit requirements with the required disinfection (allow for best operations of disinfection) as well as replace and upgrade infrastructure that is past its useful life. These component upgrades are common to both disinfection alternatives.

Alternative 1, Ultraviolet Disinfection, works in a less invasive way to the environment than chemical-based disinfection and is highly effective. The disinfection treatment takes place in an illuminated disinfection chamber. The process is physical in nature and adds no particulates or chemicals to the water. The ultraviolet light exposure works by retarding microorganisms' ability to reproduce by destroying genetic material. Without the ability to replicate, bacteria and viruses are no longer an able to infect other organisms, resulting in disinfection of the effluent water.

Alternative 2, Chlorine Disinfection, involves diluting a calculated the amount of chlorine into the treatment plant effluent water to completely react with the effluent. The dose of chlorine varies based on effluent flow and water quality (concentration of reactants in the effluent). The reactions that occur in the water leave behind chlorine residual if proper mixing conditions, contact time, and dosages are not met. New York State requires a de-chlorination system in addition to the chlorination system when the disinfected effluent is discharged to Class A waters due to the fact that chlorine is a toxic substance that can be dangerous to the surrounding ecosystem. The Boquet River is designated as a Class A water. De-chlorination is commonly achieved though the introduction of Sulfur Dioxide or sulfite salts.

Alternative 3, the use of Groundwater Discharge through Infiltration is a viable option for disinfection in long term operation. According to USDA soils mapping, the underlying region contains a lens of Winsor Loamy Sand which may be suitable for groundwater discharge infiltration. Preliminary groundwater mounding calculations using the Finnemore method indicate that the small discharge of the facility may be reasonably accommodated by this soil type.

Alternative 4, no action.

Other alternatives that were considered and rejected include gravity flow to UV disinfection, gravity flow to chlorine disinfection, and various structure locations on the WWTP site.

3.1.1 Primary Common Components

a. Sand Beds

The sand bed rehabilitation is proposed to consist of filter media replacement. The layer of compromised filter media should be removed to below the interface layer. Based on test holes, it is estimated that approximately the top 6-10 inches of existing media will need to be removed and replaced with new filter media. The new filter media will conform to design standards which promote biological treatment. If existing sand filter media is left and new media placed on top of it, then the new media will have to be carefully matched to the existing media to prevent the formation of an interface layer. If an acceptable match to the existing media is unable to be found then all existing media should be removed down to the pea gravel layer and new media provided. New media should be installed to bring the total sand media depth to a minimum of 24" deep, and preferably 36" deep. The discharge lines, pads, and vent lines should be raised as necessary to accommodate the new sand elevation.

b. Sand Bed Berms

The sand bed berms shall be raised above elevation 298'. The berms should be raised by stripping the surface layer off the berms down to the compacted clay layer. An additional dense compacted clay lift should be added, maintaining the same side slopes by building the berm upward and outward.

c. Fencing

Fencing, of a suitable height, shall be installed to adequately protect the sand beds from human and animal entry as well as provide protection from stray equipment from the adjacent athletic fields. The fencing area will need to be increased to encompass any additional treatment structures.

d. Pump Station

Due to high water levels during spring runoff that often result in water backing up into the buried site piping, it is not possible to maintain gravity flow through a disinfection system located between the sand filter discharge manhole (MH 17) and the sampling manhole, while also protecting the disinfection system from 100-year flood levels and maintaining it in full operational status during regular high water levels.

The pump station will receive gravity effluent flow from the sand filter beds and pump it up to the head of the disinfection system. The basic components of the pump station are as follows:

- 8' inner diameter wet well to accommodate duplex effluent pumps and a simplex recirculation pump. If recirculation is not implemented or planned for future installation then the pump station wet well may be reduced to 6' inner diameter.
- Inverted J-tube with screen.
- Duplex submersible explosion proof effluent pumps on SS rails with pitless units and SS lifting chains. Approximate pump design point of 100 gpm at 16.2 ft TDH to 150 gpm at 17.7 ft TDH. Pump cables equipped with decontactors.
- Separate valve vault containing check valves, knife gate valves and an inline magnetic flow meter.
- Duplex control panel with level transducer control and float high/low level backup. If recirculation will be provided as part of the project or anticipated in the future then the panel shall include all necessary I/O for control of the recirculation pump. Control panel mounted immediately adjacent to wet well or in disinfection structure.
- Pump station rim to be at or above 298' elevation.

e. Piping Modifications

A new effluent line will be run from existing MH 17 to the new pump station wet well. Following disinfection, the disinfected effluent will be directed by gravity to a tie-in point on the existing effluent line. The effluent pipe will be replaced to the point of the sink hole to eliminate any leaking pipe sections.

f. Effluent Flow Monitoring

Effluent flow monitoring will be required for accurate disinfection treatment, and can also act as the plant's primary source of flow monitoring. An inline magnetic flow meter will be installed inside the pump station valve vault to turn activate/deactivate the disinfection system and provide flow pacing as necessary. A controller will be necessary to totalize the flow.

g. Septic Tank, Weir Chamber, and Dosing Chamber Repair

The riser covers on the septic tank manholes shall be replaced with more secure locking HDPE, fiberglass, or metal covers.

The existing weir and weir channel structure shall be abandoned. An 8" PVC piped connection shall be provided from the last septic tank to the siphon box.

The dosing chamber upper precast concrete tank section that is exhibiting deterioration from sulfide attack shall be replaced. The dosing chamber concrete cover shall be replaced with a new precast concrete cover with access hatch centered over the Flout dosing system. The replacement of the covers will ensure ease of access during maintenance and inspection.

h. Emergency Power

Emergency power in the form of an on-site LPG generator will be provided. The generator will be sized to meet the power requirements of the selected disinfection alternative. The generator will be equipped with an outdoor enclosure. To further protect the generator from weather and curious public it will be housed under an open roofed structure with wood fence surround.

i. Collection System Work

There were two manholes that were identified as having inflow due to location and poor sealing covers. Riser sections and/or sealed covers will be added to those manholes.

3.1.2 Alternative 1: UV Disinfection

The UV disinfection system will be sized based on the effluent UV transmittance % and the pumped flow rate. Preliminary UV transmittance measurements resulted in a range of readings from 47.8% using a local UVT test unit to 65% for a sample sent to a UV system manufacturer for testing. Final UV system sizing/selection will be determined based on further UVT testing and collimated beam testing. A UV disinfection system will consist of the following:

- 2 to 3 UV low pressure-low intensity units in series, with one unit redundant backup. Maintenance activities on a UV bank will be performed by removing the UV modules for that bank from the channel, allowing flow and disinfection to continue uninterrupted.
- The pump station will discharge into a receiving chamber where energy will be dissipated. The UV channel will be laid out to achieve plug-flow into and out of the UV channel.
- UV structure top of concrete elevation of approximately 300', UV system approximate weir elevation at 298.25 to protect against highest flood of recent record (2011 Hurricane Irene).
- Diversion plates will be used to direct flow through the UV channels within the UV structure. In the event that the UV channel needs to be dewatered for maintenance the diversion plates can be pulled. Such work will need to correspond with pump out of the septic tanks to provide storage capacity for incoming flows during the maintenance work, otherwise undisinfected effluent will be discharged from the facility.
- The UV system controller will accept a flow signal from the inline magnetic flow meter located in the pump station valve vault. The pump station level transducer may be used to initiate system warm-up in accordance with the UV unit requirements.
- The UV control system shall provide alarm conditions for various operational parameters.
- An autodialer configured to call out via cell signal shall alter the operator of major alarm conditions of the pump station and UV system.

- All electronic and electrical components shall be in accordance with the most current version of the National Electrical Code.
- Safety equipment and appropriate warning signage will be provided.
- Level control will be provided by a serpentine in-channel weir.
- A gantry or jib crane with adjustable powered hoist will be provided for removal of the UV units for cleaning and maintenance.
- The UV channel structure will have insulated decking and in-channel heat and ventilation will be provided to prevent freezing between pump cycles.
- The UV structure will be covered for weather protection. Security will be achieved by the use of fencing.
- A simplex recirculation pump will be placed in the UV pump station wet well to recirculate sand filter effluent to the dosing chamber via a new 4" force main to improve overall effluent water quality and improve UV transmittance.

3.1.3 Alternative 2: Chlorine Disinfection

The chlorine disinfection system will be sized based on the pumped flow rate and use of 12.5% sodium hypochlorite. The chlorine contact tanks will a minimum of 2250 gallons each, sized to provide a minimum of 15 minutes of contact time at the maximum pump rate of 150 gpm. Two tanks will be provided to facilitate cleaning in accordance with design standards. End-on baffling will be used to maintain plug flow characteristics. Top of concrete elevation of the chlorine contact structure will be approximately 300' to protect against flooding. Dosing will be initiated and paced by the pump station level transducer and valve vault in-line magnetic flow meter. A duplex chemical feed skid (one operating pump and one on standby) with automatic backup and flow-paced controls will be used to achieve the proper dosage (overdosage and under-dosage are potential permit violations). Peristaltic chemical dosing pumps capable of 100:1 turndown in a flooded suction set-up are proposed to prevent degassing issues. Initial pump sizing will be based on a chlorine dose of 10 mg/L.

The disinfection storage and dosing enclosure will be located over the contact tanks. The structure will include chemical containment for sodium hypochlorite and heating and ventilation in accordance with requirements for a corrosive atmosphere. Chemical tank level will be monitored by ultrasonic transducer. Initial calculations indicate that a 30-day supply of chemical would consist of approximately 110 gallons, therefore, deliveries would be in 55 gallon drums and a bulk storage permit will not be required.

The SPDES permit has a fecal coliform and total chlorine effluent limit. To ensure adequate disinfection is achieved to meet the fecal coliform limit, and that the total chlorine limit is not exceeded, a chemical dichlorination system will be provided. Each chlorine contact tank will include a final stage at the end of the tank where a dichlorination chemical will be introduced and then provided with a minimum of 30 seconds of contact time before flow discharges over the chlorine tank effluent weir. The cascading flow over the weir will provide some re-oxygenation of the disinfected effluent. Initial dichlorination chemical sizing is based on use of a sulfite solution due to its availability and low dose needed to neutralize chlorine. The dichlorination system will be provided with similar containment, duplex pump skid with automatic backup and flow paced controls, and peristaltic pumps as the sodium hypochlorite system. Initial calculations indicate that a 30-day supply of 30% sodium bisulfite solution would consist of approximately 75 gallons, therefore, deliveries would be in 55 gallon drums and a bulk storage permit will not be required.

Both chemical systems will be housed in a structure positioned over the disinfection tankage. The structure will be heated and ventilated in accordance with codes and standards for a corrosive environment. All electronic and electrical components shall be in accordance with the most current version of the National Electrical Code.

Baffle plates will be used immediately after the dose point of each chemical to ensure quick dispersion/mixing. Safety equipment and appropriate warning signage will be provided.

3.1.4 Alterative 3: Discharge to Groundwater through Infiltration

This Alternative will require a significant amount of land, site modification and resources to properly treat the effluent at the plant. Upon further investigation, the onsite soil was found to be in nonconformance with the design specifications required for groundwater discharge. With the limitations set by the APA and the restrictions of the current site, groundwater infiltration effluent treatment will no longer be considered a viable disinfection option and will not be explored further in this report.

3.1.5 Alterative 4: No Action Alternative

NYS has reinstituted the requirement for disinfection for all treatment plants that do not currently disinfect in an effort to further clean the waterways of NYS. Non-disinfected wastewater, no matter how well treated, can still contain pathogens that are harmful to humans. NYS wants to make our waterways usable as well as environmentally sound. The No Action Alterative would essentially be defying a state mandate and that would result in potential fines up to $37,500/day.

This alternative will not be considered further as it does not fit the criteria defined in the scope of this project. The daily incurred costs and danger to aquatic life and nearby inhabitants created by taking no action deems that this is not an acceptable course of action.

3.1.6 Other Alternatives Considered

a. Gravity Flow Through UV Disinfection

There is not enough elevation available to install a gravity fed disinfection system between the existing sand beds and sampling manhole and protect such a system against the 100-year flood, or ensure that disinfection is maintained during the 25-year flood or spring thaw/runoff conditions. As such, gravity flow through UV disinfection will no longer be considered a viable disinfection option and will not be explored further in this report.

b. Gravity Flow Through Chlorine Disinfection

There is not enough elevation available to install a gravity fed disinfection system between the existing sand beds and sampling manhole and protect such a system against the 100-year flood, or ensure that disinfection is maintained during the 25-year flood or spring thaw/runoff conditions. As such, gravity flow through chlorine (sodium hypochlorite) disinfection will no longer be considered a viable disinfection option and will not be explored further in this report.

c. Alternative Disinfection Structure Locations

Locating the disinfection infrastructure between the sand bed southern perimeter and the sampling manhole was explored in the course of the report. Due to the approximate determination of the 100-year flood boundary, it was determined that the structure could not be definitively located out of potential 100-year flooding. As such, a location between the existing sand bed southern perimeter and the sampling manhole will not be explored further in this report.

3.2 Design Criteria

All components shall be constructed per the most up to date “10 States Standards” and the NYSDEC Design Standards for Intermediate-Sized Wastewater Treatment Systems (DEC Design Stds.).

Concrete structures not exposed to extreme sulfide attack and in-ground piping has a design life of 50 years. Equipment and instrumentation are short-lived assets requiring regular maintenance and periodic replacement.

Refer to Appendix J*: EPA WW Technology Disinfection Fact Sheets.*

Refer to Appendix K: *10 States Standards Conformity.*

3.3 Map

Refer to Figure 3.1: *Alternative 1& 2 Project Layout*.

3.4 Environmental Impacts

a. Impacts of No Action Alternatives

Boquet River, a scenic and recreational river, would continue to receive inadequately disinfected water. The No Action Alternative does not meet the needs or goals of the Town of Westport and will not be considered further.

b. General Impacts of Replacement Alternatives

The majority of the impacts of the alternatives will be temporary in nature related to normal construction related activities. The WWTP is largely isolated from the general public but the location of the adjacent park could provide some security risk. The Boquet River and surrounding wetlands and wooded areas are to be protected from runoff with silt fence and other storm water control Best Management Practices. Construction noise should minimally interfere with others due to the distance of the WWTP from neighbors. The noise should only affect those at the park and immediate neighboring homes during construction and will be during normal business hours.

c. Alternative Specific Impacts

The major impact that will be Alternative specific and will be based on final design is the impact to the Boquet River during the operation of the plant. Alternative 2 has the possibility of contamination of the river due to excess chlorine after improper dosing of the disinfection treatment. The chemical itself is highly corrosive and toxic, precautions must be closely followed for shipment, storage and handling. The Westport WWTP is equipped for Chlorine Disinfection. Implementation of Chlorine Disinfection at the Wadhams WWTP will not require any additional training for the current operators.

3.4.1 Land Requirements

a. Land Acquisition

The Town of Westport owns all land on which either Alternative is proposed. No land acquisition is required.

b. Plant Expansion

No future plant expansion is anticipated.

c. Easements Required

The Town of Westport owns all land on which either Alternative is proposed. No land easements are required.

d. Land Restrictions

It should be noted that the Boquet River is considered a Scenic and Recreational River according to APA Classifications but does not restrict the site design. Wadhams is, however, classified as a Hamlet. The APA designated two applicable setback requirements for potential site modifications.

The first is that any structure greater than 100 square feet be set back at least 50 feet from the mean high water mark. This should not interfere with the current proposed design parameters.

The second APA requirement is that "Any new leaching facility (including a seepage pit, drainage field, outhouse, or pit privy) receiving any form of household effluent must be set back at least 100 feet from any water body…".

3.4.2 Potential Construction Problems

The main challenge during construction for either alternative will be to ensure that full operations of the WWTP are maintained at all times. Plant operations cannot be upset. Proper planning in design and during construction to allow for modifications to operations to occur to allow for work to be completed will be crucial to maintaining operations. Maintaining operations during construction is simplified by the ability to pump out the septic tanks to achieve several days without flow through the downstream treatment systems. Low flows, infrequent bed dosing, bed alternation, and the siting of the majority of the new disinfection infrastructure outside of the current treatment processes further helps to maintain treatment plant operations during construction.

3.4.3 Sustainability Considerations

a. Water and Energy Efficiency

For both alternatives, control systems to activate the disinfection system only in anticipation of a pumped dose, and turn the system down or deactivate it after a dose is complete will minimize energy use.

i. Common Components – Pump Station

The pump station pumps (through disinfection and recirculation) are low HP effluent pumps. Final pump selection will be based on the best fit of the pump design points to a pump best efficiency point. VFD's will not be provided for the pumps due to the low HP and because there is no significant advantage to modulating the pumping rate for the application.

ii. Alterative 1:

The use of a properly sized UV bank, sized correctly for the pumped flow rate, with the ability to turn off unused banks and or bulbs or turn down bulb intensity will minimize energy use without compromising efficacy of the disinfection system. Regular bulb cleaning will prolong the life and efficacy of each bulb.

UV systems are recommended by 10 State Standards for effluents exhibiting UVT's at or higher than 65%, but UV system manufacturers design and certify systems treating effluents with UVT's down to 30%. The lower the UVT the larger the system required and the more energy necessary to run the system. Initial UVT sampling resulted in a UVT range of 47.8% to 65%. Further UVT testing and collimated beam testing will refine UV system sizing for the application.

iii. Alternative 2:

Although less energy intensive, the use of chlorine as a disinfectant should be sized properly to avoid excessive use of chlorine. A secondary de-chlorination system will incur additional costs as the SPDES requires residual chlorine levels to conform to very low levels. The decision to use this system will require a larger array of systems (heating and ventilation and controls) to be implemented at the facility to ensure accurate and effective treatment procedures, and a safe environment to work in.

b. Green Infrastructure

By nature, the project is simply a construction of wastewater treatment plant disinfection equipment. There is little opportunity for green infrastructure.

3.4.4 Impact on Existing Facilities

Each of the considered alternatives will require a rework of site piping as well as the construction of a pump station and monitoring system.

3.4.5 Schedule and Constructability

Each Alternative has a similar construction schedule, approximately 1 construction season (6 months in the North Country) and ease of constructability. Impacts to the current treatment process are common to both Alternatives.

3.5 Permits

ACOE, NYSDOT, and APA permits are not expected to be required, although a final determination shall be needed based on the final design.

3.6 Cost Estimates

Refer to Table 3.1: *Alterative Cost Comparison*.

3.7 Non-Monetary Factors

a. Alterative 1

The installation of UV equipment will create a low risk situation for the surrounding environment as the only thing added to the water is light. There are no disinfection byproducts. Replacement bulbs can be purchased in bulk and stored for extended periods. The operator of the plant will be required to simply turn off the modules in order in order to safely access the system.

b. Alternative 2

The selection of chlorine disinfection can have a significant impact on operations at the WWTP. Chlorine, whether in gaseous form or in liquid form as sodium hypochlorite is a very dangerous substance to handle. There will have to be significant safety measures designed into several parts of the project, those include a chemical feed room and in room chemical feed containment. The deliveries of sodium hypochlorite must be frequent as it has a limited shelf life. In addition, the handling of sodium hypochlorite will make the job of working at the WWTP, just that much more dangerous.

The dosing of the sodium hypochlorite to achieve adequate disinfection varies based on flow and effluent characteristics such a pH, temperature, and reactant content. The dose of the dichlorination chemical will have to be paced based on the sodium hypochlorite dose. The system will require a higher level of oversight than the UV system and requires daily totally chlorine residual testing in accordance with the SPDES permit.

Operation and maintenance of two chemical feed systems is more time consuming and carries a higher safety risk to the operator than operation and maintenance of UV system.

There is also the potential impact on flora and fauna living in Boquet River, the surrounding wetlands and life downstream associated with introduction of sodium hypochlorite and a sulfite dichlorination chemical. When chlorine is introduced into wastewater, particularly one that has not completed nitrification/denitrification chloramines and

trihalomethanes can form that are toxic to fauna in the receiving waters. Chemical disinfection also has been associated with growth of disinfection-resistant bacteria. There is also the hazard of exposure to chemicals by individuals who disregard the security fencing of the treatment plant and enter the property.

One major benefit to chlorination is that the current Westport treatment plant utilizes a sodium hypochlorite disinfection system. The implementation of disinfection at the Wadhams plant would ensure backups of some equipment and chemicals.

4) SUMMARY & COMPARISON OF ALTERNATIVES

It is paramount that the effluent water be treated through a disinfection process before being released into the surrounding environment. Alternatives 1 and 2 both provide a disinfection process in compliance with all applicable regulations needed to effectively treat the effluent water. Alternative 1 has a higher impact on the energy consumption of the plant, but lower health risks compared to Alternative 2 because the exposure to chemicals on a daily basis brings inherent risk. Alternative 1 has lower O&M costs and lower operator oversight requirements. Alternative 1 will not require daily chlorine residual testing to maintain compliance with the SPDES permit. Alternative 2 has a level of familiarity to the current operator because the Town's Westport plant performs disinfection by sodium hypochlorite. The Westport plant does not perform dichlorination, which will be a new process and chemical to monitor and work with. Alternative 1 has a simpler settings system, bulbs can be turned off or dimmed to accommodate a slower flow rate and will not add anything to the water. The capital cost and O&M cost of Alternative 1 is lower than Alternative 2, and when paired with safer operating conditions and reduced operator oversight, Alternative 1 has the clear advantage over Alternative 2, despite its slightly higher energy consumption.

Alternative 3 isn't advised as there is a significant land commitment adjacent to a public park and achieving the minimum 100 ft setback from the river makes siting of a groundwater infiltration system infeasible on the current WWTP parcel. This land commitment increases potential exposure to organics to individuals who do not comprehend the purpose of the facility.

Alternative 1 is the most cost effective, environmentally friendly and operationally safe disinfection alternative.

Refer to Table 4.1: *Alternative Comparison.*

Refer to Table 4.2: *Life Cycle Cost Analysis.*

5) RECOMMENDED ALTERNATIVE

It is recommended that Alternative 1, treatment of effluent through UV disinfection is implemented at the Wadhams Wastewater Treatment Plant.

5.1 Proposed Project

5.1.1 Basis of Selection

This decision was made on the basis that Alternative 1 has lower capital cost, lower O&M cost, lower operator time requirements, and is a safer system to operate on a daily basis. Disinfection with chlorine also activates a total residual chlorine daily maximum permit limit that requires daily monitoring to ensure excess chlorine is not discharged to the receiving water to ensure protection of aquatic life, which is particularly important in Class A waters such as the Boquet River. Despite permitted total residual chlorine daily maximum permit being drawn up and followed there is still risk to aquatic life downstream of the effluent discharge associated with disinfection byproducts, accidental overdosing of chlorine or under dosing of the dichlorination chemical, and potential low oxygen levels in the disinfected effluent depending on the dichlorination chemical selected. When using ultraviolet light disinfection hazards to the aquatic flora and fauna are greatly diminished. Alternative 1 is the most environmentally and safe disinfection alternative.

5.1.2 Project Map

Refer to Figure 5.1: *Alterative 1 – Proposed Site Plan*.

Refer to Figure 5.2: *Process Flow Diagram.*

5.1.3 Total Project Cost Estimate

The Town has secured a WQIP grant from NYSDEC. This grant will cover approximately 40% of the estimated project costs. It is possible to phase the project should that be advantageous for funding purposes. Cost have been broken down into two phases. Phase 1 includes all work necessary to install the UV disinfection system. Phase 2 includes all other work.

Refer to Table 5.1: *Alternative 1 – Cost Estimate.*

Refer to Table 5.2: *Project Financing and Estimated User Rates*.

5.1.4 Project Schedule

The project schedule has been developed assuming that Phases 1 & 2 will be completed at the same time. If the work is phased, the construction schedule would be split into two years.

2018: Additional Grant Applications

2019: Finalize Funding and Final Design

2020: Construction

12/31/2020 Substantial Completion and disinfection online.

5.2 Additional Documentation

5.2.1 Attached Signed Engineering Report Certification

Refer to Appendix L: *Engineering Report Certification*.

5.2.2 Attached Signed Smart Growth Assessment

Refer to Appendix M: *Smart Growth Assessment.*

5.3 Next Steps

It is recommended that the Town pursue additional grant and/or loan funds. Once secured the Town can enter into an engineering contract, move forward with design, and then construction.

Additional steps include, obtaining SHPO clearance on the project and developing a Bond Resolution and a SEQR determination.

6) FIGURES

Figure 2.1: *General Location Map*

Figure 2.2: *APA Land Use Designations*

Figure 2.3: *NYSDOT Scenic Byway*

Figure 2.4: *Land Use Designation*

Figure 2.5: *Hamlet of Wadhams Topography*

Figure 2.6: *USDA Soil Map*

Figure 2.7: *National Wetlands Inventory*

Figure 2.8: *USFWS IPAC System Trust Resources*

Figure 2.9: *NYSDEC Environmental Resource Mapper*

Figure 2.10: *USFWS Bat Fact Sheets*

Figure 2.11: *FEMA Flood Insurance Rate Map and Town of Westport Flood Insurance Study*

Figure 2.12: *Collection System District and Parcel Map*

Figure 2.13: *Existing Plant Map*

Figure 3.1: *Alternative 1& 2 Project Layout*

Figure 5.1: *Alterative 1 – Proposed Site Plan*

Figure 5.2: *Process Flow Diagram*

7) TABLES

Table 2.1: *One Year Monthly Data Summary 2016-2017*

Table 2.2: *One Year Monthly Data Summary 2017-2018*

Table 3.1: *Alterative Cost Comparison*

Table 4.1: *Alternative Comparison*

Table 4.2: *Life Cycle Cost Analysis*

Table 5.1: *Alternative 1 – Cost Estimate*

Table 5.2: *Project Financing and Estimated User Rates*

8) APPENDICES

Appendix A: *NYS DEC Correspondence*

Appendix B: *APA Jurisdictional Inquiry Correspondence*

Appendix C: *Westport Land Use Laws*

Appendix D: *APA Shoreline Restrictions*

Appendix E: *ATL Soil Boring Report*

Appendix F: *Unit Process Evaluation*

Appendix G: *Design Standards Evaluation*

Appendix H: *WWTP Existing Hydraulic Profile*

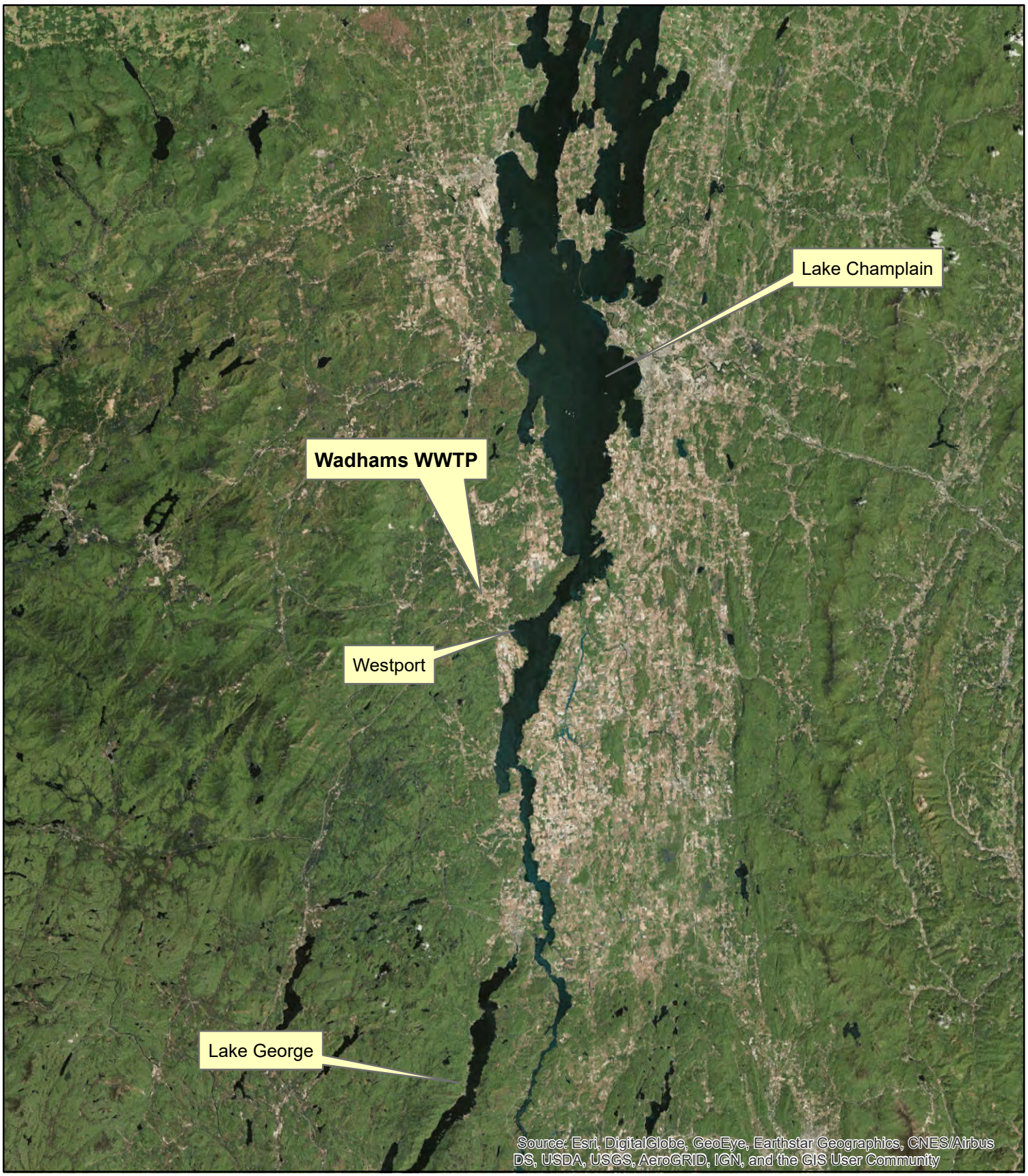
Appendix I: *Collection System Evaluation*

Appendix J*: EPA WW Technology Disinfection Fact Sheets*

Appendix K: *10 States Standards Conformity*

Appendix L: *Engineering Report Certification*

Appendix M: *Smart Growth Assessment*



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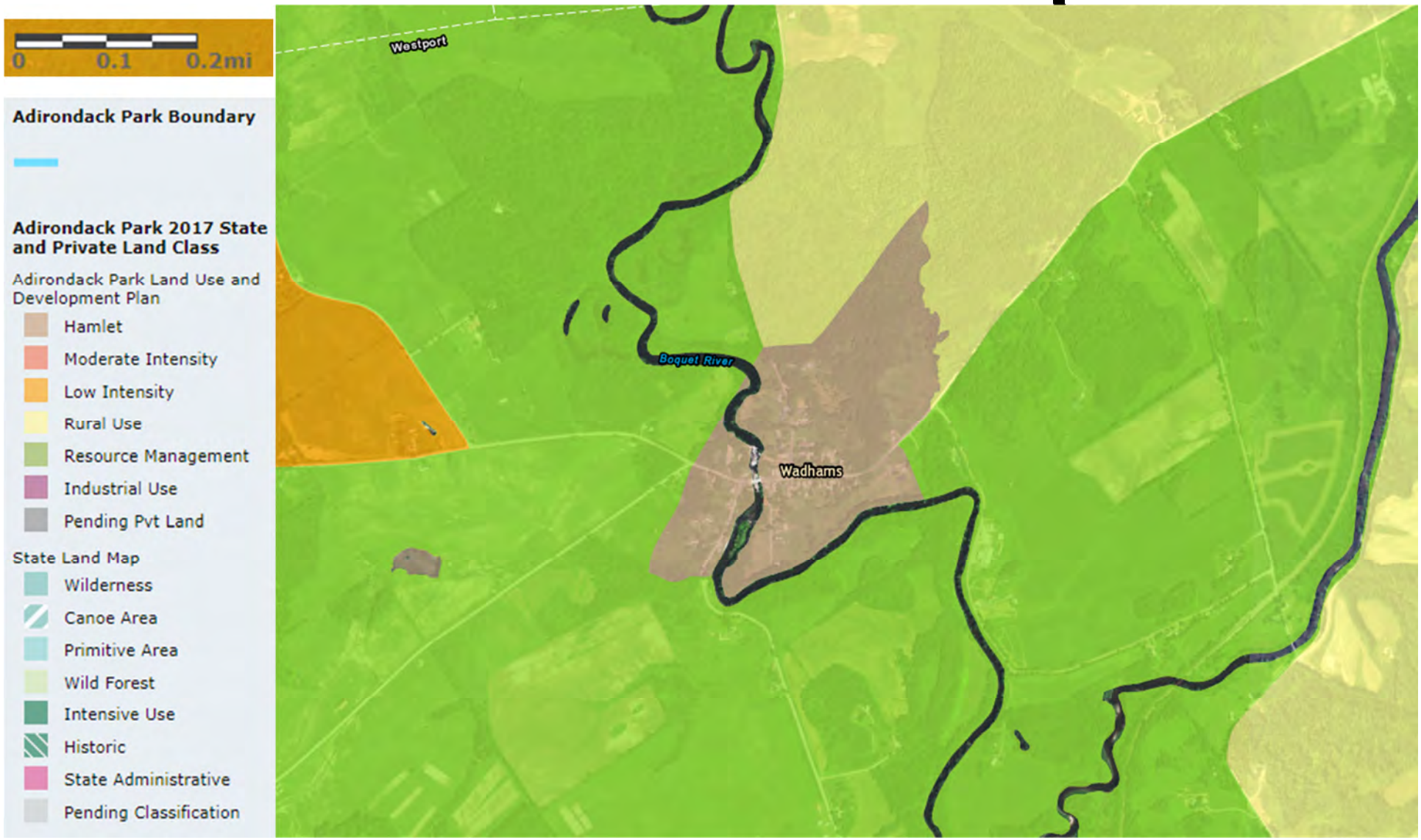
Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.1
General Location Map

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC

Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.2
APA Land Use Designation

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC



AES NORTHEAST
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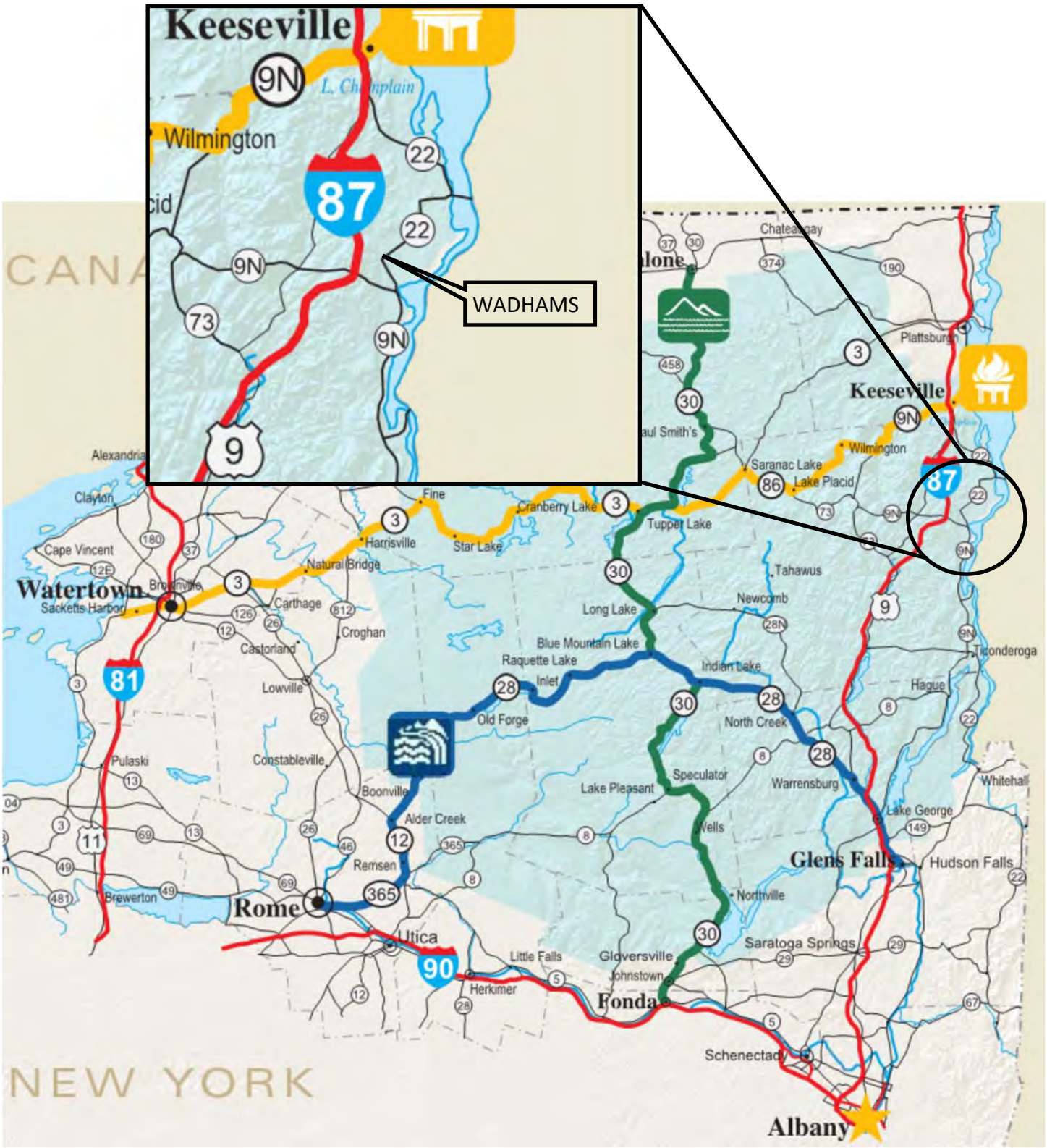
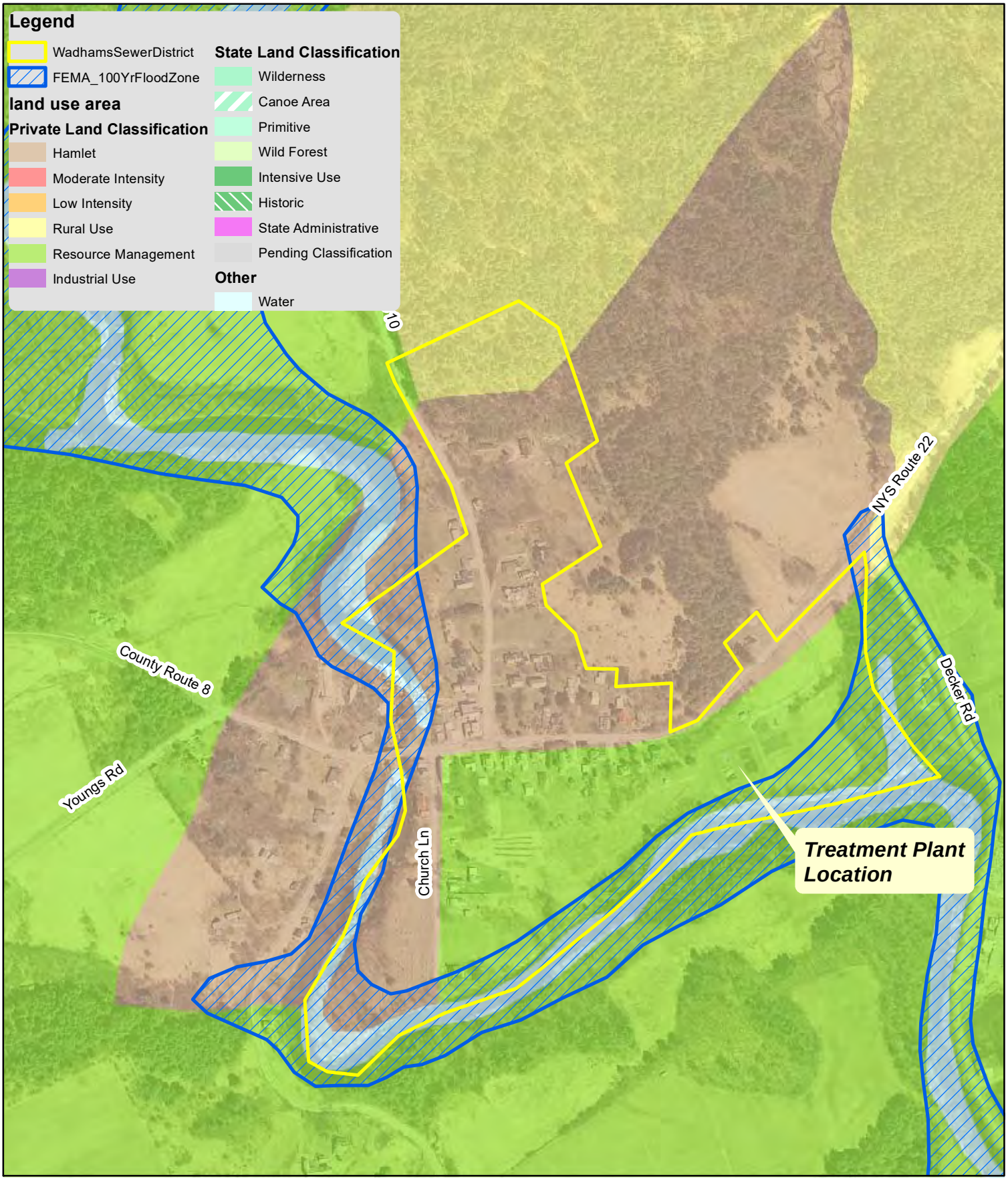
Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.3
NYSDOT Scenic Byway





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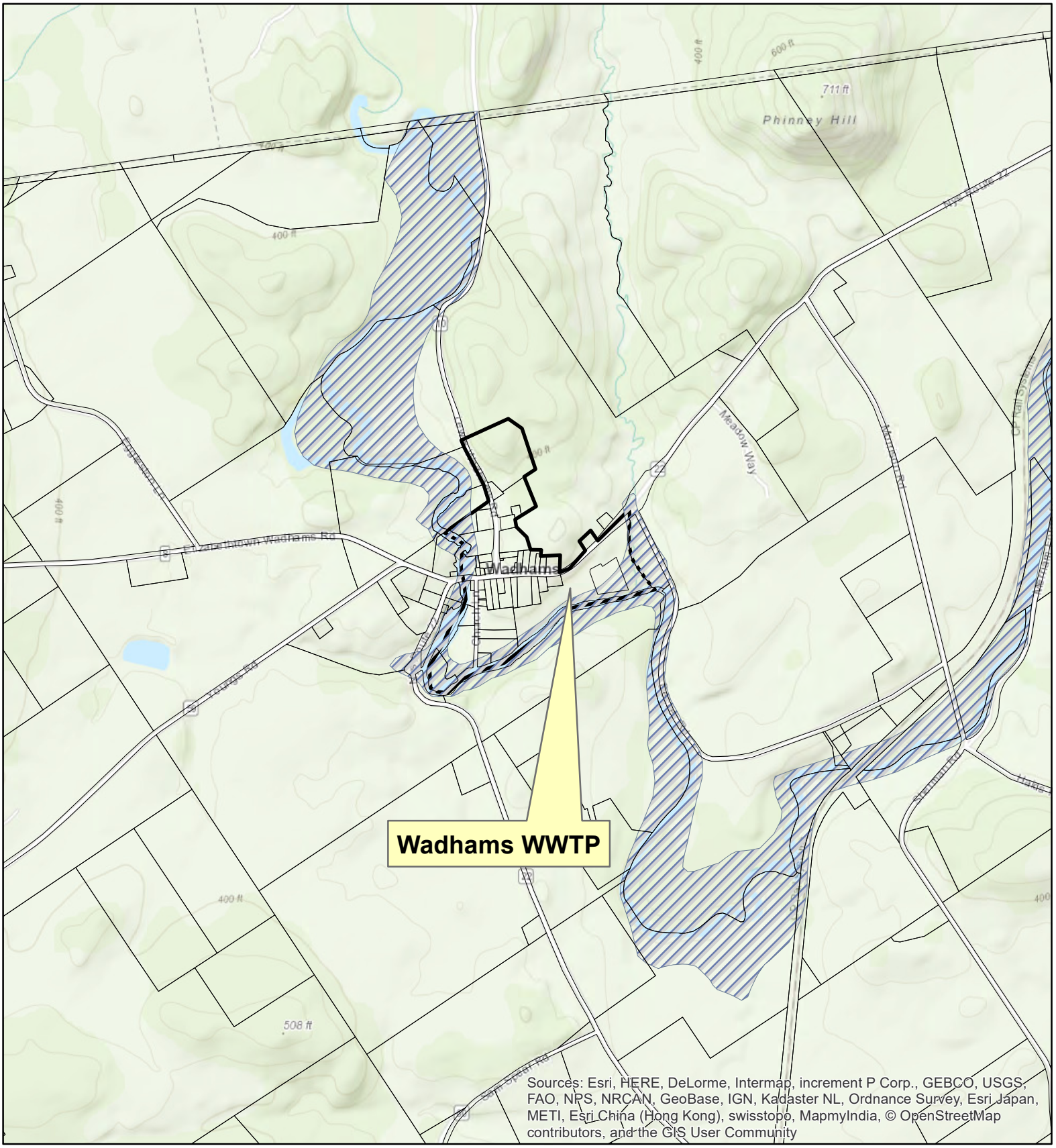
Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.4
Land Use Designation

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC



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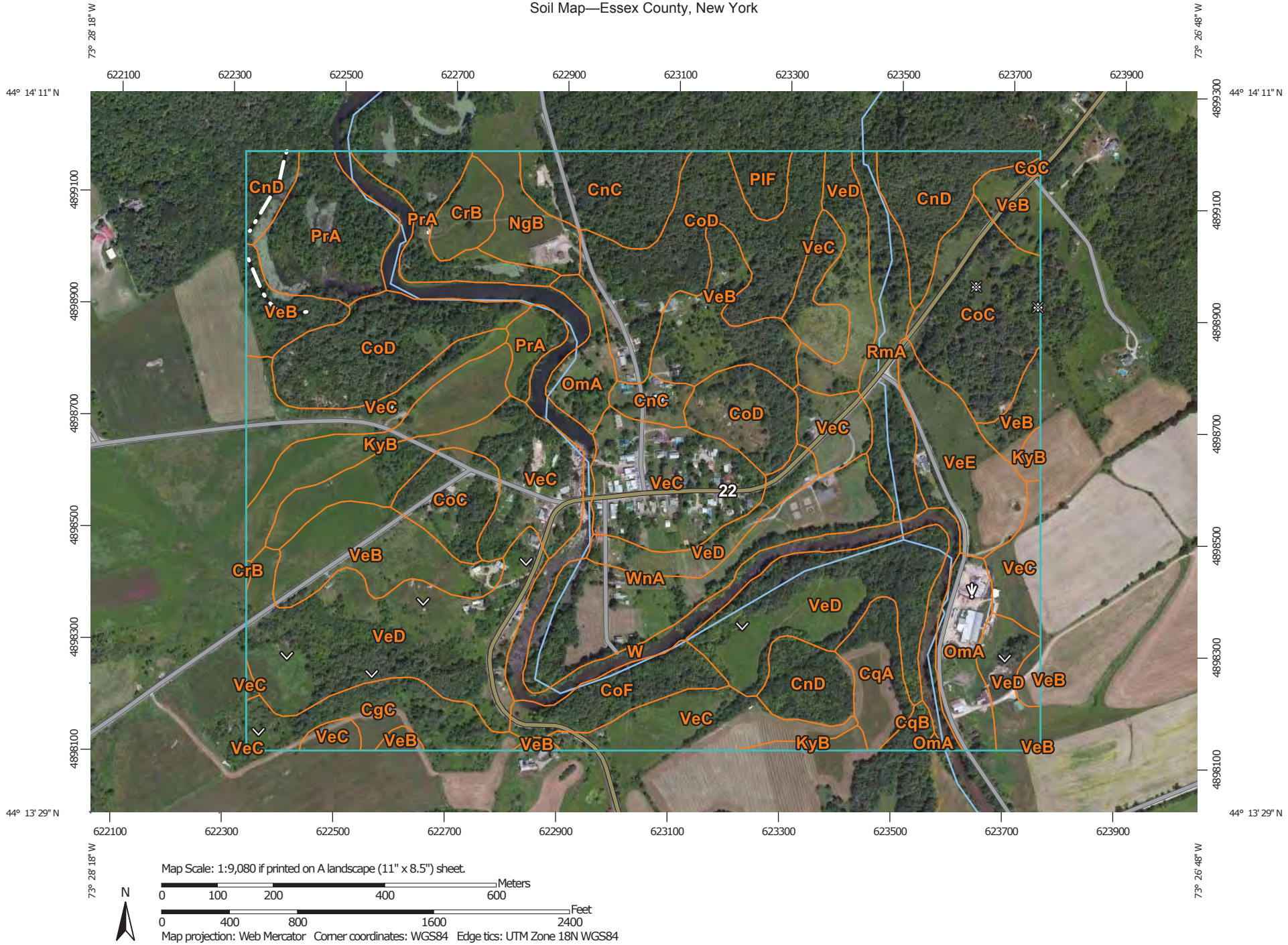
Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.5
Hamlet of Wadhams Topography

625 312.5 0 625 Meters

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC


73° 28' 18" W
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44° 14' 11" N
44° 13' 29" N
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622300
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623300
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4899300
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4898900
4898700
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4898300
4898100
CnD
PrA
CrB
NgB
CnC
CoD
PIF
VeD
CnD
CoC
VeB
VeC
RmA
OmA
KyB
VeE
22
WnA
W
CoF
CqA
CqB
CgC
Map Scale: 1:9,080 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 100 200 400 600
Feet
0 400 800 1600 2400
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Essex County, New York
Survey Area Data: Version 9, Oct 5, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 28, 2010—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Essex County, New York (NY031)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CgC	Cayuga silty clay loam, 8 to 15 percent slopes	9.1	2.4%
CnC	Charlton-Chatfield complex, 8 to 15 percent slopes, rocky, very stony	12.2	3.2%
CnD	Charlton-Chatfield complex, 15 to 35 percent slopes, rocky, very stony	15.9	4.2%
CoC	Chatfield-Hollis complex, 8 to 15 percent slopes, very rocky, very stony	21.7	5.7%
CoD	Chatfield-Hollis complex, 15 to 35 percent slopes, very rocky, very stony	40.1	10.6%
CoF	Chatfield-Hollis complex, 35 to 60 percent slopes, very rocky, very stony	7.0	1.8%
CqA	Claverack loamy fine sand, 0 to 3 percent slopes	5.5	1.5%
CqB	Claverack loamy fine sand, 3 to 8 percent slopes	1.2	0.3%
CrB	Collamer silt loam, 2 to 8 percent slopes	3.8	1.0%
KyB	Kingsbury silty clay loam, 3 to 8 percent slopes	11.3	3.0%
NgB	Niagara silt loam, 3 to 8 percent slopes	5.3	1.4%
OmA	Occum fine sandy loam, 0 to 3 percent slopes	11.6	3.1%
PlF	Pittsfield-Chatfield complex, 35 to 60 percent slopes, rocky, very stony	2.5	0.7%
PrA	Pootatuck fine sandy loam, 0 to 3 percent slopes	21.6	5.7%
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	10.2	2.7%
VeB	Vergennes silty clay loam, 3 to 8 percent slopes	32.1	8.5%
VeC	Vergennes silty clay loam, 8 to 15 percent slopes	60.5	16.0%
VeD	Vergennes silty clay loam, 15 to 25 percent slopes	60.0	15.8%
VeE	Vergennes silty clay loam, 25 to 45 percent slopes	10.8	2.9%
W	Water	19.4	5.1%

Essex County, New York (NY031)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
WnA	Windsor loamy sand, 0 to 3 percent slopes	17.5	4.6%
Totals for Area of Interest		**379.2**	**100.0%**

Essex County, New York

WnA—Windsor loamy sand, 0 to 3 percent slopes

Map Unit Setting

Elevation: 100 to 510 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 130 to 150 days

Map Unit Composition

Windsor and similar soils: 85 percent
Minor components: 15 percent

Description of Windsor

Setting

Landform: Deltas
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciolacustrine deposits derived from igneous and sedimentary rock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 59.80 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3s
Hydrologic Soil Group: A

Typical profile

0 to 10 inches: Loamy sand
10 to 14 inches: Loamy sand
14 to 19 inches: Sand
19 to 24 inches: Sand
24 to 72 inches: Sand

Minor Components

Unnamed

Percent of map unit: 5 percent

Deerfield
Percent of map unit: 4 percent

Factoryville
Percent of map unit: 3 percent

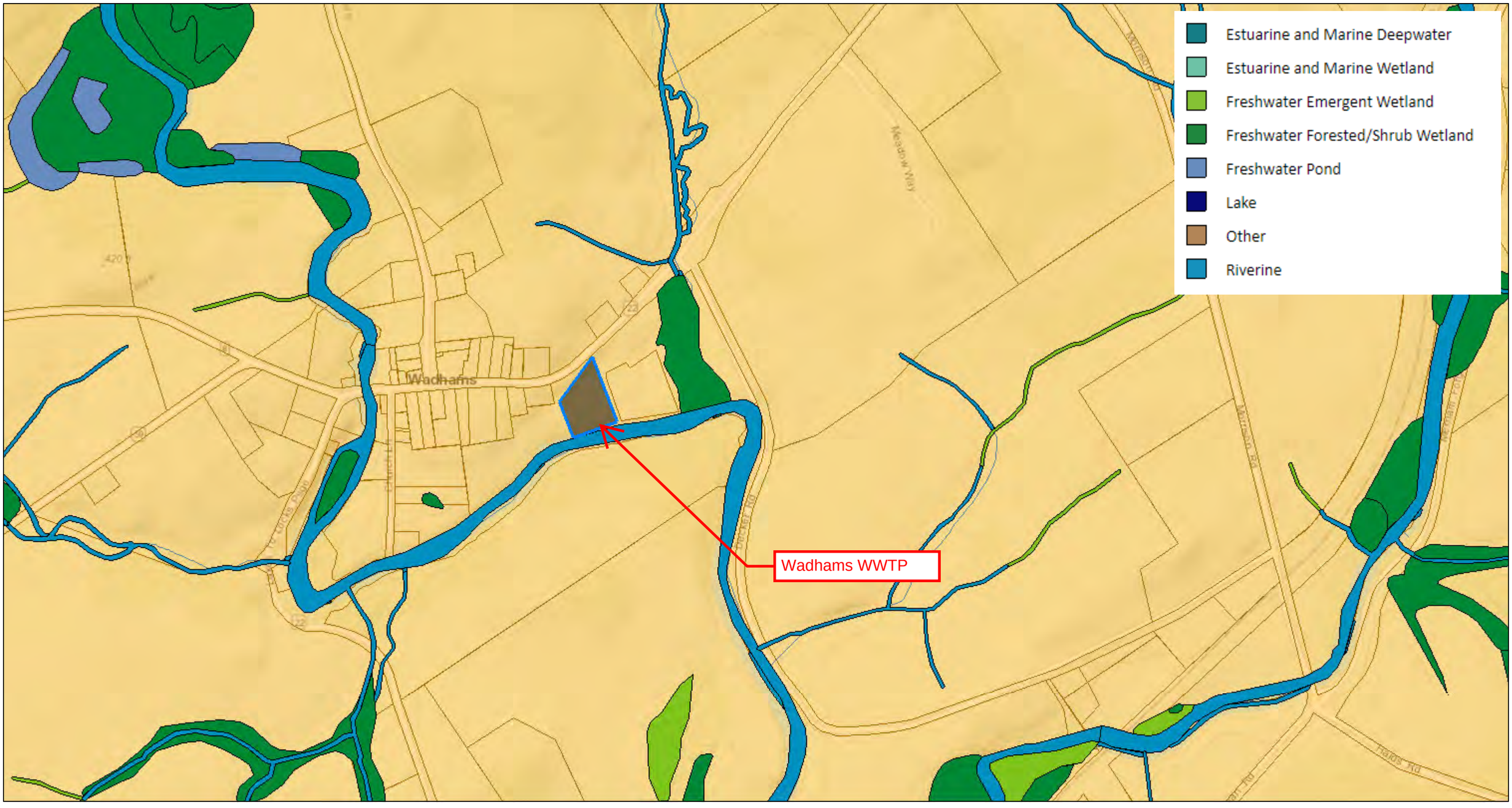
Howard
Percent of map unit: 2 percent

Claverack
Percent of map unit: 1 percent

Data Source Information

Soil Survey Area: Essex County, New York
Survey Area Data: Version 9, Oct 5, 2012

DEC Wetland and Rare Animals Map



July 5, 2017

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598 Fax: (518) 561-1990

Figure 2.7
Town of Westport, Wadhams Wastewater Treatment Plant
Engineering Planning Grant
National Wetlands Inventory

1:9,028

0 0.1 0.2 0.4 mi
0 0.175 0.35 0.7 km

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

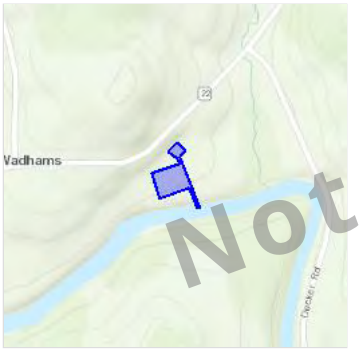
Project information

NAME

Wadhams WWTP

LOCATION

Essex County, New York



DESCRIPTION

Upgrade the existing hardware to adequately treat effluent.

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9349

http://www.fws.gov/northeast/nyfo/es/section7.htm

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern Botaurus lentiginosus https://ecos.fws.gov/ecp/species/6582	Breeding

Bald Eagle Haliaeetus leucocephalus https://ecos.fws.gov/ecp/species/1626	Year-round
Black Tern Chlidonias niger https://ecos.fws.gov/ecp/species/3093	Breeding
Black-billed Cuckoo Coccyzus erythropthalmus https://ecos.fws.gov/ecp/species/9399	Breeding
Black-crowned Night-heron Nycticorax nycticorax https://ecos.fws.gov/ecp/species/6487	Breeding
Canada Warbler Wilsonia canadensis	Breeding
Common Tern Sterna hirundo https://ecos.fws.gov/ecp/species/4963	Breeding
Golden-winged Warbler Vermivora chrysoptera https://ecos.fws.gov/ecp/species/8745	Breeding
Olive-sided Flycatcher Contopus cooperi https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon Falco peregrinus https://ecos.fws.gov/ecp/species/8831	Breeding
Pied-billed Grebe Podilymbus podiceps	Breeding
Short-eared Owl Asio flammeus https://ecos.fws.gov/ecp/species/9295	Year-round
Willow Flycatcher Empidonax traillii https://ecos.fws.gov/ecp/species/3482	Breeding
Wood Thrush Hylocichla mustelina	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

RIVERINE
R2UBH

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal

waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

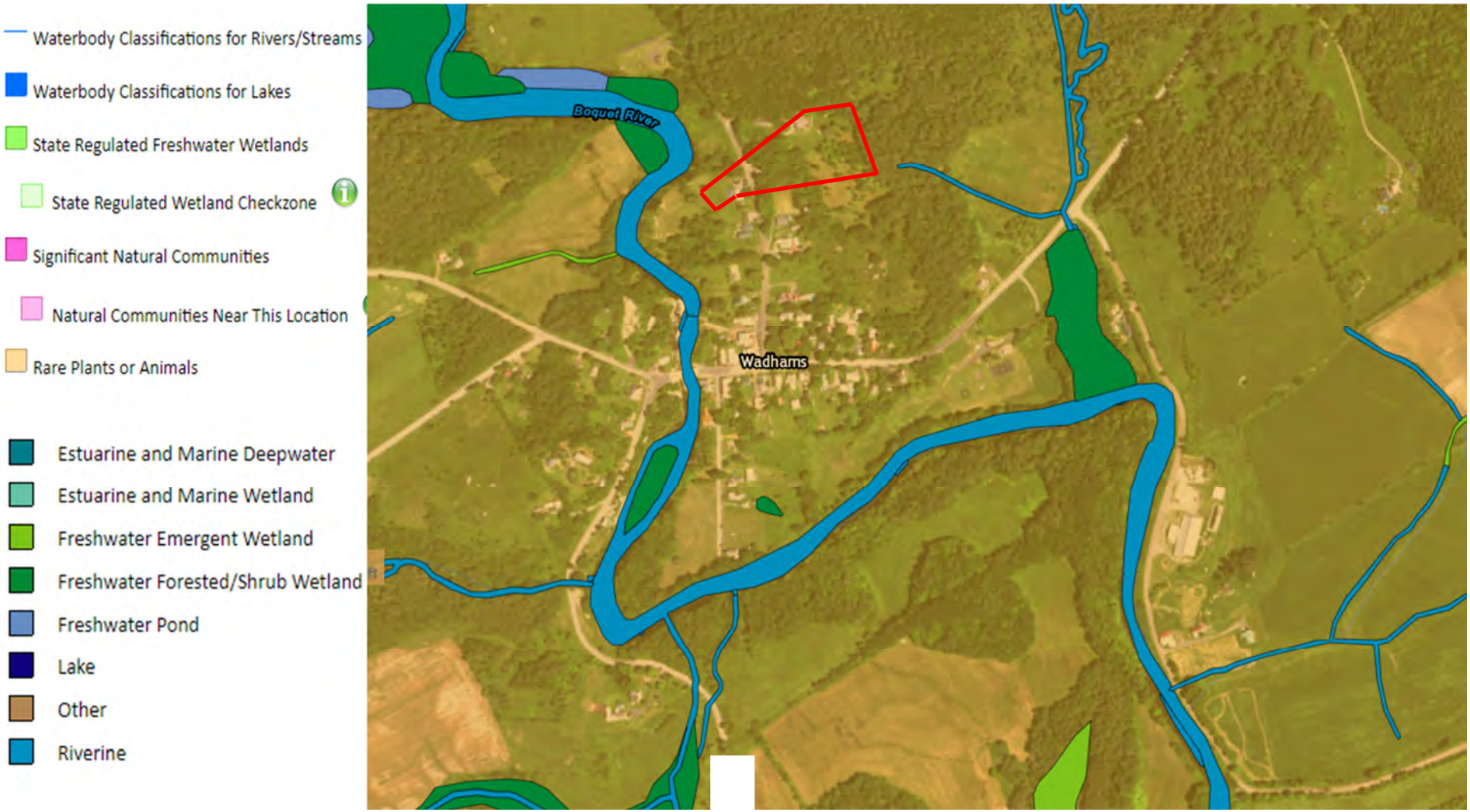
Town of Westport

WWTP Disinfection Evaluation

Figure 2.9

NYSDE Resource Mapper

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC



Indiana Bat Project Review Fact Sheet
New York Field Office

The following fact sheet is intended to provide information to assist with the review of projects (*e.g.*, residential or commercial development) and activities that occur within the likely range of the Indiana bat (*Myotis sodalis*) within the State of New York. **PLEASE NOTE - this fact sheet does not apply to wind development projects as they involve many unique considerations.** This information is provided as technical assistance pursuant to Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.)

The Indiana bat is Federally- and State-listed as an endangered species and is currently known to winter in six counties in New York State. The U.S. Fish and Wildlife Service (Service) has learned a great deal about the wintering population with standardized biennial counts organized by the New York State Department of Environmental Conservation (NYSDEC) Endangered Species Unit, as well as migratory patterns and summer habitat use within the State.

In the Northeast, multiple State and Federal agencies have investigated Indiana bat movements. In the spring of 2002 through 2007, the NYSDEC and the Service successfully tracked female Indiana bats from their hibernacula in Essex, Ulster, Jefferson, and Onondaga Counties to their spring roosts, with average distances of up to approximately 40 miles. However, they are capable of flying distances much greater than that and have been documented doing so in other parts of their range.

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating or defoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum diameter of roost trees observed to date is 2.5 inches for males and 4.3 inches for females. However, maternity colonies generally use trees greater than or equal to 9 inches d.b.h. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees. Additional information on potentially suitable summer habitat can be found on our website at http://www.fws.gov/northeast/nyfo/es/IndianaBatapr07.pdf.

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.,* old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures (Service 2007). While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Is There Potential Habitat Present on Your Project Site?

To determine whether the proposed project site may provide roosting or foraging habitat for the Indiana bat, please read through the following questions:

Indiana Bat Project Review Fact Sheet
New York Field Office

1. Is your project within a County identified by the Service as known or likely to contain Indiana bats?

- If no, no further coordination regarding the Indiana bat is necessary at this time.
- If yes, proceed to Step 2.

2. Is your project at an elevation of ≤900 feet above sea level (the maximum elevation we have observed Indiana bat maternity colonies-use in New York State)?

- If no, no further coordination regarding the Indiana bat is necessary at this time.
- If yes, proceed to Step 3.

3. Is there any potential habitat (*e.g.*, upland or wetland forest, streams, or caves/mines) present within the proposed project area?

- If no, no further coordination regarding the Indiana bat is necessary at this time.
- If yes, determine whether the proposed project involves any direct or indirect effects to Indiana bats.

Evaluation of Potential Effects to Indiana Bats

Should potential habitat be present, you and any involved Federal agency (with the Service's assistance) will need to determine whether Indiana bats may be present and if yes, evaluate the potential impacts of the proposed project on the Indiana bat.

In many cases, mist net or a combination of netting and acoustic surveys may be warranted to determine if bats are using the project area. Due to the limited time frame when bat surveys can be completed (see http://www.fws.gov/northeast/nyfo/es/IndianaBatapr07.pdf for recommended protocols), it is strongly recommended that the applicant contact the Service as early as possible during project planning to determine if surveys or additional avoidance and/or minimization measures will be necessary to avoid project delays. If netting is conducted at a site, we encourage the attachment of radio transmitters on any captured Indiana bats to help understand how the proposed project site is being used by Indiana bats. Should Indiana bat presence be detected, you should contact our office for assistance in determining whether your action may adversely affect Indiana bats.

Conservation Measures

Conservation measures are designed to minimize the likelihood of adverse impacts or result in beneficial effects to Indiana bats from projects. We have general recommendations to provide at this early stage should you wish to incorporate them into your project.

<u>Avoid Direct Effects to Indiana Bats from Tree Removal</u>
To avoid any potential for direct effects to Indiana bats from tree removal, conduct clearing of potential roost trees (generally ≥4 inches dbh) from October 1 through March 31 (when >10 miles from a hibernaculum); when <10 miles from an hibernaculum, we recommend conducting clearing from November 15 to March 31. The Service can help you determine how far your project is from known hibernacula. In many cases, where habitat is of low quality/quantity, seasonal cutting may be sufficient to avoid impacts to the species. Also, there may be cases (*e.g.*, very small number of trees) when we believe the likelihood of impacts is low regardless of when tree removal occurs. Please note that the ESA does not prohibit the clearing of trees and the Service's primary goal is not the protection of every tree. However, the ESA <u>does</u> prohibit

the "take" (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of Federally-listed species, such as the Indiana bat, and our recommendations are intended to help applicants and Federal agencies avoid or minimize the risk of "taking" an Indiana bat.

Minimize Habitat Loss and Fragmentation

In addition to having concerns about direct impacts to Indiana bats, we are also concerned about indirect effects[1], as well as the cumulative loss of habitat for the species. Indirect effects may result from the loss and/or fragmentation of roosting or foraging habitat. As mentioned above, Indiana bats form maternity colonies in the summer. These colonies have larger resource needs and more restrictive roost tree requirements than males or individual non-reproductive females. For these reasons, maternity colonies are highly philopatric, meaning they return to the same areas every year. Thus, loss of traditional maternity colony habitat (roosting or foraging) during the inactive period (November 15-March 31) could have adverse impacts to Indiana bats. Minimizing project footprints, minimizing fragmentation of forest blocks, and restoring and/or protecting on- and off-site habitat can help address these impacts.

After minimizing project footprints, we encourage the use of bright orange fencing/flagging to clearly demarcate trees to be protected compared with those to be cut prior to the initiation of any construction activities at the site. This will help ensure that contractors do not accidentally remove more trees than anticipated.

Minimize Habitat Degradation

We discourage the use of chemicals in/around stormwater detention basins as these may serve as foraging areas or sources of drinking water for bats.

In addition, lighting may deter Indiana bats from using areas (Sparks *et al*. 2005). To minimize potential impacts to Indiana bats from increased lighting in the area, we recommend limiting the number of lights, using motion sensors or timers, directing the lights toward the ground and buildings, and including shields to direct the light downward.

As we better understand a given proposed project, including any proposed conservation measures for Indiana bats, we will likely have additional recommendations.

Information to Provide to the Service

The project's environmental documents should identify project activities that might result in adverse impacts to the Indiana bat or their habitat. Information on any potential impacts and the results of any recommended habitat analyses or surveys for the Indiana bat should be provided to this office and they will be used to evaluate potential impacts to the Indiana bat or their habitat, and to determine the need for further coordination or consultation pursuant to the ESA.

Specifically, the following information would be helpful to include:

- a detailed project description,
- a map (and summary table) of the proposed project area with coarse habitat cover types (*e.g.*, emergent wetland, open field) in acres,
- a summary table of the proposed amount of disturbance to each habitat type,

[1] Indirect effects - those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably likely to occur (50 CFR 402.02)

- an overlay of new construction on the habitat map,
- a description of the forested habitat onsite, including the type of forest (*e.g.*, oak-hickory), approximate stand age, and presence of dead or live trees with split branches or trunks or exfoliating bark,
- photographs representative of all cover types on the site and encompassing views of the entire site, and
- a topographic map with the project area identified.

References:

Sparks, D.W., C.M. Ritzi, J.E. Duchamp, and J.O. Whitaker, Jr. 2005. Foraging habitat of the Indiana bat (*Myotis sodalis*) at an urban-rural interface. Journal of Mammalogy 86:713-718.

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Northern Long-Eared Bat

Myotis septentrionalis

The northern long-eared bat is federally listed as a threatened species under the Endangered Species Act. ***Endangered*** species are animals and plants that are in danger of becoming extinct. ***Threatened*** species are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.

Photo by Steve Taylor, University of Illinois

This northern long-eared bat, observed during an Illinois mine survey, shows visible symptoms of white-nose syndrome.

What is the northern long-eared bat?

Appearance: The northern long-eared bat is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*.

Winter Habitat: Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, surveyors find them hibernating most often in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. They rarely roost in human structures like barns and sheds.

Reproduction: Breeding begins in late summer or early fall when males begin to swarm near hibernacula. After copulation, females store sperm during hibernation until spring. In spring, females emerge from their hibernacula, ovulate and the stored sperm fertilizes an egg. This strategy is called delayed fertilization.

After fertilization, pregnant bats migrate to summer areas where they roost in small colonies and give birth to a single pup. Maternity colonies of females and young generally have 30 to 60 bats at the beginning of the summer, although larger maternity colonies have also been observed. Numbers of bats in roosts typically decrease from the time of pregnancy to post-lactation. Most bats within a maternity colony give birth around the same time, which may occur from late May or early June to late July, depending where the colony is located within the species' range. Young bats start flying by 18 to 21 days after birth. Maximum lifespan for the northern long-eared bat is estimated to be up to 18.5 years.

Feeding Habits: Like most bats, northern long-eared bats emerge at dusk to feed. They primarily fly through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation.

Range: The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. The species' range includes 37 States and the District of Columbia: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

Why is the northern long-eared bat in trouble?

White-nose Syndrome: No other threat is as severe and immediate as

this. If this disease had not emerged, it is unlikely that northern long-eared bat populations would be experiencing such dramatic declines. Since symptoms were first observed in New York in 2006, white-nose syndrome has spread rapidly from the Northeast to the Midwest and Southeast; an area that includes the core of the northern long-eared bat's range, where it was most common before this disease. Numbers of northern long-eared bats (from hibernacula counts) have declined by up to 99 percent in the Northeast. Although there is uncertainty about the rate that white-nose syndrome will spread throughout the species' range, it is expected to continue to spread throughout the United States in the foreseeable future.

Other Sources of Mortality:
Although no significant population declines have been observed due to the sources of mortality listed below, they may now be important factors affecting this bat's viability until we find ways to address WNS.

Impacts to Hibernacula: Gates or other structures intended to exclude people from caves and mines not only restrict bat flight and movement, but also change airflow and microclimates. A change of even a few degrees can make a cave unsuitable for hibernating bats. Also, cave-dwelling bats are vulnerable to human disturbance while hibernating. Arousal during hibernation causes bats to use up their energy stores, which may lead to bats not surviving through winter.

Loss or Degradation of Summer Habitat: Highway construction, commercial development, surface mining, and wind facility construction permanently remove habitat and are activities prevalent in many areas of this bat's range. Many forest management activities benefit bats by keeping areas forested rather than converted to other uses. But, depending on type and timing, some forest management activities can cause mortality and temporarily remove or degrade roosting and foraging habitat.

Wind Farm Operation: Wind turbines kill bats, and, depending on the species, in very large numbers. Mortality from windmills has been documented for northern long-eared bats, although a small number have been found to date. However, there are many wind projects within a large portion of the bat's range and many more are planned.

What Is Being Done to Help the Northern Long-Eared Bat?

Disease Management: Actions have been taken to try to reduce or slow the spread of white-nose syndrome through human transmission of the fungus into caves (e.g. cave and mine closures and advisories; national decontamination protocols). A national plan was prepared by the Service and other state and federal agencies that details actions needed to investigate and manage white-nose syndrome. Many state and federal agencies, universities and non-governmental organizations are researching this disease to try to control its spread and address its affect. See www.whitenosesyndrome.org/ for more.

Addressing Wind Turbine Mortality: The Service and others are working to minimize bat mortality from wind turbines on several fronts. We fund and conduct research to determine why bats are susceptible to turbines, how to operate turbines to minimize mortality and where important bird and bat migration routes are located. The Service, state natural resource agencies, and the wind energy industry are developing a Midwest Wind Energy Habitat Conservation Plan, which will provide wind farms a mechanism to continue operating legally while minimizing and mitigating listed bat mortality.

Listing: The northern long-eared bat is listed as a threatened species under the federal Endangered Species Act. Listing a species affords it the protections of the Act and also increases the priority of the species for funds, grants, and recovery opportunities.

Hibernacula Protection: Many federal and state natural resource agencies and conservation organizations have protected caves and mines that are important hibernacula for cave-dwelling bats.

What Can I Do?

Do Not Disturb Hibernating Bats: To protect bats and their habitats, comply with all cave and mine closures, advisories, and regulations. In areas without a cave and mine closure policy, follow approved decontamination protocols (see http://whitenosesyndrome.org/topics/decontamination). Under no circumstances should clothing, footwear, or equipment that was used in a white-nose syndrome affected state or region be used in unaffected states or regions.

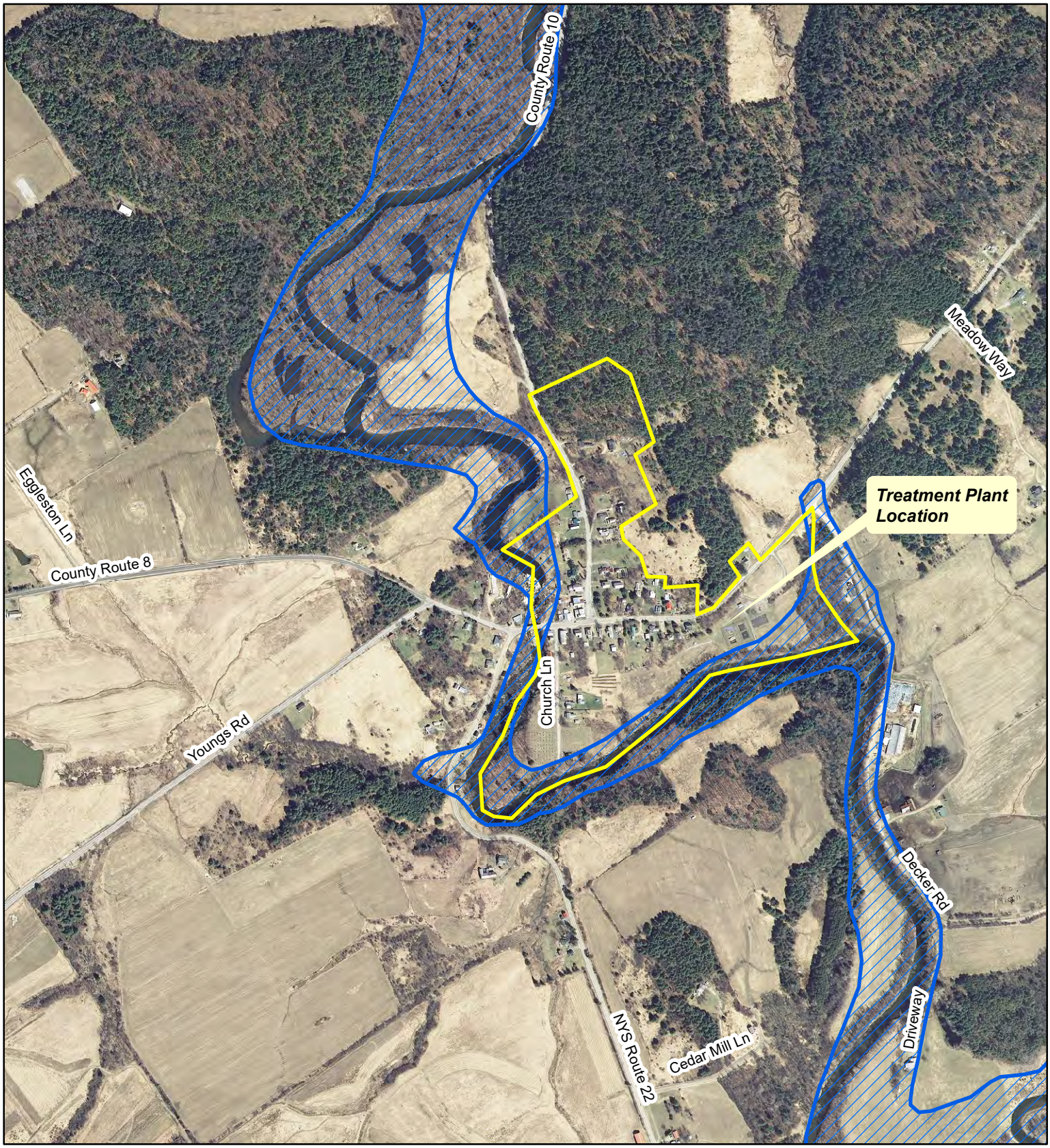
Leave Dead and Dying Trees Standing: Like most eastern bats, the northern long-eared bat roosts in trees during summer. Where possible and not a safety hazard, leave dead or dying trees on your property. Northern long-eared bats and many other animals use these trees.

Install a Bat Box: Dead and dying trees are usually not left standing, so trees suitable for roosting may be in short supply and bat boxes may provide additional roost sites. Bat boxes are especially needed from April to August when females look for safe and quiet places to give birth and raise their pups.

Support Sustainability: Support efforts in your community, county and state to ensure that sustainability is a development goal. Only through sustainable living will we provide rare and declining species, like the northern long-eared bat, the habitat and resources they need to survive alongside us.

Spread the Word: Understanding the important ecological role that bats play is a key to conserving the northern long-eared and other bats. Helping people learn more about the northern long-eared bat and other endangered species can lead to more effective recovery efforts. For more information, visit www.fws.gov/midwest/nleb and www.whitenosesyndrome.org

Join and Volunteer: Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge. Many state natural resource agencies benefit greatly from citizen involvement in monitoring wildlife. Check your state agency websites and get involved in citizen science efforts in your area.



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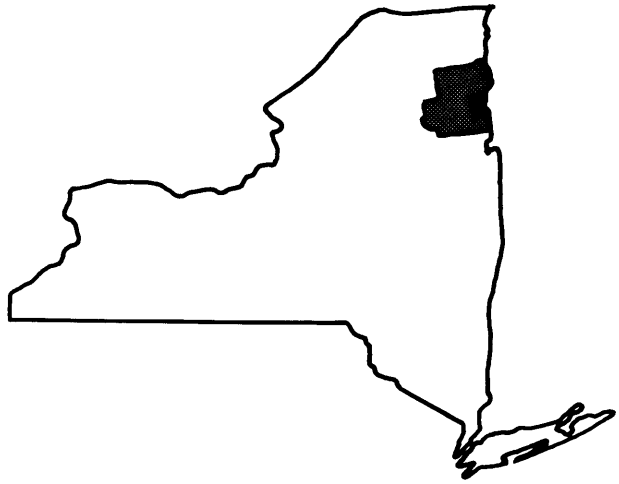
Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.11
FEMA Emergency Flood Plain Map

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC

FLOOD INSURANCE STUDY

TOWN OF WESTPORT, NEW YORK
ESSEX COUNTY



SEPTEMBER 4,1987

Federal Emergency Management Agency

COMMUNITY NUMBER - **361160**

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

TABLE OF CONTENTS

		Page
1.0	INTRODUCTION	1
	1.1 Purpose of Study	1
	1.2 Authority and Acknowledgments	1
	1.3 Coordination	1
2.0	AREA STUDIED	2
	2.1 Scope of Study	2
	2.2 Community Description	2
	2.3 Principal Flood Problems	2
3.0	ENGINEERING METHODS	4
	3.1 Hydrologic and Hydraulic Analyses	4
4.0	FLOODPLAIN MANAGEMENT APPLICATIONS	6
	4.1 Floodplain Boundaries	6
	4.2 Floodways	6
5.0	INSURANCE APPLICATION	7
6.0	FLOOD INSURANCE RATE MAP	8
7.0	OTHER STUDIES	9
8.0	LOCATION OF DATA	9

TABLE OF CONTENTS - continued

	Page
9.0 BIBLIOGRAPHY AND REFERENCES	9

FIGURES

Figure 1 - Vicinity Map	3

TABLES

Table 1 - Summary of Stillwater Elevations	5

EXHIBITS

Exhibit 1 - Flood Insurance Rate Map Index and Street Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY
TOWN OF WESTPORT, ESSEX COUNTY, NEW YORK

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Town of Westport, Essex County, New York, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for the Lake Champlain portion of this study were taken from the Flood Insurance Study for the Town of Plattsburgh, prepared by Camp Dresser & McKee, Environmental Engineers, for the Federal Emergency Management Agency (FEMA), under Contract No. H-3832.

1.3 Coordination

On July 16, 1986, a final Consultation and Coordination Officer's (CCO) meeting, attended by representatives of FEMA, the village, and the State of New York, was held to review the results of the study.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Town of Westport, Essex County, New York. The area of study is shown on the Vicinity Map (Figure 1).

Lake Champlain was studied by detailed methods for its entire shoreline within the community; this study was based on a lake level frequency analysis done in 1976. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction.

The Boquet River and the Black River were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and the Town of Chesterfield.

2.2 Community Description

The Town of Westport is located in southeastern Essex County, New York, aproximately 70 miles south of the Canadian border and approximately 105 miles north of Albany. It is bordered by the Towns of of Essex and Lewis to the north, the Town of Elizabeth to the west, the Town of Moriah to the south, and the Village of Westport and Lake Champlain to the east.

Lake Champlain is a glacial lake with a north-south orientation, forming the border between New York and Vermont. Its total length is over 100 miles. At its widest part, between Plattsburgh and Burlington, the lake is approximately 22 miles wide. At the Canadian border, where the lake empties into the Richelieu River, its drainage area is 8,277 miles.

The mean minimum temperature in the area in January is 9 degrees Fahrenheit (°F), and the mean maximum temperature in July is 83°F. The mean annual precipitation is approximately 30 water-equivalent inches; the mean seasonal snowfall is approximately 60 inches (Reference 1).

2.3 Principal Flood Problems

High-water levels on Lake Champlain result from a complex combination of climatic conditions that characterize the winter period throughout its drainage area. The conditions most conducive to flooding along the lake shore are freezing temperatures and a large quantity of snowfall throughout the winter, followed by a sudden period of warm and rainy

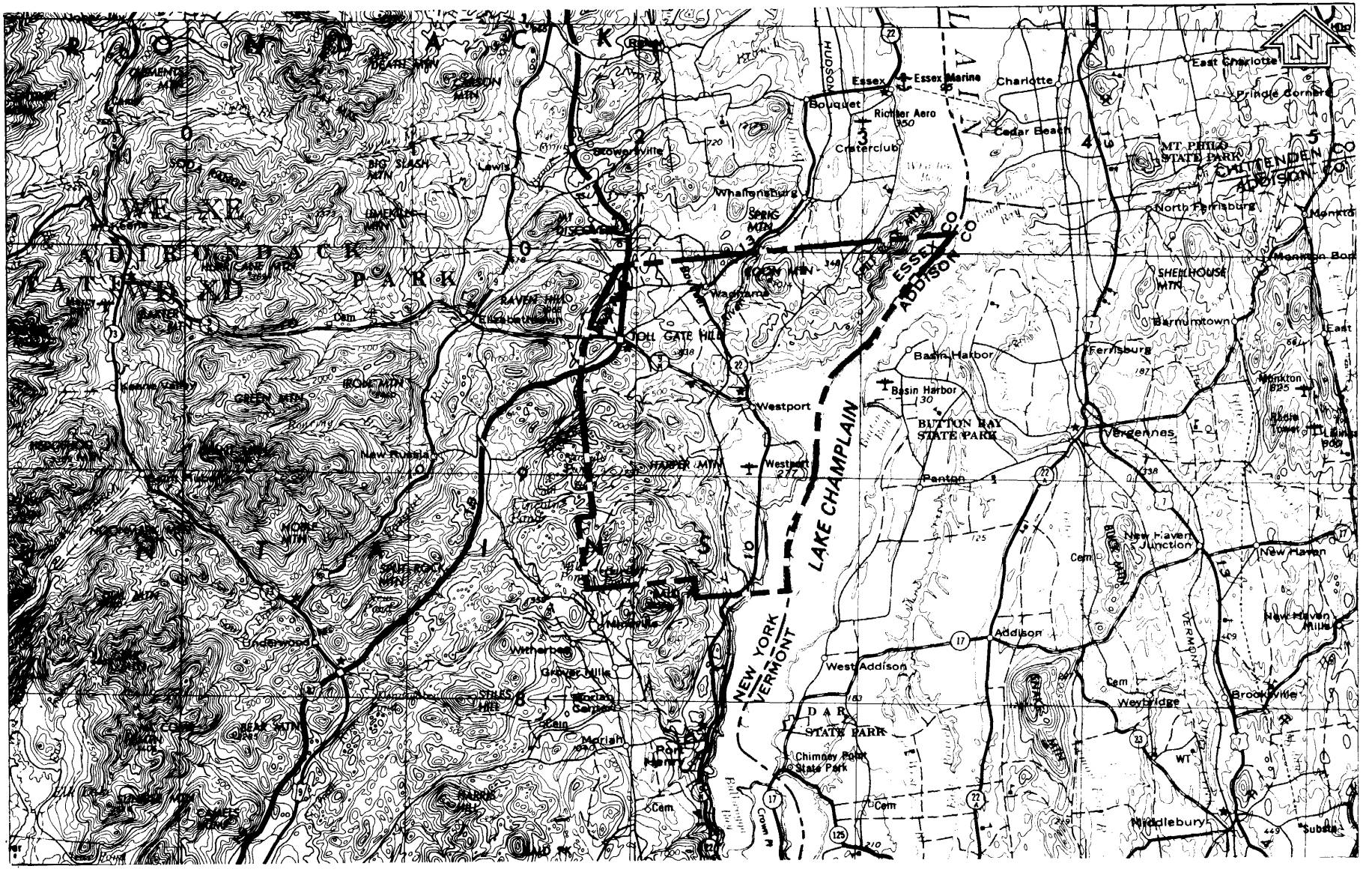


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF WESTPORT, NY
(ESSEX CO.)

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

weather without a refreeze. Such a combination has occurred in varying intensities in the past and has resulted in flood damages along the shore. To aggravate this flooding, the ice sheet on the lake's surface has been so thick at times that it did not readily melt with the onset of warm weather. The result has been that the large volume of water in the lake has lifted the ice, and strong winds have forced it ashore, crushing lake front structures in its path. It is estimated that ice can exert a force of up to 30,000 pounds per square inch, enough to pulverize a concrete wall (Reference 2).

On May 4, 1869, Lake Champlain was at its highest level in the last 150 years at 102.1 feet. In April 1903, the lake stage reached an elevation of 101.8 feet. In March 1936 and April 1976, it reached elevations of 101.61 and 101.64 feet, respectively.

High-lake stage accompanied by wind-driven waves aggravates the flooding problem and increases the risk of property damage. Local residents have reported encountering waves as high as 8 feet on Lake Champlain and have seen 6-foot waves break against cliffs along the shore.

3.0 ENGINEERING METHODS

For the flooding source studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic and Hydraulic Analyses

Analyses were carried out to establish the peak elevation-frequency relationships for the flooding source studied in detail affecting the community.

The hydrologic information for Lake Champlain was taken from the analysis in the Flood Insurance Study for the Town of Plattsburgh, which was completed in 1976 (Reference 3). The U. S. Geological Survey (USGS) measures lake stages at two gaging stations on the northern end of Lake Champlain: No. 04294500 at Burlington, Vermont; and No. 04295000 at Rouses Point. The data from the Rouses Point gage were used for this analysis because its period of record (1871 to present) is longer than that of the Burlington gage, and examination of the records of these gages shows that the lake stages at both locations are very similar.

Graphical frequency analysis was chosen as the method most likely to determine lake stages of the selected recurrence intervals with a reasonable degree of accuracy. The results of this analysis were plotted on an arithmetic-probability graph (rather than a logarithmic-probability graph), which allows data points to vary over a wider range. This flexibility would help to describe a stage-frequency curve more accurately and would reduce the human error introduced in fitting a curve through the plotted points. It was decided not to employ the log-Pearson Type III frequency analysis because the range of logarithms of the lake stage data is too narrow to yield reliable results.

Three graphical frequency analyses were applied to the data measured at the Rouses Point gage from 1871 to 1976. They were the Weibull and Hazen Formulas, and the Beard Method (References 4 and 5). The stages for Lake Champlain presented in this report were obtained from the stage-frequency curve produced by the Beard Method because this curve appears to be an average of the curves produced by the other two formulas.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD).

For the streams studied by approximate methods, the boundary of the 100-year flood was determined from historical data, field inspections, and a report prepared by the USGS (Reference 6).

A summary of peak elevation-frequency relationships for Lake Champlain is given in Table 1, "Summary of Stillwater Elevations."

TABLE 1 - SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (feet) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LAKE CHAMPLAIN				
At Town of Westport, New York	101.01	101.76	101.97	102.32

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For the flooding source studied in detail, the 100- and 500-year floodplain boundaries have been delineated using topographic maps at a scale of 1:25,000 with a contour interval of 5 meters (Reference 7).

For the streams studied by approximate methods, the boundary of the 100-year flood has been delineated using topographic maps and the Flood Hazard Boundary Map for the Town of Westport (References 7 and 8).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map (Exhibit 1). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the Flood Insurance Rate Map (Exhibit 1).

4.2 Floodways

The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights.

The floodway concept is not applicable to lascustrine flooding; therefore, no floodways are shown in this study.

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 100-year floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or depths are shown within this zone.

Zone V

Zone V is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, and to areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains. Floodways and the locations of selected cross sections used in the hydraulic analyses and floodway computations are shown where applicable.

7.0 OTHER STUDIES

Flood Insurance Studies for the Town of Essex and the Village of Westport are currently being prepared (References 9 and 10). The results of those studies will be in exact agreement with the results of this study.

In 1937, the International Joint Commission of the United States and Canada recommended the construction of a dam and levees at Fryers Island in the Richelieu River upstream of St. Jean, Quebec, to control perennial flooding experienced along the river in the spring. The dam was built but never put into operation because the levees were not built; therefore, flooding has continued. Increased development in the floodplain of the river, which consists of excellent soil for agriculture, has resulted in increased damages during spring floods. The situation is so severe that the Commission is again seeking to determine the best solution to the problem. Although the Commission has published a maximum 100-year lake stage of 101.42 feet, more recent developments have caused it to reconsider this analysis (Reference 11). They have found that factors only now becoming evident should be taken into account. One of these is the incongruity of higher lake levels over the past decade without the attendant increase in discharge in the Richelieu River that would be expected. In fact, an increase in weed growth has been noted in the river, which would indicate a decrease in discharge. The Commission is currently studying the environmental impacts of control measures and restudying the hydrology and hydraulics of the lake and river.

Due to its more detailed analysis, this study supersedes the Flood Hazard Boundary Map for the Town of Westport (Reference 8).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 26 Federal Plaza, Room 1351, New York, New York 10278.

9.0 BIBLIOGRAPHY AND REFERENCES

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2. The Republican, Plattsburgh, New York, page 1, April 11, 1903.

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4. Ven Te Chow, ed., Handbook of Applied Hydrology, New York, McGraw-Hill, 1964.

5. Leo R. Beard, Statistical Methods in Hydrology, Sacramento, California, U. S. Army Corps of Engineers, January 1962.

6. U. S. Department of the Interior, Geological Survey, Water Resources Division, Flood Height Drainage Area Relation for the 100-Year Flood (Unpublished).

7. U. S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:25,000, Contour Interval 5 Meters: Westport, New York-Vermont, 1980; Elizabethtown, New York, 1978; Witherbee, New York, 1978; Port Henry, New York-Vermont, 1980.

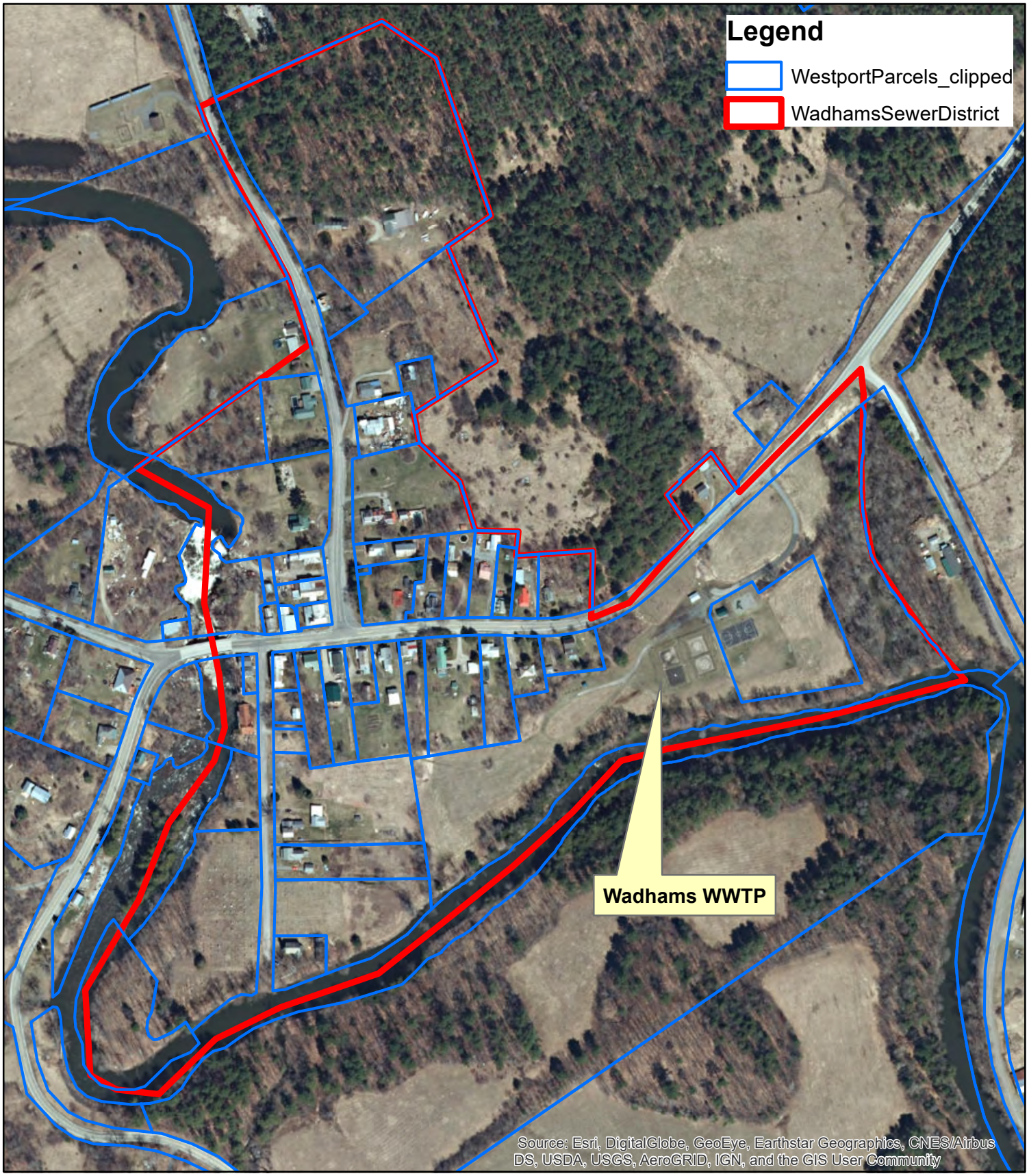
8. Federal Emergency Management Agency, Flood Hazard Boundary Map, Town of Westport, Essex County, New York, December 20, 1984.

9. Federal Emergency Management Agency, Flood Insurance Study, Town of Essex, Essex County, New York (Unpublished).

10. Federal Emergency Management Agency, Flood Insurance Study, Village of Westport, Essex County, New York (Unpublished).

11. The International Champlain-Richelieu Engineering Board, Regulation of Lake Champlain: Hydraulic Appendix, Volume II, Ottawa, Canada, February 1974.

☆ U.S. GOVERNMENT PRINTING OFFICE:1987-181-211/60108



N
W E
S

290 145 0 290 Feet

Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.12
Collection System District and Parcel Map

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC

N
W E
S

90 45 0 90 Feet

Town of Westport
Wadhams WWTP Disinfection Evaluation
Figure 2.13
Existing Plant Map

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC

NORTH

5 0 5 10 15

Scale 1" = 5'

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (516) 561-1598 www.aesnortheast.com

SEAL SEAL

SCHEMATIC - NOT FOR CONSTRUCTION

SEAL SEAL

GENERAL NOTES:

1. THE DESIGN OF THE DISINFECTION STRUCTURE HAS YET TO BE DETERMINED

   ELECTRIC UTILITY PLACEMENT HAS NOT BEEN DETERMINED

PROJECT TITLE:

TOWN OF WADHAMS

PRELIMINARY ENGINEERING REPORT

WESTPORT, NEW YORK

DRAWING TITLE:

ALTERNATIVE 1 & 2 PROJECT LAYOUT

DWG. ISSUE/REVISIONS	DATE (MM/DD/YYYY)

DESIGNED BY:	DRAWN BY:	AES PROJ. NO.:
ECF	ECF	4524

BUILDING ID:	DRAWING NO.:
BLD.	FIGURE 3.1

Plot Date: 06/07/2019 Plot Time: 9:42 PM
File Path: P:\4524\4524 Westport (1) - I&I Study\F Drawings\2 Eng_Arch\4 Design Devel\Wadhams\Alternatives\4614 Wadhams Alternative CC.dwg

NORTH

20 0 20 40 60

Scale 1" = 20'

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598 www.aesnortheast.com

SCHEMATIC - NOT FOR CONSTRUCTION

GENERAL NOTES:

1. THE DESIGN OF THE DISINFECTION STRUCTURE HAS YET TO BE DETERMINED.

   ELECTRIC UTILITY PLACEMENT HAS NOT BEEN DETERMINED

PROJECT TITLE:
TOWN OF WADHAMS

PRELIMINARY ENGINEERING REPORT

WESTPORT, NEW YORK

DRAWING TITLE:

ALTERNATIVE 1 - PROPOSED SITE PLAN

DWG. ISSUE/REVISIONS	DATE (MM/DD/YYYY)

DESIGNED BY:	DRAWN BY:	AES PROJ. NO.:
ECF	ECF	4524

BUILDING ID:	DRAWING NO.:
BLD.	FIGURE 5.1

Plot Date: 06/01/2018 Plot Time: 9:38 PM
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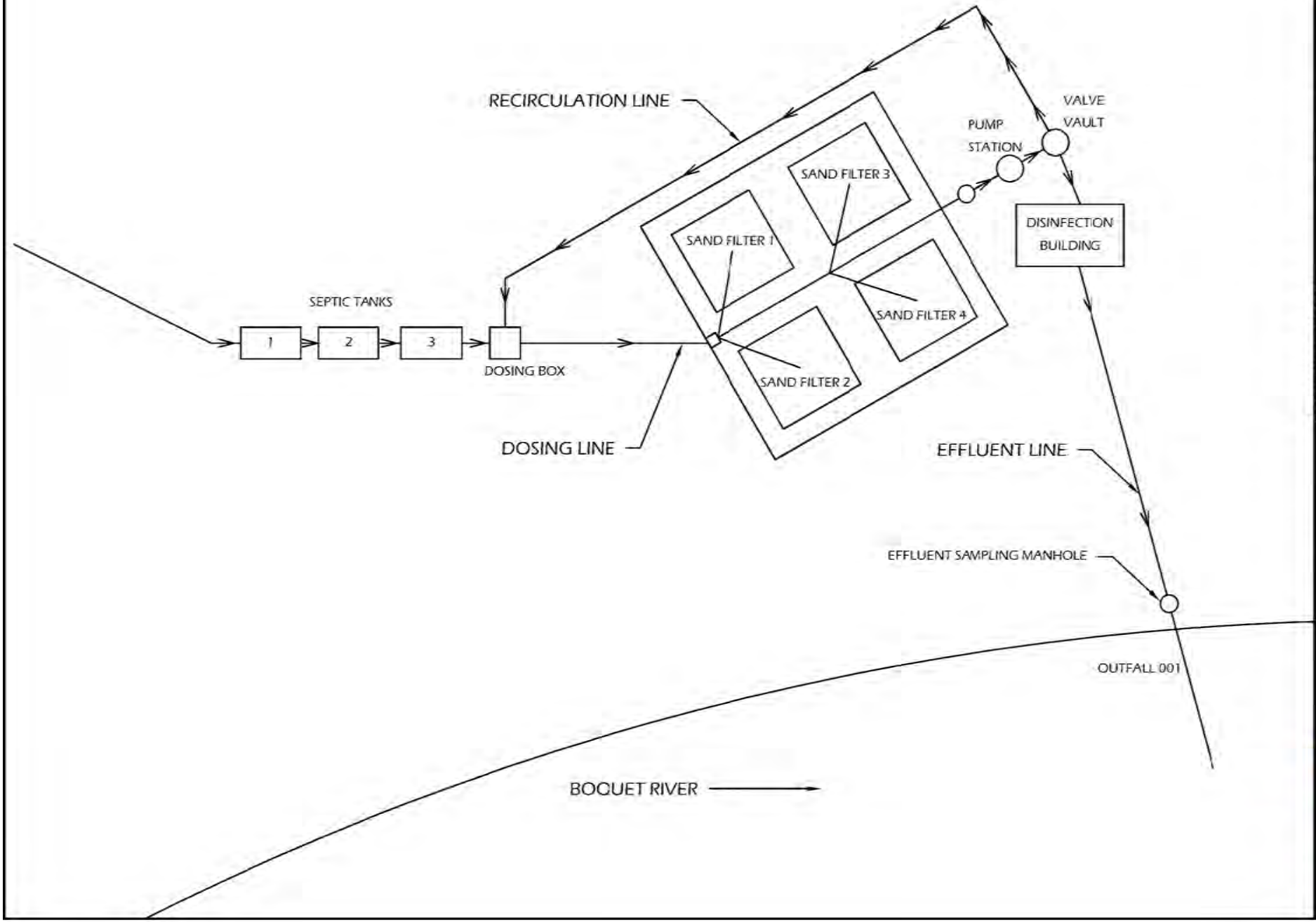
PROCESS FLOW DIAGRAM



DRAWING #: FIGURE 5.2

PROJECT NO.: 4524

REPORT TITLE: TOWN OF WESTPORT

WADHAMS WWTP DISINFECTION EVALUATION

10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598
www.aesnortheast.com

AES NORTHEAST

Architecture, Engineering, and Land Surveying Northeast, PLLC

Table 2.1
Town of Westport
Wadhams WWTP Disinfection Evaluation
One Year Monthly Data Summary 2016 - 2017

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Average
Flow 30 Day Average			3,000	3,000	4,000	5,000	5,000	5,000	4,000	3,000	4,000	4,000	4,000.00
MGD	0.000	0.000	0.003	0.003	0.004	0.005	0.005	0.005	0.004	0.003	0.004	0.004	0.00
Flow (Day of Sample)			3,000			5,000			4,000			4,000	
MGD	0.000	0.000	0.003	0.000	0.000	0.005	0.000	0.000	0.004	0.000	0.000	0.004	
30 Day Concentrations and Loadings													
Influent BOD, Concentration			200			200			200			200	200.00
Influent BOD, LBS Loading			5			8			7			7	6.67
Effluent BOD, Concentration			4			10			3			3	5.08
Effluent BOD, LBS, Loading			0.1			0.4			0.1			0.1	0.18
% Removal BOD			98%			95%			99%			98%	0.97
Influent TSS, Concentration			200			200			200			200	200.00
Influent TSS, LBS Loading			5			8			7			7	6.67
Effluent TSS, Concentration			2			6			3			2	3.40
Effluent TSS, LBS Loading			0.05			0.25			0.10			0.08	0.12
% Removal TSS			99%			97%			99%			99%	0.98
Phosphorus			4.10										

Table 2.2
Town of Westport
Wadhams WWTP Disinfection Evaluation
One Year Monthly Data Summary 2017 - 2018

	1 Jan-16	**2** Feb-16	**3** Mar-16	**4** Apr-16	**5** May-16	**6** Jun-16	**7** Jul-16	**8** Aug-16	**9** Sep-16	**10** Oct-16	**11** Nov-16	**12** Dec-16	Average
Flow 30 Day Average	4,000	5,000	4,000	4,000	4,000	5,000	5,000	4,000	3,000	3,000	3,000		4,000.00
MGD	0.004	0.005	0.004	0.004	0.004	0.005	0.005	0.004	0.003	0.003	0.003	0.000	0.00
Flow (Day of Sample)			4,000			5,000			3,000			0	
MGD	0.000	0.000	0.004	0.000	0.000	0.005	0.000	0.000	0.003	0.000	0.000	0.000	
30 Day Concentrations and Loadings													
Influent BOD, Concentration			200			200			200				200.00
Influent BOD, LBS Loading			7			8			5			0	5.00
Effluent BOD, Concentration			11			6			3				6.57
Effluent BOD, LBS, Loading			0.4			0.2			0.1			0.0	0.17
% Removal BOD			95%			97%			99%			#DIV/0!	#DIV/0!
Influent TSS, Concentration			200			200			200				200.00
Influent TSS, LBS Loading			7			8			5			0	5.00
Effluent TSS, Concentration			13			10			3				8.56
Effluent TSS, LBS Loading			0.42			0.42			0.07			0.00	0.23
% Removal TSS			94%			95%			99%			#DIV/0!	#DIV/0!

Phosphorus

Table 3.1
Town of Westport
Wadhams WWTP Disinfection Evaluation
Alternative Cost Comparison

Disinfection Installation				
Description	**Alterative 1**	**Alterative 2**	**Alterative 3**	**Alterative 4**
Total Construction Cost	$ 843,670	$ 831,315.66	N/A	N/A
Engineering, Construction Observation, Legal and Bonding Fees, Funding Program Administration @ 20%	$ 168,734	$ 166,263	N/A	N/A
Project Contingencies @ 10%	$ 101,240	$ 99,758	N/A	N/A
			N/A	N/A
Total Cost	**$ 1,113,645**	**$ 1,097,337**	N/A	N/A

Town of Westport
Wadhams WWTP Disinfection Evaluation
Table 4.1 Alternative Comparison
AES Project No. 4524

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities: Electrical Service	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternate 1 UV Disinfection	☑	☑	☑	☑	☑	☑	☑	☑	☑
Comments	Temporary construction related activities.	Project fits on current site.	Focus on ensuring all WWTP operations are maintained at all times.	Properly sized UV bank with the ability to turn off unused banks and/or bulbs or turn down bulb intensity will minimize energy use.	Pump Station and UV equipment will add electrical load to a plant without electrical load.	Equivalent to Alternate 2	All structures and equipment will be designed to protected from damage during the 100 year flood.	Construction Costs Lower/O&M Costs Lower/Overal l Slightly Lower	Higher level of operator safety and reduced operations and maintenance requirements.
Alternate 2 Chlorine Disinfection	☑	☑	☑	☑	☑	☑	☑	☐	☐
Comments	Temporary construction related activities. Possible effect to wetlands. Possibility of chlorine residual in effluent discharged to the Saranac River.	Project fits on current site.	Focus on ensuring all WWTP operations are maintained at all times.	Less energy intensive. Use of chlorine as a disinfectant should be sized properly to avoid excessive use of chlorine.	Pump Station and CL equipment will add electrical load to a plant without electrical load (although less than Alterative 1).	Equivalent to Alternate 1	All structures and equipment will be designed to protected from damage during the 100 year flood.	Construction Costs Higher/O&M Costs Higher/Overa ll Slightly Higher	Significant safety measures include separate chemical feed room, in-room chemical feed containment and chemical containment for truck deliveries.
Alternative 3 Groundwater Infiltration	☐	☐	☑	☑	☑	☑	☐	☐	☐
Comments	Infiltration would occur near Boquet River. A breakthrough could result in a direct discharge. Failure of the infiltration could result in a direct discharge.	Property with the appropriate soil types that meet setback rules does not exist/is not practical on existing site.	Focus on ensuring all WWTP operations are maintained at all times.	Least energy and chemical usage	Minimum electrical usage (metering)	Equivalent to Alternate 1&2	Infiltration would occur in flood plain, which may render infiltration unusable during floods.	N/A	Even if feasible, no operator flexibility. A failure or breakout would render the system inoperable.
No Action Alternate	☑	☐	☐	☐	☐	☐	☑	☑	☐
Comments	Boguet River would continue to receive non-disinfected water.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.2
Town of Westport
Wadhams WWTP Disinfection Evaluation
Life Cycle Cost Analysis

Disinfection Installation								
Option	Construction Costs	Annual O&M & Short Lived Assets	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 1,113,644.54	$ 3,022.35	$ 20.00	1.6%	17.00	$ 51,381.70	$ -	$ 1,165,026.25
Alternative 2	$ 1,097,336.68	$ 5,351.35	$ 20.00	1.6%	17.00	$ 90,976.06	$ -	$ 1,188,312.73

Table 5.1
Town of Westport
Wadhams WWTP Disinfection Evaluation
Alternative 1 - Cost Estimate

Phase 1	Cost
WWTP Site Piping	$105,566.67
UV System Structure and Accessories	$109,671.48
Site Work: Disinfection Pump Station	$ 42,545.70
Process Equipment and Installation: Disinfection Pump Station	$ 75,570.00
Process Equipment and Installtion: UV System	$173,580.00
Process Equipment and Installation: Treatment Plant Instrumentation	$ 27,887.70
Electrical UV	$ 50,000.00
Total Construction Cost	$ 584,822
Engineering, Construction Observation, Legal and Bonding Fee @ 20%	$ 116,964
Project Contingencies @ 10%	$ 70,179
Total Cost	**$ 771,964**

Phase 2	Cost
Dosing Station Repairs	$ 7,000.00
Sand Bed Rebuild	$ 80,021.33
Site Fencing & Gates	$ 29,050.00
Recirculation	$ 64,680.00
Rebuild of Sand Berms	$ 2,263.89
Demo of Existing Sampling Structure and Pipe Replacement	$ 17,083.33
Collection System Manhole Repairs	$ 2,500.00
Process Equipment and Installation: Emergency Power	$ 56,250.00
Total Construction Cost	$ 258,849
Engineering, Construction Observation, Legal and Bonding Fee @ 20%	$ 51,770
Project Contingencies @ 10%	$ 31,062
Total Cost	**$ 341,680**

Total Project Costs **$ 1,113,645**

Table 5.2
Town of Westport
Wadhams WWTP Disinfection Evaluation
Project Financing and User Rates

Total Project Costs

Total Project Costs (Phases 1&2)		**$ 1,113,645**

Available Funding

SD# 1 improvements

Grant Program: WQIP		$ 433,840.00
Grant Program: CWSRF Grant		
NYS EFC, CWSRF Financing (Assuming Hardship), application pending?		$ 679,805
Anticipated Loan Period	30 yrs	
Anticipated interest rate	0.00%	
Cost of Loan (Interest and Debt annually)		**$ 22,660.15**

Estimated Cost Per User

Existing Annual Sewer Rates

	Active Connections (Existing and Proposed)	Existing Annual Sewer Rates
# of User Units (SD#1)	45	$ 300.00
# of User Units (SD#1 - ext 1)	11	$ 300.00
Total Users Units	56	

Operations and Maintenance

Anticipated Operation and Maintenance increase per year	$ 3,022.35	
Operation and Maintenance increase per user/year	$ 53.97	

Debt Service

Total Proposed SD#2 and SD#3, Debt payment per user	$ 404.65	

Summary of Total Costs Per User

Sewer District #2 (anticipated annual user Rate)	$ 758.62
Sewer District #3 (anticipated annual user Rate)	$ 758.62

APPENDIX A

NYS DEC Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 5
1115 State Route 86, PO Box 296, Ray Brook, NY 12977-0296
P: (518) 897-1234 | F: (518) 897-1394
www.dec.ny.gov

March 27, 2018

Town of Westport
ATTN: Michael K. Tyler, Town Supervisor
22 Champlain Ave, PO Box 465
Westport, NY 12993

Re: Wadhams Sewer District WWTP
SPDES # NY-021 7760
DEC # 5-1550-00012/00002
Westport (T), Essex County

Dear Permittee:

Enclosed is your corrected State Pollutant Discharge Elimination System (SPDES) permit and associated conditions that was modified on March 21, 2018. The permit is modified to correct a typographical error in the sampling frequency of Phosphorus. Monitoring requirements/sample frequency should be 1/quarter not 1/week, as it was in the previous permit. Please refer to the permit Special Conditions for appropriate effluent limitations, monitoring requirements, or other conditions

The Department maintains authority regarding the terms of this permit in accordance with 6 NYCRR 750. This regulation may be accessed from the internet at the Department's website: http://www.dec.ny.gov/regs/2485.html. If you do not have website access, you may obtain a paper copy of the regulation at the above address and phone number.

If you should have questions concerning any aspect of this permit, please contact Tamara Venne, Environmental Program Specialist, of our Regional Water Quality Unit at 518-897-1241.

Any questions regarding the annual SPDES fee should be addressed to the Regulatory Fee Determination Unit at 1-800-225-2566.

Sincerely,

Erin L. Burns
Deputy Regional Permit Administrator

Enclosures
ec: Cheri Jamison, CO BWP - Permit Coordinator
Rob Streeter, Regional Water Manager
Tamara Venne, Water
US EPA Region II
Susan Kennedy, NYS DOH Saranac Lake District Office
Jason Denno, NYS EFC
Tom Groves, NEIWPC
Jessica Bulova, VT DEC
John Crandall, Plant Operator

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

Industrial Code:	4952	SPDES Number:	NY-021 7760
Discharge Class (CL):	07	DEC Number:	5-1550-00012/00002
Toxic Class (TX):	N	Effective Date (EDP):	July 1, 2014
Major Drainage Basin:	10	Expiration Date (ExDP):	June 30, 2019
Sub Drainage Basin:	04	Modification Dates: (EDPM)	9/1/2015
Water Index Number:	C		10/7/2015
Compact Area:			3/21/2018

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. '1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **Town of Westport** Attention: **Town Supervisor**

Street: **22 Champlain Ave, PO Box 465**

City: **Westport** State: **NY** Zip Code: **12993-0465**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Wadhams S.D. #1 Wastewater Treatment Plant**

Location (C,T,V): **Westport (T)** County: **Essex**

Facility Address: **834 NYS Route 22**

City: **Westport** State: **NY** Zip Code: **12993**

From Outfall No.: **001** at Latitude: **44 ° 13 ' 44 "** & Longitude: **73 ° 27 ' 22 "**

into receiving waters known as: **Boquet River** Class: **A**

and (list other Outfalls, Receiving Waters & Water Classifications)

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **Wadhams S.D. WWTP**

Street: **22 Champlain Avenue, PO Box 465**

City: **Westport** State: **NY** Zip Code: **12993-0465**

Responsible Official or Agent: **Chief Plant Operator** Phone: **(518) 962-4419**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

Cheri Jamison, CO BWP - Permit Coordinator
Rob Streeter, RWM
US EPA, Region2_NPDES@epa.gov
Susan Kennedy, NYS DOH Saranac Lake District Office
Jason Denno, NYS EFC
Tom Groves, NEIWPC
Jessica Bulova, VT DEC

Deputy Regional Permit Administrator: Erin L. Burns	
Address: NYS DEC, 1115 NYS Route 86, PO Box 296 Ray Brook, NY 12977-0296	
Signature: Erin L. Burns	Date: 3/27/18

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.	See below	See below

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL	COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the permittee shall use the approved EPA analytical method with the lowest possible detection limit as promulgated under 40CFR Part 136 for the determination of the concentrations of parameters present in the sample unless otherwise specified. If a sample result is below the detection limit of the most sensitive method, compliance with the permit limit for that parameter was achieved. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This PQL can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, which trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, temperature, or concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly. All monitoring periods (quarterly, semiannual, annual, etc) are based upon the calendar year unless otherwise specified in this Permit.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Notes:

1. EFFLUENT LIMIT TYPES:
   a. DAILY DISCHARGE: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
   b. DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The lowest allowable daily discharge.
   c. MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   d. 7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.
   e. 30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   f. 7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.
   g. RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

2. ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Boquet River	EDPM	EDPM + 5 yrs

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location Inf.	Location Eff.	
Flow	30- day arithmetic mean	0.015	MGD			Continuous	Dosing Counter	X		
BOD_5	Monthly Average	30	mg/l	3.75	lbs/d	1/quarter	Grab		X	(1), (2)
BOD_5	7-Day Average	45	mg/l	5.63	lbs/d	1/quarter	Grab		X	
Solids, Suspended	Monthly Average	30	mg/l	3.75	lbs/d	1/quarter	Grab		X	(1), (2)
Solids, Suspended	7-Day Average	45	mg/l	5.63	lbs/d	1/quarter	Grab		X	
Solids, Settleable	Daily Maximum	0.3	ml/l			1/week	Grab		X	
pH	Range	6.0-9.0	SU			1/week	Grab		X	
Phosphorus (as P)	12 Month Rolling Average	Monitor	mg/l	0.24	lbs/d	1/quarter	Grab		X	(3)
Effluent Disinfection required		[X] All Year		[ ] Seasonal from ____ to ____						
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Quarterly	Grab		X	
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Quarterly	Grab		X	
Chlorine, Total Residual	Daily Maximum	2.0	mg/l			Daily	Grab		X	(4)

FOOTNOTES:

(1) and effluent shall not exceed 15 % and 15 % of influent concentration values for BOD_5 & TSS respectively.

(2) An influent BOD and TSS concentration of 200 mg/L shall be assumed for the calculation of percent removals.

(3) The 12-month rolling average shall be computed as follows: the (sum of current month's and the past 11 month's 30-day arithmetic mean in lbs/day) divided by 12.

(4) If ultraviolet light disinfection (UV) is practiced instead of chemical disinfection then no total residual chlorine monitoring is required

2/13

Mercury Minimization Program for Low Priority POTWs

The permittee shall inspect each tributary dental facility at least once every five years to verify compliance with the wastewater treatment operation, maintenance, and notification elements of 6NYCRR Part 374.4. Inspection and/or outreach to other industrial/commercial sectors which may contribute mercury is also recommended. All new or increased tributary discharges, including hauled wastes, which are from sources that are industrial in nature must be evaluated for mercury content and, if levels exceed 500 ng/L, authorization must then be obtained from the Department prior to acceptance. Equipment and materials which may contain mercury shall also be evaluated by the permittee and replaced with mercury-free alternatives where environmentally preferable. A file shall be maintained containing the notices submitted by dental offices and all other pertinent information. This file shall be available for review by NYSDEC representatives and copies shall be provided upon request. A permit modification may be necessary to include more stringent requirements for POTWs which do not maintain low mercury effluent levels. Note: the mercury-related requirements in this permit conform to the mercury Multiple Discharge Variance specified in NYSDEC policy *DOW 1.3.10.*

EJB

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address :

NYSDEC Division of Water Regional Phone: ( ) - ### -####

(e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years

(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

DISCHARGE NOTIFICATION REQUIREMENTS (continued)

(g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h) below:

(i) such sign would be inconsistent with any other state or federal statute;

(ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;

(iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;

(iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or

(v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.

(h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, Central Office, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Parameter(s) Affected	Interim Effluent Limit(s)	Compliance Action	Due Date
001	Fecal Coliform total Residual Chlorine	N/A	The permittee shall submit an approvable engineering report, prepared by a Professional Engineer licensed to practice engineering in New York State, detailing the disinfection designs that will be used to comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	1/15/2016
			The permittee shall submit approvable Engineering Plans, Specifications, and Construction Schedule for the implementation of effluent disinfection.	4/30/2016
			The permittee shall begin construction of the treatment facilities in accordance with the Department approved schedule.	
			The permittee shall complete construction and commence operation of the system, and comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	5/01/2017

The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT," the permittee is not required to repeat the submission(s) noted above. The above due dates are independent from the effective date of the permit stated in the "SPDES NOTICE/RENEWAL APPLICATION/PERMIT" letter.

b) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

c) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

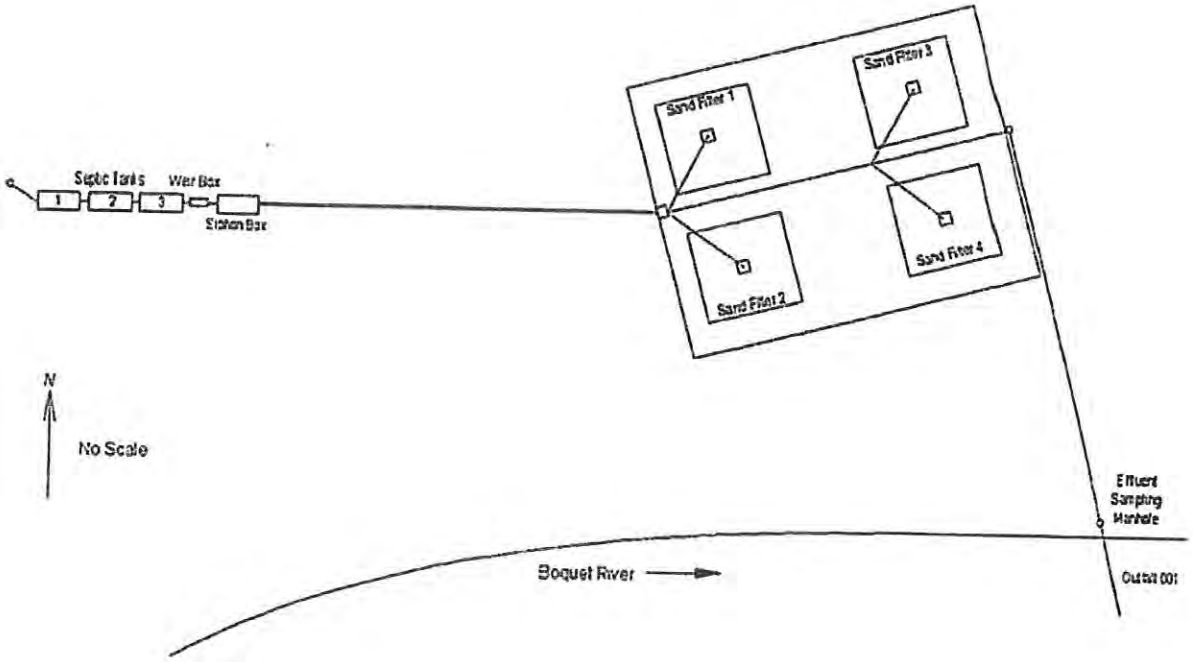
1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

d) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Manager at 232 Golf Course Road, Warrensburg, NY 12885 and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

(i) MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

Effluent sampling location is the Manhole between the sand filters and the river, on the riverbank.



GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through I as follows:.

B. General Conditions

1. Duty to comply	6NYCRR Part 750-2.1(e) & 2.4
2. Duty to reapply	6NYCRR Part 750-1.16(a)
3. Need to halt or reduce activity not a defense	6NYCRR Part 750-2.1(g)
4. Duty to mitigate	6NYCRR Part 750-2.7(f)
5. Permit actions	6NYCRR Part 750-1.1(c), 1.18, 1.20 & 2.1(h)
6. Property rights	6NYCRR Part 750-2.2(b)
7. Duty to provide information	6NYCRR Part 750-2.1(i)
8. Inspection and entry	6NYCRR Part 750-2.1(a) & 2.3

C. Operation and Maintenance

1. Proper Operation & Maintenance	6NYCRR Part 750-2.8
2. Bypass	6NYCRR Part 750-1.2(a)(17), 2.8(b) & 2.7
3. Upset	6NYCRR Part 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1. Monitoring and records	6NYCRR Part 750-2.5(a)(2), 2.5(c)(1), 2.5(c)(2), 2.5(d) & 2.5(a)(6)
2. Signatory requirements	6NYCRR Part 750-1.8 & 2.5(b)

E. Reporting Requirements

1. Reporting requirements	6NYCRR Part 750-2.5, 2.6, 2.7 & 1.17
2. Anticipated noncompliance	6NYCRR Part 750-2.7(a)
3. Transfers	6NYCRR Part 750-1.17
4. Monitoring reports	6NYCRR Part 750-2.5(e)
5. Compliance schedules	6NYCRR Part 750-1.14(d)
6. 24-hour reporting	6NYCRR Part 750-2.7(c) & (d)
7. Other noncompliance	6NYCRR Part 750-2.7(e)
8. Other information	6NYCRR Part 750-2.1(f)
9. Additional conditions applicable to a POTW	6NYCRR Part 750-2.9
10. Special reporting requirements for discharges that are not POTWs	6NYCRR Part 750-2.6

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to the permitted facility may meet of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the

existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

G. Notification Requirement for POTWs

1. All POTWs shall provide adequate notice to the Department and the USEPA of the following:
   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address:
U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall **maintain a logbook** of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall **submit a completed *WTC Annual Report Form*** each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form* and *WTC Annual Report Form* are available from the Department's website at http://www.dec.ny.gov/permits/93245.html .

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

A. The monitoring information required by this permit shall be summarized, signed and retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 each year and must summarize information for January to December of the previous year in a format acceptable to the Department.

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[X] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water, Bureau of Water Compliance
625 Broadway, Albany, New York 12233-3506
Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to: Department of Environmental Conservation
Regional Water Engineer, Region

Send an **additional copy** of each DMR page to:

B. Monitoring and analysis shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

C. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

D. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

E. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

F. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits & Pollution Prevention
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 I F: (518) 402-9168 I deppermitting@dec.ny.gov
www.dec.ny.gov

October 7, 2015

Mr. Dan W. Connell
Supervisor, Town of Westport
PO Box 465
Westport, NY 12993-0465

Re: Wadhams Sewer District Wastewater Treatment Facility
DEC ID#5-1550-00012/00002 SPDES NY0217760

Dear Mr. Connell:

The Department issued a permit modification for the State Pollutant Discharge Elimination System (SPDES) permit for the above referenced facility on July 10, 2015.

On September 4, 2015, you submitted a modification request regarding the permit's disinfection addendum's schedule of compliance. Accordingly, the following minor modifications have been made:

-The engineering report due date has been extended to January 15, 2016.
-A separate engineering plans and specifications item has been added to the schedule of compliance with a due date of April 31, 2016.

The final compliance date of May 1, 2017 remains unchanged. This permit modification replaces the addendum sent to you on July 10, 2015.

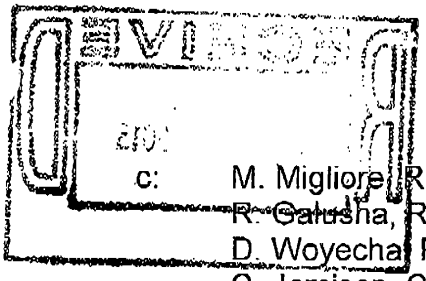
Should you have questions on the administration of this modification and renewal, please feel free to contact me at the address or phone number listed above. Should you have technical questions on permit content, please contact the permit engineer, Demissie Woyecha, at (518) 402-8173, or the Regional Water Engineer, Randy Galusha, at (518) 623-1222.

Sincerely,

Stuart M. Fox

Stuart M. Fox
Deputy Chief Permit Administrator

Enclosure



c: M. Migliore, RPA
R. Galusha, RWE
D. Woyecha, Permit Engineer
C. Jamison, CO-BWP Permit Coordinator
M. Josilo, USEPA Reg 2

Disinfection Addendum (page A1)

SPDES Permit Number NY0217760

Effective Date of Modification: October 7, 2015

The disinfection permit limits, levels, monitoring, special conditions and schedule of compliance specified in this Disinfection Addendum are in addition to those that may be specified elsewhere in the SPDES permit. If there is inconsistency then the most recently issued requirements apply.

If chemical disinfection treatment is initiated prior to May 1, 2017, then limits and monitoring for chemical residual(s) will be in effect to ensure protection of aquatic life.

Disinfection limits, levels and monitoring are only applicable to discharges disinfected using either ultraviolet light or chlorine. If another means of disinfection is proposed in the engineering report referenced in the Schedule of Compliance, then the permittee must submit a request for permit modification.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	DISINFECTION LIMITATIONS APPLY:	EFFECTIVE	EXPIRING
001	All Year	May 1, 2017	06/30/2019

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location Inf.	Location Eff.	
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Quarterly	Grab		X	
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Quarterly	Grab		X	
Chlorine, Total Residual	Daily Maximum	2.0	mg/l			Daily	Grab		X	*

Footnote * - If ultraviolet light disinfection (UV) is practiced instead of chemical disinfection then no total residual chlorine monitoring is required.

SCHEDULE OF COMPLIANCE

(1) The permittee shall comply with the following schedule:

(a) By **January 15, 2016** submit an approvable engineering report for construction of effluent disinfection system.
(b) By **April 31, 2016** submit plans, specifications, and construction schedule for the implementation of effluent disinfection.
(c) Commence construction of the effluent disinfection treatment facilities in accordance with the Department approved schedule.
(d) By **May 1, 2017** complete construction, commence operation of disinfection treatment facilities, and comply with final effluent limitations and monitoring requirements.

(2) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

Disinfection Addendum (page A2) **SPDES Permit Number NY0217760**
Effective Date of Modification: October 7, 2015

(3) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

(4) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through J as follows:

B.	General Conditions	
1.	Duty to comply	6 NYCRR Part 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR Part 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR Part 750-2.1(g)
4.	Duty to mitigate	6 NYCRR Part 750-2.7(f)
5.	Permit actions	6 NYCRR Part 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR Part 750-2.2(b)
7.	Duty to provide information	6 NYCRR Part 750-2.1(i)
8.	Inspection and entry	6 NYCRR Part 750-2.1(a) & 2.3
C.	Operation and Maintenance	
1.	Proper Operation & Maintenance	6 NYCRR Part 750-2.8
2.	Bypass	6 NYCRR Part 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR Part 750-1.2(a)(94) & 2.8(c)
D.	Monitoring and Records	
1.	Monitoring and records	6 NYCRR Part 750-2.5(a)(2), 2.5(c)(1), 2.5(c)(2), 2.5(d) & 2.5(a)(6)
2.	Signatory requirements	6 NYCRR Part 750-1.8 & 2.5(b)
E.	Reporting Requirements	
1.	Reporting requirements	6 NYCRR Part 750-2.5, 2.6, 2.7 & 1.17
2.	Anticipated noncompliance	6 NYCRR Part 750-2.7(a)
3.	Transfers	6 NYCRR Part 750-1.17
4.	Monitoring reports	6 NYCRR Part 750-2.5(e)
5.	Compliance schedules	6 NYCRR Part 750-1.14(d)
6.	24-hour reporting	6 NYCRR Part 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR Part 750-2.7(e)
8.	Other information	6 NYCRR Part 750-2.1(f)
9.	Additional conditions applicable to a POTW	6 NYCRR Part 750-2.9
10.	Special reporting requirements for discharges that are not POTWs	6 NYCRR Part 750-2.6

Disinfection Addendum (page A3) **SPDES Permit Number NY0217760**
Effective Date of Modification: October 7, 2015

GENERAL REQUIREMENTS continued

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to the permitted facility may meet of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

G. Notification Requirement for POTWs

1. All POTWs shall provide adequate notice to the Department and the USEPA of the following:
   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall **maintain a logbook** of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall **submit a completed *WTC Annual Report Form*** each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form* and *WTC Annual Report Form* are available from the Department's website at http://www.dec.ny.gov/permits/93245.html .

New York State Department of Environmental Conservation
Division of Environmental Permits
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233
(518) 402-9167

SPDES PERMIT RENEWAL

10/16/2013

TOWN OF WESTPORT
22 CHAMPLAIN AVE
PO BOX 465
WESTPORT NY 12993-0465

Permittee Name: TOWN OF WESTPORT
Facility Name: WADHAMS SEWER DISTRICT WWTF
Ind. Code: 4952 County: ESSEX
DEC ID: 5-1550-00012/00002 SPDES No.: NY0217760
Permit Effective Date: 7/1/2014
Permit Expiration Date: 6/30/2019

Dear Permittee,

The State Pollutant Elimination System (SPDES) permit renewal for the facility referenced above is approved with the new effective and expiration dates. This letter together with the previous valid permit for this facility effective on 07/01/2009 and any subsequent modifications constitute authorization to discharge wastewater in accordance with all terms, conditions and limitations specified in the previously issued permit(s).

As a reminder, SPDES permits are renewed at a central location in Albany in order to make the process more efficient. All other concerns with your permit, including applications for permit modification or transfer to a new owner, a name change, and other questions, should be directed to:

Regional Permit Administrator
NYSDEC REGION 5 HEADQUARTERS
1115 ST RTE 86
RAY BROOK, NY 12977-0296
(518) 897-1211

If you have already filed an application for modification of your permit, it will be processed separately by that office.

If you have questions concerning this permit renewal, please contact LINDY SUE CZUBERNAT at (518) 402-9167.

Sincerely,

Stuart M. Fox

Stuart M. Fox
Deputy Chief Permit Administrator

cc:

RPA	RWE	BWP
BWC	File	EPA

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

First3 99

Industrial Code:	4952	SPDES Number:	NY- 021 7760
Discharge Class (CL):	07	DEC Number:	5-1550-00012/00002
Toxic Class (TX):	N	Effective Date (EDP):	07/01/04
Major Drainage Basin:	10	Expiration Date (ExDP):	07/01/09
Sub Drainage Basin:	04	Modification Dates (EDPM):	01/01/08
Water Index Number:	C	Attachment(s):	
Compact Area:			

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **Town of Westport** Attention: **Supervisor**
Street: **22 Champlain Avenue, P.O. Box 465**
City: **Westport** State: **NY** Zip Code: **12993**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Wadhams S.D. #1 Wastewater Treatment Plant**
Location (C,T,V): **Westport (T)** County: **Essex**
Facility Address: **834 NYS Rte. 22**
City: **Westport** State: **NY** Zip Code: **12993**
NYTM -E: **623.334** NYTM - N: **4898.501**
From Outfall No.: **001** at Latitude: **44 ° 13 ′ 44 ″** & Longitude: **73 ° 27 ′ 22 ″**
into receiving waters known as: **Lake Champlain** Class: **A**

and; (list other Outfalls, Receiving Waters & Water Classifications)

in accordance with effluent limitations, monitoring requirements; and other conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **Wadhams S.D. WWTP**
Street: **22 Champlain Avenue, P.O. Box 465**
City: **Westport** State: **NY** Zip Code: **12993**
Responsible Official or Agent: **Chief Plant Operator** Phone: **(518) 963-4419**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

BWP, Permits Coordinator
W. Wasilauski, RWE Attn: V. Kavanagh
W. Amberman, DOH
D. St. Louis, Operator

Deputy Regional Permit Administrator: Michael J. McMurray

Address: 1115 NYS Route 86 - P.O. Box 296
Ray Brook, NY 12977-0296

Signature: Date: 12/7/07

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	Limitations Apply	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include sanitary and combined (sanitary & stormwater) wastewater.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (Estimated Date of Permit (EDP) or Estimated Date of Permit Modification (EDPM))	The date this page is no longer in effect

PARA-METER e.g., pH, TRC, Temperature, D.O.	Effluent Limitation Type The minimum level that must be maintained at all instants in time.	Effluent Limitation The maximum level that may not be exceeded at any instant in time.	UNITS SU, °F, mg/l, etc.	SAMPLE FREQUENCY	SAMPLE TYPE
	Daily Avg., Range, Daily Min., and Daily Max. are defined below. 30 day arithmetic mean (30 day average) is the arithmetic mean of all sample values measured during the monitoring period of one month (30 days) in length. 7 day arithmetic mean (7 day average) is the arithmetic mean of all sample values measured during the monitoring period of one week (7 days) in length. 30 day geometric mean is the geometric mean of samples taken within a 30 consecutive day period. 7 day geometric mean is the geometric mean of samples taken within a 7 consecutive day period. See DMR Manual for more information.	The effluent limitation is developed based on the more stringent of technology-based standards, required under the Clean Water Act, or New York State water quality standards. All determinations of compliance with substance specific discharge limits are made by comparing monitoring results to the effluent limitation.	This can include units of flow, pH, temperature, mass or concentration. Examples include SU, °F, µg/l, lbs/d, etc.	Examples include daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The minimum allowable discharge during a calendar day. Calculated in the same manner as the DAILY MAX.

DAILY AVG.: The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. (Monthly average).

RANGE: The minimum instantaneous measurement and the maximum instantaneous measurement taken over the reporting period comprise the reportable range.

FINAL PERMIT LIMITS, AND MONITORING REQUIREMENTS

OUTFALL NUMBER	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	[x] All Year [ ] Seasonal from _____ to _____	Lake Champlain	07/01/04	07/01/09

PARAMETER	Effluent Limitations					Monitoring Requirements				Foot Notes
	Type	Limitation	Units	Limitation	Units	SAMPLE FREQUENCY	SAMPLE TYPE	Location Influent	Location Effluent	
Flow	30 day arithmetic mean	0.015	MGD			Continuous	Dosing Counter	X		
BOD_5	Monthly average	30	mg/l	3.75	lbs/d	1/.Quarter	Grab		X	(1), (2)
BOD_5	7 Day Average	45	mg/l	5.63	lbs/d	1/ Quarter	Grab		X	
Solids, Suspended	Monthly average	30	mg/l	3.75	lbs/d	1/Quarter	Grab		X	(1), (2)
Solids, Suspended	7 day average	45	mg/l	5.63	lbs/d	1/Quarter	Grab		X	
Phosphorus, Total	12 Month Rolling Average	Monitor	mg/l	0.24	lbs/d	1/Quarter	Grab		X	(3)
Solids, Settleable	Daily Maximum	0.3	ml/l			1/Week	Grab		X	
pH	Range	6.0 - 9.0	SU			1/Week	Grab		X	

FOOTNOTES:

(1) effluent shall not exceed 15 % and 15 % of influent values for BOD_5 & TSS respectively.
(2) An influent BOD and TSS concentration of 200 mg/l shall be assumed for the calculation of percent removals.
(3) The 12-month rolling average shall be computed as follows: the (sum of current month's and the past 11 month's 30 day arithmetic mean in lbs/day) divided by 12.

DISCHARGE NOTIFICATION REQUIREMENTS

a) The permittee shall, except as set forth in (c) below, maintain the existing identification signs at all outfalls to surface waters, which have not been waived by the Department in accordance with 17-0815-a. The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name:

_____

Permittee Contact:

_____

Permittee Phone: ( ) - ### - ####

OR:

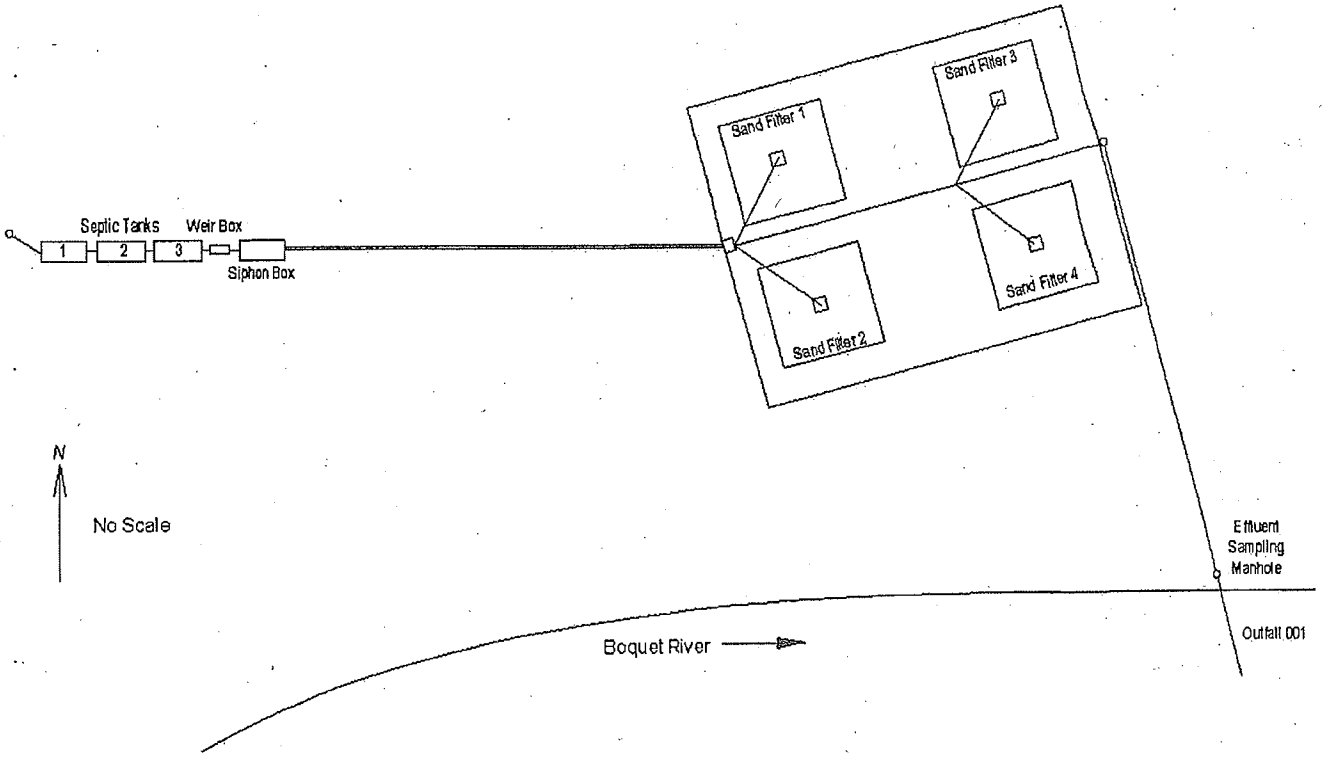
b) For each discharge required to have a sign in accordance with a), the permittee shall provide for public review at a repository accessible to the public, copies of the Discharge Monitoring Reports (DMRs) as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years.

c) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a), but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.

d) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

MONITORING LOCATION

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[X] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water
Bureau of Water Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer
Region 5
1115 State Route 86
Ray Brook, NY 12977-0296

Phone: (518) 897-1241

Send an **additional copy** of each DMR page to:

c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

Disinfection Addendum (page A1)

SPDES Permit Number NY0217760

Effective Date of Modification: 09/01/2015

The disinfection permit limits, levels, monitoring, special conditions and schedule of compliance specified in this Disinfection Addendum are in addition to those that may be specified elsewhere in the SPDES permit. If there is inconsistency then the most recently issued requirements apply.

If chemical disinfection treatment is initiated prior to May 1, 2017, then limits and monitoring for chemical residual(s) will be in effect to ensure protection of aquatic life.

Disinfection limits, levels and monitoring are only applicable to discharges disinfected using either ultraviolet light or chlorine. If another means of disinfection is proposed in the engineering report referenced in the Schedule of Compliance, then the permittee must submit a request for permit modification.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	DISINFECTION LIMITATIONS APPLY:	EFFECTIVE	EXPIRING
001	All Year	May 1, 2017	06/30/2019

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Quarterly	Grab		X	
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Quarterly	Grab		X	
Chlorine, Total Residual	Daily Maximum	2.0	mg/l			Daily	Grab		X	*

Footnote * - If ultraviolet light disinfection (UV) is practiced instead of chemical disinfection then no total residual chlorine monitoring is required.

SCHEDULE OF COMPLIANCE

(1) The permittee shall comply with the following schedule:

(a) By September 1, 2015 submit an approvable engineering report, plans, specifications, and construction schedule for the implementation of effluent disinfection. Construction shall be completed no later than May 1, 2017.

(b) Commence construction of the effluent disinfection treatment facilities in accordance with the Department approved schedule.

(c) By May 1, 2017 complete construction, commence operation of disinfection treatment facilities, and comply with final effluent limitations and monitoring requirements.

(2) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

(3) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

(4) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through J as follows:

B. General Conditions	
1. Duty to comply	6 NYCRR Part 750-2.1(e) & 2.4
2. Duty to reapply	6 NYCRR Part 750-1.16(a)
3. Need to halt or reduce activity not a defense	6 NYCRR Part 750-2.1(g)
4. Duty to mitigate	6 NYCRR Part 750-2.7(f)
5. Permit actions	6 NYCRR Part 750-1.1(c), 1.18, 1.20 & 2.1(h)
6. Property rights	6 NYCRR Part 750-2.2(b)
7. Duty to provide information	6 NYCRR Part 750-2.1(i)
8. Inspection and entry	6 NYCRR Part 750-2.1(a) & 2.3
C. Operation and Maintenance	
1. Proper Operation & Maintenance	6 NYCRR Part 750-2.8
2. Bypass	6 NYCRR Part 750-1.2(a)(17), 2.8(b) & 2.7
3. Upset	6 NYCRR Part 750-1.2(a)(94) & 2.8(c)
D. Monitoring and Records	
1. Monitoring and records	6 NYCRR Part 750-2.5(a)(2), 2.5(c)(1), 2.5(c)(2), 2.5(d) & 2.5(a)(6)
2. Signatory requirements	6 NYCRR Part 750-1.8 & 2.5(b)
E. Reporting Requirements	
1. Reporting requirements	6 NYCRR Part 750-2.5, 2.6, 2.7 & 1.17
2. Anticipated noncompliance	6 NYCRR Part 750-2.7(a)
3. Transfers	6 NYCRR Part 750-1.17
4. Monitoring reports	6 NYCRR Part 750-2.5(e)
5. Compliance schedules	6 NYCRR Part 750-1.14(d)
6. 24-hour reporting	6 NYCRR Part 750-2.7(c) & (d)
7. Other noncompliance	6 NYCRR Part 750-2.7(e)
8. Other information	6 NYCRR Part 750-2.1(f)
9. Additional conditions applicable to a POTW	6 NYCRR Part 750-2.9
10. Special reporting requirements for discharges that are not POTWs	6 NYCRR Part 750-2.6

GENERAL REQUIREMENTS continued

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to the permitted facility may meet of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

G. Notification Requirement for POTWs

1. All POTWs shall provide adequate notice to the Department and the USEPA of the following:
   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall **maintain a logbook** of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall **submit a completed *WTC Annual Report Form*** each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form* and *WTC Annual Report Form* are available from the Department's website at http://www.dec.ny.gov/permits/93245.html .

APPENDIX B

APA Jurisdictional Inquiry Response

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

SHERMAN CRAIG
Chairman

TERRY MARTINO
Executive Director

April 26, 2018

Erik Falkengren
AES Northeast
10-12 City Hall Place
Plattsburgh, NY 12901-2952

RE: J2018-228
Owner: Town of Westport
Town of Westport, Essex County
Tax Map Designation: 57.56-4-8.210

Dear Mr. Falkengren:

On April 9, 2018 we received your Jurisdictional Inquiry Form by which you requested a clarification of the land use area, shoreline setbacks and other restrictions regarding your proposal to install a disinfection structure and a recirculation line at the Town's wastewater treatment plant so that you can choose between two potential options for the location of the new structure.

1. The property is an 11.26± acre parcel located in the Town of Westport, Essex County on the south side of NYS Route 22, Tax Map No. 57.56-4-8.210. The site is partially located in a Resource Management land use area and partially within a Hamlet land use area as shown on the Official Adirondack Park Land Use and Development Plan Map (see enclosed land use map and aerial photo map) and is in the Hamlet-Wadhams Residential District pursuant to the Town of Westport approved local land use plan.

2. The project site was a portion of the property subject to Agency Projects 86-142, 87-369 & R88-23 (Permits 86-142, 87-369, R88-23 and R88-23A). Permit R88-23 issued August 4, 1988 authorized construction of the Wadhams Municipal Wastewater Treatment System. Permit R88-23A issued November 10, 1992 authorized an expansion of the Sewer District as a non-material amendment to the original permit. At the time these two permits were issued, the land use area of the entire parcel owned by the Town was classified as Resource Management. In 2010, the property was the subject of a land use classification amendment request (MA201-03) which resulted in a large portion of the property being reclassified to Hamlet with the new land use boundary line being located 1/10th mile west of the centerline of Deck Road.

3. The Town of Westport administers an Agency-approved local land use program, which means that the Town has authority over Class B regional projects and administers the shoreline restrictions of the APA Act. In an approved town, the Adirondack Park Agency retains authority over Class A regional projects, wetlands projects and rivers projects.

4. It appears that all elements of both Option A and Option B are located in the APA Hamlet land use area on the Adirondack Park Land Use and Development Plan Map; therefore, the proposal does not constitute a "rivers project" pursuant to Part 577 of Agency regulations.

5. In a Hamlet land use area, the shoreline restrictions are set by the Town, please contact the Town to ensure compliance. Again, please be aware that variances approved by towns acting pursuant to an ALLUP may, under certain circumstances, be reversed by the Agency.

6. There are wetlands subject to Agency jurisdiction on the eastern portion of the property (i.e. along and associated with Crooked Creek). The extent of the wetlands associated with the Creek has not been determined. Field inspection by Agency staff is the only way to confirm the actual location and size of wetlands. This finding regarding the presence, location or size of wetlands may be relied upon for this determination only and for a period of three (3) years following issuance.

If you have any questions, please feel free to contact the Agency.

Sincerely,

Tracy J. Darrah

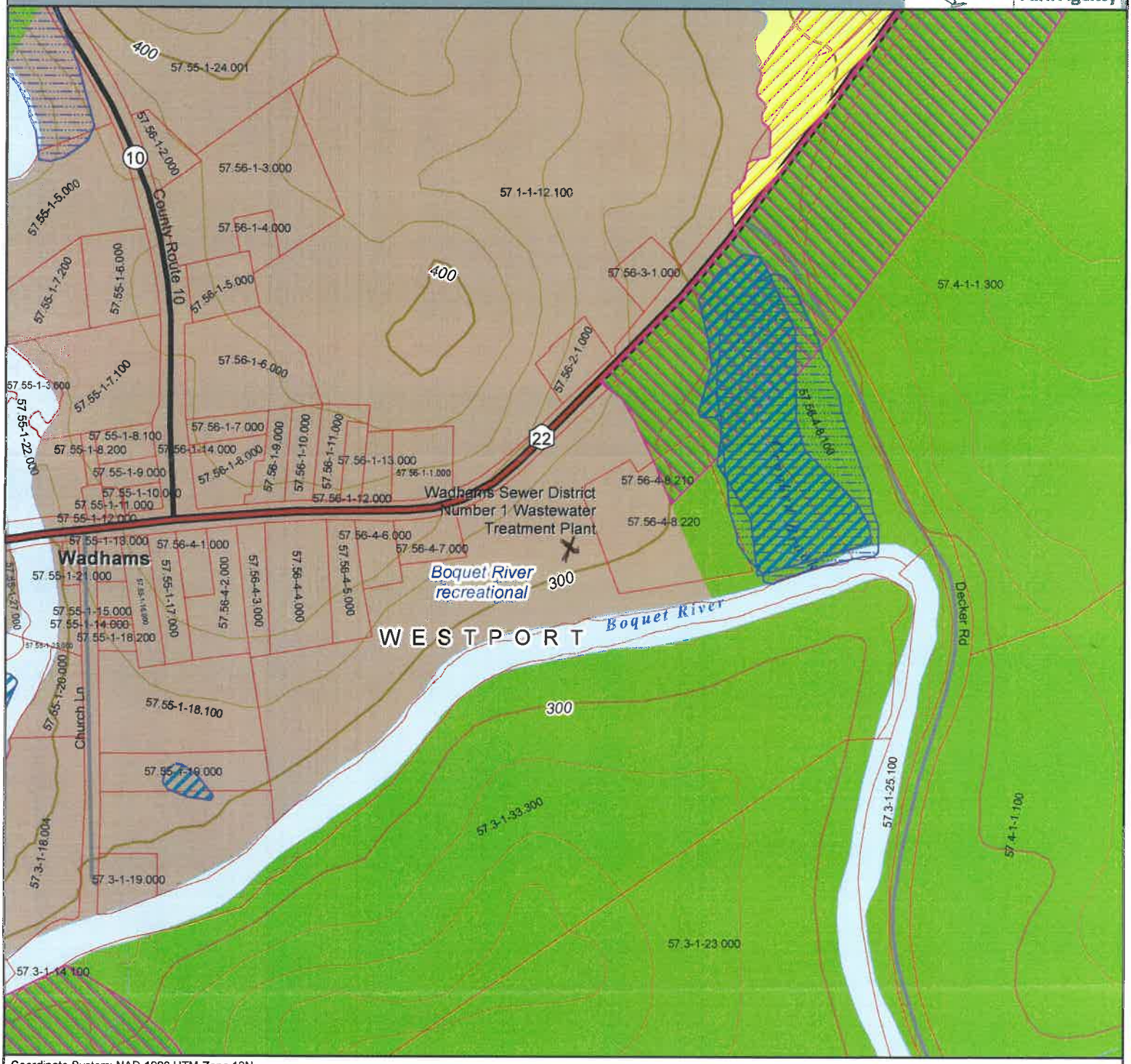
Tracy J. Darrah
Project Administrator

TJD:DWM:mp
Enclosures: Land Use Area map and Air photo

cc: Town of Westport (via email)

APA Base Map

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency



Coordinate System: NAD 1983 UTM Zone 18N

1:8,207

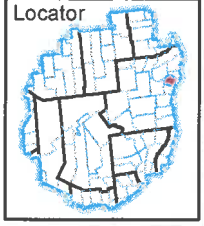
0 0.1 Miles

0 1,000 Feet

J2018-0228

- Parcels
- Hamlet
- Rural Use
- Resource Management
- Lake/Pond/River
- Recreational River Buffer
- Wetland
- Wetland
- CEA 300ft St/Fed ROW RM
- CEA 150ft St/Fed ROW RU
- 20 foot contour
- 100 foot contour

Locator



Date Printed: 4/23/2018

This map should not be used for legal jurisdictional determinations. Contact the APA at 518-891-4050

J2018-0228

April 23, 2018

This is advisory only, not to be used to confirm exact boundary location or for determining Agency jurisdiction.

Parcels 2015

River Buffer Areas

Wild

Scenic

Recreational

Study

NYS Adirondack Park Agency
New York State Adirondack Park Agency

APPENDIX C

Westport Land Use Laws

LAND USE LAW

OF THE

TOWN OF WESTPORT

ESSEX COUNTY

NEW YORK

Includes Amendments through March 9, 2010

Includes:
Amendment: March 9, 1999 – RT. 9N Highway Commercial
Amendment: Local Law 1 of amended 2001 – various revisions including adding Section 29; Off-Street Parking
Amendment: Town Board Resolution #93 0f 2002 1 of amended 2001 – extension of the Village Growth-Residential District
Amendment: Local Law 1 of amended 2004 – various revisions
Amendment: Local Law 1 of amended 2010 – various revisions

WESTPORT LAND USE LAW

TABLE OF CONTENTS

PART ONE:	**GENERAL AND PROCEDURAL SECTIONS FOR ALL LAND USE DISTRICTS**	
Section 1	Introductory Provisions	1
Section 2	Regulatory Framework and Administration	2
Section 3	Project Permit and Certificate of Compliance	5
Section 4	Nonconformity, Noncompliance	7
Section 5	Special Permits	8
Section 6	Appeals and Variances	14
Section 7	Amendment	18
Section 8	Enforcement	20
Section 9	Regional Project Review	21
Section 10	Signs	23
PART TWO:	**WESTPORT VILLAGE DISTRICT REGULATIONS**	
Section 20	Construction of Language and Definitions	27
Section 21	Village District Regulations	30
Section 22	Shorelines	33
Section 23	Signs (see Section 10)	34
Section 24	Miscellaneous Regulations	34
Section 25	Landmark Preservation	37
Section 26	Special Village Center District	38
Section 27	Special Open Space District (V-OSP)	39
Section 28	Flood-Prone Areas	40
Section 29	Off-Street Parking	40
PART THREE:	**WESTPORT TOWN DISTRICT REGULATIONS**	
Section 30	Construction of Language and Definitions	43
Section 31	Town District Regulations	48
Section 32	Miscellaneous Regulations	58

APPENDICES A THROUGH D

PART ONE: GENERAL AND PROCEDURAL SECTIONS FOR ALL LAND USE DISTRICTS

SECTION 1 INTRODUCTORY PROVISIONS

1.010 Short Title
This local law shall be known as the Land Use Law of the Town of Westport, Essex County, New York. The Town of Westport is hereinafter referred to as the "Town."

1.020 General Object and Legal Context
The general object of this local law is to establish comprehensive controls for the use and development of land within the Town, in order to promote and protect the public health, safety and general welfare.

1.021 This local law is adopted pursuant to the Municipal Home Rule Law and Article 16 of the Town Law. The regulations herein adopted are made in accordance with a comprehensive plan, are designed to serve the purposes set forth in Section 263 of the Town Law and are made with consideration of the character of each district into which the Town is divided and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout the Town.

1.022 This local law supersedes the Zoning Law of the Village of Westport, originally adopted July 10, 1980. The incorporated Village of Westport was dissolved on December 31, 1992, and its zoning law has remained in effect until the effective date of this local law. It is intended that this local law both replace the Zoning Law of the former Village of Westport and serve as the initial zoning law for the remainder of the Town lying outside the boundaries of the former incorporated Village of Westport.

1.030 Specific Purposes
In addition to the general object and the purposes referred to in Section 1.020, this local law is adopted for the following related and more specific purposes:

a. To retain the special character of the town, while providing for moderate and carefully distributed new development.
b. To plan for a stable economic base by providing for land use areas attractive to industry but not detrimental to the character and environment of the community.
c. To preserve and protect agricultural, forestry and mineral resource lands within the Town.
d. To recognize the limitations upon development posed by natural conditions such as soils, slopes and hydrology and to limit development according to the capability of natural systems to absorb it without adverse environmental impact.
e. To preserve the unique visual character of the town through the protection of open spaces and scenic vistas, the location of new development primarily in areas where it can be visually absorbed, and the control of signs.
f. To minimize water pollution.
g. To minimize flood damage.
h. To minimize the need to establish or extend public utilities and services in areas where their provision is uneconomical.
i. To provide for the growth and development of districts within the Town in a manner compatible with the character of each district.

j. To preserve identified buildings of historic or architectural significance throughout the Town.
k. To provide detailed guidelines within the Town Center (formerly the Village of Westport).
l. To serve as a component of an approved local land use program under the Adirondack Park Agency Act.

1.040 Area of Jurisdiction
This local law regulates the use and development of land throughout the Town.

1.050 Application of Regulations

After the effective date of this local law, no project shall be undertaken and no use shall be maintained except in accordance with all applicable provisions of this local law.

1.060 Governing Provisions
Where this local law is more restrictive than covenants or agreements between parties or other rules or regulations or ordinances or the Adirondack Park Agency Act, the provisions of this local law shall control.

1.070 Severability
The provisions of this local law are severable. If any article, section, subsection, or provision of this local law shall be invalid, such invalidity shall apply only to the article, section, subsection, or provisions adjudged invalid, and the rest of this local law shall remain valid and effective.

1.080 Procedure Upon Adoption; Effectiveness
Within five days after the adoption of this local law by the Town Board, certified copies hereof shall be filed with the Town Clerk and in the office of the Secretary of State, as provided in Section 27 of the Municipal Home Rule Law. This local law shall take effect on January 1, 1995.

1.090 Repeal of Prior Zoning Law
Upon the effective date hereof, the local law known as The Zoning Law of the Village of Westport, New York, adopted July 10, 1980, and as subsequently amended, is hereby repealed.

SECTION 2 REGULATORY FRAMEWORK AND ADMINISTRATION

2.010 Applicability
This local law provides procedures and criteria for the review and approval of land uses and development. It applies to any construction or other activity which materially changes the use or appearance of land or a structure or the intensity of the use of land or a structure. This local law does not apply to interior alterations, repair, maintenance, landscaping, grading, or excavation undertaken in conjunction with an existing use where that use is not expanded or changed.

2.020 Establishment of Districts
The Town of Westport is hereby divided into two classes of districts, "Village" Districts and "Town" Districts. The purpose of this classification is to retain the district regulations in the former Village of Westport Zoning Law, while enabling the Town to create new districts outside the former Village boundaries. These districts are described in Sections 21 (Village) and 31 (Town), which delineate permitted uses and uses that require special permits in each district.

2.030 Structure of this Local Law
This local law is divided into three parts: Part One contains general provisions and procedures applicable throughout the Town. Part Two contains provisions applicable only within the "Village" or "V" zoning districts. Part Three contains provisions applicable only within the "Town" or "T" zoning districts. Definitions are contained in both Parts Two and Three. For activities on land in the Village districts, the definitions in Part Two should be consulted; Town district land is covered by the Part Three definitions.

2.031 Project Permit
All land uses or activities listed in Section 3.020 require a project permit from the Zoning Inspector.

2.032 Certificate of Compliance
Once a project has been completed, a certificate of compliance must be issued by the zoning inspector before the project can be occupied or used. A Temporary Certificate of Compliance with conditions may be issued when a Temporary Certificate of Compliance is issued by the building code officer . (amended 2001)

2.033 Permitted Uses
Uses which require either no Town of Westport permits or only a project permit are listed as "permitted uses" in the applicable district regulations. These uses do not require Planning Board review.

2.034 Special Permit Uses
Some uses require both a project permit from the Zoning Inspector and a special permit from the Planning Board. These are

called "special permit uses." In addition to fulfilling the project permit requirements, an applicant must also comply with the criteria for issuance of a special permit which are contained in Section 5.040. Special permit uses are by nature potentially incompatible with their surroundings. They are therefore only permitted if they can satisfy the compatibility criteria.

2.035 Prohibited Uses
Uses which are not allowed as either permitted or special permit uses in a particular district are prohibited in that district.

2.036 Regional Project Review
Uses which are classified as Class A or Class B Regional Projects (see Appendix A) are additionally subject to the requirements for Adirondack Park Agency Permits contained in Section 9.

2.040 Zoning Maps
Two zoning maps entitled "Westport Town Zoning" and "Westport Village Zoning," dated the effective date hereof, are hereby incorporated into and made a part of this local law. The official zoning maps shall be kept on file in the Office of the Town Clerk and currently accurate copies thereof, bearing the date of the most recent amendment, shall be kept in the Office of the Zoning Inspector.

2.041 Adirondack Park Land Use and Development Plan Map
The boundaries within the town of the land use areas established by the Official Adirondack Park Land Use and Development Plan Map, as may be from time to time amended, pursuant to subdivision 2 of Section 805 of the Adirondack Park Agency Act, are indicated by the separate map entitled "Adirondack Park Land Use and Development Plan Map of the Town of Westport" dated with the effective date of this local law, and which is hereby adopted and declared to be part of this local law, and hereafter known as the "Park Plan Map." Any change of the boundaries within the town of a land use area by an amendment of the Official Adirondack Park Land Use and Development Plan Map pursuant to subdivision 2 of Section 805 of the Adirondack Park Agency Act shall take effect for the purposes of this local law concurrently with that amendment without further action, and the Park Plan Map shall be promptly changed in accordance with that amendment. The amendment provisions of Part One, Section 7 of this local law do not apply to the Park Plan Map, which is amended only pursuant to the provisions of the Adirondack Park Agency Act. Copies of the Park Plan Map which may from time to time be published and distributed are accurate only as of the date of their printing and shall bear words to that effect.

2.050 Interpretation of District Boundaries
The following rules govern the interpretation of district boundaries:

a. Where the indicated district boundary approximately follows a highway, street, road, trail, or stream, then said boundary shall be construed to be the center line of such highway, street, road, trail, or stream.
b. Where the indicated district boundary approximately follows a lot line, then said boundary shall be construed to be such lot line.
c. Where the indicated district boundary approximately follows a shoreline, then such boundary shall be construed to be the shoreline; and, in the event of change in the shoreline, such boundary shall be construed as moving with the actual shoreline.
d. When the indicated district boundary approximately follows a tree line, a substantial change in slope or other linear natural feature, then said boundary shall be construed to be such natural feature.
e. Where the location of a district boundary is not indicated pursuant to (a), (b), (c), or (d) above, then the location of such boundary, unless the same is indicated by dimensions shown on the Zoning Map, shall be determined by the use of the scale appearing thereon.
f. In the event that none of the above rules is applicable, or in the event further clarification or definition is considered necessary or appropriate the location of the district boundary shall be determined by the Zoning Board of Appeals.

2.060 Land Use Intensity, Subdivision Calculation, and Recording

2.061 Intent and Purpose
This local law regulates intensity of land use by intensity designations expressed as the number of acres (or fractions thereof) required for each principal building or dwelling unit. This allows flexibility in the use of land by varying lot sizes, while at the same time protecting vulnerable natural and cultural resources by limiting the overall intensity of development.

2.062 Intensity Designations

Intensity designations for each district are established in Section 21 for the Village Districts and in Section 31 for the Town Districts. The total number of principal buildings or dwelling units shall not exceed the number allowed by the intensity designation. No lot shall be smaller than the minimum lot size in the district.

a. Hunting and fishing cabins and accessory apartments are exempt from intensity designation. (amended 2010

2.063 Subdivision Calculation and Recording

All subdivisions shall be in accordance with the intensity designations and minimum lot sizes specified in Sections 21 and 31 hereof. The term "unit" as used in this Section 2.063 shall mean "dwelling unit" for the Village Districts and "principal building" for the Town Districts. (amended 2010)

a. If a parcel is improved with one or more existing units as of August 1, 1973, a lot may be created around the unit and related land or buildings to that unit, such that at a minimum, the created lot satisfies the minimum lot size requirements for the land use district. Such lot and the unit thereon shall not be considered for purposes of the density calculation, which shall apply only to the remaining unimproved land on the parcel.

   Where a purely mathematical application of the Town district density requirement to the parcel, minus the land area necessary to create a lot around the preexisting unit(s), results in a fractional number of permissible units, that number shall be rounded to the nearest whole number, which shall be the arithmetically permissible number of units on the parcel.

b. For a parcel not improved with one or more existing units as of August 1, 1973, it may be subdivided into additional lots, provided that (i) each new unit is placed on a lot which satisfies the applicable minimum lot size requirement, and (ii) the total number of lots does not exceed the number of units allowable with respect to the parcel to be subdivided. The number of units allowable shall be calculated using applicable intensity designations.

   Where a purely mathematical application of the Town district density requirement to the parcel, minus the land area necessary to create a lot around the preexisting unit(s), results in a fractional number of permissible units, that number shall be rounded to the nearest whole number, which shall be the arithmetically permissible number of units on the parcel.

c. The allowable units, as calculated above, shall be allocated among the lots, and as a condition of the approval by the Planning Board of a subdivision plat, each lot thereon shall bear a notation stating the number of units assigned to it.
d. Within the Town Districts, frontage and setback requirements may be reduced as provided in Section 32.150.
e. For purposes of calculating minimum lot size, no state-designated wetlands or land located within the road bed of a public highway or a street which is to be maintained by or ceded to the Town shall be counted. However, land located within a V-OSP overlay district may be counted in determining the number of dwelling units which may be developed on adjacent land outside the V-OSP overlay district.
f. For purposes of intensity designation, no land located within the road bed of a public highway or a street which is to be maintained by or ceded to the Town shall be counted. However, land located within a V-OSP overlay district may be counted in determining the number of dwelling units which may be developed on adjacent land outside the V-OSP overlay district.
g. The allowable number of units may be increased through the application of the density transfer procedure in Section 32.120.

2.064 Gifts, Devises and Inheritances (amended 2010)

The mere division of land resulting from bona fide gift, devise or inheritance by and from natural persons shall not be subject to review by the Town.

a. A subdivision map shall be presented to the Chairman of the Planning Board without Planning Board review for his signature to facilitate record keeping of all subdivisions.
b. In no case shall the use of this regulation create any lot with a substandard minimum lot size.
c. New land use or development on lots, parcels or sites conveyed by individuals, who on May 22, 1973, owned such land, to members of their immediate families by bona fide gift, devise or inheritance, shall be exempt from the density criteria specified in Section 21 for Village Districts and the intensity criteria specified in Section 31 for Town Districts, for the purpose of constructing one single family dwelling or one mobile home on any such lot, parcel or site, providing the construction of said use is permissible in the district within which it is located. All other permit requirements and restrictions of this local law shall apply, and no exemption from the Town On-Site Wastewater Treatment Local Law is granted.

2.070 Records
The original or a certified copy of all decisions, approvals, rulings, project permits and certificates of occupancy of any board under this local law, or of the Zoning Inspector, shall be promptly furnished by the Zoning Inspector to the Town Clerk for retention as a permanent public record.

2.080 Fees, Escrow Accounts and Performance Guarantees (amended 2001)
The Town Board, by resolution, shall establish and amend a schedule of fees for the applications and permits required or contemplated by this local law indented to cover the routine costs of administrating this law (amended 2001). The current schedule shall be on file with the Zoning Inspector and with the Town Clerk. Payment of such fee[s] shall be required for a complete application. (amended 2004)

The Planning Board is hereby authorized to require that an applicant proposing a project, permit amendment, variance or other activity requiring the board's approval pay into an escrow account funds sufficient to cover the actual costs of the technical and legal services associated with the board's review, including review of the application and inspections of the project site and of the project as it is undertaken and after completion. Such escrow funds shall not be used for any purposes other than those associated with the subject project. Upon issuance of a determination and/or a permit or a certificate of compliance, or upon withdrawal of the application, any unspent funds shall be returned to the applicant. The applicant shall have the right to review any records of expenditures from the escrow account to ascertain that the funds have been properly expended.

The Planning Board is also authorized to require an applicant to post a performance bond or other security to guarantee the satisfactory completion of certain improvements associated with an approved project in accordance with sections 274-a. 274-b and 277 of the Town Law. (amended 2004)

2.081 Additional Fees
In addition to the other fees provided herein, the Zoning Inspector, Planning Board or Zoning Board of Appeals may charge an additional fee to developers of projects requiring legal and/or technical review. The fee charged to the project developer shall reflect the actual costs of reasonable and necessary legal and technical assistance and costs of a public hearing.

2.090 Conflict of Interest
No member of the Town Board, Planning Board, or Board of Appeals shall participate in any board decision in which he/she has a special pecuniary or other personal interest, whether arising out of ownership of real property, business or family interests, or otherwise.

SECTION 3 PROJECT PERMIT AND CERTIFICATE OF COMPLIANCE

3.010 General
No person shall undertake a project for which a project permit is required except pursuant to a valid project permit issued by the Zoning Inspector. A project permit will be issued only when the Zoning Inspector has determined that there is adequate access for emergency vehicles and that all requirements of this local law and of all other applicable local and state laws and regulations are satisfied.

3.020 Project Permits and Exemptions

3.021 The following uses or activities require a project permit from the Zoning Inspector unless exempted by Section 3.022:

a. The construction, enlargement, or change of use of a building.
b. The commencement, enlargement, or change of use of or on a tract of land.
c. Any alteration or other action enumerated in Section 25.040 hereof with respect to a designated landmark building.
d. A Class A or Class B Regional Project.
e. The erecting of any sign other than a sign allowable without a permit pursuant to Section 10 hereof.
f. In flood-prone areas, any alteration of topography, dredging, filling, channel encroachment, the construction of any structure, or any other activity which may affect the flow of water through the floodplain (see Sections 28 and 32.020).

3.022 The following uses and structures do not require a project permit, but are subject to all other applicable requirements of this local law.

a. A Class A Regional Project subject to Adirondack Park Agency jurisdiction at such time as an APA-approved and locally adopted local land use program is in effect in the Town of Westport; until then, both a town and APA permit are required.
b. Any accessory use allowed by right, other than a home occupation.
c. Any accessory structure having less than 100 square feet of land coverage on lots of one acre or less or 300 square feet on lots larger than one acre, except a sign requiring a permit pursuant to Section 10.
d. Private resource extraction.
e. Garage, lawn and porch sales not exceeding three days in duration provided prior such sales shall not have taken place on the property except on an occasional basis.
f. Agricultural and forestry uses, provided that such uses do not involve clearcutting.
g. Agricultural and forestry use structures and accessory structures, unless such structures are within 200 feet of a residential property belonging to someone other than the owner of the proposed Agricultural or Forestry Use principal or accessory structure.
h. Non-commercial outdoor recreation uses, except those that involve substantial physical improvements.
i. The sale of products grown or raised on the land and the construction, alteration and maintenance of agricultural fences, roads, drainage systems, and farm ponds or of a barn silo, produce sales stand, or other nonresidential building or structure customarily found with agriculture.
j. Any activity for which a permit has been obtained pursuant to a prior zoning law, or which did not require a permit under the prior zoning law and for which substantial on-site work had been completed prior to the effective date of this local law.

3.030 Application Procedure

3.031 Meeting with Zoning Inspector
Any person intending to engage in an activity that may be subject to this local law is urged to meet with the Zoning Inspector as early as possible to determine which, if any, permits may be required.

3.032 A person desiring a project permit shall file with the Zoning Inspector three copies of an application for a project permit, together with the appropriate fee. The application shall be submitted on forms provided for such purpose by the Zoning Inspector, and shall include a plot plan drawn to scale showing the actual dimensions of the land to be built on or otherwise used, the size and location of all buildings or other structures or other uses to be built or undertaken and such other information as may be necessary in the evaluation of the application and the administration of this local law. Within 10 days following receipt of an application, the Zoning Inspector shall notify the applicant of any additional information required to make the application complete. If no such notice is timely given, then the application shall be deemed complete as filed. When all additional information is received, the Zoning Inspector shall acknowledge the same in writing.

3.033 Not later than 10 working days after receiving a completed application, the Zoning Inspector shall mail or deliver to the applicant his determination that either:

a. The proposed project complies with the requirements of this local law and all other applicable and local laws and regulations and requires no special approvals, and accordingly a project permit is issued; or
b. The proposed project is inconsistent with one or more specified requirements of this local law or other applicable local law or regulation, and a project permit is denied (This ruling may be appealed to the Board of Appeals, or a variance may be sought from the Board of Appeals); or
c. The proposed project requires one or more specified special approvals before a project permit can be granted. The proposed project may, for example, be for a use allowable by special permit, requiring approval of a special permit by the Planning Board; or the project may be a Class A Regional Project, requiring approval by the Adirondack Park Agency.

3.034 The Zoning Inspector will advise the applicant of the requirements for the special approvals needed, and, to the extent compatible with his other responsibilities, will provide information, advice and assistance in the preparation of the required application. When the required special approvals have been obtained, and all other requirements of local and State law or regulation are met, the Zoning Inspector shall issue a project permit.

3.040 Issuance and Posting

It shall be the duty of the Zoning Inspector to issue a project permit, provided he is satisfied that the project conforms with all requirements of this local law, including, where applicable, the requirements of regional project review, and all other applicable state and local laws and regulations. All project permits shall be issued in duplicate and one copy shall be kept conspicuously on the premises affected and protected from the weather whenever construction work is being performed thereon. In conjunction with the issuance of a project permit, one copy of the approved plans, bearing the notation "Approved," the signature of the Zoning Inspector and the date, shall be returned to the applicant. No person shall perform any construction or otherwise undertake a project of any kind unless a project permit covering such project is displayed as required above, nor shall any person perform such activities after notification of the revocation of a project permit.

3.050 Revocation

If it shall appear at any time to the Zoning Inspector that an application or accompanying plans are in any material respect false or misleading, or that work being done upon the premises differs materially from that in the project permit, he may forthwith revoke the project permit and it shall then be the duty of the person holding the same to surrender it and all copies thereof to the Zoning Inspector. Where a project permit has been revoked, the Zoning Inspector may, at his discretion, before issuing a new project permit, require the applicant to file a bond in the favor of the Town securing compliance with this local law and all other applicable laws and regulations and in a sum sufficient to cover the cost of removing the use if it does not so comply.

3.060 Lapse and Renewal

A project permit shall lapse one year following the date it was granted if the project has not been commenced. The Zoning Inspector may renew a project permit for a period terminating not later than one year from the date it would have originally lapsed, provided that he finds that the facts upon which the project permit was granted have not substantially changed.

3.070 Site Inspection

The submission of an application for a project permit, or for any other approval or variance, shall constitute consent to the Zoning Inspector and to members or designates of the bodies with authority to grant the required approvals or variance, including the Adirondack Park Agency, to conduct such examinations, tests, and other inspections of the site as such persons deem necessary and appropriate for the purposes of this local law.

3.080 Certificate of Compliance

No use for which a project permit or building permit was issued or required under this local law shall be maintained, except pursuant to a certificate of compliance issued by the Zoning Inspector. The Zoning Inspector, within 10 working days after receipt of request for inspection of a project, shall inspect the same and shall issue a certificate of compliance where he finds that the project has been completed in compliance with all terms of the project permit and with all applicable provisions of this local law and all other applicable State and local laws and regulations. Such certificate shall constitute a permit for the maintenance of the use and shall precisely state the authorized use.

3.090 Recording and Expiration of Permits for Class B Regional Projects

A project permit issued for a Class B Regional Project shall expire within 60 days from the date thereof unless within such sixty-day period such permit shall have been duly recorded by the project sponsor in the Adirondack Park Agency Regional Project Permit Book in the office of the clerk of the county wherein the project is proposed to be located. This requirement is in addition to that imposed on the Zoning Inspector by Section 2.070.

SECTION 4 NONCONFORMITY, NONCOMPLIANCE

4.010 Nonconformity

4.011 Continuance

Subject to the provisions of this Section, a nonconforming use may be continued and maintained in reasonable repair but except as otherwise provided in Section 4.015 below, may not be enlarged. This Section shall not be construed to permit any unsafe use, or to affect any lawful regulation or prohibition of an unsafe use.

4.012 Discontinuance

If a nonconforming use is discontinued for a period in excess of one year, further use of the property shall conform to this

local law.

4.013 Change
If a nonconforming use is replaced by another use, the new use shall conform to this local law.

4.014 Damage or Destruction
If a nonconforming use is damaged or destroyed by any cause to an extent exceeding 75% of either its floor area or of its market value, the future use on the site shall conform to this local law. However, a nonconforming, single family dwelling damaged or destroyed by any casualty may be rebuilt by the person owning such building at the time of the casualty, provided that construction is begun within 24 months after the casualty.

4.015 Enlargement
A nonconforming use may be enlarged up to 25% of its original floor or land area as of January 1, 1995, pursuant to a special permit granted in accordance with Section 5.

4.020 Noncompliance

4.021 Continuance
A noncomplying use may be continued, and maintained in reasonable repair subject to the provisions of this Section.

4.022 Alteration, Enlargement, Conversion
A noncomplying use may be altered, enlarged, or converted to another use, provided that no such activity shall create new noncompliance or increase the degree of existing noncompliance.

4.023 Damage or Destruction
If any noncomplying use is damaged or destroyed by any cause to an extent exceeding 75% of either its floor area or its market value, such use may be reestablished only in accordance with all applicable provisions of this local law. However, a single family dwelling damaged or destroyed by any casualty may be rebuilt as a noncomplying use by the owner of such building at the time of the casualty, provided that the noncompliance is the minimum reasonably necessary under the circumstances and construction is begun within twelve months of the casualty.

4.024 Existing Undersized Lot
Notwithstanding the density regulations and minimum lot sizes established by this local law, if a lawful lot of record on the effective date of this local law, not then in common ownership with an adjacent lot, fails to meet such density or lot size standards, then one single family home may nonetheless be developed on such lot, provided that all other applicable requirements of this local law are met.

SECTION 5 SPECIAL PERMITS

5.010 Purpose and Applicability
It is the policy of the Town of Westport to allow a variety of uses of land, provided that such uses do not adversely affect neighboring properties, the natural environment, or the rural and historic character of the Town. Many uses are therefore permitted only upon issuance of a Special Permit by the Planning Board in order to ensure that these uses are appropriate to their surroundings and satisfy performance criteria. Accessory uses or structures used in connection with a Special Permit use shall be subject to the same Special Permit approval requirements as the principal structure or use. No Special Permit shall be required for any Special Permit use which is also a Class A Regional Project, or which is a Class B Regional Project proposed prior to the approval of the Westport Local Land Use Program by the Adirondack Park Agency, local enactment of such program, and Agency transfer of Class B regional project jurisdiction.

5.020 Required Plans
Because the impact of Special Permit uses varies greatly, the information required to be submitted for a Special Permit will vary depending upon the scale of the proposed use, i.e., whether it is a Major or Minor Project as defined in Parts Two or Three.

5.021 Major Projects
An applicant for a Major Project shall submit:

a. A Major Project application form.
b. A Site Plan, as described in Section 5.060, Review of Site Plans, and an agricultural data statement as defined in Section 30, if required by Section 32.132 of this Local Law.
c. A narrative report describing how the proposed use will satisfy the criteria set forth in Subsection 5.042, as well as any other applicable requirements relating to the specific use proposed.
d. A long-form Environmental Assessment Form or Draft Environmental Impact Statement.
e. The Major Project application fee, as established by the Town Board, and any required escrow deposit for review costs, as required by the Planning Board.

5.022 Minor Projects

An applicant for a Minor Project Special Permit shall submit:

a. A Minor Project application form.
b. A plot plan drawn to scale with accurate dimensions providing information sufficient to enable the Board to make an informed decision, and an agricultural data statement as defined in Section 30, if required by Section 32.132.
c. A brief narrative describing the proposed use.
d. A short-form Environmental Assessment Form (EAF) (unless the Planning Board determines that the proposed Special Permit is a Type I action, in which case a long-form EAF shall be required).
e. The Minor Project application fee as established by the Town Board, and an escrow deposit (if required).

5.030 Procedure

5.031 Application

a. Application for a Special Permit shall be made to the Planning Board, on forms prescribed by the Planning Board.
b. If an application is for a parcel or parcels on which more than one use requiring a Special Permit is proposed, the applicant may submit a single application for all such uses. The Planning Board may grant the application with respect to some proposed uses and not others. For purposes of determining whether the application is a Major or Minor Project (and for SEQRA compliance) all proposed uses on a single parcel or on contiguous parcels shall be considered together.

5.032 Informal Meeting

Before filing an application, an informal meeting with the Planning Board is recommended to discuss the nature of the proposed use and to determine the information that will need to be submitted.

5.033 Mediation

At any point in a project review process the Planning Board may, if it deems appropriate and the parties consent, appoint a mediator to work informally with the applicant, neighboring property owners, and other interested parties to address concerns raised about the proposed Special Permit use. Any party may request mediation. Such mediation may be conducted by a member of another municipal board, by the Planning Board's consultant, or any other qualified and impartial person acceptable to the parties and the Planning Board. The mediator shall have no power to impose a settlement or bind the parties or the Planning Board, and any settlement reached shall require Planning Board approval to assure compliance with all provisions of this Local Law. The cost, if any, of such mediation may be charged to the applicant as part of the cost of project review, with the applicant's written consent. Such cost may also be shared by other parties in interest with their written consent.

5.034 SEQRA Compliance

Upon receipt of application materials it deems complete, the Planning Board shall initiate the New York State Environmental Quality Review process by either circulating the application and Environmental Assessment Form to all involved agencies (if coordinated review is undertaken) or by issuing its determination of significance within 20 days. Where the proposed action may have a significant effect on the environment, the Planning Board shall issue a positive declaration and require the submission of a Draft Environmental Impact Statement (DEIS). No time periods for decision making in this Local Law shall begin to run until either acceptance of a DEIS as satisfactory pursuant to NYCRR Section 617.8(b)(1) or the issuance of a negative declaration.

5.035 Referral to County Planning Board

a. Upon receipt of application materials it deems to be complete, the Planning Board shall refer to the Essex County Planning Board any application for a Special Permit affecting real property within 500 feet of the boundary of the Town of Westport, the boundary of any existing or proposed County or State park or other recreational area, the boundary of any existing or proposed County or State roadway, the boundary of any existing or proposed right-of-way for a stream or drainage channel owned by the County for which the County has established channel lines, the boundary of any existing or proposed County or State-owned land on which a public building or institution is situated, or the boundary of a farm operation within an agricultural district as defined in Article 25AA of the Agriculture and Markets Law, pursuant to General Municipal Law, Article 12-B, Sections 239-l and 239-m, as amended.
b. No action shall be taken on applications referred to the County Planning Board until its recommendation has been received, or 30 days have elapsed after its receipt of the complete application, unless the County and Town agree to an extension beyond the 30-day requirement for the County Planning Board's review.
c. County Disapproval. A majority-plus-one vote of the Planning Board shall be required to grant any Special Permit which receives a recommendation of disapproval from the County Planning Board because of the referral process specified above, along with a resolution setting forth the reasons for such contrary action.

5.037 Notice and Hearing

a. If an agricultural data statement has been submitted, the Secretary of the Planning Board shall, upon receipt of the application, mail written notice of the Special Permit application to the owners of land as identified by the applicant in the agricultural data statement. Such notice shall include a description of the proposed project and its location. The cost of mailing the notice shall be borne by the applicant.
b. The Planning Board shall hold a public hearing on a complete Special Permit application within 31 days for a Minor Project and within 62 days for a Major Project. The applicant shall give public notice of such hearing by causing publication of a notice of such hearing in the official newspaper at least five days prior to the date thereof.

5.038 Action

a. The Planning Board shall grant, deny, or grant subject to conditions the application for a Special Permit within 62 days after the hearing for a Major Project and within 31 days for a Minor Project. Any decision on a Major Project shall contain written findings explaining the rationale for the decision in light of the standards contained in Section 5.042 of this Local Law.
b. In permitting the development, undertaking, reconstruction, enlargement or substantial alteration of a use allowable by special permit, the Planning Board may impose any conditions which it considers necessary to protect the health, safety and welfare of the Town and its present and future citizens and the best interests of the surrounding property, the neighborhood or the Town as a whole. These conditions may include increasing dimensional or area requirements, specifying location, character and number of vehicle access points, requiring landscaping, planting and screening, requiring clustering of structures and uses in order to minimize the burden on public services and facilities, and requiring action by the applicant, including the posting of performance bonds and furnishing of guarantees to insure the completion of the project in accordance with the terms and conditions applicable thereto.

5.039 Expiration, Change of Use, Revocation, and Enforcement

a. A Special Permit shall expire if the Special Permit use or uses cease for more than 24 consecutive months for any reason, if the applicant fails to obtain the necessary Project Permit or fails to comply with the conditions of the Special Permit within 18 months of its issuance, or if its time limit expires without renewal.
b. A Special Permit shall apply to the use for which it has been granted, as well as to any subsequent use of the property which complies with all terms and conditions of the Special Permit (as determined by the Zoning Inspector in issuing a Certificate of Compliance) and which does not involve any new construction, enlargement, exterior alteration of existing structures, or changed use of outdoor areas. Any other change to a use allowed by Special Permit shall require the granting of a new Special Permit or a Special Permit amendment.
c. A Special Permit may be revoked by the Planning Board if the permittee violates the conditions of the Special Permit or engages in any construction or alteration not authorized by the Special Permit.
d. Any violation of the conditions of a Special Permit shall be deemed a violation of this Local Law, and shall be subject to enforcement action as provided herein.

5.040 Findings Required

In granting or denying Special Permits, the Planning Board shall take into consideration the scale of the proposed project, the possible impact of the proposed project on the functioning of nearby farm operations, and the rural tradition of freedom of land use where such use does not harm others, as well as any proposed conservation easements, architectural restrictions, or other measures that would tend to mitigate potential adverse impacts and preserve or enhance the scenic and historic character of the Town. Within the Village area, the Planning Board shall consider the need to maintain the historic, close-knit building pattern and the need for compatibility among adjoining land uses.

5.041 Minor Projects

A Minor Project shall be presumed to be acceptable if it complies with applicable health laws and other specific provisions of this Local Law and if no credible expert testimony is presented in opposition to it. Before granting a Minor Project Special Permit, the Planning Board shall determine that the criteria for Major Projects listed in Section 5.042 below are generally satisfied.

5.042 Major Projects

Before granting or denying a Major Project Special Permit, the Planning Board shall make specific written findings as to whether the proposed Major Project:

a. Will comply with all provisions and requirements of this and other local laws and regulations, and will be in harmony with the purposes of the land use district in which it is located and with the general intent and purposes of this Local Law.
b. Will not be detrimental to adjacent uses.
c. Will not adversely affect the availability of affordable housing in the Town.
d. Will not cause undue traffic congestion, unduly impair pedestrian safety, or overload existing roads considering their current width, surfacing, and condition, will have appropriate parking, and will be accessible to fire, police, and other emergency vehicles.
e. Will not overload any public water, drainage, or sewer system, or any other municipal facility, or degrade any natural resource or ecosystem.
f. Will be suitable for the property on which it is proposed, considering the property's size, location, topography, vegetation, soils, natural habitat, and hydrology, and, if appropriate, its ability to be buffered or screened from neighboring properties and public roads.
g. Will not result in excessive noise, dust, odors, solid waste, or glare, or create any other nuisances.
h. Will be subject to such conditions on design and layout of structures, provision of buffer areas, and operation of the use as may be necessary to ensure compatibility with surrounding uses and to protect the natural, historic, and scenic resources of the Town.
i. Will be consistent with the goal of concentrating retail uses in villages and hamlets, avoiding strip commercial development, and locating non-residential uses that are incompatible with residential use on well-buffered properties.
j. Will comply with the criteria in Section 5.063.
k. Will have no greater overall impact on the site and its surroundings than would full development of uses of the property permitted by right, considering environmental, social, and economic impacts of traffic, noise, dust, odors, release of harmful substances, solid waste disposal, or glare, or any other nuisances.

5.050 Amendments

The terms and conditions of any Special Permit may be amended in the same manner as required for the issuance of a Special Permit, following the criteria and procedures in this Section. Any enlargement, alteration, or construction of accessory structures not previously approved shall require a Special Permit amendment.

5.060 Review of Site Plans

The Planning Board shall review Site Plans for all Major Projects and for those Minor Projects which, because of their scale, intensity, or potentially disruptive nature, require careful layout, design, and placement on a site. The principal purpose of Site Plan review is to ensure compliance of a particular Special Permit use with the purposes and performance criteria contained in this Local Law.

5.061 Required Information for Major Project Site Plan

An application for Site Plan approval shall be accompanied by plans and descriptive information sufficient to clearly portray the intentions of the applicant. Site Plans shall be prepared by a registered professional engineer, architect, or landscape

architect, and shall include the following:

a. Name of the project, boundaries, date, north arrow, and scale of the plan.
b. Name and address of the owner of record, developer, and seal of the engineer, architect, or landscape architect.
c. A vicinity map drawn at the scale of 2,000 feet to the inch or larger that shows the relationship of the proposal to existing community facilities which affect or serve it, such as roads, shopping areas, schools, etc. The map shall also show all properties, subdivisions, streets, and easements within 500 feet of the property. Such a sketch may be superimposed on a United States Geological Survey map of the area.
d. A Site Plan drawn at a scale of forty feet to the inch (1" = 40 feet) or such other scale as the Planning Board may deem appropriate, on standard 24" x 36" sheets, with continuation on 8½" x 11" sheets as necessary for written information.
e. The location and use of all existing and proposed structures within the property, including all dimensions of height and floor area, all exterior entrances, and all anticipated future additions and alterations.
f. The location of all present and proposed public and private ways, off-street parking areas, driveways, outdoor storage areas, sidewalks, ramps, curbs, paths, landscaping, walls, and fences. Location, type, and screening details for all waste disposal containers shall also be shown.
g. The location, height, intensity, and bulb type (sodium, incandescent, etc.) of all external lighting fixtures. The direction of illumination and methods to eliminate glare onto adjoining properties must also be shown.
h. The location, height, size, materials, and design of all proposed signs.
i. The location of all present and proposed utility systems including:
    1. Sewage or septic system;
    2. Water supply system;
    3. Telephone, cable, and electrical systems; and
    4. Storm drainage system including existing and proposed drain lines, culverts, catch basins, headwalls, endwalls, hydrants, manholes, and drainage swales.
j. Plans to prevent the pollution of surface or groundwater, erosion of soil both during and after construction, excessive runoff, excessive raising or lowering of the water table, and flooding of other properties, as applicable.
k. Existing and proposed topography at five-foot contour intervals, or such other contour interval as the Planning Board shall specify. All elevations shall refer to the nearest United States Coastal and Geodetic Bench Mark. If any portion of the parcel is within the 100-year floodplain, the area will be shown, and base flood elevations given. Areas shall be indicated within the proposed site and within 50 feet of the proposed site where soil removal or filling is required, showing the approximate volume in cubic yards.
l. A landscape plan showing all existing natural land features that may influence the design of the proposed use such as rock outcrops, single trees eight or more inches in diameter, forest cover, and water sources, and all proposed changes to these features including sizes and types of plants. Water sources include ponds, lakes, wetlands and watercourses, aquifers, floodplains, and drainage retention areas.
m. Land Use District boundaries within 500 feet of the site's perimeter shall be drawn and identified on the Site Plan, as well as any Overlay or Floating Districts that apply to the property.
n. Traffic flow patterns within the site, entrances and exits, and loading and unloading areas, as well as curb cuts on the site and within 100 feet of the site. The Planning Board may, at its discretion, require a detailed traffic study for large developments or for those in heavy traffic areas, which shall include:
    1. The projected number of motor vehicle trips to enter or leave the site, estimated for daily and peak hour traffic levels;
    2. The projected traffic flow pattern including vehicular movements at all major intersections likely to be affected by the proposed use of the site;
    3. The impact of this traffic upon existing abutting public and private ways in relation to existing road capacities. Existing and proposed daily and peak hour traffic levels and road capacity levels shall also be given.
o. For new construction or alterations to any structure, a table containing the following information shall be included:
    1. Estimated area of structure to be used for particular uses such as retail operation, office, storage, etc.;
    2. Estimated maximum number of employees;
    3. Maximum seating capacity, where applicable; and
    4. Number of parking spaces existing and required for the intended use.
p. Elevations at a scale of one-quarter inch equals one foot (1/4" = 1 foot) for all exterior facades of the proposed structure(s) and/or alterations to or expansions of existing facades, showing design features and indicating the type and color of materials to be used.
q. For large or environmentally intrusive developments, the Planning Board may request soil logs, percolation test results, and storm runoff calculations.

r. Plans for disposal of construction and demolition waste, either on-site or at an approved disposal facility.
s. Long-form Environmental Assessment Form or Draft Environmental Impact Statement.

5.062 Waivers

In the case of Major Projects that are likely to have a minimal impact on the surrounding area, the Planning Board may waive information requirements in Section 5.061 above, as it deems appropriate.

5.063 Criteria

The Planning Board, in reviewing Site Plans, shall consider the criteria set forth below. The Planning Board may adopt or recommend illustrated design guidelines to assist applicants in complying with this Section 5.063.

a. Layout and Design
    1. All structures in the plan shall be integrated with each other and with adjacent structures, shall have convenient pedestrian and vehicular access to and from adjacent properties, and shall, wherever possible, be laid out in a pattern consistent with the traditional forms found in the Town of Westport.
    2. Individual structures shall be compatible with each other and with traditional structures in the surrounding area in architecture, design, massing, materials, and placement, and shall harmonize with traditional elements in the architectural fabric of the area.
    3. Where appropriate, setbacks shall maintain and continue the existing setback pattern of surrounding properties.
    4. The Planning Board shall encourage the creation of landscaped parks or plazas easily accessible by pedestrians.
b. Landscaping
    1. Landscaping shall be an integral part of the entire project area, and shall buffer the site from and/or integrate the site with the surrounding area, as appropriate.
    2. Primary landscape treatment shall consist of shrubs, ground cover, and shade trees, and shall combine with appropriate walks and street surfaces to provide an attractive development pattern. Landscape plants selected should be appropriate to the growing conditions of the Town's environment.
    3. Where appropriate, existing trees and other vegetation shall be conserved and integrated into the landscape design plan.
    4. If deemed appropriate for the site by the Planning Board, shade trees at least six feet tall shall be planted and maintained at 25- to 50-foot intervals along roads, at a setback distance acceptable to the Highway Superintendent.
c. Parking, Circulation, and Loading
    1. Roads, driveways, sidewalks, off-street parking, and loading space shall be safe, and shall encourage pedestrian movement.
    2. Vehicular and pedestrian connections between adjacent sites shall be provided to encourage pedestrian use and to minimize traffic entering existing roads. The construction of service roads and new public streets to connect adjoining properties shall be required by the Planning Board, where appropriate.
    3. Off-street parking and loading requirements of this Local Law shall be fulfilled, and parking areas shall be located behind buildings wherever possible.
    4. Access from and egress to public highways shall be approved by the appropriate Highway Department, including Town, County, State, and Federal, to the extent that said Highway Department or Departments have jurisdiction over such access.
    5. All structures shall be accessible by emergency vehicles.
d. Miscellaneous Standards
    1. Materials and design of paving, light fixtures, retaining walls, fences, curbs, benches, etc., shall be attractive and easily maintained.
    2. The light level at the lot line shall not exceed two-tenths (0.2) footcandle, measured at ground level. To achieve this, luminaires shall be shielded to prevent light from shining beyond the lot lines onto neighboring properties or public ways. Where residential uses adjoin commercial uses, light standards shall be restricted to a maximum of 20 feet in height.
    3. Drainage of the site shall recharge ground water to the extent practical, and surface waters flowing off-site shall not adversely affect drainage on adjacent properties or public roads.
    4. Additional Site Plan requirements and standards for review set forth in other Sections of this Local Law shall be fulfilled.
    5. Requirements for proper disposal of construction and demolition waste shall be fulfilled, and any necessary

permits or agreements for off-site disposal shall be provided to the Planning Board.

e. Rural Siting Guidelines

In all Town Districts other than the Hamlet Districts, the following guidelines shall be observed for subdivisions and the siting of residences, businesses, and accessory structures.

1. Wherever feasible, retain and reuse existing old farm roads and country lanes rather than constructing new roads or driveways. This minimizes clearing and disruption of the landscape and takes advantage of the attractive way that old lanes are often lined with trees and stone walls. (This is not appropriate where reuse of a road would require widening in a manner that destroys trees or stone walls.)
2. Preserve stone walls and hedgerows. These traditional landscape features define outdoor areas in a natural way and create corridors useful for wildlife. Using these features as property lines is often appropriate, as long as setback requirements do not result in constructing buildings in the middle of fields.
3. Avoid placing buildings in the middle of open fields. Place them either at the edges of fields or in wooded areas. Septic systems and leach fields may be located in fields, however.
4. Unless buildings are designed traditionally and located close to the road in the manner historically found in the Town, use existing vegetation and topography to buffer and screen them.
5. Minimize clearing of vegetation at the edge of the road, clearing only as much as is necessary to create a driveway entrance with adequate sight distance. Use curves in the driveway to increase the screening of buildings.
6. Site buildings so that they do not protrude above treetops and crestlines of hills as seen from public places and roads. Use vegetation as a backdrop to reduce the prominence of the structure. Wherever possible, open up views by selective cutting of small trees and pruning lower branches of large trees, rather than by clearing large areas or removing mature trees.
7. Minimize crossing of steep slopes with roads and driveways. When building on slopes, take advantage of the topography by building multi-level structures with entrances on more than one level (e.g., walk-out basements, garages under buildings), rather than grading the entire site flat. Use the flattest portions of the site for subsurface sewage disposal systems and parking areas. Use best management practices for erosion and sedimentation control, as recommended by the Essex County Soil and Water Conservation District or other natural resource agencies.

SECTION 6 APPEALS AND VARIANCES

6.010 Zoning Board of Appeals

6.011 Establishment

a. The Town Board shall appoint a Zoning Board of Appeals (ZBA), shall designate its chairperson, and shall provide for such expenses as may be necessary and proper. In the absence of a chairperson, the Zoning Board of Appeals may designate a member to serve as acting chairperson. A member of the Board of Appeals shall not at the same time be a member of the Town Board. The Town Board shall have the power to remove any member of the Zoning Board of Appeals for cause and after public hearing.

b. Members, except for those appointed to the first Board, shall serve terms of five years. Such terms shall expire at the end of the calendar year. In the creation of the new Zoning Board of Appeals, the appointment of members of the Board shall be for terms so fixed that one member's term shall expire at the end of the calendar year in which such member was initially appointed. The remaining members' terms shall be so fixed that one member's term shall expire at the end of each year thereafter. At the expiration of each original member's appointment, the replacement member shall be appointed for a term which shall be equal in years to the number of members of the Board.

c. If a vacancy occurs other than by the expiration of a term, it shall be filled by the Town Board for the period of the unexpired term.

6.012 Conduct of Business

a. The Zoning Board of Appeals may employ such clerical or other staff or consulting assistance as may be necessary, provided that it shall not incur expenses beyond the amount of appropriations made available by the Town Board for such purposes.

b. The Zoning Board of Appeals shall have the power to promulgate written rules of procedure, by-laws, and forms in order to fulfill its responsibilities under this Local Law.

c. All meetings of the Zoning Board of Appeals shall be held at the call of the chairperson and at such other times as the Board may determine. The chairperson or, in his or her absence, the acting chairperson may administer oaths and compel the attendance of witnesses. All meetings of the Zoning Board of Appeals shall be open to the public. The concurring vote of a majority of all members shall be necessary to take action on any matter before it.
d. The Zoning Board of Appeals shall keep minutes of its proceedings showing the vote of each member on every decision. If a member is absent or fails to vote, the minutes shall so indicate. Every rule and regulation, every amendment or repeal thereof, and every order, requirement, decision, interpretation, or determination of the Zoning Board of Appeals shall immediately be filed in the office of the Town Clerk and shall be a public record.

6.013 Powers

The Zoning Board of Appeals shall perform all the duties and powers prescribed by the Laws of New York State and by this Local Law in connection with appeals to review any order, requirement, decision, interpretation, or determination made by an administrative official charged with the enforcement of this Local Law, generally the Zoning Inspector. An appeal may be taken by any person aggrieved or by any officer, department, board, or bureau of the Town.

6.020 Appeals of Orders, Requirements, Decisions, Interpretations, or Determinations

The Zoning Board of Appeals may reverse or affirm, wholly or partly, or may modify the order, requirement, decision, interpretation, or determination appealed from, and shall make such order, requirement, decision, interpretation, or determination as in its opinion ought to have been made in the matter by the administrative official charged with the enforcement of this Local Law. In so doing, the Zoning Board of Appeals shall have all the powers of the administrative official from whose order, requirement, decision, interpretation, or determination the appeal is taken.

6.030 Appeals for Variance

6.031 Where there are practical difficulties or unnecessary hardships imposed by the strict letter of this Local Law, the Zoning Board of Appeals shall have the power, upon appeal from a determination by the Zoning Inspector and after public notice and hearing, to vary or modify the application of any of the provisions of this Local Law relating to the use, construction, or alteration of structures or the use of land, so that the spirit of this Local Law is observed, public safety and welfare secured, and substantial justice done.

6.032 All applications for Variances shall be accompanied by three copies of a plot plan, drawn to scale with accurate dimensions, showing the location of all existing and proposed structures on the lot. An application for a Use Variance may require submission of an agricultural data statement pursuant to Section 32.132.

6.033 Any Variance which is not exercised within one year of the date of issuance shall automatically lapse without further hearing by the Zoning Board of Appeals.

6.034 Use Variances

a. The Zoning Board of Appeals, on appeal from a decision or determination of the Zoning Inspector, shall have the power to grant Use Variances, authorizing a use of the land which otherwise would not be allowed by this Local Law.
b. No Use Variance shall be granted without a showing by the applicant that applicable zoning regulations and restrictions, as applied to him or her, have caused unnecessary hardship. In order to prove unnecessary hardship the applicant shall demonstrate that for each and every permitted use under this local law for the district in which the applicant's property is located:
    1. The applicant cannot realize a reasonable return, provided that lack of return is substantial as demonstrated by competent financial evidence;
    2. The alleged hardship relating to the property in question is unique, and does not apply to a substantial portion of the district or neighborhood;
    3. The requested Use Variance, if granted, will not alter the essential character of the neighborhood; and
    4. The alleged hardship has not been self-created.
c. The Zoning Board of Appeals shall consider any agricultural data statement submitted pursuant to Section 32.132.
d. The Zoning Board of Appeals, in granting Use Variances, shall grant the minimum Variance that it deems necessary and adequate to address the unnecessary hardship proven by the applicant, and at the same time preserve and protect the character of the neighborhood and the health, safety, and welfare of the community.

6.035 Area Variances

a. The Zoning Board of Appeals shall have the power, upon an appeal from a decision or determination of the Zoning Inspector, to grant Area Variances from the area or dimensional requirements.
b. In making its determination, the Zoning Board of Appeals shall take into consideration the benefit to the applicant if the Variance is granted, as weighed against the detriment to the health, safety, and welfare of the neighborhood or community of such grant. In making such determination the Board shall also consider:
   1. Whether an undesirable change will be produced in the character of the neighborhood or a detriment to nearby properties will be created by the granting of the Area Variance;
   2. Whether the benefit sought by the applicant can be achieved by some method, feasible for the applicant to pursue, other than an Area Variance;
   3. Whether the requested Area Variance is substantial;
   4. Whether the proposed Variance will have an adverse effect or impact on the physical or environmental conditions in the neighborhood or district; and
   5. Whether the alleged difficulty was self-created, which shall be relevant to the decision of the Board, but which shall not necessarily preclude the granting of the Area Variance.
c. The Zoning Board of Appeals, in the granting of Area Variances, shall grant the minimum Variance that it deems necessary and adequate, while preserving and protecting the character of the neighborhood and the health, safety, and welfare of the community.

6.036 Imposition of Conditions

The Zoning Board of Appeals shall, in granting Use Variances and Area Variances, impose such reasonable conditions and restrictions as are directly related to and incidental to the proposed use of the property. Such conditions shall be consistent with the spirit and intent of this Local Law, and shall be imposed for the purpose of minimizing any adverse impact the Variance may have on the neighborhood or community.

6.040 Procedures

6.041 Application

Appeals shall be taken by filing a written notice of appeal and any required plans with the Zoning Inspector and the Zoning Board of Appeals, within 60 days after the filing of the order, requirement, decision, interpretation, or determination that is being appealed, on forms prescribed by the Zoning Board of Appeals. Such application shall refer to the specific provision of this Local Law involved and shall specify the grounds for the Variance requested, the interpretation claimed, or for the reversal of an order, requirement, decision or determination of an administrative official. The Zoning Inspector shall forthwith transmit all the papers constituting the record of the appeal to the Zoning Board of Appeals. In the case of any variance application involving land, buildings or structures in any land use area including hamlet, including a shoreline restriction, the zoning board of appeals shall submit a copy of the application to the Adirondack Park Agency, together with such pertinent information as the Agency reasonably shall deem necessary.

6.042 Referral to County Planning Board

a. Requests for Variances affecting real property within 500 feet of the boundary of the Town of Westport, the boundary of any existing or proposed County or State park or other recreational area, the boundary of any existing or proposed County or State roadway, the boundary of any existing or proposed right-of-way for a stream or drainage channel owned by the County for which the County has established channel lines, the boundary of any existing or proposed County or State-owned land on which a public building or institution is situated, or (if a Use Variance) the boundary of a farm operation within an agricultural district as defined in Article 25AA of the Agriculture and Markets Law shall be referred to the Essex County Planning Board pursuant to General Municipal Law, Article 12-B, Sections 239-l and 239-m, as amended.
b. No action shall be taken on Variances referred to the County Planning Board until its recommendation has been received, or 30 days have elapsed after its receipt of the full statement of the proposed Variance, unless the County and Town agree to an extension beyond the 30-day requirement for the County Planning Board's review.
c. County Disapproval. A majority-plus-one vote shall be required to approve any Variance which receives a recommendation of disapproval from the County Planning Board because of the referral process specified above, along with a resolution setting forth the reasons for such contrary action.

6.043 Hearing and Public Notice

a. If an agricultural data statement has been submitted, the Clerk of the Zoning Board of Appeals shall, upon receipt of the Variance application, mail written notice of the application to the owners of land as identified by the appellant in the agricultural data statement. Such notice shall include a description of the proposed Variance and its location. The cost of mailing the notice shall be borne by the appellant.
b. The Zoning Board of Appeals shall give notice of a public hearing within fifteen (15) days of receipt of a complete application for a variance.
c. At least five days prior to the date of such hearing, the Zoning Board of Appeals shall give public notice by causing the publication of a notice of such hearing in the official newspaper and by mailing a notice thereof to the Planning Board, to any other property owners in the affected area that the Zoning Board of Appeals may require to be notified, and to the regional park commission having jurisdiction over any State park or parkway within 500 feet of the property affected. A copy of said notice of hearing, together with a description of the application, shall be sent by the Board of Appeals to the County Planning Board and, if required under 6.041 above, to the Adirondack Park Agency simultaneously with the giving of notice under this Section.
d. At the hearing, any party may appear in person or by agent or by attorney. In cases where notice is required to be given to it, the Adirondack Park Agency shall be a full party of interest, withstanding to participate as a party in any and all proceedings under this Section.
e. The Zoning Board of Appeals may adjourn the hearing for a reasonable period in order to cause such further notice as it deems proper to be served upon such other property owners as it decides may be interested in the appeal.

6.044 Action

The Zoning Board of Appeals may, in conformity with the provisions of this Local Law, reverse, affirm, or modify, wholly or in part, the order, requirement, decision, interpretation or determination of the Zoning Inspector in accordance with the provisions of this Chapter.

a. Any such action shall be decided within 62 days after the final hearing.
b. Every decision of the Zoning Board of Appeals shall be approved by vote of a majority of the members by resolution which contains a full record of the findings of the Zoning Board of Appeals in the case.
c. The board shall notify the Adirondack Park Agency, by certified mail, of such decision involving variances covered under Section 6.041 by forwarding a copy of the application, findings, decision, and other pertinent information including maps and photographs. Any such variance except those involving lands classified as Hamlet, granted or granted with conditions shall not be effective until thirty (30) days after such notice to the Agency. If, within such thirty day period, the Agency determines that such variance involves the provisions of the land use and development plan as approved in the local land use program, including any shoreline restriction, and was not based upon the appropriate statutory basis, the Agency may reverse the local determination to grant the variance.

6.045 Filing

Every order, requirement, decision, interpretation, or determination of the Zoning Board of Appeals shall be filed immediately in the office of the Town Clerk, and shall be a public record.

6.046 Re-hearing and Review of Prior Decisions

Upon motion initiated by any member and adopted by the unanimous vote of the members present, the Zoning Board of Appeals shall review at a re-hearing held upon notice given as upon an original hearing, any order, requirement, decision, interpretation, or determination of the Zoning Board of Appeals not previously reviewed. Upon such re-hearing, and provided it shall then appear that the rights vested prior thereto in persons acting in good faith in reliance upon the order, requirement, decision, interpretation, or determination reviewed will not be prejudiced thereby, the Zoning Board of Appeals may, upon the concurring vote of all the members then present, reverse, modify, or annul its original order, requirement, decision, interpretation, or determination.

6.047 Court Review of Board Decisions

Any person or persons, jointly or severally aggrieved by any decision of the Zoning Board of Appeals, may apply to the Supreme Court for review by a proceeding under Article Seventy-eight of the Civil Practice Law and Rules and Section 267-c of the Town Law.

6.048 Expiration of Appeal Decision

Unless otherwise specified by the Zoning Board of Appeals, a decision on any appeal shall expire if the appellant fails to obtain any necessary Project Permit within six months of the date of such decision.

6.049 Stay of Proceedings

An appeal shall stay all proceedings in furtherance of the action appealed from unless the Zoning Inspector certifies for the Zoning Board of Appeals, after the notice of appeal has been filed, that such a stay of proceedings would, in his or her opinion, cause imminent peril to life or property by reason of facts stated in the certificate. In such a case, proceedings shall not be stayed except by a restraining order granted by the Zoning Board of Appeals or by the Supreme Court on application, on notice to the Zoning Inspector for due cause shown.

6.050 Grant of Variance

The grant of a variance shall serve as authorization for the Zoning Inspector to issue a project permit, provided that the project complies with all applicable provisions of this local law and other applicable regulations.

SECTION 7 AMENDMENT

7.010 Initiation

The Town Board, from time to time, upon its own motion or application by one or more property owners, or resolution of the Planning Board or Board of Appeals, may amend this local law as provided herein. A property owner or his agent may apply for amendment to this local law by filing three complete sets of an application with the Town Board, and two complete sets with the Planning Board. The application shall include a description of the property or properties affected, a map showing the property or properties affected and all properties within a radius of 500 feet of the exterior boundaries thereof and the applicable filing fee. In the case of a proposed amendment which would apply only to properties which are not immediately identifiable or to a class of properties including six or more identifiable properties, no properties need be identified as affected.

7.020 Review by Planning Agencies

As an aid in analyzing the implications of proposed amendments and to coordinate the effect of such actions on intergovernmental concerns, the Town Board shall refer proposed amendments to the Town and County planning agencies as required by this Local Law and by the Laws of New York State.

7.021 Referral to Town Planning Board

Every proposed amendment or change initiated by the Town Board or by petition (but not if initiated by the Planning Board), shall be referred to the Town Planning Board for report thereon prior to public hearing.

7.022 Referral to County Planning Board

a. Any proposed amendment affecting real property within 500 feet of the boundary of the Town of Westport, the boundary of any existing or proposed County or State park or other recreational area, the right-of-way of any existing or proposed County or State roadway, the boundary of any existing or proposed right-of-way for a stream or drainage channel owned by the County for which the County has established channel lines, or the boundary of any existing or proposed County or State-owned land on which a public building or institution is situated shall be referred to the Essex County Planning Board before final action is taken pursuant to General Municipal Law, Article 12-B Sections 239-l and 239-m, as amended.
b. No action shall be taken on proposals referred to the County Planning Board until its recommendation has been received, or 30 days have elapsed after its receipt of the full statement of the proposed amendment, unless the County and Town agree to an extension beyond the 30-day requirement for the County Planning Board's review.

7.023 Referral to the Adirondack Park Agency

When directed by the town board, the town clerk shall submit a copy of a proposed amendment to the Adirondack Park Agency for a determination as to whether the proposed amendment is subject to Agency approval under Section 807 of the Adirondack Park Agency Act; the town clerk shall simultaneously refer such proposed amendment to the planning board, and where required by Section 239-m of the General Municipal Law, to the county planning agency having jurisdiction, for the report and recommendation by those bodies to the town board.

Such amendments include:

a. Creation of a new land use district or amendments to existing boundary lines of such districts outside hamlet areas

on the official map;

b. Additions to the permitted use lists outside hamlet areas which would allow in any land use area on the official map a use not a primary or secondary compatible use for that area;
c. Amendments to the shoreline restrictions which would fall below the minimum established in Section 806 of the Adirondack Park Agency Act;
d. Amendments to provisions relating to administration and enforcement of the zoning regulations;
e. Amendments to sign or automobile junkyard regulations;
f. Amendments to controls governing intensity of development outside hamlet areas, such as minimum lot areas;
g. Amendments which involve the reclassification of projects from Class A to or from Class B Regional Projects, pursuant to Section 810 of the Adirondack Park Agency Act;
h. Amendments which would repeal any provisions referred to above; and
i. Any other amendments which involve the provisions of the Land Use and Development Plan. [Regs 582.5(a)]

7.030 Public Hearing and Notice

No proposed amendment shall become effective until after a public hearing thereon, at which the public shall have an opportunity to be heard. The Town Board shall set, by resolution at a duly called meeting, the time and place for a public hearing on proposed amendments, and shall cause public notice to be given as required by the laws of New York State and specified below. If a proposed amendment is initiated by petition, the petitioner shall be responsible for publication of notice and for notice to adjacent municipalities, if necessary.

7.031 Publication of Notice in Newspaper

Notice of the time and place of the public hearing shall be published at least 10 days in advance of such hearing in the official newspaper. This notice shall provide a summary of the proposed amendment in such reasonable detail as will give adequate notice of its contents, indicating the place or places where copies of the proposed amendment may be examined and the time and place of the hearing.

7.032 Notice to Adjacent Municipalities

Written notice of any proposed amendment affecting property lying within 500 feet of an adjacent town shall be served in person or by mail upon the Clerk of such municipality at least 10 days prior to the date of public hearing. Representatives of neighboring municipalities receiving notification of a proposed amendment shall have the right to appear and be heard at the public hearing thereon, but shall not have the right to review by a court.

7.040 Adoption

The Town Board may adopt amendments to this Local Law by a majority vote of its membership, except in the case of local protest or disapproval by the County Planning Board as noted below. A copy of the decision shall be promptly sent to the applicant and to the Adirondack Park Agency.

7.041 Local Protest

The favorable vote of three-fourths (i.e., four) of the Town Board members shall be required for passage of any amendment which is subject to a written protest signed by 20% or more of the owners of land in any of the following areas:

a. The land area included in the proposed amendment.
b. The land area immediately adjacent to the area proposed to be changed and extending 100 feet therefrom.
c. The land area directly opposite the area proposed to be changed and extending 100 feet from the road frontage of such opposite land.

7.042 County Disapproval

A majority-plus-one vote of all Town Board members shall be required to pass any proposal which receives a recommendation of disapproval from the County Planning Board because of the referral process specified in Section 7.022 above, along with a resolution setting forth the reasons for such contrary action.

7.050 Effective Date

Unless the amendment provides for a different effective date, each amendment adopted by the Town Board shall take effect when filed with the Secretary of State of the State of New York pursuant to the Municipal Home Rule Law of the State of New York.

7.060 Right to Complete Project Inconsistent with Amendment

Where a project for which a project permit has been lawfully issued, but no certificate of compliance has been awarded, would be rendered noncomplying or nonconforming by an amendment of this local law, such project shall have the right to be completed and to be awarded a certificate of compliance pursuant to the provisions in effect when the project permit was issued only if, in the case of a project primarily involving a building, the foundation has been completed prior to the effective date of the amendment, and, in the case of a project not primarily involving a building, a substantial amount of construction has been completed prior to the effective date of the amendment.

SECTION 8 ENFORCEMENT

8.010 Zoning Inspector

This local law shall be enforced by the Zoning Inspector and the Town Board.

8.020 Complaints of Violations

Whenever a violation of this local law occurs, any person may make a complaint in regard thereto. All such complaints shall be made to the Zoning Inspector who shall properly record such complaint and immediately investigate and report his findings thereon to the Town Board. The Zoning Inspector shall have authority to serve upon any person owning, leasing, controlling or managing any building, structure or land in which a violation of this local law exists an order to cease or remove such violation.

8.030 Penalty

8.031 Any person owning, leasing, managing or otherwise controlling any building, structure, or land in which a violation of this local law shall exist or is committed and any person who commits or assists in the commission of any violation of this local law or any conditions imposed in any project permit or certificate of compliance, or who undertakes any project contrary to the plans or specifications submitted to the Zoning Inspector and on the basis of which a project permit shall be given; any person who shall omit, neglect, or refuse to do any act required by this local law, and any such person who, having been served with an order to cease or remove such violation, shall fail to comply with such order within 10 days after such service, shall be guilty of an offense and subject to a fine as authorized in Section 268 of the Town Law. Every such person shall be deemed guilty of a separate offense for each week such violation, disobedience, omission, neglect or refusal shall continue.

8.032 For the purposes of this Section 8, where a "person" is an entity other than an individual, the principal executive officer or partner or agent or manager of such entity may be considered to be such person.

8.040 Injunctive Relief

In case of any violation or threatened violation of any of the provisions of this local law, or conditions imposed in any project permit or certificate of compliance, the Town may, by resolution of the Town Board, institute an action for injunctive relief to prevent, restrain, correct or abate such violation.

8.050 Misrepresentation

Any project permit or approval granted under this local law which is based upon or is granted in reliance upon any material misrepresentation, or failure to make a material fact or circumstance known, by or on behalf of an applicant, shall be void.

SECTION 9 REGIONAL PROJECT REVIEW

9.010 Purpose and Intent of this Section

9.011 Purpose

The purpose of this Section is to establish requirements and administrative procedures for the review of Class B Regional Projects by the Planning Board or the Adirondack Park Agency, and to set forth the Town's role when Class A or Class B Regional Projects are reviewed by the Adirondack Park Agency.

9.012 Special Permit Uses

It is the intention of the Town to avoid duplication of review processes for Special Permit uses. Therefore, if the Adirondack Park Agency reviews any Special Permit use as a Class A or Class B Regional Project, the Town Planning

Board's role shall be limited to that set forth in Sections 9.070 and 9.080 below.

9.013 Use Variances
If the Class A or Class B Regional Project permit involves a use variance, the applicant must apply to the Zoning Board of Appeals and be granted a variance in order to institute the use, regardless of whether this local law has been approved by the Adirondack Park Agency.

9.020 Applicability of this Section

9.021 Prior to approval of the Westport Local Land Use Program by the Adirondack Park Agency and town enactment of all of the program elements pursuant to Section 807 of the Adirondack Park Agency Act, all Class B regional projects shall be subject to the authority of the Adirondack Park Agency, and Sections 9.030 and 9.067 below shall not apply.

9.022 At such time as the Adirondack Park Agency has approved the Westport Local Land Use Program, the town has enacted all of the program elements, and the Agency has authorized the transfer of Class B regional projects authority pursuant to Section 807 of the Adirondack Park Agency Act, no person shall undertake a permitted use, special permit use, or prohibited use for which a variance has been granted pursuant to Section 6 of this local law, which use is also a Class B regional project, unless and until the Planning Board has reviewed and approved, or approved subject to conditions, such project, and the Zoning Inspector has issued a project permit with respect thereto. Sections 9.030 through 9.067 shall apply to all such Class B regional projects.

9.023 No person shall undertake a Class A regional project unless and until the Adirondack Park Agency has reviewed and approved, or approved subject to conditions, such project, and has issued an Agency permit with respect thereto pursuant to the terms of the Adirondack Park Agency Act, applicable Agency Rules and Regulations and the Local Land Use Program.

9.030 Authorization to Approve and Disapprove Class B Regional Projects

9.031 The Planning Board is hereby authorized to approve, approve subject to condition, and disapprove all Class B Regional Projects proposed to be located within the territory of the town pursuant to and in accordance with the requirements and procedures set forth in this Section.

9.032 If a Class B Regional Project is also a Class A Regional Project or Class A subdivision, the project will be deemed to be a Class A Regional Project or Class A subdivision in its entirety, and subject to the review authority of the Adirondack Park Agency.

9.040 Requirements for Class B Regional Project Approval
The Planning Board shall not approve a Class B Regional Project unless it first determines that such project meets the following criteria:

a. The project will comply with all applicable provisions of this local law.
b. The project will not have an undue adverse impact upon the natural, scenic, aesthetic, ecological, wildlife, historic, recreational, or open space resources of the Adirondack Park or upon the ability of the public to provide supporting facilities and services made necessary by the project taking into account the commercial, industrial, residential, recreational or other benefits that might be derived from the project. In making this determination, the Planning Board shall consider those factors pertinent to the project contained in the Development Considerations set forth at Appendix D hereof, and in so doing, the Planning Board shall make a net overall evaluation of the project in relation to the Natural and Public Resource Objectives and Guidelines and Development Activities Objectives and Guidelines set forth therein.

9.050 Application for Class B Regional Project Approval
Application for project approval shall be made to the Zoning Inspector, who shall review the application for completeness, and if, in his reasonable judgment, the application is complete, he shall refer it to the Planning Board. All applications shall be made on forms prescribed by the Planning Board, and furnished by the Zoning Inspector which forms when completed shall include such information as may be reasonably necessary to determine whether the requirements for approval set out in Section 9.040 have been satisfied. In determining the content of these application forms, the Planning Board may provide for different informational requirements for different classes or types of projects, but with each certain class or type of

project, the same information shall be required of every applicant. Such information required by these various application forms may include any or all of the following: a detailed description of the natural features of the project site, a detailed description of the land use plan of the project and its components, including all proposed roads and accesses, water supply and sewage disposal systems, and their relationship to natural features, an analysis with supporting data of the impact of the project on the environment both during construction and thereafter, an analysis with supporting data of the ability of the public to provide supporting services and facilities which can reasonably be anticipated to be required following the approval of the project, and analysis with supporting data of any benefits that might derive from the project, any plans the applicant may have for future development related to the project and information describing the applicant, his or its financial capacity to complete the project as planned, and any professional advisors or consultants engaged in respect to the project. *If the applicant is applying for a Special Permit in connection with a Class B Regional Project, the Special Permit application shall serve as a Class B Regional Project application.*

9.060 Procedure for Review and Decision Regarding Class B Regional Projects

9.061 Not later than 10 days following receipt of a complete application for a Class B Regional Project, the Zoning Inspector shall notify the Adirondack Park Agency and the Zoning Board of Appeals of such receipt, shall furnish to each body a copy of the project application, and shall furnish to the Agency such further pertinent information as the Agency may deem necessary, and shall afford each body the opportunity to comment thereupon. Further pertinent information requested by the Agency shall be provided within 10 days of the Agency's request, and in no case later than 5 days prior to a public hearing.

9.062 If the Class B Regional Project also requires a Special Permit, the Planning Board shall follow the procedures in Section 5.030 instead of those in Subsections 9.063, 9.064, and 9.065 below.

9.063 Not later than 30 days following receipt by the Zoning Inspector of a complete application for a Class B Regional Project, the Planning Board shall review the application and shall determine in its discretion whether a public hearing shall be held in regard thereto. In the exercise of its discretion, the Planning Board shall be guided by the expected level of public interest in the project, the relative size and significance of the project, and the possibility of an eventual disapproval. No Class B Regional Project may be disapproved unless a hearing has been held on the project application. If the Planning Board determines that a public hearing shall be held, the hearing shall be scheduled for a date not less than 15 days thereafter, not later than 30 days following receipt by the Zoning Inspector of the complete application. The Planning Board shall give public notice of the date, time and place of the hearing by causing publication of a notice of such hearing in the official newspaper at least 10 days prior to the date thereof, and shall also mail a copy of the public notice to the Adirondack Park Agency and the Zoning Board of Appeals. The Adirondack Park Agency shall be a full party in interest with standing to participate in any and all proceedings conducted pursuant to this Section.

9.064 If the Planning Board determines that a public hearing shall not be held, then not later than 62 days following receipt by the Zoning Inspector of the complete application, the Planning Board shall approve the project or approve it subject to conditions.

9.065 If the Planning Board holds a public hearing pursuant to paragraph b) of this Section, then not later than 30 days after the completion of said hearing the Planning Board shall approve, approve subject to conditions, or disapprove the project.

9.066 Every Class B Regional Project decision rendered by the Planning Board shall be in writing, and shall contain such findings of fact as are required by Section 9.040 hereof. The Planning Board in conjunction with its approval of any Class B Regional Project, may impose such requirements and conditions as are allowable within the proper exercise of the police power, including the restriction of land against further development of principal buildings, whether by deed restriction, restrictive covenant or other similar appropriate means, to insure that guidelines as to intensity of development as provided in this local law shall be respected, and the imposition of reasonable conditions to insure that the project will be adequately supported by services and improvements made necessary by the project and to insure that the project will be completed in accordance with the terms of the application and any permit, and including, without limitation, the requirements and conditions authorized under Section 5.038 of this local law. In addition, the Planning Board may require that the Zoning Inspector incorporate any such requirements and conditions in any permit issued with regard to such Class B Regional Project.

9.067 Recording and expiration of Permits for Class B Regional Projects. A project permit issued for a Class B Regional

Project shall expire within 60 days from the date thereof unless within such sixty-day period such permit shall have been duly recorded by the project sponsor in the Adirondack Park Agency Regional Project Permit Book in the office of the clerk of the county wherein the project is proposed to be located. This requirement is in addition to that imposed on the Zoning Inspector by Section 2.070.

9.070 Limitation on Adirondack Park Agency Authority to Approve Class A Regional Projects

The Adirondack Park Agency shall not approve a Class A Regional Project unless it first determines, after consultation with the Planning Board and receipt of the advisory recommendations of the Planning Board relative to the project, that the project would comply with all provisions of this local law and with such other ordinances and regulations as shall be components of the town land use program.

9.080 Planning Board Authority Regarding Class A Regional Projects

9.081 The Planning Board is hereby designated and appointed as the appropriate town body to consult with the Adirondack Park Agency with regard to Agency review of Class A Regional Projects.

9.082 As soon as reasonably practicable following receipt by the Planning Board from the Adirondack Park Agency of notice of application completion with regard to a Class A Regional Project, the Planning Board or one or more designees thereof shall consult with the Agency for the purpose of analyzing the project application and formulating advisory recommendations as to whether the project meets all of the pertinent requirements and conditions of the town land use program.

9.083 Not later than 45 days following receipt by the Planning Board from the Agency of notice of application completion with regard to a Class A Regional Project, the Planning Board shall, by certified mail, provide to the Agency its advisory recommendations as to whether the project meets all of the pertinent requirements and conditions of the town land use program.

SECTION 10 SIGNS

Signs are accessory uses which may be erected and maintained in accordance with the following regulations.

10.010 Definitions

For purposes of this Section 10, the following terms shall have the meanings indicated below.

Erect: To build, construct, alter, enlarge, relocate, attach, hang, place, affix, or maintain any sign, and includes the painting of wall signs.

Luminous sign: Any incandescent or other sign which gives forth its own light, or any transparent or translucent sign through which artificial light is emitted, including, without limitation, any neon sign, fluorescent sign or advertising light display.

Indirectly illuminated sign: Any sign illuminated by a lighting device and reflecting the light thereof, but not emitting any light and therefore not a luminous sign.

Level of natural ground: The level of ground prior to any grading or fill done primarily for the purpose of erecting any sign or raising the level of a sign's allowable height.

Off-premise sign: Any sign advertising or calling attention to any business, activity, product, or service not located or available on the same parcel as the sign.

Sign: Any writing (including letter, word, or numeral), pictorial representation (including illustration, decoration, emblem, symbol, or trademark), flag (including banner and pennant), bulletin board, statue, three dimensional figure, symbolic or representational structure, or any other visually communicative or expressive device which:

a. Is a structure or any part thereof or is attached to, painted on, or in any other manner is represented on or within a building or other structure, and
b. Is used to announce, direct attention to, or advertise, and
c. Is visible from a public highway or a water body or water course trafficked by the public. The term shall include any sign currently in disuse but still visible from an out-of-doors position, and any frame or support structure erected specifically to bear or hold a sign.

The term shall not include:

a. Signs of a duly constituted governmental body, including traffic or similar regulatory devices, street identification

signs and legal notices.

b. Flags or emblems of a political, civic, philanthropic, educational, or religious organization.
c. Signs specified or required to be maintained by law or governmental order, rule, or regulation.

Sign area: The total area of all faces or surfaces of a sign anywhere upon which writing or other expressive matter appears, or, in cases where writing or other expressive matter is not set against any face or surface, the total area within a single continuous rectangular perimeter enclosing the extreme limits of such writing or expressive matter. The sign area of a sign having more than one face or surface on which writing or other expressive matter appears shall be the total area of all such faces or surfaces; but if a sign consists of two such faces or surfaces placed back-to-back, the sign area of the side having the greater sign area shall constitute the total sign area. The sign area of a group of connected or related signs shall be the sum of the sign areas of the signs belonging to it.

10.020 Location on Premises

A sign, other than an off-premises sign allowable by special permit pursuant to Section 10.060 hereof, shall be erected and maintained only on the same parcel of land where the subject of the sign is located, and not more than 200 feet from the principal location thereof. For purposes of this regulation, the principal location of the subject of a sign shall be deemed to include the principal private access road connecting the subject with a public highway.

10.030 Signs Not Requiring Project Permit

The following signs may be erected and maintained without a Project Permit, provided that they are less than 4 square feet in sign area and are non-illuminated (except as indicated below):

a. Signs advertising the sale or rental of the premises upon which the sign is located, limited to two per property.
b. Signs denoting the architect, engineer, or contractor where construction, repair, or renovation is in progress, limited to one per property.
c. Professional and trade name plates and home business signs. Such signs may be illuminated by external white light only and shall be limited to one per person or business.
d. Signs which mark property boundaries, give directions for roads or trails, prohibit trespassing, hunting, fishing, or off-road vehicles, or warn of hazards.
e. Any sign erected by the federal, state, county, or town government or any department or agency thereof. Such signs are not limited in size.
f. Signs giving the name of the residents of a dwelling and/or its address. Such signs may be illuminated by external white light only and shall be limited to one per dwelling.
g. Temporary signs, including banners or pennants, relating to garage, lawn, or other individual, non-recurring sales, or for a church bazaar, political campaign, fund drive, parade, fair, fireman's field day, or other event or undertaking conducted by a political, civic, religious, charitable, or educational organization. Such signs shall be removed by the sponsor within 15 days after the close of the event. Such temporary signs are not limited in size.
h. A sign placed temporarily to advertise a garage sale of the sale of produce grown or harvested by the property owner where the subject sign is located, limited to one per principal location of the subject of the sign. Such temporary signs shall be removed immediately after the termination of the activity being advertised.
i. Not more than four advertising signs located on and parallel to the walls, windows, or sides of a building or other structure of a commercial enterprise. Such signs may be internally illuminated.
j. Temporary signs, customarily of paper or cardboard, placed in the windows of grocery stores and supermarkets to advertise weekly specials. Such temporary signs are not limited in size or number.

10.040 Signs Allowable by Project Permit

The following signs may be erected and maintained only upon the issuance of a Project Permit by the Zoning Inspector. The Zoning Inspector shall issue a Project Permit upon a proper application showing compliance with all the applicable provisions of this Section.

a. A freestanding or attached and projecting advertising sign, being perpendicular or approximately perpendicular to the line of a public highway from which it is intended to be seen. No such sign shall exceed 20 square feet in sign area. There shall be not more than one such sign for any commercial enterprise or for any group of enterprises located on a parcel of land under single ownership.
b. An advertising sign located on and parallel to a wall of a building housing the enterprise advertised. No such sign shall exceed 40 square feet in sign area. There shall be no more than one such sign for any commercial enterprise.
c. The total sign area for advertising signs must be limited to a maximum of 60 square feet, including those allowed in 10.030i above.

d. One pole sign may be erected or maintained upon the premises of any gasoline or other automobile service station, at a maximum sign area of 15 square feet.
e. A sign, including a bulletin board, customarily used by places of worship, libraries, museums, social clubs, and societies, provided that there shall be no more than one such sign per establishment or organization, and that no such sign shall exceed ten square feet in sign area.

10.050 General Sign Regulations

The following regulations apply to signs throughout the Town:

a. No sign shall be illuminated by or contain flashing, intermittent, rotating, or moving light or lights. All luminous signs, indirectly illuminated signs, and lighting devices shall employ only lights emitting light of constant intensity, except in the case of digital street clocks and temperature indicators. No luminous sign shall exceed 15 square feet of sign area.
b. No luminous sign, indirectly illuminated sign, or lighting device shall be placed or directed so as to cause beams of light to be cast upon any public highway, sidewalk, or adjacent premises, or otherwise to cause glare or reflection that may constitute a traffic hazard or nuisance. No sign shall contain any mirror or mirror-like surface, nor any day-glow or other fluorescent paint or pigment.
c. No sign relating to a permanent commercial enterprise, with the exception of traditional barber poles, shall contain or consist of any banner, pennant, ribbon, streamer, spinner, or other similar moving, fluttering, or revolving device. No sign or part thereof may rotate or move back and forth, except that a sign may be suspended and swing, though not rotate, in the wind.
d. No permanent sign shall extend more than 15 feet above the natural ground elevation or be located upon or higher than the roof of the associated establishment.
e. No sign shall be painted or placed upon or supported by any tree, rock, or other natural object other than the ground.
f. No motor vehicle, trailer, or wagon upon which is painted or placed any sign shall be parked or stationed in a way primarily intended to display the sign.
g. All signs shall be constructed of durable materials and maintained at all times in good repair.
h. No advertising sign shall be maintained with respect to an enterprise which, for a period of one year, conducts no business or with respect to a product or service which is no longer offered by the enterprise maintaining the sign.
i. No sign shall be erected or maintained within the right-of-way nor within 10 feet of the roadbed of any public highway. Such minimum setback shall not apply in the Village Districts or to any signs located on and parallel to a wall of a building entirely housing the business or activity with which the signs are principally associated.

10.060 Off-Premises Signs

The Planning Board, in accordance with the Special Permit procedure set out in Section 5 hereof, may grant approval for an off-premises sign. Such sign shall meet all the requirements of the State Department of Environmental Conservation for the grant of a permit for such sign pursuant to Section 9-0305 of the Environmental Conservation Law. As a condition to approval of an off-premises sign, the Planning Board shall find that the sign:

a. Meets all the applicable requirements of this Section other than on-premises location.
b. Will be useful in providing information not otherwise reasonably available to the public.
c. Will be visually compatible with its surroundings.
d. Will not pose a traffic hazard or otherwise endanger the health, safety, or welfare of the public.

10.070 Abandoned or Illegal Signs

In the event that a sign is (a) unlawfully erected after the effective date of this local law, (b) is a non-complying sign maintained in violation of Section 10.080 hereof or (c) is maintained in violation of this Section 10, then the Zoning Inspector shall mail to the owner of said sign, if known, at his last known mailing address and to the owner of the parcel of land upon which such sign is situated, at his last known mailing address, an order that the violation be cured within 30 days after the date of the order. If after such date the violation is not cured, the Zoning Inspector may enter upon the land and remove and discard the sign, without liability to the Town or its agents.

10.080 Non-Complying Signs

A sign in existence as of the effective date of this local law which does not comply with the sign regulations hereof shall be brought into compliance or removed by its owner at his cost and expense not later than the latter of (i) December 31, 1995 or (ii) if applicable, the date upon which such sign has been fully depreciated for income tax purposes, which shall in no

case be later than 6 years after the date, prior to the effective date of this local law, that such sign was first erected or last substantially reconstructed. Any sign owner claiming the right to maintain a non-complying sign after December 31, 1995, shall file with the Zoning Inspector appropriate proof of the sign's useful life for income tax purposes on or before such date. Failure to so file shall be deemed a waiver of such sign owner's right to maintain the sign beyond such date.

[SECTIONS 11 THROUGH 19 RESERVED]

SECTION 20 CONSTRUCTION OF LANGUAGE AND DEFINITIONS

20.010 Construction of Language

The following rules of construction apply to the text of this local law:

a. The particular shall control the general.
b. The word "shall" is always mandatory and not discretionary. The word "may" is permissive.
c. Words used in the present tense shall include the future; words used in the singular number shall include the plural, and the plural the singular, unless the context clearly indicates the contrary.
d. A "building" or "structure" includes any part thereof.
e. The word "used," when employed in the phrases "used to," "used for" or "used as" includes the following words when employed in similar phrases: "designed," "intended," "maintained," "occupied."
f. Unless the context clearly indicates the contrary, where a regulation involves two or more items, conditions, provisions, or events connected by the conjunction "and," "or," or "either...or," the conjunction shall be interpreted as follows:
   1. "And" indicates that all the connected items, conditions, provisions, or events shall apply.
   2. "Or" indicates that, the connected items, conditions, provisions, or events may apply singly or in any combination.
   3. "Either...or" indicates that the connected items, conditions, provisions, or events shall apply singly but not in combination.
g. The word "includes" shall not limit a term to the specified examples, but is intended to extend its meaning to all other instances or circumstances of like kind or character.

20.020 Definitions

When used in this local law, the following terms shall have meanings set out below.

Accessory Apartment: An accessory apartment is a short-term accessory use to a single family dwelling. It is a separate living space within a single family dwelling to be occupied by family members or caregivers. An accessory apartment shall constitute a principal building however it does not need to comply with the intensity or minimum lot size requirements of the district. (amended 2010)

Accessory use: See use, accessory.

Adirondack Park Agency: The Adirondack Park Agency created by Section 803 of the Adirondack Park Agency Act.

Adirondack Park Agency Act: Article 27 (800 et seq.) of the Executive Law. For purposes hereof, the numbering of sections of the Adirondack Park Agency Act is as it appears in the Executive Law.

Agriculture: The use and management of land for the raising of crops, including timber, or livestock. The term includes the sale of products grown or raised on such land and the construction, alteration, and maintenance of fences, agricultural roads, agricultural drainage systems, and farm ponds or of a barn, shed, silo, garage, produce sales stand, or other building, or structure customarily found with agriculture.

Area variance: The authorization by the Zoning Board of Appeals for the use of land in a manner which is not allowed by the dimensional or physical requirements of the applicable zoning regulations.

Automobile junkyard: Any place of storage or deposit, whether in connection with another business or not, where two or more unregistered, old, or secondhand motor vehicles, no longer intended or in condition for legal use on the public highways or in agricultural activities, are held, whether for the purpose of resale of used parts therefrom, the purpose of reclaiming for use some or all of the materials therein, whether metal, glass, fabric, or otherwise, the purpose of disposing of the same or for any other purpose. The term shall include any place of storage for any such purposes of used parts or waste materials from motor vehicles which, taken together, equal in bulk two or more such vehicles. For the purpose of this definition, "motor vehicle" shall mean any vehicle propelled or drawn by power other than muscular power originally intended for use on public highways or in agricultural activities.

Board of Appeals: The Board of Appeals of the Town, also referred to as the Zoning Board of Appeals.

Boathouse: A building located at or along a shoreline used principally for the storage or shelter of boats, with or without ancillary recreational uses for people. A boathouse may not contain a dwelling unit.
Building. A permanent, fixed structure (not including a mobile home) having a roof or other overhead cover and intended for the shelter, housing, or enclosure of persons, animals, or other property.
Class A Regional Project. A land use or development which is classified and defined as such in Section 810 of Act, listed in Appendix A of this local law.
Class B Regional Project. A land use or development which is classified and defined as such in Section 810 of Act, listed in Appendix B of this local law.
Class A Regional Subdivision. A subdivision which is classified and defined as such in Section 810 of Act, listed in the Town subdivision regulations.
Class B Regional Subdivision. A subdivision which is classified and defined as such in Section 810 of Act, listed in the Town subdivision regulations.
Commercial use, heavy. Wholesale trade, retail trade dealing primarily with goods not readily moved by hand, auto repair, warehousing.
Commercial use, light: One of the following: retail store or shop dealing primarily in goods which can be hand carried or in services, business or professional office, bank, indoor restaurant, bar.
Conservation easement: A perpetual restriction on the use of land, created in accordance with the provisions of Section 49, Title 3 of the Environmental Conservation Law or Section 247 of the General Municipal Law, for the purposes of conservation of open space, agricultural land, and natural, cultural, historic, and scenic resources.
County: Essex County.
County Planning Board: The Essex County Planning Board, established pursuant to Article 12B of the General Municipal Law.
Day: Calendar day, including Sundays and holidays, unless otherwise specified.
Dwelling unit: Any one of the following: single-family dwelling, mobile home, each unit of a two-family dwelling or multi-family dwelling.
Family: Either (a) a single individual occupying a dwelling and maintaining a household or (b) 2 or more occupying a dwelling, living together and maintaining a common household including not more than one boarder, roomer or lodger.
Group home: A residential facility for children or adults who require special care or supervision, such facility being operated by, under contract with or licensed by a state or county agency, and having a capacity of no more than 20 residents.
Guest Cottage: Not more than one residential structure which is associated with an accessory use to a single family dwelling located on a lot that meets the minimum lot size for the district where proposed and which: (a) is used only on an occasional basis; (b) is used only by guests of the resident(s) of the associated single family dwelling; (c) is not for rent or hire separately from the associated single family dwelling; and (d) contains one-half (1/2) or less of the enclosed floor space of the associated single family dwelling or 1,500 square feet, whichever is less. (amended 2010)
Guest house: A lodging, boarding, or rooming house, with or without meals, accommodating no more than 5 guests, lodgers, boarders, or roomers in rooms or units without cooking facilities
Heavy equipment facility: A facility for the repair, maintenance, or storage of heavy equipment or trucks.
Home occupation: A business or profession which (a) is conducted entirely within a dwelling or its accessory buildings, (b) is carried on only by the inhabitants of the dwelling and may involve the employment at one time of not more than two persons not residing on the premises, (c) is clearly incidental to the use of the dwelling as a place of residence, occupying floor area equal to not more than 50% that of the dwelling, (d) except in the case of a garden stand, presents no exterior indication of its existence other than a sign as permitted, and (e) produces no significant noise, vibration, smoke, dust, odor, heat, or glare. A home occupation may, for example, include the office of a physician, dentist, lawyer, real estate broker, architect, or similar professional; a craftsman's, artist's, or photographer's studio or shop; a dressmaker's or seamstress's shop; a barber or beauty shop or an outside garden stand. A home occupation may not include a funeral home, veterinary hospital, or kennel. (amended 2010)
Industrial Spring/Well: A spring or well, its accessory structures, intended to supply a large quantity of water to supply an industrial use. (amended 2010)
Junkyard: Any open lot or area for the dismantling, storage, or sale, as parts, scrap, or salvage, of used or wrecked machinery, scrap metals, waste papers, rags, used or salvaged building materials, or other discarded material.
Major project: A project that requires a Special Permit and that exceeds any of the thresholds for a Minor Project.
Manufacturing: A use consisting of the fabricating, processing, production, or assembly of goods or materials including any on-site waste disposal associated with such use.
Manufacturing, light: Manufacturing which is compatible with adjacent residences because of its low impact on them, due to such characteristics as small scale, low traffic generation, lack of exterior storage and waste areas, attractive appearance of buildings, grounds, and landscaping, minimal emissions of light, sound, vibration, and odor, and limited operating hours (weekday and daytime only).

Marine base: A waterfront commercial facility for the docking, servicing, storage, rental, or sale of boats or water-based aircraft.

Minor project: A project that requires a Special Permit and that falls below all of the following thresholds:

a. Construction of four or fewer multi-family dwelling units.
b. Construction of facilities or structures for a non-residential use covering no more than 2,000 square feet of building footprint.
c. Minor alteration of existing structures or expansion of such structures by no more than 1,000 square feet.
d. Conversion of existing structures to another use.
e. Alteration and active use of 5,000 square feet or less of land, with or without structures, in connection with the Special Permit use.

Mobile home: A self-contained dwelling unit or modular dwelling of one or more units, not including a travel trailer, designed to be transported to its site and from site to site on its own wheels or those of another vehicle that may contain the same water supply, kitchen facilities, and plumbing, sewage disposal, and electric system as immobile housing and is used for either permanent or seasonal occupancy. A dwelling unit that is fabricated off-site in sections and transported to and assembled on the site with a solid foundation is not considered a mobile home.

Multi-family dwelling: A building, used for residence in separate living quarters with separate cooking facilities by 3 or more families.

Noncomplying use: A use which does not comply with one or more of the regulations of this local law, other than a regulation governing the type of use permitted, and which was fully lawful when established but was rendered noncomplying by this local law, the prior zoning ordinance, or an amendment to either.

Nonconforming use: A use, lawful when established, whether of a building or other structure or of a tract of land, indicated by a use which is not included among the uses designation applying to the district in which the use is located, or which is not otherwise permitted under this local law. A nonconforming use must have been lawfully established either prior to the effective date of this local law or the prior zoning ordinance, or prior to the effective date of an amendment hereto or thereto which rendered such use nonconforming.

Nursing home: A nursing home licensed by the New York State Department of Health.

Person: An individual, corporation, partnership, association, estate, trust, or other legal entity.

Parking space: A level parking space at least 8 x 20 feet, not including any required access.

Planning Board: The Planning Board of the Town.

Prevailing Setback: Nearest distance to the property line of center of roadway of setbacks of existing residences within 100 feet on both sides of the proposed residence. Comparison must be on the same side of the property line or roadway as the proposed residence and must not encroach on the road right of way. Prevailing setback only applies to front yard setback and two or more existing residences constitute prevailing. (amended 2001)

Project: Any of the following:

a. The construction, enlargement, or change of use of a building;
b. The commencement, enlargement, or change of use of or on a tract of land,
c. Any alteration or the actions enumerated in Section 25.040 hereof with respect to a designated landmark building,
d. A Class A Regional Project,
e. The erecting of any sign other than a sign allowable without permit pursuant to Section 10 hereof;
f. Any alteration of topography, dredging, filling, channel encroachment, the construction of any structure, or any other activity the natural consequence of which may be to affect the discharge of water through a flood-prone area (see Section 28).

Public highway: An improved (graded, graveled, or paved) highway, street, or road maintained by the State, County, or Town.

Road bed: The trafficked or trafficable portion of a road, street, or highway, bounded on either side by the outer edge of the shoulder or guardrail, whichever extends furthest.

Self-Storage Facility: A commercial self storage structure open to the public. (amended 2010)

Shore frontage: Continuous land along a shoreline, having a length measured by straight line distances following the general contour of the shoreline,

Shoreline: The shoreline of Lake Champlain at 99.8 feet elevation (amended 2001).

Shoreline lot: A lot including or wholly or partially bounded by shoreline.

Sign: See Section 10.

Single-family dwelling: A detached building, not including a mobile home, used as the living quarters for one family. The term shall include a seasonal cottage, cabin or camp (amended 2001).

State: The State of New York.

Strip commercial development: The layout of a commercial use or uses in separated or common-wall structures along a state highway, with more than one row of parking located between the highway and the commercial building(s), where

parking is visible from the road. The provision of gasoline pumps or other drive-up facilities in front of a building shall be considered to be equivalent to one row of parking. Strip commercial development is contrasted with village center development, which is characterized by two-story or taller buildings set close together and close to the road, with a pedestrian orientation (including sidewalks), and with parking located behind or to the side of buildings.

Structure. Any object constructed, installed, or placed on land to facilitate land use and development or subdivision of land, such as buildings, sheds, single-family dwellings, mobile homes, signs, tanks, fences, and poles, and any fixtures, additions, and alterations thereto. (amended 2004)

Subdivision: Any division of land into two or more lots, parcels, or sites, whether adjoining or not, for the purpose of sale, lease, license, or any form of separate ownership or occupancy (including any grading, road construction, installation of utilities, or any other substantial site work preparatory or incidental to any such division).

Subdivision Regulations: The Subdivision Regulations of the Town, as adopted by the Planning Board and approved by the Town Board, with any amendment thereto.

Transient accommodation: Any hotel, motel, resort, tourist court, or similar transient facility used to house the general public, including an accessory restaurant.

Transient unit: Each unit of a transient accommodation.

Travel trailer: Any vehicle, whether self-propelled or towed, including a tent camper, camp trailer, truck camper, or motor home, designed to travel on its own wheels and to be used for temporary living quarters for travel, recreational, or vacation purposes, and which may or may not include accommodations and facilities customarily included in a mobile home. However, any such vehicle used for residential purposes in one location for more than 30 consecutive days or 45 days in total during any one calendar year shall be considered a mobile home.

Two-family dwelling: A detached building used for residence in separate living quarters with separate cooking facilities by two families.

Use:

a. Any purpose for which a building or other structure or tract of land may be designed, arranged, intended, maintained, or occupied, or
b. Any activity, occupation, business, or operation carried on, or intended to be carried on, in a building or other structure or on a tract of land, or
c. The improvements, including buildings or other structures, associated with a use as defined in (a) or (b) above.

Use, accessory: A use which is incidental to, customarily found in connection with and located on the same lot as a main or principal use. The term shall include the planting and care of a vegetable garden or other small-scale horticultural activity and the keeping of individual pets, provided that no such pet shall be an animal customarily raised as a farm animal or farm fowl.

Use variance: The authorization by the Board of Appeals for the use of land for a purpose which is otherwise not allowed or is prohibited by the applicable zoning regulations.

Village: The area comprising the former incorporated Village of Westport, including all Village Districts.

Village Center Park: A landscaped area designed for passive or active recreation, which may contain a broad range of recreational facilities such as play equipment, play fields, athletic courts, skating rink, beach, swimming pool, recreational building; and appurtenant structures such as bath houses, restrooms, and maintenance buildings. It may also contain such other facilities as a band shell; outdoor spaces provided for people to gather for purposes of recreation, education, or other communal activity such as art and craft shows, farmer's markets, or festivals; and its uses may include activities of both for-profit and not-for-profit character such as temporary sales, not to exceed seven days.

Water Bottling Facility: A structure and accessory structures used in packaging water into containers for wholesale sales. Industrial business. (amended 2010)

Wetland: Any land which is subject to continual or periodic inundation by water and commonly referred to as a bog, swamp, or marsh.

Zoning Inspector: The Zoning Inspector of the Town, appointed by the Town Board and principally charged with administering and enforcing this local law, and having the powers and duties set forth in this local law, in the Subdivision Regulations, and as may be further provided by the Town Board.

SECTION 21 VILLAGE DISTRICT REGULATIONS

In the Village Districts, the following regulations apply:

21.010 District V-RES I

a. Permitted uses: single-family dwelling, garden, home occupation, accessory use, accessory apartment, guest cottage

(amended 2010)

b. Uses allowable by special permit: two-family dwelling, guest house, group home, public utility, major public utility (amended 2010)
c. Residential density shall not exceed one dwelling unit for each 1.5 acres. The minimum lot size shall be 7,500 square feet.
d. Each project shall provide not less than 2 off-street parking spaces per dwelling unit.
e. No building shall exceed 30 feet in height, measured from the first floor above the building's foundation to the highest portion of the roof.
f. No building or any portion thereof shall be closer than 25 feet from any lot line, nor closer than 50 feet from the near edge of the road bed of a public highway, except that in developed areas where, among existing buildings adjacent to or neighboring the site in question, there is an established pattern of setback from a public highway, then a new building shall follow the established pattern.
g. No lot shall have any dimension less than 75 feet.

21.020 District V-RES II, including V-RES II(t) and V-RES II(t)(a)

a. Permitted uses: single-family dwelling, public park, church, library, gardens, home occupation, accessory apartment; In districts designated V-RES II(t)(a), agriculture. (amended 2010)
b. Uses allowable by special permit: two-family dwelling, guest house, nursing home, group home; In districts designated V-RES II(t), and V-RES II(t)(a), transient accommodations, guest cottage, public utility, major public utility. (amended 2010)
c. Residential density shall not exceed one dwelling unit for each 1/2 acre, or one transient unit for each 1/10 acre. The minimum lot size shall be 7,500 square feet.
d. Each project shall provide not less than 2 off-street parking spaces per dwelling unit, or 1 space per transient unit.
e. No building shall exceed 30 feet in height, measured from the first floor above the building's foundation to the highest portion of the roof.
f. No building or any portion thereof shall be closer than 25 feet from any lot line, nor closer than 50 feet from the near edge of the road bed of a public highway, except that in developed areas where, among existing buildings adjacent to or neighboring the site in question, there is an established pattern of setback from a public highway, then a new building shall follow the established pattern.
g. No lot shall have any dimension less than 75 feet.

21.030 Districts V-RES II-PD(cc) and V-RES II-PD(a)

a. Permitted uses: single-family dwelling, public park, garden, home occupation, accessory use, accessory apartment, guest cottage; with respect to V-RES II-PD(cc) only, golf course and agriculture; with respect to V-RES II-PD(a) only, agriculture. (amended amended 2010)
b. Uses allowed by special permit: two-family dwelling, group home, nursing home, transient accommodations, industrial spring/well, public utility, major public utility; with respect to V-RES II-PD (cc) only: multi-family dwelling, commercial recreation facility, restaurant/bar; with respect to V-RES II–PD(a) only, self storage facility. (amended amended 2010)
c. Residential density shall not exceed one dwelling unit for each 1/2 acre, or 1 transient unit for each 1/10 acre. The minimum lot size shall be 7,500 square feet.
d. Each project shall provide not less than 2 off-street parking spaces per dwelling unit or 1 space per transient unit.
e. No building shall exceed 30 feet in height, measured from the first floor above the building's foundation to the highest portion of the roof.
f. No building or any portion thereof shall be closer than 25 feet from any lot line, nor closer than 50 feet from the near edge of the road bed of a public highway, except that in developed areas where, among existing buildings adjacent to or neighboring the site in question, there is an established pattern of setback from a public highway, then a new building shall follow the established pattern.
g. Any project involving the construction of one or more buildings shall be deemed to be a subdivision and shall require review pursuant to the Subdivision Regulations.
h. Unless reduced pursuant the provisions of Subsection 21.030(i) below, no lot shall have any dimension less than 75 feet.
i. The project sponsor may elect to override the minimum lot size requirement, but detached buildings shall be at least 75 feet apart. Under this option, no building shall be closer than 100 feet from the near edge of the road bed of a public highway, and no building shall be closer than 100 feet from the perimeter of the development. Not less

than 30% of the total project area shall be usable common open space meeting the standards of this subsection. In computing total project area, all land areas within the project shall be counted. The common open space may be of three types:

1. Centrally located major open space serving the entire project, or, in the event the project is divided into large segments, serving each such segment. Such space shall be predominantly left in its natural state and accessible from all dwelling units served.
2. Satellite open space areas serving groups of dwellings. Each such area shall be useful and attractive for active and passive recreation and readily accessible from the group of dwellings served.
3. Linear open space connectors, attractively designed and landscaped, linking the various residential and amenity elements of the project.

j. Such usable common open space shall, at all times, be accessible to all residents of the project, appropriately improved for common use, and protected against any development inconsistent with its common open space character. As a condition of its approval of such a plan, the Planning Board shall require that the project sponsor submit a restrictive declaration for filing in the land records or other suitable guarantee insuring compliance with the above.

k. The project shall be designed and constructed in a manner sensitive to the topography and other natural resource considerations, and shall reasonably apply the guidelines of the Village Plan. Existing native vegetation shall be retained to the maximum extent feasible. A detailed landscaping plan shall be required with any Special Permit or subdivision application.

l. To the extent feasible, the parking shall be clustered in common landscaped areas, but not concentrated to an unaesthetic degree.

21.040 District V-RES III

a. Permitted uses: single-family dwelling, two-family dwelling, public park, church, gardens, home occupation, accessory use, accessory apartment, guest cottage. (amended 2010)

b. Uses allowable by special permit: group home, nursing home, guest home, public utility, major public utility; the following additional uses within the LM/C Subdistrict only: light commercial, light manufacturing, water bottling facility. (amended 2010)

c. Residential density shall not exceed one dwelling unit for each 1/4 acre. The minimum lot size shall be 7,500 square feet.

d. Each project shall provide not less than 2 off-street parking spaces per dwelling unit.

e. No building shall exceed 30 feet in height, measured from the first floor above the building's foundation to the highest portion of the roof.

f. No building or any portion thereof shall be closer than 20 feet from any lot line, nor closer than 40 feet from the near edge of the road bed of a public highway, except that in developed areas where, among existing buildings adjacent to or neighboring the site in question, there is an established pattern of setback from a public highway, then a new building shall follow the established pattern.

g. No lot shall have any dimension less than 75 feet.

21.050 District V-BUS

a. Permitted uses: single-family dwelling, two-family dwelling, multi-family dwelling, light commercial use, transient accommodation, library, public park, government office, fire station, marine base, gardens, accessory use, home occupation, accessory apartment. (amended 2010)

b. Uses allowable by special permit: group home, public utility, major public utility. (amended 2010)

c. Residential density shall not exceed 1 dwelling unit for each 1/4 acre, or 1 transient unit for each 1/10 acre. No lot shall be smaller than 7,500 square feet.

d. Each project shall provide off-street parking spaces at the rate of not less than (1) 1 space per transient unit or 200 square feet of light commercial space, (2) 1¼ spaces per dwelling unit, provided where application of such rate results in a fractional number, the result shall be adjusted upward to the next whole number.

e. No building shall exceed 35 feet in height, measured from the first floor above the building's basement to the top portion of the roof.

f. Building setbacks shall generally follow the established patterns of existing buildings adjacent to or neighboring the site unless, as part of an overall site development plan, a deviation therefrom is reasonable.

g. The percentage of lot coverage and other criteria related to site design shall be reasonable and appropriate for the site taking into account the character of the surrounding area and other considerations listed in Section 26.042

hereof.

21.060 District V-IND

a. Permitted uses: heavy commercial use, manufacturing, heavy equipment facility, individual mobile home, railroad station
b. Uses allowed by special permit: self storage facility, water bottling facility, industrial spring/well, public utility, major public utility, light commercial. (amended 2010)
c. No building shall exceed 35 feet in height, measured from the first floor above the building's basement to the top portion of the roof.
d. No building or any portion thereof shall be closer than 25 feet from any lot line, nor closer than 50 feet from the near edge of the road bed of a public highway.
e. Each project shall provide off-street parking spaces at the rate of not less than (1) one space per 1,000 square feet of non-residential building space, and (2) two spaces per dwelling unit.
f. Each project application shall demonstrate adequate provision for loading and docking, exterior storage areas, and exterior waste disposal areas, taking into account the particular needs of the project.

21.070 District V-MGT

a. Permitted uses: agriculture, single-family dwelling, accessory use, home occupation, accessory apartment. (amended 2010)
b. Uses allowed by special permit: public utility, major public utility. (amended 2010)
c. Residential density shall not exceed one dwelling unit for each 42 acres. The minimum lot size shall be 7,500 square feet.
d. No building or any portion thereof shall be closer than 25 feet from any lot line, nor closer than 50 feet from the near edge of the road bed of a public highway.

21.080 District V-FAC

a. Permitted uses: school public park, fairground, playground, or sewage treatment plant, cemetery, athletic field, Village Center Park (only within the Special Village Center District).
b. Uses allowed by special permit: public utility, major public utility. (amended 2010)

SECTION 22 SHORELINES

22.010 Purpose

In order to provide adequate protection of the quality of the lakeshore of the Village and the visual quality of its shoreline, the following regulations apply in all districts.

22.020 Shore Frontage

22.021 Standard Residential Lots

Except as provided in Section 22.022, the shore frontage of a shoreline lot shall be at least 75 feet for each dwelling unit located thereon.

22.022 Clustered Residential Development

a. In the case of a project including two or more shoreline lots, the Planning Board may authorize such lots, or a portion of such lots, to have less shore frontage than that required in Section 22.021, provided that for the project as a whole the ratio of dwelling units to shore frontage is not greater than one per 50 feet of shore frontage and that not less than 50% of the shoreline in question remains undeveloped.
b. As a condition of permitting such clustering of shoreline development, the Planning Board must find that the applicant will insure, through conservation easement, restrictive covenant, declaration, or other appropriate means, that the undeveloped portions of shore-line, with the land upland of such shoreline to a depth of 150 feet, will be retained substantially unimproved and in its natural state.

22.023 Common Shoreline
In the case of a project where residential lots, sites, or units are afforded deeded or contractual access to shoreline, the following minimum amounts of shore frontage are required in the following cases:

a. Where fewer than 5 dwelling units are involved, 50 feet.
b. Where 5 or more but not more than 20 dwelling units are involved, 100 feet.
c. Where more than 20 but not more than 100 dwelling units are involved, 100 feet plus 3 feet for each such unit in excess of 20.
d. Where more than 100 but not more than 150 dwelling units are involved, 340 feet plus 2 feet for each such unit in excess of 100.
e. Where more than 150 dwelling units are involved, 440 feet plus one foot for each such unit in excess of 150.

22.024 Double Counting of Shore Frontage
In the case of a project including both (a) shoreline lots and (b) residential lots, sites, or units having deeded or contractual access to shoreline, no shore frontage counted to satisfy the requirements of Sections 22.021 or 22.022 shall also be counted to satisfy the requirements of Section 22.023.

22.025 Buffer Between Residential and Certain Non-Residential Shoreline Uses
In the case of any marine base involving shoreline, there shall be a minimum of 50 feet of undeveloped shoreline between each edge of such use and any adjoining property improved with dwelling. units.

22.030 Building Setback
The minimum setback from a shoreline of all buildings and all accessory structures having in excess of 100 square feet of floor area, except docks and boathouses, shall be 50 feet.

22.040 Removal of Vegetation

a. Within thirty-five (35) feet of the mean high water mark no vegetation may be removed, except that up to a maximum of thirty percent of the trees in excess of six (6) inches diameter at breast height existing at any time may be cut over any ten-year period.
b. Within six (6) feet of the mean high water mark no vegetation may be removed, except that up to a maximum of thirty percent of the shorefront may be cleared of vegetation on any individual lot. This provision shall be adhered to in addition to a. above.
c. Subdivisions (a) and (b) of this Section shall not be deemed to prohibit the removal of diseased vegetation or of rotten or damaged trees or of vegetation that presents a safety or health hazard.

SECTION 23 SIGNS

For Sign Regulations, see Section 10.

SECTION 24 MISCELLANEOUS REGULATIONS

24.010 Travel Trailers

24.011 No travel trailer shall be parked or located overnight within any Village except:

a. On the property of the owner thereof in conformance with Sections 24.012 and 24.013 below, or
b. On the premises of a travel trailer sales or rental establishment

24.012 No travel trailer shall be parked or located overnight on the property of the owner thereof, unless such travel trailer is parked in the least conspicuous place possible as viewed from a public highway regularly trafficked by the public, preferably parked in the rear or side yard behind the front face of the principal building, and preferably no closer than six feet to any lot line. A travel trailer so parked shall not block access by emergency vehicles, shall not be used as living quarters and shall not be hooked up to any utilities.

24.013 A visitor to a family may park a travel trailer on the lot of the family being visited subject to the issuance of a

permit by the Zoning Inspector, provided it is located in accordance with the requirements of Section 24.012. Such use of the subject premises shall not exceed 30 consecutive days or 45 days in total during any one calendar year, and shall not be provided pursuant to payment or donation of any fee or equivalent goods or services.

24.020 Motor Vehicle Storage

No motor vehicle, as such term is defined in the Vehicle and Traffic Law, may be stored outdoors within the Village unless such vehicle bears a current New York State Motor Inspection Certificate pursuant to Article 5 of the Vehicle and Traffic Law. This regulation shall not apply to the vehicles of persons currently serving in the Armed Forces of the United States, or to vehicles stored on premises by an automobile dealer or garage.

24.030 Garage or Lawn Sales

Garage or lawn sales may be conducted as an accessory use, but each sale shall require a permit issued by the Zoning Inspector. Such sales shall be subject to the following regulations:

a. No family shall hold more than 3 such sales annually.
b. Each sale shall be limited to 3 days duration, and such days shall run consecutively.
c. Upon the termination of a sale, the operator thereof shall erase all evidence of the sale within 24 hours.

24.040 Abandoned Projects

Where a project, other than a project involving the construction or alteration of a single-family dwelling or involving agriculture, once begun, has had no substantial progress for 12 months or more, then the project shall be deemed abandoned, and the Zoning Inspector may order (1) the premises to be cleared of rubbish, building materials, and any other unsightly accumulations, and (2) any excavation to be filled or completely enclosed by a substantial fence at least 6 feet high.

24.050 Fences

Fences may be erected as an accessory use and shall require a permit issued by the Zoning Inspector. Such fences shall be subject to the following regulations:

a. No fence, free-standing wall or hedge shall be located within the right of way of any public highway.
b. No fence, free-standing wall or hedge shall be located so that it substantially interferes with the visibility from a public highway of an intersecting public highway, private road, or driveway.

24.060 Automobile Junkyards and Junkyards

No new automobile junkyards or junkyards shall be permitted within any Village District. Any such junkyards in existence shall not be protected under the provisions of Section 4, and within 5 years of the effective date of this local law or its predecessor (July 1980) all existing automobile junkyards and junkyards shall be removed and their sites cleaned of all materials associated therewith.

24.070 Waste Disposal Areas; Exterior Storage Areas

All waste disposal areas and exterior storage areas associated with uses permitted in the V-BUS, V-IND, and V-FAC Districts shall be maintained in a neat and orderly condition and located in so far as possible out of sight of any public highway. In situations where waste disposal areas cannot be so located, then they shall be screened by an opaque fence or substantially opaque plantings. Any such fences shall be constructed of such material (preferably wood) that it in itself is not an eyesore.

24.080 Animals

24.081 In accordance with the definition of "agriculture," animals may be kept in Village Districts where agriculture use is permitted.

24.082 In accordance with the definition of "use, accessory," the keeping of individual pets, provided that no such pet shall be an animal customarily raised as a farm animal or farm fowl, is permitted.

24.083 Notwithstanding the prohibitions of Sections 24.081 or 24.082 above, animals may be kept, pursuant to a Special Permit issued in accordance with the procedures of Section 5, in those areas of the Village where the owner has proper buildings or enclosures for this purpose, and no significant noise, odor, or other nuisance is discernable off the premises.

24.090 Guest Houses, Nursing Homes, and Group Homes

24.091 Guest Houses

A guest house may be established only in an existing building and shall have one on-site parking space for each guest room. Such parking shall be located substantially behind or to the side of the principal building.

24.092 Nursing Homes and Group Homes

Nursing homes and group homes shall have on-site parking sufficient for staff and visitors.

24.100 Accessory Apartments (amended 2010)

24.101 The intent of this section is to allow separate living space within an existing single family dwelling to be occupied by family members or caregivers and to ensure that this use is conducted in a manner that protects and preserves neighborhood character and property values.

24.102 Notwithstanding the maximum intensity of development and the minimum lot size specified for the particular zoning district, an accessory apartment shall be allowed in a single family dwelling in all Village districts except for V-IND and V-FAC, provided that the following conditions are found to be satisfied in Site Plan Review by the Planning Board.

a. The Town will maintain a list of all accessory use apartments in current use.
b. The landowner, or their agent, is required annually to renew the permission to continue the accessory apartment and provide documentation that all provisions of this section are in compliance. Failure to renew the use will result in the termination of the approval for the accessory apartment and require the removal of the kitchen facilities stated in Section (c).
c. When the purpose or the authorization for the accessory apartment expires or is invalidated, the kitchen facilities of the apartment, including any refrigerator, stovetop or range, dishwasher, and microwave, shall be removed within 60 days.

24.103 Standards and Requirements

a. The owner(s) of the property shall occupy at least one of the dwelling units on the premises as a principal residence.
b. No more than one accessory apartment is permitted on a lot.
c. Modification to an existing building to accommodate an accessory apartment shall comply with all provisions contain in this zoning law except for the density allowance provided in accordance with this section.
d. An accessory apartment shall not exceed 750 square feet in size of the floor space.
e. If the total habitable floor space of all dwelling structures on the lot exceeds 3500 square feet, no new habitable space may be constructed on the lot.
f. Off-street parking shall be available for the occupant(s) of the accessory apartment and the primary single family dwelling.
g. Sites within the wastewater district will be connected to the district wastewater system.
h. Site served by existing on-site wastewater treatment system shall meet all applicable State and Town standards for wastewater systems.
i. The building containing the accessory apartment shall meet all applicable Standards of the State Building Code and Local Law.
j. The property may be served by only one meter for each water and electric utility supplied.
k. No more than two (2) people may reside in the accessory apartment.
l. No money may be received by the property owner in exchange for occupancy of the accessory apartment.

24.104 Procedures for Approval of Accessory Apartments

Approval by the Planning Board of a proposed accessory apartment shall require notice to the public and a public hearing conducted under the Site Plan Review procedures and requirements described in this Local Law.

24.110 Standards for Industrial Spring/Well (amended 2010)

The following specific standards apply in connection with the review and approval of an industrial spring/well

a. Precipitation recharge to the aquifer system being tapped must safely exceed the proposed maximum quantity of groundwater (or spring water) to be extracted. In addition, the daily withdrawal of water from the site shall not be allowed to have an undue adverse environmental impact on nearby wells, surface water or the storage capacity of the aquifer. It shall be the responsibility of the project sponsor to retain the services of a qualified geologist or hydrogeologist to certify that this condition has been satisfied based on results of the site specific studies and/or investigations.

SECTION 25 LANDMARK PRESERVATION

25.010 Findings and Purpose

It is hereby found and declared that, as documented in the Westport Village Development and Preservation Program, there are within the Village particular buildings or other improvements of special character or special historical or aesthetic interest or value, and that the conservation and protection of the same is a public necessity and is required in the interest of the prosperity and welfare of the people. The purpose of this Section is to:

a. Accomplish the conservation and protection of such improvements;
b. Safeguard the historic, aesthetic, and cultural heritage of the Village;
c. Stabilize and improve property values in the Village;
d. Foster civic pride in the beauty and noble accomplishments of the past;
e. Protect and enhance the Village's attractions to tourists and visitors and the support and stimulus to business and commerce thereby provided.

25.020 Application of Regulations

The regulations contained in this Section apply to landmarks, as designated on the Zoning Map. The landmark designation reflects buildings or other improvements of special character or special historical or aesthetic interest or value designated on the Zoning Map.

25.030 Preservation Advisory Board

There shall be a Preservation Advisory Board for the Village. Such board shall consist of not less than 3 nor more than 5 Village residents, not members of the Planning Board or Board of Appeals, named by the Town Board for terms not to exceed 5 years, provided that the terms of no more than 2 of the members shall expire during any 12-month period. In the case of a member's resignation or inability to serve, the Town Board shall appoint a person for the unexpired portion of such member's term. No member may serve for more than 2 consecutive terms. The Preservation Advisory Board shall, to the extent feasible, include persons skilled or knowledgeable in architectural history, architecture, real estate, carpentry, and masonry. The Preservation Advisory Board shall make recommendations to the Planning Board in its consideration of special permits pursuant to Section 25.040 hereof, and perform such other duties in aid of historic preservation within the Village as the Town Board may request. The Preservation Advisory Board shall serve without compensation, except that actual expenses of members incurred in connection with official duties may be reimbursed out of appropriations of the Town Board for such purposes. The Preservation Advisory Board shall establish rules of procedure and shall select a chairman and secretary from among its members.

25.040 Alterations or Demolition

25.041 Requirement of Special Permit
With regard to a landmark,

a. No alteration, including painting or resurfacing to a different color or material, significantly affecting its appearance as seen from a public highway, and
b. No demolition of all or any portion thereof visible from a public highway shall be undertaken except pursuant to a special permit issued by the Planning Board, in contemplation of the recommendations of the Preservation Advisory Board. Anything in this provision to the contrary notwithstanding, nothing herein shall prevent the demolition and clearance of any building which the Zoning Inspector determines poses a clear and present danger to health and safety.

25.042 Application

An application for a special permit under this Section shall be filed in 5 copies with the Zoning Inspector, and shall include the address, one or more photographs of the property in question, and

a. In the case of a proposed alteration, a full description of the work proposed, including, where appropriate, color or material samples and, where feasible, architectural elevations, or
b. In the case of a proposed demolition, material relevant to the finding required for demolition pursuant to Subsection 25.043(b) hereof. The application also shall contain any available information, including drawings and photographs, as to the history and prior appearance of the property in question.

25.043 Procedure and Required Finding

a. Upon receipt of an application, the Zoning Inspector shall refer the application to the Planning Board and the Preservation Advisory Board. The Planning Board and the Preservation Advisory Board may require the applicant to furnish additional material or information. The preservation Advisory Board, within 30 days after receipt of a complete application, shall submit to the Planning Board in writing its evaluation of the appropriateness of the proposed work or demolition in light of the objectives of this Section. Specifically, in the case of a proposed alteration, the report shall evaluate the scale, color, materials, general design and arrangement, architectural detailing, and other features of the proposed work in light of the individual history and style of the building in question. In the case of a proposed demolition, the report shall evaluate the landmark in light of the demolition finding in Subsection 25.043(b) below. For a proposed alteration, the report shall contain a summary recommendation as to the appropriateness or inappropriateness of the proposed work, together with, in the case of a proposal deemed inappropriate, recommendations as to how the proposed work could be modified to render it appropriate.
b. In order to grant a special permit under this Section, the Planning Board shall find
    1. that in the case of a proposed alteration, that such alteration is, taking into account fundamental needs of the owner of the property in question, satisfactorily consistent with the historic and/or architectural character of the landmark, or
    2. in the case of a proposed demolition, that the landmark in its present condition or as it may be rehabilitated or altered, is incapable of earning a reasonable return. In considering such finding, the Planning Board shall explicitly take into consideration the report of the Preservation Advisory Board. In the case where the Planning Board shall reject the recommendation of the Preservation Advisory Board, the report of the Planning Board on its action shall explicitly state the reason for such rejection.
c. Except as otherwise provided in this Section, the procedure followed as to notice, hearing, and similar matters in connection with a special permit pursuant to this Section shall be that set out in Section 5.030 hereof, provided that no public hearing shall be scheduled until 30 days following the referral of an application to the Preservation Advisory Board.

SECTION 26 SPECIAL VILLAGE CENTER DISTRICT

26.010 Findings and Purpose

It is hereby found and declared that the visual quality of and distribution of land uses within the Village center is of special importance to the prosperity and welfare of the Village and its citizens. The purpose of this Section is to establish special regulations governing the distribution of uses and configuration of buildings within the Village center.

26.020 General

26.021 Application of Regulations

The regulations contained in this Section apply within the Special Village Center District, as designated on the Zoning Map.

26.022 Relation to Other Districts

The Special Village Center District is a special purpose district mapped over other districts. It modifies and, where there is inconsistency, supersedes the regulations of such other districts. Except as so modified or superseded, the regulations of the underlying districts remain in effect.

26.030 Development Guidelines Isometric

The Village Center Development Guidelines Isometric, derived from the Westport Village Development and Preservation Program, is hereby incorporated into this Section as reference material.

26.040 New Construction

26.041 Special Permit
Within the Special Village Center District, construction of any new, or substantial enlargement or substantial alterations of any existing building shall be only pursuant to a special permit issued by the Planning Board in accordance with this Section.

26.042 Regional Finding
The Planning Board shall issue such special permit where it finds that, to the extent feasible and appropriate, the proposed construction is compatible with the Westport Village Development and Preservation Program, as expressed in the Development Guidelines Isometric. In particular, the Planning Board shall consider the proposed construction's conformity with the Development Guidelines Isometric with respect to the following:

a. Building location, configuration, and scale, including height, roofline, and set back (if any) from street
b. Facades including crenellation, materials, transparency, porches
c. Character and location of uses including ground floor retail, residential uses, and proposed inn
d. Preservation of landmark buildings
e. Preservation of view corridors
f. Road extensions
g. Beach-promenade easement
h. Street and sidewalk improvements
i. Open space improvements

26.043 Application
An application for a special permit under this Section shall be filed in 5 copies with the Zoning Inspector, and shall include a site plan of the property in question drawn to scale and plans for the proposed new building.

26.044 Procedure
The procedure for a special permit under this Section shall be that set out in Section 5.030 hereof.

SECTION 27 SPECIAL OPEN SPACE DISTRICT *(V-OSP)*

27.010 Findings and Purpose
It is hereby found and declared that

a. There are within the Village particular open spaces which are of special visual and scenic significance and value to the public as open space, or which are so located or of such character that their development in most cases would present unacceptable adverse environmental consequences,
b. That the conservation and protection of such open spaces is a public necessity and is required in the interest of the health, safety, and welfare of the people. The purpose of this Section is to conserve and protect the visual and environmental quality of the Village through the conservation and protection of such open spaces.

27.020 General

27.201 Application of Regulations
The regulations contained in this Section apply within the Special Open Space District which appears on the Zoning Map over open spaces having special visual or environmental character.

27.022 Relation to Other Districts
The special Open Space District is an overlay district mapped over other districts. It modifies and, where there is inconsistency, supersedes the regulations of such other districts. Except as so modified or superseded, the regulations of the underlying districts remain in effect.

27.030 Projects Within District

27.031 Special Permit
Within the Special Open Space District, no person shall undertake a project except pursuant to a special permit issued by the Planning Board.

27.032 Required Finding
The Planning Board shall issue such special permit only where it finds

a. The project cannot feasibly be located at a site not within the Special Open Space District;
b. Within the Special Open Space District, the project is located and designed so that its visual impact is minimized; and
c. Independent of visual considerations, the project will be located, designed, constructed, and operated such that it will have no substantial adverse impact on the environment, public health or safety.

27.033 Application
An application for a special permit under this Section shall be filed in 5 copies with the Zoning Inspector, and shall include:

a. A plan of the property in question drawn to scale and showing topographic and manmade features,
b. A detailed plan of the project proposed, and
c. Information enabling the Planning Board to consider the findings stated in Section 27.032 hereof.

27.034 Procedure
The procedure for a special permit under this Section shall be that set out in Section 5.030 hereof.

SECTION 28 FLOOD-PRONE AREAS

28.010 Special Flood-Prone Areas
Construction on and alteration of flood-prone lands is subject to the provisions of Local Law Number ___ of the Year 1987 of the Town of Westport.

SECTION 29 OFF-STREET PARKING

29.010 Purpose
The purpose of this section is to ensure the provision of adequate parking while minimizing both the burdens placed on property owners to provide on-site parking on small village lots and the negative impacts of excessive parking lot construction. Large and highly visible parking lots tend to damage the historic layout and architectural fabric of a village, harm the natural environment and visual character of the village, interfere with pedestrian safety and accessibility, and reduce the quality of life. Excessive parking requirements can make it difficult or impossible for business to locate on the Village Business District.

29.020 Minimum Off-Street Parking Required for Residential Uses

a. For single-family or two-family dwelling: 2 spaces per dwelling unit.
b. For multi-family dwelling: One-and-one-half spaces per dwelling unit (fractions shall be rounded up).
c. These requirements may be reduced for dwelling units with less than 1,000 square feet of floor space, senior citizen housing, mixed-use development, or other appropriate circumstances if the Planning Board determines that such reductions are warranted.

29.030 Parking Requirements for Non-residential Uses
Because non-residential uses vary widely in their need for off street parking, parking requirements shall be based on the specific operational characteristics of each proposed use. The provisional parking standards in Subsection 29.031 below shall be applied and may be varied by the Planning Board to the criteria in Subsection 29.032 below.

29.031 Provisional Parking Standards

a. Retail or service business uses: Four spaces per 1,000 square feet of enclosed floor space.
b. Industrial/warehouse uses: One space per 1,000 square feet of enclosed floor space.
c. Office uses: Three spaces per 1,000 square feet of floor space.
d. Transient Accommodation: One space for each bedroom plus one space for each non-resident employee and one space for every 200 square feet of floor space for meetings and functions.
e. Restaurants, theaters, and other places of public assembly: One space for every three seats.
f. Uses not listed above: As appropriate to the circumstances.

29.032 Criteria for Applying Provisional Standards

In applying or modifying the provisional parking standards for any proposed use, the Planning Board shall consider:

a. The nature of the previous use of the same property. If the proposed use has no greater parking demand then the previous use, it shall be deemed to require no additional parking spaces. If the new use requires more parking than the previous use, it shall be obligated to provide only the number of spaces by which its parking demand exceeds the demand of the previous use. For example, if a restaurant requiring 10 spaces replaces a retail store that required only *5* spaces, the restaurant would be responsible for either supplying *5* additional spaces or showing that such spaces are not needed or already exist within the Village parking supply.
b. The maximum number of vehicles that actually be parked at the use at times of peak usage Parking shall be sufficient to satisfy 85 % of the anticipated peak demand. The likelihood of people walking, bicycling, or carpooling to the proposed use shall be taken into consideration. The likelihood that people would park in one place in the Village and visit the proposed use as one of several destinations shall also be taken into account
c. The size of the structure(s) and the property.
d. The environmental, scenic, or historic sensitivity of the site. hi cases where sufficient area for parking cannot be created on the site without disturbance to these resource values, the Planning Board may require a reduction in the size of the structure so that the available parking will be sufficient
e. The availability of safely usable on-street parking in front of the use.
f. The availability of off-site off-street public parking lots within 1,000 feet, where such parking lots generally have spaces available.
g. The availability of off-site off-street parking within 1,000 feet that is owned, leased, or controlled by the applicant or available on shared-use basis, provided that the applicant either dedicates such off-site land for public parking or demonstrates a legal right to its use.
h. The requirements for parking for the disabled as prescribed by the Americans with Disabilities Act.

29.033 Fee in Lieu of Parking Space

Where the required spaces cannot be provided on-site, on the street, or in existing public or private parking lots, the applicant shall pay a fee in lieu of providing one or more required spaces, in an amount established by the Town Board sufficient to cover the estimated cost of providing additional public parking spaces. Such fee shall be kept in a dedicated fund for municipal parking purpose and shall be used for such purpose within three years or returned to the applicant (or the applicant's successor).

29.040 Design of Parking Areas

29.041 Location and Screening

Ail off-street parking shall be located behind or to the side of the principal building. Parking spaces located in a side yard shall, if possible, be screened from public view. Adjoining parking areas shall be connected directly to one another or to service road or alley wherever feasible to reduce turning movements onto roads.

29.042 Landscaping

Parking lots shall be designed and landscaped to avoid long, uninterrupted rows of vehicles by breaking them onto separate parking areas divided by tree lines, alleys, pedestrian areas, or buildings. At least one 3-inch minimum caliper shade tree shall be provided per eight spaces.

29.043 Lighting

Lighting within parking lots shall be on low poles of 12 feet to 15 feet maximum height, with color-corrected lamps and cut-off luminaries designed to minimize glare and light pollution. Design of poles and luminaries shall be compatible with the style of the architecture and adjoining streetscape treatment.

29.050 Parking Lot as Accessory Use to Residential Dwelling

Parking spaces may be made available for non-residential uses on residential lots on the V-BUS District by Special Permit. Such spaces shall be screened from adjoining properties and roads, and shall not exceed six spaces per lot.

29.060 Existing Uses and Structures

The provisions of the Section 29 shall not apply to any use in existence on Feb 13, amended 2001 (date of enactment of Section 29). Expansion of existing uses and new uses located in existing structures shall be brought into conformity with this Section to the extent practical.

SECTION 30 CONSTRUCTION OF LANGUAGE AND DEFINITIONS

30.010 Construction of Language

The following rules of construction apply to the text of this local law:

a. The particular shall control the general.
b. The word "shall" is always mandatory and not discretionary. The word "may" is permissive.
c. Words used in the present tense shall include the future; words used in the singular number shall include the plural, and the plural the singular, unless the context clearly indicates the contrary.
d. A "building" or "structure" includes any part thereof.
e. The word "used," when employed in the phrases "used to," "used for" or "used as" includes the following words when employed in similar phrases: "designed," "intended," "maintained," "occupied."
f. Unless the context clearly indicates the contrary, where a regulation involves two or more items, conditions, provisions, or events connected by the conjunction "and," "or," or "either...or," the conjunction shall be interpreted as follows:
   1."And" indicates that all the connected items, conditions, provisions, or events shall apply.
   2."Or" indicates that, the connected items, conditions, provisions, or events may apply singly or in any combination.
   3."Either...or" indicates that the connected items, conditions, provisions, or events shall apply singly but not in combination.
g. The word "includes" shall not limit a term to the specified examples, but is intended to extend its meaning to all other instances or circumstances of like kind or character.

30.020 Definitions

When used in this local law, the following terms shall have meanings set out below. Any term used in this local law which is not defined in this Section or elsewhere in this local law shall carry its customary meaning as defined in a generally accepted dictionary.

Accessory Apartment: An accessory apartment is a short-term accessory use to a single family dwelling. It is a separate living space within a single family dwelling to be occupied by family members or caregivers. An accessory apartment shall constitute a principal building however it does not need to comply with the density or minimum lot size requirements of the district. (amended 2010)

Accessory Use. A use of a structure, lot, or portion thereof that is customarily incidental and subordinate to and does not change the character of the principal use to which it is accessory, including in the case of residential structures a home occupation.

Adirondack Park. Land lying within the area described in subdivision one of Section 9-0101 of the Environmental Conservation Law of the State of New York including any future amendments thereto.

Adirondack Park Agency or Agency. The Adirondack Park Agency created by Section 803 of Article 27 of the Executive Law of the State of New York.

Adirondack Park Agency Act. Article 27 of the Executive Law of the State of New York, including any future amendments thereto, and may be hereafter referred to as the "Act."

Agricultural Data Statement. An identification of farm operations within an agricultural district located within five hundred feet of the boundary of property upon which a Special Permit, use variance, or subdivision is proposed, as provided in Section 305-a of the Agriculture and Markets Law. An agricultural data statement shall include the following information: the name and address of the applicant; a description of the proposed project and its location; the name and address of any owner of land within the agricultural district, which land contains farm operations and is located within five hundred feet of the boundary of the property upon which the project is proposed; and a tax map or other map showing the site of the proposed Subdivision relative to the location of farm operations identified in the agricultural data statement.

Agricultural Service Use. A use directly and customarily related to the supply and service of agriculture, including a milk processing plant, feed storage and supply facility, farm machinery or equipment sales and service facility, or storage and processing facility for fruits, vegetables, and other agricultural products.

Agriculture. The use and management of land for the raising of crops or livestock. The term includes raising of cows, horses, pigs, poultry, and other livestock, beekeeping, horticulture, orchards, the sale of products grown or raised directly on such land, the construction, alteration, or maintenance of barns, sheds, stables, silos, garages, produce sales stands, fences, agricultural roads, agricultural drainage systems, farm ponds, and other buildings or structures customarily associated with agriculture.

Area variance: the authorization by the Zoning Board of Appeals for the use of land in a manner which is not allowed by the dimensional or physical requirements of the applicable zoning regulations.

Automobile Junkyard. Any place of storage or deposit, whether in connection with another business or not, where two or more unregistered vehicles, no longer intended or in condition for legal use on the public highways or in agricultural, forestry, or mining activities, are held, whether for the purpose of resale of used parts therefrom, for the purpose of reclaiming for use some or all of the materials therein, whether metal, glass, fabric, or otherwise, for the purpose of disposing of the same or for any other purpose; such term shall include any place of storage or deposit for any such purposes of used parts or waste materials from motor vehicles which, taken together, equal in bulk two or more such vehicles provided; however, the term junkyard shall not be construed to mean an establishment having facilities for processing iron, steel, or non-ferrous scrap for sale for remelting purposes only. For the purpose of this definition, "motor vehicle" shall mean all vehicles propelled or drawn by power other than muscular power originally intended for use on public highways or in agricultural, forestry, or mining activities.

Bed and Breakfast. An owner-occupied residence offering overnight accommodations in the principal building or an accessory structure, with no more than four bedrooms in the residence for transient use, and serving no meals other than breakfast.

Board of Appeals. The Board of Appeals of the Town, also referred to as the Zoning Board of Appeals.

Boathouse. A structure with direct access to a navigable body of water (1) which is used for the storage of boats and associated equipment and (2) which does not have bathroom or kitchen facilities and is not designed or used for lodging or residency.

Building. A permanent, fixed structure (not including a mobile home) having a roof or other overhead cover and intended for the shelter, housing, or enclosure of persons, animals, or other property.

Campground. An area designated for transient occupancy by camping in tents, camp trailers, travel trailers, motor homes, or similar facility designated for temporary shelter. This term includes a travel trailer camp and related facilities.

Cemetery. A place for burial of the dead, including crematory facilities and morgues as accessory or commercial uses. Commercial uses may require a permit.

Class A Regional Project. A land use or development which is classified and defined as such in Section 810 of Act, listed in Appendix A of this local law.

Class B Regional Project. A land use or development which is classified and defined as such in Section 810 of Act, listed in Appendix B of this local law.

Class A Regional Subdivision. A subdivision which is classified and defined as such in Section 810 of Act, listed in the town subdivision regulations.

Class B Regional Subdivision. A subdivision which is classified and defined as such in Section 810 of Act, listed in the town subdivision regulations.

Clearcutting. Any cutting of all or substantially all trees over six inches in diameter at breast height over any ten-year cutting cycle, involving four or more contiguous acres of land.

Commercial, Large Scale. A commercial use which occupies more than 10,000 square feet of floor area or more than one acre of land.

Commercial Resource Extraction. Any extraction from the land of more than 50 cubic yards in any two-year period of sand, gravel, topsoil, or other mineral deposit.

Commercial Resource Extraction Structure. Any mine hoist; ore reduction, concentrating, sintering, or similar facilities and equipment; administrative buildings; garages or other main buildings or structures.

Commercial Use. Any use involving the sale or rental or distribution of goods, services, or commodities, either retail or wholesale, or the provision of recreation facilities or activities for a fee. The term shall not include uses of the above nature which are separately defined in this local law.

Community Water/Sewage Disposal Facility. Water and/or sewage disposal system shared by a group of property owners, owned privately by the property owners or another entity under applicable provisions of State Law.

Community Facility. Any facility, college, school, library, hospital, animal hospital, place of worship, museum, playground, firehouse, meeting hall, park, post office, group home, nursing home, municipal office, meeting hall, or similar facility maintained by a public or by a not-for-profit association primarily for social, recreational, welfare, or educational needs of the community.

Conservation Easement. A perpetual restriction on the use of land, created in accordance with the provisions of Section 49, Title 3 of the Environmental Conservation Law or Section 247 of the General Municipal Law, for the purposes of

conservation of open space, agricultural land, and natural, cultural, historic, and scenic resources.
County. Essex County.
County Planning Board. The Essex County Planning Board, established pursuant to Article 12B of the General Municipal Law.
Day. Calendar day, including Sundays and holidays, unless otherwise specified.
Dwelling Unit. Any one of the following: single-family dwelling, mobile home, each unit of a two-family dwelling or multi-family dwelling.
Family. A single individual occupying a dwelling, or two or more individuals occupying a dwelling and maintaining a common household.
Farm Operation. Land used in agricultural production, farm buildings, equipment, and farm residential buildings.
Forestry. Use or management, including logging, of a forest, woodland, or tree plantation, and related research and educational activities, including the construction, alteration, or maintenance of roads, skidways, landings, fences, forest drainage systems, barns, sheds, garages, and research, educational, or administrative buildings or cabins directly and customarily associated with forestry use.
Group Camp. Any land or facility for seasonal housing and recreational, educational, or business related use by private groups or semi-public groups, such as boy or girl scout camp, fraternal lodge or university, or college conference center.
Group Home. A residential facility for children or adults who require special care or supervision, such facility being operated by, under contract with, or licensed by a state or county agency.
Guest Cottage: Not more than one residential structure which is associated with an accessory use to a single family dwelling located on a lot that meets the minimum lot size for the district where proposed and which: (a) is used only on an occasional basis; (b) is used only by guests of the resident(s) of the associated single family dwelling; (c) is not for rent or hire separately from the associated single family dwelling; and (d) contains one-half (1/2) or less of the enclosed floor space of the associated single family dwelling or 1,250 square feet, whichever is less. (amended 2010)
Home Occupation. Professional office or business use of a residential property by the occupant, conducted within the residence or an accessory structure, occupying no more than 3,000 square feet of floor space and/or outdoor yard space, which does not change the residential character of the premises or employ more than 5 non-resident employees.
Hunting and Fishing Cabin: A cabin, camp, lean-to or other similar structure designed and used only for occasional occupancy and primarily for hunting, fishing and similar purposes that (a) is a one-story structure but may include a sleeping loft; (b) is built on posts or piers and does not have a permanent foundation; (c) is served by a sanitary pit privy or chemical toilet and does not have a conventional, on-site waste water treatment system; (d) does not have pressurized or indoor plumbing except for a kitchen sink with appropriate graywater leach pit; (e) is not connected to any public utilities such as electric, phone, cable television, water or sewer systems;(f) is less than 500 square feet in size (g) not more than one (1) is allowed per 20 acres; and (h) meets a 150 foot shoreline building setback. (amended 2010)
Industrial Spring/Well: A spring or well, its accessory structures, intended to supply a large quantity of water to supply an industrial use. (amended 2010)
Industrial Use. Any manufacturing, production, or assembly of goods or materials, including any on-site waste disposal area directly associated with an industrial use. This term does not include mineral extractions, private and commercial sand and gravel extraction, sawmills, chipping mills, pallet mills, and similar wood-using facilities. An industrial use may include product display, wholesale, warehousing, and retail operations as accessory uses, provided such activity is incidental and subordinate to the principal use to which it is accessory. This term shall not include uses of the above nature which are separately defined in this local law.
In Existence. With respect to any land use or development, including any structure, that such use or development has been substantially commenced or completed.
Junk Automobile. Any unregistered, old, or second hand motor vehicle, no longer intended or in condition for legal use on the public highways. For the purpose of this definition, "motor vehicle" shall mean all vehicles propelled or drawn by power other than muscular power originally intended for use on public highways or for use in agricultural, forestry, or mining activities.
Junkyard. Any open lot or area for dismantling, storage, or sale, as parts, scrap, or salvage, of used or wrecked motor vehicles, machinery, scrap metals, waste papers, rags, used or salvaged building materials, or other discarded material.
Land. The earth, on or below the surface of the ground, including water and air above, the flora and fauna.
Land Use Area. Those areas delineated on the official Adirondack Park Land Use and Development Plan Map adopted under Article 27 of the Executive Law of the State of New York and designated thereon as "Hamlet," "Moderate Intensity Use," "Low Intensity Use," "Rural Use," "Resource Management," and "Industrial," and such portions of those areas as are located within the town, and delineated on the Adirondack Park Land Use and Development Plan Map.
Land Use or Development. Any construction or other activity which materially changes the use or appearance of land or a structure or the intensity of the use of land or a structure. Land use and development shall not include any landscaping, grading, or excavation which is not intended to be used in connection with another land use, or ordinary repairs or

maintenance or interior alterations to existing structures or uses.

Major Project: A project that requires a Special Permit and that exceeds any of the thresholds for a Minor Project.

Major Public Utility Use. Any electric power transmission or distribution line and associated equipment of a rating of more than fifteen kilovolts which is one mile or more in length; any telephone interchange or trunk cable or feeder cable which is one mile or more in length; any telephone distribution facility containing twenty-five or more pairs of wire and designed to provide initial telephone service for new structures; any television, cable television, radio, telephone, or other communication transmission tower, any pipe or conduit or other appurtenance used for the transmission of gas, oil or other fuel which is one mile or more in length; any electric substation, generating facility, or maintenance building and any water or sewage pipes or conduits, including any water storage tanks, designed to service fifty or more principal buildings.

Manufacturing. A use consisting of the fabricating, processing, production or assembly of goods or materials including any on-site waste disposal associated with such use.

Marina. A waterfront commercial facility for the docking, servicing, storage, rental, or sale of boats or water-based aircraft.

Minor Project: A project that requires a Special Permit and that falls below all of the following thresholds:

a. Construction of four or fewer multi-family dwelling units.
b. Construction of facilities or structures for a non-residential use covering no more than 3,000 square feet of building footprint.
c. Minor alteration of existing structures or expansion of such structures by no more than 1,000 square feet.
d. Conversion of existing structures to another use.
e. Alteration and active use of 5,000 square feet or less of land, with or without structures, in connection with the Special Permit use.

Mobile Home. A self-contained dwelling, not including a travel trailer, that is designed to be transported to its site on its own wheels or those of another vehicle, that may contain the same water supply, kitchen facilities and plumbing, sewage disposal, and electric system as immobile housing, and that is designed to be used exclusively for residential purposes. A modular home or other dwelling unit that is constructed off-site in two or more main sections and transported to and permanently assembled on the site on a permanent foundation is not considered a mobile home.

Mobile Home Court. A parcel of land in one ownership used in whole or in part to provide sites, generally on a year-round basis, for two or more mobile homes used as dwellings, whether occupied as permanent residences or as vacation homes.

Multi-family Dwelling. Any structure containing more than one dwelling unit, including the conversion of an existing single-family dwelling, designed for occupancy in separate dwelling units therein by more than one family.

Noncomplying Use or Structure. A use or structure which does not comply with one or more of the regulations of this local law, other than a regulation governing the type of use permitted, and which was fully lawful when established but was rendered non-complying by this local law or amendment thereto or by any prior zoning law.

Nonconforming Use. A use, lawful when established, whether of a building or other structure or of a tract of land, which is not a permitted use in the district in which the use is located. A nonconforming use must have been lawfully established prior to the effective date of this local law or any prior zoning ordinance or an amendment which rendered such use nonconforming. A pre-existing use allowed by special permit under this local law shall be considered a non-conforming use until such time as a special permit is granted for it.

Nursing Home. a nursing home licensed by the New York State Department of Health.

Outdoor Recreation. Use of land (with or without a fee) for hiking, backpacking, snowmobile, horse and cross country ski trails, hunting, fishing, trapping, parks and picnic areas, golf courses, sports facilities, playgrounds, or similar non-residential uses.

Person. An individual, corporation, partnership, association, estate, trust, or other legal entity.

Planning Board. The Planning Board of the Town of Westport.

Prevailing Setback: Nearest distance to the property line of center of roadway of setbacks of existing residences within 400 feet on both sides of the proposed residence. Comparison must be on the same side of the property line or roadway as the proposed residence and must not encroach on the road right of way. Prevailing setback only applies to front yard setback and two or more existing residences constitute prevailing. (amended 2001)

Principal Building. Any one of the following (but not an accessory structure):

a. A single-family dwelling constitutes one principal building.
b. A Mobile Home constitutes one principal building.
c. A tourist cabin or similar structure for rent or hire involving 300 or more square feet of floor space constitutes one principal building.
d. Each dwelling unit of a multi-family dwelling constitutes one principal building.
e. Each motel unit, hotel unit, or similar tourist accommodation unit which is attached to a similar unit by a party wall, each accommodation unit of a tourist home or similar structure, each tourist cabin or similar structure for rent or hire involving less than 300 square feet of floor space constitutes one-tenth of a principal building.

f. Each commercial or industrial use structure in excess of 300 square feet constitutes one principal building, except that for a commercial use structure which involves the retail sale of rental or distribution of goods, services, or commodities, each 11,000 square feet of floor space, or portion thereof, of such commercial use structures constitutes one principal building.
g. All agricultural use structures and single-family dwellings or Mobile Homes occupied by a farmer of land in agricultural use, the employees engaged in such use, and members of their respective immediate families, will together constitute one principal building.
h. Any other structure which exceeds 1,250 square feet constitutes one principal building.
i. A structure containing a commercial use which is also used as a single-family dwelling constitutes one principal building.

Private Resource Extraction. Any extraction from the land of sand, gravel, topsoil, or other natural mineral deposits of up to 50 cubic yards in any two-year period.

Project: any of the following:

a. The construction, enlargement, or change of use of a building.
b. The commencement, enlargement, or change of use of or on a tract of land.
c. A Class A Regional Project.
d. The erecting of any sign other than a sign allowable without permit pursuant to Section 10 hereof.
e. Any alteration of topography, dredging, filling, channel encroachment, the construction of any structure, or any other activity the natural consequence of which may be to affect the discharge of water through a flood-prone area.

Public Highway. An improved (graded, graveled, or paved) highway, street, or road maintained by the State, County, or Town.

Public Utility Use. Any public utility use, equipment, or structure which is not a "major public utility use." A public utility use does not include any use which is subject to the jurisdiction of the Public Service Commission pursuant to article seven or article eight of the Public Service Law.

Road Bed. The trafficked or trafficable portion of a road, street, or highway, bounded on either side by the outer edge of the shoulder or guardrail, whichever extends furthest.

Self Storage Facility: A commercial self storage structure open to the public. (amended 2010)

Shoreline: The shoreline of Lake Champlain at 99.8 feet elevation. (amended 2001)

Shoreline Building Setback. The shortest distance, measured horizontally, between any point of a building and the shoreline of any lake or pond, and the shorelines of any river designated to be studied as a wild, scenic, or recreational river in accordance with the Environmental Conservation Law or any river or stream navigable by boat, including canoe.

Shoreline Lot. A lot including or wholly or partially bounded by a shoreline.

Shoreline Lot Width. The distance, measured along the shoreline between the boundary lines of a lot as they intersect the shoreline of any lake or pond, and the shorelines of any river designated to be studied as a wild, scenic, or recreational river in accordance with the Environmental Conservation Law or any river or stream navigable by boat, including canoe.

Single-Family Dwelling. A detached building, not including a mobile home, used as the living quarters for one family. The term shall include a seasonal cottage.

Ski Center. Any trail or slope for alpine skiing including lifts, terminals, base lodges, warming huts, sheds, garages and maintenance facilities, parking lots, and other buildings and structures directly and customarily relating thereto.

Sportsmen's Camps, Clubs, Preserves. The use or management of land or structures for seasonal hunting or fishing purposes, which use does not change the general open space character of the area.

State. The State of New York.

Strip Commercial Development: The layout of a commercial use or uses in separated or common-wall structures along a state highway, with more than one row of parking located between the highway and the commercial building(s), where parking is visible from the road. The provision of gasoline pumps or other drive-up facilities in front of a building shall be considered to be equivalent to one row of parking. Strip commercial development is contrasted with village center development, which is characterized by two-story or taller buildings set close together and close to the road, with a pedestrian orientation (including sidewalks), and with parking located behind or to the side of buildings.

Structure. Any object constructed, installed, or placed on land to facilitate land use and development or subdivision of land, such as buildings, sheds, single-family dwellings, mobile homes, signs, tanks, fences, and poles, and any fixtures, additions, and alterations thereto.

Subdivision. The division of any parcel of land into two or more lots, plots, sites, or other division of land, with or without streets, for the purpose of immediate or future sale, lease, or building development. Such division shall include resubdivision of plats already filed in the office of the County Clerk.

Subdivision Regulations. The Subdivision Regulations of the Town of Westport.

Tourist Accommodation. Any hotel, motel, inn, resort, tourist court, or similar transient facility used to house the general public, including an accessory restaurant. Excludes Bed and Breakfast (see separate definition).

Travel Trailer. Any vehicle, whether self-propelled or towed, including a tent camper, camp trailer, truck camper or motor home, designed to travel on its own wheels and to be used for temporary living quarters for travel, recreational, or vacation purposes, and which may or may not include accommodations and facilities customarily included in a mobile home. However, any such vehicle used for residential purposes in one location for more than 30 consecutive days or 45 days in total during any one calendar year shall be considered a mobile home.
Travel Trailer Camp. A parcel of land under single ownership which is designed and improved for use by two or more travel trailers.
Use Variance: the authorization by the Board of Appeals for the use of land for a purpose which is otherwise not allowed or is prohibited by the applicable zoning regulations.
Waste Disposal Area. Any area for the disposal of garbage, refuse, and other wastes, including sanitary landfills and dumps, other than an on-site disposal area directly associated with an industrial use.
Water Bottling Facility: A structure and accessory structures used in packaging water into containers for wholesale sales. Industrial business. (amended 2010)
Watershed Management or Flood Control Project. Any dam, impoundment, dike, rip-rap, or other structure or channelization or dredging activity designed to alter or regulate the natural flow or condition of rivers or streams or the natural level or condition of lakes or ponds.
Wetland. Any land which is annually subject to periodic or continual inundation by water, commonly referred to as a bog, swamp, or marsh, which is either (a) one acre or more in size, or (b) located adjacent to a body of water, including a permanent stream with which there is free interchange of water at the surface (in which case there is no size limitation).
Wood-using Facility. Sawmills, chipping mills, pallet mills, and similar uses. A wood-using facility may include product display, wholesale, warehouse, and retail operations as accessory uses, provided such activity is incidental and subordinate to the principal use to which it is accessory.
Zoning Inspector: the Zoning Inspector of the Town, appointed by the Town Board and principally charged with administering and enforcing this local law, and having the powers and duties set forth in this local law, in the Subdivision Regulations, and as may be further provided by the Town Board.

SECTION 31 TOWN DISTRICT REGULATIONS

The Town districts have been divided into groups of related districts that share common goals and policies. Each section below describes the location, goals, and policies underlying each district grouping, and then presents specific regulations for each individual district. Lot size, setback, and road frontage requirements contained in this Section 31 may be modified using the flexible development provisions of Section 32.150.

31.010 Hamlet Districts (H)

Description: The Hamlet of Wadhams.

Land Use Goals: Maintain existing community centers as viable and attractive places to live. Maintain their mixed-use character; their function as a center of business and community services and facilities; and the attractiveness of their overall appearance and public spaces.

Land Use Policies: Allow mixed-use development which is contextual and compatible with the scale and character of the existing hamlet.

31.011 Wadhams Commercial/Public Center District

a. Permitted uses:
   - < single-family dwelling
   - < community facility
   - < home occupation

b. Uses allowable by special permit: (amended 2010)
   - < multi-family dwelling
   - < industrial use
   - < wood using facility
   - < agricultural service use
   - < industrial spring/well
   - < tourist accommodation
   - < bed & breakfast
   - < restaurant
   - < commercial use
   - < self-storage facility

- < water bottling facility
- < public utility
- < accessory apartment
- < major public utility

c. Dimensional Requirements

Intensity:	0.5 acre per principal building
Minimum lot size:	0.25 acre
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	15 feet
Minimum road frontage:	80 feet
Minimum shoreline frontage:	
In Hamlet areas:	50 feet
In Resource Management areas:	300 feet (Boquet Recreational River area)
Minimum setback from the shoreline:	
In Hamlet areas:	50 feet
In Resource Management areas:	150 feet (Boquet Recreational River area)

31.012 Wadhams Residential District

a. Permitted uses:

- < single-family dwelling
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < community facility
- < agricultural use & structure
- < commercial use
- < bed & breakfast
- < accessory apartment
- < public utility
- < guest cottage
- < self-storage facility except in lands classified as Resource Management
- < industrial spring/well as a Class A Regional project except in lands classified as Hamlet
- < water bottling facility as a Class A Regional project except in lands classified as Hamlet
- < major public utility as a Class A Regional project except in lands classified as Hamlet

c. Dimensional Requirements

Intensity:	0.5 acre per principal building
Minimum lot size:	0.25 acre
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	15 feet
Minimum road frontage:	80 feet

31.020 Agricultural Lands District (AL)

Description: Lands possessing the best potential in the town for agricultural use; lands that are important to the agricultural sector of the local economy and generally are within Agricultural Districts.

Land Use Goals: Maintain these lands as generally large, undeveloped landholdings for their economic and natural resource value to the town. Recognize that historically agricultural land use has been one of the most important forces creating the beautiful rural landscape of the town, and this quality, juxtaposed with the attractive community centers of Wadhams and Westport Village, is among the Town's most valuable assets for a healthy economic future. Recognize, too, the economic pressures on farmers, and the necessity for profitable use of their land if they are to continue in their traditional role as stewards of the rural areas of the town.

Land Use Policies: Maintain low intensity development. Provide for the possibility of economic diversification by farmers and other rural landowners. Through Subdivision Review, insure that residential lots on agricultural land are designed in a way that preserves the most important agricultural areas of the parent landholding and avoids visually intrusive

development.

31.021 Agricultural Lands District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < mobile home
- < wood-using facility
- < hunting and fishing cabin
- < public utility
- < outdoor recreation
- < agricultural service use
- < bed & breakfast
- < accessory apartment
- < guest cottage
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	1.0 acre
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet
Minimum shoreline frontage:	200 feet (300 feet in Boquet Recreational River area)
Minimum setback from shoreline:	100 feet (150 feet in Boquet Recreational River area)

31.030 Forest Lands District (FL)

Description: Lands which are rugged (i.e., inhospitable to intensive development), generally remote and forested; and which are important (or potentially important) to the forestry sector of the local and regional economy.

Land Use Goals: Preserve these lands as generally large, undeveloped land holdings so that this resource base for the economy of the town is protected.

Land Use Policies: Maintain low intensity development. Allowable uses generally should be uses which are consistent with forest management and the wood products industry.

31.031 Forest Lands District

a. Permitted uses:

- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < single-family dwelling
- < mobile home
- < wood-using facility
- < campground
- < sportsman's camps, clubs preserves (amended 2001)
- < commercial resource extraction
- < outdoor recreation
- < bed & breakfast
- < group camp

- < accessory apartment
- < public utility
- < hunting and fishing cabin
- < guest cottage
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	2 acres
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet
Minimum shoreline frontage:	200 feet
Minimum setback from shoreline:	100 feet

31.040 Rural Residential Districts (RR)

Description: The remaining lands outside of Wadhams and Westport village, which are not (based on their physical characteristics, ownership patterns, and historic land use) part of the Forest Lands or Agricultural Lands resource base of the town. Varying development capability of these areas is the main determinant of allowable intensity.

Land Use Goals: Use such lands, which are not particularly well-suited to modern commercial agricultural or commercial forest management, to provide opportunities for residents of the town who desire a relatively quiet, private, low density residential setting with the possibility of using a portion of their land for a wood lot, small scale agriculture use, and/or recreation.

Land Use Policies: Allow development consistent with land capability. Continue the existing pattern of low density residential land use with or without associated woodland or agricultural land. Allow home-based economic activities that do not adversely impact adjoining properties, and are not unsightly as viewed from adjoining private properties, and publicly accessible places such as roads.

31.041 Rural Residential - 3.2 District

a. Permitted uses: (amended 2010)

- < single-family dwelling
- < mobile home
- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation
- < guest cottage (amended 2010)

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < mobile home court
- < campground
- < commercial resource extraction
- < outdoor recreation
- < accessory apartment
- < public utility
- < agricultural service use
- < tourist accommodation
- < bed & breakfast
- < restaurant
- < group camp
- < hunting and fishing cabin
- < self-storage facility
- < industrial spring/well as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	3.2 acres per principal building
Minimum lot size:	1 acre

Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	100 feet
Minimum shoreline frontage:	125 feet
Minimum setbacks from shoreline:	75 feet

31.042 Rural Residential - 5 District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation
- < guest cottage (amended 2010)

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < mobile home
- < outdoor recreation
- < hunting and fishing cabin
- < agricultural service use
- < bed & breakfast
- < accessory apartment
- < public utility
- < industrial spring/well as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	5 acres per principal building
Minimum lot size:	1 acre
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	150 feet

31.043 Rural Residential - 8.5 - North District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation
- < guest cottage (amended 2010)

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < mobile home
- < wood using facility
- < campground
- < commercial resource extraction
- < hunting and fishing cabin
- < outdoor recreation
- < agricultural service use
- < bed & breakfast
- < group camp
- < accessory apartment
- < public utility
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	8.5 acres per principal building
Minimum lot size:	1 acre
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet

Minimum road frontage:	200 feet
Minimum shoreline frontage:	150 feet
Minimum setback from shoreline:	75 feet

31.044 Rural Residential - 8.5 - South District

a. Permitted uses:

- < single-family dwelling
- < mobile home
- < agricultural use & structure
- < guest cottage (amended 2010)
- < forestry use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < mobile home court
- < wood use facility
- < campground
- < commercial resource extraction
- < accessory apartment
- < public utility
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project
- < outdoor recreation
- < agricultural service use
- < bed & breakfast
- < group camp
- < sportsman's camps, clubs preserves (amended 2001)
- < hunting and fishing cabin

c. Dimensional Requirements

Intensity:	8.5 acres per principal building
Minimum lot size:	1 acre
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet

31.045 Lakeshore Residential - 8.5 - District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < forestry use & structure
- < campground
- < outdoor recreation
- < agricultural service use
- < accessory apartment
- < public utility
- < guest cottage
- < major public utility as a Class A Regional project
- < tourist accommodation
- < bed & breakfast
- < restaurant
- < group camp
- < sportsman's camps, clubs preserves (amended 2001)
- < hunting and fishing cabin

c. Dimensional Requirements

Intensity:	8.5 acres per principal building
Minimum lot size:	1 acre
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet
Minimum lake frontage:	200 feet
Minimum setback from lake:	150 feet

31.050 Village Growth - Residential District (VG-R)

Description: Area(s) adjacent to the former Village of Westport where residential growth can be best accommodated.

Land Use Goals: Village Growth - Residential areas should be either served currently by municipal water and sewer facilities, or close enough to the village that utility extension is feasible. Such areas should not consume viable agriculture land. Ideally, such areas should possess attractive views, and offer some degree of screening from highways.

Land Use Policies: Because this is a "village growth" area intensity of development will be higher than in Rural Residential areas, although lower than village-center intensity. The only area fitting these criteria which is currently mapped is the area adjoining the northern boundary of the village, an area which adjoins a potential growth area in the village identified in the village planning report (October 1977).

31.051 Village Growth - Residential District

a. Permitted uses:

- < single-family dwelling
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < agricultural use & structure
- < forestry use & structure
- < tourist accommodation
- < bed & breakfast
- < guest cottage
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project
- < restaurant
- < group camp
- < community facility
- < commercial use
- < accessory apartment
- < public utility

c. Dimensional Requirements

Intensity:	2 acre per principal building
Minimum lot size:	7,500 square feet with municipal water and sewer; 20,000 square feet without municipal water and sewer
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	15 feet
Minimum road frontage:	60 feet
Minimum shoreline frontage:	150 feet
Minimum setback from shoreline:	75 feet

31.060 Highway Commercial District (HC)

Description: Land near the Northway interchange which has businesses serving the traveling public.

Land Use Goals: Provide for the needs of the traveling public for gasoline, lodging, food and "convenience" items at an

existing location in the town.

Land Use Policies: Allow existing uses to continue with some expansion potential. In order to avoid the possibility of unsightly, strip development, review site plans for expansion of existing or new development.

31.061 Highway Commercial District

a. Permitted uses:

- < single-family dwelling
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < multi-family dwelling
- < bed & breakfast
- < outdoor recreation
- < restaurant
- < agricultural service use
- < community facility
- < tourist accommodation
- < commercial use
- < accessory apartment
- < public utility
- < self-storage facility
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	North side of Rt. 9N: 3.2 areas per principal building (amended 1999) South side of Rt. 9N: 8.5 areas per principal building (amended 1999)
Minimum lot size:	0.5 acre
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	150 feet

31.070 Preservation District (PRES)

Description: Land-owned by land preservation organizations which, because of its characteristics, should not be developed but rather preserved in its natural condition.

Land Use Goals: Maintain open-space characteristics of land suitable for preservation because of outdoor recreation and/or environmental values.

Land Use Policies: Allow resource-based uses such as forestry, agriculture, and outdoor recreation, with minimal development of structures, roads, or other "development".

31.071 Preservation District

a. Permitted uses:

- < agricultural use & structure
- < forestry use & structure

b. Uses allowable by special permit: (amended 2010)

- < outdoor recreation
- < public utility
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	2 acres
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet
Minimum shoreline frontage:	200 feet (Located in Boquet Recreational River area)
Minimum setback from shoreline:	150 feet

31.080 Village Growth - Recreation District (VG - REC)

Description: Area adjacent to the former Village of Westport which is part of the southern Agricultural Lands and Rural Residential - 8.5 South, but is currently in outdoor recreation use (i.e., golf course).

Land Use Goals: Recognize existing pattern of use as desirable for the economic welfare of the community.

Land Use Policy: Create a sub-district which accommodates the existing pattern of development as an allowed use. Transfer of development rights into this subdistrict from its larger surrounding districts creates the possibility for more intensive, recreation-oriented development.

31.081 Agricultural Lands - Village Growth Recreation District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit:

- < multi-family dwelling
- < forestry use & structure
- < accessory apartment
- < outdoor recreation
- < bed & breakfast
- < public utility
- < major public utility as a Class A Regional project except in lands classified as Hamlet

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	0.5 acre
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	15 feet
Minimum road frontage:	80 feet

31.090 Agricultural Lands - Airport/Commercial, Industrial District

Description: Area within the Southern Agricultural Land District with a development cluster consisting of former Airport Inn Restaurant and gas station, former DIPAK, and airport.

Land Use Goals: Recognize existing pattern of use as desirable to the economic and social welfare of the community.

Land Use Policy: Create a sub-district which accommodates the existing pattern of development as an allowed use.

31.091 Agricultural Lands - Airport/Commercial Industrial District

a. Permitted uses:

- < agricultural use & structure
- < private resource extraction

- < forestry use & structure

b. Uses allowable by special permit: (amended 2010)

- < industrial use*
- < wood using facility*
- < airport
- < outdoor recreation
- < public utility
- < agricultural service use
- < restaurant*
- < community facility*
- < commercial use*
- < self-storage facility
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

* *limited to area within 200 foot setback from Route (9N/22)*

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	2 acres
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet

31.110 Industrial District (I)

Description: Area(s) intended to serve, in an industrial park-setting, new industries in the town or expanding industries which outgrow existing hamlet locations.

Land Use Goals: Support APA conceptual approval of these sites so that they can be effectively marketed as viable industrial areas. Limit the number of such areas, both in recognition that their demand is low and in order to focus resources and effort.

Land Use Policies: The list of permissible uses in these districts is purposely limited. This is to minimize the possibility of land uses from being established which would conflict with industrial use, thereby making future industrial use undesirable. Maintenance of the suitability of these areas for industry is necessary because it is time-consuming and costly to secure necessary approvals; once an area is selected and conceptually approved it would not be used for an activity which can be accommodated in alternative locations.

Industrial uses are not restricted, however, to Industrial Use districts. Wood Using Facilities are allowed in many other districts in the town. Industrial Use is permitted in a small area around former DIPAK to allow for its continued operation as a conforming use and for necessary expansion. Industrial Use is also permitted in a small portion of the Hamlet of Wadhams in recognition of that community's historic character, and in recognition of the possible need for future industrial use particularly based on water power; however, this is very limited in extent in respect also of the present, primarily residential character of Wadhams.

31.111 Rural Residential - 5 - Commercial, Industrial District

a. Permitted uses:

- < agricultural use & structure
- < forestry use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit: (amended 2010)

- < industrial use
- < wood using facility
- < agricultural service use
- < community facility
- < commercial use
- < public utility

- < self-storage facility
- < industrial spring/well as a Class A Regional project
- < water bottling facility as a Class A Regional project
- < major public utility as a Class A Regional project

c. Dimensional Requirements

Intensity:	5 acres per principal building
Minimum lot size:	2 acres
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet

SECTION 32 MISCELLANEOUS REGULATIONS

32.010 Additional Requirements for Special Permit Uses

In order to approve a special permit for the uses governed by this Section, the Planning Board shall find, in addition to the findings required by Section 5.050, that the applicable specific requirements set forth in this Section for that use have been met.

32.011 Campgrounds

a. Location
A campground shall be located on a level, forested site. The site should have seasonal secondary road access.

b. Components
A campground shall consist of and be divided into (1) designated camping sites, (2) common service areas, and (3) common open space, including usable common open space.

c. Density
The overall density of a campground shall not exceed one camping site per 7,500 square feet of gross area of the campground.

d. Camping Sites
Each camping site shall have a total area of not less than 5,000 square feet, with a minimum dimension of 50 feet. No camping site shall accommodate more than one self-propelled four-wheeled vehicle. No camping site shall be located closer than 200 feet to the near edge of the roadbed of a public highway or any shoreline or any lot line. Each camping site shall have a level, well-drained cleared area which will provide for the practical placement on and removal from the site of a standard size passenger automobile and travel trailer or tent.

e. Open Space
A campground shall include usable common open space in an amount not less than 1,000 square feet per camping site. Such usable common open space may be in one or more locations, but the number of locations shall not exceed one for each ten camping sites. All usable common open space shall be accessible from all camping sites and shall be of such a character as to be attractive and useful for active or passive recreation. No more than 40 percent of such open space shall be within 100 feet of the near edge of the roadbed of a public highway. Streets within the campground shall not be counted as usable open space.

f. Utilities and Service Facilities
1. A campground shall be provided with potable cold water taps at the rate of not less than one tap per ten camping sites, each tap located conveniently to the served sites. The waste from such taps shall be emptied into an appropriate disposal system, such as a dry well.
2. Separate toilet facilities for males and females shall be provided not nearer than 50 feet nor further than 200 feet from any camping site.
3. Waste from all buildings and campsites shall be discharged into a sewage disposal system meeting the standards of the Town Sanitary Code.

g. Access and Circulation Plan
   1. Each campground shall have graveled or paved access to a public highway.
   2. Where a campground has more than 30 camping sites, two points of entry and exit shall be provided, but in no instance shall the number of entry and exit points exceed four. Such entrances and exits shall be designated and strategically located for the safe and convenient movement into and out of the campground, and to minimize interference with the free movement of traffic on the adjacent public highway. All entrances and exits shall be of sufficient width to facilitate the turning movements of vehicles with travel trailers attached.
   3. Each campground shall have clearly defined and convenient access to all camping sites and other facilities within the campground. The street system shall be so designed to permit safe and convenient vehicular circulation within the campground. Streets shall be adapted to the topography and shall have suitable alignment and gradient for traffic safety. All streets shall intersect at right angles. All streets shall have the following minimum widths:
      (a) One-way traffic movement: 12 feet
      (b) Two-way traffic movement: 20 feet

h. Landscaping and Screening
   1. Native ground cover, shrubs, and trees shall be provided or retained in those areas not used for camping sites, buildings, walkways, roads, active recreation areas, or parking areas.
   2. Landscaping, by preservation of existing vegetation or by planting of native species of vegetation, shall be provided to ameliorate or screen objectionable views of and within the campground at all seasons of the year. Views which shall be screened include sanitary facilities and garbage storage and collection areas. In addition, the campground itself shall be substantially screened with native vegetation at all seasons of the year from any public highway or water body or water course regularly trafficked by the public or adjacent property zoned for residential use.

i. Length of Occupancy
   No individual, tent, or travel trailer, shall occupy a site or a succession of sites within a campground for a period or periods aggregating more than 180 days within any calendar year.

32.012 Commercial Resource Extraction

a. Commercial resource extraction shall be allowed only in a substantially undeveloped area.
b. Any excavation associated with commercial resource extraction shall not adversely affect the natural drainage of adjoining properties not in the same ownership, or the structural safety of buildings on such adjoining properties; the top of any slope of the excavation shall not be closer than 50 feet from the boundary line of any adjoining property not in the same ownership, nor closer than 200 feet of any public highway or water body or water course.
c. Within the above setbacks natural vegetation shall be left undisturbed, except for planting pursuant to the requirements hereof. The Planning Board may in its discretion require additional measures to provide suitable screening of the excavation, such as planting or fencing.
d. An applicant for a Special Permit for commercial resource extraction shall submit to the Planning Board copies of all applications and other materials submitted to the New York State DEC in connection with its commercial resource extraction application.
e. In issuing a Special Permit for commercial resource extraction, the Planning Board shall impose conditions designed to protect the public health, safety, and welfare. Such conditions shall be limited to the following, unless the laws of New York State allow the imposition of additional conditions:
   1. Ingress from and egress to public thoroughfares controlled by the Town;
   2. Routing of mineral transport vehicles on roads controlled by the Town;
   3. Requirements and conditions specified in the permit issued by the DEC concerning setback from property boundaries and public thoroughfare rights-of-way, natural or manmade barriers to restrict access, dust control, and hours of operation;
   4. Enforcement of reclamation requirements contained in any DEC permit.
f. In issuing a Special Permit for commercial resource extraction uses not subject to regulation by DEC, the Planning Board may impose such additional conditions as it deems necessary.
g. The Planning Board shall deny a Special Permit for commercial resource extraction for any project which, when subjected to the allowable conditions in Subsection 32.012(e) above, does not satisfy the requirements of this Section 32.012 or Section 5.040.

32.013 Tourist Accommodations

Tourist accommodations shall be subject to the following additional requirements:

a. For each motel, hotel, or similar tourist accommodation unit which is attached to a similar unit by a party wall, each accommodation unit of a tourist home or similar structure, and each tourist cabin or similar structure for rent or hire containing less than 300 square feet of floor space, the minimum land area necessary shall be not less than one-tenth of an acre. The minimum land area for a tourist cabin or similar structure for rent or hire larger than 300 square feet shall be the minimum lot area in Section 31 hereof for the zoning district in which the cabin or structure is to be located.
b. Off-street parking shall be provided at the rate of not less than one and one-half spaces per accommodation unit. Each parking space shall have a minimum dimension of 8 feet by 20 feet.
c. Landscaping, by preservation of existing vegetation or by planting of native species of vegetation, shall be provided to buffer or screen views of and within the motel, hotel, or tourist accommodation at all seasons of the year. Views which shall be buffered or screened include parking facilities, garbage storage and collection areas, and other service areas or service buildings associated with the motel, hotel, or tourist accommodation.
d. No portion of a motel, hotel, or tourist accommodation shall be closer than 50 feet from the boundary line of any adjoining property not in the same ownership, nor closer than 125 feet from the shore of any lake or pond.
e. Where a motel, hotel, or tourist accommodation involves the shoreline of any lake or pond, or any river or stream navigable by boat, including canoe, the following shoreline lot widths shall be required per room or unit, unless the minimum shoreline lot width in Section 31 hereof for the zoning district involved is greater, in which case the greater lot width shall be required: 100 feet for one to ten accommodation units; for each additional unit up to twenty units, eight additional feet; for each additional unit, up to forty units, five additional feet; for each additional unit thereafter, three additional feet.

32.014 Multi-family Dwellings

Multi-family dwellings shall be subject to the following additional requirements:

a. The minimum land area necessary per each individual dwelling unit shall be the minimum lot area in Section 31 hereof for the zoning district in which the multi-family dwelling is to be located.
b. Off-street parking shall be provided at the rate of not less than one and one-half spaces per dwelling unit. Each parking space shall have a minimum dimension of 8 x 20 feet.
c. Landscaping, by preservation of existing vegetation or by planting of native species of vegetation, shall be provided to buffer or screen views of parking facilities and garbage collection and storage areas.

32.015 Public Utility and Major Public Utility Uses

Such uses shall not be located in the Town Character Development District or in other visually and ecologically vulnerable areas, as determined from the natural and man-related resource maps on file with the Planning Board, site inspection, and the public hearing. This shall not apply to local public utility distribution lines.

32.016 Commercial and Industrial Uses

a. Vehicular and pedestrian access and circulation should be adequate, including safe and well-designed points of ingress and egress, and traffic flow along public highways should not be impeded.
b. The character of the town should be protected as much as possible by the location, design, height, finish materials, and coloration of buildings and signs, and by landscaping and plantings, including minimal disturbance of existing vegetation.
c. All waste disposal areas and exterior storage areas should be maintained in a neat and orderly condition and located in so far as possible out of sight of any public highway. In situations where they cannot be so located, then they should be screened by an opaque fence (preferably wood) or substantially opaque plantings.
d. Above ground utility lines should be minimized.
e. Parking and delivery areas should be adequate and made as attractive as possible.
f. Conditions that create fire hazards should be avoided.
g. Dust, odor, noise, light, radio/television interference, and other nuisance conditions, and the impacts thereof on the surrounding areas, should be minimized.
h. Existing community services and facilities should not be overtaxed. If new or expanded community facilities or services will be needed for the proposed use, the cost of such facilities should be justified by the economic return of

the project to the community.

i. Commercial, Industrial, and Research Parks should be designed in accordance with site planning guidelines as recommended by the Urban Land Institute or similar source.

32.020 Special Flood-Prone Areas

Construction on and alteration of flood-prone lands is subject to the provisions of the Local Floodplain Law adopted on April 7, 1987 (Local Law Number ___ of the Year 1987 of the Town of Westport).

32.030 Special Shoreline Regulations: Applicability

The regulations set forth in Sections 32.031 through 32.033 shall be applicable in all Town zoning districts.

32.031 Special Shoreline Regulations: Minimum Setback for On-Site Sewage Facilities

In the case of all lakes, ponds, rivers, and streams, or any swamp, marsh, or wetland, the minimum setback of any on-site sewage drainage field or seepage pit shall be 100 feet from the mean high-water mark irrespective of zoning district or land use area classification. The local body or officer having jurisdiction, or the Adirondack Park Agency in its review of a Class A or Class B Regional Project, shall have authority to require a greater setback, upon a determination that soils or other environmental conditions require such greater setback to protect water quality.

32.032 Special Shoreline Regulations: Cutting Restrictions

In the case of the shorelines of all lakes and ponds and the shorelines of any river designated to be studied as a wild, scenic, and recreational river in accordance with the Environmental Conservation Law or any river or stream navigable by boat, including canoe, the removal of vegetation, including trees, shall be permitted on shorefront lots provided the following standards are met:

a. Within 35 feet of the mean high-water mark no vegetation may be removed, except that up to a maximum of 30 percent of the trees in excess of six inches diameter at breast height existing at any time may be cut over any ten-year period.
b. Within six feet of the mean high-water mark no more than 30 percent of the shorefront may be cleared of vegetation on any individual lot. This provision shall be adhered to in addition to a) above.
c. The above cutting standards shall not prevent the removal of diseased vegetation or of rotten or damaged trees or of other vegetation that present safety or health hazards.

32.033 Special Shoreline Regulations: Minimum Shoreline Frontage for Deeded or Contractual Access

In the case of the shorelines of all lakes and ponds and the shorelines of any river designated to be studied as a wild, scenic, or recreational river in accordance with the Environmental Conservation Law or any river or stream navigable by boat, including canoe, the following minimum shoreline frontages shall be required for deeded or contractual access to all such lakes, ponds, rivers, or streams for five or more lots, parcels, or sites or multi-family dwelling units not having separate and distinct ownership of shore frontage:

a. Where five to twenty lots or multi-family dwelling units are involved, a total of not less than 100 feet.
b. Where more than twenty and not more than one hundred lots or multiple dwelling units are involved, a minimum of three feet for each additional lot or multiple dwelling unit in excess of twenty.
c. Where more than one hundred and not more than one hundred fifty lots or multiple dwelling units are involved, a minimum of two feet for each additional lot or multiple dwelling unit in excess of one hundred.
d. Where more than one hundred fifty lots or multiple dwelling units are involved, a minimum of one foot for each additional lot or multiple dwelling unit in excess of one hundred fifty.

32.040 Individual Junk Automobiles

No individual junk automobiles shall be so located as to be visible from public roads, trails, or boat or canoe routes, or from neighboring properties.

32.050 Automobile Junkyards and Junkyards

a. As of the effective date of this local law, no new automobile junkyards or junkyards shall be permitted within the Town.
b. Within 1 year of the effective date of this local law, all existing automobile junkyards and junkyards shall be screened by an opaque fence so as to be substantially invisible from a public highway. Such fence shall be

constructed of such material (preferably wood) that is in itself not an eyesore.

c. Within 5 years of the effective date of this local law all existing automobile junkyards and junkyards shall be removed and their sites cleaned of all materials associated therewith if (b) has not been complied with (amended 2001).

32.060 Travel Trailers

a. No travel trailer shall be parked or located overnight within the town except:
   1. On the property of the owner thereof in conformance with Subsections 32.060(b) and (c) below;
   2. In a travel trailer camp; or
   3. On the premises of a travel trailer sales or rental establishment.

b. No travel trailer shall be parked or located overnight on the property of the owner thereof, unless such travel trailer is parked so as to minimize its visibility from a public highway, preferably in the rear or side yard behind the front face of the principal building, and preferably no closer than six feet to any lot line. A travel trailer so parked shall not block access by emergency vehicles, shall not be used as living quarters and shall not be hooked up to any utilities.

c. A visitor to a family may park a travel trailer on the lot of the family being visited subject to the issuance of a project permit by the Zoning Inspector, provided it is located in accordance with the requirements of Subsection 32.060(b) above. Such use of the subject premises shall not exceed 30 consecutive days or 45 days in total during any one calendar year, and shall not be provided pursuant to payment or donation of any fee or equivalent goods or services.

32.070 Private Resource Extraction

32.071 Private resource extraction is subject to the following conditions:

a. Any excavation associated with private resource extraction shall not adversely affect the natural drainage or land stability of adjoining properties not in the same ownership; the top of any slope of the excavation shall not be closer than 50 feet from the boundary line of any adjoining property not in the same ownership, nor closer than 100 feet of any public street of any public highway or water body or water course.

b. Within the above setbacks natural vegetation shall be left undisturbed.

c. During and after cessation of excavating operations, the land involved must be reclaimed to insure soil and slope stabilization and revegetation.

32.072 Improper Operation

In the event a private resource extraction operation is in violation of the provisions of this Section, the Zoning Inspector shall mail to the owner of the parcel of land upon which the private resource extraction exists, at his last known mailing address, an order that the violation be cured within 30 days after the date of mailing of said order.

32.080 Home Occupation

All home occupations shall comply with the following requirements:

32.081 No objectionable noise, vibration, smoke, dust, electrical disturbance, odors, heat, or glare shall be produced.

32.082 Traffic generated shall not be in greater volume than would be normally expected in the neighborhood.

32.083 Parking shall be provided off-street and shall not be located in the front yard.

32.090 Town Character Development District *(TCD)*

32.091 Findings and Purpose

It is hereby found and declared that (a) there are within the Town particular open spaces which are of special visual and scenic significance and value to the public as open space, or which are so located or of such character that their development in most cases would present unacceptable adverse environmental consequences, (b) that the conservation and protection of such open spaces is a public necessity and is required in the interest of the health, safety, and welfare of the people. The purpose of this Section is to conserve and protect the visual and environmental quality of the town through the conservation and protection of such open spaces.

32.092 General

a. Application of Regulations
The regulations contained in this Section apply within the Town Character Development District which appears on the Zoning Map over open spaces having special visual character.

b. Relation to Other Districts
The Town Character Development District is an overlay district mapped over other districts. It modifies and, where there is inconsistency, supersedes the regulations of such other districts. Except as so modified or superseded, the regulations of the underlying districts remain in effect.

32.093 Special Permit Requirement
Within the Town Character Development District, any new land use and development other than agricultural use shall require a Special Permit from the Planning Board.

a. Required Findings
The Planning Board shall grant a Special Permit where it finds:
1. The land use and development, if it is not a residential or agricultural use, cannot reasonably be located at a site outside the Town Character Development District;
2. Within the Town Character Development District, the land use and development is located and designed so that its visual impact is minimized, and it is in harmony with the natural surroundings and existing land uses in the area; and
3. The open-space character of the area is protected as much as possible by the location, design, height, finish materials, and coloration of buildings and signs, landscaping, and plantings, and minimal disturbance of existing vegetation.

b. Application and Procedure
The application and procedure for a Special Permit under this Section shall be that set out in Section 5.

32.094 Density Transfer
Density may not be transferred into the Town Character Development District pursuant to Section 32.190. Density transfer from the Town Character Development District into other areas within the underlying zoning district is encouraged by the density bonus provision in Section 32.095.

32.095 Density Bonus
Owners of land in the TCD District shall be entitled to a 50% increase in the allowable number of units allocated to such TCD land pursuant to Section 2.063, provided that:

a. Such units are constructed outside the TCD District;
b. Such units are not visible from any public roads passing through the TCD District; and
c. A permanent restriction on developing such land in the TCD District is recorded pursuant to Section 32.123.

32.100 Individual Mobile Homes

a. An individual mobile home shall be placed on a mobile home stand which will provide for the retention of the home on the lot in a stable condition.
b. The stand shall be of sufficient size to fit the dimensions of the mobile home and any appurtenant structures or appendages.
c. The stand shall be constructed of an appropriate material which is durable and adequate for the support of the maximum anticipated load.
d. The stand shall be suitably graded to permit rapid surface drainage.
e. The stand shall be equipped with an anchor or tie-down at each corner thereof to provide adequate security for the mobile home against wind loading.
f. The mobile home shall be enclosed with a desirable and attractive skirt made of sturdy materials, which will hide all wheels, chassis, and other appurtenances under the mobile home.

32.110 Mobile Home Courts
Mobile Homes in Mobile Home Courts shall be set back at least 50 feet from adjoining properties and 100 feet from public roads, and shall not be visible in any season from such properties or public roads. At least 10% of any Mobile Home Court

parcel shall be set aside for recreational purposes.

32.120 Density Transfer

The Town of Westport wishes to encourage flexibility in the layout of development, within the overall intensity standards of this local law. The Town therefore will permit residential density to be transferred from one parcel (the "sending parcel") to another (the "receiving parcel") within the same zoning district, as provided below.

32.121 Procedure

All density transfers require a Special Permit from the Planning Board. A Special Permit application for density transfer must be signed by the owners (or their authorized representatives) of both the sending and receiving parcels. In reviewing an application for density transfer, the Planning Board shall first determine the number of allowable dwelling units permitted on the receiving parcel pursuant to Section 2.063. The Planning Board shall then determine the number of dwelling units available to transfer from the sending parcel(s). In order to approve a density transfer the Planning Board shall comply with all of the requirements for issuing Special Permits contained in Chapter 5.

32.122 Findings Required

The Planning Board shall not approve any residential density transfer unless it finds that:

a. The addition of the transfer units to the receiving parcel will not adversely affect the area surrounding the receiving parcel, and will benefit the Town by protecting open space resources located on the sending parcel(s).
b. The density transfer will not detract from the fulfillment of the purposes of the zoning district.
c. As a condition of approval of the density transfer, a conservation easement on the sending parcel(s) satisfying the requirements of Section 32.123 below will be executed and recorded in the County Clerk's Office, reducing the number of allowable units on the sending parcel(s) by the number of dwelling units transferred.

32.123 Permanent Preservation of Sending Parcel by Perpetual Conservation Easement

a. A perpetual conservation easement restricting development of the sending parcel, allowing use only for agriculture, forestry, recreation, protection of natural resources, or similar conservation purposes, pursuant to Section 247 of the General Municipal Law and/or Sections 49-0301 through 49-0311 of the Environmental Conservation Law, shall be granted to the Town, with the approval of the Town Board, or to a qualified not-for-profit conservation organization acceptable to the Planning Board. Such conservation easement shall be reviewed and approved by the Planning Board and be required as a condition of special permit approval. The Planning Board may require that such conservation easement be enforceable by the Town if the Town is not the holder of the conservation easement. The conservation easement shall be recorded in the County Clerk's Office prior to or simultaneously with the granting of any Special Permit for density transfer or the filing of any final subdivision plat of the receiving parcel in the County Clerk's Office.
b. The conservation easement shall limit development of the sending parcel to the number of allowable dwelling units remaining on the sending parcel after deducting the units transferred to the receiving parcel.

32.130 Protection of Agriculture

32.131 Agricultural Buffers

Wherever agricultural uses and other new uses unrelated to the agricultural operations abut, buffers shall be provided to reduce the exposure of these abutting uses to odors, noise, and other potential nuisances related to the agricultural operation. Provision of buffers shall be the responsibility of the proponent of the non-agricultural use, unless such use predates the agricultural use. Such buffers may consist of vegetative screening, woodlands, vegetated berms, or natural topographic features.

32.132 Agricultural Data Statement

Any application for a Special Permit, Use Variance, or Subdivision approval requiring municipal review and approval by the Planning Board or Zoning Board of Appeals that would occur on property within an agricultural district containing a farm operation, or on property with boundaries within five hundred feet of a farm operation located in an agricultural district, shall include an agricultural data statement as defined in Section 30. The Planning Board or Zoning Board of Appeals shall evaluate and consider the agricultural data statement in its review of the possible impacts of the proposed project upon the functioning of farm operations within the agricultural district.

32.133 Required Disclosure
In the case of any proposed residential development that abuts agricultural uses, the Planning Board shall require the applicant to issue a disclosure to potential purchasers of lots or dwelling units as follows: "This property adjoins land used for agricultural purposes. Farmers have the right to apply approved chemical and organic fertilizers, pesticides, and herbicides, and to engage in farm practices which may generate dust, odor, smoke, noise, and vibration." This disclosure shall be required as a note on a Subdivision Plat or Site Plan, and may also be required to be made through other means reasonably calculated to inform a prospective purchaser, such as by posting or letter of notification. This Section 32.133 may also be applied to any commercial development within the jurisdiction of the Planning Board which abuts agricultural land, at the discretion of the Planning Board.

32.140 Signs
For sign regulations, see Section 10.

32.150 Flexible Development

32.151 The Planning Board may, in the course of Subdivision approval, modify the road frontage and front, side, and rear setback requirements of this Local Law in order to permit development that harmonizes with the rural and historic character of the Town. Where, in the judgment of the Planning Board, a Flexible Development plan is appropriate in order to implement the Rural Siting Guidelines in Subsection 5.063(e) or to protect a natural, environmental, scenic, or historic resource, the Planning Board may approve a Flexible Development plan containing such modified frontages and setbacks. (For lot size reductions, see Section 32.155 below.)

32.152 Frontage and setback modifications shall be permitted in the Wadhams Hamlet District only if the Planning Board finds that the modifications requested reflect the historic frontage and setback patterns that exist within the hamlet neighborhood.

32.153 Within other districts, frontage and setback modifications shall be permitted only if the Planning Board finds that the modifications requested (including rear lots with no road frontage) will help maintain the rural character of the Town by complying with the Rural Siting Guidelines in Subsection 5.063(e).

32.154 Such frontage and setback modifications may not increase the underlying density permitted by this Local Law, and may not result in the creation of any lot which lacks feasible and safe vehicular access. No lot frontage shall be reduced to less than 20 feet.

32.155 If an applicant for a flexible development provides community water and/or sewage disposal facilities (which may include individual septic tanks with common leach fields), the minimum lot size requirements may also be reduced, provided that such lots comply with all requirements of the Public Health Law and are controlled by management entities which the Planning Board deems sufficient to protect public health.

a. Community water system: 75% of the minimum lot size in the district, but no smaller than 20,000 square feet.
b. Community sewage disposal: 60% of the minimum lot size in the district, but no smaller than 10,000 square feet.
c. Community water and sewage disposal: 30% of the minimum lot size in the district.

32.160 Accessory Apartments (amended 2010)

32.161 The intent of this section is to allow separate living space within an existing single family dwelling to be occupied by family members or caregivers and to ensure that this use is conducted in a manner that protects and preserves neighborhood character and property values.

32.162 Notwithstanding the maximum density of development and the minimum lot size specified for the particular zoning district, an accessory apartment shall be allowed in a single family dwelling in all Town districts except PRES, Al-AIR/COMM,IND & RR-5-COMM, IND districts provided that the following conditions are found to be satisfied in Site Plan Review by the Planning Board.

a. The Town will maintain a list of all accessory use apartments in current use and not allow greater than 43 accessory apartments at any one time within the Town.
b. The landowner, or their agent, is required annually to renew the permission to continue the accessory apartment and

provide documentation that all provisions of this section are in compliance. Failure to renew the use will result in the termination of the approval for the accessory apartment and require the removal of the kitchen facilities stated in Section (c).

c. When the purpose or the authorization for the accessory apartment expires or is invalidated, the kitchen facilities of the apartment, including any refrigerator, stovetop or range, dishwasher, and microwave, shall be removed within 60 days.

32.163 Standards and Requirements

a. The owner(s) of the property shall occupy at least one of the dwelling units on the premises as a principal residence.
b. No more than one accessory apartment is permitted on a lot.
c. Modification to an existing building to accommodate an accessory apartment shall comply with all provisions contain in this zoning law except for the density allowance provided in accordance with this section.
d. An accessory apartment shall not exceed 750 square feet in size of the floor space.
e. If the total habitable floor space of all dwelling structures on the lot exceeds 3500 square feet, no new habitable space may be constructed on the lot.
f. Off-street parking shall be available for the occupant(s) of the accessory apartment and the primary single family dwelling.
g. Sites within the wastewater district will be connected to the district wastewater system.
h. Site served by existing on-site wastewater treatment system shall meet all applicable State and Town standards for wastewater systems.
i. The building containing the accessory apartment shall meet all applicable Standards of the State Building Code and Local Law.
j. The property may be served by only one meter for each water and electric utility supplied.
k. No more than two (2) people may reside in the accessory apartment.
l. No money may be received by the property owner in exchange for occupancy of the accessory apartment.

32.164 Procedures for Approval of Accessory Apartments

Approval by the Planning Board of a proposed accessory apartment shall require notice to the public and a public hearing conducted under the Site Plan Review procedures and requirements described in this Local Law. The Planning Board shall mail a copy of the decision to the Adirondack Park Agency within 14 days

32.170 Standards for Industrial Spring/Well (amended 2010)

The following specific standards apply in connection with the review and approval of an industrial spring/well

a. Precipitation recharge to the aquifer system being tapped must safely exceed the proposed maximum quantity of groundwater (or spring water) to be extracted. In addition, the daily withdrawal of water from the site shall not be allowed to have an undue adverse environmental impact on nearby wells, surface water or the storage capacity of the aquifer. It shall be the responsibility of the project sponsor to retain the services of a qualified geologist or hydrogeologist to certify that this condition has been satisfied based on results of the site specific studies and/or investigations.

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APPENDIX A
CLASS A REGIONAL PROJECTS

A. HAMLET AREAS

1. All land uses and development, except subdivisions of land, involving wetlands.
2. All land uses and development, except subdivisions of land, involving one hundred or more residential units, whether designed for permanent, seasonal or transient use.
3. All structures in excess of forty feet in height, except residential radio and television antennas.
4. Commercial or private airports.
5. Watershed management and flood control projects.
6. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

B. MODERATE INTENSITY USE AREAS

1. All land uses and development, except subdivision of land, located in the following critical environmental areas:
    a) within one-quarter mile of rivers navigable by boat designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law during the period of such designation;
    b) involving wetlands;
    c) at elevations of twenty-five hundred feet or more;
    d) within one-eighth mile of tracts of forest preserve land or water now or hereafter classified as wilderness, primitive or canoe in the master plan for management of state lands, except for an individual single-family dwelling and accessory uses or structures thereto.

    Provided, however, that the above shall not include forestry uses (other than clearcutting as specified in number eight below), agricultural uses, open space recreation uses, public utility uses, and accessory uses or structures (other than signs) to any such use or to any pre-existing use.
2. All land uses and development, except subdivisions of land, involving seventy-five or more residential units, whether designed for permanent, seasonal or transient use.
3. Commercial or agricultural service uses involving ten thousand or more square feet of floor space.
4. All structures in excess of forty feet in height, except residential radio and television antennas.
5. Tourist attractions.
6. Ski centers.
7. Commercial or private airports.
8. Timber harvesting that includes a proposed clearcutting of any single unit of land or more than twenty-five acres.
9. Sawmills, chipping mills, pallet mills and similar wood-using facilities.
10. Mineral extractions.
11. Mineral extraction structures.
12. Watershed management and flood
13. Sewage treatment plants.
14. Major public utility uses.
15. Industrial uses including water bottling facility and industrial spring/well. (amended 2010)
16. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

C. LOW INTENSITY USE AREAS

1. All land uses and development, except subdivision of land, located in the following critical environmental areas:
    a) within one-quarter mile of rivers navigable by boat designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law during the period of such designation;
    b) involving wetlands;
    c) at elevations of twenty-five hundred feet or more;
    d) within one-eighth mile of tracts of forest preserve land or water now or hereafter classified as

wilderness, primitive or canoe in the master plan for management of state lands, except for an individual single-family dwelling and accessory uses or structures thereto.

Provided, however, that the above shall not include forestry uses (other than clearcutting as specified in number eight below), agricultural uses, open space recreation uses, public utility uses, and accessory uses or structures (other than signs) to any such use or to any pre-existing use.

2. All land uses and development, except subdivisions of land, involving thirty-five or more residential units, whether designed for permanent, seasonal or transient use.
3. Commercial or agricultural service uses involving five thousand or more square feet of floor space.
4. All structures in excess of forty feet in height, except residential radio and television antennas.
5. Tourist attractions.
6. Ski centers.
7. Commercial or private airports.
8. Timber harvesting that includes a proposed clearcutting of any single unit of land of more than twenty-five acres.
9. Sawmills, chipping mills! pallet mills and similar wood-using facilities.
10. Mineral extractions. .
11. Mineral extraction structures.
12. Watershed management and flood control projects.
13. Sewage treatment plants.
14. Waste disposal areas.
15. Junkyards.
16. Major public utility uses.
17. Industrial uses including water bottling facility and industrial spring/well. (amended 2010)
18. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

D. RURAL USE AREAS

1. All land uses and development, except subdivision of land, located in the following critical environmental areas:
    a) within one-quarter mile of rivers navigable by boat designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law during the period of such designation;
    b) involving wetlands;
    c) at elevations of twenty-five hundred feet or more;
    d) within one-eighth mile of tracts of forest preserve land or water now or hereafter classified as wilderness, primitive or canoe in the master plan for management of state lands, except for an individual single-family dwelling and accessory uses or structures thereto;
    e) within one hundred fifty feet of the edge of the right-of-way of federal or state highways, except for an individual single-family dwelling and accessory uses or structures thereto;
    f) within one hundred fifty feet of the edge of the right-of-way of county highways designated by rule or regulation of the agency adopted pursuant to subdivision fourteen of section eight hundred nine of the Adirondack Park Agency Act, as major travel corridors by the agency, except for an individual single-family dwelling and accessory uses or structures thereto.

    Provided, however, that the above shall not include forestry uses (other than clearcutting as specified in number 9 below and sand and gravel pits associated with such uses located within one hundred fifty feet of the edge of the right-of-way of the above described travel corridors), agricultural uses (other than sand and gravel pits associated with such uses located within one hundred fifty feet of the edge of the right-of-way of the above-described travel corridors), open space recreation uses, and accessory uses or structures (other than signs) to any such uses or to any pre-existing use.
2. All land uses and development, except subdivision of land, involving twenty or more residential units, whether designed for permanent, seasonal or transient use.
3. Commercial and agricultural service uses involving twenty-five hundred or more square feet of floor space.
4. All structures in excess of forty feet in height, except residential radio and television antennas.
5. Tourist attractions.
6. Ski centers.
7. Commercial seaplane bases.
8. Commercial or private airports.

9. Timber harvesting that includes a proposed clearcutting of any single unit of land of more than twenty-five acres.
10. Sawmills, chipping mills, pallet mills and similar wood-using facilities.
11. Mineral extractions.
12. Mineral extraction structures.
13. Watershed management and flood control projects.
14. Sewage treatment plants.
15. Waste disposal areas.
16. Junkyards.
17. Major public utility uses.
18. Industrial uses including water bottling facility and industrial spring/well. (amended 2010)
19. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent of the original square footage of such structure.

E. RESOURCE MANAGEMENT AREAS

1. All land uses and development, except subdivisions of land, located in the following critical environmental areas:
    a) within one-quarter mile of rivers navigable by boat designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law during the period of such designation;
    b) involving wetlands;
    c) at elevations of twenty-five hundred feet or more;
    d) within one-eighth mile of tracts of forest preserve land or water now or hereafter classified as wilderness, primitive or canoe in the master plan for management of state lands, except for an individual single-family dwelling and accessory uses or structures thereto;
    e) within three hundred feet of the edge of the right-of-way of federal or state highways, except for an individual single-family dwelling and accessory uses or structures thereto;
    f) within three hundred feet of the edge of the right-of-way of county highways designated as major travel corridors by rule or regulation of the agency adopted pursuant to subdivision fourteen of section eight hundred nine of the Adirondack Park Agency Act, except for an individual single-family dwelling and accessory uses or structures thereto.

    Provided, however, that the above shall not include forestry uses (other than clearcutting as specified in number 9 below and sand and gravel pits associated with such uses located within three hundred feet of the edge of the right-of-way of the above described travel corridors), agricultural uses (other than sand and gravel pits associated with such uses located within three hundred feet of the edge of the right-of-way of the above-described travel corridors) , open space recreation uses, and accessory uses or structures (other than signs) to any such uses or to any pre-existing use.
2. Campgrounds involving fifty or more sites.
3. Group camps. .
4. Ski centers and related tourist accommodations.
5. Agricultural service uses.
6. All structures in excess of forty feet in height, except residential radio and television antennas.
7. Sawmills, chipping mills and pallet mills and similar wood-using facilities.
8. Commercial sand and gravel extractions.
9. Timber harvesting that includes a proposed clearcutting of any single unit of land of more than twenty-five acres.
10. Mineral extractions.
11. Mineral extraction structures.
12. Watershed management and flood control projects.
13. Sewage treatment plants.
14. Major public utility uses.
15. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.
16. Industrial uses including water bottling facility and industrial spring/well. (amended 2010)

F. INDUSTRIAL USE AREAS

1 Mineral extractions.

2 Mineral extraction structures.
3 Commercial sand and gravel extractions.
4 Major public utility uses.
5 Sewage treatment plants.
6 Waste disposal areas.
7 Junkyards.
8 Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

G. Any amendment to the Class a regional project list in section 810 (1) of the Adirondack Park Agency Act subsequent to the adoption of this local law shall be deemed to effect a corresponding change in this Appendix A without action by the town, except so far as that amendment affects the delineation of subdivisions which are Class a regional projects.

APPENDIX B
CLASS B REGIONAL PROJECTS

A. MODERATE INTENSITY USE AREAS

1. Multiple-family dwellings.
2. Mobile home courts.
3. Public and semi-public buildings.
4. Municipal roads.
5. Commercial or agricultural service uses involving less that ten thousand square feet of floor space.
6. Tourist accommodations.
7. Marinas, boat yards and boat launching sites.
8. Golf courses.
9. Campgrounds.
10. Group Camps.
11. Commercial seaplane bases.
12. Commercial sand and gravel extractions.
13. Land use or development, except subdivisions of land, involving the clustering of buildings on land having shoreline on the basis of a specified number of principal buildings per linear mile or proportionate fraction thereof, as provided for in the shoreline restrictions.
14. Any land use or development not now or hereafter included on either the list of primary uses or the list of secondary uses for moderate intensity use areas as set forth in Appendix C of this local law.
15. An individual single-family dwelling within on-eighth mile of 4racts of forest preserve land or water now or hereafter classified as wilderness, primitive or canoe in the master plan for management of state lands.
16. All land uses and development, except subdivisions of land, within one-quarter mile of rivers designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law, other than those navigable by boat, during the period of such designation.
17. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or twenty-five percent or more of the original square footage of such structure.

B. LOW INTENSITY USE AREAS

1. Multiple-family dwellings.
2. Mobile home courts.
3. Public and semi-public buildings.
4. Municipal roads.
5. Commercial or agricultural service uses involving less than five thousand square feet of floor space.
6. Tourist accommodations.
7. Marinas, boat yards and boat launching sites.
8. Golf courses.
9. Campgrounds.
10. Group camps.
11. Commercial seaplane bases.
12. Commercial sand and gravel extractions.
13. Land use or development, except subdivision of land, involving the clustering of buildings on land having shoreline on the basis of a specified number of principal buildings per linear mile or proportionate fraction thereof, as provided for in the shoreline restrictions.
14. Any land use or development not now or hereafter included on either the list of primary uses or the list of secondary uses for low intensity use areas as set forth in Appendix C of this local law.
15. An individual single-family dwelling within one-eighth mile of tracts of forest preserve land or water now or hereafter classified as wilderness, primitive or canoe in the master plan for management of state lands.
16. All land uses and development, except subdivision of land, within one-quarter mile of rivers designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law, other than those navigable by boat, during the period of such designation.
17. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

C. RURAL USE AREAS

1. Multiple-family dwellings.
2. Mobile home courts.
3. Public and semi-public buildings.
4. Municipal roads.
5. Marinas, boat yards and boat launching sites.
6. Golf courses.
7. Campgrounds.
8. Group camps.
9. Commercial sand and gravel extractions.
10. Land use or development, except subdivisions of land, involving the clustering of buildings on land having shoreline on the basis of a specified number of principal buildings per linear mile or proportionate fraction thereof, as provided for in the shoreline restrictions.
11. All land uses and development, except subdivision of land, within one-quarter mile of rivers designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation Law, other than those navigable by boat, during the period of such designation.
12. Any land use or development not now or hereafter included on either the list of primary uses or the list of secondary uses for rural use areas as set forth in Appendix C of this local law.
13. Commercial and agricultural service uses involving less than twenty-five hundred square feet.
14. An individual single-family dwelling within one-eighth mile of tracts of forest preserve land or water described in paragraph (d), subparagraph (1) of Appendix A or within one hundred fifty feet of a travel corridor described in such paragraph.
15. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

D. RESOURCE MANAGEMENT AREAS

1. Single-family dwellings.
2. Individual mobile homes.
3. Forestry use structures.
4. Hunting and fishing cabins and hunting and fishing and other private club structures involving five hundred or more square feet of floor space.
5. Land use or development, except subdivision of land, involving the clustering of buildings on land having shoreline on the basis of a specified number of principal buildings per linear mile or proportionate fraction thereof, as provided in the shoreline restrictions.
6. Any land use or development not now or hereafter included on either the list of primary uses or the list of secondary uses for resource management areas as set forth in Appendix C of this local law.
7. Municipal roads.
8. Golf courses.
9. An individual single family dwelling within one-eighth mile of tracts of forest preserve land or waters described in paragraph (3), subparagraph (1) of Appendix A or within three hundred feet of a travel corridor described in such paragraph.
10. Campgrounds involving fewer than fifty sites.
11. All land uses and development, except subdivisions of land, within one-quarter mile of rivers designated to be studied as wild, scenic and recreational in accordance with the Environmental Conservation Law, other than those navigable by boat, during the period ~ of such designation.
12. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

E INDUSTRIAL USE AREAS

1. Sawmills, chipping mills, pallet mills and similar wood using facilities.
2. Industrial uses.
3. Commercial uses.
4. Agricultural service uses.
5. Public and semi-public buildings.
6. Municipal roads.
7. Any land or development not now or hereafter included on either list of primary uses or the list of secondary

uses for industrial use areas as set forth in this local law.

8. Any material increase or expansion of an existing land use or structure included on this list that is 25 percent or more of the original size of such existing use or 25 percent or more of the original square footage of such structure.

F. Any amendment to the Class B regional project list in Section 810 (2) of the Adirondack Park Agency Act subsequent to the adoption of this local law shall be deemed to effect a corresponding change in this Appendix B without action by the town, except so far as that amendment affects the delineation of subdivisions which are class B regional projects.

APPENDIX C
COMPATIBLE USE LISTS

The following compatible uses are listed in the Adirondack Park Land Use and Development Plan for the purpose of guiding development in the Adirondack Park. Any use not listed below is considered to be a Class B regional project requiring a permit under Article 9 of this local law.

MODERATE INTENSITY USE

Primary Compatible Uses:

- Accessory uses and structures to any use classified as a compatible use.
- Agricultural uses.
- Agricultural use structures.
- Cemeteries.
- Forestry uses.
- Forestry use structures
- Game preserves and private parks.
- Hunting and fishing cabins and hunting and fishing and other private club structures.
- Individual mobile homes.
- Open space recreation uses.
- Private roads.
- Private sand and gravel extractions.
- Public utility uses.
- Single-family dwellings.

Secondary Compatible Uses:

- Agricultural service uses.
- Campgrounds.
- Commercial or private airports.
- Commercial sand and gravel extractions.
- Commercial seaplane bases.
- Commercial uses.
- Golf courses.
- Group camps.
- Industrial uses.
- Major public utility uses.
- Marinas, boat yards and boat launching sites.
- Mineral extractions.
- Mineral extraction structures.
- Mobile home courts.
- Multiple-family dwellings.
- Municipal roads.
- Public and semi-public buildings.
- Sawmills, chipping mills, pallet mills & similar wood-using facilities.
- Sewage treatment plants.
- Ski centers.
- Tourist accommodations.
- Tourist attractions.
- Watershed management and flood control projects.

LOW INTENSITY USE

Primary compatible Uses:

- Accessory uses and structures to any use classified as a compatible use.
- Agricultural uses.
- Agricultural use structures.
- Cemeteries.

Forestry uses.
Forestry use structures
Game preserves and private parks.
Hunting and fishing cabins and hunting and fishing and other private club structures.
Individual mobile homes.
Open space recreation uses.
Private roads.
Private sand and gravel extractions.
Public utility uses.
Single-family dwellings.

Secondary Compatible Uses:
Agricultural service uses.
Campgrounds.
Commercial or private airports.
Commercial sand and gravel extractions.
Commercial seaplane bases.
Commercial uses.
Golf courses.
Group camps.
Industrial uses.
Junkyards.
Major public utility uses.
Marinas, boat yards and boat launching sites.
Mineral extractions.
Mineral extraction structures.
Mobile home courts.
Multiple-family dwellings.
Municipal roads.
Public and semi-public buildings.
Sawmills, chipping mills, pallet mills & similar wood-using facilities.
Sewage treatment plants.
Ski centers.
Tourist accommodations.
Tourist attractions.
Waste disposal areas.
Watershed management and flood control projects.

NORMAL USE

Primary compatible Uses:
Accessory uses and structures to any use classified as a compatible use.
Agricultural uses.
Agricultural use structures.
Cemeteries.
Forestry uses.
Forestry use structures
Game preserves and private parks.
Hunting and fishing cabins and hunting and fishing and other private club structures.
Individual mobile homes.
Open space recreation uses.
Private roads.
Private sand and gravel extractions.
Public utility uses.
Single-family dwellings.

Secondary Compatible Uses:

Agricultural service uses.
Campgrounds.
Commercial or private airports.
Commercial sand and gravel extractions.
Commercial seaplane bases.
Commercial uses.
Golf courses.
Group camps.
Industrial uses.
Junkyards.
Major public utility uses.
Marinas, boat yards and boat launching sites.
Mineral extractions.
Mineral extraction structures.
Mobile home courts.
Multiple-family dwellings.
Municipal roads.
Public and semi-public buildings.
Sawmills, chipping mills, pallet mills & similar wood-using facilities.
Sewage treatment plants.
Ski centers.
Tourist accommodations.
Waste disposal areas.
Watershed management and flood control projects.

RESOURCE MANAGEMENT

Primary compatible Uses:

Accessory uses and structures to any use classified as a compatible use.
Agricultural uses.
Agricultural use structures.
Forestry uses.
Forestry use structures
Game preserves and private parks.
Hunting and fishing cabins and hunting and fishing and other private club structures involving less than five hundred square feet of floor space.
Open space recreation uses.
Private roads.
Private sand and gravel extractions.
Public utility uses.

Secondary Compatible Uses:

Agricultural service uses.
Campgrounds.
Commercial sand and gravel extractions
Golf courses.
Group camps.
Hunting and fishing cabins and hunting and fishing and other private club structures involving less than five hundred square feet of floor space.
Individual mobile homes.
Major public utility uses.
Mineral extractions.
Mineral extraction structures.
Municipal roads.
Sawmills; chipping mills, pallet mills & similar wood-using facilities.
Sewage treatment plants.
Single-family dwellings.

Ski centers and related tourist accommodations.
Watershed management and flood control projects.

INDUSTRIAL USE

Primary Compatible Uses:

Accessory uses and structures to any use classified as a compatible use.
Agricultural uses.
Agricultural use structures.
Commercial sand and gravel extractions.
Forestry uses.
Forestry use structures Hunting and fishing cabins and hunting and fishing and other private club structures.
Industrial uses.
Major public utility uses.
Mineral extractions.
Mineral extraction structure.
Open space recreation uses.
Private roads.
Private sand and gravel extractions.
Public utility uses.
Sawmills, chipping mills, pallet mills & similar wood-using facilities.

Secondary Compatible Uses:

Agricultural service uses.
Commercial uses.
Junkyards.
Municipal roads.
Public and semi-public buildings.
Public and semi-public buildings.
Sewage treatment plants.
Waste disposal areas.

APPENDIX D

I. DEVELOPMENT CONSIDERATIONS

The following are those factors which relate to potential for adverse impact upon the park's natural, scenic, aesthetic, ecological, wildlife, historic, recreational or open space resources and which shall be considered, as provided in this local law, before any Class A regional project or Class B regional project, is undertaken in the town. Any burden on the public in providing facilities and services made necessary by such land use and development or subdivision of land shall also be taken into account, as well as any commercial, industrial, residential, recreational or other benefits which might be derived therefrom.

A. NATURAL RESOURCE CONSIDERATIONS

1 Water
- a) Existing water quality.
- b) Natural sedimentation of siltation.
- c) Eutrophication.
- d) Existing drainage and runoff patterns.
- e) Existing flow characteristics.
- f) Existing water table and rates of recharge.

2 Land
- a) Existing topography.
- b) Erosion and slippage.
- c) Floodplain and flood hazard.
- d) Mineral resources.
- e) Viable agricultural soils.
- f) Forest resources.
- g) Open space resources.
- h) Vegetative cover.
- i) The quality and availability of land for outdoor recreational purposes.

3. Air
- a) Air quality.

4. Noise
- a) Noise levels.

5. Critical Resource Areas
- a) Rivers and corridors of rivers designated to be studied as wild, scenic or recreational in accordance with the Environmental Conservation law.
- b) Rare plant communities.
- c) Habitats of rare and endangered species and key wildlife habitats.
- d) Alpine and sub-alpine life zones.
- e) Wetlands.
- f) Elevations of twenty-five hundred feet or more.
- g) Unique features, including gorges, waterfalls, and geologic formations.

6. Wildlife
- a) Fish and Wildlife

7. Aesthetics
- a) Scenic vistas
- b) Natural and man-made travel corridors.

B. HISTORIC SITE CONSIDERATIONS

1. Historic Factors
- a) Historic sites or structures.

C. SITE DEVELOPMENT CONSIDERATIONS

1. Natural site Factors
- a) Geology.
- b) Slopes.
- c) Soil characteristics.

d) Depth to groundwater and other hydrological factors.

2. Other site Factors
   a) Adjoining and nearby land uses.
   b) Adequacy of site facilities.

D. GOVERNMENTAL CONSIDERATIONS
1. Governmental Service and Finance Factors
   a) Ability of government to provide facilities and services.
   b) Municipal school or special district taxes or special district user charges.

E. GOVERNMENTAL REVIEW CONSIDERATIONS
1. Governmental control Factors
   a) Conformance with other governmental controls.

II. NATURAL AND PUBLIC RESOURCE OBJECTIVES AND GUIDELINES

A. SOILS
1 Soils, General
Objective: Prevent accelerated soil erosion and the potential for earth slippage.
General Guideline: Respect existing natural features such as slope, soil texture and structure; minimize removal of vegetative cover; rapidly revegetate cleared areas; limit cuts and fills; and employ such erosion control devices and measures as are necessary to promptly stabilize slopes and surface and to control runoff.

2 Agricultural Soils
Objective: Conserve viable agricultural soils.
General Guideline: Avoid activities on Class I and Class II agricultural soils presently in agricultural service which would diminish or preclude continuing use thereof for agricultural purposes.

B. TOPOGRAPHY
Objective: Minimize topographic alterations.
General Guideline: Minimize excavation, cuts and fills and site grading by employing to advantage existing topographic features•, and avoid development activities on steep slopes where environmental damage and costly development problems could result therefrom.

C. SURFACE WATERS
1. Water Quality and Eutrophication
Objective: Maintain or enhance existing physical, chemical and biological water quality characteristics and prevent any undue acceleration of existing rates of eutrophication of bodies of water.
General Guideline: Maintain wide buffer strips of natural vegetation bordering water bodies; minimize channel disturbance and alterations; preserve shoreline vegetation; minimize hydrologic changes which would result from damming or impounding; avoid introduction of nutrients from the use of fertilizers and from sewage effluent; and avoid introduction of toxic materials to water bodies.

2. Surface Drainage
Objective: Retain existing surface water drainage and runoff patterns and existing flow characteristics.
General Guideline: Minimize alterations to existing drainage patterns and drainage courses; preserve drainageways in their natural state; and provide natural retention of storm water runoff if development includes a significant area of impervious surface.

3. Floodplains
Objective: Maintain the storage capacity of floodplains and their existing ability to convey water downstream; and avoid activities in floodplains v:hich will result in dangers to life, safety and property if subjected to flooding.
General Guideline: Avoid the placement of buildings intended for human habitation, commercial use and industrial use within floodplains; avoid the use of fill to create elevated sites; and within any floodway special zoning district and any floodway fringe special zoning district conform all development plans to the floodplain regulations contained in Article 6 hereof.

D. GROUNDWATER
Objective: Preserve quality, infiltration rate, and levels of groundwater.

General Guideline: Comply at a minimum with applicable governmental water pollutant discharge restrictions; particularly avoid discharges of effluent potentially degrading to groundwater quality in proximity to major aquifers and aquifer recharge areas; and avoid impairment of aquifer recharge areas which could result from covering them with impervious surfaces.

E. SHORELINES

Objective: Maintain or enhance the existing physical, biological and aesthetic characteristics of the shoreline of all lakes, ponds, rivers and streams.

General Guideline: Comply at a minimum with applicable governmental shoreline restrictions, minimize construction or development of any kind near or on the shorelines; avoid physical modifications of the shorelines themselves; minimize the removal of vegetation along shorelines; locate buildings so as to be partially screened from the shorelines by natural vegetation; maximize the preservation of stretches of shoreline in a natural, unchanged and undeveloped state.

F. MINERAL RESOURCES

Objective: Conserve existing known mineral resources.

General Guideline: Avoid activities which would preclude present or future use of important mineral resources that may be of economic significance to the region.

G. AIR QUALITY

Objective: Maintain or enhance existing air quality.

General Guideline: Adhere to applicable governmental air quality standards; provide adequate air pollution abatement devices; and reduce dust levels caused by construction activities.

H. NOISE LEVELS

Objective: Limit additions to noise levels.

General Guideline: Adhere at a minimum to applicable governmental noise level standards, utilize noise abatement equipment; and maintain natural buffers such as existing topographic relief and vegetation.

I. WETLANDS

Objective: Preserve the hydrologic, wildlife, vegetational, aesthetic, educational, open space and recreational values of wetlands.

General Guideline: Avoid development in marshes, bogs, swamps and periodically inundated lands or on lands immediately adjacent thereto if such development could result in environmental damage to the marsh, bog, swamp or periodically inundated land.

J. AQUATIC COMMUNITIES

Objective: Protect generally the existing natural aquatic plant and animal communities and preserve rare and endangered aquatic plant and animal species.

General Guideline: Preserve key spawning areas, nursery grounds, food sources and food source areas; preserve habitats of rare and endangered plant and animal species; maintain adjacent vegetated areas generally as habitats and buffer zones; minimize shoreline alterations such as beach construction and emplacement of docks, rafts, boat launching facilities, and breakwaters; and avoid introduction of toxic materials and nutrients to water bodies.

K. TERRESTRIAL VEGETATION

1. Vegetation, General

   Objective: Preserve or quickly restore terrestrial vegetation.

   General Guideline: Minimize clearing of vegetation in light of development objectives; avoid clearing vegetation where damage will result to remaining vegetation from such factors as wind, erosion and frost; and protect remaining vegetation during the construction period.

2. Rare and Endangered Terrestrial Plant Species

   Objective: Preserve rare and endangered terrestrial plant species.

   General Guideline: Locate development and other intensive human activities so as to protect the location and habitats of rare and endangered plant species and allow for the continuing propagation of these species.

3. Productive Commercial Forest Land

   Objective: Conserve productive forest lands.

   General Guideline: Avoid impairment of productive forest lands for commercial forest production by employing

sound forestry practices and by employing such planning techniques as clustering of development.

L. FRAGILE ECOSYSTEMS AT HIGHER ELEVATIONS
Objective: Minimize disturbance of fragile ecosystems at higher elevations.
General Guideline: Avoid development at elevations of 2,500 feet or more.

M. TERRESTRIAL WILDLIFE
1. Terrestrial wildlife, General
Objective: Maximize the preservation of terrestrial wildlife species.
General Guideline: Preserve key wildlife habitats, such as deer wintering yards, nesting areas, productive feeding areas, and important vegetation transition areas; and maintain wildlife diversity to the extent possible in view of project objectives by maintaining a diversity of habitat.
2. Rare and Endangered Terrestrial wildlife Species
Objective: Preserve rare and endangered terrestrial wildlife species.
General Guideline: Locate development and other intensive human activities so as to protect the location and habitats of rare and endangered terrestrial wildlife species and allow for the continuing propagation of these species.

N. AESTHETICS
1. Aesthetics, General
Objective: Preserve and enhance, where possible, impact of the project upon the existing aesthetic qualities of the project site and its environs.
General Guideline: utilize existing vegetation and topographical features, and employ careful siting methods so as to minimize the visual impact of all development activities.
2. Scenic Vistas
Objective: Maintain the scenic qualities of views from vistas designated in the Adirondack Park State Land Master Plan.
General Guideline: Avoid visibility of buildings and other development and land use alterations generally from vistas by employment of vegetative screening, existing topography and careful siting methods.

J. Travel Corridors
Objective: Preserve the scenic qualities of views from public roads and trails and from boats and canoe routes.
General Guideline: Employ vegetative screening, existing topography and careful siting methods to minimize the visual impact of buildings and other development and land use alterations.

O. OPEN SPACE
1. Open Space, General
Objective: Maintain the open space character of the project site, adjacent land and surrounding area.
General Guideline: Preserve vegetative screening and existing topography and employ clustering and careful siting methods where appropriate to minimize the impact of development activities and land use alterations on open space; and preserve undeveloped areas as large as possible in view of project objectives.
2. Outdoor Recreation
Objective: Maintain the quality and availability of land for out door and open space recreational purposes.
General Guideline: Provide on the project site sufficient open space areas for outdoor recreational use by those persons who will use the proposed project, taking into account the existing recreational resources available in the area; and locate buildings and other development so as not to interfere with those areas to be used as hiking, bicycling, and cross-country skiing trails as well as trail bike, jeep, all-terrain vehicle and horse trails, playgrounds, picnic areas, campgrounds, parks, beaches and similar uses.

P. ADJOINING AND NEARBY LAND USES
1. Surrounding Land Uses, General
Objective: Minimize incompatibility of new development with the character of adjoining and nearby land uses.
General Guideline: Take into account the existing and potential land uses in the vicinity of the project site in determining what new land use activities are suitable for the project site; avoid new intensive development in open space area; and avoid substantially altering existing residential and other land use patterns.
2. Adjacent state Land
Objective: Preserve the wild and natural character of adjacent state lands designated as wilderness, primitive or

canoe by the Adirondack Park state Land Master Plan.

General Guideline: Minimize development activities which would materially impair the wilderness attributes of these state lands; design and construct development that is located within one-eighth mile of these state lands so as to minimize its visual and audio impact in these wilderness-like areas, thereby insuring the continued compatibility of state and private types of ownership.

O. WILD, SCENIC AND RECREATIONAL STUDY RIVERS

Objective: Project or enhance the natural qualities of any river designated to be studied for possible inclusion in the state's wild, scenic or recreational river system.

General Guidelines: Maintain buffer zones and existing vegetation along designated study rivers; avoid intensive development within one-quarter mile of such rivers; minimize alterations to such rivers and their banks; and preserve the free-flowing character of such rivers.

P. HISTORIC SITES

Objective: Protect archaeological sites, historic sites and unique historical structures for their educational and cultural value to the area, region or state.

General Guideline: Preserve and restore archaeological sites, historic sites, and unique historic structures to the extent warranted by their respective significance; avoid land uses and development on adjoining and nearby lands which would be incompatible with the significance of such sites and structures.

S. SPECIAL INTEREST AREAS

Objective: Preserve special interest areas such as unique material features and their surrounding environs.

General Guideline: Avoid physical and aesthetic alterations and impairment of the natural conditions of unique physical features such as gorges, waterfalls and interesting geological formations; provide for their continuing protection; utilize these special interest areas as assets to development.

T. GOVERNMENT CONSIDERATIONS

1. Service and Finance

Objective: Fully explore and assure the ability of government to provide governmental services and facilities made necessary by the project.

General Guideline: Phase development activities to a level commensurate with the financial capability of the various levels of government to provide the governmental services and facilities that will be generated by the development, such as transportation systems, schools, health care, sewage and solid waste disposal systems, water supply systems, and fire and police protection; require that as nearly as possible, the balance between the cost of public services required to adequately serve the development as compared with the anticipated tax and other revenues to be generated by the development be favorable at each level of government or taxing jurisdiction affected by the project; and include in development plans provisions to maintain or improve existing services and alleviate any potential adverse impact upon the ability of the government to provide services and facilities.

2. Regulation

Objective: Conform development activities to all applicable governmental rules and regulations.

General Guideline: Comply with all applicable ordinances, rules and regulations of all governmental agencies with responsibilities for such activities, including those of towns and villages, counties, the state departments of Health and Environmental Conservation' and the Adirondack Park Agency.

U. PUBLIC UTILITIES AND COUNTY RESOURCES

Objective: Assure the adequacy of such public utility services and community resources as shall be necessary for the project.

General Guideline: Avoid excessive demands on the capabilities of public utilities such as electricity and communication services; and avoid necessity for major uncompensated increases in community services and activities such as recreational facilities, social, cultural and health services, and transportation facilities.

III. DEVELOPMENT ACTIVITIES OBJECTIVES AND GUIDELINES

A. STREET AND ROADS

Objective: Design and construct roads and streets to provide safe and convenient access without causing undue adverse impacts on natural and public resources.

General Guideline: Conform street and road alignments with existing topography and vegetation; avoid steep slopes, abrupt curves and excessive cuts and fills; provide adequate road surfacing and roadbed drainage; preserve existing drainage patterns; and design streets and roads so as to minimize the impacts of construction and maintenance practices.

B. SITING AND CONSTRUCTION OF BUILDING

Objective: Design, site and construct buildings to best serve their intended functions and to minimize impact on existing natural and public resources.

General Guideline: Blend buildings with existing topography and their surrounding environs; avoid steep slopes; minimize grade alterations; and avoid complex and costly engineering solutions of site problems with potentially excessive environmental impacts.

C. SEWAGE DISPOSAL

Objective: Select, design and locate sewage disposal system to provide adequate treatment of effluent and to avoid contamination of surface or groundwater.

General Guideline: Comply with all state and local health standards, adhere at a minimum to the Adirondack Park Agency Act's setback requirements for water bodies; employ proven design criteria for sewage disposal systems in proper working order.

D. STORM DRAINAGE

Objective: Design, locate and construct storm drainage systems so as to maintain existing drainage patterns in a natural state and to minimize adverse hydrologic effects.

General Guideline: Provide adequate drainage for building sites and roads; avoid altering drainage patterns to the extent possible; utilize natural drainageways for handling storm water runoff and preserve all natural surface water retention areas such as wetlands, bogs and marshes; and minimize runoff by such other methods as preserving vegetative cover and avoiding the creation of unnecessary or extensive impervious surfaces.

E. WATER SUPPLY

Objective: Locate, design and construct water supply systems so as to provide an adequate supply of potable water without adversely affecting existing water usage patterns or creating adverse effects with regard to aquifers and sub-surface drainage patterns.

General Guideline: Comply will all state and local health standards with regard to the design, location, construction and maintenance of water supply system.

F. SOLID WASTE DISPOSAL

Objective: Provide for the storage, collection, transportation and disposal of solid waste in a manner which will minimize air, water and visual pollution and in a manner which will not create hazards to the health and welfare of people or wildlife.

General Guideline: Comply with all applicable state and local standards for the disposal of solid waste, utilize community solid waste disposal areas and recycling facilities; adequately screen disposal areas; locate disposal areas on deep, moderately permeable, well-drained soils and at sufficient distances from water bodies so as to prevent contamination thereof; and avoid locating disposal areas on steep slopes.

G. PESTICIDES AND HERBICIDES

Objective: Avoid all use of pesticides, herbicides and other biocides potentially detrimental to natural systems.

General Guideline: Strictly adhere to applicable regulations regarding type, quantity and techniques of application of pesticides, herbicides and other biocides; and prevent direct application of pesticides, herbicides and other biocides to surface waters or wetlands or in a manner which may cause contamination thereto.

H. SHORELINE DEVELOPMENT

Objective: Design and construct development along shorelines so as to maintain existing aesthetic and ecological characteristics thereof and to avoid all significant impairment of these qualities.

General Guideline: Adhere at a minimum to the shoreline restrictions of the Adirondack Park Agency Act and the provisions of the Environmental Conservation Law and all local laws; maximize preservation of undeveloped shorelines by such methods as clustering and preservation of shoreline vegetation; minimize construction of docks

and boathouses on shorelines; minimize aesthetic alterations to shorelines as viewed from water bodies and surrounding areas.

I. NOISE

Objective: Minimize noise insofar as practicable.

General Guideline: Employ such measures as appropriate site selection, appropriate construction methods and maintenance of natural cover for a buffering effect; adhere at a minimum to applicable governmental noise level standards.

J. SIGNS

Objective: Avoid signage that detracts from aesthetic and scenic qualities.

General Guideline: Limit signs to the extent necessary to adequately inform viewer concerning the activities to which they relate; utilize signs which are appropriate to the character of the area in which they are located; avoid use of signs of excessive size, of signs that are insufficiently set back from natural and man-made travel corridors, and of signs containing moving parts or flashing lights.

K. UTILITIES

Objective: Locate, design, construct and maintain utilities so as to efficiently accomplish project objectives and preserve natural and public resources.

General Guideline: Locate utilities underground if feasible and in such a way that alignments are compatible with existing topography and vegetation; minimize visual impacts on surrounding areas by maintaining and preserving as much vegetative cover as possible and utilizing existing topography; and minimize maintenance practices such as herbicide spraying which could have adverse environmental impacts on terrestrial and aquatic ecosystems.

###

APPENDIX D

APA Shoreline Restrictions

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

SHORELINE RESTRICTIONS

This is a supplement to the Citizen's Guide, which provides basic information about Adirondack Park Agency regulations.

Pursuant to §806 of the Adirondack Park Agency Act, the following restrictions apply regardless of whether an Agency permit is required for a new land use or development or subdivision.[1] Additional restrictions may also apply to the shoreline of rivers included in the New York State Wild, Scenic, and Recreational River System.

STRUCTURE SETBACKS
(these setbacks do not apply to docks and boathouses; see below)

Any new structure[2] exceeding 100 square feet in size must comply with the following minimum setback distances from the mean high water mark (the average annual high water level) of any lake or pond or any river or stream navigable by boat, including canoe:

Hamlet	***50 feet***	***Rural Use***	***75 feet***
Moderate Intensity Use	***50 feet***	***Resource Management***	***100 feet***
Low Intensity Use	***75 feet***		

Structures that are only partially located within the setback, as well as individual structures that are attached to each other, are measured in their entirety for the purpose of implementing these restrictions.[3] The setback is measured horizontally along the shortest line between any point of the structure and any point on the shoreline at the mean high water mark. The Agency will locate the mean high water mark upon request of any landowner contemplating development.

Structures that lawfully exist within a shoreline setback area may be replaced or rebuilt in the same location or immediate vicinity. Effective December 31, 2008, the following changes to the dimensions of a lawfully existing structure within the setback area require a variance, whether the changes occur through expansion or replacement: (i) location of the structure any closer to the mean high water mark; (ii) any increase in height; (iii) any increase in footprint; or (iv) any increase in width. However, an increase of up to two feet in height of a single family dwelling or mobile home[4], an increase of up to 250 square feet of footprint to the rear (non-shoreline side) of a single family dwelling or mobile home, and/or the addition of a stoop no larger than 25 square feet providing access to the rear or side of a single family dwelling or mobile home does

1 The shoreline restrictions of APA Act §806 are incorporated in the Agency-approved local zoning program for the Towns of Arietta, Bolton, Caroga, Chester, Chesterfield, Colton, Day, Edinburg, Hague, Horicon, Indian Lake, Johnsburg, Newcomb, Queensbury, Westport, and Willsboro, and the Town and Village of Lake George. Advice on requirements and variance procedures may be obtained from the local code enforcement officer.

2 The term structure includes decks, stairways, porches, sheds, fences, picnic shelters, cabins, lean-tos, etc. Motor vehicles and trailers that are registered with the DMV, have a current inspection sticker, and are not connected to an in-ground wastewater treatment system are generally not considered structures subject to the setback requirements.

3 Structures may be considered attached for Agency purposes if they are less than ten feet apart or structurally integrated. However, stairways, patios and walkways are considered individual structures for replacement purposes, regardless of their attachment to other structures. Please contact the Agency for more information.

4 For the purpose of implementing 9 NYCRR ' 575.5, the height of buildings with roof ridgeline(s) is measured at the highest point of the highest roof ridgeline. The height of buildings without roof ridgeline(s) is measured at the highest point of the structure.

not require a variance. There are minor expansions allowed for other types of lawfully existing shoreline structures, as well; please contact the Agency for more information.

No variance is required for any replacement or expansion undertaken outside the shoreline setback area.

DOCKS AND BOATHOUSES

A structure that constitutes a dock or boathouse pursuant to the definitions referenced below is not subject to the shoreline setback requirements.

> **Dock** is defined under §570.3(j) of Agency regulations. In general, a dock is a floating or fixed structure that is no more than eight feet in width, including at its attachment to a shoreline or boathouse, and is used for securing and/or loading or unloading water craft and/or for swimming or water recreation. A structure that meets this definition is considered a dock below the mean high water mark and a boardwalk, deck, or other structure upland of the mean high water mark. Docks that are hoisted or suspended above water level for storage must conform to additional parameters.
>
> **Boathouse** is defined under §570.3(c) of Agency regulations. In general, a boathouse is a covered structure with direct access to a body of water that is used only for the storage of boats and associated equipment, does not contain sanitary plumbing of any kind, does not exceed a single story in that the roof rafters rest on the top plate of the first floor wall, and has a footprint of 1200 square feet or less and a height of fifteen feet or less. The footprint of a boathouse is measured at the exterior walls, or at the perimeter of the roof if the roof is flat or there are no exterior walls. The height of a boathouse is measured from the surface of the floor serving the boat berths to the highest point of the structure. A structure within the Lake George Park may be a boathouse even if it does not meet this definition, provided the structure is in compliance with a permit from the Lake George Park Commission.

MINIMUM LOT WIDTHS

Any subdivision creating a new parcel on which a new principal building will be constructed must comply with the following lot widths, as measured along the shoreline at the mean high water mark. This standard applies even when no Agency permit is required for the subdivision.

Hamlet	***50 feet***	***Rural Use***	***150 feet***
Moderate Intensity Use	***100 feet***	***Resource Management***	***200 feet***
Low Intensity Use	***125 feet***		

Additional shoreline lot width may be required for (i) providing deeded or contractual access to water bodies and (ii) the creation of lots in designated Scenic and Recreational River areas.

SEWAGE SYSTEM SETBACKS

Any new leaching facility (including a seepage pit, drainage field, outhouse, or pit privy) receiving any form of household effluent must be set back at least 100 feet from any water body, including an intermittent stream with a defined bed and bank. The setback is measured horizontally along the shortest distance from the mean high water mark to the closest point of the leaching facility. New York State Department of Health standards also require that the absorption field (leaching facility) of any new on-site sewage disposal system be installed at least 100 feet from the source of any water supply system.

Alteration or replacement of a lawfully existing leaching facility located within 100 feet of a water body must occur in conformance with the setback requirements to the greatest extent possible, with the leaching facility located no closer to the mean high water mark, and must provide enhanced treatment.

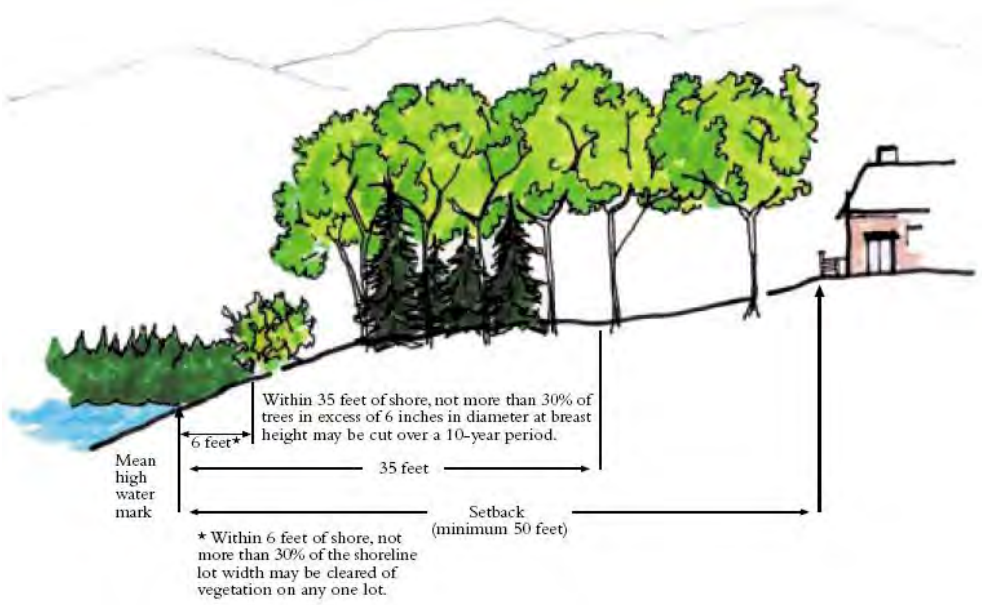
Upon the expansion of any structure to allow for an actual or potential increase in occupancy, the leaching facility serving the structure must be located at least 100 feet from all water bodies.

SHORELINE CUTTING RESTRICTIONS

Except to allow for the removal of diseased vegetation and rotten or damaged trees, all vegetative cutting on a parcel with shoreline on a lake, pond, or navigable river or stream must comply with the following restrictions:

(a) Within 35 feet of the mean high-water mark, no more than 30 percent of the trees in excess of six inches diameter at breast height (4½ feet above ground) may be cut over any 10-year period.

(b) Within 6 feet of the mean high-water mark, no more than 30 percent of any vegetation may be removed.



This flyer is intended to provide general information regarding Agency jurisdiction. Other provisions or restrictions may apply if an Agency permit or variance is required or if the property has previously been subject to Agency review.

Please contact the Agency with any questions at 518-891-4050. For a binding written response as to whether a specific proposal requires Agency review, please submit a Jurisdictional Inquiry Form (JIF). The JIF form is available on the Agency website at www.apa.ny.gov/Forms/jiform.pdf.

APPENDIX E

ATL SOIL BORING REPORT

ATLANTIC TESTING LABORATORIES

Canton
6431 U.S. Highway 11
P.O. Box 29
Canton, NY 13617
315-386-4578 (T)
315-386-1012 (F)

January 17, 2018

Town of Westport
c/o AES Northeast, PLLC
10-12 City Hall Place
Plattsburgh, New York 12901

Attn: Mr. Brad Noviski
Project Manager

Re: **Subsurface Investigation Services**
Wadhmas Wastewater Treatment Plant
Westport, Essex County, New York
ATL No. CD4352D-01-01-18

Ladies and Gentleman:

At the request of Mr. Brad Noviski, representing AES Northeast, PLLC, and in accordance with our proposal (ATL No. CD998-2122X-10-17, dated November 3, 2017), Atlantic Testing Laboratories, Limited (ATL) performed a subsurface investigation for the referenced project. The field investigation was performed on January 2 and 3, 2018.

The proposed boring locations were selected and staked in the field by representatives of AES Northeast, PLLC. A **Boring Location Plan** is included in **Attachment A**.

Three borings were advanced utilizing utilizing 3.75-inch Geoprobe casing driven with a hydraulic hammer to depths ranging from 16 to 31 feet below ground surface. Soil sampling and standard penetration testing was performed utilizing a 2-inch outside diameter split spoon sampler in accordance with ASTM D 1586. Soil sampling was generally performed continuously from the surface to a minimum depth of 20 feet and thereafter at 5-foot intervals to boring termination.

The 2-inch split spoon sampler does not recover material larger than 1⅜-inch in nominal dimension. Therefore, the recovered samples may not be representative of the entire soil matrix. The visual soil classifications contained in the subsurface investigation logs were performed in the laboratory and are presented on the **Subsurface Investigation Logs** included in **Attachment B**.

Please contact our office should you have any questions; or if we may be of further service. We look forward to our continued association to obtain a successful completion of the project.

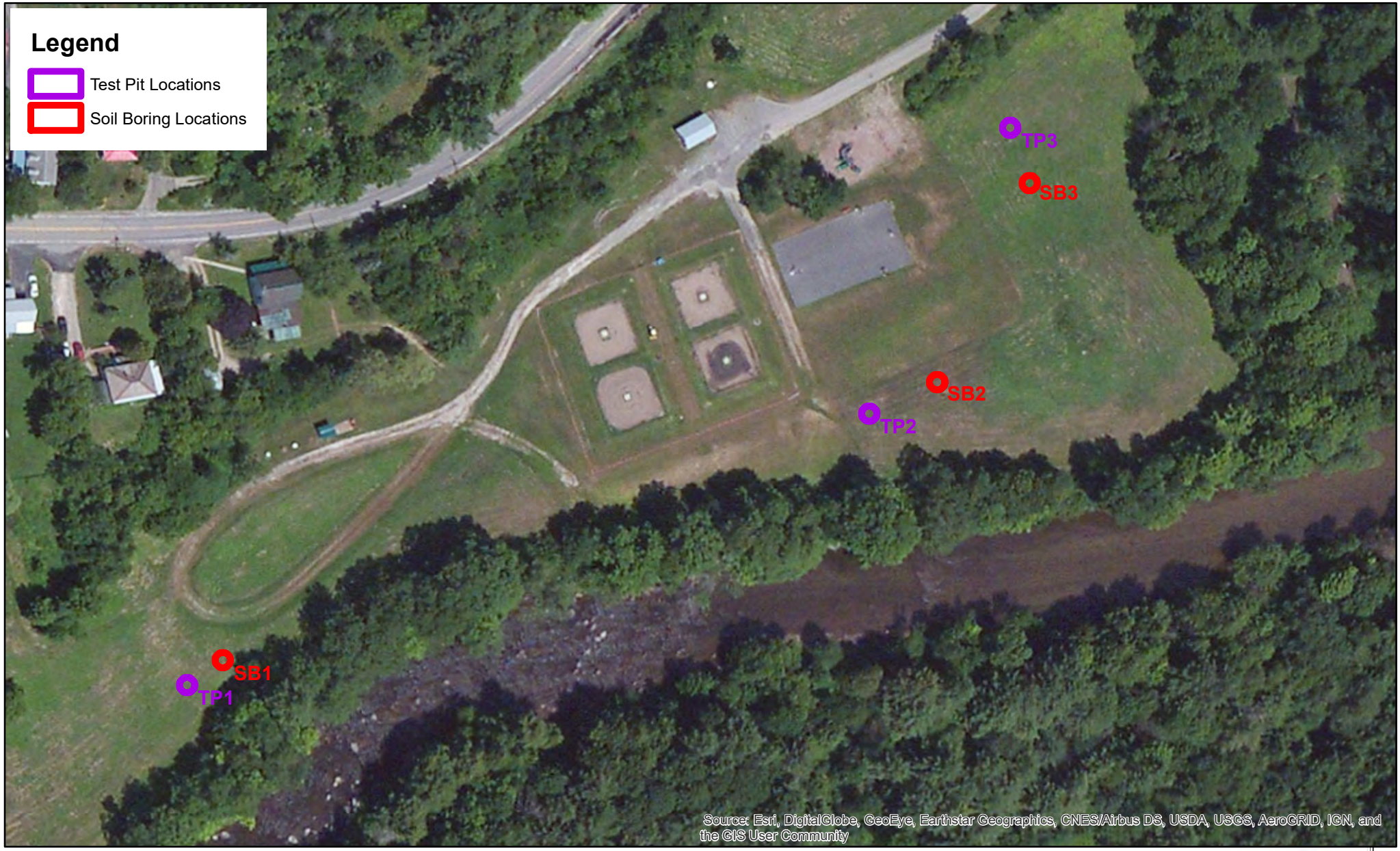
Sincerely,
ATLANTIC TESTING LABORATORIES, Limited

Adam J. Schneider, PE
Project Engineer

AJS/ADW/ajs
Enclosures

ATTACHMENT A

BORING LOCATION PLAN



0 0.0125 0.025 0.05 Miles

N
W E
S

Appendix A

Wadhams WWTP
Rapid Infiltration Basin Design
Soil Sampling Locations

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10-12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598 Fax: (518) 561-1990
www.aesnortheast.com

ATTACHMENT B

SUBSURFACE INVESTIGATION LOGS

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: **CD4352D-01-01-18**

Client: **Town of Westport**

Boring Location: **See Boring Location Plan**

Project: **Subsurface Investigation**
Wadhams Wastewater Treatment Plant
Westport, New York

Start Date: **1/3/2018** Finish Date: **1/3/2018**

Boring No.: **SB-1** Sheet **1** of **1**

Groundwater Observations

Date	Time	Depth	Casing
1/3/2018	AM	14.0'	15.0'

Coordinates
Latitude
Longitude

Sampler Hammer
Weight: **140** lbs.
Fall: **30** in.
Hammer Type: **Automatic**

Ground Elev.:

Boring Advance By:
3.75" Casing

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	Recovery (Inches)
								f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
1	CASING	1	0.0	2.0	SS	1 3 3 4	2.0	Brown SILT; some CLAY; little cmf SAND; trace ORGANIC MATERIAL (wet, moderately plastic)	16
2		2	2.0	4.0	SS	5 8 16 16		Brown CLAY; and SILT; trace f SAND (wet, plastic)	20
3									
4		3	4.0	6.0	SS	7 4 15 16	5.0	Brown CLAY; and SILT; little mf SAND (wet, plastic)	22
5									
6		4	6.0	8.0	SS	16 14 18 18		Brown mf SAND; little SILT (wet, non-plastic)	24
7									
8		5	8.0	10.0	SS	22 14 14 14		Brown cmf SAND; trace SILT; trace mf GRAVEL (wet, non-plastic)	20
9									
10		6	10.0	12.0	SS	14 12 10 10		Brown cmf SAND; trace SILT; trace f GRAVEL (saturated, non-plastic)	22
11									
12		7	12.0	14.0	SS	9 11 12 10		Brown cmf SAND; trace SILT; trace mf GRAVEL (saturated, non-plastic)	18
13							14.0		
14		8	14.0	16.0	SS	14 16 41 36		Brown cmf SAND; and cmf GRAVEL; trace SILT (saturated, non-plastic) COBBLE Fragments	12
15									
16		9	16.0	18.0	SS	28 32 31 29		Brown cmf SAND; little mf GRAVEL; trace SILT (saturated, non-plastic) COBBLE Fragments	16
17									
18							18.0		
19								Boring terminated at 18.0 feet.	
20									
21								Notes:	
22								1. A temporary observation well was installed within the borehole to a depth of 18.0 feet.	
23									
24									
25									

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: **Chris Knight; Coleman Whitman**

Inspector:

ATL-LOG1 LL CD4352 TOWN OF WESTPORT- WESTPORT, NEW YORK.GPJ ATL4-08.GDT 1/17/18

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: **CD4352D-01-01-18**

Client: **Town of Westport**

Boring Location: **See Boring Location Plan**

Project: **Subsurface Investigation**
Wadhams Wastewater Treatment Plant
Westport, New York

Start Date: **1/3/2018** Finish Date: **1/3/2018**

Boring No.: **SB-2** Sheet **1** of **1**

Groundwater Observations

Date	Time	Depth	Casing
1/3/2018	**PM**	**9.5'**	**10.0'**

Coordinates
Latitude
Longitude

Sampler Hammer
Weight: **140** lbs.
Fall: **30** in.
Hammer Type: **Automatic**

Ground Elev.:

Boring Advance By:
3.75" Casing

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	Recovery (Inches)
								f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
1	CASING	1	0.0	2.0	SS	3 3 3 2		Brown mf SAND; little SILT; trace ORGANIC MATERIAL (wet, non-plastic)	12
2		2	2.0	4.0	SS	3 2 3 3		Brown mf SAND; little SILT (wet, non-plastic)	18
4		3	4.0	6.0	SS	1 2 2 1		Similar Soil (wet, non-plastic)	16
6		4	6.0	8.0	SS	1 2 3 1		Similar Soil (wet, non-plastic)	18
8		5	8.0	10.0	SS	2 2 1 1		Similar Soil (saturated, non-plastic)	18
10		6	10.0	12.0	SS	2 WH/12" 1		Brownish-Grey mf SAND; trace SILT (saturated, non-plastic)	22
12		7	12.0	14.0	SS	1 2 1 1		Grey mf SAND; trace SILT; trace ORGANIC MATERIAL (saturated, non-plastic)	22
14		8	14.0	16.0	SS	WR WH/18"	14.0	Grey CLAY; some SILT; trace mf SAND; trace ORGANIC MATERIAL (saturated, plastic)	24
16							16.0	Boring terminated at 16.0 feet.	

Notes:
1. A temporary observation well was installed within the borehole to a depth of 16.0 feet.

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: **Chris Knight; Coleman Whitman**

Inspector:

ATL-LOG1 LL CD4352 TOWN OF WESTPORT- WESTPORT, NEW YORK.GPJ ATL4-08.GDT 1/17/18

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: **CD4352D-01-01-18**

Client: **Town of Westport**

Boring Location: **See Boring Location Plan**

Project: **Subsurface Investigation**
Wadhams Wastewater Treatment Plant
Westport, New York

Start Date: **1/2/2018** Finish Date: **1/3/2018**

Boring No.: **SB-3** Sheet **1** of **2**

Groundwater Observations

Date	Time	Depth	Casing
1/2/2018	PM	DRY	29.0'
1/3/2018	AM	28.5'	29.0'

Coordinates
Latitude
Longitude

Sampler Hammer
Weight: **140** lbs.
Fall: **30** in.
Hammer Type: **Automatic**

Ground Elev.:

Boring Advance By:
3.75" Casing

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%)	Recovery (Inches)
1	CASING	1	0.0	2.0	SS	1 1 1 2		Brown mf SAND; little SILT; trace ORGANIC MATERIAL (wet, non-plastic)	10
2		2	2.0	4.0	SS	2 3 2 2		Similar Soil (wet, non-plastic)	14
4		3	4.0	6.0	SS	1/24"		Brownish-Grey mf SAND; little SILT (saturated, non-plastic)	16
6		4	6.0	8.0	SS	WH/12" 1 1		Brown mf SAND; little SILT (saturated, non-plastic)	18
8		5	8.0	10.0	SS	WH/24"	8.0	Grey mf SAND; little SILT; trace ORGANIC MATERIAL (saturated, non-plastic)	18
10		6	10.0	12.0	SS	1 WH/12" 1		Grey mf SAND; trace SILT; trace ORGANIC MATERIAL (saturated, non-plastic)	19
12		7	12.0	14.0	SS	WH/24"	12.0	Grey CLAY; some SILT; trace mf SAND (saturated, plastic)	19
14		8	14.0	16.0	SS	1 WH/18"		Grey CLAY; some SILT; trace f SAND (saturated, plastic)	20
16		9	16.0	18.0	SS	WH/24"		Similar Soil (saturated, plastic)	22
18		10	18.0	20.0	SS	WH/24"		Similar Soil (saturated, plastic)	22
24		11	24.0	26.0	SS	WH/24"		Similar Soil (saturated, plastic)	24

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: **Chris Knight; Coleman Whitman**

Inspector:

ATL-LOG1 LL CD4352 TOWN OF WESTPORT- WESTPORT, NEW YORK.GPJ ATL4-08.GDT 1/17/18

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Boring No.: **SB-3** Report No.: **CD4352D-01-01-18** Sheet **2** of **2**

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	RECOVERY (inches)
26								f - fine and - 35-50% m - medium some - 20-35% c - course little - 10-20% trace - 0-10%	
27									
28									
29		12	29.0	31.0	SS	WH/24"		Similar Soil (saturated, plastic)	24
30									
31							31.0		
32								Boring terminated at 31.0 feet.	
33									
34								Notes: 1. A temporary observation well was installed within the borehole to a depth of 25.0 feet.	
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APPENDIX F

Unit Process Evaluation

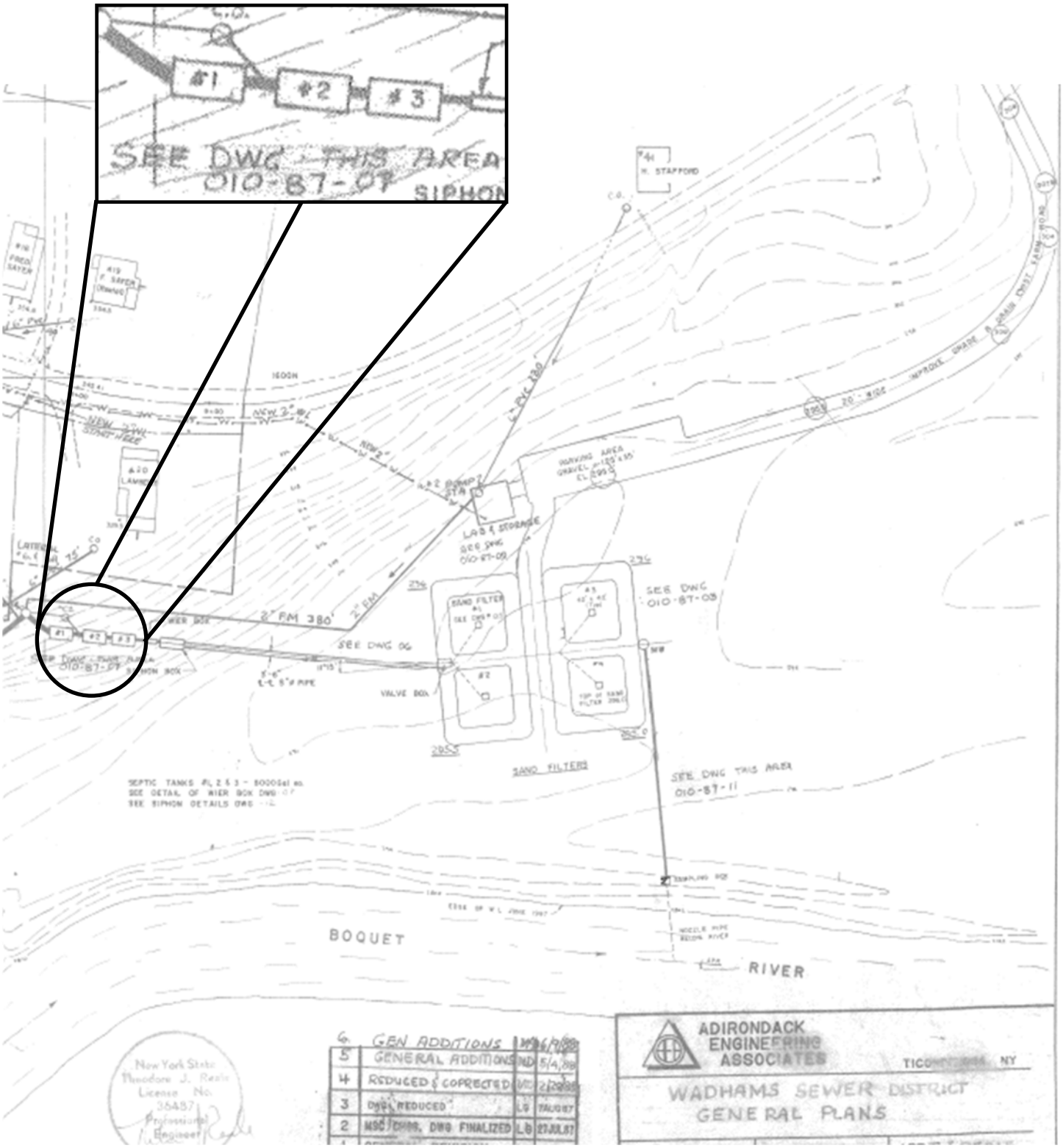
Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Septic Tank System



Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Primary Treatment: Septic Tank System

There are a series of three identical septic tanks serving as the wastewater treatment plant's primary treatment process. Septic tanks provide a settling and anaerobic process to reduce the quantity of solids and organics. Each of the three tanks onsite are estimated to have a volume of 8000 gallons. The depth of each of the septic tank is known to be 10 feet. The specific dimensions of the length and width of septic tanks are not known. Each of the septic tanks are equipped with two risers to ease pumping of the tanks. All of the riser covers were recently replaced to conform with updated regulations. Several of the security measures used on the risers are aging due to weathering.

The second risers on each tank were removed to gain visual access to the septic tanks. The series of septic tanks show the progressive removal of scum from the surface of the wastewater. The tanks show evidence of sulfide attack but appear to be in acceptable working condition. A full inspection of the septic tank concrete condition was not performed in the course of this investigation. Inspection should be performed and photos taken each time a tank is pumped out to provide a record of tank condition.

First Septic Tank

Being the primary septic tank in the series there is a healthy thick scum layer on the surface of the water. The interior of the effluent T appears to be in good shape.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Primary Treatment: Septic Tank System

Second Septic Tank

The effluent T was recently replaced. For an unknown amount of time the effluent T was not present and the scum layer was allowed to flow, uninterrupted from the second tank to the third tank. Since the replacement the scum layer has returned to a healthy level and shows less scum than the primary tank as shown by the small amounts of water shown

Third Septic Tank

The third and final tank show the final progression of the scum removal. Much of the scum layer is thin enough to have water shown on the surface.

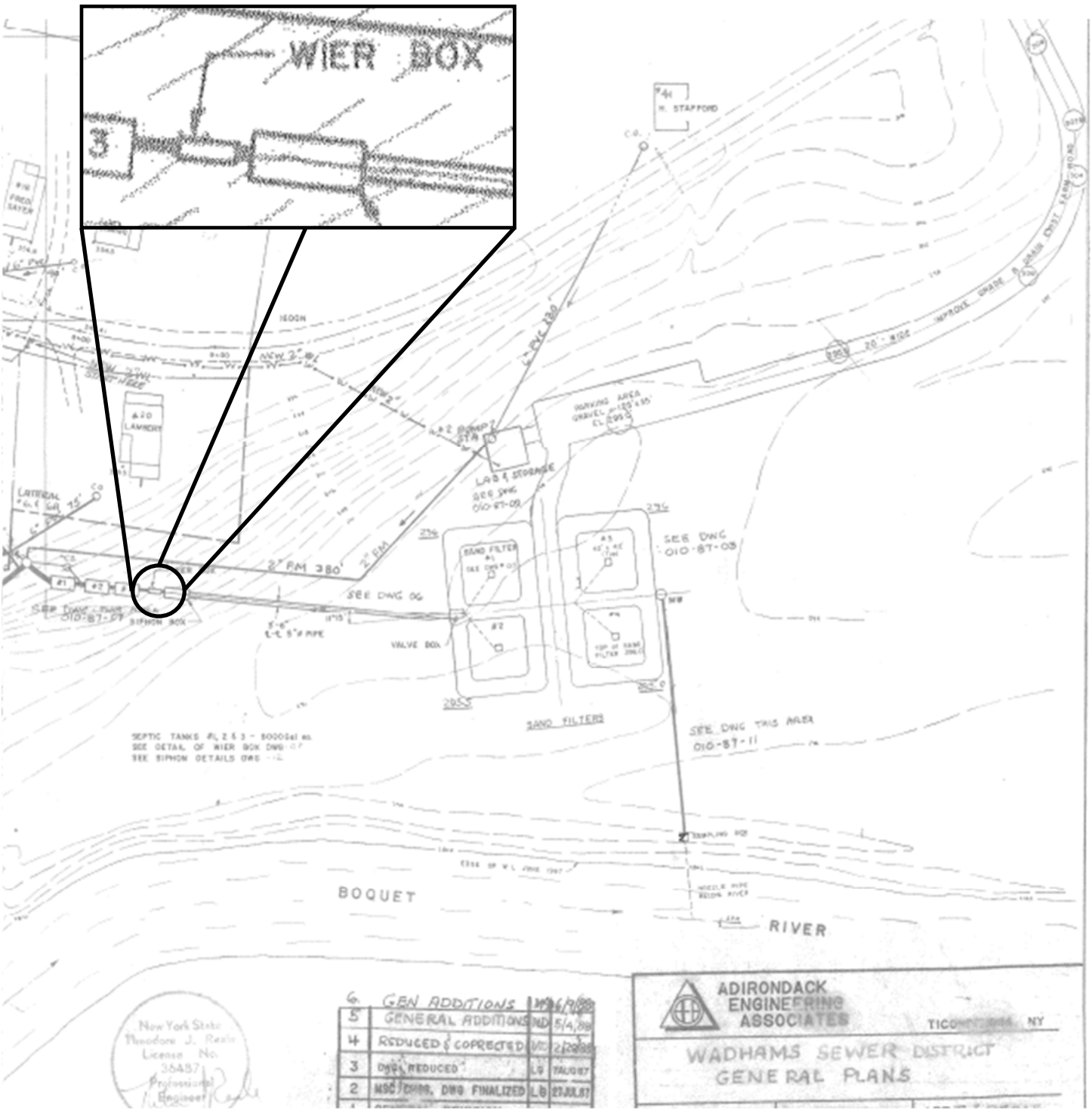
Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Primary Effluent Sampling Building



Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Primary Effluent Sampling Building

The building (Photo: Top Right) used for sampling is a metal roofed uninsulated building. The building houses a 22.5 degree V-notch weir and sampling location after the weir. The building is wired for electrical but does not draw power. The reason for the lack of power is unknown at the time of this inspection. The lack of lighting in the building is an inconvenience and can be considered a safety risk.

The V-notch weir and the sampling channel are in very poor condition. (Photo: Middle Right) As mentioned previously the lack of light makes it difficult to accurately examine the interior and safely perform duties. The floor of the building consists of a soft granular sand.

In terms of security, the building is accessible though a functioning locked door. There are Plexiglas sheets placed on the surface of the channel to shield it from debris. (Photo: Bottom)

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

dfPrimary Effluent Sampling Building

The following pictures are taken inside of the V-Notch weir sampling channel. There is clear degradation of the structural concrete. This degradation has progressed to the point where it is believed effluent flows around the weir plate, bypassing the weir and negating its functionality for flow measurement.

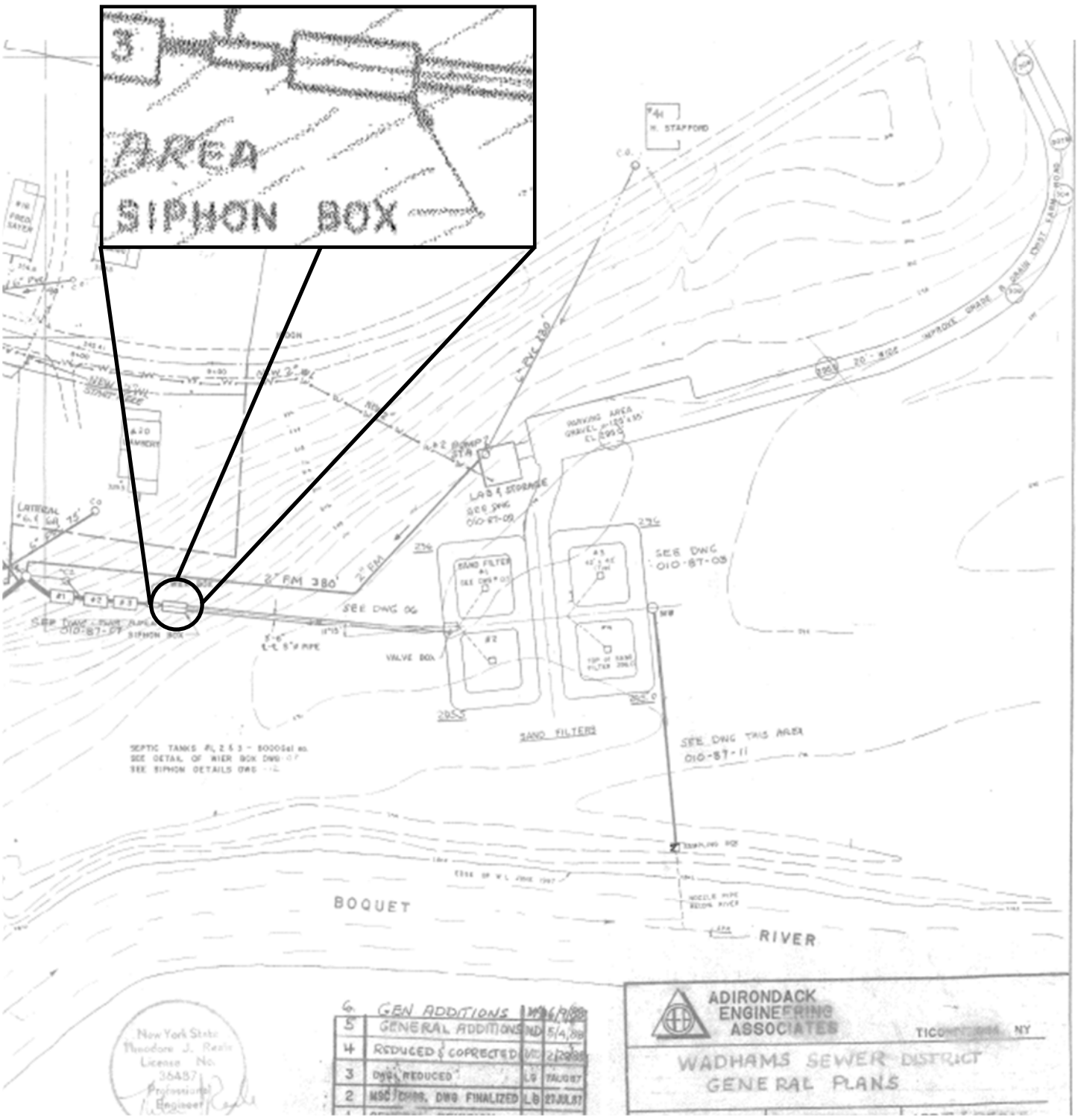
Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Siphon Dosing Chamber



Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Siphon Dosing Chamber

The Siphon Dosing Chamber accepts primary effluent from the septic tanks and doses it to the sand beds. The original dual siphons have been replaced with a Flout dosing system. The Flout system discharges to the two original eight inch diameter dosing barrels. Each Flout dose to the sand beds is purportedly approximately 1080 gallons per dose. Further inspection of the Flout Siphon Dosing System is not possible without the draining of the dosing chamber.

At the time of the issuance of this report, there were issues present with the siphon dosing system that was causing uneven dosing to the two online beds. It is believed the flout system was not working properly and required maintenance. For safety reasons the Operator has to wait to address Flout maintenance when he has on-site assistance because the dosing chamber is a confined and hazardous space. The work was scheduled to occur as soon as possible. Ideally the septic tank effluent in the image (Photo: Bottom Right) should depict turbid water without the presence of floating materials.

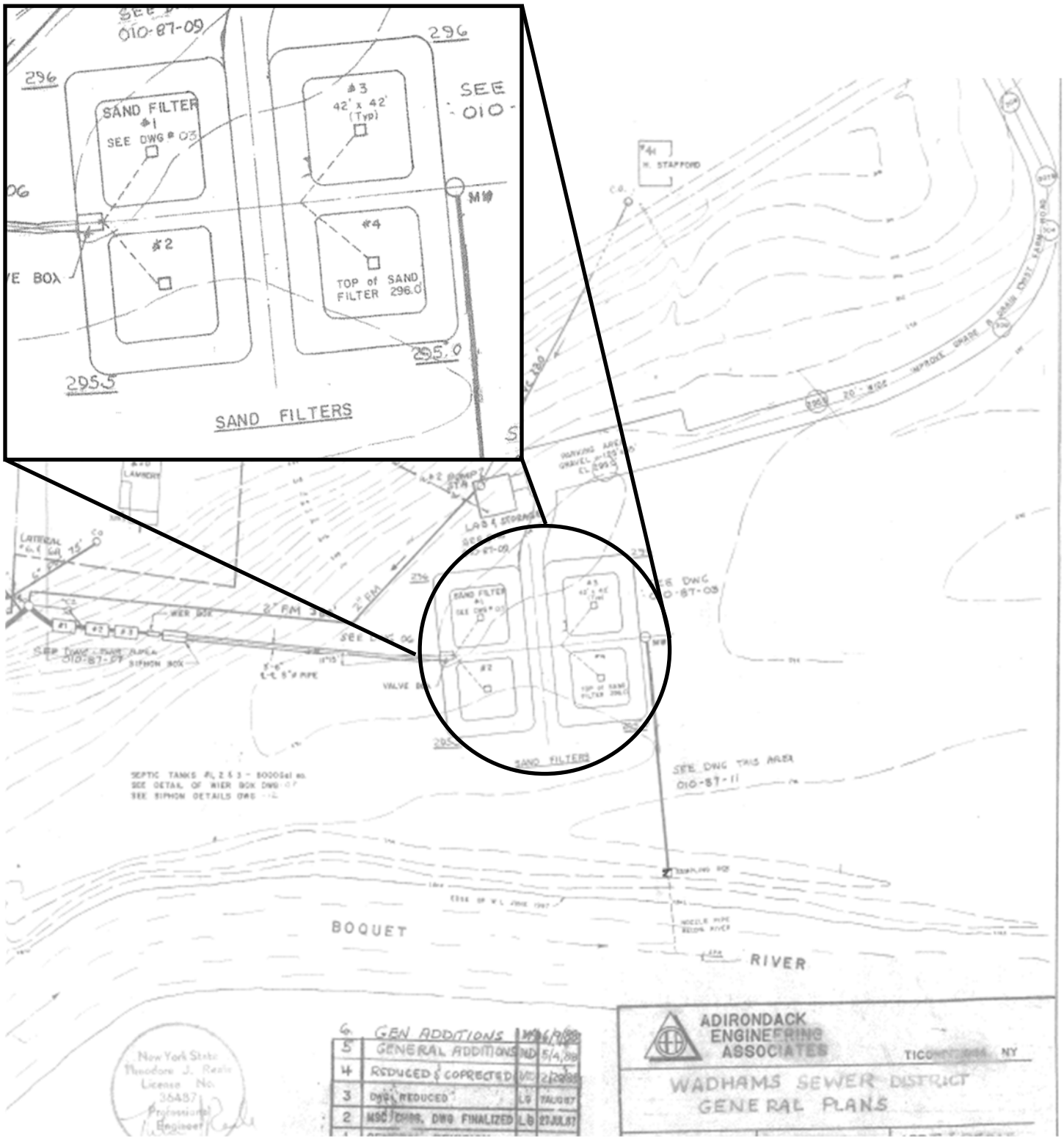
Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Secondary Treatment: Sand Bed System



Town of Westport

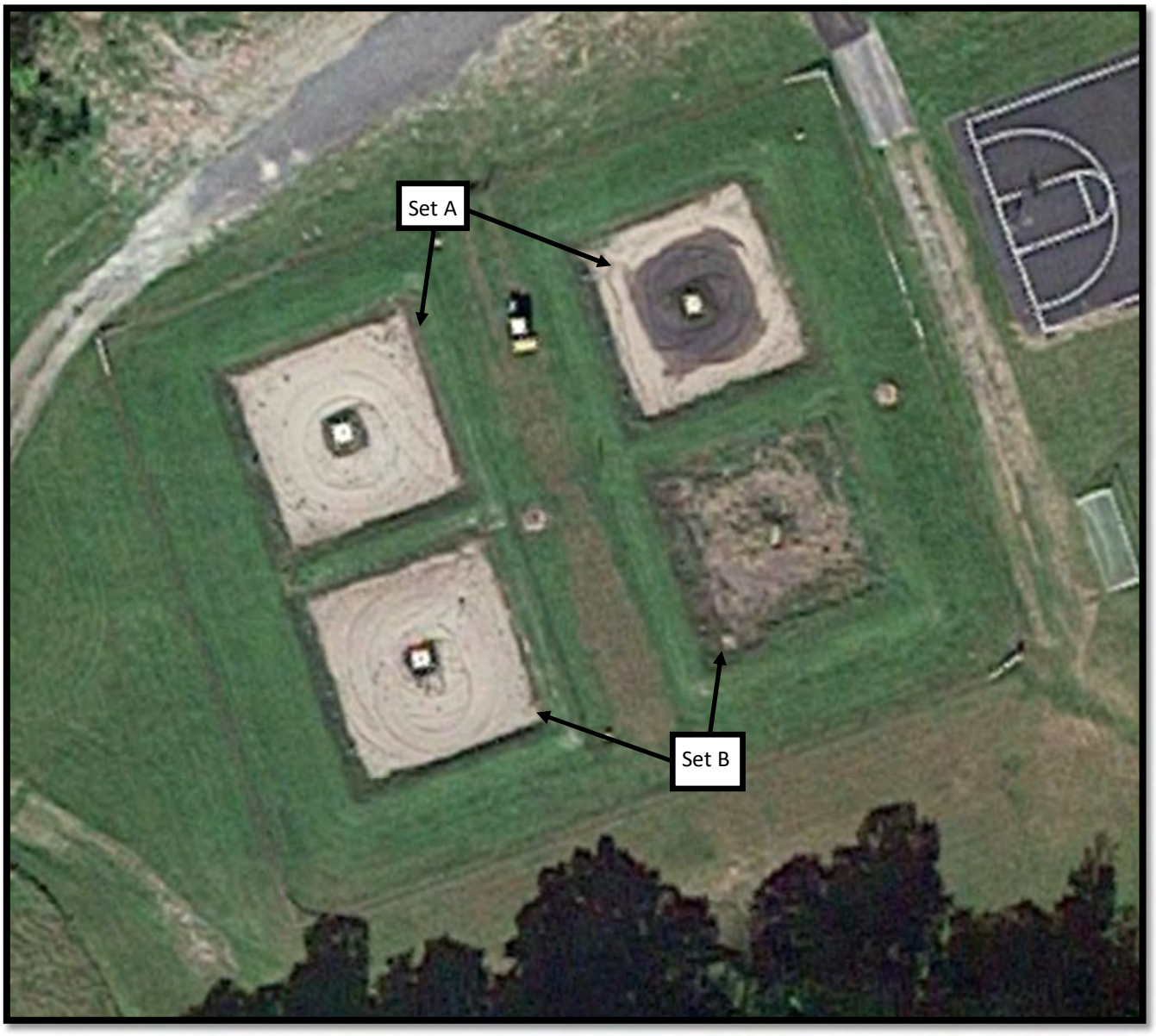
Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Secondary Treatment: Sand Bed System

The secondary treatment of the wastewater system consists of four sand infiltration beds. The beds are separated into pairs and intended to operate by alternating with one set online and one set offline. The northern set of beds will be referred to as set A and the southern pair will be referred to as set B. Each filter bed is designed to have a surface area of 1,764 sq ft designed to treat a flow of 15,000 gallons per day.



Town of Westport
Wadhams WWTP Disinfection Evaluation
Appendix F
Unit Process Evaluation

Secondary Treatment: Sand Bed System

Viewing the filter beds from the NW bed (photo below) it is apparent that the beds are not performing as they should. The operator onsite confirms that the beds are not draining as they should and that they have excessive plant material growth. At the time of writing this report, each of the beds have excessive plant material with trouble draining and were switched to the NW and SE beds to perform maintenance on the NE and SW beds. This issues are mostly stemming from previous infrequent pumping of the septic tanks and improper sand bed maintenance involving rototilling and use of herbicides.

The view from the NE bed (photo below) offers a different view of the beds , again showing issues with plant growth.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Secondary Treatment: Sand Bed System

The Northeast bed (photo below) shows evidence of recent maintenance. Despite the recent maintenance there is plant growth throughout the bed. The browned plant material is evidence of the use of herbicides.

The Northwest bed (photo below), depicts a large amount of unacceptable plant material. This bed was online and experiencing issues with slowly draining at the time of the inspection.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Secondary Treatment: Sand Bed System

The southeastern filter bed was visually in the worst condition due to the sheer volume of plant material present and the definitive height difference in the water level of the beds. This difference indicates that this bed is draining slower than its counterpart.

The southwestern filter bed (photo below) shows the beginning of a large amount of plant growth. The maintenance on the beds could be propagating the growth of plant material. This conclusion is drawn from the uniform plant material growing in a circular pattern created by dragging the bed.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Secondary Treatment: Sand Bed System

Sand in the northwest sand bed was carefully excavated by hand down to the pea gravel layer to determine the depth of compromised media and assess the condition of the lower media and pea gravel layer. In the location excavated the interface between compromised media (with organic content) and "clean" sand was approximately 6-8 inches down. The sand below that interface appeared to be in acceptable condition, as did the pea gravel layer. Total media depth was approximately 24" deep, which just meets minimum sand depth requirements.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Sand Bed Security

The security system for the secondary treatment process is not adequate for the location of the wastewater treatment system. When installed there was not a public recreation facility adjacent to the wastewater treatment facility. At that time, a four foot mesh wire fence was adequate as there was little traffic throughout the area. With the development of a public recreational area (photo bottom right) 20 feet from the eastern side of the fence there has been a major increase in foot traffic throughout the area. The way the basketball court and soccer fields are aligned creates a situation where the current fence is extremely inadequate to deter trespassers, despite the signs (top photo and middle right photo). There is evidence that individuals have entered the fenced treatment area to retrieve recreational implements in the form of pulled and bent fencing and boards left in the beds serving as a bridge to retrieve the lost implements.

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Bed Security

There is fencing present but it has degraded to the point it is largely ineffective at deterring trespassers and adequately securing the filter beds. On a visit there were children's' footprints wearing cleats (shown in picture right) present in one of the sand filter beds. The boot print on the right of the photo is of an AES engineer's size 12 work boot to shown reference against the child sized cleat. The operator has reported that there has been numerous instances where there has been footprints.

The fence has lost the majority of is footing with its corners being supported by planks leaning against the corner post to keep it vertical. The fence can be simply stepped over or pushed over to gain access to the filter beds. The gate is rusted to the point where cross bars are falling off where it appears people have climbed on.

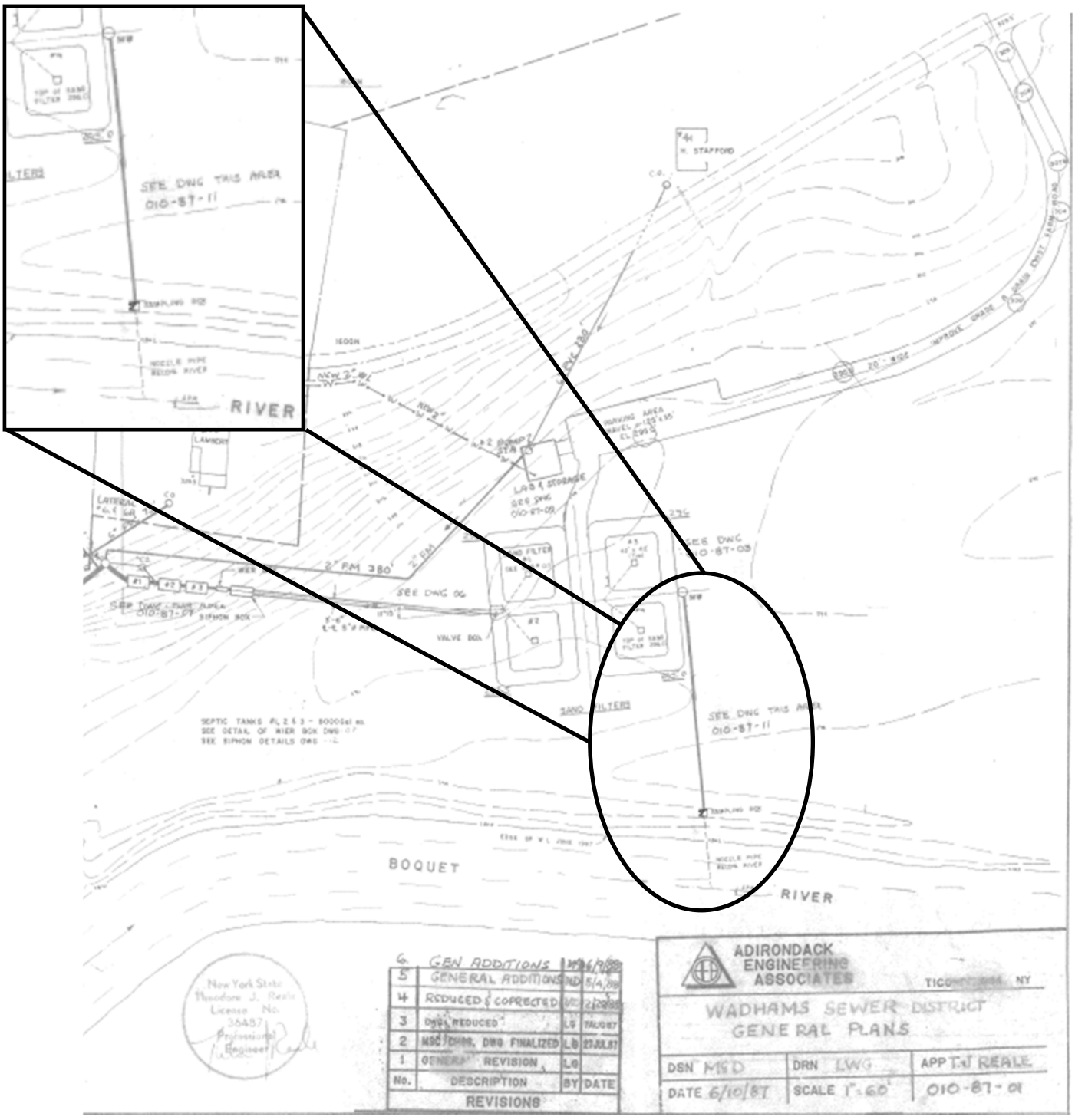
Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Effluent Line



Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix F

Unit Process Evaluation

Effluent Line

The effluent system has not been modified since installation. The effluent pipe has been suffering from a leak stemming from near the exposed cap (photo top right). This leak is creating a sinkhole around the area of the cap. It is estimated that per year the sinkhole removes approximately 32 cubic feet of soil material. This is not only a problem for the system but it poses a threat to those who use the recreational area.

The effluent structure is in good condition (photo bottom left). The interior, not shown, has some noted grease and other unknown floating materials present in the structure.

At the time of this report the outfall pipe (bottom right) did not have any indications of damage or compromised performance, but it was unable to be fully inspected due to its location in the river.

APPENDIX G

DESIGN STANDARDS EVALUATION

Town of Westport
Wadhams WWTP Disinfection Evaluation
Design Standards Evaluation

Primary Treatment (Septic Tanks) NYS DEC 2014 Design Standards for Intermediate Sized Wastewater Treatment Systems		
Referenced Standards	**Actual Installation**	**Comments**
(Section D.6 Design and Sizing)	Septic Tank Total Volume of ~24,000 Gallons designed based on flow of 15,000 GPD	The Effective Tank Volume is designed to be larger than the daily flow and experiences very low daily flows.
(Section D.6 Shape and Dimensions)		The current dimensions of the Septic Tanks are unknown. The depth is a purported 8 feet.
(Section D.6 Compartments)		The current dimensions and compartment design of the Septic Tanks are unknown. They are believed to be unbaffled
(Section D.6 Two Tanks in Series)	Three ~8000 gallon tanks were installed in series with adequate slope of at least 1/8 inch per foot between tanks. All tees installed have a 8 inch diameter.	The inlet tees to each tank have an unknown depth. There are effluent tees on each septic tank.
(Section D.6 Construction and Materials for Septic Tanks)	Concrete tanks were installed watertight and of satisfactory materials to perform under designed conditions.	The concrete tanks experience no loading and appear to be water tight.
(Section D.6 Inlet and Outlet and Access Openings) (Section D.7 Effluent Screens / Filters (for septic tanks and grease interceptors)	The septic tanks were installed with 24" manholes, brought to grade, directly above tees in both the inlet and outlet of each septic tank at an adequate slope. The tanks were installed linearly so that there is no need for fittings between the tanks. Inlets and Outlets are equipped with sanitary tees	Installation information cannot be verified.
(Section D.6 Installation, Performance Testing, Backfill)		All construction was performed decades prior but the state of the septic tanks speak to a quality installation.

Town of Westport
Wadhams WWTP Disinfection Evaluation
Design Standards Evaluation

Dosing and Distribution NYS DEC 2014 Design Standards for Intermediate Sized Wastewater Treatment Systems		
Referenced Standards	**Actual Installation**	**Comments**
(Section D.8 Dosing Stations) (Section E.6 Dosing Stations)	The installed Flout dosing system provides a purported periodic discharge of ~1080 gallons to the downstream sand filter beds.	The dosing chamber is experiencing sulfide attack, particularly on the areas above the mean tank high water level. The dosing mechanics were recently inspected and was proven to be in good condition. At the time of the issuance of the report the Flout doing system required adjustment. The maintenance work was scheduled to occur as soon as support staff were available due to the confined space of the dosing chamber.
(Section D.9 Distribution Boxes/Flow Splitters)	The installed mode of distribution is a Flow Splitter operated above ground with a valve key.	

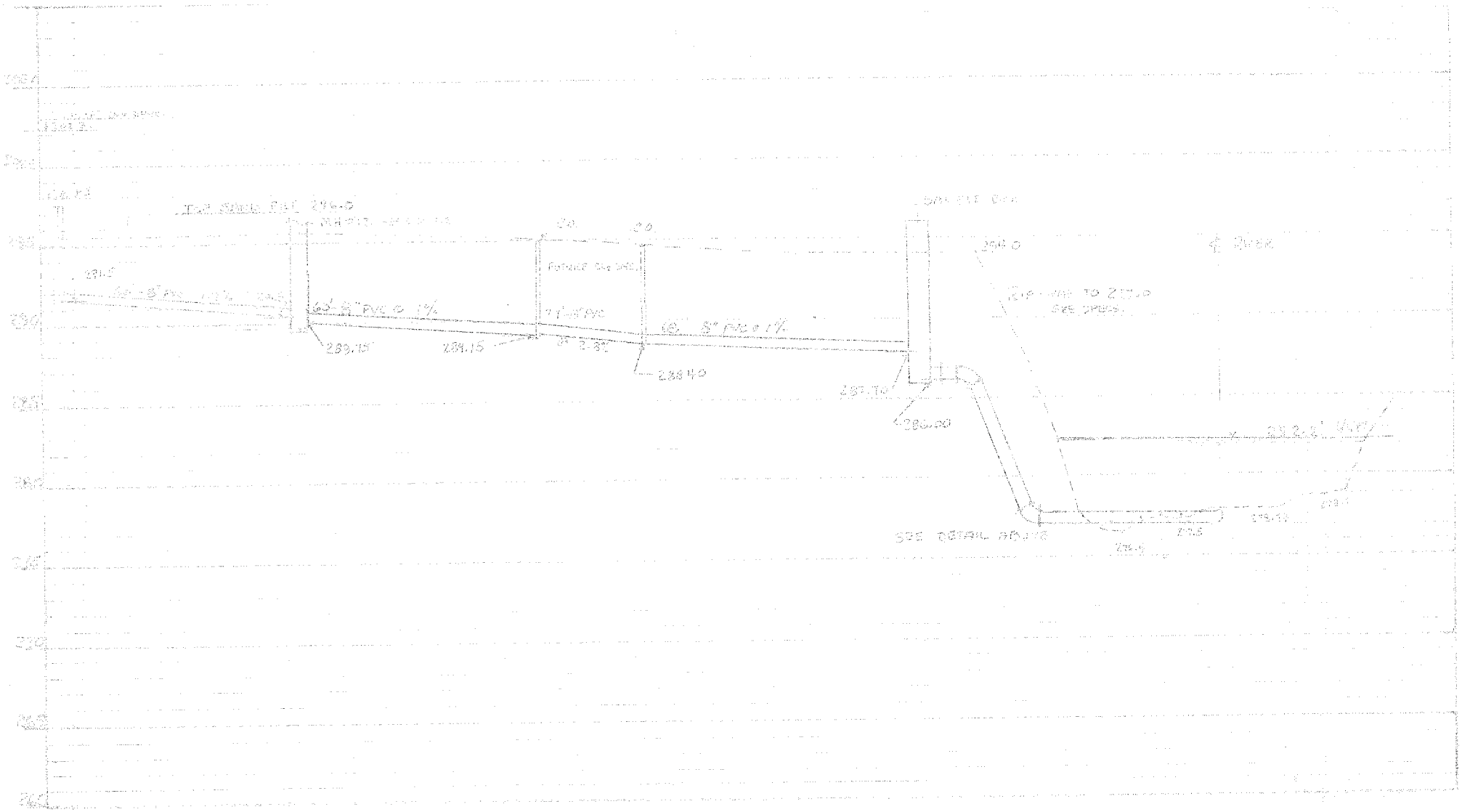
Town of Westport
Wadhams WWTP Disinfection Evaluation
Design Standards Evaluation

Secondary Treatment (Filter Bed System) NYS DEC 2014 Design Standards for Intermediate Sized Wastewater Treatment Systems		
Referenced Standards	**Actual Installation**	**Comments**
(Section F.2a Sand and Gravel Filtration)	A gravity fed single pass sand filter system was installed as the secondary treatment procedure.	The beds are not operating at optimal efficiency and should be remediated. There is excessive plant growth and ponding.
(Section F.2a Liners)	Unknown	Liners are not visible without excavation.
(Section F.2a Flow Rates and Resting Filters)	The open sand filters are designed with a flow rate of 15,000 gpd.	Current influent flows are usually 4,000 gallons.
	Four sand filters were installed for the purpose of resting.	Filter beds are rested seasonally based on performance and O&M.
(Section F.2a Filter Media Alternatives and sizing specifications)	The material was tested and it conforms to a Uniformity Coefficient of under 2.5 and contains particles within the range of 0.8mm to 2mm.	Bed material is plagued by organic material. Media cannot be cleaned and must have at least 6-8 inches of material removed and replaced in order to adequately maintain treatment.
(Section F.2a Wastewater Distribution)	Design conforms to specifications.	
(Section F.2b Single-Pass Sand Filters (SPSF) Open Design)	The SPSFs distribution lines are gravity fed and evenly distribute the flow across each bed.	The SPSFs distribution lines are gravity fed and evenly distribute the flow across each bed.
	There are no covers for the beds.	
	Adequate soil and storm water protection berms are present.	In future work the berms could be raised to increase security in the occurrence of a 500 year flood.
	Maintenance is performed to remove plants and biological growth.	Maintenance is performed on the beds but due to previous issues with primary treatment and past practices involving tilling the sand media and application of herbicides, the upper media layers have been compromised.

APPENDIX H

EXISTING HYDRAULIC PROFILE

Original Design
Print: Hydraulic
Profile



APPENDIX I

COLLECTION SYSTEM EVALUATION

Town of Westport

Wadhams WWTP Disinfection Evaluation

Appendix I

Collection System Evaluation

Town of Westport
Wadhams WWTP Disinfection Evaluation
Appendix I
Collection System Evaluation

Summary of Manhole Explorations

An inspection of key components of the Wadhams Wastewater Collection System was performed by AES Northeast. The collection system was installed in the 1980's and expanded in 1995 to accommodate a total of 56 users. The system includes four pump stations and almost two miles of piping consisting of mainly 8" gravity flow PVC. The rest of the collection system consists of 6" gravity flow PVC laterals and 2 inch and 2.5 inch force mains.

The Wadhams Collection system and Treatment Plant is capable of handling increases in flows due to wet weather at peak use. The potential I&I of the system does not play a major role in the efficacy of the treatment plants function.

The collection system age and material type would be expected to be in relatively good condition, however the investigation found two manholes that require repair to reduce relatively significant amounts of inflow.

There have been no reported instances or evidence that there has been any Sanitary Sewer Overflow Events.

There were no reported issues with the system pump stations.

Town of Westport
Wadhams WWTP Disinfection Evaluation
Appendix I
Collection System Evaluation

Sewer District 1, MH 6

This manhole is the cause of a significant amount of infiltration in the Wadhams Collection System. A large deposit of sand and silt is seen on the bench, wall and stairs of the manhole. The placement of the manhole is appears to be the cause of this infiltration. The manhole is placed in such a way that during wet weather flows the runoff from the road is pitched off the road and into a drainage ditch which outlets onto pavement directly towards the manhole cover. This flow carries sand and silt that becomes part of the infiltration into the manhole.

Town of Westport
Wadhams WWTP Disinfection Evaluation
Appendix I
Collection System Evaluation

Sewer District, MH 10

This manhole is the cause of a large amount of infiltration in the Wadhams Collection System. The manhole is directly in line with the paved ditch line (Image 1). During wet weather flows there is pooling on the manhole cover which results in heavy infiltration through the cover. This appears to be an ongoing issue during wet weather flows evidenced by the buildup of sand on the bench and staining of the structure walls and bench directly below the cover.

Image 1

Image 2

Image 3

Image 4

APPENDIX J

EPA WW Technology Disinfection Fact Sheets

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA 832-F-99-064 September 1999

EPA

Wastewater Technology Fact Sheet
Ultraviolet Disinfection

DESCRIPTION

Disinfection is considered to be the primary mechanism for the inactivation/destruction of pathogenic organisms to prevent the spread of waterborne diseases to downstream users and the environment. It is important that wastewater be adequately treated prior to disinfection in order for any disinfectant to be effective. Some common microorganisms found in domestic wastewater and the diseases associated with them are presented in Table 1.

An Ultraviolet (UV) disinfection system transfers electromagnetic energy from a mercury arc lamp to an organism's genetic material (DNA and RNA). When UV radiation penetrates the cell wall of an organism, it destroys the cell's ability to reproduce. UV radiation, generated by an electrical discharge through mercury vapor, penetrates the genetic material of microorganisms and retards their ability to reproduce.

The effectiveness of a UV disinfection system depends on the characteristics of the wastewater, the intensity of UV radiation, the amount of time the microorganisms are exposed to the radiation, and the reactor configuration. For any one treatment plant, disinfection success is directly related to the concentration of colloidal and particulate constituents in the wastewater.

The main components of a UV disinfection system are mercury arc lamps, a reactor, and ballasts. The source of UV radiation is either the low-pressure or medium-pressure mercury arc lamp with low or high intensities.

TABLE 1 INFECTIOUS AGENTS POTENTIALLY PRESENT IN UNTREATED DOMESTIC WASTEWATER

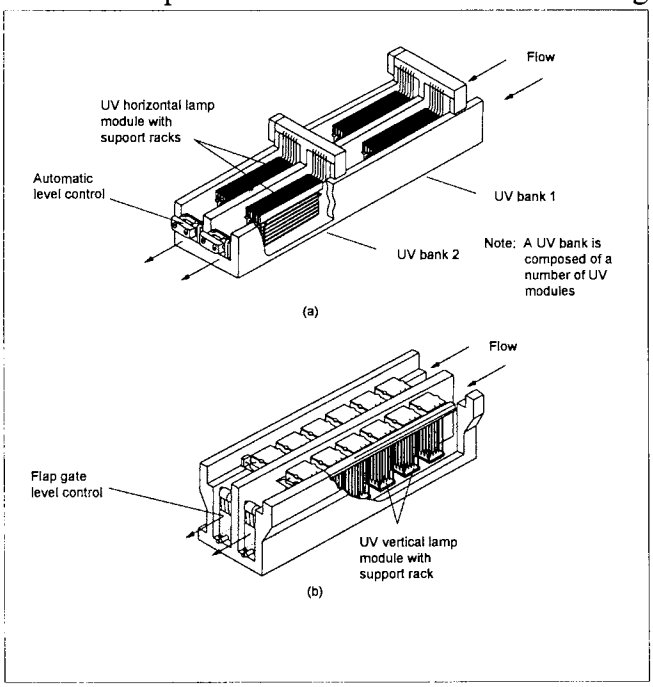
Organism	Disease Caused
Bacteria	
Escherichia coli (enterotoxigenic)	Gastroenteritis
Leptospira (spp.)	Leptospirosis
Salmonella typhi	Typhoid fever
Salmonella (=2,100 serotypes)	Salmonellosis
Shigella (4 spp.)	Shigellosis (bacillary dysentery)
Vibrio cholerae	Cholera
Protozoa	
Balantidium coli	Balantidiasis
Cryptosporidium parvum	Cryptosporidiosis
Entamoeba histolytica	Amebiasis (amoebic dysentery)
Giardia lamblia	Giardiasis
Helminths	
Ascaris lumbricoides	Ascariasis
T. solium	Taeniasis
Trichuris trichiura	Trichuriasis
Viruses	
Enteroviruses (72 types, e.g., polio, echo, and coxsackie viruses)	Gastroenteritis, heart anomalies, meningitis
Hepatitis A virus	Infectious hepatitis
Norwalk agent	Gastroenteritis
Rotavirus	Gastroenteritis

Source: Adapted from Crites and Tchobanoglous, 1998.

The optimum wavelength to effectively inactivate microorganisms is in the range of 250 to 270 nm. The intensity of the radiation emitted by the lamp dissipates as the distance from the lamp increases. Low-pressure lamps emit essentially monochromatic light at a wavelength of 253.7 nm. Standard lengths of the low-pressure lamps are 0.75 and 1.5 meters with diameters of 1.5 - 2.0 cm. The ideal lamp wall temperature is between 95 and 122°F.

Medium-pressure lamps are generally used for large facilities. They have approximately 15 to 20 times the germicidal UV intensity of low-pressure lamps. The medium-pressure lamp disinfects faster and has greater penetration capability because of its higher intensity. However, these lamps operate at higher temperatures with a higher energy consumption.

There are two types of UV disinfection reactor configurations that exist: contact types and noncontact types. In both the contact and the noncontact types, wastewater can flow either perpendicular or parallel to the lamps. In the contact reactor, a series of mercury lamps are enclosed in quartz sleeves to minimize the cooling effects of the wastewater. Figure 1 shows two UV contact reactors with submerged lamps placed parallel and perpendicular to the direction of the wastewater flow. Flap gates or weirs are used to control the level of the wastewater. In the noncontact reactor, the UV lamps are suspended outside a transparent conduit, which carries the wastewater to be disinfected. This configuration is not as common as the contact reactor. In both types of reactors, a ballast—or control box—provides a starting voltage for the lamps and maintains a continuous current.



Source: Crites and Tchobanoglous, 1998.
(a) adapted from Trojan Technologies, Inc.
(b) adapted from Infilco Degremont, Inc.

FIGURE 1 ISOMETRIC CUT-AWAY VIEWS OF TYPICAL UV DISINFECTION SYSTEMS

ADVANTAGES AND DISADVANTAGES

Advantages

- UV disinfection is effective at inactivating most viruses, spores, and cysts.
- UV disinfection is a physical process rather than a chemical disinfectant, which eliminates the need to generate, handle, transport, or store toxic/hazardous or corrosive chemicals.
- There is no residual effect that can be harmful to humans or aquatic life.
- UV disinfection is user-friendly for operators.
- UV disinfection has a shorter contact time when compared with other disinfectants (approximately 20 to 30 seconds with low-pressure lamps).
- UV disinfection equipment requires less space than other methods.

Disadvantages

- Low dosage may not effectively inactivate some viruses, spores, and cysts.
- Organisms can sometimes repair and reverse the destructive effects of UV through a "repair mechanism," known as photoreactivation, or in the absence of light known as "dark repair."

- A preventive maintenance program is necessary to control fouling of tubes.

- Turbidity and total suspended solids (TSS) in the wastewater can render UV disinfection ineffective. UV disinfection with low-pressure lamps is not as effective for secondary effluent with TSS levels above 30 mg/L.

- UV disinfection is not as cost-effective as chlorination, but costs are competitive when chlorination dechlorination is used and fire codes are met.

APPLICABILITY

When choosing a UV disinfection system, there are three critical areas to be considered. The first is primarily determined by the manufacturer; the second, by design and Operation and Maintenance (O&M); and the third has to be controlled at the treatment facility.

Choosing a UV disinfection system depends on three critical factors listed below.

- Hydraulic properties of the reactor: Ideally, a UV disinfection system should have a uniform flow with enough axial motion (radial mixing) to maximize exposure to UV radiation. The path that an organism takes in the reactor determines the amount of UV radiation it will be exposed to before inactivation. A reactor must be designed to eliminate short-circuiting and/or dead zones, which can result in inefficient use of power and reduced contact time.

- Intensity of the UV radiation: Factors affecting the intensity are the age of the lamps, lamp fouling, and the configuration and placement of lamps in the reactor.

- Wastewater characteristics: These include the flow rate, suspended and colloidal solids, initial bacterial density, and other physical and chemical parameters. Both the concentration of TSS and the concentration of particle-associated microorganisms determine how much UV radiation ultimately reaches the target organism. The higher these concentrations, the lower the UV radiation absorbed by the organisms. Various wastewater characteristics and their effects on UV disinfection are given in Table 2.

TABLE 2 WASTEWATER CHARACTERISTICS AFFECTING UV DISINFECTION PERFORMANCE

Wastewater Characteristic	Effects on UV Disinfection
Ammonia	Minor effect, if any
Nitrite	Minor effect, if any
Nitrate	Minor effect, if any
Biochemical oxygen demand (BOD)	Minor effect, if any. Although, if a large portion of the BOD is humic and/or unsaturated (or conjugated) compounds, then UV transmittance may be diminished.
Hardness	Affects solubility of metals that can absorb UV light. Can lead to the precipitation of carbonates on quartz tubes.
Humic materials, Iron	High absorbency of UV radiation.
pH	Affects solubility of metals and carbonates.
TSS	Absorbs UV radiation and shields embedded bacteria.

Source: Adapted from: Darby et al. (1995) with permission

UV disinfection can be used in plants of various sizes that provide secondary or advanced levels of treatment.

PERFORMANCE

Gold Bar Wastewater Treatment Plant in Edmonton, Alberta, Canada

The Gold Bar Wastewater Treatment Plant (GBWTP) in Edmonton, Alberta, was required to use disinfection to meet water quality standards for

contact recreation in Alberta. During that period, the average and peak design flow rates for this treatment facility were 82 and 110 million gallons per day (mgd), respectively. A pilot study was conducted to review current UV disinfection systems, effectiveness of lamp intensities, and costs. UV disinfection was determined to be the most efficient disinfection system to achieve the required treatment levels.

Lamp fouling is a potential problem among UV systems, but with proper cleaning and O&M, it should not interrupt the system's disinfection capability. Lamp cleaning at the GBWTP was achieved by a mechanical wiping mechanism accompanying each cluster of lamps. Lamps were cleaned on a regular basis using an in-channel cleaning system. The safety concerns for both low-pressure and high-intensity UV systems regarding exposure to UV radiation and electrical hazards are low under normal operating conditions. However, precautionary measures should be taken when operating high-intensity lamps to avoid overexposure. The risk was not considered major by the GBWTP and was outweighed by the potential savings of using high-intensity UV systems. At the GBWTP, a medium-pressure, high-intensity system was found to be more economical than the conventional low-pressure systems in both capital and life-cycle costs.

Northwest Bergen County Utility Authority Wastewater Treatment Plant in Waldwick, New Jersey

The use of UV disinfection for wastewater treatment has increased dramatically in the last few years due to the impact of chlorinated organics from sewage effluent on receiving waters. Such was the case with the Northwest Bergen County Utility Authority (NBCUA) Wastewater Treatment Plant located in Waldwick, New Jersey. In 1989, the treatment plant had to convert from chlorination to an alternative disinfection technology with zero residual after treatment. This change was brought about when the "zero residual" regulation was imposed by the New Jersey Department of Environmental Protection with the passage of the Toxic Catastrophic Prevention Act.

Several factors, such as public safety and recent findings and concerns over the environmental impact of chemical releases and spills, have led to more stringent permit requirements for chlorine. Also, there were other conditions that the treatment plant had to meet if chlorine use was to continue. To avoid the escalated costs that could be incurred and to be in compliance with the new regulations, the wastewater treatment plant switched to UV disinfection. The UV system was installed within the existing chlorine contact tanks, along with an extension to the existing building for easy maintenance during bad weather. The UV system at NBCUA was able to meet fecal coliform levels (200 count per 100 mL) better than chlorination since its installation in August 1989.

OPERATION AND MAINTENANCE

The proper O&M of a UV disinfection system ensures that sufficient UV radiation is transmitted to the organisms to render them sterile. All surfaces between the UV radiation and the target organisms must be clean, and the ballasts, lamps, and reactor must be functioning at peak efficiency. Inadequate cleaning is one of the most common causes of a UV system's ineffectiveness. The quartz sleeves or Teflon tubes need to be cleaned regularly by mechanical wipers, ultrasonics, or chemicals. The cleaning frequency is very site-specific, some systems need to be cleaned more often than others.

Chemical cleaning is most commonly done with citric acid. Other cleaning agents include mild vinegar solutions and sodium hydrosulfite. A combination of cleaning agents should be tested to find the agent most suitable for the wastewater characteristics without producing harmful or toxic by-products. Noncontact reactor systems are most effectively cleaned by using sodium hydrosulfite.

Any UV disinfection system should be pilot tested prior to full-scale operation to ensure that it will meet discharge permit requirements for a particular site.

The average lamp life ranges from 8,760 to 14,000 working hours, and the lamps are usually replaced after 12,000 hours of use. Operating procedures

should be set to reduce the on/off cycles of the lamps, since their efficacy is reduced with repeated cycles.

The ballast must be compatible with the lamps and should be ventilated to protect it from excessive heating, which may shorten its life or even result in fires. Although the life cycle of ballasts is approximately 10 to 15 years, they are usually replaced every 10 years. Quartz sleeves will last about 5 to 8 years but are generally replaced every 5 years.

COSTS

The cost of UV disinfection systems depends on the manufacturer, the site, the capacity of the plant, and the characteristics of the wastewater to be disinfected. Total costs of UV disinfection can be competitive with chlorination when the dechlorination step is included.

The annual operating costs for UV disinfection include power consumption; cleaning chemicals and supplies; miscellaneous equipment repairs (2.5% of total equipment cost); replacement of lamps, ballasts and sleeves; and staffing requirements.

Costs have decreased in recent years due to improvements in lamp and system designs, increased competition, and improvements in the systems' reliability.

Medium-pressure lamps cost four to five times as much as low-pressure lamps. However, the reduced number of lamps necessary for adequate disinfection could make medium-pressure lamps cost-effective. Table 3A summarizes the costs of some of the lamps used in UV disinfection. This information was collected in a study conducted by the Water Environment Research Federation in 1995 for secondary effluents from disinfection facilities at average dry weather flow rates of 1, 10, and 100 mgd (2.25, 20, and 175 mgd peak wet weather flow, respectively). Table 3B describes the typical capital and O&M costs that are associated with a UV disinfection.

TABLE 3A LAMP COSTS FOR UV DISINFECTION SYSTEMS

Item	Range*	Typical*
UV lamps	($/lamp)	($/lamp)
1-5 mgd	397-1,365	575
5-10 mgd	343-594	475
19-100 mgd	274-588	400
Construction cost for physical facilities	(% of UV lamp cost) 75-200	(% of UV lamp cost) 150

* Costs are based on a 1993 Engineering News Record Construction Cost Index of 5,210.
Source: Adapted from: Darby et al. (1995) with permission from the Water Environment Research Foundation.

TABLE 3B CAPITAL AND O&M COSTS FOR UV DISINFECTION SYSTEMS

Cost Item	UV System Cost ($)
Capital Costs	
Equipment	120,000
Structural modifications	64,000
Electrical	20,000
Miscellaneous	40,000
Total:	**244,000**
Annual operating and maintenance costs	
Energy	3300
Lamps and chemicals	2840
Cleaning	1180
Maintenance	1440
Process control	6240
Testing	4160
Total	**19,190**

Source: Hanzon and Vigilia, 1999.

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EPA

Wastewater Technology Fact Sheet Chlorine Disinfection

DESCRIPTION

The impact of untreated domestic wastewater on community reservoirs has raised several health and safety concerns. The organisms of concern in domestic wastewater include enteric bacteria, viruses, and protozoan cysts. Table 1 summarizes the most common microorganisms found in domestic wastewater and the types of human diseases associated with them. In response to these concerns, disinfection has become one of the primary mechanisms for the inactivation/destruction of pathogenic organisms. In order for disinfection to be effective wastewater must be adequately treated.

APPLICABILITY

Chlorine is the most widely used disinfectant for municipal wastewater because it destroys target organisms by oxidizing cellular material. Chlorine can be supplied in many forms, which include chlorine gas, hypochlorite solutions, and other chlorine compounds in solid or liquid form. Some alternative disinfectants include ozonation and ultraviolet (UV) disinfection. Choosing a suitable disinfectant for a treatment facility is dependent on the following criteria:

- Ability to penetrate and destroy infectious agents under normal operating conditions.
- Safe and easy handling, storage, and shipping.
- Absence of toxic residuals and mutagenic or carcinogenic compounds after disinfection.

TABLE 1 INFECTIOUS AGENTS POTENTIALLY PRESENT IN UNTREATED DOMESTIC WASTEWATER

Organism	Disease Caused
Bacteria	
Escherichia coli	*Gastroenteritis*
Leptospira (spp.)	*Leptospirosis*
Salmonella typhi	*Typhoid fever*
Salmonella (=2100 serotypes)	*Salmonellosis*
Shigella (4 spp.)	*Shigellosis (bacillary dysentery)*
Vibrio cholerae	*Cholera*
Protozoa	
Balantidium coli	*Balantidiasis*
Cryptosporidium parvum	*Cryptosporidiosis*
Entamoeba histolytica	*Amebiasis (amoebic dysentery)*
Giardia lamblia	*Giardiasis*
Helminths	
Ascaris lumbricoides	*Ascariasis*
T. solium	*Taeniasis*
Trichuris trichiura	*Trichuriasis*
Viruses	
Enteroviruses (72 types) e.g., polio echo and coxsackie viruses)	*Gastroenteritis, heart anomalies, meningitis*
Hepatitis A virus	*Infectious hepatitis*
Norwalk agent	*Gastroenteritis*
Rotavirus	*Gastroenteritis*

Source: Adapted from: Crites and Tchobanoglous (1998) with permission from The McGraw-Hill Companies.

- Affordable capital and operation and maintenance (O&M) costs.

ADVANTAGES AND DISADVANTAGES

Chlorine is a disinfectant that has certain health and safety limitations, but at the same time, has a long history of being an effective disinfectant. Before deciding whether chlorine meets the municipality's needs, it is necessary to understand the advantages and disadvantages of this product.

Advantages

- Chlorination is a well-established technology.
- Presently, chlorine is more cost-effective than either UV or ozone disinfection (except when dechlorination is required and fire code requirements must be met).
- The chlorine residual that remains in the wastewater effluent can prolong disinfection even after initial treatment and can be measured to evaluate the effectiveness.
- Chlorine disinfection is reliable and effective against a wide spectrum of pathogenic organisms.
- Chlorine is effective in oxidizing certain organic and inorganic compounds.
- Chlorination has flexible dosing control.
- Chlorine can eliminate certain noxious odors during disinfection.

Disadvantages

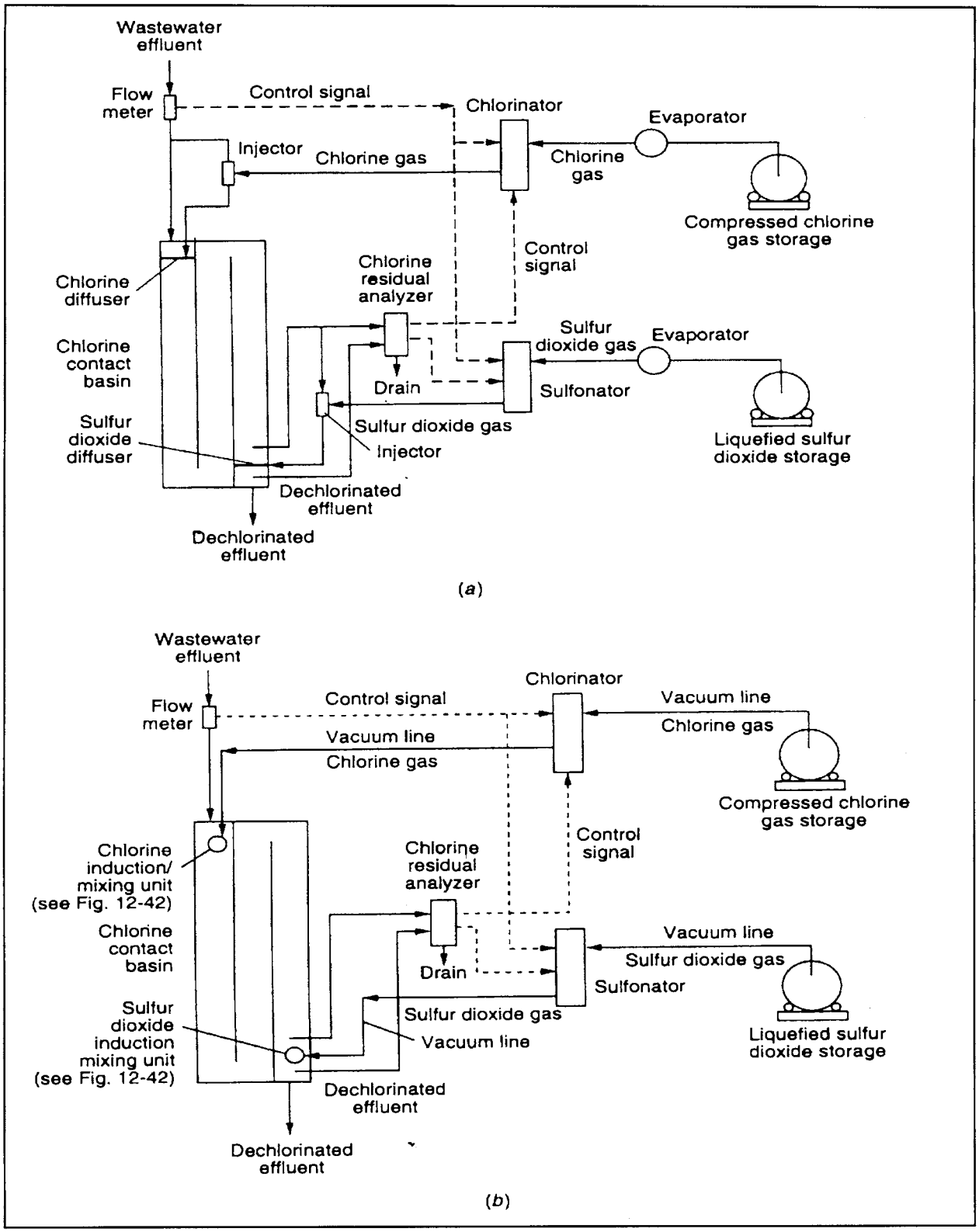
- The chlorine residual, even at low concentrations, is toxic to aquatic life and may require dechlorination.
- All forms of chlorine are highly corrosive and toxic. Thus, storage, shipping, and handling pose a risk, requiring increased safety regulations.
- Chlorine oxidizes certain types of organic matter in wastewater, creating more hazardous compounds (e.g., trihalomethanes [THMs]).
- The level of total dissolved solids is increased in the treated effluent.
- The chloride content of the wastewater is increased.
- Chlorine residual is unstable in the presence of high concentrations of chlorine-demanding materials, thus requiring higher doses to effect adequate disinfection.
- Some parasitic species have shown resistance to low doses of chlorine, including oocysts of *Cryptosporidium parvum*, cysts, of *Endamoeba histolytica* and *Giardia lamblia*, and eggs of parasitic worms.
- Long-term effect of discharging dechlorinated compounds into the environment are unknown.

DESIGN CRITERIA

When chlorine gas and hypochlorite salts are added to water, hydrolysis and ionization take place to form hypochlorous acid (HOCl) and hypochlorite ions (OCl) also referred to as free available chlorine. Free chlorine reacts quickly with ammonia in non-nitrified effluents to form combined chlorine, principally monochloramine, which actually is the predominant chlorine species present.

Chlorination

Figure 1 shows a flow chart of the chlorination process using liquid and gaseous chlorine. For optimum performance, a chlorine disinfection system should display plug flow and be highly turbulent for complete initial mixing in less than one second. The goal of proper mixing is to enhance disinfection by initiating a reaction between the free chlorine in the chlorine solution stream with the ammonia nitrogen. This prevents prolonged chlorine concentrations from existing and forming other chlorinated compounds.



Source: Crites and Tchobanoglous, used with permission from the McGraw-Hill Companies, 1998.

FIGURE 1 A COMPOUND-LOOP CONTROL SYSTEM FOR CHLORINATION WITH CHLORINE AN DECHLORINATION WITH SULFUR DIOXIDE: (a) INJECTION OF LIQUID CHLORINE AND (b) INJECTION OF CHLORINE GAS BY INDUCTION

Another important process that contributes to optimal disinfection is contact. The contact chamber should be designed to have rounded corners to prevent dead flow areas and be baffled to minimize short-circuiting. This design allows for adequate contact time between the microorganisms and a minimal chlorine concentration for a specific period of time.

The required degree of disinfection can be achieved by varying the dose and the contact time for any chlorine disinfection system. Chlorine dosage will vary based on chlorine demand, wastewater characteristics, and discharge requirements. The dose usually ranges from 5 to 20 milligrams per liter (mg/L). Table 2 describes some of the more common wastewater characteristics and their impact on chlorine. There are several other factors that ensure optimum conditions for disinfection and they include temperature, alkalinity, and nitrogen-content. All key design parameters should be pilot tested prior to full-scale operation of a chlorine disinfection system.

Dechlorination

After disinfection, chlorine residual can persist in the effluent for many hours. Most states will not allow the use of chlorination alone for pristine receiving waters because of its effect on aquatic species. To minimize the effect, chlorinated wastewater must often be dechlorinated.

Dechlorination is the process of removing the free and combined chlorine residuals to reduce residual toxicity after chlorination and before discharge. Sulfur dioxide, sodium bisulfite, and sodium metabisulfite are the commonly used dechlorinating chemicals. Activated carbon has also been used. The total chlorine residual can usually be reduced to a level that is not toxic to aquatic life. Chlorination/dechlorination systems are more complex to operate and maintain than chlorination systems. Figure 1 shows a schematic of the chlorination/dechlorination system using sulfur dioxide.

TABLE 2 WASTEWATER CHARACTERISTICS AFFECTING CHLORINATION PERFORMANCE

Wastewater Characteristic	Effects on Chlorine Disinfection
Ammonia	Forms chloramines when combined with chlorine
Biochemical Oxygen Demand (BOD)	The degree of interference depends on their functional groups and chemical structures
Hardness, Iron, Nitrate	Minor effect, if any
Nitrite	Reduces effectiveness of chlorine and results in THMs
pH	Affects distribution between hypochlorous acid and hypochlorite ions and among the various chloramine species
Total Suspended Solids	Shielding of embedded bacteria and chlorine demand

Source: Darby et al., with permission from the Water Environment Research Foundation, 1995.

PERFORMANCE

Marsh Creek Wastewater Treatment Plant in Geneva, New York

The Marsh Creek Wastewater Treatment Plant in Geneva, New York, met stringent state permitting requirements for residual chlorine and fecal coliforms by adopting a new chlorine control strategy. The strategy was devised to monitor the plant's changing chlorine demand and to feed the required chlorine by measuring the oxidation reduction potential (ORP).

After conducting a three-month study, the plant installed an ORP system to monitor and regulate the amount of chlorine present in solution. The control system measured the chlorine demand and regulated the amount of chlorine needed to achieve and maintain the ORP setpoint parameters. The system was calibrated to maintain the total chlorine control limit between 0.2 and 0.1 mg/L.

An electrode, placed about 300 feet upstream from the injection point, measured the ORP, which was then converted to a 4 to 20 milliampere signal. Based on the signal, the control system drove the chlorinator and matched the feed rate to the changing chlorine demand in the system. A second electrode was used on the discharge fallout line to monitor the accuracy of the chlorine control system.

The treatment plant was then able to meet the fecal coliform limits and maintain an effluent chlorine residual of less than 0.25 mg/L. In addition to meeting the permit requirements, the plant significantly lowered the chlorine consumption cost. At the time of the study, it was estimated that the ORP control system could be paid for in approximately 30 months due to the reduction in the chlorine consumption cost.

East Bay Municipal Utility District's Wastewater Plant in Oakland, California.

The East Bay Municipal Utility District in Oakland, California, owned and operated a wastewater treatment plant with a design flow of 310 million gallons per day (mgd), where chlorination and dechlorination were mandated parts of the treatment process. With this requirement, optimizing the dechlorination system was a critical part in meeting the National Pollution Discharge Elimination System permit limit of no chlorine residual during dry and wet weather operations.

A sodium bisulfite (SBS) system was added as backup to the dechlorination operation. It performed very well and kept the plant in compliance. This system is similar to a typical liquid chemical addition facility with a storage system, feed pump, metering system, control valve, and injection device.

The SBS system was integrated into the overall dechlorination operation by control set points on the sulfur dioxide (SO_2) residual analyzer and set to maintain a concentration of 3 to 4 mg/L. The SBS system is set to kick in at a calculated SO_2 concentration of 1.5 mg/L. It is also set to begin operation when the SO_2 leak detection system automatically shuts off the SO_2 feed, or during wet weather operations when the SO_2 demand may exceed the SO2 system's capacity.

The treatment plant also had to optimize chemical usage with the continued increase in chemical costs. The original chlorine dose was 15 mg/L, where 5 to 6 mg/L was consumed with 9 to 10 mg/L as a residual. The residual chlorine was then gradually lowered from 9 to 10 mg/L to 3 to 5 mg/L, without affecting the compliance requirements. This also resulted in using less SO_2 in addition to the reduction in chlorine usage.

By adopting a strategy to increase the focus on controlling costs through process optimization, the treatment plant was able to reduce its chemical costs by more than 30%.

OPERATION AND MAINTENANCE

A routine O&M schedule should be developed and implemented for any chlorine disinfection system. Regular O&M includes the following activities:

- Disassembling and cleaning the various components of the system, such as meters and floats, once every six months.
- Iron and manganese deposits should be removed with, for example, muriatic acid.
- Booster pumps should be maintained.
- Valves and springs should be inspected and cleaned annually.
- All manufacturer's O&M recommendations should be followed.
- Equipment must be tested and calibrated as recommended by the equipment manufacturer.
- An emergency response plan for onsite storage of gaseous chlorine must be developed.

When using chlorine it is very important to properly and safely store all chemical disinfectants. The storage of chlorine is strongly dependent on the compound phase. For further details on the safe use

and storage of chlorine refer to chemical's Material Safety Data Sheets. Chlorine gas is normally stored in steel containers (150-pound or 1-ton cylinders) and transported in railroad cars and tanker trucks. Sodium hypochlorite solution must be stored in rubber-lined steel or fiberglass storage tanks. Calcium hypochlorite is shipped in drums or tanker trucks and stored with great care.

COSTS

The cost of chlorine disinfection systems is dependent on the manufacturer, the site, the capacity of the plant, and the characteristics of the wastewater to be disinfected. Hypochlorite compounds, for example, tend to be more expensive than chlorine gas. On the other hand several large cities have switched to hypochlorite, despite the expense, in order to avoid transporting chlorine through populated areas. In addition to the costs incurred by the chlorination process, some municipalities will also have to consider the costs of introducing the dechlorination process. The total cost of chlorination will be increased by approximately 30 to 50% with the addition of dechlorination.

Table 3 summarizes the results of a 1995 study conducted by the Water Environment Research Federation for secondary effluents from disinfection facilities at average dry weather flow rates of 1, 10, and 100 mgd (2.25, 20, and 175 mgd peak wet weather flow, respectively). The annual O&M costs for chlorine disinfection include power consumption, cleaning chemicals and supplies, miscellaneous equipment repairs, and personnel costs. The costs associated with the Uniform Fire Code requirements can be high for small facilities (as high as 25%).

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TABLE 3 ESTIMATED TOTAL ANNUALIZED COST FOR CHLORINATION/DECHLORINATION

Flow (mgd)			Estimated Capital Costs ($)				
ADWF	PWWF	Cl_2 Dose (mg/L)	Chlorination	Dechlorination	UFC*	Total	Estimated O&M Costs
1	2.25	5	410,000	290,000	239,000	1,127,000	49,300
10	20.00	5	1,804,000	546,000	264,000	3,137,000	158,200
100	175.00	5	10,131,000	1,031,000	788,000	14,340,000	660,000
1	2.25	10	441,000	370,000	239,000	1,260,000	59,200
10	20.00	10	2,051,000	664,000	264,000	3,575,000	226,700
100	175.00	10	10,258,000	1,258,000	788,000	14,765,000	721,800
1	2.25	20	445,000	374,000	239,000	1,270,000	76,600
10	20.00	20	2,113,500	913,500	264,000	3,949,000	379,100
100	175.00	20	10,273,000	1,273,000	788,000	14,801,000	1,311,000

*UFC = Uniform Fire Code (Costs include provisions to meet Article 80 of the 1991 UFC)
ADWF = average dry weather flow PWWF = peak wet weather flow

Source: Darby et al., with permission from the Water Environment Research Foundation, 1995.

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Wastewater Technology Fact Sheet

Rapid Infiltration Land Treatment

DESCRIPTION

Rapid Infiltration (RI), which is also known as soil aquifer treatment, is one of the three major land treatment techniques that uses the soil ecosystem to treat wastewater. However, the RI process can treat a much larger volume of wastewater on a much smaller land area than other land treatment concepts. In RI systems, wastewater is applied to shallow basins constructed in deep and permeable deposits of highly porous soils. Wastewater application can be by flooding, or occasionally by sprinklers. Treatment, including filtration, adsorption, ion exchange, precipitation, and microbial action, occurs as the wastewater moves through the soil matrix. Phosphorus and most metals are retained in the soil while toxic organics are degraded or adsorbed.

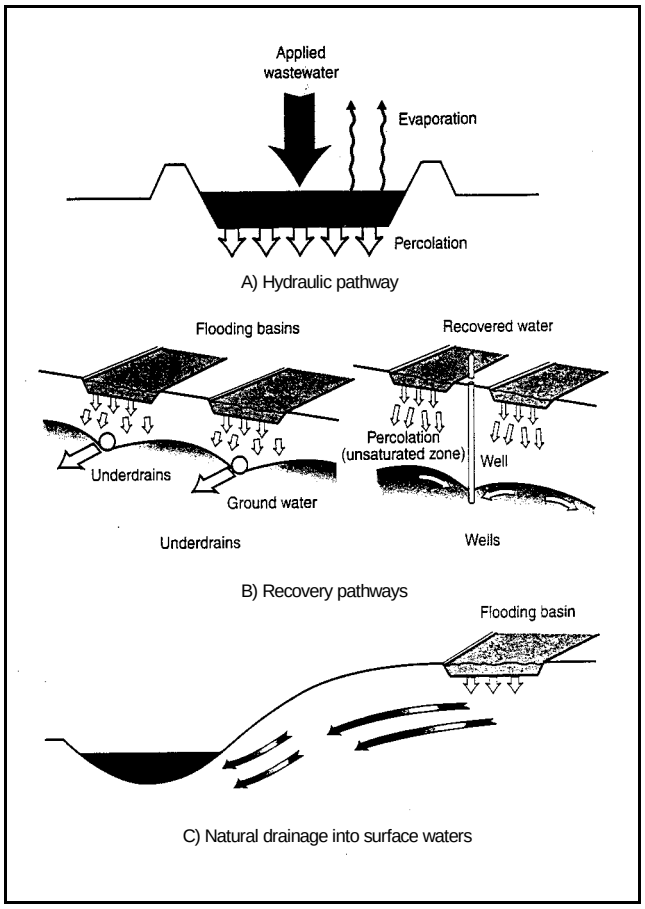
As wastewater percolates through the soil, it can be collected, or it can flow to native surface water or groundwater aquifers. Where the groundwater table is relatively shallow, the use of underdrains allows control of groundwater mounding and recovery of the renovated water. In areas with deeper groundwater, wells are used to recover the renovated water. This recovered water can be for irrigating crops or for industrial uses. This is known as "beneficial reuse." Water that is not recovered can recharge groundwater aquifers. The typical hydraulic pathways for water treated by RI are shown in Figure 1.

Common Modifications

Concerns regarding increased nitrogen levels in aquifers near RI systems have prompted several modifications to the general system design. RI sites may be located next to rivers or other surface water bodies, particularly if hydrogeological studies show that the percolate will flow to the surface water system and will not impact the general groundwater quality. When using underdrains or wells, an alternative is to design for a discharge rate that only slightly exceeds the percolation rate. This prevents any adverse impact on the adjacent groundwater. It is also possible to use special management approaches that maximize the nitrification and denitrification reactions, or to recycle the portion of the percolate with the highest nitrate concentration.

APPLICABILITY

RI is a simple and low cost wastewater treatment concept that has been used for more than 100 years. It is applicable for either primary or secondary effluent, and it has been used for treating municipal and some industrial wastewaters. Industries which have successfully used RI to treat their wastewater



Source: Crites, et al., 2000.

FIGURE 1 HYDRAULIC PATHWAYS FOR RAPID INFILTRATION

include breweries, distilleries, food processing plants, paper mills, and wool scouring plants.

RI can be used in a variety of different climates and at varied site locations. Unlike other land treatment and aquiculture concepts, RI systems do not have any special seasonal constraints, and they have been successfully operated throughout the winter months in the northern United States and southern Canada. RI is also very flexible in terms of site location. Unless groundwater recharge and recovery is intended, the most desirable sites are located immediately adjacent to surface waters to minimize any impact on the general groundwater quality. An underdrained system can be located wherever suitable soil and groundwater conditions exist.

There are more than 350 RI systems operating in the United States. However, the potential difficulty in identifying appropriate sites for the construction of RI systems and more stringent standards that must be met before the effluent can be applied to RI basins have led to a decrease in the use of RI as a treatment process for primary wastewater. Instead, many of the systems currently in use in the U.S. are used to polish secondary effluent. Other systems serve primarily as a wastewater disposal method, or as a method to replenish groundwater supplies. For example, the Landis Sewerage Authority in New Jersey operates an 3,100 m^3/day (8.2 MGD) advanced wastewater treatment facility (AWTF). After being processed in the AWTF, all of the water is discharged back to the groundwater through a RI basin, recharging the aquifer. RI basins have also recently been installed to dispose of treated effluent from an industrial area consisting of a hospital and a retirement home in Chester County, Pennsylvania. There are several basins covering a total of 1.2 ha (3 acres) in the system, and wastewater is applied by spraying it into each basin on a rotating schedule. Once the basins have reached their design effluent capacity, they are allowed to dry. The effluent then infiltrates through the soil and into the groundwater, further improving its quality and recharging the aquifer (Satterthwaite and Associates, 2003).

The town of Lake George, New York, has been using a RI system for over 60 years. The use of RI basins at Lake George stems from a 1942 New York state law that forbids discharge of wastewater to Lake George or any of its tributaries. Therefore, in order to dispose of its wastewater, the town discharges to natural basins consisting of more than 30 m (100 ft) of glacial sand deposits. The wastewater then percolates into the soil. After percolation, the sand is raked and/or rototilled to aerate the soil, and the beds can be reused.

Currently, the Lake George WWTP discharges 1.3 MGD during the summer, and between 0.5-0.6 MGD in the winter. Treatment consists of equalization, clarification, and trickling filters. After secondary settlement, wastewater is discharged to one of 26 RI basins. Each basin is filled to just below the spillway, and the water is then allowed to infiltrate into the soil. During peak flow periods in the summer, approximately one basin is filled per day. The basins take approximately 5 days to drain, and then each basin is raked and is ready for reuse.

Because of the concerns that using these basins could load high concentrations of nitrogen and phosphorous into the groundwater, the town's NPDES permit requires groundwater monitoring for increased nutrient concentrations. Nitrogen can be a particular problem during the winter months when nitrogen-fixing bacteria are less active.

ADVANTAGES AND DISADVANTAGES

Advantages

- Gravity distribution methods consume no energy.
- No chemicals are required.
- RI is a simple and economical treatment.
- The process is not constrained by seasonal changes.
- Effluent is of excellent quality.
- The process is very reliable with sufficient resting periods.
- RI provides a means for groundwater recharge, controlling groundwater levels, recovering renovated water for reuse or discharge to a particular surface water

body, and temporary storage of renovated water in the aquifer.

- The process is suitable for small plants where operator expertise is limited.

Disadvantages

- As typically operated, RI systems will not usually meet the stringent nitrogen levels required for discharge to drinking water aquifers.

- Requires long term commitment of a significant land area for treatment, with minimal secondary benefits such as are possible with other natural treatment systems (i.e., crop or forest production, habitat enhancement, etc.).

- Requires annual removal of accumulated deposits of organic matter on the infiltration surfaces in the basins.

- May require occasional removal and disposal of the top few inches of soil to expose clean material.

- Clogging can occur when influent is received at high application rates from algal laden facultative lagoons and polishing ponds.

DESIGN CRITERIA

Most RI failures are due to improper or incomplete site evaluation. Therefore, the primary design consideration for an RI system is site selection. Soil depth, soil permeability, and depth to groundwater are the most important factors in site evaluation. All of these factors must be very carefully evaluated during site investigation, regardless of system size, to ensure a successful design.

Once a suitable site has been selected, hydraulic loading rates, nitrogen loading rates, organic loading rates, land area requirements, hydraulic loading cycle, infiltration system design, and groundwater mounding must all be taken into account in designing the RI system. General design parameters for RI systems are shown in Table 1.

As described above, the RI process is entirely dependent on the soil and hydrogeological characteristics at a particular site, and these characteristics must be carefully considered before choosing the site for a RI system. The soil must have sufficient hydraulic capacity to allow the wastewater to infiltrate, then percolate and move either to the groundwater or into underdrains. Any fine textured top soil must be removed from the site so as to utilize the underlying coarse soils as the basin bottom and percolation media. In addition, the top 1.5-3 m (5-10 ft) of soil beneath the basin must be unsaturated at the start of the flooding cycle to allow the expected treatment to occur. There must be suitable subsurface conditions (i.e., slope and/or hydraulic gradient) to ensure that the percolate can flow away from the site at expected rates. The use of RI basins on fill material is not recommended because of potential damage to soil structure and hydraulic capacity during

TABLE 1 DESIGN CRITERIA

Item	Range
Basin Infiltration Area	0.3-5.5 ha/$10^3$$m^3$/d (3-56 acres/MGD)
Hydraulic Loading Rate	6-90 m/yr (20-300 ft/yr) [6-92 m^3/m^2/yr (150-2250 gal/ft^2/yr)]
BOD Loading	22-112 kg/ha/d (20 to 100 lb/acre/d)
Soil Depth	at least 3-4.5 m (10-15 ft)
Soil Permeability	at least 1.5 cm/hr (0.6 in/hr)
Wastewater Application Period	4 hrs to 2 wks
Drying Period	8 hrs to 4 wks
Soil Texture	coarse sands, sandy gravels
Individual Basin Size (at least 2 basins in parallel)	0.4-4 ha (1-10 acres)
Height of Dikes	0.15 m (0.5 ft) above maximum expected water level
Application Method	flooding or sprinkling
Pretreatment Required	primary or secondary

Source: Crites, et al., 2000.

construction. Exceptions may be possible for very coarse textured soils, but only if the hydraulic capacity is tested in a full scale fill. Performance limitations relate to removal of nitrogen, as discussed previously.

Some system designs include an underdrain, which is used to collect renovated water. In order for percolating water to move down through the soil and into an underdrain, the soil must be saturated. Therefore, the use of an underdrain pipe network for percolate recovery is not feasible unless the native groundwater is less than 3 m (10 ft) deep beneath the bottoms of the basins. This should allow for soil saturation during the flooding cycle.

Once the proper site is chosen, a preliminary estimate of the treatment area required for an RI system can be made with the following equation:

$$A = (0.250)(Q)/(L)(P)$$

Where: A = RI treatment area in acres; Q = wastewater flow, gal/d; L = annual hydraulic loading into the basin, ft/yr (typical range 6-90 m [20-300 ft]; higher values for coarse soils and secondary treated wastewater); P = number of weeks per year the system is operated.

If the RI system operates on a year-round basis, the equation reduces to:

$$A = (0.0048)(Q)/(L)$$

This is an estimate of the basin treatment area. The total site area would also include dikes and berms, access roads, etc.

Design of an RI basin must include mechanical equipment. Typical equipment associated with RI systems includes distribution piping or troughs, pumps, underdrain piping (if used), well piping and pumps (if used), and storage tanks or lined basins (if needed). Sprinklers or pumped groundwater recovery will require appropriate energy sources.

PERFORMANCE

RI systems produce effluent of excellent quality with sufficient travel distance through soil. The use of primary versus secondary level influent influences the hydraulic loading rate but not the expected performance of the system. Table 2 shows expected removal percentages for typical pollution parameters using RI.

OPERATION AND MAINTENANCE

RI has excellent reliability. With proper operation and management, several systems in the northeastern United States have operated continuously for more than 50 years without problems.

Operation

Preapplication treatment can be used to reduce the concentration of excess solids in the wastewater prior to introduction of the wastewater into the RI basin. Use of secondary effluent will allow a higher hydraulic loading rate and therefore a smaller RI basin system. RI basins receiving influent at high application rates from algal laden facultative lagoons and polishing ponds often experience rapid clogging.

Proper operation of a RI system requires a periodic cycle of flooding and drying of each basin at the site. First, wastewater is added to a dry bed in the "flooding" stage. The length of the flooding stage is determined by the design infiltration rate and the treatment requirements. After the bed is flooded for the appropriate period, it is allowed to dry. During the drying stage, wastewater infiltrates into the soil or is evapotranspired into the atmosphere. The drying period is essential to restore aerobic conditions in the soil profile and to allow for desiccation and decomposition of the organic solid matter retained on the soil surface. The drying period can range from several hours to several

TABLE 2 EFFLUENT QUALITY

Parameter	Percent Removal
BOD_5	95 to 99 percent
TSS	95 to 99 percent
TN	25 to 90 percent
TP	0 to 90 percent
Fecal Coliform	99.9 to 99.99+ percent

Source: Crites, et al., 2000.

weeks depending on the flooding period selected and the type of wastewater applied. Typically, the drying period is at least equal to the flooding period and may be twice as long. In cold climates, the drying period may be extended and the flooding period shortened during the winter months to compensate for the lower rate of treatment during that season.

Maintenance

The same maintenance requirements used at any earthen basin are applicable to RI systems. Special requirements for RI systems pertain to preserving the design infiltration capacity of the basins. The operator should perform daily inspections and record drainage time for the basins so that the infiltration rate can be tracked. Restoration of the infiltrative surface may be necessary when the infiltration rate decreases. Accumulated organic deposits are typically removed at least annually, and the infiltration surface is raked, disked or tilled to restore infiltration capacity. On a more extended interval, it may be necessary to remove the top few inches of soil to expose clean material. These maintenance activities should only occur when the basin bottom is dry to avoid soil compaction. Dikes and berms should also be monitored for signs of decay or erosion.

COSTS

With suitable soil and hydrogeologic conditions, RI systems can produce a percolate that is essentially equal in quality to that produced by more conventional advanced wastewater treatment processes, at a fraction of the cost. General equations for estimating preliminary costs for construction and O&M of RI systems are shown in Table 3. The following assumptions were made in developing the equations:

- Costs are based on May 2001 data (ENR Index 6318).
- Basin construction costs include field preparation, no seasonal storage, assumed hydraulic loading of 60 m/yr (200 ft/yr) [61 $m^3/m^2/yr$ (1496 $gal/ft^2/yr$),] gravel service roads, and stock fence around site perimeter.
- O&M includes the annual tillage of infiltration surfaces, and the repair of dikes, fences, and roads every 10 years.
- Construction for underdrained case also includes drain pipes at 2.5 m (8 ft) depth on 120 m (400 ft) spacing, with drains connecting to an interception ditch at the edge of the site.
- Construction of the recovery well case includes gravel packed well, vertical turbine pumps, simple shelter over well, and a 15 m (50 ft) vertical pumping head.
- Special O&M for underdrains includes jet cleaning of pipes every five years, and annual cleaning of interceptor ditch.
- Equations in Table 3 are valid for up to 3785 m^3/d (10 MGD) wastewater flow and use the following notation: C = costs in million of dollars; Q = wastewater flow in MGD.

Costs of preliminary treatment, monitoring wells, and transmission from preliminary treatment facility to the RI site are not included.

TABLE 3 COST ESTIMATION EQUATIONS

Construction ($)	Operation and Maintenance ($)
Case I Rapid Infiltration - No Underdrains, No Recovery Wells	
$C=0.580(Q)^{0.888}$	$C=0.054(Q)^{0.756}$
Case II Rapid Infiltration with 50 ft Deep Recovery Wells	
$C=0.597(Q)^{0.857}$	$C=0.058(Q)^{0.756}$
Case III Rapid Infiltration with Underdrains	
$C=0.683(Q)^{0.886}$	$C=0.075(Q)^{0.641}$

Source: Crites, et al., 2000

REFERENCES

Other Related Fact Sheets

Slow Rate Land Treatment
EPA 832-F-02-12
September 2002

Other EPA Fact Sheets can be found at the following web address:
http://www.epa.gov/owm/mtb/mtbfact.htm

1. Crites, R. W. and G. Tchobanoglous, 1998. Small and Decentralized Wastewater Management Systems. McGraw Hill.

2. Crites, R. W., S. C. Reed, and R. K. Bastian, 2000. Land Treatment Systems for Municipal and Industrial Wastes. McGraw-Hill.

3. Satterthwaite Associates, Inc., 2003. Internet site at http://www.wbsatterthwaite.com/ accessed August, 2003.

4. U.S. EPA, 1980. Innovative and Alternative Technology Assessment Manual. U.S. EPA MERL, Cincinnati, Ohio.

5. U.S. EPA, 1981. Process Design Manual: Land Treatment of Municipal Wastewater. U.S. EPA CERI, Cincinnati, Ohio.

6. U.S. EPA, 1984. Process Design Manual: Land Treatment of Municipal Wastewater, Supplement on Rapid Infiltration and Overland Flow. U.S. EPA CERI, Cincinnati, Ohio.

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Office of Water
EPA 832-F-03-025
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Washington, D.C. 20460

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APPENDIX K

10 States Standards Conformity

Town of Westport
Wadhams WWTP Disinfection Evaluation
AES Project No. 4524
10 State Standards Conformity

Std. Reference	Task Name	Fac. Plan Reference
10	**General**	
11	**Engineering Report or Facility Plan**	
	An Engineering Report or Facility Plan identifies and evaluates wastewater related problems; assembles basic information; presents criteria and assumptions; examines alternate projects (with preliminary layouts and cost estimates); describes system reliability for each unit operation with the largest unit out of service; describes financing methods; sets forth anticipated charges for users; reviews organizational and staffing requirements; offers a conclusion with a proposed project for client consideration; and outlines official actions, time schedules and procedures to implement the project. The document shall include sufficient detail to demonstrate that the proposed project meets applicable criteria. The concept (including process description and sizing), factual data, and controlling assumptions and considerations for the functional planning of wastewater facilities are presented for each process unit and for the whole system. These data form the continuing technical basis for the detailed design and preparation of construction plans and specifications.	
11.1	**Engineering Reports**	
	Do Engineering reports contain the following and any other pertinent information as required by the reviewing authority?	
11.11	**Problem Definition**	
	Does description of the existing system include an evaluation of the conditions and problems needing correction?	Section 1.2 - Purpose, Section 2.5 - Definition of the Problem
11.12	**Flows and Organic Loads**	
	Was the anticipated design average and design peak flows and waste loads for the existing and ultimate conditions established? NOTE: The basis of the projection of initial and future flows and waste loads shall be included and shall reflect the existing or initial service area, and the anticipated future service area. More detail on flow and organic load information and the data needed for new collection systems are included in Paragraphs 11.24 and 11.25	Section 2.4.3 - Existing Flow and Waste Loading, Section 2.4.2.a - Design Flow and Waste Loads, 2.3.3 Population Trends & Growth
11.13	**Impact on Existing Wastewater Facilities**	
	Was the impact of the proposed project on all existing wastewater facilities (including gravity sewers, lift stations, and treatment facilities) evaluated?	Section 3.4.4 - Impact on Existing Facilities
11.14	**Project Description**	
	Is there a written description of the project? (required)	Section 3 - Alternative Analysis, Section 5 - Recommended Alternative
11.15	**Location Drawings**	
	Are there drawings identifying the site of the project and the anticipated location and alignment of proposed facilities? (required)	Figure 5.1 - Project Map
11.16	**Engineering Criteria**	
	Is Engineering criteria used in design of the project included?	Section 3.2 - Design Criteria
11.17	**Site Information**	
	Does the project site information include topography, soils, geologic conditions, depth to bedrock, groundwater level, floodway or floodplain considerations, and any other pertinent site information?	Section 2.2 - Site Information
11.18	**Alternative Selection**	
	Are the reasons for selection of the proposed alternative, including any lift station sites, feasibility, and how the project fits into a long term plan discussed?	Section 5 - Recommended Alternative
11.19	**Environmental Review**	
	Was consideration given to minimizing any potential adverse environmental effects of the proposed project? NOTE: Compliance with the planning requirements of federal, provincial, state, and local regulatory agencies shall be documented, if appropriate.	Section 2.1.4 - Jurisdictional Permitting Agencies, Section 2.2.2 - Land Use, Section 3.4 - Environmental Impacts
11.2	**Facility Plans**	
	Facility Plans shall contain the following and any other pertinent information as required by the reviewing authority.	
11.21	**Problem Evaluation and Existing Facility Review**	
	a. Are descriptions of existing system including condition and evaluation of problems needing correction included?	Section 2.4 - Existing Facilities and Present Condition
	b. Summary of existing and previous local and regional wastewater facility and related planning documents included?	Section 2.1.2 - Previous Reports.
11.22	**Planning and Service Area**	
	Is a description of the planning area and existing and potential future service areas included?	Section 2.3.1 - Sewer District
11.23	**Population Projection and Planning Period**	
	Are present and predicted population based on a 20 year planning period? Phased construction of wastewater facilities should be considered in rapid growth areas. Sewers and other facilities with a design life in excess of 20 years should be designed for the extended period.	Section 2.3.3 - Population Trends and Growth, Section 3.2 Design Criteria
11.24	**Hydraulic Capacity**	

Std. Reference	Task Name	Fac. Plan Reference
11.241	**Flow Definitions and Identificaton**	
	Were the following flows for the design year identified and used as a basis of design for sewers, lift stations, wastewater treatment plants, treatment units, and other wastewater handling facilities? NOTE: Where any of the terms defined in this Paragraph are used in these design standards, the definition contained in this Paragraph applies.	
	a. Design Average Flow The design average flow is the average of the dailyvolumes to be received for a continuous 12 monthperiod expressed as a volume per unit time.However, the design average flow for facilitieshaving critical seasonal high hydraulic loadingperiods (e.g., recreational areas, campuses,industrial facilities) shall be based on the average ofthe daily volumes to be received during the seasonalperiod.	Section 2.4.2.e - Design Flow and Waste Loading
	b. Design Maximum Day Flow The design maximum day flow is the largestvolume of flow to be received during a continuous24 hour period expressed as a volume per unit time.	Section 2.4.2.e - Design Flow and Waste Loading
	c. Design Peak Hourly Flow The design peak hourly flow is the largest volumeof flow to be received during a one hour periodexpressed as a volume per unit time.	Section 2.4.2.e - Design Flow and Waste Loading
	d. Design Peak Instantaneous Flow The design peak instantaneous flow is theinstantaneous maximum flow rate to be received.	Section 2.4.2.e - Design Flow and Waste Loading
11.2.4.2	**Hydraulic Capacity for Wastewater Facilities to Serve Existing Collection Systems**	Section 2.4.2.e - Design Flow and Waste Loading
11.243	**Hydraulic Capacity for Wastewater Facilities to Serve New Collection Systems**	N/A
	a. The sizing of wastewater facilities receiving flowsfrom new wastewater collection systems shall bebased on an average daily flow of 100 gallons (380L)per capita plus wastewater flow from industrialplants and major institutional and commercial facilities unless water use data or other justification upon which to better estimate flow is provided.	N/A
	b. The 100 gal/cap/d [380 L/(capita·d)] value shall beused in conjunction with a peaking factor fromFigure 1 to cover normal infiltration for systemsbuilt with modern construction techniques. Refer toSection 31. However, an additional allowanceshould be made where conditions are unfavorable.	N/A
	c. If the new collection system is to serve existingdevelopment the likelihood of I/I contributions fromexisting service lines and non-wastewaterconnections to those service lines shall be evaluatedand wastewater facilities designed accordingly.	N/A
11.244	**Combined Sewer Interceptors**	N/A
	In addition to the above requirements, interceptors for combined sewers shall have capacity to receive a sufficient quantity of combined wastewater for transport to treatment facilities to ensure attainment of the appropriate water quality standards.	N/A
11.25	**Organic Capacity**	
11.251	**Organic Load Definitions and Identification**	
	The following organic loads for the design year shall be identified and used as a basis for design of wastewater treatment facilities. Where any of the terms defined in this Paragraph are used in these design standards, the definition contained in this Paragraph applies.	
	a. Biochemical Oxygen Demand Defined The 5-day Biochemical Oxygen Demand (BOD5) is defined as the amount of oxygen required to stabilize biodegradable organic matter under aerobic conditions within a five day period in accordance with Standard Methods for the Examination of Water and Wastewater. Total 5-day Biochemical Oxygen Demand (TBOD5) is equivalent to BOD5 and is sometimes used in order to differentiate carbonaceous plus nitrogenous oxygen demand from strictly carbonaceous oxygen demand.	
	b. Design Average BOD_5 The design average BOD5 is generally the averageof the organic load to be received for a continuous12 month period for the design year expressed asweight per day. However, the design average BOD5for facilities having critical seasonal high loadingperiods (e.g., recreational areas, campuses,industrial facilities) shall be based on the averageorganic load to be received during the seasonalperiod.	Section 2.4.2.e - Design Flow and Waste Loading
	c. Design Maximum Day BOD5 The design maximum day BOD5 is the largestamount of organic load to be received during acontinuous 24 hour period expressed as weight perday.	N/A - Residential waste stream
	d. Design Peak Hourly BOD5 The design peak hourly BOD5 is the largest amountof organic load to be received during a one hourperiod expressed as weight per day.	N/A - Residential waste stream
	See Figure No. 1	
11.252	**Design of Organic Capacity of Wastewater Treatment Facilities to Serve Existing Collection Systems**	
	a. Projections shall be made from actual waste loaddata to the extent possible	Section 2.4.7.e - Filter Bed System
	b. Projections shall be compared to those described inParagraph 11.253 and an accounting made forsignificant variations from those values.	N/A - no expansion of the collection system anticipated.
	c. Impact of industrial sources shall be documented.For projects with significant industrialcontributions, evidence of adequate pretreatmentstrategies shall be included along withdocumentation that industries are aware of thepretreatment limitations and user costs associatedwith the project. Documentation of the individualindustrial participation in the project plan includinguser charges shall be provided.	Section 2.3.2 - Industrial Discharges or Hauled Waste
	d. Septage and leachate may contribute significantorganic load and other materials which can causeoperational problems and non-compliance withNational Pollutant Discharge Elimination System(NPDES) permit limitations. If septage or leachateis to be discharged to the wastewater treatmentfacility, consult the state regulatory agency and theAppendix, Handling and Treatment of Septage at aWastewater Treatment Plant.	Section 2.3.2 - Industrial Discharges or Hauled Waste
11.253	**Design of Organic Capacity of Wastewater Treatment Facilities to Serve New Collection Systems**	N/A

Std. Reference	Task Name	Fac. Plan Reference
	a. Domestic wastewater treatment design shall be onthe basis of at least 0.17 pounds (0.08 kg) of BOD5per capita per day, and 0.20 pounds (0.09 kg) ofsuspended solids per capita per day, unlessinformation is submitted to justify alternate designs.If nitrification is required, 0.036 pounds (0.016 kg)TKN per capita per day may be used.	N/A
	b. Where garbage grinders are commonly used inareas tributary to a domestic treatment plant, thedesign basis should be increased to 0.22 pounds(0.10 kg) of BOD5 per capita per day, and 0.25pounds (0.11 kg) of suspended solids per capita perday. If nitrification is required, 0.046 pounds(0.021 kg) TKN per capita per day may be used.	N/A
	c. Industrial contributions. Refer to Paragraph11.252(c).	N/A
	d. Septage and Leachate. Refer to Paragraph11.252(d).	N/A
	e. Data from similar municipalities may be utilized inthe case of new systems. However, thoroughinvestigation that is adequately documented shall beprovided to the reviewing authority to establish thereliability and applicability of such data.	N/A
11.26	**Wastewater Treatment Facility Design Capacity**	
	The wastewater treatment facility design capacity is the design average flow at the design average BOD5. Refer to Paragraphs 11.24 and 11.25 for definitions and required peaking factors.	Section 2.4.2.e - Design Flow and Waste Loading
11.27	**Initial Alternative Development**	
	The process of selection of wastewater treatment alternatives for detailed evaluation should be discussed. All wastewater management alternatives considered, including no action, and the basis for the engineering judgment for selection of the alternatives chosen for detailed evaluation, should be included.	Section 3 - Alternative Analysis
11.28	**Detailed Alternative Evaluation**	
	Were the following included for the alternatives and evaluated in detail?	
	a. Sewer System Revisions? Proposed revisions to the existing sewer system includingadequacy of portions not being changed by the project shallbe evaluated.	Section 2.5.3 - Infiltration, Appendix I - Collection System Evaluation
	b. Wet Weather Flows? Facilities to transport and treat wet weather flows in amanner that complies with federal, state and local regulationsshall be provided.	N/A
	c. Wet Weather Flow Equalization? If the ratio of design peak hourly flow to design average flowis 3:1 or more, flow equalization shall be considered. Thismay be accomplished by either building a wet weatherretention basin and gradually returning the excess flow to thetreatment plant during off-peak periods or by providing aplant large enough to handle all flows.	N/A
	d. Site Evaluation? Site evaluation shall consider the following criteria. When asite must be used which is critical with respect to thefollowing items, appropriate measures shall be taken tominimize adverse impacts. 1. Compatibility of the treatment process with thepresent and planned future land use, including noise,potential odors, air quality, and anticipated sludgeprocessing and disposal techniques, shall beconsidered. Non-aerated lagoons should not be used if excessive sulfate is present in the wastewater. 2. Zoning and other land use restrictions shall be identified. 3. The accessibility and topography of the site shall be evaluated. 4. Area for future plant expansion shall be identified. 5. Direction of prevailing wind shall be identified. 6. Flood considerations, including the 25 and 100 year flood levels, impact on floodplain and floodway, and compliance with applicable regulations regarding construction in flood-prone areas, shall be evaluated. Paragraph 51.2 contains requirements for protection from flooding. 7. Geologic information, depth to bedrock, karst features, or other geologic considerations of significance to the project shall be included. Lagoons shall not be located in karst areas unless the specific geologic and construction details are acceptable. 8. Protection of groundwater including public and private wells is of utmost importance. Demonstration that protection will be provided shall be included. The regulatory agency shall be contacted for required separation. 9. Soil type and suitability for construction and depth to normal and seasonal high groundwater shall be determined. 10. The location, depth, and discharge point of any field tile in the immediate area of the proposed site shall be identified. 11. Present and known future effluent quality requirements as determined by the regulatory agency shall be included. 12. Access to receiving stream for the outfall line shall be discussed and displayed. 13. A preliminary assessment of site availability shall beincluded.	Section 3.4 - Environmental Impacts, Section 2.2.3 - Geological Conditions, Section 2.5.7 - Storm and Flood Impacts, Section 2.2.1.a - NYS DEC Correspondence, outfall is existing.
	e. Unit Sizing? Unit operation and unit process sizing and basis shall beprovided.	Section 3 - Alternative Analysis
	f. Flow Diagram? Flow diagram of treatment facilities including all recycleflows shall be included.	Figure 5.1 - Process Flow Diagram
	g. Flexibility? Compliance with requirements of Paragraph 53.6 Arrangement of Units shall be assured.	Section 3 - Alternative Analysis
	h. Removal Efficiences? Loadings to and removal efficiencies through each unitoperation shall be provided in addition to total removalefficiency and effluent quality (both concentrations andmass).	Section 3.1 - Alternative Descriptions

Std. Reference	Task Name	Fac. Plan Reference
	i. Emergency Operation? Emergency operation requirements as outlined in Section 47and Paragraph 56.1 shall be provided. State or localregulatory agencies may have more stringent requirements.	Section 3.1.1.h - Emergency Operation
	j. Technology not included in these standards? Paragraph 53.2 outlines procedures for introducing andobtaining approval to use technology not included in thesestandards. Proposals to use technology not included in thesestandards shall address the requirements of Paragraph 53.2. A contingency plan, in the event that such new technologyfails to meet the expected performance, may be required bythe reviewing authority in the absence of three separate andrepresentative full scale installations successfully using thesame technology. Each representative full scale installationshould have sufficient monitoring and appropriate testingresults that demonstrate reliable and effective compliancewith the design performance criteria and have been operatedfor not less than three years at or near design capacitywithout major failure of either the process or equipment.	N/A
	k. Slude? The solids disposal options considered and method selected shall be included. This is critical to completion of a successful project. Compliance with requirements of Chapter 80, Sludge Processing, Storage, and Disposal shall be assured.	Section 2.4.7.b - Septic Tanks
	l. Treatment during Construction? A plan for the method and level of treatment (including sludge processing, storage and disposal) to be achieved during construction shall be developed and included in the Facility Plan submitted to the regulatory agency for review and approval. This approved treatment plan shall be implemented by inclusion in the plans and specifications to be bid for the project. Refer to Paragraph 20.15 and Section 21.	Section 3.4.2 - Potential Construction Problems.
	m. Operation and Maintenance? Portions of the project which involve complex operation or maintenance requirements shall be identified including laboratory requirements for operation, industrial sampling, and self-monitoring.	Section 3.4.6 - Operations and Maintenance
	n. Cost Estimates Cost estimates for capital and operation and maintenance (including basis), shall be included.	Section 3.5 - Cost Estimates
	o. Environmental Review? Consideration shall be given to minimizing any potential adverse environmental effects of the proposed project. Compliance with planning requirements of federal, provincial, state, and local regulatory agencies shall be documented.	Section 3.4 - Environmental Impacts
11.29	**Final Project Selection**	
	The project selected from the alternatives considered under Paragraph 11.28, including the financing considerations and recommendations for implementation of the plan, shall be set forth in the final Facility Plan document to be forwarded to the reviewing authority for review and approval.	Section 5 - Recommended Alternative

APPENDIX L

Engineering Report Certification

Appendix C: Engineering Report Certification
(required for EFC financial assistance)

Engineering Report Certification

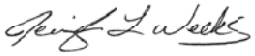
To Be Provided by the Professional Engineer Preparing the Report

During the preparation of this Engineering Report, I have studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is being sought from the New York State Clean Water State Revolving Fund. In my professional opinion, I have recommended for selection, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity, the cost of operating and maintaining the project or activity over the life of the project or activity, and the cost of replacing the project and activity.

Title of Engineering Report: Town of Westport Wastewater Treatment Plant Disinfection Evaluation

Date of Report: June 1, 2018

Professional Engineer's Name: Jennifer Weeks, PE

Signature: 

Date: June 1, 2018

APPENDIX M

Smart Growth Assessment

Appendix D: Smart Growth Assessment Form
(required for EFC financial assistance)

Smart Growth Assessment Form

This form should be completed by the applicant's project engineer or other design professional.[1]

Applicant Information

Applicant: Town of Westport Project No.: 4524

Project Name: Wadhams WWTP Disinfection

Is project construction complete? ☐ Yes, date: ☒ No

Project Summary: (provide a short project summary in plain language including the location of the area the project serves)
Addition of disinfection to the current WWTP and replacement of aged and failing unit processes.

Section 1 – Screening Questions

1. Prior Approvals

1A. Has the project been previously approved for EFC financial assistance? ☐ Yes ☒ No

1B. If so, what was the project number(s) for the prior approval(s)? Project No.:

Is the scope of the project substantially the same as that which was approved? ☐ Yes ☐ No

IF THE PROJECT WAS PREVIOUSLY APPROVED BY EFC'S BOARD AND THE SCOPE OF THE PROJECT HAS NOT MATERIALLY CHANGED, THE PROJECT IS **NOT** SUBJECT TO SMART GROWTH REVIEW. SKIP TO SIGNATURE BLOCK.

2. New or Expanded Infrastructure

2A. Does the project add new wastewater collection/new water mains or a new wastewater treatment system/water treatment plant? ☐ Yes ☒ No
Note: A new infrastructure project adds wastewater collection/water mains or a wastewater treatment/water treatment plant where none existed previously

2B. Will the project result in either: ☐ Yes ☒ No

An increase of the State Pollutant Discharge Elimination System (SPDES) permitted flow capacity for an existing treatment system;

OR

An increase such that a NYSDEC water withdrawal permit will need to be obtained or modified, or result in the NYSDOH approving an increase in the capacity of the water treatment plant?

[1] If project construction is complete and the project was not previously financed through EFC, an authorized municipal representative may complete and sign this assessment.

Note: An expanded infrastructure project results in an increase of the SPDES permitted flow capacity for the wastewater treatment system, or an increase of the permitted water withdrawal or the permitted flow capacity for the water treatment system.

IF THE ANSWER IS "NO" TO BOTH "2A" and "2B" ON THE PREVIOUS PAGE, THE PROJECT IS NOT SUBJECT TO FURTHER SMART GROWTH REVIEW. SKIP TO SIGNATURE BLOCK.

3. Court or Administrative Consent Orders

3A. Is the project expressly required by a court or administrative consent order? ☐ Yes ☐ No

3B. If so, have you previously submitted the order to NYS EFC or DOH? If not, please attach. ☐ Yes ☐ No

Section 2 – Additional Information Needed for Relevant Smart Growth Criteria

EFC has determined that the following smart growth criteria are relevant for EFC-funded projects and that projects must meet each of these criteria to the extent practicable:

1. Uses or Improves Existing Infrastructure

1A. Does the project use or improve existing infrastructure? ☐ Yes ☐ No

Please describe:

2. Serves a Municipal Center

Projects must serve an area in either 2A, 2B or 2C to the extent practicable.

2A. Does the project serve an area **limited** to one or more of the following municipal centers?

i. A City or incorporated Village ☐Yes ☐No

ii. A central business district ☐Yes ☐No

iii. A main street ☐Yes ☐No

iv. A downtown area ☐Yes ☐No

v. A Brownfield Opportunity Area ☐Yes ☐No
(for more information, go to Department of State Website & search "Brownfield")

vi. A downtown area of a Local Waterfront Revitalization Program Area ☐Yes ☐No
(for more information, go to Department of State Website and search "Waterfront Revitalization")

vii. An area of transit-oriented development ☐Yes ☐No

viii. An Environmental Justice Area ☐Yes ☐No
(for more information, go to DEC Environmental Justice Areas)

ix. A Hardship/Poverty Area ☐Yes ☐No
Note: Projects that primarily serve census tracts and block numbering areas with a poverty rate of at least twenty percent according to the latest census data

Please describe all selections:

2B. If the project serves an area located outside of a municipal center, does it serve an area located adjacent to a municipal center which has clearly defined borders, designated for concentrated development in a municipal or regional comprehensive plan and exhibit strong land use, transportation, infrastructure and economic connections to an existing municipal center? ☐Yes ☐No

Please describe:

2C. If the project is not located in a municipal center as defined above, is the area designated by a comprehensive plan and identified in zoning ordinance as a future municipal center? ☐Yes ☐No

Please describe and reference applicable plans:

3. Resiliency Criteria

3A. Was there consideration of future physical climate risk due to sea-level rise, storm surge, and/or flooding during the planning of this project? ☐Yes ☐No

Please describe:

Signature Block: By entering your name in the box below, you agree that you are authorized to act on behalf of the applicant and that the information contained in this Smart Growth Assessment is true, correct and complete to the best of your knowledge and belief.

Applicant: Town of Westport	Phone Number:518-962-4419
(Name & Title of Project Engineer or Design Professional or Authorized Municipal Representative)	
Gregory Swart, PE AES Northeast, PLLC	
(Signature) Gregory Swart Digitally signed by Gregory Swart DN: cn=Gregory Swart, o=AES Northeast, PLLC, ou, email=gregoryswart@aesnortheast.com, c=US Date: 2018.05.31 22:06:30 -04'00'	(Date) 6/1/2018