REGULATORY AND PROGRAMMATIC ENVIRONMENT REPORT

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1.0 Introduction

1.1 Introduction

The *Oatka Creek Regulatory and Programmatic Environment Report* is the third component of the comprehensive *Oatka Creek Watershed Management Plan*. This includes:

- Evaluation of government and non-government roles:
  - Descriptions of local, county, regional, state, and federal organizations that have an impact on water quality in the watershed
- Analysis of local laws, plans, programs, and practices affecting the watershed:
  - Assessment of local laws, plans, programs, and practices based on water quality best management practices (BMPs);
  - Recommendations for priority additions or changes to local laws, plans, programs, and practices.

In addition to the *Regulatory and Programmatic Environment Report*, additional project components together comprise the overall strategy to protect and restore water quality within the Oatka Creek Watershed. These include:

- A characterization of the watershed and its constituent subwatersheds, land use and land cover, demographics, natural resources, and infrastructure;
- An evaluation of existing water quality data, run-off characteristics, and pollutant loadings;
- A community education and outreach program on water quality and watershed protection issues;
- Identification of management strategies and prioritization of projects and other actions for watershed protection and restoration; and
- An implementation strategy, including the identification of watershed-wide and site-specific projects and other actions necessary to protect and restore water quality.

Portions of this report are based on existing reports and studies such as *Controlling Sediment in the Black and Oatka Creek Watersheds*[1] and *Protecting Water Resources through Local Controls and Practices*.[2]

SECTION 1.0 ENDNOTES

[1] Genesee/Finger Lakes Regional Planning Council. *Controlling Sediment in the Black and Oatka Creek Watersheds*, 2006. http://www.gflrpc.org/Publications/ControllingSediment/Assessment/FinalReport.pdf

[2] Genesee/Finger Lakes Regional Planning Council. *Protecting Water Resources through Local Controls and Practices: An Assessment Manual for New York Municipalities*, 2006. http://www.gflrpc.org/Publications/LocalLaws/Manual/Protecting_Water_Resources.pdf

2.0 Roles and Responsibilities of Governmental and Non-Governmental Agencies

This section provides an overview of various groups – both governmental and non-governmental at the local, county, regional, state, and federal level – that have an effect on water quality in the watershed. This includes descriptions of organizational roles and responsibilities as well as information on some of their major programs.

Information was gathered from a variety of sources including agency websites and the *Protecting Water Resources through Local Controls and Practices*[3] report. Additional information was obtained from a draft of the *Healthy Niagara: Niagara River Watershed Plan, Watershed Organizations and Agencies involved in Watershed Planning & Protection.*[4] Information pertaining to agency roles and responsibilities was excerpted from the *Characterization* report in order to produce a comprehensive review of agencies for this report.

2.1 Federal Government Agencies

2.1.1 US Army Corps of Engineers (USACE)[5]

The US Army Corps of Engineers plays a significant role in planning and building water resource improvements. The USACE stated vision is to "Provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters." USACE regulates construction and other work in navigable waterways under Section 10 of the Rivers and Harbors Act of 1899, and has authority over the discharge of dredged or fill material into the "waters of the United States" (a term which includes wetlands and all other aquatic areas) under Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92500, the "Clean Water Act"). Under these laws, those who seek to carry out such work must first receive a permit from the Corps. Other significant areas regarding the Corps' role in planning and building water resource improvements include recreation, emergency response and recovery, flood control and floodplain management, navigation, erosion and shore protection, hydrologic modeling, hydropower and water supply management.

2.1.2 US Geologic Survey (USGS)[6]

A division of the US Department of the Interior, the USGS focuses on research in the natural sciences with emphasis on subjects such as climate and land use change, core science systems, ecosystems, energy, minerals and environmental health, natural hazards, science quality and integrity and water.

2.1.3 Federal Emergency Management Agency (FEMA)[7]

A division of the US Department of Homeland Security, FEMA's mission is to support citizens and first responders to build, sustain, and improve capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. Responsibilities include floodplain management, flood hazard mapping, and administration of the National Flood Insurance Program.

2.1.4 Environmental Protection Agency (EPA)

The EPA's primary mission is to protect human health and the environment. EPA's FY 2011-2015 Strategic Plan identifies five strategic goals to guide the Agency's work:

- Taking Action on Climate Change and Improving Air Quality;

- Protecting America's Waters;
- Cleaning Up Communities and Advancing Sustainable Development;
- Ensuring the Safety of Chemicals and Preventing Pollution; and
- Enforcing Environmental Laws.

The EPA enforces the Clean Water Act, the Safe Drinking Water Act, and a number of other important environmental regulations.[8] The Clean Water Act requires states to classify waters according to their best uses and to adopt water quality standards that support those uses. Section 404 of the Clean Water Act requires that anyone interested in depositing dredged or fill material into waters of the United States, including wetlands, must receive authorization for such activities. The US Army Corps of Engineers (USACE) has been assigned responsibility for administering the Section 404 permitting process.

The Safe Drinking Water Act protects public health by regulating the nation's public drinking water supply. The law requires many actions that help protect public health and drinking water, including rivers, lakes, reservoirs, springs, groundwater wells, and other sources.

While the EPA is the primary federal body enforcing regulations such as the Endangered Species Act, the Clean Air Act, and the Clean Water Act, enforcement of these regulations is generally delegated to the New York State Department of Environmental Conservation. The EPA provides significant sources of funding to be used by the responsible state agencies for enforcement and implementation of federal laws and regulations.[9]

2.1.4.1 National Pollutant Discharge Elimination Systems Permit (NPDES)

Under the Clean Water Act, the National Pollutant Discharge Elimination System permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. In New York State, this program is administered by the NYSDEC and is referred to as the State Pollutant Discharge Elimination System (SPDES). The US EPA, in conjunction with state and local authorities, monitors pollution levels in the nation's water and provide status and trend information on compliance and other issues.

2.1.4.2 EPA Regulated Facilities

To improve public health and the environment, the EPA collects information about facilities or sites subject to environmental regulation.[10] For a list of facilities in the watershed, see Section 4.8.3 of the *Oatka Creek Watershed Characterization Report*.[11]

2.1.5 USDA Natural Resources Conservation Service (NRCS)[12]

A division of the US Department of Agriculture, the NRCS works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems. Services include technical assistance to farmers regarding water quality and erosion control issues, preparation of Comprehensive Nutrient Management Plans, Agricultural Conservation Plans, the Conservation Reserve Program, and the Wetlands Reserve Program.

The Resource Conservation and Development (RC&D) program is one that helps communities improve their economies through the wise use of natural resources. The purpose of the RC&D program is to improve the capability of state, tribal and local units of government and local nonprofit organizations in rural areas to plan, develop and carry out programs for resource conservation and development. The NRCS provides administrative support for the RC&D program including office space and staff.[13]

2.1.6 US Fish and Wildlife Service[14]

The US Fish and Wildlife Service is a bureau within the Department of the Interior. Its mission is working with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. Among its key functions, the Service enforces Federal wildlife laws, protects endangered species, manages migratory birds, restores nationally significant fisheries, and conserves and restores wildlife habitat such as wetlands.

2.1.7 Great Lakes Commission[15]

The Great Lakes Commission is a public agency established by the Great Lakes Basin Compact in 1955 to help its Member states and provinces speak with a unified voice and collectively fulfill their vision for a healthy, vibrant Great Lakes - St. Lawrence River region. The Commission houses a wide variety of action-oriented programs intended to address specific concerns related to regional coordination and management of natural resources.

2.2 New York State Agencies

2.2.1 NYS Department of State, Office of Planning & Development[16]

NYSDOS Office of Planning & Development helps protect and enhance coastal and inland water resources and encourage appropriate land use. The Office also works in partnership with local governments in preparation of Local Waterfront Revitalization Programs (LWRP), which serve as comprehensive land and water use plans, as well as intermunicipal watershed management plans which identify problems, threats and opportunities for achieving long lasting improvements in water quality as well as establishing priorities for action. Financial assistance for the preparation and implementation of such programs and plans is available through the Environmental Protection Fund (EPF).[17]

This Oatka Creek Watershed Management Plan is being developed for the New York State Department of State Office of Planning & Development with funds provided under Title 11 of the Environmental Protection Act Local Waterfront Revitalization Program.

Additional DOS functions include implementing the State's Waterfront Revitalization of Coastal Areas and Inland Waterways Act, planning and technical assistance for redevelopment of brownfields, abandoned buildings and deteriorated urban waterfronts, protecting water quality through intermunicipal watershed planning, as well as investing in improvements to waterfront areas through state and federal grant programs.

2.2.2 NYS Department of Environmental Conservation (NYSDEC)[18]

NYSDEC exists to "conserve, improve, and protect New York State's natural resources and environment, and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."[19] The NYSDEC plays a major role in a diverse array of watershed planning and management issues, including regulatory, chemical and pollution control, dam safety, management of public lands and waters, wetlands protection, mining and reclamation, and the protection and management of animals, plants, aquatic life and associated habitats. NYSDEC has numerous departments and programs, some of which are described below.

2.2.2.1 NYSDEC Division of Environmental Permits

The Division of Environmental Permits manages UPA (Uniform Procedures Act) permits, intended to protect air, water, mineral and biological resources. The Division also oversees implementation of the State Environmental Quality Review Act (SEQR), and assists other agencies with SEQR requirements.[20] Agencies proposing projects that require SEQR must identify and mitigate any significant environmental impacts of the project or activity proposed.[21]

2.2.2.2 NYSDEC Division of Water[22]

DEC's Division of Water protects and conserves the water resources of New York State through a wide range of programs and activities. Water quality standards contain the classification system for New York State surface and ground waters. The standards and guidance values for surface water and groundwater quality and groundwater effluent limitations are included in these regulations, including the State Pollution Discharge Elimination System (SPDES).

2.2.2.3 NYSDEC Protection of Waters Program

The Protection of Waters program was developed by NYSDEC to create and enforce regulations to protect lakes rivers streams and ponds from undesirable activities, and is an implementation strategy of the Article 15 of the NYS Environmental Conservation Law.

The Protection of Waters Regulatory Program regulates five different categories of activities:

- Disturbance of bed or banks of a protected stream or other watercourse.
- Construction, reconstruction or repair of dams and other impoundment structures.
- Construction, reconstruction or expansion of docking and mooring facilities.
- Excavation or placement of fill in navigable waters and their adjacent and contiguous wetlands.
- Water quality certification for placing fill or undertaking activities resulting in a discharge of waters of the United States.

A class is given to each waterway or segment based on its best use. The level of protection often relates to this classification. Classifications include:

- AA or A – Source of drinking water
- B – swimming/recreation but not drinking water
- C – fisheries and non-contact activities
- D – lowest classification

2.2.2.4 NYSDEC Freshwater Wetlands

The DEC has classified regulated freshwater wetlands according to their respective function, values and benefits. Wetlands may be Class I, II, III or IV. Class I wetlands are the most valuable and are subject to the most stringent standards. A wetland must be 12.4 acres or larger for protection under the Freshwater Wetlands Act. Smaller wetlands may be protected when the NYSDEC Commissioner determines they have unusual local importance in providing one or more wetland functions. The wetland buffer zone, an adjacent area that extends 100 feet from the wetland boundary, may also be regulated.

2.2.2.5 NYSDEC Priority Waterbodies List (PWL)

The Priority Waterbodies List is required by Section 303(d) of the federal Clean Water Act and is a section of the 305(b) Water Quality Report written by NYSDEC and provided to the United States Environmental Protection Agency (USEPA). The PWL identifies waters that have one or more uses that are not fully supported or are threatened by conditions or practices that could lead to declining water quality. The PWL is used as a basis for water program management.

The existing NYSDEC Routine Statewide Monitoring and Assessment Program includes Rotating Integrated Basin Studies (RIBS) of rivers and streams, Lake Classification and Inventory (LCI), and groundwater sampling program. Recommend restoration of the five-year cycle for NYSDEC's Routine Statewide Monitoring and Assessment Programs and updated Waterbody Inventory and Priority Waterbody Lists (WI/PWL). The most recent Genesee River Basin Waterbody Inventory/Priority Waterbodies List Report was issued in March 2003.

2.2.2.6 NYSDEC Division of Fish, Wildlife and Marine Resources[23]

DEC's Division of Fish, Wildlife and Marine Resources is made up of the Bureau of Fisheries, Bureau of Habitat, Bureau of Marine Resources, Bureau of Wildlife, and Bureau of Fish & Wildlife Services. Some of their responsibilities include providing information to the public about hunting and fishing, and issuing licenses.

2.2.2.7 NYSDEC Division of Lands and Forests

This DEC Division manages more than four million acres of state owned land and conservation easements including all State Forests as well as the Adirondack and Catskill Forest Preserves. The Division also administers the Saratoga Tree Nursery and programs for forest health, urban and community forestry, forest products use, and provides assistance to private forest land owners.[24]

2.2.2.8 NYSDEC Spill Incidents Database[25]

The NYSDEC maintains a database of chemical and petroleum spills that have been reported to the Department since 1978.

2.2.2.9 NYSDEC Hazardous Waste Sites

The NYSDEC Division of Environmental Remediation maintains a database of sites being addressed under one of the Division's remedial programs – State Superfund, Brownfield Cleanup, Environmental Restoration and Voluntary Cleanup. This database also includes the Registry of Inactive Hazardous Waste Disposal Sites and information on Institutional and Engineering Controls in New York State. For more information, see section 3.8.4 of the *Oatka Creek Watershed Characterization Report*.[26]

2.2.2.10 State Pollution Discharge Elimination System (SPDES)[27]

SPDES is New York State's version of the National Pollutant Discharge Elimination System (NPDES) permit program. The goal is to limit pollution of lakes, streams and rivers by runoff from construction sites and developed areas using a SPDES permit (State Pollutant Discharge Elimination System). SPDES has been approved by the US EPA for the control of wastewater and stormwater discharges in accordance with the Clean Water Act. SPDES goes further than

what's required by the Clean Water Act as it controls point source discharges to groundwater as well as surface waters. A list of permitted SPDES discharge points that are present in the watershed are provided in Table 4.21 of the *Oatka Creek Watershed Characterization Report*.[28]

SPDES General Construction Permit

The state has issued two non-industrial Stormwater Management General Permits under SPDES: one for construction site operators and one for regulated localities. The NYS General Permit for Construction Activities is required for any construction activity that will disturb land one acre or more in size.[29] Before commencing construction activity, the owner or operator of a construction project that will involve soil disturbance of one or more acres must obtain coverage under the Permit for Stormwater Discharges from Construction Activity. The permit is intended to reduce impacts to area waterbodies from sediment runoff. This is achieved in part through the development of a Stormwater Pollution Prevention Plan (SWPPP) as well as strict compliance and enforcement standards.

For information on General Permits issued in the watershed between 2003 and 2010, see Section 4.8.2 of the *Oatka Creek Watershed Characterization Report*.[30]

Concentrated Animal Feeding Operations (CAFOs)

The general trend occurring in United States agriculture over the past half century has been a reduction in small, family-operated farms and consolidation into larger, more centralized operations. The Concentrated Animal Feeding Operation (CAFO) is a direct reflection of that trend and represents an economy of scale in agricultural commodity production. CAFOs are defined as lots or facilities where animals are stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; they are categorized as either "large" or "medium" sized operations based on the numbers of animals confined.[31] CAFOs that discharge to waters of New York State are regulated by the NYSDEC under the authority of the Clean Water Act through the New York State Pollution Discharge Elimination System (SPDES).[32]

See Section 4.73 of the *Oatka Creek Watershed Characterization Report Characterization*[33] for a list of medium and large CAFOs located in or near the watershed.

2.2.3 NYS Department of Health (NYSDOH)[34]

NYSDOH tracks environmental health data and trends; oversees the delivery of drinking water in coordination with the EPA, addresses pathogens and other sources of contamination in public sources of drinking water; coordinates emergency preparedness and response for water systems; and provides financing mechanisms to help protect and expand public water systems.

2.2.4 NYS Department of Agriculture & Markets – Agricultural Environmental Management (AEM)[35]

Agricultural Environmental Management (AEM) is an incentive-based, voluntary program, that helps farmers make cost-effective and science-based decisions to meet business objectives, and protect and conserve natural resources. The program partners Farmers and local AEM resource professionals to work together to develop AEM plans.[36] AEM techniques include educating farmers on different agricultural best management practices, their effect on the environment and implementation strategies. Assistance is also given to farmers to help understand regulations (such as CAFO regulations) and stay in compliance.[37]

The SWCDs coordinate the AEM program in the watershed, based on county AEM strategic plans which are updated every five years.

2.2.5 NYS Office of Emergency Management (NYSOEM)[38]

NYSOEM is responsible for coordinating State agencies to protect communities, the economy, and the environment from disasters and emergencies. OEM provides technical assistance to communities to prepare for hazard events and prevent/reduce the impacts of disasters through its programs such as: hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance. OEM also partners with the Federal Emergency Management Agency (FEMA) to administer a number of hazard planning, mitigation, and recovery grants.

2.2.6 NYS Department of Transportation (NYSDOT)[39]

NYSDOT is responsible for transportation policy and implementation in New York State, coordinating and assisting in the development and operation of transportation facilities and services for highways, railroads, mass transit systems, ports, waterways, and airports through efforts at 11 regional offices covering the state.

2.2.7 NYS Energy Research and Development Authority (NYSERDA)[40]

NYSERDA is a public benefit corporation responsible for reducing statewide energy consumption, promoting the use of renewable energy sources, and protecting the environment. NYSERDA's programs and services provide a vehicle for the State to work collaboratively with businesses, academic institutions, industry, the federal government, environmental community, public interest groups, energy buyers, and utilities. Through these collaborations, NYSERDA seeks to develop a diversified energy supply portfolio, improve market mechanisms, and facilitate the introduction and adoption of advanced energy technologies, particularly renewables, to plan for and respond to uncertainties in the energy markets.

2.3 Regional Agencies

2.3.1 Oatka Creek Watershed Committee[41]

The Oatka Creek Watershed Committee is a not-for-profit organization whose mission in part is to "facilitate the development of a watershed management plan for use by municipalities, stakeholders and individuals for the conservation and protection of the Oatka Creek watershed." [42] The Committee was formed in 1998 with the support and direction of the Rochester Area Community Foundation (RACF), and was established as a stand-alone organization consisting of a wide variety of stakeholders and agency members. It was incorporated in January of 2002, and remains an active participant in planning efforts for the watershed. In addition, the OCWC website is used as a repository for information related to watershed planning activities taking place in and around the watershed, serving as an important tool for information dissemination and tracking progress.

2.3.2 Finger Lakes/Lake Ontario Watershed Protection Alliance (FL-LOWPA)

FL-LOWPA is comprised of county representatives from multiple disciplines and agencies, including Soil and Water Conservation Districts, Planning and Health Departments, and Water Quality Management Agencies. Governed by a Water Resources Board made up of appointees from its member counties, FL-LOWPA's purpose is to protect and enhance water resources by promoting the sharing of information, data, ideas, and resources pertaining to the management of watersheds in New York's Lake Ontario Basin;

fostering dynamic and collaborative watershed management programs and partnerships; and emphasizing a holistic, ecosystem-based approach to water quality improvement and protection.[43]

A major tenet of FL-LOWPA is grassroots programming. Water quality problems are defined and solutions are developed and implemented at the local level. Through participation in the Alliance, member counties develop a more regional perspective that informs local programming and encourages cooperation.

2.3.3 Genesee/Finger Lakes Regional Planning Council (G/FLRPC)

Regional Planning Councils are established pursuant to New York State General Municipal Law to address regional issues and assist with local planning efforts. The Genesee/Finger Lakes Regional Planning Council supports watershed planning in the Oatka Creek watershed directly through the acquisition of funding sources for specific projects as well as indirectly through its ongoing land use and water resources planning projects that are active across its nine-county region. These programs encompass a variety of services which advance the overall goal of protecting and improving water quality and quantity. As a regional agency, G/FLRPC is able to effectively examine and coordinate water resource issues at a watershed scale.

2.3.4 Genesee/Transportation Council (GTC)

Genesee Transportation Council is the designated Metropolitan Planning Organization (MPO) responsible for transportation policy, planning, and investment decision making in the Genesee-Finger Lakes Region. The U.S. Department of Transportation (USDOT) requires every metropolitan area with a population of over 50,000 to have a designated MPO to qualify for the receipt of federal highway and transit funds. These highway funds can be a significant share of funding for transportation improvement projects in the watershed, such as road and bridge maintenance or construction. All GTC activities are responsive to mandates and guidelines including, but not limited to, the Americans with Disabilities Act, Clean Air Act Amendments of 1990, Title VI of the Civil Rights Act of 1964, and environmental justice considerations.

2.3.5 The Nature Conservancy (TNC)[44]

The TNC's mission is to preserve the plants, animals and natural communities that represent the diversity of life by protecting the lands and waters they need to survive. Their Central & Western New York Chapter works in eight priority conservation landscapes. They have protected nearly 100,000 acres of landscapes throughout Central and Western New York.[45]

2.3.6 Western New York Land Conservancy (WNYLC)[46]

The Western New York Land Conservancy is a non-profit land trust devoted to long term conservation of important natural lands including farms, scenic areas and habitats. WNYLC has protected over 4,300 acres of land in their eight county target area.

2.3.7 Center for Environmental Information (CEI)[47]

The Center for Environmental Initiatives is a non-profit organization that works for environmental protection and enhanced quality of life. CEI educates and builds partnerships with stakeholders, and works to identify environmental issues, and develop potential solutions through projects and initiatives.

2.3.8 Academic Institutions

Regional academic institutions have played an important role in watershed planning and management in the watershed. Independent research conducted by environmental science, geology, biology and other similar departments at regional colleges and universities has significantly advanced the knowledge base within the watershed. SUNY Brockport, SUNY Geneseo, Genesee Community College, Buffalo State College, the State University at Buffalo, Rochester Institute of Technology, University of Rochester, and Cornell University have each focused research effort and expertise specifically on the Oatka Creek watershed over time. Academic institutions will continue to be important watershed stakeholders playing a vital role in information gathering and analysis.

2.3.8.1 State University of New York at Brockport

SUNY Brockport is very active in the watershed, conducting various water quality and quantity monitoring studies in support of a variety of short- and long-term projects and programs. Among them are Dale Pettenski's *Oatka Creek Water Quality Assessment: Identifying Point and Nonpoint Sources of Pollution with Application of the SWAT Model*[48] and the *Oatka Creek Watershed State of the Basin Report*, produced by an interdisciplinary team in 2002.

2.3.8.2 Cornell Cooperative Extension[49]

Cornell Cooperative Extension (CCE) extends Cornell's land-grant programs to every county in the state. They seek to conserve and ensure the quality of water supplies, promote environmental stewardship and community, agricultural and residential environmental enhancement, and enhance science education. CCE can be an important collaborator with water quality research, education and outreach.

2.3.8.3 NYS Water Resources Institute at Cornell University[50]

The New York State legislature established the New York State Water Resources Institute at Cornell University in 1987 to address critical problems of water resource quality and management. The WRI's mission is to connect the water research and water management communities. They undertake specific projects in support of state agencies, particularly the development of assessment methodologies and criteria for guidance or standards for use in management and regulatory programs, including technical and scientific consultation with and briefings for state agencies concerned with water resources management and regulatory affairs. The WRI Water Infrastructure Annotated Reference List is attached as Appendix B.

2.4 County Governments

County governments have a large stake in the management of watershed resources. Protecting the public's health and safety through flood and hazard management and the maintenance or monitoring of regional water quality are important responsibilities that a number of county departments and divisions share. Flood monitoring and control also has direct implications for the protection of public infrastructure, such as roads, bridges and other forms of public property which may cross or lie within a floodway.

2.4.1 County Health Departments

County Health Departments manage and regulate county sanitary codes and are responsible for on-site wastewater treatment systems. Sanitary codes vary by county, thus some have more strict regulation, inspection and enforcement than others.

2.4.2 County Water Quality Coordinating Committees (WQCC)

WQCCs identify water quality problems, identify funding opportunities, and create and implement programs to reduce nonpoint source water pollution and improve water quality and water resources. The committees are made up of county and municipal representatives as well as agencies and organizations related to water quality.

2.4.3 Stormwater Coalition of Monroe County[51]

Since 2000, stormwater management efforts in Monroe County associated with state and federal stormwater regulations have been administered cooperatively by the Stormwater Coalition of Monroe County. The Coalition consists of 29 municipal entities throughout Monroe County. The Coalition implements a wide range of projects and programs that reduce stormwater pollution including public education, training for municipal employees, and assistance with stormwater system mapping.

2.4.4 County Soil and Water Conservation Districts (SWCDs)

Soil and Water Conservation Districts (SWCDs) within each county play a critical role in the management of natural resources and agricultural activities in the watershed. SWCD activities are guided through the leadership of the New York State Soil and Water Conservation Committee which works closely with the New York State Department of Agriculture & Markets. The mission of the New York State Soil and Water Conservation Committee is to develop and oversee implementation of an effective soil and water conservation and agricultural nonpoint source water quality program for the State of New York that is implemented primarily through county Soil and Water Conservation Districts.[52]

The County SWCDs implement a number of local conservation and agricultural nonpoint source pollution control programs. One of these is the Agricultural Environmental Management (AEM) program, which consists of planning and implementation of agricultural Best Management Practices (BMPs) on local farms. SWCDs in the watershed also played an important role in applying for funding and implementing projects related to erosion and sediment reduction, streambank remediation, and nonpoint source pollution control.

2.4.5 County Planning Departments and County Planning Boards

Counties can affect land use on a more limited basis through County Planning Board review of certain municipal zoning and development actions that may have countywide impacts. These reviews, conducted pursuant to Section 239 of New York State General Municipal Law, are often referred to as "239 reviews." [53] County Planning departments usually act as staff to the County Planning Boards, and also offer technical assistance and information regarding land use and related planning issues to municipalities.

2.5 Local Government

In New York State, municipalities have significant land use powers that can be used to effectively address a wide variety of environmental issues. The comprehensive plan, zoning, and a host of tools such as site plan review, subdivision regulation, erosion and sediment control ordinances, and special use permits can be used separately or in combination to produce the desired environmental outcomes in a community.[54] We address these tools in the Section 4: Recommended Regulatory Tools and Best Management Practices.

SECTION 2.0 ENDNOTES

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3.0 Inventory of Local Laws, Plans, Programs, and Practices

3.1 Method

This section provides an inventory of laws, plans, programs, and practices in effect in counties and municipalities in the Oatka Creek watershed. The assessment is intended to determine gaps between present laws/practices and model best management practices (BMPs) and is an update of the 2006 Controlling Sediment in the Black and Oatka Creek Watersheds project for NYSDOS. The original assessment was used as a framework in order to utilize some existing information that was unchanged, and to make updates based on new or updated laws and practices where applicable. Original BMPs were edited slightly to be more focused and concise.

3.1.1 Municipalities

The Oatka Creek watershed overlaps portions of four counties and 26 municipalities, seven of which account for less than 1% of the total watershed area. Table 3.1 lists each municipality that has land area within the Oatka Creek watershed, listed in ascending order.

Table 3.1: Municipal Watershed Acreage[55]

Municipality	County	Watershed Acres	Percent Share of Watershed	Percent of Municipality within Watershed
Town of York	*Livingston*	*0.006*	*0.000004%*	*0.00002%*
Gainesville Village	*Wyoming*	*6.2*	*0.004%*	*0.03%*
Town of Wethersfield	*Wyoming*	*44*	*0.03%*	*0.2%*
*Town of Chili**	*Monroe*	*247*	*0.18%*	*0.97%*
Wyoming Village	Wyoming	431	0.31%	100%
Town of Castile	*Wyoming*	*452*	*0.33%*	*2%*
Town of Byron*	Genesee	530	0.38%	3%
Scottsville Village	Monroe	538	0.39%	86%
Town of Riga*	Monroe	552	0.40%	3%
Town of Bergen*	Genesee	881	0.64%	5%
Caledonia Village	Livingston	957	0.69%	70%
LeRoy Village	Genesee	1,719	1.24%	100%
Warsaw Village	Wyoming	2,647	1.92%	100%
Town of Caledonia	Livingston	2,735	1.98%	10%
Town of Bethany*	Genesee	3,493	2.53%	15%
Town of Perry	Wyoming	4,422	3.20%	20%
Town of Orangeville	Wyoming	4,673	3.38%	20%
Town of Stafford*	Genesee	4,776	3.46%	24%
Town of Gainesville	Wyoming	8,334	6.04%	38%
Town of Middlebury*	Wyoming	10,900	7.89%	49%
Town of Wheatland*	Monroe	12,469	9.03%	65%
Town of Covington	Wyoming	12,812	9.28%	76%
Town of Warsaw	Wyoming	19,514	14%	97%
Town of Pavilion	Genesee	20,124	15%	88%
Town of LeRoy	Genesee	24,836	18%	98%
Total Acreage		**138,092**	**100%**	--

Municipalities that have less than 2% of their total land area within the watershed are listed in italics; these are excluded from detailed analysis in this report. Several towns have miniscule portions of their municipal boundaries within Oatka Creek. These locales receive limited analysis and focus within the scope of this watershed planning project.

Figure 3.1: Municipalities of the Oatka Creek Watershed

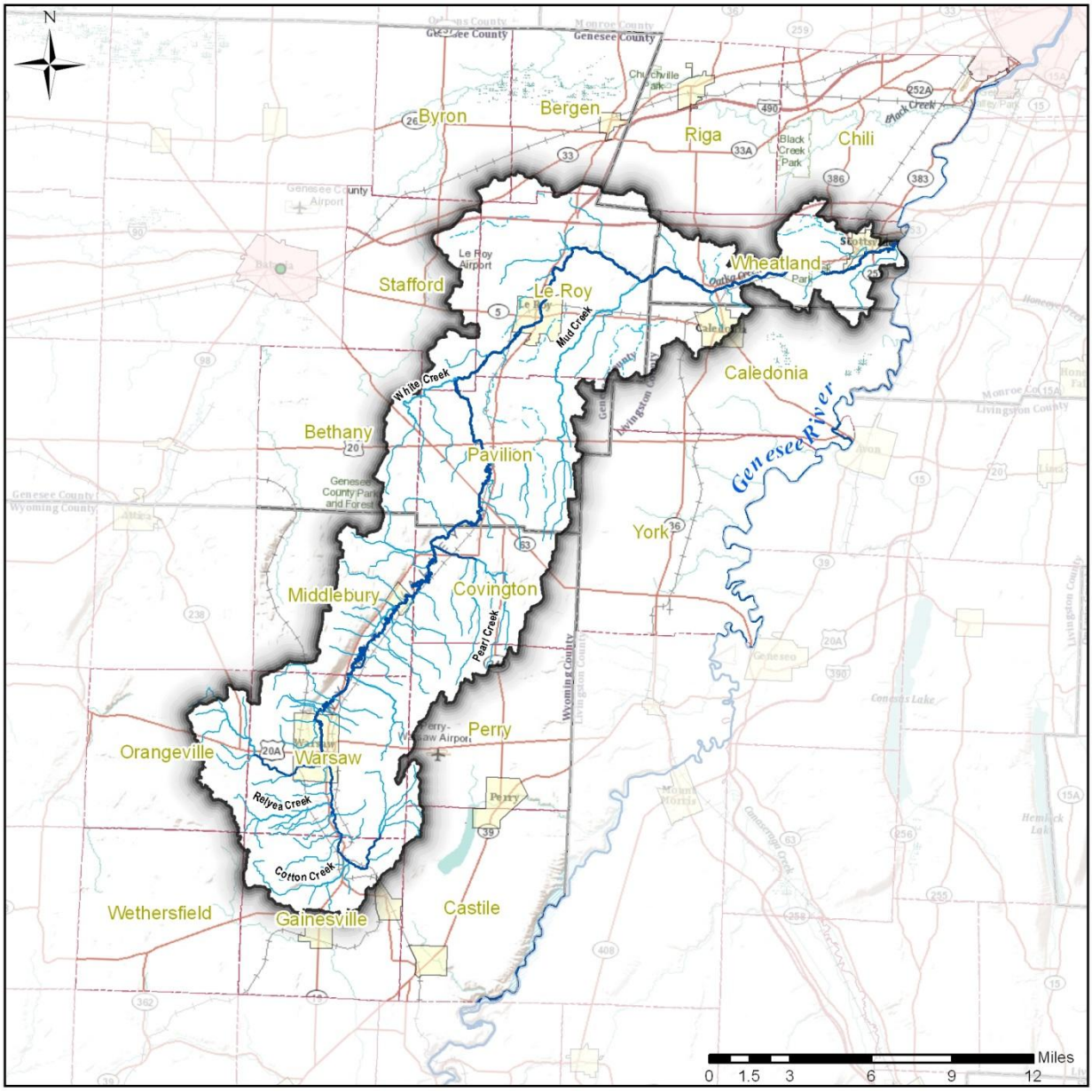


Table 3.2: Spatial Distribution of the Oatka Creek Watershed by County

	Percentage of the Oatka Creek Watershed in the County	Percentage of the County Within the Oatka Creek Watershed
Genesee County	40.8%	26.1%
Livingston County	2.7%	1.3%
Monroe County	10.0%	4.8%
Wyoming County	46.5%	24.7%

3.2 Updated Inventory of Local Laws, Plans, Programs and Practices

Information for this section was gathered from a variety of sources including municipal laws, organizational websites, interviews and correspondence with representatives from municipalities, counties, and organizations involved in water quality.

Counties and municipalities were contacted in order to determine if new or updated laws or plans were in place since the existing assessment. The majority of municipalities had changes to their local laws/plans. Some existing laws that had not been updated were also reviewed to strengthen the existing assessment in certain places. See attached Appendix A for a complete matrix of assessments for each county and municipality in the watershed.

Below is a list of the types of laws and plans that were included in the assessment.

- Zoning laws
- Site plan review
- Subdivision regulations
- Planned unit developments (PUDs)
- Excavation and fill regulations
- Drainage and watercourse regulations
- Stormwater management regulations/plans
- Construction regulations for stormwater management
- Post construction regulations for stormwater management
- Illicit discharge laws
- Animal waste storage facility laws
- Erosion and sediment control laws
- Flood damage prevention laws
- Floodplain overlay regulations
- Wetlands regulations
- Sanitary codes
- Utility (water and sewer) regulations
- Comprehensive/Master plans
- Open space plans
- Smart growth plans
- Agriculture/farmland protection plans

BMPs related to practices and programs were updated through online research, interviews and information provided from:

- County Planners

- County Highway Departments
- County SWCDs
- County Health Departments
- County Water Quality Coordinating Committees (WQCC)
- Wyoming County Water Resources Coordinating Committee
- Cornell Cooperative Extension
- GLOW Region Solid Waste Management Committee (Genesee, Livingston, Orleans, Wyoming)
- Finger Lakes Lake Ontario Watershed Protection Alliance (FLLOWPA)
- Stormwater Coalition of Monroe County
- Water Education Collaborative
- Monroe County Department of Environmental Services
- Oatka Creek Watershed Committee
- Municipal Highway Departments

As summarized in Table 3.3 below, Genesee, Wyoming, and Monroe Counties each has its own farmland and agricultural protection plan in place. Farmland and agricultural protection plans are created pursuant to 1 NYCRR Part 372 of the New York State Agriculture and Markets Law. Such plans are required to include a statement of the county's goals with respect to agricultural and farmland protection, identify any lands or areas that are proposed to be protected, and describe the strategies intended to be used by the county to promote the maintenance of lands in active agricultural use.

Table 3.3 also provides a brief overview of the role of county health departments in monitoring of onsite wastewater treatment systems (septic systems). Sections 347 and 308 of NYS Public Health Law give county boards of health the authority to enact regulations for protection of public health. Each county within the study area has a department of health which performs or requires new onsite wastewater treatment system inspections at the time of new construction; Genesee, Orleans, and Wyoming Counties require inspections at the time of property transfer as well. It is important to note, however, that the specific requirements associated with individual inspection of on-site septic systems vary significantly from county to county.

Table 3.3: Summary of Selected County Plans and Regulations

	Farmland and Agricultural Protection Plan	Dept. of Health Onsite Wastewater Treatment System Inspection		Hazard Mitigation Plan
		Inspection for new construction	*Inspection at time of refinance or property transfer*	
Genesee County	2002	Yes	Yes*	Yes
Livingston County	2006	Yes	Yes	Yes
Monroe County	1999	Yes	Recommended[56]	Yes
Wyoming County	2005	Yes	Yes	Yes

**For refinancing, inspections are typically performed upon request from the lending institution*

Each county has developed a multi-jurisdictional "all-hazard" mitigation plan which operates under a five-year mandatory review cycle.[57] These plans typically include a detailed characterization of natural and man-made hazards in the county (such as flooding risk or hazard materials risk); a risk assessment that describes potential losses associated with the hazards; a set of goals, objectives, strategies and actions

that will guide the county's hazard mitigation activities; and a detailed plan for implementing and monitoring the plan.

A full review and comparison of county inspection procedures is included in Section 5 of this report.

3.2.1 Municipal Plans and Regulations

As illustrated in Table 3.4 below, an inventory of the local regulatory environment indicated that each municipality within the watershed has zoning and some form of comprehensive plan in place. The majority of municipalities have a host of additional supplemental regulations in place that are intended to lessen the impacts of land development on the natural environment or to decrease risks to the health and safety of residents. Many of these have been updated since the last review in 2006.

As with county plans and regulations, a more in-depth review and analysis of the local regulatory environment will take place under subsequent tasks associated with this watershed planning project in an effort to identify and elucidate the effectiveness of these local laws with respect to water quality and natural resource protection.

Table 3.4: Summary of Local Land Use Regulations Among Primary Municipalities in the Oatka Creek Watershed[58]

	Comprehensive Plan	Zoning	Site Plan Review	Subdivision Law	Provisions for Planned Unit or Cluster Dev't	Erosion/ Sediment Control Law	Flood Damage Prevention
Town of Bergen*	1996	1983 (e-code)	Yes	Yes	Yes	Yes	Yes
Town of Bethany*	2008	2008	Yes	Yes	Yes	Yes	Yes
Town of Byron*	1993 (under revision)	2013	Yes	Yes	Yes	Yes (see General Provisions)	Yes
Town of Caledonia	1964	1994 (ecode)	Yes	Yes	Yes	No	Yes
Village of Caledonia	2003	1999	Yes	Yes	Yes	unk	unk
Town of Castile	1967	1996	Yes	No (section reserved)	Yes	No (section reserved)	unk
Town of Covington	2006	2007	Yes	Yes	Yes	No (plat review by SWCD)	Yes
Town of Gainesville	1995 (within zoning)	2004	No	No	No	No	Yes
Town of LeRoy	2002	1999	Yes	Yes	Yes	No	Yes
Village of LeRoy	2001	1990	Yes	Yes	Yes	No	Yes
Town of Middlebury*	2009 (within zoning)	2009	Yes	No	Yes	No	Yes
Town of Orangeville	2009	2009 (online)	Yes	No	Yes	Yes	Yes
Town of Pavilion	2003	2006	Yes	Yes	Yes	No	Yes
Town of Perry	1969	2000	Yes	Yes	Yes	No	Yes
Town of Riga	2008	2008	Yes	Yes	Yes	Yes	Yes

		(ecode)					
Village of Scottsville	2004	2008	Yes	Yes	No	No	Yes
Town of Stafford*	2009	2009 (e-code)	Yes	Yes	Yes	No	Yes
Town of Warsaw	2004 (within zoning)	2004	Yes	Yes	Yes	No	Yes
Village of Warsaw	1994	1995	Yes	Yes	Yes	No	Yes
Town of Wheatland*	2004	2008 (e-code)	Yes	Yes	Yes	Yes	Yes
Village of Wyoming	None	1994	Yes	No	Yes	No	Yes

SECTION 3.0 ENDNOTES

[55] Municipalities that have less than 1% of their total land area within the watershed are listed in italics; these are excluded from detailed analysis in this report. The City of Batavia is also listed in italics as nearly all stormwater that falls within city limits has been engineered to flow into the Tonawanda Creek watershed. The City will therefore receive limited analysis and focus within the scope of this watershed planning project. 1 acre = 43, 560 sq. ft = 0.0015625 sq. miles; town acreage calculations exclude area of villages & cities within.

[56] Monroe County DOH recommends an 8-part series of checks at time of property transfer and further emphasizes the need to apply strict scrutiny on a case-by-case basis.

[57] Federal authorization to prepare a countywide all-hazard mitigation plan comes from the Disaster Mitigation Act of 2000 and 44 CFR (Code of Federal Regulations, Title 44). These regulations provide a mandate directing local governments to assess the potential dangers posed by natural hazards to their communities and propose cost effective means of reducing/eliminating the threats posed by those hazards. Hazard mitigation planning programs are strongly encouraged and supported by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974, known as the Stafford Act (PL 93-288, as amended) and New York State Executive Law Article 2B: State and Local Natural and Man-Made Disaster Preparedness.

[58] Year indicates the year that the law was originally adopted; amendments have often been made since this date. "Ecodes" are those made available online through the General Code website. General Code is an independent, for-profit service; it is assumed that the municipality provides the company with appropriate updates to their code on a regular basis. An entry of 'unk' indicates that the municipality's code was not available in its entirety at the time of review; it is therefore unknown whether the component exists. Municipalities listed as a "Regulated MS4" are required to have an erosion and sediment control law in place as per State and Federal law.

4.0 Recommended Regulatory Tools and Best Management Practices

Recommended regulations and practices discussed in this section are based upon a number of sources of best management practices (BMPs) and models, along with the information collected in the Assessment. The Assessment was used both to determine gaps in certain municipal laws and programs and to find good examples in others.

4.1 Methodology

Recommendations were based on gaps present in the Assessment as well as priority water quality issues in the watershed. Information to base these recommendations on was gathered from a number of local, state, and national resources, including the Center for Environmental Information's Lake Ontario Basin TMDL Project.

Priority focus areas included:

- Development-related land use tools – zoning, site plan review, subdivision regulations (amount of vegetation, impervious surfaces, etc.)
- Stormwater regulations, including MS4 regulations and suggestions for non-MS4s
- Stream corridor protections
- Riparian buffers – vegetated areas, additional setbacks
- Floodplain protections and increased restrictions on use and site changes
- Wetlands
- Agricultural issues – setbacks, manure storage, etc.
- Erosion and sediment

Our intent is to build on the reviews in *Controlling Sediment in the Black and Oatka Creek Watersheds: Municipal Law Review and Analysis.* Recommendations are given for all municipalities that were reviewed as a set of next steps that can be taken. These are based on priority issues and do not include every possible way to improve water quality. Many BMPs and recommendations are applicable to more than one county or municipality; as such, these are included throughout this section. Detailed recommendations specific to counties and municipalities, respectively, are based on their unique assessments and needs and located in Section 5: Recommendations for Local Laws, Plans, Programs, and Practices.

4.2 Land Use Tools

The Constitution of the State of New York specifies that the primary authority for guiding community planning and development is vested in cities, towns and villages. This authority is commonly referred to as "home rule" and is implemented locally through the creation of comprehensive plans, zoning, site plan review, and subdivision standards. Counties are also vested with certain powers and capacities to guide development and act as a steward of resources within its borders.

These building blocks of land use control and planning also help establish water quality controls, either directly or indirectly.

4.2.1 Comprehensive Plans

Comprehensive plans are strategic documents that set out the broad goals and vision of a community. The plan should reflect current conditions and issues of the municipality, where the community would like to be, and how to reach those goals. The plan should be developed with widespread citizen input and put in writing by the land use decision makers in a community (planning board, zoning board of appeals, conservation board, code enforcement officer, planner, municipal board, and elected officials). While the planning board or planning department staff may prepare the plan, by law the comprehensive plan must be adopted by the local legislative body after public hearing.

A comprehensive plan should identify the type and intensity of development to be accommodated. A comprehensive plan which is too generalized may not serve to effectively guide future development. Municipalities should ensure that their comprehensive plans – at minimum – list watershed management and related topics such as water quality, stormwater management, and erosion and sediment control as municipal priorities. Prioritizing these issues is a good starting point, and justifies the need to expand related local laws and practices.

Some communities in New York may not have comprehensive land use planning processes; for those that do, there is often no link between the land use plan and water quality protection and planning. Water is currently regulated through a patchwork of federal and state laws, yet the future of water resource management will likely require a more holistic approach to how we deal with drinking water, wastewater and stormwater runoff. Communities should seek initial funding to update their comprehensive plan in order to be eligible for a host of water-related programs – which consider smart growth, green infrastructure, and sustainability in funding decisions – regardless of MS4 status. For assistance in developing a comprehensive plan, see *Protecting Water Resources through Local Controls and Practices* Appendix E1.[59]

4.2.2 Zoning

To help make the leap from planning to zoning to implementation and enforcement, zoning laws should concisely implement the purpose and intent laid out in the comprehensive plan. Zoning can regulate the use, form, siting, and character of development on individual land parcels. Zoning is most effective in preventing future issues with development or harmful uses. While an existing use or form is generally grandfathered, after the use or building is abandoned for a certain amount of time new regulations would be enforceable. Nonconforming use is lost through abandonment, typically defined by local zoning law. These regulations also have power to prevent a property owner from expanding a use or building when they are non-conforming in the new zone.

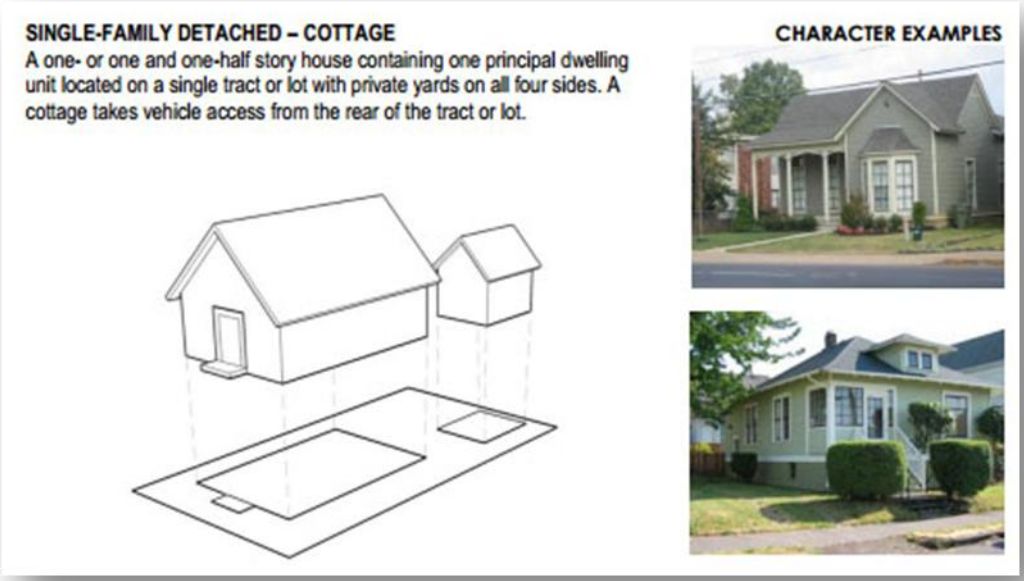
Encouraging development within or adjacent to already developed areas limits the amount of required infrastructure expansion and often results in the preservation of open space in outer lying areas. Zoning for adaptive reuse development encourages the redevelopment of vacant or underutilized structures. Consider increasing the allowable uses in a zone or zoning by form rather than use. One way to accomplish this is to allow for Mixed-Use zoning, especially in village downtowns and infill areas.

Consider the costs of not implementing these practices; smart growth saves an average of 38 percent on upfront costs for new construction of roads, sewers, water lines and other infrastructure.[60] These measures save municipalities an average of 10 percent on police, ambulance, and fire service costs and generates 10 times more tax revenue per acre than conventional suburban development. The geographical configuration of a community and the way streets are connected significantly affect public service

delivery. Smart growth patterns can reduce costs simply by reducing the miles service vehicles must drive. The savings on services in rural areas are much higher, perhaps as much as 75 to 80 percent.[61]

A form-based zoning code can be limited to verifiable building form characteristics such as setbacks, yard types, building height and massing, frontage size and lot coverage. For example, a municipality can mandate that all buildings be of a similar height to fit in with the character of a neighborhood without exhaustive architectural design standards such as the size of windows or facade details.[62]

Including graphics, such as the following example of expected development form and character, help make zoning easier for everyone to use and understand:



4.2.2.1 Overlay Districts

An overlay district is a zoning technique that selects natural or cultural areas of the municipality based on criteria such as main street retail areas, historic districts, scenic views, steep slopes, wetlands, woodlots, or riparian areas. As the name suggests, these districts overlay the underlying zoning designation (such as commercial, residential, etc.). The underlying zoning, and all of its regulations, remain in place. The overlay district simply adds another set of regulation processes to help protect sensitive areas.

An Environmental Protection Overlay District (EPOD) could be utilized to restrict uses with large impacts on the water. This could also include development setbacks, vegetative buffers, etc. Current allowable uses should be grandfathered in to the law as still allowable. As non-conforming uses are abandoned, properties will be required to comply with the buffer regulations. These non-conforming grandfathered uses will come into compliance over time.

Active River Areas

River health depends on a wide array of processes that require dynamic interaction between the water and land through which it flows. The areas of dynamic connection and interaction provide a frame of reference from which to conserve, restore and manage river systems. The active river

area framework offers a more holistic vision of a river than solely considering the river channel as it exists in one place at one particular point in time. Rather, the river becomes those lands within which the river interacts both frequently and occasionally. The active river area (ARA), therefore, is a critical zone in which watershed restoration and protection efforts should be focused.

The Nature Conservancy developed this approach to address river health in areas directly adjacent to streams. The ARA framework can be used as a tool to inform conservation, restoration and management of riparian areas and entire watersheds.[63] Municipalities should utilize the Active River Area method to determine the area of land most important to target to protect water quality through practices and programs. Many of the regulatory tools and best management practices outlined here could be targeted toward the active river area. The Active River Area can be prioritized in laws and practices, such as a zoning overlay district based on the five components of the ARA: material contribution areas; the meander belt; floodplains; terraces; and riparian wetlands.

Map 7 (Appendix A-15) of the *Oatka Creek Watershed Characterization Report*[64] illustrates the active river area throughout the Oatka Creek watershed; further research into the precise delineation of and intactness of these lands is recommended.

4.2.3 Site Plan Review

Site plan review addresses the layout and design of development on a single parcel of land. It is commonly considered supplemental to other land development guidance controls and is usually included within a community's zoning law. Yet it is a critical planning tool for identifying and addressing drainage, erosion control, amount of impervious cover, vegetation, and other stormwater mitigation measures. This is often the easiest place to add watershed protections because the law and review system are usually already in place, and just need to be expanded slightly. The site plan review process allows for greater municipal scrutiny and application of intent for certain land uses and/or structures. Some examples of intent may include:

- Promoting environmental sustainability in new development and redevelopment
- Preserving and enhancing neighborhood character
- Achieving compatibility with adjacent development and uses
- Improving the design, function, aesthetics, and safety of development projects and the overall visual and aesthetic quality of the city/town/village
- Mitigating potentially negative impacts on drainage and the landscape
- Removing or reducing minimum parking requirements, reducing the size of parking spaces, and developing parking lot design standards that include grass areas, filter strips, bioswales, and other types of biofilers for capturing runoff
- Encouraging creative shared parking options between uses with non-competing peak use periods[65]
- Limited site plan reviews for small projects can be conducted at an administrative level by a staff planner or zoning code administrator
- Site plan approvals conditional on other permits and approvals, such as Stormwater Pollution Prevention Plans (SWPPP) and building permits

A site plan should show the existing and proposed conditions, including topography, vegetation, drainage, floodplains, marshes, wetlands, and waterways; open spaces, walkways, means of ingress and egress, utility services, landscaping, structures and signs, lighting and screening devices; submitted along with

building plans, elevations and building materials; and any other information that may be reasonably required to allow an informed decision to be made by a planning board.

One approach that begins to address the integration of sustainable policies with proposed development is the concept of Better Site Design (BSD). Better site design incorporates non-structural and natural approaches to future development projects to minimize effects on watersheds by conserving natural areas, reducing impervious cover and improve application of stormwater treatment. The DEC's Handbook on Better Site Design[66] includes easy-to-follow tables and checklist for applying these practices. Green Infrastructure, also known as Low Impact Development, such as Bioswales (roadside ditches) and bioretention areas (sunken gardens), French drains (retention trenches) and brick and cobblestone streets (pervious pavers) are old technologies given new life. Some of the best practices in Green Infrastructure were developed by the USDA's Soil Conservation Service in the wake of the Great American Dust Bowl.[67]

New residential development guidelines for the design, planting, and maintenance of trees may include certification by a Registered Landscape Architect and the use of structural soils, such as CU-Soil™, which helps trees get established and grow to fuller crowns while also assisting in stormwater management. A number of relevant publications are available from the Urban Horticulture Institute at Cornell University.[68]

Site plan review should include:

- Preservation of open space, natural features, vegetation and trees
- Landscape elements, including grass areas, filter strips, and bioswales
- Live plant materials and maintenance schedule, including protection of existing mature vegetation, especially trees over eight inches DBH (diameter-breast-height)
- Percentage of open space based on the size of the development parcel(s)
- Minimization of impervious surfaces and the use of permeable materials such as porous asphalt and structural soil
- Plan compliance with New York Standards and Specifications for Erosion and Sediment Control especially Appendix G – Sample Checklist for reviewing Erosion & Sediment Control Plans[69]
- Construction plan, including haul route, staging area, and runoff management strategy

Development should be limited in key areas such as riparian buffers, wetlands, floodplains, Active River Areas, etc. The Board should seek advice from County SWCD, especially on proposals disturbing over one acre, as well as those located near sensitive areas such as steep slopes, high erosion areas, wetlands, floodplains, etc. Input from County Environmental Management Councils (EMCs) and municipal Conservation Advisory Councils (CACs) and Conservation Boards can assist with taking inventory of natural features of the landscape to identify those locations that are important to preserve and protect. A thorough urban/suburban site plan review model can be found in the City of Ithaca[70]; a rural model can be found in the Town of Ithaca.[71]

4.2.4 Subdivision of Land

Subdivision regulations control the manner by which land is divided into smaller parcels of land. While zoning and subdivision control are entirely separate and distinct parts of the planning implementation process; used together they result in well-ordered, environmentally-aware development. Subdivision regulations ensure that when development occurs, streets, lots, open space and infrastructure are adequately designed and the municipality's land use objectives are met. Aspects of subdivision regulation that many municipalities find useful include: distinction between major and minor subdivision; timeline

for subdivision of land; a three-stage process (conceptual plan, preliminary plan, final plan) for review; and the ability for the municipality to charge the applicant for expenses incurred as a result of retaining outside consultants.

These and other features should be integrated into a concise, easy-to-understand subdivision law. Used correctly, the subdivision law is a key tool used to implement the objectives of the comprehensive plan. Subdivision regulations can be used to limit the negative impacts development can have on waterbodies before during and after the construction period. Approval can be contingent on additional requirements such as:

- Preservation of natural features, trees, and vegetation
- Conservation of imperiled species, ecological communities, and unique natural areas
- Agricultural land conservation
- Floodplain avoidance
- Minimization of the creation of impervious areas / encourage permeable surfaces
- Limit parking footprint to no more than 20% of the total development footprint area for all new off-street surface parking facilities, with no individual surface parking lot larger than 2 acres[72]
- Pre-construction, construction, and post-construction
- Site protections to minimize erosion and runoff (retaining vegetation, sediment fencing, etc.)
- Clustered subdivision

Under Section 278 of New York State Town Law, towns have the authority to mandate clustered subdivisions. A subdivision is considered a cluster subdivision when lots and dwelling units are clustered closer together than in a conventional subdivision; open space is created on the remainder of the property without increasing density for the tract as a whole. This can be an effective way to preserve open space, while not reducing the total number of development units. Clustered subdivisions allow developers to reduce minimum lot sizes and increase density if they preserve an appropriate portion of the proposed development as open space, identified by important agricultural soils, water bodies, and conservation of open space. They allow for a range of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups. Clustered development also has fiscal benefits; clustering requires less road and sewer infrastructure and lowers ongoing public safety operations and maintenance costs. For subdivisions from a few acres up to 320 acres (1/2 square mile) in size, municipalities may consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to holistically tie together development siting, street design, development of pedestrian linkages, stormwater management, green infrastructure and building design, and other performance standards. These standards can be applied to infill development as well. The 2013 *Technical Guidance Manual for Sustainable Neighborhoods* is available from the US Green Building Council.[73]

4.3 Stormwater and Erosion Management

Once water runs off of private property, it tends to become the problem of the municipality. Roads, buildings, parking, sidewalks, and driveways all increase runoff from rain events and snow melt. Stormwater runoff contains pollutants such as nutrients, pathogens, sediment, toxic contaminants, and oil and grease. Water quality problems generated by these pollutants have resulted with waterbodies such as lakes and streams having impaired or stressed uses. Impervious surfaces such as roofs, driveways, and parking lots may be regulated by municipalities through zoning and subdivision regulations and the site plan review process. In addition, poorly designed or maintained public drainage infrastructure (such as ditches) can cause erosion, which leads to sedimentation of waterways. Not only a significant cause of

nonpoint source pollution, sedimentation can increase costs to municipalities in terms of ditch and storm drain cleaning.

To address these local concerns, federal stormwater regulations commonly known as "Stormwater Phase II" require "urbanized area" municipalities to develop a Small Municipal Separate Storm Sewer System (MS4) management program. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a NPDES (National Pollutant Discharge Elimination System) permit and develop a stormwater management program. Pursuant to Section 402 of the Clean Water Act, stormwater discharges from certain construction activities are unlawful unless they are authorized by a NPDES permit or by a state permit program. New York's SPDES (State Pollutant Discharge Elimination System) is a NPDES-approved program with permits issued in accordance with New York's Environmental Conservation Law. Municipalities can use the EPA's MS4 maps to determine whether their jurisdiction is located in the 2010 urbanized area where the MS4 program would apply.[74]

MS4 municipalities should continue strict implementation and enforcement of Stormwater Phase II requirements as a top priority. Any municipalities not currently in compliance should make this their top priority. Listed below are the six minimum control measures (MCMs) that operators of regulated small MS4s must incorporate into stormwater management programs:

- MCM 1: Public Education and Outreach
- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination
- MCM 4: Construction Site Runoff Control
- MCM 5: Post-Construction Runoff Control
- MCM 6: Pollution Prevention and Good Housekeeping

Municipalities are encouraged to participate in the Stormwater Coalition of Monroe County to foster the sharing of ideas. Ensure coordination between the Municipality and the County Soil and Water Conservation District for advice and recommendations on certain project proposals. Identify which group will be responsible for implementation of each minimum measure (Municipality, SWCD, etc.)

The New York State Smart Growth Public Infrastructure Policy Act (the Act) of 2010 requires the New York State Environmental Facilities Corporation (EFC) to determine that infrastructure projects meet relevant smart growth criteria in order to provide Clean Water State Revolving Fund financial assistance. Public infrastructure projects cannot use the CWSRF for land, including right-of-ways, unless that land is integral to the wastewater treatment process. Percolation of stormwater through the soil matrix is essential to the operation of green infrastructure practices, many of which can be conveniently located in public right-of-ways. This utilization of soil and plants in a right-of-way to clean and infiltrate stormwater allows the land in that right-of-way becomes integral to the treatment process and thus could be eligible for CWSRF funding.[75]

A Note for Non-MS4 Communities

Non-urbanized areas that are not required to follow MS4 Stormwater Phase II requirements should consider working toward voluntary compliance with some or all of the minimum measures to better manage stormwater and its potential effects. In many areas this work is already occurring through SWCDs and other groups though public outreach, education, and participation. Other strides could be made through adoption (or strengthening) local laws related to illicit discharge and runoff (MCMs 3, 4,

and 5). A Sample Local Law for Stormwater Management and Erosion & Sediment Control prepared by NYSDEC is available in Appendix C.

More information sharing and collaboration between counties, municipalities, water quality groups and interested citizens could be beneficial. The Rural Stormwater Coalition (made up of Southern Tier Central Regional Planning, DEC, Chemung, Schuyler, and Steuben County agencies and non-MS4 municipalities) leverages funding through grants to create and distribute educational materials and conduct a variety of training programs for code enforcement officers, planning boards, zoning boards, highway departments, contractors, and the general public.

4.3.1 Public Education and Outreach

It is important to target the right groups for education opportunities to make efficient use of often scarce resources. It can be effective to aim and customize education and outreach strategies for different groups. Some groups can receive advanced training depending on their background, while others may benefit from brief introductory information. Three types of groups that might be considered for different outreach strategies could be government employees and decision makers, stakeholder groups, and the general public.

One of the biggest aims of the program is outreach: improving awareness of stormwater pollution sources and educating the public on how pollution gets into local waters. A 2005 report by the National Environmental Education & Training Foundation, *Environmental Literacy in America*[76], found that a large percentage of the public does not understand that runoff from agricultural land, roads, and lawns, is now the most common source of water pollution; nearly half of Americans believes industry still accounts for most water pollution. Many people don't recognize the fact that storm drains are connected directly to waterways or just don't think about it during their normal routine.

4.3.1.1 Government Employees and Decision Makers

This group includes planning and zoning boards, town/village boards, as well as code enforcement officers, zoning officers, highway department, public works employees and planners. Appointed and elected officials and employees should be trained both on the importance of improving water quality and the ways that they can have a positive effect through the use of their zoning code, approval of site plans and subdivisions, etc. Training is available on these and other topics at Genesee/Finger Lakes Regional Planning Council's Local Government Workshops. Held in the fall and spring each year, these events helps fulfill state law requiring training for local planning officials. Training is also available on a regular basis from the Department of State, as well as through counties, associations, and private entities.

In municipalities throughout New York, Conservation Advisory Councils (CACs) and Boards (CABs) serve as important advisory bodies to town boards, planning boards, and zoning boards of appeals. By providing a scientific perspective on site plan review, comprehensive plans, environmental ordinances, open space protection, and biodiversity conservation, CACs contribute to the preservation and improvement of the natural environment and quality of life for residents. Article 12-F, Section 239-x and 239-y of the State of New York General Municipal Law details how a city, town, or village can create a Conservation Advisory Council or Conservation Board to advise on the development, management, and protection of its natural resources and act as an environmental liaison to the public.

Employees such as highway department workers or code enforcement officials should receive education specific to their positions and should help further their knowledge of local laws and practices and why they are important to protecting the environment and water quality. Local Code Enforcement should coordinate and partner with SWCDs regarding inspecting requirements and enforcement; even if it's not the code enforcement officer's duty, they should be aware of regulations to report issues that they notice

County Soil and Water Conservation District employees often have a much greater depth of understanding of watershed issues, but additional advanced training related to best management practices and water quality implementation strategies can be very beneficial, especially since these groups are often involved in educating the other groups. Monroe County SWCD offers 4-hour E&SC courses for certain contractors (Trained Contractor) and certain Qualified Inspectors in addition to the Western New York Stormwater Management Training Series (offered in 2012 and 2013).

4.3.1.2 Stakeholder Groups

Groups that have a specific interest or mission related to water quality should be targeted for education. Expanding citizen stewardship becomes easier when tapping into the network of groups that work toward improved local management of water resources. Watershed committees, Water Quality Coordinating Committees (WQCCs), county Environmental Management Councils (EMCs), municipal Conservation Advisory Councils (CACs) and Conservation Boards, lake associations and other environmental groups usually already have a general understanding of issues and can be excellent at disseminating information to the general public. These groups are often filled with volunteers who are willing to strategize ways to educate others such as organizing outreach materials, attending and speaking at events and just generally sharing information with others. These organizations can facilitate education and public involvement activities that foster a citizen-based watershed ethic:

- SWCDs
- WQCCs
- Volunteer citizen educators
- Watershed Groups
- Region, County, and Municipal Planners
- Cornell Cooperative Extension

4.3.1.3 Public Educational Materials and Strategies

It is important to educate the public on issues that are affecting water quality and alert them of simple things they can do to positively affect certain water quality issues. Many people may be willing to make small changes if they knew their actions could have a positive impact on the environment and water quality. The public may also support municipal and county expenditures on programs and practices if they understood the importance of protecting water quality.

Targeting the public geographically is one option. The population of residents within a close geographic area of

waterbodies can be a very important group to reach out to. The actions of these residents have the biggest direct impact on water quality due to their close proximity to the water body. This group may be more receptive toward water quality improvement concepts because they may appreciate the water body's recreational or aesthetic value and may benefit directly from it, and could, depending on the issue, relate water quality issues to their property value. This group should be targeted for education on simple household BMPs like those included in the H2O Hero campaign such as the use of or disposal of fertilizers, paints, pet waste, as well as septic system maintenance.[77] For example, information could be provided to restaurants on the effects of grease clogging storm drains and to auto garages on the effects of dumping used oil into storm drains.

Effective outreach materials are also interesting and accessible to children and included in places traditionally used for education. The Water Education Collaborative's H2O Hero campaign accomplishes this through information sharing with the Seneca Park Zoo, Rochester Museum and Science Center, and in school education programs. The H20 Hero could be marketed more extensively in existing target markets and by expanded into new markets. The design of materials, website, and general outreach method has already been created so municipalities and groups outside of the current service area should look to utilize this method rather than starting from scratch.

Targeting key places that are important to protect for distribution of education materials can also be an effective strategy. Storm drain labeling is a good example of this method and is one of the H20 Hero campaign strategies. The storm drain markers inform residents that "anything that goes down a storm drain goes directly into a water body without being treated."[78] Placing recreational guides and outreach materials at parks and in kiosks along waterbodies can help connect recreational groups using the water and adjacent land such as boaters, marina owners, paddlers, and fishing and hiking groups. Setting up a booth at a water or park cleanup event can be effective in targeting people who are both interested in the health of the environment and are also willing to volunteer their time to make a difference.

4.3.2 Public Participation and Involvement

Make sure a system is in place for the public to report any issues they see; this will help to point inspections and enforcement in the right direction. Evaluate potential expansion of monitoring efforts, such as monitoring and assessments for bacteria and emerging contaminants of concern.

4.3.2.1 Adopt a Storm Drain

"Adopt a Storm Drain" programs encourage individuals or groups to keep storm drains free of debris and to monitor what is entering local waterways through storm drains. A natural progression of the H2O Hero campaign could be the recruitment of volunteer web developers and municipal information technology professionals to develop a real-time, mobile civic engagement platform to send reports on storm drains. Developed using open source software,[79] mobile reporting empowers residents to identify civic issues and report them right from their smartphone to the appropriate authority (SWCDs, town/city hall, etc.) for quick resolution. This allows government to use technology to save time and money plus improve accountability to those they govern; this acts as a positive, collaborative platform for real action. A number of municipalities have implemented this for public infrastructure; for instance, Boston's Adopt a Hydrant program[80] allows users to adopt a fire hydrant to shovel out after it snows.

4.3.3 Illicit Discharge Detection and Elimination

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 leaching from septic systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). These untreated discharges contribute high levels of pollutants, including heavy metals, toxins, oil and grease, solvents, nutrients, viruses, and bacteria to waterbodies. Pollutant levels from these illicit discharges are high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

For MS4 communities, the first step in designing a program to publicize and facilitate public reporting of illicit discharges is to implement an ordinance or other regulatory mechanism that prohibits non-stormwater discharges into the MS4. It should also outline appropriate enforcement procedures and actions, including a plan to detect and address non-stormwater discharges, including illegal dumping, into the MS4 and education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.

4.3.3.1 On-Site Wastewater Treatment Systems (OWTS)

The number one source of nonpoint source pollution in New York State is on-site wastewater treatment systems.[81] The Center for Environmental Information's Water Quality Restoration Strategy reported the results of a two-year investigation which modeled sources of phosphorus to the stream and recommended the most cost-effective watershed changes to remove the current impairment and restore water quality.

Fortunately, septic system repairs are a lower-cost measure that can make a significant impact on water quality and health in this watershed. Over the last twenty years, technological advances have increased the level of treatment but also the complexity of design and operation. New York State Department of Health's (NYSDOH) Administrative Rules and Regulations for the design of residential onsite wastewater treatment systems (OWTS) apply to systems discharging residential wastewater flows of 1,000 gallons per day or less from year-round and seasonal dwellings.[82] New York State Department of Environmental Conservation (NYSDEC) standards under 6 NYCRR Part 750 applies to private, commercial, institutional, and residential wastewater system flows of over 1,000 gallons per day.[83] Each agency's standards have similar OWTS design options for residential OWTSs; however, for residential systems discharging over 1,000 gallons per day, NYSDEC's design standards and applicable permits apply.

Countywide and Watershed Methods

All of the Counties that make up the watershed have some regulations regarding onsite wastewater treatment systems, but many could be strengthened and improved. Details specific to each county can be found in within Section 5.0 of this report. Best practices, such as regular inspections, should be stated directly in law. Sewage disposal system failures can manifest in a number of ways over time and those failures can be very difficult to detect because the system is buried. Standard inspections, which are typically non-invasive, are not necessarily thorough enough to ensure that the system is functioning properly.

A model Onsite Wastewater Treatment Law[84] was prepared by the Ontario County Planning Department. It includes requirements for inspection and permitting before construction or repair of OWTS. The Department of Health inspects and investigates when there are questions of public health

and/or nuisances, and can require remediation. When public sewers are available and accessible, the commissioner may require properties with existing OWTS to abandon use and connect to public sewers. Setbacks of 200 feet from public drinking water sources are required for OWTS as well as storage of other unsanitary and or offensive materials.

Municipal Method

Counties may not have the capacity to take on the additional responsibility that comes with strengthening the onsite wastewater treatment regulations in their Sanitary Codes. Municipalities can take on this role by creating a local Onsite Wastewater Treatment Law. The most important portions to include would be setting an inspection schedule and the requirement to repair, update, and replace systems that are failing. Permits should not be transferrable to different parties; rather, inspection and permitting should be done at property transfer. Additional updates could include the requirement to connect to public sewers when possible. These could vary depending on which county the municipality is located in, and what regulations/practices are already in place.

While most regulation of OWTS traditionally occurs at the state and county level, municipalities can also enact regulations to help mitigate some of the associated risks through their building permit and certificate of occupancy regulations.[85] The Town of Huron, New York, Septic Law, Local Law 1-2013,[86] written by environmental engineer and land use attorney Alan Knauf, can be easily calibrated for another New York State municipality. Huron, a community on Sodus Bay, requires specific controls for the design of private wastewater systems installed in the town's designated coastal zone and sets an inspection timetable for residential and commercial septic inspections; this ordinance can be found attached in Appendix D.

Important regulations to have in a septic law:

- Mandatory inspections at set time intervals or at certain specified points in time such as change of ownership, change in use or intensity of use
- Required compliance and or upgrades for failed inspection
- Requirement to connect to public sewers if available within a given distance
- Implement an onsite wastewater management system inspection program

The Canandaigua Lake Watershed Inspection Program

The Canandaigua Lake Watershed Commission is an organization of the five municipalities – the City of Canandaigua, the Town of Gorham, the Village of Rushville, Village of Palmyra, and the Village of Newark – that withdraw and sell water from Canandaigua Lake. The Canandaigua Lake Watershed has over 4,200 OWTS that emit an estimated 1 million gallons of effluent into the soils of the watershed daily.[87] Together they've instituted a Lake Watershed Inspection Program that employs an inspector to conduct deep hole and percolation tests for OWTS placement, consultations for new construction and repairs of systems, reviews of building plans for suitability of OWTS, and inspections at the time of property deed transfer, and investigations of violations. They transmit the results of their Onsite Wastewater System Inspection Report[88] to the State Department of Health.[89]

Keuka Watershed Improvement Cooperative (KWIC)[90]

The collaborative method and inspection system used by KWIC joins the efforts of municipal officials from eight Keuka Lake towns and villages – Hammondsport, Penn Yan, Barrington, Jerusalem, Milo, Pulteney, Urbana, and Wayne – to ensure uniform regulations and enforcement of wastewater systems to protect the purity of the lake. KWIC was formed through an inter-municipal

agreement in 1993 after more than a decade of discussion and debate and is widely considered to be a model of cooperation and pro-active wastewater management.

Two other collaborative models are Schuyler County's Lamoka-Waneta Lakes Wastewater Treatment Inspection Program, and the Otsego Lake Onsite Wastewater Management Program.[91] The New York Onsite Wastewater Treatment Training Network (OTN)[92] offers training on system design and maintenance, technological advances in OWTS and continuing education credits for engineers, architects, code enforcement officers, and wastewater operators.

4.3.4 Construction Site Runoff Control

Sediment runoff from construction sites is typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands.[93] During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades.

To assist municipalities in implementing methods for protecting water quality, New York State Department of Environmental Conservation released updated *Specifications for Erosion and Sediment Control* in 2005.[94] This manual, known as 'The Blue Book,' should be used by site developers in preparing their erosion and sediment control plans and by local municipalities in preparing and implementing their soil erosion and sediment control programs. It includes a number of excellent models, including an Erosion and Sediment Control Plan for Small Homesite Construction,[95] Example Erosion and Sediment Control Plan,[96] and a Sample Checklist for reviewing Erosion & Sediment Control Plans.[97] Requiring developers to think about stormwater protections results in better site planning and lessens the likelihood of problems that need to be mitigated by the municipality or other property owners.

Pollutants commonly discharged from construction sites include:

- Sediment
- Solid and sanitary wastes
- Phosphorus and Nitrogen
- Pesticides
- Oil and grease
- Concrete truck washout
- Construction chemicals and debris

The SPDES general permit for Construction Activity[98] was updated in 2010 (valid through 2015) and is required for projects disturbing over one acre of land. Ensure that requirements are being followed for projects disturbing over one acre of land. Include requirements in site plan review and subdivision approval process.

Many municipalities count on SWCD to inspect upon their request, but code enforcement officials need to be educated in stormwater practices, and familiar with construction permits and plans in order to know when to request assistance from the SWCD. In addition, code enforcement officials spend a great deal of time in the field, thus understanding stormwater regulations would help them notice any violations or issues that could be reported to SWCD or DEC. Code Enforcement Officers should ensure that construction sites:

- Have dumpsters or other containers for debris and solid waste

- Store hazardous materials or waste fluids away from receiving waters and catch basins
- With areas for refueling of vehicles or equipment on-site are bermed or away from receiving waters and storm drains
- Properly install concrete truck washouts away from receiving waters and storm drains
- Identify and stabilize critical areas of protection and all exposed soil areas

The Stormwater Toolbox[99], developed by the Rural Stormwater Coalition and distributed to each Southern Tier county in 2008, can be a great resource for non-MS4 communities. It includes packets of information for distribution to developers of small construction sites for which a state stormwater permit is required and explains the how sections of the New York Building Code and Property Maintenance Codes, respectively, apply to stormwater drainage. A local Construction Stormwater Pollution Prevention and Erosion and Sediment Control Ordinance developed by the Town of Parma is available at the end of this report in Appendix E.

4.3.5 Erosion and Sediment Control Regulations

Soil erosion is the removal of soil by water, wind, ice, or gravity and it is largely influenced by season and topography but also to what degree it's covered by vegetation. Erosion is a problem during runoff events, particularly intense rainfall. Counties and municipalities may adopt laws pertaining to erosion and sediment control in accordance with MCMs 5 & 6. An Erosion and Sediment Control Model Ordinance geared towards counties in New York State is found in *Protecting Water Resources through Local Controls and Practices* Appendix E6.[100]

Site Plan Review is a good point in the development process to review a project's Erosion and Sediment Control plan, which should incorporate practices such as phasing, seeding, grading, mulching, filter socks, stabilized site entrances, preservation of existing vegetation, and other best management practices to control erosion and sedimentation during construction. The Erosion and Sediment Control plan must show how the project team intends to:

- Preserve vegetation and mark clearing limits
- Protect vegetation during construction
- Establish and delineate construction access
- Control flow rates
- Install sediment controls
- Stabilize soils, including providing erosion control protection to a temporary critical area for an interim period
- Protect slopes
- Stabilize channels and outlets

- Control pollutants
- Control dewatering

4.3.5.1 Riparian Buffers

Protecting riparian areas – those adjacent to waterbodies, wetlands, and flood plains – is critical to water quality. The land area directly adjacent to streams is considered to be among the most dynamic and sensitive components of a watershed. A riparian buffer is a special type of vegetated area along a stream, wetland, or shoreline where development is restricted or prohibited. Its primary function is to protect and physically separate a stream, lake, coastal shoreline or wetland from polluted stormwater discharges from future disturbance or encroachment. If properly designed, a buffer can provide stormwater management functions, can act as a right-of-way during floods, and can sustain the integrity of water resource ecosystems and habitats.

A stream with a riparian buffer, surrounded by tree cover and vegetation, benefits from both the cooling effects from the tree canopy overhead and the bank stabilization from tree roots and other types of plant cover. Detritus from surrounding plants also contribute to the stream as a source of nutrition and habitat for a variety of animals and organisms. Conversely, streams surrounded by impervious, hard, non-vegetative cover or agricultural cover will likely experience greater soil loss and more impacts from nonpoint source pollution. Stream buffers have financial benefits as well: they minimize property damage, reduce municipal investment, increase property values, and reduce maintenance costs.[101]

According to the EPA's Aquatic Buffer Model Ordinance[102]:

Buffers adjacent to stream systems and coastal areas provide numerous environmental protection and resource management benefits that can include the following:

1. Restoring and maintaining the chemical, physical, and biological integrity of the water resources
2. Removing pollutants delivered from urban stormwater
3. Reducing erosion and sediment entering the stream
4. Stabilizing stream banks
5. Providing infiltration of stormwater runoff
6. Maintaining base flow of streams
7. Contributing the organic matter that is a source of food and energy for the aquatic ecosystem
8. Providing tree canopy to shade streams and promote desirable aquatic organisms
9. Providing riparian wildlife habitat
10. Furnishing scenic value and recreational opportunity

Table 4.1: 2006 NLCD Land Cover – 300' Riparian Buffer Analysis within Subwatersheds of Oatka Creek Watershed

	Headwaters		Pearl Creek		White Creek		Mud Creek		Village of LeRoy		Outlet	
NLCD Category	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
11 - Open Water	20.0	0.5%	23.1	0.4%	10.0	0.3%	35.4	2.6%	44.3	2.9%	14.2	0.7%
21 - Developed, Open Space	173.2	4.3%	185.9	2.9%	135.4	4.2%	57.2	4.2%	74.1	4.9%	55.2	2.8%
22 - Developed, Low Intensity	28.7	0.7%	52.3	0.8%	30.9	1.0%	8.7	0.6%	50.9	3.4%	21.6	1.1%
23 - Developed, Medium Intensity	8.7	0.2%	16.2	0.3%	10.2	0.3%	1.1	0.1%	17.3	1.1%	5.6	0.3%

24 - Developed, High Intensity	0.2	0.0%	1.1	0.0%	1.8	0.1%		0.0%	2.2	0.1%	1.6	0.1%
31 - Barren Land	3.1	0.1%	8.5	0.1%		0.0%	0.2	0.0%		0.0%	0.2	0.0%
41 - Deciduous Forest	1,224.1	30.3%	1,793.6	28.3%	592.7	18.5%	209.9	15.3%	168.4	11.1%	258.9	13.2%
42 - Evergreen Forest	114.3	2.8%	9.8	0.2%	5.1	0.2%	1.1	0.1%	7.8	0.5%	10.5	0.5%
43 - Mixed Forest	374.1	9.3%	251.8	4.0%	247.7	7.7%	51.8	3.8%	103.0	6.8%	268.9	13.7%
52 - Shrub/Scrub	235.7	5.8%	297.3	4.7%	107.4	3.4%	87.8	6.4%	71.2	4.7%	59.2	3.0%
71 - Grass/Herbaceous	4.4	0.1%	16.0	0.3%	5.1	0.2%	6.2	0.5%	1.1	0.1%	8.9	0.5%
81 - Pasture Hay	1,047.9	26.0%	1,907.9	30.1%	971.6	30.4%	311.1	22.7%	295.1	19.5%	301.1	15.4%
82 - Cultivated Crops	515.3	12.8%	1,466.0	23.1%	490.4	15.3%	346.7	25.3%	324.5	21.5%	430.8	22.0%
90 - Woody Wetlands	260.2	6.4%	299.1	4.7%	518.8	16.2%	250.2	18.3%	326.9	21.6%	499.3	25.5%
95 - Emergent Herbaceous Wetlands	24.2	0.6%	16.5	0.3%	71.6	2.2%	1.3	0.1%	24.5	1.6%	24.5	1.2%
Total	4,034.2		6,345.1		3,198.9		1,368.8		1,511.2		1,960.2	

Substantial research has been conducted on the effective size of buffers, particularly related to water quality considerations, to assist planners in developing scientifically sound minimum buffer widths.[103] Recommendations for appropriate buffers widths vary based on the management goal; there is no ideal buffer that is applicable in all circumstances. Buffer sizes should be significantly larger if the intent is to protect ecological functions, such as providing wildlife habitat and supporting species diversity in addition to water quality functions.

Larger, more restrictive buffers are most beneficial to water quality, but there are other factors that prevent a direct correlation between buffer size and percentage of pollutant reduction entering streams. Soil characteristics, hydrology, and types of vegetation also affect how effective a buffer will be in filtering pollutants. In general the most effective buffers are those that are applied to all streams, are at least 100 feet wide and consist of natural forest vegetation.[104] Municipalities should determine what size and types of buffers work in their community and enact these. At minimum, small buffers (approximately 30 feet), can still have a major effect on water quality. More information pertaining to buffer effectiveness related to width, soil type, buffer type, etc. - especially related to nitrogen removal - can be found in the EPA Study *Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations.*[105]

As illustrated in the *Oatka Creek Watershed Characterization*, the Oatka Creek watershed has watershed has streams that range in order from 1 (first order/smallest streams) to 4. As shown in the map below, the Oatka Creek becomes a fourth order stream very high up within the watershed in the Village of Warsaw. in the Town of Byron and shortly thereafter becomes a forth order stream in the Town of Bergen and remains so when it meets the Genesee River, which itself is a sixth-order river at this junction.

Table 4.2: Recommended Buffer Widths by Stream Order

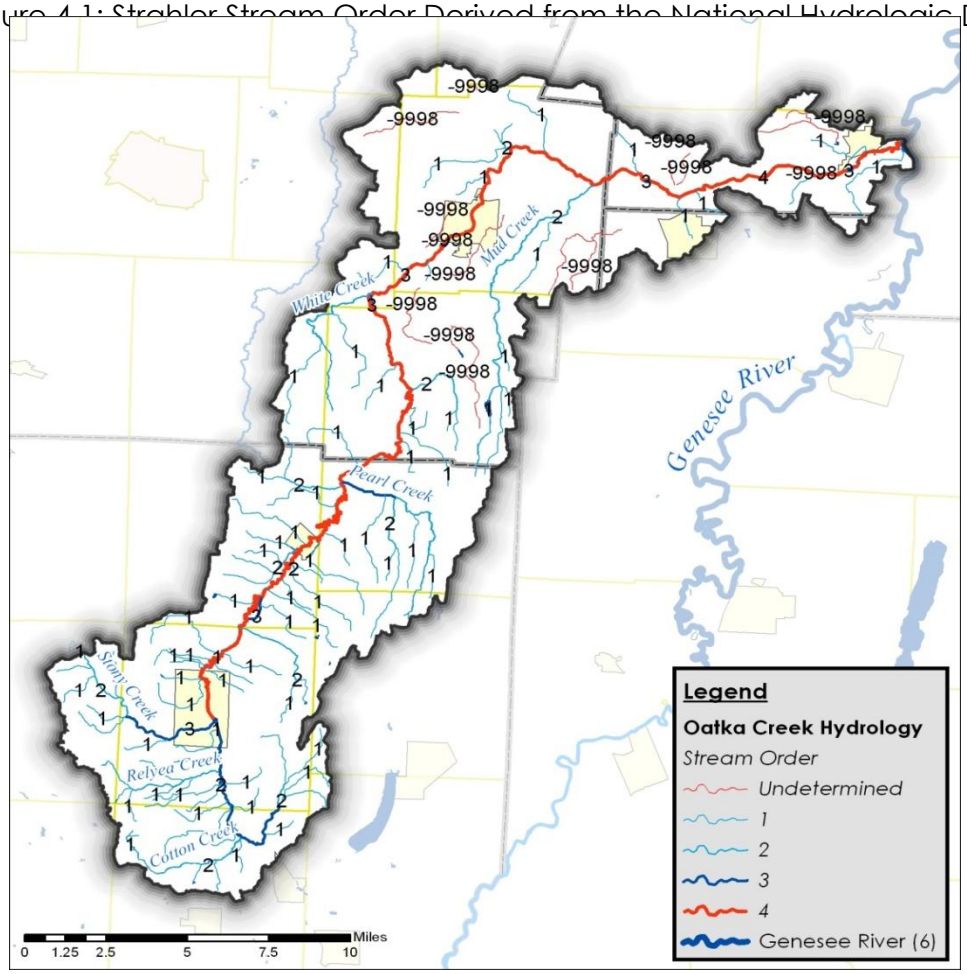
Stream Order	Stream Classification		
	(Sensitive Streams)	(Restorable Streams)	(Impacted Streams)
1	75 feet	60 feet	50 feet
2	125 feet	100 feet	75 feet
3+	150 feet	125 feet	100 feet

Notes:

1. Stream order refers to a classification system for stream networks, where low order (e.g., 1st and 2nd order) are smaller streams and high order are progressively larger streams. When two 1st order streams meet, they become a 2nd order stream, and so on.
2. Stream classification refers to the condition or quality of the stream. Stream classification may already exist in a community or can be initially determined using certain indicators such as watershed impervious cover.
3. Buffer widths are total widths measured from top of active channel bank.
4. Widths may be expanded to include site-specific considerations, such as steep slopes (e.g., >15%), flood zones, critical habitat, etc.

Adapted from City of Lenexa, KS: Successful Implementation of Riparian Buffer Programs. Stormwater Magazine. Nov/Dec 2006 issue.

Figure 4.1: Strahler Stream Order Derived from the National Hydrologic Dataset



Though it is recommended that preference be given to variable-width buffers, based on stream classification and topographic index, uniform widths are easier to enforce and require less time and expertise to administer. The latter approach to creating riparian buffers is to have a three-tiered buffer system, with the most restrictive buffer adjacent to the water body, and a second less restrictive buffer beyond that.

The inner buffer, adjacent to the water body, should be vegetated. This consists of an area of land within a set distance, such as 75 feet, from each bank of the waterway and would be intended to remain in a natural state (natural vegetation, mix of forested vegetation and natural grasses (un-mowed)). Some planting may be beneficial in areas that need to be restored to their natural state. Strict regulations should be placed on the allowable uses on this land, and development would be prohibited. An outer buffer could also be created with few vegetation requirements and would restrict most structures from being built but allow some uses while still restricting others. Another option for this second buffer would be to allow more uses with stricter regulations regarding stormwater, runoff, erosion, etc. Allowable uses could include flood control or recreation.[106]

Another method recommended by NYSDEC's 2010 Stormwater Management Design Manual,[107] is a three buffer system. Essentially the vegetated buffer above would be split into two buffers, a more restrictive one adjacent to the stream (minimum of 25ft) with very few allowable uses such as flood control or footpaths, and another vegetated buffer (minimum of 25ft) with a few more allowable uses such as recreation and less restrictive vegetation requirements. The outer buffer similarly restricts structures, but allows more uses.

Methods

Like other land use regulations, there are a number of different places to incorporate Riparian Buffers into local law:

- Environmental Protection Overlay Districts – Buffer zones may be created as EPODs and designated on the municipal zoning map. Like other zoning districts, allowable uses and restrictions may also be included.
- Setbacks – Regulations on development could be included as part of the bulk zoning regulations of the appropriate zones. Example: Structures must be at least 150 feet from the top of a stream bank, maintained with native vegetation.
- Site Plan Review – This can include native vegetation, clearing or grading, and tree conservation requirements for site plan approval. If municipalities do not wish to create restrictive Riparian Buffers, the Site Plan Review process is one place where they can try to encourage retention of vegetation. Many municipalities encourage retaining trees and natural vegetation as much as possible during development. This could be strengthened by specifying this practice within 50 to 100 of feet of stream banks, depending on stream order and whether the site is a greenfield or infill.
- Subdivision Law – Buffer regulations can be mandatory in order to get a subdivision approval. If municipalities do not wish to create restrictive riparian buffers, at minimum they should use their Subdivision Law to give their planning boards the ability to encourage retention of natural vegetation especially adjacent to waterbodies. Example: Town of Batavia-Subdivision of Land: IV Sec 2.E.2: "To the fullest extent possible, all existing trees and shrubbery shall be conserved." Simply adding "especially on properties adjacent to or

within 50 feet of streams" could be an effective way to prioritize these areas related to this review requirement.

Perceptions include concerns about private property rights, complaints about pests and nuisances, and additional costs to local governments due to implementation, regulation, and enforcement of a buffer program. A riparian buffer that includes the 100-year floodplain may also eliminate the need for expensive flood controls.

4.3.5.2 Floodplains

Floodplains act as a check valve for streams; they allow water to be slowed down, to dissipate energy after a rainstorm or snow melt. They spread out the stream's energy and allow water to soak into aquifers. The original analysis of the 100-year base flood elevation developed for the *Oatka Creek Watershed Characterization Report* indicated that 4.4% of the total land areas within the Oatka Creek watershed are within this zone, known as a Special Flood Hazard Area (SFHA). The Oatka Creek Outlet subwatershed has the highest concentration of lands in the 100-year floodplain, with 1,655 acres accounting for 7.4% of the total subwatershed area. Full results of this analysis are provided in Table 4.3 below:

Table 4.3: Analysis of 100-Year Flood Zone in the Oatka Creek Watershed

Subwatershed	Acres at or below 100-year flood elevation	% of Subwatershed Area	% of Oatka Creek Watershed Area
Oatka Creek Headwaters	289.56	1.2%	0.2%
Pearl Creek	1,818.05	5.0%	1.3%
White Creek	1,045.58	4.1%	0.8%
Mud Creek	316.07	3.0%	0.2%
Village of LeRoy	934.74	5.1%	0.7%
Oatka Creek Outlet	1,655.14	7.4%	1.2%
Oatka Creek	**6,059.14**	**4.4%**	**--**

Flood Insurance Rate Maps (FIRM) are produced by the Federal Emergency Management Agency and provide the official record of special flood hazard areas. While paper FIRMs are generally available online for every community in the Oatka Creek watershed, corresponding digital GIS data pertaining to the flood boundary is not available for every Oatka Creek watershed community through state or federal agencies. Information provided by FEMA has been combined with information created by local offices and agencies in an effort to create a comprehensive picture of the 100-year flood zone across the entire Oatka Creek watershed.

Basic Flood Regulations

Flood regulations play an important role in protecting water quality, through limiting and regulating certain types of development and uses within the floodplain. Improper regulation of the flood zone could in turn increasing flooding, flood damage, and erosion, and has a negative effect on water quality through pollutants and sedimentation.

All of the municipalities within the watershed are included in FEMA's National Flood Insurance Program (NFIP) and have at least the minimum flood regulations and maps in place. These include

restrictions on land use and what types of structures can be built in the flood zone as well as first floor elevation requirements and other flood proofing requirements for structures. The National Flood Insurance Program (NFIP) is a federal program that enables property owners to purchase affordable flood insurance. The NFIP uses the 100-year flood as the standard on which to base its regulations. This is a national standard used by virtually every Federal and most state agencies (including New York State) in the administration of their programs as they relate to floodplains. The technical and engineering methods involved in determining the magnitude of these floods are well established. A 100-year flood is an event estimated to have a one percent chance of occurring each year. Yet a flood of this magnitude could occur more or less frequently than once every 100 years. FEMA boundaries are important, not just because they indicate areas where insurance is federally mandated, but also because these boundaries communicate risk to a homeowner or community.

Designation of a floodplain manager is not only a requirement but also an effective way to ensure that at least one person is responsible for ensuring flood regulations are being followed and that developers and municipal boards understand them. Enforcement is often the biggest issue with flood plain regulations and the possibility that they are not being used in land use decision making and development approval. Most of these regulations in the watershed date back to the early 1980's and it may be easy for them to be overlooked by representatives in municipalities that are not used to having much development in the floodplain.

Improved Flood Regulations

Most municipalities could benefit from strengthening their floodplain regulations as many are simply based on minimum standards. Strengthening regulations can help municipalities to be eligible for the Community Rating System (CRS) of the National Flood Insurance Program. Residents in CRS communities receive a discount on their flood insurance. NYSDEC's Model Local Law for Flood Damage Prevention includes Optional Additional Language[108] to strengthen some of the basic flood requirements; see attached Appendix F. Legal addendums such as Compensatory Storage, Repetitive Damage, Cumulative Substantial Improvement, Critical Facilities, and Areas Behind Levees or below High Hazard Dams, bolster basic flood regulations.

Local communities are encouraged to provide an extra margin of safety by requiring structures to be elevated above the base flood elevation. Flood insurance for a house built two or more feet above the base flood elevation will cost about half as much as for a house built to the base flood elevation. Flood insurance for a house built just a foot below the base flood elevation will cost about four times more than for a house built to the base flood elevation. All municipalities should update their flood regulations to comply with NYS Building Code requirements (the lowest elevated floor in an A zone (special flood hazard area) is elevated to or above the base flood elevation (BFE), plus two feet above base flood elevation). This is known as freeboard: the height of watertight surface between a building above a given level of stream, lake, or river.

Another way to improve floodplain laws is to limit the allowable land uses within a floodplain. Preventing some agricultural operations in the floodplain is also possible. The Town of Castile does not allow animal waste storage facilities in areas of special flood hazard unless certain precautions are taken such as the creation of dikes or levees. Another option to improve flood regulations is to limit fill in flood zones. For example, the Town of Byron restricts fill in flood areas as fill brought into a flood zone has the potential to change the boundaries of the flood zone.

Methods

Some floodplain regulations were created as a standalone law. This option is acceptable, but it may be more beneficial to incorporate them directly into the municipality's zoning law, increasing the visibility of floodplain regulations in the community bringing them to the direct attention of planning/zoning board members. Flood ordinances are most effective when also integrated with site plan review, environmental quality review (SEQRA), and subdivision review. Similarly, flood zones should be incorporated into zoning maps. Bringing flood regulations out into the forefront exposes them to more people and will also help to influence their update when zoning laws are reviewed and updated.

A flood EPOD may prohibit the following without a variance or special permit:

- construction or operation of onsite-wastewater
- new structures, including parking lots
- mining, filling, grading, paving, excavation or drilling operations

If historical settlement patterns offer no feasible alternative for development, a licensed professional engineer or architect should develop or review structural design, specifications, and plans for construction and must certify that the design and methods of construction are in accordance with accepted standards of practice to floodproof the structure. The Towns of Brighton, Irondequoit, Mendon, and Riga have both a floodplain zoning ordinance (EPOD) and a standalone flood damage prevention ordinance.

4.3.5.3 Wetlands

There are significant wetlands in the Oatka Creek watershed, particularly in the northern half of the watershed where a post-glacial lake once existed, likely contributing to the wetlands occupying the landscape there today. Wetlands are places where saturation with water is the dominant factor determining both the nature of soil development and the types of plant and animal communities living in the soil and on its surface.[109] Freshwater wetlands commonly include shrub or forested swamps, marshes, bogs, and fens, and many lie along rivers and streams in the floodplain riparian zone. Wetlands serve a number of important functions within a watershed, including filtering sediment, chemical detoxification, nutrient removal, flood protection, shoreline stabilization, ground water recharge, stream flow maintenance, and wildlife and fisheries habitat. Wetlands are arguably among the most productive and economically valuable ecosystems in the world.

The US Army Corps of Engineers evaluates permit applications for essentially all construction activities that occur in the nation's waters, including Federal wetlands. Under the NYS Freshwater Wetlands Act, NYSDEC regulates wetlands 12.4 acres (5 hectares) or larger. Most New York State Freshwater Wetlands have been surveyed by the DEC – for most counties, the original wetland maps were completed and filed between 1984 and 1986 – and many are in the process of being re-surveyed. What can and should be done with a wetland can be subject to a broad range of interpretation and enforcement. A good deal depends upon the ability of federal, state, and local agencies to understand the context of wetlands within a watershed or subwatershed.

Municipalities should place extra emphasis on protecting wetlands. Wetland regulations in place at the state and federal level should be reviewed and understood by and local decision makers such as planning boards to ensure that property owners have submitted information and are allowed to proceed with projects based on state and federal approval when needed. Municipalities should also

strictly adhere to any local review and/or regulations in place regarding wetlands. Municipal officials such as planning board members, and code enforcement officers should be familiar with local regulations and prioritize the protection of wetlands in their project review approval and enforcement duties. County Environmental Management Councils and municipal Conservation Boards or Advisory Councils can be a great resource for information on unique natural areas such as wetlands.

Beyond the protection of wetlands areas themselves, municipalities should enact wetland buffers and regulations at the local level. Protection of the areas surrounding wetlands improves the functions of the wetland. This table from the *Planner's Guide to Wetland Buffers for Local Governments*[110] gives a general estimate of the distances where vegetated non-disturbance type buffers begin to be effective and the point where they are no longer needed to be effective by function. The actual effectiveness of these types of restrictive buffers varies case by case depending on the location, surrounding land uses, topography, soil type, buffer characteristics, watershed characteristics, etc.

Table 4.4: Recommended Buffer Widths by Wetland Function

Wetland Function	Special Features	Recommended Minimum Width (feet)
Sediment Reduction	Slopes (5-15%) and/or functionally valuable wetland	100
	Shallow slopes (<5%) or low quality wetland	50
	Slopes over 15%	Consider buffer width additions with each 1% increase of slope (e.g., 10 feet for each 1% of slope greater than 15%)
Phosphorus Reduction	Steep slope	100
	Shallow slope	50
Nitrogen (Nitrate) Reduction	Focus on shallow groundwater flow	100
Biological Contaminant and Pesticide Reduction	N/A	50
Wildlife Habitat and Corridor Protection	Unthreatened species	100
	Rare, threatened, and endangered species	200-300
	Maintenance of species diversity	50 in rural area 100 in urban area
Flood Control	N/A	Variable, depending on elevation of flood waters and potential damages

Adapted from: Center of Watershed Protection and United States Environmental Protection Agency. Wetlands and Watersheds: Adapting Watershed Tools to Protect Wetlands. United States Environmental Protection Agency, 2005.

Buffers often take the form of either areas where either additional review and approval are needed for disturbance or areas with specific restrictions regarding disturbances, land use, development, land cover, etc.; or a combination of both. Examples of buffer regulations/review concepts could include:

- Vegetation requirements
- Restrictions on use – permitted uses, non-permitted uses, uses permitted with approval, etc.
- Restrictions on fill
- Setback requirements from wetlands or wetland buffers for structures, development, certain land uses, etc.
- Classification of buffers to determine which are high priority to protect
- Requirement of a permit for disturbance/use including a review and approval process
- Multiple buffers – vegetated buffer, use/disturbance restriction buffer, buffer area requiring review/permit approval, structural setback (buffer), etc.
- A determination of which wetlands will have buffers[111]
- All wetlands and waters
- Specific types of wetlands (Federal, State, Non-Federal/State regulated, those of a specific size)
- Those within stream and river corridors, floodways, riparian buffers, or adjacent areas
- Specific identified and mapped wetlands
- A varying degree of regulation based on site – size, location, surrounding land uses, slope, soil type, etc.

To some extent, larger, more vegetated, and more restrictive wetland buffers are more effective,[112] but municipalities must determine what balance to strike between the buffer size and restrictions and other competing needs and interests.

4.4 Agriculture

Land use within the Oatka Creek watershed is largely devoted to agricultural uses, encompassing more than half of the total land use. This is nearly double the land area of the next highest land use type (property designated as residential accounts for 23% of the watershed). Farming can have a negative effect on water quality through erosion of crop land, sedimentation, and runoff contaminated with fertilizers or animal wastes. These effects can be mitigated through best management practices, and regulations in some cases. BMPs and regulations can be expensive to farm owners; focusing on areas closest to waterways is the most effective strategy for improving water quality and limiting hardship to farmers.

Many municipalities within the Oatka Creek watershed have strong representation by the farming community on local planning, zoning, and conservation boards. These bodies seek to balance quality of life issues of the entire community while considering the functions that are necessary to run a profitable agricultural business, all while meeting the obligations of federal, state and applicable local laws. The advancement of sound agricultural practices within the local farming community have been incrementally applied on local farms by a variety of agencies – in particular, local branches of the Natural Resources Conservation Service (NRCS, a service of the United States Department of Agriculture), county Cornell Cooperative Extension offices, and county Soil and Water Conservation District offices. This voluntary, gradual approach to implementing environmental BMPs has been successful, as evidenced by the growing

number of farming operations participating in programs like Agricultural Environmental Management and other USDA-sponsored conservation programs.

4.4.1 Land Use Tools for Agriculture

Counties and towns can proactively support local agriculture, particularly through right-to-farm laws, property tax reduction, purchase and transfer of development rights programs, and agricultural and farmland protection plans. Yet the land use tools described in Section 4.2 – comprehensive plans, zoning, subdivision ordinances – are equally important, as towns have primary land use and decision-making authority and these may be applied to farm operations in agricultural districts. For example, a town that wishes to prevent animal waste from entering water bodies may regulate the siting of barnyards (heavy use area) adjacent to a stream and require animals to be fenced out of the stream with all runoff addressed with an appropriate collection and treatment system according to Natural Resource Conservation Service standards. Locales known for their commitment to agriculture, such as Batavia, Bethany, LeRoy, Pavilion, Stafford, Castile, Covington, Gainesville, Middlebury, Orangeville, Perry, and Warsaw all have enabling legislation to this effect.

Yet the Commissioner of the Department of Agriculture and Markets can intervene when local governments enact laws that *unreasonably* restrict farm operations in agricultural districts. Town boards and county legislators should understand whether a local ordinance is unreasonable by the standard of state Agricultural Districts Law.[1] At the least, an ordinance should be clear, free of vague language that could be interpreted to impinge on the rights of farmers, and should be thoroughly vetted so that no particular farmer is unduly restricted by the proposed change. The best approach is an ordinance consistent with DEC standards that balances the need to uphold public health and safety alongside the needs of farmers to bring food to New York's table.

Generally, construction of on-farm buildings and the use of land for agricultural purposes should not be subject to site plan review, special use permits, or non-conforming use requirements when conducted in a state-certified agricultural district. The Department of Agriculture and Markets has developed a model streamlined site plan review process, available within *Guidelines for Review of Local Zoning and Planning Laws;*[113] the guide is a useful tool for understanding the limits of zoning and planning laws in agricultural districts. Questions concerning review of local laws should be directed to the Commissioner's office, preferably during the potential legislation's drafting stage.[114]

Two additional resources aimed at local planners and officials – *Planning for Agriculture in New York: A Toolkit for Towns and Counties,*[115] published by the American Farmland Trust in 2011, and the Department of State's James A. Coon Local Government Technical Series' *Local Laws and Agricultural Districts: How Do They Relate?,*[116] updated in May 2013 – also contain extensive information for local decision makers.

4.4.2 Agricultural Environmental Management (AEM)

Agricultural Environmental Management (AEM) is a voluntary program adopted by New York State to help farmers make common-sense, cost-effective and evidence-based decisions to help meet business objectives while protecting and conserving natural resources. A five-tiered process, from inventory to plan implementation, customizes best management practices to a particular farm; virtually identical farm operations in different locations may have entirely different environmental

[1] New York State Agriculture and Markets Law (AML) §305-a.

concerns. The result is a coordinated approach to implementing agricultural conservation practices that make a meaningful improvement to the health and stability of the natural environment. AEM is coordinated by county Soil and Water Conservation Districts in each of the four Oatka Creek watershed counties. AEM priorities are detailed in county AEM strategic plans which are updated on a five-year cycle. The plans prioritize actions by specific watersheds within the county based on local water quality concerns and input from a local advisory committee.

4.4.2.1 Participation and Outreach

While there are few farmers who have not had received at least some information on AEM, local stakeholders and municipal officials may be unaware of the AEM program. To encourage participation:

- Update mailing lists and collect all AEM data from previous years for focus watershed year
- Contact all landowner/farmers in via letters and follow-up phone calls to generate interest in a free, confidential AEM Risk Assessment
- Follow up with past participants of AEM in focus watershed to update information and encourage farms to move forward in tiered process
- Schedule outreach and education presentations and look for new opportunities to collaborate and form new partnerships.
- Conduct meetings with farmers as requested to complete tiered worksheets, including Tier 3 conservation plans.
- Prepare any Tier 3's for farmers interested in pursuing funding through agricultural nonpoint source grant program.
- Apply for agricultural nonpoint source grants and seek additional funding through other programs such as EQIP to implement high priority practices on farms in priority watersheds.
- Staff should attend AEM and any relevant trainings or updates as scheduled.
- Encourage ABMP field trials and demonstrations of new agricultural environmental technologies
- Incorporating AEM practices into local law where possible (ex: location of barnyards, additional drainage/runoff considerations in Site Plan Review)

4.4.1.2 Vegetated Buffers

Vegetative buffers on agricultural land are a cost-effective way to reduce phosphorus in Oatka Creek. Ag buffer strips could be located between crops, at the edge of crop fields or bordering waterbodies.

All existing agricultural uses should be grandfathered and allowed to continue their use if in place at the time of

adoption, but beyond that, municipalities have the option of allowing new agricultural land uses to be exempt from buffer regulations in the future, or requiring compliance. Neither the Tompkins County Model or Ithaca Model exempt agricultural uses in order to prevent the negative effects of runoff from future agricultural land which could include fertilizers, animal wastes and soil from erosion. The EPA Model suggests making farms with an approved Natural Resource Conservation Service Conservation Plan exempt from this type of law. Voluntary Agricultural Environmental Management techniques are often used to help farmers limit their effects on water quality in place of regulation. Conservation Tillage, Stripcropping, Ag-to-Forest Land Conversion, Ag-to-Wetland Conversion, Nutrient Management, Grazing Land Management, Terraces/Diversions, Streambank Protection, Barnyard Management, and Cropland Management are all strategies for supporting a healthy creek.

Table 4.5: Estimates of Percentage of Black Creek and Oatka Creek Watershed AEM Farms Using the Following BMPs [117]

BMPs	Genesee	Monroe
Conservation Tillage	30%	70%
Stripcropping	15%	45%
Ag-to-Forest Land Conversion	1%	10%
Ag-to-Wetland Conversion	5%	10%
Nutrient Management	45%	65%
Grazing Land Management	10%	35%
Terraces/Diversions	5%	55%
Streambank Protection	48%	40%
Barnyard Management	43%	50%
Cropland Management*	50%	75%

Specific data not available for Wyoming and Livingston Counties

4.4.2 Concentrated Animal Feeding Operations (CAFOs)

Small, family-operated farms have been consolidated into larger, more centralized operations known as Concentrated Animal Feeding Operations (CAFO), reflecting a trend towards economy of scale in agricultural commodity production. CAFOs are defined as lots or facilities where animals are stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; they are categorized as either "large" or "medium" based on the numbers of animals confined.[118] CAFOs that discharge to waters of New York State are regulated by the DEC under the authority of the Clean Water Act through the New York State Pollution Discharge Elimination System (SPDES) (refer to Section 2.2.2.10 for more information on the SPDES program).[119] Intermittent, sporadic, even occasional flows to waters may be the norm for many CAFOs, but they are nonetheless discharges prohibited under the CWA.

Seventeen Concentrated Animal Feeding Operations (CAFOs) are located within the Oatka Creek watershed – 11 medium and six large. An additional seven CAFOs are located within a mile of the Oatka Creek watershed boundary. Identification of CAFOs near the watershed border is an important consideration, as manure spreading often takes place across large areas associated with the farm operation.

4.4.3 Alternative Energy Strategies

In aquatic ecosystems, phosphorous is usually the limiting nutrient for plant growth. This means that excessive amounts of phosphorous in a system can lead to an abundant supply of vegetation and low dissolved oxygen for fish. Manure from dairy cows contains approximately 2 lbs of phosphorus (and 13 lbs of nitrogen) per wet ton; 1,200 cows in a milking herd (a large CAFO) generate around 69 tons of manure every day.[120] Farms across the country have begun converting this manure into electricity via anaerobic methane digestion.

Soil and Water Conservation Districts lead the charge in enabling the development of anaerobic digesters with funding through NYSERDA, the USDA Rural Development program, EPA's AgSTAR program, USDA NRCS grants, and the NYS Department of Agriculture & Markets. Small-scale projects typically do not yet benefit from economies of scale; digester cost per head of cattle tends to be prohibitively high since dairy manure is not a particularly energy dense feedstock. Yet co-digestion alongside food waste increases separation efficiency and digestate balance. Several states, including Vermont, Massachusetts, California, and Connecticut have banned food waste from going to landfills and this trend is likely to continue. Digested effluent can be sold as a crop fertilizer and as animal bedding. Excess power may be sold to NYSEG under a power purchase agreement; that option is being explored for the greater Rochester market.[121]

NYSERDA's Agriculture Energy Efficiency Program (AEEP) also offers assistance in identifying and implementing electric and natural gas energy efficiency measures to eligible farms and on-farm producers, including orchards, dairies, greenhouses, vegetables, vineyards, grain dryers, and poultry farms.

4.5 Highway Department Practices

Paved development has the highest coefficient of runoff, and thus highway departments have a very important role in preserving roadway longevity and watershed quality. Many highway problems are drainage related. Roads and highways have the potential to generate and contribute substantial amounts of eroded material and other pollutants into local waterbodies. Specific contaminants associated with road runoff include sediment, oils and grease, heavy metals, garbage/debris, and road salts, as well as fertilizers, pesticides and herbicides applied to roadside facilities or spilled on or near roads. Hydrologically-connected roads – roads that are designed to contribute surface flow directly to a drainage channel – have the greatest potential to deliver road-derived contaminants to streams. New roads can also be a vector to human encroachment on the natural landscape and, in combination with other public services, can induce new development outside of traditional population centers.

A 2010 Paul Smith's College report on the effects and costs of road de-icing in the Adirondacks[122] details a series of best management practices for winter maintenance, including a salt management plan, development of an anti-icing strategy, and precision application techniques. To produce a high level of service at a modest cost, at pavement temperatures above 25ºF, Road Salt (NaCl) is probably the most cost effective choice, but at lower temperatures other chloride based deicers may be more cost effective.

4.5.1 Roads and Highways

Highway departments should follow NYS DOT design and guidance documents and manuals such as the NYS DOT Highway Design Manual,[123] the NYS DOT Environmental Manual,[124] and the Southern Tier Central Regional Planning *Highway Superintendents Roads and Water Quality Handbook*.[125]

4.5.2 Bridges and Culverts

Bridges present a number of additional risks to hydrologic function. In some cases, the bridge itself creates a direct connection between the roadway and stream if the bridge drain is not diverted to an on-land treatment facility (generally ground infiltration or retention). Bridges and culverts, if built too small, can restrict and concentrate stream flow, thereby creating or accelerating stream bank erosion and stream incision. When not properly maintained or designed, bridges and culverts will cause debris accumulation and contribute to upstream flooding and possible property damage. Bridges and culverts also have the potential to restrict wildlife passage and fish movement if not properly designed and maintained. Conversely, bridge crossings also offer excellent opportunities for recreational access to rivers and streams, a possibility that should be considered during any necessary construction or repair of such facilities.

SECTION 4.0 ENDNOTES

[59] Genesee/Finger Lakes Regional Planning Council. *Protecting Water Resources through Local Controls and Practices: An Assessment Manual for New York Municipalities*, 2006. http://www.gflrpc.org/Publications/LocalLaws/Manual/AppendixE1.pdf

[60] Smart Growth America. *Building Better Budgets: A National Examination of the Fiscal Benefits of Smart Growth Development.* May 2013. p. 4. http://www.smartgrowthamerica.org/documents/building-better-budgets.pdf.

[61] *Ibid*. p. 5.

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5.0 Recommendations for Local Laws, Plans, Programs, and Practices

5.1 Recommendations

Many of the gaps in local laws and practices across the watershed are similar. This section attempts to tailor recommendations to each specific municipality based on the Assessment, but also refers back to recommendations in section 4 that are applicable to multiple municipalities. These recommendations should be used as a starting point to help municipalities and counties focus in on what recommendations are their top priorities, and then determine what additional information is needed, and what steps need to be taken toward implementation.

The inclusion of some recommendations in this section that are standardized will hopefully facilitate the sharing of information between counties and municipalities; one of the strongest recommendations is to increase collaboration between groups. Water quality management is a regional issue and thus collaboration and standardization of strategies can be beneficial to all. Sharing of knowledge and expertise can also be financially beneficial; for example, two groups can share the cost of a joint training session, or neighboring municipalities can adopt the same model regulation. Collaboration and standardization can make initial efforts more efficient and allow groups to focus on implementation work. Shared practice allows for better design, better maintenance, and economic incentives that can deliver higher performance and lower cost.

5.1.1 Monroe County

Recommendations for Future Action by Local Officials:

- **Continue to prioritize and expand AEM Program** – As detailed in the Monroe County Soil and Water Conservation District's Agricultural Environmental Management (AEM) Strategic Plan 2009-2014, released in April 2011, continue to apply for funding to bring farms and farmers into the tier 1 (inventory) and tier 2 (assessment) through AEM Base Funding as well as funding for tier 3 (planning) and tier 4 (BMP implementation) through the Agricultural Nonpoint Source Abatement and Control Program.[126] Refer to Section 4.4.1 for more details.
- **Update Onsite Wastewater Treatment System regulations and handbook –** Monroe County Sanitary Code Article IIA, Chapter 569 (Private Sewage Disposal Systems)[127] allows construction of new and/or the alteration or repair of any existing residential on-site systems with a permit. However, Monroe County DOH only issues recommendations for inspections at property transfers. As the last update to the County's Private Sewage Disposal Systems law was in 1974 and the last revision to the Individual Sewage Disposal Handbook was in 1992, we recommend updating the law and handbook to reflect the latest technological advancements in systems design, engineering, and testing; to require inspection/permit renewal and subsequent repair when necessary at property transfer; to set a minimum inspection schedule timeframe including a tiered inspection schedule prioritizes the inspection of systems in closer proximity to the creek, systems located in more porous soils, and older systems; and to create setbacks from waterbodies, not just drinking water sources. See Section 4.3.3.1 for further details.

- **Continue stormwater best management practices** – SWCD conducts construction site and construction permit inspections at the request of municipalities. They also respond to requests for technical assistance including MS4 & Construction SPDES Permit assistance, SWPPP Review, construction site complaints, stormwater pond assistance, and MS4 audit assistance upon municipal request. SWCD encourages use of indigenous plants, and has an annual plant sale. CCE conducts education programs relating to water, proper fertilizing, and nutrient runoff from gardens and lawns, and youth programs relating to water quality. Monroe County EcoPark provides residents with a location to dispose of, or recycle certain items including household hazardous waste materials. Maintain program and expand hours and satellite pickup locations where possible.
- **Continue stream monitoring and protection best practices –** SWCD has assisted municipalities in stream bank protection though resloping and installation of vegetation, willow stakes, vegetated rip rap, and toe deflector stones to redirect water to the center of the creek channel, and have also cleared debris from waterways. They also encourage municipalities and residents to vegetate streambanks, discourage mowing to the edge of the stream banks, and have held workshops on erosion and sediment control. The Community Water Watch Program facilitates stream monitoring by volunteers and is sponsored and administered by Monroe County DOH.
- **Continue education and outreach efforts** – Stormwater Coalition of Monroe County conducts water quality and resource conservation related public outreach, programs, distribution of materials; they also conduct the H2O Hero education campaign, and does OWTS outreach/education with residents.

5.1.1.1 Town of Chili

Chili is one of the three regulated MS4s in the Oatka Creek watershed and is the most urbanized community within the case study area, experiencing significant suburban expansion in recent years in the northern and northeastern sections of town. Chili local laws are generally strong in addressing priority water quality issues. Most of the major issues included in the previous review of local laws have been addressed through Chili's Zoning Code, Subdivision Review Standards, standalone stormwater laws, and have also been identified in the Comprehensive Plan. Chili also has stormwater management regulations and practices in place.

Past recommendations for Chili from the *Controlling Sediment in the Black and Oatka Creek* project have included the creation of local laws related to Phase II stormwater compliance, and since the last assessment, three laws have been created that address many water quality issues (Illicit Discharge Law, Construction Site Stormwater Pollution Prevention Law, and the Post Construction Stormwater Pollution Prevention Law). The town has done some work related to on-site wastewater treatment by reviewing septic plans during site plan review and encouraging properties to connect to municipal water and sewer where possible. Much of the focus for the town now should be on the enforcement of these laws, and other water quality related regulations in their zoning code. The following recommendations can further assist with the protection of the Oatka Creek watershed as well as the implementation of the six categories outlined in the *2030 Comprehensive Plan*.

Land Use Documents Reviewed:

- ***Zoning***. From the Code of the Town of Chili. 2006-2010 Updates.

- ***Site Plan Review***. From the Code of the Town of Chili. 2008.
- ***Subdivision of Land***. From the Code of the Town of Chili. 2008.
- ***Flood Damage Prevention***. From the Code of the Town of Chili. 2008.
- ***Comprehensive Plan – 2030***, Adopted November 2, 2011.
- ***Construction Site Stormwater Pollution Prevention and Sediment Control***. Local Law No. 3-2007.
- ***Illicit Discharge Connections***. Local Law No. 4-2007.
- ***Post-Construction Stormwater Pollution Prevention***. Local Law No. 5-2007.

Previously Reviewed:

- ***Subdivision of Land***. From the Code of the Town of Chili. October 1999.
- ***Chapter 115: Zoning***. From the Code of the Town of Chili. June 2000.

Recommendations for Future Action by Local Officials:

- **Create riparian buffers –** The lack of riparian buffers is the biggest gap in Chili's local laws related to water quality. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for recommendations and models.
- **Strengthen floodplain regulations** – Chili appears to have no restrictions on agriculture in the floodway. The town might want to look into regulating future farm practices such as the location of manure pits and barnyards, while grandfathering current agricultural uses. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Strengthen onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Chili may also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Adopt clustered development regulations –** Chili's master plan recommends adopting cluster development regulations. Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.1.1.2 Town of Riga

Past recommendations for Riga from the *Controlling Sediment in the Black and Oatka Creek* project included updating the comprehensive plan to emphasize the protection of water resources and importance of watershed planning efforts. Since the last assessment, the comprehensive plan has been updated and several laws have been passed that address water quality issues, including a flood prevention law and an Environmental Protection Overlay District establishing riparian buffers.

The Town Code also empowers the Planning Board to use conservation easements. Much of the focus for the town now should be on the enforcement of these laws, and other water quality related regulations in their zoning code. As mentioned in the comprehensive plan, the Village of Churchville

and Town of Riga should consider creating a single unified zoning code to help with consistent use districts, building form and scale, and buffering requirements.

Land Use Documents Reviewed:

- ***Churchville/Riga Comprehensive Plan***. Adopted September 10, 2008.
- ***Chapter 51***: ***Flood Damage Prevention***. From the Code of the Town of Riga. Local Law 2-2008.
- ***Chapter 72, Article III***: Private Sewage Disposal. From the Code of the Town of Riga.

Previously Reviewed:

- ***Chapter 81: Subdivision of Land.*** Code of the Town of Riga. 1997.
- ***Chapter 95: Zoning.*** Code of the Town of Riga. 2000.

Recommendations for Future Action by Local Officials:

- **Onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Riga may also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Floodplain regulations** – Update chapter 95-23 B (1) of the FPO Floodplain Overlay District section to reflect the newest Flood Insurance Rate Map (FIRM) dated August 28, 2008. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Public participation and involvement –** The Comprehensive Plan encourages both The Town and Village to work closely with the Black Creek Watershed Coalition (BCWC) in order to protect the creek and its watershed. We also encourage joint participation with the Oatka Creek Watershed Committee.

5.1.1.3 Village of Scottsville

As explained in the 2006 Municipal Law Review, the Town of Scottsville's land use control regulations revealed a number of important best management practices already in use. Floodplain management, drainage reports for new developments, and the identification of sensitive soils were among BMPs in place. The joint Wheatland/Scottsville Comprehensive Plan also sets a clear vision for land preservation efforts, particularly around established woodlots and natural areas. The plan cites the mutual desire among town and village residents to see "innovative design practices" and "natural design themes" implemented in new developments. The goal of mapping and protection of environmentally sensitive areas in the future is also cited in the plan.

Land Use Documents Reviewed:

- ***Chapter 90: Zoning, Section 11: Flood Damage Prevention***. 1988, updated 2008 by Local Law 7-2008.

Previously Reviewed:

- ***Code of the Village of Scottsville.*** 2005.
- ***Wheatland/Scottsville Joint Comprehensive Plan: 2004—2024.*** 2004.

Recommendations for Future Action by Local Officials:

- **Continue public participation and involvement –** The Comprehensive Plan encourages land preservation efforts both The Town of Wheatland and Village of Scottsville in order to protect the creek and its watershed.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.
- **Create riparian buffers –** A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.1.1.4 Town of Wheatland

As explained in the 2006 Municipal Law Review, the Town of Wheatland's land use control regulations revealed a number of important best management practices already in use. Floodplain management, drainage reports for new developments, and the identification of sensitive soils were among BMPs in place. The joint Wheatland/Scottsville Comprehensive Plan also sets a clear vision for land preservation efforts, particularly around established woodlots and natural areas. The plan cites the mutual desire among town and village residents to see "innovative design practices" and "natural design themes" implemented in new developments. The goal of mapping and protection of environmentally sensitive areas in the future is also cited in the plan.

Land Use Documents Reviewed:

- ***Chapter 130: Zoning, Section 8: Flood Damage Prevention***. 1978, 1988, updated 2008 by Local Law 3-2008.

Previously Reviewed:

- ***Chapter 82: Subdivision of Land.*** From the Code of the Town of Wheatland. March 1999.
- ***Chapter 98: Zoning.*** From the Code of the Town of Wheatland. December 1999.
- ***Wheatland/Scottsville Joint Comprehensive Plan: 2004 - 2024.*** 2004.

Recommendations for Future Action by Local Officials:

- **Continue public participation and involvement –** The Comprehensive Plan encourages land preservation efforts both The Town of Wheatland and Village of Scottsville in order to protect the creek and its watershed.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.
- **Create riparian buffers –** A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.

- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.2.1 Genesee County

Recommendations for Future Action by Local Officials:

- **Continue to prioritize and expand AEM Program** – As detailed in the Genesee County Soil and Water Conservation District's 2013 Annual Report[128], continue to apply for funding to bring farms and farmers into the tier 1 (inventory) and tier 2 (assessment) through AEM Base Funding as well as funding for tier 3 (planning) and tier 4 (BMP implementation) through the Agricultural Nonpoint Source Abatement and Control Program.[129] Refer to Section 4.4.1 for more details
- **Update Onsite Wastewater Treatment System regulations –** Regulations regarding on-site wastewater treatment systems in Genesee County could be strengthened. Currently the Genesee County Sanitary Code[130] requires inspections/permits to construct, alter, repair or extend systems. Permits/inspections are not required at property transfer; some permits can simply be transferred to new property owners. Inspections often occur at this time based on requests from lenders issuing financing or refinancing. As of 2011, the Health Department conducts inspections when there are complaints and upon written request. We recommend updating the code to reflect the latest technological advancements in systems design, engineering, and testing. Require inspection/permit renewal and subsequent repair when necessary at property transfer. Set a minimum inspection schedule timeframe; a tiered inspection schedule prioritizes the inspection of systems in closer proximity to the creek, systems located in more porous soils, and older systems. Create setbacks from waterbodies, not just drinking water sources. See Section 4.3.3.1 for further details.
- **Encourage public participation and involvement –** Establish an Environmental Management Council, a volunteer advisory board to the county legislature enabled under Article 47 of the New York State Environmental Conservation Law. EMCs advise the county legislature on matters affecting the preservation, development, and use of the natural features of the county that have a bearing on environmental quality; they also serve as a link between the government and the public.
- **Expand collection of Household Hazardous Wastes**. The GLOW Region Solid Waste Management Committee has a Household Hazardous Waste collection program that is held once a year and rotates between Genesee, Livingston and Wyoming Counties. Increasing the number of collections and the number of collection sites would make participation more convenient and would likely increase the number of participants and total waste collection. Currently people have the choice of either waiting up to three years for collection within their own county; or waiting up to one year and driving to another county.

5.2.1.1 Town of Bergen

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Town of Bergen, Village of Bergen Comprehensive Plan 2015.*** April 1996.

- ***Town of Bergen Zoning Law.*** Adopted 9/25/83.
- ***Town of Bergen Land Subdivision Regulations.*** Approved 3/24/69; revised 9/5/91.
- ***Town of Bergen Stormwater Management and Erosion Control Law.*** Date unknown

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – revise comprehensive plan to emphasize the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka and Black Creek watersheds and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – develop a local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances; it should account for topography and soil type and require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Strengthen onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Bergen could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.2.1.2 Town of Bethany

Past recommendations for Bethany from the *Controlling Sediment in the Black and Oatka Creek* project have included updating the comprehensive plan and zoning code to emphasize the protection of water resources and importance of watershed planning efforts. Since the last assessment, the comprehensive plan and zoning ordinances were updated to reflect these additions.

Land Use Documents Reviewed:

- ***Town of Bethany Comprehensive Plan.*** Updated 2008.
- ***Town of Bethany Zoning Law.*** Amended 2008.

Previously Reviewed:

- ***Town of Bethany Comprehensive Plan.*** Adopted April,1996.
- ***Town of Bethany Comprehensive Emergency Management Plan.*** Adopted April 20, 2002.
- ***Town of Bethany Zoning Law.*** Adopted June 19, 1985; amended through October 11, 2004.
- ***Town of Bethany Stormwater Management and Erosion Control Law.*** 1994.
- ***Town of Bethany Flood Damage Prevention Law.*** 1989.

Recommendations for Future Action by Local Officials:

- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). As all residents in Bethany have private septic systems, the Town could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Create riparian buffers –** The zoning law suggests that stream corridors should be delineated and that the corridor should act as the minimum set back to development. This corridor should be delineated as a buffer area with vegetation requirements and use. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for recommendations and models.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.2.1.3 Town of Byron

As explained in the 2006 Municipal Law Review, the Town of Byron's land use control regulations revealed a number of important best management practices already in use.

Land Use Documents Reviewed:

- ***Zoning Law of the Town of Byron.*** 2013.

Previously Reviewed:

- ***Official Zoning Ordinance: Town of Byron***. April 23, 1997
- ***Town of Byron Land Subdivision Regulations***. 6/19/91
- ***Town of Byron Comprehensive Plan***. 10/13/93

Recommendations for Future Action by Local Officials:

- **Amend new zoning ordinance** – to provide guidance to Planning Board in Site Plan Review. See Section 4.2.3 for more details.
- **Revise comprehensive plan** – revise comprehensive plan to emphasize the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka and Black Creek watersheds and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – develop a local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Byron could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create/Improve riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner

responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.

- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.2.1.4 Town of LeRoy

Land Use Documents Reviewed:

- ***Agriculture and Farmland Protection Plan,*** 2010.
- ***Site Plan Review Guidelines***, 1996.
- ***Planned Unit Development***, 1999.
- ***Chapter 165: Flood Ordinance***, 1999.

Previously Reviewed:

- ***Chapter 135: Subdivision of Land.*** From the Code of the Town of LeRoy. 1989.
- ***Chapter 165: Zoning Regulations.*** From the Code of the Town of LeRoy. July 1999.

Recommendations for Future Action by Local Officials:

- **Develop stormwater management ordinance** – develop a local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Onsite wastewater treatment regulations** – We recommended that Genesee County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of LeRoy could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Create riparian buffers –** The Town's Agriculture Plan's Design and Operation Standards recommends instituting 15 foot minimum setbacks. A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can

be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. A buffer (or overlay) including vegetation requirements should be created. Refer to Section 4.3.5.1 for recommendations and models.

- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.2.1.5 Village of LeRoy

Land Use Documents Reviewed:

- ***Site Plan Review Guidelines***, 1990.
- ***Planned Unit Development***, 1990.
- ***Flood Ordinance***, 1993.

Previously Reviewed:

- ***Village of LeRoy Comprehensive Plan.*** March, 2001.
- ***Chapter 50: Subdivision Regulations.*** From the Code of the Village of LeRoy. 1972.
- ***Chapter 215: Zoning Regulations.*** From the Code of the Village of LeRoy, circa 1990.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – develop a local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Onsite wastewater treatment regulations** – We recommended that Genesee County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Village of LeRoy could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing

tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.

- **Create riparian buffers –** A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. A buffer (or overlay) including vegetation requirements should be created. Refer to Section 4.3.5.1 for recommendations and models.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.2.1.6 Town of Pavilion

Land Use Documents Reviewed:

- ***Town of Pavilion Comprehensive Plan***, 2002.
- ***Town of Pavilion Zoning Ordinance***. Adopted May 1990; amended 2006.
- ***Site Plan Review.*** 2006.
- ***Planned Unit Development***, 2006.
- ***Flood Ordinance***, 2006.

Previously Reviewed:

- ***Town of Pavilion Land Subdivision Regulations.*** 1991.
- ***Town of Pavilion Zoning Ordinance***. Adopted May 1990; amended through April 1995.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Onsite wastewater treatment regulations** – We recommended that Genesee County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Pavilion could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Create riparian buffers –** The comprehensive plan recommends instituting environmental overlays along the major streams to limit development and agricultural use. A buffer area with

vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. A buffer (or overlay) including vegetation requirements should be created. Refer to Section 4.3.5.1 for recommendations and models.

- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Referring proposals to the SWCD is a good practice. Consider also adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.2.1.7 Town of Stafford

Land Use Documents Reviewed:

- ***Comprehensive Plan.*** 2/07, revised 7/09.
- ***Town of Stafford Zoning Law.*** Amended 11/9/09.

Previously Reviewed:

- ***Town of Stafford Zoning Law.*** Adopted 1987; amended through December 1998.

Recommendations for Future Action by Local Officials:

- **Onsite wastewater treatment regulations** – We recommended that Genesee County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Stafford could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Continue education and outreach** – to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Create riparian buffers –** The comprehensive plan recommends instituting environmental overlays along the major streams to limit development and agricultural use. A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. A buffer (or overlay) including vegetation requirements should be created. Refer to Section 4.3.5.1 for recommendations and models.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.3.1 Livingston County

- **Continue to prioritize and expand AEM Program** – As detailed in the Livingston County Soil and Water Conservation District's Agricultural Environmental Management (AEM) Five-Year Strategic Plan, continue to apply for funding to bring farms and farmers into the tier 1 (inventory) and tier 2 (assessment) through AEM Base Funding as well as funding for tier 3 (planning) and tier 4 (BMP implementation) through the Agricultural Nonpoint Source Abatement and Control Program.[131] Refer to Section 4.4.1 for more details.
- **Update Onsite Wastewater Treatment System regulations –** The County has a good foundation for OWTS, updated in 2011 (Article II – Sewage Treatment – Individual Systems), through inspection and permitting required before construction or repair of OWTS inspection and investigations when there are questions of public health and/or nuisances; requirement to connect when public sewers are available and accessible. There is no mention of inspection or re-permitting and subsequent repair/remediation required during a property transfer or minimum setbacks from waterbodies. We recommend updating the law to reflect the latest technological advancements in systems design, engineering, and testing; to require inspection/permit renewal and subsequent repair when necessary at property transfer; to set a minimum inspection schedule timeframe including a tiered inspection schedule prioritizes the inspection of systems in closer proximity to the creek, systems located in more porous soils, and older systems; and to create setbacks from waterbodies, not just drinking water sources. See Section 4.3.3.1 for further details.

5.3.1.1 Town of Caledonia

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Chapter 113: Subdivision of Land.*** From the Code of the Town of Caledonia. 1994.
- ***Chapter 130: Zoning.*** From the Code of the Town of Caledonia. 1994.
- ***The Comprehensive Plan for the Town and Village of Caledonia.*** Volumes 1 and 2; 1964.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Update Land Conservation District ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and

seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.

- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Caledonia could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.3.1.2 Village of Caledonia

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Chapter 186: Subdivision of Land.*** From the Code of the Village of Caledonia. 1995.
- ***Chapter 215: Zoning.*** From the Code of the Village of Caledonia. August 1999.
- ***Sustaining Our Viability into the Future***: Village of Caledonia Comprehensive Strategic Plan. 2003.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Update Land Conservation District ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require

developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Village of Caledonia could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.4.1 Wyoming County

- **Continue to prioritize and expand AEM Program** – As detailed in the Wyoming County Soil and Water Conservation District's 2013 Annual Report[132], continue to apply for funding to bring farms and farmers into the tier 1 (inventory) and tier 2 (assessment) through AEM Base Funding as well as funding for tier 3 (planning) and tier 4 (BMP implementation) through the Agricultural Nonpoint Source Abatement and Control Program.[133] Refer to Section 4.4.1 for more details.
- **Update onsite wastewater treatment systems regulations** – Regulations regarding on-site wastewater treatment systems in Wyoming County could be strengthened. Currently, the Wyoming County Sanitary Code requires inspections/permits to construct, alter, repair or extend system and at property transfer. We recommend updating the law to reflect the latest technological advancements in systems design, engineering, and testing; to set a minimum inspection schedule timeframe, including a tiered inspection schedule prioritizes the inspection of

systems in closer proximity to the creek, systems located in more porous soils, and older systems; and to create setbacks from waterbodies and drinking water sources. See Section 4.3.3.1 for further details.

- **Public Participation and Involvement –** Consider establishing an Environmental Management Council, a volunteer advisory board to the county legislature enabled under Article 47 of the New York State Environmental Conservation Law. EMCs advise the county legislature on matters affecting the preservation, development, and use of the natural features of the county that have a bearing on environmental quality; they also serve as a link between the government and the public. See section 4.3.1.1 for further details.
- **Expand collection of Household Hazardous Wastes**. The GLOW Region Solid Waste Management Committee has a Household Hazardous Waste collection program that is held once a year and rotates between Genesee, Livingston and Wyoming Counties. Increasing the number of collections and the number of collection sites would make participation more convenient and would likely increase the number of participants and total waste collection. Currently people have the choice of either waiting up to three years for collection within their own county; or waiting up to one year and driving to another county.

5.4.1.1 Town of Covington

Land Use Documents Reviewed:

- ***Town of Covington Zoning Ordinance***, 2007.

Previously Reviewed:

- ***Town of Covington Index of Local Laws, 1971 – 2005.***
    - *Includes Town of Covington Zoning and Subdivision Regulations*

Recommendations for Future Action by Local Officials:

- **Draft a comprehensive plan** – Draft a comprehensive plan emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially

regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Covington could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.

- **Create riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.4.1.2 Town of Gainesville

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Zoning Ordinance, Town of Gainesville, County of Wyoming, State of New York***. March 13, 1995. Updated 2004; includes Article IX, Comprehensive Plan.
- ***Flood Damage Prevention Local Law.*** Town of Gainesville Local Law No. 2-1983.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management

practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.

- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Gainesville could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.4.1.3 Town of Orangeville

Past recommendations for Orangeville from the *Controlling Sediment in the Black and Oatka Creek* project have included updating the comprehensive plan and zoning code to emphasize the protection of water resources and importance of watershed planning efforts. Since the last assessment, the comprehensive plan and zoning ordinances were updated to reflect these additions.

Land Use Documents Reviewed:

- ***Zoning Ordinance, Town of Gainesville.*** Updated September 2009; includes Article XIII, Comprehensive Plan.

Previously Reviewed:

- ***Town of Orangeville Zoning Ordinance***. 1964.
- ***Amendments related to building permits and agricultural districts***. 1979.

Recommendations for Future Action by Local Officials:

- **Develop stormwater management ordinance** – Stormwater management is only briefly mentioned in zoning. Integrate stormwater practices into existing zoning ordinance; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Orangeville could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 100 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.4.1.4 Town of Perry

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***A Comprehensive Master Plan for the Town and Village of Perry.*** 1969.
- ***Town of Perry Zoning Regulations***. December 2, 2000.

Recommendations for Future Action by Local Officials:

- **Revise comprehensive plan** – Update comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants

entering waterbodies prior to, during and after construction. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Perry could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – Floodplain regulation should be reviewed to determine improvements. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.4.1.5 Town of Middlebury

Land Use Documents Reviewed:

- ***Animal Waste Storage Facility Law***. Local Law 1-2007.

Previously Reviewed:

- ***Zoning Ordinance, Town of Middlebury, Wyoming County, New York***. October 1988, amended 1991, 1993, and 1996.

Recommendations for Future Action by Local Officials:

- **Draft a comprehensive plan** – Draft a comprehensive plan emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka and Black Creek watersheds and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Stormwater management is only briefly mentioned in zoning. Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require developers to

prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Middlebury could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. The current zoning law specifically prevents excavation closer than 50 feet from a stream, but an actual buffer area with vegetation requirements and use restrictions should be created. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – While Middlebury is not yet an NFIP community, they are in the process of being accepted to the program and do have floodplain regulations in their Zoning Code. Floodplain regulation should be reviewed to determine improvements. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

5.4.1.6 Town of Warsaw

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Subdivision Regulations.*** Town of Warsaw. November 1988.
- ***Zoning Ordinance.*** Town of Warsaw. September 1998, amended 2004.
    - Includes *Appendix B: Town Master Plan Land Use Goals and Policies*

Recommendations for Future Action by Local Officials:

- **Draft a comprehensive plan** – Draft a comprehensive plan emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining

and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Town of Warsaw could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** –Floodplain regulation should be reviewed to determine improvements. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.4.1.7 Village of Warsaw

Land Use Documents Reviewed: N/A

Previously Reviewed:

- ***Comprehensive Plan.*** Village of Warsaw, Wyoming County, New York. October 1994.
- ***Chapter 133: Subdivision of Land.*** From the Code of the Village of Warsaw. March 1995.
- ***Chapter 163: Zoning.*** From the Code of the Village of Warsaw. 1995.

Recommendations for Future Action by Local Officials:

- **Draft a comprehensive plan** – Draft a comprehensive plan emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Village of Warsaw could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** While structures are not allowed within 50ft of streams, an actual buffer area with vegetation requirements and use restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** –Floodplain regulation should be reviewed to determine improvements. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.

5.4.1.8 Village of Wyoming

Land Use Documents Reviewed:

- ***Zoning.*** From the Code of the Village of Wyoming. 1994.

Previously Reviewed: N/A

Recommendations for Future Action by Local Officials:

- **Draft comprehensive plan** – Draft comprehensive plan, including an emphasis on the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. The current zoning law is missing these standards. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Develop onsite wastewater treatment regulations** – We recommended that the County strengthen its Sanitary Code to improve on-site wastewater treatment regulations especially regarding required inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). The Village of Wyoming could also consider these regulations to be included in local law. See Section 4.3.3.1 for further details.
- **Create riparian buffers –** A buffer area with vegetation requirements and use/development restrictions should be created. Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Continue education and outreach** – to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation. Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Recommended focus areas include nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs. See section 4.3.1 for details.
- **Strengthen floodplain regulations** – The floodplain map shows where it is located in the village, but standards are unclear. Floodplain regulation should be reviewed to determine improvements. Review the list of optional flood regulation additions created by DEC in Appendix F to see some potential options; also see Section 4.3.5.2 for more details.

SECTION 5.0 ENDNOTES

[126] AEM Agricultural Nonpoint Source Abatement and Control Grant Program Guidance Manual, Dec 2007. http://www.agriculture.ny.gov/soilwater/aem/forms/Guidance%20Manual.pdf
[127] http://www2.monroecounty.gov/files/health/eh/OnsiteSewage/ArtIIAPrivateSewage.pdf
[128] http://www.wcswcd.org/images/uploads/2012_Wyoming_County_SWCD_Annual_Report.pdf
[129] AEM Agricultural Nonpoint Source Abatement and Control Grant Program Guidance Manual, Dec 2007. http://www.agriculture.ny.gov/soilwater/aem/forms/Guidance%20Manual.pdf
[130] http://www.co.genesee.ny.us/docs/health/septicwaterguidelines.pdf
[131] AEM Agricultural Nonpoint Source Abatement and Control Grant Program Guidance Manual, Dec 2007. http://www.agriculture.ny.gov/soilwater/aem/forms/Guidance%20Manual.pdf
[132] http://www.wcswcd.org/images/uploads/2012_Wyoming_County_SWCD_Annual_Report.pdf
[133] AEM Agricultural Nonpoint Source Abatement and Control Grant Program Guidance Manual, Dec 2007. http://www.agriculture.ny.gov/soilwater/aem/forms/Guidance%20Manual.pdf

6.0 Conclusion

Counties and municipalities should review both the general and specific recommendations and determine which recommendations are possible to enact based on public support, and which there is capacity to enforce. If some recommendations are not feasible, less restrictive actions may still have a positive impact on water quality. While taking steps towards protecting the watershed can potentially be expensive, county and municipal decision makers should consider the short term as well as long term costs associated with taking no action. Mitigating problems that could have been prevented can have huge costs. Other potential money could be lost if water/environmental quality deteriorates and reduces the desire for people to live in and visit an area; this in turn could have an effect on property values and tax revenues. In some cases, local laws can be relatively inexpensive to create or amend and have little to no increased enforcement effort. Sometimes the cost burden can be shifted to the person or group potentially affecting water quality, such as a property developer.

Many recommendations can fit within different parts of municipal code; determine what method works best for your municipality (i.e., site plan review vs a chapter in zoning). Many laws can be cost-effective if they are incorporated into existing processes such as site plan review or if they take the form of restrictions present at or before the point of approval rather than after. Use this document as a guide to start making changes. Though many subjects will need additional research and review, it is not necessary for a municipality to spend a lot of money to have someone write them a law from scratch. Municipalities should review model laws, and laws from other municipalities, and can use different portions that they like. Municipalities can use the Assessment tables to look for other municipal laws that address the topic of concern.

The recommendations in Sections 4 and 5 are ideal options for protecting water quality in the watershed, but can be difficult to enact or enforce. Enacting some of these regulations may be unpopular if residents or businesses think they infringe too much on their property rights, or cost them money. It's not sufficient to just have regulations pertaining to water quality in local law; regulations need to be enforced and fully understood by parties intended to use them in decision making such as planning boards, and code enforcement officers. Before creating or expanding regulations, municipalities should consider if there is sufficient enforcement capacity. When considering recommendations that require increased enforcement, counties and municipalities should consider enforcement costs, and determine where funding may come from. Enforcement recommendations may also be difficult due to lack of funding. In these instances it is recommended to focus on which recommendations are both high priority and possible to implement. Small changes still have the potential to have an impact

The final section of the Oatka Creek Watershed Plan will take these recommendations and recommendations from other sections and attempt to identify which groups could take the lead in implementation and potential funding sources.

Appendices

APPENDIX A: TABLE

APPENDIX B: ANNOTATED REFERENCE LIST, NEW YORK WATER RESOURCES INSTITUTE (2013); http://wri.eas.cornell.edu/Infrastructure_References.pdf

APPENDIX C: SAMPLE LOCAL LAW FOR STORMWATER MANAGEMENT AND EROSION & SEDIMENT CONTROL (REVISED 3/06); http://www.dec.ny.gov/docs/water_pdf/localaw06.pdf

APPENDIX D: TOWN OF HURON SEPTIC LAW (3/11/13); http://townofhuron.org/content/Generic/View/23:field=documents;/content/Documents/File/176.pdf

APPENDIX E: CONSTRUCTION STORMWATER POLLUTION PREVENTION AND EROSION AND SEDIMENT CONTROL ORDINANCE; http://www.parmany.org/pdf/building/stormwater/Final-Construction-Ordinance.pdf

APPENDIX F: NYSDEC OPTIONAL ADDITIONAL LANGUAGE: MODEL LOCAL LAW FOR FLOOD DAMAGE PREVENTION; http://www.schohariecounty-ny.gov/CountyWebSite/EmergencyManagement/NYSDEC-OptionalLanguage.pdf

Appendix A
Municipal Tables

		Bergen - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		
1-4	Storm drain/curb stenciling/labeling		
1-5	Encourage volunteer programs		
1-6	Encourage the use of indigenous plants		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.	C.P. Chapter 2, Section II. C. 4 - Program in place to monitor stormwater runoff. Enables the town to make needed repairs or improvements.	
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.	Stormwater Management and Erosion Control Law Section VIII, 1 - Stormwater management facilities maintained by an owner(s) shall have adequate easements to permit the Town of Bergen to inspect and, if necessary, to take corrective action should the owner(s) fail to properly maintain the system. C.P. Chapter 2, Section II. C. 4 - Program in place to monitor stormwater runoff. Enables the town to make needed repairs or improvements.	
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance	Stormwater Management and Erosion Control Law Section VII, 1,3 - No person, corporation, organization, or public agency can initiate or undertake any land clearing, land grading or earth moving activities. Cant alter, re-route, deepen, widen, enlarge or obstruct any drainage system.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Subdivision Law Article IV, Section 1. K - The street plan of a proposed subdivision shall bear a logical relationship to the topography of the property. C.P. Chapter 5, Section III. F - Promote residential development at densities compatible with the scale of the surrounding environment and consistent with the natural and physical environment. Subdivision Law Article IV, Section 7. G - The planning Board shall, wherever possible, preserve all natural features which add value to residential developments and to the community, such as water courses and falls. Stormwater Management and Erosion Control Law Section VII, 1,3 - No person corporation, organization, or public agency can initiate or undertake and land clearing, land grading or earth moving activities. Cant alter, re-route, deepen, widen, enlarge or obstruct any drainage system. Sec. VIII: No person, corporation, organization, or public agency initiating development which requires a permit may...without first preparing a Stormwater Management and Erosion Control Plan...	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Subdivision Law Article IV, Section 7. G - No tree with a diameter of 8 inches or more, shall be removed.	
1-14	Minimize the creation of impervious areas [encourage permeable surface]	Stormwater Management and Erosion Control Law Section VII, 6 - Major developments (shopping centers, commercial facilities, etc.) or any development larger than 10,000 square feet are not eligible for stormwater plan waiver, thereby implying strict scrutiny	

		Bergen - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	Stormwater Management and Erosion Control Law Section VII, 1,2 - Development cannot measurably increase or decrease the rate or volume surface water runoff. Cannot have a measurable adverse impact on a wetland, water course or waterbody. Sec. VIII: No person, corporation, organization, or public agency initiating development which requires a permit may...without first preparing a Stormwater Management and Erosion Control Plan...Subdivision Law Article IV, Section 6. A - Subdivider may be required by the Planning Board to carry away by pipe or open ditch any spring or surface water that may exist either previous to, or as a result of the subdivision. Subdivision Law Article IV, Section 6. C - Subdivider engineer shall also study the effect of each subdivision on the existing downstream drainage.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.		Municipal ditches etc. hand seeding when necessary
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling		
1-18	Ensure proper operation and maintenance of runoff management facilities	Stormwater Management and Erosion Control Law Section VIII, 1 - Stormwater management facilities maintained by an owner(s) shall have adequate easements to permit the Town of Bergen to inspect and, if necessary, to take corrective action should the owner(s) fail to properly maintain the system. 2: Stormwater management facilities may be dedicated to the Town for maintenance...	
1-19	Encourage cluster development/conservation subdivisions		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Flood Damage Prevention Law - Ch275- Permit required. Areas of special flood hazard require minimum heights above base flood elevation for residential and nonresidential (or special flood proofing for nonresidential). No development allowed in floodway unless a technical evaluation demonstrates that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge. Subdivision Law Article IV, Section 6. D - Land subject to flooding or land deemed by the Planning Board to be uninhabitable shall not be platted for residential occupancy, or for such other uses as may increase danger to health, life, or aggravate flood hazard	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		

		Bergen - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-04	Implement the Agricultural Environmental Management (AEM) program		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans	C.P. Chapter 2, Section II. F - Agricultural Districts. ; County Agricultural and Farmland Protection Plan under production.	
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.	Stormwater Management and Erosion Control Law Section VIII, 1 - Stormwater management facilities maintained by an owner(s) shall have adequate easements to permit the Town of Bergen to inspect and, if necessary, to take corrective action should the owner(s) fail to properly maintain the system. 2: Stormwater management facilities may be dedicated to the Town for maintenance...	
3-02	Establish riparian buffers		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages	C.P. Chapter 2, Section II. E - New York State Department of Environmental Conservation regulates development, in accordance with the provisions of Article 15 of ECL.	
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential	C.P. Chapter 2, Section II. D. 1 - Protected by the State Department of Environmental Conservation (DEC). Development within wetland areas is restricted and regulated by the U.S. Department of Interior and the Fish and Wildlife Service.	
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	C.P. Chapter 2, Section II. D. 1 - Protected by the State Department of Environmental Conservation (DEC). Development within wetland areas is restricted and regulated by the U.S. Department of Interior and the Fish and Wildlife Service.	
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins		
	Section 4: Roads, Bridges, Public Rights of Way		

		Bergen - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices		Practice: some basic BMPs are utilized by the department -- pesticides are not used. Visual inspection takes place for the few facilities within the town.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		Practice: pesticides are not used by the department, vegetation retained where feasible/judged on a case by case basis; jurisdiction is relatively flat, however
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		Practice: rarely needed; few problem areas within the town; road embankments and areas near culverts/ditches have been incrementally addressed with riprap
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Practice: According to G/FLRPC 2011 Salt Storage Survey - Enclosed Storage, Pavement Floor, Liquid Calcium Chloride
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		
4-07	Participate in Cornell Local Roads Program activities and training		Practice: supervisor attends regularly
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials		Practice
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.		Practice: facilities are inspected visually; problem areas are identified and scheduled for maintenance as necessary
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer		
5-02	Institute setback guidelines		
5-04	Target outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal service to connect.	Subdivision Law Article IV, Section 8. A - Connection between sewerage facilities is mandatory if the developed property is within 50 feet times the number of water usage units from the nearest sewer.	

		Bethany - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		
1-4	Storm drain/curb stenciling/labeling		
1-5	Encourage volunteer programs		
1-6	Encourage the use of indigenous plants		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.	Stormwater Management and Erosion Control Plan, Sec. 8.1-a: Project Description: [must describe proposal, including project size, necessary improvements, location, etc.] Z.O. Art II Sec. 208.9 Performance Standards: ...final responsibility for compliance with all environmental laws and regulations lies with the applicant.	
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance	Stormwater Management and Erosion Control Plan, Sec. 10: Performance Standards, 4G [in the event cut and fills are used, design drainage properly]	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Stormwater Management and Erosion Control, Sec 3 Purpose c: maintain the integrity of stream geometry so as to sustain the hydrologic functions of streams... Comp Plan - Vision Statement - Preserve the natural environment. Goals and Policies - 5. Analyze sites in the context of other natural and cultural resources....The designation of future land uses is based on the physical features of the land. Sec. 8 Contents of Plan-Existing Conditions, b3: Obtain soils survey info. and detail within plan... Comp Plan - Existing Conditions - Soils - identifies soil types and if they are appropriate for Agriculture, Residential etc.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Stormwater Management and Erosion Control Plan, Sec. 10: Performance Standards, A: Existing vegetation shall be retained; D3: where protection of trees and/or vegetation is required, the location should be shown on the erosion control plan	
1-14	Minimize the creation of impervious areas [encourage permeable surface]		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	Stormwater Management and Erosion Control Plan, Sec. 8: Structure and Content of Plan: [must compare post-development conditions with pre-development conditions]. See also Sec. 8 II: Methodology for Comparison of Pre-Development with Post-Development Runoff [to be submitted in plan] Z.O. Sec. 208, Planning Board Powers and Duties, 2: Submission of Site Plan and Data: f) - Site plan data must include storm drainage facilities; J) - Site plan data must include a description of the proposed measures to control runoff and drainage from the site and when required by NYS DEC and/or SEQR process, a Storm Water Management and Erosion Control Plan.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.	Stormwater Management and Erosion Control Plan, Sec. 8 IV: Erosion and Sediment Control, [parts A and B describe the facilities that must be developed, both temp. and permanent]. Z.O. Art. III Sec 301.10, Excavation: In any construction, open excavations shall be limited to a maximum of sixty days, with appropriate fencing, barricades or covering Stormwater Management and Erosion Control Plan, Sec. 10: Performance Standards, D5: [all sites should be seeded and mulched...immediately]	

		Bethany - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling	Z.O. Art II Sec. 208, Planning Board- K - Site plan must include a description of the proposed generation, storage and/or disposal of hazardous material and/or hazardous wastes on-site.	
1-18	Ensure proper operation and maintenance of runoff management facilities	Stormwater Management and Erosion Control Plan. Sec. 8 V: Schedule and Maintenance, A and B: [an implementation schedule and long-term maintenance plan must be submitted in the plan]...See also Sec. 10D7, re: Maintenance	
1-19	Encourage cluster development/conservation subdivisions		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits	Z.O. pg. 22.J- Site plan data must include a description of the proposed measures to control runoff and drainage from the site and when required by NYS DEC and/or SEQR process, a Storm Water Management and Erosion Control Plan.	
1-21	Discourage development in flood plain and/or development below base flood elevation	Town of Bethany Flood Damage Prevention Law.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implement the Agricultural Environmental Management (AEM) program		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans	Z.O. pg.42. Section 306 - Agriculture Residential Districts are designed to preserve the Towns agriculture base and maintain its rural nature.; County Agricultural and Farmland Protection Plan under production. Comp Plan - Vision Statement - Maintain a strong agricultural economic base. Agriculture Section - Areas of prime farmland deserve strong protection from development. Comprehensive Park Plan for Genesee County Park and Forest in Bethany.	
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.	Stormwater Management and Erosion Control, Sec 3 Purpose d: control erosion and sedimentation so as to prevent its deposition in streams and other receiving water bodies; Sec. 8 V: Schedule and Maintenance, A and B: [an implementation schedule and long-term maintenance plan must be submitted in the plan];	
3-02	Establish riparian buffers		

		Bethany - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal	Z.O. Article VI Sec. 608, Animal Waste Storage Facilities: All proposals for installation and/or modification of animal waste storage facilities shall be submitted to the Genesee County Soil and Water Conservation District for their review and determination as to acceptability.;	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes	Stormwater Management and Erosion Control Plan: [purpose and objectives of the plan]...to maintain the integrity of stream geometry so as to sustain the hydrologic functions of streams;	
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines	Stormwater Management and Erosion Control Law pg15 - Stream corridors should be delineated. Corridor should act as the minimum set back to development (Was a corridor delineated/established?)	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages	Stormwater Management and Erosion Control Plan. Sec. 10B [runoff shall not have substantial visible contrast relative to color, taste, odor, turbidity and sediment deposition...]	
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential	Stormwater Management and Erosion Control, Sec 3 Purpose f: facilitate the removal of pollutants in stormwater runoff as to perpetuate the natural biological functions of streams . Comp Plan - Existing Conditions - Wetlands - The most significant wetlands in Bethany are the substantial areas of class II wetland. These should be highlighted for preservation to protect the important hydrogeological, habitat, flood protection and open space functions they provide.	
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	Stormwater Management and Erosion Control, Sec 3 Purpose f: facilitate the removal of pollutants in stormwater runoff as to perpetuate the natural biological functions of streams. Comp Plan - Existing Conditions - The most significant wetlands in Bethany are the substantial areas of class II wetland. These should be highlighted for preservation to protect the important hydrogeological, habitat, flood protection and open space functions they provide.	
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Practice: According to G/FLRPC 2011 Salt Storage Survey - 3 salt/ 1 sand ratio - enclosed storage on pavement floor
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		

		Bethany - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		
4-07	Participate in Cornell Local Roads Program activities and training		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials		
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.	Stormwater Management and Erosion Control Plan, Sec. 8 Contents of Plan-Existing Conditions, b4: Where applicable…Show culverts downstream of project and culvert size. Show existing easements for storm drains, sewers, and other utilities. Show the extent of the drainage area served by a man-made stormwater drainage network if that net work system is collecting runoff from outside of the natural drainage basin... See also Part c, Proposed Future Development Conditions (sections 1-4)	
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer		
5-02	Institute setback guidelines		
5-04	Target outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal service to connect.	Comp Plan - Public Utilities - All homes in Bethany have private water supply and sewage disposal systems.	

		Byron - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		
1-4	Storm drain/curb stenciling/labeling		
1-5	Encourage volunteer programs		
1-6	Encourage the use of indigenous plants		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.		
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance	Z.O. Section 905, K. Floodways 1 - Any encroachment, including fill, shall be prohibited. Subdivision, Section 2-F.4: All surfaces, including hills or mounds of dirt, shall be removed and/or restored within six months of the time of the completion. Z.O. Section 1117, L - Road construction shall, at all times, minimize ground disturbances and vegetation cutting.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. Section 501, A - No structure shall be built within 50 feet of the bed of stream carrying water on an average of six months a year. Z.O. Section 501, B - No person shall strip, excavate, or otherwise remove topsoil. Z.O. Section 501, C - Natural features such as trees, brooks, drainage channels shall be preserved as best as possible. Z.O. Section 906, A. 1 - Prohibit development in Land Conservation District. No development in areas with special or unusual conditions of topography. Z.O. Section 1101, B.2 - [For Special Use Permits] The design of any building shall conform to the general character of the area. Z.O. Section 1117, J - Existing on-site vegetation shall be preserved to the maximum extent possible. L - Road construction shall, at all times, minimize ground disturbances and vegetation cutting.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. Section 501, C - Natural features such as trees, brooks, drainage channels shall be preserved as best as possible. Z.O. Section 1101, B.2 - No cutting of trees exceeding a height of 4 feet off the ground. Section 1117, L - Road construction shall, at all times, minimize ground disturbances and vegetation cutting.	
1-14	Minimize the creation of impervious areas [encourage permeable surface]		

		Byron - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	Z.O. Section 502, P - All construction plans shall include storm water runoff drainage needs. Whenever possible, site grading shall direct water away from buildings and structures to the natural drainage way. Z.O. Section 1104, O - An adequate and comprehensive drainage system shall be provided to convey storm water runoff. F: All land which has been excavated must be rehabilitated in accordance with reclamation plans approved by the Planning Board as part of the site development plan review and approval process. P. The applicant shall include a plan for the control of soil erosion and excessive ground water seepage upon public roads, streams, or adjacent property.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.	Zoning, Art. XI [Special Use Permit]; Sect. 1104 J: All topsoil and subsoil shall be stripped from the active excavation area and stockpiled and seeded for use in accordance with the restoration plan... O: An adequate and comprehensive drainage system shall be provided to convey stormwater runoff...Sediment control measures shall be installed to keep sediment damage, if any, totally within the applicant's property. P. The applicant shall include a plan for the control of soil erosion and excessive ground water seepage upon public roads, streams, or adjacent property.	Municipal practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling		
1-18	Ensure proper operation and maintenance of runoff management facilities		Few facilities in place in the town, primarily culverts
1-19	Encourage cluster development/conservation subdivisions	Z.O. Section 1113, A - Cluster residential developments of one-family detached dwellings. C.P. Section III, A.1 - Construction of housing in clusters.	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. Section 905, B. 1 - 5 - Restrict or prohibit uses in flood areas that are dangerous to health, safety, and property. No development that will further flood and erosion problems. Fill restricted. Ag allowed.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implement the Agricultural Environmental Management (AEM) program		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		

		Byron - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-06	Implement barnyard runoff controls.		Recently Barnyard Runoff Management Systems and other operational BMPs were implemented on farms in Ogden(2), Wheatland(1), LeRoy(3), Pavilion(2), Byron(1), Warsaw(5), Covington(3), Orangeville(1), and Middlebury(1) through the Genesee River Implementation Grant project
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans		
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines	Z.O. Section 501, A - No structure shall be built within 50 feet of the bed of stream carrying water on an average of six months a year.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages		
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices		Practice: Basic BMPs are being used by the department; a new salt storage facility is being constructed in a addition to the one that is in place; stabilization of soils after disturbances occurs, etc. Generally, large areas of vegetation are not disturbed. With the exception of culverts, catch basins are the most common facility; most are relatively new and are monitored informally.

		Byron - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		Practice: chemicals are not used by the department for r.o.w. activities; generally, cleaning only takes place near culvert outlets; vegetation is retaining near receiving waterbodies
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		Practice: culvert inlets and outlets where high-velocity flows are likely have been stabilized using riprap
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Practice: salt brine is currently being used by the department
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		
4-07	Participate in Cornell Local Roads Program activities and training		Superintendent attends regularly
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials		
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.		All of the problem culverts are known and carefully watches; as opportunities for their replacement arise, they are tended to
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer		
5-02	Institute setback guidelines		
5-04	Target outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal service to connect.	Z.O. Section 1112, Q.3 - Where public sewers are available, connection thereto shall be used exclusively. Subdivision Regulations, Art. V Sec. 1E; Wastewater Treatment Systems: All [systems] shall be installed in accordance with plans approved by the County Health Dept. ..Where a public wastewater treatment system is not available, an adequate private [system] shall be provided.	

2011-12 Laws/Practices		Caledonia - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Sub-113.24.E. - The Planning Board shall, wherever possible, establish the preservation of all natural features, such as large trees, watercourses, and wetlands. Sub-113.18.C(5) - Fitting of development plan to the topography and soils, so as to minimize the erosion potential. Z.O. 130.39 - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Sub-113.18.C(6) - Retention and protection of natural vegetation wherever possible. Sub-113.24.E - The Planning Board shall, wherever possible, establish the preservation of all natural features, such as large trees, watercourses, and wetlands...To the fullest extent possible, all existing trees and shrubbery shall be conserved by the subdivider. Z.O. 130-39 - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Sub-113.18.A.2(a) - Limit the rate of stormwater runoff from the project site to no more than the original or natural rate of runoff. Sub-113.18.A.2(b) - Limit to the maximum extent possible the pollution of existing surface and subsurface bodies of water via storm runoff. Sub-113.18.C(4) - Provisions for adequate drainage facilities to accommodate effectively the increased runoff caused by changed soil and surface conditions during and after development.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Sub-113.18.C.(3) - Provisions for temporary vegetation and/or mulching to protect critical areas. Sub-113.24.E(1) - Topsoil moved during the course of construction shall be redistributed. Sub-113.18. C - The Planning Board shall require the developer to follow certain erosion control practices as it deems necessary.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 130.39. - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state. See Local Law #3-1994: Flood Damage Prevention Law.	

2011-12 Laws/Practices		Caledonia - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans		
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Sub-113.24.E. - The Planning Board shall, wherever possible, establish the preservation of all natural features, such as large trees, watercourses, and wetlands. Z.O. 130-39 - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...	Sub-113.24.E. - The Planning Board shall, wherever possible, establish the preservation of all natural features, such as...wetlands.... Z.O. 130.39. - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state.	

2011-12 Laws/Practices		Caledonia - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		Basic BMPs conducted by the municipality example: road salt storage enclosed; chemical pesticides are rarely used, and only in certain spots; stabilization occurs immediately after sites are disturbed, etc. Inspection/Maintenance - report forms are filled out for each facility and kept on file.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		Chemical pesticides used to a very limited degree; stabilization (hand seeding) occurs immediately ditches are cleaned, etc.
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Caledonia is very flat; in the few areas with slopes, rip rap has been installed to line areas that are likely to erode.
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Salt that is purchased is pre-treated by supplier for more effective use and longevity; 100% straight-salt is used. According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on pavement floor. According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on concrete floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		Supervisor and staff attend.
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		Problem culverts are being rectified through routine inspection; addressing improperly-sized culverts throughout the town; forms filed out for each failing facility and kept on file.
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

2011-12 Laws/Practices		Caledonia - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		Disease-resistant species and native species are chosen by municipality whenever possible.
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 215.39. - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state. Sub-186.21.E. - The Planning Board, shall wherever possible, establish the preservation of natural features (such as trees and waterways etc.). Sub-186.21.C(1) - In cases where the planning board finds that due to topography, the land is not suitable for development, they may waiver development.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 215.39. - The purpose of the Land Conservation District is to delineate those areas with special or unusual conditions of topography, drainage, floodplain or other natural conditions which serve their ecological purpose best in their natural state. Sub-186.21.E. - The Planning Board, shall wherever possible, establish the preservation of natural features (such as trees and waterways etc.).	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Sub-186.20.A. - The subdivider may be required by the planning board to carry away surface water that may exist prior to or as a result of the subdivision.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		On municipal properties/projects, topsoil and seeding is done ASAP after land altering activities.
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		Standard municipal operating procedure.
1-18	Ensure proper operation and maintenance of runoff management facilities.		Municipal facilities-limited number of facilities; all are easily maintained.
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation		
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		

2011-12 Laws/Practices		Caledonia - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans		Ag districts present.
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		The department has a very small jurisdiction, however several key BMPs are being practiced; limited salting, hydro seeding conducted when necessary, etc. Catch basins are vacuumed out regularly; only 3 culverts in the village; no other facilities.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		Limited area to be covered, including one ditch/intermittent stream; however, department approaches the area with sensitivity.
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Does not apply: area is relatively flat and free of erosion issues.
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Various alternatives have been testes and are currently used, including the additive 'Iceban'; otherwise, 100% salt is used in the village. According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on concrete floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		

2011-12 Laws/Practices		Caledonia - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		Public works dept. is familiar with the documents.
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		3 culverts within the village limits; all are easily maintained.
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

2011-12 Laws/Practices		Covington - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.	Local Law 1.2001, Sec7 -...owners shall be responsible for the immediate cleanup an any excrement deposited by their animals...	
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O.V.501.C. - Whenever natural features such as trees, brooks, drainage channels and views interfere with the proposed use of property, the retention of the maximum amount of such features consistent with the intended use of the property shall be encouraged. Sub-IV.2 - Design Standards - (F) Preservation of Natural Features - 2. Where a subdivision is traversed by a natural lake, pond or stream, the boundaries or alignment of said watercourse shall be preserved... 3. Unique physical features such as historic landmarks and sites, rock outcroppings, hilltop lookouts, desirable natural contours, and similar features shall be preserved...	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Sub.IV.2 - Design Standards - F. Preservation of Natural Features (6): No tree with a diameter of eight inches or more as measured three feet above the base of the trunk shall be removed unless the tree is within the right of way of a street... Z.O. Amendments III 306 D. Review of Site Plan 1. e. Adequacy of stormwater and drainage facilities. g. Adequacy, type and arrangement of trees, shrubs and other landscaping constituting a visual and/or noise buffer between the applicants and adjoining lands, including the maximum retention of existing vegetation.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. V.502(O): All construction plans shall include consideration of storm water drainage needs. Z.O. Amendment III.306.C. Site Plan Review - Application for Approval – requirement of v. grading and drainage plan, showing existing and proposed contours; x. Location, design and construction materials of all existing or proposed site improvements including drains, culverts, retaining walls and fences; D.1.e. - Review of Site Plan - Adequacy of stormwater and drainage facilities. Sub-IV.2(D) - Design Standards - The Planning Board shall refer all residential subdivision proposals to the W.C. SWCD and/or Town Engineer, for their review as to the acceptability of proposed drainage, erosion and sediment control measures both during construction phases and after completion.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Sub-IV.2. - Design Standards - (F), Preservation of Natural Features (1): Topsoil moved during the course of construction shall be redistributed so as to provide a minimum depth of six inches of cover to all areas of the subdivision and shall be stabilized by seeding or planting. (4): All surfaces, including hills or mounds of dirt, shall be removed and/or restored within six months of the time of the completion. (D): The Planning Board shall refer all residential subdivision proposals to the W.C. SWCD and/or Town Engineer, for their review as to the acceptability of proposed drainage, erosion and sediment control measures both during construction phases and after completion.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. XI.1113 - Cluster Residential Development	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Local Law 2-1983. A local law to adopt flood plain management measures. Local Law 2-1987: A local law for flood damage prevention.	

2011-12 Laws/Practices		Covington - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Ag. Districts Present; Z.O.IX.901 Agricultural District.	
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O.X.1006 - Animal Waste Storage Facilities: [details construction specifications, spreading practices, and NRCS approval, etc.].	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Z.O. V.501.A - No structure shall be built within fifty feet of the bed of a stream...	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		

2011-12 Laws/Practices		Covington - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 25% sand/ 75% salt, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

2011-12 Laws/Practices		Gainesville - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	C.P. IX.903.4. - Residential Policies - Residential construction should be strictly controlled in areas which are subject to flooding and characterized by steep slopes or soils which are unstable and subject to erosion.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Local Law 2-1983: Flood Damage Prevention Local Law. See also Z.O. Section 301. E	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O. 312 - The Ag. Residential District is designed to preserve the Town's agricultural base and maintain its rural nature. C.P. IX.907 - Conservation and Open Space, parts 1-6: [Detailing the importance of open space and need for conservation of such spaces].	
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		

2011-12 Laws/Practices		Gainesville - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O. 630-2 - Stabling of Farm Animals: Disposal of bedding, manure or other animal waste shall be in conformance with guidelines established by the US Soil Conservation Service and/or W.C. SWCD...an animal waste disposal plan may also be required.	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 2 sand/ 1 salt, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

		Genesee County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		GLOW Composting Education Demonstration Sites set up with informational brochures
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		GLOW Region Solid Waste Management Committee, in cooperation with GLOW Region Soil and Water Conservation, Farm Bureau and Cornell Cooperative Extension offices - AG plastics container collection. Household Hazardous Waste programs held annually and rotates between Genesee, Livingston and Wyoming Counties. DEC - pesticide collection.
1-4	Storm drain/curb stenciling/labeling		Storm drains are relatively limited in rural towns
1-5	Encourage volunteer programs		Black Creek Watershed Coalition (BCWC), Oatka Creek Watershed Committee, and other volunteer groups in place
1-6	Encourage the use of indigenous plants		SWCD tree and shrub sale, occurs on an annual basis; hardy varieties of native species are provided to the public at low-cost
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		Genesee County Planning: general training for planning boards for things like site plan review, etc. - including water quality concepts. CCE, SWCD and Black Creek Watershed Coalition and Oatka Creek Watershed Committee have been developing several distinct programs regarding water quality, including (but not limited to) septic system outreach, erosion and sediment control workshops, agricultural BMPs, watershed planning and household hazardous waste. SWCD: Envirothon - statewide program for students to lear about the environment (Genesee County is active in it). G/FLRPC conducts workshops with water quality sessions, and does education/outreach.
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.		
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.		County Planning Dept. and Planning Board: refer proposals to SWCD to review, All: encourage engineers to include stormwater considerations in site plans, review or recommend the creation of stormwater management plans and/or SWPPPs when appropriate or required.
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas [encourage permeable surface]		Genesee County Planning: educates on the possibility of Rain Gardens, and porous sidewalks.
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction		County Planning Dept. and Planning Board: refer proposals to SWCD to review, All: encourage engineers to include stormwater considerations in site plans, review or recommend the creation of stormwater management plans and/or SWPPPs when appropriate or required.
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.		

		Genesee County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling		
1-18	Ensure proper operation and maintenance of runoff management facilities		
1-19	Encourage cluster development/conservation subdivisions		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		No MS4s within the County. General Permit for construction required anywhere 1 acre or more is disturbed and requires SWPPPs. Construction site and Construction Permit inspection conducted by the county SWCD at the request of NYSDEC or municipalities.
1-21	Discourage development in flood plain and/or development below base flood elevation	Development in flood plain discouraged in county smart growth plan.	Practice: Genesee County Planning: Online mapping resource for Flood Plain identification
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		SWCD: encourages good woodland management and proper harvesting techniques to maintain present and meet future needs in cooperation with NYSDEC state foresters, and the Genesee County Park and Forest; also, a display at the County Park is being considered that can describe different woodlot management approaches. Genesee County Park and Forest: in Bethany has a forest management plan which includes selective harvesting to improve health of forest
	Agriculture		
2-04	Implement the Agricultural Environmental Management (AEM) program		SWCD: Assist farmers in creating plans and implementing bmp recommendations. See county SWCD AEM Five Year Plan for more information. Recently Monroe County SWCD and Genesee County SWCD have been awarded a $1,119,928 Round 18 Ag NPS grant for the Oatka Creek Watershed Agricultural Nutrient Reduction Project by the NYS Agricultural Nonpoint Source Pollution Abatement & Control Program. The project will implement 36 bmps on 5 farms identified as priority projects in the AEM Tier 2 process. BMPs will include: Heavy Use Area Protection, Barn Roof Runoff Structures, Riparian Buffer Strips/Filter Strips, Waste Storage Facilities, Waste Transport Systems, Access Roads, Milk house Waste Collection Systems, etc.
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		SWCD: See county SWCD AEM Five Year Plan. CAFOs are part of AEM. No regulation at the local level, more information and assistance. DEC is the main regulatory organization (state/fed program). CNMPs are encouraged through AEM planning. Implementation grants available (haven't received planning grants), larger farms hire consultants to create them. See also Round 18 Ag NPS grant above - implementation of AEM CAFO and CNMP regs/plans/recommendations. FLLOWPA funding awarded for CAFO work in the past.
2-06	Implement barnyard runoff controls.		SWCD: continuing to implement and apply for grant funds. See 2012 Ag Nutrient Reduction Project above - will include barnyard runoff controls
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		SWCD: Discouraged during AEM planning. Can sometimes get farmers cost share money to convince them. EPF AG NPS Abatement grants can help discourage grazing in environmentally sensitive areas, and are used as one of the sources for AEM grants. Round 18 Ag NPS grant will include vegetative stream buffers

		Genesee County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans	Genesee County Smart Growth Plan, 2005 Review Report, page 7: Purpose of the plan is to minimize the impacts from additional growth and development that would otherwise occur as a result of the extension of water service. County Agricultural and Farmland Protection Plan. Comprehensive Park Plan for Genesee County Park and Forest in Bethany.	Practice: Genesee County Planning: Online mapping resource illustrates Ag Districts
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.		Practice of SWCD, always looking for opportunities to devise check dams; maintains several that are in operation. SWCD/Highway Dept.: have a hydro seeder to seed road ditches/banks and bridge abutments
3-02	Establish riparian buffers		SWCD: works in conjunction with land owners, farmers in particular, implementing federally-funded programs. A few buffers are in place. Round 18 Ag NPS grant will include vegetative stream buffers.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal		Round 18 Ag NPS grant - all 5 farms will be implementing practices to prevent animal waste from entering waterbody. 4/5 are CAFO regulated. FLLOWPA funding awarded for CAFO work in the past.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes		SWCD: has used vegetated systems, such as downed trees and logs, to stabilize severely eroded banks. FLLOWPA funding awarded for stabilization in the past. Also village of LeRoy has issues with eroding creek banks, especially at bends in the creek, some stabilization was done about 5 years ago installing rocks on Oatka Creek bank between rte. 18 and rte. 5. Only completed a portion, applied for more money to complete. Round 18 Ag NPS grant will include vegetative stream buffers.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages		
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential		SWCD: guiding principle of operations, as exemplified in efforts in the field (Wetland Reserve Program) as well as education and outreach programs. Genesee County Planning: Online mapping resource for wetland identification.
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		

		Genesee County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		
4-07	Participate in Cornell Local Roads Program activities and training		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials		
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.		
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer	Regulation/Practice: Genesee County Sanitary Code/Health Dept. - inspection/permit required to construct, alter, repair or extend. Permit can be transferred to new property owner, new permit/inspection don't necessarily occur for property transfer.	Regulation/Practice: Genesee County Sanitary Code/Health Dept. - Are inspected if requested during financing/refinancing by lender. May be inspected by the health dept. if there is a complaint. Genesee County Health Department received a $200,000 grant which can be used for replacing septic systems and wells, connection to public water, or lead remediation.
5-02	Institute setback guidelines		
5-04	Target outreach programs at homeowners, contractors and developers		Practice: Genesee County DOH, CCE, SWCD: offer various education and outreach materials and programs. SWCD has been looking for updated materials to distribute
5-05	Require all properties with access to municipal service to connect.	Genesee County Sanitary Code - No new construction of systems where sanitary sewer is "available and accessible"	

2011-12 Laws/Practices		LeRoy - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
Section 1: Development			
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Sub-135-22. - Existing features which would add value to residential development, such as trees, watercourses etc., should be preserved.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Sub-135-22. - Existing features which would add value to residential development, such as trees, watercourses etc., should be preserved.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Sub-135-6.C - The preliminary layout must include drainage plans.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		Practice--facilities are maintained
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 165-11. F - Restrictions on building on lots under water or lots subject to flooding.	
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
Agriculture			

2-04	Implementation of the Agricultural Environmental Management (AEM) program.		County AEM/Round 18 Ag NPS grant - 2 CAFO farms awarded within 2012 Oatka Creek Watershed Agricultural Nutrient Reduction Project to implement priority BMPs, and AEM/CNMP/CAFO requirements/recommendations.
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		See Round 18 Ag NPS grant above - implementation of AEM CAFO and CNMP regs./plans/recommendations.
2-06	Implement barnyard runoff controls.		Round 18 Ag NPS grant will include waste management system, manure storage facility, etc. Recently Barnyard Runoff Management Systems and other operational BMPs were implemented on farms in Ogden(2), Wheatland(1), LeRoy(3), Pavilion(2), Byron(1), Warsaw(5), Covington(3), Orangeville(1), and Middlebury(1) through the Genesee River Implementation Grant project.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		Round 18 Ag NPS grant above will include vegetative stream buffers.
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Ag. Districts Present; Agricultural and Farmland Protection Plan - pg17 Goal and Recommendation 2: Identify and adopt land use regulations that protect farmland and create a supportive environment for agricultural businesses. p28. In some cases the Z.O. district regulations incorporate a "right to farm" statement at the head of the agricultural Z.O. district regulations. This puts prospective new non-farm residents on notice that they are not protected against such "nuisances" as the noise, dust, insects and odors generated in the day to day operation of the modern farm.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		Round 18 Ag NPS grant above will include vegetative stream buffers.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Ag and Farmland Protection Plan - p29 - referring to Zoning. 1. In the R+A Residential Agricultural District and R-1 General Residential District additional setback requirements exist for manure storage, farm buildings for storage of products or equipment and farm buildings for housing animals, as well as farm water supply ponds. No such setbacks are required in the R-2 Medium Density Residential District. 2. There is a required setback of 100 feet from any property or street line for farm water supply, conservancy and fire protection ponds, but not for ponds in general, or for artificial lakes.	Round 18 Ag NPS grant - targeted toward preventing animal wastes from entering waterbody, will include waste management system, manure storage facility, vegetative buffers, etc.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		Round 18 Ag NPS grant will include vegetative stream buffers.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Ag and Farmland Protection Plan - p29 - referring to zoning - 1. In the R+A Residential Agricultural District and R-1 General Residential District additional setback requirements exist for manure storage, farm buildings for storage of products or equipment and farm buildings for housing animals, as well as farm water supply ponds. No such setbacks are required in the R-2 Medium Density Residential District. 2. There is a required setback of 100 feet from any property or street line for farm water supply, conservancy and fire protection ponds, but not for ponds in general, or for artificial lakes.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		

3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		Basic BMPs are used: no chemical pesticides used by the town, training seminars attended on occasion, etc. For the few structures within the town, a visual inspection takes place; maintenance of catch basins performed regularly with vacuum truck.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Site stabilization has been performed near some road bank areas, but mainly in and around culverts (rip-rap installation).
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		Staff participate regularly.
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		When staff are available.
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		Annual visual inspection takes place; extra care given at known problem areas. Ongoing resizing practice done in conjunction with road rehabilitation
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Sub-135-27. 12 and 13 - Master plan must show connections with existing water supplies, and also with existing sewer systems. Ag and Farmland Protection Plan - recommends Department of Agriculture and Markets Guideline – Conditions on Future Service - connections should be limited within age districts - (1) The only land and/or structures which will be allowed to connect to the proposed waterline or sewer within the agricultural district will be existing structures at the time of construction, further agricultural structures, and land and structures that have already been approved for development by the local governing body prior to the filing of the Final Notice of Intent by the municipality.	
		Ag and Farmland Protection Plan-2010.	
		not-comp-2002, Z.O.-1999, Z.O. map2007, site plan 1996, pud-1999, subdivision-1989, flood1999,	

2011-12 Laws/Practices		LeRoy - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		Professionals consulted in order to choose the most practical species for large-scale municipal planting activities.
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	Z.O. 215-34.A - Promote more economical and efficient use of the land.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 215-33 - The purpose of the Land Conservation District is to delineate those areas where substantial development of the land in the way of building or structures is prohibited because of natural conditions.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 215-33 - The purpose of the Land Conservation District is to delineate those areas where substantial development of the land in the way of building or structures is prohibited because of natural conditions.	Village looking into the Cornell Urban Forestry program which includes the creation of tree surveys.
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		Municipal practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		Municipal recycling and disposal of materials.
1-18	Ensure proper operation and maintenance of runoff management facilities.		All public facilities are routinely monitored; private facilities are monitored also - problems emanating from them are addressed on an incremental basis.
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 215-35. A - C - Floodplain Overlay Zone - identify potential areas of special flood hazard to prevent the threat of flood damages etc.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		

2011-12 Laws/Practices		LeRoy - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Town Agricultural and Farmland Protection Plan - p1, 17 Goal and Recommendation 2: Identify and adopt land use regulations that protect farmland and create a supportive environment for agricultural businesses. p28 In some cases the zoning district regulations incorporate a "right to farm" statement at the head of the agricultural zoning district regulations. This puts prospective new non-farm residents on notice that they are not protected against such "nuisances" as the noise, dust, insects and odors generated in the day to day operation of the modern farm.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		Village routinely inspects Oatka Creek banks and clears debris as necessary.
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		Issues with eroding creek banks, especially at bends in the creek, some stabilization was done about 5 years ago installing rocks on Oatka Creek bank between rte. 18 and rte. 5. Only completed a portion, applied for more money to complete.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		South shore of Oatka Creek from Munson to Mill St.
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		A number of BMPs were found to be practiced by the department; chemicals rarely used, all facilities maintained and monitored on a regular basis, etc. While current staffing levels do not allow for the implementation of a comprehensive maintenance plan, one has been considered; all facilities are nonetheless monitored and maintained as necessary.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		No ditches. Roadside facilities are maintained properly; rip rap observed to be installed near the creek.
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Some rip rap used where necessary; village is currently considering feasibility of extending the retaining wall to encompass the area bridge-to-bridge (Munson to Mill St.).
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		DPW Superintendent is familiar with the publications; town engineer consulted regularly for questions regarding implementation.
4-07	Participate in Cornell Local Roads Program activities and training.		Practice
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		As resources allow
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		Culverts are routinely inspected; blockages resulting from sedimentation are rare since sand was eliminated from the salting regimen. Over time, most culverts have been sized properly and are operating efficiently.
Section 6: Onsite Wastewater Treatment Systems			

2011-12 Laws/Practices		LeRoy - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Sub-50-12. C.3 - Where accessible, the storm drainage system shall be connected with existing facilities. Sub-50-12. D(4) - Every lot within a subdivision shall be provided with a connection to a sanitary sewer. Sub-50-12. E(3) - Every lot within a subdivision shall be provided with a connection to the main public water supply.	

2011-12 Laws/Practices		Livingston County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		GLOW provides composting education and brochures. L.C. Environmental Management Council (EMC), and L.C. Planning provide education on disposal of solid, liquid and toxic wastes.
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		GLOW Region Solid Waste Management Committee, in cooperation with GLOW Region Soil and Water Conservation, Farm Bureau and Cornell Cooperative Extension offices, farm pesticide collection programs; Household Hazardous Waste programs held. L.C. EMC provides education on disposal of solid, liquid and toxic wastes.
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		Oatka Creek Watershed Committee, L.C. EMC and other volunteer groups in place. Members of the EMC participate in clean-ups of roadsides and recreational areas.
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		Oatka Creek Watershed Committee are involved in education/outreach. L.C. EMC provides information and encourages public participation regarding water quality (ex: water quality management plans). G/FLRPC conducts workshops with water quality sessions, and does education/outreach.
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Could be required in SWPPPs for construction disturbing 1 acre or more.	Natural Resource Inventories (NRIs): The EMC, and L.C. Planning have developed a natural resource inventory for L.C. The EMC will utilize these data to assist municipalities, developers, and the private sector in land development planning. County NRI information will include bedrock geology, soil resources, hydrology, unique natural features, wetlands, and floodplains.
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		Likely required in SWPPPs for construction disturbing 1 acre or more.
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		L.C. EMC and L.C. Planning provide advice and information on disposal of solid, liquid, toxic wastes, as well as recycling.
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits	No MS4s within the County. General Permit for construction required anywhere 1 acre or more is disturbed and requires SWPPPs.	Construction site and Construction Permit inspection conducted by the county SWCD at the request of NYSDEC;
1-21	Discourage development in flood plain and/or development below base flood elevation		
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		SWCD in conjunction with DEC offers woodlot management outreach services to land owners.

2011-12 Laws/Practices		Livingston County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		AEM program and 5 Year plan in place.
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		5 year AEM Plan - Desired Future Conditions: Identify and reduce nutrient and sediment loading from watershed by implementation of various BMP's and development of needed nutrient management plans.
2-06	Implement barnyard runoff controls.		5 year AEM Plan - page 16, Desired Future Conditions: Identify and reduce nutrient and sediment loading from watershed by implementation of various BMP's and development of needed nutrient management plans.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		Caring for Creeks Grant, EPF Ag NPS Abatement grants. AEM BMPs.
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans		Ag. districts present.
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		SWCD works in conjunction with land owners, farmers in particular. Potential AEM bmp.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		SWCD/NRCD comprehensive nutrient management plans.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		SWCD has used vegetated systems to stabilize severely eroded banks; other approaches are case-by-case.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		Guiding principle of SWCD operations. Ex: field work, and education/outreach programs
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		FLLOWPA funding has been used to reduce erosion through hydro seeding county and town roadside in hydro seeding and stabilizing road ditches.
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		L.C. EMC and Planning have looked into the impacts associated with highway deicing salts.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		L.C. EMC and L.C. Planning have held training programs and workshops designed to teach local officials and the public the fundamentals on such issues as the SEQR review process, etc. G/FLRPC Local Government Workshops targeted toward Gov. officials, planning/zoning officials, etc.
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		

2011-12 Laws/Practices		Livingston County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.	L.C. Sanitary Code - No schedule of inspections, only that systems are "subject to inspection". Dept. of Health investigates complaints of nuisances (including those relating to septic systems) and can issue repair orders. Sanitary Code II.7(a-d): [Inspections to occur at time of construction and at property transfer]. II.4.9 A 'valid' permit may be transferred to another party.	
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		Cornell Cooperative Extension, SWCDs, L.C. Health Dept. all conduct education and outreach programs and/or offer technical assistance.
5-05	Require all properties with access to municipal sewer service to connect.	L.C. Sanitary Code II.3.3 No permits for construction or repair of an individual sewage treatment system shall be issued for property accessible to a public or municipal sanitary sewerage system.	

2011-12 Laws/Practices		Middlebury - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	Z.O.906.M.1 - Fill operations shall be prohibited.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O.501.C. - Whenever natural features such as trees, brooks, drainage channels interfere with the proposed development, the retention of the maximum amount of such features shall be encouraged.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O.501.C. - Whenever natural features such as trees, brooks, drainage channels interfere with the proposed development, the retention of the maximum amount of such features shall be encouraged.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O.502.P - All construction plans shall include consideration of storm water drainage needs.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O.906.A - Flood Plain Overlay Districts - provisions for development...protect the health and safety of human life.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		

2011-12 Laws/Practices		Middlebury - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O.901.A - Agriculture Districts are designed to protect predominantly agricultural areas from suburban and urban development. C.P. - Every effort should be made to protect and promote the agricultural industry within the Town while designating specific commercial zones in targeted areas along the Rte 19 corridor. Agricultural districts should be continued as an incentive to keep the agricultural base strong, while smart growth opportunities are identified.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O.1007 - Animal Waste Storage Facilities - details stipulate best management practices for such systems, including preventing animal wastes from entering waterbodies and ground water, as well as interception, treatment and storage of polluted runoff, and adhering to Natural Resource Conservation Service standards and specifications. Z.O.XI.1114 - Animal Waste Management Systems - includes details stipulate best management practices for such systems, including preventing animal wastes from entering waterbodies.	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Z.O.501.A - No structure shall be built within 50 feet of the bed of a stream carrying water on an average of 6 months a year. See also Z.O.906.B - Flood Plan Overlay District - Methods for reducing flood losses.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - salt and salt brine mix, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		

2011-12 Laws/Practices		Middlebury - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Z.O.502.M - If the use of any lot or building involves the disposal of sewage or wastewater and public sewers are not available, an adequate sanitary disposal system shall be installed.	

2011-12 Laws/Practices		Monroe County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		Monroe County Stormwater Master Plan process kicked off 12/12. Plan will include identification of areas where additional stormwater management retrofits are needed to increase capasity to accommodate both current and future stormwater needs.
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		Stormwater Coalition of M.C. - distribute brochures to municipalities and residents. CCE - composting education and guides available online.
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		M.C. Household Hazardous Wastes Program and Ecopark - provides residents with a location to dispose of, or recycle certain items including household hazardous waste materials, batteries, cleaners, paint, oil, fertilizer, chemicals, etc. M.C. Dept. of Environmental Services - prescription drug disposal program. Stormwater Coalition of M.C. - distribute brochures to municipalities and residents as needed. SWCD - Agricultural Plastic Container Recycling Program at least once per year - collection of Ag plastics, and education on proper use/disposal of Ag plastics.
1-4	Storm drain/curb stenciling/labeling program.		Stormwater Coalition of M.C. - "H2O Hero" campaigne includes storm drain/curb stenciling in cooperation with municipalities, SWCD, Water Quality Coordinating Committee, etc.
1-5	Encourage volunteer programs.		Black Creek Watershed Coalition, Oatka Creek Watershed Committee, Marsh Monitoring, M.C. Dept. of Health - Community Water Watch program, M.C. Parks Dept. - **Pick up the Parks program**. Other volunteer groups in place.
1-6	Encourage the use of indigenous plants in landscapeing.		SWCD - encourages based on projects, trying to find plants with the highest chance of success. Tree and shrub sale, occurs on an annual basis; hardy varieties of native species are provided to the public at low-cost.
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.	M.C. Stormwater Management Packet for Developers.	Stormwater Coalition of M.C. - public outreach, programs, distribution of materials. SWCD - workshops on erosion and sediment control, outreach and implementation of AG BMPS (through AEM), staff to Black Creek Watershed Coalition and Oatka Creek Watershed Committee. CCE - education programs relating to water, proper fertilizing, nutrient runoff from gardens and lawns, and youth programs relating to water. M. C. Planning Dept. conducts biannual Land Use Decision Making Training Program for water quality, land use and other related topics. County-wide Stormwater Master Plan process will include public education and outreach. Additional education and outreach by the Black Creek Watershed Coalition and Oatka Creek Watershed Committee. G/FLRPC conducts workshops which include water quality sessions, and provide education/outreach.
1-8	Encourage proper control of pet wastes.	M. C. Code Ch. 323-20 Requirements for pet owners using county parks and dog parks.	Stormwater Coalition - Stormwater Management Plan - 1.4.7 pet waste signs, bags, trash cans in parks etc.
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.	Required of MS4 communities.	
1-10	Use of drainage districts.	The creation of a Monroe County Stormwater District is being explored.	
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	M.C. Green Building Policy-I. Construction/Renovations over 5,000sqft should pursue LEED certification or incorporated LEED practices to the maximum extent possible. Appendix D - LEED Checklists - Reduced site disturbance, Maximize open space…	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Could be required in SWPPPs for construction disturbing 1 acre or more. M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklists - Site selection, Maximize open space, Protect habitat…	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.	M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklists - Maximize open space, Stormwater design,	
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Likely required in SWPPPs for construction disturbing 1 acre or more. County Pure Waters developing a Master Plan which includes portions on stormwater management. Stormwater Coalition - Stormwater Management Plan. M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklists - Maximize open space, Stormwater design, Erosion and sediment control...	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklists - Stormwater design, Erosion and sediment control…	

2011-12 Laws/Practices		Monroe County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.	M.C. Code 347-14.R. - Operation of Solid Waste Facilities - All wastewater and wash water shall be discharged into a sanitary sewer or other approved disposal system. (Additional disposal procedures for hazardous materials). M.C. Code 347-16(6) - Sanitary Landfills - It should be readily feasible to prevent concentrated surface drainage, seeps or springs from flowing into the solid waste or standing water or floodwaters from reaching elevations as high as the lowest solid waste. M.C. Code 347-15 - Operation of Recycling Process Facilities. M.C. Charter C6-20.B - Department of Environmental Services - Powers and Duties - (1) To be responsible for the development, operation and maintenance of all sewage treatment and disposal facilities and trunk sewer systems constructed by the County. (4) To be responsible for the planning, development, operation and maintenance of all solid waste handling facilities owned or contracted for by the County. (6) To manage resource recovery facilities in such a way as to maximize recycling and minimize the use of landfills.. M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklist -Waste management, Chemical and pollutant source control, Toxic material reduction, Onsite disposal/reuse, Storage and collection of Recyclables...	M.C. Recycling program.
1-18	Ensure proper operation and maintenance of runoff management facilities.	M.C. Green Building Policy - (construction over 5,000sqft) - internal design team for design review, oversight, monitoring, reporting, policy implementation. During construction – consultant to confirm Green Building Goals not being compromised. LEED certification post construction could be required. Consultant would have to provide a LEED summary. M.C. DOT - routine inspections occur on a 5-year cycle for all highway outfalls. Highway culverts are inspected as needed. Any deficiencies are addressed in a timely manner based on their scope and severity.	
1-19	Encourage cluster development/conservation subdivisions.	M.C. Green Building Policy - (construction over 5,000sqft) Appendix D - LEED Checklists - Reduced site disturbance, Maximize open space, Development density...	Covered in M.C.Planning Dept. Land Use Training Program
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits	SPDES Phase II requirements mandatory for MS4 communities. MS4s are required to develop and implement an ordinance or other regulatory mechanism to require erosion and sediment controls on construction projects, to conduct construction site inspections and to provide for enforcement measures. General Permit for construction required anywhere 1 acre or more is disturbed and requires SWPPPs. Stormwater Coalition - Stormwater Management Plan. County-wide Stormwater Master Plan process will include assessments and recomendations regarding the MS4 programs and their efficiency.	MS4 municipalities are required to implement the 6 min measures for their MS4 permits. All municipalities are required to issue Construction Permits for projects disturbing 1 or more acres of land. SWCD: Construction site and construction permit inspection conducted at the request of municipalities and the Stormwater Coalition. They respond to requests for technical assistance including MS4 & Construction SPDES Permit assistance, SWPPP Review, construction site complaints, stormwater pond assistance, and MS4 audit assistance at the request of the municipalities. Stormwater Coalition of M.C. consists of 29 municipalities that work together to ensure enforcement of stormwater regulations. Task groups include Construction, Education, and Illicit Discharge/Pollution Prevention. The Coalition along with the Water Education Collaborative and SWCP work to satisfy min control measures 1&2 through education/outreach and public involvement. M.C. DOT Complies with Phase II requirements. G/FLRPC assists municipalities with stormwater and water quality issues through education and outreach, green infrastructure outreach and planning, and participation in the Stormwater Coalition.
1-21	Discourage development in flood plain and/or development below base flood elevation		Floodplain maps have recently been updated
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		SWCD - AEM is used as a base assessment for Forest management practices related to Agriculture. In-depth forest management is referred to DEC.

2011-12 Laws/Practices		Monroe County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.	Master Plan 4-19 - Encourage farmers to carry out an AEM.	SWCD - AEM is a voluntary program. Implemented the AEM program in the Black in Oatka Creek Watershed from 1998-present(2012). To date the District has completed 78 AEM Tier 1 surveys, 10 Tier 2 farm assessments, and 6 Tier 3A farm plans in the Black Creek Watershed. The District has completed 33 Tier 1 surveys, 16 Tier 2 assessments, and 2 tier 3A farm plans in the Oatka Creek Watershed. Funding available to farmers to implement Ag non-point source pollution prevention. Erosion and sediment control planning is available through AEM. In 2011 (4) Water and Sediment Control Basins were installed in the Black Creek watershed through a Great Lakes Commission grant. The District was awarded a Round 17 Ag NPS Grant for field erosion and sediment control projects on four farms. Several more projects are planned through a Great Lakes Commission grant as well. Recently M.C. SWCD and Genesee County SWCD have been awarded a $1,119,928 Round 18 Ag NPS grant for the Oatka Creek Watershed Agricultural Nutrient Reduction Project by the NYS Agricultural Nonpoint Source Pollution Abatement & Control Program. The project will implement 36 bumps on 5 farms identified as priority projects in the AEM Tier 2 process. BMPs will include: Heavy Use Area Protection, Barn Roof Runoff Structures, Riparian Buffer Strips/Filter Strips, Waste Storage Facilities, Waste Transport Systems, Access Roads, Milk house Waste Collection Systems, etc.
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		SWCD - CAFO regulations/permits are required with AEMs (if applicable). There are 2 AEM farms operating under CAFO permits in the Black Creek Watershed and 1 AEM farm operating under CAFO permit in the Oatka Creek Watershed. The DEC site listing has one more farm listed on their CAFO, however it is unknown by the district if this particular farm is still operating under CAFO status because their program is voluntary. If farm is working under a CAFO permit they are required to follow comprehensive nutrient management plans. See also Round 18 Ag NPS grant above - implementation of AEM CAFO and CNMP regs./plans/recommendations.
2-06	Implement barnyard runoff controls.		SWCD - Barnyard practices were implemented on 1 Ogden farm and 1 Riga farm through the Lake Ontario Implementation Grant. The Genesee River Implementation Grant was amended in 2007 to included a barnyard runoff management practice on a Riga farm. Round 18 Ag NPS grant will include barnyard runoff controls.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		SWCD - Grazing planning is available to all M.C. Farms through the AEM program. Grazing in environmentally sensitive areas is discouraged. Round 18 Ag NPS grant will include vegetative stream buffers. A Caring for Creeks grant is also still available to award farmers who agree to a riparian buffers.
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	M.C. Agriculture and Farmland Protection Plan.	Ag Districts Program
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		SWCD - general goal and practice. AEM Tier 5B Plan evaluation is used to monitor completed Ag BMPs and farm plans.
3-02	Establish riparian buffers.		SWCD - will encourage when assisting landowners/farmers with SWPPPs and AEMs, or if reviewing Site Plans. 1 Riparian buffer implemented on unnamed trib. to Black Creek on 1 farm in Riga for 430ftx15ft. Round 18 Ag NPS grant will include vegetative stream buffers. A Caring for Creeks grant is also still available to award farmers who agree to riparian buffers.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	M.C. Code Ch. 323-20 Requirements for pet owners using county parks and dog parks.	SWCD - Regulated in CAFO CNMP plans, AEM Tier 3A Conservation Plans. Round 18 Ag NPS grant - all 5 farms will be implementing practices to prevent animal waste from entering waterbody. 4/5 are CAFO regulated.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		SWCD has used native vegetation, such as planting dogwood and willow stakes to stabilized banks. Encourages towns to plant grasses, and native vegetation on banks and not mow right up to banks. Has assisted municipalities in stream bank protection though re-sloping and installation of vegetation, vegetated rip rap, and toe deflector stones to redirect water to the center of the creek channel. Approaches are developed on a case-by-case, site specific basis. Round 18 Ag NPS grant will include vegetative stream buffers.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		

2011-12 Laws/Practices		Monroe County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.	M.C. Code V.205-35 Fuel Spills (Aircraft) - Policies for fuel spill cleanup and cleanup responsibility. M.C. Code 347-14.R. - Operation of Solid Waste Facilities - All wastewater and wash water shall be discharged into a sanitary sewer or other approved disposal system. (Additional disposal procedures for hazardous materials). M.C. Code 347-16(6) - Sanitary Landfills - It should be readily feasible to prevent concentrated surface drainage, seeps or springs from flowing into the solid waste or standing water or floodwaters from reaching elevations as high as the lowest solid waste.	Greater Rochester International Airport - aircraft deicing stations present where fluids can be sent to sanitary sewer to prevent runoff/entering storm sewer. Black Creek Watershed Coalition, Oatka Creek Watershed Committee work to prevent harmful discharges through stormwater work.
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.	M.C. Code Ch. 377	SWCD - disseminate information regarding regulations/requirements to the town/developers/residents/farmers/ homeowners as requested. SWCD co-hosts workshops for municipal boards on wetland regulation, creation and protection issues. Typically 1-2 workshops are held each year with 40-70 attendees.
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...	M.C. Code Ch. 377-4,5 - Wetlands - Permit needed for regulated activities conducted in wetlands, with the exception of many farming related activities (grazing, growing crops, etc.). Regulated activities include draining, dredging, excavation, dumping, filling, erecting any structures or roads, any pollution, any other use that impairs wetland functions.	
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.	M.C. Code V.205-35 Fuel Spills (Aircraft) - Policies for fuel spill cleanup and cleanup responsibility.	M.C. DOT - routinely maintains best management practices with all of its maintenance operations. While many of these functions are performed under contract by local Town DPW's, M.C DOT's own staff is also trained to perform its operations using appropriate BMP's. Greater Rochester International Airport - deicing stations where fluids can be sent to sanitary sewer to prevent runoff or entering stormwater sewer/watershed.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.	M.C. DOT follows its Integrated Vegetation Management Program dated April 2001.	
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.	M.C. DOT - opportunities are pursued as they become identified during routine maintenance operations.	WQCC/SWCD utilized FLLOWPA funding to create an inventory of areas in the county with erosion problems
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.	Practices are utilized by local Town DPW's under contract to perform winter highway maintenance operations for M.C. DOT.	
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.	Design Criteria and Construction Manual - references to NYSDOT standards and manuals. M.C. DOT formally recognizes and accepts NYSDOT documents for use in procedures and projects wherever local documents do not supersede (but they aren't involved with writing local laws).	
4-07	Participate in Cornell Local Roads Program activities and training.	M.C. DOT staff participates regularly with training by CLRP.	
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.	M.C. DOT staff participates regularly with training by SWCD.	M.C. Landuse Decision Maker Training and G/FLRPC Local Government Workshops targeted toward Gov. officials, planning/zoning officials, etc.
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.	Routine inspections occur on a 4-year cycle for all M.C. DOT maintained bridges and on a 5-year cycle for all highway outfalls. Highway culverts are inspected as needed. Any deficiencies are addressed in a timely manner based on their scope and severity.	
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.	M.C. Sanitary Code-Ch. 569 - Construction of new and/or the alteration or repair of any existing residential on-site systems requires a permit however, inspections at property transfers are recommended not required.	Practice: M.C. Health Dept./M.C. Sanitary Code: requires permit/inspections for alteration/repair. Recommends* inspections at property transfers and refinancing. Will investigate if they get complaints of odor.
5-02	Institute setback guidelines	County Sanitary Code 569-21.C.8 The location of any water wells within 500 feet of the proposed sewage disposal system. MC Wetland Law Ch377 - creation of septic systems in or adjacent to a wetland would have to be reviewed to determine if it should be allowed and approved to receive a wetland permit.	

2011-12 Laws/Practices		Monroe County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
5-04	Target OWTS outreach programs at homeowners, contractors and developers	Monroe County DOH, CCE, SWCD all offer various education and outreach materials and programs	Stormwater Coalition of M.C./WQCC/DOH - brochures/education/outreach
5-05	Require all properties with access to municipal sewer service to connect.	Monroe County Sanitary Code 569-22, - Connection to public sewer required if available - if public sewer is available and accessible, private septic can not be created, altered or repaired.	

2011-12 Laws/Practices		Orangeville - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	Z.O.1103 - Excavation Operations - All reclamation work shall be complete within one (1) year after the termination of operations, at the expense of the operator.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O.501 - Preservation of Natural Features A. No structure shall be built within fifty (50) feet of the bed of a stream carrying water on an average of six (6) months of the year (except for certain public facilities and infrastructure) C. Whenever natural features such as trees, brooks and drainage channels interfere with the proposed use of property, the retention of the maximum amount of such features consistent with the intended use of the property shall be encouraged. Z.O.1103.L - Excavation Operations - Existing hills, trees and ground cover fronting along public roads or adjacent property shall be preserved, maintained and supplemented...(when feasible, otherwise new landscaping).	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O.1103.L - Excavation Operations - Existing hills, trees and ground cover fronting along public roads or adjacent property shall be preserved, maintained and supplemented by selective cutting, transplanting and addition of new trees, shrubs and other ground cover for the purpose of screening and noise reduction (when feasible, otherwise new landscaping).	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. 1103.P. - Excavation Operations - An adequate and comprehensive drainage system shall be provided to convey the storm water runoff originating on and crossing the premises in accordance with the natural direction of runoff for the total watershed area. No excavation shall be allowed within fifty (50) feet to a natural stream. Sediment control measures shall be installed.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Z.O. 1103.K. - Excavation Operations - All topsoil and subsoil shall be stripped from the active excavation area and stockpiled and seeded for use in accordance with the restoration plan. Such stockpiles shall be treated to minimize the effects of erosion.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. 907. - Cluster Residnential District	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits	Z.O. 502.W. - Regulations Applicable to all Zones - For the control of wastewater and stormwater discharges, in accordance with the Clean Water Act under New York State Law, all projects disturbing a specific area of ground, as prescribed by state law, are required to obtain a permit through the State Pollutant Discharge Elimination System (SPDES) program. State regulations should be referenced for specific requirements.	
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O.306. - Site Plan Review - comply with flood hazard and flood insurance regulations, special attention to the adequacy and impact of structures, roadways and landscaping in areas with susceptibility to ponding, flooding and/or erosion. Z.O. 1303.B.4. - Residential - Residential construction should be strictly controlled in areas which are subject to flooding and characterized by steep slopes or soils which are unstable and subject to erosion. Z.O. 1307.B.6. - Conservation and Open Space - Regulate development within flood hazard areas so that it meets the requirements of the Federal Flood Insurance Program and will be resistant to flood damages, will not restrict the flow of flood waters, and will not increase flood hazards to other properties.	

2011-12 Laws/Practices		Orangeville - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O. 901. - Low Density District. Z.O. 1009,1010,1118 Gentleman Farm Operations Tiers 1, 2, 3. C.P. 1302. - Agricultural-Rural - A. Goal - Agricultural Development is important and should be protected in the Town of Orangeville. Law. C. Goal - Retain appropriate areas of the Town for agriculture. See also D. Policies. Z.O. 1307.A - Conservation and Open Space - Goal - Protect important environmental resources from the adverse effects of development.	
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O.1005 - Animal Waster Management Systems - G. Polluted runoff and seepage from concentrated waste areas should be intercepted and directed to storage or treatment facilities for future disposal or be directly applied to land in manner acceptable to the SWCD, or a State certified engineer, or to the NCRS standards. H. Waste water from processing should be collected and directly applied, stored, or treated prior to re-use. I. Adequate drainage, erosion control, and other soil and water management practices shall be incorporated to prevent system-related problems and potential adverse impacts on nearby properties. P. Waste management systems should not be located in areas of special flood hazard unless it is protected by dikes, levees or other means.	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Z.O.501 - Preservation of Natural Features - A. No structure shall be built within fifty (50) feet of the bed of a stream carrying water on an average of six (6) months of the year (except for certain public facilities and infrastructure) C. Whenever natural features such as trees, brooks and drainage channels interfere with the proposed use of property, the retention of the maximum amount of such features consistent with the intended use of the property shall be encouraged.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...	Z.O. 502.X. - Regulations Applicable to all Zones - US EPA and NYS DEC have regulations that preserve, protect and conserve freshwater wetlands and their benefits. Any project shall meet all Federal and State rules and regulations concerning wetlands.	
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		

2011-12 Laws/Practices		Orangeville - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 50% sand 50% salt, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Z.O. 502.M. - Regulations Applicable to all Zones - If the use of any lot or building involves the disposal of sewage or wastewater and public sewers are not available, an adequate sanitary disposal system for the same shall be installed in accordance with regulations and standards promulgated by the Department of Health and at all times maintained on such lot or in lawful connection therewith. Certification of approval for the installation of on-site sewage disposal systems shall be obtained from the Department of Health and submitted to the Zoning Enforcement Officer prior to the start of construction.	

2011-12 Laws/Practices		Pavilion - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.	Sub-D. - pg.16. - The Planning Board shall refer all residential subdivision proposals to the G.C. SWCD for their review as to the acceptability of proposed drainage, erosion and sediment control measures both during and after completion.	
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	Z.O. 402.H - Excavation During Construction - In any construction, open excavations shall be limited to a maximum of sixty days, with appropriate fencing, barricades or covering.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Sub-7. - Preserve the natural and scenic qualities of open lands. Sub-2. - Where a subdivision is traversed by a natural lake, pond or stream, the boundaries of the said watercourse shall be preserved.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Sub-2.F.6. - Design Standards - No tree with a diameter of eight inches or more…shall be removed…Removal of additional trees shall be subject to approval of the Planning Board.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. 808.C.2.j - Site Plan Review - Description of proposed measures to control runoff and drainage for the site and when required by NYS DEC and/or SEQR process, a Stormwater Management and Erosion Control Plan. Sub-D pg.16. - The Planning Board shall refer all residential subdivision proposals to the G.C. SWCD for their review as to the acceptability of proposed drainage, erosion and sediment control measures both during and after completion. Sub-10. pg22. - Storm drainage plan indicating the location and size.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Z.O.607 - Commercial Excavation - A-B - [regarding major and minor excavations, minor excavations require a special use permit requiring erosion plans to be written and submitted to the G.C. SWCD for review]. B8: All topsoil and subsoil shall be stripped from the excavation areas and stockpiled and seeded for use in accordance with the reclamation plan…such stockpiles shall be treated to minimize the effects of erosion. Z.O. 402.H. Excavation During Construction - In any construction, open excavations shall be limited to a maximum of sixty (60) days, with appropriate fencing, barricades or covering. Sub-F. pg16 - Topsoil moved during the course of construction shall be redistributed.	Ditches/public land - hay is generally used when the situation calls for it.

2011-12 Laws/Practices		Pavilion - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.	Z.O. 808.C.2.k. - Site Plan Review - A description of the proposed generation, storage and disposal of hazardous material and/or hazardous waste on-site.	
1-18	Ensure proper operation and maintenance of runoff management facilities.	Sub-D. pg16. - The Planning Board shall refer all residential subdivision proposals to the G.C. SWCD for their review as to the acceptability of proposed drainage, erosion and sediment control measures both during and after completion...All easements deemed necessary to maintain either natural or main made storm water drainage, erosion and/ or sediment control measures shall be provided and plotted accordingly...	
1-19	Encourage cluster development/conservation subdivisions.	Z.O. 617. - Cluster Residential Development - permitted with special use permit and requirements. Z.O. 506. - Planned Unit Development District	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Sub-B.6 pg15. - Where there is a question as to the suitability of the land due to factors such as flooding, the Planning Board may withhold approval of such lots. Sub-G.2 pg17. - Land subject to flooding shall not be platted for occupancy. Z.O. 401.E - Lots under Water or Subject to Flooding may be excluded for development.	
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
Agriculture			
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.	Z.O. 409.A - Stabling Farm Animals - There shall be no stabling of farm animals or storage of manure, fertilizer, or similar odor or dust producing substance within the C District unless a suitable site plan has been approved by the Planning Board. See also 2-14.	Barnyard Runoff Management Systems and other operational BMPs were implemented on farms in Ogden(2), Wheatland(1), LeRoy(3), Pavilion(2), Byron(1), Warsaw(5), Covington(3), Orangeville(1), and Middlebury(1) through the Genesee River Implementation Grant project.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O. 501-502 - Ag. Districts designed to accommodate primarily agricultural uses in order to preserve the Town's agricultural base and maintain its rural nature.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.	Z.O. 103.I. To prevent the pollution of streams and ponds; to safeguard the water table, and to encourage the wise use and sound management of the natural resources throughout the Town in order to preserve the integrity, stability and beauty of the community and the value of the land.	Highway dept. has conducted such activities working closely with SWCD and DEC.
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O. 618. - Animal Waste Storage Facilities.	

2011-12 Laws/Practices		Pavilion - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.	Z.O. 607.B.8. - Topsoil - All topsoil and subsoil shall be stripped from the excavation areas and stockpiled and seeded for use in accordance with the reclamation plan. The location of topsoil to be stored shall be identified. Such stockpiles shall be treated to minimize the effects of erosion by wind or water upon public roads, streams, or adjacent property.	
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.	Z.O. 607.B4. - Commercial Excavation - Drainage - All surface drainage and any waste matter shall be controlled to prevent any silt, waste products, process residues, etc. from flowing…into any stream.	
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		Basic BMPs are practiced by the department. Visual inspection takes place; repairs are then done in conjunction with paving, which occurs on a rotating basis.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		No pesticides used, vegetation maintained near waterways, etc.
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Some ditch stabilization, which included using rip rap, etc.; check dams have been installed in certain locations.
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 75%Salt/ 25%Sand, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		Attend as needed.
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		Culverts are routinely inspected visually.
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Sub-V.1.E - Wastewater disposal systems. See also pg.22. - Connection to existing lines.	

2011-12 Laws/Practices		Perry - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.	Z.O. VI.6600.F - Site Plan Review - Kennels: Waste Disposal - Adequate provisions shall be made for disposing of animal waste.	
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.		
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. V.2400. - Cluster Residential Developments - Cluster Residential Developments - Maintenance of Open Space - The Town Planning Board…may establish such conditions on the ownership, use, and maintenance of open lands shown on the plat as the Board deems necessary to assure the preservation of the natural and scenic qualities of the open lands.	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation		
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Ag. Districts Present.	

2011-12 Laws/Practices		Perry - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.	C.P. pg16 - Conservation Area - The Land Use Plan map indicates conservation areas along the entire length of all streams within the Town and Village.	
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O. VI.5300. - Special Use Permits - Animal Waste Management System - The Town Planning Board may approve a Special Use Permit...for Animal Waste Management Systems provided the standards and provisions specified below are followed [specifications shall conform to NRCS standards].	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 30%sand/70% salt, stored on pavement.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

		Riga	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems	Subdivision Sec. 81-17B: design of stormwater detention facilities shall be included	
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		
1-4	Storm drain/curb stenciling/labeling		
1-5	Encourage volunteer programs		
1-6	Encourage the use of indigenous plants		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.	Comp Plan pg. 62 - expand education and training - Elected officials and advisory board members should receive ongoing training in the tools and techniques available to them in order to protect the Town's and Village's natural resources.	
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.		
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance	Z.O. 95-29. B.4 - The preservation of trees, outstanding natural topography and geological features and the prevention of soil erosion.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 95-29 PRD Planned Residential Development District - exceptions allowed in order to: have more usable open space and recreation areas, preserve trees and topography/geologic features and prevent soil erosion. 95-29. B.4 - The preservation of trees, outstanding natural topography and geological features and the prevention of soil erosion. S of L. 81-31. B - To the fullest extent possible, all existing trees and shrubbery shall be conserved. Subdivision 81-31.C - Where a subdivision is traversed by a natural lake, pond or stream, the boundaries or alignment of said watercourse shall be preserved. Comp Plan pg34 C. Designate appropriate areas for various types of residential development, including cluster type development to limit impact on natural features. Z.O. 95-29. E.1.d - A tracing overlay showing all soil areas and their classifications and those areas, if any, with moderate or high susceptibility to erosion.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 95-29. B.4 - The preservation of trees, outstanding natural topography and geological features and the prevention of soil erosion. Subdivision 81-31. B - To the fullest extent possible, all existing trees and shrubbery shall be conserved.	
1-14	Minimize the creation of impervious areas [encourage permeable surface]		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	Z.O. 95-29. E.1.e - Planned Residential Developments - Site plan approval process - Requires storm drainage calculations justifying sizing of proposed drainage system and capabilities of receiving stream or piping system. Z.O. 95-24. D.3 - [EPOD] Appropriate erosion control measures be installed and maintained on site, to ensure that any watercourse or wetland will be adequately protected from runoff, soil erosion and siltation resulting from construction or development activities. Comp Plan pg. 62 - Create Stormwater Management Plan	Practice: during major projects, treatment put into place.

		Riga	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.	Subdivision 81-31. A - Topsoil moved during the course of construction shall be redistributed. Z.O. 95-24. D.3 - [EPOD] Appropriate erosion control measures be installed and maintained on site, to ensure that any watercourse or wetland will be adequately protected from runoff, soil erosion and siltation resulting from construction or development activities. Z.O. 95-29. E.1.d - A tracing overlay showing all soil areas and their classifications and those areas, if any, with moderate or high susceptibility to erosion.	Municipal hydro seeding takes place when called for; hay and mulch are also used as the situation necessitates.
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling		
1-18	Ensure proper operation and maintenance of runoff management facilities		General municipal practice
1-19	Encourage cluster development/conservation subdivisions	Comp Plan Pg. 34 C. Designate appropriate areas for various types of residential development including use of environmental protection overlay district and cluster development	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		(Non-MS4) Voluntary stormwater coalition member. Construction site and Construction Permit inspection conducted by the county SWCD at the request of NYSDECAll. Municipalities are required to issue Construction Permits for projects disturbing 1 or more acres of land. Town complies with Phase II regulations for urbanized areas; plans are requested for all large projects.
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 95-22. F.3.c - Structures shall not be permitted in Floodway Zone. Code-Sec. 51 Flood Damage Prevention (regarding Flood Plain Overlay District) - 51-13.G. Certificate of compliance - A certificate of compliance is required from the local administrator stating that the building or land conforms to the requirements of this chapter based on inspections, and/or any certified elevations, hydraulic data, flood proofing, anchoring requirements or encroachment analyses which may have been required as a condition of the approved permit. 51-16. Required Elevation for residential structures - Most flood zones - lowest floor (including basement) – must be at or above the base flood level, but as high as 2ft above. When no base flood elevation data is available – lowest floor must be at least three feet above the highest adjacent grade. Nonresidential – Most flood zones - lowest floor, elevated to or above two feet above the base flood elevation; or be flood proofed so that the structure is watertight below two feet above the base flood level with walls substantially impermeable to the passage of water and have a certificate from a licensed professional engineer or architect. See also Flood Plain Overlay District Z.O. 95-23	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implement the Agricultural Environmental Management (AEM) program		

		Riga	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		
2-06	Implement barnyard runoff controls.		Practice: SWCD: Barnyard practices were implemented on 1 Riga farm through the Lake Ontario Implementation Grant.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans	Z.O. 95-25. A - The Rural Ag. District Zone is intended to conserve those land areas which are suitable for farm and age. uses, and protect them against encroachment.	
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers		Practice: SWCD: will encourage when assisting landowners/farmers with SWPPPs and AEMs, or if reviewing Site Plans. 1 Riparian buffer implemented on unnamed trib to Black Creek on 1 farm in Riga for 430ftx15ft. in Riga 400ft by 15ft.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes	Z.O. 95-24. D.3 - [EPOD] Appropriate erosion control measures be installed and maintained on site, to ensure that any watercourse or wetland will be adequately protected from runoff, soil erosion and siltation resulting from construction or development activities.	Practice: SWCD In conjunction with the Town of Riga implemented 1 Stabilization project on an unnamed tributary to Black Creek on the corner of Stearns & Griffin Rds-429 linear feet (100 feet was vegetated rip rap. and the remainder of the project was re-sloped and planted with native vegetation with no stone implemented).
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages		
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential	Comp Plan pg. 85 - priority to preserve of wetlands	
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins	Z.O. 95-24. D.3 - [EPOD] Appropriate erosion control measures be installed and maintained on site, to ensure that any watercourse or wetland will be adequately protected from runoff, soil erosion and siltation resulting from construction or development activities.	
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices		Basic BMPs conducted by department; new salt storage barn constructed in 2006. Visual inspection for most facilities; all are maintained on a regular basis
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		Practice: no pesticides used; no jurisdiction near creek beds, however

		Riga	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		Practice: major project on Fairbanks Road embankment re-contoured all banks, ditches, etc.
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Practice: According to G/FLRPC 2011 Salt Storage Survey - 8 gal magic product/ 1 ton salt, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		Practice: familiar with documents and procedures
4-07	Participate in Cornell Local Roads Program activities and training		Practice: staff attend regularly
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials	Comp Plan pg. 62 - expand education and training - Elected officials and advisory board members should receive ongoing training in the tools and techniques available to them in order to protect the Town's and Village's natural resources.	Practice: staff attend regularly
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.	Comp Plan pg. 83 - mentions the question of whether culverts are maintained, but does not elaborate or state a priority to find out and to maintain	Practice: ditching in the town is minimal; however, staff walk the roads as part of a regular spring cleanup and report on findings; county receives information regarding facilities that they are in charge of also
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer		
5-02	Institute setback guidelines		
5-04	Target outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal service to connect.		

2011-12 Laws/Practices		Scottsville - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		Several retention/detention areas observed to be in place. Switched sewage treatment facility over to M.C. Pure Waters; discharge changed from Oatka Creek to Lake Ontario at Frank E. VanLare Wastewater Treatment Facility.
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.	Wheatland/Scottsville Comp. Plan, 2-9: "...there is a need for the Town...to address water quality issues by actively participating in the various watershed and water quality committees, and by maintaining current knowledge of existing and upcoming regulations pertaining to water quality..."	
1-6	Encourage the use of indigenous plants in landscapeing.		Cornell Cooperative Extension experts and publications regularly consulted regarding ideal native/disease resistant plant species
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.	Z.O. Ch. 54 Animals Article II Dog Control Sec. 54-10b: The owner of any dog which is within the [Village] shall not permit his or her dog to...defecate in such a way as to cause annoyance to the residents...	
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		General Practice
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Joint Comprehensive Plan: 2-8: natural corridors and other vital environmental areas shall be preserved or mitigated if necessary. 2-12: "...based on the environmentally sensitive nature of steep slopes...there is a need to periodically review and evaluate their status, and consider regulating development in and near these areas through supplemental Z.O. regulations..."	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		Phase II Pre/Post Construction Regulations strictly adhered to.
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		Municipality uses SWCD hydro seeder when necessary for ditches etc.; a spreader is also used w/back raking.
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		Of the few detention basins within village limits, each is maintained regularly.
1-19	Encourage cluster development/conservation subdivisions.	Joint Comp. Plan, 4-9: "Promote the preservation of woodlots and natural areas under the development review process by encouraging the use of "forever-wild" areas, permitting innovative design techniques that protect sensitive areas, encouraging natural design themes for development, and/or requiring the use of conservation easements in all development."	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		(Non-MS4). Other Phase II requirements rigorously enforced by village and town officials; Construction site and Construction Permit inspection conducted by the county SWCD at the request of NYSDEC or constituent municipalities; Voluntary stormwater coalition member. Phase II Regulations are rigorously enforced by department.

2011-12 Laws/Practices		Scottsville - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-21	Discourage development in flood plain and/or development below base flood elevation	Local Law for Flood Damage Prevention pg. 8. - No structure can be built/altered and no land can be excavated or filled without following Flood Damage Prevention Law regulations. Floodplain development permit required. Anchoring required. Required Elevation for residential structures - Most flood zones within flood plain - lowest floor (including basement) – must be to or above two feet above base flood elevation. When no base flood elevation data is available – lowest floor must be at least three feet above the highest adjacent grade. Nonresidential – Most flood zones - lowest floor, elevated to or above two feet above the base flood elevation; or be completely flood proofed to that level and have a certificate from a licensed professional engineer or architect. Residential- Joint Comp. Plan 2-11…there is a need to consider enacting further safety measures in [flood prone areas] through the use of supplemental Z.O. regulations...	
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
Agriculture			
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans		
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	Joint Comp. Plan 2-11 - …the Town…should officially designate local environmentally sensitive areas through a Preservation of Environmentally Sensitive Areas Program.	
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.	Joint Comp. Plan 2-20 - The Town and Village should continue to maintain their storm sewer systems in keeping with past practices and current regulatory requirements.	Basic BMPs are in place; pesticides are never used near waterways, road salt storage enclosed, chemicals rarely if ever used, etc. Structures inspected regularly;
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		Does not apply--village landscape does not necessitate right of way activities
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		Few steep slopes or erosion problem areas within village limits.

2011-12 Laws/Practices		Scottsville - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on pavement floor. Alternatives such as magnesium chloride have been tested, but proved to be ineffective.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		Referred to often.
4-07	Participate in Cornell Local Roads Program activities and training.		General Practice.
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		When available
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		Sub-standard structures are all identified and on a long-term replacement plan;
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.	Z.O. 131-5 - Sewers - The owner of any...property use for human occupancy...in which there is a public sewer line or to which there is otherwise...accessible a public sewer line is required to connect. Joint Comprehensive Plan 6-7 - Several specific reasons to consider limited construction of public sanitary sewers [health reasons, surface and ground water, inadequate soils and other site-specific reasons}	

2011-12 Laws/Practices		Stafford - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.	Comp Plan - Goals/Objectives - Promote public education to promote septic system maintenance. The Town should work with the local SWCD, the County and other involved agencies to address this problem through means such as public education about septic tank maintenance, and technical assistance programs. Work with the SWCD for continued outreach and education, and provision of technical assistance on water and wastewater issues.	
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.	Z.O. 182-27 Site Plan Review (2) The Planning Board shall have the authority to impose such reasonable conditions and restrictions as are directly related to and incidental to a proposed site plan. Upon its approval of said site plan, any such conditions must be met in connection with the issuance of permits by applicable enforcement agents or officers of the Town.	
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	182-36.A.2 - Commercial excavation As part of the application process for a special use permit, the applicant's plan shall be presented to the G.C. SWCD for its review and comments. Also, before issuing a special use permit, the Planning Board must find that such excavation will not endanger the stability of adjacent land or structures or the quality or quantity of groundwater and that it does not constitute a detriment to public health, safety or welfare by reason of excessive dust, noise, traffic, erosion, siltation or other condition.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. IV Site Plan Sec 182-39 J - Existing on-site vegetation shall be preserved to the maximum extent possible and no cutting of trees exceeding 4 inches in diameter. [RE: Communication Towers]	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 136 A.2.6 – Commercial Excavation - Roadside landscape. Existing trees and ground cover along public road frontage shall be preserved, maintained and supplemented. 182-39 J - Communication Towers - Existing on-site vegetation shall be preserved to the maximum extent possible and no cutting of trees exceeding 4 inches in diameter.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. IV Site Plan Sec182-27 - Applicant must submit...(6) Preliminary engineering plans, street improvements, storm drainage, water supply and sanitary sewer facilities and fire protection. 182-36.A.2.b.[4] - Commercial excavation - Drainage. All surface drainage and any waste matter shall be controlled to prevent any silt, waste products, process residues, etc., from flowing onto public roads, adjacent property or into any stream.	

2011-12 Laws/Practices		Stafford - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	182-36[8] Commercial excavation Topsoil. All topsoil and subsoil shall be stripped from the excavation areas and stockpiled and seeded for use in accordance with the reclamation plan. The location of topsoil to be stored shall be identified. Such stockpiles shall be treated to minimize the effects of erosion by wind or water upon public roads, streams or adjacent property. This subsection shall be applied to all operations except that of topsoil removal. [12] - Commercial excavation - Reclamation plan. The applicant shall submit a reclamation plan. "Reclamation plan" means the applicant's proposal for reclaiming the affected land, including...the method of reclamation and a schedule for performing reclamation. Where feasible, reclamation shall be a continuing operation. Grading, topsoil replacement and replanting of the area designated for restoration shall continue during the permit period. All reclamation work shall be complete within one year after the termination of operations, at the expense of the operator.	Municipal Practice
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		few such facilities present within the department, but they are looked after as necessary
1-19	Encourage cluster development/conservation subdivisions.	Comp Plan - Implementation - Rural Cluster Developments. Revise site plan guidelines to encourage applicants to cluster home sites closer together in order to preserve significant features or open space. (Overall density must conform to existing standards). These type of "rural" cluster regulations do not require the construction of roads.	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. Sec 182-12 E. Restrictions to development on lots under water or lots subject to flooding. Flood Damage Prevention Law - requirements to build specific heights above base flood elevation, or required flood proofing depending on the use and Flood map zone.	
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
Agriculture			
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		See County AEM/Round 18 Ag NPS grant - 1 dairy farm awarded within 2012 Oatka Creek Watershed Agricultural Nutrient Reduction Project to implement priority AEM BMPs
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		See Round 18 Ag NPS grant above - will include barnyard runoff management BMPs including trench & roof gutter system, watering facility, and access road.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		Round 18 Ag NPS grant above will include grazing plan implementation. Buffer in place on targeted farm.
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O. Sec 182-21 - Agricultural Districts are designed to preserve the Towns agricultural base and maintain its rural nature.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
Waterways			

2011-12 Laws/Practices		Stafford - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.	Comp Plan - Recommendations - The Town should consider instituting environmental overlays along the major streams to limit development and agricultural use along the edge of the stream banks in order to protect the integrity of the streams and their water quality.	Round 18 Ag NPS grant above - buffer already established on target farm will be maintained.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O. 182-33 - Stabling of Farm Animals - C. Disposal of bedding - manure or other animal waste shall be in conformance with guidelines established by the US Soil Conservation Service and/or G.C. SWCD. The ZEO may require an individual who stables farm animals to provide the Town with an animal waste disposal plan approved by one of the aforementioned agencies. See also 182.37 - Animal Waste Storage Facilities	Round 18 Ag NPS grant - targeted toward preventing animal wastes from entering waterbody, will include barnyard runoff management BMPs including trench & roof gutter system, watering facility, and access road. Buffer already established on target farm.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.	182-36.A.2.b.[4] - Commercial excavation - Drainage. All surface drainage and any waste matter shall be controlled to prevent any silt, waste products, process residues, etc., from flowing onto public roads, adjacent property or into any stream.	Round 18 Ag NPS grant - Buffer already established on target farm will be maintained.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.	182-36.A.2.b.[4] - Commercial excavation - Drainage. All surface drainage and any waste matter shall be controlled to prevent any silt, waste products, process residues, etc., from flowing onto public roads, adjacent property or into any stream.	
Wetlands			
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.	Comp Plan - Town could undertake a natural resources inventory to identify important wetlands, floodplains, prime farm soils and other environmental resources.	
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	Comp Plan - The Town has concentrated areas of wetlands, with mapped wetlands (map 5) along waterways and in other scattered locations throughout the Town. Inappropriate development of these areas could lead to flooding and drainage problems. Areas of federal wetlands in Stafford are concentrated in the southern portion of Town, particularly the southeastern corner, and along Black Creek and Bigelow Creek.	
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		basic BMPs are being practiced by the department; site stabilization, etc. Culverts are the only structures (besides bridges); department recently began a detailed visual inspection of such facilities
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		when right of way activities disturb large areas, no chemicals are used and hand seeding takes place after; the department attempts to retain as much vegetation as possible
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		

2011-12 Laws/Practices		Stafford - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		attends regularly
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		department has recently begun a detailed visual inspection program for such facilities. problem culverts have been identified
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.	Comp Plan Goals - Protect groundwater and surface water resources from contamination from failing septic systems and other sources of pollution. Recommendations - Ensure adequate monitoring and enforcement regarding failing septic systems to protect groundwater quality.	
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers	Comp Plan - Goals/Objectives - Promote public education to promote septic system maintenance. The Town should work with the local SWCD, the County and other involved agencies to address this problem through means such as public education about septic tank maintenance, and technical assistance programs. Work with the SWCD for continued outreach and education, and provision of technical assistance on water and wastewater issues.	
5-05	Require all properties with access to municipal sewer service to connect.	Comp Plan - There is no public sewerage system in the Town of Stafford. All households are serviced with privately maintained sanitary waste systems (septic systems).	

2011-12 Laws/Practices		Warsaw - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.	Sub-IV.V.E - Required Trees - ...Required trees shall be approved by the Planning Board and shall be compatible with subdivision development in terms of...nuisance characteristics, disease and pest resistance and general hardiness;	
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 501.A. - No structure shall be built within 50 feet of the bed of stream carrying water on an average of 6 months of the year. Z.O. 501.C. - Natural features such as trees, brooks, drainage channels shall be preserved. Sub-D. pg. 24 - The Planning Board, shall wherever possible, preserve all natural features. Sec 1104 Excavation Operations L: Existing hills, trees and ground cover...shall be preserved.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 501.C. - Natural features such as trees, brooks, drainage channels shall be preserved. Z.O. 1104.L - Excavation Operations - Existing hills, trees and ground cover...shall be preserved Sub-K pg18 - Preserve tree life. Sub-D. pg 24 - No tree with a diameter of 8 inches or more shall be removed.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. 1104. - Excavation Operations P and Q: [regarding an adequate and comprehensive drainage system]. Sub-A. pg23 - The subdivider may be required to carry away and surface water that may exist either previous too or as a result of the subdivision. Sub-pg28. - Subdivider must provide a storm drainage plan indicating the approximate location and size.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Z.O. 1104.K. - Excavation Operations - All topsoil and subsoil shall be stripped from the active excavation area and stockpiled and seeded for use in accordance with the restoration plan. R. - All applications for a permit under this section must contain an operations plan in sufficient detail to describe the excavation operation including active excavation and storage areas.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. 1113.A. - Cluster residential developments may be permitted upon approval by the Planning Board.	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 906.A. - Minimize development on unstable land. Restrict or prohibit uses that are dangerous. (See Section 906. A (1-9) and B. (1-5)). Sub-D. pg. 24 - Land subject to flooding shall not be platted for residential occupancy.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		

2011-12 Laws/Practices		Warsaw - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Z.O. 901.A. - Ag. Districts are designed to protect predominantly agricultural areas from suburban and urban development, encourage the continuation of agriculture, and preserve open space and natural resources.	
Section 3: Waterways, Wetlands and Riparian Area Management and Restoration			
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.	Z.O. 1006. - Animal Waste Management Systems, see also 2-14	
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Z.O. 501.A. - No structure shall be built within 50 feet of the bed of stream carrying water on an average of 6 months of the year.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
Section 4: Roads, Bridges, Public Rights of Way			
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		

2011-12 Laws/Practices		Warsaw - Town	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 50% sand/ 50% salt, enclosed storage on pavement floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

2011-12 Laws/Practices		Warsaw - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems...		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 163-29.A. - No structure shall be built within 50 feet of the bed of stream carrying water on an average of 6 months of the year. Z.O. 163-29.D. - Natural features such as trees, brooks, drainage channels shall be preserved. Z.O. 163-41.B.6. - Preservation of trees, streams, wetlands, and natural topography....prevention of soil erosion. Z.O. 163-58.A.3. - PDD - Natural features, including streams, and trees shall be preserved and incorporated in the landscaping of the development. Z.O. 163-41.D.2. - PDD - a and b - Analysis of soils and the topography of the site. Sub-133.17.F. and L. [Include in sketch plan]- General topography and drainage patterns included in plan and the general soil conditions of the entire proposed site.	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 163.29.D - Natural features such as trees, brooks, drainage channels shall be preserved. Z.O. 163.41.B.6. - PDD - Preservation of trees, streams, wetlands, and natural topography. Z.O. 163.58.A.3. - PDD - Natural features, including streams, and trees shall be preserved and incorporated in the landscaping of the development.	
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Sub-133.18.G. - Preliminary Plats - Drainage report including calculations for runoff during construction. Also, the use of erosion and sediment prevention measures. 19C: Subdivision drainage plan: [illustrating proposed stormwater drainage facilities and design data] Z.O. 163.30.X. - All construction plans shall include consideration of stormwater drainage needs. Z.O. 163.41.B.5. - PDD - The proposed residential development shall be adequately served by essential public facilities, such as storm water drainage facilities.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Sub-133.18. G. - Preliminary Plats - Drainage report including calculations for runoff during construction. Also, the use of erosion and sediment prevention measures.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. 163.59. - Cluster developments may be approved.	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 163.40. - Minimize development on unstable land. Restrict or prohibit uses that are dangerous. (See A (1-6) and B (1-8)).	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		

2011-12 Laws/Practices		Warsaw - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks...)		
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	Portion of Ag. District Present within Village Limits	
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.	Z.O. 163.29.A. - No structure shall be built within 50 feet of the bed of stream carrying water on an average of 6 months of the year.	
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	C.P. pg.26 - Wetlands Management Act - Legislation to preserve wetlands.	
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		According to G/FLRPC 2011 Salt Storage Survey - 50% sand/ 50% salt, open storage on gravel.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		

2011-12 Laws/Practices		Warsaw - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

		Wheatland	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.)		
1-4	Storm drain/curb stenciling/labeling		
1-5	Encourage volunteer programs	Wheatland/Scottsville Comp. Plan, 2-9: "...there is a need for the Town...to address water quality issues by actively participating in the various watershed and water quality committees, and by maintaining current knowledge of existing and upcoming regulations pertaining to water quality..."	
1-6	Encourage the use of indigenous plants		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes		
1-9	Enforcement details regarding stormwater regulations & requirements - responsibility, penalties, etc.	Z.O. 98-19. C.6 - A system for storm water drainage (must use the design criteria listed). Z.O. 98-19. E.1 - Adequate stormwater drainage shall be provided and based on a ten year rainfall frequency. S of L. 82-34. B.7 - Proposed system for stormwater drainage (must use the design criteria listed).	
1-10	Use of drainage districts		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance	Z.O. 98-16. A.2(d) - Control filling b/c may increase erosion or flooding	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies. Account for topography and soil type to minimize erosion. Limit grades of access roads.	Z.O. 98-15. B(4) - The quality of the natural environment shall be conserved through preservation of trees and outstanding natural topography. Z.O. 98-19. C.10 - A tracing overlay showing all soils areas and their classification, and those areas with high susceptibility to erosion. S of L. 82-33. A - The physical characteristics of the land shall be provided to minimize erosion potential. B - Natural features should be preserved such as trees etc. Joint Comprehensive Plan: 2-8: natural corridors and other vital environmental areas shall be preserved or mitigated if necessary. 2-12: "...based on the environmentally sensitive nature of steep slopes...there is a need to periodically review and evaluate their status, and consider regulating development in and near these areas through supplemental zoning regulations..."	
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.	Z.O. 98-15. B(4) - The quality of the natural environment shall be conserved through preservation of trees and outstanding natural topography. S of L. 82-33. B - Natural features should be preserved such as trees etc.	
1-14	Minimize the creation of impervious areas [encourage permeable surface]		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	Z.O. 98-16. E.1.d.3 - All subdivision proposals shall have adequate drainage provided to reduce flooding . S of L. 82-35. F - A separate drainage report, including calculations of runoff, which clearly indicate the design and intended method of all stormwater disposal. Z.O. 98-19. C.6 - A system for storm water drainage (must use the design criteria listed). Z.O. 98-19. C.11 - A separate drainage report clearly showing the intended method of all stormwater disposal. Z.O. 98-19. E.1 - Adequate stormwater drainage shall be provided and based on a ten year rainfall frequency. S of L. 82-34. B.7 - Proposed system for stormwater drainage (must use the design criteria listed). S of L. 82-35. F - A separate drainage report, including calculations of runoff, which clearly indicate the design and intended method of all stormwater disposal.	

		Wheatland	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Complete a.s.a.p., include timeline.		
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling		
1-18	Ensure proper operation and maintenance of runoff management facilities		
1-19	Encourage cluster development/conservation subdivisions	S of L. 82-32 - Cluster development Joint Comp. Plan, 4-9: "Promote the preservation of woodlots and natural areas under the development review process by encouraging the use of "forever-wild" areas, permitting innovative design techniques that protect sensitive areas, encouraging natural design themes for development, and/or requiring the use of conservation easements in all development."	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 130-18 Flood Damage Prevention. No development will be allowed in an area of special flood hazard without a flood plain development permit. Anchoring required. Required Elevation for residential structures - Most flood zones within Special Flood Hazard area - lowest floor (including basement) – must be to or above the base flood elevation. When no base flood elevation data is available – lowest floor must be at least 0-2 feet above the highest adjacent grade depending on the zone. Nonresidential – Most flood zones - lowest floor, elevated to or above two feet above the base flood elevation, or at least two feet above the highest adjacent grade; or be completely flood proofed to that level and have a certificate from a licensed professional engineer or architect. Z.O. 130-10 Floodplain and Residence Districts: Table of Use Regulations. 130-11 Floodplain and Residence Districts: Table of Dimensional Regulations. Z.O. 98-16. A.2(c) - Control the alteration of natural floodplains, streams, and natural barriers.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Consider site restoration. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implement the Agricultural Environmental Management (AEM) program		See County AEM/Round 18 Ag NPS grant - 2 farms (1 CAFO) awarded within 2012 Oatka Creek Watershed Agricultural Nutrient Reduction Project to implement priority bmps, and AEM/CNMP/CAFO requirements/recommendations
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrition Management Plans are being used. (combined with below) (ADD NEW ROUND OF FUNDING)(any other animal waste one for non cafes?)		See Round 18 Ag NPS grant above - implementation of AEM CAFO and CNMP regs/plans/recommendations.

		Wheatland	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-06	Implement barnyard runoff controls.		See Round 18 Ag NPS grant above - includes barnyard runoff controls such as roof water management system, covered barnyard, heavy use area protection, milk house waste collection, manure storage, gutter system to transport clean water to creek, etc. See Also: Barnyard Runoff Management Systems and other operational BMPs were implemented on farms in Ogden(2), Wheatland(1), LeRoy(3), Pavilion(2), Byron(1), Warsaw(5), Covington(3), Orangeville(1), and Middlebury(1) through the Genesee River Implementation Grant project
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks)		Round 18 Ag NPS grant will include vegetative stream buffers
2-08	Use of agricultural protection such as Agricultural Districts, agricultural preservation ordinances and practices, right to farm laws, and Agricultural and Farmland Protection Plans	Z.O. 98-11.1 - Agriculture Districts (agriculture continued and expanded). Joint Comp. Plan, 2-14: "... Consider promoting/encouraging an agriculture advisory board; Encourage active participation in the Agricultural District program; Limit water and sewer services to areas where development can occur without impacting active farming." See Also: Monroe County Agricultural and Farmland Protection Plan	
	Section 3: Waterways and Wetlands		
	Waterways		
3-01	Control in stream sedimentation, clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers		Round 18 Ag NPS grant above will include vegetative stream buffers.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control ordinances and/or practices that pertain to animal waste disposal		Round 18 Ag NPS grant - targeted toward preventing animal wastes from entering waterbody, will include vegetative stream buffers, barnyard runoff controls, manure storage, etc.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes		Round 18 Ag NPS grant includes vegetative stream buffers, rerouting drainage, etc.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages		
	Wetlands and Riparian Area Management and Restoration		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.	Joint Comp. Plan, 2-11: "...the Town...should officially designate local environmentally sensitive areas through a Preservation of Environmentally Sensitive Areas Program. "	

		Wheatland	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge are related drainage/stormwater structures inspection/maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices	Joint Comp. Plan, 2-20: "The Town and Village should continue to maintain their storm sewer systems in keeping with past practices and current regulatory requirements."	
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities		
4-04	Incorporate alternatives to traditional de-icing practices, including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Practice: According to G/FLRPC 2011 Salt Storage Survey - 5 gal ice ban/ 1 ton salt, enclosed storage on concrete floor.
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures		
4-07	Participate in Cornell Local Roads Program activities and training		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials		
4-09	Culvert maintenance: Culverts are routinely inspected, maintained and resized when necessary so that they will remain unobstructed, allowing for the free flow of water during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure are issues to be aware of.		
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of OWTS at minimum at property transfer or within 1 year prior to transfer		
5-02	Institute setback guidelines	Z.O. 98-16. E.1.c.4 - On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. County Sanitary Code 569-21.C.8 The location of any water wells within 500 feet of the proposed sewage disposal system.	
5-04	Target outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal service to connect.	Joint Comprehensive Plan, 6-7: Several specific reasons to consider limited construction of public sanitary sewers [health reasons, surface and ground water, inadequate soils and other site-specific reasons}"	

2011-12 Laws/Practices		Wyoming County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
Section 1: Development			
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		GLOW provides composting education and brochures.
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		GLOW Region Solid Waste Management Committee, in cooperation with GLOW Region Soil and Water Conservation, Farm Bureau and Cornell Cooperative Extension offices, farm pesticide collection programs; Household Hazardous Waste programs held.
1-4	Storm drain/curb stenciling/labeling program.		Conducted in both watersheds at various points in time; MS4s and storm drains are relatively limited in upper reaches and in rural towns, however
1-5	Encourage volunteer programs.		Black Creek Watershed Coalition, Oatka Creek Watershed Committee, Cornell Cooperative Extension and SWCD have various programs and volunteer efforts geared toward stream and ecosystem stewardship.
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		CCE, SWCD and the two watershed groups provide education and information relating to water, wetlands, aquifers, soil maps, flood plain areas, conservation planning, have developed several programs regarding water quality, including (but not limited to) septic system outreach, erosion and sediment control workshops, agricultural BMPs, conservation education, watershed planning and household hazardous waste. In conjunction with the W.C. Water Resources Coordinating Committee, SWCD gives a tour of recently completed projects and to illustrate and educate on conservation techniques (open to the public). G/FLRPC conducts workshops with water quality sessions, and does education/outreach.
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.		
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.		Could be required in SWPPPs for construction disturbing 1 acre or more. SWCD can provide technical assistance in the planning and design of erosion control practices, and evaluate soil conditions and data from soil surveys.
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.		Likely required in SWPPPs for construction disturbing 1 acre or more. SWCD can provide technical assistance related to drainage.
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.		Prevention of soil erosion is a priority of the SWCD. SWCD can provide assistance with site plan reviews.
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.		
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits	No MS4s within the County. General Permit for construction required anywhere 1 acre or more is disturbed and requires SWPPPs.	Construction site and construction permit inspection conducted by the County SWCD at the request of NYSDEC. SWCD is available to review and assist with stormwater management plans.
1-21	Discourage development in flood plain and/or development below base flood elevation		SWCD-Continuing effort with all municipalities in Wyoming County
Section 2: Forestry and Agriculture			
Forestry - if applicable			
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		SWCD can provide technical assistance in the planning and design of erosion control practices, and evaluate soil conditions and data from soil surveys. NYSDEC Forester may consult on projects within the watershed.
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		SWCD in conjunction with the Seneca Trail RC& D Council and NYSDEC have offered woodlot management outreach services to land owners in the past

2011-12 Laws/Practices		Wyoming County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		SWCD and NRCS provide technical assistance for farmers in creating AEM plans and designing/planning/adopting Agricultural BMP recommendations.
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		SWCD and NRCS provide assistance to farmers and the ceretified nutrient management planners with agricultural waste management techniques and BMP implementation. FLLOWPA, EQIP and NYS Agricultural Nonpoint Source Pollution Abatement & Control Program funds have been used for NPS pollution control programs. SWCD is available for technical assistance regarding CAFO planning and complying with regulations.
2-06	Implement barnyard runoff controls.		SWCD provides technical assistance for farmers in creating AEM plans and designing/planning/adopting Ag BMP recommendations. Can include barnyard runoff controls, managing manuer and fertilizer runoff. Many BMP's have been implement through FLLOWPA, EQIP and NYS Agricultural Nonpoint Source Pollution Abatement & Control Program funds.
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		SWCD and the Seneca Trail RC&D Council provide technical assistance for farmers in creating AEM & grazing management plans and designing/planning/adopting Ag BMP recommendations. Many BMP's have been implement through FLLOWPA, EQIP and NYS Agricultural Nonpoint Source Pollution Abatement & Control Program funds.
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans	County Agricultural Preservation Plan completed in 2006. Several Towns have enacted "Right to Farm" Laws.	Agriculture Assessment Program allows eligible farms to be assessed on their agricultural value rather than market value. There are currently 4 agricultural districts present in the county.
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		SWCD maintains a General Stream Permit with the NYSDEC to allow landowners and municipalities to conduct stream protection projects such as bank stabilization and debris removal, etc. SWCD has done inventories of streams to identify locations where tree/debris removal is needed. SWCD can assist with permit applications for the NYSDEC and U.S. Army Corps of Engineers Stream Permit Programs, and provide technical assistance in the implementation. Providing assistance to farms in the Oatka Creek Watershed with Erosion & Sediment Control through Great Lakes Commission & NYS Ag & Markets Grants.
3-02	Establish riparian buffers.		SWCD and NRCS can provide technical assistance for farmers in creating Ag BMP's which can include buffers and grazing strategies.
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		SWCD provides assistance to farmers with agricultural waste management techniques and BMP's to reduce ag watse runoff. SWCD/NRCS assists the Comprehnsive Nutrient Management Planners in the creation of comprehensive nutrient management plans, silage leachate management systems and other related BMP's.
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		FL/LOWPA funding has been utilized for streambank stabilization projects in the past. SWCD has used vegetated systems, such as downed trees and logs, to stabilize severly eroded banks. Other innovative approaches are developed on a case-by-case, site-specific basis. SWCD maintains a General Stream Permit with the NYSDEC to allow landowners and municipalities to conduct stream protection projects such as bank stabilization, etc. They also can assist with permit applications for the NYSDEC and U.S. Army Corps of Engineers Stream Permit Programs, and provide technical assistance in implementation.
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		Guiding principle of SWCD operations - illustrated through efforts in the field as well as related technical assistance, education and outreach programs. SWCD available for assistance with wetland permits.
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		SWCD routinely works with the County and Town Highway Departments to identify and address concerns.
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		FLLOWPA funding has been used by SWCD to aid in hydro seeding and stabilizing road ditches.

2011-12 Laws/Practices		Wyoming County	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		FLLOWPA funding has been used by SWCD to aid in hydro seeding and stabilizing road ditches. WCSWCD, in cooperation with W.C. Highway Dept. operates a hydro seeding program to assist municipalities and highway departments in seeding areas such as parks, stream banks, pond dikes, road ditches, and highway construction projects.
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		Salt storage facilties created
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		SWCD has supplied highway departments with NYS Standards and Specifications for Erosion and Sediment Control.
4-07	Participate in Cornell Local Roads Program activities and training.		Available to all Town & County Highway Departments.
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		SWCD has supplied highway departments with Erosion and Sediment Control along with basic training and background. Additional training and outreach available related to drainage, water quality, soils, erosion and sediment control, etc. G/FLRPC Local Government Workshops targeted toward Gov. officials, planning/zoning officials, etc.
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		SWCD has been involved with evaluating and determining culvert upgrade needs. Several culvert stabilization projects have been identified and prioritized in the Oatka Creek Watershed.
Section 6: Onsite Wastewater Treatment Systems			
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		W.C. Health Dept. - Inspections at property transfer, refinance and/or expansion.
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		W.C. DOH, CCE, SWCD all offer various education and outreach materials and programs. SWCD has conducted a program geared toward residential maintenance of systems.
5-05	Require all properties with access to municipal sewer service to connect.		

2011-12 Laws/Practices		Wyoming - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
	Section 1: Development		
1-1	Identify retrofit opportunities for existing development - ex: retention/detention areas, stormwater ponds, construction of wastewater treatment systems to replace older septic systems…		
1-2	Encourage homeowners to place compost piles away from waterbodies and roadways.		
1-3	Encourage proper use and disposal of lawn and other household chemicals (res., com., indus., rec., uses etc.).		
1-4	Storm drain/curb stenciling/labeling program.		
1-5	Encourage volunteer programs.		
1-6	Encourage the use of indigenous plants in landscapeing.		
1-7	Develop outreach programs targeted at water quality management. Target training for contractors, developers, inspectors and zoning and planning officials.		
1-8	Encourage proper control of pet wastes.		
1-9	Written details regarding enforcement of stormwater regulations & requirements - ex: responsibility, penalties, etc.		
1-10	Use of drainage districts.		
1-11	Minimize the amount of land disturbed (including cut and fill) and the duration of disturbance durring construction.	Z.O. V.501.A.11. - Excavation - In any construction, open excavations shall be limited to a maximum of thirty (30) days, with appropriate fencing, barricades, or covering.	
1-12	Preserve natural features and conform with the natural boundaries and alignment of waterbodies durring development. Account for topography and soil type to minimize erosion. Limit grades of access roads.		
1-13	Retain and protect trees and other natural vegetation on and near disturbed sites. Require tree surveys and/or cutting plans.		
1-14	Minimize the creation of impervious areas / encourage permeable surfaces.		
1-15	Maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	Z.O. 403.F.8. - Planning Board-Special Use Permit Standards - Appropriate on-lot drainage is required to eliminate any potential on-site water related problems. The drainage systems instituted shall not detrimentally impact on adjacent properties.	
1-16	Stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching - to protect exposed and critical areas during development. Timeline for completion.	Z.O. V.501.A.11. - Excavation - In any construction, open excavations shall be limited to a maximum of thirty (30) days, with appropriate fencing, barricades, or covering.	
1-17	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.		
1-18	Ensure proper operation and maintenance of runoff management facilities.		
1-19	Encourage cluster development/conservation subdivisions.	Z.O. 711. - PUD Planned Unit Development District – to permit greater flexibility…while promoting more economical and efficient use of land……; and to preserve natural and scenic qualities of the site during the development process. (No mention of increased density to provide more open space)	
1-20	Implement Federal/State Stormwater (SPDES) Phase II requirements including MS4 (when applicable) and Construction Permits as well as Municipal and Industrial Discharge Permits		
1-21	Discourage development in flood plain and/or development below base flood elevation	Z.O. 713. - Flood Plain Overlay District - Location Information only on zoning map, does not include any rules, regulations, discouragement or anything.	
	Section 2: Forestry and Agriculture		
	Forestry - if applicable		
2-01	Site restoration practices for forrestry sites. Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.)		
2-02	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.		
2-03	Consider Harvesting practices and preplan harvest areas - ex: operation season, skid trails/access on stable soils, avoiding-steep gradients/multiple stream crossings/poor drainage areas, etc.		
	Agriculture		
2-04	Implementation of the Agricultural Environmental Management (AEM) program.		
2-05	Ensure Concentrated Animal Feeding Operations (CAFO) regulations and permits are being followed and Comprehensive Nutrient Management Plans are being used.		
2-06	Implement barnyard runoff controls.		
2-07	Discourage grazing in environmentally sensitive areas (e.g. up to creek banks…)		

2011-12 Laws/Practices		Wyoming - Village	
#	Best Management Practices (BMP)	Law, Regulation, Plan	Program/Practice
2-08	Use of agricultural protection such as agricultural districts, agricultural preservation ordinances and practices, right to farm laws, and agricultural and farmland protection plans		
	Section 3: Waterways, Wetlands and Riparian Area Management and Restoration		
	Waterways		
3-01	Control in stream sedimentation and/or clear debris. Schedule inspections of sediment control measures for maintenance/repair.		
3-02	Establish riparian buffers.		
3-03	Prevent animal wastes from entering waterbodies. Ex: animal control/animal waste disposal ordinances and/or practices.		
3-04	Protect stream banks - vegetative stabilization-maintain/add vegetation(before using structural measures); indirect nonstructural-ex: regulate nearby irrigation, rerouting overbank drainage; direct structural-ex: revetments and bulkheads; indirect structural-ex: deflecting channel flow dikes.		
3-05	Use setbacks to minimize disturbance of land adjacent to stream banks and shorelines.		
3-06	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.		
	Wetlands		
3-07	Prioritize wetlands and riparian areas and their non-point source (nps) control potential.		
3-08	Identify wetlands and riparian areas with significant nps control potential especially when implementing nps management practices.		
3-09	Include considerations/regulations to protect wetlands, ex: permitting, licensing, wetlands certification and non-regulatory nps pollution activities. Prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminant, ex: pretreatment practices: vegetated systems, detention/retention basins...		
	Section 4: Roads, Bridges, Public Rights of Way		
4-01	Conduct road, bridge, and drainage/stormwater structure inspection and maintenance and procedures (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, cleaning catch basins, etc.) according to best management practices.		
4-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) - according to best management practices.		
4-03	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.		
4-04	Incorporate alternatives to traditional de-icing practices including adjusting mix rates, using non-salt and non-sand alternatives. Store in a enclosed areas with impervious floor.		
4-05	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.		
4-06	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (*Highway Design Manual, Environmental Procedures Manual,* Maintenance Guidelines, etc.) into local laws and operating procedures.		
4-07	Participate in Cornell Local Roads Program activities and training.		
4-08	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.		
4-09	Culvert maintenance: routinely inspected, maintained and resized when necessary so that they will remain unobstructed during storm events. Blockages resulting from sedimentation, debris, excessive vegetation and structural failure should be identified and mitigated.		
	Section 6: Onsite Wastewater Treatment Systems		
5-01	Conduct regular inspections of septic/onsite wastewater treatment systems (OWTS), at minimum durring transfer of property or within 1 year prior to transfer.		
5-02	Institute setback guidelines		
5-04	Target OWTS outreach programs at homeowners, contractors and developers		
5-05	Require all properties with access to municipal sewer service to connect.		

Appendix B
Annotated Reference List, New York Water Resources Institute (2013)

NEW YORK STATE WATER RESOURCES INSTITUTE

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Ithaca, NY 14853-1901
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Infrastructure Team Annotated Reference List
Updated April 15, 2013

This list is in no way exhaustive. Rather, it attempts to provide a set of references that offer key pieces of information in building a basic understanding of the main components of our research as a whole. It is subjective in its completeness. Annotations attempt to identify unique or defining characteristics of each entry.

Federal Documents

Clean Watersheds Needs Survey (2008) USEPA
http://water.epa.gov/scitech/datait/databases/cwns/
- Comprehensive assessment of capital needs for states to meet Clean Water Act goals

Drinking Water Infrastructure Needs Survey and Assessment (2009) USEPA
http://water.epa.gov/infrastructure/drinkingwater/dwns/index.cfm
- Survey of water supply needs from over 70,000 systems reviewed in 2007

National Characteristics of Drinking Water Systems Serving 10,000 or Fewer People (2011) USEPA
http://water.epa.gov/type/drink/pws/smallsystems/upload/REVFINAL-Nat-Characte-July-2011-508-compliant.pdf
- Inventory of, and info on financing and operation of small systems of all sorts

Integrated Planning and Priority Setting in the Clean Water State Revolving Fund Program (2001) USEPA
http://water.epa.gov/grants_funding/cwsrf/upload/2002_06_28_cwfinance_cwsrf_ipps_web.pdf
- Guidance document on how to incorporate planning into state-scale decision making on wastewater treatment project funding

Growing Toward More Efficient Water Use : Linking development, infrastructure, and drinking water policies (2006) USEPA
http://www.epa.gov/dced/water_efficiency.htm
- Related to smart growth and its benefits to water supply system management

NY State Documents

Wastewater Infrastructure Needs of New York State (2008) NYSDEC
http://www.dec.ny.gov/chemical/42383.html
- Overview of wastewater infrastructure needs and suggestions for how to move forward

Drinking Water Infrastructure Needs of New York State (2008) NYSDOH
http://www.health.ny.gov/environmental/water/drinking/infrastructure_needs.htm
- Overview of water supply infrastructure needs and suggestions for how to move forward

Clean Water State Revolving Fund: Final Intended Use Plan (2012) NYS Environmental Facilities Corporation
http://www.nysefc.org/default.aspx?tabid=112
- Annual list of projects, with costs and project descriptions, that will receive funding through the NY CWSRF

Descriptive data of municipal wastewater treatment plants in New York State (2004) NYSDEC
http://www.dec.ny.gov/chemical/8721.html
- Survey of all POTWs in NY, with descriptive data, treatment process info, and basic summary statistics

Water Resources Management Strategy: Delaware Lower-Hudson region (1989) NYS Water Resources Planning Council
- An older attempt at a comprehensive water plan for NY, divided into regions such as this one

30 Year Trends in Water Quality of Rivers & Streams in NY State (2004) NYSDEC
http://www.dec.ny.gov/chemical/78979.html
- Trends in NY surface water quality based largely on benthic macro-invertebrate studies

Growing Cracks in the Foundation : Local Governments are Losing Ground on Addressing Vital Infrastructure Needs (2012) NYS Comptroller
http://www.osc.state.ny.us/localgov/pubs/infrastructure.pdf
- Audit of NY infrastructure – sewer and water supply - at the municipal level, along with case studies

Smart Growth & Consolidation

Restructuring and Consolidation of Small Drinking Water Systems (2007) USEPA
http://www.epa.gov/ogwdw000/smallsystems/pdfs/compendium_smallsystems_restruct.pdf
- A compendium of state authorities, statutes, and regulations

Estimating benefits of regional solutions for water and wastewater service (2008) Cromwell, J., & Rubin, S.
- Study of the economic benefits possible through management consolidation at the regional scale

Economies of scale in wastewater treatment and planning for urban growth (2004) Hopkins, L.D., et al., *Environment and Planning B: Planning and Design*, *31*(6), 879–893
- Study of the Chicago region and the benefits and costs of attempting to capture economies of scale through wastewater treatment plant consolidation

Essential Smart Growth Fixes for Rural Planning , Zoning , and Development Codes (2012) USEPA
http://www.epa.gov/smartgrowth/essential_fixes.htm

Essential Smart Growth Fixes for Urban and Suburban Zoning Codes (2009) USEPA
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Does Sprawl Cost Us All? Isolating the Effects of Housing Patterns on Public Water and Sewer Costs (2002) Speir, C., & Stephenson, K., *Journal of the American Planning Association, 68*:1, 56-70

Protecting Water Resources with Higher Density Development (2006) USEPA
http://www.epa.gov/smartgrowth/water_density.htm
- Study of land use and development patterns and their effects on water resources using SG WATER model

Development & Water Quality

Effect of average flow and capacity utilization on effluent water quality from US municipal wastewater treatment facilities (2011) Weirich, S.R., et al., *Water research*, *45*(14)
- Statistical analysis relating plant flow size to both effluent violations and constituent concentrations of interest, such as BOD and TSS

Watershed Modeling to Assess the Sensitivity of Streamflow, Nutrient, and Sediment Loads to Potential Climate Change and Urban Development in 20 U. S. Watersheds (2013) USEPA
http://cfpub.epa.gov/ncea/global/recordisplay.cfm?deid=247495
- Examples of watershed modeling, with methodological details and description of datasets related to hydrology, land use, water quality and quantity

Increased Carbon Transport in the Hudson River: Unexpected Consequence of Nitrogen Deposition? (2005) Findlay, S.E.G., *Frontiers in Ecology and the Environment*, *3*(3), 133.
- An analysis of carbon loading and removal processes in the Hudson River over time

Is Impervious Cover Still Important? Review of Recent Research (2009) Schueler, T.R., et al., Journal of hydrologic engineering

- An assessment and reformulation of models that attempt to use impervious service coverage as a predictor of water quality in certain basins

Impervious surface coverage : The emergence of a key environmental indicator (1996) Arnold Jr, C.L., & Gibbons, C.J., *Journal of the American Planning Association*, *62*(2)

- Use of impervious cover in a watershed as an indicator of environmental water quality

Effects of Urban Development on Stream Ecosystems in Nine Metropolitan Study Areas Across the United States (2012) USGS
http://pubs.usgs.gov/circ/1373/

- Results of a synthesis of reports on nine urban watersheds as part of the National Water-Quality Assessment Program

Water-quality Assessment Of The Hudson River Basin In New York And Adjacent States – Analysis of available nutrient, pesticide, volatile organic compound, and suspended-sediment data, 1970-90 (1996) USGS
http://ny.water.usgs.gov/projects/hdsn/report/Retro.pdf

- Historical information and analysis of both ground and surface waters of the Hudson Basin

Economics & Financing

Water Infrastructure Financing : History of EPA Appropriations (2012) Copeland, C., Congressional Research Service
http://www.fas.org/sgp/crs/misc/96-647.pdf

- Gives a year by year account of funding allocated under the Clean Water Act, some history on its creation, and discussion of trends over time

Failure to Act: The economic impact of current investment trends in water and wastewater treatment infrastructure (2011) American Society of Civil Engineers
http://www.asce.org/uploadedFiles/Infrastructure/Failure_to_Act/Water%20Report%20Executive%20Summary.pdf

- Addresses the question of how poorly funded and operating water infrastructure impact the economy

Economic Benefits of Conserved Rivers: An annotated bibliography (2001) National Parks Service
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- A collection of resources on the economic issues related to watershed management, floodplains, dams, water quality, recreation, tourism, etc

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Green Infrastructure Plan for Saratoga County (2006)
http://www.saratogaplan.org/cp_GreenInfrastructure.html

- Example of county-scale planning effort to include green infrastructure

Managing Wet Weather with Green Infrastructure: Water quality scorecard (2009) USEPA

- Project guidance & practices at the municipal, neighborhood, and site scales

Wetlands in the Watersheds of the New York City Water Supply System (2009) NYCDEP
http://www.fws.gov/northeast/EcologicalServices/pdf/wetlandswatershedsNYCwatersupplysystem.pdf

- Mapping, description and status of wetlands in the NYC watershed; more descriptive than analytical

Decision Support Criteria & Multi-Criteria Analysis

A comparison of multiple criteria analysis and unaided approaches to environmental decision making (2007) Hajkowicz, S., *Environmental Science & Policy*, *10*(3), 177–184
- Study showing that decision makers do not necessarily change policies even when more analytical frameworks provide support

A Review of Multiple Criteria Analysis for Water Resource Planning and Management (2006) Hajkowicz, S., & Collins, K. *Water Resources Management*, *21*(9), 1553–1566
- Survey of 113 MCA analyses from 34 countries; commentary of prevalence of methods

Determining a sustainable and economically optimal wastewater treatment and discharge strategy (2013) Hardisty, P.E., et al., *Journal of environmental management*, *114*, 285–92
- Reveals that advanced treatment options are not always efficient pathways towards environmental water quality goals

Evaluation of the Great Lakes Near Shore Index (1988) Schierow, L., & Chesters, G., *Water Resources, 22*(3), 269–277
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A critique of EPA's index of watershed indicators (2001) Schultz, M.T., *Journal of environmental management*, *62*(4), 429–42
- Comment on a more rigorous approach to multi-unit index manipulation

Heuristic Screening Methodology for Regional Wastewater Treatment Planning (1993) Voutchkov, N., & Boulos, P., *Journal of environmental engineering*, *119*(4), 603–614
- Case study of using the critical-distance parameter for locating regional wastewater treatment facilities

Housing Density and Urban Land Use as Indicators of Stream Quality, *Watershed Protection Techniques, 2*(4), 735–739.
Nutrients

Unusual seasonal patterns and inferred processes of nitrogen retention in forested headwaters of the Upper Susquehanna River (2009) Goodale, C.L., et al., *Biogeochemistry*, *93*(3), 197–218
- Example of study on surface water nitrate concentrations in the Upper Sus

Nutrient Loadings to Streams of the Continental United States from Municipal and Industrial Effluent (2011) Maupin, M., & Ivahnenko, T., *Journal of the American Water Resources Association*, *47*(5), 950–964
- Using precursor to the USGS model SPARROW to infer total nitrogen and phosphorus from EPA point discharge data across the country

Corporate Water & Risk

Significant Industries: Hudson Valley Region (2011) NYS Department of Labor
http://www.labor.ny.gov/stats/PDFs/Significant-Industries-Hudson-Valley.pdf
- A survey of industries in the Hudson Valley region, with information on employment, wages, etc.

CDP Water Disclosure 2010 Global Report (2010) Carbon Disclosure Project
https://www.cdproject.net/CDPResults/CDP-2010-Water-Disclosure-Global-Report.pdf
- Results of a questionnaire completed by 137 corporations regarding water needs and usage

POTW Anecdotes

Lansing Sewer District No. 1: Map, plan, and report (2011) Hunt Engineers
http://lansingtown.com/phocadownload/Sewer/mprscanaug2012.pdf
- Info on the proposed small wastewater treatment facility for the Town of Lansing

Newburgh, NY: Wastewater Treatment Plant Update 2011 Severn Trent Services
http://www.cityofnewburgh-ny.gov/sites/newburghny/files/file/file/2011annualreport_0.pdf

Water Conservation & Planning

Water Conservation and Long-Term Water Supply Planning in The Hudson Valley: A Rockland County Case Study (2012) SUNY New Paltz, Center for Research Regional Education & Outreach
http://www.newpaltz.edu/crreo/brief_7_rockland_water.pdf

Revitalizing Hudson Riverfronts (2010) Scenic Hudson
http://www.scenichudson.org/ourwork/riverfrontcommunities/publications
- Guidance on riverfront development with special attention paid to climate change impacts

Water Shortages, Development, and Drought in Rockland County, NY (2005) Lyon, B., et al., *Journal of the American Water Resources Association*
- A case study of how climate change can exacerbate challenges related to poor planning and management

Utilities

The Water Resources Utility of the Future : A Blueprint for Action (2013) NACWA, WERF, WEF
http://www.uswateralliance.org/tag/water-resources-utility-of-the-future-blueprint-for-action/
- From the perspective of water and wastewater operators and professional groups

Appendix C
Sample Local Law for Stormwater Management and Erosion & Sediment Control

Sample Local Law for Stormwater Management and Erosion & Sediment Control *(Revised 3/06)*

This model local law is intended to be a guidance tool for communities that are subject to the Municipal Separate Storm Sewer System (MS4) Phase II stormwater management requirements of the National Pollutant Discharge Elimination System (NPDES) regulations, administered by New York State through the State Pollutant Discharge Elimination System (SPDES) regulations. The goal of providing this model law is to assist communities in amending existing laws and ordinances and/or adopting new provisions of local law to meet the new federal and state guidelines for stormwater control. In designing a model stormwater law for a New York State audience, we include suggestions for standard language and concepts that we believe a good stormwater management program should contain. This local law should not be construed as an exhaustive listing of all the language needed for a local law, but represents a good base that communities can build upon and customize to be consistent with the local conditions and staff resources available in their municipality.

Throughout the local law, there are sections in which you must insert the name of your municipality and the agency that you have given regulatory power over stormwater management issues. These sections are denoted by **bold** text placed in brackets. By using this document and customizing these sections, you can create a viable local law with minimal editing. Municipalities should work with their municipal attorney throughout the process.

Italicized text with this symbol ➲ should be interpreted as comments, instructions, or information to assist the local law writer. This text *should not appear* in your final local law.

The contents of this local law are as follows:

Local Law title and enacting clause	2
Article 1 - General Provisions	2
Article 2 - Amendment to Zoning Law	4
Article 3 - Amendment to Subdivision Law	12
Article 4 - Amendment to Site Plan Review Law	13
Article 5 - Amendment to Erosion & Sediment Control Law	13
Article 6 - Administration and Enforcement	13
Schedule A - Stormwater Management Practices Acceptable for Water Quality	18
Schedule B - Sample Stormwater Control Facility Maintenance Agreement	19

Sample Local Law for Stormwater Management and Erosion & Sediment Control

A local law to amend the **(Zoning Law/Subdivision Law/Site Plan Review Law/Erosion and Sediment Control Law)** of the **((City/Town/Village) of _____),** Local law Number _____of the Year _____.

➲*Article 1 and Article 2 must be adopted for proper implementation. The municipality and its legal counsel, after reviewing their local codes and this model language, should pick additional provisions from Articles 3, 4, 5 and 6 to ensure review and enforcement of stormwater pollution prevention plans at the local level.*

Be it enacted by the **(City Council/Town Board/Village Board of Trustees)** of the **((City/Town/Village) of _____)** as follows:

Article 1. General Provisions

Section 1. Findings of Fact

It is hereby determined that:

1.1 Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition;

1.2 This stormwater runoff contributes to increased quantities of water-borne pollutants, including siltation of aquatic habitat for fish and other desirable species;

1.3 Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat;

1.4 Improper design and construction of stormwater management practices can increase the velocity of stormwater runoff thereby increasing stream bank erosion and sedimentation;

1.5 Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow;

1.6 Substantial economic losses can result from these adverse impacts on the waters of the municipality;

1.7 Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from land development activities;

1.8 The regulation of stormwater runoff discharges from land development activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will minimize threats to public health and safety.

1.9 Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.

Section 2. Purpose

The purpose of this local law is to establish minimum stormwater management requirements and controls to

protect and safeguard the general health, safety, and welfare of the public residing within this jurisdiction and to address the findings of fact in Section 1 hereof. This local law seeks to meet those purposes by achieving the following objectives:

2.1 Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02 or as amended or revised;

2.2 Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised;

2.3 Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels;

2.4 Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality;

2.5 Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and

2.6 Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.

➲ *The above list is a general set of objectives to reduce the impact of stormwater on receiving waters. Section 2.1 applies to regulated MS4s; a municipality not currently under this program may wish to leave this objective out, although the community may become regulated in the future. The advantage to adopting a local law for all municipalities is that the local government then has control over review and approval of Stormwater Pollution Prevention Plans (SWPPPs) during subdivision and site plan review. The local government may also wish to set some more specific objectives, based on priority water quality (refer to New York State 303 (d) list of priority waters at* www.dec.state.ny.us/website/dow/303dcalm.html *) and habitat problems (e.g., to reduce phosphorus loads being delivered to recreational lakes, to sustain a Class TS trout fishery).*

Section 3. Statutory Authority

In accordance with Article 10 of the Municipal Home Rule Law of the State of New York, the **(City Council/Town Board/Village Board of Trustees of _____)** has the authority to enact local laws and amend local laws and for the purpose of promoting the health, safety or general welfare of the **((City/Town/Village) of _____)** and for the protection and enhancement of its physical environment. The **(City Council/Town Board/Village Board of Trustees of _____)** may include in any such local law provisions for the appointment of any municipal officer, employees, or independent contractor to effectuate, administer and enforce such local law.

Section 4. Applicability

4.1 This local law shall be applicable to all land development activities as defined in this local law, Article 2, Section 1**.**

4.2 The municipality shall designate a Stormwater Management Officer who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board. The

Stormwater Management Officer may (1) review the plans, (2) upon approval by the ((City Council/Town Board/Village Board of Trustees) of the (Town/Village/City) of _____), engage the services of a registered professional engineer to review the plans, specifications and related documents at a cost not to exceed a fee schedule established by said governing board, or (3) accept the certification of a licensed professional that the plans conform to the requirements of this law.

4.3 All land development activities subject to review and approval by the **(applicable board of the (City/Town Village) of _____)** under **(subdivision, site plan, and/or special permit)** regulations shall be reviewed subject to the standards contained in this local law

4.4 All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP) to the Stormwater Management Officer who shall approve the SWPPP if it complies with the requirements of this law.

Section 5. Exemptions

The following activities may be exempt from review under this law.

➲ *The municipality may elect to include some or all of the exemptions in Section 5.*

5.1 Agricultural activity as defined in this local law.

5.2 Silvicultural activity except that landing areas and log haul roads are subject to this law.

5.3 Routine maintenance activities that disturb less than five acres and are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.

5.4 Repairs to any stormwater management practice or facility deemed necessary by the Stormwater Management Officer.

5.5 Any part of a subdivision if a plat for the subdivision has been approved by the **((City/Town/Village) of _____)** on or before the effective date of this law.

5.6 Land development activities for which a building permit has been approved on or before the effective date of this law.

5.7 Cemetery graves.

5.8 Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.

5.9 Emergency activity immediately necessary to protect life, property or natural resources.

5.10 Activities of an individual engaging in home gardening by growing flowers, vegetable and other plants primarily for use by that person and his or her family.

5.11 Landscaping and horticultural activities in connection with an existing structure.

Article 2. Zoning Law Amendment: Stormwater Control

➲*Municipalities that do not have zoning should add the language in Article 2 to Article 3 (Subdivision Regulation Amendment) or Article 4 (Site Plan Review Law Amendment) as applicable for their municipality.*

The Zoning Law is hereby amended to include Article ___, a new supplemental regulation titled Stormwater Control.

Section 1. Definitions

The terms used in this local law or in documents prepared or reviewed under this local law shall have the meaning as set forth in this section.

➲*Definitions should be incorporated into the appropriate section of the municipality's zoning law which contains definitions.*

Agricultural Activity - the activity of an active farm including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.

Applicant - a property owner or agent of a property owner who has filed an application for a land development activity.

Building - any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

Channel - a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

Clearing - any activity that removes the vegetative surface cover.

Dedication - the deliberate appropriation of property by its owner for general public use.

Department - the New York State Department of Environmental Conservation

Design Manual - the *New York State Stormwater Management Design Manual,* most recent version including applicable updates, that serves as the official guide for stormwater management principles, methods and practices.

Developer - a person who undertakes land development activities.

Erosion Control Manual - the most recent version of the "New York Standards and Specifications for Erosion and Sediment Control" manual, commonly known as the "Blue Book".

Grading - excavation or fill of material, including the resulting conditions thereof.

Impervious Cover - those surfaces, improvements and structures that cannot effectively infiltrate rainfall, snow melt and water (e.g., building rooftops, pavement, sidewalks, driveways, etc).

Industrial Stormwater Permit - a State Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

Infiltration - the process of percolating stormwater into the subsoil.

Jurisdictional Wetland - an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

Land Development Activity - construction activity including clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than one acre (*see* ➲*Note)*, or activities disturbing less than one acre of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct land development activities may take place at different times on different schedules.

➲ *A community should review the local site plan, subdivision, zoning and erosion & sediment control laws and ordinances to see if there are minimum land disturbance requirements already specified in those laws. To meet the SPDES guidelines under GP-02-02, the municipality must require SWPPPs for construction activities that result in land disturbance equal to or greater than one acre, or activities disturbing less than one acre if they are part of a larger common plan of development or sale or in a specified watershed. The municipality may wish to reduce this threshold to a lesser amount of disturbance to conform to local standards which may be stricter than the standards set forth in the state regulations. Many communities regulate land disturbance activities of more than 5000 square feet (1/8 acre), with an exemption if the amount of impervious cover created does not exceed 1000 square feet.*

Landowner - the legal or beneficial owner of land, including those holding the right to purchase or lease the

land, or any other person holding proprietary rights in the land.

Maintenance Agreement - a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of stormwater management practices.

Nonpoint Source Pollution - pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

Phasing - clearing a parcel of land in distinct pieces or parts, with the stabilization of each piece completed before the clearing of the next.

Pollutant of Concern - sediment or a water quality measurement that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the land development activity.

Project - land development activity

Recharge - the replenishment of underground water reserves.

Sediment Control - measures that prevent eroded sediment from leaving the site.

Sensitive Areas - cold water fisheries, shellfish beds, swimming beaches, groundwater recharge areas, water supply reservoirs, habitats for threatened, endangered or special concern species.

SPDES General Permit for Construction Activities GP-02-01 - A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to developers of construction activities to regulate disturbance of one or more acres of land.

SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems GP-02-02 - A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA established water quality standards and/or to specify stormwater control standards

Stabilization - the use of practices that prevent exposed soil from eroding.

Stop Work Order - an order issued which requires that all construction activity on a site be stopped.

Stormwater - rainwater, surface runoff, snowmelt and drainage

Stormwater Hotspot - a land use or activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical stormwater runoff, based on monitoring studies.

Stormwater Management - the use of structural or non-structural practices that are designed to reduce stormwater runoff and mitigate its adverse impacts on property, natural resources and the environment.

Stormwater Management Facility - one or a series of stormwater management practices installed, stabilized and operating for the purpose of controlling stormwater runoff.

Stormwater Management Officer - an employee or officer designated by the municipality to accept and review stormwater pollution prevention plans, forward the plans to the applicable municipal board and inspect stormwater management practices

> ➲*The Stormwater Management Officer would likely be the Code Enforcement Officer or his/her staff. A consultant cannot be appointed as Stormwater Management Officer. Plan reviews and site inspections may be delegated to a consultant paid for through the applicant's escrow account, however the final approval must be made by a municipal employee or board member.*

Stormwater Management Practices (SMPs) - measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing flood damage and preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

Stormwater Pollution Prevention Plan (SWPPP) - a plan for controlling stormwater runoff and pollutants from a site during and after construction activities.

Stormwater Runoff - flow on the surface of the ground, resulting from precipitation

Surface Waters of the State of New York - lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Storm sewers and waste treatment systems, including treatment ponds or lagoons which also meet the criteria of this definition are not waters of the state. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the state (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

Watercourse - a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

Waterway - a channel that directs surface runoff to a watercourse or to the public storm drain.

Section 2. Stormwater Pollution Prevention Plans

2.1. Stormwater Pollution Prevention Plan Requirement

No application for approval of a land development activity shall be reviewed until the appropriate board has received a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications in this local law.

2.2 Contents of Stormwater Pollution Prevention Plans

2.2.1 All SWPPPs shall provide the following background information and erosion and sediment controls:

1. Background information about the scope of the project, including location, type and size of project.
2. Site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharges(s);

➲*Site map should be at a scale no smaller than 1"=100' (e.g. 1"=500" is smaller than 1"=100")*

3. Description of the soil(s) present at the site;
4. Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five (5) acres shall be disturbed at any one time unless pursuant to an approved SWPPP.

➲ *A municipality may choose to reduce the amount of land that may be exposed at any one time.*

5. Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in

stormwater runoff;

6. Description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to stormwater, and spill -prevention and response;
7. Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;
8. A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;
9. Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;
10. Temporary practices that will be converted to permanent control measures;
11. Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;
12. Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;
13. Name(s) of the receiving water(s);
14. Delineation of SWPPP implementation responsibilities for each part of the site;
15. Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and
16. Any existing data that describes the stormwater runoff at the site.

2.2.2 Land development activities as defined in Section 1 of this Article and meeting Condition "A", "B" or "C" below shall also include water quantity and water quality controls (post-construction stormwater runoff controls) as set forth in Section 2.2.3 below as applicable:

Condition A - Stormwater runoff from land development activities discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a Total Maximum Daily Load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment.

Condition B - Stormwater runoff from land development activities disturbing five (5) or more acres.

Condition C - Stormwater runoff from land development activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

2.2.3 SWPPP Requirements for Condition A, B and C:

1. All information in Section 2.2 .1 of this local law
2. Description of each post-construction stormwater management practice;
3. Site map/construction drawing(s) showing the specific location(s) and size(s) of each post-construction stormwater management practice;
4. Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms
5. Comparison of post-development stormwater runoff conditions with pre-development conditions

6. Dimensions, material specifications and installation details for each post-construction stormwater management practice;
7. Maintenance schedule to ensure continuous and effective operation of each post-construction stormwater management practice.
8. Maintenance easements to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property.
9. Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures in accordance with Article 2, Section 4 of this local law.
10. For Condition A, the SWPPP shall be prepared by a landscape architect, certified professional or professional engineer and must be signed by the professional preparing the plan, who shall certify that the design of all stormwater management practices meet the requirements in this local law.[1]

2.3 Other Environmental Permits

The applicant shall assure that all other applicable environmental permits have been or will be acquired for the land development activity prior to approval of the final stormwater design plan.

2.4 Contractor Certification

2.4.1 Each contractor and subcontractor identified in the SWPPP who will be involved in soil disturbance and/or stormwater management practice installation shall sign and date a copy of the following certification statement before undertaking any land development activity : "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the Stormwater Pollution Prevention Plan. I also understand that it is unlawful for any person to cause or contribute to a violation of water quality standards."

2.4.2 The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

2.4.3 The certification statement(s) shall become part of the SWPPP for the land development activity.

2.5 A copy of the SWPPP shall be retained at the site of the land development activity during construction from the date of initiation of construction activities to the date of final stabilization.

[1] Revised 3/06 - formerly Section 2.3. This section was moved under Section 2.2.3 to more closely meet the New York State requirements for Condition A in Section 2.2.2. The NY SPDES General Permit for Stormwater Runoff from Construction Activities (GP-02-01) requires that SWPPPs be prepared by a licensed professional for land development activities discharging a pollutant of concern to an impaired water identified on the Department's 303(d) list of impaired waters or to a Total Maximum Daily Load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment.

Section 3. Performance and Design Criteria for Stormwater Management and Erosion and Sediment Control

All land development activities shall be subject to the following performance and design criteria:

3.1 Technical Standards

For the purpose of this local law, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law:

3.1.1 The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the Design Manual)

3.1.2 New York Standards and Specifications for Erosion and Sediment Control, (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the Erosion Control Manual).

➲ *The New York State technical guidance documents may be ordered from The Department. An order form as well as downloadable versions of the Manuals are available on the Internet at;*

http://www.dec.state.ny.us/website/dow/toolbox/escstandards/index.html

http://www.dec.state.ny.us/website/dow/toolbox/swmanual/

3.2 Equivalence to Technical Standards[2]

Where stormwater management practices are not in accordance with technical standards, the applicant or developer must demonstrate equivalence to the technical standards set forth in Article 2, Section 3.1 and the SWPPP shall be prepared by a licensed professional.

3.3 Water Quality Standards

Any land development activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the state of New York.

Section 4. Maintenance, Inspection and Repair of Stormwater Facilities[3]

4.1 Maintenance and Inspection During Construction[4]

4.1.1 The applicant or developer of the land development activity or their representative shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developer to achieve compliance with the conditions of this local law. Sediment shall be removed from sediment

[2] Added 3/06 to ensure that the local law addresses the New York State requirement for applicants to demonstrate through preparation by a licensed professional that stormwater management practices that are not prepared in accordance with NYSDEC technical standards will work in the field to prevent soil erosion and maintain water quality.

[3] Revised 3/06 to add the word "Inspection" to the title to more closely reflect the content of the section.

[4] Revised 3/06 to add the word "Inspection" to the title to more closely reflect the content of the section.

traps or sediment ponds whenever their design capacity has been reduced by fifty (50) percent.

4.1.2 For land development activities as defined in Section 1 of this Article and meeting Condition A, B or C in Section 2.2.2, the applicant shall have a qualified professional conduct site inspections and document the effectiveness of all erosion and sediment control practices every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more. Inspection reports shall be maintained in a site log book.[5]

4.1.3 The applicant or developer or their representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices.[6]

➲ *4.1.3 is an optional clause for municipalities that are interested in requiring more oversight by the developer during construction activities*.

4.2 Maintenance Easement(s)

Prior to the issuance of any approval that has a stormwater management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the stormwater management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the **((City/Town/Village) of _____)** to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this local law. The easement shall be recorded by the grantor in the office of the County Clerk after approval by the counsel for the **((City/Town/Village) of _____)**.

4.3 Maintenance after Construction

The owner or operator of permanent stormwater management practices installed in accordance with this law shall ensure they are operated and maintained[7] to achieve the goals of this law. Proper operation and maintenance also includes as a minimum, the following:

4.3.1 A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator to achieve the goals of this law.

4.3.2 Written procedures for operation and maintenance and training new maintenance personnel.

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[5] Revised 3/06. This clause was rewritten to more closely meet the New York State requirements for Conditions A, B and C in Section 2.2.2. The NY SPDES General Permit for Stormwater Runoff from Construction Activities (GP-02-01) requires that inspections be conducted every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more for all projects that are required to prepare full SWPPPs as stated in Conditions A, B and C, and to copy such reports to a site log book.

[6] Revised 3/06. Originally part of 4.1.2, this clause was relocated as a separate section to show that it is optional.

[7] Revised 3/06 to correct a grammatical error.

4.3.3 Discharges from the SMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with Article 2, section 3.3.

4.4 Maintenance Agreements

The **((City/Town/Village) of _____)** shall approve a formal maintenance agreement for stormwater management facilities binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of Schedule B of this local law entitled Sample Stormwater Control Facility Maintenance Agreement. The **((City/Town/Village) of _____)**, in lieu of a maintenance agreement, at its sole discretion may accept dedication of any existing or future stormwater management facility, provided such facility meets all the requirements of this local law and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

Section 5. Severability and Effective Date

5.1 Severability

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this local law shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this local law.

5.2 Effective Date

This Local Law shall be effective upon filing with the office of the Secretary of State.

Approved by: _____ Date _____

Article 3. Subdivision Regulation Amendment

Sections ___ and ___ of the Subdivision Regulations of the **((City/Town/Village) of _____)** are hereby amended by adding the following to the information requirements:

A. *For Preliminary Subdivision Plat add*: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan (SWPPP) consistent with the requirements of Article 1 and 2 of this local law shall be required for Preliminary Subdivision Plat approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Preliminary Subdivision Plat shall be consistent with the provisions of this local law.

B. *For Final Subdivision Plat approval add*: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law and with the terms of preliminary plan approval shall be required for Final Subdivision Plat approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Final Subdivision Plat shall be consistent with the provisions of this local law.

➲ *If the municipality has only one requirement for a final plan (no preliminary) then use Paragraph A language only.*

Article 4. Site Plan Review Regulation Amendment

Sections ___ and ___ of the Site Plan Review regulations of the **((City/Town/Village) of _____)** are hereby amended by adding the following to the information requirements:

For Site Plan Approval add: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law shall be required for Site Plan Approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Site Plan shall be consistent with the provisions of this local law.

Article 5. Erosion & Sediment Control Law Repeal or Amendment[8]

Repeal:

The Erosion & Sediment Control Law of the **((City/Town/Village) of _____)** is hereby repealed.

➲ *By adopting Articles 1 and 2 (and 3, 4 and 6 where necessary) of the Model Local Law for Stormwater Management and Erosion & Sediment Control, the municipality will have regulatory authority for both erosion & sediment control and post-construction stormwater management so a separate erosion & sediment control law is not needed.*

OR

Amendment:

Section _____of the Erosion & Sediment Control Law of the **((City/Town/Village) of _____)** is hereby amended by adding the following clause: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law shall be required. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved erosion control permit shall be consistent with the provisions of this local law.

➲ *The municipality must also adopt Articles 1, 2, 3 and 4 (as applicable for their municipality) in order to address post-construction stormwater runoff control in stormwater pollution prevention plans.*

Article 6. Administration and Enforcement

➲***The following provisions for construction inspection, performance guarantees and bonds, and enforcement are important to include in a stormwater control program, but may already exist in local law. Therefore the municipality and its counsel should review their existing provisions for these activities, compare them with the following provisions, and consider whether revisions or amendments are necessary to achieve the purposes of this local law.***

Section 1. Construction Inspection

[8] Revised 3/06 to clarify that adoption of this Sample Local Law provides all the required language for local regulation of erosion & sediment control, therefore repeal of an existing erosion & sediment control law and replacement with the Sample Local Law may be the best option for many municipalities.

1.1 Erosion and Sediment Control Inspection

The **((City/Town/Village) of _____)** Stormwater Management Officer may require such inspections as necessary to determine compliance with this law and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this law and the stormwater pollution prevention plan (SWPPP) as approved. To obtain inspections, the applicant shall notify the **((City/Town/Village) of _____)** enforcement official at least 48 hours before any of the following as required by the Stormwater Management Officer:

1.1.1 Start of construction

1.1.2 Installation of sediment and erosion control measures

1.1.3 Completion of site clearing

1.1.4 Completion of rough grading

1.1.5 Completion of final grading

1.1.6 Close of the construction season

1.1.7 Completion of final landscaping

1.1.8 Successful establishment of landscaping in public areas.

If any violations are found, the applicant and developer shall be notified in writing of the nature of the violation and the required corrective actions. No further work shall be conducted except for site stabilization until any violations are corrected and all work previously completed has received approval by the Stormwater Management Officer.

1.2 Stormwater Management Practice Inspections

The **((City/Town/Village) of _____)** Stormwater Management Officer, is responsible for conducting inspections of stormwater management practices (SMPs). All applicants are required to submit "as built" plans for any stormwater management practices located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer.

1.3 Inspection of Stormwater Facilities After Project Completion

Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the SPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater management practices.

➲*Inspections may be performed by local government staff or the local government may designate an inspector required to have a Professional Engineer's (PE) license or Certified Professional in Erosion and Sediment Control (CPESC) certificate, as long as the designated inspector is required to submit a report.*

1.4 Submission of Reports

The ((City/Town/Village) of _____) Stormwater Management Officer may require monitoring and reporting from entities subject to this law as are necessary to determine compliance with this law.

1.5 Right-of-Entry for Inspection

When any new stormwater management facility is installed on private property or when any new connection is made between private property and the public storm water system, the landowner shall grant to the **((City/Town/Village) of _____)** the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in paragraph 1.3.

Section 2. Performance Guarantee

2.1 Construction Completion Guarantee

In order to ensure the full and faithful completion of all land development activities related to compliance with all conditions set forth by the **((City/Town/Village) of _____)** in its approval of the Stormwater Pollution Prevention Plan, the **((City/Town/Village) of _____)** may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow, or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the **((City/Town/Village) of _____)** as the beneficiary. The security shall be in an amount to be determined by the (**(City/Town/Village) of _____)** based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the **((City/Town/Village) of _____)**, provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facility(ies) have been constructed in accordance with the approved plans and specifications and that a one year inspection has been conducted and the facilities have been found to be acceptable to the **((City/Town/Village) of _____).** Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.

2.2 Maintenance Guarantee

Where stormwater management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the **((City/Town/Village) of _____)** with an irrevocable letter of credit from an approved financial institution or surety to ensure proper operation and maintenance of all stormwater management and erosion control facilities both during and after construction, and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain stormwater management and erosion and sediment control facilities, the **((City/Town/Village) of _____)** may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.

2.3 Recordkeeping

The ((City/Town/Village) of _____) may require entities subject to this law to maintain records demonstrating compliance with this law.

Section 3. Enforcement and Penalties

3.1 Notice of Violation.

When the **((City/Town/Village) of _____)** determines that a land development activity is not being carried out in accordance with the requirements of this local law, it may issue a written notice of violation to the landowner. The notice of violation shall contain :

3.1.1 the name and address of the landowner, developer or applicant;

3.1.2 the address when available or a description of the building, structure or land upon which the violation is occurring;

3.1.3 a statement specifying the nature of the violation;

3.1.4 a description of the remedial measures necessary to bring the land development activity into compliance with this local law and a time schedule for the completion of such remedial action;

3.1.5 a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;

3.1.6 a statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within fifteen (15) days of service of notice of violation.

3.2 Stop Work Orders

The **((City/Town/Village) of _____)** may issue a stop work order for violations of this law. Persons receiving a stop work order shall be required to halt all land development activities, except those activities that address the violations leading to the stop work order. The stop work order shall be in effect until the **((City/Town/Village) of _____)** confirms that the land development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this local law.

3.3 Violations

Any land development activity that is commenced or is conducted contrary to this local law, may be restrained by injunction or otherwise abated in a manner provided by law.

3.4 Penalties

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this local law shall be guilty of a violation punishable by a fine not exceeding three hundred fifty dollars ($350) or imprisonment for a period not to exceed six months, or both for conviction of a first offense; for conviction of a second offense both of which were committed within a period of five years, punishable by a fine not less than three hundred fifty dollars nor more than seven hundred dollars ($700) or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense all of which were committed within a period of five years, punishable by a fine not less than seven hundred dollars nor more than one thousand dollars ($1000) or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this local law shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

3.5 Withholding of Certificate of Occupancy

If any building or land development activity is installed or conducted in violation of this local law the Stormwater Management Officer may prevent the occupancy of said building or land.

3.6 Restoration of lands

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the **((City/Town/Village) of _____)** may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

Section 4. Fees for Services

The **((City/Town/Village) of _____)** may require any person undertaking land development activities regulated by this law to pay reasonable costs at prevailing rates for review of SWPPPs, inspections, or SMP maintenance performed by the **((City/Town/Village) of _____)** or performed by a third party for the **((City/Town/Village) of _____)**.

Schedule A

Stormwater Management Practices Acceptable for Water Quality (*From: New York State Stormwater Management Design Manual, Table 5.1*)		
Group	**Practice**	**Description**
Pond	Micropool Extended Detention Pond (P-1)	Pond that treats the majority of the water quality volume through extended detention, and incorporates a micropool at the outlet of the pond to prevent sediment resuspension.
	Wet Pond (P-2)	Pond that provides storage for the entire water quality volume in the permanent pool.
	Wet Extended Detention Pond (P-3)	Pond that treats a portion of the water quality volume by detaining storm flows above a permanent pool for a specified minimum detention time.
	Multiple Pond System (P-4)	A group of ponds that collectively treat the water quality volume.
	Pocket Pond (P-5)	A stormwater wetland design adapted for the treatment of runoff from small drainage areas that has little or no baseflow available to maintain water elevations and relies on groundwater to maintain a permanent pool.
Wetland	Shallow Wetland (W-1)	A wetland that provides water quality treatment entirely in a shallow marsh.
	Extended Detention Wetland (W-2)	A wetland system that provides some fraction of the water quality volume by detaining storm flows above the marsh surface.
	Pond/Wetland System (W-3)	A wetland system that provides a portion of the water quality volume in the permanent pool of a wet pond that precedes the marsh for a specified minimum detention time.
	Pocket Wetland (W-4)	A shallow wetland design adapted for the treatment of runoff from small drainage areas that has variable water levels and relies on groundwater for its permanent pool.
Infiltration	Infiltration Trench (I-1)	An infiltration practice that stores the water quality volume in the void spaces of a gravel trench before it is infiltrated into the ground.
	Infiltration Basin (I-2)	An infiltration practice that stores the water quality volume in a shallow depression before it is infiltrated into the ground.
	Dry Well (I-3)	An infiltration practice similar in design to the infiltration trench, and best suited for treatment of rooftop runoff.
Filtering Practices	Surface Sand Filter (F-1)	A filtering practice that treats stormwater by settling out larger particles in a sediment chamber, and then filtering stormwater through a sand matrix.
	Underground Sand Filter (F-2)	A filtering practice that treats stormwater as it flows through underground settling and filtering chambers.
	Perimeter Sand Filter (F-3)	A filter that incorporates a sediment chamber and filter bed as parallel vaults adjacent to a parking lot.
	Organic Filter (F-4)	A filtering practice that uses an organic medium such as compost in the filter in place of sand.
	Bioretention (F-5)	A shallow depression that treats stormwater as it flows through a soil matrix, and is returned to the storm drain system.
Open Channels	Dry Swale (O-1)	An open drainage channel or depression explicitly designed to detain and promote the filtration of stormwater runoff into the soil media.
	Wet Swale (O-2)	An open drainage channel or depression designed to retain water or intercept groundwater for water quality treatment.

Schedule B

SAMPLE STORMWATER CONTROL FACILITY MAINTENANCE AGREEMENT

Whereas, the Municipality of _____("Municipality") and the _____ ("facility owner") want to enter into an agreement to provide for the long term maintenance and continuation of stormwater control measures approved by the Municipality for the below named project, and

Whereas, the Municipality and the facility owner desire that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, the Municipality and the facility owner agree as follows:

1. This agreement binds the Municipality and the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved project plans which are attached as Schedule A of this agreement.

2. The facility owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted in Schedule A as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, dry wells, infiltrators, drop inlets, pipes, culverts, soil absorption devices and retention ponds.

3. The facility owner shall be responsible for all expenses related to the maintenance of the stormwater control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.

4. The facility owner shall provide for the periodic inspection of the stormwater control measures, not less than once in every five year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the Municipality within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the stormwater control measures.

5. The facility owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the Municipality.

6. The facility owner shall undertake necessary repairs and replacement of the stormwater control measures at the direction of the Municipality or in accordance with the recommendations of the inspecting engineer.

7. The facility owner shall provide to the Municipality within 30 days of the date of this agreement, a security for the maintenance and continuation of the stormwater control measures in the form of (a Bond, letter of credit or escrow account).

8. This agreement shall be recorded in the Office of the County Clerk, County of _____together with the deed for the common property and shall be included in the offering plan and/or prospectus approved pursuant to _____.

9. If ever the Municipality determines that the facility owner has failed to construct or maintain the stormwater control measures in accordance with the project plan or has failed to undertake corrective action specified by the Municipality or by the inspecting engineer, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures and to affix the expenses thereof as a lien against the property.

10. This agreement is effective _____ .

_____ _____

***From: Lake George Park Commission Model Stormwater Management Ordinance, Schedule** E*

Appendix D
Town of Huron Septic Law

TOWN OF HURON SEPTIC LAW

Local Law No. 3 of 1996, as most recently amended by Local Law No. 1 of 2013

1. **Short Title.** This law may be referred to as the "Town of Huron Septic Law."

2. **Purpose.** In order to safeguard public health, safety, and welfare, and protect the environment, including the quality of ground and surface water, it is necessary to regulate and control all septic systems in the Town under this law.

3. **Other Law and Regulations.** This law is intended to supplement and expand the requirements for septic systems under the State Public Health Law and Regulations, including Part 75A, which is incorporated into this law by reference. To the extent this law conflicts with such regulations and other requirements under state law, the more restrictive law and regulations shall prevail. This septic law is intended to be construed as in harmony with the State Public Health Law and Regulations (including Part 75A), the Town Building Law, and the Town Zoning Law.

4. **Definitions.**

A. To the extent terms are not defined in this law but are defined in the State Public Health Law and Regulations, the Town Building Law, or the Town Zoning Law, the terms used in this law shall have the same meaning.

B. The following terms shall have the following meanings:

(1) **Aerobic System.** An Enhanced Treatment Unit (ETU), which provides for the biological decomposition of the organic portion of the wastewater by mechanical aeration of the wastewater. All aerobic systems shall have a label indicating compliance with the standards for a Class I unit as described in the National Sanitation Foundation (NSF) International Standard 40 or equivalent testing.

(2) **Alternative Systems.** Holding tanks and non-waterborne sewage disposal systems as described or defined in Part 75A, Section 75-A.10 including composting toilets, chemical and recirculating toilets and incinerator toilets.

(3) **Building Inspector.** The person who administrates and enforces the New York State Uniform Fire Prevention and Building Codes, Town of Huron Building Law and Town of Huron Zoning Law.

(4) **Certificate of Compliance.** A form that certifies full compliance with this local law until the next inspection as provided by this law is required.

(5) **Coastal Area.** Any beach, bluff, other natural protective feature, or coastline as those terms are defined in the Town of Huron Coastal Erosion Hazard Area Law (Local Law No. 4 of 2002, as amended), including the Crescent Beach Sandbar.

(6) **Conditional Certificate of Acceptance.** A form that permits continued use of a septic system until the system is brought into full compliance and a Certificate of Compliance is issued.

(7) **Enhanced Treatment.** The biological and physical treatment of wastewater to reduce the amount of biochemical oxygen demand (BOD) and total suspended solids (TSS) of wastewater prior to distribution to an absorption area.

(8) **Enhanced Treatment Unit (ETU).** A pre-manufactured wastewater treatment system that provides Enhanced Treatment of wastewater prior to discharge to a subsurface soil absorption area. All ETUs shall have a label indicating compliance with the standards for a Class I unit as described in the National Sanitation Foundation (NSF) International Standard 40 or equivalent testing.

(9) **Gray Water.** Wastewater not mixed with toilet waste, not including water softener discharges.

(10) **Gray Water System.** A septic system for disposal, treatment, storage, dispersal, transmittal, or disposal of gray water, other than a discharge to a public sewer system or discharge to surface waters permitted by the New York State Department of Environmental Conservation.

(11) **Holding Tank.** A water-tight tank that holds septage without an outflow.

(12) **Increase in Living Area**. The addition of enclosed inside living area to an existing residential structure, which increases the load or potential load on the septic system.

(13) **Leachate.** Liquid effluent discharged from a septic tank.

(14) **Part 75A.** Title 10 of the New York Code, Rules and Regulations, Part 75A (10 N.Y.C.R.R. Part 75A), as it may be amended from time to time.

(15) **Sewer System.** A common sewer system owned and operated by a private group of individuals, a municipality or public authority.

(16) **Pump-out Records.** Receipts or written statements from a septic hauler licensed by the New York State Department of Environmental Conservation indicating dates and detail of work done.

(17) **Septage.** All waste and material removed from a septic tank, raw sewage, and untreated effluent.

(18) **Septic Board of Appeals.** A board appointed by the Town Board to hear written appeals arising under this law, also referred to as the "Board."

(19) **Septic Inspection Report.** A report of a septic inspection on a form prescribed by the Town Board.

(20) **Septic Inspector.** A person appointed by the Town Board who performs septic inspections as set forth in this law.

(21) **Septic System**. A system for disposal, treatment, storage, dispersal, transmittal, or disposal of sewage or gray water, other than a discharge to a public sewer system or a discharge to surface waters permitted by the New York State Department of Environmental Conservation.

(22) **Sewage.** All domestic wastewater, including any combination of human waste with water discharged to a plumbing system, waste from a flush toilet, bath, sink, lavatory, dishwasher or laundry machine, and waste carried by water from any other fixture, equipment or machine, but not storm drains, residential floor drains, sump pumps, eaves, or agricultural waste.

(23) **State Public Health Law and Regulations.** The Public Health Law of the State of New York, and regulations promulgated pursuant to that law, including 10 N.Y.C.R.R. Part 75A, as they may be amended from time to time.

(24) **Town.** The Town of Huron, Wayne County.

(25) **Town Board.** The Town Board of the Town of Huron, Wayne County.

(26) **Town Building Law.** Town of Huron Building Law, enacted as Local Law No.1 of 1989, as amended.

(27) **Town Zoning Law.** Town of Huron Zoning Law, enacted as Local Law No. 1 of 1973, as amended.

(28) **Transfer of Ownership**. A transfer of real property title from one person to another.

(29) **Wastewater.** Any water discharged through a plumbing fixture to include, but not limited to, sewage and any water or waste from a device which is produced in the house or property.

5. General Provisions.

A. Effect. Completion of a septic inspection or Septic Inspection Report, and issuance of a Building Permit, Certificate of Occupancy or Compliance, or Conditional Certificate of Acceptance, does not constitute any representation or certification of the Town to anyone other than the applicant.

B. Work Requirements. All work shall be done in accordance with this law and the State Public Health Law and Regulations. The property owner shall be responsible for all actions and costs required to comply with this law, including inspections, design, maintenance, repairs, and installation.

C. Septic Inspection Report. The Town Board shall approve the form of a Septic Inspection Report, which shall be used to document the results of all septic inspections conducted pursuant to this law. All such reports shall be filed with the Town Building Inspector**,** and a copy furnished to the property owner.

D. Delegation of Authority. While the Town Board has primary authority to administrate and enforce this law, it may delegate authority under this law to Town officers, employees, or agents as it sees fit.

E. Septic Inspector. The Town Board shall, by resolution, appoint a Septic Inspector to administer this law. The Septic Inspector is authorized to conduct inspections under this law. The Town Board may also designate one or more Deputy Septic Inspectors to assist the Septic Inspector and act in his or her absence. The Building Inspector or his or her deputy may also serve as Septic Inspector.

F. Fees. The Town Board may, by resolution, establish fees that shall be paid to the Town for inspections, certificates, or other actions by the Town under this law.

G. Deeded Rights-of-Way or Easements. If new construction, replacement, modification or upgrade of a septic system, in whole or in part, results in part of the system or its components being installed on property not owned by the applicant, a deeded right-of-way to allow that use shall be obtained and recorded at the Wayne County Clerk's Office, and a copy filed with any permit application.

H. Land Application of Waste. Dumping, spreading or other land spreading of human septage, whether by commercial application or individual application, is prohibited within the Town.

I. Maintenance Contracts. Whenever a maintenance or service contract is required for all or part of a septic system, the property owner shall provide the Town with a current copy of the contract, and maintain written evidence of continuous contract coverage satisfactory to the Town. Maintenance contracts are required

for ETUs, and may be required by the Town for other systems. Maintenance contracts for ETUs shall require, at a minimum, semi-annual inspections and subsequent necessary adjustments by the manufacturer or a certified manufacturer's representative for the life of the system. Maintenance contracts for ETUs shall include the cost of regular pumping, the frequency of which shall be recommended by the manufacturer or its certified representative, based on the semi-annual inspections of the system. In no case shall the time between pump-outs exceed three years, unless specifically recommended otherwise by the manufacturer or its certified representative. Within ten (10) business days of any ETU inspection, the Town shall be provided with a written report documenting the results of the inspection including a written certification from the manufacturer or its certified representative that the system is fully functional and operating property; or that repairs or system replacement is warranted.

6. <u>New Construction.</u>

A. Applicability. This section applies to septic systems associated with new construction, including installation of temporary septic systems, and seasonal or permanent structures.

B. Permit Requirements. Pursuant to the Town Building Law, a Building Permit is required prior to commencement of any construction, including installation of a new septic system, and a Certificate of Occupancy is required prior to commencement of use or occupancy, including use of any septic system. Furthermore, any work in the Coastal Area, including the Crescent Beach Sandbar, or any other coastal erosion hazard area, may require a permit under the Town of Huron Coastal Erosion Hazard Area Law (Local Law No. 4 of 2002, as amended).

C. System Compliance. All new septic system installations shall comply with the State Public Health Law and Regulations, including Part 75A, and this law. All new installations shall meet the following additional requirements:

(1) All septic tanks shall have a wastewater filter installed on the outlet of the tank.

(2) All distribution boxes shall be equipped with speed levelers.

(3) All new septic systems installed in Coastal Areas shall be aerobic systems, unless it is clearly demonstrated that the requirements of Part 75A can be satisfied with another type of system.

(4) Due to the limited lot sizes and unique physical configuration of the Crescent Beach Sandbar, all aerobic systems installed on the Crescent Beach Sand Bar shall include ultra-violet (UV) disinfection. Chlorine disinfection will be an acceptable alternative provided that there are no

health, environmental, or water quality related regulatory constraints that prohibit its use. Further, any chlorine disinfection system must include an accompanying de-chlorination system to eliminate chlorine residual prior to discharge. The UV or chlorine disinfection system shall be designed by a New York State licensed professional engineer and be bundled with the aerobic system as an integral part of the overall pre-manufactured treatment system.

(5) Alternative Systems will be permitted provided that they are designed and installed in compliance with Part 75A and this law and that all gray water is treated with a gray water system in compliance with Part 75A and this law. Gray water systems in Coastal Areas shall comply with Section 6 (C) of this law.

D. Submittals. With an application for a Building Permit, the property owner shall submit design plans, sealed by a New York State licensed professional engineer, for the septic system including the following:

(1) Date, North point and scale. The plan shall be at a scale of no more than 100 feet to the inch.

(2) Name of owner of the property.

(3) Name of the engineer, surveyor, or architect responsible for the plans.

(4) Contours at vertical intervals no greater than 5 feet as determined by a topographic survey.

(5) Delineation of any land exceeding a slope of 10%, land within a New York State designated freshwater wetland, or land within a FEMA Special Flood Hazard Zone.

(6) Delineation of limits of any land to be disturbed in any manner including areas to be cut, filled, excavated, or graded and contours, both existing and proposed, at vertical intervals of no more than 5 feet.

(7) Location and description of all swales, ponds, basins, fences, dikes or other devices to control soil erosion and sedimentation.

(8) Datum to which contour elevations refer. Where reasonably practical, datum shall refer to USGS established elevations.

(9) All existing watercourses, tree masses, and other significant natural features.

(10) All existing buildings, sewers, water mains, culverts, wells, and other significant man-made features and utilities.

(11) All existing property lines, easements and rights-of-way and the purpose for which the easements or rights-of-way have been established.

(12) As required by Part 75A, the results and locations of deep hole tests and percolation tests to determine soil percolation capabilities and deep soil profiles.

(13) Detailed design and layout of all components of the septic system including all necessary information to document compliance with Part 75A.

(14) A legible location map.

(15) A map revision box.

(16) A map legends/key.

(17) A signature block for the Town Building Inspector.

E. Inspection of Septic System Installation. All work performed shall be left open for inspection. Prior to backfilling any newly installed septic system, the Building Inspector shall visually inspect for compliance with the septic system design, Part 75A, and this law.

7. <u>Replacement, Modification or Upgrade of an Existing Septic System.</u>

A. Applicability. This section shall apply to the total or partial replacement, modification or upgrade to an existing septic system.

B. Permit Requirements. Pursuant to the Town Building Law, a Building Permit is required prior to commencement of any construction, including installation of a new septic system, and a Certificate of Occupancy is required prior to commencement of use or occupancy, including use of any septic system.

C. System Compliance. All existing septic systems must be functional, and as a minimum, provide for separation of solids and grease, and adequate percolation. Existing systems that are replaced, modified, or upgraded shall comply, to the extent reasonably feasible, with design requirements of Part 75A and this law, and shall meet the following additional requirements:

(1) All septic tanks shall have a wastewater filter installed on the outlet of the tank.

(2) All distribution boxes shall be equipped with speed levelers.

(3) All replacement septic systems installed in Coastal Areas shall be aerobic systems unless it is clearly demonstrated that the requirements of Part 75A can be met with another type of system.

(4) Due to the limited lot sizes and unique physical configuration of the Crescent Beach Sandbar, all aerobic systems installed on the Crescent Beach Sand Bar shall include ultra-violet (UV) disinfection. Chlorine disinfection will be an acceptable alternative provided there are no health, environmental, or water quality related regulatory constraints that prohibit its use. Further, any chlorine disinfection system must include an accompanying de-chlorination system to eliminate chlorine residual prior to discharge. The UV or chlorine disinfection system shall be designed by a New York State licensed professional engineer and be bundled with the aerobic system as an integral part of the overall pre-manufactured treatment system.

(5) All existing ETUs, as of the effective date of this law, shall be modified as necessary so as to be in compliance with Part 75A, to the extent practical, and this law.

(6) Alternative Systems will be permitted provided that they are designed and installed in compliance with Part 75A and this law and that all gray water is treated with a gray water system in compliance with Part 75A and this law. Existing Gray water systems in Coastal Areas shall comply with Section 7 (C) of this law.

(7) All repairs to existing septic systems, downstream of the distribution box shall be designed and supervised by a New York State licensed professional engineer. The plans for such repairs shall be submitted to the Building Inspector per the requirements of subdivision 6 (D) of this law.

D. Partial Replacement, Repair, Upgrade or Modification.

(1) Any partial replacement, repair, upgrade or modification of a component of a septic system shall comply with this section 7.

(2) If fifty (50%) percent or more of a septic system is replaced, repaired, upgraded or modified, the complete system shall comply with subdivision 7(E) of this law.

E. Complete Replacement. Complete replacements of existing septic systems are subject to the following requirements:

(1) Percolation Tests. The property owner (or his or her designee) shall

perform a percolation (perk) test in the planned location of all leach fields. At the request of the Building Inspector, he or she shall be allowed to be present at the inspection.

(2) **System Design.** Design of replacement systems and components shall, to the extent practical, comply with Part 75A and this law. On existing sites where full compliance with Part 75A is determined by the Town to be unattainable, the Town may allow reduced design requirements, to the extent appropriate, as follows:

(a) For ETUs only, a reduction of up to thirty-three (33%) percent of the required leach lines. For aerobic systems in Coastal Areas, a further reduction may be permitted, depending upon site constraints and the design of the system.

(b) Reduced property line setbacks, but not less than four feet.

(c) Reduced setbacks between a septic tank and structure, but not less than two feet.

(d) Reduced mean high water (MHW) setbacks, but not less than 40 feet.

(e) Continuation of preexisting gray water discharge to one or more separate septic tanks or disposal systems, provided that each system provides for separation of oils and greases, and has an adequate leaching facility.

(3) **Submittals.** With an application for a Building Permit, the applicant shall submit design plans, sealed by a New York State licensed professional engineer, meeting the requirements of Subdivision 6(D) of this law. In addition, for a complete replacement of an existing system with a conventional septic system incorporating a mechanical pump, proof must be submitted that the pump station has an engineered design and is sized for the septic system application.

F. **Inspection of Septic System Installation.** All work performed shall be left open for inspection. Prior to backfilling any modification, upgrade or replacement of an existing septic system, the Building Inspector shall visually inspect for compliance with the septic system design, Part 75A, and this law.

G. **Septic Inspection Report.** Prior to issuance of a Certificate of Compliance, the Building Inspector shall complete and file a Septic Inspection Report with the Town, which shall document conformance of the installation with the system design and observed conditions and use. The property owner shall be furnished a copy of the Septic Inspection Report and any Certificate of Compliance.

8. Inspection of Existing Septic Systems.

A. Required Inspections. A septic inspection of all septic systems serving an existing residence, or commercial or industrial facility, as provided by this section, shall be completed by the Septic Inspector periodically as provided by subdivision 8(D) of this law, and prior to:

(1) Increase in living area or increase in effluent volume.

(2) Change in type of use.

(3) Change in intensity of a commercial use that increases the number of employees or occupants, or increases the discharge of sewage.

(4) Transfer of ownership for systems that have not been inspected under this law.

(5) Modification or construction resulting in at least a fifty (50%) percent increase in the interior floor space of a principal structure.

B. System Compliance. All existing septic systems must be functional, consistent with the existing or proposed use. At a minimum, all existing septic systems must provide for separation of solids and grease, and adequate percolation.

C. Mandatory System Upgrade. The existing septic system shall be upgraded, in accordance with section 7 of this law, to be in compliance, to the extent reasonably feasible, with design requirements of Part 75A, whenever one of the following occurs:

(1) Results of a septic inspection indicate that the existing septic system has failed, or is failing to protect public health and safety of the environment based on one or more of the following criteria:

(i) The dye test required by subdivision 8(D) of this law results in the presence of dye on the ground surface, the septic tank inlet or any inlets or outlets to the distribution box.

(ii) There is a back-up of sewage into the home, building or facility as a result of an overloaded or clogged leach field.

(iii) There is a discharge of effluent directly or indirectly to the ground surface and ponding, surface outbreaks and damp soils are frequently or seasonally observed over the leach field.

(iv) The level of liquid in the distribution box is above the level of the

outlet invert.

(v) The septic tank requires pumping more than four times per year and/or sewage is observed running back into the septic tank from the leach field during pumping.

(vi) The septic system is clearly non-compliant with the design criteria and one or more of the requirements of Part 75A, whether or not there is obvious visual evidence of system failure.

(2) Increase in living area.

(3) Change in intensity of a commercial use that increases the number of employees or occupants, or increases the discharge of sewage.

(4) Transfer of Ownership, if at such time the septic inspection reveals that system upgrade is required.

D. Periodic Inspection. Periodic inspections shall be performed by Septic Inspector as set forth in this subdivision.

(1) Commercial Properties. Commercial properties shall be inspected at the time of any fire inspection required under the Town of Huron Building Law, or New York State Uniform Fire Prevention and Building Code, and in any case at least once every two years. If a property passes inspection, it shall be issued a Certificate of Compliance that expires on the deadline for the next mandated fire inspection.

(a) Access. The business or property owner or his or her agent shall:

(i) Provide access to all structures on the property to ascertain where plumbing exits each structure.

(ii) Uncover all tanks, inspection ports and outlet baffles for inspection. The tank shall be pumped so that an inspection of the tank can be performed. If the tank is over twelve inches below grade, riser installation may be required.

(b) Inspection Criteria.

The Septic Inspector may determine that the existing septic system has failed or is failing to protect public health and the environment based on a combination of one or more of the following criteria:

(i) A dye test shall be conducted to ascertain if all fixtures are connected to the tank and to ascertain if effluent is being

discharged to the surface or surface waters. However, a dye test will not be an inspection criteria on the Crescent Beach Sandbar or any other area where the Septic Inspector determines that dye testing would be inconclusive due to the hydrogeologic conditions of the area.

(ii) There is a back-up of sewage into the house, building or facility as a result of an overloaded or clogged leach field.

(iii) There is a discharge of effluent directly or indirectly to the ground surface and ponding, surface outbreaks and damp soils are frequently or seasonally observed over the leach field.

(iv) The level of liquid in the distribution box is above the level of the outlet invert.

(v) General condition of the septic tank including its age, size and condition, any evidence of effluent back-up or leakage into or out of the tank, or evidence that the septic tank requires pumping more than four (4) times per year and/or sewage is observed running back into the septic tank from the leach field during pumping.

(vi) The septic system is clearly non-compliant with the design criteria and one or more of the requirements of Part 75A, whether or not there is obvious visual evidence of system failure.

(vii) The distribution box shall only be exposed if a problem is found and further evaluation is required.

(viii) Leach lines and seepage pits shall only be exposed if a problem is found and further evaluation is required.

(ix) The holding tank shall be maintained, and pump-out records shall be presented at time of inspection, which document holding tank maintenance. The Septic Inspector shall witness a pump-out to ascertain if the tank is water tight.

(x) At time of inspection, the Septic Inspector shall verify that ETUs have been serviced by the maintenance provider at the frequency, and in accordance with the requirements of subdivision 5(I) of this law.

(c) Failed Systems. Commercial properties shall be brought into

compliance by date of the next required inspection. Repeated failures found in a subsequent inspection shall be corrected within 45 days. In the event of direct discharge of raw sewage to the surface or surface water, the Building Inspector shall order that the discharge be terminated immediately, and if the septic system has a tank, the outlet shall be sealed, and the tank used as a holding tank until the system is brought into compliance. The Building Inspector may also take further enforcement action, or refer the matter to the Town Board of Health, as provided in section 11 of this law.

(d) Demonstrated Compliance. If a Building Permit and Certificate of Occupancy, or a Certificate of Compliance (after proper inspection under this law) are issued for a new or upgraded septic system, no inspection shall be required for two (2) years after issuance of the Certificate of Occupancy.

(2) Residential and Other Non-Commercial Properties. All other properties shall be inspected at least once every ten (10) years. except that properties in Coastal Areas shall be inspected at least once every five (5) years. If a property passes inspection, it shall be issued a Certificate of Compliance that expires ten years after the inspection, except that Certificates of Compliance issued for properties in Coastal Areas shall expire five years after the inspection. However, if a Conditional Certificate of Acceptance is issued rather than a Certificate of Compliance, the Septic Inspector may require an inspection at such time as the Septic Inspector deems appropriate.

(a) Property Owner. The property owner or his or her agent shall:

(i) Provide access to all structures that have plumbing.

(ii) Uncover all tanks and outlet ports so that a dye test may be performed, and if the tank is over twelve inches below grade, ensure that risers have been installed.

(b) Inspection Criteria.

The Septic Inspector may determine that the existing septic system has failed or is failing to protect public health and the environment based on a combination of one or more of the following criteria:

(i) A dye test shall be performed using 25 gallons of water per bedroom introduced into the septic system to ascertain if effluent is discharging to the surface or surface waters, and if the system has a working leach system. However, a dye

test will not be an inspection criteria on the Crescent Beach Sandbar or any other area where the Septic Inspector determines that dye testing would be inconclusive due to the hydrogeologic conditions of the area.

(ii) Any of the criteria listed in paragraph 8(D)(1) of this law.

(iii) The holding tanks must be maintained, and pump-out records shall be presented at time of inspection, which document that the holding tank is being maintained. The Septic Inspector shall witness a pump-out to ascertain if the tank is water tight.

(iv) At time of inspection, the Septic Inspector shall verify that ETUs have been serviced by the maintenance provider at the frequency, and in accordance with the requirements of subdivision 5(I) of this law.

(c) Failed Systems. Failures shall be brought into compliance within two years from the date of initial inspection. Repeated failures found in a subsequent inspection shall be corrected within 45 days. In the event of direct discharge of raw sewage to the surface or surface water, the Building Inspector shall order that the discharge be terminated immediately, and if the septic system has a tank, the outlet shall be sealed, and the tank used as a holding tank until the system is brought into compliance immediately. The Building Inspector may also take further enforcement action, or refer the matter to the Town Board of Health, as provided in section 11 of this law.

(d) Demonstrated Compliance. If a Building Permit and Certificate of Occupancy, or a Certificate of Compliance (after proper inspection under this law) are issued for a new or upgraded septic system, no inspection shall be required for five (5) years after issuance of the Certificate of Occupancy.

E. Property Transfer Inspections. Inspection is to performed by the Building Inspector or his or her designated septic inspector.

(1) Property Owner. Prior to inspection, the property owner or his or her agent shall:

(a) Provide access to all structures on the property to ascertain where plumbing exits each structure.

(b) Uncover all tanks, inspection ports and outlet baffles for

inspection.

(c) If the tank is over twelve inches below grade, riser installation may be required.

(2) Inspection Criteria.

The Septic Inspector may determine that the existing septic system has failed or is failing to protect public health and the environment based on a combination of one or more of the following criteria:

(a) **General.** Any of the criteria listed in paragraph 8(D)(1) of this law.

(b) **Tank.** The tank inspection shall include, but not be limited to:

(i) Determination of the proper liquid level in tank.

(ii) General condition of the tank including its age and size, and any evidence of effluent back-up or leakage into or out of the tank.

(iii) A dye test shall be performed using 75 gallons of water per bedroom introduced into the septic system to ascertain house fixtures are connected to the tank and to ascertain if effluent is discharging to the surface or surface waters, and if the system has a working leach system. However, a dye test will not be an inspection criteria on the Crescent Beach Sandbar or any other area where the Septic Inspector determines that dye testing would be inconclusive due to the hydrogeologic conditions of the area.

(iv) The tank shall be pumped completely by a septic hauler to ascertain if tank is water tight and if the baffles are correctly installed. If the Building Inspector determines that the tank may float, then the tank shall only be pumped to a level to support baffle inspection.

(v) The volume of the tank shall be determined. If the volume of the tank is less than 1,000 gallons, the tank shall be replaced with a tank with a minimum volume of at least 1,000 gallons. Furthermore, the volume of the tank shall be in accordance with Part 75A and this law.

(c) **Distribution Box.** The distribution box shall be located and exposed and its condition characterized including any evidence of

solids carryover, leakage into and out of the distribution box, unequal diversion of flow, or any evidence of back-up.

(d) **Leach Lines.** Leach lines shall only be exposed if a problem is found and further evaluation is required. However, the overall condition of the leach field will be observed including any signs of hydraulic failure, condition of surface vegetation, and ponding within the disposal area.

(e) **Seepage Pits.** Seepage pits are allowed if effluent is passed through a septic tank before the seepage pit, and shall only be exposed if a problem is found and further evaluation is required.

(f) **Holding Tank.** The holding tank shall be maintained, and pump-out records shall be presented at time of inspection, which document holding tank maintenance. The Building Inspector or his or her designated septic inspector shall witness a pump-out to ascertain if the tank is water tight.

(g) **ETUs.** It will be the responsibility of the property owner or his or her agent to arrange for an inspection of ETUs, with a written report of such inspection to be furnished to the Building Inspector or his or her designated septic inspector at the time of property transfer. At time of inspection, adequate proof shall be produced that ETUs have been serviced by the maintenance provider at the frequency, and in accordance with the requirements of subdivision 5(I) of this law.

(h) **Demonstrated Compliance.** If a Building Permit and Certificate of Occupancy, or a Certificate of Compliance (after proper inspection under this law) have been issued within two (2) years prior to the transfer of ownership for commercial properties or three (3) years prior to the transfer of ownership for residential or other properties, no additional inspection shall be required until the time of the next periodic inspection,

F. **Winter Inspections.** Winter inspections shall only be conducted when the area is free of snow and frozen ground. On waterfront properties, winter inspections shall not be conducted when the adjoining waterway is frozen over. A partial inspection of the septic tank and exposed components may be conducted for property transfer inspections, and a Conditional Certificate of Acceptance issued, provided that a full inspection is completed when conditions permit.

G. **Failed Systems.** Failed systems shall be brought into compliance, to the extent practical, to comply with Part 75A and this law before transfer of ownership or re-occupation of the structure.

H. **Septic Inspection Report.** Within fifteen (15) days of the inspection, the Septic Inspector shall file a completed Septic Inspection Report with the Town which shall document observed conditions and use. The property owner shall be furnished a copy of the Septic Inspection Report and any Certificate of Compliance that is issued.

9. **Enforcement Action Upon Complaint.** The Building Inspector is authorized to investigate all written complaints or concerns regarding compliance with this law.

A. **Voluntary Cooperation.** If the Building Inspector finds a reasonable basis to investigate such complaints or concerns, he or she shall first make efforts to notify the property owner of the complaint or concerns, and then proceed to visually inspect the septic system. The Building Inspector shall attempt to obtain the cooperation of the property owner to validate and resolve any concerns, and may request permission from the property owner to inspect the septic system or property. If permission is denied, except in exigent circumstances, the Building Inspector shall not enter the property to conduct an inspection without an administrative search warrant, which may be issued by the Town of Huron Justice Court.

B. **Enforcement Action.** If the Building Inspector determines that a septic system is not functioning properly, or is not in compliance with applicable legal requirements, he or she is authorized to order: (i) replacement of the tank; (ii) pumping of the tank; or (iii) other repairs or improvements; to the extent reasonably necessary to restore functionality and compliance with legal requirements. The property owner shall be responsible for all actions and costs necessary to support system inspection and repairs. If a violation of applicable legal requirements is found to exist, the Building Inspector shall order the property owner to terminate use of the septic system and discharge of sewage either immediately; or within thirty (30) days. If deficiencies are not resolved within thirty (30) days, the property owner shall also submit a schedule for compliance to the Building Inspector, who may order compliance with such schedule or such other schedule as he or she deems appropriate to protect public health, welfare and the environment. The Building Inspector may also take further enforcement action, or refer the matter to the Town Board of Health, as provided in section 11 of this law.

10. **Variances.** Variances from the requirements of this law may be granted by the Septic Board of Appeals, in accordance with this section.

A. **Septic Board of Appeals.** The Zoning Board of Appeals shall act as the Septic Board of Appeals.

B. **Standard.** The Septic Board of Appeals may grant a variance where the requirements of this law pose a practical difficulty or unnecessary hardship, and

the Board finds that the variance will safeguard public health, safety, and welfare, and protect the environment, including the quality of ground and surface water. The Septic Board of Appeals shall consider the following factors and make applicable findings regarding:

(1) Whether the use or activity to be authorized by the waiver or variance is in harmony with the purpose and intent of this law.

(2) Whether a substantial change will be produced in the general condition of the water quality or a substantial risk to groundwater quality or quantity will be created because of the variance.

(3) Whether the hardship or difficulty can be alleviated by some other method that is feasible for the applicant to pursue.

(4) Whether the variance requested is the minimum variance necessary to afford relief. To this end, the Septic Board of Appeals may recommend a lesser variance than that applied for.

(5) Whether the hardship or difficulty has been created by the applicant.

C. Exemption for Areas Proposed to Be Served by a Sewer System. In addition, if the owners of fifty (50%) percent of the assessed valuation of an area of the Town propose that a sewer system be installed to serve that area, they may apply for a variance giving that area a general exemption from the requirements of this law. If the Septic Board of Appeals finds that a reasonable plan to pursue the sewer system is presented, the Board may grant such a variance for up to three years, subject to annual review, except that septic systems in the area would still be subject to inspection, including dye tests, to ensure that they were not discharging raw sewage. If a septic system is discharging raw sewage, upgrades or repairs shall be made to eliminate such discharges. Such a variance may, upon application, be extended by the Board for additional periods of up to three years each, subject to annual review, provided significant progress in the pursuit of a sewer system is demonstrated.

D. General Procedures.

(1) Applications. The Septic Board of Appeals shall prescribe the form for applications for a variance. The application shall include:

(a) The applicant's name, address and his interest in the subject property; and if not the property owner the owner's name and address and the owner's signed consent to file the application.

(b) A narrative description of the proposed use or action together with any other pertinent information that may be necessary to

adequately review the application.

(c) A sketch plan illustrating all proposed site alterations, all structures existing on site, the existing uses and zoning of adjacent parcels, site contours and drainage patterns.

(d) A statement articulating the hardship or difficulty imposed by the enforcement and administration of this law with specific reference to the factors listed in paragraph 10(B).

(e) A statement assessing the potential impact on water quality or the use or activity to be authorized by the variance.

(2) **Hearing.** The Septic Board of Appeals shall fix a reasonable time for the hearing of any application for a variance within sixty-two (62) days from the day an application is filed.

(3) **Notice.** The Septic Board of Appeals shall give notice of the hearing on any application for a variance by the publication of a notice of such hearing in a newspaper of general circulation in the Town at least five (5) days prior to the date the hearing, and mailing notice to the applicant at least ten (10) days prior to the date of the hearing.

(4) **Meetings.** All meetings of the Septic Board of Appeals shall be held at the call of the Chairperson and at such other times as such Board may determine. All meetings of such Board shall be open to the public. The concurring vote of a majority of the members of the Board shall be necessary for the Board to act.

(5) **Oaths.** The Chairperson, or in absence of the Chairperson, the Acting Chairperson, may administer oaths and compel the attendance of witnesses.

(6) **Meetings, Minutes, Records.** Meetings of the Septic Board of Appeals shall be open to the public to the extent provided in Article Seven of the Public Officers Law. The Septic Board of Appeals shall keep minutes of its proceedings, showing the vote of each member upon every question, or if absent or failing to vote, indicating such fact, and shall also keep records of its examinations and other official actions.

(7) **Decision.** The Septic Board of Appeals shall make its decision within sixty-two (62) days of the hearing; provided, however, the time within which the Board must render its decision may be extended by mutual consent of the applicant and the Board.

(8) **Conditions.** The Septic Board of Appeals may impose such reasonable

conditions and restrictions as are directly related to and incidental to achievement of the purposes of this law and the standards for a variance.

(9) Filing. Every decision or determination of the Board shall be filed immediately in the office of the Town Clerk, and shall be a public record

11. Violations.

A. Inspections. If a property owner refuses to allow access to his or her property to conduct an inspection as required by this law, the Building Inspector shall not enter the property to conduct an inspection without an administrative search warrant, which may be issued by the Town of Huron Justice Court.

B. Abatement. In case any septic system is constructed, reconstructed, altered, converted or maintained or used, or any property is transferred, in violation of this law, or any order of the Building Inspector under this law is not complied with, the Building Inspector or the Town Board (acting as the Town Board of Health), in addition to other remedies, may institute any appropriate action to restrain, correct, or abate such violation, prevent the use of such septic system, or enforce this law or requirements under the State Public Health Law and Regulations, and the Building Inspector may revoke a Certificate of Compliance or Occupancy.

C. Hearing. The Town Board (acting as the Town Board of Health) may schedule a hearing on an alleged violation, and if the conditions arising from the violation are found to be a threat to public health, safety, or welfare of the community, the Board may order the violation corrected. Alternatively, the Board may direct that the Town take corrective action and assess all costs and expenses incurred by the Town in connection with the proceedings and correction of the violation upon the property, provided it utilizes the same procedure as set forth in section 9 of the Town Building Law for unsafe structures.

D. Criminal Penalties. Any person, firm or corporation who violates, disobeys, neglects, refuses to comply with or resists the enforcement of any provision of this law or any written order of Building Inspector issued under this law shall be guilty of an offense, and upon conviction of such offense may be subject to a fine of not more than five hundred dollars, or imprisonment for a period of not more than fifteen days, or both such fine and imprisonment for each offense. However, a person, firm or corporation convicted of a second or other repeated violation of this law, with at least one previous violation occurring within the period of five (5) years immediately preceding the latest violation, may be guilty of a misdemeanor, and may be subject to a fine of not more than one thousand dollars, or imprisonment for not more than six months, or both such fine and imprisonment for each offense. The Building Inspector is authorized to issue appearance tickets for violations of this law requiring appearance by the alleged violator in Huron Town Justice Court.

E. **Civil Penalties.** Any person, firm or corporation who violates, disobeys, neglects, refuses to comply with or resists the enforcement of any provision of this law or any written order of the Building Inspector issued under this law shall be deemed to have violated this local law, and may be liable to pay the Town a civil penalty of up to one thousand dollars for each such violation. Such a civil penalty may be assessed in any action or proceeding brought by the Septic Inspector or the Town Board to enforce the provisions of this law.

F. **Continuous Violations.** Each day a violation or offense is continued or not corrected shall be deemed a separate violation or offense.

12. **Recourse**. Any person or persons, jointly or severally aggrieved by any decision or action of the Septic Board of Appeals or any officer, department, board or bureau of the Town arising under this law, may apply to the Supreme Court for review by a proceeding under Article 78 of the Civil Practice Law and Rules. Such a proceeding against the Septic Board of Appeals must be instituted within 30 days after the filing of a decision of the Septic Board of Appeals in the office of the Town Clerk, and against any other officer, Department, board or bureau of the Town within 30 days of the decision or action.

13. **Savings Clause.** If any part of this law is held unconstitutional, invalid or ineffective, the remainder of this law shall be valid.

14. **Effective Date.** This local law shall take effect within 20 days after filing with the Secretary of State.

Appendix E
Construction Stormwater Pollution Prevention and Erosion and Sediment Control Ordinance

Construction Stormwater Pollution Prevention and Erosion and Sediment Control Ordinance

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Section I: Introduction / Purpose

Land disturbance activities and associated increases in impervious cover alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition. This stormwater runoff contributes to increased quantities of water-borne pollutants. Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from development sites.

During the construction process, soil is the most vulnerable to erosion by wind and water. This eroded soil endangers water resources by reducing water quality, and causing the siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates maintenance and/or repair of sewers and ditches, and the dredging of waterways. In addition, clearing and/or grading during construction tends to increase soil erosion and causes the loss of native vegetation necessary for terrestrial and aquatic habitat, and to provide a healthy living environment for citizens of Town of Parma. Improper design and construction of stormwater management practices can increase the velocity of stormwater runoff thereby increasing stream bank erosion and sedimentation. Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream base flow. Regulation of land disturbance activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the

adverse effects of erosion and sedimentation from development.

As a result, the purpose of this local regulation is to safeguard public health, protect property, prevent damage to the environment and promote the public welfare by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity which disturbs or breaks the topsoil or results in the movement of earth on land in Town of Parma. It seeks to meet those purposes by achieving the following objectives:

- Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02 or as amended or revised;
- Require land disturbance activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities or as amended or revised;
- Minimize increases in stormwater runoff from land disturbance activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels;
- Minimize increases in pollution caused by stormwater runoff from land disturbance activities which would otherwise degrade local water quality;
- Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and
- Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.

Section II: Definitions

Agricultural Activity - The activity of an active farm including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.

Applicant - A property owner or agent of a property owner who has filed an application for a land disturbance activity.

Clearing - Any activity which removes the vegetative surface cover.

Designated Agent - Individual(s) directed by the Town of Parma to conduct site inspections and/or perform other municipal duties.

Earthwork - Construction activities including clearing, grading, excavating, soil disturbance or placement of fill that result in land disturbance.

Erosion Control - Measures that minimize erosion.

Final Stabilization - All soil-disturbing activities at the site have been completed and a uniform perennial vegetative cover with density of 80% has been established or equivalent measures such as the use of mulches or geotextiles have been employed on all unpaved areas and areas not covered by permanent structures.

Grading - Excavation or fill of material, including the resulting conditions thereof.

Land Disturbance Activity - Construction activity including clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than 1 acre, or activities disturbing less than 1 acre of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct land disturbance activities may take place at different times on different schedules.

Licensed/Certified Professional - A person currently licensed to practice engineering in New York State, a registered landscape architect or a Certified Professional in Erosion and Sediment Control (CPESC).

New York State Stormwater Management Design Manual - the *New York State Stormwater Management Design Manual*, most recent version including applicable updates that serves as the official guide for stormwater management principles, methods and practices.

New York Standards and Specifications for Erosion and Sediment Control - the most recent version of this publication which is commonly known as the "Blue Book".

Phasing - Clearing a parcel of land in distinct sections, with the stabilization of each section before the clearing of the next.

Qualified Professional - A person knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed professional engineer, registered landscape architect, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist.

Responsible Individual - As related to inspection of construction site erosion controls, any person with an in-depth understanding of the principles and practices of erosion and sediment control, stormwater management and the proper procedures and techniques for the installation and maintenance of erosion and sediment control features.

Sediment Control - Measures that prevent eroded sediment from leaving the site.

Silvicultural Activity - Activities that control the establishment, growth, composition, health and quality of forests and woodlands.

Site - A parcel of land, or a contiguous combination thereof, where grading work is performed as a single unified operation.

Site Plan Approval - The examination and subsequent authorization to proceed with a project based upon a drawing prepared to specifications and containing necessary elements, which show the arrangement, layout

and design of the proposed use of a single parcel of land as shown on said plan.

SPDES General Permit for Construction Activities - A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to developers of construction activities to regulate disturbance of one or more acres of land.

SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA established water quality standards and/or to specify stormwater control standards.

Stabilization - The use of practices that prevent exposed soil from eroding.

Start of Construction - The first land disturbance activity associated with a development, including: land preparation such as clearing, grading and filling; installation of streets and walkways; excavation for basements, footings, piers or foundations; erection of temporary forms; and installation of accessory buildings such as garages.

Stormwater Management - The use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

Stormwater Management Officer - An employee or officer designated by the municipality to accept and review stormwater pollution prevention plans, forward the plans to the applicable municipal board and inspect stormwater management practices

Stormwater Pollution Prevention Plan (SWPPP) - A plan for controlling stormwater runoff and pollutants from a site during and after construction activities.

Stormwater Runoff - The flow on the surface of the ground, resulting from precipitation.

Surface Waters of the State of New York - Lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Storm sewers and waste treatment systems, including treatment ponds or lagoons which also meet the criteria of this definition are not waters of the state. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the state (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

Town – Town of Parma

Waterway - A channel that directs surface runoff to a watercourse, or to the public storm drain.

Section III: Applicability

This ordinance shall be applicable to all land disturbance activities that will disturb one or more acres of land unless exempted under Section VII.C. of this ordinance. The ordinance also applies to land disturbance activities of less than one acre if such activities are part of a larger common plan of development or sale that will disturb one or more acres, even though multiple separate and distinct land disturbance activities may take place at different times on different schedules.

Section IV: Compatibility with Other Permits and Ordinance Requirements

Compliance with this ordinance does not relieve the applicant of the obligation and responsibility to obtain separate coverage under the NYSDEC SPDES General Permit for Construction Activities if required. For projects also applying for coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, the applicant shall submit a copy of the Stormwater Pollution Prevention Plan (SWPPP), a Notice of Intent (NOI) with a certification statement including the date demonstrating submission to the NYSDEC, a letter of permission from the NYSDEC granting approval to disturb five (5) acres or greater of land at one time (if applicable) and any related documents to the Building Department for review and approval.

The requirements of this ordinance should be considered minimum requirements and where any provision of this ordinance imposes restrictions different from those imposed by any other federal, state, or local ordinance, rule or regulation, or other provision of law, the provisions that are more restrictive or impose more stringent requirements shall take precedence.

Construction activities that involve land disturbance may also require additional compliance measures detailed in other regulations and/or ordinances such as the Ordinance for Design and Management of Post-Construction Stormwater Pollution Prevention Measures.

Section V: Legislative Authority

In accordance with the Municipal Home Rule Law of the State of New York, the Town of Parma Town Board has the authority to enact this ordinance for the purpose of promoting the health, safety, or general welfare of the Town, including the protection and preservation of the property of its inhabitants. By the same authority, the Town Board may include in any such ordinance provisions for the appointment of any municipal employees to effectuate and administer such law.

Section VI: Standards for Construction Activities Covered Under this Ordinance

The Town of Parma requires the use of technical standards for erosion and sediment controls. These are detailed in the Town's Design Criteria and the *New York State Department of Environmental Conservation's Standards and Specifications for Erosion and Sediment Control*. For the design of water quality and water quantity controls (post-construction stormwater runoff control practices), the NYSDEC's technical standards are detailed in the *New York State Stormwater Management Design Manual.*

Where stormwater management practices are not in accordance with the aforementioned technical standards, the applicant or developer must demonstrate equivalence to these technical standards and the

SWPPP shall be prepared by a licensed/certified professional.

Section VII: Land Disturbance Activity Approval Process

A. Requirements of Application

1. Any applicant requesting site plan approval or a permit for land disturbance activity which would require the disturbance of ≥1 acre of land shall also include with a submission a SWPPP that shall be reviewed and approved by the Town prior to issuance of the final site plan approval or a permit.

2. No applicant shall be granted site plan approval or a permit which would require the disturbance of ≥*1 acre* of land without the review and approval of a SWPPP by the Town.

3. Furthermore, prior to the issuance of a permit or site plan approval all projects that would result in the disturbance of ≥1 acre of land will be required to comply with all applicable provisions of the Ordinance for Design and Management of Post-Construction Stormwater Pollution Prevention Measures. As part of the SWPPP the applicant shall include a signed statement that all applicable requirements of the Ordinance for Design and Management of Post-Construction Stormwater Pollution Prevention Measures have been met to the satisfaction of the Town of Parma.

4. Each application shall bear the name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant, together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee as set forth in Section XIV.

5. Each application shall include a comprehensive and complete SWPPP that shall be prepared in accordance with Section IX of this ordinance.

6. Each application shall include a statement that any land clearing, construction, or development involving the movement of land shall be in accordance with the submitted SWPPP.

7. All land disturbance activities as defined in Section II of this ordinance not subject to site plan or permit approval shall be required to submit a SWPPP to the Stormwater Management Officer designated by the Town Board who shall approve the SWPPP if it complies with the requirements of this ordinance.

B. Exemptions from Ordinance

The following activities are exempt from review under this ordinance:

- Any emergency activity which is immediately necessary for the protection of public health, property or natural resources.
- Agricultural activity as defined in this ordinance.

- Silvicultural activity except that landing areas and log haul roads are subject to this ordinance.
- Routine maintenance activities that disturb less than five acres and are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.

- Repairs to any stormwater treatment practice deemed necessary by Town of Parma

Section VIII: Financial Guarantees

The Town may, at its discretion, require the applicant to submit a financial guarantee in a form acceptable to the Town prior to issuance of site plan approval or a permit in order to insure that the stormwater pollution prevention and erosion and sediment control practices are implemented and maintained by the applicant as required by the approved SWPPP. The financial guarantee may be in the form of cash, escrow or letter of credit from an appropriate financial or surety institution which names the Town as the beneficiary. The amount of the financial guarantee shall be the total estimated construction cost of the stormwater pollution prevention and erosion and sediment control practices approved, plus a contingency. The financial guarantee shall contain forfeiture provisions for failure to complete work specified in the SWPPP. The financial guarantee shall be released in full only upon satisfaction of the requirements listed in Section XI of this ordinance. At its discretion, the Town may allow for a partial release of the financial guarantee based on the completion of various development stages.

Section IX: Stormwater Pollution Prevention Plan Requirements

The Town shall designate a Stormwater Management Officer who shall accept and review all SWPPPs and forward such plans to the applicable municipal board. A consultant cannot be appointed as a Stormwater Management Officer. The Stormwater Management Officer may (1) review the plans, (2) upon approval by the Town Board, engage the services of a New York State licensed professional engineer to review the plans, specifications and related documents at a cost not to exceed a fee schedule established by said governing board, or (3) accept the certification of a licensed/certified professional that the plans conform to the requirements of this ordinance.

Prior to final approval of a land disturbance activity, a SWPPP shall be prepared by the applicant in accordance with the specifications outlined by the Town and submitted to the Stormwater Management Officer designated by the Town for review by the appropriate board. This plan must be prepared in accordance with sound engineering practices by a qualified professional as defined in Section II of this ordinance. The final plan must be signed by a New York State licensed professional engineer (PE), who will certify that the design of all stormwater pollution prevention and erosion and sediment control practices meet the requirements outlined in the Town's design criteria and the *New York Standards and Specifications for Erosion and Sediment Control* and shall be adequate to prevent transportation of sediment from the site to the satisfaction of Town.

The requirements to have a SWPPP prepared by a qualified professional and to have the final plan signed and certified by a New York State licensed professional engineer (PE) are not applicable to land disturbance activities that meet technical standards and are five (5) acres or less occurring on a single family residence, which is not part of a larger common plan of development, or an agricultural property. In addition, these land disturbance activities must not discharge directly to a 303(d) impaired waterbody or must not be located in a Total Maximum Daily Load (TMDL) watershed.

A. Minimum Requirements

All SWPPPs shall provide the following background information and erosion and sediment controls:

1. Background information about the scope of the project, including location, type and size of project and contact Information that includes the name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the subject property or properties.

2. Site map/construction drawing(s) for the project, including a general location map and a 1" = 50' topographic base map of the site which extends a minimum of 100 feet beyond the limits of the proposed development. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s) including receiving waters (name of the water), streams, ponds, culverts, ditches, and wetlands as well as drainage patterns that could be affected by the construction activity; existing and final slopes; locations of utilities, roads, soils types, forest cover, and significant natural and manmade features not otherwise shown; locations of off-site material, waste, borrow or equipment storage areas, proposed concrete clean out basin(s) and construction entrance; and location(s) of the stormwater discharges(s); and resources protected under other chapters of this ordinance or by easements;

3. Description of the soil(s) present at the site;

4. Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation, final grading and landscaping, and any other activity at the site that results in soil disturbance. Sequencing shall identify the expected date on which clearing will begin and the estimated duration of exposure of cleared areas. Consistent with the *New York State Standards and Specifications for Erosion and Sediment Control*, not more than five (5) acres shall be disturbed at any one time unless pursuant to an approved SWPPP and a letter of permission from the NYSDEC.

5. A description of the pollution prevention measures that will be used to control litter and prevent construction chemicals and construction debris from becoming a pollutant source in the stormwater discharges; a description of construction and waste materials expected to be stored on-site with updates as appropriate; a description of controls that will be implemented to reduce pollutants from these materials including storage practices to minimize exposure of the materials to stormwater; and a description of spill prevention and response measures.

6. A description of the temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project, from initial land disturbance to project closeout, including who will be responsible for the maintenance and implementation of said features at the site and what practices will be employed to ensure that adequate vegetative cover is established and preserved. For temporary and permanent vegetative control measures, the seeding mixtures and rates, types of sod, method of seedbed preparation, depth of topsoil, expected seeding dates,

type and rate of lime and fertilizer application, and kind and quantity of mulching shall be provided.

7. A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;

8. Illustration of all necessary erosion and sediment control measures, including the siting and sizing of any temporary sediment basins and provide the dimensions, material specifications and installation details for each throughout all phases of construction and completion of development of the site. Depending upon the complexity of the project, the drafting of intermediate plans may be required at the close of each season.

9. Identification of all temporary practices that will be converted to permanent control measures.

10. Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;

11. Identification of the parts or components of the SWPPP that require maintenance. Furthermore it shall also provide a schedule of required maintenance and identify the party responsible for such work.

12. Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

13. Any existing data that describes the stormwater runoff at the site.

14. Assurance that all other applicable environmental permits have been acquired for the site prior to initial land disturbance. Copies of the applicable environmental permits shall be provided to the Town.

15. Assurance that the applicant or their "Responsible Individual" shall be on site at all times when earthwork takes place and shall inspect and document the effectiveness of all erosion and sediment control practices.

16. Assurance that all contractors and subcontractors involved in soil disturbance and/or stormwater management practice installation and maintenance shall be identified in the SWPPP. All such contractors and subcontractors shall sign a copy of the following certification statement before undertaking any land disturbance activity at the site:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP. I also understand that it is unlawful for any person to cause or contribute to a violation of the water quality standards."

The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made. The certification statement must be included in the SWPPP.

B. Modifications to the Plan after Approval

Major amendments of the SWPPP shall be submitted to the Town and shall be approved or disapproved.

The applicant shall amend the SWPPP whenever:

1. (a) There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or

   (b) The SWPPP proves to be ineffective in providing the proper stormwater pollution prevention and erosion and sediment control as required by this ordinance. Amendments to the SWPPP may be reviewed by the Town. A copy of the newly amended SWPPP must be provided to the Town within 5 business days.

   (c) Site development has not commenced within 18 months from SWPPP approval.

2. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP. The Town may request copies of signed contractor certification statements from new contractors/subcontractors working on the site.

Field modifications of a minor nature may be authorized in writing by Town or its designated agent to the applicant.

Section X: Inspections

A. Town Inspections

The Town or designated agent as defined in Section II shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the applicant that the work fails to comply with the SWPPP. In addition, the Town reserves the right to enter the work site at any reasonable time for purposes of inspection. The SWPPP and the records of any inspections completed by the owner or their agent shall be maintained at the site in the site logbook from the date of initiation of construction activities to the date of final stabilization. To obtain inspections, the applicant shall notify the Town at least forty-eight (48) hours before the following activities occur:

1. Start of construction
2. Erosion and sediment control measures have been installed and stabilized

3. Site clearing has been completed
4. Rough grading has been completed
5. Final grading has been completed
6. Close of the construction Season
7. Final landscaping
8. Closeout inspection

The above inspection timetable does NOT relieve the owner of the obligation under this or any other permit or regulation to conduct regular inspections as set forth in said permit and/or regulation.

If any violations are found, the applicant and developer shall be notified in writing of the nature of the violation and the required corrective actions. No further earthwork shall be conducted on the site, except for site stabilization until the violations are corrected and approved by the Town.

B. Property Owner/Developer Inspections

The applicant shall employ a "Responsible Individual" as defined in Section II of this ordinance who will oversee the implementation of the SWPPP on a daily basis. The "Responsible Individual" shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices. The applicant shall also employ the services of a qualified professional in erosion and sediment control who will inspect and document the effectiveness of all erosion and sediment control practices. The documentation will be kept in a site logbook. Inspection reports will be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more. A monthly summary of reports will be copied to the site logbook and delivered to the Town within 5 days after the month's end.

The requirement to employ a qualified professional to inspect and document the effectiveness of all erosion and sediment control practices is not applicable to land disturbance activities five (5) acres or less occurring on a single family residence, which is not part of a larger common plan of development or on an agricultural property. In addition, these land disturbance activities must not discharge directly to a 303(d) impaired waterbody or must not be located in a Total Maximum Daily Load (TMDL) watershed.

Section XI: Duration, Maintenance and Closeout

A. Duration

For a project that requires a NYSDEC SPDES Permit, the SWPPP approved by the Town shall be in effect until (i) the site has been finally stabilized, (ii) a Notice of Termination (N.O.T) is submitted to the NYSDEC in accordance with the general permit, and (iii) a final inspection has been completed by the Town.

For projects that do not require a NYSDEC N.O.T., the SWPPP is in effect until a final inspection is conducted and the Town has issued the applicant written approval.

B. Maintenance

1. The applicant shall at all times properly operate and maintain all stormwater management facilities and erosion and sediment control measures which are installed or used by the applicant to achieve compliance with the conditions of this ordinance. Sediment shall be removed from sediment traps or sediment ponds whenever their design capacity has been reduced by fifty (50) percent. The land disturbance activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the state of New York.

2. At the end of the construction season when soil disturbance activities will be finalized or suspended until the following spring, it may be desirable to reduce the frequency of the required weekly site inspections to monthly inspections. In order to reduce inspection frequencies, the applicant must complete stabilization activities before proper installation is precluded by snow cover or frozen ground. If vegetation is used as a stabilization method, seeding, planting, and/or sodding must be scheduled to avoid fall frosts and to allow for proper germination/establishment. Installations and maintenance must be done according to the *New York State Standards and Specifications for Erosion and Sediment Control.*

C. Closeout

The applicant must satisfy the following project closeout requirements:

1. Reestablish grade of all permanent stormwater facilities;
2. Inspect grading of all drainage structures and provide elevation as-builts to the Town ;
3. Establish perennial vegetative cover to a density of eighty (80) percent over one hundred (100) percent of the site;
4. Removal of all debris and temporary erosion and sediment control practices;
5. Provide a written certification by a New York State licensed/certified professional that the site has undergone final stabilization (as defined in Section II) and that all temporary erosion and sediment controls not needed for long-term erosion control have been removed.
6. Complete any other measure deemed appropriate and necessary by the Town to stabilize the project site.

Section XII: Enforcement & Penalties

A. Notice of Violation

When the Town determines that an activity is not being carried out in accordance with the requirements of the ordinance, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

1. The name and address of the owner or applicant;

2. The address (when available) or a description of the building, structure or land on which the violation is occurring;

3. A statement specifying the nature of the violation;

4. A description of the remedial measures necessary to bring the development activity into compliance with this ordinance and a time schedule for the completion of such remedial action;

5. A statement of the penalty or penalties that may be assessed against the person(s) to whom the notice of violation is directed.

B. Stop-Work Order

The Town may issue a stop-work order for violations of this ordinance. Persons receiving a stop-work order shall be required to halt all land disturbance activities, except those activities that address the violations leading to the stop-work order. The stop-work order shall be in effect until the Town confirms that the land disturbance activity is in compliance, the violation has been satisfactorily addressed and the appropriate fee has been paid to remove the stop-work order. Failure to address a stop-work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this ordinance.

C. Violation and Penalties

Failure to comply with any provision or requirement of this ordinance or violation of any statement, plan, application, permit or certification approved under the provisions of this ordinance, shall be considered a violation punishable by a fine and/or imprisonment, as provided for in section 10(4)(b) of the Municipal Home Rule Law of the State of New York. Each day on which any violation of any of the provisions of this ordinance occurs shall constitute one offense and each successive day of violation shall constitute a separate and distinct offense.

> *"Any person who violates the provisions of the ordinance shall be subject to a fine not exceeding three hundred fifty dollars ($350) or imprisonment for a period not to exceed fifteen days, or both for conviction of a first offense; a second violation of this* ordinance *committed within a period of five years, is punishable by a fine not less than three hundred fifty dollars ($350) nor more than seven hundred dollars ($700) or imprisonment for a period not to exceed thirty days, or both; and a third or subsequent violation all of which were committed within a period of five years, is punishable by a fine not less than seven hundred dollars($700) nor more than one thousand dollars ($1000) or imprisonment for a period not to exceed thirty days, or both."*

D. Withholding of Certificate of Occupancy

Certificates of Occupancy may not be granted until corrections to all stormwater management practices have been made and accepted by the Town.

Section XIII: Abatement

A. If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, the municipal authority, its representatives and/or employees may enter upon the subject private property with the consent of the owner or with a valid search and/or seizure warrant, and are authorized to take any and all measures necessary to abate the violation and/or restore the property.

B. Cost

Within ten days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. If the amount due is not paid within 30 days, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. Any person violating any provision of this article shall become liable to the Town of Parma by

Section XIV: Injunctive Relief

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this ordinance. If a person has violated or continues to violate the provisions of this ordinance, the Town may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Section XV: Violations deemed a Public Nuisance

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this ordinance is a threat to public health, safety and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violators expense, and/or a civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken.

Section XVI: Remedies not exclusive

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state, local law or ordinance and it is within the discretion of the Town to seek cumulative remedies.

Section XVII Repeal

All Local Laws, ordinances and parts thereof inconsistent with this ordinance are hereby repealed.

Section XVIII: Severability

The provisions and sections of this ordinance shall be deemed to be separable and if the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order or judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

Section XIX: Fees

A review fee shall be paid by any applicant or its agent whenever the services of the Town Engineer or other professional are required to review sketches, plats or plans submitted for Town approval. The applicant shall also reimburse the Town for all reasonable and necessary engineering, administrative, and legal expenses incurred by the Town in connection with the review, inspection and consideration of a Stormwater Pollution Prevention Plan.

Section XX Effective Date

This ordinance shall take effect immediately upon adoption by the Town Board of the Town of Parma Pursuant to Town Law of the State of New York.

Appendix F
NYSDEC Optional Additional Language: Model Local Law for Flood Damage Prevention

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

General Comments.

The Model Local Law for Flood Damage Prevention contains language that complies with the floodplain management requirements of the National Flood Insurance Program (NFIP) contained in federal regulations 44 CFR 60.3 through 44 CFR 60.6. These requirements are minimum requirements for participation in the NFIP. The Federal Emergency Management Agency (FEMA) has calculated that buildings built to these standards suffer 70% less flood related damage than unprotected buildings. However, they can still suffer damage, so higher protection levels are warranted in most instances. For example, floods can be higher than the base flood elevation for various reasons, including larger storms, downstream obstructions, increased watershed development and floodplain filling. Setting higher standards protects against these risks.

Many of the following techniques result in lower flood insurance premiums either directly or through the Community Rating System (CRS). The CRS is a FEMA program that provides discounts for communities that take measures that are beyond the minimum requirements of the NFIP. CRS certification requires a community to accumulate at least 500 points. Flood insurance policies within communities with over 500 CRS points receive a five percent discount on each individual insurance premium. Flood insurance policies within flood hazard areas in CRS communities receive an additional five percent discount for each additional 500 points. Contact NYS DEC or visit the CRS Resource Center at http://training.fema.gov/emiweb/crs/ for more information about the Community Rating System.

The following pages contain ideas for options to decrease your community's flood risk. These are all optional. Each page contains an explanation of the measure and language that may be used. Should your community decide to utilize any of these measures, please make sure that any changes are brought to the attention of NYSDEC so that we may review the final language and assure that it is compliant with FEMA's regulations.

For more information about techniques to reduce flood risk in your community, see the publication "No Adverse Impact: A Toolkit for Common Sense Floodplain Management" by the Association of State Floodplain Managers (ASFPM). The Toolkit may be viewed at http://www.floods.org/NoAdverseImpact/NAI_Toolkit_2003.pdf or ordered directly from ASFPM by calling 608-274-0123. Questions about these materials may be addressed to the NYS DEC Floodplain Management Section at 518-402-8185 or wsnecham@gw.dec.state.ny.us.

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

Compensatory Storage.

Explanation: Riverine floodplains and coastal floodplains inland from the "V" wave runup zone are either approximate "A" zones, which have not had detailed engineering analyses or flood elevations, or detailed "AE" zones or "A" zones with a number attached, that have detailed flood elevation studies. In Riverine floodplains with detailed studies, there is usually also a floodway analysis. Development is excluded from the floodway unless an engineering analysis determines that the development results in no measurable increase in the Base Flood Elevation (elevation of the 100-year flood). However, development, including fill, is allowed in "A" zones outside of floodways.

Flood Insurance Studies assume that when the entire Riverine floodplain is filled outside of the floodway, an increase of up to one foot in the Base Flood Elevation will occur at the location of the encroachment. Some communities may wish to avoid that potential increase, and to also make certain that an encroachment does not result in increased flood elevations upstream or downstream of the development, by requiring developments that encroach into the floodplain to provide compensatory flood storage.

The following language may be used for that purpose. Enforcement of the following policy could result in up to 70 credits towards flood insurance discounts in communities that participate in FEMA's Community Rating System (CRS).

To provide compensatory storage for any encroachment within a flood hazard area, add the following language to your Local Law for Flood Damage Prevention. Note that your community's section numbering may be different. Contact NYS DEC for assistance.

Add a new Part (3) to Section 5.1-2: "Encroachments".

> *Whenever any portion of a floodplain is authorized for development, the volume of space occupied by the authorized fill or structure below the base flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood elevation at or adjacent to the development site. All such excavations shall be constructed to drain freely to the watercourse. No area below the waterline of a pond or other body of water can be credited as a compensating excavation.*

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

Repetitive Damage.

Explanation: FEMA's Increased Cost of Compliance (ICC) flood insurance coverage provides up to $30,000 towards elevating, floodproofing, demolishing or relocating a structure that has been substantially damaged or repetitively damaged. However, that coverage is only available to a repetitively damaged structure within a community that has adopted an ICC definition in its local law. Should your community wish to add a repetitive damage clause, a change must be made in the "Substantial Damage" definition.

Should you wish to include the definition, an insured structure which has been damaged twice within a ten year period for which the average damage equals or exceeds 25% of the market value of the structure would qualify for up to $30,000 towards elevating, floodproofing, demolishing or relocating the structure. Even without the repetitive damage clause, an insured structure that has been substantially damaged in a single flood event will qualify for this Aincreased cost of compliance@ coverage.

Note that the $30,000 in additional insurance coverage is available only up to the total limit of coverage under the National Flood Insurance Program. That limit is $250,000 for a residential structure and $500,000 for a non-residential structure. The total insurance claim plus the ICC claim may not exceed the above limits.

Should you decide to include a repetitive damage clause, the municipality will be responsible for keeping track of all flood related structural damages. Also, the requirement to bring a repetitively damaged structure up to the flood code would hold whether or not the property owner carries a flood insurance policy. This would apply to a building whether or not there has been a change in ownership of the building. Should you have questions about this requirement, please contact NYSDEC.

To add the definition, replace the definition on Page 6 of the model local law with the following language:

> ***Substantial Damage*** *means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. Substantial damage also means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.*

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

Cumulative Substantial Improvement.

Explanation. The NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvements to the same structures. This can greatly increase the overall flood damage potential for the structure and within a community. The community may wish to define "substantial improvement" cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

Enforcement of the following policy could result in up to 110 credits towards flood insurance discounts in communities that participate in FEMA's Community Rating System (CRS).

To add the requirement, replace the definition of "Substantial improvement on Page 6 of the model law with the following language:

> *"**Substantial improvement**" means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. Substantial improvement also means "cumulative substantial improvement." The term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:*
>
> *(1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or*
>
> *(2) any alteration of a "Historic structure", provided that the alteration will not preclude the structure's continued designation as a "Historic structure".*

In addition, there must be a definition for "Cumulative Substantial Improvement" as follows:

> ***"Cumulative Substantial Improvement"** means any reconstruction, rehabilitation, addition, or other improvement of a structure that equals or exceeds 50 percent of the market value of the structure at the time of the improvement or repair when counted cumulatively for 10 years.*

The community may wish to decrease the 50-percent threshold to a lower number, or change the ten-year tracking period. An alternative approach would be to remove the "cumulative substantial improvement" language and instead decrease the 50-percent improvement threshold.

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

Critical Facilities.

Explanation: Certain special hazard or otherwise critical facilities should not be located within a flood prone area due to the serious danger to life an health and widespread social or economic dislocation that would result when the facility is subjected to flooding. Such facilities either have the potential to create significant environmental or health risk, or are needed for community support services during a disaster.

Requiring protection for critical facilities serves several purposes: it reduces threats to life and health; it reduces damage to vital public facilities; it reduces pollution of floodwaters by hazardous materials; and it ensures that the facilities will be operable during most flood emergencies.

The Community Rating System (CRS) provides 100 points to communities that prohibit critical facilities within the 500-year floodplain.

To add the requirement, add a definition of "Critical Facilities" to page 3 of the Model Local Law as follows:

Critical facilities *means:*

(1) Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic and/or water-reactive materials;
(2) Hospitals, nursing homes, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a flood;
(3) Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for flood response activities before, during, and after a flood; and
(4) Public and private utility facilities that are vital to maintaining or restoring normal services to flooded areas before, during, and after a flood.

Add a new Section 5.6 as follows:

5.6 Critical Facilities

In order to prevent potential flood damage to certain facilities that would result in serious danger to life and health, or widespread social or economic dislocation, no new critical facility shall be located within any Area of Special Flood Hazard, or within any 500-year flood zone shown as a B zone or a Shaded X zone on the Community's Flood Insurance Rate Maps.

NYSDEC Optional Additional Language
Model Local Law for Flood Damage Prevention
Optional Additional Language

Areas Behind Levees or below High Hazard Dams.

Explanation: Areas that are protected by levees that provide at least three feet of protection above the 100-year flood are usually not mapped as floodprone on FIRM's. Such levees can fail or overtop. There are also many areas that would be inundated by floodwaters should an upstream dam fail or overtop. While the probability of levee or dam failure is low in most areas, the consequences of such failure are large.

In the case of levees, a community may wish to apply flood elevation requirements to the levee protected area as though the levee was not there. In the case of a dam, the community may have access to an inundation map in the event of a dam failure.

For a community to apply flood protection development standards to areas below dams or behind levees, it must first have a map of the affected area. This process will become easier as FEMA's Map Modernization program provides more communities with digital Flood Insurance Rate Maps. To include these areas, the definition of "Area of special flood hazard" definition would have to be amended to include areas that the community has identified as part of map of levee protected areas and/or dam failure inundation zones. In addition, Section 3.2, which adopts the Flood Insurance Rate Map and Flood Insurance Study for the community, would have to be amended to include the appropriate maps.