

OUTLINE OF THE
VILLAGE OF ROSLYN'S PHASE II STORM WATER
PROGRAM

1.0 INTRODUCTION

The Village of Roslyn has prepared an initial Phase II storm water management program. The aim of this program is to control storm water runoff discharges from Village facilities to the waters of the United States in accordance with the requirements of federal Phase II storm water regulations under the Clean Water Act. The program is in support of the Village's February 27, 2003, filing of a Notice of Intent (NOI) to be covered by a Phase II SPDES General Permit available through the New York State Department of Environmental Conservation (NYSDEC) for such discharges.

The aim of the Clean Water Act, the federal Phase II storm water regulations and the program proposed by the Village is to reduce to the "maximum extent practicable" pollutants in storm water discharges. The concern for controlling storm water discharges can be traced to the 1972 Clean Water Act's Section 208 provisions for evaluating the impacts of and recommending controls for point and nonpoint source discharges in conjunction with the development of hundreds of area-wide water quality management plans known as "208 plans." These plans were completed in the late 1970s/early 1980s and, for the most part, identified the need to study further the specific impacts of urban runoff and alternative control measures to alleviate or prevent those impacts.

As a result of the findings of many of the 208 plans, particularly those in the northeast and in and around urban areas of the nation, a nationwide pilot program known as Nationwide Urban Runoff Program (NURP) studied 26 urban localities in detail. In 1983, through NURP, USEPA concluded that urban runoff was indeed causing significant water quality impacts and that a wide range of controls were possible to address those impacts.

In 1985, two additional studies confirmed the NURP findings. This included a nonpoint source assessment conducted by representatives of state agencies and an urban storm water database study of 22 metropolitan areas that was conducted by the U.S. Geological Survey. These various studies resulted in Congress amending the Clean Water Act in 1987 to require the permitting and control of urban storm water discharges.

The above studies, as well as others studies, identified a variety of pollutants in storm water discharges. These pollutants include suspended solids, sediments, bacteria, nutrients, pesticides, herbicides, toxics, floatables, oil, grease, heavy metals, synthetic organics, petroleum hydrocarbons and oxygen-demanding substances. The adverse impact of these pollutants in storm water discharges include closed beaches, closed shellfish areas, toxic contamination causing fish consumption bans, beach and shoreline litter and floatables, siltation of marina and shipping channels, habitat/wetland degradation, and stream bank erosion.

The sources of pollutants in storm water runoff include urban streets, lawns, driveways, parking lots, gas stations, bus depots, golf courses, construction sites, marinas, trash, sand/salt, commercial and industrial areas, highway yards, atmospheric fallout, direct rainfall (i.e., acid rain) and a variety of other activities such as landfills, recycling facilities, transportation, and manufacturing and industrial facilities. The EPA's 1996 National Water Quality Inventory reported that urban runoff was a leading cause of water quality problems in the country, causing impairment in 469 of the nation's estuaries; 21 percent of the lakes, ponds and reservoirs; and 13 percent of the rivers and streams.

Under the United States Environmental Protection Agency's (USEPA's) December 1999 Phase II storm water regulations, thousands of communities across the country with populations under 100,000 will be required to control urban storm water discharges. The Phase II regulations were issued nearly 10 years after the agency issued its Phase I regulations. The Phase I regulations required the control of storm water discharges from larger communities with populations greater than 100,000, and from 11 categories of industrial activity, including construction sites disturbing more than 5 acres

Under USEPA's Phase II program, the thousands of communities (villages, towns, cities, etc.) across the nation must develop and implement a six-part program that reduces pollutants in storm water runoff to the "maximum extent practicable." This program must include a public education program, a public involvement program, detection and elimination of illicit/illegal connections, controls for construction sites disturbing more than 1 acre, controls for new developments and redevelopment, and pollution prevention/good housekeeping practices as part of the operation and maintenance of the communities' storm sewer systems.

In New York State, discharges from hundreds of municipal separate storm systems (MS4s) that serve under 100,000 people, and are covered by USEPA's Phase II program, can receive permit coverage through a State Pollution Discharge Elimination System (SPDES) General Permit, provided that a Notice of Intent (NOI) was filed by the municipality (by March 5, 2003) to be covered by the General SPDES Permit and a storm water management plan is developed and implemented to satisfy the USEPA requirements. The Village's initial plan includes the Village's completed Notice of Intent and its initial six-part Storm Water Management Program for discharges from its storm sewer systems at its facilities and roads to the waters of the United States.

The State's General SPDES Permit for MS4s that provides permit coverage to the Village's facilities is Permit No. GP 02-02, issued pursuant to Article 17, Titles 7, 8 and Article 70 of the State's Environmental Conservation Law. This Permit's effective date is January 8, 2003, and its expiration date is January 8, 2008. A related permit that addresses construction runoff from sites having disturbances from more than one acre is the State's General SPDES Permit for Construction Activity: Permit No. GP-02-01. This permit's effective date is also January 8, 2003, and its expiration date is January 8, 2008.

2.0 PHASE II STORM WATER REQUIREMENTS

Below is a brief description of the USEPA and NYSDEC's associated approach to storm water permitting and controls, and a summary of the minimum measures required by the federal regulations with examples of activities that could be included as part of each measure.

2.1 USEPA's Phased Approach

To carry out the congressional mandate of the 1987 amendment to the Clean Water Act, USEPA developed a phased approach to permitting storm water discharges and requiring controls to address the adverse impact of such discharges. Phase I involved the submittal of National/State Pollutant Discharge Elimination System (N/SPDES) permit applications to cover certain municipal and industrial storm water discharges by 1992 and 1993, depending on the specific nature of the discharge. Phase II involves the submittal of N/SPDES permit applications for all other discharges by March 10, 2003.

USEPA's phased approach included five types of storm water discharges under Phase I, which it issued in regulation form in 1990. These discharges included:

- Dischargers with N/SPDES permits;
- Dischargers engaged in 11 different types of industrial activities;
- Large municipal separate storm sewer systems (referred to as MS4s) with populations greater than 250,000;
- Medium separate storm sewer systems (MS4s) with populations between 100,000 and 250,000; and
- Storm water discharges that USEPA or a state determined to be contributing to a water quality violation.

To ease the burden on the N/SPDES authority for the hundreds of thousands of Phase I permit applications, USEPA allowed for three types of permits: individual, group and general, with general permits providing the vast majority of the coverage for Phase I discharges.

Although USEPA was able to develop the Phase I approach into a final regulation within 2 to 3 years of the 1987 Clean Water Act, it took approximately 10 years to develop the Phase II approach into a final regulation due to the complexities associated with the numerous interests and concern of the thousands of small communities that Phase II would cover.

To allow for their input in the development of the Phase II regulation, USEPA created a federal interagency review panel that included the Office of Management and Budget, and the Small Business Administration. It also included the participation of the Storm Water Federal Advisory Subcommittee of the Urban Wet Weather Federal Advisory Committee, and it solicited comments on its various drafts of the Phase II approach from a number of professional organizations such as the Association of Municipal Sewerage Agencies.

After years of development, including legal action by outside groups resulting in a court-issued consent decree, USEPA issued the Phase II program as a draft rule in January 1998 and eventually as a final rule in December 1999. The final rule affects more than 5,000 small communities, as well as hundreds of thousands of small construction sites, all of which must have obtained N/SPDES permit coverage as of March 10, 2003.

2.2 Phase II Minimum Requirements

The 1999 final USEPA Phase II regulation requires that the owners and operators of the storm sewer systems develop and implement a storm water control program involving six minimum measures. These measures, which are described in this section, include programs for:

- Public education and outreach on the impacts of storm water runoff;
- Public involvement and participation in developing and implementing storm water control programs;
- Detection and elimination of illicit and illegal connections to storm sewer systems;
- Control of runoff from construction sites disturbing more than 1 acre;
- Post-construction storm water controls or treatment from new developments and redeveloped sites; and
- Pollution prevention and good housekeeping practices as part of regular or routine operations and maintenance of storm sewer systems.

2.3 Public Education and Outreach

The first measure that the Phase II regulations require involves public education and outreach efforts to educate residents and businesses on the impacts of storm water. This measure includes information on steps that a person can take to reduce storm water pollution, such as proper septic system maintenance, minimizing the use of garden chemicals (fertilizers, pesticides, herbicides, etc.), proper disposal of motor oil and household hazardous wastes, and ways to get involved in protection efforts.

This measure also includes education and outreach assistance from local academic/college groups, youth organizations, yacht clubs and marinas, conservation/environmental groups, and sportsman/fishing clubs. In addition, this measure could include storm drain stenciling and markings to inform the public that a particular catch basin or storm drain discharges to a pond, lake or bay. This measure could also include placing or posting educational materials at beach clubs, marinas, waterfront restaurants and parks to raise the public's awareness of the impacts of storm water runoff.

2.4 Public Involvement and Participation

This measure could involve the creation of a local storm water management team, panel, task force or advisory committee that assists the municipality in the development and implementation of the six minimum control measures. The local team should be comprised of a diversity of interests reflecting different economic, ethnic, geographic and other characteristics. Furthermore, these representatives can play a major role in developing and implementing the public education and outreach program.

2.5 Detection/Elimination of Illicit Connections

USEPA aimed this measure at distinguishing between legitimate sources of dry weather discharges to storm sewer systems (e.g., residential car washing, fire fighting waters) and illicit or illegal discharges or connections, septic tank overflows, or dumping motor oil into catch basins. In developing and implementing the specifics of this measure, the municipality needs to consider the appropriateness and effectiveness of a variety of identification methods, each of which has positive features and certain drawbacks and shortcomings.

Methods may include dye tests, smoke tests, random checks of homes, field sampling, field screening, review of maps and house plans, and notification for self-identification and self-elimination with a given grace period to be followed by fines if detected by the municipality. In many cases, municipalities will need to evaluate their existing codes and ordinances to determine their authority with respect to prohibiting certain connections and discharges, then as necessary, enact or modify codes and ordinances that grant them the necessary authority.

2.6 Control of Construction Runoff

Under the Phase II regulation, this measure applies to construction sites greater than 1 acre and less than 5 acres since the Phase I regulations covered construction sites greater than 5 acres. As with Phase I, the main aim of this measure is to control erosion from and sediment in construction runoff.

In many cases, the small municipalities covered by Phase II will need to enact new ordinances, or modify existing ones to require control of construction runoff as a condition of project or site approval. The measures could include preconstruction review of site plans for storm water runoff controls, regular inspections and public access to the construction runoff control plans. The runoff control measures could include the use of silt fences, temporary detention ponds, hay bales and concrete truck washout areas/devices.

2.7 Runoff Management for New Development/Redevelopment

USEPA aimed this measure at actively controlling or treating storm water resulting from newly developed sites or those that are redeveloped. It will afford the best long-term opportunity for directly alleviating the negative impacts of urban runoff. In most cases, this measure will involve the enactment of new codes or ordinances that will need to specify a number of actions or requirements.

Measures for this element could include minimizing impervious areas, the maintenance or restoration of natural infiltration, protecting or creating wetlands, the use of vegetated drainage ways and the use of structural best management practices (BMPs), such as wet ponds, filter strips, porous pavement and infiltration trenches.

2.8 Pollution Prevention and Good Housekeeping

The measure addresses improvements to ongoing operations and maintenance (O&M) activities and addresses adequate consideration of water quality concerns rather than flood/ drainage considerations in managing urban storm water runoff. Thus, O&M programs need to be expanded to complement the five other Phase II measures by adding training and water quality items to maintenance activities, inspections, pesticide use, catch basin cleanouts, sewer/catch basin repairs, and disposals of waste from cleaning storm water systems.

2.9 Legal, Institutional and Financial Issues

The Phase II regulations raise a number of legal, institutional and financial issues and challenges for more than 5,000 small communities across the country. In most cases, these small communities do not have the technical (engineering and field), legal and administrative staff to undertake the development and implementation of the Phase II program. In addition, there may be insufficient knowledge with respect to the degree of detail in a program that is sufficient to satisfy the regulating agencies (USEPA and/or the state) and how much, if any, enforcement to expect for those agencies. Needless to say, they will face conflicting or competing programs for limited tax funds. In addition, no outside funds or grants have been identified for assisting the communities in the development and implementation of their Phase II programs.

With respect to ordinances, most communities may need to assign in-house or outside engineering and legal staff to develop or modify existing ordinances dealing with erosion and sediment control, actual waste, street cleaning and litter, illicit connections and discharges, storm water controls during and after construction, site plan reviews and funding/fees. Besides these issues, the communities are to address institutional matters related to responsibilities for departmental/divisional activities, intragovernmental cooperation, the need for new or modified governmental or quasi-structures (i.e., authorities, utilities, etc.) and intergovernmental permitting approaches. Regarding funding, decisions will be necessary with respect to alternative financial arrangements and methods such as bonds, general tax revenues, special fees (i.e., for plan review and inspections), utility structures or special assessments.

In determining the most appropriate financial approach for a particular community, the municipality may consider a number of factors. These include public acceptance, fairness, equity, administrative simplicity, feasibility of implementation, legal basis and anticipated revenue-generating capacity. In addition, communities, especially those having a number of areas with new development, should consider the appropriateness of a storm water utility. Such a utility could have its financing structure from annual or monthly charges based on a number of conditions or parameters. These parameters could include assessed valuation, size of impervious area, number of households and proximity to, and the water quality conditions of, the streams, bays, lakes or ponds to which the storm water discharges.