

TOWN OF CROMWELL CONNECTICUT

STORMWATER MANAGEMENT PLAN

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Prepared by,



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1.0 Introduction

This Stormwater Management Plan (SMP) was developed by the Town of Cromwell to protect water quality and reduce the discharge of pollutants from the municipality's storm sewer system to the maximum extent practicable (MEP). This SMP addresses the requirements established by the CT Department of Energy and Environmental Protection's (DEEP) General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). This permit is the local enforcement mechanism of the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Rule.

The Town of Cromwell originally submitted a two-part registration form as required under the Connecticut Department of Environmental Protection "General Permit for the Discharge of Stormwater from small Municipal Separate Storm Sewer Systems (MS4). Part A, which is referred to as the "Municipal Notice of Intent" was submitted in April, 2004. Part B, which is referred to as the "Municipal Plan" or "Storm Water Management Plan" was submitted in July 2004.

The Town of Cromwell is currently registered under the revised Connecticut Department of Energy & Environmental Protection's (CTDEEP) "General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Systems" (MS4), issued January 9, 2011, with permit registration # GSM:000061.

The new MS4 General Permit was issued on January 20, 2016, is effective July 1, 2017 and expires on June 30, 2022. The Town shall file a registration for this new General Permit by April 1, 2017. **The registration was received by CTDEEP on 03/29/2017 and the comment period end date was 06/26/2017. As of that date no comments were received concerning the Cromwell SMP.**

The Town is also required, under this general permit to develop, implement and enforce a Stormwater Management Plan (SMP) designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA). Under this program, the Town is required to prepare the SMP pursuant to Section 6 of the MS4 General Permit, which shall be completed by April 1, 2017 and all "Minimum Control Measures" in the SMP implemented, by July 1, 2017.

The SMP will cover all of the Town's highways, roadways, and railways located within Urbanized Areas (UA) as indicated by the 2000 Census. Additionally, all other large drainage areas within the Town will be covered under this SMP regardless of location. Individual facilities such as maintenance garages, transfer stations, salt sheds and other Industrial/commercial facilities are or will be covered under general permits (industrial) with the CTDEEP.

The 1972 Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate the discharge of pollutants from point sources to waters of the United States (US). Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges on December 8, 1999 as required by Section 402(p) of the CWA. This is commonly referred to as the National Pollution Discharge Elimination System (NPDES) Phase II program.

Since then, considerable strides have been made in reducing conventional forms of pollution, such as from sewage treatment plants and industrial facilities, through the implementation of the NPDES program

and other federal, state, and local programs. The adverse effects of some of the persistent toxic pollutants were addressed through manufacturing and use restrictions and through cleanup of contaminated sites. On the other hand, pollution from land runoff (including atmospheric deposition, urban, suburban, and agricultural) was largely unabated until the 1987 Clean Water Act amendments, which established a framework for regulating urban storm water runoff and other non-point source pollutants. These sources, including urban storm water runoff, now contribute a larger portion of many kinds of pollutants than the more thoroughly regulated sewage treatment plans and industrial facilities.

Non-point source pollution, the diffuse pollution not traceable to a specific source, causes public health risk and safety concerns. Urban runoff potentially contains a host of pollutants like trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals. These contaminants can adversely affect receiving and coastal waters, associated biota, and public health. While the impact of urban runoff pollution may not be immediately realized, the eventual effect can be dramatic. Urban runoff pollution is not only a problem during rainy seasons, but also year-round due to urban water use.

Storm water pollution affects human life and aquatic plant and animal life. Potentially harmful viruses and bacteria are found in our coastal waters along with soil particles, solids/ debris, litter, oil, and chemical compounds. Oil and grease from parking lots and roads, leaking petroleum storage tanks, pesticides, cleaning solvents, and other toxic chemicals can contaminate storm water and these contaminants can be transported into water bodies and receiving waters. Fertilizer constituents from lawns and golf courses and leaking septic tanks can cause algal blooms and encourage microbial growth to create an increasing spiral of biological activity known as eutrophication.

Disturbances of the soil from construction can allow silt to wash into storm channels and receiving waters making them muddy, turbid, and inhospitable to natural aquatic organisms. Many artificial surfaces of the urban environment such as galvanized metal, paint, or preserved wood containing metals, contribute to pollution by run on or leaching by storm water as the surfaces corrode, flake dissolve, or decay. Heavy metals are toxic to aquatic organisms and may bio-accumulate.

Because of the intermittent, variable and unpredictable nature of storm water discharges, the US Environmental Protection Agency (EPA), which administers the Clean Water Act, reasoned that the problems caused by storm water discharges were better managed at the local level through non-point source controls such as the use of specific management practices to prevent the pollutants from entering storm water and urban runoff. These practices are called storm water BMPs.

The USEPA has delegated its authority to the State of Connecticut. The State exercises its delegated authority through its agency, the DEEP, to enforce the Clean Water Act. Municipalities collect and discharge storm water and urban runoff containing pollutants through their storm water conveyance systems. The DEEP issued the required NPDES permit to local jurisdictions including the Town of Cromwell, which requires the implementation of programs to reduce pollutants in storm water and urban runoff.

The Town continues to have many ordinances, practices and programs in place relating to stormwater management and pollution prevention. This SMP will coordinate and incorporate these programs, policies, guidelines and practices into the document by reference.

A. SMP Structure

The plan outlines a program of best management practices (BMPs), measurable goals, responsible individuals or departments, and implementation schedules for the following six minimum control measures:

- (1) Public education and outreach
- (2) Public involvement and participation
- (3) Illicit discharge detection and elimination
- (4) Construction site stormwater runoff control
- (5) Post-construction stormwater management in new development and redevelopment
- (6) Pollution prevention/good housekeeping

Appendices to this plan include the CT DEEP General Permit for the Discharge of Stormwater from Small MS4s and a map of [Town's] impaired water bodies.

B. Area Subject to the Plan

The measures identified in this SMP will be applied throughout the boundaries of the Town of Cromwell except as otherwise noted and be consistent with the MS4 General Permit requirements. Stormwater discharge from municipally-owned maintenance garages, salt sheds and other facilities subject to the CTDEEP Industrial Stormwater General Permit will continue to be regulated under the conditions of that permit.

C. SMP Development

This updated 2017 stormwater management plan was modified and included some of the elements of the original 2004 Cromwell Stormwater Management Plan, elements of sections based on the new *template originally created by the "Western Connecticut Council of Governments staff and modified for statewide use by staff from UConn Center for Land use Education and Research (CLEAR" and the "State of Connecticut Department of Transportation Draft Stormwater Management Plan" Dated February 2004.*

The resources provided by the American Public Works association, The New England Chapter American Public Works Association, The Connecticut Department of Environmental Protection, the Connecticut Department of Transportation, The University of Connecticut Technology Transfer Center, The American Society of Civil Engineers and the New England Interstate Water Pollution Control Commission were utilized in preparation of the plan. The Town also referenced Stormwater, Water Engineering & Management, Public Works and American City & Country magazines.

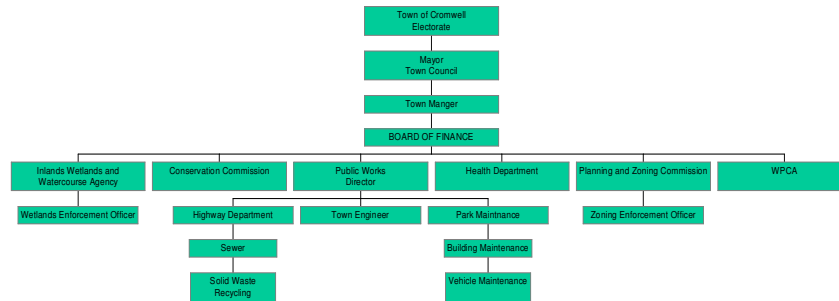
Cromwell's municipal government operates under a Town Charter. Effective with the general election held in November 2013, the Town changed to a Town Council/Town Manager form of government. The legislative power of the town is vested in a combination of a Mayor and the six-member Town Council, with a Board of Finance responsible for presenting fiscal operating budgets for Referendum approval

The Town is divided into several offices and departments Administration, Finance, Engineering, Planning and Zoning. Within each bureau, the department is further divided into separate offices as indicated in the department organizational chart contained in the appendix of this plan.

Stormwater management comes under the jurisdiction of several departments and offices. The department / commissions offices included Engineering, Public Works, Planning and Development. The Town of Cromwell Public Health Department works is responsible for all health related activities

in the Town including subsurface sewage disposal systems, wells and failing subsurface sewage disposal systems.

Figure I.1 Town Organizational Chart for SMP



The following Town employees listed in the table on the next page are part of this new SMP team and some individuals are responsible for any review, funding, best management practices (BMPs) or updating as warranted under this SMP.

Table I.1 Town of Cromwell Stormwater Phase II MS4 Team Members

Name	Title	Phone Number
Anthony J. Salvatore	Town Manager	860 632 3420
Enzo Faienza	Mayor	860 632 3420
Lou Spina	Director of Public Works	860 632-3465
Jon Harriman P.E.	Town Engineer	860 632 3465
Neil Swanson	Road Supervisor	860 632 3420
Richard Peck	Sewer Administrator	860 632 3430
Carl Townsley	Recycling Center Operator	860 632 3420
Stuart Popper	Director of Planning	860 632 3422
Fred Curtin	Development Compliance Officer	860 632 3422
Denise Lamontagne	Police Chief	860 632 2256 x13
Michael Terenzio	Fire Chef	860 632 6155
Todd Gagnon	Fire Marshall	860 635 3188
Arthur G. Simonion P.E. LEED	Mattabassett District Executive Director	860 2 5550

D. Storm Water Management Plan Implementation

The original plan contained the following as recommended steps to implement the elements of the program that apply to each department. The same process will follow for the updated SMP.

a. Adopt

The first step toward implementation is to adopt the Plan. A department head or appointing authority must accept and certify that the department will formally establish policies and procedures to implement the Plan.

b. Distribute

The second step is to distribute the Plan to the affected divisions within the department with the appropriate transmittal requiring them to begin implementation. The department will make copies of the Plan (or Plan applicable sections) and distribute these to the appropriate personnel.

c. Train/ Develop Awareness

The department must schedule and ensure both the General Storm Water training for all personnel, and "Activity Specific" training for those personnel engaged in activities covered by the Plan. The department must maintain records of the personnel trained so that the status of the training can be reported to the Regional Board.

d. Practice/ Implement

The next step is to apply the practices, policies, and procedures to daily activities within the department. Personnel should be informed that they must apply the practices that are appropriate for their activities.

e. Assessment/ Review

Periodically, the department, along with the Storm Water Program, will assess and review the practices that the department has applied to its daily activities. They will record any practice that needs modification or any new practices, policies or procedures that should be adopted.

f. Update

If needed, and after an assessment and review of the department's activities, the practices and guidelines may be updated by the Storm Water Program and any changes will be submitted to the department for review and co-approval. Once approved, the new guidelines should be incorporated into the department's guide and the appropriate employee awareness and training should be provided.

g. Annual Reporting

The SMP's implementation will be tracked and documented in Annual Reports summarizing stormwater management activities carried out by the town and its partners. These reports will be submitted to CTDEEP on an annual basis no later than April 1. The department(s) will need to maintain records and provide reports to the Storm Water Program in early March of each year.

The reporting format and requirements are detailed in the applicable sections of the Plan. Departments must maintain such records as are necessary to provide the information that will be required. Additionally, records of any required training should be maintained. As part of the annual report, the Storm Water Program will ask for the number of employees trained for each element. The Storm Water Program will compile the reports for all departments and prepare the annual report to the Regional Board. Departmental information for the annual report is due to the Storm Water Program by April 1, 2018 and each year thereafter.

h. Inspection

Voluntary self-assessment and periodic inspections or audits by the Storm Water Program are important to the success of this Program. The inspections will check what practices and policies have been adopted and implemented so that the general effectiveness of the Program in instilling practices to reduce pollutants in urban runoff can be assessed. Inspections are specifically required for some elements of the program, such as municipal facilities, construction contracts, private industrial uses, commercial uses, and storm drain operation and management. For other activities, no inspections are required but voluntary inspections are encouraged to ensure that effectiveness of the storm water best management practices and compliance with the requirements of the Permit. Additional guidance for inspections is in the various sections of the Plan. Voluntary self-inspections, performed by department staff, should be held as frequently as deemed necessary to assess SWP effectiveness. Occasional inspections by Storm Water Program staff may be made to assess facilities' compliance with permit requirements. In addition, facilities are subject to periodic inspection by Regional Board staff.

i. Certify

Each department will sign and return a statement of compliance along with the department's required reporting data to the Storm Water Program in October of each year as part of the proof that the Town is doing its part to reduce pollutants in storm water and urban runoff.

E. Description of Municipality

The operator of the MS4 is the Town of Cromwell. The Town of Cromwell is a public entity located in the county of Middlesex, State of Connecticut. The Town of Cromwell covers an area of approximately 13.5 square miles that is approximately made up of 13 square miles of land and 0.5 square miles of water with the approximate Coordinates: 41°36'35"N 72°39'47"W. The Connecticut River forms the eastern boundary of the Town. A major north/south highway, Interstate 91, with two Cromwell exits, runs through the Town. The Central Connecticut Expressway (Route 9), opened at the end of 1989, enhances the Town's location as it connects I-95 in Old Saybrook to I-91 in Cromwell and I-84, the State's major east/west highway in New Britain.

The Connecticut Department of Transportation (DOT) operates an MS4 on state highways located in the Town of Cromwell. This system is regulated under the CT DOT's MS4 permit. Implementation of the BMPs identified in this plan will be coordinated between Cromwell and CTDOT and any others if applicable.

a. POPULATION

According to the U.S. Bureau of Census (April 1, 2010) the Town population was 14,005 and the Town population estimate (July 1, 2015) was 14,034. The Connecticut Office of Policy and Management projects that it will take till the year 2040 to triple the Town's 1960 population to 18,400.

b. LAND USE/ZONING

Based on the population forecasts, land use pressure from population growth will be slight in the next 20 years. The potential holding capacity for nonresidential development was estimated by the plan of development to be approximately 8.8 million square feet in addition to 1.5 to 2 million square feet currently in Cromwell.

c. WATER SUPPLY

Public water service is provided, in Cromwell, by the Water Division of the Cromwell Fire District. Currently, the Water Division provides water service to approximately 89% of the Town's population. The remaining population is served by private wells. As such, most of the developed areas of the Town are served with public water. Water for the Cromwell system is provided by the Gardiner Wells, which are located near the Connecticut River in the extreme northeastern part of Town. Water quality of both wells is considered to be very good and has consistently met all State and Federal water quality standards. The 1995 Water Supply Plan estimated future water consumption. It projected average day demand for the year 2010 to be 2.26 mgd and 3.28 mgd in the year 2040. Maximum day demand is projected to be 4.42 mgd in 2010 and 6.56 mgd in 2040.

d. WASTEWATER CONVEYANCE

Cromwell's recent residential consumption rate Residential demand has averaged 71.5 gpd over the last 12 years. Per capita consumption has remained fairly constant over the past 6 years, averaging 74gpcd. The current trend towards water conservation should maintain or quite possibly decrease per capita usage near current levels of 74 gpd through the year 2040. This number was used in estimating water consumption in areas not served by public water supplies.

Introduction

e. FACILITIES OWNED AND MAINTAINED

The facilities owned and maintained by the Town of Cromwell include the following

- Fifty-seven (57) miles of Town accepted and maintained roadways
- Approximately two hundred and five (205) town outfalls
- Approximately twenty-four (24) DOT outfalls
- Approximately three thousand seven hundred eighty-nine (3,789) catch basins
- One (1) Public Works Facility
- One (1) Transfer Station Site
- One (1) Parks Building and Garage
- One (1) Sewer Building and Garage

The Mattabassett District Water Pollution Control Facility is located in and serves Cromwell but also serves other surrounding communities such as New Britain, Berlin, Middletown, Newington, Rocky Hill and Farmington.

F. ENVIRONMENT OF PLANNING AREA

a. Topography

Cromwell has a rather diverse topography ranging from the low swampy area along the Connecticut and Mattabassett Rivers to the steep hilly area of western Cromwell. The lowest elevation in Town is 8 feet above mean sea level in Cromwell Meadows, near where the Mattabassett River joins into the Connecticut River. The highest point is 288 feet, at a hill west of Shunpike Road south and west of Coles Road. Generally, there are some steep slopes rising up from the wetlands along the Mattabassett and Connecticut Rivers. The central area of Town is generally flat, with the terrain rather hilly west of Shunpike Road, north of Route 372.

b. Drainage Basins

Cromwell is divided into 2 natural watersheds which overlap boundaries of other municipalities. Eastern Cromwell drains into the Connecticut River Watershed. The western part of Town drains into the Mattabasset River (also known as the Sebethe River) Watershed. Both watersheds are further subdivided into smaller drainage basins by north-south ridges. Each drains into the River individually. The following map presents the name and locations of these drainage basins.

c. Floodplains

Floodplains are the areas into which streams overflow their banks during floods. The commonly accepted standard for delineating the extent of floodplains is the 100-year flood, a flood which has a one percent chance of occurring in any given year. The Federal Emergency Management Agency has mapped the extent of floodplain throughout Cromwell.

d. Wetlands

Wetlands are defined by state statute as soils designated as poorly drained, very poorly drained, alluvial and floodplain by the National Cooperative Soils Survey of the U.S. Department of Agriculture's Soil Conservation Service. The Connecticut River in Cromwell is tidal, this creates tidal wetlands. The definitions of wetlands and water courses found in the Act specifically exclude areas designated as tidal wetlands. These are areas which border on, or lie beneath, tidal waters or other lowlands subject to tidal action. However, because of the high density of correlation between tidal and inland wetlands within the Town, the two have been grouped together for mapping purposes.

e. Bedrock Geology

Cromwell is located in the central lowlands of Connecticut, one of three distinct physical regions of the State. The central lowlands are a twenty-mile wide band that bisects the State, flanked by the eastern highlands, beginning in Portland near Strickland Hill, and by the western highlands

commencing in the Mount Southington area. 200 million years ago, a large block of rock, about 20 miles wide and 100 miles long, was depressed to nearly sea level. Sediments and lava partially filled these lowlands and were converted into layers of sandstone interbedded with layers of igneous rock (hardened lava flows). These horizontal layers tilted and as differential erosion developed upon the rock surface, the more resistant igneous rock became north-south ridges and softer sedimentary rock (sandstone) became the intervening valleys. These ridges, of basalt or traprock, extend into the western part of Cromwell in the Route 91 area. The bedrock geology throughout the remainder of Cromwell consists of sedimentary rock formations, principally sandstone and shale. Brownstone, brownish-red sandstone, was quarried extensively in Cromwell in the 1800's, and many noteworthy examples of fossil plant material and dinosaur tracks have been found in the slabs from the brownstone quarries.

f. Surficial Geology.

All of New England was covered with huge continental glaciers of ice and snow. Fast-moving melt water from the Pleistocene Glacier deposited layers of drift composed of sand, gravel and silt in outwash plains or terraces. Much of east and east central Cromwell is composed of a broad outwash terrace of clay, underneath a layer of sand and gravel. The thickness of drift above bedrock range from several inches to more than 250 feet. The surficial geology of much of the west and west central part of Town is characterized by a reddish-brown glacial till ranging from crudely sorted, non-compact mixtures of sand, silt, pebbles and cobbles which may contain minor amounts of clay, to a non-sorted, compact mixture of silt and clay with some pebbles and cobbles, commonly referred to as "hard pan". Fine-grained material deposited by the glacier is found in narrow deposits along the Connecticut and Mattabesset River Valleys. Swamp deposits are found in the Cromwell Meadows and Deadman's Swamp. By noting the type of soil, cost estimates for sewer projects can be done more accurately.

g. Aquifers and Groundwater

Connecticut contains two major types of water-bearing materials; unconsolidated deposits and bedrock aquifers. An aquifer is a geologic deposit or formation that contains sufficient saturated permeable materials to yield usable quantities of water to wells. The entire state is underlain by either sedimentary or crystalline (igneous or metamorphic) bedrock which is discontinuously covered by unconsolidated stratified drift or nonsorted compact mixtures of silt and clay which is la-now as "till".

1. Unconsolidated Deposits

Stratified drift is the most productive source of groundwater for individual wells in the Town. The highest yields are generally obtained from the thick coarse grained deposits located near the larger rivers. Cromwell has several high-yield unconsolidated deposit aquifers within its boundaries. Along the Connecticut River, two areas are underlain by deposits known or inferred to be capable of yielding moderate to very large amounts of water (50-2,000 gallons per minute) to individual wells. The area now as the Gardiner Property in the extreme northeast corner of Town and the area at the end of Nooks Hill Road are described as coarse-grained stratified drift overlain by fine grained stratified drift composed predominantly of sand or sand and gravel overlain by fine to very fine sand, silt and clay. These deposits have a water-saturated thickness of 10 feet or greater. The Gardiner site is

currently being used by the Cromwell Fire District for municipal water production. Groundwater here is classified as GAA. Another aquifer with high-yield potential lies along the Mattabeset in the vicinity of the Route 372-191 interchange area. Composed of coarse-grained stratified drift, principally sand or sand and gravel, this area also has a water saturated thickness of 10 feet or greater.

The largest aquifer in the area is located in the northeast and north central sections of Town, extending as far south as the Route 72-Route 9 interchange, and is underlain by deposits capable of yielding moderate to large amounts of water (up to 500 gallons per minute) to individual wells. The composition of this aquifer is predominately sand or sand and gravel underlain by fine to very fine sand, silt and clay, with a water-saturated thickness of 10 feet or greater. All of the aquifers discussed above are capable of producing sufficient amounts of water for municipal and industrial usage.

2. Bedrock Aquifers

There are two principal types of bedrock formations in Cromwell: the igneous basalt ridges in western Cromwell and the sedimentary rock formations, which underlie the remainder of Town. In terms of water-bearing properties, the two are similar. The sedimentary aquifers of fine-to-coarse grained bedded shale, sandstone and siltstone, as well as the igneous basalts, have well-defined joints with openings, which yield adequate supplies for domestic and small-scale municipal and industrial purposes. Most individual domestic wells in Cromwell are drilled into bedrock.

h. Groundwater Quality

There are a few isolated areas in town where the groundwater is classified as **GB** otherwise it is classified as **GA**. Active well sites are classified as **GAA**.

The definitions of the above classifications according to CTDEEP are as follows:

Class GAA designated uses are existing or potential public supply of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies.

Class GA designated uses are existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies.

Class GB designated uses are industrial process water and cooling waters and baseflow for hydraulically-connected water bodies and is presumed not suitable for human consumption without treatment

i. Soils

The soils of Middlesex County have been mapped by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS). Over one-third of Cromwell contains well or excessively drained terrace soils over sands and gravels. The largest grouping of this type is found in the north central and northeast part of Town, although significant concentrations can be seen in the western part of Town. The soils in this group have moderate to rapid permeability and are suitable for urban uses, such as septic systems, except where

limited by slope. This group of soils is classified by SCS as the Canton Hollis-Charlton soils. A second major grouping of terrace soils over sands and gravels is characterized by a seasonal high water table. In periods of highest saturation, usually springtime, water tables remain at or near the surface, making these soils unsuitable for urban uses unless such measures as curtain or footing drains and/or fill are used. Almost 13% of Cromwell contains these terrace soils with high water table.

There are three significant groupings of upland soils 1) over friable to firm glacial till; 2) over compact glacial till or hardpan; and 3) rocky and shallow to bedrock. The friable to firm glacial till soils were formed in unconsolidated deposits of till on the least sloping parts of hillsides and hilltops. Permeability is moderate to rapid, and high water table is not encountered during any part of the year, making these soils favorable for urban uses. The largest upland soil category concentrated in the central and south central sections, and covering almost one-quarter of the town, consists of soils over compact till with a hardpan 16 to 36 inches below the soil surface. Permeability above the hardpan is usually moderate, but the pan drastically reduces percolation. During wet seasons, excess water in the soil moves down slope above the pan. The design and installation of on-site sewage disposal systems that function satisfactorily is very difficult because of the hardpan.

The final upland category, rocky and shallow to bedrock soils, is found on the narrow ridges and steep slopes in the 1-91 area. In many places bedrock is less than 20 inches below the soil surface. Rocky outcrops and shallow to bedrock soils cause severe problems when developing land for septic systems and other urban uses. Flood plain soils comprise about 5% of the land area of Cromwell. These soils are limited both by the hazards of flooding and, in some cases, poor drainage and high water table. All have very severe limitations for urban uses. The marsh and swamp soils, found primarily in Cromwell Meadows and Dead Man's Swamp, are formed in organic deposits 5 or more feet thick. They are saturated with water most of the time, and water ponds on the surface in winter and spring. Limitations for urban uses are very severe. Many unique and irreplaceable ecological values are destroyed when drainage, filling, pollution or encroachment takes place in either the flood plain, marsh or swamp soils.

A unique soil classification in Cromwell, Lake Terrace soils over strata high in silt and clay, occupies less than 1% of the land area in places where glacial lake sediments accumulated. The soils are poorly drained and have a high water table, making them unsuitable for septic systems and other urban uses. A final category, consisting of sanitary landfill, cut and fill land, urban land, gravel pits and water constitutes 8% of the Town's area.

j. Surface Waters

In the vicinity of Cromwell, the Connecticut River is classified as a saline water Class "SB". Class SB designated uses are habitat for marine fish and aquatic life and wildlife; commercial shellfish harvesting; recreation; industrial water supply; and navigation.

The water quality of the Mattabassett River is classified as Class "B". Class B designated uses are habitat for fish and aquatic life and wildlife; recreation; navigation; and industrial and agricultural water supply.

The water quality of both Chestnut Brook and Coles Brook are Class "A". Class A designated uses are habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture. The surface water classifications currently assigned to Cromwell watercourses are defined in Table 1 on the next page.

TABLE 1			
Water Quality Surface Classifications			
Cromwell, CT			
Drainage Basin Number	Name	Surface Water Quality Classification	Impaired per Water Quality Standards
CT4000-00-03	Connecticut River	SB	Yes
CT4600-00-01	Mattabesset River	B	Yes
CT4600-00-02	Mattabesset River	B	Yes
CT4600-27-trib-01	East Branch Willow Brook	A	Yes
CT4600-23-01	Coles Brook	A	Yes
CT4600-26-01	Miner Brook	A	Yes
CT4600-31-01	Chestnut Brook	A	No
CT4600-00-03	Cromwell Creek	A	NO
CT4600-17-01	Unnamed Stream	A	NO
CT4600-18-01	Unnamed Stream	A	NO
CT4600-22-01	Unnamed Stream	A	NO

k. Impaired Waters

In preparing the SMP, the CT DEEP's Water Quality Standards were reviewed in order to determine the Surface Water Quality Classifications for each watercourse in town. Certain BMP's address the watersheds containing watercourses designated as "impaired" by the CT DEEP. Table 1 on the next page shows the water quality classification for each watershed. Table 2 summarizes the water bodies within or that run through the municipality that are listed on the 2014 List of Connecticut Water Bodies not meeting water quality standards and are designated as "impaired".

The town's aquifer protection area and impaired waters are indicated on the map on the next page.

I. Natural Diversity Data Base

The CTDEEP has developed and maintains the **Natural Diversity Data Base (NDDB)**. This data base includes mapping of the most recently identified location of State and Federally threatened and endangered species.

There are a number of NDDB mapped areas located within Cromwell. These areas of concern are concentrated in the vicinity of the following:

1. Concentrated areas in Cromwell are a large area which follows the Mattabasset River in the East, all the way down to where it meets the Connecticut River and then follows the Connecticut river North to the Northwest Corner of town.
2. Small sections include an area around exit 22s on I-91 and two other small areas east of that. Another Small section is located west of exit 19 on I-91.

The town's NDDB Map is included on the next page

TABLE 2 Cromwell Impaired Waterbody					
Waterbody ID	Water Segment Description	Water Segment Length	Impaired Use	Pollutant	Cause/Potential Source
Mattabeset River Watershed – Surface Water Quality Classification – B					
East Branch Willow Brook	West of Route 3 and east of Sovereign Rd. flows southeast, and ends at the confluence with Willow Brook just downstream of the Evergreen Road Crossing	0.76	Contact Recreation Bacteria Indicator	Bacteria	Point and Nonpoint sources such as Stormwater runoff, domestic animal waste (horse, Farm animals), Pet waste (dogs), natural sources (wildlife) , illicit discharge, failed collection systems and failed or inadequate septic systems.
Mattabeset River-01, -02	From mouth at Connecticut River, Cromwell, US to route 3 crossing (south of Route 372 intersection	3.31	Contact Recreation Bacteria Indicator	Bacteria	Point and Nonpoint sources such as Stormwater runoff, domestic animal waste (horse, Farm animals), Pet waste (dogs), natural sources (wildlife) , illicit discharge, failed collection systems and failed or inadequate septic systems.
Coles Brook	From Mouth at Mattabeset River upstream to source at Shunpike Rd., Cromwell		Contact Recreation Bacteria Indicator	Bacteria	Point and Nonpoint sources such as Stormwater runoff, domestic animal waste (horse, Farm animals), Pet waste (dogs), natural sources (wildlife) , illicit discharge, failed collection systems and failed or inadequate septic systems.
Minor Brook	From Mouth at Mattabeset River upstream to source just south of Westfield St., Middletown		Contact Recreation Bacteria Indicator	Bacteria	Point and Nonpoint sources such as Stormwater runoff, domestic animal waste (horse, Farm animals), Pet waste (dogs), natural sources (wildlife) , illicit discharge, failed collection systems and failed or inadequate septic systems.

Connecticut River-03 (segment three)	Begins as the Connecticut River flows into Connecticut, Continues south through 13 municipalities and ends adjacent to Gildersleeve Island along the Cromwell –Portland town border.	35.26	Contact Recreation Bacteria Indicator	Contact Recreation Bacteria Indicator	Point and Nonpoint sources such as Stormwater runoff, domestic animal waste (horse, Farm animals), Pet waste (dogs), natural sources (wildlife) , illicit discharge, failed collection systems and failed or inadequate septic systems.
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Based on the DEEP Surface Water Quality Classifications, East Branch Willow Brook, followed by Coles Brook and Minor Brook, identified as the surface waters that should take the highest priority in Cromwell’s efforts to address stormwater impacts. This was taken into consideration as the BMPs were developed.

2.0 Minimum Control Measures

A. Public Education and Outreach

This minimum control measure outlines a program to communicate common sources of stormwater pollution and the impacts of polluted stormwater to the public. This will be done through distributing educational materials to the community and conducting outreach activities. The following BMPs and implementation schedule serve as Cromwell's MS4 Public Education Program.

Goals:

- Raise public awareness that polluted stormwater runoff is the most significant source of water quality problems;
- Motivate residents to use Best Management Practices (BMPs) that reduce polluted stormwater runoff; and
- Reduce polluted stormwater runoff in town as a result of increased awareness and utilization of BMPs.

a. Implement public education program

Cromwell will collect and distribute stormwater educational materials that, at a minimum, address the impacts of the following on water quality: pet waste, impervious cover, application of fertilizers, pesticides, and herbicides, and illicit discharges and improper disposal of wastes into the MS4. The Town by continuing to implement a public education program to distribute educational materials to the permittee's community (i.e. residents, business and commerce, students, staff, contractors, etc.) or conduct equivalent outreach activities about the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. The form and content of the education program will be dependent on the audience and identified areas of concern for each MS4. Permittees may join other permittees in the same region to develop and implement a public education program. Educational information may be developed and/or acquired from other permittees, governmental agencies, community and non-governmental organizations, councils of government, academia, and/or environmental advocacy organizations, television public service announcements, and/or web based tools. Each Annual Report shall summarize the types, sources, number of, and methods by which materials disseminated.

Cromwell will maintain their own or link to UConn NEMO's comprehensive online library of stormwater educational material and any previously utilized. The Cromwell Engineering Department website (<http://www.cromwellct.com/engineering>) will link directly to this web-based library and promote the availability of these materials and include certain outreach material to site plan review checklist. Cromwell will also provide materials in a printed format to be on display in public locations within the Cromwell town hall and the Cromwell Belldin Public Library. Information may also be disseminated with flyers, brochures, door hangers,

The Town of Cromwell was previously authorized by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems issued on January 9, 2004. As an existing 2004 MS4 permittee the Town shall begin implementation of this measure within the first year following the effective date of this permit and continue until permit expiration. Permittees shall utilize the materials developed under the 2004 MS4 permit and update or modify as necessary to acquire and/or develop the content of the outreach materials for this general permit.

In the Town of Cromwell's original Stormwater Management Plan specific goals and objectives were identified by the Town for its stormwater pollution prevention communications efforts as follows.

1. Supporting the overall mission and objectives of the Town of Cromwell Stormwater Pollution Prevention Program to increase the knowledge and reduce the polluting behavior of target audiences.
2. Establish the Town as the credible, first source of stormwater pollution prevention program for town and regional media.
3. Targeting sustained communications, accordingly to the identified diverse audiences, including
 - o Municipal (Elected Officials and Town Staff)
 - o Quasi-Governmental (Planning Groups, Town Councils and Advisory Panels)
 - o Construction Site Owners and Developers
 - o Industrial Owners and Developers
 - o Commercial Owners and Developers
 - o Residential Owners and Developers
 - o General Public
 - o School Children

To implement the public education and outreach program, the permittee shall develop or acquire current educational material from DEEP and other sources that identifies the pollutants (such as pathogens/bacteria, nitrogen, phosphorus, sediments, metals, oils & greases) associated with stormwater discharges, the potential sources of the pollutants, the environmental impacts of these pollutants, and related pollution reduction practices

Implementation of a public education program is required to distribute educational materials to the public or conduct equivalent outreach activities regarding the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.

Appropriate BMP's and measurable goals for this minimum control measure must be determined. These must include the persons(s) or position(s) responsible and implementation dates for each BMP.

Additional measures for discharges to waters associated with a Stormwater Pollutant of Concern

These measures may be implemented solely by the permittee or as part of a collaborative regional or statewide program to address the issue. However, the permittee retains sole responsibility for compliance with this section. The method of implementation shall be indicated in the permittee's Plan.

b. Address education and outreach for pollutants of concern

Cromwell will distribute information on common sources of phosphorus, nitrogen, bacteria, and mercury pollution and how to prevent or reduce the amount reaching the MS4 and discharging into waterways.

The table below shows additional topics to be covered to address the phosphorus, nitrogen, bacteria, and mercury impairments that exist in Cromwell.

Phosphorus	Nitrogen	Bacteria	Mercury
Septic systems	Septic systems	Septic systems	Thermometers
Fertilizer use	Fertilizer use	Sanitary cross connections	Thermostats
Grass clippings and leaves management	Grass clippings and leaves management	Waterfowl	Fluorescent lights
Detergent use	Discharge of sediment (to which Nitrogen binds) from Construction sites	Pet waste	Button cell batteries
Discharge of sediment (to which Phosphorus binds) from Construction sites	Other erosive surfaces	Manure piles associated with livestock and horses	Thermometers
Other erosive surfaces			

c. INFORMATION AND AUDIENCES

The Town’s Original Stormwater Management Plan identified a preliminary and general list of information that could be possibly communicated to the identified audiences.

- Runoff training for appropriate personnel to protect water quality
- Illicit Discharge Detection and Elimination observations and follow-up during daily work activities
- Lawful disposal of catch basin and other cleanout Wastes
- Water quality awareness for Emergency /First Responders
- General NPDES Permit Requirements for Stormwater Discharges Associated with Industrial, Commercial and Construction Activities
- Water Quality Impacts associated with land development
- Alternative materials and design to maintain peak runoff values
- How to conduct a stormwater inspection
- Potable water discharges to the storm sewer system
- Spill response, containment and recovery
- Preventive Maintenance
- Public reporting information resources
- Residential and charity car-washing
- Additional community activities
- General Awareness by bringing attention to the SMP generally and providing information about specific common behaviors that can change in order to achieve measurable stormwater pollution prevention,

During the first year of the original permit outreach the following included

- Automotive Pollution
 - Leak prevention and proper disposal of automobile fluids
 - Spill Cleanup
 - Disposal of automotive fluids
 - Automobile washing
 - Alternate Transportation and carpooling
- Bacterial
 - Pet waste and cleanup
 - Sewer lateral inspection
 - Sewer spill reporting
 - Recreational Vehicle sewage disposal
- General litter and pollutants
 - Cleanup methods for outdoor spills
 - Prevention of runoff to storm drains
 - Cleanup methods after improvement projects

d. BEST MANAGEMENT PRACTICES

The following BMP's will be utilized in the implementation of the program to address the minimum control measure for Public Education and Outreach.

Some suggested strategies under the new General Permit include

- **Target specific populations:** Each permittee is encouraged to direct such outreach program and/or materials at specific populations. Such target populations may include, for example, school age populations, farming populations, and urban populations. Sample educational material for each Stormwater Pollutant of Concern noted above will be made available by DEEP.
- **Partner with local organizations:** Permittees may wish to include in its outreach efforts various local organizations which may be able to assist in helping to spread the stormwater message.

Potential Communication Tools

Brochures / fact sheets will be developed that addresses the effects of stormwater quality on the environment and how to improve stormwater quality. The brochure / fact sheets will be made available to the public at public meetings, at the Town Hall or the Public Library. The brochure / fact sheets will be developed by the end of the first year of the program.

The benefits associated with this BMP include reaching a diverse audience covering a large geographic area. The Town conducts public meetings at various times throughout the year on a continuous basis as part of the Town's operation.

Other communication tools mentioned in the Town of Cromwell's earlier SMP are as follows

- **Training Videos:** Videos provide the opportunity to reach large groups of employees at convenient times, and provide basic information related to stormwater pollution prevention, the objectives of the Town's and actions that all employees can undertake.
- **Training Workshops:** Workshops can range from the very general -providing basic to the activity specific bringing pertinent information specifically tailored for workshop attendees and their areas of responsibility.

- **Activity Specific BMP:** Town Department's that perform stormwater related activities will receive a variety of comprehensive training in a variety of formats tailored to fit their staff needs. Examples of activities that will be seen in specific department sections include: Field Demonstrations, Computer Classroom
- Simulation, and Information Exchange through collateral materials such as reference binders, posters, work stations Stormwater Bulletin Boards, etc.
- **Internal Newsletter:** A significant amount of useful information will be developed for the Stormwater Program. Development of a stormwater program -specific internal newsletter may be a useful and economical means of bringing new information to employees. Information developed for the newsletter can then be used as a basis for additional collateral materials, or vice versa
- **Department Flyers:** Post quick, bullet3ed stormwater messages in key employee areas can offer a useful means of getting up-to-the minute information to employees. Employee gathering areas should be identified and targeted for these postings.
- **BMP Manuals:** Some Town activities will require extremely detailed training information covering procedural changes. Activity specific "How To" guides will be useful in circumstances.
- **Advertising:** Focused message campaigns, and particularly those that are aimed At prompting behavior, which can include
 - Newspaper space such small ads, full page messages or special newspaper inserts
 - Billboard Space
 - Advertisement in special brochures (such as those supporting local business)
 - Free time on cable, radio, TV network during prime time.
- **Displays:** Displays offer a low-cost means of providing information on abroad basis. Once developed, these displays can be used in high traffic areas such as Town Hall, the Town Library and other public buildings and in commercial shopping locations.
- **Watershed/Stream Signs:** A main focus of the Stormwater Program is to educate the general public about water issues. A simple and inexpensive start is to post signs alerting travelers that they are entering an important watershed.
- **Special Events:** Special events offer an attractive benefit to the media, local and regional officials and the general public. The Town's annual "Riverport Festival" is one such event that will be utilized in spreading the key messages of the Stormwater Program. Other such events could include Community Clean-up Days; Household Hazardous waste collection, etc.
- **Internet/Town Web Site:** The Town has an established website that is a source of information for residents and business alike. The site has a literature page, where the program's brochures will be posted and available to visitors in PDF format. This will become an essential tool to disseminate BMP information to
- **Business and Industry located in the Town.** In addition to the literature section, an educational resources link that connects users to stormwater and watershed educational resources available from other institutions will also be available.
- **Volunteerism:** Volunteer opportunities are abundantly available for all citizens. The supporting of volunteer efforts of employees associated with the Stormwater Program, the Town is not only showing support of vital organizations and events, but also helping to establish an identity for the Program.
- **Special Occasion Speeches:** The Town is host to a variety of community events throughout the year at which Town leaders are asked to take part. Such events offer a prime example to include remarks about the Town's Stormwater Program and achievements to date.

- **Direct Mail to Target Audiences:** Direct mail pieces to specific audiences with tailored messages and specific Stormwater BMPs will be a tool employed by the Town. The mailer pieces can range from postcards to newsletters, flyers, and other pieces developed for a specific audience.
- **News Releases, Letter to the Editor and Article Submissions:** If used sparingly and appropriately, news releases are of great value to reports and can offer factual information along with useful quotes from Program leaders. The popularity of the editorial page has only increased in recent years. Stormwater Program staff should closely monitor these pages for issues that relate to the program, and for opportunities to provide comment. Many local, weekly newspapers will accept, and in fact, welcome article submittals on important issues. The Stormwater Program can identify and make us of these opportunities to reach broad audiences.
- **Partnerships:** Some participation efforts may best be undertaken in coordination with already established organizations allowing for input from their members. Examples of such groups include:
 - Educational Institutions
 - Environmental Groups (Cromwell Watershed Conservation Committee)
 - Scouting Groups
 - Construction Industry
 - Business and Industry Groups
 - Tourism
 - Civic Associations
 - Legislators

Each of these can provide specialized insight into interests and concerns of the key stakeholders they serve.

e. Phasing

Implementation of stormwater pollution prevention education and outreach activities will occur through-out the Town and will be the responsibility of many departments. The Department of Public Works Town Engineer will be primarily responsible for the following activities.

As with any Municipality the actual implementation of any activities in this SMP is contingent upon identification of funding in future yearly budgets and approval by the Board of Selectmen.

Since the start of the MS4 General Permit in 2004 the Town of Cromwell performed some of the following public education and outreach by providing the following information documents and pamphlets to the Town's citizens or referencing on the Town's Engineering Website.

The following clickable links were placed on the Town's website within the Engineering Department's page:

1. Storm Drain Stenciling Fact Sheet
2. Car Care for Cleaner Water Fact Sheet
3. Managing Leaves and Yard Trimmings
4. Better Homes and Groundwater - A Homeowner's Guide
5. Lawn Watering
6. Lawn Weed Control

7. Lawn and Garden Fertilizers
8. Lawn and Garden Pesticides
9. Pet Waste and Water Quality
10. Cleaning Up Stormwater Runoff

Through the office of the Town Department of Public Works (DPW), the following information pamphlets had been disseminated to the public:

1. Wisconsin Department of Natural Resources: "Better Homes and Groundwater"
2. Wisconsin Department of Natural Resources: "Car Care for Cleaner Water"
3. Wisconsin Department of Natural Resources: "Cleaning Up Stormwater Runoff"
4. Wisconsin Department of Natural Resources: "Erosion Control for Home Builders"
5. Wisconsin Department of Natural Resources: "Polluted Urban Runoff" A Source of Concern"
6. Wisconsin Department of Natural Resources: "Storm Drain Stenciling"
7. Wisconsin Department of Natural Resources: "Storm Sewers Beneath Our Feet"
8. Wisconsin Department of Natural Resources: "Lawn & Garden Fertilizers"
9. Wisconsin Department of Natural Resources: "Lawn Garden Pesticides"
10. Wisconsin Department of Natural Resources: "Lawn Watering"
11. Wisconsin Department of Natural Resources: "Lawn Weed Control"
12. Wisconsin Department of Natural Resources: "Pet Waste and Water Quality"
13. Wisconsin Department of Natural Resources: "Managing Leaves and Yard Trimmings"
14. Wisconsin Department of Natural resources: "The Wealth of Waterways"
15. City of Columbia Missouri: "Glossary of Stormwater Terms"

f. Public outreach and education schedule

Table 1.1 Measurable Goals and Implementation Dates

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
1-1	Implement Public Education Program	Engineering	Brochure Distributions	July 1, 2018 and continue until permit expires
1-2	Address Education/Outreach for pollutants of Concern	Engineering	Fact sheet POC Distribution	July 1, 2018 and continue until permit expires

1-3	Available to Public at Town Hall and Public Library	Engineering	Available Handouts	July 1, 2017 and continue until permit expires
1-4	Available at Public information meetings	Engineering	Conduct Meetings	July 1, 2017 and continue until permit expires
1-6	Continued Storm Drain Marking/Stenciling	Engineering	Number Completed	July 1, 2017 and continue until permit expires
1-7	Continued Watercourse Signage	Engineering	Number Completed	July 1, 2017 and continue until permit expires 09/2017

B. Public Involvement and Participation

This minimum control measure is a key component to the storm water management program as it helps to ensure broader public support, and shorter implementation schedules, as well as provide a broader base of knowledge. Persons who are personally involved with the decision making process are less likely to challenge the program and can provide a valuable resource of knowledge that will be beneficial to the development, implementation and enforcement of the program.

This minimum control measure identifies the process for public involvement and participation in the town’s stormwater management efforts.

Goals:

- Involve the community in planning and implementing the town’s stormwater management activities.
- Provide a minimum 30 day notice to the public for this plan and annual reports.
- Participate in Household Hazardous Waste and Solid Waste Recycling

a. Comply with public notice requirements for the Stormwater Management Plan and Annual Reports

Cromwell will publish a public notice on its Town Engineering website (<http://www.cromwellct.com/engineering>), through an email or mailing list, or in a newspaper. *The* notice will provide a contact name, phone number, address, and email to whom the public can send comments. Additionally, this plan and the Annual Reports will be publicly accessible on the Engineering Website (<http://www.cromwellct.com/engineering>) and in Cromwell town hall and/or the Cromwell Belldin library. The public notice will allow for a 30-day comment period, at a minimum.

The permittee is encouraged to enlist local organizations to help implement the elements of their Plan. However, the permittee retains sole responsibility for permit compliance.

No requirements in addition to those specified in subsections (A)-(B), above, are specified for discharges to waters impaired for Phosphorus, Nitrogen, Bacteria, or Mercury.

b. REQUIREMENTS

Compliance with applicable State and local public notice and Freedom of Information regulations are required when implementing a public involvement/participation program. Where notice requirements are inconsistent, the notice provisions providing for the most notice and opportunity for public comment shall be followed.

The development of a public involvement/participation program that includes the public in developing, implementing, and reviewing the stormwater management program is required.

Appropriate BMP's and measurable goals for this minimum control measure must be determined. This must include the persons(s) or position(s) responsible and implementation dates for each BMP.

c. BEST MANAGEMENT PRACTICES

The original 2004 SMP BMP's will continue to be utilized in the implementation of the program to address the minimum control measure for Public Participation and Involvement.

Goals and Objectives

1. Specific goals and objectives that public participation will pursue in the success of pollution prevention efforts.
2. Establishing the Town of Cromwell as a clean water leader and supporter of storm water pollution prevention efforts.
3. Developing long-term relationships with stakeholder groups that will be beneficial to the Town's water quality efforts and other community programs
4. Establishing an ongoing program under which key stakeholders are routinely and continuously involved.
5. Assessing general understanding of the storm water pollution issue and developing collaborative ideas for changing and/or modifying behaviors.
6. Learning about specific concerns and opportunities and how these might differ among various stakeholder groups.
7. Providing for input from diverse groups and individuals from throughout the Town regarding the Plan and specific pollution prevention activities and behaviors.
8. Identifying evolving community concerns/interests throughout the duration of the Storm Water Pollution Prevention Program outreach efforts.
9. Allowing for collaborative decisions making on key issues impacting the general community or specific areas or interests.
10. Building a supportive group of citizens from throughout the community who will help shape and ultimately implement pollution prevention activities and programs.
11. Providing for various measurements of program achievements through community input.
12. Demonstrating a measurable increase in target audience knowledge of the storm water conveyance system(s), and measurable change in the behavior of the target audiences regarding storm water pollution.

d. Presentation of Draft SMP

Upon completion of the Draft SMP, it will be presented prior to April 1, 2017 to the Mayor, the Town

Council, the Town Manager, the Board of Finance, the Planning and Zoning Commission, the Inland Wetlands and Watercourse Commission, the Conservation Commission, and the Director of Public Works. As the primary people responsible for the implementation of the plan, these individuals will be able to raise any issues regarding their involvement or any ideas for improvement of the program.

This BMP will ensure that all of the individuals concerned are made aware of their particular requirements within the scope of the program and that any conflicts are resolved before the implementation of the plan. It will also allow the individuals responsible for the plan to provide input specific to their own area or expertise within the Town.

The Draft SMP, once it has been reviewed by the appropriate members of the town government, will be made available in the Town Hall Engineering Office, Engineering website and the Cromwell Belden Public Library for review by the public who at that time may provide comments and suggested revisions.

e. Public Information Meetings

The benefits associated with this BMP include the accumulation of ideas from a diverse audience and all interests who can share their knowledge and concerns. Public meetings are an excellent way to inform the public about stormwater impacts in addition to gaining support for the proposed stormwater management plan and program. Key issues, especially those that directly affect the public, can be described during these meetings to increase awareness of the departments and public's role in the program including responsibility, implementation dates, and expected benefits.

This will allow the public the opportunity to comment and participate in the development of stormwater management plans for specific projects during the design development process.

Key stakeholders, and particularly those who should be involved in participation efforts, must routinely be assessed and evaluated throughout the program. So, for example, potential participation audiences will include:

Internal Stakeholders

- Town Staff
- Quasi-Governmental Agencies/Districts conducting official Town business (i.e. Planning Groups, Wetland Agencies, Board of Selectman and advisory panels, etc.)

External Stakeholders

- Construction site owners and developers
- Industrial and commercial owners and operators
- Residential community
- General Public including:
- Local community based interest groups
- Organizations associated with tourism and transportation
- Homeowners associations
- Board of Education
- Civic and social organizations (Rotary, Lions, etc.)

- Seniors centers and organizations
- Medical community
- Watershed-based organizations
- Environmental groups

Initial outreach messages will be used as a basis for all public participation activities. As public participation efforts are fine-tuned, issue specific messages will need to be crafted, ideally, in collaboration with key stakeholders. Initial program key messages involve:

Openness to Input--- Public participation must, at a minimum address one or more decisions to be made and how the public will influence those decisions. The Town of Cromwell will first convey the importance it places on public input and its commitment to incorporating public into its decision making process for this program.

Commitment to the Process --- The Town will then convey its commitment to the public participation process. The Town will commit to a process for evaluating and incorporating public input that is transparent and communicated in advance to all participants.

Community Issue --- Protection of our waterways for storm water pollution is a community issue that requires community involvement. The Town of Cromwell needs is keenly interested in learning about community concerns and opportunities for cooperative efforts.

Long-Term Commitment --- Storm water pollution prevention will be ongoing and require behavioral changes. The Town of Cromwell needs partners throughout the region to encourage support and action from their peers.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

f. Public Participation Strategies and Tactics

Despite common perceptions that public participation is limited to advisory groups, participation tools can in fact run the gamut from those that raise awareness of issues (and in turn increase likelihood of participation) to those that actively engage members of the public in collaborative decision-making.

The Town of Cromwell has an Inland/Wetlands Commission, The Cromwell Inland & Wetland agency, to address Wetland and Environmental issues. This agency meets twice a month and is publicly noticed.

The Town of Cromwell has an established advisory committee, The Cromwell Water Conservation Committee to address watershed issues. This committee typically meets once a month and is publicly noticed. As often as possible, the Town of will pose specific questions and bring significant issues forward to the committee for consideration.

Public Participation needs to evolve throughout the duration of the Storm Water Pollution Prevention Program. As needs evolve, so will the tools used. Tools available to the Town include:

Mail Surveys- Mailed surveys can give the Town a snapshot of public opinion quickly and inexpensively. These can take the form of response cards in newsletters, newspaper "coupons" or mailed questionnaires.

Focus Groups- Focus groups provide an excellent means of quickly obtaining input beyond that achieved through survey format in which respondents are most often selecting from a predetermined choice of responses. Focus groups, instead will allow for richer, more descriptive input and perceptions that are derived as consequence of group interaction during the focus group. Focus groups can be particularly useful in testing the effectiveness and resonance of strategic communications messages.

Web Site- The internet is a first source of information for many Americans today. It can also be a tool for public involvement. While this is still an emerging technique, the long-term nature of the program, the internet should be considered a valuable public participation tool. The Town's website, www.cromwellct.com would serve as a comprehensive information repository. The program web site will encourage public involvement by informing the public about important issues associated with the Program.

Stakeholder Interviews- Meeting with stakeholders one-on-one provides an environment conducive to relationship and trust building. On a regular basis, stakeholders should be consulted in this type of format to learn about concerns, issues of interest and opportunities for the program.

Information Booths/ Kiosks- A host of opportunities exist for the Town to set up an informational booth or kiosk during the community events, or in high traffic areas. The kiosk can not only provide information to passersby, but can be staffed to allow one-on-one discussions with interested residents.

Meetings, Hearings, Open Houses and Workshops- There will be times when a public meeting is the best way to exchange information with stakeholders and other target audiences. Other times, public meetings will be required by law. In either case, public meetings will be made more effective with ample noticing and careful planning. Meetings, hearings, and workshops need to be held at times and locations convenient for the public. And, the meetings could be run by a third-party facilitator to encourage productive dialog.

Advisory Group- Topic or issue-specific advisory groups are often the best way to effect meaningful public participation. They are time consuming to convene and manage, but they pay off in terms of better public decision-making. Topics that lend themselves well to this type of public participation tool include those that are highly controversial and/or complex. Advisory groups should represent a broad cross section of community interests and be facilitated by a third party to be most effective. They must have a clearly understood task and level of authority.

Partnerships- Some participation efforts may best be undertaken in coordination with already established organizations allowing for input from their members. Examples of such groups include:

- Educational Institutions
- Environmental Groups
- Scouting Groups
- Construction Industry
- Business Industry Groups
- Civic Associations
- Legislators

Each of these and others can provide specialized insight into interests and concerns of the key stakeholders they serve.

g. Public involvement and participation schedule

The following table lists the MCMs for this section

Table 2.3 Public Involvement / Participation

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
2-1	Comply with public notice requirements for the SMP and Annual Reports.	Engineering	One time	July 1, 2017 and continue until permit expires
2-2	Comply with public notice requirements for the annual reports.	Engineering	One-time	04/01/2017
2-3	Comply with public notice requirements for the annual reports.	Engineering	Annually	July 1, 2017 and continue until permit expires
2-4	Present to Town Council, Board of Finance, IWWA, CC and Public Works.	Engineering	Presentation Complete.	Prior to 04/01/2017
2.5	Participate in Household Hazardous Waste and Solid Waste Recycling	Engineering	Annually	July 1, 2017 and continue until permit expires

C. Illicit Discharge Detection and Elimination

This minimum control measure outlines a program to detect and eliminate current illicit discharges to the MS4 and prevent further illicit discharges in the future. All activities for this measure will be completed in Cromwell's priority areas (urbanized area, catchment areas with directly connected impervious area (DCIA) > 11%, and outfalls that discharge to impaired waters).

Goal:

Find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and eliminate future illicit discharges.

a. Eligible Activities

The MS4 general permit authorizes the discharge of storm water from or associated with a Small MS4, provided the requirements of subsection (b) of this section are satisfied and the activity is conducted in accordance with the conditions listed in Section 5 of the MS4 general permit to the Maximum Extent Practicable (MEP) (as defined in Section 5(b) of the MS4 General Permit).

The MS4 general permit authorizes the following non-storm water discharges provided: The Town controls such non-storm water discharges to the MEP, as required by the MS4 general permit; such non-storm water discharges do not contribute to a violation of water quality standards; and such non-storm water discharges are documented in the SMP and are not significant contributors of pollutants to any identified MS4:

- uncontaminated ground water discharges including, but not limited to, pumped ground water, foundation drains, water from crawl space pumps and footing drains;
- irrigation water including, but not limited to, landscape irrigation and lawn watering runoff;
- residual street wash water associated with sweeping;
- discharges or flows from firefighting activities (except training); and
- naturally occurring discharges such as rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), springs, diverted stream flows and flows from riparian habitats and wetlands.

Any non-storm water discharge to the MS4 authorized by a permit issued pursuant to Section 22a-430 or 22a-430b of the Connecticut General Statutes is also authorized under this general permit.

The MS4 general permit authorizes the discharge of storm water from or associated with a Small MS4, provided the requirements of this section are satisfied and the activity is conducted in accordance with the conditions listed in Section 5 of the MS4 general permit to the MEP (as defined in Section 5(b) of the MS4 General Permit).

This MS4 general permit authorizes the activity listed in the “Eligible Activities” above provided:

Coastal Management Act: Such activity is consistent with all applicable goals and policies in Section 22a-92 of the Connecticut General Statutes, and must not cause adverse impacts to coastal resources as defined in Section 22a-93(15) of the Connecticut General Statutes.

Endangered and Threatened Species: Implementation of the Town’s Stormwater Management Plan shall not threaten the continued existence of any species listed pursuant to section 26-306 of the Connecticut General Statutes as endangered or threatened and must not result in the destruction or adverse modification of habitat designated as essential to such species unless otherwise exempted by Federal statute.

Aquifer Protection Areas: Such activity, if it is located within an aquifer protection area as mapped under section 22a-354b of the Connecticut General Statutes, must comply with regulations adopted pursuant to section 22a-354i of the Connecticut General Statutes.

National Historic Preservation Act: Stormwater discharges or implementation of the registrant’s stormwater management program shall not adversely affect properties listed or eligible for listing in the National Register of Historic Places, unless the registrant is in compliance with requirements of the National Historic Preservation Act and has coordinated with the appropriate State Historic Preservation Officer to avoid or minimize impacts from any necessary activities.

Discharge to POTW: The storm water is *not* discharged to a Publicly Owned Treatment Works (POTW).

Discharge to Groundwater: The storm water is *not* discharged entirely to groundwater, meaning a storm water discharge to a surface water will not occur up to a 100-year, 24-hour rainfall event.

New or Increased Discharges to High Quality Waters: On or before thirty (30) days prior to the commencement of a new or increased discharge to a High Quality Waters from its MS4, the Town must document compliance with the Connecticut Anti-Degradation Implementation Policy in the Water Quality Standards, as amended. Before commencing any new or increased discharge, the Town shall identify in its Stormwater Management Plan ("Plan"), the control measures it will implement to ensure compliance with anti-degradation provisions and the terms of this Permit. At a minimum, the Town shall evaluate and implement to the Maximum Extent Practicable practices which will prevent the discharge of the Water Quality Volume to a surface water body or other practices necessary to protect and maintain designated uses and meet standards and criteria contained in the Water Quality Standards.

New or Increased Discharges to Impaired Waters: There shall be no increased discharges from the MS4 to impaired waters listed in categories 5 or 4b of the most recent Connecticut Integrated Water Quality Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) unless the Town demonstrates that there is no net increase in loading by the MS4 to the impaired water of the pollutant(s) for which the waterbody is impaired. The Town may demonstrate no net increase by either:

1. Documenting that the pollutant(s) for which the waterbody is impaired is not present in the MS4's discharge and retain documentation of this finding with the Plan; or
2. Documenting that the total load of the pollutant(s) of concern from the MS4 to any impaired portion of the receiving water will not increase as a result of the activity and retain documentation of this finding in the Plan. Compliance with the requirements for Runoff Reduction and Low Impact Development measures for new development and redevelopment in Sections 6(a)(5)(A) and (B) of the MS4 general permit shall be considered as demonstrating no net increase. Requirements for discharges to impaired waters are included in Section 6(k) of the MS4 general permit.

b. REQUIREMENTS

1. Develop written IDDE plan

Cromwell as an existing 2004 MS4 Town will develop within one (1) year of the effective date (July 1, 2017) of the MS4 general permit a written IDDE plan to detect, locate and eliminate illicit discharges to the MEP from the MS4 within Cromwell's priority areas. The IDDE plan will provide enforceable legal authority to eliminate illicit discharges, assign responsibilities, and develop a citizen reporting program. The plan will also outline the outfall screening and IDDE protocols consistent with Appendix B of the MS4 General Permit to identify, prioritize, and investigate MS4 catchments for suspected illicit discharge of pollutants. Also, the IDDE plan will outline follow-up screening and illicit discharge prevention procedures.

2. Establish legal authority to prohibit illicit discharges

The necessary and enforceable legal authority for the Town of Cromwell can be by statute, ordinance, rules and regulations, permit, easement, contract, order or any other means, to eliminate illicit discharges.

The legal authority shall:

- prohibit illicit discharges to its storm sewer system and require removal of such discharges consistent with the MS4 General Permit and
 - control the discharge of spills and prohibit the dumping or disposal of materials including, but not limited to, residential, industrial and commercial wastes, trash, used motor vehicle fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
 - authorize fines or penalties and/or recoup costs incurred by the Town from anyone creating an illicit discharge or spilling or dumping into an MS4. For state and federal institutions, where this provision may conflict with existing rules, regulations, policies, chain of command or other circumstances, alternate provisions for enforcement may be utilized.
 - provide any additional legal authorities as specified in Section (A) (7) (a) of Appendix B. of the MS4 General Permit.
3. Develop list and map of all MS4 outfalls and interconnections in priority areas

The town shall develop a list (spreadsheet or database) and map or series of maps at a minimum scale of 1" =2000' and maximum scale of 1" =100' showing all stormwater discharges from a pipe or conduit located within and owned or operated by the municipality or institution and all interconnections with other MS4s. The map(s) should, if possible, be developed in a GIS format.

Cromwell will develop or complete a database of all stormwater discharges from a pipe or conduit located within and owned or operated by the municipality and all interconnections with other MS4s. Each entry will include:

- Type, material, size, shape and location (identified with a latitude and longitude) of conveyance, outfall or channelized flow (e.g. 24" concrete pipe);
- the name, water body ID and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;
- if the outfall does not discharge directly to a named waterbody, the name and water body ID of the nearest named waterbody to which the outfall eventually discharges;
- the name of the watershed, including the subregional drainage basin number (available from CT ECO at www.cteco.uconn.edu) in which the discharge is located;
- date of most recent inspection of the outfall, the condition, and any indicators of potential non-stormwater discharges as of most recent inspection;

The database will be exported into excel format for annual reports.

The spreadsheet will be maintained and updated on a quarterly basis by the Town Engineering Department.

The Town will obtain and review aerial photogrammetric (current available year), to establish an understanding on where the storm sewer discharges may be located. All existing information for drainage systems and outfall locations will be collected from local and outside sources as available such as:

- Digital and Non-Digital existing surveys

- As-Built plans
- Construction plans
- ROW maps
- Major Traffic Generators
- Town mapping
- MDC mapping
- Video Log

Field surveys will be performed by using GPS (mapping grade), to verify existing structure locations and locate missing structures.

The storm sewer map or listing is a component of the program that will require continuous maintenance after its initial development. The Town will allocate the necessary personnel and materials needed to keep the map up to date with the latest storm sewer system configurations and information.

The benefits associated with this BMP include providing awareness of the intake and discharge areas of the Town's systems. This information will be helpful in determining the extent of dry weather flows, potential sources and the particular waterbodies that these flows may be affecting. The map will also be useful in identifying the responsible parties associated with specific illicit discharges.

4. Develop citizen reporting program

Cromwell will establish a system to allow for citizen reporting of suspected illicit discharges into the stormwater system. The system will include an email address and phone number or other means for submitting a report. Cromwell will affirmatively investigate and eliminate any illicit discharges for which a time and location of discharge are provided. Cromwell will promptly inspect the reported outfall or manhole and proceed according to the requirements of the written IDDE program. All citizen reports and responses will be included in Cromwell's annual report.

5. Develop record keeping system for IDDE tracking

Cromwell will keep a record of illicit discharge abatement activities including location (including latitude and longitude or address), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party.

In addition, Cromwell will develop and maintain an SSO inventory that records the location, date and time of occurrence, estimated volume of discharge, a description of known or suspected cause, and details about mitigating measures including dates of implementation.

This inventory will also:

- include all known SSOs to their MS4 in the past 5 years (July 1, 2012 – June 30, 2017);
- continue to be updated to track future SSOs; and
- be included in Annual Reports.

6. Address IDDE in areas with pollutants of concern

Cromwell will identify which areas in town are most likely to contribute nitrogen, phosphorus, and bacteria to the MS4. This assessment will consider: historic on-site sanitary system failures, proximity to bacterial impaired waters, low infiltrative soils, and shallow groundwater. Any areas

determined to have a high potential for septic system failure will be reported to the Cromwell Health Department. for corrective action.

To address septic system failures, the IDDE program shall give highest priority for the IDDE program in areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4. Such areas shall be identified based on assessment of the following criteria: historic on-site sanitary system failures, proximity to bacteria impaired waters, low infiltrative soils, and shallow groundwater. Consultation with local or state health officials is strongly encouraged. The Annual Report shall include a summary of the program, the number of areas identified with failing systems, actions taken by the Town to respond to and address the failures, and the anticipated pollutant reduction.

No requirements in addition to those specified above exist for discharges to waters for which mercury is a Stormwater Pollutant of Concern

7. Detailed MS4 infrastructure mapping

Cromwell will revise a detailed map of the MS4 to include:

- Components of the MS4 within priority areas:
 - Outfalls & receiving waters;
 - Pipes; open channel conveyances; catch basins; manholes;
 - Interconnections with other MS4s and other storm sewer systems;
 - Municipally-owned stormwater treatment structures (e.g. detention & retention ponds, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other systems);
 - Catchment delineations for each outfall;
 - Impaired water bodies identified by name and use impairment as defined by the most recent integrated water quality report;
 - Municipal sanitary sewer system (if available);
 - Municipal combined sewer system (if applicable).

Cromwell will update the map as new information becomes available and will report on the progress of the development of this map in the annual report.

c. Illicit discharge detection and elimination schedule

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

Table 3.2 Illicit Discharge and Elimination Program

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of implementation
3-1	Develop or update IDDE Program	Engineering	Complete Written Plan	July 01, 2018

3-2	Develop or update list and maps of all outfalls in urbanized areas	Engineering	Complete Map Updates	July 01, 2019
3-3	Develop citizen reporting program	Engineering	Develop Program	July 01, 2018
3-4	Establish legal authority to prohibit illicit discharges	Engineering	Ordinance/Regulations	July 01, 2018
3-5	Develop record keeping system for IDDE tracking	Engineering	Develop tracking Plan	July 01, 2017
3-6	Address IDDE in areas with pollutants of Concern	Engineering	Addressed AOCs	July 01, 2017
3-7	Detailed MS4 infrastructure mapping	Town Engineer	Detailed Map	July 01, 2020
3-8	Complete list and maps of all MS4 stormwater outfalls throughout municipality (>10")	Town Engineer	Outfalls Mapped	July 01, 2022

The original SMP had the following goals and objectives which are incorporated into this plan for reference.

Watershed Planning

The goal of watershed planning is to:

- Develop and implement watershed-based plans, in collaboration with other watershed committees. Collaboratively develop a Watershed Urban Runoff Management Program for the Mattabesset River and Connecticut River. Establish partnerships and involve stakeholders. Focus activities within defined sub-areas, or sub watersheds;
- Develop accurate maps of the watershed
- Identify and prioritize the major water quality problems in the watershed. Identify water quality problems and solutions. The methodology used in the watershed assessments should generally begin by identifying water quality conditions at the base of each watershed (through existing and/or new data), and where impairments are identified, continue to test upstream until pollutant sources are identified;
- Identify and develop an implementation schedule for both short and long-term activities. It is characterized as being action oriented, driven by broad environmental objectives (improving water quality in the watershed's receiving waters), and involving key stakeholders in a participatory, iterative planning process.
- Implement a mechanism for public participation and a watershed based education program. Provide a vehicle for public participation, water quality problem identification and prioritization, short- and long-term activities;
- Prepare drainage master plans, stream assessments, and other technical reports to assist in the watershed planning process. Prepare a Master Plan to determine where storm water BMPs are currently located or will be needed Town-wide. Assess, monitor and construct storm water BMPs in an integrated process to maximize pollutant removal efficiency. Using the Drainage Master

Plan described in activity number three, below, stormwater BMPs will be identified in an integrated approach that considers existing storm water BMPs in each watershed, storm water BMPs proposed for new development and redevelopment, future land use conditions, and water quality data.

- Identify a process to facilitate the Town's transition from a site specific to a Watershed-Urban Runoff Management Program. Involve economic, social, political and regulatory issues in watershed planning process, in addition to environmental factors.

Water Quality Monitoring

The original goal of the water monitoring element related to illicit discharges is to:

- Perform continuous and ongoing storm water conveyance system monitoring and water sampling within the Town's watersheds.
- Characterize urban runoff into and from the Town's municipal storm water conveyance system with an emphasis on the detection of illicit discharges.
- Incorporate knowledge of the latest environmental mapping and laboratory technologies, past water monitoring data, historical water quality problem areas and the requirements of the Municipal Storm Water Permit.
- Utilize all data and information collected from previous years monitoring efforts in addition to the data and information collected under the new water quality monitoring programs to determine if amendments and changes are necessary.
- Monitor and abate pollution, in the following manner:
 - Track and identify sources of polluted discharges;
 - Enforce code compliance;
 - Determine the positive effects of illicit discharge and illegal connection abatement efforts;
 - Develop educated planning and policy decisions; and
 - Develop more directed and effective educational campaigns;

Inventories

Various inventories can be generated for urban runoff management purposes. The Storm Water Pollution Prevention Program intends to use existing State and local databases to create useful tools to track and analyze the various program components. The inventories provide useful information to plan for the storm water Best Management Practices (BMPs) and facility storm water inspections. The Town intends to incorporate the inventories into a geographic information system (GIS) so that spatial relationships within drainage basins or watersheds can be easily seen.

The inventories discussed in this component include construction sites, municipal facilities (including the storm water conveyance system), commercial and industrial facilities, detention basins and ponds. Planned database activities are also presented. Site prioritization is also addressed for applicable components.

The objectives of this component are to:

- Develop watershed inventories of construction sites, municipal facilities, industrial facilities, and commercial facilities.
- Incorporate inventories into GIS, including storm water violations and water quality databases.
- Routinely update the existing storm water conveyance system GIS layer and include structural storm water best management practices (BMPs).
- Define and refine prioritization approaches for industrial facilities, commercial facilities, and municipal facilities.

- Identify a phased implementation schedule and associated estimated costs needed to implement the Inventories component through the five-year life of the Municipal Permit;
- Document storm water pollution prevention activities conducted at the Inventories component, which will then be submitted annually to the Storm Water Pollution Prevention along with an annual activities report.

The jurisdictional boundaries, watershed basins, water bodies, transportation facilities, assessor parcel data, land use, and storm drain facilities. The Storm Water Program has used this information to develop a storm drain map and dry weather sampling locations

Enforcement of Storm Water Ordinance/Regulations

This program component is not applicable to any facility that directly or indirectly discharges storm water and non-storm water to the storm drain system, a creek, brook, or pond. The goal of this component is to ensure the health, safety, and general welfare of the citizens and visitors of Cromwell by reducing, controlling and eliminating illegal discharges and illicit connections into the storm water conveyance system from commercial, industrial, residential, and municipal activities.

The Town will be required after adopting a storm water ordinance/regulation, which would make it unlawful for any person to discharge non-storm water into the Town's storm water conveyance system.

The objectives of these program components are to:

- Enforce the prohibition of illicit discharges to the storm water conveyance system.
- Identify all allowable and prohibited types of discharges and enforce the prohibition of illicit connections to the storm water conveyance system.
- Coordinate with other agencies relative to the storm water violations.
- Inspect, monitor and survey as necessary to determine compliance and noncompliance.
- Enforce the use of storm water Best Management Practices (BMPs) to prevent or reduce discharges of pollutants to the municipal storm drain system.
- Educate business and residents about the storm water ordinance requirements and compliance alternatives as appropriate.
- Develop a checklist and procedure to evaluate the risk to the environment from non-storm water discharges.
- Develop a budget for storm water expenditures for each fiscal year ordered by the Municipal Storm Water Permit.
- Control contribution of pollutants associated with industrial and construction activity and runoff from industrial and construction sites.
- Prohibit all identified illicit discharges not otherwise allowed
- Prohibit and eliminate illicit connections to the Storm drain conveyance system
- Designate and implement an Educational Program for all pertinent target audiences Develop a budget for storm water expenditures for each fiscal year ordered by the Municipal Permit .
- Document activities for Jurisdictional Urban Runoff Management Program Annual Report
- Develop and implement a procedure to evaluate and report the threat to the environment from non-storm water discharges to the Regional Board. Identify allowable and prohibited discharges.

Water Quality Monitoring

The original permit duties the Town performed to comply with the Water Monitoring Elements of the original permit were:

- Conduct dry weather analytical monitoring of outfalls within its jurisdiction to detect illicit discharges and storm drain connections.
- Require industry to conduct a monitoring program for runoff from each high threat to water quality industrial site. Obtain monitoring data of runoff from high priority industrial sites.
- Conduct follow-up investigations as necessary to track illicit discharges and connections. Develop response plans, follow-up measures, and enforcement referral procedures to track, identify, and abate discharges that exceed monitoring sample limits.
- Prepare annual watershed water quality monitoring report. Utilize long-term water monitoring data to determine the effectiveness of active pollution abatement and pollutant source control.
- Develop a budget for storm water expenditures for each fiscal year covered by the Municipal Permit.
- Control all discharges other than storm water to the storm drain conveyance system Through interagency agreements control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4.
- Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance.
- Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s.

Dry Weather Monitoring

The original permit Dry Weather Monitoring Program was focused more on monitoring storm water conveyance facility outfalls as they drain into channels, creeks and brooks. This approach will better characterize and identify sources of pollution, as it focuses on sampling discrete conveyances and unique confluences.

The Town will utilize a State approved private laboratory, for the analysis of all analytical parameters, or by utilizing a combination of field meters, titrations, colorimetric comparisons, or testing "dip strips" as determined appropriate based on test precision, detection limit, range, cost, and simplicity. The Town will maintain a computer database containing all result from all water testing, field observations, and flow measurements. The computer database will be reviewed frequently for adverse flow conditions, presence or absence of chemical constituents, and to evaluate for and determine trends. If after review of the data staff finds that analytical laboratory or field monitoring results detected concentrations of pollutants that exceed permissible levels as determined by statistical evaluation and established action levels, Town staff will follow-up by re-sampling and/or investigating to determine the source(s).

Wet Weather Monitoring

The wet weather monitoring program involves the sampling and analysis of runoff collected during storm events. Six locations were identified, which were determined to be representative of the three classifications of storm water sources. The classification and locations are presented below:

Classification Location

- **RESIDENTIAL**
- **COMMERCIAL**
- **INDUSTRIAL**

Industrial Monitoring Program

As part of the Town's Industrial & Commercial Users component, the Town will develop an inventory of industrial facilities using the general industrial permit database, business permits, and other

pertinent data. The Town will implement a phased approach to prioritize industrial facilities, develop and inventory of industrial facilities, establish discharge prohibitions and minimum storm water BMP's to be implemented at all high priority industrial sites, develop an educational program specific to industrial users, and perform inspections and investigations of industrial facilities. The inspection and investigation of industrial facility discharges will include evaluation of monitoring data collected during prescribed storm water monitoring program.

Any industrial facilities not subject to the General Industrial Storm Water Permit and determined to be a high priority will be required to implement a storm water monitoring program following standardized monitoring and sample collection procedures, analytical methods for physiochemical analysis of water samples, and reporting procedures. The Town will review data collected by the General Industrial Storm Water Towns and for Town designated high priority industrial sites. Town officials may inspect any facility that could affect water quality at any time.

Inventories

The following outlines specify the needs and information that the Town must incorporate into its storm water management plan:

- Develop a watershed-based inventory of construction sites.
- Annual watershed-based inventory of municipal facilities and activities which generate pollutants.
- Annual watershed-based inventory of all industrial and commercial sites, which pose a high priority threat to water quality.
- Establish priorities based on threat to water quality.
- Inventory of all high priority residential areas and activities.
- Develop a budget for storm water expenditures for each fiscal year covered by the Municipal Permit.

Following is a description of the Town's existing inventories, planned inventories and prioritization process. The Town views inventories as a tool to assist in identifying and locating facilities, prioritizing facilities according to their potential impacts to water quality in the storm water conveyance system, and allocating resources for outreach, inspection, and enforcement efforts. The Town plans to use available, existing inventories and expand, enhance and prioritize them as the program moves forward. The Town will also move towards linking these databases into the GIS.

Storm Water Conveyance System Inventory: The Town has a partial, existing inventory for the storm water conveyance system. The storm drain information is contained on a list and on a GIS layer maintained by the Department of Public Works (DPW). There are currently four layers of information: storm drain pipes, storm drain structures, (storm drain) inlets, and (storm drain) outlets. Additional resources are needed to routinely update the layer information.

Municipal Facilities Inventory: Municipal facilities in the Town range from community parks to operations yards. The Storm Water Program will utilize the DPW's inventory of municipal facilities. These municipal facilities are operated in multiple departments including: Fire, Police, Building, Board of Education, Highway, Public Works, Parks & Recreation, Sewer and Water.

The Department maintains a partial inventory of all Town facilities. This database is not currently contained in the GIS.

Building, Grading, and Public Improvement Permits Inventor. • The Building Department maintains inventories of building permits, while the DPW maintains partial inventories on grading and public

improvement permits. These databases are good indicators of active construction. Projects remain in the database until bonds are released sometime after the project construction is completed. These databases are not currently GIS linked or can it be sorted easily by watershed.

Construction Site Lists: The DPW, Planning Department, Sewer Department and Water Company also maintain construction project lists. These lists are not combined into a single database, are not currently GIS linked, or are they easily sorted by watershed. Construction sites including any site where an activity requires a construction permit from the Town, such as grading, excavation, clearing, road construction, structure construction, or demolition or results in the disturbance of soil. Within the Town, construction permits are processed annually for sites ranging in size from installation of new street lights to large, private and public developments. Various Town departments currently inspect these sites. The Town's resources will be focused on maintaining a high level of compliance at these sites, therefore the Storm Water Program will utilize databases that are generated within the existing system and manipulate them as much as practical to fit the requirements of the Permit. For ongoing projects, the Town will utilize existing project lists generated in the following Departments: Building, Engineering, DPW, Sewer, and Water. For new construction sites, the Storm Water Program and Development Services will utilize existing databases generated during the plan check process. The Field Services Division will verify these construction sites in these databases can be grouped spatially by watershed.

Industrial Pretreatment Program: A list of commercial and industrial facilities that discharge into the sanitary sewer system is maintained by the Town's Sewer Department. This database requires updating to ensure that each file contains names, addresses, a narrative description of facility type, standard industry classification (SIC) code, permitting, and compliance data. The Storm Water Program will utilize existing databases, to develop a commercial/industrial facilities inventory that will assist with education, inspection and enforcement efforts. Data from other existing databases, such as the States Industrial General Permit filers list, will be used to verify and enhanced the inventory. The inventory can be used to roughly sort the facilities by watershed. Eventually, the Town plans to link the inventory to the GIS. This inventory will be updated on an ongoing basis using information from other databases and data collected during inspections. Updating the inventory will include using various available databases (States Industrial General Permit filers list, business licenses, trade organizations, mailing lists) to verify and enhance the database. The specific task elements included in updating the inventory are as follows:

- Verify and enhance database using various sources
- Assign missing SIC Codes
- Cross-referencing as required
- Group facilities into categories
- Verify/update data with site inspections or phone/mail interviews

Residential Areas: The Town's zoning maps, which delineate residential uses, are being and incorporated into the GIS. The data will be queried to provide specific numeric information. The Town will use existing zoning maps to identify residential areas. Using the GIS, the watershed boundary layer can be overlaid to sort residential areas by watershed. Initially, the Town will view all residential areas as having the equal threat to water quality of receiving waters, however, over time and based on inspections, water quality data, and location, the Town may focus compliance efforts on specific areas.

D. Construction Site Stormwater Runoff Control

This MCM is a critical component of the stormwater management program because polluted stormwater runoff from construction sites often flows to storm sewer systems and ultimately is discharged into local rivers and streams. Sediment is typically the main pollutant of concern but other pollutants include solid and sanitary wastes, phosphorous (fertilizer), pesticides, nitrogen (fertilizer), oil and grease, concrete truck washout, construction chemicals and construction debris.

Sediment runoff rates from construction sites are typically greater than those of agricultural lands, and significantly greater than those of forestlands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites can cause physical, chemical, and biological harm to the state's waters.

The Town shall implement and enforce a program to control stormwater discharges (to its MS4) associated with land disturbance or development (including re-development) activities from sites (as defined in the Department's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities) with one acre or more of soil disturbance, whether considered individually or collectively as part of a larger common plan. Such program shall include the following elements:

This minimum control measure outlines procedures for minimizing polluted stormwater runoff from activities that disturb one or more acres of land. In Cromwell, this is determined on a site by site basis OR collectively as part of a larger plan.

Goal:

Minimize polluted stormwater runoff from construction sites and prevent it from carrying sediment into waterways via MS4 infrastructure.

- a. Implement, upgrade and enforce land use regulations (or other legal authority) to meet requirements of MS4 general permit

Cromwell will revise its land use regulations to establish the legal authority to control stormwater runoff from construction sites by requiring:

1. developers, construction site operators, or contractors maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, and all stormwater discharge permits issued by the CTDEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b;
2. the implementation of additional measures to protect/improve water quality (in addition to the above requirements) as deemed necessary by Cromwell;
3. Cromwell is authorized to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with municipal regulations, ordinances or programs or institutional requirements related to the management of Cromwell's MS4. Inspections shall be conducted, where

- allowed, to inventory the number of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive drainage from the permittee's MS4;
4. the owner of a site seeking development approval from Cromwell shall provide and comply with a long term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive discharge from Cromwell's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owner; and
 5. Cromwell will control, through interagency or inter-jurisdictional agreements, the contribution of pollutants between the permittee's MS4 and MS4s owned or operated by others.
- b. Develop and implement plan for interdepartmental coordination of site plan review and approval

Cromwell's plan to coordinate the functions of all the departments and boards involved in the review, permitting, or approval of land disturbance projects is as follows:

Applicant will provide required Application and Drawings to

1. Inland Wetlands and Watercourses Commission
 2. Planning & Zoning Commission
 3. For all sites disturbing regardless of phasing one (1) acres to five (5) acres the Construction Stormwater Management Plan will be included on the drawing set.
 4. For all sites disturbing regardless of phasing five (5) acres to ten (10) acres the Construction Stormwater Management Plan will be registered with the CTDEEP, and a copy of the Construction SMP provided to the Town.
 5. For all sites disturbing regardless of phasing greater than ten (10) acres the Construction Stormwater Management Plan will be registered with the CTDEEP, A Construction SMP reviewed by a third party and submitted to CTDEEP and a copy of the SMP provided to the Town.
 6. Upon completion of the Project the permittee will file the Proper Notice of Termination with the CTDEEP and provide a copy to the Town.
- c. Review site plans for stormwater quality concerns

Cromwell will conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality on sites with soil disturbance of one acre or more. Cromwell will also conduct site inspections to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures and take enforcement action when necessary.

- d. Conduct site inspections

Cromwell will perform construction site inspections and take enforcement actions if necessary to ensure the adequacy of the installation, maintenance, operation, and repair of all construction and post-construction runoff control measures.

- e. Implement procedure to allow public comment on site development

Cromwell’s procedure for public involvement in proposed and ongoing development and land disturbance activities is as follows:

Any information submitted by the public is forwarded to the Town Engineer for consideration. Information related to construction site runoff is forwarded to the Town Engineer and the Zoning Enforcement Officer and the Director of Public Works.

- f. Implement procedure to notify developers about DEEP construction stormwater permit

Cromwell will notify developers and contractors of their potential obligation to obtain authorization under DEEP’s General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (construction general permit) if their project disturbs more than 1 acre of land and results in a point source discharge to Connecticut surface waters directly or through the Cromwell MS4. Cromwell will also require a copy of the Storm Water Pollution Control Plan be made available to the town on request. The procedure to notify developers of the construction general permit is as follows:

CROMWELL WILL INFORM DEVELOPERS (WORKING WITH THE MUNICIPALITY) THAT THEY HAVE A POTENTIAL OBLIGATION TO OBTAIN AUTHORIZATION UNDER THE DEEP’S GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS ASSOCIATED WITH CONSTRUCTION ACTIVITIES (“CONSTRUCTION GENERAL PERMIT”) IF THEIR DEVELOPMENT OR REDEVELOPMENT PROJECT DISTURBS ONE OR MORE ACRES OF LAND, EITHER INDIVIDUALLY OR COLLECTIVELY, AS PART OF A LARGER COMMON PLAN, AND RESULTS IN A POINT SOURCE DISCHARGE TO THE SURFACE WATERS OF THE STATE DIRECTLY OR THROUGH THE PERMITTEE’S MS4. THE NOTIFICATION SHALL INCLUDE A PROVISION INFORMING THE DEVELOPER/ CONTRACTOR OF THEIR OBLIGATION TO PROVIDE A COPY OF THE STORM WATER POLLUTION CONTROL PLAN (REQUIRED BY THE CONSTRUCTION GENERAL PERMIT) TO THE PERMITTEE UPON REQUEST.

THE CONTRACTOR IS REQUIRED AT ALL TIMES TO CONDUCT HIS OPERATIONS IN CONFORMITY WITH ALL FEDERAL AND STATE PERMIT REQUIREMENTS CONCERNING WATER, AIR, NOISE POLLUTION AND THE DISPOSAL OF CONTAMINATED, OR HAZARDOUS MATERIALS.

- g. Construction site stormwater management schedule

The following table is construction site stormwater management schedule.

Table 1 CONSTRUCTION SITE STORMWATER MANAGEMENT SCHEDULE

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of implementation
4-1	Implement, upgrade and enforce land use regs. [or other legal authority] to meeting MS4 permit requirements	Engineering	Upgrade Regs	July 1, 2019
4-2	Develop/implement plan for interdepartmental coordination in site plan review and approval	Engineering	Develop Plan/ Implement	July 01, 2017

4-3	Review site plans for stormwater quality concerns	Engineering, IWWC, P&Z	Number Completed Yearly	July 01, 2017
4-4	Conduct site inspections	Engineering, IWEO, ZEO	Number Completed Yearly	July 01, 2017
4-5	Implement procedure to allow public comment on site development	Engineering, IWWC, P&Z	# Public Hearings/Procedures	July 01, 2017
4-6	Implement procedure to notify developers about DEEP construction stormwater permit	Engineering, IWWC, P&Z	Written Procedure	July 01, 2017

The original SMP had the following information that is included as reference in this SMP.

The following BMP’s will be utilized in the implementation of the program to address the MCM for Construction Site Runoff Control.

h. Land Use Planning

The goal of this program component is to reduce the impacts of new development and redevelopment on storm water quality by incorporating water quality and watershed protection principles into the Town's land use planning policies. This program component is primarily applicable to the Planning Department, and secondarily, to any department that implements the Town's land use planning policies.

Updating the Town's Planning and Zoning Plan to include a vision with values, policy recommendations, and a twenty-year growth strategy to guide development, enhance communities, and serve the needs of the residents over the next twenty years. Focus of infill development into targeted areas, can assist in improving transit, enhancing street level activity and vitality, creating "walking" neighborhood centers, reducing pressure for rural development, and providing an adequate housing supply. The land use strategy should incorporate a number of site and street design policies that achieve water quality and watershed protection principles such as reducing impervious surfaces, increasing vegetation, and reducing pressure for development in rural and undeveloped areas.

Incorporating water quality and watershed protection principles into the Town's Planning and Zoning Plan that will address the following general policy recommendations to improve water quality and watershed protection. Explore amendments to the Zoning and Subdivision regulations to incorporate the following:

- Watershed-Based Zoning, which addresses development regulations for particular watersheds.
- Impervious Overlay Zoning, which requires development restrictions or allows alternative site design techniques that limit total imperviousness within particular watersheds.
- Transfer of Development Rights (TDRs), which allows for the transfer of potential development from a designated "sending area" to a designated "receiving area." Restricts development in sensitive areas and encourages development in areas capable of accommodating increased densities.

Landscape regulations could be amended to encourage storm water treatment in landscaping, and require planting of canopy street trees in order to cool buildings and other surfaces, increase opportunities for walking paths, reduce street paving costs, and reduce runoff. The conservation element

of the zoning regulations can be revised to more aggressively address the conservation, restoration, and protection of natural resources in the Town, including water quality and watershed protection.

Continued development of an inspection and maintenance program for storm drain structures, thereby reducing pollutants that reach the rivers. Support ongoing development of storm water and urban runoff pollution prevention programs.

Development Review & Permitting

The goal of this section is to reduce the impacts of new development and redevelopment on water quality. The term "development" refers to any project that requires construction permits, development permits/approvals, and subdivision approvals. This program component is applicable to the Planning and Building Departments. New storm water requirements would be emphasized to implement one or a combination of storm water BMPs including, 1) site design BMPs, 2) source control BMPs, and 3) structural treatment BWIPs for specific priority projects.

Review and update the City's development regulations to incorporate the Municipal Permit's storm water protection requirements; *Storm Water Management & Discharge Control regulations Grading & Storm Water Runoff Control and Drainage Regulations, Standard Urban Storm Water Mitigation Plan (SUSMP,) Drainage & Storm Water Best Management Practices Design Manual Suggested Post-Construction BMPs*

i. CIP Project Planning & Design

This program component is applicable to the departments that conduct Capital Improvement Program (CIP) planning and design activities.

The goal of this program component is to reduce or eliminate pollutants from entering into the Town's storm water conveyance system and any receiving waters due to construction activities. All Town departments, responsible for inspecting construction activities, will be responsible for ensuring that adequate storm water BMPs are installed and maintained by the owner or contractor. The focus of this program is to broaden the training, support and expertise of the Town's Technical staff, to redirect their efforts during periods of wet weather, to insure that BMPs are being employed by contractors at construction sites, to avoid polluted runoff and that approved SMP are being effectively implemented. This process will enable the Town to utilize the Resident Engineer to assess the situations in the field, which will result in more effective use of engineers with more storm water training.

This component is to ensure that Town projects are planned and designed to avoid or minimize pollutant discharges to the storm drain conveyance system and receiving waters.

High priority projects include but are not limited to roadways and Town facilities with parking lots greater than 5,000 square feet or greater than 15 parking spaces (exposed to storm water). Storm Water Management Plan will be involved in the City CIP project process by reviewing post construction storm water BMPs during the planning and design phases.

The objectives of this component are to:

Assess procedures for CIP projects to plan and budget for the construction of post construction storm water best management practices in Town projects discharges; Assess the procedure for CP projects to

include construction sediment and erosion control measures into project contracts when excavation or grading is to occur;

Establish and require the use of standard specifications in Town contracts for construction sediment and erosion control measures and other storm water quality protection measures (e.g., storage of materials, concrete washout areas, contain saw cut slurry, contractor employee training);

Educate project managers, designers and consultants and other target audiences about water quality laws and regulations, connections between land use decisions and water quality, construction and post-construction storm water quality design approaches, and the State's General Storm Water Construction Permit requirements;

Develop Storm Water Management Plan guidelines for use by Town designers and consultants;.

Actively participate in the development of Drainage Design Manual revisions and other guidelines to address storm water quality.

The following categories of projects are typically designed under the CIP umbrella:

- Water & Sewer — Linear projects that involve the replacement of existing water and sewer pipelines that are either deteriorated or undersized. Sewer Projects also include the replacement of manholes and laterals. Water Projects also include the replacement of existing fire hydrants and connection services.
- Pump Stations — Retrofitting of existing or design of new facilities that use mechanical means of transporting water and sewer through the utility system.
- Roadways, medians, sidewalks, curb & gutter, curb ramps — construction of medians to separate traffic on minor and major roadways, addition of curb ramps for access on existing sidewalk corners.
- Bridges — retrofitting of existing or design of new spanned structures for vehicle and pedestrian access.
- Drainage structures — Replacement of existing deteriorated or undersized storm drain pipes and construction of curb inlets and clean outs.
- Public buildings — Design and construction of new facilities, remodels and upgrades of libraries, recreation facilities, office space and police and fire stations.
- Park facilities — retrofitting of existing or designing of new facilities within open space parks, and community parks. Additional park facilities include tennis and basketball courts, picnic areas, parking lots and operational facilities.
- Major Pipelines- Large diameter trunk sewers or interceptors or water distribution mains
- Special projects — Projects that are identified as being outside of the realm of typical CIP projects as described above (e.g., new Ballpark, downtown library). CIP projects shall consider both interim and long-term storm water quality as part of project development. Storm water BMPs shall be included in the project to mitigate the project impacts. Because of the variety of projects, there is no "one size fits all" approach to storm water pollution prevention and BMP selections shall be made on a case-by-case basis. The following is a list of categories of BMPs that may be considered for use to minimize the introduction of pollutants of concern that may result in significant impacts to receiving waters.

j. Site Design BMPs

- Minimizing Impervious Areas
- Maximize Rainfall Interception
- Minimize Directly Connected Impervious Areas Maximize
- Rainfall Interception

- Increase Rainfall Infiltration Source Control BMPs
- Treatment Control BMPs

k. Construction Contracts

Construction Monitoring Program — The Town has a Construction Monitoring Program in place to effectively monitor construction activities. The program has two parts. The first, as outlined below, discusses the methods for site prioritization and expectations for site management and selection and implementation of storm water BMPs. The second part addresses the inspection monitoring, enforcement and violation procedures.

The outline of the Construction Monitoring Program is as follows:

- Identify the potential pollutant sources of pollution at the project site and identify the size and location of each project and proximity to protected resources;
- Prioritize sites in order to establish municipal monitoring time lines based upon the source of the pollutants of concern, size and proximity to protected resources;
- Establish storm water pollution prevention management measures for each site and evaluate the effectiveness of the best management practices, for dry and wet season requirements, as well as provide guidance for BMP requirements.
- Define the interaction of performance standards, site management and BMPs.

The Town's Construction Monitoring Program will discuss the inspection monitoring, enforcement and violation procedures in the following order:

Education/Communication- inform the construction industry and the community of the rules, regulations, ordinances, laws, etc. that govern storm water pollution prevention. Ensure that the appropriate controls are in place to reduce pollutants from entering the storm water conveyance system. Evaluate the controls and determine whether the site is in compliance.

For the types of projects that occur in the Town, the following process will be used as an inspection procedure:

Grading Permits-Subdivisions/Parcels/Land Development/infrastructure:

- The planning and permits issuance phase initiates the need for erosion, sediment and hazardous waste control by placing key conditions on the plans for implementation by the owner.
- The Town Engineer shall evaluate the priority ranking established in Part 1 of this Construction - Monitoring Program to determine inspection criteria necessary to ensure compliance.
- The Town Engineer will then establish a pre-construction meeting where the expectations on the plans as well as additional Fact sheets will be provided for owner awareness of the goal of preventing pollutants from entering into the storm water conveyance system and any water resources.
- The Town Engineer will monitor and inspect the site. The Storm Water Pollution Checklist will be utilized on each site. The number of times this is used will vary dependent upon the priority of the project as established under Part 1.
- The Town Engineer may observe and request the self-inspection monitoring report as well.
- The Town Engineer may conduct joint inspections with State or Federal officials as appropriate.
- The Town Engineer may evaluate the contractor for prioritizing future projects with them.

Capital Improvement Projects (Town Contracts):

The Resident Engineer or Construction Manager (consultants hired by the Town) will administer the contract on behalf of the Town as the owner of the project. The site management and BMPs will be placed in the contract documents

- The Resident Engineer shall evaluate the priority ranking established in Part 1 of this Construction Monitoring Program to determine visit and inspection criteria necessary to ensure compliance. Inspection frequency for municipal projects is typically daily.
- The Resident Engineer shall establish a pre-construction meeting where the expectations on the plans as well as additional fact sheets will be provided for owner awareness of the goal of no pollution in the storm drain system/tributary water resources.
- The Resident Engineer shall manage the construction phase and enforce the contract requirements. Standard contract language for storm water BMPs will be used which will include detailed bidding sheets. Therefore, these standards will become usual and customary practice.
- The Resident Engineer will utilize a Storm Water Pollution Checklist on each site. The number of times this is used will vary dependent upon the priority the project was established as, see Part 1. Job walks at meetings will take place. The Resident Engineer may request to see the self-inspection monitoring report as well.
- Storm Water Pollution management, by the contractor on these projects, will be evaluated by the Resident Engineers, at the end of the project. When the Contractor Evaluation Form is completed, this information may be used to determine the priority of future projects with the contractor.

Permits — Right of Way Encroachment:

- The planning and pen-nits issuance phase initiates the need for erosion, sediment and hazardous waste control by placing key conditions on the plans for implementation by the owner. This includes the site management expectations as well as the BMPs being placed on the plans.
- The Resident Engineers will evaluate the priority ranking established in Part 1 of the Construction Monitoring Program to determine visit and inspection criteria necessary to ensure compliance. Priority inspection frequency is discussed below.
- The owner/contractor will schedule a pre-construction meeting at which the Resident Engineers will review the expectations on the plans as well as provide additional Fact sheets for owner/contractor awareness of the goal of preventing pollutants from entering into the storm water conveyance system and any water resources.
- The Resident Engineers will monitor the site ensure compliance with the contract documents. The resident engineers will utilize a Storm Water Pollution Checklist on each site. The number of times this is used will vary dependent upon the priority of the project as established under Part 1. Priority inspection frequency is further discussed in this section.
- The Resident Engineer may observe and request the self-inspection monitoring report as well. The Erosion Control Officer may also visit the site, in addition to routine visits by the resident engineer before, during or after a rain event to ensure the high priority sites are being adequately managed.

Permits — Buildings/Tenant Improvements/Private Property:

- The Building Department will provide a Fact sheet at the permit issuance explaining the expectations of the owner/contractor for storm water pollution prevention.

- During the grading and site work that is covered under the site preparation, the municipal resident engineers are responsible for storm water pollution prevention compliance as outlined above; refer to number 3 above. After the site finish grade is prepared, the perimeter BMPs, site drainage and tracking shall be installed and complete.
- At this time, the responsible charge of inspection is turned over to the building official who will monitor the site as a maintenance and operation item. It is also understood that building materials and other waste type pollution will be the focus of the building official.
- The municipal building officials and resident engineers will work together to gain compliance for each site.

Requirements and Guidelines for Erosion and Sediment Controls

The Town requires erosion and sediment controls for all projects in accordance with all state and federal regulations. Several documents are utilized for establishing guidelines and procedures for the use of erosion and sediment controls in planning, design and construction. These documents include the following:

- CTDOT Consultant Engineers Manual, March 1998 and supplements thereto
- CTDOT Drainage Manual, October 2000 and supplements thereto
- CTDOT Standard Specifications for Roads, Bridges, and Incidental Construction, Form 814A, 1995 and supplements thereto
- Connecticut Guidelines for Soil Erosion and Sediment Control, DEP Bulletin 34, 2002 and supplements thereto

CTDOT Consultant Engineers Manual

Chapter 700, titled "Completion of Plans", Section 718 of the Consultant Engineers Manual outlines requirements for sediment and erosion control plans. Chapter 800, titled "Environmental Activities" outlines various permit requirements, which the Town is subject to by state Statutes and federal regulations.

The manual also directly refers to the Connecticut Guidelines for Soil Erosion and Sediment Control requiring that erosion and sediment control plans is prepared in accordance with the guidelines.

CTDOT Drainage Manual

Erosion and sediment control is addressed in Chapter 8.5.4 of the CTDOT's Drainage Manual. The design of outlet protection for all projects being designed or constructed in the Town shall be in accordance with the Drainage Manual versus the Connecticut Guidelines for Soil Erosion and Sediment Control. Outlet protection is discussed and the procedures for designing outlet protection are contained in chapter 11.13 of the Drainage Manual. The methodology outlined in the Drainage Manual has been accepted by the CTDEP for use by the department.

CTDOT Standard Specifications for Roads, Bridges, and Incidental Construction, Form 814A

The standard specifications directly refer to the Connecticut Guidelines for Soil Erosion and Sediment Control requiring that erosion and sedimentation control plans is prepared in accordance with the guidelines. This is outlined in Section 1.10, Environmental Compliance under Best Management Practices.

Connecticut Guidelines for Soil Erosion and Sediment Control

These guidelines are referenced by the Town Engineer during project plan reviews and made part of contracts by inclusion in the Site's standard specifications.

Ordinances, Regulatory Mechanisms and Sanctions

The Town does have the authority to force corrective actions on behalf of the contractor to comply with appropriate regulations and controls. In case of failure by the contractor to perform pollution control work, the Town shall arrange for the performance of required work by approved forces. The cost of such work shall be deducted from any monies due or which may become due to the contractor under the contract or under any State contract.

Appropriate measures shall be employed by the Town to ensure compliance by contractors with sediment and erosion control plans for specific projects.

Site specific BMP's to be utilized on projects may include the following:

Runoff Control

- Minimize Clearing
- Land Grading
- Permanent Diversions
- Preserving Natural Vegetation
- Construction Entrances
- Check Dams
- Filter Berms
- Grass Lined Channels
- Riprap

Erosion Control

- Mulching
- Permanent Seeding

Example of hay mulch for temporary soil stabilization



Example land grading activities with exposed soils



Example of grass lined channel stone dike/check dam



Example of Erosion Control Matting used for Slope Protection



Sediment Control

- Temporary Diversion Dikes
- Brush Barriers
- Silt Fence
- Sediment Basins and Stone Check Dams
- Sediment Filters and Chambers
- Sediment Traps
- Storm Drain Inlet Protection
- Sodding
- Soil Roughening
- Geotextiles
- Gradient Terraces
- Soil Retention
- Temporary Slope Drain
- Temporary Stream Crossings
- Vegetated Buffer
- Construction Sequencing
- Dust Control

Example of Sedimentation Basin



Example of Silt Fence Sedimentation Control



I. Requirements for Construction Site Operators to Control Waste at the Site

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Construction site operators shall be required to control waste including discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site, that may cause adverse impacts to water quality.

The operators are required to control the above-mentioned waste by contract specifications, standard contract specifications and all pertinent local, state and federal regulations.

The proper management and disposal of wastes must be practiced at any construction site to reduce contamination of stormwater runoff. Waste management practices can be used to properly locate refuse piles, to cover materials that may be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

The following are examples of steps that should be taken to ensure proper storage and disposal of construction site wastes:

Waste Collection

Designate a waste collection area onsite that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.

- Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
- Schedule waste collection to prevent the containers from overflowing.
- Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill. Handling and disposal of all hazardous material shall be in accordance with all state and federal regulations.
- During the demolition phase of construction, provide extra containers and schedule more frequent pickups.
- Collect, remove, and dispose of all construction site wastes at authorized disposal areas. The CTDEP can be contacted to identify these disposal sites.

Contaminated / Hazardous Materials

Materials will be disposed of by the Contractors as solid waste in accordance with the Standard Specifications, contract specifications and all applicable federal, state, and local regulations. Contract specifications for the excavation, transporting, stock piling, securing, disposal of contaminated / hazardous materials and decontamination of equipment will include but not limited to the following:

- Environmental Health and Safety
- Contaminated / Hazardous Materials Excavation
- Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Disposal of Hazardous Waste
- Environmental Work – Solidification

- Disposal of Contaminated Railroad Ties
- Controlled Materials Handling
- Disposal of Contaminated Timber Piles

Disposal of Controlled Material

- Management of Reusable Controlled material
- Abandonment of Wells
- Handling and Disposal of Contaminated Concrete
- Handling Contaminated Groundwater

Pesticides

The following practices should be used to reduce risks associated with pesticides or to reduce the amount of pesticides that come in contact with stormwater:

- Follow all federal, state, and local regulations that apply to the use, handling, or disposal of pesticides.
- Do not handle the materials any more than necessary.
- Store pesticides in a dry, covered area.
- Construct curbs or dikes to contain pesticides in case of spillage.
- Follow the recommended application rates and methods.
- Have equipment and absorbent materials available in areas where pesticides are stored and used in order to contain and clean up any spills that occur.

Petroleum

The following management practices should be followed to reduce the contamination risk associated with petroleum products:

- Store petroleum products and fuel for vehicles in covered areas with dikes in place to contain any spills.
- Immediately contain and clean up any spills with absorbent materials.
- Have equipment available in fuel storage areas and in vehicles to contain and clean up any spills that occur.

Fertilizers

Phosphorous- and nitrogen-containing fertilizers are used on construction sites to provide nutrients necessary for plant growth, and phosphorous- and nitrogen-containing detergents are found in wash water from vehicle cleaning areas. Excesses of these nutrients can be a major source of water pollution. Management practices to reduce risks of nutrient pollution may include the following:

- Apply fertilizers at the minimum rate and to the minimum area needed.
- Work the fertilizer deeply into the soil to reduce exposure of nutrients to stormwater runoff.

- Ensure that erosion and sediment controls are in place to prevent fertilizers and sediments from being transported off-site.
- Use detergents only as recommended, and limit their use onsite. Wash water containing detergents should not be dumped into the storm drain system—it should be directed to a sanitary sewer or be otherwise contained so that it can be treated at a wastewater treatment plant.

Maintenance Considerations

Containers or equipment that may malfunction and cause leaks or spills should be identified through regular inspection of storage and use areas. Equipment and containers should be inspected regularly for leaks, corrosion, support or foundation failure, or any other signs of deterioration and should be tested for soundness. Any found to be defective should be repaired or replaced immediately.

m. Procedures for Site Plan Review

Procedures for site plan review, which incorporate consideration of potential water quality impacts, are utilized by the department. Construction plans and specifications are reviewed by the Town Engineer for conformance to the Town's requirements and federal and state permit requirements relating to construction site runoff control.

Projects requiring registration under the General Permit for the Discharge of Stormwater Associated with Construction Activities shall include site plans along with the permit application and a site-specific stormwater pollution control plan for review and registration by the CTDEP.

n. Procedures for Receipt and Consideration of Information Submitted by the Public

Procedures for receipt and consideration of information submitted by the public are utilized by the Town. Information submitted by the public is forwarded to the appropriate Town department for consideration. Information related to construction site runoff is forwarded to the Town Engineer for consideration.

o. Procedures for Site Inspection and Enforcement of Control Measures

Site inspection and enforcement of control measures are utilized on all of the Town's projects.

Inspectors employed by the Town are authorized to inspect all work performed and materials furnished for each project. The inspection may extend to all or any part of the work, and to the preparation or manufacture of the materials to be used including work and materials relating to construction site runoff control.

Additional inspection is also provided by the Town Engineer and Inland Wetlands Enforcement Officer.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

p. Updating Land Use Planning

Updating the Town's Planning and Zoning Plan to include a vision with values, policy recommendations, and a twenty-year growth strategy to guide development, enhance communities, and serve the needs of the residents over the next twenty years. Focus of infill development into targeted areas, can assist in improving transit, enhancing street level activity and vitality, creating "walking" neighborhood centers, reducing pressure for rural development, and providing an adequate housing supply. The land use strategy should incorporate a number of site and street design policies that achieve water quality and watershed protection principles such as reducing impervious surfaces, increasing vegetation, and reducing pressure for development in rural and undeveloped areas.

Incorporating water quality and watershed protection principles into the Town's Planning and Zoning Plan that will address the following general policy recommendations to

E. Post-construction Stormwater Management in New Development or Redevelopment

The development, implementation and enforcement of a program, or modification of an existing program is required to address post construction stormwater management from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development, that discharge into the Town's storm sewer systems or directly to the waters of the State. The Town's program will consider controls are implemented to require appropriate infiltration practices, reduction of pervious surface, creation of or conversion to sheet flow, measures and/or structures to reduce sediment discharge and any other innovative measures that will prevent or minimize water quality impacts and including the following.

This minimum control measure outlines Cromwell's program to address stormwater runoff from new or re-development projects that disturb one or more acres of land.

Goal:

Mitigate the long-term impacts of new and re-development projects on water quality through proper use of low impact development and runoff reduction practices.

a. Establish or update the legal authority and guidelines regarding LID and runoff reduction in site development planning

Cromwell will establish or update existing the legal authority by ordinance, bylaw, regulation, standard condition of approval, or other means to require, to the MEP, developers and contractors seeking the town's approval to consider the use of low impact development (LID) and runoff reduction site planning and development practices that meet or exceed those LID and runoff reduction practices in the CT Stormwater Quality Manual prior to other stormwater management practices allowed in Cromwell's land use regulations, guidance or construction project requirements.

This legal authority will include the following standards:

1. for redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, the project must retain on-site half the water quality volume for the site, or
2. for new development and redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site, or
3. if those retention standards cannot be met, the developer will be required to provide a report indicating why the standard could not be met and a mitigation project on another property or pay a fee to fund a DCIA retrofit.

In developing this legal authority, Cromwell will consider the following watershed protection elements to manage the impacts of stormwater on receiving waters:

1. Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each municipality by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encourage the use of Low Impact Development or green infrastructure practices.
2. Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
3. Implement stormwater management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
4. Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.
5. Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
6. Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
7. Coordinate with state or local health officials to ensure no interference with performance of on-site septic systems.
8. Limit turf areas.

In addition, Cromwell will review its current regulations site planning requirements, zoning regulations, street design regulations, and infrastructure specifications with minimum size criteria for impervious cover (roads, parking lots, etc.) to identify and, where appropriate, reduce or eliminate existing regulatory barriers to implementation of LID and runoff reduction practices to the MEP. B.

b. Implement long-term maintenance plan for stormwater basins and treatment structures

Cromwell will develop a maintenance plan for retention / detention ponds and stormwater treatment structures that it owns or over which it holds an easement or other authority and that are located in the town's priority areas to ensure their long-term effectiveness. This plan will require an annual inspection of those retention / detention ponds and stormwater treatment structures and removal of accumulated sediment and pollutants in excess of 50% design capacity.

c. Directly Connected Impervious Area (DCIA) mapping

Cromwell will follow guidance provided by CTDEEP and UConn CLEAR to calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls. Progress on this task will be documented in each Annual Report until completion.

d. Address post-construction issues in areas with pollutants of concern

For areas contributing to waters where **Nitrogen, Phosphorus** or **Bacteria** is a Stormwater Pollutant of Concern and erosion or sedimentation problems are found during the annual inspections conducted under the long-term maintenance plan BMPs, Cromwell will shall develop, fund, implement, and prioritize these problems under the Retrofit program specified, to correct the problem(s) in a specific timeframe and to establish short term and long term maintenance. Each annual report shall include which problem areas were retrofitted, the cost of the retrofit, and the anticipated pollutant reduction.

No requirements in addition to those specified in prior SMP sections exist for discharges to waters for which **Mercury** is a Stormwater Pollutant of Concern.

Appropriate BMP's and measurable goals for this minimum control measure must be determined. These must include the persons(s) or position(s) responsible and implementation dates for each BMP.

e. Post-construction implementation schedule

The following table has the Post Construction Management Implementation schedule

Table 1 Post Construction Stormwater Management Schedule

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
5-1	Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Engineering	Establish Ordinance/Regulations	July 1, 2021
5-2	Enforce LID/runoff reduction requirements for development and redevelopment projects	Engineering	Enforcements	July 1, 2021
5-3	Implement long-term maintenance plan for stormwater basins and treatment structures	Engineering	Implement Plan	July 19, 2021
5-4	DCIA Mapping	Engineering	Complete Mapping	July 1, 2020
5-5	Address Post Construction issues in areas with pollutants of concern.	Engineering	Number of issues Adressed	July 1, 2019

The original SMP included the following material that is included in this plan for reference.

Residential Uses

The purpose of this program component is to prevent and reduce pollutants in runoff from all residential land use areas and protect the beneficial uses of receiving waters.

Industrial & Commercial Uses

The program for commercial and industrial facilities is similar with respect to source identification, prioritizing, inspection and enforcement; they are combined under one component. However, each facility will be categorized as either commercial or industrial, and activities will be differentiated with respect to the prioritization, required storm water BMP implementation, inspection requirements, enforcement, and monitoring.

Goals and Objectives

Residential Uses

The Residential Program objectives are to:

Promote pollution prevention actions by residents through targeted messaging, and vigorous and widespread education and outreach efforts.

Measure general public understanding of storm water best management practices on an annual basis and modify or develop messages accordingly.

Reduce occurrence of illegal discharges and non-compliance with storm water best management practices by disseminating information on legal consequences, and through enforcement activity.

Document activities and annually summarize findings.

Industrial & Commercial Uses

The primary goal of this component is to reduce the quantity of contaminants that enter the Town's storm water conveyance system from business facilities within its jurisdiction. To this end, the objectives of this component during the permit period will be:

- Use the facility inventory compiled in Inventories.
- Designate minimum pollution prevention requirements and storm water BMPs to be implemented at facilities.
- Require implementation of storm water BB/Ws appropriate to the facility's threat to water quality
- Perform routine facility inspections.
- Report monitoring data, non-compliant facilities and assessment data.
- Identify a phased implementation schedule to implement the commercial/industrial component through the five-year life of the Municipal Plan.

- Document storm water pollution prevention activities conducted at commercial/industrial facilities.

Activities

Residential Uses

The Town intends to change Residential behaviors and activities that pollute our recreational waters by:

- Emphasizing pollution prevention through education and outreach, and
- Enforcing the Town's Municipal Code.
- Enforcement of Storm Water Ordinance/Regulations.

f. Target Audiences and Information Prioritization

"Residents" are a mass audience for outreach efforts under this component. The Town recognizes that all storm water conveyance systems- those immediately adjacent to recreational waters and those upstream- contribute pollutants equally to degradation of waters downstream. Thus, the Town views all target audiences and communities as high priority and will approach all areas with a high priority. An initial breakout of target audiences under "Residential Uses" includes:

- Property Owners
- Landlords
- Tenants and Tenant Associations
- Homeowner Associations
- Civic and Social Organizations
- Seniors Centers and Organizations

Specific to residential uses, the areas of particular concern (high priority) to the Town (and therefore areas of Education and Outreach Program focus) will include:

General Awareness of Storm Water Pollution, impacts of urban water runoff on recreational waters, the storm water collection system and State and Federal Water Quality Laws

- Public Reporting Mechanisms for illegal discharges ● Leak Prevention and Disposal of Automobile Fluids
- Alternative Transportation and carpooling
- Automobile repair
- Recreational Vehicle Septic Disposal
- Automobile Washing (residential and charity)
- Disposal of Pet Waste (at home and in public areas)
- Proper solid waste disposal, Trash Disposal, Litter Abatement, Recycling
- Good Housekeeping o Use a Broom, Not a Hose o Green waste clean-up and disposal o Cleanup after home improvement projects o Use of pesticides, herbicides, and fertilizers o Disposal of hazardous waste
- Pool dechlorination techniques ● Sewer Spill Reporting o Grease Disposal o Sewer Lateral maintenance o Grinder Pumps Spill Detection ● Water Conservation

g. Residential Best Management Practices

As previously stated, the Town recognizes the reality that the storm water conveyance system is interconnected and that each resident of the community is equally responsible for the downstream pollutant load. Accordingly, each audience will receive the same residential Best Management Practices information and an equally high-priority level of enforcement.

- General Awareness:
- Leak prevention and proper disposal of automobile fluids:
- Routinely check your vehicle for leaks
- Contain the leak when vehicle is parked
- Cleanup spills from impervious surfaces, by using absorbent materials.
- Sweep up absorbent.
- Dispose of automobile fluids appropriately

Automobile washing**Residence:**

- Park your vehicle on a landscaped area to capture polluted runoff.
- Check that the path — from the wash area to the nearest storm drain—of the runoff is swept and free of pollutants before you start washing.
- Use a hose nozzle. This reduces the amount of water used. - Use a bucket to conserve water and reduce the amount of runoff.

Charity washes:

- Sweep the parking lot or area where the activity will be held.
- Absorb and sweep-up all automobile fluids from the surface beforehand.
- Identify the nearest storm drains and those that will receive the flow as a result of the drainage pattern of the surface.
- Place protective sand bag barriers in front of drains to filter pollutants—sediment, etc— from the water as it flows through into the storm drain.
- Sweep up sediment and debris, or vacuum it up with a wet-vac at the end of the activity.

Alternative transportation and car pooling

- When car-pooling, even if it is one day a week with another person, automotive pollution may be reduced to our recreational waters by 50 percent.
- Alternative transportation, not only reduces the stress on you from traffic congestion, it helps our environment.

Good housekeeping:

- Properly dispose of and promptly pick-up litter.
- Report litter and illegal dumping problems to the Town.
- Dispose of trash and debris properly.

- Use dry clean-up methods for spills and outdoor cleaning, vacuum, sweep, and use rags or dry absorbents.
- Use a broom not a hose to clean up sidewalks, curbs, gutters and patios.
- Use a mop where water is needed.
- Store materials out of contact with water.
- Dispose of cigarette butts in ashtrays and trash cans. Use public restrooms.

Cleanup for home improvement projects:

- Before beginning project, identify the nearest storm drain outlets and take protective action. This may require you to sweep from your work area to the storm drain before beginning the improvement project.
- Use dry clean-up methods for spills and outdoor cleaning, vacuum, sweep, and use rags or dry absorbents.
- Dispose of oil based paint at a household hazardous collection event, or open can and let paint dry completely before placing can in trash container.
- Never rinse paint, cement, and other construction debris sediment or equipment in the street or gutter. Rinse equipment in a sink connected to the sewer system.
- Establish and use a concrete wash area to contain material.
- When you complete your daily activity, remove sediment and debris either by sweeping it up or vacuuming it up with a wet-vac.

Use of pesticides, herbicides, and fertilizers:

- Apply only when there is no chance of rain or landscape watering.
- Use these items sparingly, and as a last resort when other eco-friendly materials or methods are not available.
- Dispose of expired or no longer needed pesticides and herbicides at the household hazardous waste Transfer facility.

Disposal of household hazardous and universal waste

- Recycle oil, antifreeze, filters and auto batteries at a Collection Event.
- Share unused household hazardous wastes with neighbors.
- Dispose of leftover or no longer needed hazardous household products at the household hazardous waste transfer facility.

Disposal of pet waste:

- Pet-waste while natural contains bacteria that cause illness.
- Pick-up pet waste immediately, from your yard and from public areas.
- Carry a plastic or paper bag when walking your dog, and pick-up and dispose of the waste by placing it in garbage can.
- Don't allow it to come in contact with water, as water transports the bacteria to the beaches bays and water sheds where we play.

Sewer Spill Prevention & Reporting

- Homeowners should have their sewer laterals inspected by a licensed plumber every five to seven years (more frequently if indicated by overflow history). This routine maintenance prevents residential overflows, caused by grease build-up or tree root blockages, from entering the storm water conveyance system and polluting the nearest water body.
- Residents should dispose of cooking grease and grease residue by pouring it into a container—coffee can or milk carton—and placing it in the trash. Grease residue should be wiped from pans with a paper towel before washing. Never pour grease or oils down the drain, or flush it down the toilet. And, meat fat trimmings should be placed in the trash, not down the garbage disposal.
- If grease is accidentally spilled down a sink drain, rinse immediately with cold not hot water.
- All residents are encouraged to call in sewer spills to the Town at (860) 632-3420.

h. Industrial & Commercial Uses

A watershed-based inventory of known commercial/industrial facilities within the Town's jurisdiction will be developed. The purpose of this inventory is to assist in identifying commercial/industrial activities and pollutants, prioritizing commercial/industrial sites according to their potential impacts to the storm water conveyance system, providing a compliance history for each site, and allocating resources for future inspection, enforcement, and outreach efforts.

Prioritize Based on Threat to Water quality

In general, prioritization involves two steps: initially classifying a facility as being a high, medium, or low priority threat; and subsequently confirming or reclassifying it based on field observations during site inspections and additional information. The initial priority classification is based on the facilities primary activities as described by their SIC code.

Develop & Distribute Educational Material

The education element for commercial/industrial facilities includes general storm water and specific BMP information that facilities can incorporate into employee training and education programs they develop. This will be accomplished as follows:

Develop overall messages and tailor them to the specific industry or commercial business activities.

Develop activity-based educational materials in partnership with industry/commercial associations (i.e. food establishments, fueling stations, manufacturing sites)

Disseminate messages using various established outreach tools available to the industry. The town intends to form partnerships with the various commercial (business) groups and industrial associations, and will disseminate the information with a variety of outreach tools as appropriate to each audience. Businesses conducting "High Priority Commercial Activities" will be able to access the Town's web site to download PDF formatted factsheets containing specified information with tailored cord program messages and BMP information. To supplement these efforts, the town will also utilize municipal employees who interact with these sectors—in either an inspection or enforcement capacity—as a source of information.

Designate BMP Implementation

Best management practices are required to be implemented at commercial facilities, and at all industrial facilities... The commercial/ industrial database is prioritized based on a review of facility location with respect to sensitive water bodies, and facility activity with respect to the potential risk of discharging pollutants into the municipal storm drain system. In addition, a watershed-based inventory of known commercial/industrial facilities within the Town's jurisdiction will be developed. The purpose of this inventory is to assist in identifying commercial/ industrial activities and pollutants, prioritizing commercial/industrial sites according to their potential impacts to the municipal storm drain system, providing a compliance history for each site, and allocating resources for inspection, enforcement, and outreach efforts. The facility prioritization will be used to assist in establishment of inspection requirements. BMPs are established for all facilities. The requirements outlined herein are separated into those required for industrial facilities and those required for commercial facilities. Facilities will be notified of the Town's requirements through distributed materials, and during site visits and inspections.

Perform Inspection of Commercial/Industrial Facilities

The goal of the inspections is to ensure that runoff pollutants have been reduced to the maximum extent practicable or to technology-based standards, if applicable. This is accomplished by checking for evidence of non-stormwater discharges, verifying BMP implementation and assessing BN,TP effectiveness. Inspectors may also provide educational materials and technical or regulatory updates, refer the business to BMP reference resources and provide feedback about BMPs appropriate for a given activity, and identify any illicit discharges and connections to the municipal storm drain system. The inspections also provide an opportunity to verify and/or collect additional information for updating the watershed-based inventory database. Site inspections are conducted of commercial/industrial facilities within the Town's jurisdiction using staff within the Town's Department of Public Works.

Documentation of Reporting

Documentation and reporting is an important part of this element in order to track, assess and improve the commercial/industrial component of the storm water program. An inspection form/ checklist will be developed and will be used by all departments conducting inspections within the Town to insure consistency. Inspection records will be maintained. Non-compliant sites that are deemed to pose a significant threat to water quality or human health will be reported within 24 hours of discovery of the incident. A follow-up report will be submitted within 5 days of discovery of the incident. A significant threat to water quality or human health will be determined by the Town on a case-by-case basis and will be dependent on the type of pollutant, the degree of the violation (i.e. the amount of pollutant discharged into the municipal storm drain system), the proximity to sensitive habitat or water bodies, the potential for exposure to the public, and the potential for environmental damage.

The following BMP's will be considered by the Town in the implementation of the program to address the minimum control measure for Post Construction Site Runoff Control.

i. **Requirements for Structural and Non-Structural BMP's**

The Town will require structural and non-structural BMP's for projects disturbing greater than or equal to one (1) acre.

The criteria are intended to help evaluate stormwater discharges and the methods that may be used for the treatment of stormwater before it reaches an outlet.

The Town will consider the following recommended design guidelines and possible BMP's / treatment measures. Storm sewer systems will be designed in accordance with the CTDOT Drainage Manual and supplements thereto.

For drainage systems containing four to ten catch basins which discharge within fifty feet of a regulated area where applicable;

- Eliminate curbing, design for sheet flow and utilize natural vegetation to help filter particulates. On steep embankment slopes, erosion protection measures should be employed.
- Utilize oversized catch basins with four-foot deep sumps. It may be justified to provide six-foot sumps at the last two catch basins in the system if there are no conflicts with groundwater, ledge rock, rights-of-way or underground utilities. If end treatments such as hydrodynamic separators (gross particle separators) wet ponds or detention basins are constructed at the terminus of the drainage system, deep catch basin sumps can be eliminated. Additionally, sumps (any depth) should not be specified for any manholes or for catch basins on storm drainage systems which are 36 inches or greater in diameter.

At all locations where deep sumps are specified, the maximum depth of structure shall not exceed twelve feet as measured from the top-of-grate elevation.

- Utilize outlet protection such as riprap energy dissipaters; scour holes, stone check dams erosion control matting and vegetative linings in outlet channels.

For drainage systems containing ten or more catch basins, which discharge within fifty feet of a regulated area where applicable;

Outlet areas shall be designed so that an open channel with check dams, a sediment basin, or a combination of both is specified; these shall be designed to accommodate the peak runoff associated with the "first flush", known as Water Quality Flow (WQF). The last option is to consider a Hydrodynamic Separator also known as a Gross Particle Separator.

Studies related to the efficiency of these chambers with respect to stormwater treatment are ongoing. Pending the publication and review of specific performance data, the following guidelines shall be applied:

- Hydrodynamic separators shall be designed to accommodate the peak runoff associated with the "first flush", known as the Water Quality Flow (WQF). The WQF shall be determined using the procedures outlined in Chapter 11, Appendix C of the Drainage Manual.
- Chambers shall be placed "off-line" and a bypass system shall be designed to convey the peak flow rate for the design storm.
- Hydrodynamic separators are best suited for the treatment of storm runoff from site drainage related to transportation facilities such as Public Works Garages, maintenance garages, rest areas or commuter parking lots. Any roadway applications should be limited primarily to urban areas.

The number of catch basins refers to the combined total of existing and proposed Town maintained structures. The following items describe situations wherein catch basin inlets need not be included in the overall structure count:

- Inlets on State maintained systems or within private developments adjoining State highways,

which connect to the State system as long as a distinct separation point (catch basin or manhole) exists or will be constructed at the junction of the two facilities. This will allow access for testing purposes should water quality issues arise at the discharge point of the State system.

- Catch basins located in grassed areas 20 feet or more from the pavement edge.
- Ancillary catch basins that are internal to the drainage area and contribute no additional runoff to the storm sewer system such as flanker basins, basins intended to improve intersection drainage or inlets placed on steep grades to increase interception.

Additional BMP's may include the following:

Structural BMP's

Ponds

- Dry Extended Detention Ponds
- Sedimentation Basin
- Wet Ponds

Infiltration Practices

- Infiltration Basin
- Infiltration Trench



Example of Dry Extended Detention Pond

Filtration Practices

- Bioretention

Vegetative Practices

- Stormwater Wetland
- Grassed Swales
- Grassed Filter Strip
- Interlocking Reinforced Grass Panels (Limited to Merritt Parkway)

Runoff Pretreatment Practices

Manufactured Products (Swirl separators,
or hydrodynamic structures)



Example of Grassed Slope

Detention and retention structures will be utilized to limit increases in peak flow rates and volumes when required by CTDEP Inland Water Resource permit requirements. These facilities will be designed and constructed in accordance with the CTDOT Drainage Manual and Connecticut Guidelines for Soil Erosion and Sediment Control.

Non-Structural BMP's

- Urban Forestry (Use of trees, plantings and landscaped areas around parking lots)
 - Limiting Curbs and Gutters for roadways
 - BMP Inspection and Maintenance

Example of Outlet Structure Requiring Maintenance



Several documents are utilized for establishing guidelines and procedures for addressing post construction runoff in planning, design and construction for state owned, state funded projects or projects tying into a state owned system. These documents include the following:

- CTDOT Drainage Manual, October 2000 and supplements thereto
- Connecticut Guidelines for Soil Erosion and Sediment Control, DEP Bulletin 34, 2002 and supplements thereto

CTDOT Drainage Manual

This document contains guidelines and procedures for the design of several of the structural BMP's including roadside channels, outlet protection, bank protection, rock riprap design and storage facilities as well as detention and retention ponds.

The design of outlet protection for all projects being designed or funded by the department shall be in accordance with the Drainage Manual rather than the Connecticut Guidelines for Soil Erosion and Sediment Control. Outlet protection is discussed and the procedures for designing outlet protection are contained in chapter 11.13 of the Drainage Manual. The methodology outlined in the Drainage Manual has been accepted by the CTDEP for use by the department.

Connecticut Guidelines for Soil Erosion and Sediment Control

These guidelines are referenced by the department's design manuals and made part of contracts by inclusion in the department's standard specifications.

The guidelines contain information / procedures for the design of several BMP's for stabilization structures, drainage ways and watercourses, detention structures and energy dissipaters.

The procedures for Addressing Post Construction Runoff from Construction and Reconstruction Projects are covered by issue of internal memorandum to all Town departments, stormwater management BMP's are required for all projects.

Ensuring Long Term Operation and Maintenance of Best Management Practices was covered by The Public Works department will be responsible for the long-term operation and maintenance of the Town's facilities. This will include storm sewer maintenance including cleaning and maintenance of catch basins, stormwater treatment systems and detention / retention and sedimentation structures.

The Long term operation and maintenance of best management practices shall be in accordance with the Section on Good Housekeeping / Pollution Prevention of this SMP.

F. Pollution Prevention / Good Housekeeping

This minimum control measure is critical to the success of the stormwater management program as it helps to improve or protect receiving water quality by evaluating, altering and maintaining the Town's facility operations.

This measure requires the Town to examine and subsequently alter its own actions to help ensure a reduction in the amount and type of pollution that collects on roadways, parking lots, open spaces, storage and vehicle maintenance areas, and all Town maintained facilities, and any other Town owned or leased operation which ultimately discharge into local waterways. This measure will also address pollution that results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

This minimum control measure outlines a program to mitigate the impact of town operations and maintenance on town owned and/or operated properties and the MS4 itself to water quality.

Goal:

Prevent or reduce pollutant runoff as a result of municipal operations.

Cromwell will implement an operations and maintenance program to prevent or reduce pollutant runoff from town facilities and protect water quality.

a. Develop and implement formal employee training program

Cromwell will continue or establish its MS4 training program for town employees to increase awareness of water quality issues. Training will include:

- Standard operating procedures consistent with the MS4 general permit;
- General goals and objectives of this Stormwater Management Plan;
- Identification and reporting of illicit discharges and improper disposal; and
- Spill response protocols and responsibilities.

These trainings may also include regional or statewide trainings coordinated by UConn CLEAR or others. The Town Engineering Department will coordinate and be responsible for administering the training program.

b. Implement MS4 property and operations maintenance

Cromwell-owned or -operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of Cromwell will be maintained so as to minimize the discharge of pollutants to its MS4. Such maintenance will include, but not be limited to:

- Parks and open space

Cromwell will optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance. Optimization practices considered may include:

- conducting soil testing and analysis to determine soil phosphorus levels,
- the reduction or elimination of fertilizers,
- reduction of fertilizer usage by adhering to the manufacturers' instructions,
- use of alternative fertilizers forms (i.e. products with reduced, slow-releasing, or insoluble phosphorus compositions),
- proper storage and application practices (i.e. avoid impervious surfaces),
- application schedule (i.e. appropriate season or month) and timing (i.e. coordinated with climatic conditions to minimize runoff potential);
- standard operating practices for the handling, storage, application, and disposal of pesticides and herbicides in compliance with applicable state and federal laws;
- evaluating reduced mowing frequencies and use of alternative landscaping materials like drought resistant and native plantings;
- establish procedures for management of trash containers at parks (scheduled cleanings; sufficient number).

Cromwell will establish practices for the proper disposal of grass clippings and leaves at Cromwell-owned lands. Clippings shall be composted or otherwise appropriately disposed. Clippings will not enter the MS4 system or waters of the state.

- Pet waste management

Cromwell will identify locations where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for

direct conveyance of waste to its storm system and waters. In such areas, Cromwell will, implement targeted management efforts such as public education and enforcement (e.g. increased patrol for violators).

In Cromwell-owned recreational areas where dog walking is allowed, Cromwell will install educational signage, pet waste baggies, and disposal receptacles (or require carry-out).

Cromwell will document its efforts in its annual reports. Cromwell should consider including information regarding the scope and extent of its education, compliance, and enforcement efforts (including the number of violations pursued and fines levied or other enforcement taken).

- Waterfowl management

Cromwell will identify lands where waterfowl congregate and feeding by the public occurs.

To raise awareness regarding the water quality impacts, Cromwell will install signage or use other targeted techniques to educate the public about the detrimental impacts of feeding waterfowl (including the resulting feces deposition) and discourage such feeding practices.

Cromwell will also implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters.

- Cromwell Buildings and facilities (schools under the jurisdiction of Cromwell, town offices, police and fire stations, pools, parking garages and other Cromwell-owned or operated buildings or utilities)

Cromwell will:

- evaluate the use, storage, and disposal of both petroleum and non-petroleum products and ensure, through employee training, that those responsible for handling these products know proper procedures;
- ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary;
- develop management procedures for dumpsters and other waste management equipment;
- sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants;
- ensure that all interior building floor drains are not connected to the MS4 and are appropriately permitted.

5. Vehicles and Equipment

Cromwell will

- establish procedures for the storage of Town-owned or -operated vehicles;
- require vehicles with fluid leaks to be stored indoors or in contained areas until repaired;
- evaluate fueling areas owned by Town and used by Town owned or -operated vehicles and if possible, place fueling areas under cover in order to minimize exposure;

- establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters;
- ensure any interior floor drains are appropriately permitted.

6. Leaf Management

Cromwell] will establish and implement procedures to minimize or prevent the deposition of leaves in catch basins, streets, parking lots, driveways, sidewalks or other paved surfaces that discharge to the MS4. Such procedures shall also apply to leaves collected by the Town.

c. Implement coordination with interconnected MS4s

Cromwell will coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

d. Develop and implement a program to control other sources of pollutants to the MS4

Cromwell will develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by a CT DEEP stormwater permit.

e. Evaluate additional measures for discharges to impaired waters

1. For waters for which Nitrogen or Phosphorus is a Stormwater Pollutant of Concern:

On Cromwell-owned or -operated lands, Cromwell implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report will discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.

2. For waters for which **Bacteria** is a Stormwater Pollutant of Concern:

On Cromwell-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), Cromwell will develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report will identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored, the cost of such retrofit or program, and the anticipated pollutant reduction. On Cromwell-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report will discuss the actions taken to implement this program.

f. Track projects the disconnect DCIA

Cromwell will annually track the total acreage of Directly Connected Impervious Area (DCIA) that is disconnected from the MS4 as a result of redevelopment or retrofit projects within the town. For each retrofit/redevelopment project, Cromwell will document the amount of existing DCIA that is disconnected. The total amount of disconnected DCIA will be reported each year in the Annual Report. Starting on July 1, 2021, Cromwell goal will be to reduce 1% of its total DCIA acreage per year to the maximum extent possible. Cromwell will provide updates on this goal in its annual report. Cromwell will also incorporate all DCIA disconnections which occurred in the town since July 1, 2012 towards meeting this goal.

g. Develop and implement an infrastructure repair, rehabilitation and retrofit program

Cromwell will continue a program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies. This program will be responsive to new information on outfalls discharging pollutants, impaired waters, inspections, or observations made during outfall mapping under the IDDE section of this plan.

h. Develop and implement plan to identify and prioritize retrofit projects

Cromwell will develop a Retrofit Project Plan to identify and prioritize potential DCIA disconnection projects. Prioritization will be based on several factors, including whether the project lies within one of the MS4 priority areas (urbanized area, DCIA > 11%, discharge to impaired waters). Cromwell will include in its annual report for the third year of the permit (2020-2021) its identification and prioritization process, a rationale for the selection of projects to be implemented, and the total acres of DCIA to be disconnected upon implementation. The implementation of projects in this plan will begin by June 30, 2022.

i. Develop and implement street sweeping program

Cromwell will implement a program to provide for regular inspection and maintenance of Cromwell-owned or -operated streets, parking areas and other MS4 infrastructure.

Cromwell will establish and implement procedures for sweeping town-owned or operated streets and parking lots. All streets and parking lots within the MS4 Priority Areas will be inspected, swept and/or cleaned (as necessary) at least once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). The procedures shall also include more frequent inspections, cleaning and/or sweeping of targeted areas determined by Cromwell to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. Cromwell will identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by Cromwell. If wet dust suppression is conducted, the use of water will be minimized such that a discharge of excess water to surface waters and/or the storm sewer system does not occur.

For streets and parking lots outside the MS4 Priority Areas, including any rural uncurbed streets and

parking lots with no catch basins, Cromwell will either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping and/or cleaning plan for those areas by June 30, 2018 and submit such plan with its year one Annual Report. For new and redeveloped municipal parking lots, Cromwell will evaluate options for reducing stormwater runoff to surface waters and/or the storm sewer system by the installing pervious pavements and/or other measures to promote sheet flow of stormwater.

1. Cromwell will ensure the proper disposal of street sweepings in accordance with DEEP policies, guidance and regulations. Sweepings shall not be discharged back into the storm drain system and/or surface waters.
 2. Cromwell will document results of its sweeping program in its annual reports including: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal. Cromwell will also include documentation of any alternate sweeping plan for rural uncurbed streets and any runoff reduction measures implemented.
- J. Develop and implement catch basin cleaning program

Cromwell will conduct routine cleaning of all catch basins and track catch basin inspection observations. Utilizing information compiled through its inventory of catch basins, operational staff and public complaints, [TOWN] will optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

1. Inspect all Town-owned catch basins within MS4 Priority Areas at least once by June 30, 2020. Catch basins outside the MS4 Priority Areas shall be inspected by June 30, 2022.
2. Prioritize inspection and maintenance for Town-owned catch basins located near impaired waters and construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Town will clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
3. Establish a schedule such that the frequency of routine cleaning will ensure that no catch basin at any time will be more than fifty (50) percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distances between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
4. If a catch basin sump is more than fifty (50) percent full during two consecutive routine inspections/cleaning events, Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources. Town will describe any actions taken in its Annual Report. Town will detail its plan for optimizing catch basin cleaning, inspection plans, and its schedule for gathering information to develop the optimization plan in its first annual report. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. Town will keep a log of catch basins cleaned or inspected.
5. Town will report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters.

k. Develop and implement snow management practices

1. Deicing Material Management

Cromwell will develop and implement standard operating practices for the use, handling, storage, application, and disposal of deicing products such as salt and sand to minimize exposure to stormwater; consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product (while maintaining public safety) and consider opportunities for use of alternative materials; for any exterior containers of liquid deicing materials installed after July 1, 2017, Cromwell will provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area.

2. Snow and Ice Control Practices

Cromwell will implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety).

Cromwell will establish goals for the optimization of sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.

Cromwell will maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.

Cromwell will ensure the proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.

Cromwell will manage and dispose of snow accumulations in accordance with DEEP’s Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended (see link at: www.ct.gov/deep/stormwater).

In its Annual Report, Cromwell will document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

l. Pollution prevention/ good housekeeping schedule

The following table has the Pollution prevention, good housekeeping schedule.

Table 1 Pollution prevention, good housekeeping schedule.

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
6-1	Develop/implement formal employee training program	Engineering	Develop Plan Train Annually	July 1, 2017

6-2	Implement MS4 property and operations maintenance	Engineering/ PWD	Implement P&O Plan	July 1, 2017
6-3	Implement coordination with interconnected MS4s	Engineering/WPCA	Coordination efforts	July 1, 2017
6-4	Develop/implement program to control other sources of pollutants to MS4	Engineering	Develop Program/ Implement	July 1, 2017
6-5	Evaluate additional measures for discharges to impaired waters	Engineering	Evaluate Additional Measures	July 1, 2017
6-6	Track projects the disconnect DCIA	Engineering	Project Tracking Progres	July 1, 2017
6-7	Develop/implement infrastructure repair/rehab program	Engineering	Develop Program	July 1, 2017
6.8	Develop/implement plan to identify/prioritize retrofit projects	Engineering	Develop Retrofit Program	July 1, 2020
6-9	Develop/implement street sweeping program	Public Works	Number Streets Swept	July 1, 2017
6-10	Develop/implement catch basin cleaning program	Public Works	Number Catch Basins Cleaned	July 1, 2017
6-11	Develop/implement snow management practices	Engineering/ Public Works	Develop Plan Track practisers	July 1, 2017

The original Cromwell SMP included the following which was incorporated into this SMP for reference

Introduction

This program component is applicable to the Town departments that conduct maintenance and operations of Town owned structures. The goal of this component is to ensure that Town owned facilities and structures are maintained and operated in a manner that will protect Water quality in the region.

The facilities and structures that will be considered include:

- Buildings (Municipal & Board of Education)
- Fire Fighting (Non-Emergency) o Household Hazardous Wastes

- Landscape and Recreational Facilities
- Parking Areas o Public Works Garages and Material Storage Facilities Sanitary Sewer Systems o Stormwater Sewer Systems o Streets o Transfer Station o Water Systems

Goals and Objectives

The objectives of the program component are to:

- Conduct maintenance and operations in a manner that will protect receiving water quality;
- Inspect Town owned facilities and structures annually for storm water compliance;
- Educate all pertinent target audiences of storm water protection requirements; ● Identify a phased implementation schedule and associated estimated costs through the five-year life of this Municipal Permit;
- Document storm water pollution prevention activities conducted at Town facilities.
- Develop and implement storm water Best Management Practices (BMPs) to protect water quality.
- Develop and implement storm water Best Management Practices (BMPs) employee training program.

Activities

- Develop a complete database of facilities and structures and all appropriate stormwater related activities;
- Designate a coordinator who will be assigned the duty of maintaining a working understanding of the Municipal Plan, so that he/she can provide guidance to management and staff;
- Conduct annual storm water inspections;
- Develop and implement education and training programs for Town staff, including but not limited to:
- Internal Municipal Education o General stormwater training o External Education
- Develop proper reporting procedures within twenty-four hours of non-storm water discharges.
- Develop storm water policies/BMPs for specific activities
- Implement existing activities that are considered "storm water practices"
- Prepare and distribute appropriate information regarding specific concerns:
 - Buildings, Operation & Maintenance
 - Painting, Dry Wall, Stucco and Concrete, Floor Cleaning
 - Indoor Equipment Cleaning
 - Indoor Residues and Spills, Facility Catch Basins
 - Refuse Dumpsters
 - Emergency Showers
 - Filter Back Flush
 - Loading Docks
 - Ponds, Fountains and Pools
 - Roof Vents and Equipment
 - Washing of outside areas
 - HVAC, Chillers and Refrigerators
 - Boilers
 - Cooling Tower
 - Reverse Osmosis and Deionization Units
 - Contractors and Vendors

- Pesticide Use

Fire Fighting (Non-Emergency)

The objectives of this component are to:

Reduce the introduction of potential pollutants into the storm drain system during training activities related to emergency response preparedness;

Minimize the discharge of pollutants associated with the maintenance of department facilities and equipment;

Develop and deliver an employee training program to implement storm water BMP's which reduce storm water discharges as practicable;

Identify a phased implementation schedule and associated estimated costs needed to implement the (update) component through the five-year life of the Municipal Permit;

Develop and implement a system to document Non-Emergency Fire Fighting activities.

The Fire Department will implement the storm water BMPs identified below. In addition, the Fire & Life Safety Services Department will implement the Town-wide storm water BMP requirements for operation and maintenance of buildings, parking facilities and vehicle maintenance/materials storage facilities used by the Fire Department (see the Buildings, Parking Facilities, and Vehicle Maintenance/Equipment Yards and Materials Storage

Facilities components.

- Emergency Medical Services BMP 's
- Fire and Hazard Prevention BMP 's
- Operations BMP 's
- Maintenance and Material BMP 's
- Training and Safety BMP's

Household Hazardous Wastes

The HHW Program concerns the measures taken to actively eliminate illicit discharges associated with the improper use and disposal of household hazardous materials. These include products used in the routine maintenance of a resident's home, yard and/or vehicle.

The HHW Program serves to divert the inappropriate disposal of HHW from the Town's sewer system, the ground and storm water system. The inappropriate disposal may adversely affect the quality of our storm water and/or receiving waters.

Additionally, to target "at home mechanics", the Town may propose one-day collection events throughout the Town that accept used motor oil, contaminated oil, oil filters, antifreeze and vehicle batteries. These events would be promoted as auto product recycling events. Also, the private sector voluntarily collects one or more recyclable auto products from the public.

- The objectives of the this component are to:

- Provide convenient and appropriate HHW collection and disposal opportunities for all Town residents, to decrease the level of illegal disposal of HHW.
- Educate our residents about HHW. Provide information to enable our residents to select and use products in ways that minimize the generation of HHW, as well as, the appropriate methods of storage and disposal.
- Encourage and facilitate the reuse and recycling of HHW. ● Conduct inspections at the Town operated collection service sites.

Landscape and Recreational Facilities

Including, but are not limited to:

- Parks
- BOE athletic fields
- Recreational water bodies ● Picnic areas
- Sports fields
- Activities associated with these facilities include, but are not limited to:
- Integrated Pest Management (IPM) program
 - o Operation and maintenance of facilities
 - o Record keeping
 - o irrigation and landscape maintenance
- The following BMPs will be implemented for municipal activities conducted at parks and recreational facilities.
 - Pesticide Use and Storage
 - Proper Use of Pesticides and Fertilizers
 - Storage and Inspection of Pesticides and Fertilizers
 - Irrigation and Fertilization
 - Landscape Waste
 - Native Vegetation
 - Recreational Water Bodies
 - Routine Inspection and Cleaning Review of Activities

Parking Facilities

The following activities will be considered:

- Develop a list of parking facilities with approximate size and number of parking spaces.
 - Conduct regular sweeping, at least once a year prior to rainy season.
- Identify effective measures to remove debris from parking structures, such as placing trashcans in strategic locations.
 - Inspect applicable parking lots (lots 25 spaces or more and potentially exposed to storm water) prior to the rainy season (beginning on October 1) for vehicle fluid leaks or

Public Works Garages and Material Storage

The Town operates and maintains a number of vehicle maintenance facilities, equipment yards and material storage facilities. The primary yard facilities the Highway Garage and Fire and Police Facilities. This program component is applicable to all . departments that own or operate such facilities.

This program component's objectives are to:

- Develop policies and procedures to prevent pollutants resulting from activities associated with vehicle maintenance, yards and material storage from entering into the storm drain system or receiving waters.
- Develop a system to document and report storm water pollution prevention activities.
- Develop and follow a Stormwater Pollution Prevention Plan for each major facility.
- Educate staff on ways to prevent storm water pollution.

The following is a list of activities that have been identified as potential sources of pollutants for vehicle maintenance and equipment yards and materials storage. Recommended BMPs will be determined for each activity:

- Vehicle and Equipment Fuel Dispensing Areas
- Vehicle and Equipment Washing
- Vehicle Equipment Maintenance
- Material Storage
- Waste Storage
- Good Housekeeping

Sanitary Sewer Systems

Activities associated with these facilities include, but are not limited to:

- Keep any sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable.
- Identify, repair and remediate sewage system blockages, infiltration and overflows.
- Investigate and eliminate suspected cross-connections from the sanitary sewers to the municipal storm drain system. • Monitor, inspect, clean and maintain all components of the collection system to reduce the potential of sanitary overflows and other structural failures
- Respond to overflows and investigate complaints of sewage.
- The following BMPs will be implemented for municipal activities conducted at parks and recreational facilities:
 - Pollution Prevention Methods
 - Storm Water BMPs to Protect Water Quality Vehicle Parking and Storage Inspections
 - Routine Inspection and Cleaning, Review of Activities
 - Comply with Storm Water Ordinance
 - Structural Controls Maintenance Schedule
 - Elimination of Illicit Discharges and Connections

Prevent and Respond to All Sewage Spills Limit Infiltration from Sanitary Sewer to Storm Drains

Coordinate with the designated coordinator of the Mattabeset District Wastewater Treatment Facility to ensure cooperation regarding:

Compliance with Storm Water Ordinance and with the General Industrial Permit

Storm Water BMPs to Protect Water Quality Vehicle Parking and Storage Inspections

Routine Inspection and Cleaning, Review of Activities

Twenty-Four Hour Non-Storm Water Discharge Reporting

Storm Water Ordinance Compliance

Structural Controls Maintenance Schedule Spill/Leaf Overflow Response and Containment

Preventive and Corrective Maintenance

Public Health Agency Notification

Storm Water Conveyance Systems

The following activities will be considered:

- Inspect and clean catch basins and keep appropriate records, identifying known problem areas.
- Remove trash and debris from open channels and properly dispose of these materials to prevent them from being washed into receiving waters.
- Report prohibited non-storm water discharges observed during the course of normal daily activities so they can be investigated, contained and cleaned up or eliminated. ○ Review maintenance activities to verify that appropriate storm water BMPs are being utilized.
- Educate employees of pollution prevention techniques.
- Operational Improvement, Structural Retrofit and Design
- Changes
- Prepare SWPPP

Streets

The Highway Department will incorporate appropriate storm water BMPs into the following activities:

- Street Sweeping and Cleaning
- Street Repair and Maintenance
- Sidewalk Maintenance
- Bridge and Structure Maintenance
- Median and Road Embankment Maintenance
- Litter Control.
- Spill control of pollutants associated with street maintenance

The following is a list of activities that have been identified as potential sources of pollutants for vehicle maintenance/equipment yards and materials storage:

- Vehicle and Equipment Fuel Dispensing Areas Vehicle and Equipment Washing
- Vehicle Equipment Maintenance
- Material Storage
- Waste Storage
- Good Housekeeping

Transfer Station

- Site Design
- Traffic Flow
- Unloading and Storage of Wastes
- Waste Storage
- Inspections
- Waste Disposal

Water Systems

- Water operations and maintenance activities that may impact water quality include:
- Operation and maintenance of distribution lines
- Water system operations (maintenance and repair).
- Water resource management (surface and groundwater)
- Water system construction (CIP Program) of new water distribution lines (pipelines) and associated facilities (pump stations).

Storm water BMPs shall be implemented for operation activities to reduce pollutants from entering the storm water conveyance system. For example, potable water will be de-chlorinated to a level of non-detection prior to discharging and sediment control measures will be applied to trap the sediment that is transported by potable water escaping from the system.

Appropriate BMPs will be implemented for Water Operation activities that could affect water quality including: Water main breaks

- Hydrant breaks
- Hydrant flushing
- Main flushing
- Highline and water wagons (temporary water services during . construction and water main breaks)
- Water Main Connections
- Water Transfers between systems
- Water Pipeline Blow Offs
- Pump stations
- Transmission and Distribution Lines
- Water Meter Installations

G. Monitoring Requirements

The Town of Cromwell shall comply with the screening and monitoring requirements in this subsection.

Goal:

To monitor town owned outfalls that discharge into impaired waters for pollutants of concern

Impaired Waters Outfall Investigation and Monitoring

Regulated Small MS4s that discharge to impaired waters, as identified in Section 6(k) below, must create an inventory of all outfalls that discharge to impaired waters utilizing the list and mapping prepared by the Town under the previous MS4 General Permit. The Town shall then screen these outfalls for the pollutant identified as the pollutant of concern for the impairment in accordance with the following procedures. The town may use its previous wet weather sampling data for an outfall pursuant to their sampling conducted under the 2004 MS4 permit or other appropriate wet weather sampling, they may use that data for their outfall screening and will not be required to screen that outfall under this general permit.

All Town of Cromwell owned outfalls that directly discharge into impaired waters shall be screened for the pollutants identified in the table on the next page, which have Total Maximum Daily Loads (TMDLs) or Strategy, pollutant of concern, waterbody listed and CTDEEP links.

The outfall(s) in the portion of the Town that the waterbody is located in and directly discharged to will need to be identified. Outfalls that don't directly discharge into an impaired waterbody will not require screening.

TMDLs or Strategies Applicable to the Town of Cromwell

Name of TMDL or Strategy	Pollutant	Waterbody Name	CTDEEP Link
Statewide Bacteria TMDL	Bacteria	Connecticut River	www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/connecticutriver4000 .pdf
Statewide Bacteria TMDL	Bacteria	Mattabesset River / East Branch Willow Brook	www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/mattabessetriver4600.pdf
A TMDL Analysis for the Mattabesset River Regional Basin	Bacteria	Mattabesset River /John Hall Brook/ Little Brook / Spruce Brook /Coles Brook / Miner Brook / Willow Brook 4600 / Belcher Brook / Webster Brook / Sawmill Brook/Coginchaug River / Willow Brook 4602	www.ct.gov/deep/lib/deep/water/tmdl/tmdlfinal/mattbasintmdlfinal.pdf
A TMDL Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound	Nitrogen	Long Island Sound and contributing watersheds	www.ct.gov/deep/lib/deep/water/liswaterquality/nitrogencontrolprogram/ tmdl.pdf
Northeast Regional Mercury TMDL	Mercury	All CT Inland waters	www.ct.gov/deep/lib/deep/water/tmdl/tmdlfinal/nemg_tmdl.pdf
Interim Phosphorus Reduction Strategy	Phosphorus	Certain CT Inland waters	www.ct.gov/deep/lib/deep/water/waterqualitystandards/p/interimmgtphosstrat042614.pdf

For more information on these TMDLs or strategies please go to CTDEEP website www.ct.gov/deep/tmdl.

a. Outfall Screening for Phosphorus and Nitrogen

The Town shall screen outfalls from the MS4 identified in the previous mapping that discharge to impaired waters for which phosphorus or nitrogen is the pollutant of concern. The Town may take a sample at the outfall during any rain event that results in a discharge from the outfall in accordance with the stormwater monitoring section below. This screening shall be conducted for all such outfalls at least once during the five-year term of this general permit in accordance with the subparagraphs nitrogen screening and phosphorus screening below.

Nitrogen Screening

The Town may use a portable nitrogen meter to take a field reading during the wet weather discharge. If the nitrogen reading exceeds the following threshold,

Total Nitrogen > 2.5 mg/l,

Then the outfall shall be identified for follow-up investigation pursuant to subsection (D) below.

Phosphorus Screening

The Town may use a portable phosphorus meter to take a field reading during the wet weather discharge. If the phosphorus reading exceeds the following threshold,

Total Phosphorus > 0.3 mg/l,

Then the outfall shall be identified for follow-up investigation.

b. Outfall Screening for Bacteria

The Town shall screen outfalls from the MS4 that discharge to impaired waters for which bacteria is the pollutant of concern. The town may take a sample at the outfall during any rain event that results in a discharge from the outfall in accordance with the stormwater section below. The sample shall be analyzed for the following:

- E. coli and Total Coliform (col/100ml) (for discharges to Class AA, A and B surface waters)
- Fecal coliform and Enterococci (col/100ml) (for discharges to Class SA and SB surface waters)

The outfall shall be identified for follow-up investigation pursuant to subsection (D) below if any of the following conditions apply:

- **E. coli >235 col/100ml for swimming areas and >410 col/100ml for all others, or Total Coliform >500 col/100ml, or**
- **Fecal coliform >31 col/100ml for Class SA and >260 col/100ml for Class SB, or**
- **Enterococci >104 col/100ml for swimming areas and >500 col/100ml for all others.**

If the Town can document that bacteria levels at an outfall that exceed these levels are solely the result of natural sources of bacteria, they are not required to conduct a follow-up investigation for that outfall. Natural sources may include wildlife or runoff from undeveloped wooded areas but do not include pet waste or waterfowl congregating at parks, ponds or other attractive nuisance areas.

c. **Outfall Screening for Other Pollutants of Concern**

The Town shall screen outfalls from the MS4 identified in the previous mapping that discharge to impaired waters for which pollutants other than phosphorus, nitrogen or bacteria are listed as the pollutant of concern. The Town shall take a sample at the outfall and in-stream immediately upstream or otherwise outside the influence of the outfall. The sample may be taken during any rain event that results in a discharge from the outfall in accordance with stormwater monitoring subsection below. These samples shall be analyzed for turbidity. The Town may use a field turbidity meter for these analyses. If the outfall sample is more than 5 NTU greater than the in-stream sample, the outfall shall be identified for follow-up investigation.

d. **Follow-up Investigations**

The Town shall conduct follow-up investigations for the drainage areas associated with the outfalls identified as potentially contributing to an impairment as a result of the analyses conducted above that indicated an exceedance of the respective test parameter result.

e. **Drainage Area Investigation**

The Town shall investigate activities within the drainage area contributing to each outfall identified for follow-up investigation as a result of the analysis conducted above that indicated an exceedance of the respective test parameter result.

This investigation shall include factors potentially associated with the cause of the related stream impairment. Such factors may include: land use or development patterns; business or commercial activities; industrial activities; DCIA; natural contributors; potential MS4 maintenance issues; residential activities; and any other activities identified by the Town as potentially contributing to the related impairment.

f. **Control Measure Implementation**

In each outfall drainage area identified for follow-up investigation above, the Town shall implement a BMP program focusing on the impaired waters provisions of each of the Control Measures in the MS4 general permit and on the findings of the drainage area investigation.

g. **Prioritized Outfall Monitoring**

Once outfall screening has been completed for at least half (50%) of the outfalls identified from the Town mapping, the Town shall utilize the screening results to select six (6) of the highest contributors of any of the pollutants of concern. These six outfalls shall be sampled annually for the appropriate pollutant of concern in accordance with the schedule in the subsection below. If more than one pollutant of concern

is identified for any monitored outfall (i.e. more than one impairment), all of these pollutants shall be monitored. If fewer than six outfalls were identified for follow-up investigation, all of these outfalls shall be monitored, but no more than six.

h. Measurable Goals and Implementation

Table 1.1 Measurable Goals and Implementation Dates

Item Number	Activity	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
S-1	Outfall Screening	Engineering	Number Screened	July 1, 2017
S-2	Inventory and Mapping of discharges to impaired waters	Engineering	Inventory	July 1, 2017
S-3	Follow-up Investigations of drainage areas	Engineering	Investigations	July 1, 2017
S-4	Annual Monitoring of priority outfalls	Engineering	Annually Six Priority Outfalls	July 1, 2019

H. ADDITIONAL REQUIREMENTS

a. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control, including related appurtenances, which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee when necessary to achieve compliance with this permit.

b. Signature Requirements

The Plan shall be signed by the chief elected official or principal executive officer, as those terms are defined in Section 22a-430-3(b) (2) of the Regulations of Connecticut State Agencies. The Plan shall be retained by the chief elected official or principal executive officer and copies retained by MS4 officials or employees responsible for implementation of the Plan

c. Availability of information

The Town will make a copy of the Stormwater Management Plan available to the following immediately upon request:

- The Commissioner of CTDEEP
- In the case of an MS4 adjacent to or interconnected with the Town's storm sewer system, to the operator of that MS4
- In the case of a Town stormwater discharge to a water supply watershed, to the public water supply company

d. Keeping Plans Current

The permittee shall amend the Plan whenever; (1) there is a change which has the potential to cause pollution of the waters of the state; or (2) the actions required by the Plan fail to prevent pollution of the waters of the state or fail to otherwise comply with any other provision of this general permit; or (3) the Commissioner requests modification of the Plan. The amended Plan shall be completed and all actions required by such Plan shall be completed within a time period determined by the Commissioner.

The Commissioner may notify the permittee in writing at any time that the Plan does not meet one or more of the requirements of this general permit. Within thirty (30) days of such notification, unless otherwise specified by the Commissioner in writing, the permittee shall respond to the Commissioner indicating how they plan to modify the Plan to address these requirements. Within ninety (90) days of this response or within one hundred twenty (120) days of the original notification, whichever is less, unless otherwise specified by the Commissioner in writing, the permittee shall then revise the Plan, perform all actions required by the revised Plan, and shall certify to the Commissioner that the requested changes have been made and implemented. The permittee shall provide such information as the Commissioner requires to evaluate the Plan and its implementation. If at any time the Commissioner finds that the Plan

is not adequate to protect the waters of the state from pollution, the Commissioner may terminate authorization under this permit and require the permittee to submit an individual permit application.

In no event shall failure to complete or update a Plan in accordance with Sections 5(b) and 6 of this general permit relieve a permittee of responsibility to implement actions required to protect the waters of the state and to comply with all conditions of this general permit.

A copy of the Plan review certification made in accordance with Section 3(b) (9) shall be maintained with the Plan.

e. Reporting and Record Keeping

The permittee shall keep records required by this permit for at least 5 years following its expiration or longer if requested by the Commissioner in writing. Such records, including the Stormwater Management Plan, shall be available to the public at reasonable times during regular business hours.

Annual Report

By April 1 of the second year following the effective date of this general permit and annually thereafter by April 1, the permittee shall submit an Annual Report for the preceding calendar year electronically to the Department. The DEEP MS4 stormwater webpage (www.ct.gov/deep/municipalstormwater) will provide guidance on Annual Report submittal. The Annual Report must be in Microsoft Word®, Adobe Acrobat® or other format acceptable to the Commissioner. In the event that electronic submission is not available or possible, please contact the Stormwater Section at (860) 424-3025.

The report shall include:

The Annual Report review fee is \$375.00.

The fees for municipalities shall be half of those indicated above pursuant to section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection.

A written discussion of the status of compliance with this general permit including, but not limited to:

- a listing and brief description (including, where appropriate, the address or latitude and longitude) of all BMPs within each Minimum Control Measure;
- any reporting requirements enumerated in the controls measures sections 6(a) and its subsections;
- an implementation schedule for each BMP and an indication of whether or not the BMP or any portion of the BMP was scheduled to be implemented during the year covered by the Annual Report;

STORMWATER PERMIT COORDINATOR

BUREAU OF WATER MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL PROTECTION

79 ELM STREET

HARTFORD, CT 06106-5127

- the status of implementation for each BMP scheduled to be completely or partially implemented during the year covered by the Annual Report, including an assessment of the appropriateness of the BMP and progress towards achieving the implementation dates and measurable goals for that BMP;

- for any portion of a BMP implementation scheduled for the year covered by the Annual Report that was *not* completed as scheduled, a discussion of the circumstances and reasons for non-implementation, a modified implementation schedule, and, if necessary, a modified or alternate BMP to replace the BMP not implemented including the rationale for such modification or alternate BMP;
- the overall status of each of the six categories of the Minimum Control Measures and a discussion of the effectiveness of each category in achieving its goals;
- a discussion of any changes to personnel responsible for the Plan or BMP implementation;
- a description of any new BMPs added to the Plan during the year including a description of the BMP, the reason or rationale for adding the BMP, the timeline for implementation, the party responsible for implementation and the measurable goal for the BMP and, where appropriate, the location for each BMP, including the address and latitude and longitude;
- a discussion of the progress and status of the MS4's IDDE program (see Section 6(a)(3)) including outfall screening, mapping, drainage area evaluation and prioritization, illicit discharge tracking activities, IDDP field monitoring results, number and type of illicit discharges detected, and number of illicit discharges eliminated;
- a discussion of measures included in the Plan for the control of discharges to impaired waters (see Section 6(k) below) including a list of BMPs in the Minimum Control Measures that are targeted for such discharges, progress in implementing these measures, any evaluation of the effectiveness of these measures in meeting the goals of the Plan's impaired waters program, and any new or modified BMPs to be added to the Plan to improve its effectiveness;
- a discussion of the MS4's stormwater monitoring program describing the status of monitoring for the year of the report, the overall status of the monitoring program, a summary of the findings, any significant observations regarding the results, any modifications to the Plan as a result of the monitoring results; and
- a discussion of any planned BMP implementation in the coming year, including a discussion of any new or modified BMPs planned for future implementation.

All monitoring data collected and analyzed pursuant to Section 6(j).

All other information collected and analyzed, including data collected under the Illicit Discharge Detection Protocol (Appendix B), during the reporting period.

f. Regulations of Connecticut State Agencies Incorporated into this General Permit

The permittee shall comply with all laws applicable to the subject discharges, including but not limited to, the following Regulations of Connecticut State Agencies which are hereby incorporated into this general permit, as if fully set forth herein:

- (1) Section 22a-430-3:
 - Subsection (b) General - subparagraph (1) (D) and subdivisions (2), (3), (4) and (5)
 - Subsection (c) Inspection and Entry
 - Subsection (d) Effect of a Permit - subdivisions (1) and (4)
 - Subsection (e) Duty to Comply
 - Subsection (f) Proper Operation and Maintenance
 - Subsection (g) Sludge Disposal
 - Subsection (h) Duty to Mitigate
 - Subsection (i) Facility Modifications, Notification - subdivisions (1) and (4)
 - Subsection (j) Monitoring, Records and Report Requirements - subdivisions (1), (6), (7), (8), (9) and (11) (except subparagraphs (9) (A) (2) and (9) (c))
 - Subsection (k) Bypass

- Subsection (m) Effluent Limitation Violations
- Subsection (n) Enforcement
- Subsection (p) Spill Prevention and Control
- Subsection (q) Instrumentation, Alarms, Flow Recorders
- Subsection (r) Equalization
- (2) Section 22a-430-4
- Subsection (t) Prohibitions
- Subsection (p) Revocation, Denial, Modification
- Appendices

g. Reliance on Registration

In evaluating the permittee's registration, the Commissioner has relied on information provided by the permittee. If such information proves to be false or incomplete, the permittee's authorization may be suspended or revoked in accordance with law, and the Commissioner may take any other legal action provided by law.

h. Duty to Correct and Report Violations

Upon learning of a violation of a condition of this general permit, a permittee shall immediately take all reasonable action to determine the cause of such violation, correct and mitigate the results of such violation and prevent further such violation. The permittee shall report in writing such violation and such corrective action to the Commissioner within five (5) days of the permittee's learning of such violation. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

i. Duty to Provide Information

If the Commissioner requests any information pertinent to the authorized activity or to compliance with this general permit or with the permittee's authorization under this general permit, the permittee shall provide such information within thirty (30) days of such request. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

J. Certification of Documents

Any document, including but not limited to any notice, information or report, which is submitted to the Commissioner under this general permit shall be signed by the chief elected official or principal executive officer of the municipality or institution, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

k. Date of Filing

For purposes of this general permit, the date of filing with the Commissioner of any document is the date such document is received by the Commissioner. The word "day" as used in this general permit means the calendar day; if any date specified in the general permit falls on a Saturday, Sunday, or legal holiday, such deadline shall be the next business day.

l. False Statements

Any false statement in any information submitted pursuant to this general permit may be punishable as a criminal offense, in accordance with Section 22a-6, under Section 53a-157b of the Connecticut General Statutes.

m. Correction of Inaccuracies

Within fifteen days after the date the permittee becomes aware of a change in any information in any material submitted pursuant to this general permit, or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, the permittee shall correct the inaccurate or misleading information or supply the omitted information in writing to the Commissioner. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

n. Other Applicable Law

Nothing in the MS4 general permit shall relieve the permittee of the obligation to comply with any other applicable federal, state and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

o. Other Rights

The MS4 general permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges, and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or activity affected by such general permit. In conducting any activity authorized hereunder, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this general permit shall not create any presumption that this general permit should or will be renewed.

Stormwater Management Plan Certification by Preparer

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”

Signed by.

NAFIS and Young Engineers, Inc.



Lawrence K. Secor

Lawrence K. Secor, CHMM, Senior Environmental Project Manager

3/21/2017

Date

Stormwater Management Plan Signature

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”

Signed by:

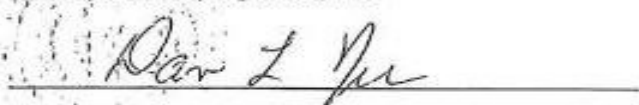
		
Chief Elected Official	Title	Date
Principal Executive Officer		

Stormwater Management Plan Engineering Certification

I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, submitted to the Commissioner by the Town of Cromwell for an activity located at or within Cromwell and that all terms and conditions of the general permit are being met for all discharges which have been created, initiated or maintained and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b) (8) (A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b) (8) (B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law.

Signed by,

Nafis and Young Engineers, Inc.



Name: David L. Nafis, PE, LS

Title: Principal

Seal

3-21-17

Date