SECTION 4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

This minimum control measure 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 forest lands. 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.

4.1 REQUIREMENTS

The development, implementation and enforcement of a program, or modification of an existing program, is required to reduce pollutants in any stormwater runoff to the Municipal Separate Storm Sewer System (MS4) from construction activities that result in a land disturbance of greater than or equal to one (1) acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development that would disturb one acre or more. The program shall include but not be limited to the following requirements:

4.1.1 An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions for non-compliance, to the extent allowable under State or local law.

4.1.2 Procedures for notifying construction site developers and operators of the requirements for registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities.

4.1.3 Requirements for construction site operators to implement appropriate erosion and sediment control best management practices in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control.

4.1.4 Requirements for construction site operators to control waste at the site such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.

4.1.5 Procedures for site plan review, which incorporate consideration of potential water quality impacts.

4.1.6 Procedures for receipt and consideration of information submitted by the public.

4.1.7 Procedures for site inspection and enforcement of control measures.

Appropriate BMP's and measure 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.

4.2 BEST MANAGEMENT PRACTICES

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

4.2.1 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 for projects. These documents include the following:

Town of Brookfield Zoning Regulations

Section § 242-303. Excavation, Fill and Grading

Section § 242-403A&B. Erosion & Sedimentation Control Requirements for Residential Development

Section § 242-403C. Erosion & Sedimentation Control Requirements

Section § 242-602C-E. Erosion & Wood Cutting

Town of Brookfield Subdivision Regulations

Section § 234-800, 801, 802. Erosion & Sedimentation Control

202 Connecticut Guidelines for Soil Erosion and Sediment Control,

DEP Bulletin 34 by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.

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
- Sodding
- Soil Roughening
- Geotextiles
- Gradient Terraces
- Soil Retention
- Temporary Slope Drain
- Temporary Stream Crossings
- Vegetated Buffer
- Construction Sequencing
- Dust Control

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

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

Table 4.1 Requirements and Guidelines for Erosion and Sediment Controls BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1	Requirements in place for erosion and sediment control on all projects.	Dir. Of Public Works Ralph Tedesco

Year 2 - 5	Continue Requirements and Guidelines for Erosion and Sediment Controls on all Projects	Dir. Of Public Works Ralph Tedesco

4.2.2 Procedures for Notifying Construction Site Developers and Operators of Requirements for Registration

All projects with land disturbance of greater than or equal to five (5) acres associated with construction activities shall be registered under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities with the CTDEP. Registration shall be submitted a minimum of thirty (30) days before the initiation of construction activities as required by the General Permit.

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

Table 4.2 Procedures for Notifying Construction Site Developers and Operators of Requirements for Registration BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1	Implement Registration Requirements for all projects greater or equal to 5 acres	Dir. Of Public Works Ralph Tedesco
Year 2 - 5	Continue Compliance with Registration Requirements	Dir. Of Public Works Ralph Tedesco

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.

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

Table 4.3 Requirements for Construction Site Operators to Implement Appropriate Erosion and Sediment Control Best Management Practices BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible

Year 1 - 5	Continue Requirements for Construction Site Operators to Implement Appropriate Erosion and Sediment Control Best Management Practices	Dir. Of Public Works Ralph Tedesco

4.2.3 Requirements for Construction Site Operators to Control Waste at the Site

The town requires site maintenance and waste control in accordance with all state and federal regulations. Several documents are utilized for establishing guidelines and procedures for site maintenance and waste control. These documents include the following: Town of Brookfield, Zoning Regulations Section § 242-501K. Site Maintenance & Waste Control, Section § 242-502G & H. Aquifer Protection District Performance & Design Standards and Town of Brookfield, Inland Wetlands Commission Regulations Section § 220-7A. 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 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 overfilling.
- 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 site operators 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
- Disposal of Hazardous Waste
- Disposal of Controlled Materials

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.

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

Table 4.4 Requirements for Construction Site Operators to Control Waste at the Site BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1 - 5	Continue Requirements for Construction Site Operators to Control Waste at the Site	Dir. Of Public Works Ralph Tedesco

4.2.4 Procedures for Site Plan Review

Procedures for site plan review which incorporate consideration of potential water quality impacts are utilized by the town. Construction plans and specifications are reviewed by Inland Wetlands, Planning and Zoning Commissions 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.

Table 4.5 Site Plan Review BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1 - 5	Continue Site Plan Review Procedures	Dir. Of Public Works Ralph Tedesco

4.2.5 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 Public Works Department within the town for consideration. Information related to construction site runoff is forwarded to the Zoning Enforcement Officer and Director of Public Works.

Table 4.6 Procedures for Receipt and Consideration of Information Submitted by the Public BMP, Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1 - 5	Continue Procedures for Receipt and Consideration of Information Submitted by the Public	Dir. Of Public Works Ralph Tedesco

4.2.6 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.

Certain Land Use employees and the Director of Public Works 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.

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

Table 4.7 Site Inspection and Enforcement of Control Measures BMP Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1 - 5	Continue Site Inspection and Enforcement of Control Measures	Dir. Of Public Works Ralph Tedesco