

***City of Oberlin***  
***Storm Water Management Program***  
***Construction Site Storm Water Runoff Control***

<p><b><i>Best Management Practices</i></b>  <b><i>3.2.4</i></b></p>	<p><b><i>Construction Site Storm Water Runoff Control</i></b>          (This is a summary of the construction site storm water runoff control program)          The City of Oberlin will develop, implement and enforce a Construction Site Runoff Control ordinance and Public Works Standards as required to mitigate the effects of Construction Site Storm Water Runoff.</p>
<p><b><i>Permit Requirement</i></b></p>	<p>You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If Ohio EPA waives requirements for storm water discharges associated with small construction activity, you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.</p>
<p><b><i>Permit Section</i></b>  <b><i>3.2.4.1</i></b></p>	
<p><b><i>Goal of BMPs:</i></b></p>	<p>Provide a description of the goal of the BMPs used to meet this requirement.          The goals of the Best Management Practices (BMPs) for Construction Site Storm Water Runoff Control are three fold: to mitigate flooding, to reduce pollution of the natural environment and to improve water quality of streams and receiving water bodies which may otherwise be impacted from storm water runoff associated with construction activities.           Fulfillment of these goals is expected to result in minimizing risk of damage to public and private property, minimizing the impact of development on land and the water courses, minimizing risk to stream channel erosion, reducing local flooding, and generally maintaining runoff characteristics that do not threaten public health and safety.</p>
<p><b><i>Program Description:</i></b></p>	
<p>Provide a description of the BMPs that will be used to meet this requirement. Use additional pages or attachments as necessary.</p> <p>3.2.4.1.1 The City of Oberlin will adopt a Construction Site Runoff Control ordinance designed to establish control measures for construction site runoff. The ordinance will authorize and require Public Works Standards to require erosion and sediment controls.</p> <p>3.2.4.1.1.1 The ordinance would provide the legal framework to ensure compliance.</p> <p>3.2.4.1.1.2 The City expects the ordinance to establish two broad categories of BMPs. Structural practices will include various devices used to delay, retain, and/or treat stormwater runoff. Non-structural practices will include erosion prevention through management and planning.</p> <p>3.2.4.1.1.3 The Public Works Standards will establish acceptable structural practices.</p> <p>3.2.4.1.2 The Public Works Standards will establish Construction Site Runoff Control measures for Construction Site operators. The Oberlin Public Works Standards will be reviewed and upgraded as necessary.</p> <p>3.2.4.1.2.1 Current standards include filtering devices and protective vegetative cover based on the prior five (5) acres General Permit stipulations.</p> <p>3.2.4.1.2.2 The erosion control standards will address initial installation, operation and maintenance and inspection and reporting by the construction site operators.</p> <p>3.2.4.1.2.3 The City expects that it will divide acceptable structural devices into at least five broad categories including: stormwater ponds, stormwater wetlands, infiltration devices (which may be of limited value due to locally prevalent clay soils), filtering devices, and open channel practices. These options may be applicable separately or in conjunction with other BMPs to achieve the desired results for stormwater quality and quantity.</p>	

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- 3.2.4.1.2.4 The objective would be to control concentrated flows from unmanaged runoff that can increase the volume and/or velocity of water leaving the site as such increase can amplify the flow of receiving waters and promote erosion on the site itself.
- 3.2.4.1.2.5 Erosion Control Plans
- 3.2.4.1.2.5.1 Pursuant to the EPA NPDES Phase II regulations for MS4s, all construction sites larger than one acre are subject to construction runoff control. The city expects to include in its SWMP, technical requirements for erosion control plans.
- 3.2.4.1.2.5.2 The City expects to require an Erosion Control Plan for each proposed project, or adjacent associated project(s), with a cumulative disturbed area of greater than one-acre. This plan would be included in the submission of plans for Site Plan Review.
- 3.2.4.1.2.5.3 The City will require that each Erosion Control Plan must include how the plan addresses Erosion Prevention, Erosion/Sediment Control, and Dust Control. The following sections present a minimum approach to the management of stormwater on construction sites that is likely to be required:
- 3.2.4.1.2.5.3.1 Erosion Prevention
- 3.2.4.1.2.5.3.1.1 Vegetative cover and other landscaping practices can be used to prevent erosion of soil on construction sites. Vegetative cover can be either temporary (removed after culmination of the construction project) or permanent. Permanent landscaping fixtures should be installed as early as possible. Grass or other mulching material can be used to create a “lawn” type landscape surrounding the construction site. This practice can not only improve the aesthetics of a site, but also enhance pollutant removal and natural hydrology of the area. If the construction project spans many months, it is recommended that a temporary lawn be seeded for erosion prevention.
- 3.2.4.1.2.5.3.1.2 Grass swales can be constructed on the perimeters of sites. A swale is designed as an open channel that is lined with grass or similar vegetation. Stormwater runoff is directed to the beginning of the channel often through stone media to begin the filtration process. As the runoff flows the length of the channel, it drains down through the vegetation and underlying gravel and rocks. The stormwater has the opportunity to enter the soil through the swale where drainage had otherwise been prevented on the construction site. Excess nutrients, chemicals, and soluble metals are taken up by the plant life, and other solids are removed from the runoff in the swale.
- 3.2.4.1.2.5.3.1.3 Vegetative cover methods are dependent on proper selection of vegetation for the soil, time of year, and appropriate care.
- 3.2.4.1.2.5.3.1.4 Synthetic cover can be used for erosion prevention on construction sites. Synthetic cover is often easily applied at the start of construction and removed at the culmination of the project.
- 3.2.4.1.2.5.3.1.5 Examples of synthetic cover include but are not limited to: straw, hay, mulch and blankets. This cover can be laid out over the unused soil area on the site that is at risk for erosion by water, wind, or other activity. Often the material is relatively inexpensive to purchase and maintain. The cover provides additional area in which the stormwater runoff is detained before it infiltrates into the ground or reaches another stormwater management device such as a swale or catch basin. This cover also provides an environment conducive to plant growth. The new plants may be part of the landscaping designs for the newly constructed site.
- 3.2.4.1.2.5.3.1.6 A third method to prevent erosion on site is through the means of structural cover. Structural cover includes partial or total enclosure of raw materials, byproducts, finished products, containers, equipment, process operations, and material storage areas. Small structures can be temporarily constructed to protect materials from rainwater and wind events, which may disperse the materials and contribute to erosion and dust transportation. Stockpiles can be covered by large structures such as tents or lean-tos.

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- Tightly sealed tarpaulins also provide sufficient coverage of supplies during erosion events. Pavement or graveled areas can be used in high traffic or activity zones to prevent soil erosion.
- 3.2.4.1.2.5.3.1.7 Temporary or permanent structural coverings are simple, effective, low cost means by which to prevent stormwater contamination and erosion. However, frequent inspections of these structures are required; structures with only a roof may not protect materials against all precipitation.
- 3.2.4.1.2.5.3.1.8 Sediment control measures to be considered in the City’s program include sediment filters (the most common means) and sedimentation ponds. Sediment ponds can be a means of achieving high quality treatment of significant stormwater quantity.
- 3.2.4.1.2.5.3.1.9 The installation of stabilized construction entrance and exit areas are expected to be required in order to discourage erosion and sediment transport from sites.
- 3.2.4.1.2.5.3.1.10 The City’s program is expected to include provision for control of sediment laden stormwater by interception with hay/straw bales and/or silt fence. These measures act as dikes to intercept sediment and to slow down the velocity of the runoff.
- 3.2.4.1.2.5.3.1.11 The City’s program will require that catch basins installed on the site and/or at its perimeter be protected from sediment with filter media, such as filter cloth, laid over their inlets. The filter medium should be large enough to capture sediments as well as larger debris. The City will require filter maintenance including regular cleaning, especially after rainfall events.
- 3.2.4.1.2.5.3.1.12 Erosion and Sediment control practices for large construction sites with sufficient area are expected to have the option to create and use sedimentation ponds to collect and treat stormwater runoff from the site. The use of sedimentation pond(s) would be based on design including flow inlet and outlet controls to result in sufficient residence time for dense particles, such as sediment, to settle out from the runoff. Such ponds would be expected to provide for excessive nutrients, metals, organic matter, and soils to be removed from the water. The “cleaned” stormwater would soak (infiltrate into the soil), evaporate and/or travel to a receiving surface water body.
- 3.2.4.1.2.5.3.1.13 Gravel bars may be considered for use as an effective erosion control measure during construction activities.
- 3.2.4.1.2.5.3.1.14 The City expects that its program will require dust control measures during construction through management of disturbed areas to minimize dust generation in order to aid maintenance of soil integrity as well as air and water quality. The various dust control measures that are likely to receive consideration include:
- 3.2.4.1.2.5.3.1.15 The construction of windbreaks, where appropriate, is encouraged. Windbreaks can be constructed snow fences, bales of hay, crates & boxes, and other similar materials. These barriers, when placed at right angles to the wind and at intervals at approximately fifteen times the barrier height, can be extremely effective at collecting dust and inhibiting wind currents.
- 3.2.4.1.2.5.3.1.16 Temporary vegetative cover surface cover such as seeding or mulching is another means to prevent wind erosion as well as water erosion.
- 3.2.4.1.2.5.3.1.17 If the dust travels and/or is carried to a paved street, the use of street sweepers may become a required means of dust control/removal. Vacuum sweepers can collect the smallest dust particles. These small particles have the potential to be picked up by runoff as it flows down a street and further contaminate surface water.
- 3.2.4.1.2.5.3.1.18 The City expects to include consideration of one of the most cost effective dust control measures - limiting disturbance of the soil surface. If a project can limit its “footprint”, a minimum natural area will be disturbed and at risk for erosion. Construction phasing will minimize open soil areas.
- 3.2.4.1.3 The City expects that its program will include construction waste requirements to control

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- discarded building materials, concrete truck washout, chemicals used on the site, litter and sanitary waste in the interest of protecting the receiving waters.
- 3.2.4.1.4 Site Plan review is a non-structural practice currently in place. The City will review its practices and adopt revisions and/or additions to its Zoning Regulations and Public Works Standards (as may be needed) in conjunction with the development and promulgation of the Construction Site Run-off Control ordinance.
- 3.2.4.1.5 The City will establish procedures for the receipt and consideration of information from the public in accordance with **Section 3.2.1 Public Education & Outreach** and **Section 3.2.2, Public Involvement/Participation** of its SWMP.
- 3.2.4.1.6 The City expects to develop inspection protocols and enforcement mechanisms to ensure compliance with Construction Site Erosion Control measures through its Public Works Standards and through the proposed Construction Site Run-off Control ordinance.

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<b>Implementation Schedule:</b> <small>(Year by year description of program)</small>	
<b>2003</b>	<p>Develop Public Works Standards for Construction Site Erosion Control. These standards will become the basis for the local ordinance. Review model ordinances. Draft Construction Site Erosion Control Ordinance. Adopt local ordinance based on Public Works Standards. Implement local ordinance based on Public Works Standards and legal authority.</p> <p>Provide Public Works Standards to Developers, Builders, Architects and Engineers as applicable. Review of Construction Site Erosion Control provisions in all pre-construction meetings.</p> <p>Incorporate Ordinance and Standards into internal Plan Review procedures.</p> <p>Identify, sponsor and train inspector(s). Develop and implement inspection and reporting formats.</p>
<b>2004</b>	<p>Continue implementation of program. Evaluate and upgrade program as necessary based on Contractor compliance.</p> <p>Provide Public Works Standards to Developers, Builders, Architects and Engineers as applicable. Review of Construction Site Erosion Control provisions in Plan Review and all pre-construction meetings.</p> <p>Train inspector(s). Continued implementation of inspection and reporting.</p>
<b>2005</b>	<p>Continue implementation of program. Evaluate and upgrade program as necessary based on Contractor compliance.</p> <p>Provide Public Works Standards to Developers, Builders, Architects and Engineers as applicable. Review of Construction Site Erosion Control provisions in Plan Review and all pre-construction meetings.</p> <p>Train inspector(s). Continued implementation of inspection and reporting.</p>
<b>2006</b>	<p>Continue implementation of program. Evaluate and upgrade program as necessary based on Contractor compliance.</p> <p>Provide Public Works Standards to Developers, Builders, Architects and Engineers as applicable. Review of Construction Site Erosion Control provisions in Plan Review and all pre-construction meetings.</p> <p>Train inspector(s). Continued implementation of inspection and reporting.</p>
<b>2007</b>	<p>Continue implementation of program. Evaluate and upgrade program as necessary based on Contractor compliance.</p> <p>Provide Public Works Standards to Developers, Builders, Architects and Engineers as applicable. Review of Construction Site Erosion Control provisions in Plan Review and all pre-construction meetings.</p> <p>Train inspector(s). Continued implementation of inspection and reporting.</p>

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<b>Measurable Goals: (Section 3.2.4.2.8)</b>	
Provide a description of the measurable goals of each BMP used to meet this requirement.	
By December, 2003, the City of Oberlin will enact legislation that authorizes the control of storm water run-off including but not necessarily limited to Construction Site Erosion/Sediment and Construction Waste issues.	
<b>Decision Process:</b>	You must document your decision process for the development of a construction site storm water control program. Your rationale statement must address both your overall construction site storm water control program and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement must include the following information, at a minimum:
<b>Permit Section 3.2.4.2</b>	
In order to develop the Construction Site Runoff Control component of its SWMP, the City of Oberlin has reviewed current construction site runoff control practices that may impact water quality. This has resulted in the selection of the itemized BMPs for the following reasons:	
3.2.4.2.1 An Ordinance and accompanying Public Works Standards which require erosion and sedimentation controls on construction sites greater than one acre will be adopted based on consideration of the following:	
3.2.4.2.1.1 Runoff control is expected to be more cost effective than removing sediment and restoring damaged receiving waters.	
3.2.4.2.1.2 Stormwater runoff from construction sites is considered to be detrimental to both water volume and water quality issues. Controlling concentrated flows from unmanaged runoff will mitigate negative impacts.	
3.2.4.2.1.3 The practice of installing, operating and maintaining structural controls is not always completely effective. Thus, it is important to develop appropriate enforcement mechanisms.	
3.2.4.2.2 The City expects to ensure compliance with its Construction Site Runoff Control ordinance through the use of a regulatory mechanism authorizing permitting, inspection and enforcement sanctions.	
3.2.4.2.2.1 A Permit System that allows site disturbance(s) in return for the installation, operation and maintenance of suitable erosion control measures is expected. The Construction Site Runoff Control ordinance would be expected to authorize such a permit and the City Public Works Standards and/or Building regulations would establish permit content, application, enforcement, sanctions and fees.	
3.2.4.2.2.2 The City expects to add inspection procedures to its Public Works and Planning controls.	
3.2.4.2.2.3 The City believes that violations of the variously applicable standards can be remedied through limited on-site at-the-time presentation of findings and educational reinforcement as a first step.	
3.2.4.2.2.4 As a second step, it is believed that through the establishment and application of a stop work order process, imposition of further sanctions may be avoided.	
3.2.4.2.2.5 In the event that stop work orders are ineffective, the program would be expected to include provisions for citation to court and the levy of penalties as may deemed appropriate to the offense.	
3.2.4.2.3 Implementation of suitable controls for managing construction site wastes would be	

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- incorporated into the Construction Site Runoff Control ordinance and/or the City Public Works Standards. These controls would be managed as described above.
- 3.2.4.2.4 Site Plan Review is currently in place for major and minor subdivisions, new commercial, industrial and institutional buildings, multi-family dwellings and at change of use. Development plans are submitted to the Planning Director who solicits staff input on a variety of issues including storm water management. These requirements and/or recommendations are returned to the Developer for incorporation into Development Plans prior to final approval.
- 3.2.4.2.5 The City will accept public input into practices associated with its Construction Site Storm Water Runoff Control BMPs in accordance with **Section 3.2.1 Public Education & Outreach** and **Section 3.2.2, Public Involvement/Participation** of its SWMP.
- 3.2.4.2.6 Inspections will be scheduled and conducted and reports will be prepared in keeping with the scope of any given project. Typically, the City uses third party full-time inspectors during the construction of subdivisions and major street/utility projects which disturb an area greater than one acre. Public Works staff including the City Engineer, the Public Works Director, the General Maintenance Division Superintendent and his staff will provide inspections for smaller scale projects. Violations of the Construction Site Runoff Control ordinance and/or the City Public Works Standards would be managed through the three-tiered process described above.

***Supporting Information:***

Provide any supporting documentation necessary – such as training manuals, program standards, contracts with service providers or examples of available information/public education brochures.

***Reporting Mechanism:***

Provide a description of the documentation anticipated to be included in the permit-required Annual Report. Examples of documentation may include description of work performed, storm sewer maps, investigation reports, measurable goals data and any recommended revisions to the SWMP.

The Annual Report will include a copy of the Construction Site Runoff Control ordinance and relevant sections of the City Public Works Standards. Copies of applicable Site Plan Review comments, pre-construction meeting minutes, permits issued and inspection reports will also be included. Documentation of any enforcement actions taken will be submitted.

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<b><i>Best Management Practices</i></b>	<b>Construction Site Storm Water Runoff Control</b>		
<b><i>Responsible Party – Contact Information:</i></b> (Section 3.2.4.2.7)			
<b>Contact Name:</b>	Jeff Baumann		
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<b>Phone:</b>	(440) 775-7204	<b>Fax:</b>	(440) 775-7208
<b>Email:</b>	jbaumann@cityofoberlin.com		
<b>Signature:</b>			



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