

CITY OF SALEM

STORM WATER MANAGEMENT & EROSION AND SEDIMENT CONTROL REGULATIONS



**ORDINANCE 080902-63
AUGUST 2008**

CITY OF SALEM

STORM WATER MANAGEMENT

and

EROSION AND SEDIMENTATION CONTROL

REGULATIONS

Executive Summary:

Due to Ohio Environmental Protection Agency storm water regulatory requirements (Municipal Separate Storm Sewer System (MS4) - Phase II) and recurring significant flooding events within the City of Salem, the City has developed these regulations to guide drainage designs, erosion/sedimentation control, post-construction runoff controls and storm water management for development and construction within the City of Salem.

The intent of these drainage regulations is to minimize impacts to:

- Human health and public safety.
- Existing drainage infrastructure.
- Flooding events and property damage.
- Stream channel degradation.

The City of Salem Planning and Zoning Department will provide updates and revisions to this manual periodically based on reviews of actual manual concepts implemented in the field and manual user suggestions and feedback on improving manual content and applicability. The City of Salem shall review drainage designs and construction plans submitted in accordance with Chapter 1125.16(g)(1 thru 5) of the Codified Ordinances of the City of Salem. The City of Salem shall not be held liable as a result of information presented in these regulations. These regulations have been developed to guide developers, engineers, builders and contractors through the City's drainage design process and procedures. The City of Salem does not consider this as an all inclusive comprehensive design document or manual.

CITY OF SALEM
STORM WATER MANAGEMENT
and
EROSION AND SEDIMENTATION CONTROL
REGULATIONS

INDEX

I. Drainage Design and Control 1 - 8

II. Post Construction Storm Water Quality Requirements 1 - 5

III. Storm Water Pollution Prevention Plan for Earth Disturbing Activities 1 - 18

These Regulations Prepared for the City of Salem by:

Howells & Baird, Inc.
Civil Engineers & Surveyors
Salem, OH 44460

I.

Drainage Design and Control

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

Purpose:

The intent of this policy is to establish consistent, technically feasible and operationally practical standards to achieve a level of storm water management that will minimize damage to public and private property and the degradation of water resources, and will promote and maintain the health, safety and welfare of the resident of the City.

Disclaimer of Liability:

This policy outlines the basic requirement of Storm Water Management Plans. It is not intended as an all inclusive list of work required to prepare the plans, specifications, reports and calculations for such projects. The Designer shall follow generally accepted standards for surveyors, architects and/or engineers.

Neither submission of a plan under the provisions herein, nor compliance with the provisions of these regulations, shall relieve any person or entity from responsibility for damage to any person or property that is otherwise imposed by law; nor shall it create a duty by the City to those damaged by storm water or soil sediment pollution.

Storm Water Management Report Required:

All new and redeveloped commercial sites, industrial sites, condominium developments, planned urban developments, and subdivisions are required to submit a Storm Water Management Report to the City of Salem. The Storm Water Management Report must be signed and stamped by a Registered Professional Engineer licensed to practice in the State of Ohio.

General Requirements:

The policies contained herein outline the requirements for a Storm Water Management Report. Not all of the sections of this outline may apply to a proposed development. Applicable sections will depend on the size of the proposed development, the existing site conditions, and the proposed land use of the development.

These guidelines shall not limit the right of the City of Salem to impose at any time additional, more stringent requirements based on the site circumstances. Nor, shall these guidelines limit the right of the City of Salem to waive, in writing, individual requirements based on the site circumstances.

The Storm Water Management Report (SWMR) should be submitted with the Site Plan for commercial and industrial sites, and the SWMR should be submitted with the Construction Drawings for condominium developments, planned developments and subdivisions.

The SWMR should contain a description of the existing conditions on site, land usage, ground cover conditions, soil types, etc. The SWMR should explain the proposed improvements and the

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

intent of the storm water management measures being proposed. The SWMR should provide maps and drawings, as necessary, to support the Report's calculations. The SWMR should verify that the information contained on such maps and drawings corresponds to the information provided in the rest of the SWMR.

As a minimum general requirement, the proposed storm water management measures shall be designed such that the runoff from the site shall not flood existing or proposed structures, cause the loss of property, endanger individuals, or cause the loss of life.

Storm Sewer Systems and Roadway Drainage:

Storm Sewer Systems and Roadway Drainage including catch basins, pipes, culverts, swales, ditches, and other open channels shall be designed in accordance with the latest editions of the Ohio Department of Transportation's Location and Design Manual, Volume Two - Drainage Design and Construction and Materials Specifications.

1. Provide calculations for the storm sewer systems. All storm sewer systems shall be designed to flow just full for a 10-year frequency storm, except where more stringent requirements are noted in the Location and Design Manual. For roadway pipe design, check the hydraulic grade line does not exceed the grate elevations based on a 25-year frequency storm.
2. Provide calculations for the inlet spacing and pavement spread. Allowable pavement spread shall be six (6) feet from the curb for a 10-year frequency storm.
3. All commercial and industrial sites, condominium developments, planned urban developments and subdivisions shall be designed with supplemental conveyance systems (i.e. swales, ditches, channels, roadway, etc.) to convey up to the 100-year frequency storm flow, in conjunction with the designed storm sewers, to the proposed detention or retention systems.
4. Provide a Storm Sewer System and Roadway Drainage drawing. Perform field surveying as necessary to insure that this drawing is an accurate representation of actual field conditions. The scale of this drawing must be sufficient to clearly present the following information:
 - A. Existing and proposed elevation contours at an interval of two (2) feet or less. Contour lines shall be labeled frequently enough to be easily read and interpreted.
 - B. All of the individual surface areas that drain to each intercepting structure or the storm sewer system must be submitted. The areas must be numbered or labeled to match the calculations.

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

- C. The path used to calculate the time of concentration for each individual drainage area. Indicate the types of flow and provide calculations.
5. An adequate outlet must be provided for all proposed drainage systems, such as an existing ditch, stream, river, storm sewer, pond, lake or proposed detention/retention facility. The downstream outlet must be able to accommodate the flow of storm water from the proposed drainage system.
 6. Provide headwalls, energy dissipaters, rip-rap, erosion control mats, and other measures, as necessary, at all outlets to prevent erosion.
 7. Storm sewer and drainage system materials and construction shall be in accordance with the latest edition of Ohio Department of Transportation (ODOT) Construction and Materials Specifications (CMS) for pipe, catch basins, manholes, excavation, rock channel protection and seeding and mulching.

Storm sewers beneath pavement and 5 feet outside the edge of pavement shall be ODOT CMS Item 603, Conduit, Type "B".

Storm sewer 5 feet outside of the edge of pavement shall be ODOT CMS Item 603 Conduit, Type "C".

Storm Water Control Methodology:

1. The peak discharge rate of runoff from the critical storm and all more frequent storms occurring under post-development conditions shall not exceed the peak discharge rate of runoff from a 1-year frequency, 24-hour storm occurring on the same development drainage area under pre-development conditions.
2. Storms of less frequent occurrence (longer return periods) than the critical storm up to the 100-year storm have a peak runoff discharge shall have rates no greater than the peak runoff rates from equivalent size storms under pre-development conditions. Consideration of the 1, 2, 5, 10, 25, 50 and 100-year storms will be considered adequate in designing and developing to meet this standard.
3. The critical storm for a specific development drainage area is determined as follows:
 - A. Use the SCS TR-20 Hydrologic Analysis Model or other appropriate and approved hydrologic simulation model along with 24-hour rainfall data obtained from Huff & Angel, to determine the total volume (acre-feet) of runoff from a 1-year development. Include clearly in the calculations the coverage assumptions used for full build out of the proposed condition. Curve numbers for the pre-development condition must reflect the average type of land use over the past 10 years and not only the current land use.

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

- (I). For sites which are currently developed and are scheduled to be re-developed, the pre-developed condition shall be defined to be 100% of the site as grassland for critical storm and volume storage calculations.
- (ii). From the volumes determined in (A) above, determine the percent increase in volume of runoff due to development. Using this percentage, select the 24 hour critical storm from the following table:

TABLE 1: CRITICAL STORM DETERMINATION TABLE

If the Percentage of Increase in Volume of Runoff is:		The Critical Storm Will Be:
Equal to or Greater Than:	Less Than	
---	10	1-Year
10	20	2-Year
20	50	5-Year
50	100	10-Year
100	250	25-Year
250	500	50-Year
500	---	100-Year

Storm Water Runoff Control Standards:

- 1. Storm Water Runoff from a proposed development site such shall be controlled to meet the following criteria:
 - A. Two methods for calculating storm water runoff volumes and control measures are approved. They are the Modified Rational Method and the Soil Conservation Service Method. Either may be used for sites up to six (6) acres in size. The Soil Conservation Method must be used for all sites six (6) acres or larger.
 - B. Provide a drainage area map (or maps) for the pre-developed and post developed sites. Perform field surveying as necessary to insure that this drawing is an accurate representation of actual field conditions. The scale of this drawing must be sufficient to clearly present the following information:

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

- (I) Existing and proposed elevation contours, at an interval of two (2) feet or less. Contour lines shall be labeled frequently enough to be easily read and interpreted.
- (ii) Hydrologic boundaries of watersheds, including areas outside the proposed development the flow into the project area.
- (iii) Points of analysis, or the location where the drainage is being evaluated, for each watershed.
- (iv) The path used to calculate the time of concentration for each watershed. Indicate types of flow and provide calculations.
- (v) Delineate and label the types of land use, surface features, ground cover, soil types, etc. used to determine the runoff coefficients or curve numbers for the project areas.
- (vi) Show the proposed development layout.
- (vii) Provide a USGS Topographic Map copy indicating the proposed development area and 1,000 feet beyond the proposed development limits in each direction.

C. Calculations:

- (I) Provide routing calculations for each drainage area and drainage structure and their corresponding inflow and outflow hydrographs for the 2-year storm up through the 100-year storm. Prepare a summary table of results of the routing calculations. The table shall include, at a minimum, peak inflow, peak outflow, water surface elevations, and storage volume requirements.
- (ii) Provide pond volume -vs- elevation summaries.
- (iii) Provide calculations for the inlet/outlet works including weirs, orifices, culverts, spillways, grates, etc. Show their capacities and stage-discharge calculations, including tailwater assumptions.
- (iv) Verify capacities of receiving drainage features such as ditches, storm sewers, ponds, streams, etc. to verify sufficient capacity to accommodate the runoff of the development. The receiving drainage feature must be approved by the City of Salem Planning and Zoning Department. Check all storms with a return frequency of 100-years or less.

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

- (v) Provide runoff coefficients or curve number calculations for each watershed or sub-area, including impervious calculations.
- (vi) Provide time of concentration calculations for each watershed or sub-area.
- (vii) Calculate hydraulic grade line for outlet structures with pipes.
- (viii) Determine velocities of discharged waters and show details to control erosion.
- (ix) Provide narratives, as needed, to describe the methods, assumptions, formulas, and intent of the calculations.

D. Detention Basins:

- (I) The minimum length of width ratio of the basin shall be two-to-one.
- (ii) The grading of the detention basin shall be such that it reflects the surrounding topography. The embankment slopes for the detention basin should be four (4) feet horizontal to one (1) foot vertical preferred or a maximum of two (2) feet horizontal to one (1) foot vertical.
- (iii) The maximum water depth shall not exceed 10 feet.
- (iv) The minimum top width of the side embankments shall be 8 feet for non-vehicular traffic and 12 feet for vehicular traffic. The embankment shall be set at an elevation of least 12 inches above the emergency spillway.
- (v) Principal outlet (or outlets in a multi-stage configuration) shall have the capacity to pass the 100-year design storm flow.
- (vi) Outlet pipes shall have a minimum diameter of 6 inches. Orifice plates must be used for restrictions of smaller diameter. Consideration should be given to removable trash racks or other means to prevent clogging.
- (vii) Access to entire outlet structure for maintenance and inspection shall be provided and shall follow current OSHA Standards.
- (viii) An emergency spillway shall be provided, emergency spillways shall be designed to pass the 100-year storm frequency flow without the principal outlet capacity (in the event the principal outlet becomes plugged). The location of the emergency spillway shall be such that its overflow can be directed to an acceptable location. Permanent erosion control measures at

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

the emergency spillway may be required by the City based on potential erosion at the site.

- (ix) Dry type detention structures shall be graded to drain to the outlet structure. The minimum grade in an earthen pond shall be one (1) percent.
- (x) All pipes through the embankment shall have anti-seep collars.
- (xi) Soil borings and testing may be requested by the City of Salem, such testing shall be performed by an approved soils testing laboratory. Submit a report certifying suitability of the soils on-site for embankment and basin construction.

E. In certain applications, alternative detention facilities may be permitted and encouraged. These methods may be especially useful on small sites or where the increase in runoff is small. They may also be useful in conjunction with these methods described above. Requests for alternative detention facilities shall be submitted to the City of Salem Planning and Zoning Department within the appropriate design standards.

- (I) Infiltration basin, dry wells and infiltration ditches:
 - 1. Soil borings and testing shall be performed by an approved soils testing laboratory. Submit a report certifying the suitability of the soils on-site for infiltration.
 - 2. Infiltration measures must make provisions for overflow to a suitable area.
- (ii) Underground Detention Tanks or Pipes:
 - 1. May be used for commercial or industrial sites only.
 - 2. Must provide access for inspection and maintenance.
 - 3. Must have sufficient load bearing capacity.
- (iii) Detention areas in parking lots using catch basins may be used providing the following criteria can be met:
 - 1. A maximum water depth of 12 inches in parking areas may be used.
 - 2. Maximum water depth shall not exceed 6 inches below the finished floor elevations of the existing or proposed structures.
 - 3. Slopes for parking lots used for this purpose shall be a minimum of 0.75 percent and a maximum of 10 percent.
- (iv) Retention Basins:
 - 1. Soils report will be required to determine suitability.

STORM WATER MANAGEMENT

I. DRAINAGE DESIGN AND CONTROL

F. Maintenance of Storm Water Management Practices:

- (I) The City of Salem shall approve an inspection and maintenance agreement binding on all subsequent owners of lands served by the planned storm water management practices before the City accepts the final plat or plan of the proposed project.
- (ii) All inspection and maintenance agreements shall do the following:
 - 1. Designate the party responsible for maintenance of structural and nonstructural storm water management practices including, mowing and ensuring outlet structures are clear and in good repair. Unless otherwise approved by the City, this shall be an entity of common ownership within the proposed subdivision (such as an Association) or the owner on an industrial or commercial site.
 - 2. Prohibit unauthorized alterations of structural and nonstructural storm water management practices.
 - 3. Provide access to storm water management practices for inspection by the City to document the condition of the practices. Authorize the City to make corrections to the facility, if deemed necessary, and assess the affected property owners.
- (iv) The location, dimensions, and bearings (including the depth and capacity) of all storm water management practices shall be incorporated on the final plat or plan, prior to approval by the City, and reference thereon shall be made to the entity or individual(s) responsible for maintenance.

G. Inspection of Storm Water Management Practices:

- (I) The City may inspect storm water management practices periodically.
- (ii) Upon finding a malfunction or other need for maintenance, the City shall notify the responsible party of the need for maintenance.
- (iii) Upon notification, the responsible party shall have 15 working days, or other time stipulated by the City, to make repairs.
- (iv) Should repairs not be made within the time, or a plan approved by the City for these repairs not be in place, the City may undertake necessary repairs and assess the repair cost to the responsible party.

II.

Post Construction Storm Water Quality Requirements

STORM WATER MANAGEMENT

II. POST CONSTRUCTION STORM WATER QUALITY REQUIREMENTS

Overview:

Post-construction runoff controls are permanent controls which are intended and shall be designed to improve or maintain a receiving stream's physical, chemical and biological characteristics. In addition, stream functions are maintained and post-construction storm water practices shall provide continued management of both quality and quantity facilities.

Detailed drawings and maintenance plans shall be provided for all post-construction Best Management Practices (BMP's). Maintenance plans shall also be provided by the permittee to the post-construction operator of the site (including homeowner associations). The City of Salem operates a regulated municipal separate storm sewer system (MS4), the permittee, land owner or other entity with legal control over the property shall be required to develop and implement a maintenance plan to comply with the City MS4 Requirements. The use of innovative and/or emerging storm water management post-construction technologies shall be at the discretion of the City of Salem Planning and Zoning Department and could require monitoring to ensure compliance with OEPA's Construction General Permit (CGP). The post-construction portion of the Storm Water Management Plan shall include the following required elements:

1. Description of post-construction BMP's to be installed during construction. Description shall include estimated installation schedule and sequencing plan.
2. Rationale for selection shall incorporate anticipated impacts on the channel and flood plain, morphology, hydrology and water quality.
3. Detailed post-construction BMP drawings shall be provided.
4. BMP Maintenance Plan shall be developed for all BMP's selected and presented to post-construction operator.
5. Maintenance Plan shall include a disposal statement for structural BMP's. Ensure pollutants collected within structural BMP's are disposed of in accordance with local, state and federal regulations.
6. Linear Projects:
 - A. Linear projects, such as utility line installations with no net increase in impervious areas, do not need to comply with OEPA's General Permit. Linear projects must minimize number of stream crossings and width of disturbance. Construction Erosion and Sedimentation Controls are required for all projects, see Storm Water

STORM WATER MANAGEMENT

II. POST CONSTRUCTION STORM WATER QUALITY REQUIREMENTS

Pollution Prevention Regulations . Linear projects shall be required to document land disturbance area estimates and develop an Erosion/Sedimentation Control Plan.

Post Construction Water Quality Calculations:

1. Using the following equations: $CPWQ_v = C * P * A/12$

Where:

CPWQ _v	=	Channel protection and water quality volume in acre-feet
C	=	Runoff coefficient appropriate for storm less than 1 inch (See Table 2)
P	=	0.75 inch precipitation depth.
A	=	Area draining into the BMP in acres.

TABLE 2: RUNOFF COEFFICIENTS BASED ON TYPE OF LAND USE FOR CPWQ_v CALCULATION

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% in Open Space, the runoff coefficient is calculated as follows:

$$(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$$

2. An additional volume equal to 20 percent of the CPWQ_v shall be incorporated into the BMP for sediment storage and/or reduced infiltration capacity during construction.

STORM WATER MANAGEMENT

II. POST CONSTRUCTION STORM WATER QUALITY REQUIREMENTS

3. BMP's shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage available for successive rain events as described in Table 3 below.

TABLE 3: TARGET DRAW DOWN (DRAIN) TIMES FOR STRUCTURAL POST-CONSTRUCTION TREATMENT CONTROL PRACTICES

Best Management Practice (BMP)	Drain Time of CPWQv
Infiltration	24 - 48 Hours
Vegetated Swale or Filter Strip	24 Hours
Extended Detention Basins (Dry Basins)	48 Hours
Retention Basins (Wet Basins)*	24 Hours
Constructed Wetlands (above permanent pool)	24 Hours
Media Filtration, Bioretention	40 Hours

Water Quality BMP Installation and Maintenance:

1. A description of the post-construction BMP's that will be installed during construction for the site and the rationale for their selection in protection of channels from erosion and pollution prevention from sediment deposition must be provided. All pond designs must provide a minimum one (1) foot of freeboard. When designing storm water ponds, the applicant must consider public safety as a design factor for the pond and alternative designs must be implemented where site limitations would preclude a safe design.
2. Maintenance plans shall be provided for all post-construction BMP's. Maintenance plans shall be provided by the permittee to the post-construction operator of the site upon completion of construction activities and should be included in the Inspection and Maintenance Agreement. All storm water management facilities shall be cleaned and maintained such that the full water quality volume is available and that the facility functions as designed.

Compliance with State and Federal Regulations:

Approvals issued in accordance with this regulation do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from the Ohio EPA, the US Army Corps of Engineers, and other federal, state and/or county agencies not listed herein. If

STORM WATER MANAGEMENT

II. POST CONSTRUCTION STORM WATER QUALITY REQUIREMENTS

requirements vary, the most restrictive requirement shall prevail. These permits may include but are not limited to those listed below. Proof of compliance with these state and federal regulations is required to be submitted with the Storm Water Management and Sediment Control Plan before the City of Salem Planning and Zoning Department will approve or recommend approval.

1. Ohio EPA NPDES Permits authorizing storm water discharges associated with construction activity or the most current version thereof: Proof of compliance with these requirements shall be a copy of the Ohio EPA Director's Authorization Letter for the NPDES Permit, Ohio EPA NPDES Permit Number for the project, or a letter from the site owner explaining why the NPDES Permit is not applicable.
2. If there is any indication or reasonable evidence that disturbance of an existing watercourse, or potential wetland might occur, one or all of the following may be required depending on the extent and type of disturbance:
 - A. Jurisdictional Determination: Proof of compliance shall be a copy of the Jurisdictional Determination from the US Army Corps of Engineers affirming the findings of a qualified professionals survey and report of the site,
 - B. Section 404 of the Clean Water Act: Proof of compliance shall be a copy of the US Army Corps of Engineers Individual Permit Applications, if an Individual Permit is required for the development project, public notice or project approval. If an Individual Permit is not required, the site owner shall submit proof of compliance with the US Army Corps of Engineers Nationwide Permit Program. This shall include the following:
 - (I). A Site Plan showing that any proposed fill of waters of the United States conforms to the general and specific conditions specified in the applicable Nationwide Permit. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the US Army Corps of Engineers at the time of application of this regulation.
 - C. If a Section 404 Permit or Jurisdictional Determination is not required because wetlands or watercourses are not present on the property and there is no indication or reasonable evidence that disturbance will occur, a letter from the site owner verifying that a qualified professional has surveyed the site and found no waters of the United States are present or will be affected must be provided.

STORM WATER MANAGEMENT

II. POST CONSTRUCTION STORM WATER QUALITY REQUIREMENTS

- D. Ohio EPA Isolated Wetland Permit: Proof of compliance shall be a copy of Ohio EPA's Isolated Wetland Permit application, public notice or project approval, or a letter from the site owner verifying that a qualified professional has surveyed the site and found no isolated wetlands are present on the site. Isolated wetlands shall be delineated by protocols accepted by the US Army Corps of Engineers at the time of application of this regulation.
- E. Section 401 of the Clean Water Act: Proof of compliance shall be a copy of the Ohio EPA Water Quality Certification application, public notice, or project approval, or a letter from the site owner verifying that a qualified professional has surveyed the site and found no water of the United States are present or will be affected by the project. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the US Army Corps of Engineers at the time of applications of this regulation.
3. Ohio Dam Safety Law: Proof of compliance shall be a copy of the ODNR Division of Water permit application, a copy of the project approval letter from the ODNR Division of water, or a letter from the site owner explaining why the Ohio Dam Safety Law is not applicable.

III.

Storm Water Pollution Prevention Plan for Earth Disturbing Activities

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

General Requirements:

1. The Storm Water Pollution Prevention Plan (SWP3) shall incorporate measures as recommended by the most current edition of the Rainwater and Land Development Manual, as published by the Ohio Department of Natural Resources (ODNR).
2. A Registered Professional Engineer or Certified Professional Erosion Control Specialist (CPESC) must certify storm water and sediment and erosion control calculations, designs and plan sheets. To the extent necessary, a Registered Professional Surveyor may be required to certify boundary lines, measurements or land surfaces.
3. A Registered Professional Engineer, Certified Professional Erosion and Sediment Control Specialist (CPESC), or otherwise qualified person may select BMP's for sediment and erosion control that do not require designs or the exercise of professional judgement, such as, locating silt disturbance, seeding and mulching or similar, and are also within the following soil disturbance acreage limits:
 - A. All soil disturbing activities related to single-family residential development on individual lots; or
 - B. All soil disturbing activities on parcels less than 5 acres and not part of a larger common plan of development on land used or being developed for all building lots.
4. Projects with earth disturbing Activities anticipated to exceed 1 acre must file a Notice of Intent (NOI) with the Ohio EPA General Permit Program.
5. All earth disturbing projects regardless of size must have a Storm Water Pollution Prevention Plan (SWP3) for control of erosion and sediment; this plan must be submitted to the City of Salem Planning and Zoning Department for approval, prior to beginning any work.

Application, Narrative and Site Description:

The SWP3 Plan must contain an application, narrative report and site description with the following information provided:

1. Site Type (i.e. residential, commercial, subdivision, industrial, institutional, multi-family, apartment, condominium, mobile home park, or manufactured home park).

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

2. Phase (if applicable).
3. Ohio EPA NPDES Permit Number.
4. Location - include address or description and which township, city, or village it is located within (include subplot number if applicable).
5. Geographic Coordinates (i.e. latitude and longitude).
 - A. Site Location.
6. Total acreage of entire site.
7. Total acreage to be disturbed as part of the project. Include and list all areas where clearing, grubbing, excavating, filling, grading, including off-site borrow areas will occur. This includes the location and plan for off-site borrow areas.
8. List the number of sublots if project is a subdivision.
9. Provide the percentage of disturbed area in relation to the entire development area.
10. The aerial extent (plan view) and description of wetlands (including size and Ohio EPA category 1, 2, or 3) or other special aquatic sites on or near the site and whether or not disturbance of any are anticipated which will receive discharges from the disturbed areas of the project.
11. A list including the name and/or location of watercourses located on the property, immediate receiving watercourses or surface water(s) and the first subsequent named receiving water(s).
12. List of any conservation easements or other restrictive uses of the property on record.
13. Contact information, including company name, contact name, addresses, and phone number of the following:
 - A. Professional Engineer certifying the plans and/or other preparer of the Erosion and Sediment Control portion of the submittal.
 - B. Owner of the development site.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

14. An inspection and maintenance agreement binding the owner and all subsequent owners of lands where a storm water management facility is to be constructed. Such agreements/deed restrictions/restrictive covenants shall designate and minimally provide the following and be recorded with the deed of the property:
 - A. The party(s) responsible for long-term maintenance including repairs, as necessary for the facility(s).
 - B. Prohibit unauthorized alternation of the facility(s) without prior written approval from the City of Salem.
 - C. Allow the City of Salem personnel or agents access to the storm water management facility(s) at reasonable times for inspections to document the facilities condition and ensure its originally designed function.

Alterations to these stipulations or termination of any of these requirements are prohibited in the document and must run with the land. The document must clearly identify each facility and its location. The owner may provide a draft for review as part of the submittal. Once the draft is approved, a recorded copy of the entire document must be submitted to the City of Salem to receive final inspection approval of the site.

15. Storm water runoff estimations and calculations (including runoff coefficients) for Pre- and Post-Development peak discharges and the volume for channel protection and water quality. Include critical storm determination and demonstrate that runoff from upper watershed areas have been considered in calculations.
16. An estimate of the impervious area and percent imperviousness created by the soil disturbing activity.
17. A description of prior land uses at the site.
18. An implementation schedule which describes in detail the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence.
19. For subdivided developments where SWP3 Plan does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot erosion and sediment control practice including designation of specific

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

erosion and sediment control practices for critical areas such as steep slopes, watercourse banks, drainage ways and riparian zones.

20. Prior to construction commencing or before the pre-construction meeting, the following must additionally be provided:
 - A. Primary operator or contractors name, address and phone that is responsible for the development area.
 - B. List of all contractors/subcontractors contact information involved in the implementation of the SWP3 Plan.

Site Construction Plans, Drawings and Details:

The SWP3 Plan shall include construction plan sheets containing drainage, erosion and sediment control measures, and storm water control for proper management of the site during and after construction. A detail listing of the components required are as follows:

1. Vicinity Map: A map should be shown on the plans indicating the site in relation to the surrounding area.
2. Site Plan: A plan sheet indicating all temporary and permanent BMP's proposed to be used during all phases of construction shall be provided. It is preferred that the entire site be contained on one sheet, if possible, to permit an entire view of the site for analysis. If a smaller scale is used to permit inclusion of the entire site on one sheet, separate sheets providing an enlarged view of areas on individual sheets should be additionally provided. The following items shall be provided within the plans:
 - A. The limits of clearing, grading, excavation or any other soil disturbing activities, including off-site spoil and borrow areas must be provided with final contours shown.
 - B. Soil type and their boundaries, including locations of unstable or highly erodible soils.
 - C. Surface water locations including springs, wetlands, watercourses, lakes, water wells, etc., on or within 20 feet of the site, including the boundaries of wetlands or watercourses and first subsequent named receiving water(s) the applicant intends to fill or relocate for which the applicant is seeking approval from the US Army

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

Corp of Engineers and/or Ohio EPA.

- D. Existing and proposed two (2) foot contours with both labeled accordingly.
- E. Sediment ponds and or sediment traps, including their dimensions and the calculation of the available sediment settling volume and the contributing drainage area.
- F. Location of all erosion and sediment control practices, including location of areas likely to require temporary stabilization during the course of site development.
- G. Areas designated for the storage or disposal of solid and liquid wastes, including dumpster areas, areas designed for cement truck washout and vehicle fueling.
- H. The location of any activities in watercourses including watercourse crossings.
- I. Existing and planned location of buildings, roads, parking facilities and utilities.
- J. Detail drawings of all permanent and temporary structural storm water management and erosion control methods must be provided.
- K. Description and specifications for stabilization of all disturbed areas of the site and guidance to which method of stabilization should be employed for any time of the year shall be provided. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, the use of construction entrances, and the use of alternative ground cover.
- L. The plan must make use of non-structural practices that preserve the existing natural condition to the maximum extent practicable. Such practices may include preserving riparian areas, preserving existing vegetation and vegetative buffer strips, phasing construction operation in order to minimize the amount of disturbed land at any one time, and designation of tree preservation areas or other protective clearing or grubbing practices.
- M. Construction schedule clearly identifying the appropriate erosion, sediment or storm water control method and the general sequence during the construction process when each specific method will be implemented and the contractor responsible for implementation.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

- N. General Notes must be provided to clearly indicate the methods, timing and implementation of all temporary and permanent storm water management, erosion and sediment control items. The following notes or similar but not less restrictive should be provided:
- (i). “Minimize tracking of sediments by vehicles by utilizing the construction entrance as the only entrance for vehicles. Maintain this entrance with stone as needed to prevent dirt and mud from tracking onto the roadway. Regular sweeping of the roadway may be necessary to ensure roadway does not build up with sediments.”
 - (ii). “The owner of record must provide regular inspection and maintenance for all erosion and sediment control practices. Permanent records of all maintenance and inspections must be kept throughout the construction period. Inspection must be made a minimum of once every seven (7) days and immediately after storm events greater than 0.5 inches of rain within a 24-hour period. The name of owner’s designated inspector, major observations, date of inspections and corrective measures taken must be noted on all inspections.”
 - (iii). “Other erosion and sediment control items may be necessary due to environmental conditions and may be required at the discretion of the City of Salem or agents, Ohio EPA or County SWCD.”
 - (iv). “Sediment/storm water ponds and erosion and sediment controls shall be implemented as the first step of grading and within 7 days from the start of grubbing. Upon completion of construction of ponds, seeding and mulching shall immediately follow to aid in the stabilization and minimize erosion and sediment transport of the soil before water leaves the pond. All erosion and sediment controls shall continue to function until disturbed areas are restabilized.”
 - (v). “No solid or liquid waste shall be discharged into storm water runoff. (This includes washing out of cement trucks.) Designated wash pit areas are shown on the plans and are preset for this purpose away from areas of storm water runoff.”
 - (vi). “Site stabilization either permanent or temporary must follow the requirements as applicable on the following Table 3 or Table 4:”

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

PERFORMANCE AND DESIGN STANDARDS

Notification:

A Storm Water Pollution Prevention Plan (SWP3) must be reviewed and found in compliance with these regulations by the City of Salem Planning and Zoning Department prior to the commencement of any soil disturbing activities. The owner of a site with this approved SWP3 must notify the City of Salem Planning and Zoning Department within 48 hours before initiating any soil disturbing activities. The City of Salem Planning and Zoning Department shall also be notified upon project completion to grant final site approval of the project and ensure associated long-term maintenance agreement has been submitted and recorded for any storm water management facilities and built for the project.

Protection and Adjacent Properties:

1. Properties adjacent to the site, including public land and waters of the State shall be protected from sediment deposition resulting from land disturbance during construction. This may be accomplished by preserving a well vegetated buffer strip around the lower perimeter of the land disturbance, by installing perimeter controls such as sediment barriers, filters or dikes, or sediment basins, or by a combination of such measures.
2. When water must be pumped for the purposes of dewatering such as culvert construction, storm sewer construction or pond maintenance/construction, this water must pass through a filtering device or onto well vegetated soil on the property where construction is occurring before entering adjacent properties or drainage ways.

Soil Stabilization:

1. **Permanent Soil Stabilization:** All areas of final grade must be permanently stabilized within 7 days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. Permanent stabilization must be specified and performed as list in Table 3 below:

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

TABLE 3: PERMANENT STABILIZATION

Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Any area that will lie dormant for one year or more.	Within 7 days of the most recent disturbance
Any area within 50 feet of a watercourse and at final grade.	Within 2 days of reaching final grade.
Any area at final grade.	Within 7 days of reaching final grade within that area.

- A. For slopes steeper than 3:1, erosion control netting, placement of seed and mulch with tackifier, retaining walls, and/or other comparable method shall be utilized. All drainage ditches shall be designed and stabilized with rock riprap, sod, or erosion control matting, as appropriate. If failures occur within these created channels, immediate repair and/or revised design is required. Soil stabilization measures should be selected to be appropriate for the time of year, site conditions, and estimated length of use should include the use of the addition of topsoil, erosion control matting, rock riprap, and/or retaining walls. Permanent seeding should be done March 1 to May 31 and August 1 to September 30. Dormant seeding can be done from November 20 to March 15. At all other times of the year, the area should be temporarily stabilized until a permanent seeding can be applied.
- B. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until an 80% ground cover is achieved that is mature enough to control soil erosion satisfactorily and to survive severe weather conditions.
2. Temporary Soil Stabilization: Temporary soil stabilization is the most effective BMP during construction. The goal of temporary stabilization is to provide cover, quickly. This is accomplished by seeding with fast growing grasses then covering with straw mulch. Apply only mulch between November 1 and March 31. To minimize costs of temporary stabilization, leave natural cover in place for as long as possible. Only disturb areas where work is anticipated within the next 21 days. Temporary soil stabilization is required and NOT an option. Temporary stabilization must be specified and performed as listed in Table 4 below:

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

TABLE 4: TEMPORARY STABILIZATION

Area Requiring Temporary Stabilization	Time Frame to Apply Erosion Controls
Any disturbed area within 50 feet of a watercourse and not at final grade.	Within 2 days of the most recent disturbance, if that area will remain idle for more than 21 days.
For all construction activities, any disturbed area, including soil stockpiles, that will be dormant for more than 21 days but less than one year, and not within 50 feet to a watercourse.	Within 7 days of the most recent disturbance within the area.
Disturbed areas that will be idle over the Winter.	Prior to November 1.
NOTE: Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed. These techniques may include mulching, erosion matting, or placement of stone.	

3. Soil Stockpiles: Soil stockpiles shall be stabilized with temporary seed and mulch or have perimeter silt fencing place to prevent soil loss. All stockpiles shall be located at least one hundred (100) feet from all watercourses, drainage ways, wetlands and site drainage exit points.

Storm Water Runoff Controls:

1. Runoff control practices and associated details must be provided to control the flow of runoff from disturbed areas to prevent erosion. Such practices may include rock check dams, pipe slope drains, and diversions to direct flow away from exposed soil and protective grading practices. These practices shall divert runoff away from the disturbed areas and steep slopes where practicable.
2. Control of storm water runoff requires that use of grassed/vegetated areas, or sedimentation basins, to removed sediment and/or contaminants.
 - A. Vegetated filter strips, a minimum of 15 feet in width, can be utilized when sheet or overland flow is planned (storm water is not collected). If at any time it is found that a vegetated filter strip along is ineffective in stopping sediment movement onto adjacent property, additional perimeter controls shall be provided.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

- B. Grassed swales can be utilized for treatment if the development site is not conducive to more diffuse overland flow. A minimum ratio of 100 linear feet of grassed swale per acre of impervious area is required. When possible, swales should be designed to minimize the velocity of runoff to less than 2 feet per second from a 10-year, 24 hour storm. If failures occur within these swales, immediate repair and/or revised design is required.

Sediment Basins/Traps:

1. Sediment control practices and construction details of these practices must be provided for all structural practices that shall store runoff, allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas.
2. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, and earth diversion dikes or channels which direct runoff to a sediment settling pond. All sediment control practices must be capable of ponding runoff in order to be considered functional. Where five (5) acres or more, of development area are disturbed in one watershed, storm water runoff from that watershed shall pass through a sediment basin or other suitable sediment trapping facility with equivalent or greater storage capacity. All sediment basins and/or traps must provide a minimum storage of 67 cubic yards per acre of total contributing drainage area. The use of a dewatering device must be provided on the outlet structure to allow dewatering of the facility and ensure adequate time for sediment settlement. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment laden runoff. The depth of the sediment settling pond must be less than or equal to five (5) feet. The configuration between inlets and outlets of the basin must provide at least two units of length for each one unit of width (>2:1 length: width ratio). Sediment must be removed from the sediment settling pond when the design capacity has been reduced by 40 percent. (This is typically reached when sediment occupies one-half of the basin depth). Any dredged sediments placed on site must be immediately seeded and mulched or hauled off site to an appropriate location. When designing sediment settling ponds, the applicant must consider public safety as a design factor for the sediment basin and alternative sediment controls must be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

3. The City of Salem may require sediment settling basins or traps for smaller disturbed areas where deemed necessary. Sediment settling basins or traps whether permanent or temporary must be provided and continue to function until final stabilization of the site is achieved. Temporary sediment settling basins or traps may be removed following final stabilization of the site.

Installation of Sediment Controls:

Sediment basins and traps, diversion dikes, sediment barriers, and other measures intended to trap sediment on-site shall be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures whether permanent or temporary such as dams, dikes, sediment basins, storm water basins and diversions shall be seeded and mulching within seven (7) days after installation is complete.

Storm Sewer Inlet Protection:

Storm sewer inlet protection must be provided to minimize sediment laden water from entering storm drain systems, unless the storm drain system drains to a sediment settling pond. All storm sewer inlets/catch basins that are made operable during construction shall be protected so that sediment laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment. Provisions shall be made for these inlets/catch basins to operate and be maintained before, during and after the final surface is applied around it, such as concrete, asphalt or grass. This may require a provision for an alternate method of inlet protection such as the use of a "Dandy Bag" or approved equal. Water should pond around the inlet when it rains. Silt fence alone cannot be utilized as inlet protection. A sturdy frame must be constructed such as wood 2x4's to support silt fence around inlets. The storm sewer inlet/catch basin protection should encircle the entire basin and be properly entrenched if silt fence is to be utilized. Sediment must be removed on a regular basis around the inlet and properly spread, seeded and mulching or disposed of appropriately off-site.

Cut and Fill Slopes:

1. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Consideration should be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions, and other applicable factors. Slopes should be no steeper than 2:1 and preferably 3:1. Slopes that are found to be eroding excessively during the first year after construction shall be provided with additional slope stabilizing measures by the developer until the problem is corrected. The following guidelines are provided to aid in developing an adequate design:

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

- A. Roughened soil surfaces are generally preferred to smooth surfaces on slopes. Tracking should be done perpendicular to the direction of flow to retard runoff.
- B. Diversions should be constructed at the top of long steep slopes that have significant drainage areas above the slope. Diversions or terraces may also be used to reduce slope length.
- C. Concentrated storm water should not be allowed to flow down cut or fill slopes unless contained within an adequate channel, flume, or slope drain structure.
- D. Wherever a slope face crosses a water seepage plane that endangers the stability of the slope, adequate drainage or other protection should be provided.

Stabilization of Waterways and Outlets:

- 1. Permanent stabilization of conveyance channels must be shown for all channels and outfalls to prevent erosive flows. Measures may include erosion control matting, sodding, or rock riprap. All on-site storm water conveyance channels, except roadway ditches, shall be minimally designed and constructed to withstand the expected velocity of flow from a 10-year, 24 hours frequency storm without erosion. Stabilization adequate to prevent erosion shall also be provided at the outlets of all pipes and paved channels. Permanent stabilization of ALL non-paved channels carrying storm water including roadside ditches must consist of excelsior matting in the bottom of the channel.
- 2. All constructed waterways/drainage ways not directed to a sediment basin must be stabilized either temporarily or permanently immediately following construction to prevent scour and erosion from occurring. All culvert outlets must have rock channel protection placed immediately following construction.

Working in or Crossing Watercourses:

- 1. Construction vehicles should be kept out of watercourses to the extent possible. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) shall always be restabilized immediately after in-channel work is completed. An Ohio EPA 401 Permit and/or a US Army Corp of Engineers, Section 404 Permit may be necessary to perform projects within watercourses.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

2. Where a live (wet) watercourse will be crossed by construction vehicles regularly during construction, a temporary vehicular watercourse crossing shall be provided.
3. If construction activities will disturb areas adjacent to watercourses, structural practices shall be designed and implemented on site to protect all adjacent watercourses from the impacts of sediment runoff. No structural sediment controls (e.g. the installation of silt fence or a sediment settling pond in watercourses) shall be used in a watercourse. For all construction activities immediately adjacent to surface waters of the State, it is recommended that a setback of at least 25 feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer.

Maintenance of Temporary Measures:

All temporary and permanent erosion and sediment control practices shall be maintained and repaired as needed to assure continued performance of their intended function throughout the course of soil disturbing activities and until any up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns. If periodic inspections or other information indicated a control has been used inappropriately or incorrectly, the applicant must replace or modify the control for site conditions. Other erosion and sediment control items may be necessary due to environmental conditions and may be required at the discretion of the City of Salem or its representatives. The owner will be responsible for such maintenance until final inspection approval by the City of Salem.

Disposition of Temporary Measures:

All temporary erosion and sediment control measures shall be disposed of within 30 days after final stabilization of the site is achieved and approved by the City of Salem or after the temporary measures are no longer needed, unless otherwise authorized by the City of Salem. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sediment accumulation.

Construction Entrances:

Good housekeeping practices must be implemented to ensure sediment is not tracked off-site. Construction entrances shall be installed and maintained to minimize off-site tracking of sediments. A stone access drive should be installed at every point where vehicles enter or exit

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

the site. Maintenance of the stone access drive with additional stone throughout construction to ensure mud is not tracked out onto the roadway is required. The length of the construction stone entrance must be at least 70 feet in length (30 feet for an individual subplot) and 14 feet in width.

Other Pollutant Controls:

No solid (other than sediment) or liquid waste, including building materials, shall be discharged in storm water runoff. Wash pit areas must be constructed in pre-designated areas as shown on the plans. The applicant must implement all necessary BMP's to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state. Under no circumstances shall concrete trucks wash out directly into a drainage channel, storm sewer or surface waters of the state. No exposure of storm water to waste materials is recommended.

Silt Fence and Diversions:

Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow.

1. Where intended to provide sediment control, silt fence shall be placed on a level contour and not placed where concentrated flow is directed toward it. Silt fence shall be pulled tight and trenched at least 4" to 6" into the ground and backfilled to prevent runoff from cutting underneath the fence. Sections of silt fence shall be joined so there are no gaps in the fence. The ends of the silt fence shall be brought upslope of the rest of the fence to prevent runoff from going around the ends. Silt fence shall not control large drainage areas. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in the table below.

TABLE 5: MAXIMUM DRAINAGE AREA TO SILT FENCE

Maximum Drainage Area (in acres) to 100 Linear Feet of Silt Fence	Range of Slope for a Particular Drainage Area (in percent)
0.5	< 2%
0.25	≥2% but <
1.125	≥ 20% but < 50%

The use of combination barrier constructed of silt fence supported by straw bales or silt fence embedded within rock check dams may be effective for use in roadside ditches and on-site diversion swales and ditches. Storm water diversion practices shall be used to

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

Compliance with Other Requirements:

The SWP3 Plan shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.

Trench and Ground Water Control:

These shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If ground water or a trench contains sediment, it must pass through a sediment settling pond or equally effective sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant laden by traversing over disturbed soils or other pollutant sources.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

ADMINISTRATIVE

Inspection and Compliance:

1. The City of Salem Planning and Zoning Department or agents will make regular inspections of development areas to determine compliance with these rules and regulations and a report sent to the Commissioners of the sites compliance status. All construction activities, including permanent storm water facilities, will be constructed in conformity with approved SWP3 Plans. If it appears that a violation of these regulations has occurred, the owner or his appointed representative shall be notified of the deficiencies or non-compliance by the City of Salem in writing. If within two (2) weeks after the date of the proof of mailing receipt, the deficiency or non-compliance has not been corrected, or plans have not been approved by the City of Salem for its correction, said deficiency or non-compliance shall be reported to the City of Salem Planning and Zoning Department for consideration of a “finding of violation”.
2. If, in the opinion of the City of Salem Planning and Zoning Department, immediate and irreparable damage will occur because of the violations, the City of Salem Planning and Zoning Department may approach the City Law Director for consideration without delay.
3. If the City of Salem determines that a violation exists and requests the Prosecuting Attorney of the County of Jurisdiction in writing, the Prosecuting Attorney shall seek an injunction or other appropriate relief to abate excessive erosion or sedimentation and secure compliance with these regulations. In granting relief, the court may order the construction of sediment control improvements or implementation of other control measures.

Variance:

1. The City of Salem Planning and Zoning Department may grant a variance to these regulations where the owner or his appointed representative can show that a hardship exists whereby compliance with these regulations is not appropriate, based upon the following:
 - A. That exceptional topographic or other physical conditions exist that are peculiar to the particular parcel of land.
 - B. That the peculiar condition in (1.) above did not result from previous actions by the owner.

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

- C. That a literal interpretation of these regulations would deprive the owner of rights enjoyed by other property owners.
2. Adverse economic conditions shall not be considered as a valid reason or hardship for a variance request to be granted. No variances will be granted where activities occur that will defeat the purposes of these regulations.
3. The request for a variance shall be submitted to the City of Salem Planning and Zoning Department and shall state the specific variances sought and include sufficient data to justify the granting of a variance.

Appeals:

Any person aggrieved by any order, requirement, determination, or any other action or inaction by the City of Salem in relation to these regulations, may appeal to the court of Common Pleas. Such an appeal shall be made in conformity with the Ohio Revised Code. Written notice of appeal shall be served on the City of Salem Planning and Zoning Department.

Maintenance and Final Inspection Approval:

1. To receive final inspection and acceptance of any project the following must be provided or completed:
 - A. Disposition of all temporary erosion and sediment control measures.
 - B. Final stabilization and all permanent erosion and sediment control measures must be established.
 - C. Permanent storm water management facilities must be installed and made functional per the approved plans.
 - D. At the discretion of the City of Salem Planning and Zoning Department, an “As-Built” survey may be requested; said survey must be certified (sealed, signed and dated) by an Ohio Registered Surveyor and/or Engineer, as applicable with a statement certifying that the storm water facilities, as designed and installed meet the requirements of the plans originally found in compliance by the City of Salem Planning and Zoning Department. This may include a new set of storm water facility calculations to be provided if the design was altered significantly. The

STORM WATER MANAGEMENT

III. STORM WATER POLLUTION PREVENTION PLAN FOR EARTH DISTURBING ACTIVITIES

“As-Built” survey must minimally provide the location, dimensions, and bearing of such facilities and reference the entity or individual(s) responsible for long term maintenance.

2. The above listed items must be received by the City of Salem Planning and Zoning Department prior to receiving approval for the maintenance period inspection for subdivisions and prior to receiving final inspection approval of all other construction sites.