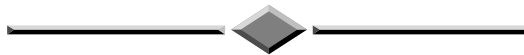
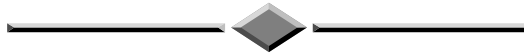


BOARD OF COUNTY COMMISSIONERS
ALLEN COUNTY, OHIO
301 N. Main Street, Lima, OH 45801



ALLEN COUNTY, OHIO
STORMWATER MANAGEMENT
AND
SEDIMENT CONTROL
REGULATIONS



FINAL Adopted Copy
February 1, 2001

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**ARTICLE 1
GENERAL PROVISIONS**

1.1 STATUTORY AUTHORITY AND TITLE

1.1.1 These regulations have been adopted by the Board of County Commissioners (the “Board”), Allen County, Ohio in accordance with and pursuant to the legal authority of Article XVIII, Section 3 of the Ohio Constitution, Section 307.79 of the Ohio Revised Code, and the Rules of 1501: 15-1-01 and 02 of The Ohio Administrative Code to be administered by a Board appointed agency (“Agency”).

The official title of these regulations shall be known as the “Allen County Stormwater Management and Sediment Control Regulations” (SMSCR).

1.2 PURPOSE

1.2.1 These regulations are to establish stormwater management using Best Management Practices (BMP’s) and conservation practices to control the pollution of public waters by sediment from accelerated soil erosion and stormwater runoff caused by earth disturbing activities, subsurface drainage and land use changes connected with activities within a development area (see definition). These regulations are intended to:

- A. Eliminate or significantly reduce flooding, erosion, and sedimentation damages caused by development;
- B. Eliminate or significantly reduce damage to receiving streams, storm sewers, or channels caused by increased runoff or pollutant loading of the water being discharged into them due to development that may be caused by illicit discharges;
- C. Develop public education and outreach programs to promote and maintain the health, safety and general well-being of the environment and the inhabitants of Allen County. The programs must be targeted at both the general community and commercial, industrial and institutional discharges;
- D. Development of construction site stormwater runoff regulations that requires the use of appropriate BMP’s. Preconstruction review of Stormwater Management & Sediment Control Plan (SMSCP), site inspections during construction for compliance with the SMSCP, and penalties for non-compliance;

- E. Development of post-construction stormwater management regulations that requires the implementation of structural and non-structural BMP's within new development and redevelopment areas, including assurances of the long-term operation of BMP's; and,
- F. Promote pollution prevention and good housekeeping for municipal operations such as efforts to reduce stormwater pollution from the maintenance of open space, parks and vehicle fleets.

1.3 SCOPE

1.3.1 SMSCR shall apply to all non-farm earth-disturbing activities performed on the unincorporated lands of Allen County, Ohio except those activities as outlined in Chapter 307.79 of the Ohio Revised Code and as follows:

- A. Strip mining operations regulated under Chapter 1513.01 of the Ohio Revised Code;
- B. Surface mining operations regulated under Chapter 1514.01 of the Ohio Revised Code; and/or,
- C. Public transportation, utilities and drainage improvements or maintenance thereof undertaken by a government agency.

1.4 REQUIREMENTS APPLICABILITY

- 1.4.1 A. Any person performing any non-farm, earth-disturbing activity that disturbs 20,000 square feet or more on land owned by one person or operated as one development unit major subdivision, commercial development and industrial development will be required to make application for a Stormwater Management and Sediment Control Permit. The applicant will be notified at the time of application the detail that will be required in the Stormwater Management and Sediment Control Plan.
- B. In the event that a subdivision/development is constructed in phases, then the entire subdivision/development size shall determine whether A pertains.

1.5 VARIANCE POLICY AND PROCEDURE

1.5.1 It is conceivable that earth-disturbing activities may have exceptional circumstances applicable to the site such that strict adherence to the provisions of these regulations will result in unnecessary hardship and not

fulfill the intent of these regulations. Therefore a variance request procedure is established as follows:

- A. The owner of the property or their designee will submit a written request to the Board for variance stating the reason for the variance and how the intent of the regulations are a hardship and will not fulfill the intent of the regulations;
- B. The Board will grant or deny the variance or request a modification to the variance;
- C. In the event the property owner or their designee disagrees with the decision of the Board they may appeal the Board decision in accordance with Article 2.10 of these regulations.

1.6 SEVERABILITY

- 1.6.1 If any clause, section, or provision of these regulations is declared invalid or unconstitutional by a court of competent jurisdiction, validity of the remaining provisions shall not be affected thereby.

1.7 DISCLAIMER OF LIABILITY

- 1.7.1 Neither submission of a plan under the provisions herein, nor compliance with the provisions of these regulations shall relieve any person from responsibility for damage to any person or property otherwise imposed by law; nor impose any liability upon the Board or its representatives for damage to any person or property.

1.8 RELATION TO SUBDIVISION REGULATIONS

- 1.8.1 If a stormwater management plan or drainage plan developed under these regulations is in conflict with requirements of the Allen County Subdivision Regulations, a variance may be granted to the Allen County Subdivision Regulations by the Lima-Allen County Regional Planning Commission where it is determined that such exception will enhance the management of stormwater and not be detrimental to the health, safety and general well being of life and inhabitants within the county.
 - A. Subdivision plat prepared in conjunction with a Stormwater Management and Sediment Control Plan, shall include the necessary covenants and restrictions to assure compliance to these regulations and conformance to the approved Stormwater Management and Sediment Control Plan.

**ARTICLE 2
ADMINISTRATIVE**

2.1 DELEGATION OF PROGRAM RESPONSIBILITIES

2.1.1 The Board of County Commissioners, Allen County, Ohio may delegate authority over the following components of the Allen County Stormwater Management and Sediment Control Program:

- A. Stormwater Management and Sediment Control Plan review and approval authority and collection of fees;
- B. Inspection before, during, and after construction and maintenance reviews of permanent practices;
- C. Enforcement; and,
- D. Resource reviews of proposed development sites.

2.2 AUTHORIZED PLAN PROVIDERS

2.2.1 The Board shall require all design plans, quantities and itemized cost estimates for the stormwater facilities be prepared and stamped by a Registered Professional Civil Engineer or a Registered Landscape Architect when the duties to be performed or the certifications that are to be made are within the powers and authority of a Landscape Architect pursuant to sections 4703.30 to 4703.49 of the Revised Code.

2.3 PLAN REVIEW AND APPROVAL

2.3.1 The Agency shall review the Stormwater Management and Sediment Control Plan within thirty (30) days of receipt and indicate approval or disapproval with the person who filed the plan. Indication of disapproval shall include the plan deficiencies and the procedure for filing a revised plan. No earth disturbing activities shall take place before preparation and approval of a SMSCP, earth-disturbing activities shall not be allowed prior to a permit being obtained.

During the plan review, the Agency will request recommendations pertaining to the proposed plan from the Allen County Soil and Water Conservation District for the erosion and sediment control of SMSCR and the Allen County Engineer's Office for stormwater management control of said regulations. The Agency or their designee shall be responsible for

review and approval of all hydrological and runoff calculations, as well as design and construction inspection for all stormwater management facilities. The SMSCR are subject to the procedures and guidelines of the applicable township zoning regulations.

2.4 PERMIT PROCESS

- 2.4.1 Permit Application Forms will be made available by the Agency. Information required will be sufficient for the Agency to determine if the Stormwater Management and Sediment Control Plan is complete as required and that the developer and/or property owner intends to comply with these regulations.

When a permit is required and the Stormwater Management and Sediment Control Plan is required, the permit will be issued upon approval of detail design, payment of required review inspection fees and posting of required bonds. All permits will expire after twelve (12) months from the date of issuance of the permit. Permit holders who have an expired permit may make application for reinstatement of the permit by contacting the agency within thirty (30) days of expiration.

2.5 APPLICATION, PERMITTING AND OTHER FEES

2.5.1 Application Fees

The Board shall establish all application fees by resolution and be paid to the agency.

A person requiring the approval of a Stormwater Management and Sediment Control Plan, which involves design and construction of stormwater management facilities, shall submit design plans, quantities and itemized cost estimates for review and approval. A certified check in the amount of \$100.00 plus 1.0% of the construction cost of the drainage facilities estimate shall be paid to the Agency to offset the cost of plan review.

2.5.2 Permit Fees

The Board shall establish all permit fees by resolution and paid to the agency.

No permit fee will be required for non-farm, earth-disturbing activities which have been provided for in an already approved Stormwater Management and Sediment Control Plan (i.e. home construction on a lot in

an approved subdivision with an approved Stormwater Management and Sediment Control Plan).

2.5.3 Additional Fees

Applicants shall be charged additional fees, based on an hourly rate, for additional time spent reviewing plans and inspection.

If the stormwater management facilities to be constructed are part of a subdivision being developed under the “Subdivision Regulations for Allen County, Ohio” and the application and permit fees for stormwater management facilities are included under Section 600 of said regulations then this provision of the SMSCR shall run in concurrence with them.

If the stormwater management facilities to be constructed are part of a major subdivision being developed under Municipal Subdivision Regulations, the Engineer of jurisdiction is hereby authorized by the County Commissioners to review, inspect and enforce these regulations within subdivisions being developed under the Municipality’s Subdivision Regulations. The Engineer of jurisdiction is further authorized to establish and to collect a fee to cover the cost of such services.

2.6 INSPECTION AND COMPLIANCE

2.6.1 The agency or their designated representative shall inspect land disturbance areas to determine that these rules and regulations are being complied with. If it is determined that a violation of these rules and regulations exists, the responsible person shall be notified of the deficiencies or non-compliance by the agency or their representative at the site and any deficiency or non-compliance shall be corrected or construction shall cease until the problem is corrected. If there is a disagreement by the owner/developer, he may appeal to the Board. If the Board determines a violation exists, they shall request the Prosecuting Attorney of Allen County, Ohio, in writing, to seek an injunction or other appropriate relief to secure compliance with these rules and regulations if the Agency’s orders are ignored. In granting relief through the court, it may order the construction of additional control measures, as per Section 307.79 O.R.C.

With the submittal and approval of the plans, permission for ingress and egress is granted to the Board or designee, for continuous inspection, as per Section 307.79 of the Ohio Revised Code.

2.7 ASSURANCE OF COMPLETION

- 2.7.1 The assurance of completion of the stormwater drainage facilities and control structures included in a Stormwater Management and Sediment Control Site Plan which has been developed and approved under these regulations shall be satisfied by the furnishing of a 100% performance, or surety bond. The Board shall approve the sufficiency of the bond and the County Prosecutor shall approve the bond as to form.

Storm drainage facilities and control structures that are being constructed as part of a subdivision subject to the Subdivision Regulations of Allen County shall be considered as an improvement under the requirements of the Subdivision Regulations. As such they shall be subject to the bonding requirements therein and this section of the SMSCR shall be waived.

If it can be shown that assurance of completion is being provided through another regulation of this county or its subdivisions, this section of the SMSCR shall be waived.

2.8 STORMWATER AND SEDIMENT COMPLAINTS

- 2.8.1 Upon receipt of a complaint, the Agency, shall inspect the site and follow the procedures as outlined in Section 2.6. The Agency shall also file a report with the agency and a copy sent to the complainant on the findings.

During the complaint review, the agency may request recommendations from the Allen County Soil and Water Conservation District, Lima-Allen County Regional Planning Commission and Allen County Engineer's Office. The Agency will submit in writing, within seven (7) days, a response to the complaint to the individual who filed the complaint.

2.9 PENALTIES FOR VIOLATION

- 2.9.1 If it is determined that a violation exists; the responsible person for the earth disturbing activity shall be notified of the deficiencies or noncompliance. After a reasonable period of time for voluntary compliance, the Agency shall notify the Board of non-compliance. Any order to comply issued by the county's legal representative shall describe the problem, the work needed, and will specify a date by which the work shall be completed. In the event work is not completed penalties shall be imposed in accordance with Section 2.9.3.

2.9.2 Violations may include, but are not limited to, the following:

- A. Off-site sedimentation resulting from noncompliance with the approved Stormwater Management and Sediment Control Plan which has eliminated or severely degraded a use in a lake or natural waterway, or that such degradation is imminent; and/or,
- B. Off-site sedimentation and/or excessive runoff resulting from noncompliance with the approved Stormwater Management and Sediment Control Plan has caused severe damage to adjacent land.

2.9.3 Any person who violates any provision or requirements of this regulation or who initiates or continues an earth disturbing activity for which a Stormwater Management and Sediment Control Plan is required except in accordance with the terms, conditions and provisions of an approved plan, is subject to civil penalty. Each day of violation constitutes a separate offense with a penalty of not more than five hundred (\$500.00) dollars per day. No penalty may be assessed until the person alleged to be in violation has been notified of the violation in accordance with Section 2.9.1. Nothing herein contained shall prevent the Board from taking such other lawful action as deemed necessary to prevent or remedy any violations.

2.10 APPEALS

2.10.1 Any person aggrieved by any order, requirement, determination, or any other action or inaction by Allen County Sanitary Engineer Department and the Board of County Commissioners, Allen County, Ohio in relation to these regulations may appeal to the Court of Common Pleas. Written notice of appeal shall be served on the Clerk of the Board of County Commissioners, Allen County, Ohio.

ARTICLE 3
STORMWATER MANAGEMENT CONTROL

3.1 PURPOSE

- 3.1.1 SMSCR have been adopted, in part, for the purpose of regulating non-farm, earth-disturbing activities to control stormwater discharge.

Stormwater management is premised on the fact that non-farm, earth-disturbing activities which increase the rate and/or volume of runoff will also increase the rate of erosion and volume of sedimentation. Therefore, earth-disturbing activities that increase the rate and/or volume of runoff shall be required to control the discharge rate of runoff prior to its release to offsite land. The purpose of controlling the release rate is as follows:

- A. Permit development without increasing the flooding of the lands;
- B. Reduce damage to receiving streams and impairment of their capacity; and,
- C. Establish a basis for design of a stormwater drainage control system that will preserve the rights and options of both the dominant and servient property owners.

These rules and regulations shall apply to all non-farm, earth-disturbing activities in excess of 20,000 square feet, performed on the unincorporated lands of Allen County, Ohio; except those activities as outlined in Section 1.3.1 of this text.

3.2 CALCULATING STORMWATER RUNOFF

- 3.2.1 The amount of stormwater runoff depends on a great number of factors. Some of these factors are reasonably fixed and subject to accurate determination, such as watershed size and shape, ground slope and natural ponding. Others are seasonably variable, such as frozen soil, soil moisture condition, evaporation, or transpiration. Still others vary by land use, such as type of ground cover and impervious areas or method of cultivation. Finally, rainfall is extremely variable as to seasonal conditions and other variable factors. Despite the indeterminate nature of these factors, methods for obtaining useful information about stormwater runoff have been developed. Alternative methods such as Urban Hydrology for Small Watersheds, Natural Resources Conservation Service Technical Release Number 55 (TR-55), by the Soil Conservation Service of the United States Department of Agriculture and its Ohio Supplement or the Rational Method, as shown in the Allen County Stormwater Design Specifications,

can be used to determine stormwater runoff. These shall be used as the minimum design.

- 3.2.2 The peak rate of runoff from the critical storm and all more frequent storms occurring on the development area shall not exceed the peak rate from a one-year frequency, twenty-four (24) hour storm occurring on the same area under pre-development condition.
- 3.2.3 Storms of less frequent occurrence (longer return periods) than the critical storm up to the one-hundred (100) year, twenty-four (24) hour storm have peak runoff rates no greater than the peak runoff rate from the equivalent size storm under pre-development conditions. Consideration of the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-, (1, 2, 5, 10, 25, 50, and 100) year, twenty-four (24) hour storms will be considered adequate in designing and developing to meet this standard.
- 3.2.4 The critical storm for a specific development area is to be determined as follows:
 - 3.2.4.1 Determine, using Natural Resources Conservation Service Technical Release (TR-55), Urban Hydrology for Small Watersheds, or equivalent methods, the total volume of runoff from a one-year frequency, twenty-four (24) hour storm, occurring on the development area before and after development; and,
 - 3.2.4.2 From the volume calculated in 3.2.4.1 determine the percent increase in volume of runoff due to development, and using this percentage, select the twenty-four (24) hour critical storm from Table 1.

TABLE 1 CRITICAL STORM FOR DISCHARGE LIMITATION If the percentage of increase in volume of runoff is:		
equal to or greater than	and less than	The critical storm for discharge limitation will be
---	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

3.3 STORMWATER RUNOFF CONTROL METHODS AND CRITERIA

3.3.1 Methods for controlling increases in stormwater runoff peaks and volumes may include but are not limited to:

3.3.1.1 Retarding flow velocities by increasing friction; for example, grassed road ditches rather than paved street gutters where practical; discharging roof water into vegetated areas; or grass and rock lined drainage channels;

3.3.1.2 Grading and construction of terraces and diversions to slow runoff and use of grade stabilization structures to provide a level of control in flow paths and stream gradients;

3.3.1.3 Induced infiltration of increased stormwater runoff into the soil where practical; for example constructing special infiltration areas with proper emergency over-flow facilities; and,

3.3.1.4 Provisions for retention and detention; for example, permanent ponds and lakes with stormwater basins provided with proper drainage, multiple use areas for stormwater detention and recreation, wildlife, transportation, fire protection, aesthetics, or subsurface storage areas.

3.3.2 Stormwater runoff control addresses both peak rate and total volume of runoff.

3.3.2.1 The storm drainage system installed shall carry a minimum 10-year 24-hour frequency storm. The design of which shall conform to the Allen County Stormwater Design Specifications. The retention/detention area shall have a minimum storage capacity for a 10-year, 24-hour frequency storm.

3.3.2.2 The peak rate of discharge from the retention/detention area shall not exceed a 1-year, 24-hour frequency storm based on pre-development conditions.

3.3.2.3 Storage volume does not have to be provided for off-site upstream areas. Flow from such areas will be routed through the drainage system in the development under consideration at a rate determined in the same manner as the on-site system. Off-site land uses over the last year before the development shall be considered as the pre-development condition for the purpose of calculating changes in runoff.

3.3.3 All stormwater management and sediment control practices shall be designed, constructed and maintained with consideration for the proper control of mosquitoes and other vectors. Practices may include, but are not limited to:

3.3.3.1 As per the methods outlined in the Allen County Stormwater Design Specifications.

3.3.3.2 The bottom of detention facilities shall be graded and have a slope of not less than 0.5 percent and the side slopes, both interior and exterior, shall not be steeper than 3:1 slopes;

3.3.3.3 There should be no depressions in a normally dry detention facility where water might pocket when the water level is receding;

3.3.3.4 Normally dry detention systems and swales shall be designed to drain within three (3) days; and provide for underdrain systems to dry out area; and,

3.3.3.5 An aquatic weed control program shall be utilized in permanently wet structures to prevent an overgrowth of vegetation in the pond.

3.4 MAINTENANCE OF STORMWATER CONTROL STRUCTURES, FACILITIES AND OUTLETS.

3.4.1 The owner and/or developer shall maintain all facilities and practices installed as part of the approved plan. This maintenance will continue for a period of one year from the date that construction was released by the Agency and/or as required by the applicable subdivision regulations.

3.4.2 Continuing maintenance of the stormwater drainage facilities (i.e. outlet structures, detention basins and primary drainage ditches) affecting more than one (1) land owner or developer shall be petitioned by the landowner or developer to the Board through the Ohio Drainage Law for permanent maintenance. Such procedures shall follow Revised Code Chapter 1515, Chapter 6131 and Chapter 6137. If the affected facility is not petitioned or if the petition is denied, an agreement will be legally recorded to address the ongoing maintenance by the owners or developer. In the case of new subdivision developments the above will be required before approval of final plat is granted.

3.4.3 Any on-going maintenance agreements or restrictions shall be recorded on the deed for the property, including reference to those responsible for maintenance. The location, dimension, and bearing of such facilities, and

easements shall also be recorded on the deed, and transferred to future owners. When on a subdivision, the items referenced above shall be a part of the final plat and will likewise be recorded for that subdivision.

- 3.4.4 Ownership and/or easements for purpose of maintenance of outlet structures shall be prepared by the permittee, recorded on the deed(s) and granted to the County for access to all outlet structures for which the County is assuming permanent maintenance responsibility.
- 3.4.5 Any drainage system installed in accordance with public regulations within the road right-of-way of the State, County, Township or other municipality shall be maintained by that political subdivision. It is the intention that the Permanent Maintenance Program through the Petitioned Ditch Process is to be reserved for off of right-of-way drainage systems. However, a developer may request the storm drainage system to be petitioned for permanent maintenance.
- 3.4.6 The final outlet of any drainage facility shall be in compliance with the permitting process and standards as set forth by the applicable political subdivision.

3.5 PREPARING A STORMWATER MANAGEMENT PLAN

- 3.5.1 The plan development process is one which provokes thought and consideration of management alternatives relative to stormwater early in the overall site development process.
- 3.5.2 A picture of the site potential and limitations should begin to emerge when all of the data has been collected. The designer should be able to determine those areas of the site that have potentially critical drainage hazards. The following are some important points to consider in site analysis.
 - A. Topography - The primary topographic considerations are slope steepness and slope length. Because of the adverse effect of long and steep slope on runoff, special care should be used in these potentially critical areas.
 - B. Natural Drainage - Natural drainage patterns exist on the land and should be identified on the plan so they can be incorporated into the proposed drainage system. Where it is possible, natural drainage ways should be used to convey the runoff to avoid the expense and problems of constructing artificial drainage systems. Care should also be taken to be sure that the existing natural drainage system is not overloaded.

- C. Soils - The major soils consideration from a runoff control standpoint is rate of infiltration of rainwater. Soils of the County have been grouped into hydrologic soil classes, which can be used to help determine the areas where critical runoff will occur.
 - D. Ground Cover - The type of existing ground cover greatly affects the amount of existing runoff from any given area. By knowing the types of existing ground cover and the proposed types, critical areas of runoff can be determined.
- 3.5.3 Inventory the existing site conditions to gather information that will help you develop the most effective stormwater management plan. The information obtained shall be plotted on a map and included with the calculations portion of the plan.
- A. Topography - A 200-scale topographic map of the site shall be prepared to show the existing elevations at 2-foot intervals or other intervals as deemed necessary by the Agency. When drainage areas are large and cover off-site, USGS map may be used to show these off-site drainage areas.
 - B. Drainage Patterns - All existing drainage swales and patterns shall be located and clearly marked on the topographic map.
 - C. Soils - Major soil type(s) on the site shall be determined and shown on the topographic map. Soil information can be obtained from the latest version of the Soil Survey of Allen County. Soil information shall be plotted directly onto the map or an overlay of the same scale for ease of interpretation.
 - D. Ground Cover - The existing vegetation on the site shall be shown on the topographic map. Such features as tree clusters, grassy areas and unique vegetation should be located on the map. In addition, existing denuded or exposed areas should be indicated on the map.
- 3.5.4 With the completion of the data collection activity the peak rate of runoff and runoff volume for the pre-development situation can be determined for the one (1) year storm.
- 3.5.5 A drainage system shall be developed after analyzing the data and determining the site limitations. The design consultant shall work with the site planner and attempt to locate the buildings, roads and parking lots to exploit the strengths of the site and overcome the drainage limitations of the site. The following are some points to consider in making these decisions:

- A. Fit Drainage Systems to Terrain - the design consultant shall attempt to tailor the drainage system to the existing site conditions. This will avoid unnecessary land disturbance and therefore help reduce the increase in runoff.
- B. Confine Construction to Areas not in Drainageways - Any land disturbance in drainageways will necessitate the installation of more costly control measures.
- C. Cluster Building Sites Together - Clustering building sites together outside of natural drainage ways minimizes the amount of disturbed cover and helps reduce the increase in runoff.
- D. Minimize Impervious Areas - Keep paved areas such as parking lots and roads to a minimum. The more land that is kept in vegetative cover, the more water will have a chance to infiltrate, thus minimizing runoff.

3.5.6 A plan to control runoff from the site must be formulated when the general layout of the site has been decided upon.

- A. Divide the Site into Drainage Areas - Determine how much and where the runoff will travel over the site. Consider how runoff can be controlled in each drainage area. Remember, in most cases it is easier to control runoff in smaller areas than to try to handle the entire site at some location downstream as it leaves the site.
- B. Select Runoff Control Practices - Runoff Control practices can be divided into three broad categories: (1) vegetative controls, (2) structural controls, and (3) management measures. Local or State handbooks should be used to select and design appropriate vegetative and structural practices. Management measures are common sense types of controls used to help minimize the need for physical practices.
 - 1. Vegetative Control - Keep in mind that the first line of defense is to prevent increase in volume or rate of runoff. This is accomplished by protecting the soil surface as much as possible and not decreasing the over-land flow time.
 - 2. Structural Controls - Where large increases in runoff occur, structural practices must be selected, designed and constructed according to standards and specifications of the engineer of jurisdiction.
 - 3. Management Measures - Good site design and construction management is as important as any physical practices used for

runoff control. The following are only some management considerations:

- a. Design site to help reduce runoff in open areas and not increase it;
- b. Use stage construction;
- c. Use as few pipe systems as possible; and,
- d. Allow runoff to travel around within the site and not just straight through.

3.5.7 Once a development plan and drainage system that meets the runoff criteria has been decided upon, the detail plans for the drainage facilities and control structures shall be developed. Detail design plans shall be developed according to generally accepted engineering principles and approved by the Agency or the designee of jurisdiction. It is important at this point in time to work closely with the Allen County Sanitary Engineer or designee of jurisdiction. It is important at this point in time to work closely with the Agency or designee of jurisdiction to make sure that all facilities and structures are being designed according to standards and criteria that exist for these types of facilities and structures within that jurisdiction.

3.5.8 Smaller site developments can result in major increases in runoff, but the alternatives for handling them are usually limited. Wherever possible we would encourage the developer to go through all of the steps under Section 3.5. However, in the situation where there is only one alternative for surface development on a small site and it is merely a matter of designing a drainage system to meet the runoff criteria, we only require submission of sufficient information to show that the criteria is being met and that the drainage facilities and control structures have been designed to standard.

3.5.9 In order to analyze the pre-development condition, the same data that is required for a Stormwater Management Plan is required for a Drainage Plan. Follow Section 3.5.2.

3.5.10 With the completion of the data collection activity, the peak rate of runoff and runoff volume for the pre-development situation can be determined for the one (1) year storm.

3.5.11 In most cases for small sites, the developer will know how the surface of the site is to be developed. He can then go directly to calculation of increase of runoff and determination of runoff criteria following the steps in Section 3.5.7.

3.5.12 From the results of Section 3.5.11, the developer can determine the type and magnitude of control practices he will need, in most cases being some

type of structural control. These controls should be located on the site plan and runoff calculations checked.

- 3.5.13 Once a development plan and drainage plan and drainage system that meets the runoff criteria has been decided upon, then detail design plans for the drainage facilities and structures shall be developed. It is important at this point in time to work closely with the Engineer of Jurisdiction to make sure that all facilities and structures are being designed according to any standards and criteria that may exist for these types of structures within that jurisdiction.

3.6 SUBMISSION OF DRAINAGE PLAN

- 3.6.1 The drainage plan shall be submitted to the Agency and shall consist of two parts, (1) site plan and (2) engineering details (see Appendix C). The site plan is a series of maps pictorially explaining the information in the narrative. The engineering details are detailed drawings, calculations and specifications on the drainage facilities and control structures to be constructed as part of the development.

**ARTICLE 4
EROSION AND SEDIMENT CONTROL**

4.1 PURPOSE

4.1.1 Effective erosion and sediment control planning requires a working knowledge of both application of control measures in terms of their selection and location and the design of the control measure in terms of its configuration, size and construction. The following criteria shall guide the preparation of all erosion and sediment control plans regardless of their scale of complexity. Appendix C shall be used as a guideline for plan preparation.

4.2 STABILIZATION OF SOIL DIVIDED AREAS AND SOIL STOCK PILES

4.2.1 Permanent or temporary soil stabilization shall be applied to denuded areas after final grade is reached on any portion of the site. Soil stabilization should also be applied to denuded areas, which may not be at final grade, but will remain undisturbed during the construction period. Soil stabilization refers to measures that protect soil from the erosive forces of raindrop impact and flowing water. Applicable practices include vegetative establishment, mulching and the early application of gravel base on areas to be paved. Soil stabilization measures should be selected to be appropriate for the time of year, site conditions and estimated duration of use. Soil stockpiles should be stabilized or protected with sediment trapping measures to prevent soil loss.

4.3 ESTABLISHMENT OF PERMANENT VEGETATION

4.3.1 A permanent vegetative cover should be established on denuded areas not otherwise permanently stabilized. Permanent vegetation should not be considered established until a ground cover is achieved which is mature enough to control soil erosion satisfactorily and to survive severe weather conditions.

4.4 PERIMETER CONTROLS

4.4.1 Properties adjacent to the site of a land disturbance shall be protected from sediment deposition. This will 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.

Vegetated filter strips shall be used where runoff in sheet flow is expected. In general, filter strips shall be at least fifteen feet in width. If at any time it is found that a vegetated filter strip alone is ineffective in stopping sediment movement into adjacent property, additional perimeter controls shall be provided.

4.5 TIMING AND STABILIZATION OF SEDIMENT TRAPPING MEASURES

4.5.1 Sediment basins, diversions, 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 such as dams, dikes and diversions shall be seeded and mulched after installation.

4.6 SEDIMENT BASINS

4.6.1 Stormwater runoff containing damaging amounts of sediment shall pass through a sediment basin or other suitable sediment trapping facility.

4.7 CUT AND FILL SLOPES

4.7.1 Cut and fill slopes shall be designed and constructed in a manner which 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 which are found to be eroding excessively within one year of construction, shall be provided with additional slope stabilizing measures until the problem is corrected.

4.8 STABILIZATION OF WATERWAYS AND OUTLETS

4.8.1 All on-site stormwater surface channels shall be designed and constructed to withstand the expected velocity of flow from a ten-year frequency storm without erosion. Stabilization adequate to prevent erosion shall also be provided at the outlets of all pipes and paved channels. All land adjoining, abutting and/or made part of an open ditch shall use BMP's, to ensure limited erosion and sediment deposit within the open ditch.

4.9 STORM SEWER INLET PROTECTION

4.9.1 All storm sewer inlets which 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.

4.10 WORKING IN OR CROSSING WATERCOURSES

- 4.10.1 Construction vehicles shall 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 reestablished immediately after in-channel work is completed. Where a live watercourse must be crossed by construction, a temporary stream crossing should be provided.
- 4.11 CONSTRUCTION ACCESS ROUTES
- 4.11.1 Wherever construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment (mud) by runoff or vehicle tracking onto the paved surface.
- 4.12 DISPOSITION OF TEMPORARY MEASURES
- 4.12.1 All temporary erosion and sediment control measures should be disposed of after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.
- 4.13 MAINTENANCE
- 4.13.1 All temporary and permanent erosion and sediment control measures shall be maintained and repaired as needed to assure continued performance of their intended function. Inspection by the Agency or designee shall determine if and when maintenance/repair is needed.
- 4.14 PLANS & SPECIFICATIONS
- 4.14.1 All erosion control practices contained on the plan shall be built to the standards and specifications of the “Rainwater and Land Development”, Ohio’s Standards for Stormwater Management, Land Development and Urban Stream Protection, Second Edition 1996.

APPENDIX A
DEFINITIONS

DEFINITIONS

For the purpose of the Allen County Stormwater Management and Sediment Control Regulations, certain rules or word usage apply to the text as follows:

- A) Words used in the present tense include the future tense; and the singular includes the plural, unless the context clearly indicates the contrary;
- B) The term “shall” is always mandatory and not discretionary; the word “may” is permissive; and,
- C) The word or term not interpreted or defined by this article shall be used with a meaning of common or standard utilization, so as to give this resolution its most reasonable application.

Best Management Practices (BMP’s) - a wide range of management procedures, schedules of activities, prohibitions on practices and other management practices which have been demonstrated to effectively control the quality and/or quantity of water runoff and which are compatible with the planned land use.

Channel - a natural stream, drainage ditches or channel excavated or improved excavated for the flow of water.

Commercial – those economic activities connected with commerce or trade including but not necessarily restricted to retail, service and wholesale activities singularly or in combination. Also included within this classification: the construction sector; transportation and warehousing sector; finance and insurance; information; professional, scientific and technical services; accommodation and food services; health care and social assistance; and waste management and remediation services.

Critical Storm - the longest period of storm frequency that a structure or facility will be designed for.

Detention - a structure or facility whose primary purpose is to temporarily store storm water runoff and release the stored runoff at controlled rates.

Development Area - any contiguous (abutting) area owned by one person or operated as one development unit and used or being developed for non-farm commercial, industrial, residential, or other non-farm purposes upon which earth disturbing activities are planned or underway.

Ditch - an excavation either dug or natural for the purpose of drainage or irrigation with intermittent flow.

Drainage Area - means (1) The contributing area to a single drainage basin, expressed in acres, square miles, or other unit or area. Also called Catchment Area, Watershed and River Basin. (2) The area served by a drainage system receiving storm and surface water or by a watercourse.

Drainage Plan - The plans shall include but not be limited to plan & profile, cross section, and construction detail sheets. United States Geological Survey (USGS) benchmark datam shall be utilized as a data.

Drainageways - an area of concentrated water flow other than a river, stream, ditch, channel, or grassed waterways.

Dumping - grading, pushing, piling, throwing, unloading, or placing.

Earth Disturbing Activity - any grading, excavating, filling or other alteration of the earth's surface where natural or man-made ground cover is destroyed and which may result in or contribute to erosion and sediment pollution.

Earth Material - soil, sediment, rock, sand, gravel, and organic material or residue associated with or attached to the soil.

Erosion -

- A) The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep; and/or
- B) The detachment and movement of soil or rock fragments by wind, water, ice or gravity.
- C) Erosion includes:
 - 1) Accelerated Erosion: erosion much more rapid than normal, natural or geologic erosion, primarily as a result of the influence of the activities of man;
 - 2) Floodplain Erosion: abrading and wearing away of the nearly level land situation on either side of a channel due to overflow flooding;
 - 3) Gully Erosion: the erosion process whereby water accumulates in narrow channels during and immediately after rainfall or snow or ice melt and actively removes the soil from this narrow area to considerable depths such that the channel would not be obliterated by normal smoothing or tillage operations;
 - 4) Natural Erosion (geologic erosion): wearing away of the earth's surface by water, ice, or other natural environmental condition of climate, vegetation, etc., undisturbed by man;
 - 5) Normal Erosion: the gradual erosion of land used by man which does not greatly exceed natural erosion;
 - 6) Rill Erosion: an erosion process in which numerous small channels only several inches deep are formed (occurs mainly on recently disturbed soils); and/or,
 - 7) Sheet Erosion: the removal of a fairly uniform layer or soil from the land surface by wind and water.

Final Site Stabilization - all soil disturbing activities at the site have been completed, and a uniform perennial vegetative cover with a density of at least 70% cover for the area has been established or equivalent stabilization measure (such as the use of mulches or geotextiles) have been employed.

Flood - means a general and temporary condition of partial or complete inundation of normally dry land areas.

Grassed Waterway - a broad or shallow natural course or constructed channel covered with erosion resistant grasses or similar vegetative cover and used to conduct surface water.

Industrial: - those economic activities engaged in the manufacturing, processing, assembly, treatment, and/or fabrication of materials, products or commodities. Included within this manufacturing classification: food; beverage and tobacco products; textile mills; textile product mills; apparel; leather and allied products; wood products; printing and related support activities; petroleum and coal products; chemicals; plastics and rubber products; nonmetallic mineral products; primary metals; fabricated metal products; machinery; computer and electronic products; electrical equipment, appliances and components; transportation equipment; furniture and related product manufacturing and other miscellaneous manufacturing.

Larger Common Plan of Development - a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

Major Subdivision - a major subdivision is defined pursuant to Chapter 711 of the Ohio Revised Code as the creation of more than five (5) parcels, inclusive, after the tract of record has been completely subdivided or which involve the opening, widening or extension of a street or road or easement of access.

Minor Land Division - A minor division of land or lot split is defined pursuant to the Ohio Revised Code, Section 711.131 as the division of parcels less than five (5) acres in size which do not involve the opening, widening or extension of any street or road, or easement of access and does not involve more than five (5) lots, including the remainder of the original tract.

On-Site - the parcel of land upon which the earth disturbing activity is taking place.

Person - an individual, corporation, partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, or any combination thereof.

Petition Ditch - a process as defined in Section 6131 and 6137 of the Ohio Revised Code which may be utilized to alleviate a drainage problem and to place the project on permanent maintenance to insure that the project will not have to be constructed or re-constructed again. The drainage improvement possible under this provision include:

- The location construction, reconstruction, reconditioning, widening, deepening, straightening, altering, boxing, tiling, filling, walling, arching, or any change in the course, location or terminus of any ditch, drain, watercourse or floodway;

- The deepening, widening, straightening, or any change in the course, location, or terminus of a river, creek or run;
- A levee, or any wall, embankment, jetty, dike, dam, sluice, revetment, reservoir, holding basin, control gate, breakwater or other structure for the protection of lands from any stream, lake or pond, or the protection of any outlet, or for storage or control of water;
- The removal of obstructions such as silt bars, log jams, debris, and drift from any ditch, watercourse, floodway, river, creek or run; and/or,
- The vacating of a ditch or drain.

Plan - the stormwater management, sediment control and/or drainage plan(s).

Post-Development - the conditions which exist following the completion of the earth disturbing activity in terms of topography, vegetation, and land use, as well as the rate, volume, and direction of Stormwater runoff.

Pre-Development - the conditions which exist prior to the initiation of the earth disturbing activity in terms of topography, vegetation, and land use, as well as the rate, volume, or direction of Stormwater runoff.

Primary Drainage System - means that part of the storm drainage system which is used regularly for collecting, transporting and disposing of storm runoff, snow melt, and miscellaneous minor flows. The capacity of the primary drainage design storm which may have a frequency of occurrence of once in two, five or ten years.

Public Waters - water within rivers, streams, ditches, and lakes except private ponds and lakes wholly within single properties, or waters leaving property on which surface water originates.

Regulations - the Allen County Stormwater Management and Sediment Control Regulations.

Residential Subdivision - as defined in Section 711.001 of the Ohio Revised Code, as amended.

Retention - a permanent structure or facility whose primary purpose is to permanently store a given volume of stormwater runoff.

Runoff Coefficient - the fraction of total rainfall that will appear at the conveyance as runoff.

Sediment - solid material both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, gravity, or ice, and have come to rest on the earth's surface above or below sea level.

Sediment Basin - a barrier, dam, or other suitable detention facility built across an area of waterflow to settle and retain sediment carried by the runoff waters.

Sediment Pollution - failure to use management or conservation practices to abate wind or water erosion of the soil or to abate the degradation of the waters of the state by soil sediment in conjunction with land grading, excavating, filling, or other soil-disturbing activities on land used or being developed for non-farm commercial, industrial, residential, or other non-farm purposes.

Sedimentation - the action or process of depositing sediment.

Site Plan – the drawing(s), which illustrate the horizontal and vertical existing and proposed data of a developable site. It shall show the location and extent of present and proposed physical facilities including residential, industrial, commercial uses, major streets, parks, schools and other community facilities.

Sloughing - a downward movement of an extended layer of soil resulting from the undermining action of water or the earth-disturbing activity of man.

Soil Loss - soil relocated on, or removed from a given site by the forces of erosion and the redepositing of the soil at another site on land or in a body of water.

Storm Drainage System - means the surface and sub-surface system for the removal of water from the land, including both the natural elements of streams, gullies, ravines, marshes, swales and ponds whether or not an intermittent or continuous natural and man-made elements which include conduits and appurtenant features, culverts, ditches, channels, storage facilities, streets and the storm sewer system.

Storm Frequency - the average period of time within which a storm of a given duration and intensity can be expected to be equaled or exceeded.

Stormwater - the direct response of a watershed to precipitation and includes the surface and subsurface runoff that enters a ditch, stream, storm sewer or other concentrated flow during and following the precipitation.

Stormwater Management Facilities - means the drainage system and control facilities necessary to meet the runoff criteria of these regulations.

Stormwater Management and Sediment Control Plan – is a plan consisting of the preparation of all or a combination of the following: Drainage Plan, Stormwater Management Sediment Control Site Plan, design calculations for run-off and detention volumes and storm sewer design calculations.

Stream - a body of water running or flowing on the earth's surface or channel in which such flow occurs. Flow may be seasonally intermittent.

Subsurface Drainage - any drainage activity where stormwater is diverted through conduits which are placed below the final grade of the soil surface.

Swales - a structural measure with a lining of grass, riprap or other materials which can function as a detention structure and convey storm water runoff without causing erosion.

Topsoil - surface and upper surface soils which presumably are darker colored, fertile soil materials, ordinarily rich in organic matter or humus debris.

Variance - the modification of the minimum water management and sediment control requirements for specific circumstances where strict adherence of the requirements would result in unnecessary hardship and not fulfill the intent of these regulations.

APPENDIX B
APPLICATION AND PERMIT FORM

STORMWATER MANAGEMENT AND SEDIMENT CONTROL Application For Permit

BOARD OF COUNTY COMMISSIONERS
ALLEN COUNTY, OHIO
ALLEN COUNTY ENGINEER, DRAINAGE DEPARTMENT
1501 NORTH SUGAR STREET
LIMA, OHIO 45801-3136
(419) 221-2605 EXT 17

Date: _____
Permit No.: _____
Permit and Application Fees: \$ _____

<p>1 OWNER: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ FAX: _____</p> <p>CONTRACTOR: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ FAX: _____</p>	<p>DEVELOPER: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ FAX: _____</p> <p>ENGINEER: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ FAX: _____</p>
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FILL OUT APPLICANT INFORMATION IF OTHER THAN ABOVE

APPLICANT: _____
ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
PHONE: _____ FAX: _____

2. PROPERTY LOCATION: TOWNSHIP: _____ CITY/VILLAGE: _____
PROJECT NAME: _____
ADJOINING ROAD: _____ SECTION: _____ LOT: _____
 North South East West of NEAREST INTERSECTION: _____

3. TYPE OF DEVELOPMENT: Commercial Industrial Major Subdivision Minor Land Division
 Multi Family Units Single Family Unit Other _____

4. Total Area of Parcel: _____

5. Total Area of Parcel to be Developed: _____

6. Total Area to be Permanently Impervious: _____

7. Attach a site plan, drainage calculations, and any other additional information (i.e. lot survey, photo, that you have available that might help depict your intended activity and the end project will appear.

8. I, _____ the undersigned, being responsible for the above described activity understand that the activity is subject to and must comply with the Allen County Stormwater Management and Sediment Control Regulations (SMSCR).

Signature: _____

Title: Owner Developer Contractor Other

----- FOR OFFICIAL USE ONLY -----

The above application had been reviewed and the applicant has been:

- No Permit required
- Has paid all appropriate permit fees
- Advised that there is an existing approved Stormwater Management Plan for this site that must be complied with
- Advised that a site plan, drainage plans, calculations and sediment control plan must be submitted, reviewed, and approved prior to the issuance of a permit
- Issued a permit

Engineer

Date

BOARD OF COUNTY COMMISSIONERS
ALLEN COUNTY, OHIO
ALLEN COUNTY ENGINEER, DRAINAGE DEPARTMENT
1501 NORTH SUGAR STREET
LIMA, OHIO 45801-3136
419.221.2605 EXT. 23

Permit# _____

App # _____

Fee \$ _____

STORMWATER MANAGEMENT AND SEDIMENT CONTROL PERMIT

This permit is being issued in accordance with the Allen County Stormwater Management and Sediment Control Regulations (SMSCR) in effect as of _____. The below signed parties have agreed in the application (# _____), that the SMSCR will be adhered to. That any violation found upon inspection will be grounds for suspending the earthmoving/disturbing activity until such time as compliance is met (see SMSCR Section 2.5 and 2.7).

(Owner)

(Date)

(Developer)

(Date)

(Contractor)

(Date)

Allen County Sanitary Engineer

(Notary)

APPENDIX C
STORMWATER MANAGEMENT & SEDIMENT CONTROL
SITE PLAN CHECKLIST

CHECKLIST
STORMWATER MANAGEMENT & SEDIMENT CONTROL SITE PLAN

- _____ Vicinity map - A small map locating the site in relation to the surrounding map.
- _____ Existing contours - The existing contours of the site should be shown on a map at 2' intervals.
- _____ Existing vegetation - The existing tree lines, grassy areas, or unique vegetation should be shown on a map.
- _____ Soils - The boundaries of the different soil types should be shown on a map.
- _____ Indicate north - The direction of north in relation to the site should be shown.
- _____ Critical erosion areas - Areas with potentially serious erosion problems should be shown on a map.
- _____ Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas and drainageways should be shown on a map.
- _____ Final elevations - Changes to the existing contours should be shown on a map. As final finish grades to building sites and directions of flow to channels, storm sewer, etc.
- _____ Limits of clearing and grading - Areas which are to be cleared and graded should be outlined on a map.
- _____ Location of practices - The locations of the erosion and sediment control and storm water management practices used on the site should be shown on a map.
- _____ Detailed drawings - The detailed drawings for the structural practices that will be installed.
- _____ Utilities and easements - Show the existing location of buried and overhead utilities and all recorded easements.
- _____ Legend - Explain all symbols used.
- _____ Scale - Show the scale use on the site plan. 1" = 100' shall be minimum scale.
- _____ Existing Features - Show location of natural and man-made features, utilities and easements.