Chagrin River Watershed Partners

Minimizing Nonpoint Source Pollution Impacts from Roads, Highways, and Bridges

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OHIO DEPARTMENT OF NATURAL RESOURCES

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PARTNERS

Chagrin River Watershed Partners (CRWP) has assembled ordinance language to minimize nonpoint source pollution impacts from roads. Language applicable to roads is typically scattered throughout communities' ordinances. This document has been developed to provide code language designed to be a model for Ohio municipalities. Townships may need to revise these recommendations. This document is organized to present recommendations where each is typically found in a community's ordinances. Each section includes *notes in blue* to explain the associated recommended ordinance text in black. While all model ordinance text needs to be reviewed by communities prior to adoption, text in ***[bracketed bold italics]*** should particularly be customized for each community.

When earth is disturbed for road construction projects, including public projects and new subdivision roads, the potential exists for degradation to nearby streams and downstream into Lake Erie from erosion-caused sediment pollution. It is important to plan for and install erosion and sediment control best management practices (BMPs) at these project sites to minimize sediment pollution from soil disturbed during construction. Communities' erosion and sediment control ordinances require the planning and use of BMPs to minimize these impacts. CRWP recommends adoption of CRWP's model erosion and sediment control code.

Hyperlinks are not provided in the recommended ordinance text because they change over time. Rainwater and Land Development, Ohio's stormwater manual referenced in CRWP's model erosion and sediment control and comprehensive stormwater model codes, is currently available from: https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development. The Ohio EPA Construction General Permit is available at: https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf. The Sediment Basin Compliance worksheet can be found on https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/stormwater-program by choosing "Construction Activities" and then "Technical Assistance and Permit Compliance Materials."

Model Language to be Included in Communities' Erosion and Sediment Control model code:

CHAPTER XXXX EROSION AND SEDIMENT CONTROL

XXXX.01 PURPOSE AND SCOPE

A. The purpose of this regulation is to establish technically feasible and economically reasonable standards to achieve a level of erosion and sediment control that will minimize damage to property and degradation of water resources, and will promote and maintain the health and safety of the citizens of ***[community]***:

XXXX.01 PURPOSE AND SCOPE

B. This regulation will:

(1) Allow development while minimizing increases in erosion and sedimentation.

(2) Reduce water quality impacts to receiving water resources that may be caused by new development, redevelopment, grading, or clearing activities.

C. This regulation applies to all parcels used or being developed, either wholly or partially, for new or relocated projects involving highways, underground cables, or pipelines; subdivisions or larger common plans of development; industrial, commercial, institutional, or residential projects; building activities on farms; redevelopment activities; general clearing.

XXXX.02 DEFINITIONS

The definitions contained in Ohio Environmental Protection Agency ("Ohio EPA")'s Construction General Permit entitled "Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System" in effect at the time a permit is applied for under this chapter shall apply to this chapter, and the following definitions shall also apply:

For purpose of this regulation, the following terms shall have the meaning herein indicated:

A. ABBREVIATED STORMWATER POLLUTION PREVENTION PLAN (ABBREVIATED SWP3): The written document that sets forth the plans and practices to be used to meet the requirements of this regulation for sites disturbing 0.1 (one-tenth) to one (1) acre of land. ***[Lake County Communities – replace Stormwater Pollution Prevention Plan with Erosion and Sediment Control Plan]***

B. ACRE: A measurement of area equaling 43,560 square feet.

C. ADMINISTRATOR: The person or entity having the responsibility and duty of administering and ensuring compliance with this regulation.

D. COMMUNITY: Throughout this regulation, this shall refer to ***[community]***, its designated representatives, boards, or commissions.

E. CONSTRUCTION ENTRANCE: The permitted points of ingress and egress to development areas regulated under this regulation.

F. CONSTRUCTION GENERAL PERMIT: The most recent General National Pollutant Discharge Elimination System (NPDES) permit for authorization of storm water discharges associated with construction activities issued by Ohio EPA (Ohio EPA Permit #OHC000005 and its successors).

G. CRITICAL AREA: Any area the disturbance of which would cause soil erosion and sediment runoff and damage to private properties, water courses, storm sewers or public lands due to topography, soil type, hydrology, or proximity to a water course. These areas include, but are not limited to, riparian areas, wetlands, and highly erodible soils.

H. DEVELOPMENT AREA: A parcel or contiguous parcels owned by one person or persons, or operated as one development unit, and used or being developed for commercial, industrial, residential, institutional, or other construction or alteration that changes runoff characteristics.

I. DISCHARGE: The addition of any pollutant to surface waters of the state from a point source.

J. DISTURBANCE: Any clearing, grading, grubbing, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.

K. DISTURBED AREA: An area of land subject to erosion due to the removal of vegetative cover and/or soil disturbing activities such as grading, grubbing, excavating, or filling.

L. DRAINAGE: (1) The area of land contributing surface water to a specific point. (2) The removal of excess surface water or groundwater from land by surface or subsurface drains.

M. DRAINAGE WAY: A natural or manmade channel, ditch, or waterway that conveys surface water in a concentrated manner by gravity.

N. EROSION: The process by which the land surface is worn away by the action of wind, water, ice, gravity, or any combination of those forces.

O. EROSION AND SEDIMENT CONTROL: The control of soil, both mineral and organic, to minimize the removal of soil from the land surface and to prevent its transport from a disturbed area by means of wind, water, ice, gravity, or any combination of those forces.

P. ***[Lake County Communities]:*** EROSION AND SEDIMENT CONTROL PLAN: The written document meeting the requirements of this regulation which sets forth the plans and practices to be used to minimize soil erosion and prevent off-site disposal of soil sediment by containing sediment on-site or bypassing sediment-laden runoff through a sediment control measure during and after land development.

Q. GRADING: The excavating, filling, or stockpiling of earth material, or any combination thereof, including the land in its excavated or filled condition.

R. GRUBBING: removing or grinding of roots, stumps and other unwanted material below existing grade.

S. IMPERVIOUS: That which does not allow infiltration.

T. LANDSCAPE ARCHITECT: A Professional Landscape Architect registered in the State of Ohio.

U. SUBDIVISIONS, MAJOR AND MINOR: See Ohio Administrative Code 711.001 for definition.

V. NONPOINT SOURCE POLLUTION: Harmful materials coming into waterways from pathways other than pipes, ditches, or other confined and discrete conveyances

W. PARCEL: Means a tract of land occupied or intended to be occupied by a use, building or group of buildings and their accessory uses and buildings as a unit, together with such open spaces and driveways as are provided and required. A parcel may contain more than one contiguous lot individually identified by a 'Permanent Parcel Number' assigned by the ***[county]*** County Auditor's Office.

X. PERCENT IMPERVIOUSNESS: The impervious area created divided by the total area of the project site.

Y. PERSON: Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof.

Z. PHASING: Clearing a parcel of land in distinct sections, with the stabilization of each section before the clearing of the next.

AA. PRE-CONSTRUCTION MEETING: A meeting between the ***[community]*** and all principal parties, prior to the start of any construction, at a site that requires a Stormwater Pollution Prevention Plan ***[Lake County Communities: Erosion and Sediment Control Plan].***

BB. PRE-WINTER STABILIZATION MEETING: A meeting between the ***[community]*** and all principal parties, prior to October 1, in order to plan winter erosion and sediment controls for a site that requires a Stormwater Pollution Prevention Plan ***[Lake County Communities: Erosion and Sediment Control Plan].***

CC. RUNOFF: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and is eventually conveyed to water resources or wetlands.

DD. SEDIMENT: The soils or other surface materials that are transported or deposited by the action of wind, water, ice, gravity, or any combination of those forces, as a product of erosion.

EE. SEDIMENTATION: The deposition or settling of sediment.

FF. SEDIMENT STORAGE VOLUME: See current edition of *Rainwater and Land Development*.

GG. SOIL DISTURBING ACTIVITY: Clearing, grading, excavating, filling, grubbing or stump removal that occurs during clearing or timber activities, or other alteration of the earth's surface where natural or human made ground cover is destroyed and that may result in, or contribute to, erosion and sediment pollution.

HH. SOIL & WATER CONSERVATION DISTRICT: An entity organized under Chapter 940 of the Ohio Revised Code referring to either the Soil and Water Conservation District Board or its designated employee(s). Hereafter referred to as ***[county]*** SWCD.

II. STABILIZATION: The use of BMPs, such as seeding and mulching, that reduce or prevent soil erosion by water, wind, ice, gravity, or a combination of those forces.

JJ. STORMWATER POLLUTION PREVENTION PLAN (SWP3): The written document that sets forth the plans and practices to be used to meet the requirements of this regulation. ***[Lake County Communities: This typically contains the erosion and sediment control plan for the site.]***

KK. STORMWATER: Stormwater runoff, snow melt and surface runoff and drainage.

LL. SURFACE OUTLET: A dewatering device that only draws water from the surface of the water.

MM. TEMPORARY STABILIZATION: The establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation, and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.

NN. TOPSOIL: The upper layer of the soil that is usually darker in color and richer in organic matter and nutrients than subsoil.

OO. UNSTABLE SOILS: A portion of land that is identified by the ***[community]*** Engineer as prone to slipping, sloughing, or landslides, or is identified by the U.S. Department of Agriculture Natural Resource Conservation Service methodology as having a low soil strength.

PP. WATER RESOURCE Also SURFACE WATER OF THE STATE: Any stream, lake, reservoir, pond, marsh, wetland, or waterway situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with surface water. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.

QQ. WATERSHED: The total drainage area contributing runoff to a single point.

RR. WETLAND: Those areas, that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas (40 CFR 232, as amended).

XXXX.03 DISCLAIMER OF LIABILITY

Compliance with the provisions of this regulation shall not relieve any person from responsibility for damage to any person otherwise imposed by law. The provisions of this regulation are promulgated to promote the health, safety, and welfare of the public and are not designed for the benefit of any individual or for the benefit of any particular parcel of property.

XXXX.04 CONFLICTS, SEVERABILITY, NUISANCES AND RESPONSIBILITY

A. Where this regulation is in conflict with other provisions of law or ordinance or requirements in the Construction General Permit, the most restrictive provisions shall prevail.

B. If any clause, section, or provision of this regulation is declared invalid or unconstitutional by a court of competent jurisdiction, the validity of the remainder shall not be affected thereby.

C. This regulation shall not be construed as authorizing any person to maintain a private or public nuisance on their property, and compliance with the provisions of this regulation shall not be a defense in any action to abate such a nuisance.

D. Failure of the ***[community]*** to observe or recognize hazardous or unsightly conditions or to recommend corrective measures shall not relieve the site owner from the responsibility for the condition or damage resulting therefrom, and shall not result in the ***[community]***, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

XXXX.05 DEVELOPMENT OF STORMWATER POLLUTION PREVENTION PLANS (SWP3s)

A. This regulation requires that a Storm Water Pollution Prevention Plan (SWP3) be developed and implemented for all soil disturbing activities disturbing one (1) or more acres of total land, or less than one (1) acre if part of a larger common plan of development or sale disturbing one (1) or more acres of total land. The ***[community engineer]*** may require a SWP3 for sites disturbing less than one (1) acre.

B. The following activities shall submit an Abbreviated SWP3:

(1) All non-residential construction that disturb 0.1 (one tenth) - up to one (1) acre of land.

(2) General clearing activities not related to construction that disturb 0.1 (one tenth) up to one (1) acre of land.

(3) Activities disturbing 0.1 (one tenth) or less of an acre are not required to submit a SWP3, unless required by the ***[community]*** Engineer. These activities must comply with all other provisions of this regulation.

XXXX.06 APPLICATION PROCEDURES

A. SOIL DISTURBING ACTIVITIES SUBMITTING A STORMWATER POLLUTION PREVENTION PLAN (SWP3): The applicant shall submit two (2) sets of the SWP3 and the applicable fees to the ***[community]*** and two (2) sets of the SWP3 and the applicable fees to the ***[county]*** SWCD as follows:

(1) <u>For subdivisions:</u> SWP3s required after the approval of the preliminary plans and with submittal of the improvement plans.

(2) <u>For other construction projects:</u> SWP3s required before issuance of a ***[building permit]*** by the ***[Building Commissioner]***.

(3) <u>For general clearing projects:</u> SWP3s required prior to issuance of a ***[zoning permit or grading permit]*** by the ***[Building Commissioner or Zoning Inspector]***.

B. SOIL DISTURBING ACTIVITIES SUBMITTING AN ABBREVIATED STORMWATER POLLUTION PREVENTION PLAN (SWP3): The applicant shall submit two (2) sets of the Abbreviated SWP3 and the applicable fees to the ***[City Engineer]*** and two (2) sets of the Abbreviated SWP3 and the applicable fees to the ***[county]*** SWCD as follows:

(1) For construction projects: Abbreviated SWP3 required before issuance of a ***[zoning permit or grading permit]*** by the ***[Building Commissioner or Zoning Inspector]***.

(2) For general clearing projects: Abbreviated SWP3 required before issuance of a ***[zoning permit or grading permit]*** by the ***[Building Commissioner or Zoning Inspector].***

C. The ***[community engineer]*** and the ***[county]*** SWCD shall review the plans submitted under ***XXXX***.06 (a) or (b) for conformance with this regulation and issue an approval or return the SWP3 for revisions with comments and recommendations. The rejection of a SWP3 because of deficiencies shall receive a checklist or narrative report stating specific problems and the procedures for filing a revised plan.

D. Soil disturbing activities (including mechanized clearing) shall not begin and zoning, building, and/or grading permits shall not be issued without:

(1) Approved SWP3 or approved Abbreviated SWP3

(2) Copies of Notice of Intent (NOI) submittal to Ohio EPA and NPDES permit coverage issued

(3) Physical marking in the field of protected areas or critical areas, including wetlands and riparian areas

(4) Installation of construction entrances, perimeter sediment barriers and other erosion and sediment controls that must be in place to address initial site conditions.

E. SWP3 for individual sublots in a subdivision will not be approved unless the larger common plan of development or sale containing the sublot is in compliance with this regulation.

F. The developer, project engineer and contractor, and other principal parties, shall meet with the ***[community engineer]*** for a Pre-Construction Meeting no less than seven (7) days prior to soil-disturbing activity at the site to ensure that erosion and sediment control devices are properly installed, limits of disturbance and buffer areas are properly delineated and construction personnel have been briefed regarding such devices and areas. Pre-Construction Meetings for Abbreviated SWP3s may be waived at the discretion of the ***[community engineer]***.

G. Approvals issued in accordance with this regulation shall remain valid for one (1) year from the date of approval.

XXXX.08 STORMWATER POLLUTION PREVENTION PLAN (SWP3)

The applicant shall submit a SWP3 that meets the requirements of the Construction General Permit and the following additional requirements. The SWP3 shall be certified by a professional engineer, a registered surveyor, certified professional erosion and sediment control specialist, or a registered landscape architect. The SWP3 shall include control measures to ensure that discharges from the construction site and construction support activities comply with the non-numeric effluent limitations contained in the Construction General Permit.

In addition to all information required by the Construction General Permit, the SWP3 shall also include completed design tools found on Ohio EPA's website such as the Sediment Basin Compliance Spreadsheet.

Before any off-site support areas such as borrow or spoil areas, concrete or asphalt batch plants, equipment staging yards or material storage areas are utilized, a SWP3 for the off-site support area must be submitted and approved by the ***[community engineer]***. The applicant shall ensure appropriate permits have been obtained to operate the off-site support area. Failure to do so can lead to enforcement action under Sections XXXX.13 and XXXX. 14 of this code.

The ***[community engineer]*** may require the SWP3 to include a Soils Engineering Report based upon his/her determination that the conditions of the soils are unknown or unclear to the extent that additional information is required to protect against erosion or other hazards. This report shall be based on adequate and necessary test borings and shall contain all the information listed below. Recommendations included in the report and approved by the ***[community engineer]*** shall be incorporated in the grading plans and/or other specifications for site development.

A. Data regarding the nature, distribution, strength, and erodibility of existing soils.

B. If applicable, data regarding the nature, distribution, strength, and erodibility of the soil to be placed on the site.

C. Conclusions and recommendations for grading procedures.

D. Conclusions and recommended designs for interim soil stabilization devices and measures, and for permanent soil stabilization after construction is complete.

E. Design criteria for corrective measures when necessary.

F. Opinions and recommendations covering the stability of the site.

G. Delineations of surface waters of the state located on the site. Affirmation by the U.S. Army Corps of Engineers may be required.

XXXX.09 PERFORMANCE STANDARDS

The SWP3 must contain a description of the controls appropriate for each stage of construction operation and the applicant must implement such controls. BMP selection and design must meet criteria established within the current Construction General Permit. BMPs must be designed, constructed and installed to meet the specifications in *Rainwater and Land Development* or another design manual acceptable to the ***[community]***. The approved SWP3, the sediment and erosion controls, and non-sediment pollution controls contained therein, shall be implemented and maintained according to the requirements in the Construction General Permit. Site operators must conduct site inspections as described in the Construction General Permit.

Certified inspection reports shall be submitted to the ***[community engineer]*** within seven (7) working days from the inspection and retained at the development site.

The following standards will also apply:

A. BMPs must be implemented to ensure sediment is not tracked off-site and that dust is controlled. These BMPs must include, but are not limited to, the following:

(1) Construction entrances shall be built and shall serve as the only permitted points of ingress and egress to the development area. These entrances shall be built of a stabilized pad of aggregate stone or recycled concrete or cement sized greater than two inches (2") in diameter placed over a geotextile fabric. Culverts shall be provided where construction entrances cross drainage ditches and water bars shall be provided to divert sediment-laden runoff away from connected roadways.

(2) Streets and catch basins adjacent to construction entrances shall be kept free of sediment tracked off-site by vehicles. Streets directly adjacent to construction entrances and receiving traffic from the development area, shall be cleaned daily to remove sediment tracked off-site. If applicable, the catch basins on these streets nearest to the construction entrances shall also be cleaned weekly and protected from sediment-laden runoff, if feasible without posing a public safety hazard.

(3) Based on site conditions, ***[community]*** Engineer and/or the ***[county]*** SWCD may require additional BMPs to control off site tracking and dust. These additional BMPs may include:

(a) Fencing shall be installed around the perimeter of the development area to ensure that all vehicle traffic adheres to designated

construction entrances.

(b) Applicants shall take all necessary measures to comply with applicable regulations regarding fugitive dust emissions, including obtaining necessary permits for such emissions. The ***[community]*** Engineer and/or the ***[county]*** SWCD may require dust controls including the use of water trucks to wet disturbed areas, tarping stockpiles, temporary stabilization of disturbed areas, and regulation of the speed of vehicles on the site.

B. Construction vehicles shall avoid water resources. If it is infeasible to provide and maintain an undisturbed natural buffer around water resources, the SWP3 shall comply with all the following additional requirements:

(1) All stream crossings shall be designed as specified in the most recent edition of *Rainwater and Land Development*.

(2) Temporary stream crossings shall be constructed if water resources or wetlands will be crossed by construction vehicles during construction.

(3) Construction of bridges, culverts, or sediment control structures shall not place soil, debris, or other particulate material into or close to the water resources or wetlands in such a manner that it may slough, slip, or erode.

(4) Protected areas or critical areas, including wetlands and riparian areas shall be physically marked in the field prior to earth disturbing activities.

C. For sites that will not be completed by October 1, a Pre-Winter Stabilization Meeting shall be held by the landowner and the developer, engineer and contractor of the project and the ***[community]*** prior to October 1, in order to plan and approve winter erosion and sediment controls as defined in the most current online edition of *Rainwater and Land Development*.

XXXX.10 ABBREVIATED STORMWATER POLLUTION PREVENTION PLAN (SWP3)

A. In order to control sediment pollution of water resources, the applicant shall submit an Abbreviated SWP3 in accordance with the requirements of this regulation.

B. The Abbreviated SWP3 shall be certified by a professional engineer, a registered surveyor, certified professional erosion and sediment control specialist, or a registered landscape architect.

C. The Abbreviated SWP3 shall include a minimum of the following BMPs designed

and implemented according to *Rainwater and Land Development*. ***[community]*** may require other BMPs as site conditions warrant.

(1) Construction Entrances: Construction entrances shall be built and shall serve as the only permitted points of ingress and egress to the development area. These entrances shall be built of a stabilized pad of aggregate stone or recycled concrete or cement sized greater than two inches (2") in diameter and placed over a geotextile fabric.

(2) Concrete Truck Wash Out: . A designated area for concrete washout shall be indicated on the plan. The washing of concrete material into a street, catch basin, or other public facility or natural resource is prohibited. Use for other waste and wastewater is prohibited.

(3) Street Sweeping: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site. If applicable, the catch basins on these streets nearest to the construction entrances shall be cleaned weekly.

(4) Stabilization. The development area shall be stabilized as detailed in Table 4.

Table 4: Stabilization

Area Requiring Stabilization	Time Frame to Apply Erosion Controls
Any disturbed area within 50 feet of a surface water of the state and not at final grade.	Within two (2) days of the most recent disturbance if that area will remain idle for more than fourteen (14) days
For all construction activities, any disturbed area, including soil stockpiles, that will be dormant for more than 14 days but less than one year, and not within 50 feet of a stream.	Within seven (7) days of the most recent disturbance within the area
Disturbed areas that will be idle over winter	Prior to November 1
Areas at final grade	Within seven (7) days of reaching final grade or within two (2) days of reaching final grade for areas within 50 feet of a surface water of the state
Note: Mulching, erosion matting, and other alternative stabilization techniques must be used where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable.	

(5) Inlet Protection. Erosion and sediment control practices, such as boxed inlet protection, shall be installed on stormwater catch basins located on the subject property and, if there is no threat to public safety, on curb inlets closest to the construction entrance, to minimize sediment-laden water entering active storm drain systems, including rear yard inlets.

(6) Silt Fence and Other Perimeter Controls. Silt fence and other perimeter controls approved by the ***[community]*** shall be used to protect adjacent properties and water resources from sediment discharged via sheet (diffused) flow. Silt fence shall be placed along level contours and the permissible drainage area is limited to those indicated in in the Construction General Permit.

(7) Internal Inspection and Maintenance. All controls on the development area shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half inch (0.5") of rain per 24-hour period. Maintenance shall occur as detailed below:

(a) When BMPs require repair or maintenance. If the internal inspection reveals that a BMP is in need of repair or maintenance, with the exception of a sediment-settling pond, it must be repaired or maintained within three (3) days of the inspection. Sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.

(b) When BMPs fail to provide their intended function. If the internal inspection reveals that a BMP fails to perform its intended function and that another, more appropriate control practice is required, the Abbreviated SWP3 must be amended and the new control practice must be installed within ten (10) days of the inspection.

(c) When BMPs depicted on the Abbreviated SWP3 are not installed. If the internal inspection reveals that a BMP has not been implemented in accordance with the schedule, the BMP must be implemented within ten (10) days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record must contain a statement of explanation as to why the control practice is not needed.

(8) Final Stabilization: Final stabilization is achieved when the site has reached 70% vegetive cover and when the ***[community]*** Engineer approves the site condition.

XXXX.11 FEES

The SWP3 and Abbreviated SWP3 review, filing, and inspection fee is part of a complete submittal and is required to be submitted to the ***[community]*** and the ***[county]*** SWCD before the review process begins. Please consult with ***[community]*** Engineer for current fee schedule.

Applicants will be charged $250 for each additional inspection that [county] SWCD must conduct if a site has one of the following compliance issues:

A. Construction activities have started at the site without an approved SWP3 completed;

B. Failure to install sediment basin(s) when the SWP3 and/or site drainage clearly indicate as a first step (within 7 days prior to grading and within 7 days of grubbing);

C. Failure to implement any sediment/erosion controls; or

D. Dewatering activities resulting in turbid discharges.

XXXX.12 BOND

A. When a SWP3 or Abbreviated SWP3 is required by this regulation, soil disturbing activities shall not be permitted until a cash bond or deposit has been submitted to the ***[community department name]*** Department**.** The amount shall be a ***[$1,500]*** minimum, and an additional ***[$1,500]*** paid for each subsequent acre or fraction thereof or the cost of stabilizing disturbed areas based on a fee schedule established by the ***[community]***. The ***[community]*** will use the bond to perform the obligations otherwise to be performed by the owner of the development area as stated in this regulation and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this regulation. The cash bond shall be returned, less ***[community]*** administrative fees as detailed in Chapter ***XXXX*** of the ***[community]*** Codified Ordinances, after all work required by this regulation has been completed and final stabilization has been reached, all as determined by the ***[community]*** Engineer.

B. A portion of bond (equivalent of the cost to apply final stabilization) will be retained until all areas disturbed by construction activity are permanently stabilized and a Notice of Termination (NOT) has been submitted to Ohio EPA. Where vegetative growth is used to achieve permanent stabilization, the area shall comply with final stabilization requirements of the Construction General Permit.

C. No project subject to this regulation shall commence without a SWP3 or Abbreviated SWP3 approved by the ***[community]*** Engineer.

XXXX.13 ENFORCEMENT

A. If the ***[community]*** and/or the ***[county]*** SWCD determines that a violation of the rules adopted under this code exist, the ***[community]*** or representative may issue an immediate stop work order if the violator failed to obtain any federal, state, or local permit necessary for sediment and erosion control, earth movement, clearing, or cut and fill activity.

B. All development areas may be subject to external inspections by the ***[community engineer]*** and/or the ***[county]*** SWCD to ensure compliance with the approved SWP3 or Abbreviated SWP3.

C. After each external inspection, the ***[community engineer]*** and/or the ***[county]*** SWCD shall prepare and distribute a status report to the applicant.

D. If an external inspection determines that operations are in violation of the approved SWP3 or Abbreviated SWP3, the ***[community engineer]*** and/or the ***[county]*** SWCD may take action as detailed in ***Sections XXXX.13 and XXXX.14*** of this regulation.

E. Failure to maintain and repair erosion and sediment controls per the approved SWP3 or Abbreviated SWP3 plan may result in the following escalation. The penalty is determined by the total number of violations per site even if the violations are for different BMPs.

(1) First Violation: The ***[community engineer]*** will issue a Notice of Deficiency (NOD) to the owner or operator. All controls are to be repaired or maintained per the SWP3 plan within three (3) days of the notification. The ***[community engineer]*** may issue a Stop Work Order for all activities until corrections have been made if controls have not been corrected after the three (3) days.

(2) Second Violation: The ***[community engineer]*** may issue a formal Notice of Violation (NOV) that includes a $500 administrative fee against the SWP3 Bond or site plan deposit. All controls are to be repaired or maintained per the approved SWP3 plan within three (3) days of the NOV. The ***[community engineer]*** may issue a Stop Work Order for all activities

until corrections have been made if controls have not been corrected after the three (3) days.

(3) Third and subsequent violations: The ***[community engineer]*** may issue a Stop Work Order for all construction activities and charge a $1,000 administrative fee against the SWP3 bond or site plan deposit. The Stop Work Order will be lifted once all controls are in compliance with the approved SWP3 plan.

F. The ***[community engineer]*** shall have the authority to make immediate on-site adjustments to the SWP3 in order to achieve compliance with this ordinance.

G. A final inspection will be made to determine if the criteria of this code has been satisfied and a report will be presented to the ***[Community]*** and the site operator regarding the site's compliance status.

H. The ***[community engineer]*** will monitor soil-disturbing activities for non-farm residential, commercial, industrial, or other non-farm purposes on land of less than one contiguous acre to ensure compliance required by these Rules.

I. The ***[community engineer]*** shall notify the U.S. Army Corps of Engineers when a violation on a development project covered by an Individual or Nationwide Permit is identified. The ***[community engineer]*** shall notify the Ohio Environmental Protection Agency when a violation on a development project covered by a Section 401 Water Quality Certification and/or Isolated Wetland Permit is identified.

J. The ***[Community]*** shall not issue building permits for projects regulated under this code without approved SWP3s or Abbreviated SWP3s.

***XXXX*.14 VIOLATIONS**

A. No person shall violate or cause or knowingly permit to be violated any of the provisions of this regulation, or fail to comply with any of such provisions or with any lawful requirements of any public authority made pursuant to this regulation, or knowingly use or cause or permit the use of any lands in violation of this regulation or in violation of any permit granted under this regulation.

B. Upon notice, the [***Mayor or County Commissioners***] and/or designee ***[assign authority as consistent with City charter or other local regulations]*** may suspend any active soil disturbing activity for a period not to exceed ninety (90) days, and may require immediate erosion and sediment control measures whenever he or she determines that such activity is not meeting the intent of this regulation. Such notice

shall be in writing, shall be given to the applicant, and shall state the conditions under which work may be resumed. In instances, however, where the ***Mayor*** and/or designee finds that immediate action is necessary for public safety or the public interest, he or she may require that work be stopped upon verbal order pending issuance of the written notice.

XXXX.15 APPEALS

Any person aggrieved by any order, requirement, determination, or any other action or inaction by the ***[community]*** in relation to this regulation may appeal to the court of common pleas. Such an appeal shall be made in conformity with ***[insert appropriate Ohio Revised Code sections]***. Written notice of appeal shall be served on the ***[community]*** and a copy shall be provided to the ***[county]*** SWCD.

XXXX.99 PENALTY

A. Any person, firm, entity or corporation; including but not limited to, the owner of the property, his agents and assigns, occupant, property manager, and any contractor or subcontractor who violates or fails to comply with any provision of this regulation is guilty of a misdemeanor of the third degree and shall be fined no more than five hundred dollars ($500.00) or imprisoned for no more than sixty (60) days, or both, for each offense. A separate offense shall be deemed committed each day during or on which a violation or noncompliance occurs or continues.

B. The imposition of any other penalties provided herein shall not preclude the ***[community]*** instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this regulation or other applicable laws, ordinances, rules, or regulations, or the orders of the ***[community]***.

A community's Comprehensive Stormwater Ordinance requires post-construction water quality treatment of stormwater runoff for development projects. It should apply to public entities such as municipalities and townships and park districts conducting road maintenance, creation, and expansion projects. Many private developments such as subdivisions involve the creation of new roads, so this regulation helps to mitigate stormwater runoff from roads built by private developers as well as roads built by units of government.

Hyperlinks are not provided in the recommended ordinance text because they change over time. Rainwater and Land Development, Ohio's stormwater manual referenced in CRWP's model

erosion and sediment control and comprehensive stormwater model codes, is currently available from: https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development. The Ohio EPA Construction General Permit is available at: https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf. The WQv Calculator, BMP Compliance Worksheets, and Runoff Reduction Spreadsheets can be found on https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/stormwater-program by choosing "Construction Activities" and then "Technical Assistance and Permit Compliance Materials."

Model Language to be Included in Communities' Comprehensive Stormwater Ordinances:

***XXXX*.01 PURPOSE AND SCOPE**

A. The purpose of this regulation is to establish technically feasible and economically reasonable stormwater management standards to achieve a level of stormwater quality and quantity control that will minimize damage to property and degradation of water resources and will promote and maintain the health, safety, and welfare of the citizens of the ***[community]***:

B. This regulation requires owners who develop or re-develop their property within the ***[community],*** including public entities completing roadway projects, to:

1. Control stormwater runoff from their property and ensure that all Stormwater Control Measures (SCMs) are properly designed, constructed, and maintained.

2. Reduce water quality impacts to receiving water resources that may be caused by new development or redevelopment activities.

3. Control the volume, rate, and quality of stormwater runoff originating from their property so that surface water and groundwater are protected and flooding and erosion potential are not increased.

4. Minimize the need to construct, repair, and replace subsurface storm drain systems.

5. Preserve natural infiltration and groundwater recharge, and maintain subsurface flow that replenishes water resources, except in slippage prone soils**.**

6. Incorporate stormwater quality and quantity controls into site planning and design at the earliest possible stage in the development process.

7. Reduce the expense of remedial projects needed to address problems caused by inadequate stormwater management.

8. Design sites to minimize the number of stream crossings and the width of associated disturbance in order to minimize the ***[community]***'s future expenses related to the maintenance and repair of stream crossings.

9. Maintain, promote, and re-establish conditions necessary for naturally occurring stream processes that assimilate pollutants, attenuate flood flows, and provide a healthy water resource.

XXXX.02 DEFINITIONS

The definitions contained in Ohio Environmental Protection Agency ("Ohio EPA")'s Construction General Permit entitled "Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System" and Ohio EPA's Municipal Separate Storm Sewer (MS4) Permit entitled "Authorization for Small Municipal Separate Storm Sewer Systems to Discharge Stormwater Under the National Pollutant Discharge Elimination System" in effect at the time a permit is applied for under this chapter shall apply to this chapter and the following definitions shall also apply:

A. ACRE: A measurement of area equaling 43,560 square feet.

B. AS-BUILT SURVEY: A survey shown on a plan or drawing prepared by a registered Professional Surveyor indicating the actual dimensions, elevations, and locations of any structures, underground utilities, swales, detention facilities, and sewage treatment facilities after construction has been completed.

C. COMMUNITY: The ***[community]***, its designated representatives, boards, or commissions.

D. COMPREHENSIVE STORMWATER MANAGEMENT PLAN: The written document and plans meeting the requirements of this regulation that sets forth the plans, practices, and SCMs to minimize stormwater runoff from a development area, to safely convey or temporarily store and release post-development runoff at an allowable rate to minimize flooding and stream bank erosion, and to protect or improve stormwater quality and stream channels.

E. CONSTRUCTION GENERAL PERMIT: The most recent General National Pollutant Discharge Elimination System (NPDES) permit for authorization of storm water discharges associated with construction activities issued by Ohio EPA (Ohio EPA Permit

#OHC000005 and its successors).

F. CRITICAL STORM: A storm that is determined by calculating the percentage increase in volume of runoff by a proposed development area for the 1-year 24-hour event. The critical storm is used to calculate the maximum allowable stormwater discharge rate from a developed site.

G. DEVELOPMENT AREA: A parcel or contiguous parcels owned by one person or persons, or operated as one development unit, and used or being developed for commercial, industrial, residential, institutional, or other construction or alteration that changes runoff characteristics.

H. DEVELOPMENT DRAINAGE AREA: A combination of each hydraulically unique watershed with individual outlet points on the development area.

I. DISTURBED AREA: An area of land subject to erosion due to the removal of vegetative cover and/or soil disturbing activities.

J. DRAINAGE: The removal of excess surface water or groundwater from land by surface or subsurface drains.

K. EROSION: The process by which the land surface is worn away by the action of wind, water, ice, gravity, or any combination of those forces

L. GRADING: The process in which the topography of the land is altered to a new slope.

M. IMPERVIOUS COVER: Any surface that cannot effectively absorb or infiltrate water. This may include roads, streets, parking lots, rooftops, sidewalks, and other areas not covered by vegetation.

N. MAXIMUM EXTENT PRACTICABLE: The level of pollutant reduction that operators of small municipal separate storm sewer systems regulated under 40 C.F.R. Parts 9, 122, 123, and 124, referred to as NPDES Stormwater Phase II, must meet.

O. POST-DEVELOPMENT: The conditions that exist following the completion of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of stormwater runoff.

P. PRE-CONSTRUCTION MEETING: Meeting prior to construction between all parties

associated with the construction of the project including government agencies, contractors and owners to review agency requirements and plans as submitted and approved.

Q. PRE-DEVELOPMENT: The conditions that exist prior to the initiation of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of stormwater runoff.

R. PROFESSIONAL ENGINEER: A Professional Engineer registered in the State of Ohio with specific education and experience in water resources engineering, acting in conformance with the Code of Ethics of the Ohio State Board of Registration for Engineers and Surveyors.

S. RUNOFF: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and is eventually returned to water resources.

T. SEDIMENT: The soils or other surface materials that can be transported or deposited by the action of wind, water, ice, or gravity as a product of erosion.

U. SITE OWNER: Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof that is responsible for the overall construction site.

V. SOIL DISTURBING ACTIVITY: Clearing, grading, excavating, filling, or other alteration of the earth's surface where natural or human made ground cover is destroyed that may result in, or contribute to, increased stormwater quantity and/or decreased stormwater quality.

W. STORMWATER CONTROL MEASURE (SCM): A structure or area designed to remove pollutants from stormwater and/or reduce stormwater flow rates. SCMs are a subset of Best Management Practices (BMPs) as defined in the Construction General Permit.

X. WATER RESOURCE: Any stream, lake, reservoir, pond, marsh, wetland, or waterway situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with surface water. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included

Y. WATER RESOURCE CROSSING: Any bridge, box, arch, culvert, truss, or other type

of structure intended to convey people, animals, vehicles, or materials from one side of a watercourse to another. This does not include private, non-commercial footbridges or pole mounted aerial electric or telecommunication lines, nor does it include below grade utility lines.

Z. WATERSHED: The total drainage area contributing stormwater runoff to a single point.

AA. WETLAND: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas (40 CFR 232, as amended).

XXXX.05 DEVELOPMENT OF COMPREHENSIVE STORMWATER MANAGEMENT PLANS

A. This regulation requires that a Comprehensive Stormwater Management Plan be developed and implemented for all soil disturbing activities disturbing one (1) or more acres of total land, or less than one (1) acre if part of a larger common plan of development or sale disturbing one (1) or more acres of total land, and on which any regulated activity of Section ***XXXX***.01 (C) is proposed. The ***[community engineer]*** may require a Comprehensive Stormwater Management Plan for any soil disturbing activity.

B. The ***[community]*** shall administer this regulation, shall be responsible for determination of compliance with this regulation, and shall issue notices and orders as may be necessary. The ***[community]*** may consult with the ***[county]*** SWCD, state agencies, private engineers, stormwater districts, or other technical experts in reviewing the Comprehensive Stormwater Management Plan.

XXXX.06 APPLICATION PROCEDURES

A. Pre-Application Meeting: The applicant shall attend a Pre-Application Meeting with the ***[community engineer]*** to discuss the proposed project, review the requirements of this regulation, identify unique aspects of the project that must be addressed during the review process, and establish a preliminary review and approval schedule.

B. Preliminary Comprehensive Stormwater Management Plan: The applicant shall submit two (2) sets of a Preliminary Comprehensive Stormwater Management and the applicable fees to the ***[community engineer]*** and/or the ***[stormwater administrator]***. The Preliminary Plan shall show the proposed property boundaries, setbacks, dedicated open space, public roads, water resources, SCMs, and easements in sufficient detail and engineering analysis to allow the ***[community engineer]*** to determine if the site is laid out in a manner that meets the intent of this regulation and if the proposed SCMs are capable

of controlling runoff from the site in compliance with this regulation. The applicant shall submit two (2) sets of the Preliminary Plan and applicable fees as follows:

1. For subdivisions: In conjunction with the submission of the preliminary subdivision plan.

2. For other construction projects where the development or redevelopment plan will result in the installation of impervious area, artificial turf or permeable pavement systems: In conjunction with the application for a ***[zoning or building]*** permit.

C. Final Comprehensive Stormwater Management Plan: The applicant shall submit two (2) sets of a Final Comprehensive Stormwater Management Plan and the applicable fees to the ***[community engineer]*** and/or the ***[Stormwater Management District]*** in conjunction with the submittal of the final plat, improvement plans, or application for a building or zoning permit for the site. Final Comprehensive Stormwater Management Plans shall meet the requirements of Section ***XXXX.08*** and shall be approved by the ***[community engineer]*** prior to approval of the final plat and/or before issuance of a ***[zoning permit by the Zoning Inspector]*** or ***[building permit by the Building Inspector]***.

D. Review and Comment: The ***[community engineer]*** and/or the ***[stormwater administrator]*** shall review the Preliminary and Final Plans submitted and shall approve or return for revisions with comments and recommendations for revisions. A Preliminary or Final Plan rejected because of deficiencies shall receive a narrative report stating specific problems and the procedures for filing a revised Preliminary or Final Plan.

E. Approval Necessary: The ***[Building Commissioner]*** shall not issue a **[*building permit*]** without an approved Comprehensive Stormwater Management Plan.

F. Valid for Two Years: Approvals issued in accordance with this regulation shall remain valid for two (2) years from the date of approval or as stipulated in the Construction General Permit.

XXXX.07 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 other federal, state, and/or county agencies. If requirements vary, the most restrictive shall prevail. These permits may include, but are not limited to, those listed below. Applicants are required to show proof of compliance with these regulations before the ***[community]*** will issue a building or zoning permit.

A. Ohio Environmental Protection Agency (Ohio EPA) National Pollutant Discharge Elimination System (NPDES) Permits authorizing stormwater discharges associated with construction activity or the most current version thereof: Proof of compliance with these requirements shall be the applicant's Notice of Intent (NOI), a copy of the Ohio EPA

Director's Authorization Letter with NPDES Facility Permit number for the NPDES Permit, or a letter from the site owner certifying and explaining why the NPDES Permit is not applicable.

B. Section 401 of the Clean Water Act: Proof of compliance shall be a copy of the Ohio EPA Water Quality Certification application tracking number, public notice, project approval, or a letter from the site owner certifying that a qualified professional has surveyed the site and determined that Section 401 of the Clean Water Act is not applicable. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

C. Ohio EPA Isolated Wetland or Ephemeral Stream Permit: Proof of compliance shall be a copy of Ohio EPA's Isolated Wetland Permit or Ephemeral Stream Permit application tracking number, public notice, project approval, or a letter from the site owner certifying that a qualified professional has surveyed the site and determined that Ohio EPA's Isolated Wetlands Permit or Ephemeral Stream Permit is not applicable. Isolated wetlands shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

D. Section 404 of the Clean Water Act: Proof of compliance shall be a copy of the U.S. Army Corps of Engineers Individual Permit application, public notice, or project approval, if an Individual Permit is required for the development project. If an Individual Permit is not required, the site owner shall submit proof of compliance with the U.S. Army Corps of Engineer's Nationwide Permit Program. This shall include one of the following:

1. A letter from the site owner certifying that a qualified professional has surveyed the site and determined that Section 404 of the Clean Water Act is not applicable.

2. A site plan showing that any proposed fill of waters of the United States conforms to the general and special conditions specified in the applicable Nationwide Permit. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

E. Ohio Dam Safety Law: Proof of compliance shall be a copy of the ODNR Division of Water Resources permit application tracking number, a copy of the project approval letter from the ODNR Division of Water Resources, or a letter from the site owner certifying and explaining why the Ohio Dam Safety Law is not applicable.

XXXX.08 COMPREHENSIVE STORMWATER MANAGEMENT PLAN

Comprehensive Stormwater Management Plan Required: The applicant shall develop a Comprehensive Stormwater Management Plan describing how the quantity and quality of

stormwater will be managed after construction is completed for every discharge from the site and/or into a water resource or small municipal separate storm sewer system (MS4). Comprehensive Stormwater Management Plans must meet the requirements in the Construction General Permit and these regulations.

A. Preparation by Professional Engineer: The Comprehensive Stormwater Management Plan shall be prepared by a registered Professional Engineer and include supporting calculations, plan sheets, and design details. To the extent necessary, as determined by the ***[community engineer],*** a site survey shall be performed by a registered Professional Surveyor to establish boundary lines, measurements, or land surfaces.

B. Community Procedures: The ***[community engineer]*** shall prepare and maintain procedures providing specific criteria and guidance to be followed when designing the stormwater management system for the site. These procedures may be updated from time to time, at the discretion of the ***[community engineer]*** based on improvements in engineering, science, monitoring, and local maintenance experience. The ***[community engineer]*** shall make the final determination of whether SCMs proposed in the Comprehensive Stormwater Management Plan meet the requirements of this regulation.

C. Contents of Comprehensive Stormwater Management Plan: The Comprehensive Stormwater Management Plan must contain all elements and meet all requirements specified in the Construction General Permit. It shall also meet the following requirements.

1. Location information: The application shall note the phase, if applicable, of the overall development plan and list sublot numbers if project is a subdivision.

2. Site maps and SCM design plans: It is preferred that all SCMs and the entire site be shown on one plan sheet to allow a complete view of the site during plan review. If a smaller scale is used to accomplish this, separate sheets providing an enlarged view of areas on individual sheets should also be provided. Existing and proposed drainage patterns and any relevant offsite SCMs should be depicted. For each SCM, include the following:

    a. An individual identification number
    b. Location and size
    c. Final site conditions and detail drawings of stormwater inlets and permanent SCMs. Details of SCMs shall be drawn to scale and shall show relevant volumes, elevations and sizes of contributing drainage areas.
    d. A completed Ohio EPA WQv Calculator Spreadsheet and/or Runoff Reduction Spreadsheet or other equivalent compliance tools provided by Ohio EPA.
    e. Any supplemental information requested by the ***[community engineer]***.

3. Required Calculations: The applicant shall submit calculations for projected

stormwater runoff flows, volumes, and timing into and through all SCMs for channel protection and water quality. These submittals shall be completed for both pre- and post-development land use conditions and shall include the underlying assumptions and hydrologic and hydraulic methods and parameters used for these calculations. For each SCM, identify the drainage area and size in acres, volumetric runoff coefficient, peak discharge, and the time of concentration for each subwatershed. Identify the SCM surface area, discharge and dewatering time, outlet type and dimensions.

4. Inspection and Maintenance Agreement. The Inspection and Maintenance Agreement required for SCMs under this regulation is a stand-alone document between the ***[community]*** and the applicant. This agreement shall be recorded with ***[County Name]*** County.

5. Inspection and Maintenance Plan. This plan will meet the requirements of the Construction General Permit and will be developed by the applicant and reviewed by the ***[City Engineer].*** Maintenance requirements of each SCM during and after construction should be included. Once the Inspection and Maintenance Plan is approved, a recorded copy of the Plan must be provided to the property owner or association that will be responsible for long-term operation and maintenance of the BMP and submitted to the ***[City Engineer]*** as part of the final inspection approval as described in ***XXXX.12***.

XXXX.09 PERFORMANCE STANDARDS

A. General: The stormwater system, including SCMs for storage, treatment and control, and conveyance facilities, shall maintain predevelopment runoff patterns, flows, and volumes; to meet the requirements of the Construction General Permit; and to meet the following criteria:

1. Integrated SCMs that address degradation of water resources. The SCMs shall function as an integrated system that controls flooding and minimizes the degradation of the water resources receiving stormwater discharges from the site. Acceptable SCMs shall:

   a. Not disturb riparian areas unless the disturbance is intended to support a watercourse restoration project and complies with Chapter ***XXXX.XX [community's riparian setback requirements if applicable]***.

   b. Maintain predevelopment hydrology and groundwater recharge on as much of the site as practicable. Where feasible, bioretention, permeable pavement with infiltration, underground storage with infiltration, infiltration trenches, infiltration basins, and/or rainwater harvesting must

be the water quality SCMs used. Separate SCMs may be used for peak discharge control and water quality treatment.

c. Only install new impervious surfaces and compact soils where necessary to support the future land use.

d. Compensate for increased runoff volumes caused by new impervious surfaces and soil compaction by reducing stormwater peak flows to less than predevelopment levels.

e. Be designed according to the methodology included in the most current edition of *Rainwater and Land Development* or another design manual acceptable for use by the ***[community]***.

2. Practices designed for final use: SCMs shall be designed to achieve the stormwater management objectives of this regulation, to be compatible with the proposed post-construction use of the site, to protect the public health, safety, and welfare, and to function safely with routine maintenance.

3. Stormwater facilities in water resources: SCMs and related activities shall not be constructed in water resources unless the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and other applicable federal, state, and local agencies as required in Section ***XXXX***.07 of this regulation, and the activity is in compliance with Chapter ***XXXX [community's erosion and sediment control requirements]*** and Chapter ***XXXX [community's riparian setback requirements]***, all as determined by the ***[community engineer].***

4. Exemption: The site where soil-disturbing activities are conducted shall be exempt from the requirements of Section ***XXXX.09*** if it can be shown to the satisfaction of the ***[community engineer]*** that the site is part of a larger common plan of development where the stormwater management requirements for the site are provided by an existing SCM, or if the stormwater management requirements for the site are provided by SCMs defined in a regional or local stormwater management plan approved by the ***[community engineer]***.

5. Maintenance: All SCMs shall be maintained in accordance with the Inspection and Maintenance Plan and Agreements approved by the ***[community engineer]***.

6. Ownership: Unless otherwise required by the ***[community]***, SCMs serving multiple lots in subdivisions shall be on a separate lot held and maintained by an entity of common ownership or, if compensated by the property owners, by the ***[community]***. SCMs serving single lots shall be placed on these lots, protected within an easement, and maintained by the property owner.

7. Preservation of Existing Natural Drainage: Practices that preserve the existing

natural drainage shall be used to the maximum extent practicable. Such practices may include minimizing site grading and compaction; protecting and/or restoring water resources, riparian areas, and existing vegetation and vegetative buffer strips; phasing of construction operations in order to minimize the amount of disturbed land at any one time, and designation of tree preservation areas or other protective clearing and grubbing practices; and maintaining unconcentrated stormwater runoff to and through these areas.

8. Post-Construction Soil Restoration: Except for areas that will be covered by impervious surface or have been incorporated into an SCM, the soil moisture-holding capacity of areas that have been cleared and graded must be restored to that of the original, undisturbed soil to the maximum extent practicable. Areas that have been compacted or had the topsoil or duff layer removed should be amended using the soil profile restoration design criteria in *Rainwater and Land Development*.

B. Stormwater Conveyance Design Criteria: All SCMs shall be designed to convey stormwater to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include but not be limited to:

1. Surface water protection: The ***[community engineer]*** may allow modification to streams, rivers, lakes, wetlands or other surface waters only if the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and other applicable federal, state, and local agencies as required in Section ***XXXX***.07 of this regulation, and the activity is in compliance with Section ***XXXX [community's erosion and sediment control requirements]*** and Section ***XXXX [community's riparian setback requirements]***, all as determined by the ***[community engineer].*** At a minimum, stream relocation designs must show how the project will minimize changes to the vertical stability, floodplain form, channel form, and habitat of upstream and downstream channels on and off the property.

2. Off-site stormwater discharges: Off-site flows shall be diverted around stormwater quality control facilities or the stormwater quality control facility shall be sized to treat the off-site flow. Comprehensive Stormwater Management Plans will not be approved until it is demonstrated to the satisfaction of the ***[community engineer]*** that off-site runoff will be adequately conveyed through the development site in a manner that does not exacerbate upstream or downstream erosion.

3. Sheet flow: The site shall be graded in a manner that maintains sheet flow over as large an area as possible. The maximum area of sheet flow shall be determined based on the slope, the uniformity of site grading, and the use of easements or other legally-binding mechanisms that prohibit re-grading and/or the placement of structures within sheet flow areas. The sheet flow length shall not exceed 75 feet from impervious area or 150 feet from pervious areas. Flow shall be directed into

an open channel, storm sewer, or other SCMs from areas too long and/or too large to maintain sheet flow, all as determined by the ***[community engineer].***

4. Open channels: Unless otherwise allowed by the ***[community engineer],*** drainage tributary to SCMs shall be provided by an open channel with vegetated banks and designed to carry the 10-year, 24-hour stormwater runoff from upstream contributory areas.

6. Water Resource Crossings. The following criteria shall be used to design structures that cross a water resource in the ***[community]***:

   a. Water resource crossings other than bridges shall be designed to convey the stream's flow for the minimum 25-year, 24-hour storm.

   b. Bridges, open bottom arch or spans are the preferred crossing technique and shall be considered in the planning phase of the development. Bridges and open spans should be considered for all State Scenic Rivers, coldwater habitat, exceptional warmwater habitat, seasonal salmonid habitat streams, and Class III headwater streams. The footers or piers for these bridges and open spans shall not be constructed below the ordinary high water mark.

   c. Wherever possible, stormwater shall not discharge directly into surface water via scuppers. Instead, bridge runoff shall be directed to filter strips or other SCMs prior to discharge.

   d. If a culvert or other closed bottom crossing is used, twenty-five (25) percent of the cross-sectional area or a minimum of one (1) foot of box culverts and pipe arches must be embedded below the channel bed. The conduit or conveyance must be sized to carry the 25-year storm under these conditions. Culverts should be aligned with the center of the channel.

   e. The minimum inside diameter of pipes to be used for crossings shall be twelve (12) inches.

   f. The maximum slope allowable shall be a slope that produces a 10-fps velocity within the culvert barrel under design flow conditions. Erosion protection and/or energy dissipaters shall be required to properly control entrance and outlet velocities.

   g. All culvert installations shall be designed with consideration for the tailwater of the receiving facility or water resource. The tailwater elevation used shall be based on the design storm frequency.

   h. Headwalls shall be required at all culvert inlets or outlets to and from open

channels or lakes.

i. Streams with a drainage area of 5 square miles or larger shall incorporate floodplain culverts at the bankfull elevation to restrict head loss differences across the crossing so as to cause no rise in the 100-year storm event.

j. Bridges shall be designed such that the hydraulic profile through a bridge shall be below the bottom chord of the bridge for either the 100-year, 24-hour storm, or the 100-year flood elevation as determined by FEMA, whichever is more restrictive.

9. Velocity dissipation: Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall to provide non-erosive flow velocity from the structure to a water resource so that the natural physical and biological characteristics and functions of the water resource are maintained and protected.

C. Stormwater Quality Control: The site shall be designed to direct runoff to one or more SCMs that meet or exceed the criteria in the Construction General Permit.

Stormwater Management for Previously Developed Areas

1. SCMs on previously developed sites must meet the criteria in the Construction General Permit.

XXXX.10 ALTERNATIVE ACTIONS

A. When the ***[community]*** determines that site constraints compromise the intent of this regulation, off-site alternatives may be used that result in an improvement of water quality and a reduction of stormwater quantity. Such alternatives shall meet the standards in the Construction General Permit and shall achieve the same level of stormwater quantity control that would be achieved by the on-site controls required under this regulation. The ***[Community Engineer]*** may require proof of Ohio EPA review and approval for any alternative action proposed.

XXXX.11 EASEMENTS

Access to SCMs as required by the ***[community engineer]*** for inspections and maintenance shall be secured by easements. The following conditions shall apply to all easements:

A. Easements shall be included in the Inspection and Maintenance Agreement submitted with the Comprehensive Stormwater Management Plan.

B. Easements shall be approved by the ***[community]*** prior to approval of a final plat and shall be recorded with the ***[County Recorder].***

C. Unless otherwise required by the ***[community engineer]***, access easements between a public right-of-way and all SCMs shall be no less than 25-feet wide. The easement shall also incorporate the entire SCM plus an additional 25-foot wide band around the perimeter of the SCM.

D. The easement shall be graded and/or stabilized as necessary to allow maintenance equipment to access and manipulate around and within each facility, as defined in the Inspection and Maintenance Agreement for the site.

E. Easements to SCMs shall be restricted against the construction therein of buildings, fences, walls, and other structures that may obstruct the free flow of stormwater and the passage of inspectors and maintenance equipment; and against the changing of final grade from that described by the final grading plan approved by the ***[community]***. Any re-grading and/or obstruction placed within a maintenance easement may be removed by the ***[community]*** at the property owners' expense.

XXXX.12 MAINTENANCE AND FINAL INSPECTION APPROVAL

To receive final inspection and acceptance of any project, or portion thereof, the following must be completed by the applicant and provided to the ***[community engineer]***:

A. Final stabilization must be achieved and all permanent SCMs must be installed and made functional, as determined by the ***[community engineer]*** and per the approved Comprehensive Stormwater Management Plan.

B. An As-Built Certification, including As-Built Survey and Inspection, must be sealed, signed and dated by a Professional Engineer and a Professional Surveyor with a statement certifying that the SCMs, as designed and installed, meet the requirements of the Comprehensive Stormwater Management Plan approved by the ***[community engineer].*** In evaluating this certification, the ***[community engineer]*** may require the submission of a new set of SCM calculations if he/she determines that the design was altered significantly from the approved Comprehensive Stormwater Management Plan. The As-Built Survey must provide the location, dimensions, and bearing of such SCMs and include the entity responsible for long-term maintenance as detailed in the Inspection and Maintenance Agreement.

C. A copy of the complete and recorded Inspection and Maintenance Plan and Inspection and Maintenance Agreement as specified in Section ***XXXX***.08 must be provided to the ***[community engineer].***

XXXX.13 ON-GOING INSPECTIONS

The owner shall inspect SCMs regularly as described in the Inspection and Maintenance Plan and Inspection and Maintenance Agreement. The ***[community]*** has the authority to enter upon the property to conduct inspections as necessary, with prior notification of the property owner, to verify that the SCMs are being maintained and operated in accordance with this regulation. Upon

finding a malfunction or other need for maintenance or repair, the ***[community]*** shall provide written notification to the responsible party, as detailed in the Inspection and Maintenance Agreement, of the need for maintenance. Upon notification, the responsible party shall have ***ten (10) working days***, or other mutually agreed upon time, to makes repairs or submit a plan with detailed action items and established timelines. Should repairs not be made within this time, or a plan approved by the ***[community engineer]*** for these repairs not in place, the ***[community]*** may undertake the necessary repairs and assess the responsible party.

XXXX.14 FEES

The Comprehensive Stormwater Management Plan review, filing, and inspection fee is part of a complete submittal and is required to be submitted to the ***[community]*** before the review process begins. The ***[community engineer]*** shall establish a fee schedule based upon the actual estimated cost for providing these services.

XXXX.15 BOND

A. If a Comprehensive Stormwater Management Plan is required by this regulation, soil-disturbing activities shall not be permitted until a cash bond ***of 10% of the total project cost*** has been deposited with the ***[community]*** Finance Department. This bond shall be posted for the ***[community]*** to perform the obligations otherwise to be performed by the owner of the development area as stated in this regulation and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this regulation. The stormwater bond will be returned, less ***[community]*** administrative fees as detailed in Chapter ***XXXX*** of the ***[community]*** Codified Ordinances, when the following three criteria are met:

1. The site has been stabilized, temporary BMPs have been removed, and the sediment settling basin has been converted to or replaced with post-construction SCM(s) and one of the following conditions are met:

    a. 100% of the total project has achieved permanent stabilization.

    b. Less than one (1) acre of lots remain unbuilt.

    c. No development activities have occurred for one (1) year.

2. An As-Built Certification of all SCMs is approved by the ***[community engineer]***.

3. An Inspection and Maintenance Plan has been approved by the ***[community]*** and Inspection and Maintenance Agreement has been signed by the developer, the contractor, the ***[community]***, and the private owner or homeowners' association who will take long term responsibility for these SCMs, is accepted by the

[community engineer].

B. Once these criteria are met, the applicant shall be reimbursed all bond monies that were not used for any part of the project. If all of these criteria are not met after three years of permanent stabilization of the site, the ***[community]*** may use the bond monies to fix any outstanding issues with all stormwater management structures on the site and the remainder of the bond shall be given to the private lot owner/ homeowners association for the purpose of long-term maintenance of the project.

*XXXX.*16 INSTALLATION OF WATER QUALITY STORMWATER CONTROL MEASURES

The applicant may not direct runoff through any water quality structures or portions thereof that would be degraded by construction site sediment until the entire area tributary to the structure has reached final stabilization as determined by the ***[community engineer].*** This occurs after the completion of the final grade at the site, after all the utilities are installed, and the site is subsequently stabilized with vegetation or other appropriate methods. The developer must provide documentation acceptable to the ***[community engineer]*** to demonstrate that the site is completely stabilized. Upon this proof of compliance, the water quality structure(s) may be completed and placed into service. Upon completion of installation of these SCMs, all disturbed areas and/or exposed soils caused by the installation of these practices must be stabilized within two (2) days.

*XXXX.*17 VIOLATIONS

No person shall violate or cause or knowingly permit to be violated any of the provisions of this regulation, or fail to comply with any of such provisions or with any lawful requirements of any public authority made pursuant to this regulation, or knowingly use or cause or permit the use of any lands in violation of this regulation or in violation of any permit granted under this regulation.

*XXXX.*18 APPEALS

Any person aggrieved by any order, requirement, determination, or any other action or inaction by the ***[community]*** in relation to this regulation may appeal to the ***[Board of Zoning Appeals or court of common pleas]***. Such an appeal shall be made in conformity with ***[insert appropriate Ohio Revised Code sections]***. Written notice of appeal shall be served on the ***[community]***.

XXXX.19 PENALTY

A. Any person, firm, entity or corporation; including but not limited to, the owner of the property, his agents and assigns, occupant, property manager, and any contractor or subcontractor who violates or fails to comply with any provision of this regulation is guilty of a misdemeanor of the third degree and shall be fined no more than five hundred dollars ($500.00) or imprisoned for no more than sixty (60) days, or both, for each offense. A separate offense shall be deemed committed each day during or on which a violation or noncompliance occurs or continues.

B. The imposition of any other penalties provided herein shall not preclude the ***[community]*** instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this regulation or other applicable laws, ordinances, rules, or regulations, or the orders of the ***[community]***.

There is a direct relationship between road width, impervious coverage, and runoff generation. Therefore, CRWP recommends including the following language in communities' planning and zoning codes.

Right-of-Way and Pavement Widths. Whenever local streets are planned in accordance with the criteria set forth in this section, the right-of-way width of such street shall be forty-five feet and the pavement width between curbs shall be a maximum of twenty-two feet.

Hammerheads and t-style turnarounds are permitted at the end of dead-end streets. The minimum radius of a cul-de-sac is 48 feet. Cul-de-sacs shall include landscaped islands in the center of the bulb. Grading cul-de-sacs to direct runoff landscaped islands and incorporating bioretention into such landscaped islands is encouraged.

Subdivision designs shall seek to limit street length where possible.

Road engineering standards should allow for the use of stormwater control measures such as bioretention and permeable pavement within the right of way.

Permeable pavement is permitted in parking lanes and on roads with less than 400 average daily trips. Curb extensions that narrow the roadway are allowed to provide space for stormwater control measures.

There are also relationships between communities' road networks, availability of other transportation options, and the need to create additional roads to alleviate traffic congestion.

Additionally, the availability of road access can spur additional development and further increases in impervious surfaces within a watershed.

Interconnected streets are preferred to encourage walkable and bikeable neighborhoods.

Street maintenance activities and vehicle fueling stations for publicly owned vehicles can contribute to nonpoint source pollution from roads and bridges. CRWP recommends that this language is incorporated into a municipality's Administrative Code.

Debris Management

The ***[Service Department]*** shall sweep curbed streets at least twice annually. The ***[Service Department]*** shall sweep the streets with the most debris collected more frequently than twice annually.

The ***[Service Department]*** shall maintain publicly owned permeable pavement by vacuum sweeping at least twice per year or according to the manufacturers' recommendations.

The ***[Service Department]*** shall clean catch basins at least once every five years. The ***[Service Department]*** shall clean catch basins with the most debris collected more frequently than once every five years.

The ***[Service Department]*** shall develop and implement a roadside litter collection program, which may utilize volunteer labor.

The ***[Service Department]*** shall develop and implement a yard waste collection program and/or encourage composting through resident education to minimize transfer of yard waste to roadside ditches and storm sewers.

Roadside Ditch Maintenance

When vegetation or other erosion-protective coverage is disturbed during roadside ditch maintenance, the ***[Service Department]*** shall stabilize the area within seven (7) days of reaching final grade or within the first seven (7) days if a disturbed area will remain inactive for fourteen (14) or more days. The ***[Service Department]*** shall stabilize areas within fifty (50) feet of streams or wetlands within two (2) days of reaching final grade or within the first two (2) days if a disturbed area will remain inactive for fourteen (14) or more days. Methods of stabilization include: seeding with mulch netting used to during vegetation establishment for design velocities less than 3.5 feet per second and seeding protected by erosion control matting or blankets for design velocities greater than 3.5 feet per second. The ***[Service Department]*** should incorporate rock check dams as needed on ditches with high velocity to encourage plant establishment.

Chemical Use

The ***[Service Department]*** shall use Integrated Pest Management strategies to minimize the application of pesticides. The ***[Service Department]*** shall only authorize certified applicators with a valid Commercial Pesticide Applicator license from the Ohio Department of Agriculture

to apply pesticides. When pesticide application near streams and wetlands is needed, the ***[Service Department]*** shall only apply pesticides approved for aquatic use.

The ***[Service Department]*** should only apply fertilizer to facilitate plant establishment or to address areas with poor vegetative cover. When fertilizer is used, the ***[Service Department]*** shall apply fertilizer at the manufacturer's recommended rate. The ***[Service Department]*** should not apply fertilizer within two (2) days of forecasted rain events unless incorporated in hydroseed.

The ***[Service Department]*** shall limit the use of salt for road deicing to the extent and amount necessary for maintaining public safety. Best practices such as prewetting, anti-icing, and plowing shall be used to minimize salt application. Salt shall be stored and loaded indoors to the maximum extent practical.

The ***[Service Department]*** shall wash out concrete trucks into a designated area away from storm drains, roadside ditches, streams, and wetlands where the concrete wash can harden and later be backfilled or where the hardened concrete can be broken up and placed in a dumpster.

Chemical Storage

The ***[Service Department]*** shall store chemicals that can be hazardous to the environment in a manner that minimizes the potential for their release. Chemicals that can be hazardous to the environment include but are not limited to: salt and other deicing products, pesticides, fertilizers, and petroleum products. The ***[Service Department]*** shall store such chemicals on an impermeable surface and inside buildings to the maximum extent possible. Chemicals that must be store outside shall be stored on an impermeable surface with secondary containment such as berms or double walled tanks to contain spills.

The ***[Service Department]*** shall retain manufacturer's labels or create labels for all containing chemicals that could be hazardous to the environment. The ***[Service Department]*** shall use dry methods for spill cleanup. The ***[Service Department]*** shall train its employees in appropriate spill cleanup techniques.

Vehicle Fueling

The ***[Service Department]*** shall minimize the impact of spills from vehicle fueling by adhering to the following best management practices. Vehicle fueling will occur on a concrete slab or paved area. The ***[Service Department]*** will inspect vehicle fueling stations daily for fuel, motor oil, or other fluid spills. The ***[Service Department]*** shall use dry methods to clean up spills. Absorbent materials for dry spill cleanup shall be kept near vehicle fueling stations. Heavily used vehicle fueling areas shall be covered with a roof and shall have shutoff valves on storm drains that shall be kept close except during storm events. Signage shall indicate not to overfill tanks.

When fueling areas are added or upgraded, the following features shall be included in the design. Stormwater runoff to the fueling area shall be minimized by installing berms around the fueling area or grading such that the fueling area is higher than the adjacent surfaces. Runoff from the fueling station shall be directed to sanitary sewers or to storm inlets with a sump so that any spills can be stored, emptied by pumping, and disposed of properly when needed.