BEACHWOOD CITY COUNCIL
STORMWATER COMMISSION MEETING AGENDA
MONDAY, MARCH 9, 2020,
IMMEDIATELY FOLLOWING THE LEGAL AND PERSONNEL
COMMITTEE MEETING
at BEACHWOOD CITY HALL, CONFERENCE ROOM A,
Mike Burkons 25325 Fairmount Boulevard, Beachwood, Ohio 44122
Eric Synenberg

Agenda Items
1. Review of the Minutes of the Stormwater Commission Meeting held on December 11, 2017 for informational purposes
2. Discussion regarding review of Stormwater Ordinances
3. Any other matters coming before the Stormwater Commission

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BEACHWOOD STORMWATER COMMISSION COMMITTEE MEETING HELD ON MONDAY, DECEMBER 11, 2017, AT 5:30 PM AT BEACHWOOD CITY HALL, CONFERENCE ROOM B, 25325 FAIRMOUNT BOULEVARD, BEACHWOOD, OHIO 44122.

The meeting was called to order at 5:30 P.M. by Committee Chairperson Chris Vild

1. **ROLL CALL**

   Absent: M. Gorden, M. Horwitz
   Also Present: Kate Chapel, Tinkers Creek Watershed Partners
   Jacque Gorman representing GPD
   Harry Stark, Executive Director Tinkers Creek Watershed Partners

2. **Minutes from previous Stormwater Commission meeting (2/19/2004)**

   The minutes were not reviewed as they are no longer relevant.

3. **Citizen Remarks**

   None

4. **City of Beachwood Watersheds**

   Mr. Vild discussed the City of Beachwood’s unique distinction of being in six watersheds: Nine Mile Creek, Euclid Creek, Doan Brook, Mill Creek, Chagrin River and Tinkers Creek. As Beachwood has the highest east side elevation, everything (good or bad) that occurs in Beachwood stormwater affects neighboring communities.

5. **Phase II Stormwater Regulations**

   Mr. Vild then discussed the history of the Federal EPA’s Stormwater Regulations beginning with the Cuyahoga River fire in 1969. As a result of the fire, congress enacted the Clean Water Act in 1972 which focused on source polluters.

   In 1992, Phase I was enacted for cities with populations greater than 100,000. It addressed non-regulated polluters such as sewer systems.

   Phase II followed in 1999 for urban areas with populations smaller than 100,000. It also focuses on unregulated stormwater discharges. Phase II is comprised of six Minimum Control Measures as follows:
   1. Public Involvement
   2. Public Education
   3. Illicit Discharge Detection and Elimination
   4. Construction Site Runoff Control
   5. Post-Construction Runoff Control
   6. Pollution Prevention/Good Housekeeping
6. **Current Status of the Beachwood Program**

1. **Public Involvement.**

2. **Public Education** - these two measures involve Beachwood citizens. Activities at home include building rain barrels and minimizing use of fertilizers. Group activities can include building rain gardens or storm drain stenciling. Education can take the form of watershed group meetings, rain barrel and composting workshops, visits to schools and wildflower planting with Girl Scouts at Beachwood City Park. Additional education such as speakers and quarterly newsletters that are available at the Community Center, City website and Beachwood Buzz are provided by the NEOPIPE group (organization of stormwater professionals).

**Euclid Creek Partners and The Cuyahoga Soil and Water Conservation District** assist the City with the above two MCMs.

3. **Illicit Discharge Detection and Elimination** - can involve a failing or cross-connected sewer, chemical spill or improper disposal of toxic chemicals.

**The Cuyahoga County Board of Health** inspects outfalls and dry weather flows for illicit discharges. CCBH sends all samples to the North East Ohio Regional Sewer District lab for testing.

4. **Construction Site Runoff Control** - could be a silt fence or a retention basin used by a construction company to prevent loose soil from migrating from active sites larger than one acre into stormwater.

**The GPD Group** (the City’s contracted engineering company) inspects construction sites at least once a month during the construction season until the project is completed.

5. **Post-Construction Runoff Control** - is designed to ensure that all stormwater control measures i.e. retention and detention basins and bio-swales, will be in place and working as designed in perpetuity for properties larger than one acre.

**The Cuyahoga Soil and Water District** annually inspects every site and educates property owners on use of stormwater control measures.

6. **Pollution Prevention/Good Housekeeping** - requires Municipal Separate Storm Sewer Systems to be managed to reduce polluted runoff from leaving City properties.

**The Tinkers Creek Watershed Partners** help the City to be compliant with this measure.

Mr. Pekarek stated that aging housing stock was the City’s largest challenge to stormwater control. Storm sewers used to be constructed of clay tile pipe without joints. During heavy rain events the water migrates from the storm sewer into the sanitary one, thus overtaxing the sanitary one causing residential sanitary back ups.

Mr. Vild stated that 25% of the NEORSD storm water fee collected in Beachwood is reimbursable to the City for stormwater control via the Community Cost Share Fund. These funds pay for stormwater MCMs with the exception of #4 which is provided via GPD contract.

In 2017 Community Cost Share dollars paid for:
- Stormwater retrofits at the Village property where it abuts Richmond Road properties to alleviate flooding.
- Adding a storm sewer to Community Drive newly built home and three existing homes.

In addition to the above two items, combined manholes for the storm and sanitary
sewers in the northwest section of the City were separated to prevent cross connections between the sewer lines.

7. **Watershed Partner Presentation (Kate Chapel)**

Ms. Chapel explained that the Tinkers Creek Watershed Partners are available for help with educational and special event activities, in addition to making Stormwater Pollution Prevention Plans. PIPE program events can include: building rain barrels, planting rain gardens, tree planting. They are also able to help with grant identification and writing to fund watershed activities. They are active in 24 local communities and work together with other watershed groups.

8. **Stormwater Ordinance Review**

Mr. Vild stated that every five years the EPA amends the Phase II program. The City's Stormwater Ordinances need to be updated to reflect current EPA rules. This topic will be discussed at the next Stormwater Commission meeting.

Mr. Stark mentioned the EPA will be doing audits on a more frequent basis beginning in 2018.

9. **Any Other Matters Coming Before the Stormwater Commission**

Mr. Vild stated he plans to bring other watershed partners to future commission meetings.

Mrs. Janovitz asked if there will be changes to the EPA stormwater program due to current administration.

Mr. Stark stated he attended EPA District 5 meeting in Chicago where this was discussed. At this time, all the programs are budgeted and there is no immediate change.

Mr. Pekarek stated that new, larger homes are replacing ones the storm system was designed to manage. In addition he discussed detention basin maintenance at new buildings, property owners are not often aware they need to perform maintenance.

Ms. Chapel stated that Tinker's Creek Watershed Partners have been trained to inspect detention basins.

Mr. Griswold stated that Beachwood Place and DDR have been maintaining their detention basins. He also mentioned that when an older home is waterproofed, more water is directed into the storm system.

Mr. Vild mentioned that newer homes have larger footprints and therefore more areas of impervious surface.

Mr. Griswold stated that all water falling onto a lot should be contained on that lot.

Mr. Gerkin mentioned he participated in rain barrel workshops with Clare Posius of Friends of Euclid Creek and one at the National Park. He feels more residents should do the same to limit amount of water entering storm sewer system.
Mr. Vild stated that the City of Beachwood website has a Watershed Information page where Community events such as rain barrel building and stream clean ups are posted. The watershed groups collaborate with each other to share knowledge and hardware.

In addition, Mr. Vild mentioned The Great Lakes are our greatest resource. They contain 25% of the world’s fresh water. Lake Erie is not too big to fail, i.e. algal bloom in Toledo. What residents do on their properties, even if 20 miles from the lake, impact it.

ADJOURNMENT

Moved by B. Janovitz, seconded by D. Pekarek at 6:45 P.M. to adjourn the Stormwater Commission Meeting.

ROLL CALL

Abstain: None.
No: None.
Not Voting: None.

MOTION ADOPTED

Approved:

________________________________________
Christopher S. Vild, Chairperson

________________________________________
Whitney Crook, Clerk of Council
RIPARIAN AND WETLAND SETBACKS

WHEREAS, flooding is a significant threat to property and public health and safety, and vegetated riparian areas lessen the damage from flooding by slowing the water velocity, enabling water to soak into the ground, and by providing temporary storage of overbank flood flow; and

WHEREAS, streambank erosion is a significant threat to property and public health and safety, and vegetated riparian areas stabilize streambanks and provide resistance to erosive forces both within streams and on adjacent lands; and

WHEREAS, the protection of riparian areas results in the presence of plants best suited to each individual environment along a stream, with proven capability for survival and regeneration at no cost; and

WHEREAS, vegetated riparian areas filter and trap sediments, chemicals, salts, septic discharge, and other pollutants from runoff and floodwaters, thus protecting surface and ground water quality; and

WHEREAS, vegetated riparian areas can provide a dense tree canopy that helps to maintain and improve the stability of watercourse temperatures, thus protecting aquatic ecosystems, and helps to reduce the presence of aquatic nuisance species; and

WHEREAS, the protection of riparian areas can result in a diverse and interconnected riparian corridor that provides habitat to a wide array of wildlife; and

WHEREAS, the woody debris from fallen, damaged, and cut trees increases flood levels and damage to bridges in the City and neighboring communities; and

WHEREAS, sedimentation of eroded soil adversely affects aquatic communities and incurs removal costs to downstream communities; and

WHEREAS, there are watershed-wide efforts to minimize flooding and streambank erosion and to protect and enhance the water resources of the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinker’s Creek and its tributaries and the City recognizes its obligation as a part of these watersheds to minimize flooding and streambank erosion by controlling runoff within its borders; and
WHEREAS, studies undertaken by, and reviewed by, the Ohio Environmental Protection Agency and other independent scientific bodies recommend the minimum widths for riparian setbacks; and

WHEREAS, the Council of the City of Beachwood has reviewed and adopted the recommendations of the above government agencies, and the Council finds that in order to minimize encroachment on watercourses and the need for costly engineering solutions to protect structures and reduce property damage and threats to the safety of watershed residents; to protect and enhance the scenic beauty of the City, and to preserve the character of the City, the quality of life of the residents of the City, and corresponding property values, it is necessary and appropriate to regulate structures and uses within a riparian setback along the banks of designated watercourses in the City; and

WHEREAS, Article XVIII, Section 3 of the Ohio Constitution grants municipalities the legal authority to adopt land use and control measures for promoting the peace, health, safety, and general welfare of its citizens; and

WHEREAS, 40 C.F.R. Parts 9, 122, 123, and 124, referred to as NPDES Storm Water Phase II, require designated communities, including the City to develop a Storm Water Management Program to address the quality of stormwater runoff during and after soil disturbing activities.

NOW, THEREFORE, BE IT ORDAINED by the Council of City of Beachwood, County of Cuyahoga, State of Ohio, that:

SECTION 1: Current Codified Ordinance *Chapter 1157 Riparian and Wetland Setbacks*, is hereby repealed and replaced in its entirety with the following:

**CHAPTER 1157**

**RIPARIAN AND WETLAND SETBACKS**

1157.01 PURPOSE AND SCOPE.
A. It is hereby determined that the system of rivers, streams, and other natural watercourses within the City contributes to the health, safety, and general welfare of the residents of the City. The specific purpose and intent of this regulation is to regulate uses and developments within riparian setbacks that would impair the ability of riparian areas to:

1. Reduce flood impacts by absorbing peak flows, slowing the velocity of flood waters, and regulating base flow.
2. Assist stabilizing the banks of watercourses to reduce woody debris from fallen or damaged trees, streambank erosion, and the downstream transport of sediments eroded from watercourse banks.
3. Reduce pollutants in watercourses during periods of high flows by filtering, settling, and transforming pollutants already present in watercourses.
4. Reduce pollutants in watercourses by filtering, settling, and transforming pollutants in runoff before they enter watercourses.
5. Provide watercourse habitats with shade and food.
6. Reduce the presence of aquatic nuisance species to maintain a diverse aquatic system.
7. Provide habitat to a wide array of wildlife by maintaining diverse and connected riparian vegetation.
8. Benefit the City by minimizing encroachment on watercourse channels and the need for costly engineering solutions such as gabion baskets and rip rap to protect structures and reduce property damage and threats to the safety of watershed residents; and by contributing to the scenic beauty and environment of the City, and thereby preserving the character of the City, the quality of life of the residents of the City, and corresponding property values.

B. The following regulation has been enacted to protect and enhance these functions of riparian areas by providing reasonable controls governing structures and uses within a riparian setback along designated watercourses in the City.

1157.02 APPLICABILITY, COMPLIANCE & VIOLATIONS.

A. This regulation shall apply to all zoning districts.

B. This regulation shall apply to all structures and uses on lands containing a designated watercourse as defined in this regulation, except as provided herein.

C. No approvals or permits shall be issued by the City without full compliance with the terms of this regulation.

1157.03 CONFLICTS WITH OTHER REGULATIONS & SEVERABILITY.

A. Where this regulation imposes a greater restriction upon land than is imposed or required by any other provision of law, regulation, contract, or deed, the provisions of this regulation shall
control.

B. This regulation shall not limit or restrict the application of other provisions of law, regulation, contract, or deed, or the legal remedies available thereunder, except as provided in Section 1157.03(A) of this regulation.

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

1157.04 DEFINITIONS.

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

A. COMMUNITY: Throughout this regulation, this shall refer to the City of Beachwood or its designated representatives, boards, or commissions.

B. DAMAGED OR DISEASED TREES: Trees that have split trunks; broken tops; heart rot; insect or fungus problems that will lead to imminent death; undercut root systems that put the tree in imminent danger of falling; lean as a result of root failure that puts the tree in imminent danger of falling; or any other condition that puts the tree in imminent danger of being uprooted or falling into or along a watercourse or onto a structure.

C. DESIGNATED WATERCOURSE: A watercourse within the City that is in conformity with the criteria set forth in this regulation.

D. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA): The agency with overall responsibility for administering the National Flood Insurance Program.

E. IMPERVIOUS COVER: Any paved, hardened, or structural surface regardless of its composition including but not limited to buildings, roads, driveways, parking lots, loading/unloading areas, decks, patios, and swimming pools.

F. IN-LINE POND: A permanent pool of water created by impounding a designated watercourse.

G. NOXIOUS WEED: Any plant species defined by the Ohio Department of Agriculture as a “noxious weed” and listed as such by the Department. For the purposes of this regulation, the most recent version of this list at the time of application of this regulation shall prevail.

H. 100-YEAR FLOODPLAIN: Any land susceptible to being inundated by water from a base flood. The base flood is the flood that has a one percent or greater chance of being equaled or exceeded in any given year.

I. OHIO ENVIRONMENTAL PROTECTION AGENCY: Referred throughout this regulation as the "Ohio EPA."

J. ORDINARY HIGH WATER MARK: The point of the bank or shore to which the presence and action of surface water is so continuous as to leave a district marked by erosion, destruction or prevention of woody terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic. The ordinary high water mark defines the bed of a watercourse.

K. RIPARIAN AREA: Land adjacent to watercourses that, if appropriately sized, helps to stabilize streambanks, limit erosion, reduce flood size flows, and/or filter and settle out runoff pollutants,
or performs other functions consistent with the purposes of this regulation.

L. RIPARIAN SETBACK: The real property adjacent to a designated watercourse located in the area defined by the criteria set forth in this regulation.

M. SOIL AND WATER CONSERVATION DISTRICT: An entity organized under Chapter 1515 of the Ohio Revised Code referring to either the Soil and Water Conservation District Board or its designated employee(s), hereinafter referred to as Cuyahoga SWCD.

N. SOIL DISTURBING ACTIVITY: Clearing, grading, excavating, filling, or other alteration of the earth’s surface where natural or human made ground cover is destroyed and which may result in, or contribute to, erosion and sediment pollution.

O. SUBSTANTIAL DAMAGE: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would be equal to, or would exceed, 50% of the market value of the structure before the damage occurred.

P. WATERCOURSE: Any brook, channel, creek, river, or stream having banks, a defined bed, and a definite direction of flow, either continuously or intermittently flowing.

Q. 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).

1157.05 ESTABLISHMENT OF DESIGNATED WATERCOURSES, RIPARIAN, AND WETLAND SETBACKS.

A. Designated watercourses shall include those watercourses meeting any ONE of the following criteria:

1. All watercourses draining an area equal to or greater than one half (½) square mile, or

2. All watercourses draining an area less than one half (½) square mile and having a defined bed and bank. In determining if watercourses have a defined bed and bank, the City may consult with a representative of the Cuyahoga SWCD or other technical experts as necessary. Any costs associated with such consultations may be assessed to the applicant.

B. Riparian setbacks on designated watercourses are established as follows:

1. A minimum of three hundred (300) feet on either side of all watercourses draining an area equal to or greater than three hundred (300) square miles.

2. A minimum of one hundred and twenty (120) feet on either side of all watercourses draining an area equal to or greater than twenty (20) square miles and up to three hundred (300) square miles.

3. A minimum of seventy five (75) feet on either side of all watercourses draining an area equal to or greater than one half (½) square mile and up to twenty (20) square miles.
4. A minimum of twenty-five (25) feet on either side of all watercourses draining an area less than one half (½) square mile and having a defined bed and bank as determined by the City in accordance with this regulation.

C. For wetlands setbacks, no buildings, structures, or parking areas shall be located closer than:

1. Fifty (50) feet from the outermost boundary of a category 3 wetland; or
2. Thirty (30) feet from the outermost boundary of a category 2 wetland; and
3. Where a wetland is wider than the minimum required riparian setback on either or both sides of a designated watercourse, the minimum riparian setback shall be extended to include the outermost boundary of the wetland, plus the following additional setback widths based upon the particular wetland category; and
4. Wetlands shall be delineated through a site survey prepared by a qualified wetlands professional using delineation protocols accepted by the U.S. Army Corps of Engineers and Ohio EPA at the time an application is made.

D. Riparian Setback Guide Map. The City shall create a guide map identifying designated watercourses and their riparian setbacks. Said guide map is attached hereto and made part of this regulation and is identified as Exhibit A. The following shall apply to the Riparian Setback Guide Map:

1. It shall be used as a reference document and the information contained therein shall be believed to be accurate.
2. It shall be a guide only.
3. The map was prepared as a Riparian Setback Map by the City in accordance with Section 1157.05 of Chapter 1157. Digital data is a representation of recorded plats, surveys, deeds, and other collected information for use within a Geographic Information System for purposes of analysis. These and other digital data do not replace or modify land surveys, deeds, and/or other legal instruments defining land ownership or use. The City assumes no legal responsibility for this information.
4. Nothing herein shall prevent the City from amending the Riparian Setback Guide Map from time to time as may be necessary.
5. If any discrepancy is found between the Riparian Setback Guide Map and this regulation, the criteria set forth in Section 1157.05(A) and (B) shall prevail.

E. The following conditions shall apply in riparian setbacks:

1. Riparian setbacks shall be measured in a horizontal direction outward from the ordinary high water mark of each designated watercourse, except for in-line ponds as addressed in Section 1157.05.
2. Except as otherwise provided in this regulation, riparian setbacks shall be preserved in their natural state.
3. Where the 100-year floodplain is wider than a minimum riparian setback on either or both sides of a designated watercourse, the minimum riparian setback shall be extended to the outer edge of the 100-year floodplain. The 100-year floodplain shall be defined by FEMA. If a FEMA defined floodplain does not exist for a designated watercourse, the City may require a site-specific floodplain delineation in conformance with standard engineering practices and approved by the City. Any costs associated with reviewing this site-specific floodplain delineation may be assessed to the applicant.

4. Where a wetland is identified within a minimum riparian setback, the minimum riparian setback width shall be extended to the outermost boundary of the wetland. Wetlands shall be delineated through a site survey prepared by a qualified wetlands professional retained by the landowner using delineation protocols accepted by the U.S. Army Corps of Engineers at the time an application is made under this regulation. Any costs associated with reviewing these delineations may be assessed by the City to the applicant.

5. The minimum riparian setback on an in-line pond existing at the time of application of this regulation shall be measured from the ordinary high water mark of the designated watercourse as it enters said pond and through the impoundment along the centerline of the designated watercourse as it flows through the in-line pond. Riparian setbacks on in-line ponds existing at the time an application is made under this regulation shall be expanded to include wetlands and floodplains as detailed in Section 1157.05. The creation of new in-line impoundments shall not be permitted under these regulations.

1157.06 APPLICATIONS AND SITE PLANS.

A. The applicant shall be responsible for delineating riparian setbacks as required by this regulation and shall identify such setbacks on any Site Development Plan included with all subdivision plans, land development plans, and/or zoning/building permit applications submitted to the City. The Site Development Plan shall be prepared by a professional engineer, surveyor, landscape architect, or such other qualified professional as determined by the City and shall be based on a survey of the affected land. Two (2) copies of the Site Development Plan shall be submitted. The Site Development Plans shall include the following information:
1. The boundaries of the lot with dimensions.
2. The locations of all designated watercourses.
3. The limits, with dimensions, of the riparian setbacks.
4. The existing topography at intervals of two (2) feet.
5. The location and dimensions of any proposed structures or uses, including proposed soil disturbance, in relationship to all designated watercourses.
6. North arrow, scale, date, and stamp bearing the name and registration number of the qualified professional who prepared the site plan.
7. Other such information as may be necessary for the City to ensure compliance with this regulation.

B. The City may, in reviewing the site plan, consult with the Cuyahoga SWCD or other such experts. Any costs associated with this review may be assessed to the applicant.

C. If soil disturbing activities will occur within fifty (50) feet of the outer boundary of the applicable riparian setback as specified in this regulation, the riparian setback shall be clearly identified by the applicant on site with construction fencing as shown on the site plan. Such identification shall be completed prior to the initiation of any soil disturbing activities and shall be maintained throughout soil disturbing activities.

D. No approvals or permits shall be issued by the City prior to identification of riparian setbacks on the affected land in conformance with this regulation.

1157.07 USES PERMITTED IN RIPARIAN SETBACKS.

A. By Right Uses Without a Permit. Open space uses that are passive in character shall be permitted in riparian setbacks, including, but not limited to, those listed in this regulation. No use permitted under this regulation shall be construed as allowing trespass on privately held lands.

1. **Recreational Activity.** Hiking, fishing, hunting, picnicking, and similar passive recreational uses, as permitted by federal, state, and local laws.

2. **Removal of Damaged or Diseased Trees.** Damaged or diseased trees may be removed.

3. **Revegetation and/or Reforestation.** Riparian setbacks may be revegetated and/or reforested with native, noninvasive plant species.

B. By Conditional Use Permit Granted by the Commission: When granting Conditional Use Permits for the following uses, the Commission may, for good cause, attach such conditions as it deems appropriate. Permits issued under this regulation are issued to the applicant only, shall not be transferred, and shall be void if not implemented within one (1) year of issuance.

1. **Crossings:** Crossings of designated watercourses through riparian setbacks with roads, driveways, easements, bridges, culverts, utility service lines, or other means may be permitted provided such crossings minimize disturbance in riparian setbacks and mitigate any necessary disturbances. Such crossings shall only be undertaken upon approval of a
Crossing Plan by the Commission. Any costs associated with review of Crossing Plans may be assessed to the applicant.

If work will occur below the ordinary high water mark of the designated watercourse, proof of compliance with the applicable conditions of a US Army Corps of Engineers Section 404 Permit (either a Nationwide Permit, including the Ohio State Certification Special Conditions and Limitations, or an Individual Permit, including Ohio 401 water quality certification), shall also be provided to the City. Proof of compliance shall be the following:

a. A site plan showing that any proposed crossing conforms to the general and special conditions of the applicable Nationwide Permit, or
b. A copy of the authorization letter from the U.S. Army Corps of Engineers approving activities under the applicable Nationwide Permit, or
c. A copy of the authorization letter from the U.S. Army Corps of Engineers approving activities under an Individual Permit.

2. Streambank Stabilization Projects. Streambank stabilization projects along designated watercourses may be allowed, provided that such measures are ecologically compatible and substantially utilize natural materials and native plant species to the maximum extent practicable. Such streambank stabilization measures shall only be undertaken upon approval of a Streambank Stabilization Plan by the Commission. Any costs associated with review of Streambank Stabilization Plans may be assessed to the applicant.

If streambank stabilization work is proposed below the ordinary high water mark of the designated watercourse, proof of compliance with the applicable conditions of a US Army Corps of Engineers Section 404 Permit (either a Nationwide Permit, including the Ohio State Certification Special Conditions and Limitations, or an Individual Permit, including Ohio 401 water quality certification) shall be provided to the City. Proof of compliance shall be the following:

a. A site plan showing that any proposed stabilization conforms to the general and special conditions of the applicable Nationwide Permit, or
b. A copy of the authorization letter from the U.S. Army Corps of Engineers approving activities under the applicable Nationwide Permit, or,
c. A copy of the authorization letter from the U.S. Army Corps of Engineers approving activities under an Individual Permit.

3. Landscaping: The removal of natural vegetation within a riparian setback and the subsequent cultivation of lawns, landscaping, shrubbery, or trees may be allowed provided that such cultivation is done in conformance with a Landscaping Plan approved by the Commission. Any costs associated with review of Landscaping Plans may be assessed to the applicant. Landscaping Plans shall meet the following criteria:
a. Maintain trees in the riparian setback larger than nine (9) inches in caliper (diameter) as measured fifty-four inches above the ground to the maximum extent practicable.

b. Maintain trees, shrubbery, and other non-lawn, woody vegetation in the riparian setback to the maximum extent practicable.

1157.08 USES PROHIBITED IN RIPARIAN SETBACKS.

Any use not authorized under this regulation shall be prohibited in riparian setbacks. By way of example, the following uses are specifically prohibited, however, prohibited uses are not limited to those examples listed here:

A. **Construction.** There shall be no buildings or structures of any kind.

B. **Dredging or Dumping.** There shall be no drilling, filling, dredging, or dumping of soil, spoils, liquid, or solid materials, except for noncommercial composting of uncontaminated natural materials and except as permitted under this regulation.

C. **Fences and Walls:** There shall be no fences or walls, except as permitted under this regulation.

D. **Roads or Driveways.** There shall be no roads or driveways, except as permitted under this regulation.

E. **Disturbance of Natural Vegetation:** There shall be no disturbance of natural vegetation within riparian setbacks except for the following:

1. Maintenance of lawns, landscaping, shrubbery, or trees existing at the time of passage of this regulation.

2. Cultivation of lawns, landscaping, shrubbery, or trees in accordance with an approved Landscaping Plan submitted in conformance with this regulation.

3. Conservation measures designed to remove damaged or diseased trees or to control noxious weeds or invasive species.

F. **Parking Spaces or Lots and Loading/Unloading Spaces for Vehicles:** There shall be no parking spaces, parking lots, or loading/unloading spaces.

G. **New Surface and/or Subsurface Sewage Disposal or Treatment Areas.** Riparian setbacks shall not be used for the disposal or treatment of sewage, except as necessary to repair or replace an existing home sewage disposal system and in accordance with recommendations of the Cuyahoga County Board of Health.

1157.09 NON-CONFORMING STRUCTURES OR USES IN RIPARIAN SETBACKS.

A. A non-conforming use, existing at the time of passage of this regulation and within a riparian
setback, that is not permitted under this regulation may be continued but shall not be changed or enlarged unless changed to a use permitted under this regulation.

B. A non-conforming structure, existing at the time of passage of this regulation and within a riparian setback, that is not permitted under this regulation may be continued but shall not have the existing building footprint or roofline expanded or enlarged.

C. A non-conforming structure or use, existing at the time of passage of this regulation and within a riparian setback, that has substantial damage and that is discontinued, terminated, or abandoned for a period of six (6) months or more may not be revived, restored, or re-established.

1157.10 VARIANCES WITHIN RIPARIAN SETBACKS.

A. The Commission may grant a variance to this regulation as provided herein. In granting a variance, the following conditions shall apply:

1. In determining whether there is unnecessary hardship with respect to the use of a property or practical difficulty with respect to maintaining the riparian setback as established in this regulation, such as to justify the granting of a variance, the Commission shall consider the potential harm or reduction in riparian functions that may be caused by a proposed structure or use.

2. The Commission may not authorize any structure or use in a Zoning District other than those authorized in the Zoning Code.

3. Variances shall be void if not implemented within one (1) year of the date of issuance.

B. In making a determination under Section 1157.10(A) of this regulation, the Commission may consider the following:

1. The natural vegetation of the property as well as the percentage of the parcel that is in the 100-year floodplain. The criteria of flood damage prevention may be used as guidance when granting variances in the 100-year floodplain.

2. The extent to which the requested variance impairs the flood control, erosion control, water quality protection, or other functions of the riparian setback. This determination shall be based on sufficient technical and scientific data.

3. The degree of hardship, with respect to the use of a property or the degree of practical
difficulty with respect to maintaining the riparian setback as established in this regulation, placed on the landowner by this regulation and the availability of alternatives to the proposed structure or use.

4. Soil-disturbing activities permitted in the riparian setback through variances should be implemented to minimize clearing to the extent possible and to include Best Management Practices necessary to minimize erosion and control sediment.

5. The presence of significant impervious cover, or smooth vegetation such as maintained lawns, in the riparian setback compromises its benefits to the City. Variances should not be granted for asphalt or concrete paving in the riparian setback. Variances may be granted for gravel driveways when necessary.

6. Whether a property, otherwise buildable under the ordinances of the City will be made unbuildable because of this regulation.

C. In order to maintain the riparian setback to the maximum extent practicable, the Commission may consider granting variances to other area or setback requirements imposed on a property by the Zoning Code. These may include, but are not limited to, parking requirements, requirements for the shape, size, or design of buildings, or front, rear, or side lot setbacks.

D. In granting a variance under this regulation, the Commission, for good cause, may impose such conditions that it deems appropriate to maintain the purposes of this regulation and to mitigate any necessary impacts in the riparian setbacks permitted by variance. In determining appropriate mitigation, the Commission may consult with the Engineer or other agencies including Cuyahoga SWCD.

1157.11 PROCEDURES FOR VARIANCES & APPEALS

A. Any applicant seeking a variance to the conditions imposed under this regulation or an appeal to an administrative decision made under this regulation, other than a decision by the Commission, may apply to or appeal to the Commission. The following conditions shall apply:

1. When filing an application for an appeal to an administrative decision, the applicant shall file a notice of appeal specifying the grounds therefor with the administrative official within twenty (20) days of the administrative official’s decision. Upon determining that the application is complete and upon receipt of the required fee of one hundred dollars ($100.00), the administrative official shall transmit to the Commission the application and a transcript constituting the record from which the administrative decision subject to appeal was based. This transmission shall occur no less than fourteen (14) days prior to a regularly scheduled meeting of the Commission in order to be placed on the agenda for that meeting.

2. When applying for a variance, the applicant shall file a variance request with the Commission.

3. Applications for appeals or variances made under this regulation shall contain the following information:
a. The name, address, and telephone number of the applicant;

b. Proof of ownership or authorization to represent the property owner.

c. The location of the property, including street address and permanent parcel number.

d. The current zoning of the property.

e. A description of the project for which the appeal or variance is sought.

f. A description of the administrative decision being appealed or the conditions of the regulation from which a variance is sought.

g. Names and addresses of each property owner within five hundred (500) feet as shown in the current records of the Cuyahoga Auditor typed on gummed labels.

4. Applications for variances or appeals of administrative decisions shall not be resubmitted to the Commission within one (1) year of the date of a final decision by the Commission on the original application, unless the applicant shows the Commission either of the following:

a. Newly discovered evidence that could not have been presented with the original submission, or

b. Evidence of a substantial change in circumstances since the time of the original submission.

B. A decision by the Commission in response to an application for a variance request or an appeal of an administrative decision filed pursuant to this regulation shall be final.

1157.12 INSPECTION OF RIPARIAN SETBACKS.

The identification of riparian setbacks shall be inspected by the City:

A. Prior to soil disturbing activities authorized under this regulation. The applicant shall provide the City with at least two (2) working days written notice prior to starting such soil disturbing activities.

B. Any time evidence is brought to the attention of the City that uses or structures are occurring that may reasonably be expected to violate the provisions of this regulation.

1157.99 PENALTY.

A. Any person who shall violate any section of this regulation shall be guilty of a misdemeanor of first degree and, upon conviction thereof, shall be subject to punishment as provided in Section 1105.99 of the Zoning Code and shall be required to restore the riparian setback through a restoration plan approved by the Commission.
B. The imposition of any other penalties provided herein shall not preclude the City from 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 Building Commissioner.
CHAPTER 1173
Illicit Discharge and Illegal Connection Control

1173.01 Purpose and intent.

1173.02 Applicability.

1173.03 Definitions.

1173.04 Conflicts, severability, nuisances and responsibility.

1173.05 Responsibility and authority.

1173.06 Discharge and connection prohibitions.

1173.07 Monitoring of illicit discharges and illegal connections.

1173.08 Enforcement.

CROSS REFERENCES
Storm water management - see P. & Z. Ch. 1177

1173.01 PURPOSE AND INTENT.
The purpose of this regulation is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of Illicit Discharges to the Municipal Storm Sewer System. This regulation establishes methods for controlling the introduction of Pollutants into the Municipal Storm Sewer System in order to comply with requirements of the National Pollutant Discharge Elimination System "NPDES" permit process as required by the Ohio Environmental Protection Agency "Ohio EPA".

It is the intent of this regulation to prohibit Illicit Discharges and Illegal Connections to the City's Municipal Storm Sewer System and to establish legal authority to carry out inspections, monitoring procedures, and enforcement actions necessary to ensure compliance with this regulation. (Ord. 2018-94. Passed 10-21-19.)

1173.02 APPLICABILITY.
This regulation shall apply to all residential, commercial, industrial, or institutional facilities responsible for discharges to the Municipal Storm Sewer System except discharges generated by exempt activities as set forth in Section 1173.06 hereof. (Ord. 2018-94. Passed 10-21-19.)

1173.03 DEFINITIONS.
The words and terms used in this regulation, unless otherwise expressly stated, shall have the following meaning:

(a) "Best Management Practices 'BMP'" means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of Pollutants to storm water. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

(b) "Hazardous Material" means any material including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

(c) "Illicit Discharge" means any discharge to a Municipal Storm Sewer System that is not composed entirely of storm water, except for those discharges made pursuant to an NPDES permit or noted in Section 1173.06 of this regulation.

(d) "Illegal Connection" means any drain or conveyance, whether on the surface or subsurface, that allows an Illicit Discharge to enter the Municipal Storm Sewer System.

(e) "Municipal Storm Sewer System" means all of the various facilities and systems used by the City for collecting and/or conveying storm water which includes drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm sewers.

(f) "Off-Lot Discharging Home Sewage Treatment System" means a system designed to treat home sewage on-site and discharges treated wastewater effluent off the property into a storm water or surface water conveyance or system.

(g) "Owner/Operator" means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or on the owner's behalf.

(h) "Pollutant" means anything that causes or contributes to pollution. Pollutants may include, but are not limited to, paints, varnishes, solvents, oil and other automotive fluids, non-hazardous
liquid and solid wastes, yard wastes, refuse, rubbish, garbage, litter or other discarded or abandoned objects, floatable materials, pesticides, herbicides, fertilizers, Hazardous Materials, wastes, sewage, dissolved and particulate metals, animal wastes, residues that result from constructing a structure, and noxious or offensive matter of any kind.

(Ord. 2018-94. Passed 10-21-19.)

1173.04 CONFLICTS, SEVERABILITY, NUISANCES AND RESPONSIBILITY.

(a) 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.

(b) Where this regulation is in conflict with other provisions of law or ordinance, the most restrictive provisions shall prevail.

(c) If any 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.

(d) This regulation shall not be construed as authorizing any person to maintain a 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.

(e) Failure of the City 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 there from.

(Ord. 2018-94. Passed 10-21-19.)

1173.05 RESPONSIBILITY AND AUTHORITY.
The Engineer shall administer, implement, and enforce the provisions of this regulation. (Ord. 2018-94. Passed 10-21-19.)

1173.06 DISCHARGE AND CONNECTION PROHIBITIONS.

(a) Prohibition of Illicit Discharges. No person shall discharge, or cause to be discharged, an Illicit Discharge into the Municipal Storm Sewer System. The commencement, conduct, or continuance of any Illicit Discharge to the Municipal Storm Sewer System is prohibited except as described below:

(1) Water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water; and discharges or flows from firefighting activities.

(2) Discharges authorized in writing by the Engineer as being necessary to protect public health and safety.

(3) Discharges from Off-Lot Discharging Home Sewage Treatment Systems permitted by the Cuyahoga County Board of Health for the purpose of discharging treated sewage effluent in accordance with Ohio Administrative Code 3701-29-02(6). These discharges are exempt unless such discharges are deemed to be creating a public health nuisance by the Board of Health.

(b) Prohibition of Illegal Connections. The construction, use, maintenance, or continued existence of Illegal Connections to the Municipal Storm Sewer System is prohibited. This prohibition expressly includes, without limitation, Illegal Connections made prior to the effective date of this regulation, regardless of whether the connection was permissible at the time of connection. A person is considered to be in violation of this regulation if the person connects a line conveying Illicit Discharges to the Municipal Storm Sewer System, or allows such a connection to continue. (Ord. 2018-94. Passed 10-21-19.)

1173.07 MONITORING OF ILLICIT DISCHARGES AND ILLEGAL CONNECTIONS.

(a) Establishment of an Illicit Discharge and Illegal Connection Monitoring Program: The Engineer is hereby authorized to establish a program to detect and eliminate Illicit Discharges and Illegal Connections to the Municipal Storm Sewer System. This program shall include the mapping of the Municipal Storm Sewer System, including Municipal Storm Sewer System Outfalls and home sewage treatment systems; the periodic inspection of storm water outfalls to the Municipal Storm Sewer System, and the periodic investigation of potential residential, commercial, industrial, and institutional facilities for the sources of any dry weather flows found as the result of such periodic inspections.

(b) Inspection of Residential, Commercial, Industrial, or Institutional Facilities.

(1) The Engineer, or his designee, shall be permitted to enter and inspect facilities subject to this regulation as may be necessary to determine compliance. Any temporary or permanent obstruction to safe and reasonable access to the facility to be inspected
shall be promptly removed by the facility's Owner/Operator at the request of the Engineer.

(2) The Engineer shall have the right to require the facility Owner/Operator to install monitoring equipment as necessary. This sampling and monitoring equipment shall be maintained at all times in safe and proper operating condition by the facility Owner/Operator at the Owner/Operator's expense. All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.

(3) If the City is refused access to any part of the facility from which storm water is discharged, and the Engineer demonstrates probable cause to believe that there may be a violation of this regulation, or that there is a need to inspect to verify compliance with this regulation or any order issued hereunder, or to protect the public health, safety, and welfare, the City may seek issuance of a search warrant, civil remedies including but not limited to injunctive relief, and/or criminal remedies from any court of appropriate jurisdiction.

(4) Costs associated with these inspections may be assessed against the facility Owner/Operator. (Ord. 2018-94. Passed 10-21-19.)

1173.08 ENFORCEMENT.

(a) It shall be unlawful for any Owner/Operator to violate any provision or fail to comply with any of the requirements of this regulation. When the Engineer finds that a person has violated a prohibition or failed to meet a requirement of this regulation, he may order compliance by written Notice of Violation. Such notice shall specify the violation and shall be hand delivered or sent by registered mail, to the Owner/Operator of the facility.

(b) Such Notice of Violation may require:

(1) The performance of monitoring, analyses, and reporting;
(2) The elimination of Illicit Discharges or Illegal Connections;
(3) That violating discharges, practices, or operations cease and desist;
(4) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and/or
(5) The implementation of source control or treatment BMPs.

(c) If abatement of a violation and/or restoration of affected property is required, the Notice of Violation shall set forth a deadline within which such remediation or restoration must be completed. Said Notice shall further advise that, should the facility Owner/Operator fail to take the necessary corrective action within the established deadline, a legal action for enforcement may be initiated.

(d) If an Owner/Operator has violated or continues to violate the provisions of this regulation, the Engineer may petition for a preliminary or permanent injunction restraining the Owner/Operator from activities that would create further violations or compelling the Owner/Operator to perform abatement or remediation of the violation.

(e) Any person receiving a Notice of Violation shall have the right to appeal the determination of the Engineer by filing a request for an administrative hearing. Any such appeal must be filed in writing with the Building Commissioner within ten (10) working days of receipt of the Notice of Violation. Upon receipt of an appeal and request for an administrative hearing, the Building Commission shall schedule the matter for the next regularly scheduled meeting of the Commission at which time the applicant shall be heard and testimony may be given. Upon the conclusion of the hearing, the Commission shall make a determination regarding the existence of a violation and the necessity, type, and time frame of any corrective action required.

(Ord. 2018-94. Passed 10-21-19.)
EROSION AND SEDIMENT CONTROL

WHEREAS, soil is most vulnerable to erosion by wind and water during soil disturbing activities and this eroded soil necessitates repair of sewers and ditches and dredging of rivers, harbors, and lakes; accelerates downstream bank erosion and damage to public and private property; damages water resources by reducing water quality; and causes the siltation of aquatic habitat; and

WHEREAS, communities throughout the watersheds in which the City is located have experienced and continue to experience costs associated with inadequate erosion and sediment control and increased State and Federal regulation; and

WHEREAS, there are watershed-wide efforts to reduce sedimentation in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinkers Creek, and to protect and enhance the unique water resources or wetlands of the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinkers Creek; and

WHEREAS, the United States Environmental Protection Agency has approved a Total Maximum Daily Load for phosphorus, nitrogen, habitat, bacteria and Total Suspended Solids (TSS) in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinkers’s Creek; and

WHEREAS, the City is in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinkers’s Creek watersheds, and recognizes its obligation as a part of these watersheds to reduce sedimentation and to protect water quality by controlling soil disturbing activities within its borders; and

WHEREAS, 40 C.F.R. Parts 9, 122, 123 and 124, referred to as NPDES Stormwater Phase II, require designated communities, including the City to develop and implement a Stormwater Management Program to address, among other components, erosion and sediment control during soil disturbing activities; and

WHEREAS, Article XVIII, Section 3 of the Ohio Constitution grants municipalities the legal authority to adopt rules to abate soil erosion and water pollution by soil sediments.

NOW, THEREFORE BE IT ORDAINED by the Council of City of Beachwood, County of Cuyahoga, State of Ohio, that:

Section 1: Codified Ordinance Chapter 1175 Erosion and Sediment Control, is hereby adopted to read in total as follows:

CHAPTER 1175

1175.01 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 the City.

(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 or redevelopment 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; and all other uses that are not specifically exempted in Section 1175.01 (d).

(d) This regulation does not apply to activities regulated by, and in compliance with, the Ohio Agricultural Sediment Pollution Abatement Rules.

1175.02 DEFINITIONS.

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.

(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) BEST MANAGEMENT PRACTICES (BMPs): Also STORMWATER CONTROL MEASURE (SCM). Schedule of activities, prohibitions of practices, maintenance procedures, and other management practices (both structural and non-structural) to prevent or reduce the pollution of water resources. BMPs also include treatment requirements, operating procedures, and practices to control facility and/or construction site runoff, spillage or leaks, sludge or waste disposal; or drainage from raw material storage.

(e) COMMENCEMENT OF CONSTRUCTION: The initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

(f) COMMUNITY: Throughout this regulation, this shall refer to the City, its designated representatives, boards, or commissions.

(g) CONCENTRATED STORMWATER RUNOFF: Any stormwater runoff that flows through a drainage pipe, ditch, diversion, or other discrete conveyance channel.

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

(i) 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.
(j) **DEWATERING VOLUME:** See current Ohio EPA NPDES Construction Permit or the *Ohio Rainwater and Land Development Manual.*

(k) **DISCHARGE:** The addition of any pollutant to surface waters of the state from a point source.

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

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

(n) **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 of subsurface drains.

(o) **DRAINAGE WATERSHED:** For the purpose of this regulation the total contributing drainage area to a BMP, i.e., the “watershed” directed to the practice. This includes offsite contributing drainage.

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

(q) **ENGINEER:** The City Engineer and or the City Engineer’s designee that shall include, but not be limited to the City’s Building Commissioner and/or Environmental Manager, who shall work under and in coordination with the City Engineer.

(r) **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.

(s) **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.

(t) **FINAL STABILIZATION:** All soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of at least eighty percent (80%) coverage for the area has been established or equivalent stabilization measures, such as the use of mulches or geotextiles, have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion. Final stabilization also requires the installation of permanent (post-construction) stormwater control measures (SCMs).

(u) **GENERAL CONTRACTOR:** The primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

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

(w) **GRUBBING:** The removing or grinding of roots, stumps and other unwanted material below existing grade.

(x) **IMPERVIOUS:** That which does not allow infiltration.
(y) LANDSCAPE ARCHITECT: A Professional Landscape Architect registered in the State of Ohio.

(z) LARGER COMMON PLAN OF DEVELOPMENT OR SALE: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

(aa) MAXIMUM EXTENT PRACTICABLE (MEP): The technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in stormwater discharges that was established by the Clean Water Act §402(p). A discussion of MEP as it applies to small MS4s is found in 40 CFR 122.34.

(bb) MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:
   a. Owned or operated by the federal government, state, municipality, township, county, district, or other public body (created by or pursuant to state or federal law) including a special district under state law such as a sewer district, flood control district or drainage districts, or similar entity, or a designated and approved management agency under Section 208 of the Federal Water Pollution Control Act that discharges into surface waters of the state; and
   b. Designed or used for collecting or conveying solely stormwater; and
   c. Which is not a combined sewer; and
   d. Which is not a part of a publicly owned treatment works.

(cc) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES): The national program for issuing, modifying, revoking and reissuing, termination, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318, 405 of the Clean Water Act.

(dd) NATURAL CHANNEL DESIGN: An engineering technique that uses knowledge of the natural process of a stream to create a stable stream that will maintain its form and function over time.

(ee) NON-SEDIMENT POLLUTANT: Any solid (other than sediment) or liquid waste, including building materials, which shall be prevented from discharging to the site drainage system or to waters of the state.

(ff) OPERATOR: Any party associated with a construction project that meets either of the following two criteria:
   a. The party has day-to-day operational control of all activities at a project which are necessary to ensure compliance with a Stormwater Pollution Prevention Plan (SWP3) for the site and all other permit conditions including the ability to authorize modifications to the SWP3, construction plans and site specification to ensure compliance with the General Permit; or
   b. Property owner that meets the definition of operator should the party which has day to day operational control require additional authorization from the owner for modifications to the SWP3, construction plans, and/or site specification to ensure compliance with the permit or refuses to accept all responsibilities as listed above.
Subcontractors generally are not considered operators for the purposes of this permit. There can be more than one operator at a site and under these circumstances, the operators shall be co-permitees.

(gg) OWNER OR OPERATOR: The owner or operator of any “facility or activity” subject to regulation under the NPDES program.

(hh) SUBDIVISIONS, MAJOR AND MINOR: See Ohio Revised Code 711.001 for definition.

(ii) 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 Cuyahoga County Fiscal Officer.

(jj) PERCENT IMPERVIOUSNESS: The impervious area created divided by the total area of the project site.

(kk) PERMANENT STABILIZATION: Establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap, and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one (1) year.

(ll) 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.

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

(nn) POINT SOURCE: Any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

(oo) PRE-CONSTRUCTION MEETING: A meeting between the City and all principle parties, prior to the start of any construction, at a site that requires a Stormwater Pollution Prevention Plan.

(pp) PRE-WINTER STABILIZATION MEETING: A meeting between the City 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.

(qq) PROFESSIONAL ENGINEER: A Professional Engineer registered in the State of Ohio.

(rr) QUALIFIED INSPECTION PERSONNEL: A person knowledgeable in the principles and practice of erosion and sediment controls, who possess the skills to assess all conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measure selected to control the quality of stormwater discharges from the construction activity.
(ss) **RAINWATER AND LAND DEVELOPMENT MANUAL**: Ohio’s standards for stormwater management, land development, and stream protection. The most current edition of these standards shall be used with this regulation.

(tt) **REDEVELOPMENT**: A construction project on land that has been previously graded, paved or built upon.

(uu) **RIPARIAN AREA**: The transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serves to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.

(vv) **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.

(ww) **RUNOFF COEFFICIENT**: The fraction of rainfall that will appear at the conveyance as runoff.

(xx) **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.

(yy) **SEDIMENTATION**: The deposition or settling of sediment.

(zz) **SEDIMENT SETTLING POND**: A sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in current Ohio EPA NPDES Construction Permit and the latest edition of *Rainwater and Land Development Manual*.


(bbb) **SETBACK**: A designated transition area around water resources that is left in a natural, usually vegetated, state to protect the water resources from runoff pollution. Soil disturbing activities in this area are restricted by this regulation.

(ccc) **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.

(ddd) **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 Cuyahoga County SWCD.

(eee) **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.

(fff) **STEEP SLOPES**: Slopes that are 15 percent or greater in grade. NOTE: If otherwise defined in community zoning, use community definition.

(ggg) **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.
STORMWATER: Stormwater runoff, snow melt and surface runoff and drainage.

SUBCONTRACTOR: An individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

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

SURFACE WATER OF THE STATE: Also Water Resource or Water Body. All streams, lakes, reservoir, ponds, marshes, wetlands, or other waterways situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with natural surface water or underground waters. Waters defined as sewage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.

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.

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

TOTAL MAXIMUM DAILY LOAD: The sum of the existing and/or projected point source, nonpoint source, and background loads for a pollutant to a specified watershed, water resource or wetland, or water resource or wetland segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensure attainment and maintenance of water quality standard.

UNSTABLE SOILS: A portion of land that is identified by the 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.

Water Quality Volume (WQv): The volume of stormwater runoff which must be captured and treated prior to discharge from the developed site after construction is complete.

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 sewage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.

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

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).

1175.03 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.

1175.04 CONFLICTS, SEVERABILITY, NUISANCES AND RESPONSIBILITY.

(a) Where this regulation is in conflict with other provisions of law or ordinance, 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 City 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 City, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

(e) The Engineer shall administer, implement, and enforce the provisions of this Chapter.

1175.05 DEVELOPMENT OF STORMWATER POLLUTION PREVENTION PLANS.

(a) This regulation requires that a 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. A SWP3 must be developed and implemented for all commercial and industrial site development. The City shall require an Abbreviated SWP3 on any site disturbing less than one (1) acre but disturbing four thousand (4,000) square feet or more of land.

(b) General clearing activities not related to construction shall submit an Abbreviated SWP3. If such activities disturb one (1) acre or more, or are part of a larger common plan of development or sale disturbing one (1) acre or more, compliance with the Ohio EPA Construction Site General Permit and a SWP3 is required.

(c) Activities disturbing less than four thousand (4,000) square feet are not required to submit a SWP3 or an Abbreviated SWP3, unless required by the City. These activities must comply with all other provisions of this regulation.

1175.06 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 City as follows:

(1) For subdivisions: After the approval of the preliminary Site Development Plan and with submittal of the final Site Development Plan.
(2) For other construction projects: Before issuance of a building permit by the Building Commissioner.

(3) For general clearing projects: Prior to issuance of a building permit by the Building Commissioner.

(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 as follows:

(1) For single-family home construction: Before issuance of a building permit by the Building Commissioner.

(2) For other construction projects: Before issuance of a building permit by the Building Commissioner.

(3) For general clearing projects: Prior to issuance of a building permit by the Building Commissioner.

(c) The Engineer shall review the plans submitted under 1175.06 (a) or (b) for conformance with this regulation and approve, or return for revisions with comments and recommendations for revisions. A plan rejected because of deficiencies shall receive a narrative report stating specific problems and the procedures for filing a revised plan.

(d) Soil disturbing activities shall not begin and zoning permits shall not be issued without all of the following:
   i. Approved SWP3 or Abbreviated SWP3; and
   ii. Installation of erosion and sediment controls; and
   iii. Physical marking in the field of protected areas or critical areas, including wetlands and riparian areas.

(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 property owner or appointed representative, developer, engineer and contractor, and other principal parties, shall meet with the City 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 are aware of such devices and areas.

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

1175.07 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 the Ohio EPA, the US Army Corps of
Engineers, and other federal, state, and/or county agencies. If requirements vary, the most restrictive requirement shall prevail. These permits may include, but are not limited to, those listed below. All submittals required to show proof of compliance with these state and federal regulations shall be submitted with SWP3s or Abbreviated SWP3s.

(a) Ohio EPA 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) number from Ohio EPA, a copy of the Ohio EPA Director’s Authorization Letter 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 an application is made under this ordinance.

(c) Ohio EPA Isolated Wetland Permit: Proof of compliance shall be a copy of Ohio EPA’s Isolated Wetland 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 is not applicable. Isolated wetlands shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time an application is made under 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 evaluated the site and determined that Section 404 of the Clean Water Act is not applicable, and provide documentation.

(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 an application is made under this regulation.

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

1175.08 STORMWATER POLLUTION PREVENTION PLAN (SWP3).

(a) In order to control sediment pollution of water resources, the applicant shall submit a SWP3 in accordance with the requirements of this regulation.
The SWP3 shall include Best Management Practices (BMPs) and Stormwater Control Measures (SCMs) adequate to prevent pollution of public waters by soil sediment from accelerated stormwater runoff from development areas.

The SWP3 shall be prepared in accordance with sound engineering and/or conservation practices and certified by a professional engineer, a registered surveyor, certified professional erosion and sediment control specialist, or a registered landscape architect experienced in the design and implementation of standard erosion and sediment controls and stormwater management practices addressing all phases of construction.

The SWP3 shall be amended whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the state or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity.

The SWP3 shall be retained on site during working hours and shall be made available immediately upon request of the Director of Ohio EPA or his/her authorized representative, the City, Engineer, and MS4 operators or their authorized representative during working hours.

The SWP3 shall incorporate measures as recommended by the most current online edition of *Rainwater and Land Development Manual* as published by the Ohio Environmental Protection Agency and shall include the following information:

1. A cover page or title identifying the name and location of the site, the name and contact information of all construction site operators, the name and contact information for the person responsible for authorizing and amending the SWP3, preparation date, and the estimated start and completion dates for construction.

2. Plans must include a conformance statement to the effect that: “Implementation of erosion and sediment controls shall conform to the Ohio EPA NPDES Construction General Permit #OHC000005 (or subsequent editions) and the City of Beachwood Codified Ordinances Chapters 1157, 1173, 1175 and 1177.

3. **Site description**: The SWP3 shall provide:

   A. A description of the nature and type of the construction activity (e.g. low density residential, shopping mall, highway, etc.).

   B. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas).

   C. A measure of the impervious area and percent of imperviousness created by the construction activity (existing, new and total impervious area after construction).

   D. Stormwater calculations, including the volumetric runoff coefficients for both the pre-construction and post-construction site conditions, and resulting water quality volume; design details for post-construction stormwater facilities and pretreatment practices such as contributing
drainage areas, capacities, elevations, outlet details and drain times shall
be included in the SWP3; and if applicable, explanation of the use of
existing post-construction facilities. Ohio EPA recommends the use of
data sheets (see Ohio’s Rainwater and Land Development Manual and
Ohio EPA resources for examples).

E. Existing data describing the soil and, if available, the quality of any
known pollutant discharge from the site such as that which may result
from previous contamination caused by prior land uses.

F. A description of prior land uses at the site.

G. A description of the condition of any on-site streams (e.g. prior
channelization, bed instability or headcuts, channels on public
maintenance, or natural channels).

H. An implementation schedule which describes the sequence of major
construction operations (i.e., designation of vegetative preservation
areas, grubbing, excavating, grading, utilities and infrastructure
installation) and the implementation of erosion, sediment and stormwater
management practices or facilities to be employed during each operation
of the sequence.

I. The name and/or location of the immediate receiving stream or surface
water(s) and the first subsequent receiving water(s) and the areal extent
and description of wetlands or other special aquatic sites at or near the
site which will be disturbed or which will receive discharges from
disturbed areas of the project. For discharges to a municipal separate
storm sewer system (MS4), the point of discharge to the MS4 and the
location where the MS4 ultimately discharges to a stream or surface
water of the state shall be indicated.

J. List TMDLs applicable for the site and demonstrate that appropriate
BMPs or stormwater control measures (SCMs) have been selected to
address these TMDLs. [A TMDL identifier table for Northeast Ohio
communities is available at http://www.neohiostormwater.com/]

K. For subdivided developments, a detailed drawing of individual parcels
with their erosion, sediment or stormwater control practices and/or a
typical individual lot showing standard individual lot erosion and
sediment control practices. A typical individual lot drawing does not
remove the responsibility to designate specific erosion and sediment
control practices in the SWP3 for critical areas such as steep slopes,
stream banks, drainage ways, and riparian zones.

L. Location and description of any stormwater discharges associated with
dedicated asphalt and dedicated concrete plants covered by this permit
and the best management practices to address pollutants in these
stormwater discharges.

M. A log documenting grading and stabilization activities as well as
amendments to the SWP3, which occur after construction activities
commence.

N. The SWP3 shall contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale shall address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality.

O. Each temporary and permanent stormwater practice shall be designated with an individual identification number and date of installation.

P. Site map showing:

i. Limits of earth-disturbing activity of the site, including off site spoil and borrow areas that are not addressed by a separate NOI and associated SWP3.

ii. Soil types should be depicted for all areas of the site, including locations of unstable, highly erodible and/or contaminated soils.

iii. Existing and proposed one-foot (1’) contours. This must include a delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed in acres.

iv. The location of any delineated boundary for required riparian setbacks.

v. Conservation easements or areas designated as open space, preserved vegetation or otherwise protected from earth disturbing activities. A description of any associated temporary or permanent fencing or signage.

vi. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within two hundred (200) feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA.

vii. Existing and planned locations of buildings, roads, parking facilities, and utilities.

viii. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development.

ix. Sediment traps and basins noting their sediment storage and dewatering (detention) volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see Ohio EPA’s Rainwater and Land Development Manual and website for examples) to provide data for all sediment traps and basins noting important inputs to design and resulting parameters such
as their contributing drainage area, disturbed area, detention volume, sediment storage volume, practice surface area, dewatering time, outlet type and dimensions.

x. Data sheets for all sediment traps, sediment basins, and SCMs that identify contributing drainage area, disturbed area, water quality volume, sedimentation volume, dewatering volume, practice surface area, facility discharge and dewatering time, outlet type and dimensions, and any other relevant parameters for each practice.

xi. A separate plan and cross-section view of each individual sediment settling pond and its outlet structure. Detail drawings of the outlet structure shall indicate the following elevations:
   a) Pond bottom
   b) Elevation required to store the required sediment storage volume
   c) For sediment basins, the elevation at which the skimmer is attached
   d) For sediment traps, the top and bottom of the stone outlet section
   e) Elevation required to store the dewatering volume, exclusive of the sediment storage volume
   f) Elevation of the top of embankment
   g) Crest of the emergency spillway

xii. Where used as a sediment settling pond during construction, the plan shall include a detailed drawing of the temporary outlet configuration of the permanent stormwater basin with the following information specified:
   a) Storage volume provided below the elevation at which the skimmer or other surface dewatering device is attached
   b) Elevation at which the skimmer or other surface dewatering device is attached
   c) Elevation at which the full dewatering zone is stored above the skimmer invert
   d) Any temporary modification to permanent outlet orifices or weirs required to ensure no discharge below the skimmer invert and only the skimmer controls the discharge up to the top of the dewatering volume
   e) Calculations of the sediment storage volume, dewatering volume and skimmer drawdown time shall also be provided

xiii. The location of new and existing permanent stormwater management practices including pretreatment practices to be used to control pollutants in stormwater after construction operations have been completed along with the location of existing and planned drainage features including catch basins, culverts, ditches, swales, surface inlets and outlet structures.
xiv. Areas designated for the storage or disposal of solid, sanitary and
toxic wastes, including dumpster areas, areas designated for
cement truck washout, and vehicle fueling.

xv. Methods to minimize the exposure of building materials,
building products, construction wastes, trash, landscape
materials, fertilizers, pesticides, herbicides, detergents, and
sanitary waste to precipitation, stormwater runoff, and snow
melt.

xvi. Measures to prevent and respond to chemical spills and leaks.
Applicants may also reference the existence of other plans (i.e.,
Spill Prevention Control and Countermeasure (SPCC) plans,
spill control programs, Safety Response Plans, etc.) provided
that such plan addresses this requirement and a copy of such plan
is maintained on site.

xvii. Methods to minimize the discharge of pollutants from equipment
and vehicle washing, wheel wash water, and other wash waters.
No detergents may be used to wash vehicles. Wash waters shall
be treated in a sediment basin or alternative control that provides
equivalent treatment prior to discharge.

xviii. The location of designated construction entrances where the
vehicles will access the construction site.

xix. The location of any areas of proposed floodplain fill, floodplain
excavation, stream restoration or known temporary or permanent
stream crossings.

1175.09 PERFORMANCE STANDARDS.

The SWP3 must contain a description of the controls appropriate for each construction operation and the
operator(s) must implement such controls. The SWP3 must clearly describe for each major construction
activity the appropriate control measures; the general timing (or sequence) during the construction
process under which the measures will be implemented; and the contractor responsible for
implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will
maintain perimeter controls until final stabilization).

The approved SWP3, and the sediment and erosion controls, and non-sediment pollution controls
contained therein, shall be implemented upon the commencement of construction. Perimeter controls
must be installed two working days prior to commencement of construction. The approved plan must be
implemented until the site reaches final stabilization. All properties adjacent to the site of soil-disturbing
activity shall be protected from soil erosion and sediment run-off and damage, including, but not limited
to, private properties, natural and artificial waterways, wetlands, storm sewers and public lands.

It is the owner’s responsibility to maintain current records of contractor(s) responsible for implementation
of the SWP3 and providing that information to the City. The SWP3 shall identify all subcontractors
engaged in activities that could impact stormwater runoff. The SWP3 shall contain signatures from all of
the identified subcontractors indicating that they have been informed and understand their roles and
responsibilities in complying with the SWP3. The applicant shall review the SWP3 with the primary
contractor prior to commencement of construction activities and keep a SWP3 training log to demonstrate that this review had occurred.

Erosion and sediment controls shall be designed, installed and maintained effectively to minimize the discharge of pollutants during the course of earth disturbing activities. The controls shall include the following minimum components:

(a) NON-STRUCTURAL PRESERVATION MEASURES: The SWP3 must make use of practices that preserve the existing natural condition to the maximum extent practicable. Such practices may include preserving riparian areas, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time, minimizing disturbance of steep slopes, designation of tree preservation areas or other protective clearing or grubbing practices. Soil compaction shall be minimized and, unless infeasible, topsoil shall be preserved. Provide and maintain a fifty (50) foot buffer of undisturbed natural vegetation around surface waters of the state (as measured from the ordinary high water mark of the surface water), or riparian or wetland setbacks, if applicable, whichever is greater, unless maintaining this buffer is infeasible (e.g., stream crossings for roads or utilities, or for channel and floodplain rehabilitation and restoration). Direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration. If it is infeasible to provide and maintain an undisturbed fifty (50) foot natural buffer, you shall comply with the stabilization requirements found in Tables 1 and 2 for areas within fifty (50) feet of a surface water.

(b) EROSION CONTROL PRACTICES: The SWP3 must make use of erosion controls that are capable of providing cover over disturbed soils. The amount of soil exposed during construction activity shall be minimized. A description of control practices designed to re-establish vegetation or suitable cover on disturbed areas after grading or construction shall be included in the SWP3. The SWP3 must provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, the use of construction entrances, and the use of alternative ground cover.

Erosion control practices must meet the following requirements:

1. Stabilization. Disturbed areas must be stabilized as specified in Tables 1 and 2 below.

<table>
<thead>
<tr>
<th>Table 1: Permanent Stabilization</th>
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</thead>
<tbody>
<tr>
<td>Area requiring permanent stabilization</td>
<td>Time frame to apply erosion controls</td>
</tr>
<tr>
<td>Any area that will lie dormant for one year or more.</td>
<td>Within 7 days of the most recent disturbance.</td>
</tr>
<tr>
<td>Any area within 50 feet of a surface water of the state and at final grade.</td>
<td>Within 2 days of reaching final grade.</td>
</tr>
<tr>
<td>Any other areas at final grade.</td>
<td>Within 7 days of reaching final grade within that area.</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Table 2: Temporary Stabilization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area requiring temporary stabilization</td>
<td>Time frame to apply erosion controls</td>
</tr>
<tr>
<td>Any disturbed area within 50 feet of a surface water of the state and not at final grade.</td>
<td>Within 2 days of the most recent disturbance if that area will remain idle for more than 14 days.</td>
</tr>
</tbody>
</table>
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 surface water of the state. Within 7 days of the most recent disturbance within the area.

For residential subdivisions, disturbed areas must be stabilized at least 7 days prior to transfer of permit coverage for the individual lot(s).

Disturbed areas that will be idle over winter. Prior to the onset of winter weather

Note: Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.

(2) Permanent stabilization of conveyance channels. Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding, mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques, or rock check dams, all as defined in the most recent Ohio EPA NPDES Construction Permit or edition of the Rainwater and Land Development Manual.

(c) RUNOFF CONTROL PRACTICES. The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

(d) SEDIMENT CONTROL PRACTICES. The SWP3 shall include a description of, and detailed drawings for, all structural practices that shall store runoff, allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas to minimize sediment discharges from the site. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than fourteen (14) days. Such practices may include, among others: sediment settling ponds, sediment barriers, storm drain inlet protection, and earth diversion dikes or channels which direct runoff to a sediment settling pond. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site. The SWP3 shall contain detailed drawings for all structural practices.

(e) All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless used in conjunction with a sediment settling pond.

Sediment control practices must meet the following requirements:

1. **Timing.** Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven (7) days from the start of grubbing. They shall continue to function until the upslope development area is stabilized with permanent cover. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to
address the changing drainage patterns.

(2) **Sediment settling ponds.** A sediment settling pond is required for any one of the following conditions:

A. Concentrated or collected stormwater runoff (e.g. storm sewer or ditch).

B. Runoff from drainage areas which exceeds the design capacity of silt fence (see Table 3) or other sediment barriers.

C. Runoff from drainage areas that exceed the design capacity of inlet protection.

The permittee may request approval from Ohio EPA to use alternative controls if the permittee can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond.

Sediment settling ponds shall be provided in the form of a sediment trap or sediment basin as defined in the current Ohio EPA NPDES Construction Permit or latest edition of *Rainwater and Land Development Manual*. The maximum allowable contributing drainage area to a sediment trap shall be limited to less than five (5) acres. Contributing-drainage areas of five (5) acres or more shall be treated with a sediment basin. An equivalent best management practice may be utilized upon approval from the Engineer.

If feasible, sediment settling ponds shall be dewatered at the pond surface using a skimmer or equivalent device. The sediment settling pond volume consists of both a sediment storage zone and a dewatering zone. The volume of the dewatering zone shall be at least one thousand eight hundred (1,800) cubic feet of storage per acre of total contributing drainage area. The dewatering structure of sediment basins shall be designed to have a minimum forty eight (48) hour drain time, and, unless infeasible, be designed to always withdraw runoff from the surface of the pond throughout the storm cycle. As such, a skimmer discharge device consistent with *Rainwater and Land Development Manual* shall be provided to dewater sediment basins. Sediment traps shall also provide both a sediment storage zone and dewatering zone, but the outlet structure shall be constructed consistent with the specifications contained in the latest edition of *Rainwater and Land Development Manual*.

When post-construction detention/water quality ponds are to be used as temporary sediment trapping BMPs, a skimmer discharge device consistent with *Rainwater and Land Development Manual* shall be utilized during construction phase and until the site is deemed permanently stabilized by the Engineer.

The skimmer shall be designed per the equivalent requirements of sediment basins and the Operator must ensure that the outlet structure of the pond provides an equivalent or better sediment storage zone and dewatering zone. As such, temporarily while the site is under construction, there shall be no discharge of runoff below the elevation required for the sediment storage zone and the discharge of stormwater within the dewatering zone shall only occur through the skimmer.
The volume of the sediment storage zone shall be calculated by one of the following methods:

Method 1: The volume of the sediment storage zone shall be one thousand (1000) ft$^3$ per disturbed acre within the watershed of the basin.

Method 2: The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with RUSLE or a similar generally accepted erosion prediction model.

Accumulated sediment shall be removed from the sediment storage zone once it exceeds fifty (50) percent of the minimum required sediment storage design capacity and prior to the conversion to the post-construction practice unless suitable storage is demonstrated based upon over-design. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone must be less than or equal to five (5) feet. The configuration between the inlets and the outlet of the basin must provide at least four units of length for each one unit of width. When designing sediment settling ponds, the applicant must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls must be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

(3) Sediment barriers and diversions. Sheet flow runoff from denuded areas shall be intercepted by sediment barriers or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour downslope of the disturbed area and shall be capable of temporarily ponding runoff. For most applications, standard silt fence may be substituted with a 12-inch diameter sediment barrier. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in Table 3 below. Placing silt fence in a parallel series does not extend the size of the permissible drainage area.

<table>
<thead>
<tr>
<th>Table 3: Sediment Barrier Maximum Drainage Area Based on Slope</th>
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<tbody>
<tr>
<td>Maximum Drainage Area (acres) to 100 linear feet of sediment barrier</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>0.25</td>
</tr>
<tr>
<td>0.125</td>
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</tbody>
</table>

(4) Alternative perimeter controls for sheet flow discharges may be considered by the City, but their use shall not exceed the limitations indicated in Table 3 above. Detail drawings and plan notes shall specify the diameter of filter socks, compost berms and other such alternative perimeter controls if used instead of silt fence.

(5) Stormwater diversion practices shall be used to keep runoff away from disturbed
areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive stormwater runoff from areas up to 10 acres.

(6) Inlet protection. Erosion and sediment control practices, such as boxed inlet protection, shall be installed to minimize sediment-laden water entering active storm drain systems. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond.

(7) Off-site tracking of sediment and dust generation. Best management practices must be implemented to minimize off-site vehicle tracking of sediments and dust generation. The SWP3 shall include methods to minimize the discharge of pollutants from equipment and vehicle washing, wheel washwater, and other washwaters. No detergents may be used to wash vehicles. Washwaters shall be treated in a sediment basin or alternative control that provides equivalent treatment prior to discharge.

These best management practices must include, but are not limited to, the following:

A. 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 2” in diameter, placed over a geotextile fabric, and constructed in conformance with specifications in the current Ohio EPA NPDES Construction Permit most recent edition of Rainwater and Land Development Manual.

B. Streets and catch basins adjacent to construction entrances shall be kept free of sediment tracked off site. 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.

Based on site conditions, the City may require additional best management practices to control off site tracking and dust.

C. Fencing shall be installed around the perimeter of the development area to ensure that all vehicle traffic adheres to designated construction entrances.

D. Designated vehicle and wheel-washing areas. Wash water from these areas must be directed to a designated sediment trap, the sediment-settling pond, or to a sump pump for dewatering in conformance with Section 1175.09 (g) of this regulation. No surfactants or detergents may be used to wash vehicles.

E. Applicants shall take all necessary measures to comply with applicable regulations regarding fugitive dust emissions, including obtaining necessary permits for such emissions. The City may require dust controls including the use of water trucks to wet disturbed areas, tarping
(8) **Surface Waters of the State** protection. Construction vehicles shall avoid water resources. A fifty (50) foot undisturbed natural buffer shall be provided around surface waters of the state unless infeasible. If it is infeasible to provide and maintain an undisturbed fifty (50) foot natural buffer, the SWP3 shall comply with the stabilization requirements in 1175.09(b)(1) for areas within fifty (50) feet of a surface water, as measured from the ordinary high water mark of the surface water, or riparian or wetland setbacks, whichever is greater; and minimize soil compaction and, unless infeasible, preserve topsoil. If a riparian or wetland setback is greater than fifty (50) feet, no disturbance of natural vegetation shall occur within the riparian or wetland setback unless a variance to the riparian or wetland setback regulation has been granted. If the applicant is permitted to disturb areas within fifty (50) feet of a water resource, the following conditions shall be addressed in the SWP3:

A. All BMPs and stream crossings shall be designed as specified in the current Ohio EPA NPDES Construction Permit and most recent edition of *Rainwater and Land Development Manual*.

B. Structural practices shall be designated and implemented on site to protect all adjacent surface waters of the state from the impacts of sediment runoff.

C. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond in-stream) shall be used in a surface water of the state.

D. Where stream crossings for roads or utilities are necessary and permitted, the project shall be designed such that the number of stream crossings and the width of the disturbance within the buffer area are minimized.

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

F. 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.

G. Concentrated stormwater runoff from BMPs to natural wetlands shall be converted to diffuse flow through the use of level spreaders or other such appropriate measure before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series to ensure non-erosive velocities. Other structural BMPs may be used between stormwater features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers,
infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

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

(9) Modifying controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site conditions.

(f) NON-SEDIMENT POLLUTANT CONTROLS: No solid or liquid waste, including building materials, shall be discharged in stormwater runoff. The applicant must implement all necessary best management practices to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state. These practices shall include but are not limited to the following:

(1) Waste Materials: A covered dumpster shall be made available for the proper disposal of garbage, plaster, drywall, grout, gypsum, and other waste materials.

(2) Concrete Truck Wash Out: The washing of concrete material into a street, catch basin, other public facility, natural resource or water of the state is prohibited. A designated area for concrete washout shall be made available.

(3) Disposal of Other Wastewaters: The discharge of washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials to a street, catch basin, other public facility, natural resource or waters of the state is prohibited. The discharge of soaps or solvents used in vehicle and equipment washing is also prohibited. If generated, these wastewaters must be collected and disposed of properly.

(4) Fuel/Liquid Tank Storage: All fuel/liquid tanks and drums shall be stored in a marked storage area. A dike shall be constructed around this storage area with a minimum capacity equal to one hundred and ten percent (110%) of the volume of the largest containers in the storage area and/or a spill kit shall be provided to clean up spills. The SWP3 shall contain spill prevention and response procedures and these procedures shall be discussed at the pre-construction meeting.

(5) Toxic or Hazardous Waste Disposal: Any toxic or hazardous waste shall be disposed of properly. The discharge of fuels, oils, and other pollutants used in vehicle and equipment operation and maintenance is prohibited. No exposure of stormwater to waste materials is recommended.

(6) Contaminated Soils Disposal and Runoff: Discovery of previously unknown contaminated soils onsite shall be self-reported to Ohio EPA and local authorities. Contaminated soils from redevelopment sites shall be disposed of properly. Runoff from contaminated soils shall not be discharged from the site. Proper permits shall be obtained for development projects on solid waste landfill sites or redevelopment sites. Where construction activities are to occur on sites with contamination from previous activities, operators shall be aware that concentrations of materials that meet other criteria (i.e. not considered a Hazardous Waste, meeting Voluntary Action Program (VAP standards)) may still result in stormwater discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized by this Chapter. Appropriate BMPs which may be utilized to meet this requirement include, but are not limited to:

A. Use berms, trenches, and pits to collect contaminated runoff and prevent
discharge.

B. Pump runoff from contaminated soils to the sanitary sewer with the prior approval of the sanitary sewer system operator, or pump into a container for transport to an appropriate treatment or disposal facility.

C. Cover areas of contamination with tarps, daily cover or other such methods to prevent stormwater from coming into contact with contaminated materials.

The SWP3 must include methods to minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, and sanitary waste to precipitation, stormwater runoff, and snow melt. The SWP3 shall include measures to prevent and respond to chemical spills and leaks. Applicants may also reference the existence of other plans (i.e., Spill Prevention Control and Countermeasure (SPCC) plans, spill control programs, Safety Response Plans, etc.) provided that such plan addresses this requirement and a copy of such plan is maintained on site.

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

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

(i) INTERNAL INSPECTIONS. All controls on the site shall be inspected at least once every seven (7) calendar days and by the end of the next calendar day after any storm event greater than one-half (1/2) inch of rain per twenty four (24) hour period, excluding weekends and holidays unless work is scheduled. The inspection frequency may be reduced to at least once every month for dormant sites if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions for extended periods of time (e.g., site is covered with snow, ice, or the ground is frozen). The beginning and ending dates of any reduced inspection frequency shall be documented in the SWP3. Once a definable area has achieved final stabilization, the area may be marked on the SWP3 and no further inspection requirements shall apply to that portion of the site. A waiver of inspection requirements is available until one (1) month before thawing conditions are expected to result in a discharge if prior written approval has been attained from the Engineer and all of the following conditions are met:

1. The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e. more than one (1) month).

2. Land disturbance activities have been suspended, and temporary stabilization is achieved.

3. The beginning date and ending dates of the waiver period are documented in the SWP3.

4. For sites that will not be completed by October 1, a Pre-Winter Stabilization Meeting shall be held by the property owner, the developer, engineer and contractor of the project and the City prior to October 1, in order to plan and approve winter erosion and sediment
controls as defined in the most current Ohio EPA NPDES Construction Permit and recent edition of the *Rainwater and Land Development Manual*.

The applicant shall assign qualified inspection personnel to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate, or whether additional control measures are required. Qualified inspection personnel are individuals with knowledge and experience in the installation and maintenance of sediment and erosion controls. Certified inspection reports shall be submitted electronically to the Engineer within seven (7) working days from the inspection and retained at the development site.

These inspections shall meet the following requirements:

1. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for, pollutants entering the drainage system.

2. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that they are operating correctly. The applicant shall utilize an inspection form provided by the Ohio EPA or an alternate form acceptable to the Engineer. The inspection form shall include:

   A. The inspection date.

   B. Names, titles and qualifications of personnel making the inspection.

   C. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection), including a best estimate of the beginning of each storm event, duration of each storm event and approximate amount of rainfall for each storm event in inches, and whether any discharges occurred.

   D. Weather information and a description of any discharges occurring at the time of inspection.

   E. Locations of:

      i. Discharges of sediment or other pollutants from site.

      ii. BMPs that need to be maintained.

      iii. BMPs that failed to operate as designed or proved inadequate for a particular location.

      iv. Where additional BMPs are needed that did not exist at the time of inspection.

   F. Corrective action required including any necessary changes to the SWP3 and implementation dates.

3. Discharge locations shall be inspected to determine whether erosion and sediment control measures are effective in preventing significant impacts to the receiving water resource or wetlands.
(4) Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

(5) The applicant shall maintain for three (3) years following final stabilization the results of these inspections, the names and qualifications of personnel making the inspections, the dates of inspections, major observations relating to the implementation of the SWP3, a certification as to whether the facility is in compliance with the SWP3, and information on any incidents of non-compliance determined by these inspections.

(j) MAINTENANCE. The SWP3 shall be designed to minimize maintenance requirements. All BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function until final stabilization. All sediment control practices must be maintained in a functional condition until all up slope areas they control reach final stabilization. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices and shall ensure a responsible party and adequate funding to conduct this maintenance.

When inspections reveal the need for repair, replacement, or installation of erosion and sediment control BMPs, the following procedures shall be followed:

(1) When practices require repair or maintenance. If an internal inspection reveals that a control practice 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.

(2) When practices fail to provide their intended function. If an internal inspection reveals that a control practice fails to perform its intended function as detailed in the SWP3 and that another, more appropriate control practice is required, the SWP3 must be amended and the new control practice must be installed within three (3) to ten (10) days of the inspection as determined by the Engineer or site inspector.

(3) When practices depicted on the SWP3 are not installed. If an internal inspection reveals that a control practice has not been implemented in accordance with the schedule, the control practice must be implemented within ten (10) days from the date of the inspection. If the internal 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.

(k) FINAL STABILIZATION. Final stabilization shall be determined by the Engineer. Once a definable area has achieved final stabilization, the applicant may note this on the SWP3 and no further inspection requirement applies to that portion of the site. Final stabilization also requires the installation of permanent (post-construction) stormwater control measures (SCMs). Obligations under this ordinance shall not be completed until installation of post-construction BMPs is verified by the Engineer.

1175.10 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. The Engineer 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 2" in diameter, placed over a geotextile fabric, and constructed in conformance with specifications in the current OHIO EPA NPDES Construction Permit and recent edition of *Rainwater and Land Development Manual*.

2. **Concrete Truck Wash Out:** The washing of concrete material into a street, catch basin, or other public facility or natural resource is prohibited. A designated area for concrete washout shall be indicated on the plan. 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>
<thead>
<tr>
<th>Area requiring stabilization</th>
<th>Time frame to apply erosion controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any disturbed area within 50 feet of a surface water of the state and not at final grade.</td>
<td>Within 2 days of the most recent disturbance if that area will remain idle for more than 14 days</td>
</tr>
<tr>
<td>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.</td>
<td>Within 7 days of the most recent disturbance within the area</td>
</tr>
<tr>
<td>Disturbed areas that will be idle over winter</td>
<td>Prior to November 1</td>
</tr>
</tbody>
</table>

**Note:** Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed. These techniques may include mulching or erosion matting.
(5) **Inlet Protection.** Erosion and sediment control practices, such as boxed inlet protection, shall be installed to minimize sediment-laden water entering active storm drain systems, including rear yard inlets. Straw, hay bales, and filter socks are not acceptable forms of inlet protection.

Silt Fence and Other Perimeter Controls. Silt fence and other perimeter controls approved by the Engineer 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 Table 3 in 1175.09 of these regulations.

(6) **Yard Drains and Downspouts:** Yard drains and downspouts shall be constructed and installed as early on in the excavation/construction process as possible but in no event later than the time the structure is under roof.

(7) **Internal Inspection and Maintenance.** All controls on the development area shall be inspected at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event greater than one-half (1/2) inch of rain per twenty-four (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 control practice 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 shall be determined by the Engineer.

### 1175.11 BOND.

(a) If a SWP3 is required by this Ordinance, soil disturbing activities shall not be permitted until a cash bond or deposit has been deposited by the Owner or the Owner’s Representative with the City Finance Department, with a notice to the Engineer. The amount shall be a minimum of One Thousand Five Hundred Dollars ($1,500.00), and an additional One Thousand Five Hundred Dollars ($1,500.00) shall be paid for each subsequent acre or fraction thereof or the cost of stabilizing disturbed areas based on a fee schedule established by the City. The bond will be used for the City to perform the
obligations otherwise to be performed by the owner of the development area as stated in this Ordinance and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this Ordinance. The cash bond shall be returned, less City administrative fees as detailed in Chapters 1157, 1173, 1175 and 1177 of the City of Beachwood Codified Ordinances, after all work required by this Ordinance has been completed and final stabilization has been reached, all as determined by the Engineer.

(b) No project subject to this Ordinance shall commence without a SWP3 or Abbreviated SWP3 approved by the Engineer.

1175.12 ENFORCEMENT.

(a) If the City or its duly authorized representative determines that a violation of the regulations adopted under this Chapter exist, the City or its 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 internal inspections by the Engineer to ensure compliance with the approved SWP3 or Abbreviated SWP3.

(c) After each internal inspection, the Engineer shall prepare and distribute a status report to the applicant.

(d) If an internal inspection determines that operations are being conducted in violation of the approved SWP3 or Abbreviated SWP3, the Engineer may take action as detailed in this Chapter 1175.

(e) Failure to maintain and repair erosion and sediment controls, per the approved SWP3 or Abbreviated SWP3, may result in the following enforcement action and as may be escalated, with each day counted as a separate violation:

i. First Violation: The Engineer shall issue a Notice of Deficiency to the Owner or Operator. All controls are to be repaired or maintained per the SWP3 or Abbreviated SWP3 within three (3) days of the receipt of the Notice of Deficiency. If controls have not been corrected after this time, the Engineer may issue a Stop Work Order for all activities until corrections have been made.

ii. Second Violation: The Engineer shall issue a formal Notice of Violation which includes a Two Hundred and Fifty Dollar ($250.00) administrative fee against the SWP3 or Abbreviated SWP3 Bond or Site Development Plan deposit. All controls are to be repaired or maintained per the approved SWP3 or Abbreviated SWP3 within three (3) days of the Notice of Violation. If controls have not been corrected after this time, the Engineer may issue a Stop Work Order for all activities until corrections have been made.

iii. Third and subsequent violations: The Engineer may issue a Stop Work Order for all construction activities and charge a Five Hundred and Dollar ($500.00) administrative fee against the SWP3 or Abbreviated SWP3 bond or Site Development Plan deposit. The Stop Work Order will be lifted once all controls are in compliance with the approved SWP3 or Abbreviated SWP3.
(f) The Engineer shall have the authority to make immediate on-site adjustments to the SWP3 or Abbreviated SWP3 in order to achieve compliance with this regulation.

(g) A final inspection will be made to determine if the regulations of this Chapter have been satisfied and a report will be presented to the City on the site's compliance status.

(h) The Engineer will monitor soil-disturbing activities for non-farm residential, commercial, industrial, or other non-farm purposes to ensure compliance as required by these regulations.

(i) The 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 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 City shall not issue building permits for projects regulated under this Chapter that have not received approval for an Abbreviated SWP3 or SWP3 for said project(s).

1175.13 PERMITS AND DEPOSITS.

Permits and deposits for plan review services and inspectional services not specifically set forth in this Chapter shall be in accordance with the provisions and requirements of the Building Code as provided in Chapter 1329.

1175.99 PENALTY.

Violation of or noncompliance with any of the provisions of this Chapter shall be deemed to be a violation of the Zoning Code under Section 1105.99.
COMPREHENSIVE STORMWATER MANAGEMENT

WHEREAS, flooding is a significant threat to property and public health and safety and stormwater management lessens flood damage by reducing and holding runoff and releasing it slowly; and

WHEREAS, streambank erosion is a significant threat to property and public health and safety and stormwater management slows runoff and reduces its erosive force; and

WHEREAS, insufficient control of stormwater can result in significant damage to receiving water resources, impairing the capacity of these areas to sustain aquatic systems and their associated aquatic life use designations; and

WHEREAS, land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; and

WHEREAS, stormwater runoff contributes to increased quantities of pollutants to water resources; and

WHEREAS, stormwater runoff, stream channel erosion, and nonpoint source pollution can be controlled and minimized through the regulation of runoff from land development projects; and,

WHEREAS, the United States Environmental Protection Agency has approved a Total Maximum Daily Load (TMDL) for phosphorus, nitrogen, habitat, bacteria and Total Suspended Solids (TSS) in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinker’s Creek watersheds; and

WHEREAS, there are watershed-wide efforts to reduce flooding, erosion, and water quality problems in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinker’s Creek and to protect and enhance the water resources of the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile Creek and Tinker’s Creek watersheds; and

WHEREAS, the City finds that the lands and waters within its borders are finite natural resources and that their quality is of primary importance in promoting and maintaining public health and safety within its borders; and

WHEREAS, the City desires to establish standards, principles, and procedures for the regulation of soil disturbing activities that may increase flooding and erosion and may cause adverse impacts to water resources, resulting from stormwater runoff; and

WHEREAS, the use of green infrastructure and runoff reduction practices improves water quality in our streams and Lake Erie and reduces the magnitude and frequency of flooding and combined sewer overflow events through the infiltration, evapotranspiration, treatment and reuse of stormwater runoff; and

WHEREAS, the use of green infrastructure produces community benefits including reduced crime, increased property values, increased retail sales and lower infrastructure costs; and

WHEREAS, the City is in the Chagrin River, Doan Brook, Euclid Creek, Mill Creek, Nine Mile
Creek and Tinker’s Creek watersheds and recognizes its obligation as a part of these watersheds to manage stormwater within its borders; and

WHEREAS, 40 C.F.R. Parts 9, 122, 123, and 124, and Ohio Administrative Code 3745-39 require designated communities, including the City to develop a Stormwater Management Program that, among other components, requires the City to implement standards, principles, and procedures to regulate the quality of stormwater runoff during and after soil disturbing activities; and

WHEREAS, Article XVIII, Section 3 of the Ohio Constitution grants municipalities the legal authority to exercise all powers of local self-government and to adopt and enforce within their limits such local police, sanitary, and other similar regulations, as are not in conflict with general laws.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Beachwood, County of Cuyahoga, State of Ohio, that:

Section 1: Current Codified Ordinance Chapter 1177 Comprehensive Stormwater Management, is hereby repealed and replaced in its entirety with the following:

1177.01 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 City:

B. This regulation requires owners who develop or re-develop their property within the City 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 ground water 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. Maximize use of SCMs that serve multiple purposes including, but not limited to, flood control, erosion control, fire protection, water quality protection, recreation, and habitat
9. Design sites to minimize the number of stream crossings and the width of associated disturbance in order to minimize the City’s future expenses related to the maintenance and repair of stream crossings.

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

C. This Chapter shall apply to all parcels used or being developed, either wholly or partially, for new or relocated projects involving highways and roads; underground cables and pipelines; subdivisions or larger common plans of development; industrial, commercial, institutional, or residential projects; building activities on farms; redevelopment activities; grading; and all other uses that are not specifically exempted in Section 1177.01(E) and as defined by the OEPA NPDES Permit. This Chapter also applies if the earth disturbing activity is only clearly by tree cutting which would change the stormwater runoff pattern.

D. Public entities, including the State of Ohio, Cuyahoga County, and the City shall comply with this regulation for roadway projects initiated after March 10, 2006.

E. This Chapter does not apply to activities regulated by, and in compliance with:
   (a) Land disturbing activities related to producing agricultural crops or silvicultural operations regulated by the Ohio Agricultural Sediment Pollution Abatement Rules.
   (b) Strip mining operations regulated by Ohio Revised Code Chapter 1513.
   (c) Surface mining operations regulated by Ohio Revised Code Chapter 1514.
   (d) Commercial, industrial and residential home sites disturbing less than four thousand (4,000) square feet of land.

1177.02 DEFINITIONS.

For the 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 ordinance.

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

C. 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.

D. BANKFULL CHANNEL: a channel flowing at channel capacity and conveying the bankfull discharge. Delineated by the highest water level that has been maintained for a sufficient period of time to leave evidence on the landscape, such as the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial or the point at which the clearly scoured
substrate of the stream ends and terrestrial vegetation begins.

E. BANKFULL DISCHARGE: The streamflow that fills the main channel and just begins to spill onto the floodplain; it is the discharge most effective at moving sediment and forming the channel.

F. BEST MANAGEMENT PRACTICES (BMP): Also STORMWATER CONTROL MEASURE (SCMs). Schedule of activities, prohibitions of practices, operation and maintenance procedures, treatment requirements, and other management practices (both structural and non-structural) to prevent or reduce the pollution of water resources and to control stormwater volume and rate. This includes practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. For guidance, please see the Rainwater and Land Development Manual at http://epa.ohio.gov/dsw/storm/technical_guidance#176135061-rainwater-and-land-development-manual.


H. COMMUNITY: The City of Beachwood, its designated representatives, boards, or commissions.

I. COMPREHENSIVE STORMWATER MANAGEMENT PLAN: The written document and plans meeting the requirements of this regulation that sets forth the plans and practices 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.

J. 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.

K. 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.

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

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

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

O. ENGINEER: The City Engineer and or the City Engineer’s designee that shall include, but not be limited to, the City’s Building Commissioner and/or Environmental Manager, who shall work under and in coordination with the City Engineer.

P. 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.
Q. EXTENDED DETENTION FACILITY: A stormwater control measure that replaces and/or enhances traditional detention facilities by releasing the runoff collected during the stormwater quality event over at least 24 to 48 hours, retarding flow and allowing pollutants to settle within the facility.

R. FINAL STABILIZATION: All soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of at least 80% coverage for the area has been established or equivalent stabilization practices, such as the use of mulches or geotextiles, have been employed.

S. GENERAL CONTRACTOR: The primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

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

U. GREEN INFRASTRUCTURE: Wet weather management approaches and technologies that utilize, enhance or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

V. HYDROLOGIC UNIT CODE: a cataloging system developed by the United States Geological Survey and the Natural Resource Conservation Service to identify watersheds in the United States.

W. 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.

X. INFILTRATION CONTROL MEASURE: A stormwater control measure that does not discharge to a water resource during the stormwater quality event, requiring collected runoff to either infiltrate into the groundwater and/or be consumed by evapotranspiration, thereby retaining stormwater pollutants in the facility.

Y. 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.

Z. LOW IMPACT DEVELOPMENT: Low-impact development (LID) is a site design approach, which seeks to integrate hydrologically functional design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. LID’s goal is to mimic natural hydrology and processes by using small-scale, decentralized practices that infiltrate, evaporate, detain, and transpire stormwater. LID stormwater control measures (SCMs) are uniformly and strategically located throughout the site.

AA. 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.

BB. MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): A conveyance or system of
conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:
1. Owned or operated by the federal government, state, municipality, township, county, district, or other public body (created by or pursuant to state or federal law) including a special district under state law such as a sewer district, flood control district or drainage districts, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into water resources; and
2. Designed or used for collecting or conveying solely stormwater,
3. Which is not a combined sewer, and
4. Which is not a part of a publicly owned treatment works.

CC. National Pollutant Discharge Elimination System (NPDES): A regulatory program in the Federal Clean Water Act that prohibits the discharge of pollutants into surface waters of the United States without a permit.

DD. NONSTRUCTURAL STORMWATER CONTROL MEASURE (SCM): Any technique that uses natural processes and features to prevent or reduce the discharge of pollutants to water resources and control stormwater volume and rate.

EE. ORDINARY HIGH WATER MARK: That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

FF. POST-CONSTRUCTION/TRANSITION MEETING: Transition meeting with the construction team, engineer, and owner to discuss the post-construction stormwater control measures, ensure they are installed as designed, explain what to look for during monthly and annual inspections, and provide the owner tools to plan for long-term maintenance needs.

GG. 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.

HH. 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.

II. 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.

JJ. 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.

KK. QUALIFIED INSPECTION PERSONNEL: A person knowledgeable in the principles and practice of erosion and sediment controls, who possess the skills to assess all conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measure selected to control the quality of stormwater discharges
from the construction activity.

LL. **RAINWATER AND LAND DEVELOPMENT Manual**: Ohio’s standards for stormwater management, land development, and stream protection. The most current edition of these standards shall be used with this regulation.

MM. **REDEVELOPMENT**: A construction project on land that has been previously graded, paved or built upon.

NN. **RIPARIAN AREA**: Land adjacent to any brook, creek, river, or stream having a defined bed and bank that, if appropriately sized, helps to stabilize streambanks, limit erosion, reduce flood size flows, and/or filter and settle out runoff pollutants, or performs other functions consistent with the purposes of this regulation.

OO. **RIPARIAN AND WETLAND SETBACK**: The real property adjacent to a water resource on which soil disturbing activities are limited, all as defined by Codified Ordinance Chapter 1157.

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

QQ. **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.

RR. **SEDIMENTATION**: The deposition of sediment in water resources.

SS. **SITE OPERATOR**: The party having day-to-day operational control of all activities at a project which are necessary to ensure compliance with a SWP3 for the site and all permit conditions including the ability to authorize modifications to the SWP3, construction plans and site specification to ensure compliance with the General Permit.

TT. **SITE OWNER**: Property owner meets the definition of operator should the party which has day to day operational control require additional authorization from the owner for modifications to the SWP3, construction plans, and/or site specification to ensure compliance with the permit or refuses to accept all responsibilities as listed herein.

UU. **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.

VV. **STABILIZATION**: The use of Best Management Practices or Stormwater Control Measures that reduce or prevent soil erosion by stormwater runoff, trench dewatering, wind, ice, gravity, or a combination thereof.

WW. **STORMWATER OR STORM WATER**: Defined at 40 CFR 122.26(b)(13) and means stormwater runoff, snow melt runoff and surface runoff and drainage.

XX. **STORMWATER CONTROL MEASURE (SCM)**: Also Best Management Practice (BMP). Schedule of activities, prohibitions of practices, operation and maintenance procedures, treatment requirements, and other management practices (both structural and non-structural) to prevent or reduce the pollution of water resources and to control stormwater volume and rate. This includes
practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. For guidance, please see U.S. EPA’s National Menu of BMPs at http://water.epa.gov/polwaste/npdes/swbmp/index.cfm.

YY. 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.

ZZ. STRUCTURAL STORM WATER MANAGEMENT PRACTICE OR STORMWATER CONTROL MEASURE (SCM): Any constructed facility, structure, or device that prevents or reduces the discharge of pollutants to water resources and controls stormwater volume and rate.

AAA. SUBCONTRACTOR: An individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

BBB. SURFACE WATER OF THE STATE: Also Water Resource. Any stream, lake, reservoir, pond, marsh, wetland, or other 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.

CCC. TOTAL MAXIMUM DAILY LOAD (TMDL): The sum of the existing and/or projected point source, nonpoint source, and background loads for a pollutant to a specified watershed, water body, or water body segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensure attainment and maintenance of water quality standards.

DDD. WATER QUALITY VOLUME: “Water Quality Volume (WQv)” means the volume of stormwater runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQv is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

EEE. WATER RESOURCE: Also SURFACE WATER 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.

FFF. 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.

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

HHH. 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).
1177.03 DISCLAIMER OF LIABILITY.

A. 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 any particular parcel of property.

B. By approving a Comprehensive Stormwater Management Plan under this regulation, the City does not accept responsibility for the design, installation, and operation and maintenance of SCMs.

1177.04 CONFLICTS, SEVERABILITY, NUISANCES & RESPONSIBILITY.

A. Where this regulation is in conflict with other provisions of law or ordinance, the most restrictive provisions, as determined by the Building Commissioner, 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 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 City 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 City, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

E. The Engineer shall administer, implement, and enforce the provisions of this Chapter.

1177.05 DEVELOPMENT OF COMPREHENSIVE STORMWATER MANAGEMENT PLANS.

A. This regulation requires that a Comprehensive Stormwater Management Plan be developed and implemented for all construction 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 1177.01(C) is proposed. A Comprehensive Stormwater Management Plan must be developed and implemented for all commercial and industrial site development. The Engineer may require a Comprehensive Stormwater Management Plan on sites disturbing less than one (1) acre.

B. The City 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 City may consult with the Cuyahoga County SWCD, state agencies, private engineers, stormwater districts, or other technical experts in reviewing the Comprehensive Stormwater Management Plan.

1177.06 APPLICATION PROCEDURES.

A. Pre-Application Meeting: The applicant shall attend a Pre-Application Meeting with the
Engineer, Building Commissioner and City Planner 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 Plan (Preliminary Plan) and the applicable fees to the Building Commissioner. The Preliminary Plan shall show the proposed property boundaries, setbacks, dedicated open space, public roads, water resources, stormwater control facilities, and easements in sufficient detail and engineering analysis to allow the Engineer to determine if the site is laid out in a manner that meets the intent of this Ordinance and if the proposed SCMs are capable of controlling runoff from the site in compliance with this Ordinance. 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 Site Development Plan.
2. **For other construction projects:** In conjunction with the application for a zoning permit.
3. **For general clearing projects:** In conjunction with the application for a zoning permit.

C. **Final Comprehensive Stormwater Management Plan:** The applicant shall submit two (2) sets of a Final Comprehensive Stormwater Management Plan (Final Plan) and the applicable fees to the Building Commissioner in conjunction with the submittal of the final plat, Site Development Plan, or application for a building or zoning permit for the site. The Final Plan shall meet the requirements of Section 1177.08 and shall be approved by the Building Commissioner prior to approval of the final plat and/or before issuance of a Building permit by the Building Commissioner.

D. **Review and Comment:** The Engineer 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:** Land clearing and soil-disturbing activities shall not begin and zoning and/or building permits shall not be issued 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.

**1177.07 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 City 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) number from Ohio EPA, a copy of the Ohio EPA Director’s Authorization Letter 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 Permit: Proof of compliance shall be a copy of Ohio EPA’s Isolated Wetland Permit application tracking number, public notice, project approval, or a letter from the site owner certifying that a Wetland Scientist has surveyed the site and determined that Ohio EPA’s Isolated Wetlands 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.

1177.08 COMPREHENSIVE STORMWATER MANAGEMENT PLAN.

A. 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). The Plan will illustrate the type, location, and dimensions of every structural and non-structural SCM incorporated into the site design, and the rationale for their selection. The rationale must address how these SCMs will address flooding within the site as well as flooding that may be caused by the development upstream and downstream of the site. The rationale will also describe how the
SCMs minimize impacts to the physical, chemical, and biological characteristics of on-site and downstream water resources and, if necessary, correct current degradation of water resources that is occurring or take measures to prevent predictable degradation of water resources.

B. **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 Engineer, a site survey shall be performed by a registered Professional Surveyor to establish boundary lines, measurements, or land surfaces.

C. **Community Procedures:** The 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 Engineer based on improvements in engineering, science, monitoring, and local maintenance experience. The Engineer shall make the final determination of whether the practices proposed in the Comprehensive Stormwater Management Plan meet the requirements of this regulation. The Engineer may also maintain a list of acceptable SCMs that meet the criteria of this regulation to be used in the City.

D. **Contents of Comprehensive Stormwater Management Plan:** The Comprehensive Stormwater Management Plan shall contain an application, narrative report, construction site plan sheets, a long-term Inspection and Maintenance Plan and Inspection and Maintenance Agreement and a site description with the following information provided:

1. **Site description:**
   a. A description of the nature and type of the construction activity (e.g. residential, shopping mall, highway, etc.).
   b. Total area of the site and the area of the site that is expected to be disturbed (i.e. grubbing, clearing, excavation, filling or grading, including off-site borrow areas).
   c. A description of prior land uses at the site.
   d. An estimate of the impervious area and percent imperviousness created by the soil disturbing activity at the beginning and at the conclusion of the project.
   e. Calculations of runoff coefficients for water quality volume determination, peak discharge control (curve number/critical storm method), and rational method.
   f. Existing data describing the soils throughout the site, including soil map units including series, complexes, and association, hydrologic soil group, porosity, infiltration characteristics, depth to groundwater, depth to bedrock, and any impermeable layers.
   g. If available, the quality of any known pollutant discharge from the site such as that which may result from previous contamination caused by prior land uses.
   h. The location and name of the immediate water resource(s) and the first
subsequent water resource(s).

i. The aerial (plan view) extent and description of water resources at or near the site that will be disturbed or will receive discharges from the project.

j. Construction drawings or excerpts showing the plan view, profile and details of the outlet(s).

k. For extended detention and infiltration post-construction practices, provide relevant elevations and associated volumes that dictate when removal of accumulated sediments must occur.

l. If applicable, identify the point of discharge to a municipal separate storm sewer system and the location where that municipal separate storm sewer system ultimately discharges to a stream, lake, or wetland. The location and name of the immediate receiving stream or surface water(s) and the first subsequent receiving water(s) and the aerial extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from undisturbed areas of the project.

m. TMDLs applicable for the site [refer to TMDL community identifier table at http://www.neohiostormwater.com/]; demonstrate that appropriate (SCMs) have been selected to address these TMDLs.

n. For each SCM, identify the drainage area, percent impervious cover within the drainage area, runoff coefficient for water quality volume, peak discharge, and the time of concentration for each subwatershed. Identify the SCM surface area, discharge and dewatering time, outlet type and dimensions. Each SCM shall be designated with an individual identification number.

o. Describe the current condition of water resources including the vertical stability of stream channels and indications of channel incision that may be responsible for current or future sources of high sediment loading or loss of channel stability.

2. Site map showing:

a. Limits of soil disturbing activity on the site.

b. Soils map units for the entire site, including locations of unstable or highly erodible soils.

c. Existing and proposed one-foot (1') contours. This must include a delineation of drainage watersheds expected before, during, and after major grading activities as well as the size of each drainage watershed in acres.

d. Water resource locations including springs, wetlands, streams, lakes, water wells, and associated setbacks on or within two hundred (200) feet of the site, including the boundaries of wetlands or streams and first subsequent named receiving water(s) the applicant intends to fill or relocate for which the applicant is seeking approval from the Army Corps of Engineers and/or Ohio EPA.
e. Existing and planned locations of buildings, roads, parking facilities, and utilities.

f. The location of any in-stream activities including stream crossings.

3. Contact information: Company name and contact information as well as contact name, addresses, and phone numbers for the following:

   a. The Professional Engineer who prepared the Comprehensive Stormwater Management Plan.

   b. The site owner.

4. Phase, if applicable, of the overall development plan.

5. List of sublot numbers if project is a subdivision.

6. Ohio EPA NPDES Permit Number and other applicable state and federal permit numbers, if available, or status of various permitting requirements if final approvals have not been received.

7. Location, including complete site address and sublot number if applicable.

8. Location of any easements or other restrictions placed on the use of the property.

9. A site plan sheet showing:

   a. The location of each proposed post-construction SCMs

   b. The geographic coordinates of the site AND each proposed practice in North American Datum Ohio State Plane North.

   It is preferred that 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.

10. Inspection and Maintenance Agreement. The Inspection and Maintenance Agreement required for SCMs under this regulation is a stand-alone document between the City and the applicant. A copy of this agreement shall be recorded with the property title. The agreement shall contain the following information and provisions:

   a. Identification of the landowner(s), organization, or municipality responsible for long-term inspection and maintenance, including repairs, of the SCMs.

   b. The landowner(s), organization, or municipality shall maintain SCMs in accordance with this regulation.

   c. The City 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.
d. The City shall maintain public records of the results of site inspections, shall inform the landowner(s), organization, or municipality responsible for maintenance of the inspection results, and shall specifically indicate in writing any corrective actions required to bring the SCMs into proper working condition.

e. If the City notifies the landowner(s), organization, or municipality responsible for maintenance of the maintenance problems that require correction, the specific corrective actions shall be taken within a reasonable time as determined by the City.

f. The City is authorized to enter upon the property and perform the corrective actions identified in the inspection report if the landowner(s), organization, or municipality responsible for maintenance fails to make the required corrections in accordance with the Inspection and Maintenance Agreement. The City shall be reimbursed by the landowner(s), organization, or municipality responsible for maintenance for all expenses incurred within thirty (30) days of receipt of invoice from the City.

g. The method of funding long-term maintenance and inspections of all SCMs.

h. A release of the City from all damages, accidents, casualties, occurrences, or claims that might arise or be asserted against the City from the construction, presence, existence, or maintenance of the SCMs.

i. The Inspection and Maintenance Agreement shall include the approved Inspection and Maintenance Plan per 1177.08(D)(11) below.

11. **Inspection and Maintenance Plan.** This plan will be developed by the applicant and reviewed by the City. Once the Inspection and Maintenance Plan is approved, a recorded copy of the Plan must be submitted to the City as part of the final inspection approval as described in 1177.12. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). The plan will include at a minimum:

a. The location of each SCM and identification of the drainage area served by each SCM.

b. Photographs of each SCM, including all inlets and outlets upon completion of construction.

c. Schedule of inspection and maintenance reports to be completed and submitted annually to the City no later than June 1st.

d. A schedule for regular maintenance for each aspect of the stormwater management system and description of routine and non-routine maintenance tasks to ensure continued performance of the system as is detailed in the approved Comprehensive Stormwater Management Plan. A maintenance inspection checklist written so the average person can understand it shall be incorporated. The maintenance plan will include a detailed drawing of each SCM and outlet structures with the parts of the outlet structure labeled. This schedule may
include additional standards, as required by the Engineer, to ensure continued performance of SCMs permitted to be located in, or within 50 feet of, water resources.

The location and documentation of all access and maintenance easements on the property. Alteration or termination of these stipulations is prohibited.

12. **Required Calculations:** The applicant shall submit calculations for projected stormwater runoff flows, volumes, and timing into and through all SCMs for flood control, channel protection, water quality, and the condition of the habitat, stability, and incision of each water resource and its floodplain, as required in Section 1177.06.09 of this regulation. 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. The applicant shall also include critical storm determination and demonstrate that the runoff from offsite areas have been considered in the calculations.

13. **List of all contractors and subcontractors before construction:** Prior to construction or before the pre-construction meeting, provide the list of all contractors and subcontractors and their names, addresses, and phones involved with the implementation of the Comprehensive Stormwater Management Plan including a written document containing signatures of all parties as proof of acknowledgment that they have reviewed and understand the requirements and responsibilities of the Comprehensive Stormwater Management Plan. [GJ1][VI2]

14. **Existing and proposed drainage patterns:** The location and description of existing and proposed drainage patterns and SCMs, including any related SCMs beyond the development area and the larger common development area.

15. **For each SCM to be employed on the development area, include the following:**

   a. Location and size, including detail drawings, maintenance requirements during and after construction, and design calculations, all where applicable.
   
   b. Final site conditions including stormwater inlets and permanent nonstructural and structural SCMs. Details of SCMs shall be drawn to scale and shall show volumes and sizes of contributing drainage areas. Any other structural and/or non-structural SCMs necessary to meet the design criteria in this regulation and any supplemental information requested by the Engineer.
   
   c. Each SCM shall be designated with an individual identification number.

### 1177.09 PERFORMANCE STANDARDS.

A. **General:** The stormwater system, including SCMs for storage, treatment and control, and conveyance facilities, shall be designed to prevent structure flooding during the 100-year, 24-hour storm event; to maintain predevelopment runoff patterns, flows, and volumes; and to meet the following criteria:

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

a. Not disturb riparian areas, unless the disturbance is intended to support a
Streambank Stabilization project and complies with Chapter 1157.07
Riparian Setbacks.

b. Maintain predevelopment hydrology and groundwater recharge on as much
of the site as practicable.

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

SCMs that meet the criteria in this regulation, and additional criteria required by the
Engineer, shall comply with this regulation.

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 management for all lots: Areas developed for a subdivision, as defined in
Chapter 1101, shall provide stormwater management and water quality controls for the
development of all subdivided lots. This shall include provisions for lot grading and
drainage that prevent structure flooding during the 100-year, 24-hour storm; and
maintain, to the extent practicable, the pre-development runoff patterns, volumes, and
peaks from each lot.

4. Stormwater facilities in water resources: SCMs and related activities shall not be
constructed within a surface water of the state 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 1177.07 of this
regulation, and the activity is in compliance with Chapter 1177.08 Comprehensive
Stormwater Management Plan and Chapter 1157 Riparian and Wetland Setbacks, all as
determined by the Engineer.

5. Stormwater ponds and surface conveyance channels: All stormwater pond and surface
conveyance designs must provide a minimum of one (1) foot freeboard above the
projected peak stage within the facility during the 100-year, 24-hour storm. When
designing stormwater ponds and conveyance channels, the applicant shall consider public
safety as a design factor and alternative designs must be implemented where site
limitations would preclude a safe design.
6. **Exemption:** The site where soil-disturbing activities are conducted shall be exempt from the requirements of Section 1177.09 if it can be shown to the satisfaction of the City 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 SCMs, or if the stormwater management requirements for the site are provided by practices defined in a regional or local stormwater management plan approved by the City. A regional storm water BMP may be used to meet the post-construction requirement if: (1) the BMP meets the design requirements for treating the WQv; and (2) a legal agreement is established through which the regional BMP owner or operator agrees to provide this service in the long term. Design information for such facilities such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3.

7. **Small Construction Activities.** For all construction activities authorized under this permit which result in a disturbance greater than one acre, a post-construction practice shall be used to treat storm water runoff for pollutants and to reduce adverse impacts on receiving waters. The applicant must provide a justification in the SWP3 why the use of Table 4a and 4b practices in the current Ohio EPA General Construction Permit are not feasible. The justification must address limiting factors which would prohibit the project going forward should Table 4a and 4b practices be required. Please note that additional practices selected will require approval from the regulated MS4. The use of green infrastructure BMPs such as runoff reducing practices is also encouraged.

8. **Transportation Projects.** The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement post-construction BMPs in compliance with the current version (as of the effective date of this Ordinance of the Ohio Department of Transportation’s “Location and Design Manual, Volume Two Drainage Design” that has been accepted by Ohio EPA as an alternative to the conditions of this permit.

9. **Runoff Reduction Practices.** The size of structural post-construction practices used to capture and treat the WQv can be reduced by incorporating runoff reducing practices into the design of the site’s drainage system. The approach to calculate and document runoff reduction is detailed in the *Rainwater and Land Development Manual*. BMP-specific runoff reduction volumes are set by specifications in the *Rainwater and Land Development Manual* for the following practices: impervious surface disconnection, rainwater harvesting, bioretention, infiltration basin, infiltration trench, permeable pavement with infiltration, underground storage with infiltration, grass swale, sheet flow to filter strip, and sheet flow to a conservation area.

Runoff reducing practices may be used for areas of the site not draining into a common drainage system of the site (e.g., sheet flow from perimeter areas such as the rear yards of residential lots, low density development scenarios, or where the permittee can demonstrate that the intent of pollutant removal and stream protection is being addressed through non-structural post-construction BMPs) based upon review and approval by Ohio EPA.

10. **Maintenance:** All SCMs shall be maintained in accordance with the Inspection and Maintenance Plan and Agreements approved by the City as detailed in Section 1177.08.
11. **Ownership:** Unless otherwise required by the City, SCMs serving multiple lots in subdivisions shall be on a separate lot held and maintained by an entity of common ownership. SCMs serving single lots shall be placed on these lots, protected within an easement, and maintained by the property owner.

12. **Preservation of Existing Natural Drainage:** Practices that preserve and/or improve 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. Post-construction stormwater practices shall provide perpetual management of runoff quality and quantity so that a receiving stream’s physical, chemical and biological characteristics are protected and ecological functions are maintained.

13. **Preservation of Wetland Hydrology:** Concentrated stormwater runoff from SCMs to wetlands shall be converted to diffuse flow before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between storm water features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

14. **Soil Preservation and Post-Construction Soil Restoration:** To the maximum extent practicable leave native soil undisturbed and protect from compaction during construction. 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.

**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 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 1177.07 of this regulation, and the activity is in compliance with Section 1177.06 and Chapter 1157 Riparian and Wetland Setbacks, all as determined by the 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 stormwater runoff that discharges to or across the applicant’s development site shall be conveyed through the stormwater conveyance system planned for the development site at its existing peak flow rates during each design storm. Off-site flows shall be diverted around stormwater quality control facilities or, if this is not possible, 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 Engineer that off-site runoff will be adequately conveyed through the development site in a manner that does not exacerbate upstream or downstream flooding and 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. In no case shall the sheet flow length be longer than 300 feet, nor shall a sheet flow area exceed 1.5 acres. 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 Engineer.

4. **Open channels:** Unless otherwise allowed by the 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.

5. **Open drainage systems:** Open drainage systems shall be preferred on all new development sites to convey stormwater where feasible. Storm sewer systems shall be allowed only when the site cannot be developed at densities allowed under City zoning or where the use of an open drainage system affects public health or safety, all as determined by the Engineer. The following criteria shall be used to design storm sewer systems when necessary:

   a. Storm sewers shall be designed such that they do not surcharge from runoff caused by the 10-year, 24-hour storm, and that the hydraulic grade line of the storm sewer stays below the gutter flow line of the overlying roadway, or below the top of drainage structures outside the roadway during a 25-year, 24-hour storm. The system shall be designed to meet these requirements when conveying the flows from the contributing drainage area within the proposed development and existing flows from offsite areas that are upstream from the development.

   b. The minimum inside diameter of pipe to be used in public storm sewer systems is 12 inches. Smaller pipe sizes may be used in private systems, subject to the approval of the Engineer.

   c. All storm sewer systems shall be designed taking into consideration the tailwater of the receiving facility or water resource. The tailwater elevation used shall be based on the design storm frequency. The hydraulic grade line for the storm sewer system shall be computed with consideration for the energy losses associated with entrance into and exit from the system, friction through the system, and turbulence in the individual manholes, catch basins, and junctions within the system.
d. The inverts of all curb inlets, manholes, yard inlets, and other structures shall be formed and channelized to minimize the incidence of quiescent standing water where mosquitoes may breed.

e. Headwalls shall be required at all storm sewer inlets or outlets to and from open channels or lakes.

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

a. Water resource crossings other than bridges shall be designed to convey the stream's flow based on the most recent Cuyahoga County Engineer Drainage Manual Supplement to ODOT Location and Design Manual Volume 2, Drainage design Section 1000 and 1100.

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. If a culvert or other closed bottom crossing is used, twenty-five (25) percent of the cross-sectional area or a minimum of 1 foot of box culverts and pipe arches must be embedded below the channel bed. The conduit or conveyance must to be sized to meet the most recent Cuyahoga County Engineer Drainage Manual Supplement to ODOT Location and Design Manual Volume 2, Drainage design Section 1000 and 1100.

d. The minimum inside diameter of pipes to be used for crossings shall be 12 inches.

e. 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.

f. 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.

g. Headwalls shall be required at all culvert inlets or outlets to and from open channels or lakes.

h. 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.

i. Bridges shall be designed such that the hydraulic profile through a bridge shall be
7. **Overland flooding:** Overland flood routing paths shall be used to convey stormwater runoff from the 100-year, 24-hour storm event to an adequate receiving water resource or SCM such that the runoff is contained within the drainage easement for the flood routing path and does not cause flooding of buildings or related structures. The peak 100-year water surface elevation along flood routing paths shall be at least one foot below the finished grade elevation of all structures. When designing the flood routing paths, the conveyance capacity of the site's storm sewers shall be taken into consideration.

8. **Compensatory flood storage mitigation:** In order to preserve floodplain storage volumes and thereby avoid increases in water surface elevations, any filling within floodplains approved by the City must be compensated by providing an equivalent storage volume. First consideration for the location(s) of compensatory floodplain volumes should be given to areas where the stream channel will have immediate access to the new floodplain within the limits of the development site. Consideration will also be given to enlarging existing or proposed retention basins to compensate for floodplain fill if justified by a hydraulic analysis of the contributing watershed. Unless otherwise permitted by the City, reductions in volume due to floodplain fills must be mitigated within the legal boundaries of the development. Embankment slopes used in compensatory storage areas must reasonably conform to the natural slopes adjacent to the disturbed area. The use of vertical retaining structures is specifically prohibited.

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:**

1. **Direct runoff to an SCM:** The site shall be designed to direct runoff to one or more SCMs provided in the most current Ohio EPA NPDES Construction Permit or *Rainwater and Land Development Manual* and shall be designed to meet the following general performance standards:

   a. For sites greater than one (1) acre, or part of a larger common plan of development or sale which will disturb one (1) or more acres SCM are required.

   b.

   c. Extended detention facilities that detain stormwater; settle or filter particulate pollutants; and release the controlled stormwater to a water resource.

   d. Infiltration facilities that retain stormwater; promote settling, filtering, and biodegradation of pollutants; and infiltrate captured stormwater into the ground. The City may require a soil engineering report to be prepared for the site to demonstrate that any proposed infiltration facilities meet these performance standards.

   e. The Engineer may approve other SCMs if the applicant demonstrates to the
Engineer’s satisfaction that these SCMs meet the objectives of this regulation as stated in Section 1177.09(C)(5), and has prior written approval from the Ohio EPA.

f. For the construction of new roads and roadway improvement projects by public entities (i.e. the state, counties, townships, cities, or villages), the Engineer may approve SCMs not included in Table 4a and 4b of the Ohio EPA NPDES General Construction Permit, but must show compliance with the current version of the Ohio Department of Transportation “Location and Design Manual, Volume Two Drainage Design”.

g. **Offsite Mitigation of Post-Construction** Ohio EPA may authorize the offsite mitigation of the post-construction requirements on a case by case basis provided the permittee clearly demonstrates the BMPs listed in Tables 4a and 4b as listed in the current Ohio EPA General Construction Permit are not feasible and the following criteria are met: (1) a maintenance agreement or policy is established to ensure operations and treatment long-term; (2) the offsite location discharges to the same HUC-12 watershed unit; and (3) the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater.

2. **Criteria applying to all SCMs:** SCMs shall be designed to meet the current requirements in the OEPA NPDES Construction Permit and ODNR *Rainwater and Land Development Manual* to treat the water quality volume (WQV).

3. **Additional criteria applying to infiltration facilities.**

   a. All runoff directed into an infiltration basin must first flow through a pretreatment practice such as a grass channel or filter strip to remove coarser sediments that could cause a loss of infiltration capacity.

   b. During construction, all runoff from disturbed areas of the site shall be diverted away from the proposed infiltration basin site. No construction equipment shall be allowed within the infiltration basin site to avoid soil compaction.

4. **Additional criteria for extended detention facilities:**

   a. The outlet shall be designed to not release more than the first half of the water quality volume per the Ohio EPA NPDES Construction Permit. The outlet shall be designed to minimize clogging, vandalism, maintenance, and promote the capture of floatable pollutants.

   b. The basin design shall incorporate the following features to maximize multiple uses, aesthetics, safety, and maintainability:

      (1) Basin side slopes above the permanent pool shall have a run to rise ratio of 3:1 or flatter. A run to rise ratio of 3:1 is the minimum if site conditions are limiting.

      (2) The perimeter of all permanent pool areas deeper than 4 feet shall be surrounded by an aquatic bench that extends at least 8 feet and no more
than 15 feet outward from the normal water edge. The 8 feet wide portion of the aquatic bench closest to the shoreline shall have an average depth of 6 inches below the permanent pool to promote the growth of aquatic vegetation. The remainder of the aquatic bench shall be no more than 15 inches below the permanent pool to minimize drowning risk to individuals who accidentally or intentionally enter the basin, and to limit growth of dense vegetation in a manner that allows waves and mosquito predators to pass through the vegetation. The maximum slope of the aquatic bench shall be 10 (H) to 1 (V). The aquatic bench shall be planted with native plant species comparable to wetland vegetation that are able to withstand prolonged inundation. The use of invasive plant species is prohibited.

(3) A forebay designed to allow larger sediment particles to settle shall be placed at basin inlets. The forebay and micropool volume shall be equal to at least ten percent (10%) of the water quality volume (WQv).

(4) Detention basins shall be provided with an emergency drain, where practicable, so that the basin may be emptied if the primary outlet becomes clogged and/or to drain the permanent pool to facilitate maintenance. The emergency drain should be designed to drain by gravity where possible.

5. **Criteria for the Acceptance of Alternative post-construction BMPs:** The applicant may request approval from the Engineer for the use of alternative structural post-construction SCMs if the applicant shows to the satisfaction of the Engineer that these SCMs are equivalent in pollutant removal and runoff flow/volume reduction effectiveness to those listed in ODNR *Rainwater and Land Development Manual*. Alternative post-construction BMPs may include, but are not limited to: vegetated swales, vegetated filter strips, hydrodynamic separators, high-flow media filters, cartridge filters, membrane filters, subsurface flow wetlands, multi-chamber treatment trains, road shoulder media filter drains, wetland channels, rain barrels, green roofs, rain gardens, or other non-structural post-construction approaches. Prior approval from the Ohio EPA must also be obtained on a case-by-case basis for use of alternative post-construction BMPs and it must be demonstrated that the use of a BMP listed in the Ohio EPA NPDES Construction Permit or the *ODNR Rainwater and Land Development Manual* is not feasible.

D. **Stormwater Quantity Control:** The Comprehensive Stormwater Management Plan shall describe how the proposed SCMs are designed to meet the following requirements for stormwater quantity control for each watershed in the development:

1. The peak discharge rate of runoff from the Critical Storm and all more frequent storms occurring under post-development conditions shall not exceed the peak discharge rate of runoff from a 1-year, 24-hour storm occurring on the same development drainage area under pre-development conditions.

2. Storms of less frequent occurrence (longer return periods) than the Critical Storm, up to the 100-year, 24-hour storm shall have peak runoff discharge rates no greater than the peak runoff rates from equivalent size storms under pre-development conditions. The 1,
2, 5, 10, 25, 50, and 100-year storms shall be considered in designing a facility to meet this requirement.

3. The Critical Storm for each specific development drainage area shall be determined as follows:

   a. Determine, using a curve number-based hydrologic method, or other hydrologic method approved by the Engineer, the total volume (acre-feet) of runoff from a 1-year, 24-hour storm occurring on the development drainage area before and after development. These calculations shall meet the following standards:

      (1) Calculations shall include the lot coverage assumptions used for full build out as proposed.
      (2) Calculations shall be based on the entire contributing watershed to the development area.
      (3) Drainage area maps shall include area, curve number, time of concentrations. Time of concentration shall also show the flow path and the separation in flow type.
      (4) Rainfall Depth - For the most accurate, up-to-date, location-specific rainfall data for stormwater design, use the Precipitation-Frequency Atlas of the United States, NOAA Atlas 14, Vol 2(3). [available online: http://hdsc.nws.noaa.gov/]
      (5) Temporal Distribution – Use the SCS Type II rainfall distribution for all design events with a recurrence interval greater than 1 year. Include lot coverage assumptions used for full build out of the proposed condition.
      (6) Curve numbers for the pre-development condition shall reflect the average type of land use over the past 10 years and not only the current land use.
         i. Pre-development Curve Numbers – For all areas, use listed values from TR-55 NRCS USDA.
         ii. Post-development Curve Numbers – For all areas, use listed values from TR-55 NRCS USDA.
      (7) Time of Concentration - Use velocity based methods from (TR-55 NRCS USDA Urban Hydrology in Small Watersheds, 1986) to estimate travel time (Tt) for overland (sheet) flow, shallow concentrated flow and channel flow.
         i. Maximum sheet flow length is 100 ft.
         ii. Use the appropriate “unpaved” velocity equation for shallow concentrated flow from Soil Conservation Service National Engineer Handbook Section 4 – Hydrology (NEH-4).
      (8) The volume reduction provided by permeable pavement, bioretention, or other LID SCMs may be subtracted from the post development stormwater volume. Volume reductions for these practices may be
demonstrated using methods outlined in *Rainwater and Land Development Manual* or a hydrologic model acceptable to the Engineer.

b. To account for future post-construction improvements to the site, calculations shall assume an impervious surface such as asphalt or concrete for all parking areas and driveways, regardless of the surface proposed in the site description except in instances of engineered permeable pavement systems. From the volume determined in Section 1177.09(D)(3)(a), determine the percent increase in volume of runoff due to development. Using the percentage, select the 24-hour Critical Storm from Table 3.

### Table 3: 24-Hour Critical Storm

<table>
<thead>
<tr>
<th>If the Percentage of Increase in Volume of Runoff is:</th>
<th>The Critical Storm will be:</th>
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<tbody>
<tr>
<td>Equal to or Greater Than: 10 and Less Than: 1 year</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2 year</td>
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<tr>
<td>20</td>
<td>5 year</td>
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<td>50</td>
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<td>100</td>
<td>25 year</td>
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<td>250</td>
<td>50 year</td>
</tr>
<tr>
<td>500</td>
<td>100 year</td>
</tr>
</tbody>
</table>

For example, if the percent increase between the pre- and post-development runoff volume for a 1-year storm is 35%, the Critical Storm is a 5-year storm. The peak discharge rate of runoff for all storms up to this frequency shall be controlled so as not to exceed the peak discharge rate from the 1-year frequency storm under pre-development conditions in the development drainage area. The post-development runoff from all less frequent storms need only be controlled to meet pre-development peak discharge rates for each of those same storms.

E. **Stormwater Management on Previously Developed Areas**

1. Comprehensive Stormwater Management Plans for previously developed areas must accomplish one or a combination of the following two conditions:
   - Comprehensive Stormwater Management Plans for redevelopment projects must accomplish one of the following options:
     a. Reduce existing site impervious areas by at least 25 percent, a one-for-one credit towards the 25 percent net reduction of impervious area can be obtained through the use of green roofs.
     b. Treatment of 25 percent of the WQv for the previously developed areas using a SCM from Table 4a and 4b.

2. Where there is a combination of redeveloped areas and new development, a weighted approached shall be used with the following equation available in the most current Ohio EPA NPDES Construction Permit or the ODNR *Rainwater and Land Development Manual*. 26
3. Post-construction practices shall be located to treat impervious areas most likely to generate the highest pollutant load, such as parking lots or roadways, rather than areas predicted to be cleaner such as rooftops.

4. Where conditions prevent impervious area reduction or on-site stormwater management for redevelopment projects, practical alternatives as detailed in Section 1177.10 shall be implemented.

1177.10 ALTERNATIVE ACTIONS.

A. When the City 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 following standards:

1. Shall achieve the same level of stormwater quantity and quality control that would be achieved by the on-site controls required under this regulation.

2. Implemented in the same Hydrologic Unit Code (HUC) 12 watershed unit as the proposed development project.

3. The mitigation ratio of the water quality volume is 1.5 to 1 or the water quality volume at the point of retrofit, whichever is greater.

4. An Inspection and Maintenance Agreement as described in Section 1177.08(D)(10) is established to ensure operations and treatment in perpetuity.

5. Obtain prior written approval from Ohio EPA.

B. Alternative actions may include, but are not limited to the following. All alternative actions shall be approved by the Engineer.

1. Fees, in an amount specified by the City to be applied to community-wide SCMs.

2. Implementation of off-site SCMs and/or the retrofit of an existing practice to increase quality and quantity control.

3. Stream, floodplain, or wetland restoration.

4. Acquisition or conservation easements on protected open space significantly contributing to stormwater control such as wetland complexes.

1177.11 EASEMENTS.

Access to SCMs as required by the 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 City prior to approval of a final Site Development Plan and shall be recorded with the Cuyahoga County Fiscal Officer and on all property titled by the property owner.

C. Unless otherwise required by the City, 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 structural 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 City. Any re-grading and/or obstruction placed within a maintenance easement may be removed by the City at the property owners’ expense.

1177.12 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 City:

A. Final stabilization must be achieved and all permanent SCMs must be installed and made functional, as determined by the Engineer and per the approved Comprehensive Stormwater Management Plan. Permittees are responsible for assuring all post-construction practices meet plan specifications and intended post-construction conditions have been met (e.g., sediment removed from, and sediment storage restored to, permanent pools, sediment control outlets removed and replaced with permanent post-construction discharge structures, and all slopes and drainageways permanently stabilized), but are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

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 stormwater control measures, as designed and installed, meet the requirements of the Comprehensive Stormwater Management Plan approved by the Engineer. In evaluating this certification, the Engineer may require the submission of a new set of stormwater practice 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 practices 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 1177.08 must be provided to the City.

A post-construction/transition meeting must be held with the City, property owner, project engineer, contractor, and staff in charge of maintenance of the stormwater control measure (SCM) to discuss design, construction, long-term operation and maintenance and annual inspections/reports for the community after SCM is constructed and before a notice of termination (NOT) is submitted.
1177.13 ON-GOING INSPECTIONS.

The property owner shall inspect SCMs regularly as described in the Inspection and Maintenance Plan and Inspection and Maintenance Agreement. The City or its authorized agent 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 City or its authorized agent 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 make repairs or submit a plan with detailed action items and established timelines as required by the Inspection and Maintenance Agreement.
1177.15 BOND.

A. If a Comprehensive Stormwater Management Plan is required by this Ordinance, soil-disturbing activities shall not be permitted until a cash bond or performance bond in the amount of ten percent (10%) of the total site construction costs has been deposited by the Owner or the Owner’s Representative with the City Finance Department, with notice to the Engineer. This bond shall be posted for the City to perform the obligations otherwise to be performed by the owner of the development area as stated in this Ordinance and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this Ordinance. The stormwater bond will be returned, less City administrative fees, when the following three criteria are met:

1. After eighty percent (80%) of the lots of the project have been complete or one hundred percent (100%) of the total project has been permanently stabilized or three (3) years from the time of permanent stabilization have passed.

2. An As-Built Inspection of all stormwater control measures as described in 1177.12 is approved by the Engineer.

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

1177.16 PERMITS AND DEPOSITS.

Permits and deposits for plan review services and inspectional services shall be in accordance with the provisions and requirements of the Building Code as provided in Chapter 1329.

1177.99 PENALTY.

Violation of or noncompliance with any of the provisions of this Chapter shall be deemed to be a violation of the Zoning Code under Section 1105.99.
Stormwater is rainwater or melting snow or ice. Stormwater can soak into the soil, be stored on the land surface, in ponds and puddles, evaporate, or runoff. Most runoff is conveyed directly to nearby streams, rivers, or other water bodies without treatment. A stormwater system is a system designed to minimize flooding and to carry stormwater away. It is not designed to carry sewage or accept hazardous wastes. The City of Beachwood maintains a municipal stormwater sewer system. This system is separate and apart from the City’s sanitary sewer system. In order to maintain the stormwater system appropriate regulations must be in place.

The regulations being revised typically fall into four categories: Protecting water resources; separating the stormwater sewer from the sanitary sewer; minimizing or controlling land disturbing activities that will lead to erosion and the movement of sediment in stormwater; and general stormwater management. The specific Chapters of the Beachwood Codified Ordinances are:

1) Chapter 1157 Riparian and Wetland Setbacks
2) Chapter 1173 Illicit Discharge and Illegal Connection Control
3) Chapter 1175 Erosion and Sediment Control Chapter
4) Chapter 1177 Comprehensive Stormwater Management

The City is required to implement these regulations in accordance with State and Federal Regulations.

In order to better understand the proposed revisions to the City’s Stormwater Management Code the summary below has been prepared.

Chapter 1157 Riparian and Wetland Setbacks
This Chapter was adopted by the City in 2008, per Ordinance No. 2008-70. These revisions repeal the existing Chapter and replace it in its entirety with updated provisions that comply with changes implemented at the federal and state level. The purpose of this Chapter is to reduce flooding by identifying riparian and wetland areas to be protected. Riparian areas are areas of land adjacent to watercourses. Wetlands are areas that are inundated or saturated by surface or ground water that, dependent on the frequency and duration, support certain saturated soil vegetation.

1157.01 Purpose and Scope
1157.02 Applicability, Compliance & Violations
1157.03 Conflicts with other Regulations & Severability
1157.04 Definitions
1157.05 Establishment of Designated Watercourses, Riparian, and Wetland
Setbacks
1157.06 Applications and Site Plans
1157.07 Uses Permitted in Riparian Setbacks
1157.08 Uses Prohibited in Riparian Setbacks
1157.09 Non-Conforming Structures and Uses in Riparian Setbacks
1157.10 Variances within Riparian Setbacks
1157.11 Procedures for Variances & Appeals
1157.12 Inspection and Riparian Setbacks
1157.99 Penalty

This new Chapter follows the same format of the prior Chapter, identifying its purpose, including definitions for riparian areas and wetlands, provisions for what may and may not be permitted in riparian setbacks, requirements for documenting the same on site plans, the inspection procedures required before soil disturbing activities may occur, provisions addressing the existence of non-conforming structures or uses in riparian setbacks, variances to riparian setbacks, and the related procedure for variances and appeals. The update Chapter requires the City to create a guide/map identifying all designated watercourses and riparian setbacks.

Some examples of revisions:
The current version of Chapter 1157 does not address what activities may be permitted in riparian setbacks. The updated Chapter at 1157.07 sets out uses permitted which include recreational activities, the removal of damaged or diseased trees and revegetation or reforestation efforts. Conditionally permitted uses are also identified as crossings, streambank stabilization projects, and landscaping so long as done in accordance with an approved Landscaping Plan. Additional detail to the currently prohibited uses of buildings, structures or parking areas is included in the updated Chapter at 1157.08 and will now include dredging and dumping, fences and walls, roads and driveways, the disturbance of natural vegetation, and the use of any area for the disposal or treatment of sewage.

Chapter 1173 Illicit Discharge and Illegal Connection Control
1173.01 Purpose and intent
1173.02 Applicability
1173.03 Definitions
1173.04 Conflicts, severability, nuisances and responsibility
1173.05 Responsibility and authority
1173.06 Discharge and connection prohibitions
1173.07 Monitoring of illicit discharges and illegal connections
1173.08 Enforcement

This Chapter was adopted by the City in 2008, per Ordinance No. 2008-70. The Chapter provides for regulations to control pollutants from entering into the stormwater system. Pollutants can be anything from paints to automotive fluids to garbage. Although this Chapter is part of the Stormwater Management Code, no revisions are being proposed at this time.
Chapter 1175 Erosion and Sediment Control

1175.01 Purpose and Scope
1175.02 Definitions
1175.03 Disclaimer of Liability
1175.04 Conflicts, Severability, Nuisances and Responsibility
1175.05 Development of Stormwater Pollution Prevention Plans
1175.06 Application Procedures
1175.07 Compliance with State and Federal Regulations
1175.08 Stormwater Pollution Prevention Plan (SWP3)
1175.09 Performance Standards
1175.10 Abbreviated Stormwater Pollution Prevention Plan (AbvSWP3)
1175.11 Bond
1175.12 Enforcement
1175.13 Permits and Deposits
1175.99 Penalty

This Chapter is new in its entirety. It is required as part of a comprehensive stormwater management program intended to minimize disturbed soils from polluting stormwater and to protect water courses from erosion.

In summary, this Chapter requires the submittal of either a stormwater pollution prevention plan or an abbreviated stormwater pollution prevention plan for any construction or other soil disturbing activities such as tree clearing on land for commercial or industrial development, or on residential sites disturbing more than 4,000 square feet or more of land. The Chapter goes on to outline when the plan is to be submitted and that soil disturbing activities shall not begin and building permits shall not be issued until the plan has been approved and the installation of all erosion and sediment control measures are in place.

The Chapter details what shall be included in the two types of plans, that the plans shall comply with all state and federal regulations, as well as Beachwood Codified Ordinance Chapter 1157, 1173, 1175, and 1177. In addition, the Chapter outlines bonding provisions, enforcement provisions and applicable penalties for violations.

Chapter 1177 Comprehensive Stormwater Management

1177.01 Purpose and Scope
1177.02 Definitions
1177.03 Disclaimer of Liability
1177.04 Conflicts, Severability, Nuisances & Responsibility
1177.05 Development of Comprehensive Stormwater Management Plans
1177.06 Application Procedures
1177.07 Compliance with State and Federal Regulations
1177.08 Comprehensive Stormwater Management Plan
1177.09 Performance Standards
1177.10 Alternative Actions
1177.11 Easements
1177.12 Maintenance and Final Inspection Approval
1177.13 On-Going Inspections
1177.14 Bond
1177.16 Permits and Deposits
1177.99 Penalty

As with Chapter 1157 and Chapter 1173, this Chapter was adopted by the City in 2008, per Ordinance No. 2008-70. The Chapter addresses all stormwater management practices from pre-construction, to construction, to post construction. It requires that a comprehensive plan be submitted that addresses all parts of construction. The focus is on achieving preferred levels of stormwater quality and quantity control so as to minimize damage to property and the degradation of water resources. Overall the revisions provide additional detail and a more comprehensive approach to stormwater management.

Some examples of what provisions have been changed are as follows:

- The Engineer shall administer, implement, and enforce this Chapter
- A Comprehensive Stormwater Management must be developed and implemented for all construction 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 1177.01(C) is proposed.
- A Comprehensive Stormwater Management Plan must be developed and implemented for all commercial and industrial site development. The Engineer may require a Comprehensive Stormwater Management Plan on sites disturbing less than one (1) acre.
- The applicant shall attend a Pre-Application Meeting with the Engineer, Building Commissioner and City Planner 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.
- The Inspection and Maintenance Agreement required for SCMs under this regulation is a stand-alone document between the City and the applicant. A copy of this agreement shall be recorded with the property title.
- Inspection and Maintenance Plan will be developed by the applicant and reviewed by the City. Once the Inspection and Maintenance Plan is approved, a recorded copy of the Plan must be submitted to the City as part of the final inspection approval as described in 1177.12. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage).
- All stormwater pond and surface conveyance designs must provide a minimum of one (1) foot freeboard above the projected peak stage within the facility during the 100-year, 24-hour storm.
• Stormwater Management on Newly Developed Areas
  o For sites greater than one (1) acre, or part of a larger common plan of development or sale which will disturb one (1) or more acres,
  o Stormwater Control Measures shall be designed to meet the current requirements in the OEPA NPDES Construction Permit and ODNR Rainwater and Land Development Manual to treat the water quality volume (WQV).

• Stormwater Management on Previously Developed Areas
  o Reduce existing site impervious areas by at least 25 percent, a one-for-one credit towards the 25 percent net reduction of impervious area can be obtained through the use green roofs.
  o Treatment of 25 percent of the WQv for the previously developed areas.
  o Where there is a combination of redeveloped areas and new development, a weighted approached shall be used with the following equation available in the most current ODNR Rainwater and Land Development Manual.

• Stormwater Quantity Control volume reduction provided by permeable pavement, bioretention, or other LID SCMs may be subtracted from the post development stormwater volume.

• Access to SCMs as required by the Engineer for inspections and maintenance shall be secured by easements.

• To receive final inspection and acceptance of any project, or portion thereof, the following must be completed by the applicant and provided to the City:
  o Final stabilization must be achieved and all permanent SCMs must be installed and made functional, as determined by the Engineer.
  o An As-Built Certification, including As-Built Survey and Inspection, must be sealed, signed and dated by a Professional Engineer and a Professional Surveyor.
  o Copy of the complete and recorded Inspection and Maintenance Plan and Inspection and Maintenance Agreement.

• The property owner shall be responsible for ongoing inspections of SCMs regularly as described in the Inspection and Maintenance Plan and Inspection and Maintenance Agreement. The City or its authorized agent 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.

• Soil-disturbing activities shall not be permitted until a cash bond of five percent (5%) of the total project cost has been deposited with the City Finance Department.

• Violation of or noncompliance with any of the provisions of this Chapter shall be deemed to be a violation of the Zoning Code under Section 1105.99.