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Natural Stream Protection Policy City of Grove City, Ohio

**September 6, 2006
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Design Considerations

1. Except as noted herein, no natural open watercourses will be enclosed within a storm sewer when an area is developed. This policy will apply even when the open watercourse is located on a property line.
2. Exceptions may be granted by the Service Director for streams when the total tributary drainage area is less than ½ square mile, however, this shall not absolve the developer or property owner from complying with all applicable state and federal regulations.
3. If exceptions are granted on any project, it will be with the requirement that any enclosure will convey flow from the entire tributary drainage area up to the 10-year recurrence interval. A flood routing flow path must be provided through the development site for all storms greater than the 10-year recurrence interval. This flood routing path must be clearly shown on the site development plans. The applicant shall provide stormwater calculations for the proposed enclosure and flood routing to Grove City for approval. The enclosure shall not raise the flood elevations of upstream property owners.
3. For all natural open watercourses, a riparian setback will be required. The setback width will be defined by the following equation (taken from *Sizing Stream Setbacks to Help Maintain Stream Stability* by Andy Ward, et.al.) or the FEMA designated floodway, whichever is wider.

$$SW=129*(DA)^{0.43}$$

Where: SW=setback width measured in feet, centered on the watercourse
DA=Drainage area in square miles
(minimum SW = 25 feet)

The riparian setback must be clearly shown on the site development plans. The setback width determined from the preceding equation may be modified at the City's discretion to include known areas of environmental sensitivity in close proximity to watercourses.

Construction Requirements

The following conditions shall apply to all riparian setbacks:

- (a) Except as otherwise provided in this regulation, riparian setbacks shall be preserved in their natural state.
- (b) Prior to any soil disturbing activity, riparian setbacks shall be clearly delineated by the applicant or their designated representative on site, and such delineation shall be maintained throughout soil disturbing activity. The delineation must be submitted to the Service Director for review and approval prior to construction.
- (c) No later than the conclusion of construction, the applicant shall permanently delineate the riparian setback in an aesthetically harmonious manner, approved by the Service

- Director, such that the location of the setback is apparent to the casual observer and that permits access to the setback.
- (d) Language preventing Property Owners from constructing facilities and performing activities that are prohibited within the riparian setback shall be shown on the plat and reflected on all deeds.
 - (e) Land contained to the riparian setback may, at the applicant's option, be deeded in fee simple to the City of Grove City, pending City approval.
 - (f) The applicant shall obtain all necessary permits from the Army corps of Engineers, Ohio EPA, and other regulatory agencies. The applicant is responsible for all permitting fees.

Post Construction Requirements

1. Permitted uses. No use permitted under these regulations shall be construed as allowing trespass on privately held lands.
 - (i) Passive Uses. Uses that are passive in character shall be permitted in the riparian setback, including, but not limited to, passive recreational uses, as permitted by federal, state and local laws, such as hiking, fishing, picnicking, and similar uses. Construction of paved trails to further such passive recreation uses is also permitted. However, trails that become damaged due to natural erosion shall not be repaired but shall be moved upland or removed altogether.
 - (ii) Removal of Damaged or Diseased Trees. Damaged or diseased trees may be removed with the prior approval of the City's Urban Forester. Due to the potential for felled logs and branches to damage downstream properties and/or block watercourses or otherwise exacerbate flooding, logs and branches resulting from the removal of damaged or diseased trees that are greater than 6-inches in diameter at the cut end shall be cut into sections no longer than 6-feet, anchored to the shore or removed.
 - (iii) Revegetation and/or Reforestation. Revegetation and/or reforestation of the riparian setback using species pursuant to Table 1. Table 1 lists species of plants and shrubs recommended for stabilizing flood prone areas. Proper selection of species is dependent on soil conditions, available water and amount of sub exposure. Proper species selection will take into account these factors. Species selection should be coordinated with the City's Urban Forester.
 - (iv) Public Utilities. Sanitary sewer, storm sewer, and/or water lines and public utility transmission lines may be located within the riparian setback and disturbances of the setback necessary to place and/or maintain such utilities are also authorized. The placement, construction and maintenance of such utilities shall minimize disturbance to riparian areas and shall mitigate any necessary disturbances. The developer and/or landowner shall secure the appropriate state and federal permits required for installations of this type.
 - (v) Public Roadways. Public roadways may cross the riparian setback and disturbances of the setback necessary to place and/or maintain the roadways are authorized. The placement, construction and maintenance of the roadway shall minimize disturbance to riparian areas and shall mitigate any necessary disturbances. There shall be no more than two roadway crossings of the setback within any proposed development. The developer and/or landowner shall secure the appropriate state and federal permits required for installations of this type.
 - (vi) Construction activities associated with properly permitted stream restoration projects.
 - (vii) Disturbances resulting from permitted stream and/or wetland mitigation projects provided that mitigation is to offset impacts to local wetlands

- viii) Disturbances of the setback necessary to accomplish the uses described in paragraphs i through vii of this subsection are also authorized. However, all such disturbances shall be minimized and any necessary disturbances shall be mitigated.
2. Prohibited Uses. Any use not authorized under these regulations shall be prohibited in the riparian setback. By way of example, the following uses are specifically prohibited, however prohibited uses are not limited to those examples listed here:
- (i) Construction. There shall be no habitable structures of any kind.
 - (ii) Dredging or Filling. There shall be no drilling, filling, dredging, grading, or dumping of soils, spoils, liquid or solid materials. No floodplain fill permits will be granted for area within the riparian setback except those that are required for activities listed in iv above.
 - (iii) Motorized Vehicles. There shall be no use of motorized vehicles except as needed for activities associated with those listed in iv above.
 - (iv) Parking Lots. There shall be no parking lots or other human made impervious cover except as allowed above.
 - (v) Storm Water Detention Facilities. Storm water detention facilities may be located adjacent to, but not within the calculated riparian setback.
 - (vi) Stormwater Pipe Outfalls. Stormwater pipe outfalls shall be located outside the riparian setback and discharged into either a structural level spreader or a constructed open channel with appropriate protection from erosion.
 - (vii) Platted Lots. No part of any lot to be developed will be located within the riparian setback.
3. Maintenance of the Riparian Zone
- (i) Disturbance of Natural Vegetation. There shall be no disturbance of the natural vegetation at any time, including during construction of the remainder of the site, except for such conservation maintenance that the landowner deems necessary to control noxious weeds; for such plantings as are consistent with these regulations; for removal of invasive species and their replacement with native vegetation; and for the passive enjoyment, access, and maintenance of landscaping or lawns existing at the time of passage of these regulations except as need for activities associated with those listed above.
 - (ii) Recommended Vegetation for Stabilizing Flood Prone Areas. Proper selection of species for stabilization of flood prone areas is dependent on several factors, including soil conditions, available water and amount of sun exposure. Proper species selection and installation must account for these factors.

Table 1
Species Of Plants And Shrubs Recommended
For Stabilizing Flood Prone Areas

Riparian Corridor- Trees

<u>Botanical Name</u>	<u>Common Name</u>
<i>Acer spp.</i>	Maple(s)
<i>Betula nigra</i>	River Birch
<i>Carya spp.</i>	Hickory(s)
<i>Celtis occidentalis</i>	Common hackberry
<i>Cercis canadensis</i>	Eastern redbud
<i>Crataegus phaenopyrum</i>	Washington hawthorne
<i>Crateaegus crusgalli</i>	Cockspur hawthorne
<i>Fagus grandiflora</i>	Beech
<i>Fraxinus Americana</i>	White ash
<i>Gleditsia triacanthos</i>	Honeylocust
<i>Hamamelis virginiana</i>	Common witchhazel
<i>Liriodendron tulipifera</i>	Tulip poplar
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Platanus occidentalis</i>	Sycamore
<i>Populus deltoides</i>	Eastern cottonwood
<i>Prunus serotina</i>	Black cherry
<i>Quercus alba</i>	White oak
<i>Quercus palustris</i>	Pin oak
<i>Quercus rubra</i>	Red Oak
<i>Ulmus rubra</i>	Slipperty elm

Riparian Corridor- Shrubs

<u>Botanical Name</u>	<u>Common Name</u>
<i>Aronia melanocarpa</i>	Black chokeberry
<i>Cornus racemosa</i>	Gray dogwood
<i>Cornus stolonifera</i> *	Red-osier dogwood
<i>Lindera benzoin</i>	Spicebush
<i>Salix spp.*</i>	Willow(s)
<i>Sambucus canadensis</i>	Elderberry
<i>Viburnum dentatum</i>	Southern arrowwood
<i>Viburnum prunifolium</i>	Blackhaw viburnum
<i>Viburnum lentago</i>	Nannyberry viburnum
<i>Viburnum trilobum</i>	American cranberrybush

*Instream plantings for rapid shade cover and bank stabilization.

Table 2
Potential Species for Wetland Planting

Shrubs

<u>Botanical Name</u>	<u>Common Name</u>	<u>Indicator Status</u>
<i>Cephalanthus occidentalis</i>	Buttonbush	OBL
<i>Cornus racemosa</i>	Gray dogwood	FAC
<i>Cornus stolonifera</i>	Silky dogwood	FACW
<i>Hibiscus moscheutos</i>	Swamp mallow	OBL
<i>Rosa palustris</i>	Swamp rose	OBL
<i>Sambucus canadensis</i>	Elderberry	FACW
<i>Viburnum trilobum</i>	American cranberrybush	FACW

Herbs

<u>Botanical Name</u>	<u>Common Name</u>	<u>Indicator Status</u>
<i>Acorus calamus</i>	Sweetflag	OBL
<i>Asclepias incarnate</i>	Swamp milkweed	OBL
<i>Aster novae-angliae</i>	New England aster	OBL
<i>Carex sp.</i>	Sedge	FACW-OBL
<i>Eleocharis sp.</i>	Spike rush	OBL
<i>Iris versicolor</i>	Blue flag	OBL
<i>Juncus effuses</i>	Soft rush	FACW
<i>Leersia oryzoides</i>	Rice cut grass	OBL
<i>Lobelia siphilitica</i>	Great blue loebelia	FACW
<i>Peltandra virginica</i>	Arrow arum	OBL
<i>Sagittaria latifolia</i>	Broad-leaved arrowhead	OBL
<i>Scirpus atrovirens</i>	Green bulrush	OBL
<i>Scirpus validus</i>	Soft-stem bulrush	OBL