

## **ARTICLE V – PROTECTED WATERSHED STANDARDS**

### **Section 70-501. Protected Watershed Requirements**

- A. For any Regulated Activity within a protected watershed (High Quality or Exceptional Value), the applicant shall meet requirements as contained in 25 PA Code, Chapters 93 as required and applicable.
- B. Existing Resources and Site Analysis Plan. Shall be prepared to provide the developer and the Municipality with a comprehensive analysis of existing conditions both on the proposed development site and within 500 feet of the site. Conditions beyond the parcel boundaries may be described on the basis of existing published data available from governmental agencies and from aerial photographs. The Municipality shall review the plan to assess its accuracy, conformance with Municipal ordinances, and likely impact upon the natural and cultural resources on the property. The following information shall be required:
  1. Complete current perimeter boundary survey of the property to be subdivided or developed prepared by a registered surveyor, showing all courses, distances, and area and tie-ins to all adjacent intersections.
  2. A vertical aerial photograph enlarged to a scale not less detailed than one inch equals 400 feet, with the site boundaries clearly marked.
  3. Natural features, including:
    - a. Contour lines at intervals of not more than two feet. (Ten-foot intervals are permissible beyond the parcel boundaries, interpolated from USGS published maps.) Contour lines shall be based on information derived from a topographic survey for the property, evidence of which shall be submitted, including the date and source of the contours. Datum to which contour elevations refer and references to known, established benchmarks and elevations shall be included on the plan.
    - b. Steep slopes in the following ranges: 15% to 25%, 25% and greater. The location of these slopes shall be graphically depicted by category on the plan. Slope shall be measured over three or more two-foot contour intervals.
    - c. Areas within the floodway, flood fringe, and approximated floodplain.
    - d. Watercourses, either continuous or intermittent and named or unnamed, and lakes, ponds or other water features as depicted on the USGS Quadrangle Map, most current edition.
    - e. Wetlands and wetland margins.
    - f. Riparian buffers.
    - g. Soil types and their boundaries, as mapped by the USDA Natural Resource Conservation Service, including a table listing the soil characteristics pertaining to suitability for construction and, in un-sewered areas, for septic suitability. Alluvial and hydric soils shall specifically be depicted on the plan.
    - h. Existing vegetation, denoted by type, including woodlands, hedgerows, tree masses, tree lines, individual freestanding trees over six inches DBH, wetland vegetation, pasture or croplands, orchards, permanent grass land, old fields, and any other notable vegetative features on the site. Vegetative types shall be described by plant community, relative age, and condition.
    - i. Any identified Pennsylvania Natural Diversity Inventory (PNDI) site conflicts.
    - j. Geologic formations on the tract, including rock outcroppings, cliffs, sinkholes, and fault lines, based on available published information or more detailed data obtained by the applicant.

4. Existing man-made features, including:

- a. Location, dimensions, and use of existing buildings and driveways.
- b. Location, names, widths, center line courses, paving widths, identification numbers, and rights-of-way, of existing streets and alleys.
- c. Location of trails that have been in public use (pedestrian, equestrian, bicycle, etc.).
- d. Location and size of existing sanitary sewage facilities.
- e. Location and size of drainage facilities.
- f. Location of water supply facilities, including wellhead protection areas.
- g. Any easements, deed restrictions, rights-of-way, or any other encumbrances upon the land, including location, size, and ownership.
- h. Site features or conditions such as hazardous waste, dumps, underground tanks, active and abandoned wells, quarries, landfills, sandmounds, and artificial land conditions.

5. Total acreage of the tract, the adjusted tract area, where applicable, and the constrained land area with detailed supporting calculations.

C. Stormwater Management System Concept Plan. A written and graphic concept plan of the proposed post-development stormwater management system shall be prepared and include:

1. Preliminary selection and location of proposed structural stormwater controls;
2. Location of existing and proposed conveyance systems such as grass channels, swales, and storm drains;
3. Location of floodplain/floodway limits;
4. Relationship of site to upstream and downstream properties and drainages.
5. Preliminary location of proposed stream channel modifications, such as bridge or culvert crossings.

D. Consultation Meeting. Prior to any stormwater management permit application submission, the land owner or developer shall meet with the Municipality for a consultation meeting on a concept plan for the post-development stormwater management system to be utilized in the proposed project. This consultation meeting shall take place at the time of the preliminary plan or other early step in the development process. The purpose of this meeting is to discuss the post-development stormwater management measures necessary for the proposed project, as well as to discuss and assess constraints, opportunities and potential ideas for stormwater management designs before the formal site design engineering is commenced.

E. All proposed Regulated Activities within a protected watershed shall utilize, to the maximum extent possible, Low Impact Development Practices as contained in Appendix B.

1. SWM Plan and Report shall address the following:

- a. Design using nonstructural BMPs
  - i. Lot configuration and clustering.
    - (a) Reduced individual lot impacts by concentrated/clustering uses and lots
    - (b) Lots/development configured to avoid critical natural areas

- (c) Lots/development configured to take advantage of effective mitigative stormwater practices
  - (d) Lots/development configured to fit natural topography
- ii. Minimum disturbance
    - (a) Define disturbance zones (excavation/grading) for the site and individual lots to protect maximum total site area from disturbance
    - (b) Barriers/flagging proposed to protect designated non-disturbance areas
    - (c) Considered mitigative practices for minimal disturbance areas (e.g., Soil Restoration)
    - (d) Considered re-forestation and re-vegetation opportunities
  - iii. Reduce Impervious coverage
    - (a) Reduced road width
    - (b) Reduced driveway lengths and widths
    - (c) Reduced parking ratios and sizes
    - (d) Utilized porous surfaces for applicable features
  - iv. Stormwater disconnected from impervious area
    - (a) Disconnected drives/walkways/small impervious areas to natural areas
    - (b) Use rain barrels and/or cisterns for lot irrigation
- b. Apply structural BMP selection process that meets runoff quantity and quality needs.
- i. Manage close to source with collection with conveyance minimized
  - ii. Consistent with site factors (e.g., soils, slope, available space, amount of sensitive areas, pollutant removal needs)
  - iii. Minimize footprint and integrate into already disturbed areas/other building program components (e.g., recharge beneath parking areas, vegetated roofs)
  - iv. Consider other benefits such as aesthetic, habitat, recreational and educational benefits
  - v. BMP's select based on maintenance needs that fit owner/users
  - vi. BMP's sustainable using a long-term maintenance plan