Appendix P: Refined Watershed Management Standards

The District's Watershed Management Plan (Plan) imposes certain standards that must be incorporated into the official controls of local government units (LGUs) having land use planning and regulatory responsibility for any area within the District. The purpose is to bring local water management into conformance with the District's Plan. Refining the narrative text of the District's Plan into ordinance-type language for LGU official controls may understandably be difficult. To make this process easier, the following is an effort to define, clarify, refine, and simplify the District's existing eight regulatory standards in its Plan. See Section 3.0 of the Plan for the complete version of all eight standards.

DEFINITIONS

The following definitions apply to the District's standards and accompanying guidance materials.

Alteration or **Alter** when used in connection with public waters and wetlands, is any activity that will change or diminish the course, current or cross-section of public waters or wetlands.

Bluff is a topographic feature such as a hill, cliff, or embankment having all of the following characteristics:

A. Part or all of the feature is located in a shoreland area;

B. The slope rises at least 25 feet above the ordinary high water level of the waterbody;

C. The grade of the slope from the toe of the bluff to a point 25 feet or more above the ordinary high water level averages 30 percent or greater; and

D. The slope must drain toward the waterbody.

Bluff impact zone is a bluff and land located within 20 feet from the top of a bluff.

Development and **Redevelopment** are (a) any change to existing conditions of impervious and pervious surfaces where the net change is an increase in impervious surface of 1 acre or more, or (b) any change in the use of property or the physical alteration of property that alters the drainage pattern of the property or causes an increase in pollutants in storm water runoff from the property.

Impervious surface is a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. An impervious surface must be calculated on a site-specific basis.

Land disturbing activity is any disturbance to the ground surface that may result in soil erosion and the movement of sediments into waterbodies or wetlands within the watershed. Land-disturbing activity includes, but is not limited to, the demolition of a structure or surface, soil stripping, clearing, grubbing, grading, excavating, filling, and the storage of soil or earth materials. This includes a disturbance to the land that results in a change in the topography, existing soil cover, or vegetation that may result in accelerated storm water runoff that may lead to soil erosion and movement of sediment. This term does not include normal farming practices as part of an ongoing farming operation.

Overlay District is a district established by LMRWD standards/regulations that may be more or less restrictive than the primary District's standards/regulations. Where a property is located within an overlay district, it is subject to the provisions of both the primary standards/regulations and those of the overlay district.

Shoreland District is an overlay district with the LMRWD.

Shoreline is the lateral measurement along the contour of the ordinary high water mark of waterbodies other that watercourses, and the top of the bank of the channel of watercourses, and the area water ward thereof.

Steep slope is land where agricultural activity or development is either not recommended or described as poorly suited due to slope steepness and a site's soil characteristics, as mapped and described in available county soil surveys or other technical studies, unless appropriate design and construction techniques and farming practices are used in accordance with the provisions of these regulations. Where specific information is not available, steep slopes are lands having average slopes over 12 percent, as measured over horizontal distances of 50 feet or more, and that are not bluffs.

Streambank consists of the terrain alongside the bed of a river, creek, or stream and sides of the channel, between which the flow is confined. The grade of the bank can vary from vertical to a shallow slope.

Toe of bluff is the lower point of a 50-foot segment with an average slope exceeding 18 percent.

Toe of slope is the lowest part of an embankment slope. It is the point at which the front of the slope intersects with the natural ground line.

Top of bluff is the higher point of a 50-foot segment with an average slope exceeding 18 percent.

Waterbody is a watercourse or water basin.

Water basin is an enclosed natural depression with definable banks, capable of retaining water.

Watercourse is a natural or improved channel (such as a stream, ditch, or ravine) with definable beds and banks capable of conducting confined runoff from adjacent land.

STORMWATER MANAGEMENT STANDARD

A. Regulated activity: Development, redevelopment, and drainage alterations (including roads)

B. Regulatory threshold: The disturbance of 1 acre or greater triggers the imposition of the standards below.

C. Standards:
   1. Rate:
      a. New development: The storm water runoff rate for new development shall not exceed the predevelopment rate for anything less than a 24-hour precipitation event with a return frequency of 1- or 2-, 10- and 100-years.
      b. Redevelopment: The storm water runoff rate for redevelopment shall not exceed the existing runoff rate for anything less than a 24-hour precipitation event with a return frequency of 1- or 2-, 10- and 100-years.
      c. Where stormwater facilities are used, stormwater management easements shall be provided for (1) access for inspections and maintenance and (2) preservation of stormwater runoff conveyance, infiltration, and detention areas, facilities, and overflow routes.
      d. The project must comply with the MPCA's General Permit for Construction Activities.
   2. Volume:
      a. The project must comply with the MPCA's General Permit for Construction Activities' requirements for stormwater runoff volume retention.
      b. Volume control credits, as specified in Section 3.0 of the Plan, can be used.
      c. Maintenance and Easement
         i. All storm water management structures and facilities must be designed for maintenance access and properly maintained in perpetuity so that they continue to function as designed.
         ii. A maintenance plan shall be developed for every storm water management facility. The maintenance plan shall identify and protect the design, capacity, and functionality of onsite and offsite storm water management facilities, and specify the methods, schedule and responsible parties for maintenance.
         iii. The maintenance agreement shall be recorded with the County as part of the LWPA development approval process.
         iv. A public entity assuming maintenance obligation may submit a written executed agreement in lieu of the recorded maintenance agreement.
   3. Quality: The project must comply the MPCA's General Permit for Construction Activities and applicable TMDL implementation plans.

CONSTRUCTION EROSION CONTROL STANDARD

A. Regulated activity: Land disturbing activity

B. Regulatory threshold: The disturbance of 1 acre or greater triggers the imposition of the standards below.

C. Standards:

1. The project must comply with the MPCA's General Permit for Construction Activities.
2. Stormwater conveyances features (channels and pipes) must be designed to 10-year design storm.

SHORELINE AND SHORELAND ALTERATION STANDARD

A. Regulated activity: Shoreline or streambank alteration

B. Regulatory threshold: Any alteration

C. Standards:

1. BIOENGINEERING: Wherever possible, bioengineering techniques shall be used in place of traditional engineered stabilization.
2. RETAINING WALLS: Retaining walls shall be used only when no adequate alternative exists. All retaining walls shall comply with Minn. Rule 6115.0211 Subp. 5.

STREAM AND LAKE CROSSING STANDARD

A. Regulated activity: Crossing of watercourses

B. Regulatory threshold: Any portion of a road, utility, or structure placed on the bed or bank of a waterbody.

C. Standards:

1. HYDRAULIC IMPACTS: Hydraulic capacity and water quality impact analysis completed by a qualified professional is required before placement of any road, utility, or structure.
2. TIMING: Construction must be timed to occur during no or low flow and to avoid spawning seasons.
3. CONSTRUCTION: Sizing and placement standards are required and consultation with DNR, the District and other regulatory agency staff is required if the waterbody is a designated trout water or water containing endangered or threatened species.

a) Minimum culvert width shall match or exceed stream bankfull width. Combined width of multiple culverts is satisfactory.

b) Culvert length shall extend beyond side slope toe.

c) The slope of any culvert shall match stream thalweg slope.

d) Culverts shall be buried one-sixth of their height.

e) When using multiple culverts or offset culvert invert, the fewest and largest multiples possible must be used. A minimum vertical separation of 1 foot is required between the lowest placed culvert and multiples.

f) Culvert alignment shall match stream alignment.

FLOODPLAIN AND DRAINAGE ALTERNATION STANDARD

A. Regulated activity: Alteration within floodplain and drainageways within the watershed.

B. Regulatory threshold: Any alteration or fill below the 100-year flood elevation.

C. Standards:

1. STORAGE: No filling is permitted in the floodplain without the provision of compensatory storage.

2. ELEVATION: The lowest ground level of any structure must be 2 feet above the 100-year level of the nearby surface waters or 1 foot above emergency overflow level for stormwater improvements, whichever is greater, unless they have protection through flood proofing or by another approved construction technique.

3. FLOODWAY: No permanent structure may be located within the floodway.

WATER APPROPRIATIONS STANDARD

A. Regulated activity: Surface or groundwater appropriation

B. Regulatory threshold: Issuance of a DNR appropriation permit (threshold is a minimum of 10,000 gallons per day or 1 million gallons per year)

C. Standards:

1. NOTICE: The effects of the proposed appropriation must be defined and a copy of any DNR appropriations permit must be provided to the District.

BLUFF STANDARD

A. Regulated activity: Land disturbing activity or addition of a structure

B. Regulatory threshold: Land disturbance or structure on a bluff

C. Standards:

1. BLUFF IMPACT ZONE/BLUFF FACE: No grading or vegetative removal is permitted in the bluff impact zone or on the bluff face unless minimum stabilization standards are met or an exception applies.

2. SETBACKS: Structures must be set back 30 feet from the top of bluff. SSTSs must be setback 50 feet from the top of the bluff. Stormwater infrastructure (ponds, swales, infiltration basins, and other soil saturation-type features) must be set back 50 feet from the top of the bluff.

3. APPROVED LWP: A local government unit (LGU) can identify certain bluffs in a mapped designated bluff area/Bluff Overlay District where land disturbing activities, development or redevelopment of land is allowed under certain conditions. The LGU will demonstrate to the District in its local water plan (LWP) that any bluff approved for land disturbing activity is not an ecologically sensitive resources.

4. LGU-SPONSORED PROJECTS: The LGU must demonstrate that the proposed activities on the bluff do not: (1) impact adjacent properties, (2) result in unstable slope conditions, and (3) result in the degradation of waterbodies from erosion, sedimentation, flooding, and other damage.

WETLAND AND VEGETATION MANAGEMENT STANDARD

A. Regulated activity: Alteration of wetland

B. Regulatory threshold: Alteration greater than 1,000 square feet in non-shoreland wetlands or greater than 400 square feet in shoreland wetlands

C. Standards:

1. WCA: All activities shall comply with the Wetland Conservation Act.

2. STORMWATER: Storage of stormwater is only permitted if the function and public value of the wetland is not impaired by the storage.

3. MITIGATION: All mitigation must follow WCA sequencing with the addition of "mitigation within the District boundary." For replacement wetlands, a 25-foot buffer is required for replacement wetlands less than 2 acres in size; all other replacement wetlands must have a 50-foot average buffer width and at no point have buffer width less than 25 feet.

4. FUNCTIONAL ASSESSMENT: A Minnesota Routine Assessment Methodology (MnRAM) functional assessment must be completed for each project delineated wetland.