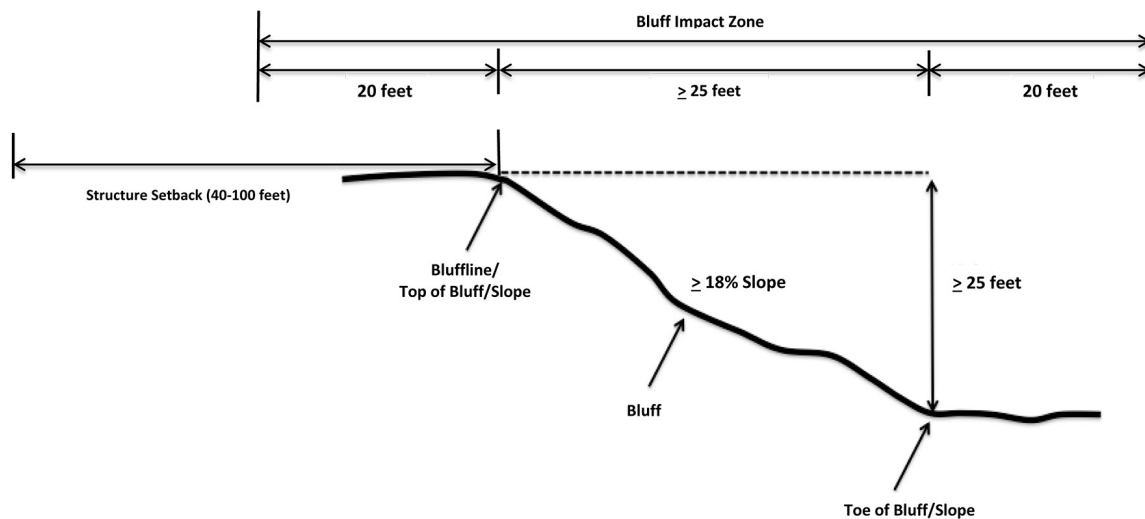


1 Definitions

Bluff is a natural topographic feature having:

- A. a slope that rises at least 25 feet above the ordinary high water level, or toe of the slope to the top of the slope, and the grade of the slope averages 18 percent or greater, measured over a horizontal distance of 25 feet, as follows:
 1. where the slope begins above the ordinary high water level, from the toe of the slope to the top of the slope; or
 2. where the slope begins below the ordinary high water level, from the ordinary high water level, or toe of the slope to the top of the slope averages 18 percent or greater, measured over a horizontal distance of 25 feet. See Figure 1.
- B. a natural escarpment or cliff with a slope that rises at least 10 feet above the ordinary high water level or toe of the slope, whichever is applicable, to the top of the slope, with a slope of 75 degrees or greater.

Figure 1: Bluff & Bluff Impact Zone



Bluff impact zone is the bluff and land within 20 feet of the bluff. See Figure 1.

Bluffline is a line delineating the top of the bluff. More than one bluffline may be encountered proceeding landward from the river. See Figure 1 and “top of bluff” as defined herein.

Building is a structure with two or more outside rigid walls and a fully secured roof that is affixed or secured to the earth by foundation, slab, or footing.

Certificate of Compliance is a document, written after a compliance inspection, certifying that the development is in compliance with applicable requirements at the time of the inspection.

Development and Redevelopment refer to:

- (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.

Fully reconstructs refer to the reconstruction of an existing impervious surface that involves site grading and subsurface excavation so that soil is exposed. Mill and overlay and other resurfacing activities are not considered fully reconstructed.

Intensive Vegetation Clearing is removal of all or a majority of the trees or shrubs in a contiguous patch, strip, row, or block.

Land alteration is an activity that exposes the soil or changes the topography, drainage, or cross section of the land, excluding gardening or similar minor soil disturbances.

Local Government refers to counties, cities, and townships.

Natural Vegetation is any combination of ground cover, understory, and tree canopy that, while it may have been altered by human activity, continues to stabilize soils, retain and filter runoff, provide habitat, and recharge groundwater.

Ordinary High Water Level is the boundary of water basins, watercourses, public waters, and public waters wetlands, and:

- (1) the elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;
- (2) for watercourses, the ordinary high-water level is the elevation of the top of the bank of the channel; and

(3) for reservoirs and flowages, the ordinary high-water level is the operating elevation of the normal summer pool.

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.

Primary conservation areas are key resources and features, including shore impact zones, bluff impact zones, floodplains, wetlands, gorges, areas of confluence with tributaries, natural drainage routes, unstable soils and bedrock, native plant communities, cultural and historic properties, significant existing vegetative stands, tree canopies, and other resources identified in local government plans.

Private facility refers to private roads, driveways, and parking areas; private water access and viewing facilities; decks and patios in setback areas, and private signs.

Public facility refers to public utilities, public transportation facilities, and public recreational facilities.

Setback is a separation distance measured horizontally.

Storm water refers to storm water runoff, snow melt runoff, and surface runoff and drainage. It includes the term "stormwater."

Storm water management facility refers to ponds, swales, infiltration basins, and other soil saturation-type features.

Structure is a building, sign, or appurtenance thereto, except for aerial or underground utility lines, such as sewer, electric, telephone, telegraph, or gas lines, and utility line towers, poles, and other supporting appurtenances.

Toe of Bluff is a line along the bottom of a bluff, requiring field verification, such that the slope above the line exceeds 18 percent and the slope below the line is 18 percent or less, measured over a horizontal distance of 25 feet. See Figure 1.

Top of Bluff is a line along the top of a bluff, requiring field verification, such that the slope below the line exceeds 18 percent and the slope above the line is 18 percent or less, measured over a horizontal distance of 25 feet. See Figure 1.

Water quality impact zone is land within the shore impact zone or within 50 feet of the boundary of a public water, wetland, or natural drainage way, whichever is greater.

2 Bluff Standard

2.1 Policy Statement

It is the policy of the District to:

- protect water quality from pollutant loadings of sediment, nutrient, bacteria and other contaminants.
- maintain stability of bluffs, shorelines, and other areas prone to erosion.
- sustain and enhance the biological and ecological functions of non-invasive vegetation.
- minimize impact to the Minnesota River Bluffs.
- preserve the natural character and topography of the Minnesota River Bluffs.

2.2 Regulatory Activity and Threshold

Land disturbing activities and other land alterations within and/or adjacent to Minnesota River bluff impact zones.

2.3 Standards

2.3.1 Structures Setback

- A. Structures and impervious surfaces must not be located in the bluff impact zone and must be setback a minimum of 40 feet from the bluffline.

2.3.2 General Development Standards for Public Facilities

All public facilities must be designed and constructed to:

- A. comply with structural setback in section 2.3.1.
- B. be consistent with the vegetation management, land alteration, and storm water management standards below, including use of practices identified in Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-001 where applicable.
- C. avoid primary conservation areas, unless no alternative exists. If no alternative exists, then disturbance to primary conservation areas must be avoided to the greatest extent practicable, and design and construction must minimize impacts.

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- D. minimize disturbance of spawning and nesting times by scheduling construction at times when local fish and wildlife are not spawning or nesting.

Right-of-way maintenance for public facilities is subject to the following requirements:

- A. vegetation currently in a natural state must be maintained to the extent feasible.
- B. where vegetation in a natural state has been removed, native plants must be planted and maintained on the right-of-way.
- C. chemical control of vegetation must be avoided when practicable, but when chemical control is necessary, chemicals used must be in accordance with the rules, regulations, and other requirements of all state and federal agencies with authority over the chemical's use.

Buildings and parking associated with public recreational facilities, except as provided below, must not be placed within the bluff impact zone or shore impact zone.

Roads and driveways associated with public recreational facilities must not be placed in the bluff impact zone or shore impact zone, unless no other placement alternative exists. If no alternative exists, then design and construction must minimize impacts to shoreline vegetation, erodible soils and slopes, and other sensitive resources.

Trails, access paths, and viewing areas associated with public recreational facilities providing access to the Minnesota River are allowed within the bluff impact zone or shore impact zone if design, construction, and maintenance methods are consistent with the best management practice guidelines in the Trail Planning, Design, and Development Guidelines of the Minnesota Department of Natural Resources.

- A. Hard-surface trails are not allowed on the face of bluffs with a slope exceeding 30 percent. Natural surface trails are allowed, provided they do not exceed 8 feet in width.
- B. Trails, paths, and viewing areas must be designed and constructed to minimize disturbance to and fragmentation of primary conservation areas.

2.3.3 General Development Standards for Private Facilities

All private facilities must be developed in accordance with the land alteration, vegetation, and storm water management requirements below. Except as indicated below, private roads, driveways, and parking areas must:

- A. be designed and constructed to take advantage of natural vegetation and topography so that they are not readily visible.

- B. comply with structure setback requirements.
- C. not be placed within the bluff impact zone or shore impact zone, unless indicated below.

Decks and at-grade patios may be allowed to encroach into the required setbacks from the ordinary high water level and blufflines without a variance, provided that:

- A. the encroachment of the deck or patio into the required setback area does not exceed 15 percent of the required structure setback.
- B. the area of the deck or patio that extends into the required setback area occupies no more than 25 percent of the total area between the required setback and the 15 percent allowance, using the formula below:

[required setback depth (feet) x 0.15 x lot width (feet) x 0.25 = maximum total area]

- C. the deck or patio does not extend into the bluff impact zone.

2.3.4 Vegetation Management Standards

This part applies to:

- A. shore impact zones.
- B. areas within 50 feet of a wetland or natural drainage way.
- C. bluff impact zones.
- D. areas of native plant communities.

Intensive vegetation clearing is prohibited, except for the following activities:

- A. clearing vegetation that is dead, diseased, dying, or hazardous.
- B. clearing to prevent the spread of diseases or insect pests.
- C. removal of invasive non-native species.
- D. the minimum necessary for development that is allowed as an exemption.

The following activities are allowed without regulatory review:

- A. selective vegetation removal, including removal for diseased or invasive non-native species.
- B. maintenance of existing lawns, landscaping, and gardens.
- C. removal of vegetation in emergency situations as determined by the local government.

- D. right-of-way maintenance for public facilities.

2.3.4.1 Criteria.

The following performance standards must be met, as part of the regulatory view process:

- A. Development is sited to minimize removal of or disturbance to natural vegetation;
- B. Soil, slope stability, and hydrological conditions are suitable for the proposed work as determined by an appropriate licensed professional or resource agency;
- C. Any native plant communities removed are replaced with vegetation that provides equivalent biological and ecological functions. If replaced, priorities for restoration are stabilization of erodible soils, restoration or enhancement of shoreline vegetation, and revegetation of bluffs visible from the river;
- D. All other vegetation removed is restored with natural vegetation to the greatest extent practicable. Priorities for replacement are the same under item C;
- E. Any disturbance of highly erodible soils is replanted with deep-rooted vegetation with a high stem density;
- F. Vegetation removal activities are conducted to expose the smallest practical area of soil to erosion for the least possible time; and
- G. Other conditions as determined necessary by the local government unit and District.

2.3.4.2 Vegetation restoration plan requirements.

The vegetation restoration plan must:

- A. include vegetation that provides suitable habitat and effective soil stability, runoff retention, and infiltration capability. Nearby patches of native plant communities must guide vegetation species, composition, density, and diversity;
- B. be prepared by a qualified individual; and
- C. include a maintenance plan that includes management provisions for controlling invasive species and replacement of plant loss for 3 years.

The local government must issue a certificate of compliance after determining that the restoration requirements have been satisfied. Upon failure to comply, reestablishment of natural vegetation is required.

Native Vegetation Establishment and Enhancement Guidelines (BWSR, 2015 and as amended) must guide vegetation management and restoration activities.

2.3.5 Land Alteration

Within the bluff impact zone, land alteration is prohibited, except for the following:

- A. erosion control with a plan approved by the local government or resource agency.
- B. the minimum necessary for development that is allowed as an exemption.
- C. repair and maintenance of existing buildings and facilities.

Within the water quality impact zone, land alteration that involves a volume of more than 10 cubic yards of material or affects an area greater than 1,000 square feet requires compliance with this standard.

2.3.5.1 *Rock riprap, retaining walls, and other erosion control structures.*

- A. Construction, repair, or replacement of rock riprap, retaining walls, and other erosion control structures located at or below the ordinary high water level must comply with the Minnesota Restoration of Public Waters Rules. The work must not proceed unless issued a Minnesota Department of Natural Resources work in public waters permit.
- B. Construction or replacement of rock riprap, retaining walls, and other erosion control structures within the bluff impact zone and the water quality impact zone are allowed provided that:
 - 1) if the project includes work at or below the ordinary high water level, the local permit is not approved according to item A.
 - 2) the structures are used only to correct an established erosion problem.
 - 3) the size and extent of the structures are the minimum necessary to correct the erosion problem.
- C. Repair of existing rock riprap retaining walls and other erosion control structures above the ordinary high water level is exempt, provided it does not involve any land alteration.

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- D. Nothing stated here shall be construed to waive any other permit requirements that are required by law.

2.3.5.2 *Conditions.*

- A. Temporary and permanent erosion and sediment control measures must retain sediment onsite consistent with best management practices in the Minnesota Stormwater Manual.
- B. Natural site topography, soil, and vegetation conditions must be used to control runoff and reduce erosion and sedimentation.
- C. Construction activity should be phased, when possible.
- D. All erosion and sediment controls must be installed before starting any land disturbance activity.
- E. Erosion and sediment controls shall be maintained to ensure effective operation through construction and will cease once the site reaches final stabilization.
- F. The proposed work must be consistent with vegetation management standards contained in this section.
- G. Best management practices for protecting and enhancing ecological and water resources identified in Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-001(2014 and as amended) shall implemented, where applicable regardless of project type.

2.3.6 Storm water management

In the bluff impact zone, storm water management facilities are prohibited, except if:

- A. there are no alternatives for storm water treatment outside the bluff impact zone on the site in question.
- B. the site generating runoff is designed so that the amount of runoff reaching the bluff impact zone is reduced to the greatest extent practicable.
- C. the construction and operation of the facility does not affect the slope stability on the subject property or adjacent properties.
- D. mitigation based on the best available engineering and geological practices is required and applied to eliminate or minimize the risk of slope failure.

In all other areas of the bluff, storm water runoff must be directed away from the bluff impact zone or unstable areas.

2.4 Exemptions

All exemptions in the shore impact zone (SIZ) and bluff impact zone (BIZ) are also subject to the vegetation management, the land alteration, and the storm water management requirements. In Table 1 below, "E" means the use is exempt; "(E)" means that the use is allowed only if no alternatives exist, and "N" means that the use is not exempt and must meet the bluff standard.

State or regional agencies, special purpose units of government, local park agencies, and local units of government with parks within their jurisdiction are not required to obtain a vegetation management or land alteration permit, but must apply the standards and criteria that would be applied.

Table 1: Exemptions to Bluff Standards

	Setback	SIZ	BIZ
Bridges and bridge approach roadways	E	E	(E)
Wireless communication facilities (towers)	E	N	N
Historic properties and contributing properties in historic districts (<i>Exemptions do not apply to additions or site alterations to historic buildings or structures</i>)	E	E	E
Public utilities			
Electrical power facilities	E	E	(E)
Essential services (other than storm water facilities)	E	E	(E)
Storm water facilities	E	E	(E)
Wastewater treatment	E	E	N
Public transportation facilities	E	(E)	(E)
Public recreational facilities			

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	Setback	SIZ	BIZ
Accessory structures, such as monuments, flagpoles, light standards, and similar park features <i>within BIZ, only on slopes averaging less than 30 percent. Exemptions do not apply to principal buildings</i>	E	(E)	(E)
Picnic shelters and other open-sided structures	E	(E)	N
Parking areas <i>within BIZ, only within 20 feet of toe of bluff; not on face of bluff; and must not affect stability of bluff.</i>	(E)	(E)	(E)
Roads and driveways	(E)	(E)	(E)
Natural-surfaced trails, access paths, and viewing areas	E	E	E
Hard-surfaced trails and viewing Platforms <i>within BIZ, only on slopes averaging less than 30 percent.</i>	E	E	(E)
River-dependent uses			
Shoreline facilities <i>(Exemptions do not apply to buildings, structures, and parking areas that are not part of a shoreline facility)</i>	E	E	(E)
Private roads and conveyance structures serving river-dependent uses	E	E	(E)
Private residential and commercial water access and use facilities			

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	Setback	SIZ	BIZ
Private roads serving 3 or more lots <i>(In BIZ, only on slopes averaging less than 30 percent. Exemption does not apply to private roads serving fewer than 3 lots or to private driveways and parking areas)</i>	(E)	N	(E)
Access paths	E	E	E
Water access ramps	E	E	N
Stairways, lifts, and landings	E	E	E
Water-oriented accessory structures	E	E	N
Patios and decks	E	N	N
Directional signs for watercraft (private) <i>(exemption does not apply to off-premise advertising signs)</i>	E	E	N
Temporary storage of docks, boats, and other equipment during the winter months	E	E	N
Erosion control structures, such as rock riprap and retaining walls	E	E	(E)
Flood control structures	E	E	(E)