

CHAPTER 6: NATURAL AND ENVIRONMENTAL RESOURCES

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6.01 River and Stream Corridor Resources

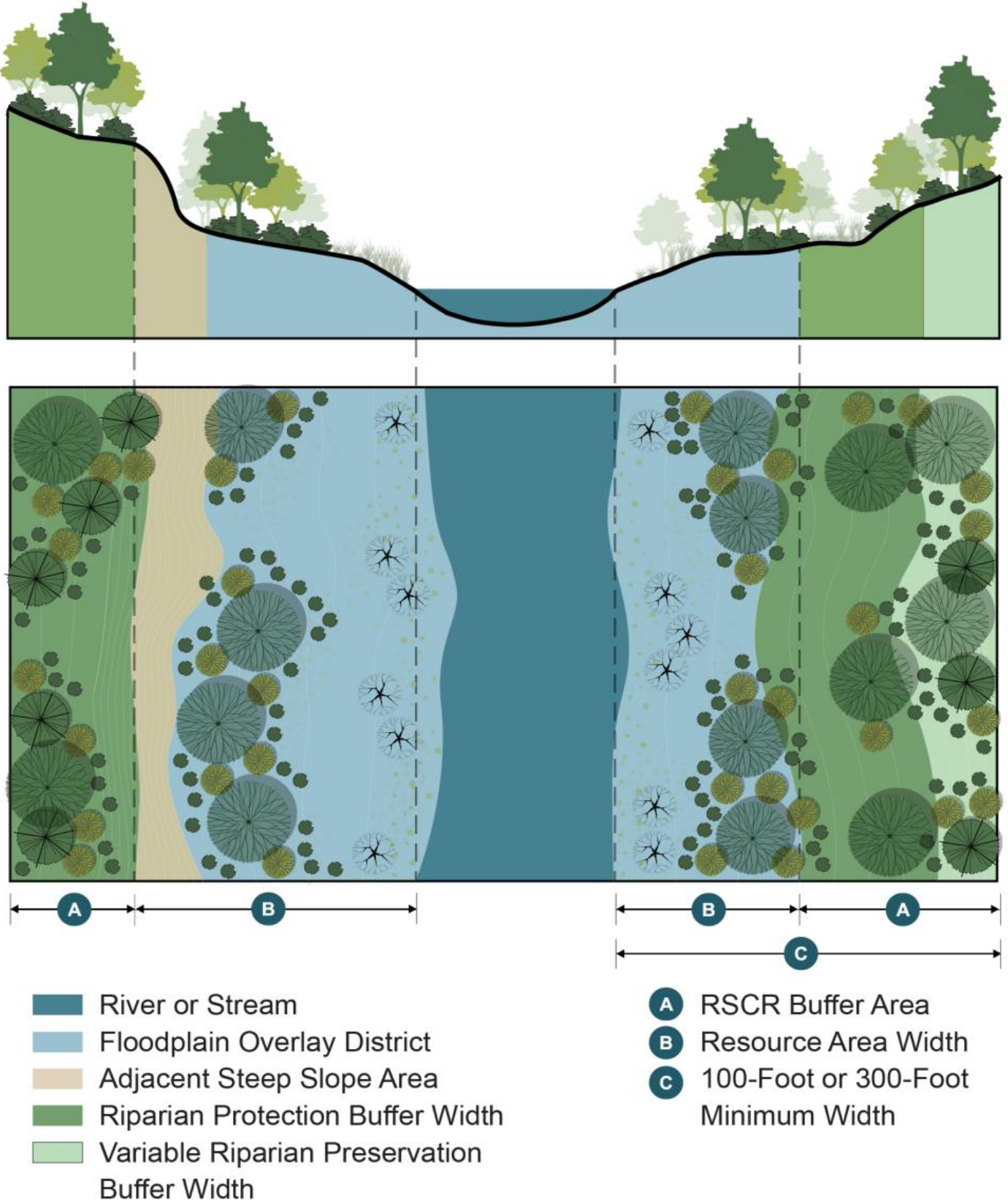
Purpose. The purpose of this section is to identify, establish, and regulate River and Stream Corridor Resources (RSCR) in order to:

- Protect natural ecosystems, restore water quality, serve Loudoun's population, and support the built environment through healthy surface and groundwater resources;
- Maintain a healthy river and stream corridor ecosystem that promotes desired water quality standards, prevents soil erosion and flooding, and supports biological diversity;
- Promote river and stream health through streambank/streambed stability, temperature moderation, nutrient removal, sediment removal, flood control, and sustained aquatic habitat and food resources;
- Protect and improve stream quality and watershed health by decreasing the amount of stormwater runoff and pollutants from reaching local waters;
- Protect and enhance impaired streams and their tributaries to improve water quality and provide ecological benefits while also providing opportunities for passive recreation;
- Protect rivers and public drinking water reservoirs to ensure a clean, safe, and adequate supply of drinking water; and
- Conserve and protect wildlife habitats, wildlife travel corridors, and access to streams and water sources through the preservation of natural resources, such as native vegetation, forest cover, woodlands, floodplains, streams and stream corridors, wetlands, and undeveloped steep slopes and defined associated areas.

A. Applicability.

1. **Areas of Applicability.** River and Stream Corridor Resources (RSCR) applies to the full width of the Resource Area Width, which is composed of applicable Floodplain Overlay District (FOD) and Steep Slope Areas, and the applicable RSCR Buffer Area, as determined in accordance with Section 6.01.C. Refer to Figure 6.01-1.
2. **Uses or Activities Not Subject to Section 6.01.** Covered Activities are subject to Section 6.01. **Exception.** Bona Fide Agriculture (not including any structure) pursuant to Section 4.08.01 is not subject to Section 6.01.

Figure 6.01-1. River and Stream Corridor Resources



- B. Uses and Activities.** Covered Activities allowed within the RSCR Buffer Area are provided under Section 6.03.
- Exception for Single Dwelling Unit on Existing Legal Lot.** On any legal lot existing as of the adoption date of this Zoning Ordinance, up to 1 single-family dwelling and an accessory unpaved or permeable surfaced and maintained driveway or parking area, and/or detached garage are permitted within the RSCR Buffer Area, pursuant to Section 6.04. Such exception does not apply to the conversion of such dwelling to any other use.
 - Existing Structures.** Existing structures within the RSCR Buffer Area are not considered nonconforming, however, additions must not increase the total footprint of the structure by more than 25% and are subject to Section 6.04. If destroyed by fire or casualty, any such structures may be rebuilt to the same footprint, subject to Section 6.04.
- C. Determining the Width of the RSCR.** The RSCR must be provided in accordance with Table 6.01-1. Unless a property is located entirely within RSCR, any RSCR Buffer Area located beyond the applicable minimum width of the RSCR in Table 6.01-1 may be reduced in accordance with the following:
- ~~Such By providing an area(s) of revegetation must be contiguous to an existing naturally vegetated area.~~
 - ~~1. Revegetation must be provided elsewhere on the same property in an area that is equivalent in size to the area that the RSCR Buffer Area is reduced by; and contiguous to an existing naturally vegetated area; or~~
 - By retaining an existing forested area(s) outside of and adjacent to the RSCR Buffer Area in a Tree Conservation Area consistent with the FSM subject to approval by the Zoning Administrator.

Table 6.01-1. Determining the Width of the RSCR

| Minimum Width ² | Resource Area Width ² | RSCR Buffer Area | |
|---|---|---|---|
| | | Riparian Protection Buffer Width ¹ | Variable Riparian Preservation Buffer Width |
| For Scenic Rivers, the Potomac River, Bull Run, and Broad Run | | | |
| 300 ft | If the Resource Area Width is 250 ft or more | Additional 50 ft | None required |
| 300 ft | If the Resource Area Width is less than 250 ft | 50 ft | The remaining width needed to achieve the Minimum Buffer Width (300 ft) |
| For all Other Rivers and Streams | | | |
| 100 ft | If the Resource Area Width is 50 ft or more | Additional 50 ft | None required |
| 100 ft | If the Resource Area Width is less than 50 ft | 50 ft | The remaining width needed to achieve the Minimum Buffer Width (100 ft) |

TABLE KEY:

ft = feet

TABLE NOTES:

- The addition of the required Riparian Protection Buffer width (50 feet) to the Resource Area Width may result in a total RSCR width that is greater than the Minimum Buffer Width.
- Widths apply along the entire length of, and are measured outward from, the Ordinary High Water Mark of rivers, streams, and other waterbodies.

- D. Approval of Limited Uses in the RSCR Buffer Area.** The Zoning Administrator may permit the following uses in any RSCR Buffer Area located beyond the applicable minimum width of the RSCR in Table 6.01-1, subject to any applicable standards under Section 6.04:
- Bus stations or Transit or bus shelter structures requiring 1,000 square feet of land disturbance or less;

2. A structure accessory to a principal use or activity permitted in the RSCR Buffer Area under Table 6.03-1; and
 3. Parking for publicly accessible trails or publicly accessible Passive Recreation or publicly accessible Community Open Space.
- E. **Development and Land Disturbance Standards.** Covered activities allowed within Adjacent Steep Slopes and/or the RSCR Buffer Area are subject to Section 6.04. The permanent or temporary diversion of any Scenic River is prohibited, except as required for any public utility or for any road crossing identified in the Countywide Transportation Plan.
- F. **Additional RSCR Specific Procedures.** Additional RSCR specific procedures are provided under Section 10.01.F.2.f.

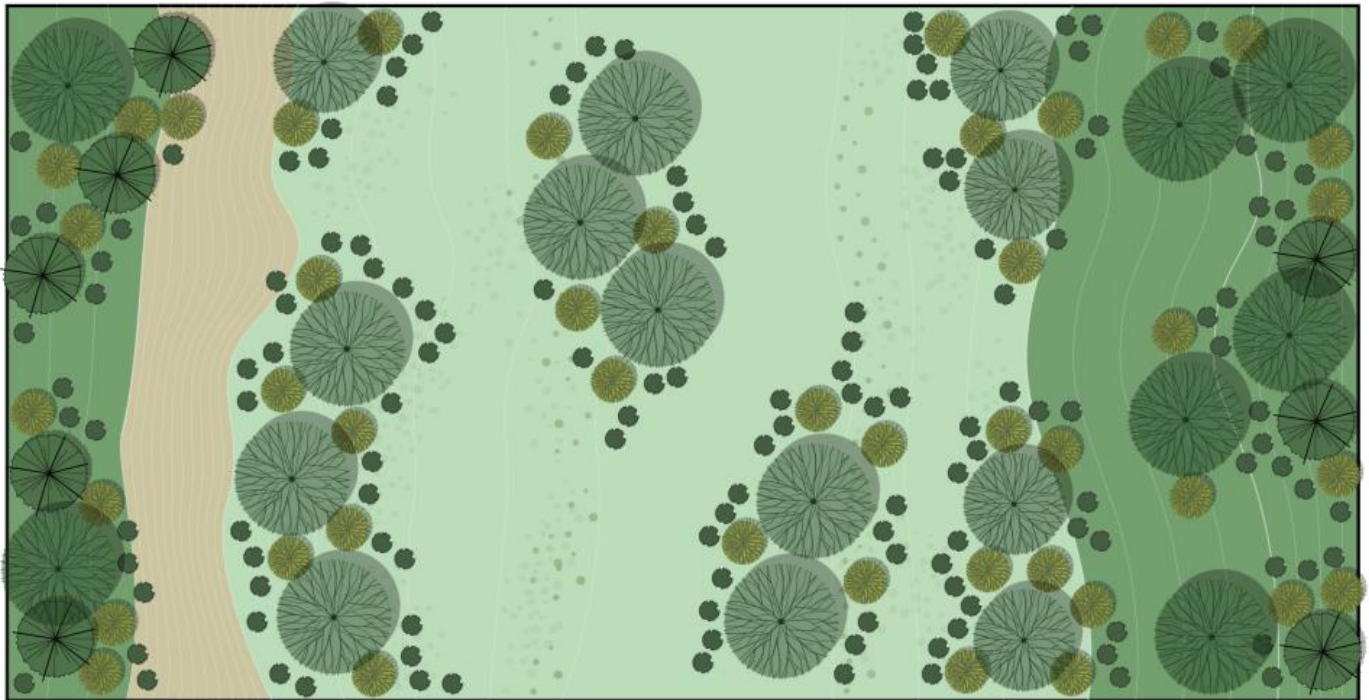
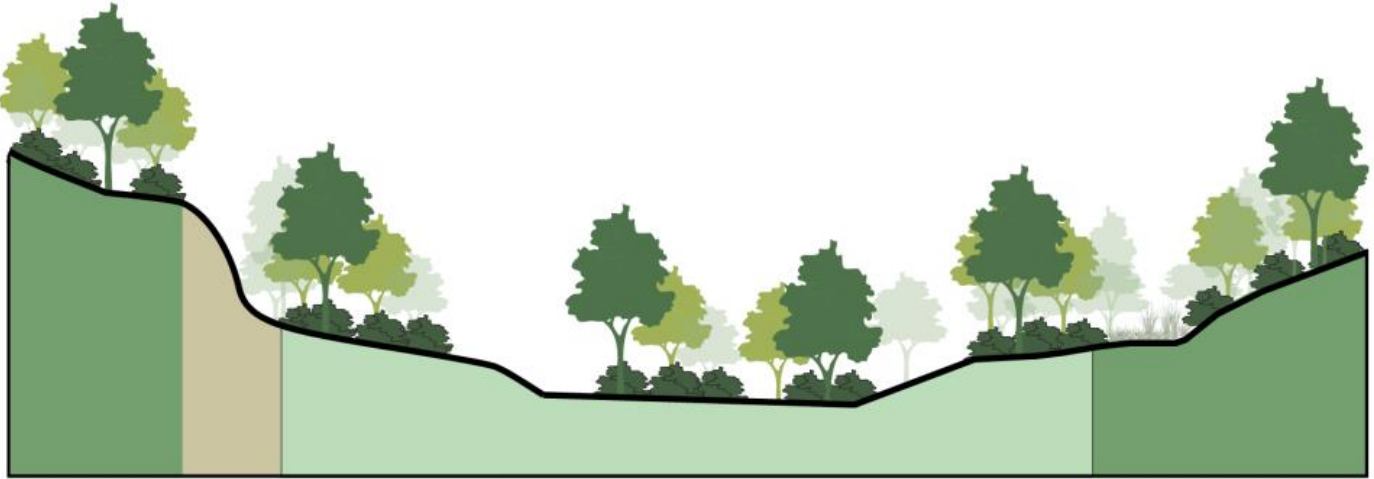
6.02 Steep Slope Areas

Purpose. *The purpose of these regulations for Steep Slope Areas is to limit land disturbing activities on naturally occurring very steep slope areas greater than 25% and to establish performance standards for development on steep slope areas of 15% or greater, in order to promote the following:*

- *Undertake development in a manner that will protect life and property from hazards due to slope, unstable and erodible soils, earth movement, and other geologic and hydrologic hazards;*
- *Reduce potential for increased erosion, sedimentation, and surface runoff, and the resulting adverse impacts on water quality;*
- *Promote a safe means of ingress and egress for vehicular and pedestrian traffic in sloped areas;*
- *Preserve the visual quality of steep slope areas, which are a valuable natural and economic resource; and*
- *Encourage innovative and imaginative building techniques to create structures and Site Plans that are suited to sloped terrain.*

- A. **Applicability.** Covered Activities within Steep Slope Areas are subject to Section 6.02. Exception. Bona Fide Agriculture (not including any structure) pursuant to Section 4.08.01 is not subject to Steep Slope Area Standards.
- B. **Establishment of Steep Slope Areas.**
1. **Identification of Steep Slope Areas.** Naturally occurring steep slope areas are classified into one of the following two categories: (refer to Figure 6.02-1):
 - a. Very Steep Slope Areas; and
 - b. Moderately Steep Slope Areas.

Figure 6.02-1. Steep Slopes



- Very Steep Slope Areas (greater than 25% slope)
- Moderately Steep Slope Areas (15% to 25% slope)
- Slopes less than 15%

2. Minimum Size of Steep Slope Area.

- a. For the following Zoning Districts and Legacy Zoning Districts under Chapter 2 of this Zoning Ordinance, Section 6.02 does not apply to contiguous steep slope areas that are less than 5,000 square feet in land area or less than 15 feet in width. Where the entire contiguous steep slope area is equal to or greater than 5,000 square feet in land area, but the total very steep slope area is less than

5,000 square feet in land area, the entire contiguous steep slope area is administered as a moderately steep slope area under Section 6.02.

1. Transition Zoning Districts in Section 2.03.
 2. Rural Zoning Districts in Section 2.04.
 3. Joint Land Management Area Zoning Districts in Section 2.05.
 4. The following Legacy Zoning Districts: TR-2 (Section 2.03.05.01), JLMA-20 (Section 2.05.02.01), A-3. (Section 2.04.03.02), A-10 (Section 2.04.03.01), and PD-RV (Section 2.04.03.05).
- b. For the following Zoning Districts and Legacy Zoning Districts under Chapter 2 of this Zoning Ordinance, Ordinance, Section 6.02 does not apply to contiguous steep slope areas that are less than 10,000 square feet in land area, or less than 15 feet in width. Where the entire contiguous steep slope area is equal to or greater than 10,000 square feet in land area, but the total very steep slope area is less than 10,000 square feet in land area, the entire contiguous steep slope area is administered as a moderately steep slope area under Section 6.02.
1. Urban Zoning Districts in Section 2.01.
 2. Suburban Zoning Districts in Section 2.02.
 3. The following Legacy Zoning Districts: PD-H (Section 2.02.05.06), PD-AAAR (Section 2.02.05.10), R-1, R-2, R-3 (Section 2.02.05.01), and PD-CC (Section 2.02.05.07).
- c. For purposes of calculating the total land area of contiguous steep slopes in Sections 6.02.b.2.a. and 6.02.b.2.b. above, the entire contiguous steep slope area must be included, regardless of the number of individual lots or different land ownerships involved.

C. Uses and Activities.

1. **General Prohibition on Land Disturbance in Very Steep Slope Areas.** Land disturbing activities, including but not limited to clearing, excavation, grading, construction, reconstruction, and investigative land disturbing activities such as test wells, are prohibited in very steep slope areas, except as permitted under Table 6.03.
2. **Permitted Uses and Activities.** Covered Activities allowed within Steep Slope Areas are provided under Section 6.03. **Exception.** On any legal lot existing as of June 16, 1993, up to 1 single-family dwelling and an accessory unpaved or permeable surfaced and maintained driveway or parking area, and/or detached garage are permitted within Steep Slope Areas, pursuant to Section 6.04. Such exception does not apply to the conversion of such dwelling to any other use.

- D. **Development and Land Disturbance Standards.** Covered activities allowed within steep slope areas are subject to Section 6.04.

6.03 NER Uses and Activities

- A. **Uses and Activities.** Table 6.03-1 provides the ~~Covered Activities~~covered activities allowed in Natural and Environmental Resources (NER) and indicates the ~~Development Standards~~development standards under Section 6.04 to which such ~~Covered Activities~~covered activities are subject.
- B. A ~~Covered Activity~~covered activity indicated in Table 6.03-1 as "P" is administered as follows:
 1. Is permitted in NER if such ~~Covered Activity~~covered activity also is a permitted use in the underlying ~~Zoning District~~zoning district and any applicable ~~Overlay District~~overlay district and is in conformance with all other applicable regulations of the Zoning Ordinance; and
 2. Requires separate Special Exception approval pursuant to Section 10.11 in NER if such ~~Covered Activity~~covered activity is a Minor Special Exception or Special Exception use in the underlying ~~Zoning District~~zoning district or any applicable ~~Overlay District~~overlay district and must be in conformance with all other applicable regulations of the Zoning Ordinance."

- C. A ~~Covered Activity~~covered activity indicated in Table 6.03-1 as "S" requires separate Special Exception approval pursuant to Section 10.11 in NER regardless of whether such ~~Covered Activity~~covered activity is a permitted, Minor Special Exception, or Special Exception use in the underlying ~~Zoning District~~zoning district or any applicable ~~Overlay District~~overlay district and must be in conformance with all other applicable regulations of the Zoning Ordinance.
- D. ~~Covered Activities~~activities not indicated as "P" or "S" in Table 6.03-1 are prohibited in NER.

Table 6.03-1. Natural and Environmental Resource Standards

| | | RSCR Buffer Area | Very Steep Slope Areas (non-RSCR) and RSCR Adjacent Steep Slopes | Moderately Steep Slope Areas | Section 6.04 Development Standards |
|--------------------------------------|--|------------------|--|------------------------------|--------------------------------------|
| Uses and Activities | | | | | |
| Infrastructure | | | | | |
| 1 | Crossings (including boardwalks, culverts, bridges, and tunnels that completely span the NER) for driveways and public shared-use paths, trails, roads, and rail | P | P | P/S ^{1,2} | Section 6.04.A. Section 6.04.C.1 |
| 2 | Public water supply reservoirs, including reclaimed quarries | P | P | | Section 6.04.A. |
| 3 | Minor utilities <u>and utility lines</u> not associated with Public Water or Public Sewer | P | P | | Section 6.04.A. Section 6.04.B.1. |
| 4 | Stormwater Management Improvements ³ | P | | | Section 6.04.A. |
| 5 | Roads | P | P | | Section 6.04.A. Section 6.04.B.1. |
| 6 | Shared-use paths | P | P | | Section 6.04.A. Section 6.04.B.1 |
| 7 | Driveways | P | P | | Section 6.04.A. Section 6.04.B.1. |
| 8 | Minor utilities <u>Utility lines</u> associated with Public Water or Public Sewer only | P | P | | Section 6.04.A. Section 6.04.B.2. |
| 9 | Water lines serving an individual water supply system or Septic lines serving an individual sewage disposal system | | P | | Section 6.04.A. Section 6.04.B.1. |
| Recreation | | | | | |
| 10 | Community Park, Passive Park, or Regional Park ⁴ | S | S | | Section 6.04.A. |
| 11 | Passive recreational uses, outdoor limited to hiking, biking, horseback riding, picnicking, camping, climbing, hunting, fishing, and wildlife viewing ⁵ | P | P | | Section 6.04.A. |
| 12 | Active Recreation ⁶ | P | | | Section 6.04.A. |
| 13 | Recreation Establishment, Outdoor ⁷ | | S | | Section 6.04.A. |
| 14 | Manmade Public Lakes and ponds | P | | | Section 6.04.A. |
| 15 | Public Trails | P | P | | Section 6.04.A. Section 6.04.C.1 |
| Conservation and Preservation | | | | | |
| 16 | Planting Native Vegetation | P | P | | Section 6.04.A. |

Table 6.03-1. Natural and Environmental Resource Standards

| | | RSCR Buffer Area | Very Steep Slope Areas (non-RSCR) and RSCR Adjacent Steep Slopes | Moderately Steep Slope Areas | Section 6.04 Development Standards |
|---------------------|--|------------------|--|------------------------------|--------------------------------------|
| 17 | Removal of Invasive Plant Species | P | P | | Section 6.04.A. |
| 18 | Historic and archaeological sites | P | P | | Section 6.04.A. |
| 19 | Conservation, including stream restoration projects, wetland mitigation banks, conservation facilities and activities; Adopt-A-Stream programs; scientific monitoring, nature preserves, archaeological studies; and educational programs | P | P | | Section 6.04.A. |
| 20 | Open space, and Conservation Easements | P | P | | Section 6.04.A. |
| Agriculture | | | | | |
| 21 | Silviculture not otherwise exempt under Sections 6.01 or 6.02 | P | | | Section 6.04.A. Section 6.04.C.2 |
| 22 | Agriculture, not otherwise exempt under Sections 6.01 or 6.02 (but not structures such as, but not limited to dams) | P | | | Section 6.04.A. Section 6.04.C.2 |
| 23 | Agricultural structures (not including dams) when no other alternatives are feasible or available | S | S | | Section 6.04.A. |
| Other/Miscellaneous | | | | | |
| 24 | Limited land-disturbing activity for the sole purpose of surveying and land investigation, including any studies required by the FSM. | | P | | Section 6.04.A. Section 6.04.B.3. |
| 25 | Expansion of Commercial Uses and their associated structures existing as of June 16, 1993, when no other alternatives are feasible or available | | S | | Section 6.04.A. |
| 26 | In any Suburban Zoning District in Section 2.02 or Single-Family Residential Legacy Zoning District in Section 2.02.05, land disturbance less than 5,000 square feet within adjacent steep slopes or very steep slope areas when associated with a use that is listed as a Permitted use in the underlying Zoning District and any applicable Overlay District | | S | | Section 6.04.A. |

TABLE NOTES:

¹In the RSCR Buffer Area. Uses for Moderately Steep Slope Areas within the RSCR Buffer Area are administered the same as uses for the RSCR Buffer Area.

²Outside the RSCR Buffer Area. Principal and accessory uses in Moderately Steep Slope Areas outside the RSCR Buffer Area are allowed only to the extent such uses are allowed by the underlying zoning district and any other applicable Overlay District and are in conformance with all other applicable regulations of the Zoning Ordinance. Separate Special Exception approval pursuant to Section 10.11 is required for uses that are subject to Special Exception or Minor Special Exception approval by the underlying zoning district or any applicable Overlay District.

³Stormwater Management Improvements are permitted in the RSCR Buffer Area associated with the Minor Floodplain area only.

⁴The Community Park, Passive Park, or Regional Park must uniquely require a site located within the RSCR Buffer Area, Adjacent Steep Slopes, or a Very Steep Slope Area, and must demonstrate that the proposed use is not compatible with a site that lacks RSCR or very steep slope areas.

⁵Motorized recreation is not permitted.

⁶Active Recreation is permitted in the RSCR Buffer Area associated with the Minor Floodplain area only.

⁷The Recreation Establishment, Outdoor must uniquely require a site located within RSCR Adjacent Steep Slopes or Very Steep Slope areas and

Table 6.03-1. Natural and Environmental Resource Standards

| | RSCR Buffer Area | Very Steep Slope Areas (non-RSCR) and RSCR Adjacent Steep Slopes | Moderately Steep Slope Areas | Section 6.04 Development Standards |
|--|------------------|--|------------------------------|------------------------------------|
|--|------------------|--|------------------------------|------------------------------------|

must demonstrate that the proposed use is not compatible with a site that lacks RSCR or very steep slope areas.

6.04 Development Standards

- A. **General Development Standards.** Covered ~~Activities~~activities permitted within the River and Stream Corridor Resources (RSCR) Buffer Area, Very Steep Slope Areas, or Moderately Steep Slope Areas must be planned to minimize disturbance to soil geology, hydrology, and environmental features. At a minimum, except for the development of roads shown on the Countywide Transportation Plan, and public water utility drinking water supply reservoirs, including reclaimed quarries, all ~~Covered Activities~~covered activities on any parcel of land that includes RSCR Buffer Areas or Steep Slope Areas within its boundaries must comply with Table 6.04-1, and Sections 6.04.B. and 6.04.C., if applicable.

Table 6.04-1. General Development Standards

| | Standard | RSCR (Buffer Area Only) | Very Steep Slope Areas | Moderately Steep Slope Areas |
|---|--|--|---|------------------------------|
| 1 | Locational Clearance | A locational clearance must be obtained from the Department of Building and Development that identifies any RSCR, Very Steep Slope Areas, and Moderately Steep Slope Areas within the proposed area to be disturbed, and the location and extent of land disturbing activities and mitigation measures, including any proposed building sites, paved areas, drainfields, wells, and other uses. | | |
| 2 | Stormwater Management Improvements | Stormwater management improvements and erosion and sediment control practices are required for all land disturbing activity in accordance with Chapter 1220 and Chapter 1096 of the Codified Ordinances, notwithstanding the exceptions listed in the respective definitions of "land disturbing activity" in Chapter 1220 and Chapter 1096, and the <u>Facilities Standards Manual, (FSM)</u> , and such practices must be approved by the Department of Building and Development prior to approval of a Zoning Permit. | | |
| 3 | Grading Permit | A grading permit is required for all land disturbing activity in accordance with Chapter 1220 of the Codified Ordinances, notwithstanding the exceptions listed in the definition of "land disturbing activity" in Chapter 1220, and the FSM. | | |
| 4 | Permeable Surfaces | Other than identified roads identified by the Countywide Transportation Plan or fire apparatus access roads, all roads, paths, trails, driveways, and parking areas must use and maintain surfaces or paving materials that are permeable to stormwater. | | |
| 5 | Virginia Natural Heritage Resources | Virginia Natural Heritage Resources must be identified on a site, and any proposed Covered Activities covered activities must demonstrate no disturbance or impact to any Natural Heritage Resources as verified by the Virginia Department of Conservation and Recreation. | | |
| 6 | Virginia Wildlife and Habitat | Wildlife and habitat listed in the Northern Virginia Planning Region of the Virginia Wildlife Action Plan must be identified on a site, and any proposed Covered Activities covered activities must demonstrate no disturbance or impact to any wildlife or habitat as verified by the Virginia Department of Wildlife Resources. | | |
| 7 | Geotechnical Study | N/A | All grading and land disturbing activities must be addressed in a geotechnical study prepared in accordance with the FSM. | N/A |
| 8 | Grading for Accessory Building Pads Prohibited | Separate building pads for accessory structures other than public facilities or a detached garage accessory to a dwelling unit, are prohibited. Examples include but are not limited to tennis courts, swimming pools, outbuildings, and similar facilities. | | |
| 9 | Remedial Revegetation, and Site Restoration | Any land disturbing activity located outside of the limits of disturbance approved for a permitted use must be revegetated with <u>Native Plant</u> native plant vegetation in accordance with the FSM and restored to pre-land disturbance conditions to the maximum extent possible. | | |

Table 6.04-1. General Development Standards

| | Standard | RSCR (Buffer Area Only) | Very Steep Slope Areas | Moderately Steep Slope Areas |
|----|-------------------------------------|---|------------------------|------------------------------|
| 10 | Preservation of Existing Vegetation | Covered Activitiesactivities must preserve existing vegetation to the maximum extent possible, except that invasive or nonnative vegetation may be removed and revegetated with Native Plantnative plant vegetation in accordance with the FSM. | | N/A |
| 11 | Siting and Disturbance | Land disturbing activity is limited to the area necessary to provide the Covered Activitycovered activity, and must be designed and configured to minimize disturbance and have minimal adverse effects on water quality and erosion. | | N/A |

B. Additional Use-Specific Standards in Steep Slope Areas (RSCR Adjacent Steep Slopes and Very Steep Slope Areas). In addition to the General Development Standards provided in Table 6.04-1, the the-below-listed ~~Covered Activities~~covered activities located in RSCR Adjacent Steep Slopes or Very Steep Slope Areas are subject to the following:

1. **Roads, Shared-Use Paths, Driveways, Minor Utilities and Utility Lines Not Associated with Public Water or Public Sewer, Water Lines Serving an Individual Water Supply System, or Septic Lines Serving an Individual Sewage Disposal System:**
 - a. All roads, shared-use paths, and driveways must follow natural contour lines to the maximum extent feasible;
 - b. No roads, shared-use paths, driveways, minor utilities and utility lines not associated with public water or public sewer, water lines serving an individual water supply system, or septic lines serving an individual sewage disposal system are permitted to disturb Very Steep Slope Areas with slopes greater than 50%;
 - c. Roads are not permitted to disturb Adjacent Steep Slopes or Very Steep Slope Areas with slopes greater than 25% to 50%, unless no other alternative exists to access a legal lot of record approved prior to June 16, 1993;
 - d. The use of directional drilling for the installation of minor utilities and utility lines not associated with public water or public sewer, water lines serving an individual water supply system, or septic lines serving an individual sewage disposal system through Adjacent Steep Slopes or Very Steep Slope Areas is permitted, in accordance with the following:
 1. Development standards 1, 2, and 3 in Table 6.04-1 do not apply to such directional drilling; and
 2. Directional drilling start and end locations must not result in disturbance to Adjacent Steep Slopes or Very Steep Slope Areas; and
 - e. Shared-use paths, driveways, minor utilities and utility lines not associated with public water or public sewer, water lines serving an individual water supply system or septic lines serving an individual sewage disposal system are not permitted to disturb Adjacent Steep Slopes or Very Steep Slope Areas with slopes greater than 25% to 50%. However, a short run of no more than 200 feet or 10% of the entire length of the shared-use path, driveway, minor utility and utility line not associated with public water or public sewer, water line and/or septic line, whichever is greater, is permitted to disturb Adjacent Steep Slopes or Very Steep Slope Areas with slopes greater than 25% to 50%, based on a geotechnical study or findings from a geotechnical professional that:
 1. Such shared-use path, driveway, minor utility and utility line not associated with public water or public sewer, water lines and/or septic lines will not have significant adverse visual, environmental, or safety impacts, or appropriate engineering or other measures will be taken by the developer to substantially mitigate any such adverse impact; and

2. No alternative location for such shared-use path, access, minor utility and utility line not associated with public water or public sewer, water line and/or septic line is feasible or available; and
 - f. The use of a private road to provide access to multiple lots in lieu of using separate driveways to provide access to such lots is required to the maximum extent feasible where such private road will minimize or eliminate land disturbance; and
 - g. Shared-use path design must comply with standards in Section 7.07.03.
2. **Utility Lines Associated with Public Sanitary Sewer and Water Lines or Public Sewer.**
- a. No utility lines associated with public sanitary water or public sewer and/or water lines are permitted to disturb Adjacent Steep Slopes or Very Steep Slope Areas with slopes greater than 50%.
 - b. ~~Public~~ Utility lines associated with public water lines must be located within or directly adjacent to the right-of-way of existing or approved roads. The development standards of this ~~Section~~ section do not apply to such water lines.
 - c. The use of directional drilling to install utility lines associated with public sanitary water or public sewer and/or water lines through Adjacent Steep Slopes or Very Steep Slope Areas is permitted in accordance with the following:
 1. Development standards 1, 2, and 3 in Table 6.04-1 do not apply to such directional drilling; and
 2. The drilling start and end locations must not result in disturbance to Adjacent Steep Slopes or Very Steep Slope Areas.
 - d. Land disturbing activities in Adjacent Steep Slopes or Very Steep Slope Areas with slopes greater than 25% to 50% must be avoided to the maximum extent feasible when determining the alignment of gravity sanitary sewer and/or water lines.
 - e. For the purpose of these development standards, Adjacent Steep Slopes and Very Steep Slope Areas are to be determined using the best-available site-specific data that has been reviewed and approved by the County.
 - f. ~~Public sanitary sewer and/or water lines~~ Utility lines associated with public water or public sewer are permitted to cross a maximum distance of 200 feet of any 1 contiguous Adjacent Steep Slopes or Very Steep Slope Area through the Zoning Administrator pursuant to Section 10.02 Determination.
 1. The Zoning Administrator may approve an increase to this maximum distance of up to an additional 300 feet provided that the longer crossing distance is found to reduce or have minimal impacts to other environmentally sensitive areas (streams, wetlands, riparian buffers, etc.), as demonstrated by applicable information and/or reports/studies requested by the Zoning Administrator, including, but not limited to:
 - a. Geotechnical study;
 - b. Geophysical study;
 - c. Preliminary soils review;
 - d. U.S. Army Corps of Engineers approved wetland delineation;
 - e. Tree cover inventory;
 - f. Phase 1 archeological study; and
 - g. Rare, threatened, and endangered species survey.
 2. Minor Special Exception approval pursuant to Section 10.11.02 is required for the following utility lines associated with public sanitary water or public sewer and/or water line crossing of any 1 contiguous Adjacent Steep Slopes or Very Steep Slope Area.

- a. Proposed crossings that exceed 200 feet where the Zoning Administrator finds that the crossing does not minimize impacts to other environmentally sensitive areas.
 - b. Any proposed crossing that exceeds a total of 500 feet.
 - g. If blasting is required for any portion of the ~~utility lines associated with public sanitary water or public sewer and/or water line~~ installation, a blasting plan that describes measures that will be utilized to minimize impacts on environmentally sensitive areas must be provided as part of the grading plan.
 - h. ~~Public sanitary sewer and/or water lines~~ Utility lines associated with public water or public sewer must be aligned in a manner that minimizes disturbance to Adjacent Steep Slopes or Very Steep Slope Areas with existing tree cover.
 1. In situations where sanitary sewer lines result in the clearing of vegetative cover other than open grassland/pastureland, the associated construction plans must include reforestation and tree protection in accordance with the FSM for all temporary construction easements.
 2. Such reforestation and tree protection must be reviewed and approved by the County Urban Forester.
 - i. Where Adjacent Steep Slopes or Very Steep Slope Areas cannot be avoided, construction methods that minimize easement widths and limits of disturbance must be employed to the maximum extent feasible.
 - j. Prior to approval of grading plans, the public entity responsible for the maintenance and operation of the ~~proposed sanitary sewer and/or water line~~ utility lines associated with public water or public sewer must certify that the grading plan minimizes impacts to Adjacent Steep Slopes or Very Steep Slope Areas and shows practical limits of construction.
 - k. To minimize erosion and sediment control failure associated with sliding debris and the operation of machinery within a confined area, 2 rows of super silt fence must be installed as follows:
 1. As a perimeter control on the downslope side of the disturbed area;
 2. The inside row may be installed without filter fabric; and
 3. The minimum spacing between the rows must be 3 feet to allow for maintenance.
 - l. At a minimum, stabilization of disturbed areas must consist of Treatment 1 as described in Standard and Specification 3.36 (Soil Stabilization Blankets & Matting) in the Virginia Erosion and Sediment Control Handbook. In problem areas, as determined by the Zoning Administrator, Treatment 2 can be required.
3. **Limited Land-Disturbing Activity for the Sole Purpose of Surveying and Land Investigation.**
- a. Land disturbing activity for the sole purpose of surveying and land investigation including studies required by the FSM is limited to 5,000 square feet in the aggregate on any property.
 - b. Heavy equipment may be used only when no other less-invasive method is feasible to conduct or undertake such limited land-disturbing activity.
- C. **Additional Use-Specific Standards in RSCR Areas (RSCR Buffer Areas or RSCR Adjacent Steep Slopes).**
1. **Trails.** Trails that are proposed within RSCR Buffer Areas or RSCR Adjacent Steep Slopes must meet any applicable guidelines of the LPAT and must be reviewed by and obtain approval from the Department of Parks, Recreation, and Community Services.
 2. **Agriculture.** Agriculture that is proposed within RSCR Buffer Areas or RSCR Adjacent Steep Slopes must provide agricultural best management practices consistent with the Virginia Department of Conservation and Recreation Agricultural Best Management Practices Cost-Share Program, as reviewed by the Loudoun County Soil and Water Conservation District.