(cc) **Plan** - means an erosion and sedimentation control plan.

(dd) **Sediment** - means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.

(ee) **Sedimentation** - means the process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land-disturbing activity or into a lake or natural watercourse.

(ff) **Siltation** - means sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed, and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity; and which has been deposited, or is in suspension in water.

(gg) **Steep Slope** - means a site with an average slope of 33% grade or greater, the inclination of which is greater than three units of horizontal distance to one unit of vertical distance.

(hh) **Storm Drainage Facilities** - means the system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey storm water through and from a given drainage area.

(ii) **Storm Water Runoff** - means the surface flow of water resulting from precipitation in any form and occurring immediately after rainfall or melting.

(jj) **Subsidiary** – means an affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person.

(kk) **Ten-Year Storm** - means the storm water runoff resulting from precipitation of an intensity expected to be equaled or exceeded, on the average, once in ten years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

(ll) **Tract** - means all contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.

(mm) **Twenty-five Year Storm** - means the storm water runoff resulting from precipitation of an intensity expected to be equaled or exceeded on the average, once in 25 years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

(nn) **Uncovered** - means the removal of ground cover from, on, or above the soil surface.
(iv) Limit on Temperature Fluctuations. No land-disturbing activity shall be undertaken within a buffer zone adjacent to designated trout waters that will cause adverse temperature fluctuations in the trout waters, as set forth in 15 NCAC 2B.0211 “Fresh surface Water Classification and Standards.”

(b) Graded Slopes and Fills Less Than 33% grade. The angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures. In any event, slopes left exposed will, within 21 calendar days of completion of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The angle for graded slopes and fills must be demonstrated to be stable. Stable is the condition where the soil remains in its original configuration, with or without mechanical constraints.

(c) Fill Material. Unless a permit from the Department’s Division of Waste Management to operate a landfill is on file for the official site, acceptable fill material shall be free of organic or other degradable materials, masonry, concrete and brick in sizes exceeding twelve (12) inches, and any materials which would cause the site to be regulated as a landfill by the State of North Carolina.

(d) Ground Cover. Whenever land-disturbing activity that will disturb more than one acre is undertaken on a tract, the person conducting the land-disturbing activity shall install erosion and sedimentation control devices and practices that are sufficient to retain the sediment generated by the land disturbing activity within the boundaries of the tract during construction upon and development of said tract, and shall plant or otherwise provide a permanent ground cover sufficient to restrain erosion after completion of construction or development. Except as provided in Section 8(b)(5) of this ordinance, provisions for a ground cover sufficient to restrain erosion must be accomplished within 21 calendar days following completion of construction or development, whichever period is shorter.

(f) Prior Plan Approval. No person shall initiate any land-disturbing activity that will disturb more than one acre on a tract; unless thirty (30) or more days prior to initiating the activity, a Plan for the activity is filed with and approved by the Avery County Planning Department. An erosion and sedimentation control plan may be filed less than 30 days prior to initiation of a land-disturbing activity if the plan is submitted under an approved express permit program. The land-disturbing activity may be initiated and conducted in accordance with the plan once the plan has been approved. The Avery County Planning Department shall forward to the Director of the Division of Water Quality a copy of each Plan for a land-disturbing activity that involves the utilization of ditches for the purpose of de-watering or lowering the water table of the tract.
(g) The land-disturbing activity shall be conducted in accordance with the approved erosion and sedimentation control plan.

(h) **Design Standards For Steep Slopes and Hillside Development:**

Steep slopes and hillside areas are defined as follows for the purpose of this section; Steep slopes and hillside areas are any lot, parcel or tract of land which meet all of the following standards.

1) That is located in the Avery County Jurisdiction; exclusive of Municipalities and their Extra-territorial Jurisdictions.

2) That is defined as a commercial development site; inclusive of Major or Minor residential subdivision development.

3) That has and average slope of its natural terrain of 33% or greater (which is greater than or equal to three units horizontal distance to one unit of vertical distance) for the site of which is to be developed.

4) **Average Slope Determination:**
   
a. Contour map required, each application for a major or minor residential subdivision and/or a commercial site which meets the standards set forth in the Steep Slope/Hillside definition shall include a contour map which includes a scale and contour intervals (5 foot intervals) on the site plan to determine the average slope of a lot, parcel or tract of land in its natural state.

b. Calculation of natural average slope:
   The natural average slope is calculated using the following formula;
   \[ S/A \% = 0.0023 \times I \times L \]
   Where:  
   \( S \) = Average natural slope of the parcel in percent  
   \( I \) = Contour interval of the map in feet with said contour intervals to be established at five (5) foot intervals  
   \( L \) = Total length of the contour line within the parcel in feet  
   \( A \) = Area of the parcel in acres (0.0023 = constant sq. ft. into acres

   In addition, the property may submit an alternate method of slope calculation for consideration by the Avery County Planning Department. These methods may include but are not limited to the following methods: Weighted average, slope mapping or other field based techniques.

   Once "S" or the average natural slope is calculated in a percentage and rounded off to the nearest whole number. These results shall be used to determine development requirements.

5) Road and Driveway Requirements:
a. Ditch line construction with finished grades greater than or equal 15% slopes shall have the bottom matted and rip-rap solid.
b. Ditch line construction with finished grades greater than or equal to 10% slopes shall be required to have crossover culverts a maximum of every 175 ft apart.
c. The minimum size crossover culvert for road construction is 18 inches in diameter.
d. The minimum size culvert for a driveway is 15 inches in diameter.
e. The maximum grade for a road to be constructed is 18% slope.
f. A geotechnical engineer shall be required for road construction in areas where the tract has natural slopes greater than 1.5 to 1 (66%) natural slopes, the recommendations shall be submitted to the Avery County Planning Department for review and approval.
g. When guardrails are required they shall be installed in a manner that meets N.C.D.O.T. standards.

6) Structural Retaining Walls and Boulder Wall Construction:
   a. Structural retaining walls greater than 4 feet in height shall bear the seal of a design professional/structural engineer.
   b. Boulder walls shall not be constructed greater than 6 feet in height or a proposed boulder walls greater than six (6) in height shall be required to have a structural engineer design and seal the plans and be required to give a letter upon completion that the boulder wall has been constructed to the scope of the sealed plans.
      • Remedial option for boulder walls, boulder walls may built at a maximum of six (6) feet in height and then terraced with a 6 foot bench and a second six (6) foot high boulder wall may be constructed. This terracing method may be done a maximum of 5 lifts before a structural engineer will be required to design and seal the boulder wall structure.
      • All retaining wall structures: be it "structural, boulder or per-engineered" type construction is required to bare a design professional seal if any portion of the backfill is used to support footers, foundations, piers, pilasters, columns or any other structural member of a home or building to be constructed.

7) Remedial Solutions:
   a. North Carolina design professional/engineer design and seal retaining wall drawings.
   b. Terrace/bench slopes: Maximum of 16 feet from toe of fill slope vertical height to top of fill and terrace/bench 6 foot horizontal to toe of second cut slope or base of a second retaining wall structure.

8) Ground Cover for Steep Slopes and Hillside Development:
   a. Ground cover sufficient to restrain erosion must be provided for any portion of a land disturbing activity in a steep slope area within 7
(d) **Content.** The Plan required by this section shall contain architectural and engineering drawings, maps, assumptions, calculations, and narrative statements as needed to adequately describe the proposed development of the tract and the measures planned to comply with the requirements of this ordinance. Plan content may vary to meet the needs of specific site requirements. Detailed guidelines for Plan preparation may be obtained from the Avery County Planning Department, on request.

(e) **Soil and Water Conservation District Comments.** The District shall review the Plan and submit any comments and recommendations to the Avery County Planning Department within 20 days after the District received the Plan, or within any shorter period of time as may be agreed upon by the District and the Avery County Planning Department. Failure of the District to submit its comments and recommendations within 20 days or within any agreed-upon shorter period of time shall not delay final action on the Plan.

(f) **Timeline for Decisions on Plans.** The Avery County Planning Department, will review each complete Plan submitted to them and within 30 days of receipt thereof will notify the person submitting the Plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve, approve with modifications, or disapprove a complete Plan within 30 days of receipt shall be deemed approval. The Avery County Planning Department, will review each revised Plan submitted to them and within 15 days of receipt thereof will notify the person submitting the Plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve, approve with modifications, or disapprove a revised Plan within 15 days of receipt shall be deemed approval.

(g) **Approval.** The Avery County Planning Department shall only approve a Plan upon determining that it complies with all applicable State and local regulations for erosion and sedimentation control. Approval assumes the applicant’s compliance with the federal and state water quality laws, regulations and rules. The Avery County Planning department grant shall conditional approval of Plans upon the applicant’s compliance with federal and state water quality laws, regulations and rules. Plans approved under this ordinance shall have conditional approval for three (3) years from the date of plan approval from the Avery County Planning Department.

(h) **Disapproval for Content.** The Avery County Planning Department, shall disapprove a Plan or draft Plan based on its content. A disapproval based upon a Plan’s content must specifically state in writing the reasons for disapproval.