

Section 5. Natural Resource Protection Standards

§5.1 STORMWATER MANAGEMENT

- A. Purpose.** The City recognizes the need and responsibility for adequate engineering standards to accommodate stormwater runoff. The need has become more apparent with the County goal to concentrate development adjacent to municipal boundaries and the *City of Gunnison Master Plan* goal to develop and concentrate urban land uses within its corporate boundary.

The *City of Gunnison Stormwater Management Manual* provides consistent and accurate engineering design management for all developments within the city boundary. The desire is to develop stormwater management and erosion control facilities by promoting Low Impact Design techniques that mimic natural fluvial dynamics found in the area.

The City has adopted stormwater design standards based on the Denver Urban Drainage and Flood Control District *Urban Storm Drainage Criteria Manuals (USDCM)*, Volumes 1, 2 and 3, with appropriate revisions to address local conditions. These design standards for stormwater facilities are commonly used in the State of Colorado and provide consistency for engineer and design professionals.

B. Stormwater Design and Construction Standards

1. The *City of Gunnison Stormwater Management Manual* shall be incorporated herein by reference.
2. Design and Construction of all stormwater facilities shall be in accordance with the *City of Gunnison Stormwater Management Manual* as it may be amended.
3. The drainage system shall be designed and constructed so that only historic runoff rates, not including historic irrigation, shall be released from the site. Drainage flows in excess of this amount shall be retained, detained or handled in a storm sewer system. All costs associated with handling runoff generated by a development shall be paid by the developer.
4. The drainage system shall comply with applicable state and federal requirements.

- C. Floodplain.** Lands within the City limits and located within an adopted 100 year floodplain are subject to the City's Flood Damage Prevention Regulations found in Chapter 14.60 of the *City of Gunnison Municipal Code*.

§5.2 SLOPE PROTECTION STANDARDS

A. Density Calculation for Residential Development on Steep Slopes in Excess of Ten Percent

1. **Applicability.** These density calculation provisions shall apply to all new residential development and subdivisions in the City of Gunnison. All Map Amendments proposed after the adoption date of this *LDC* shall be subject to these Slope Protection Standards.

2. **Definition.** For the purposes of this Section “average slope” shall be measured as set forth in Figure 30.

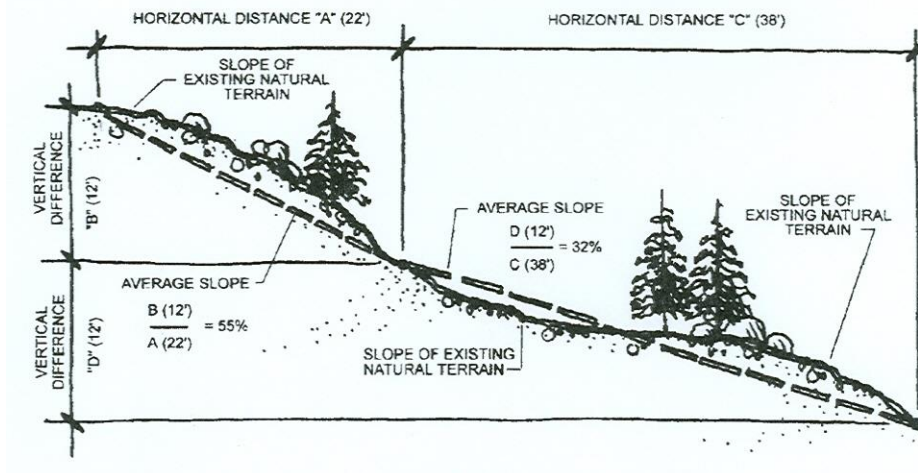


FIGURE 30 SLOPE PROTECTION STANDARDS

3. **General Rule.** Notwithstanding the maximum densities permitted by the underlying zoning district, the minimum lot area and front yard dimension for new residential development on parcels containing slopes 10 percent or greater shall be determined by the following factors presented in Table 5-1.

TABLE 5-1 AREA AND FRONT YARD DIMENSIONS IN SLOPE PROTECTION AREAS						
Zone District	Base Minimum Lot Area	Adjusted Minimum Lot Area (Square Feet) at “x” % Slope				
		10 %	15%	20%	25%	>26%
R-1	8,000	12,000	20,000	32,000	64,000	128,000
R-1M	6,250	12,000	20,000	32,000	64,000	128,000
R-2	6,250	12,500	25,000	50,000	75,000	Not Permitted
RMU	6,250	16,250	32,500	Not Permitted	Not Permitted	Not Permitted
R-3	6,250	16,250	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Front Lot Length		75	75	80	80	100
Density Reduction R-2M Max Units Per Acre		-25%	-50%	NA	NA	NA
Density Reduction R-3 Max Units Per Acre		-25%	NA	NA	NA	NA

B. Development Restrictions on Steep Slopes

- 1. Applicability.** These development restrictions shall apply to all new development in the City of Gunnison, except for subdivisions approved for single-family residential use prior to the effective date of this *LDC*. Non-residential development zone districts shall be prohibited on slopes greater than 10 percent.
- 2. New Structures—Existing Slopes in Excess of Ten Percent**
 - a.** New development proposed to be built on any parcel containing an average slope of ten percent or greater shall be subject to review and approval pursuant to Section 6. This provision applies to development that would otherwise be exempt from the development plan review process.
 - b.** Staff shall review all such development plans and evaluate them according to the following standards:
 - i.** Site Disturbance shall be minimized to the maximum extent practicable (§5.2 D., Grading Standards).
 - ii.** Cuts for utilities and access driveway shall be shared to the maximum extent feasible;
 - iii.** To the maximum extent feasible, new construction shall not take place on any portion of a parcel that shows evidence of slope instability, landslides, avalanche, flooding, alluvial fan or other natural or manmade hazards.
 - iv.** The applicant shall demonstrate that the slope's ground surface and subsurface are not unstable, that the proposed development will not cause instability or increase the potential for slope failure, and that the development of the slope will not increase the degree of hazard both on-site and on adjacent properties.
 - c.** For purposes of this section, steepness of slope shall be measured from the points with the highest and lowest elevation within five feet of any portion of the proposed structure.
- 3. Structure Clearance from Steep Slopes.** Structure clearance from ascending or descending slopes greater than 30 percent shall comply with the requirements set forth in the applicable *Building Code* provisions.
- 4. Grading, Clearing and Excavation—Slope in Excess of Ten Percent.** Clearing, excavation and grading on slopes greater than 10 percent shall not be allowed, unless expressly approved through a site development application.
- 5. Roads/Driveway – Slopes in Excess of Ten Percent.** Shared driveway and access to site or lots containing slopes in excess of ten percent shall be utilized to the maximum extent feasible (also see §4.3, General Site Access).

§5.3 GRADING AND EROSION CONTROL

- A. Applicability.** The provisions of this Section apply to all residential and nonresidential development subject to subdivisions and/or site plan applications.
- B. Grading Plan.** The Community Development Director may require applicants to submit a grading plan for site-development applications that illustrates the extent of the land disturbance which is to occur on the property. The grading plan shall illustrate existing site features and shall depict existing and proposed contours, using a contour interval of two feet. Where slopes are greater than 20 percent, five foot contours may be depicted.
- C. Plan Preparation.** Preparation of an effective grading plan and execution of proper grading involve certain basic steps pertaining to street layout, block grading and lot grading. The objective is to establish the street grades, floor elevations and lot grades in proper relation to each other and to existing topography, considering property protection, and use. The basic steps are as follows:
- 1. Fit to Topography.** If the street layout is still subject to design or adjustment, fit it to the topography to obtain the most favorable types of block and lot grading which are compatible with other objectives.
 - 2. Block and Lot Grading.** Determine type of block grading for each block or portion of a block and, if possible, indicate the general lot grading for each lot by drainage arrows.
 - 3. Easements.** Determine any easements and other provisions needed for adequate block drainage and erosion control.
 - 4. General Limitations.** Determine general lot grading limitations for local conditions such as minimum gradients for grass swales and slopes and maximum for sidewalks and driveways.
 - 5. Specific Limitations.** For each type of house and lot determine the specific lot grading limitations along a typical lot grading control line from the street to the house and determine the minimum street-to-floor rise.
 - 6. Street Profiles.** If the street profiles are to be designed or adjusted, establish them so as to facilitate the provision of good drainage for both the lots and the streets, giving due consideration to existing topography and lot limitations.
 - 7. Elevations.** For each property, determine proposed elevations for key points on the lot and for the dwelling floor, giving due consideration to street elevations, existing topography and lot grading limitations.
- D. Grading Standards**
- 1. Grading Prohibited Without Prior Approvals/Permits.** No cutting, filling, stockpiling, excavation, or vegetation removal shall be permitted, whether to provide for a building site, for on-site utilities, or services for any roads or driveway, prior to final approval of a grading and excavation plan submitted in conjunction with a site development plan application or the issuance of a building permit.

2. Limits on Changing Natural Grade. The original, natural grade of a lot shall not be raised or lowered more than 10 feet at any point for construction of any structure or improvement except:

- a. Foundation walls incorporated into the principal structure to allow the building mass step in response to natural grade; or
- b. The original grade of the site may be raised or lowered to a maximum of twelve feet if a retaining wall or terracing is used to reduce the steepness or manmade slopes, provided that the retaining wall or terracing comply with the requirements set forth in this Section (see Figure 31).

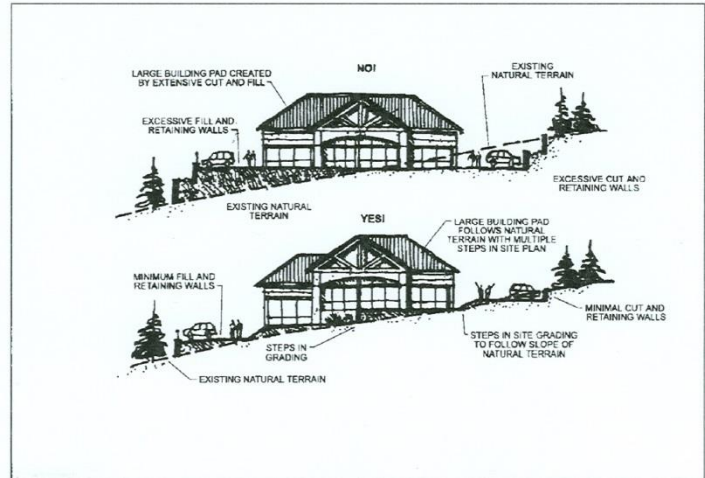


FIGURE 31 LIMITS ON CHANGING NATURAL GRADE

3. Cutting and Creating Benches.

Cutting and grading to create benches or pads for additional or larger building sites or lawns shall be avoided to the maximum extent feasible.

4. Grading For Accessory Building Pads Discouraged. Separate pad for accessory buildings and structures other than garages, such as tennis courts, swimming pools, outbuildings, and similar facilities, shall be discouraged except where the average slope is 15 percent or less.

5. Limits on Graded Filled Manmade Slopes

- a. Slopes of 20 percent or less are strongly encouraged wherever feasible or practicable.
- b. Except as provided below, graded or filled manmade slopes shall not exceed a slope of 30 percent (3:1 slope) unless civil engineering plans incorporating recommendation from a geotechnical report, both of which shall be submitted by an engineer licensed in the State of Colorado, is furnished to the Community Development Director. The plans and reports shall include a written statement establishing that the site has been investigated and that, in the opinion of the qualified professionals, a cut at a steeper slope will be stable and not create a hazard to public or private property both on the site and directly adjacent to the affected site.
- c. If a steeper slope will result in less overall site disturbance, then graded or filled manmade slopes associated with road construction may exceed a slope of 50 percent (2:1 slope), but shall be subject to City review and approval.

6. Retaining Walls

- a. Use of retaining walls should be limited as much as feasible to reduce the steepness of manmade slopes and to provide planting pockets on steep slopes conducive to revegetation, subject to the following standards:

- i. Retaining walls shall be used to provide breaks in manmade slopes exceeding 30 percent and to provide planting pockets.
- ii. Retaining walls may be permitted to support steep slopes but shall not exceed six feet in height from the finished grade except for:
 - a) a structure's foundation wall;
 - b) as necessary to construct a driveway from the street to a garage or parking area; or,
 - c) as otherwise expressly allowed by this Section.

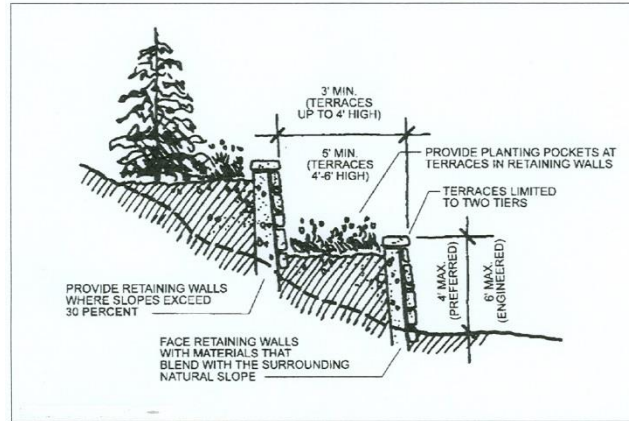


FIGURE 32 RETAINING WALLS

- iii. Any retaining wall or multiple retaining wall design greater than four feet in height shall be designed by an engineer registered in the State of Colorado and the engineer design shall be based on recommendations from a geotechnical engineer soils report. The engineer design shall be submitted to staff for review and approval prior to construction.
- iv. A three-foot minimum horizontal terrace shall be required for any multiple retaining walls that are less than four feet in height. A minimum five-foot horizontal terrace shall be required for any multiple retaining walls that are four-feet or greater in height. Terraces created between retaining walls shall be permanently landscaped with vegetation.
- v. Retaining walls visible from a collector street, arterial street or highway, or from public open areas or parks, shall be screened by vegetation or faced with wood, stone or other earth-colored materials that blend with the surrounding natural landscape.
- vi. All retaining walls shall comply with applicable *Building Code* provisions, except that when any provision of this Section conflicts with any provision set forth in the *Building Code*, the more restrictive provision shall apply.

- b. **Filling or Dredging of Waterways Prohibited.** Filling, draining or dredging of water courses, wetlands, gullies, stream beds or stormwater runoff channels is prohibited, except as authorized with a floodplain development permit or with an approved site development plan.
- c. **Detention/Stormwater Facilities.** Where detention basins and other stormwater and erosion control facilities may be required, any diverse visual impact on the natural landscape and topography shall be minimized to the maximum extent feasible.

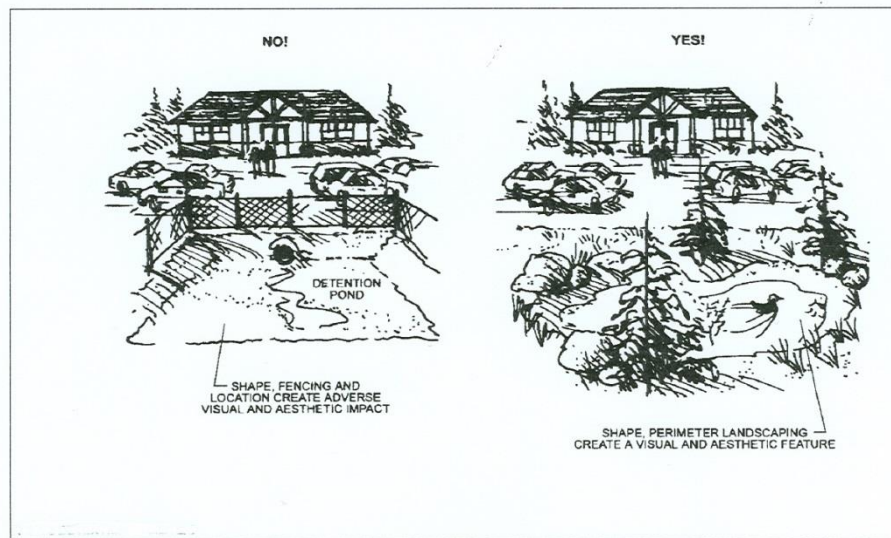


FIGURE 33 DETENTION AND STORMWATER FACILITIES

7. Restoration of Disturbed Areas

- a. **Follow Natural Contours.** All disturbed areas shall be restored as natural-appearing land forms, with curves that blend in with the adjacent undisturbed slopes. Abrupt angular transitions and linear slopes shall be avoided.
- b. **Revegetation Required.** Areas disturbed by grading shall be contoured so they can be revegetated and they shall be revegetated within one growing season after construction using native species seed mix (see Appendix A). Revegetation shall be sufficient to provide erosion control and prevent the invasion of weeds. Plans for revegetation of cut-and fill and graded slopes shall be included as part of the site development plan application.
- c. **Timeline.** In addition to the requirements of §5.3 E., overlot grading projects affecting an area greater than one acre in size that has been wholly or partially grubbed or wholly or partially graded, construction shall commence and shall be continuous within 60 days after grubbing. Should construction or grading not commence or be continuous within the required 60 day period, the site shall be native seeded within 30 days following the expiration of the required 60 day period. When approved by the Community Development Director, a time extension may be granted for conditions beyond the control of the permittee for items including but not limited to flooding or discovery of historic artifacts.
- d. **Man-Made Slopes Greater than Twenty-five Percent.** On man-made slopes of 25 percent or greater, plant materials with characteristics that minimize erosion and reduce surface runoff shall be selected.
- e. **Man-made Slopes Greater than Fifty Percent.** On man-made slopes greater than 50 percent stabilization measures such as erosion netting, hydro mulching or other advanced

slope stabilization technique shall be utilized.

- f. Topsoil Stockpiled.** To the maximum extent feasible, topsoil that is removed during construction shall be stockpiled and conserved for later use on areas requiring revegetation or landscaping, such as cut-and-fill slopes.

8. Limitations of Disturbance

- a. Defined.** Limits of Disturbance (LOD) means the areas of a site that may be disturbed by earth movement (grading), or cleared of vegetation, including disturbance or clearance to provide space for construction of principal and accessory uses and structures, driveways, parking areas, roads, drainage and stormwater management facilities or utilities.
- b. Establishment of Limits of Disturbance.** For all site development, preliminary subdivision and final subdivision plans shall include a map clearly depicting the limits of disturbance according to the criteria set forth below. The LOD shall indicate the specific area(s) within a development project where the development activity shall be contained.
- c. Criteria for Establishing LOD.** While LOD may be multiple and noncontiguous on a site, the following criteria shall be taken into account:
 - i.** avoidance of visual impact, including but not limited to ridgeline protection areas steep slopes and scenic views;
 - ii.** avoidance of steep slopes in excess of 20 percent and provide erosion prevention and control measures including but not limited to protection of natural drainage channels and compliance with an approved stormwater drainage management plan;
 - iii.** preservation of native vegetation, trees, rock outcroppings and formations, and other significant natural site conditions;
 - iv.** wildfire preventions and safety, including but not limited to location of trees and vegetation near structures;
 - v.** mitigation of other geologic hazards, including potential adverse impact down- slope and adjacent to properties;
 - vi.** riparian habitat, stream corridors and wetland protection and buffering;
 - vii.** floodplains, floodways, flood fringes and flood hazards;
 - viii.** significant wildlife habitat areas; and
 - ix.** the practical need of approved construction activity in terms of ingress and egress to the developed project and necessary staging and operation areas.

d. Limits to Disturbance–Development Standards and Guidelines

i. No construction activity including, without limitation, grading excavation or stockpiling or fill material, shall be permitted within the limits of disturbance, whether to provide for a building site, on-site utilities or services or for any roads or driveway, prior to the approval of any required erosion and sedimentation control plan for the development.

ii. To the maximum extent feasible, no development, grading or vegetation removal or alteration shall occur as part of the development project or associated construction activity outside the LOD except as provided in subsection iii.c) below.

iii. Disturbance or construction

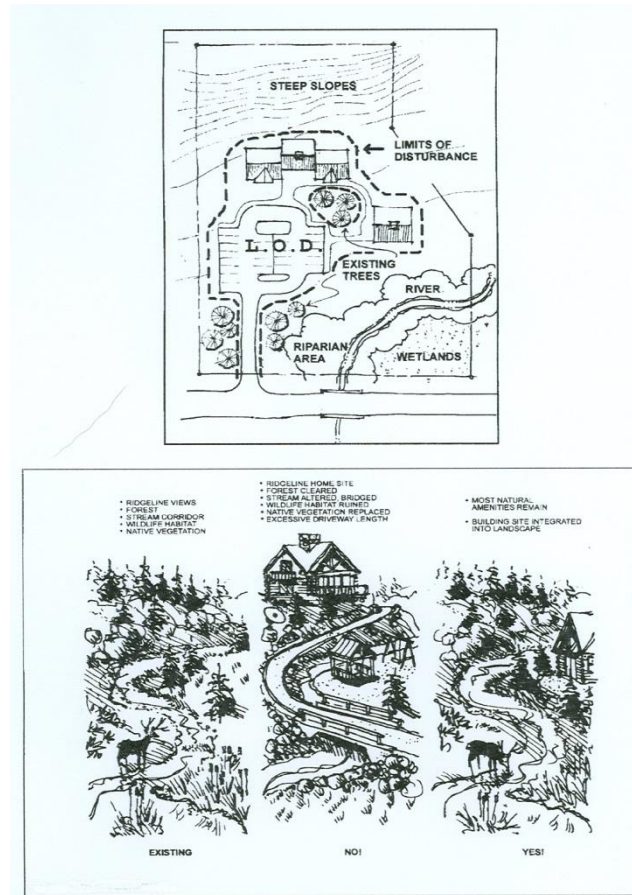


FIGURE 34 LIMITS OF DISTURBANCE

activity may occur outside the LOD with the written consent of landowner and approval of the staff for

the following limited purposes:

- a) mitigation of development activities;
- b) restoration of previously disturbed or degraded areas;
- c) utility installations and emergency public safety activities when such activities and installations cannot reasonably be contained within the LOD or other nearby developed areas;
- d) construction of a trail or pedestrian walkway that will provide public access or education or recreational purposes when such trails or walkway cannot reasonably be contained within the LOD or other nearby developed areas; or
- e) the enhancement of the habitat values and/or other natural resource values of an identified natural area.

e. Designation on Final Grading and Drainage Plans. Approved LOD shall be shown on the preliminary and final subdivision grading plan and/or on the development plan for each

lot or development site. The respective LOD will be described as necessary to accurately define the boundary, as acceptable to the Community Development Director.

- f. **Standards for Protection during Construction.** LOD shall be designated in the field prior to commencement of excavation, grading or construction.
- E. Construction Stormwater Management Plan.** All grading plans will include the submittal of a Construction Stormwater Management Plan (CSWMP). At a minimum, the CSWMP must contain the requirements listed in the Colorado Department of Public Health and Environment document General Permit Application and Stormwater Management Plan Preparation Guidance available at www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596877287, under the Stormwater Construction category. The Community Development Director is authorized to accept alternative plan submittals, waive submittal requirement determined not to be applicable or require additional data to ensure that an efficient construction sediment and stormwater control plan is submitted.

§5.4 WETLAND AND STREAMS CORRIDOR PROTECTION

A. Purpose and Intent. The following requirements and standards are intended to promote, preserve and enhance the important hydrologic, biological, ecological, aesthetic, recreational and educational functions that stream and river corridors, associated riparian areas and wetlands provide.

B. Applicability. This Section shall apply to all new development, except for the following:

- 1. agricultural activities such as soil preparation, irrigation, planting, harvesting, grazing and farm ponds;
- 2. maintenance and repair of existing public roads, utilities and other public facilities within an existing right-of-way or easement;
- 3. removal of noxious weeds;
- 4. maintenance and repair of flood control structures and activities in response to a flood emergency; and
- 5. wetland and wildlife habitat restoration, creation and/or enhancement that improve the wetland function provided that the proposed activity is approved by the appropriate agency such as the U.S. Army Corps of Engineers or the Colorado Division of Wildlife.

C. Other Regulations

- 1. This Section does not repeal or supersede any existing federal, state or local laws; easements; covenants; or deed restrictions. When this Section imposes a higher or more restrictive standard than found in another applicable ordinance, statute or regulation, this Section shall apply.
- 2. No person shall engage in any activity that will disturb, remove, drain, fill dredge, clear, destroy or alter any area, including vegetation, within a wetland that falls in the jurisdiction of the federal government and its agencies, except as may be expressly allowed under applicable federal laws or regulations.

D. Boundary Delineation

1. **Stream and River Corridor Boundaries.** Stream and river corridors shall be delineated by the defined floodway.
2. **Mapped Wetland Boundaries.** The initial boundary delineation of wetlands shall be established by reference National Wetlands Inventory prepared by the U.S. Department of the Interior, Fish and Wildlife Service (www.wetlands.fsw.gov), or other data provided by the applicant.
3. **Unmapped Wetlands.** The review of a development proposal may discover a potential wetland that has not been mapped or for which the boundaries have not been clearly established. In such instances, the Applicant shall retain a qualified wetland expert to delineate the boundaries of the wetland according to accepted professional standards for jurisdictional wetlands as defined by the Army Corps of Engineers.

E. Buffer/Setback Areas

1. Major Ditch and River Corridors

a. Building/Structure Setbacks

- i. **Major Ditches.** All buildings and accessory structures shall be setback at least 30 feet horizontally (plan view) from the outside edge of adjacent City irrigation ditch banks. Where defined banks are not readily discernible, the setback shall be measured from the center of the ditch (See Figure 35).

ii. Gunnison River and Tomichi Creek Corridors

- a) **General Rule.** All buildings and accessory structures shall be setback at least 25 feet horizontally (plan view) from the floodway of river corridors, or, if not readily discernible, from the delineated floodway.
- b) **Exception for Lots Developed Prior to the Adoption of this Code.** All buildings and accessory structures shall be setback at least 25 feet horizontally (plan view) from the defined floodway (see Figure 35).

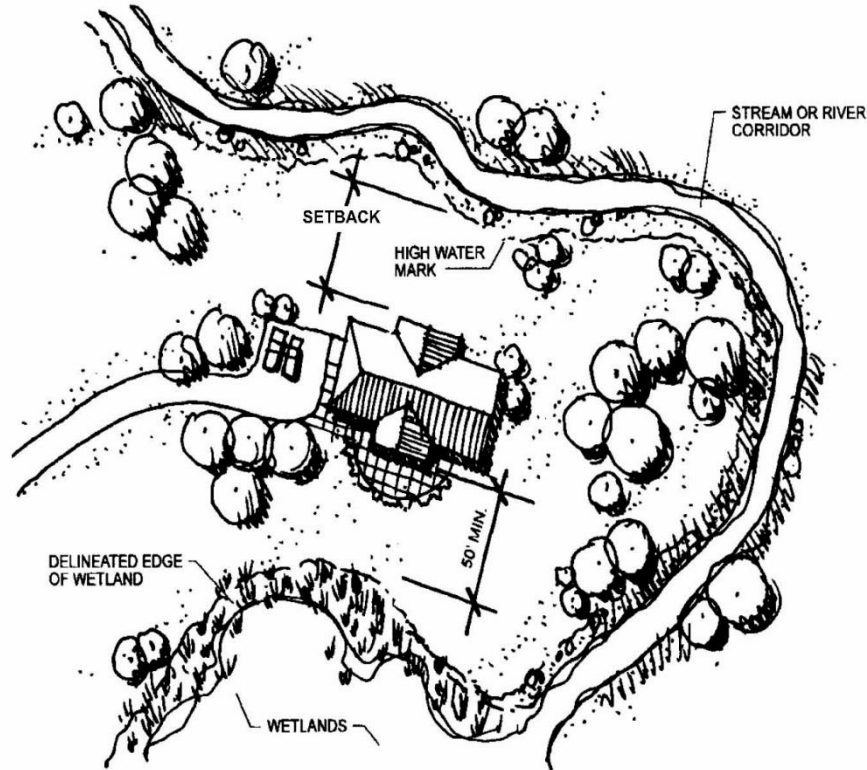
- b. **Parking Lot Setbacks.** Parking lots shall be setback at least 25 feet horizontally (plan view) from the annual high-water mark of stream or river corridors, or not readily discernible, from the defined floodway of the stream or river.

2. Wetlands

- a. To the maximum extent feasible, jurisdictional wetlands shall not be included as part of a platted development lot.
- b. All buildings, accessory structures and parking lots shall be setback at least 50 feet horizontally (plan view) from the delineated edge of a wetland (see Figure 35). Development on lots that were approved for single-family residential use prior to the adoption of this *LDC* shall be exempt.

FIGURE 35 WETLAND/STREAM SETBACK

3. **Private Open Areas and Landscaping Credit.** All stream corridor and wetland setback areas shall be



credited toward any relevant private open areas requirements or landscaping and buffer requirements.

F. Development Standards

1. **Prohibited Activities.** No person shall engage in any activity that will disturb, remove, fill, drain, dredge, clear, destroy or alter any area, including vegetation, within stream or river corridors wetlands and their associated buffer/setback areas, except as may be expressly allowed in this Section.
2. **Utilities.** Utilities may be allowed in a buffer/setback area only if the City determines that there is no practical alternative. Any disturbance of the buffer area shall be reclaimed by final grading and revegetation. Provisions for reclamation of the disturbed area shall be included in any development or improvements agreement for the project, with adequate collateral to guarantee that the reclamation will be completed. Utility corridors in buffer/setback areas shall be located at the outside edge of the area and access roads for maintenance of utilities shall be located outside the buffer/setback area. Access for maintenance of utilities in buffer/setback areas should be at specific points rather than parallel to the utility corridor.
3. **Recreation, Education or Scientific Activities.** Structures and improvement for recreational, educational or scientific activities such as trails, fishing access and wildlife management and viewing may be permitted in a buffer/setback area provided that a management plan that

establishes long-term protection of the buffer/setback area is submitted and approved.

G. Preservation of Vegetation. All desirable existing vegetation within the stream/river corridor or wetland buffer/setback area shall be preserved, and where necessary to provide adequate screening or to repair damaged riparian areas, supplemented with additional native planting and landscaping.

H. Wetland Mitigation Requirements

1. Restoration shall be required according to an approved wetland mitigation plan when a wetland or its buffer is altered in violation of law or without specific permission or approval by the Community Development Director.
2. All approved alterations of wetlands must be mitigated by replacement or enhancement on the site or within the same drainage basin on a one-to-one basis with equivalent or better biologic and hydrologic functions.

§5.5 NATURAL RESOURCE PROTECTION STANDARDS WAIVER

In order to provide flexibility in the administration of this *LDC* by the City certain natural resource protection standards contained in this Section 5 may be considered for a waiver pursuant to the directives established in Section 9 (Development Standard Waivers), of this *Land Development Code*.