

FLOODPLAIN PERMIT APPLICATION CHECKLIST: The following information is required for all Land Use Permits within the Floodplain Overlay District, unless waived by the Land Use Administrator. The applicant shall submit ___ copies of the Site Plan and documents listed below. (*Reference Article 5 Section 5.40 E.J.*)

REVIEW CRITERIA. Applications for a Land Use Permit in the Floodplain District in Costilla County must demonstrate that public safety is maintained, that riparian corridors are protected, and that the proposed use is environmentally appropriate. In addition to the General Review Criteria found in Article 5, Section 5.30, the following review criteria will be used in evaluating applications for Land Use Permits within the Floodplain Overlay District: (*Reference Costilla County Comprehensive Plan – Environment and Natural Resources.*)

- Development in designated floodplain areas shall be avoided whenever possible.
- All new construction and improvements shall be constructed by methods and practices that minimize flood damage and use materials and utility equipment resistant to flood damage.
- The proposed development shall not cause danger to persons or property upstream, downstream or in the vicinity of the proposed use.
- All new construction and improvements shall be anchored to prevent floatation, collapse, or lateral movement of the structure and shall be capable of resisting any potential hydrostatic and hydrodynamic loads anticipated to be placed on it.
- The cumulative effect of any proposed development when combined with all other existing and anticipated development shall not increase the water surface elevation of the base flood more than one foot at any point.
- Design of structures proposed to be located within the Floodplain Overlay District shall be certified by a registered professional engineer. The certification shall state that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this Code.
- New construction and improvements of any residential structure shall have the lowest floor, including basement, two feet above the base flood elevation.
- New construction and improvements of any non-residential structure shall either have the lowest floor, including basement, elevated two feet above the base flood elevation, or, together with attendant utility and sanitary facilities shall:
 - Be flood-proofed so that below the base flood elevation the structure is water tight with walls impermeable to the passage of water.
 - Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- New and replacement water supply systems within the Floodplain Overlay District shall be designed to minimize or eliminate infiltration of flood waters into the systems
- New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters; on site sanitary waste disposal systems shall be located to avoid impairment to them or contamination from them during flood events.
- Electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be designed and located to prevent water from entering or accumulating within the components during flood conditions.
- Storage or processing of materials that may create a hazard during a flood, solid waste disposal sites, wastewater treatment systems, and residential development of any kind shall be prohibited within the portion of the Floodplain defined as Floodway by FEMA.

Applicant

Land Use Administrator

- Site Plan (See Checklist)

- Site Plan showing the existing and proposed structures relative to property lines and to FEMA Floodplain

- Grading Plan prepared by a registered Engineer showing proposed elevations of buildings, both first floor and any basement floor relative to floodplain elevation data

- Flood Insurance Rate Map (FIRM) #

- Approved CLOMR from FEMA

- Army Corp of Engineers 404 permit/approval letter

- Construction drawings prepared and sealed by appropriate design professional indicating that the proposed structure will be properly constructed to resist the 100 year flood

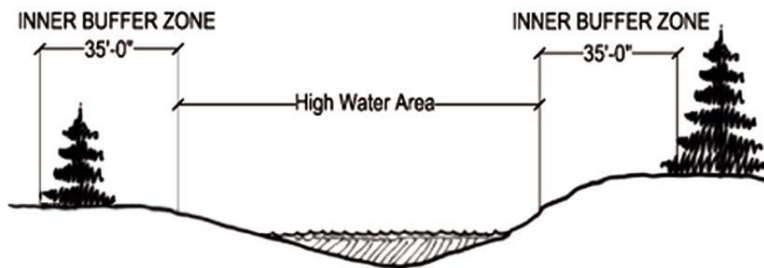
- Name, address and telephone number of Owner, Applicant (if not owner), and person who prepared the application. If the owner is not the applicant, the application must be signed by the owner, or a letter authorizing the applicant to submit the application on behalf of the owner must be provided.

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Design Guidelines: Protection of Wetlands and Waterbodies.

A. Inner Buffer Zone Setback



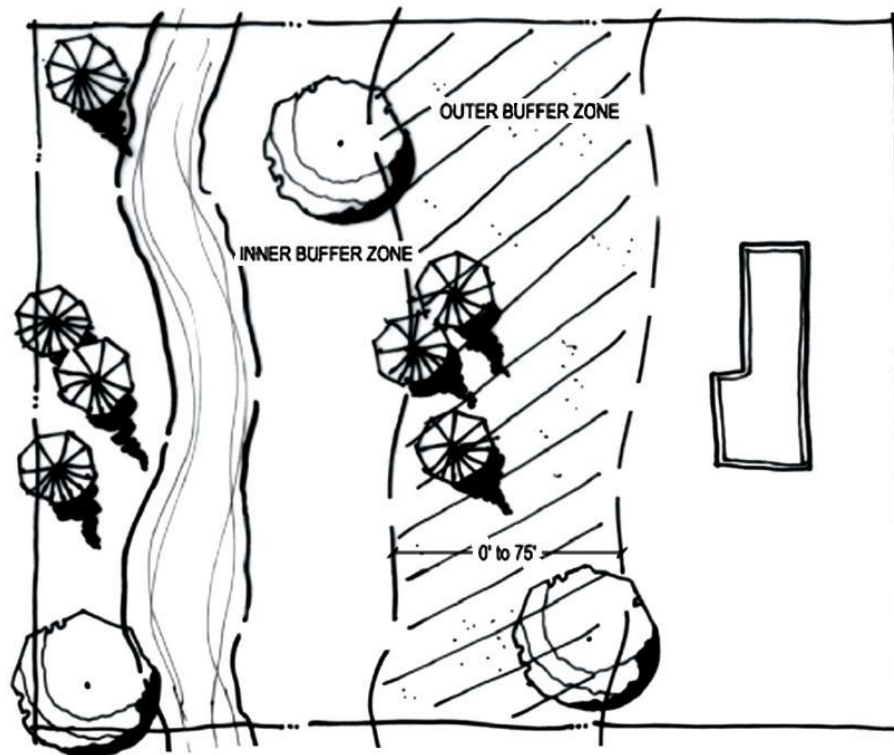
Figure, Inner Buffer Zone Setback

1. **Minimum Setback.** The Inner Buffer Zone Setback consists of a minimum setback of thirty-five (35) feet measured horizontally from the typical and ordinary high water mark in average hydrologic years on each side of a waterbody or field delineated wetland is require.
2. **Structures and Activity Allowed in the Inner Buffer Zone Setback.** Irrigation and water diversion facilities, flood control structures, culverts, bridges and other reasonable and necessary structures requiring some disturbance within this setback may be allowed.
3. **Structures and Activity Prohibited in the Inner Buffer Zone Setback.** Unless otherwise allowed by these Regulations, the

following activities and development shall be prohibited in the Inner Buffer Zone Setback:

- a. Placement of material, including soil, sand, gravel, mineral, aggregate, organic material, or snow plowed from roadways and parking areas.
- b. Construction, installation, or placement of any obstruction, building or structure not allowed under Section 10-204 (A) (2), *Structures and Activities Allowed in the Inner Buffer Zone Setback*.
- c. Removal, excavation, or dredging of solid material, including soil, sand, gravel, mineral, aggregate, or organic material.
- d. Disturbance or removal of any existing live vegetation or conducting any activity which will cause any loss of vegetation, unless it involves the approved removal of noxious weeds, non-native species, dead or diseased trees.
- e. Lowering of the water level or water table by any means, including draining, ditching, trenching, impounding, or pumping.
- f. Disturbance of existing natural surface drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics by any means including grading and alteration of existing topography, except for the purpose of restoring existing topography or to improve drainage, flow patterns, and flood control.

B. Outer Buffer Zone



Figure, Outer Buffer Zone

1. **Width of Outer Buffer Zone.** The width of the Outer Buffer Zone may vary across the property as necessary to protect the integrity of the waterbody, watershed, or other site-specific features outside the Inner Buffer Zone Setback. For a specific site, the width of the Outer Buffer zone may range from zero feet (0') to seventy-five feet (75') beyond the outer edge of the Inner Buffer Zone Setback (i.e. up to 100' beyond the high water mark of the waterbody during average hydrologic years or wetland boundary).

2. **Structures and Activity Prohibited in the Outer Buffer Zone.** Disturbance of existing soil material and live vegetation and development in areas immediately outside the Inner Buffer Zone shall be limited and appropriate mitigation required where necessary to protect the integrity of the waterbody or special site-specific features identified in Section 10-204 (B) (3), below.
3. **Site Features that Trigger Application of Outer Buffer Zone.** Site specific features that may trigger the need for mitigation through application of an outer buffer zone include:
 - a. Steep slopes draining into the waterbody or wetland.
 - b. Highly erodable soils.
 - c. Unstable streambank conditions.
 - d. Trees, shrubs, or other natural features that provide for streambank stability, habitat enhancement for aquatic environments, riparian area protection, or to maintain pre-development riparian plant or animal communities.
 - e. Habitat for plant, animal, or other wildlife species listed as threatened or endangered by the United States Fish and Wildlife Service.
 - f. Habitat for plant, animal, or other wildlife species listed by the State of Colorado as rare, threatened, or endangered, species of special concern, or species of undetermined status.
 - g. The proposed use of the property presents a special hazard to water quality or wetlands (e.g., storage or handling of hazardous or toxic materials)
 - h. The area is within the 100-year flood plain.
 - i. The area is needed to prevent or minimize flood damage by preserving storm and flood water storage capacity
 - j. The area is needed to protect fish spawning, breeding, nursery and feeding grounds.
 - k. The area is needed to preserve areas of special recreational, historical, archeological, scenic, or scientific interest.

Protection of Water Quality from Pollutants

The following regulations shall apply to all non-residential land use changes.

- A. Compliance with State and Federal Regulations.** At a minimum, all hazardous materials shall be stored and used in compliance with applicable state and federal hazardous materials regulations.
- B. Storage Near Waterbodies Restricted.**
 1. The storage of hazardous materials within one hundred (100) horizontal feet of any waterbody is prohibited except when no practical alternative exists. Suitable site specific best management practices shall be utilized to minimize potential adverse water quality impacts.
 2. Sand and salt for road traction shall not be stored within one hundred (100) horizontal feet of any waterbody unless there is no practicable alternative, in which case suitable site-specific best management practices shall be utilized.
- C. Spill Prevention.** Measures shall be implemented to prevent spilled fuels, lubricants or other hazardous materials from entering a waterbody during construction or operation of equipment and/or facility. If a spill occurs it shall be cleaned up immediately and disposed of properly.
- D. Machine Maintenance.** Maintenance of vehicles or mobile machinery is prohibited within 100 feet of any waterbody. Emergency

maintenance may be conducted until the vehicle or machinery can be moved.

- E. **Fuel Storage Areas.** Containment measures shall be provided for all fuel storage areas to prevent release into any waterbody. Inventory management or leak detection systems may be required.
- F. **Waste Storage.** Areas used for the collection and temporary storage of solid or liquid waste shall be designed to prevent discharge of these materials in runoff from the site. Collection sites shall be located away from the storm drainage system. Other best management practices such as covering the waste storage area, fencing the site, and constructing a perimeter dike to exclude runoff may also be required.

Erosion and Sedimentation

The following requirements shall apply to land disturbances within twenty-five (25) feet of a waterbody and to all land development disturbing more than one-half (1/2) acre, with the exception of agricultural grading activities.

A. Minimize Erosion On Site.

- 1. **Phase Construction.** The staging and timing of earth disturbing construction activities such as clearing, grading, road construction, and utilities installation shall be designed to minimize soil exposure.
- 2. **Install Erosion and Sediment Control Measures.** Erosion and sediment control measures shall be installed before site grading or other construction.
- 3. **Soil Stabilization.** Disturbed areas and soil stockpiles shall be stabilized or protected to effectively control erosion. These areas should be surface roughened, mulched, or seeded and mulched, or otherwise protected from erosive forces if they will remain exposed and inactive for periods longer than fourteen (14) days. This requirement also applies if soil is expected to be exposed during winter, to minimize erosion from occurring during spring snow melt. Disturbed areas shall be mulched, or seeded and mulched, within seven (7) days after final grade is reached, weather permitting.
 - a. On slopes steeper than fifteen percent (15%), or within one hundred (100) feet of any waterbody, exposed soils shall be stabilized using appropriate techniques such as hydromulching, erosion control blankets, bonded fiber matrices or other equally protective measures. Grass or straw mulch shall be crimped, tracked or tacked in place to promote surface anchoring.
- 4. **Temporary and Permanent Revegetation.** Disturbed areas that will not be built upon for one (1) year shall incorporate a temporary cover crop to promote soil stability. Areas exposed for two (2) or more years must be revegetated with a perennial, native grass mix (or other grass mixtures as recommended by the [local Natural Resources Conservation Service office]). Within two (2) full growing seasons of project completion, vegetative site coverage shall have a perennial herbaceous component equal to or greater than seventy percent (70%) of the adjacent undisturbed areas.
- 5. **Cut and Fill Slopes.** Where cut and fill cannot be avoided, slopes shall be designed for long term stability.
 - a. Permanent vegetation shall be used as the priority approach to stabilization of cut and fill areas where slopes are less than or equal to 3:1.
 - b. On steeper cut and fill slopes, stabilization shall be attained by utilizing a combination of retaining walls, rock walls, up-slope runoff diversions, terracing, slope drains, soil nailing, mulch binders, erosion control blankets, vegetation or other measures appropriate for the specific situation.
- 6. **Protection of Irrigation Ditches, Swales, Receiving Channels and Streams.** Irrigation ditches, swales, receiving channels and streams shall be protected from accelerated erosion until the conveyance section has established vegetation and is stable under flows for which the feature was designed. The minimum recurrence frequency storm during active construction for channel stability design is the [2-year] event for the entire drainage area served by that flow conveyance feature.
- 7. **Protection of Culvert Outlets.** Culvert outlets shall be protected from erosive flows by velocity reducers such as gravel dikes, level spreaders or similar measures.

B. Minimize Sediment Leaving the Site.

1. **Manage Stormwater Runoff.** Stormwater runoff shall be managed to minimize erosion and sediment transport off-site. Concentrated flows shall be diverted away from disturbed slopes and the length and steepness of disturbed slopes or use of slope drains shall be minimized. Standards specific to management of stormwater runoff are set forth in Section 10-207, *Stormwater Runoff*.
 2. **Protection of Access Routes.** Access routes shall be protected to prevent sediment or mud from leaving the site by either immediate placement of street base or construction of mud pads. Mud pads shall be at least fifty (50) feet in length and comprised of angular rock and/or a wheel washing facility.
 3. **Protection of Adjacent Properties.** Adjacent properties shall be protected from sediment laden runoff by using sediment fences, and sediment or silt traps or other appropriate control options.
 4. **Protection of Storm Sewer Inlets.** Storm sewer inlets shall be protected from flows of sediment-laden water. This may be accomplished by straw bales, supported silt fence structures, dumped rock or other barriers.
 5. **Diversion of Off-Site Runoff.** Off-site runoff shall be diverted around the construction site when practical.
- C. Incorporate Drainageways.** Significant drainageways shall be incorporated in site development as open space, wildlife areas, and trails. Whenever possible, drainageways should be left in a natural state.
- D. Detention and Treatment.**
1. **Construction of Sedimentation Basins.** When the contributing drainage area, including off-site area (unless bypassed), is greater than five (5) acres, one or more sedimentation basin(s) shall be constructed to provide a total of 1800 cubic feet of basin volume for every acre contributing runoff into the basin. The outlet of the sediment basin should be designed to empty the storage volume in no less than twelve (12) hours. The basin's length shall be no less than twice the basin's width, otherwise a baffle may be installed to minimize short circuiting. If the discharge from the basin is passed through a filtration device (i.e. a vegetated field, forested area, or a constructed wetland) the basin volume requirements may be reduced.
 2. **No Sedimentation Basin Required.** Where the contributing drainage area, including off-site area (unless bypassed), is less than five (5) acres, a specific engineered design for sediment trapping facilities is not necessary and silt traps may be used to detain and treat runoff.
 3. **Removal of Sediment Basins.** Sedimentation basins shall be removed after successful revegetation of the site. Embankments to be left as permanent facilities shall have a capacity to safely pass the 100-year flood and meet any relevant dam and diversion requirements of the Colorado State Engineer's Office (also see requirements in Section 10-207, *Stormwater Runoff*).
- E. Construction De-Watering.**
1. Construction de-watering activities will conform with the CDPHE construction de-watering permit requirements including total suspended solids with a thirty (30) day average concentration of no more than 30 mg/l, a seven (7) day average of no more than 45 mg/l, and a daily maximum concentration of 60 mg/l.
 2. Discharges from construction de-watering operations shall be done in a manner which minimizes erosion and utilizes best management practices such as velocity reducers, sediment basins, straw bales or other measures.
- F. Inspection and Maintenance of Erosion and Sediment Control Devices.**
1. **Inspection.** The applicant shall be responsible for inspection and repair of all erosion and sediment control devices after any precipitation that creates runoff. At a minimum, erosion and sediment control devices shall be inspected every fourteen (14) days by a qualified professional engineer. An inspection log shall be kept on-site for review by Land Use Administrator or Inspector until the project is complete and submitted to the County upon request.
 2. **Maintenance.** Erosion and sediment control devices shall be maintained in a manner to support their effectiveness. Accumulated sediment shall be removed periodically from sediment basins and traps; straw bale and silt fence barriers shall be checked for undermining and bypass, and repaired or expanded as needed; and mulched soils shall be re-mulched where mulch has been lost or damaged.