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Section 300 Policy

301 INTRODUCTION

Provisions for adequate drainage are necessary to preserve and promote the general health, welfare, and economic well-being of the region. Drainage is a regional feature that affects all governmental jurisdictions and all parcels of property. This characteristic makes it necessary to formulate a program that balances both public and private involvement. Overall coordination and master planning must be provided by various government entities, but drainage planning must be integrated on a regional level.

When planning drainage facilities, certain underlying principles provide direction for the effort. These principles are made operational through a set of policy statements. The application of the policy is in turn facilitated by technical criteria and data. When considered in a comprehensive manner, on a regional level with public and private involvement, drainage facilities are provided in a manner that will enhance the general health and welfare of the region, ensure optimum economic and social relationships, and avoid uneconomic water losses and disruption of raw water delivery.

302 DEVELOPMENT AND PLANNING

Drainage is a component of development, and drainage facilities must be planned alongside development. Drainage planning should consider local and regional systems. Drainage planning considerations are discussed in depth in Section 400 Planning.

The policy of Boulder County shall be to consider storm drainage as an integral component of development and to require storm drainage planning for all development to include the allocation of space for drainage facilities.

Storm drainage can be a regional phenomenon and may not respect jurisdictional boundaries. Planning must emphasize jurisdictional cooperation, when appropriate, to accomplish mutually beneficial goals.

The policy of Boulder County shall be to pursue a jurisdictionally unified drainage effort to ensure an integrated plan, where applicable and appropriate.

Because drainage boundaries are not jurisdictional and new development cannot plan for the entire county, the county should take the lead role and encourage preparation of drainage master plans.

The policy of Boulder County shall be to encourage the development of detailed regional drainage master plans that will set forth site requirements for new development and identify the required public improvements. Master plans shall be prepared and adopted.

303 MULTIPURPOSE RESOURCE

Every community has competing demands for space and resources. Stormwater and drainage facilities should be managed and developed to serve as many uses and to provide as much benefit as is practicable at any given location. Examples of this include incorporating boatable drops, ecological design concepts, and space for trails into open channel design. It may also include constructing soccer fields within a floodplain where other development is not permitted or converting a landscaped area to a rain garden to treat water quality.

The policy of Boulder County shall be to consider stormwater runoff as a resource that should be incorporated into the community as a recreational, social, environmental, and aesthetic resource with multiple possible uses consistent with adopted plans.

304 TECHNICAL CRITERIA

The design criteria presented in this MANUAL represent the values and priorities of Boulder County with regard to stormwater management. The criteria are intended to establish guidelines, standards, and methods for effective planning and design. These criteria will be revised and updated as necessary to reflect advances in best practices in the field of urban water resources management and changes within Boulder County.

Boulder County requires all storm drainage facilities be planned and designed in accordance with the criteria set forth in this MANUAL, including referenced technical design documents, as amended.

Many of the criteria in this MANUAL refer to the major and minor storm or the major and minor storm runoff events.

The major storm shall be the rainfall event having a 1 percent chance of occurring in any given year, also known as the 100-year event. The minor storm shall be the rainfall event having a 20 percent chance of occurring in any given year, also known as the 5-year event.

305 RAW WATER AND WATER RIGHTS

Storm drainage infrastructure should be designed and developed so as not to interfere with existing water rights or affect the value, quality, and use of the water. Existing drainageways and storage facilities are often intertwined within the system of water rights in Colorado. This relationship must be addressed to preserve the integrity of water rights.

The policy of Boulder County shall be to recognize existing and potential future water rights and to include the interrelationship of water rights and stormwater management in the planning and design of the proposed drainage facility.

Many ditches and reservoirs that provide raw water for drinking and non-potable irrigation are located within Boulder County. These ditches and reservoirs historically intercepted runoff from rural or agricultural areas that were highly pervious, generally without major problems. With development, runoff pollution, rates, volumes, and frequencies have all increased and raw water facilities can no longer be used as drainage facilities.

Raw water ditches should not be used as basin boundaries. Ditches will generally be flowing full or near full during large storms, and tributary runoff will flow across the ditch.

The policy of Boulder County shall be to require drainage analysis to assume that no raw water ditch intercepts storm runoff from any basin above it, and that that all area above raw water ditches is tributary to the area downstream of the ditches. Raw water ditches shall not be assumed or relied upon to convey stormwater runoff.

If new development will alter existing patterns of storm drainage into raw water ditches or reservoirs by increasing flow rates or volumes, or by changing water quality or points of concentration, the written consent from the reservoir or ditch owners (individuals and/or company) shall be submitted with the development application. The change in runoff discharge into a raw water ditch shall only be approved if it is consistent with an adopted master drainage plan, approved by the reservoir or ditch owner(s) in writing, and in the county's best interest.

If raw water ditches cross major drainageways within a developing area, the developer shall be required to design, obtain approval from ditch owner(s), and construct appropriate structures to separate peak storm runoff from ditch flows.

306 ROADWAYS

The design of roadways and drainageways with respect to each other must balance public safety and convenience with fiscal responsibility. Section 900 discusses allowable roadway encroachment and overtopping by stormwater during design events for various roadways classifications within the county.

Boulder County recognizes that during major storm events, roadways may experience overtopping for some period of time, and may not be available for travel. It is the policy of the county to construct a resilient transportation system so that when overtopping subsides, the infrastructure will be available for safe travel.

All roadways in Boulder County shall be evaluated with respect to stormwater runoff in accordance with the criteria in this MANUAL; specifically, Section 900 Roadways and Section 1000 Culverts and Bridges, shall apply to all roadways, including all private access roads, whether in the public right-of-way or not.

The policy of Boulder County shall be that all private access shall meet the criteria of this MANUAL.

307 ECOLOGICAL DESIGN

Ecological design, especially in channel restoration, has numerous public and environmental benefits when applied in an appropriate location. Ecological design components can be incorporated into almost all traditional engineering projects, but the design approach must balance ecological function with the need for channel stability.

The policy of Boulder County is to promote ecological design. The potential for every channel restoration project to include ecological components shall be discussed with the county during project planning. Ecological design will be incorporated.

308 SUMP PUMPS

Many homes and structures in the county have sump pumps located below the basement floor elevation that help to keep water out of the structures' basements. Shallow groundwater can result in consistent sump pump discharges to the ground surface. These flows can become problematic when there are not established locations for the sump pumps to discharge.

Locations that are not acceptable for sump pump discharge include sanitary sewers, privately owned adjacent property (without written permission), sidewalks, and curb and gutter sections. The county considers discharge of sump water to county roads to cause harm. Discharge to roadways will not be permitted. Acceptable locations include existing drainageways, existing public stormwater conveyance facilities excluding curb and gutter sections, and adjacent property with written approval from the owner. Discharge to raw water ditches or reservoirs as described in section 305 is allowable with the written permission of the facility owner(s). All sump discharge water must be free of all pollutants, including, but not limited to, solvents, pesticides, oil, and grease.

Where no acceptable location is immediately available, a pathway must be constructed to convey the sump discharge to the nearest acceptable location. This pathway may be constructed above ground as a roadside ditch or underground as a trenched pipeline. Boulder County must be consulted and approve of all sump drainage outfall construction that is located within county right-of-way. Written consent must be obtained from any raw water ditch or reservoir owner into which sump discharge is conveyed.

309 FLOODPLAIN MANAGEMENT

The county has adopted floodplain regulations that set forth the purpose, restrictions, and requirements for development within the regulatory floodplain. These regulations can be found in the CODE and are not repeated herein. They are considered policy for this MANUAL.

The policy of Boulder County regarding floodplain management shall be as set forth in the adopted floodplain regulations in the most recent version of the Boulder County Land Use Code and in the State floodplain regulations.

The floodplain regulations apply to all areas within the Floodplain Overlay District as defined in the most recent version of the CODE. There are specific provisions for the floodway, the flood fringe, and floodproofing. Floodplain regulations are discussed further in Section 1400 Environmental and Regulatory Permitting.

The Colorado Water Conservation Board issued *Rules and Regulations for Regulatory Floodplains in Colorado* (State floodplain regulations) on November 17, 2010. They can be found online (http://www.casfm.org/papers/Colorado_Floodplain_Rules_and_Reqs_11-17-2010_Adopted.pdf) or via an internet search of “rules and regulations for regulatory floodplains in Colorado.”

310 DETENTION

Local detention can reduce increased runoff rates caused by development to runoff rates that are closer to the historical or predevelopment rates. Regional detention can provide an even larger benefit by controlling a greater volume of storm runoff.

The policy of Boulder County is to require all new development and redevelopment to provide full-spectrum detention as set forth in Section 1200 Detention and Permanent Water Quality of this MANUAL.

311 WATER QUALITY

Stormwater runoff from developed areas is usually of poor quality. Pollutants in urban runoff may consist of all kinds of trash and debris, chemicals and salts from winter ice control, pesticides, herbicides, fertilizers, and bacteriological pollutants. Pollutants in rural runoff may include sand and silt, fertilizers, and bacteriological pollutants. Industrial runoff pollutants may consist of silts, oils, salts, and other chemicals.

The policy of Boulder County is to require all new development and redevelopment to provide permanent water quality treatment as set forth in Section 1200 Detention and Permanent Water Quality of this MANUAL.

312 MAINTENANCE

Storm drainage, storage, and water quality facilities will lose function over time if they are not maintained. Maintenance typically involves removal of debris and sediment from all kinds of stormwater facilities. Channel bank erosion, damage to drop structures, crushing of pipe inlets and outlets, and deterioration to the facilities must be repaired to avoid reduced conveyance capability, unsightliness, and failure. Maintenance access must be designed to facilitate maintenance activities.

Boulder County requires that maintenance access be provided to all drainage facilities. The property owner or homeowner's association shall be responsible for maintaining all drainage facilities unless modified by an agreement with Boulder County. Boulder County shall have the right to enter a property for the purpose of maintenance if the owner fails to do so. All such maintenance costs shall be reimbursed to Boulder County by the property owner.

The UDFCD provides an incentive program, called the Maintenance Eligibility Program (MEP), to encourage responsible design in developer-initiated floodplain modification projects. The UDFCD's Floodplain Management Program will review and comment on proposed development projects. Projects approved through the MEP process are eligible for UDFCD maintenance. Projects must meet the criteria contained in the UDFCD's USDCM as well as the Guidelines for Maintenance Eligibility.

It is the policy of Boulder County to pursue maintenance eligibility status from the Urban Drainage and Flood Control District for projects owned and operated by the county.

313 TRANSBASIN DIVERSIONS

Transferring the burden of managing runoff from one location or property to another is not equitable. Ongoing liability questions arise when the historic drainage patterns are altered. The diversion of runoff from one basin to another should be avoided. Planning and design of stormwater facilities should not be based on the premise that problems can be transferred from one location to another.

Changes to historic or natural drainage paths because of development within a major basin are generally acceptable provided the altered flow path continues to discharge back into the natural drainageway at or near the historic location. When runoff does not return to the historic drainageway, or returns at a rate higher than the historic rate, the basic civil drainage law principle of not discharging water onto a property in a manner or quantity that does more harm than formerly is violated.

The policy of Boulder County shall be to prohibit transbasin diversions of stormwater and to maintain the historic drainage path within the basin.