

COMPARISON OF CITY'S CURRENT DRAINAGE POLICY

AND

PROPOSED SECTION 1 – DRAINAGE POLICY

Allowable Depth of Flow in Streets

Current criteria for the City of Copperas Cove requires that for a 25-year frequency event the runoff must be contained within the curb lines. For a 5-year frequency storm, one 12-foot dry lane must be maintained for residential streets, one 16-foot dry lane must be maintained for a neighborhood collector street and two 12-foot lanes must remain dry for industrial streets, arterial streets and highways.

In addition, the runoff from the 100-year storm must be contained within the public right-of-way.

The Proposed Criteria requires that for a 25-year frequency storm, the runoff cannot exceed the top of curb depth for a residential street, one 8-foot lane must remain dry for a minor collector, one 12-foot lane must remain dry for a commercial/industrial collector and one 24-foot lane must remain dry for a major 4 lane collector.

No concentrated point discharges directly into the streets will be allowed unless approved by the City Engineer.

No lowering of the standard height of street crown shall be allowed for the purposes of obtaining additional hydraulic capacity.

Street Cross Flow is allowed only in the case of super elevation of a curve or overflow from the higher gutter on a street with cross fall. The depth of flow shall not exceed six inches of depth at any point in the street.

In street intersections, the cross flow of water shall not exceed six inches of depth at any point in the intersection.

In addition, the runoff from the 100-year storm must be contained within the public right-of-way.

Channels & Ditches

Current criteria for the City of Copperas Cove requires that for drainage areas less than 1000 acres, the design must be based upon the 25-year frequency event and for drainage areas of 1000 acres or more, the design must be based upon the 50-year frequency event.

The Proposed Criteria requires that all channels be designed based upon the 25-year storm event in regards to stability and non erosive velocities. In addition, all channels must be designed with sufficient freeboard such that the 100-year frequency event is contained within the dedicated drainage easement.

In addition, vegetation of earthen channels must be established as a condition of acceptance by the City.

Culverts & Bridges

Current criteria for the City of Copperas Cove requires that for drainage areas less than 1000 acres, the design must be based upon the 25-year frequency event and for drainage areas of 1000 acres or more, the design must be based upon the 50-year frequency event. This criteria refers to design for residential streets. In the case of major streets & thoroughfares, all designs must be based upon the 50-year frequency event. These runoff events must be contained within the structures without overtopping the roadway.

In addition, the designer must provide for an emergency overflow to safely carry the runoff from the 100-year frequency event. If this is not possible, the structure must be designed to carry the 100-year event without overtopping.

The Proposed Criteria requires that for residential streets, runoff from the 100-year frequency flow shall not produce a headwater elevation at the roadway greater than six inches above the crown of the street or the top of the upstream curb elevation. In the case of major streets & thoroughfares, runoff from the 100-year storm shall not produce a headwater elevation at the roadway greater than three inches above the crown of the roadway or the top of the upstream curb elevation.

Stormwater Detention Requirements

Current criteria for the City of Copperas Cove requires that adequate site drainage and detention be provided for new developments upstream of existing developments in order to maintain the existing storm water runoff characteristics. The proposed development should no increase the design peak discharge over that which existed prior to development. Furthermore, any changes in the flow patterns should not adversely affect adjoining or other properties.

The Proposed Criteria requires that pre-developed peak flows generated from the 25-year frequency storm shall not be increased. The peak flows from the 25-year storm shall be detained in onsite stormwater detention basins with release rates equal to, or less than the flows generated from the site for the 25-year storm event when the site was in its existing (natural) state. Detention ponds must be designed such that the 100-year storm will not overtop the structure. The Engineer shall design an emergency spillway system that will safely discharge the 100-year storm without damage to the downstream property.

In addition, the City Engineer shall have the authority to waive the requirement for onsite detention, provided that at least one (1) of the following conditions is met:

1. The development is eligible to financially participate in an approved regional stormwater management facility. Under this provision, the applicant shall demonstrate that the peak, post-developed runoff generated from the 100-year storm can be conveyed downstream to the regional facility and not impact adversely and downstream properties. An adverse impact shall be:
 - a. any impact which causes an inundation, or an increased inundation, of any building structure, roadway, or improvement.
 - b. downstream erosion and/or sedimentation, or an increase in erosion and/or sedimentation.
2. The development is adjacent to a defined water course that has sufficient capacity to convey the site's post-developed peak discharge from the 100-year storm event without creating an adverse impact on any other properties. The discharge in the water course shall be determined by using the 100-year storm event with the post-developed site and the remainder of the watershed in an ultimate build-out state.
3. The development is located such that onsite detention may worsen downstream conditions of the watershed. In such cases, the Engineer shall demonstrate that conveyance or a combination of detention and conveyance will provide a safer downstream condition.

Flood Plain Management

Both the current criteria of the City of Copperas Cove and the Proposed Criteria require that because the City participates in the National Flood Insurance Program, the City has adopted FEMA standards for Flood Plain Management. If land development activities are proposed which will result in flood hazard boundary delineations different from those depicted on the current Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA), the applicant for a development permit shall obtain a Conditional/Letter of Map Revision (CLOMR/LOMR) from FEMA.

In addition, all lots that are developed on tracts of land that are adjacent to or included in designated FEMA flood plains must include elevations for finished floors of structures a minimum of 1 foot above the 100-year storm base flood elevation.

Lot Grading

The current criteria for the City of Copperas Cove does not require lot grading to be included as part of the subdivision platting process. Lot grading is required by the City's adopted building code as part of the issuance of building permits by the City's chief building official.

The Proposed Drainage Criteria does require that a grading plan for all lots within a subdivision be a part of the subdivision platting process. This lot grading plan must include finished floor elevations for each lot and a grading plan that does not adversely affect adjacent lots, property or downstream property.