

**RULE NO.: R161-21.19**

**ADOPTION DATE: September 29, 2021**

## **NOTICE OF RULE ADOPTION**

By: Jorge L. Morales, P.E., CFM, Director  
Watershed Protection Department

The Director of the Watershed Protection Department has adopted the following rule. Notice of the proposed rule was posted on July 22, 2021. Public comment on the proposed rule was solicited in the July 22, 2021 notice. This notice is issued under Chapter 1-2 of the City Code. The adoption of a rule may be appealed to the City Manager in accordance with Section 1-2-10 of the City Code as explained below.

A copy of the complete text of the adopted rule is attached to this notice.

## **EFFECTIVE DATE OF ADOPTED RULE**

A rule adopted by this notice is effective on September 29, 2021.

## **TEXT OF ADOPTED RULE**

R161-21.19: Modifies the Drainage Criteria Manual as follows:

- DCM Section 1: *Drainage Policy*
  - Section 1.2.5 *Computations* – Updated to reflect when two-dimensional hydraulic modeling is appropriate in lieu of one-dimensional modeling to determine water surface elevations.

## **COMMENTS AND CHANGES FROM PROPOSED RULE**

No comments were received, and no changes were made.

## **AUTHORITY FOR ADOPTION OF RULE**

The authority and procedure for the adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is established in Chapter 1-2 of the City Code. The authority to regulate water quality is established in Chapter 25-8 of the City Code.

## **APPEAL OF ADOPTED RULE TO CITY MANAGER**

A person may appeal the adoption of a rule to the City Manager. **AN APPEAL MUST BE FILED WITH THE CITY CLERK NOT LATER THAN THE 30TH DAY AFTER THE DATE THIS NOTICE OF RULE ADOPTION IS POSTED. THE POSTING DATE IS NOTED ON THE FIRST PAGE OF THIS NOTICE.** If the 30th day is a Saturday, Sunday, or official city holiday, an appeal may be filed on the next day which is not a Saturday, Sunday, or official city holiday.

An adopted rule may be appealed by filing a written statement with the City Clerk. A person who appeals a rule must (1) provide the person's name, mailing address, and telephone number; (2) identify the rule being appealed; and (3) include a statement of specific reasons why the rule should be modified or withdrawn.


Notice that an appeal was filed and will be posted by the city clerk. A copy of the appeal will be provided to the City Council. An adopted rule will not be enforced pending the City Manager's decision. The City Manager may affirm, modify, or withdraw an adopted rule. If the City Manager does not act on an appeal on or before the 60th day after the date the notice of rule adoption is posted, the rule is withdrawn. Notice of the City Manager's decision on an appeal will be posted by the city clerk and provided to the City Council.

On or before the 16th day after the city clerk posts notice of the City Manager's decision, the City Manager may reconsider the decision on an appeal. Not later than the 31st day after giving written notice of an intent to reconsider, the City manager shall make a decision.


## **CERTIFICATION BY CITY ATTORNEY**

By signing this Notice of Rule Adoption (R161-21.19), the City Attorney certifies that the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

## **REVIEWED AND APPROVED**

  
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Jorge L. Morales, P.E., CFM, Director  
Watershed Protection Department

Date: 09/17/2021

 for  
\_\_\_\_\_  
Anne L. Morgan  
City Attorney

Date: 9/20/2021

This Notice of Rule Adoption was posted on the City website by the City Clerk. The date and time stamp are on the front of the notice.

### 1.2.5 - Computations

Computations to support all drainage designs shall be submitted to the appropriate City departments for review. The computations should be in such form as to allow for timely and consistent review and also to be made a part of the permanent City record for future reference. All computations submitted shall be certified by a professional engineer registered in the State of Texas.

The City of Austin maintains and makes available to the public engineering models for floodplain and storm drain analysis. The models maintained and distributed by the City have been developed in the computer simulation packages listed in the following table. The City maintains licenses and expertise in these computer simulation packages.

Drainage studies based on computer simulation packages other than those listed in the table and any studies based on two-dimensional model simulations must receive a waiver approved by the Director of the Watershed Protection Department. Applicants submitting studies based on versions of the software listed in the table that are not the latest available versions should coordinate with the Watershed Protection Department prior to submittal.

#### City of Austin Standard Engineering Models for Drainage Analysis and Design

Hydrologic Analysis for Floodplain Studies	HEC-HMS
Hydraulic Analysis for Floodplain Studies	HEC-RAS
Detention Pond Design	HEC-HMS, PondPack
Storm Drain Analysis and Design (Steady State)	StormCAD
Storm Drain Analysis and Design (Unsteady State)	CivilStorm

#### A. Two-Dimensional Model Simulations

The hydraulic modeling used to determine water surface elevations along creeks and open channels is typically completed using a one-dimensional (1-D) hydraulic model. These models are based on an underlying assumption that the conveyance of stream flow and associated velocities are only significant in the primary direction of the flow of the studied stream. These models generally provide an accurate representation of flood risk for most stream systems.

Two-dimensional (2-D) hydraulic models may be used in situations where a 1-D model may not be able to provide accurate results. 2-D models are most applicable to streams in flat terrain with broad floodplains where flow is moving in two or more directions, or when flow becomes hydraulically disconnected between the main channel and portions of the floodplain.

The decision to use a 2-D model is up to the design professional. They must determine whether 2-D modeling is appropriate based upon the conditions that need to be analyzed. In general, the design professional should select the simplest model that can be used to represent a given flow situation with accuracy.