

DRAINAGE ORDINANCE REVISION AND DRAINAGE CRITERIA MANUAL

February 2021



Introductions

Meeting Protocol

- Please “mute” your microphone
- Use “chat” to ask questions
- “Raise” your hand and we’ll call on you

Documents

Found at okc.gov/pw

- Drainage Ordinance (Chapter 16)
- Drainage Criteria Manual
- Summary of Proposed Revisions

Chapter 16 - DRAINAGE AND FLOOD CONTROL¹¹

§ 16-1. - Purpose and scope.

It is the intent of this chapter to establish community floodplain management ordinances to protect the general health, safety and welfare of the public from the hazards and damages of flooding; to provide clean and sanitary channels for stormwater runoff; to prevent pollution of watersheds, streams and channels; to prevent the encroachment of structures and improvements on channels to protect natural scenic areas; and to provide for the conservation of the natural resources of the area. All subdivisions of land and all developments or improvements of any character which affect runoff, stormwater flow or drainage in any portion of the City of Oklahoma City (City) shall be subject to the provisions of this chapter and the technical details within the Oklahoma City Drainage Criteria Manual or impair any existing requirements. However, where another ordinance imposes the more stringent restrictions s

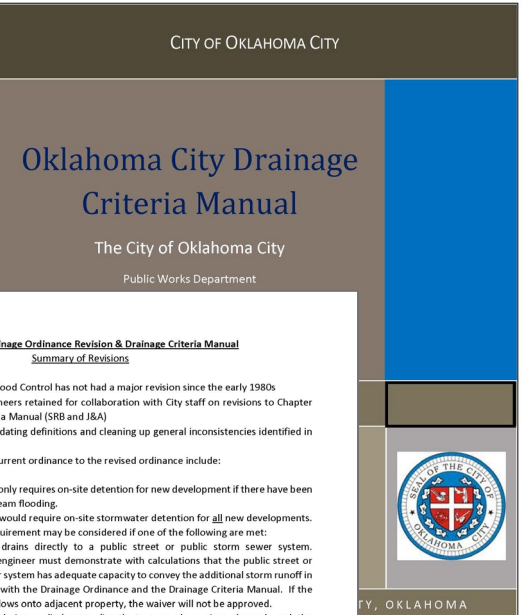
§ 16-2. - Administration

1. Local Floodplain Administrator

The City Engineer is designated administrator and implement the provisions of 44 CFR, National Flood Insurance Program, to authorization of any building permit stream flow and runoff calculations. The City Engineer has final authority.

2. Applicability of provisions.

- The Consultant Engineer and seal all final plans submitted of the plans by the City shall not design included as part of the plan.
- The flood prone area parcels or lots which are in part of 200 feet of the external boundary (FEMA) floodplain for maps, or an area deemed flood prone.
- The location and bound



Chapter 16 – Drainage Ordinance Revision & Drainage Criteria Manual Summary of Revisions

- Chapter 16 – Drainage & Flood Control has not had a major revision since the early 1980s
- Two Local Consulting Engineers retained for collaboration with City staff on revisions to Chapter 16 and the Drainage Criteria Manual (SRB and J&A)
- Minor revisions include updating definitions and cleaning up general inconsistencies identified in the current ordinance
- Major revisions from the current ordinance to the revised ordinance include:

DETECTION

- Current Ordinance only requires on-site detention for new development if there have been reports of downstream flooding.
- Revised Ordinance would require on-site stormwater detention for all new developments.

A waiver of this requirement may be considered if one of the following are met:

- If the site drains directly to a public street or public storm sewer system. Developer/engineer must demonstrate with calculations that the public street or storm sewer system has adequate capacity to convey the additional storm runoff in accordance with the Drainage Ordinance and the Drainage Criteria Manual. If the site runoff flows onto adjacent property, the waiver will not be approved.
- If the site drainage discharges directly to a creek or river channel, and the developer/engineer provides calculations showing that the downstream discharge in the creek or river will increase as a result of the on-site detention

- Removed requirement for Fee-in-Lieu of Detention (FILO)
- Current ordinance requires detention for 100-year event only.
- Revised Ordinance will require multi-frequency outlet structure design for the 2-, 5-, 10-, 25-, 50-, and 100-year storm events. Research of other cities shows that the multi-frequency outlet design is standard practice.
- Individual lots such as residential houses will not be required to provide detention.

DRAINAGE CHANNELS

- Current ordinance requires a channel to convey the runoff from a 50-year storm event.
- Revised ordinance will require all open drainage channels in a development to be designed to convey the runoff from the 100-year storm event, or have the land that would be inundated by such an event be contained within an easement or common area.

DRAINAGE CRITERIA MANUAL (DCM)

- All storm sewer design criteria has been removed from the Drainage Ordinance and will be published in the City of Oklahoma City Drainage Criteria Manual (DCM).
- The DCM will be presented as a reference document to the Drainage Ordinance.
- Subsequent revisions to the DCM may be approved administratively by the Public Works Director/City Engineer without additional approval by the City Council. Revisions will be posted on the City website for a minimum of 60 days before becoming effective.

AGENDA



DRAINAGE ORDINANCE REVISION

Chapter 16 revisions include definition update and clean up of inconsistencies



DRAINAGE CRITERIA MANUAL

Storm sewer design

CURRENT ORDINANCE

HISTORY

Revisions:

Chapter 15A – 1981 to 2020

- Drainage and Flood Control Ordinance
- Made part of Oklahoma City Code in 1970

Chapter 16

- FEMA map amendments periodically with last update in 2020
- Fifteen revisions to the Drainage Ordinance since 1981

NEED FOR REVISION

1

Address inconsistencies within Chapter 16

2

Revise definitions to be more consistent with FEMA

3

Remove Drainage Design Criteria from Chapter 16 and create Drainage Criteria Manual for design requirements

4

Revise drainage design criteria to address current and future flooding issues

DRAINAGE ORDINANCE REVISIONS

DETENTION

Changes: on-site detention, fee-in-lieu of detention, multi-frequency outlet structure design and individual lot requirement

DRAINAGE CHANNELS

Changes: open drainage channel 50-year changes to 100-year storm event

DRAINAGE CRITERIA MANUAL

Changes: storm sewer criteria moved to Drainage Criteria Manual

STORM SEWER SYSTEMS

Changes: on-grade storm sewer system 10-year changes to 25-year storm event

PUBLIC VS PRIVATE STORM SEWER SYSTEMS

Changes: definition of private systems, review, approval, inspection, development site

FLOODPLAIN ACTIVITY PERMIT

Changes: FEMA certificate requirements

DETENTION UPDATE

- Requires on-site detention for all new developments
 - Waiver considered if site:
 - drains directly to public street or public storm sewer system
 - drainage discharges directly to creek or river channel
- Removed requirement for Fee-in-Lieu of Detention (FILO)
- Requires multi-frequency outlet structure design for 2-, 5-, 10-, 25-, 50- and 100-year storm events

DRAINAGE CHANNELS UPDATE

- Requires all open drainage channels in a development to be designed to:
 - convey the runoff from the 100-year storm event
- or-
- have the land that would be inundated by such an event be contained within an easement or common area

DRAINAGE CRITERIA MANUAL

- Storm sewer design removed from Drainage Ordinance and published in Drainage Criteria Manual (DCM)
- DCM presented as reference document to Drainage Ordinance
- Subsequent revisions to the DCM may be approved by Public Works Director/City Engineer without City Council approval.
 - Revisions will be posted on okc.gov/pw for a minimum of 60 days before becoming effective

STORM SEWER SYSTEMS UPDATE

- Revised ordinance requires on-grade Storm Sewer Systems to be designed for the 25-year storm event

PUBLIC VS PRIVATE STORM SEWER SYSTEMS UPDATE (1 of 2)

- If all drainage, or storm water runoff, to be intercepted and carried by the storm sewer system is generated on the development site, that storm sewer system shall be PRIVATE and maintained by the property owner
- Private Storm Sewer Systems will:
 - Not be:
 - Submitted to Public Works Engineering for review and approval
 - Inspected by Public Works personnel
 - Be:
 - Plan Reviews and inspections provided to Development Services plumbing inspectors in accordance with applicable Plumbing Code

PUBLIC VS PRIVATE STORM SEWER SYSTEMS UPDATE (2 of 2)

- Public Storm Sewer Systems will:
 - Be:
 - Provided when an off-site drainage area of greater than 6 acres enters the development site
 - Provided when an existing storm sewer system, either public or private, discharges onto a new development site
 - Reviewed by Public Works Engineering for approval
 - Following construction, new infrastructure must be dedicated to the City, and the City will assume future maintenance

FLOODPLAIN ACTIVITY PERMIT

- FEMA certificates will:
 - No longer be required for buildings/structures that lie within 200 feet of a FEMA mapped floodplain
 - Be required when a building/structure is within the limits of the FEMA mapped floodplain

NEXT STEPS

1

Second Meeting – February 26, 2021

2

Comments/Revisions – March 26, 2021

3

Introduction to City Council – April 27, 2021

4

Public Hearing – May 11, 2021

5

Approval – May 25, 2021

QUESTIONS

1

Comments may be emailed to PWDrainage@okc.gov

2

Use comment form found at okc.gov/pw

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okc.gov/pw

