



City of San Antonio

Agenda Memorandum

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Agenda Item Number:

Agenda Date: 2/25/2019

In Control: Planning Commission

DEPARTMENT: Transportation & Capital Improvements

DEPARTMENT HEAD: Razi Hosseini, P.E., R.P.L.S.

COUNCIL DISTRICTS IMPACTED: Citywide

SUBJECT: UDC Amendments- Drainage Manual & Atlas 14

SUMMARY:

TCI recommends amending Chapter 35, Unified Development Code, of the City Code of San Antonio, Texas, Appendix H - Storm Water Design Criteria Manual including Sections 35H-1.2 Acronyms and Abbreviations; 35H-5.5 Rainfall Data; 35H-5.5.1 Rainfall Intensity-Duration; 35H-5.5.2 Rainfall Depth-Duration Frequency; and associated Table of Contents and Lists of Figures and Tables changes.

BACKGROUND INFORMATION:

Atlas 14 is a study of rainfall frequency and intensity. The most recent study (Atlas 14, Volume 11), which includes Texas, was published by the National Oceanic and Atmospheric Administration (NOAA) in September 2018. The UDC requires the use of best available data for drainage and floodplain design, so TCI proposes to implement the Atlas 14 rainfall data through a UDC Amendment. The proposed amendment includes increasing design rainfall depths by 10-30%.

Implementation of Atlas 14 has implications for City of San Antonio flood risk reduction policies and programs, capital project development and delivery, and implications for the community as a whole. Issues of concern include:

- Floodplain Maps- Redefinition of the extent and possible widening of the 100-year floodplain, which affects the City's overall floodplain management program and regulatory policies. Redefining floodplains will likely result in more structures within the effective FEMA floodplains, which means more residents and business will likely be required to purchase flood insurance.
- Drainage Project Design- An increase in design rainfall depths will likely impact design of drainage systems for subdivisions and for flood risk reduction.
- Increased Perception of Risk- An increase in the perceived risk to our community in areas with flooding and drainage issues occur.
- Funding Needs- Potential cost implications for costs related to land development, capital projects, and the floodplain program.

TCI has worked with the Bexar Regional Watershed Management (BRWM) partners, including Bexar County and the San Antonio River Authority (SARA), to perform technical analysis, study potential floodplain impacts, and propose UDC amendments.

TCI organized an Atlas 14 Land Development Stakeholder Group consisting of more than two dozen members, which

included representatives from TCI, Development Services Department (DSD), Texas Department of Transportation (TxDOT), Bexar County, SARA, Real Estate Council (RECSA), Professional Engineers in Private Practice (PEPP), and other engineering consultants. The engineering companies varied in size, technical specialty, and regional presence. The Group met seven times to discuss implementation of Atlas 14 and proposed UDC amendments.

Based on coordination with BRWM and the Land Development Stakeholder Group, TCI has developed proposed UDC amendments and an accompanying Information Bulletin.

ISSUE:

The Atlas 14, Volume 11 study shows that design rainfall depths for a 100-year storm (1% annual chance) are higher design rainfall depths from previously accepted studies. In addition, the range of rainfall depths across the county is greater than previously accepted. The UDC requires the use of best available data, so TCI proposes to amend the UDC.

Atlas 14, Volume 11 indicates that precipitation depths vary across the region for each storm frequency. For the purposes of storm water design and analysis, the region will be broken into five (5) Precipitation Areas. These areas allow for appropriate design depths depending on the location within the region.

The proposed amendments to the Storm Water Design Criteria Manual establish the five (5) Precipitations Areas by adding a new figure (map), and provide rainfall design data for each of the areas. Previously, the UDC had one (1) set of rainfall design tables; the proposed version will replace those with five (5) sets of tables. Some additional narrative has been added to support the proposed figure and tables.

TCI has also drafted an Information Bulletin to facilitate the implantation of the UDC amendments, specifically related to floodplain analysis, phased developments, and adverse impact analysis.

The proposed amendments provide a means to implement the best available rainfall data translated into a format usable to the local community. Using the best available data is imperative for maintaining the public health, safety, and welfare.

ALTERNATIVES:

As an alternative, the Technical Advisory Committee may choose not to move forward with approving actions needed to amend the Unified Development Code. However, this would be in contradiction to the UDC requirement for using the best available data.

FISCAL IMPACT:

Acceptance of Atlas 14 rainfall data as best available data may increase costs to some capital projects and land development projects. The cost impact is variable and depends on watershed size, topography, and other factors.

RECOMMENDATION:

Staff recommends Approval.