MAYOR & COUNCIL MEMORANDUM

October 22, 2024

Subject: Discussion on Flood Control Projects in the City Limits (City Wide)

Issue – Time has been set aside in today's Study Session at the request of Vice Mayor Dahl and Council Member Uhlich to discuss flood control projects in the City limits.

City Manager's Office Recommendation – No action is required by the Mayor and Council as part of the Study Session item; however, Mayor and Council can provide feedback as appropriate.

Background – The City of Tucson (COT) has actively managed its floodplain resources since the mid-1970's and continues to undertake programs that will improve its resilience to flooding.
COT, with support from FEMA Region IX, and Arizona Department of Water Resources (ADWR), is the regulatory agency responsible for its own Floodplain Ordinance (FPO). The FPO allows the City to be a participating National Flood Insurance Program (NFIP) community, for which the City of Tucson performs various floodplain and erosion hazard management activities and receives credits based on performance. Activities include floodplain use permitting, outreach, mapping, emergency response, flood and erosion hazard mitigation, assisting Tucson constituents with drainage concerns, inspection of over 1,600 private and public basins, drainage maintenance of 383 miles of storm drains and open channels, and identifying areas without all-weather access due to flooding in order plan future improvements, such as box culverts or bridges. Tucson has a Community Rating System (CRS) rating of 6 which provides Tucson property owners a 20% discount on their low-risk and high-risk flood insurance policies.

Additionally, the Tucson Mayor and Council serve as the City's Floodplain Board which provides oversight to the Floodplain Administrator (FPA). Duties of the City of Tucson Floodplain Board includes considering variances, adopting Floodplain Ordinance and Floodplain Management Plan updates and having the authority to enforce City regulations within the city limits. The FPA utilizes the adopted "Floodplain Management Plan" (FMP) to address community-wide flooding hazards and mitigation measures based on CRS guidelines. The general goal of the Tucson FMP is to reduce risk and reduce costs associated with flood and erosion hazards. The 2016 FMP was developed as Phase V of the Tucson's master flood & erosion hazard management plan called the Tucson Stormwater Management Study (TSMS), which created the city design drainage manual used by other jurisdictions as well as many other manuals and reports. The FMP was updated again in 2020 which provided enhancements and reinstates TSMS by becoming current in the city's assessment of floodplain management needs and direction. A third, formal 5-year Tucson FMP update is currently being prepared for adoption by December 2025.

Pima County Regional Flood Control District (PCRFCD) is also an NFIP participating community, with a CRS Class 2 rating which provides residents within unincorporated Pima County a 40% discount of flood insurance policy premium. PCRFCD is the statutorily designated floodplain management agency within Pima County unless a city or town opts to become their own floodplain manager and adopts an ADWR compliant FPO. PCRFCD also has its own Floodplain Management Plan, which encompasses the entire County. Based on extensive input from the community, this Plan establishes PCRFCD priorities related to capital projects, floodplain studies, outreach, and updates to regulatory standards. PCRFCD encourages the City to participate in the regional Floodplain Management Plan Process.

Present Consideration(s) – PCRFCD's most significant regional involvement is related to capital project construction, regional watercourse and flood control facility maintenance, and floodplain studies. Recent projects include the completion of 5 neighborhood scale water harvesting areas, called stormwater parks, at Cherry Ave Park, New Hope Church in the El Vado neighborhood, Sunland Vista Park, Meander Bend Park, and Alvernon Park. Additional stormwater parks are in the planning stages. PCRFCD also contributed funding to the City for the completion of the Arroyo Chico storm drain improvements associated with Downtown Links and provided funding to Tucson Airport Authority to significantly improve the flooding issues experienced by the neighborhoods to the west of the airport. Planned projects include a pedestrian bridge of the Santa Cruz River near Sweetwater Preserve, participating with the City on a FEMA grant for improvements within the Christmas Wash watershed, and bank protection construction on the Santa Cruz to support the Drexel Road bridge. When capital improvement projects are completed, PCRFCD works with FEMA to change their maps via the FEMA Letter of Map Change (LOMC) process, when relevant.

Numerous major watercourse and flood control facility maintenance projects also occurred over the last few years, including large sediment removal projects on the Santa Cruz and Rillito Rivers, repair of the bank protection of the West Branch of the Santa Cruz River, Tucson Diversion Channel, and Alamo Wash. Additional sediment removal projects are proposed on Santa Cruz River and Rillito in the next few years.

PCRFCD also completed numerous floodplain studies within the urban core of Tucson using newer technologies that more accurately represent the flood risk in urban sheet flooding areas. Over the past few years, PCRFCD has completed studies of the following watersheds: Flowing Wells Wash including Navajo and Wilson Washes, Bronx Wash, Silvercroft Wash, and Rodeo Wash. Alvernon Wash watershed will likely be completed by the end of the year. In addition, PCRFCD is working with Tucson Water on studies of City lands in the Altar and Brawley Washes for potential projects that improve habitat, reduce flooding, and retain and store water for beneficial use.

PCRFCD has begun working more closely with Tucson Water to locate, design and construct projects that both reduce flooding and increase the potential for water recharge. PCRFCD will construct and Tucson Water will monitor the recharge benefits of a pilot project in the Rita Ranch regional detention basin, that PCRFCD owns.

PCRFCD's other regional responsibilities include:

- Providing regional flood threat recognition and flood warning via the operation and maintenance of the "Automated Local Evaluation in Real Time" (ALERT) stream and rain gage network, consisting of over 150 rain and stream sensors,
- Providing regional outreach messaging and paying for distribution of outreach material to over 13,000 City residents,
- Providing assistance in coordination with the Army Corps of Engineers (USACE),
- Processing LOMC's on behalf of the City of Tucson,
- Providing courtesy comments for consideration for projects and or reports that are in the vicinity of the City of Tucson's boundaries,
- Creating and maintaining GIS layers for federally and locally mapped floodplains that are shared with Tucson and other jurisdictions with the county, and
- Providing authorization for physical impacts to Pima County (PC) infrastructure or property

PCRFCD works with City of Tucson staff to ensure relevant and appropriate projects are identified and prioritized through annual and 5-year updates of the City of Tucson FMP and the Pima County multi-jurisdictional Hazard Mitigation Plan in which the city contributes.

Additionally, PCRFCD and the COT in conjunction with the USACE have jointly undertaken a variety of major flood control, environmental restoration and recreation projects:

- Arroyo Chico Multi-Use Project
- Randolph Park detention basins
- Park Avenue detention basins
- TUSD Cherry Field Basin
- Arroyo Chico Channel Improvements
- Tucson Diversion Channel

Other COT/PCRFCD partnerships:

- El Rio Golf Course Detention system to lower flood risk downstream
- El Vado Wash Drainage Improvements
- Ruthrauff Basin Management Plan and associated Gardner Lane drainage improvements

The following RTA Projects are a few examples of new underground storm water drainage systems capturing runoff from the roadway surface and conveying to a nearby wash or connecting to an existing storm water system for which PCRFCD was a technical partner:

- Broadway Boulevard: Euclid to Country Club
- 22nd Street: Camino Seco to Harrison
- Grant Road Phase 3/4: Alvernon to Craycroft
- Silverbell: Goret to El Camino Del Cerro
- First Ave from Grant to River

Please find attached a list of activities that PCRFCD have completed or that are planned. This is not a comprehensive list. The intent is to provide examples of the types of regional activities the District performs.

The goals of the long and successful partnership and focus for PCRFCD and COT are to reduce flood and erosion by identifying watershed breaches, identify existing development at risk from flooding, identify undersized infrastructure, improve community awareness, and provide safe, efficient, and balanced stormwater conveyance systems.

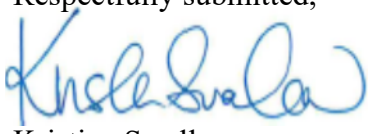
Plan Tucson Consideration(s) – This item relates to the following Elements:

- Water Resources and is supported by policies:
  - WR5 - Protect groundwater, surface water, and stormwater from contamination.
  - WR7 - Collaborate on multi-jurisdictional and regional water planning and conservation efforts
- Land Use, Transportation, & Urban Design and is supported by policy LT22 – Participate in efforts to develop a coordinated regional, multi-modal transportation system that improves the efficiency, safety, and reliability of transporting people and goods within the region and to destinations outside of the region.

Financial Considerations – Funding for the city's flood and erosion hazard mitigation is included in DTM's operating budget and PCRFCD's property tax levy.

Legal Considerations – The City Attorney's Office has reviewed this Memorandum.

Respectfully submitted,



Kristina Swallow
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KS/SC/AZ/ES/AW/hw
TRANSPORTATION AND MOBILITY

Attachment(s): Activities of the Pima County Regional Flood Control District within the City of Tucson
Memorandum from Vice Mayor Dahl and Council Member Uhlich dated September 4, 2024

SS/OCT22-24-192