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Staff Resources: Michael Moore, City Manager's Office, 996-4093, michael.moore@raleighnc.gov

Wayne Miles, Stormwater, 996-3940, wayne.miles@raleighnc.gov

Ran Northam, Communications, 996-3007, ran.northam@raleighnc.gov

Chief Herbert Griffin, Fire/Emergency Management, 996-5954, herbert.griffin@raleighnc.gov

Recent weather events in Texas and in the local area have heightened awareness of the importance of flood monitoring, emergency preparedness, and communications during severe weather events that may lead to imminent flooding risks. Council and the public have shared several questions with staff related to the City's efforts to keep the community safe and informed during major flood events. Included with the *Update* materials is a staff memorandum containing a summary of the City's Flood Early Warning System (FEWS), its Floodplain Management activities, Emergency Communications programs, and Emergency Flood Response Capabilities in the face of imminent flooding situations. The Flood Early Warning and Floodplain Management Programs are housed within Engineering Services' Stormwater Management Program. Information about City communications and outreach before, during, and following an event is also included in this memo, as is information related to the Raleigh Fire Department's emergency flood response capabilities.

(Attachment)

Big Branch Greenway Connector Update

Staff Resource: Stephen C. Bentley, Raleigh Parks, 996-4784, stephen.bentley@raleighnc.gov

Raleigh Parks, Recreation and Cultural Resources and several collaborating departments have officially launched all the 2022 Parks Bond projects. These projects are in various stages from planning to design and construction. The greenway Big Branch Connector project will connect Crabtree Creek Trail to Cedar Hills Park and ultimately make a pedestrian and bike connection that crosses Interstate 440. This connector ranked first among 98 projects in the 2022 Greenway Master Plan. When complete, 7,000 additional people will be within a 10-minute walk of a City greenway, and staff anticipate the number will grow to 10,000 as homes continue to develop in this area.

The community input portion has just finished, with input from more than 1,600 people. The streamside alignment option was chosen by 62.1 percent, followed by the Plantation Road/Hines Drive alignment. This first option runs along Big Branch Creek and behind several homes, whose owners have opposed this route. Staff continues to evaluate the results and options for approval and will present to the Greenway Committee on July 14 and the Parks Board on July 17. Staff anticipate bringing the recommendation to Council on Aug. 19.

The City is excited to have a project of this significance take its next step forward. Information regarding the project is kept up to date on the City website [here](#).

(No attachment)

Families Together — 908 Plainview Dr Funding Swap

Staff Resource: Pat Dawson, Housing and Community Development, 996-6951, pat.dawson@raleighnc.gov

In 2021, the City awarded \$618,000 in CDBG-CV3 funding to Families Together to support the expansion of their emergency shelter at 908 Plainview Dr. The expansion project would add an additional four units of non-congregate shelter to their existing eight units. Since that award, the project has faced significant cost increases. Families Together later requested a \$600,000 loan to close the funding gap, which Council approved in fall 2024 using local housing bond funds.

Since that time, the existing shelter facility sustained significant fire damage. As a result, Families Together has revised their plans. Rather than rehabbing the damaged structure, they now intend to construct a new emergency shelter. The overall outcome of the project remains unchanged (12 units of non-congregate shelter), and they are not requesting additional funds.

Given this change in project scope, we are pursuing a funding adjustment. Staff plans to swap the previously awarded CDBG-CV3 funds with local bond funds. The CDBG-CV3 funds have a strict expenditure deadline of June 30, 2026, and will now be applied to the Studios at 2800 Brentwood hotel project. This funding swap will ensure that the funds are spent by the deadline. The local bond funds would then be used to support the Families Together shelter project.

(No attachment)

Weekly Digest of Special Events

Staff Resource: Sarah Heinsohn, Office of Special Events, 996-2200, sarah.heinsohn@raleighnc.gov

Included with the *Update* materials is the special events digest for the upcoming week.

(Attachment)

Council Member Follow Up Items

No Items This Week

To	Marchell Adams-David, City Manager
Thru	Michael Moore, Assistant City Manager
From	Wayne Miles, Engineering Services; Ran Northam, Communications; Chief Herbert Griffin, Fire
Departments	Engineering Services, Communications, Fire
Date	July 11, 2025
Subject	City of Raleigh – Flood Early Warning System (FEWS), Floodplain Management, Emergency Communications, and Emergency Preparedness

Recent events have heightened awareness of the importance of flood monitoring and predictions and emergency communications to the public associated with upcoming and imminent flooding risks. Catastrophic flooding of the Guadalupe River in Kerr County and surrounding areas in Texas on July 4-5, 2025, resulted in at least 108 lives being lost and massive property damage that is still being quantified. Significant flooding in Alamance, Orange, Chatham, and Durham Counties in North Carolina associated with Tropical Depression Chantal on July 6-7, 2025, led to at least three lives being lost and substantial property damage.

Both storm events caused record-breaking flood levels and included rainfall intensities and large rainfall volumes that were unprecedented for these areas. As climate change creates atmospheric conditions that are more conducive to these types of extreme events, it is important that we continue to improve our flood early warning systems and emergency communications technologies and processes to prioritize public safety.

This memorandum contains a summary of the City of Raleigh’s Flood Early Warning System (FEWS) and Emergency Communications programs. The Flood Early Warning and Floodplain Management Programs are housed within the City’s Stormwater Management Program (Stormwater Team). Additional information about city communications before, during, and following an event is also included in this memo.

The Stormwater Team works closely with City Emergency Management and Emergency Communications and City leadership prior to, during, and after significant storm events. As communication and awareness is so important, the City of Raleigh seeks to provide early, proactive, and frequent communications both for internal public safety responders and to the public at large regarding potential and real flooding situations within the Raleigh area.

Raleigh’s FEWS is comprised of dedicated staff, advanced technology, and collaborative communications to help keep the public aware of and safe from potentially hazardous flooding conditions.

The Raleigh Stormwater team has multiple storm activation modes to track and monitor storm events depending on forecasts and storm severity. We have trained staff with

sufficient knowledge, abilities, and expertise to sustain multiple shifts of flood monitoring and reporting indefinitely as needed to support community communications and other city department operations.

During a storm event activation, the Raleigh Stormwater team sends updated monitoring reports via Teams and e-mail on a regular reporting period as needed to support timely and accurate updates. This reporting is typically every hour during significant storm events, but this period may be adjusted shorter or longer based on actual storm conditions.

Raleigh Stormwater's reports are distributed internally to other city departments and this information is used to make operational decisions including emergency public communications and other emergency response activities. Below is a description of the tools used by the Raleigh Stormwater team for flood-related preparations and monitoring.

Raleigh's Flood Early Warning System (FEWS)

Below is a summary of the key system components and capabilities of Raleigh's FEWS. Raleigh has partnered with Wake County, Raleigh National Weather Service (NWS), United States Geological Survey (USGS), and the US Army Corps of Engineers to share access to the City's FEWS.

Flood Early Warning System (FEWS) Software and Dashboard

More information about FEWS can be found at this webpage:

<https://raleighnc.gov/stormwater/services/track-storms-us/flood-early-warning-system>

- Rainfall Forecasts - the system can forecast future rainfall over the next hour, 18 hours, 3 days, and 7 days. This information is used in conjunction with the National Weather Service's official forecasts.
- Stream Gage and Rainfall Data – Raleigh partners with the US Geological Survey to install, operate, and maintain a network of stream gages located throughout the Crabtree Creek and Walnut Creek watersheds. This information is used for real-time rainfall and flood level reporting as well as to calibrate flood models.
- Gauge Adjusted Radar Rainfall (GARR) – GARR provides rainfall depths every five minutes across City of Raleigh/Wake County service area for each one-by-one square kilometer pixel. This data is supplemented and calibrated with a network of physical rain gages across the region. <https://raleighnc.gov/stormwater/services/track-storms-us/stream-and-rain-gauges>
- Flood Prediction Modeling -- the system provides graphs of each stream gauge location with past and current stream observation levels and a prediction of the future stream level and flood elevation timing into the future based on modeled rainfall forecasts.
- Alerts Manager - the system has an alerts function for Raleigh staff with access to the system on available system data such as: Forecast Rainfall, Gauge Adjusted Radar Rainfall Amounts, Stream Gauge Levels, Predictions, Depth Duration Frequencies, and more.

- “What If” Scenarios -- the system also has the ability for us to run rainfall scenarios through the systems flood model and provide us a look at what might happen across the city during those flood events. It also has the ability for use to pull in the rainfall forecasts that are in our Rainfall Forecast app to see what potential flooding a predicted storm might cause.

Flood Monitoring Cameras

Raleigh Stormwater uses an extensive network of cameras to monitor flooding throughout the system. These cameras are installed and maintained in partnership with the Raleigh Department of Transportation (RDOT). In addition to specific cameras installed to view flood prone areas, Stormwater also has access to another 200 RDOT cameras to use for flood and traffic conditions monitoring. Stormwater also has installed 20 solar-powered, cellular networked video cameras in flood locations that cannot be accessed by the RDOT cameras because of power or network connectivity issues. More information can be found here: <https://raleighnc.gov/stormwater/services/track-storms-us/flood-monitoring-cameras>

Flood Warning Sign Systems

Raleigh has 9 locations that have flood warning sign systems installed in flood prone areas. These signs activate and start flashing for motorist to see when the flood sensor in that area is activated. These signs are installed and maintained in partnership with RDOT. More information can be found here:

<https://raleighnc.gov/stormwater/services/track-storms-us/flood-warning-signs>

Active Flood Control System (Lake Johnson / Walnut Creek)

Stormwater has a monitoring and real-time control system installed at Lake Johnson that allows us to monitor the lake level and control the valve and gate at the tower remotely. Stormwater uses this system to proactively lower the lake prior to larger know storm events to reduce the risk of flooding along Walnut Creek.

<https://raleighnc.gov/stormwater/services/track-storms-us/lowering-water-levels>

Severe Weather Preparedness

A portion of the City’s website contains links for more information including tracking storms to help educate the community as to how to best prepare for flooding and other severe weather-related events. More information can be found here:

<https://raleighnc.gov/stormwater/services/track-storms-us/lowing-water-levels/severe-weather-preparedness>

Track Storms with Us

Residents may also use this city webpage to track flood levels at key locations in the Crabtree Creek and Walnut Creek watersheds including links to the USGS webpage with more details of flood elevations in real time. More information can be found here:

<https://raleighnc.gov/stormwater/services/track-storms-us>

Floodplain Management Program

Raleigh has a progressive floodplain management program that is closely coordinated with the FEWS and other flood-related program activities. Floodplain management helps reduce

the impacts of flooding by regulating (or prohibiting) construction and other activities in high-risk, flood-prone areas. Below is a summary of the key elements of this program.

Flood Mapping and Ordinances

- Federal Emergency Management Agency (FEMA) [floodplain maps](#) were adopted by City Council in May 2022. These maps show floodplains for future land-use/build-out conditions for the 100-year storm event.
- Raleigh City Council passed a [revised floodplain ordinance](#) in May 2022 to restrict any new development on vacant parcels in the defined FEMA floodplain. Developed sites in City or FEMA floodplain are restricted to 50% development of the floodplain area. All new public roads must be passable during 100-year storm event
- Raleigh City Council adopted a new [Stormwater Design Manual](#) in November 2024. This manual includes stricter regulations as to how the floodplain can be modeled for inclusion in development submittals to be reviewed by Stormwater staff as part of the plan review process.

City rejoins National Flood Insurance Program's (NFIP) Community Rating System (CRS)

- The [Community Rating System](#) is a voluntary program that encourages communities to implement floodplain management practices that exceed minimum NFIP standards. Communities are rated on a Class 1 to 10 scale (1 being the best) and lower classes receive greater flood insurance premium discounts for residents. This promotes public safety, flood risk reduction, and sustainable development as well as recognizing and incentivizing strong local floodplain management efforts at the local level.
- Raleigh has reentered the CRS program as a Class 5 community, effective October 1, 2025. This status qualifies all NFIP policyholders in Raleigh for a 25 percent discount on flood insurance premiums and applies to all new and renewing policies on or after October 1, 2025.
- The status reflects Raleigh's commitment to flood risk reduction and public safety, and results in a safer, more flood-prepared community

Building Elevation Database and Public Portal

- City Contracted with Forerunner Software to provide for Building Elevation database and Public Portal needs.
- The database creates a [Centralized Building Elevation Storage](#) repository; the repository provides secure, organized digital database for all surveyed building elevation forms, or Elevation Certificates (ECs), reducing manual errors and improving access for staff and the public.
- The database enhances compliance tracking by automating monitoring of floodplain compliance and helping ensure new and existing structures meet FEMA and local regulations. It also provides enhanced risk assessment capabilities and supports more accurate flood risk evaluations by integrating elevation data with floodplain maps and historical information.
- The database supports streamlined permitting and reviews by accelerating review processes for building permits and floodplain development through quick, easy references to EC data.

- The tool also improves public safety and awareness with tools for informing residents about flood risks and safe building practices. These outreach tools help reduce flood damage and save lives. The tools also aid emergency planners by providing quick access to elevation data during flood events and recovery efforts.

Flood Mitigation Assessment and Planning Tool

- Raleigh contracted with a consultant team to create GIS based planning tool for flood prone areas.
- The tool provides for a Property-Level Risk Assessment through evaluation of flood risk for individual properties using spatial data and flood modeling.
- The tool also supports Strategic Mitigation efforts by assisting the City in prioritizing investments, such as buyouts or structural improvements, based on real, location-specific flood risk data.
- This tool supports Raleigh’s priorities for property acquisitions (buy-outs). We currently are in the process of purchasing two property buy-outs and one house elevation project under this program.

Status Updates on FEMA Cooperative Technical Partnership (CTP) Program

- Raleigh is seeking to become a FEMA CTP to give us more control over our floodplain mapping and management program. Receiving a CTP designation would allow Raleigh to create, distribute, and apply updated floodplain maps on a more regular schedule and to develop floodplain maps in areas of Raleigh that are not currently mapped.
- Program participation supports shared responsibility for flood risk identification and communication, and helps communities develop and update high-quality flood maps, studies, and other data. It’s an important step to enhance local capacity for floodplain management and mitigation planning
- The program also encourages collaboration between FEMA and local experts for more accurate, locally informed results.
- The CTP agreement has been signed by the City and sent to the State for execution. Additional delegation discussions are required before Raleigh will take over actual floodplain mapping and review responsibilities under this program.

Communications

The City of Raleigh uses a variety of tools to prepare for and respond to major incidents like severe weather. The City communicates about natural and man-made disasters, as well as other crises, according to our Emergency Public Information Plan.

Staff from all City departments have been training to that plan regularly to make sure everyone is on the same page and they’re ready to respond when an emergency or crisis occurs. Most importantly, staff work diligently to build trust and communicate with transparency with the community during “blue-sky days” so the City is the trusted source of information during emergencies and crises.

The City utilizes our website (raleighnc.gov) including emergency alerts we activate during a crisis; social media (X, Facebook, Instagram, Nextdoor, BlueSky); email and text message (GovDelivery); and traditional media (local and national). When the situation calls for it,

we're ready to use other methods like movable digital road signs and flyers, if needed. The FEWS also uses flashing warning signs at localized flooding locations impacting roadway access.

The City partners with Wake County to send Wireless Emergency Alerts (WEAs). These messages are only used when there is imminent threat to life. They are action-oriented and do not require a subscription. They are sent to every cell phone in within a certain area that's mapped for that particular situation. Cell phones within the mapped areas may not receive a WEA if their owners have turned off the Government Alerts (in the "Notifications" section of the phone's General settings) or their cell phone does not have signal. It's important to note that the County is the only authorized agency to send a WEA within the County, and Raleigh coordinates our messages through Wake County Emergency Management.

The community can also subscribe to ReadyWake Alerts at ReadyWake.com. The City has access to send messages to subscribers of ReadyWake through an agreement with the County.

Another way we've connected community members with resources is through a \$25,000 grant from the Duke Energy Foundation.

- The City of Raleigh purchased 857 NOAA weather radios. These devices are pre-programmed to a resident's county, providing hyper-local alerts—even when the power goes out.
- Our Emergency Management Division has almost finished distributing all of them at public events to low-income households, connecting more people to life-saving information.

Raleigh has also invested to help our residents' preparedness for these significant events. The "Ready Raleigh Guide" (<https://raleighnc.gov/emergency-preparedness>) contains important and helpful information about resources and contacts, planning best practices to anticipate and endure power and service disruptions, and information to prepare for specific situations. The guide is available in English and Spanish. Wake County offers similar readiness guides.

Raleigh Fire Department Flood Response Capabilities

The Raleigh Fire Department Technical Rescue Team ("the team") offers swift water and flood water rescue services, in addition to other specialty rescue skills. The team is comprised of six specially trained response units that are geographically dispersed throughout the city. All units of the team are capable of advanced water rescue techniques and evacuation procedures, and they maintain this capability every day, regardless of a projected weather event or not. The following stations house equipment and personnel specifically focused on water emergency response:

- Fire Station 17 (Northwest Raleigh) – High Clearance Evacuation Truck
- Fire Station 14 (Southwest Raleigh) – Rescue/Evacuation Boat Unit
- Fire Station 7 (Southeast Raleigh) – Rescue/Evacuation Boat Unit
- Fire Station 21 (East Raleigh) - Rescue/Evacuation Boat Unit

- Fire Station 16 (North Central Raleigh) – Evacuation Boat Unit

The Raleigh Fire Department is also the sponsoring agency of an Urban Search & Rescue Team (US&R) partnering with Durham and Chapel Hill Fire Departments and Wake County Emergency Medical Services. The US&R team typically focusses on multi-jurisdictional disaster responses such as large building collapses, hurricanes, or widespread flooding. The US&R team has water rescue response equipment that is housed at Fire Station 17, Fire Station 21, and the Fire Academy Facility. The US&R equipment is intended for deployment to statewide emergencies but can be leveraged locally should the need arise. From time-to-time the US&R team does respond out of state, most recently to Kentucky for flooding. The US&R response model frequently uses off-duty personnel to respond. The RFD maintains ability to notify off-duty US&R personnel rapidly.

Equipment used by the Raleigh Fire Department Technical Rescue Team and the Urban Search & Rescue Team are two separate caches. Therefore, the deployment of US&R water rescue equipment during a disaster event outside of Raleigh does not deplete the ability of the RFD to respond to water emergencies within the city limits.

Outside of RFD's specialty teams, every fire engine and ladder truck carries equipment to perform basic water rescues, such as rope throw bags and personal floatation devices.

Cc: Ben Brown, Scott Bryant, Kelly Daniel, Seamus Riley, Barbara Moranta, Mani Kumar; Robin Deacle, Ran Northam; Chief Herbert Griffin, Satwana Hurdle

Weekly Events Digest

Friday, July 11 – Thursday, July 17

City of Raleigh Office of Special Events
specialevents@raleighnc.gov | 919-996-2200 | raleighnc.gov/special-events-office

Permitted Special Events

[Raleigh's Summer Beats Festival](#)

City Plaza

Saturday, July 12

Event Time: 11:00am - 8:00pm

Associated Road Closures: Fayetteville Street between Davie Street and the south end of City Plaza will be closed from 6:00am until 11:30pm.

Other Upcoming Events

[Jeezy](#)

Friday, July 11

Memorial Auditorium

[Coffee and Conversations](#)

Saturday, July 12

A Place at the Table

[Family Fun Day: Pirates!](#)

Saturday, July 12

City of Raleigh Museum

[Find Your Glimmer Opening Night: SEEK Raleigh](#)

Saturday, July 12

Artspace

[Tyler, The Creator](#)

Saturday, July 12

Lenovo Center

[Joan Osborne](#)

Saturday, July 12

Fletcher Opera Theater

[Summer Concert Series](#)

Sunday, July 13

Fred Fletcher Park

[Self Care Sunday: Breath Work](#)

Sunday, July 13

The Chapel at Dix Park

[Ghost](#)

Tuesday, July 15

Lenovo Center

[Barenaked Ladies](#)

Tuesday, July 15

Red Hat Amphitheater

[The Midweek Market](#)

Wednesday, July 16
Moore Square

[The Offspring](#)

Wednesday, July 16
Coastal Credit Union Music Park at Walnut Creek

[The Head and the Heart](#)

Wednesday, July 16
Red Hat Amphitheater

[Lunch Box Lectures](#)

Thursday, July 17
City of Raleigh Museum

[Find Your Glimmer Artist Talk: SEEK Raleigh](#)

Thursday, July 17
Artspace

[Counting Crows](#)

Thursday, July 17
Red Hat Amphitheater

[Nate Bargatze](#)

Thursday, July 17 & Friday, July 18
Lenovo Center

Public Resources

[Event Feedback Form](#): Tell us what you think about Raleigh events! We welcome feedback and encourage you to provide comments or concerns about any events regulated by the Office of Special Events. We will use this helpful information in future planning.

[Road Closure & Road Race Map](#): A resource providing current information on street closures in Raleigh.

[Online Events Calendar](#): View all currently scheduled events that impact city streets, public plazas, and Dix Park.