

# Reflecting Raleigh

THE NEXT COMPREHENSIVE PLAN

**The Next Comprehensive Plan** 

**Stormwater Community Conversation Q&A** APRIL 2025 The following questions were submitted by attendees at the December 9 Stormwater Community Conversation event.

#### DEVELOPMENT REGULATIONS FOR STORMWATER

1. Can stormwater regulations be different for infill re-development? For instance, any home addition, rebuild, sub-division, etc. Subject to stricter stormwater rules (and/or) also be incentivized to implement (GSI on-site)?

*Staff Response:* There are currently two sets of stormwater regulations:

- Exempt Property Requirements: <u>UDO 9.2.2.A</u> provides exemptions for some properties that do not have to comply with the full Active Stormwater Control Measure rules in <u>UDO 9.2.2 B through H</u>. Instead, those lots can meet impervious surface limitation. Those projects can go over the impervious surface limitation if they provide constructed stormwater controls or provide engineering studies about their impact.
- Full Stormwater Requirements: <u>UDO 9.2.2. B through H</u> requires full stormwater calculations, done by a licensed professional (e.g. engineer or landscape architect). These rules address water quality (<u>UDO 9.2.2.B Nitrogen Reduction</u>) and flooding (<u>UDO 9.2.2.E Stormwater Runoff Controls</u>). Typically, the development constructs one or more stormwater control measures (SCMs) to meet those requirements.

Many residential infill development projects are subject to the Exempt Property Requirements. Updated rules took effect on November 2, 2024 that made the Exempt Property Requirements more stringent in two ways: (a) when the runoff from more than 800 sf of impervious area is being piped, the method of discharging to adjacent properties must be shown and some mitigation provided, and (b) the method for getting an increase in the impervious surface limit changed, which will result in more stormwater controls.

State Laws limit how the City can regulate stormwater. In effect, the State Laws prevent the City from requiring Green Stormwater Infrastructure for private development.

2. Anticipating the effect of climate change & seeking resiliency, is consideration being given to "Bumping up" the cities floodplain regulations to discourage development in flood prone areas.

*Staff Response:* In recent years the City has increased regulations and programming related to floodplains and the effects of climate change.

Regulation changes included:

- In July 2022, <u>updated floodplain regulations</u> took effect. This change applied the restrictions from the FEMA floodway to the FEMA floodplain. This made it much more difficult to develop in the floodplain.
- In November 2024, the new <u>Stormwater Design Manual</u> took effect. This requires flood studies upstream of the FEMA floodplain on more properties than the previous regulations.
- In addition to the floodplain regulations, changes were made in November 2024 to increase the rainfall amount used to design roadway gutters and pipes. Also, for larger drainage areas, the rainfall amount used for pipes went up.
- The November 2024 changes also acknowledged that Federal agencies are currently updating rainfall atlases to account for recent years and the upward trend in rainfall amounts. When the new Federal rainfall atlas is published, the City will begin requiring its use.

Programming changes included:

- Raleigh Stormwater has created a floodplain management group and hired two new positions.
- Seeking to establish floodplain mapping authority to do additional mapping.

### 3. How large does a project have to be to require Green Stormwater infrastructure?

**Staff Response:** Under State Law, the City cannot require the use of Green Stormwater Infrastructure for external projects in most watersheds. In 2023, the City adopted a <u>GSI</u> <u>policy</u> whereby City-led construction projects will evaluate the use of Green Stormwater Infrastructure on any City project with land-disturbance. The City only has authority to require GSI in drinking water supply watersheds, where GSI is required if impervious surface of a development is over 24 percent.

4. Can you help describe if the standards of stormwater impact analyses are being updated? I know the parameters which can be a little squishy and the city is trying to tighten that? Also relevant when developers have to show they won't create significant runoff increases, when there is documented flooding downstream?

**Staff Response:** The City adopted a new <u>Stormwater Design Manual</u> in November 2024. That included some changes to the required stormwater compliance. The response to Question 2 above discusses some of those changes. Additional changes included:

• Required that large projects discharge their stormwater to either a stream, a street, or a drainage easement.

- Required that small projects discharge to a stream, a street, a drainage easement, a vegetated area of specified length and slope, a raingarden or a surface infiltration pit.
- Provided more detail on what must be included in a stormwater impact analysis or Stormwater Compliance Report.
- Provided additional specificity on stormwater control measure design.
- Added a Stormwater Conveyance Permit with inspection requirements to meet the City's regulatory requirements and ensure that quality infrastructure is installed.

### 5. Should we pursue capture of rooftop run-off like in downtown and other urban dense areas?

*Staff Response:* Throughout the City, rooftop runoff must be captured and treated in conjunction with new development.

In terms of capturing rooftop runoff as part of a rainwater harvesting system, this is possible in dense urban areas but typically requires underground <u>cisterns</u> and pumps. Rainwater harvesting is easier to install on houses and other buildings with external downspouts and space for an above-ground cistern. This scenario often allows for using the water based on gravity flow instead of using a pump.

This is an idea that we have and will continue to evaluate as opportunities arise, especially for non-potable water use purposes; however, it is not something that the city has the authority to require for existing private development, which makes up the majority of development in densely developed areas such as downtown.

### STREAMS

## 6. What is the department doing with regards to background and neighborhood streams? Undetected erosion is impacting the stability of trees along the streams, is this a concern of the department?

Raleigh Stormwater has the <u>Stream Stabilization Program</u>, which addresses erosion on private resident property. Depending on the condition, stormwater staff will recommend one of the following options:

• <u>Stream Stabilization Project</u>: residents apply to the Stream Stabilization Program, and if eligible, will be scored and ranked for a project.

- <u>Buffer Builder Bag Program</u>: a voluntary program that provides property owners with free native shrub and tree seedlings to help improve or create a streamside buffer on their property.
- <u>Stream Bank Repair Workshops</u>: residents can participate in workshops that repair eroding stream banks. Property owners must complete a Right of Entry (ROE) and agree to care for the live stakes and other plantings until they are well established.
- 7. The city does not have a stream assessment program. There are no stream education programs. Who is responsible for assessing the condition of streams, erosion around pipes?

Staff Response to Questions 6 and 7: The City has several programs related to streams:

- Development Regulations that protect streams and stream buffers. These rules limit tree and other vegetation removal along streams. They also limit work directly in streams.
- Stream assessment during watershed planning.
- Builder Buffer Bag Program.
- <u>Backyard Stream Repair Workshops</u> in conjunction with NCSU Extension.
- <u>Stream Stabilization Program</u> that provides financial assistance to property owners.
- Assessment of City-owned pipe infrastructure.
- Pilot program to assess privately owned pipe infrastructure.
- Partnership with <u>USGS to assess stream erosion</u>.

Some amount of erosion in streams is natural. However, when upstream development changes to the flow of stormwater to a stream, streams become de-stabilized and experience more erosion. The de-stabilization typically lasts for decades before the stream re-stabilizes. So, some amount of trees being undermined is natural. In fact, downed trees in streams provide excellent habitat for aquatic life. However, when downed trees create logjams that block pipes, intervention is needed.

Most streams in the City of Raleigh are located on private property.

Here is a presentation that Raleigh Stormwater staff gave to the City Council Growth and Natural Resources Committee on the streams programs: <u>Raleigh Stream Restoration</u> <u>and Stabilization Programs</u>.

### STORMWATER PROGRAMS AND PLANNING

8. Can you talk about how Raleigh's stormwater plan comes to be? What is the framework for it?

*Staff Response:* Some of Raleigh Stormwater's program are driven by regulatory requirements, while other programs meet functional needs. Raleigh Stormwater has several types of plans, including:

- <u>Stormwater Management Plan (SWMP)</u> to meet our National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit -The SWMP addresses how we will meet the requirements of the NPDES MS4 permit. This includes programs for education and outreach, for controlling pollution from City facilities, for finding and eliminating pollution sources in the community, for regulating construction sites, and for stormwater controls for new development.
- <u>Watershed Planning</u> Raleigh Stormwater conducts planning efforts on an individual watershed basis. In these plans, existing streams and pipes are evaluated. The community is engaged to share known problems related to stormwater. The result of the planning effort is a series of potential projects.

### 9. Given that watershed's cross jurisdictional boundaries. What type of support /partnership exist with those other jurisdiction (e.g.: Wake County & Cary)?

**Staff Response:** Raleigh Stormwater staff participate in several organizations that seek to foster cross-jurisdiction partnerships and support. This includes the <u>Wake County</u> <u>Water Partnership</u>, the <u>Stormwater Association of North Carolina</u>, the <u>NC Chapter of the</u> <u>American Public Works Association</u>, and informal meetings with peer staff. Others include the <u>Urban Waters Federal Partnership Program</u>, of which Walnut Creek was named the 21<sup>st</sup> designated Urban Waters location in the country: <u>21 Designated Urban</u> <u>Waters Locations | US EPA</u>

#### 10. How do you currently bring awareness to residents of SW Programs?

Raleigh's main source of information is the <u>raleighnc.gov</u> website. The website has up to date information about stormwater programs, services, events, and meetings. Raleigh Stormwater has an email newsletter that is sent to residents who subscribe through our website. Our Community Relations Analyst schedules and attends city-wide events and coordinates outreach activities with Raleigh schools and educators. At local events, we host a table and offer brochures, flyers, and fact sheets about stormwater programs. Any organization or group can <u>request a visit</u> from stormwater staff. Raleigh Stormwater shares <u>Facebook</u> and <u>X (Twitter</u>) accounts with Raleigh Water (drinking water and wastewater) and posts about stormwater programs and services regularly. Stormwater staff will schedule public meetings for projects and watershed studies and a staff member is available to provide information about stormwater programs, services, and more to attendees. Staff also hosts <u>volunteer events</u>, like stream cleanups and workshops, and shares information about other programs at these events.

Raleigh Stormwater also collaborates with city departments to share information to diverse audiences. Stormwater information is usually in the <u>Your Service Connection</u> <u>Newsletter</u>, which is coordinated by Raleigh Water and included in mailed water bills and online. Stormwater collaborates with Raleigh Arts to highlight art competitions, events, and programs that connect stormwater projects with arts. Raleigh Stormwater continually looks for opportunities to connect and collaborate with internal departments to share information about stormwater services and programs.

#### 11. Why could the Rose Lane bridge not be rebuilt about 1000-year flood level?

**Staff Response:** The city has studied alternatives to provide safe access for the community impacted when Rose Lane is flooded by Walnut Creek. Raising the Rose Lane bridge has been considered but is cost prohibitive and would have negative impacts on the flooding risk of houses that are in the floodplain of Walnut Creek upstream of Rose Lane. For this reason, the City is pursuing development of an alternative safe access road for these residents to use during a flood event that does not cross Walnut Creek and thus will be more resilient during flooding events.

### **12.** How participation in the rainwater records program increased since the cost-share structure has changed?

**Staff Response:** In 2018, City Council adopted changes to the <u>Raleigh Rainwater</u> <u>Rewards</u> policy that increased cost share percentages across water quality priority areas across the City. Two TMDL watersheds, two water supply watersheds, and a highly impervious downtown overlay district were prioritized for 90% cost share, while the rest of the City was established at a 75% cost share. These, along with other changes, significantly increased participation in the program. Prior to these changes 45 projects had been approved between FY2011 and FY2018. After these changes, from FY2019 to present, 210 projects have been approved, demonstrating almost a 450% increase in approved projects over a similar period. Participation continues to increase as funding, staffing levels, and outside partnerships continue to grow concurrently with this increased participation.

#### **EQUITY AND PLANNING**

**13.** Please share your thoughts about the infrastructure growth that targets economic development in the southeast areas.

*Staff Response:* Stormwater infrastructure for new development is typically installed by the developer or property owner as part of a new development. This is because the size

and type of stormwater infrastructure is not known until the site development plans are developed. Therefore, stormwater infrastructure is typically not installed proactively to promote economic development in an area.

To address existing stormwater issues, Raleigh Stormwater has made and will continue to make extensive capital improvement investments in southeast Raleigh including projects such as <u>Biltmore Hills Park green stormwater infrastructure</u>, <u>Worthdale Park</u> <u>stream restoration</u>, Walnut Creek wetland center green stormwater infrastructure improvements, <u>Rose Lane safe flood access improvements</u>, and other <u>Drainage</u> <u>Assistance</u> and <u>Raleigh Rainwater Rewards projects</u>.

### 14. Why not just build the danger zones and when it comes to equity-there's the unspoken history of racism in the city?

Raleigh Stormwater is committed to equitable delivery of our projects and programs to the community. Maps of vulnerable populations are used to set priorities for where watershed studies are conducted, and the results of these studies are used to set priorities for where future capital improvement projects will be constructed to address identified flooding and water quality issues in communities. Raleigh Stormwater has instituted a <u>100 percent subsidy program for the Raleigh Rainwater Rewards</u> whereby property owners making less than 80 percent of the area median income (AMI) can build green stormwater infrastructure (GSI) on their property that is fully funded by the city.

15. I believe that it is important to recognize and value the entire history of inequitable planning and development as the period of reconstruction and understanding who was forced to live in areas that flooded and who could live where they wanted to. Please be sure that this history is put of the baseline of the strong comprehensive plan.

Raleigh Stormwater recognizes the city's history in our planning efforts. In 2022, City Council adopted revised floodplain management regulations that provide additional development protections to residents throughout the city. Raleigh Stormwater partners with community groups such as <u>Partners for Environmental Justice</u> to provide community engagement and education with programs such as the Watershed Learning Network. We also seek and receive significant community input and participation in our watershed study engagement activities as well as engagement opportunities for individual neighborhood projects. The input and perspective we received is valued and important to understand how we can better serve the needs of all communities in the city, including those who have experienced inequities in the past.