



November 16, 2022, Submitted via email

Ms. Robin W. Smith, Chair
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Mr. Richard Rogers, Director
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Reference: UNRBA Submittal of Annual Report for FY 2022 Interim
Alternative Implementation Approach (IAIA), Approved Group Compliance
Approach Under the Stage I Existing Development Rule, Falls Lake Rules

Dear Ms. Smith and Mr. Rogers:

On behalf of the Upper Neuse River Basin Association, the Compliance Group Committee, and our members participating in the IAIA, I am pleased to submit the FY 2022 Annual Report on the work the participating UNRBA members have done to meet the IAIA program under the Stage I Existing Development Rule. This report is the overall summary of the investment commitments made by our IAIA member governments under the EMC-approved group compliance program. Each of the local jurisdictions in the program have submitted their individual annual reports directly to DWR.

The report shows commitments made that total over \$ 5.5 millions of dollars that are currently under different stages of development and completion over the effective period of the IAIA program (five fiscal years beginning with FY 2022). As many of these efforts involve ongoing work and will take additional time to be fully completed, the approved program guidelines provide for implementation timing.

The critical component of the program requirements is that jurisdictions must commit funding allocation over the IAIA program period equal to the amount identified in the program document. The total required annual commitment, from all members, is approximately \$ 1.5 millions of dollars. I would note that with the total commitments made in this first year, jurisdictions have already identified project commitments 3.6 times the annual level. This illustrates how strongly our members have embraced the principles of the IAIA and an investment approach to watershed and lake water quality improvement now and in the future. Land conservation is clearly the largest investment component of the efforts to date. We continue to believe that protecting future water quality and quantity must have a strong component for maintaining, protecting, and improving natural areas in the

watershed. However, we also believe and are committed to implementing a diverse list of actions and projects in the watershed that over time will provide an effective program to protect existing water quality and enhance our ability to improve that quality.

We would like to express our appreciation for the cooperation of the EMC and DWR in achieving this progress and for the successful implementation of IAIA. In particular, we want to thank Mr. John Huisman of DWR's Non-Point Source Branch in the Planning Section for his help and cooperation in coordinating compliance efforts under the IAIA. We look forward to continuing our successful relationship with the EMC and DWR.

If there are any questions about this report or the information provided, please contact our Executive Director, Forrest Westall, using the contact information on this letterhead.

Sincerely,



Sig Hutchinson, Chair
Board of Directors, UNRBA

Copy: UNRBA Board Members
Mr. Rich Gannon
Mr. John Huisman
Ms. Julie Grzyb
Ms. Karen Higgins



Upper Neuse River Basin Association (UNRBA) Interim Alternative Implementation Approach (IAIA), FY 2021-2022 Summary Report

This report summarizes the funds allocated by participants in the IAIA Program for FY2021-2022. Table 1 shows the minimum investment commitments required by each participant as well as the total funds allocated this fiscal year are more than three times higher than the minimum requirements to demonstrate compliance. Each individual participant met or exceeded its minimum requirement. Table 2 shows the fund allocations by type and number of projects. Table 3 lists the project descriptions and investment allocated for each individual project.

Table 1. FY2021-2022 Investment Commitments and Allocations by IAIA Participant

Participant	Total Funds Committed	Total Funds Allocated
Wake County	\$88,968	\$1,973,493
City of Raleigh	\$466,081	\$1,745,485
City of Durham	\$337,587	\$960,268
Orange County	\$161,943	\$342,878
Durham County	\$133,300	\$148,394
Person County	\$114,394	\$114,394
Granville County	\$100,453	\$100,453
Town of Hillsborough	\$34,221	\$41,871
Town of Butner	\$23,393	\$23,393
Franklin County	\$19,058	\$19,058
City of Creedmoor	\$16,926	\$16,926
Town of Wake Forest	\$13,692	\$13,692
Town of Stem	\$11,605	\$11,605
Grand Total	\$1,521,621	\$5,511,909

Table 2. FY2021-2022 Investment Allocations by Project Type

Project Type	Total Funds Allocated	Number of Projects
Land conservation	\$3,951,898	3
Green infrastructure and other best management practices (BMPs)	\$964,729	8
Stormwater control measures (State-approved SCMs)	\$237,179	8
Project planning and administrative costs associated with the participation in the IAIA	\$162,086	2
Illicit discharge detection and elimination	\$152,377	4
Programmatic measures	\$21,338	4
Stream and riparian buffer restoration and enhancement	\$14,074	2
Projects and activities that focus on flooding that have an associated water quality benefit	\$4,846	1
Projects in greenways and parks with water quality and quantity benefits	\$3,383	1
Grand Total	\$5,511,909	33



Table 3. FY2021-2022 Project Descriptions

Project Descriptions	Funds Allocated
Repair and replacement of surcharging pump stations, sewer pipes, and appurtenances currently leaking sewage, which lead to illicit discharges.	\$23,393
Pilot study to install gross solid filter inserts into catch basins in downtown Durham. Multiple locations. Benefits include nutrients, gross solid and sediment reduction.	\$30,152
South Ellerbe Stormwater Restoration Professional Services. Project to restore 2 stream channels, reconnect floodplain. Benefits include reduction of nutrients, sediment, and peak flow reduction. Nutrient reductions will be indicated in the phase 3 construction.	\$441,240
South Ellerbe stormwater restoration soil removal (~ 1 million) to support benefits of S Ellerbe wetland. Benefits include reduction of nutrients, sediment, and peak flow reduction. Nutrient reductions will be indicated in the phase 3 construction.	\$456,238
Bioretention device treating existing development at City of Durham facility. Benefits include reduction of nutrients, sediment, and peak flow.	\$15,876
City Department of Water Management funding of hydrilla monitoring and eradication to improve water quality in the Eno River, multiple locations. Benefits include improvements to aquatic life and reduction of invasive aquatic plant.	\$123
Invasive vegetation management to preserve riparian buffer function, multiple locations. Three-year contract will be renewed. Benefits include improvements to buffer vegetation and reduction of invasive vegetation.	\$12,194
Enhancement of City's tree canopy. 29% of \$15,320 was spent on trees in the Falls watershed. Benefits include improvement of urban tree canopy in partnership with General Services. Multiple locations.	\$4,443
Repair and replacement of surcharging pump stations, sewer pipes, and appurtenances currently leaking sewage, which lead to illicit discharges.	\$16,926
In February 2021, Durham County contracted WK Dickson for assistance in developing its Nutrient Management Strategy for addressing the requirements of the Falls Lake Rules. In accordance with the County's Stormwater Guiding Principles of Compliance, Efficiency, Resiliency, and Environmental Justice, WK Dickson developed a project selection rubric. They then identified potential 15 potential project sites for nutrient reduction. Those sites were narrowed to 10. Field evaluation by WKD and County staff finalized 6 sites for further project development. At the end of FY22, projects have been developed for those 6 sites including bioretention, stream restoration, stormwater wetlands, RSC, and other practices. Construction cost estimates and project renderings were also developed. In FY23, those projects are to be brought to the Board of County Commissioners and one (or more) project(s) will be selected for construction.	\$148,394
Repair and replacement of surcharging pump stations, sewer pipes, and appurtenances currently leaking sewage, which lead to illicit discharges.	\$100,453
Draper-Savage Memorial Foundation (Moorefields) Property Land Conservation Easement: Approximately 72 acres of land conserved with over 1,900 linear feet of stream frontage on a tributary to and of Rocky Run, a major tributary of the Eno River, which supplies drinking water for the Town of Hillsborough and City of Raleigh. N & P reductions have yet to be assigned for land conservation, so values are TBD.	\$261,458
Gravelly Hill Middle School Floating Treatment Wetlands: (4) Floating Treatment Wetlands installed at existing wet pond at Gravelly Hill Middle School for test and demonstration purposes. Educational signage installed. Less than 5% of pond surface covered so N & P reductions are TBD. In-Kind Funds are staff labor associated with project.	\$17,813
Orange County Sportsplex Floating Treatment Wetlands: (4) Floating Treatment Wetlands installed at existing wet pond at Orange County Sportsplex for test and demonstration purposes. Educational signage installed. Less than 5% of pond surface covered so N & P reductions are TBD. In-Kind Funds are staff labor associated with project.	\$17,813
Cedar Grove Park Stormwater Pipe Outfall Retrofit: Retrofitted a dissipator pad at a stormwater pipe outfall from an existing dry detention basin at Cedar Grove Park to a custom plunge pool / forebay design. Previous dissipator pad was full of sediment and causing erosion to a receiving stream channel so this retrofit will minimize the stormwater velocity for the time being. The N & P reductions for this individual improvement are TBD because the overall system will be retrofitted to a stormwater wetland in the near future and calculated overall improvements will be done at that time. In-Kind Funds are staff labor associated with project.	\$3,383
Orange County Hydrilla Removal: Hydrilla removal was recently added to the list of eligible activities that could be used towards jurisdictional investment in the IAIA. N & P reductions have yet to be assigned for hydrilla removal, so values are TBD. These efforts will be conducted throughout the Falls Lake watershed within Orange County so specific Lat/Long is not provided. Per Memorandum from DWR on 2/10/2022, hydrilla can lead to loss of recreational use of waters and increased flood duration and intensity from obstruction of waterways. It can also negatively impact water quality and harm aquatic life by depleting oxygen levels and can increase nutrients released from sediment. For those reasons, hydrilla containment and removal has been considered as likely benefitting water quality and quantity.	\$4,846.06



Gravelly Hill Middle School Stormwater Wetland Retrofit: Project is a retrofit of a relic sediment basin that was never removed during the construction of Gravelly Hill Middle School to a stormwater wetland with trails, a bridge, an outdoor classroom area, and educational signage. We are only in the design phase of this project so total costs, N & P reductions, etc. are unknown at this time and TBD.	\$37,565
Architectural/engineering firm selected to begin work on the design of a new SW control measure at the Rock Athletic Complex; benefits are co-location of needed SW mitigation within existing parks & getting BMPs to determine nutrient loads & their mitigation requirements.	\$114,394
Repair and replacement of surcharging pump stations, sewer pipes, and appurtenances currently leaking sewage, which lead to illicit discharges.	\$11,605
Install floating island wetlands next to existing floating dock; project reduces nutrients but also provides an education/outreach opportunity since the dock is used by citizens.	\$12,924
Design and construct stormwater green infrastructure treating impervious surface within the Odie Street Habitat for Humanity Neighborhood. Provides multiple benefits including nutrient reduction, peak flow attenuation, ecosystem benefits and includes an educational component to a historically underserved community.	\$15,606
Install compost blankets to alleviate erosion and increase infiltration at Gold Park, Kings Highway Park and Riverwalk; project reduces runoff, improves soil quality, eliminates erosion and provides pollinator habitat in addition to nutrient reduction.	\$4,001.50
Remove invasive species and plant natives along Riverwalk (Eno River); this project improves riparian buffer function and utilizes volunteers to remove invasives and plant natives.	\$1,879.20
Evaluate and provide preliminary design of retrofitting an existing dry basin into a stormwater wetland as part of a stormwater impact analysis for an existing neighborhood.	\$7,460
Protection of 226.5 ac in the critical water supply area of Falls Lake Watershed will protect water quality for future generations by protecting land from additional impervious cover associated with future development. The natural forested area will help recharge groundwater, slow runoff and filter pollutants.	\$1,944,955
Proper septic maintenance is critical to both public health and water quality. Increased awareness of proper septic maintenance practices is an important step in helping avoid future septic failures. Wake County Environmental Services sent septic maintenance mailers to 13,134 septic owners in Falls Lake Watershed. Mailer provided Falls Lake facts and included five tips to protect family, septic system and community's water quality and included information in both English and Spanish.	\$9,119
Feasibility study evaluated the potential to implement SCMs at the Northern Wake Fire Station 2 (Stoney Hill Fire Dept) located at 7045 Stoney Hill Road in Wake Forest, NC. Identified practices include dry detention retrofit, swale/ bioretention and Filterra structure in parking lot. Wake County Environmental Services (WCES) is currently evaluating opportunities and coordinating with Duke Energy regarding implementation of potential dry detention retrofit which will require Duke Energy approval.	\$7,200
WCES Watershed Management staff performed fourteen inspections in Falls Lake watershed in FY22 to ensure SCMs are functioning properly. Proper functioning SCMs are critical to maintaining water quality in Falls Lake. SCMs provide nutrient reduction and peakflow attenuation. In-kind funds are based upon the hourly rate for staff performing both septic complaint investigation/code case violations and septic repairs (Construction Authorization and Operation Permit) within the Falls Lake Watershed. Watershed investment reflects hours above and beyond 2006 hours.	\$4,071
Environmental Services Wastewater Management staff respond to complaints and requests for investigation of malfunctioning septic systems. Complaint response is a top priority for WWM as malfunctioning septic systems present potential threats to both public health and water quality. In-kind funds are based upon the hourly rate for staff performing both septic complaint investigation/code case violations and septic repairs (Construction Authorization and Operation Permit) within the Falls Lake Watershed. Watershed investment reflects hours above and beyond 2006 hours.	\$6,687
Water-related education and outreach activities conducted by BJBC staff from 7/1/21-6/30/22. In-kind funds represents average hourly rate for BJCP staff multiplied by the total number of hours invested in outreach activities.	\$1,461
The Beaverdam Slopes land conservation project consists of 229 acres and 19,125 stream feet located directly adjacent to US Army Corps of Engineers buffer around Falls Lake (near the Beaverdam impoundment). This area around Falls Lake has seen a significant increase in development pressure, and this project will preserve this wooded natural area in perpetuity and protect water quality by avoiding future nutrient loads from development. The City of Raleigh provided approximately 47% of the funding through its Watershed Protection Program with the remaining portion of the funding coming from Wake County's Open Space Program. The Triangle Land Conservancy will hold a conservation easement on the property and conduct annual site assessments and handle any stewardship needs.	\$1,745,485
Design and permitting for stormwater control measures.	\$19,058
Planning for the Horse Creek watershed study and funds allocated for projects to begin construction in FY23/24 following watershed study.	\$13,692