# Kings Branch

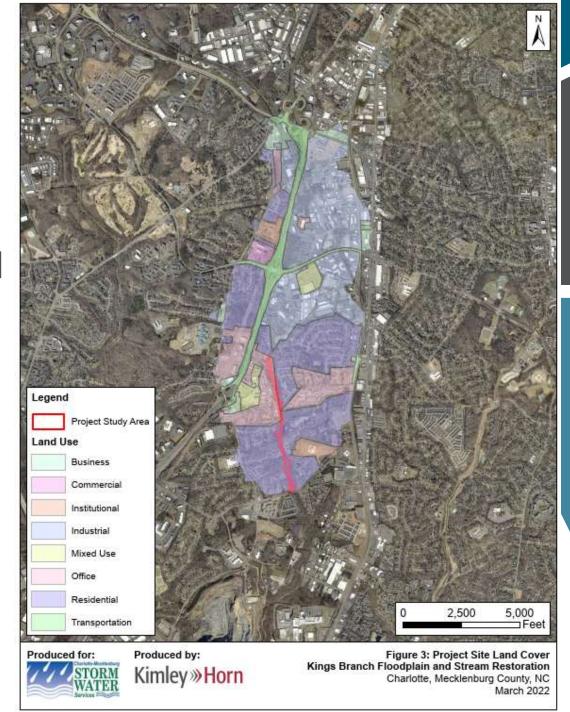
# **Stream Restoration and Flood Reduction Project**

Jason Claudio-Diaz, P.E., CFM Kimley » Horn



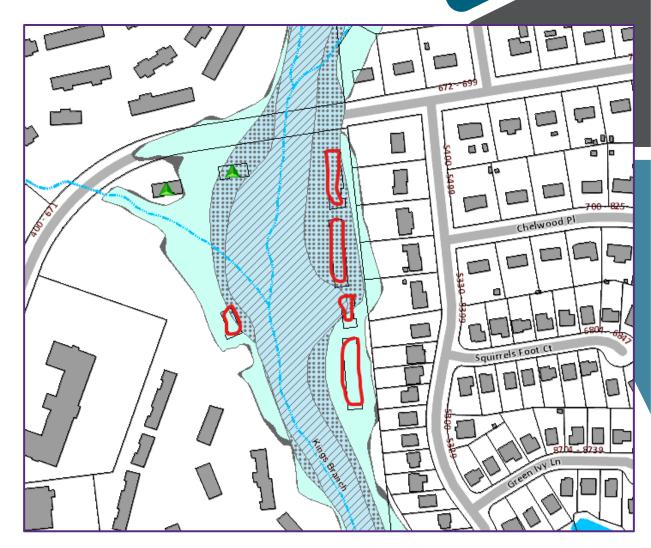
#### Kings Branch

- Charlotte, NC
- Archdale Drive to Arrowwood Road
- 2.7 square mile drainage area
- 39.5% Impervious

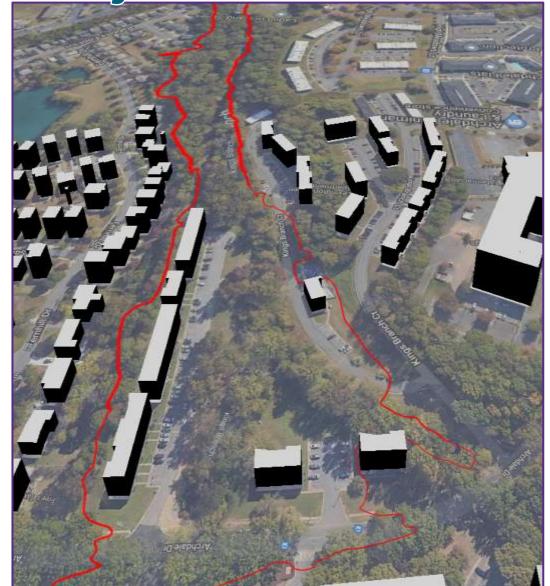


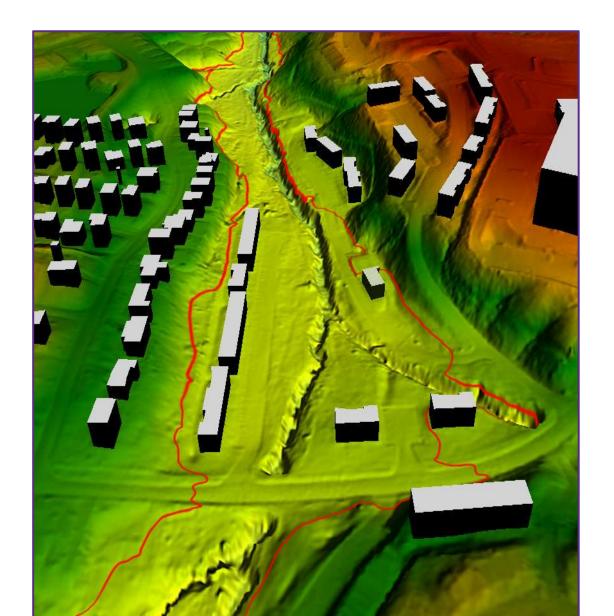
### Lexington Green Apartments

- Located near I-77 off Archdale
  Drive in Charlotte NC
- 5 Apartment Buildings Located Within the Mapped SFHA
- FFE ~616'
- Effective FU 100yr ~620'



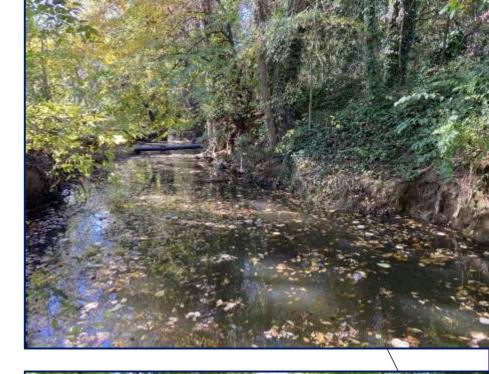
**Project Goals** 





### **Feasibility Study**

- Prepared in 2018 (by others)
- Recommendations
  - NCD Enhancement I and Priority 2 Restoration
  - Remove private failing, unpermitted pedestrian bridge
  - Address backwater issue in upstream area
  - Relocate sanitary sewer @ Lexington Green Apartments





# **FEMA Hazard** Mitigation Grant

- State of NC, Dept. of Public Safety, and Division of Emergency Management
- Total Award for \$3,054,000
- Phase 1 Design \$380,000
- Phase 1 Expiration Dec 15, 2022 extended to Dec 15, 2023
- Kimley-Horn selected Oct 2021

PROJECT: HMGP 4393-0093-R COST CENTER: 2D530076

#### NORTH CAROLINA HAZARD MITIGATION GRANT PROGRAM GRANT AGREEMENT

THIS HAZARD MITIGATION GRANT PROGRAM (HMGP) AGREEMENT (the Agreement) is entered into by and between the State of North Carolina, Department of Public Safety, Division of Emergency Management, Raleigh, North Carolina (hereinafter referred to as the "AGENCY GRANTEE"), and Mecklenburg County, North Carolina (hereinafter referred to as the "RECIPIENT SUBGRANTEE").

WHEREAS, Hurricane Florence produced disastrous weather conditions which had a devastating impact upon parts of North Carolina; and

WHEREAS, the severity of the damage loss resulted in the declaration of a disaster and/or emergency by the Governor, and

WHEREAS. The President of the United States has concurred and has declared an emergency or a major disaster designated DR-4393; and

WHEREAS, the Federal Emergency Management Agency (FEMA), as a result of the Presidential Declaration, has made available federal funds for hazard mitigation grants, and

WHEREAS, the North Carolina Emergency Management Act, N.C.G.S. §166A-19 et 189. and N.C.G.S. §§ 143B-1000 and 166A-19.12(10) and (13) authorize the relationship as described

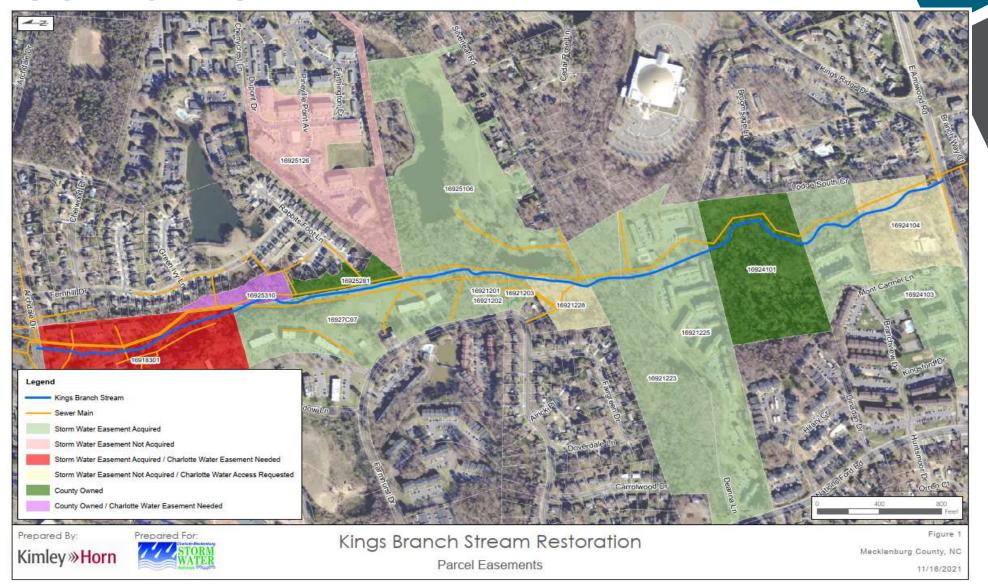
WHEREAS, the RECIPIENT SUBGRANTEE represents that it is fully qualified, possesses the requisite skills, knowledge, qualifications and experience to provide the services herein; and identified herein, and does agree to perform as described herein,

NOW, THEREFORE, the AGENCY/GRANTEE and the RECIPIENT/ SUBGRANTEE do mutually agree as follows:

#### (1) SCOPE OF WORK

The RECIPIENT SUBGRANTEE shall fully perform the approved Hazard Minigation Grant Program (HMGP) project, as described in the approved FEMA application as described in Attachment A, in accordance with the approved scope of work in the approved FEMA application, the estimate of costs indicated in the approved FEMA application, and the terms and conditions of this Agreement. FEMA- DR-4303-0093-R Mecklenburg Coun-

#### **Easements**



# **Project Constraints**





# **Project Constraints**

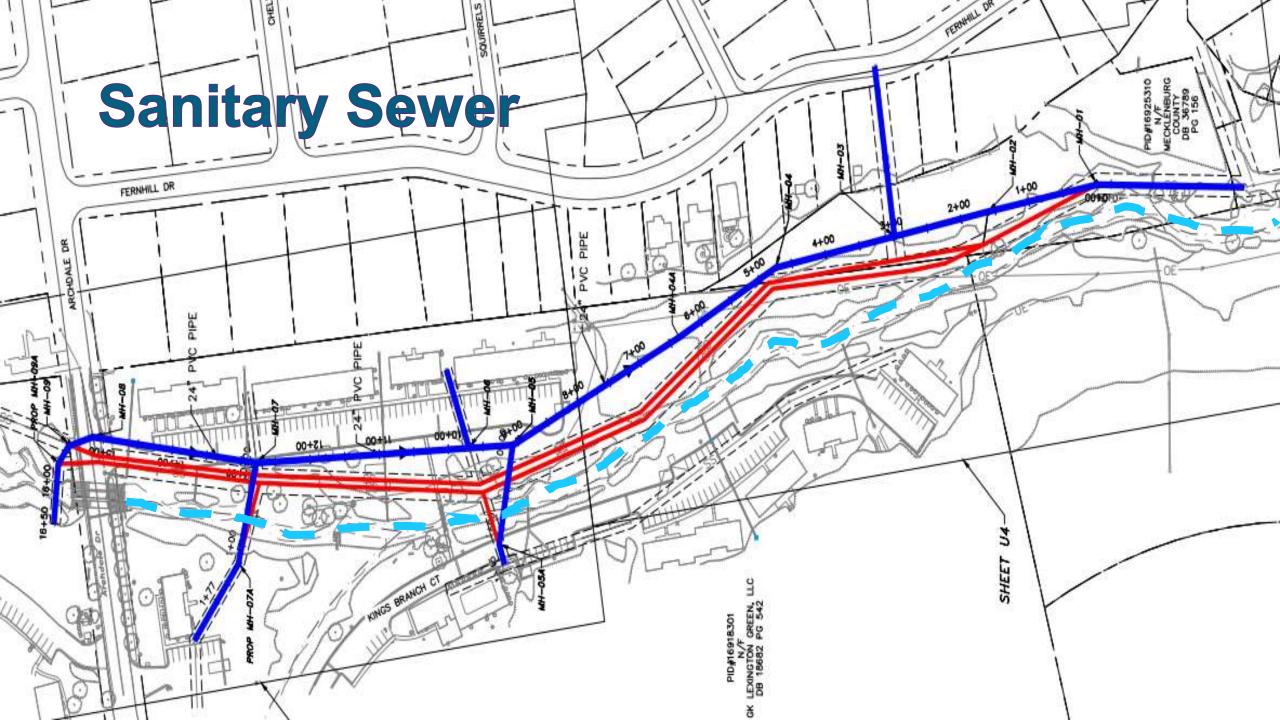




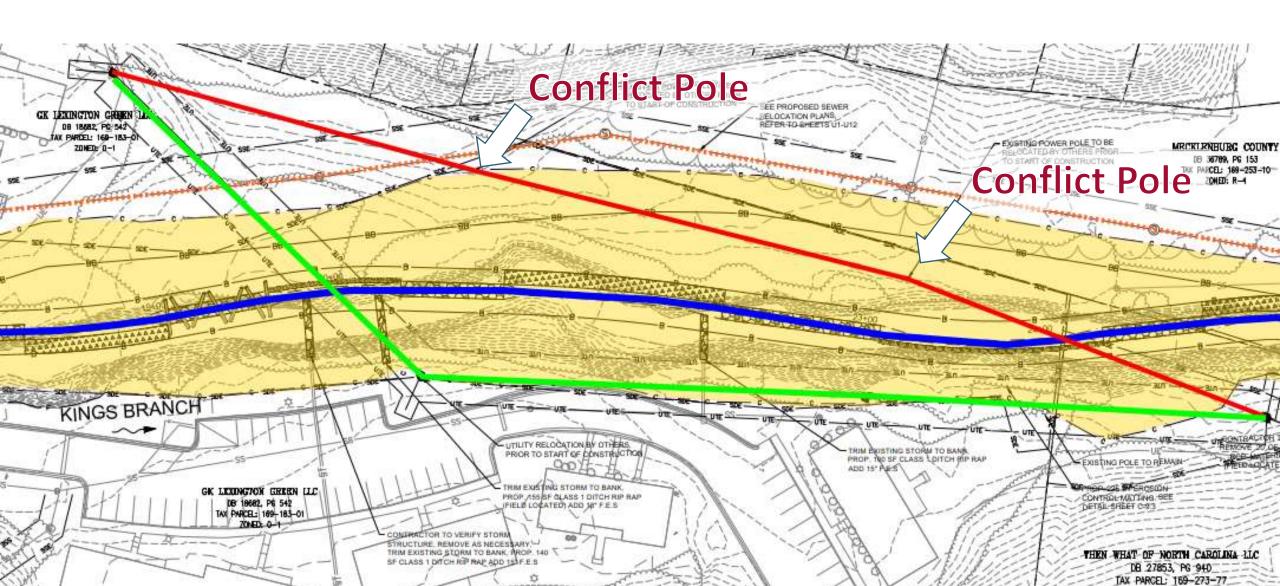
# **Project Constraints**



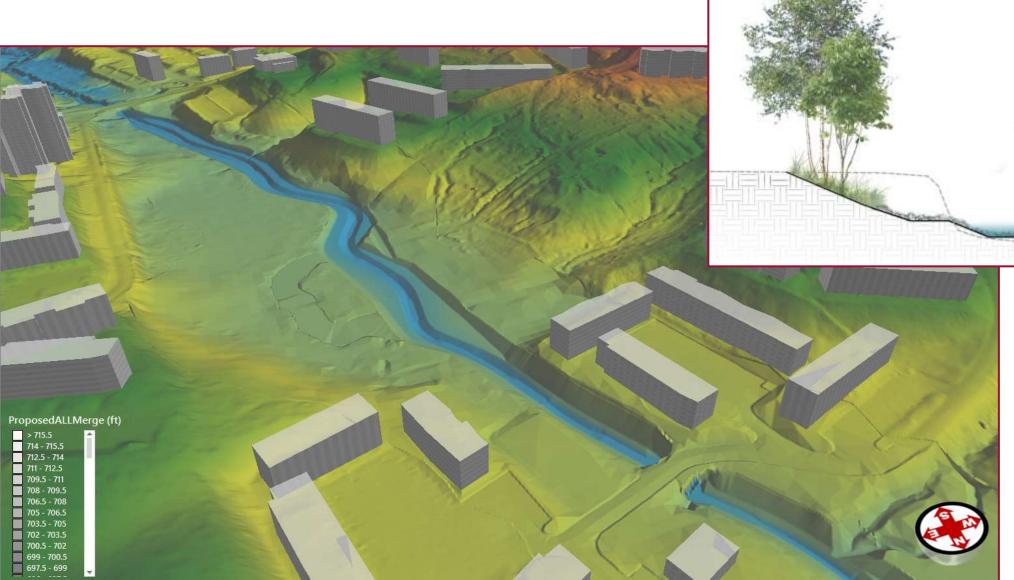




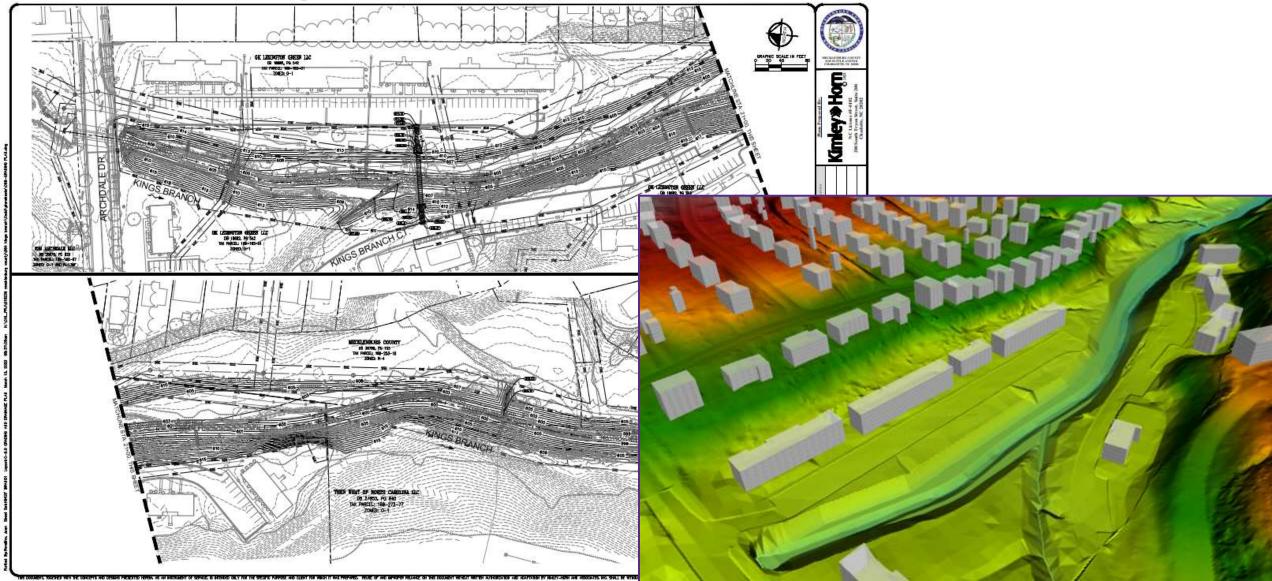
#### **Overhead Electric**



# Design



## **Grading Iterations**



#### **Flood Reductions**

			100-year exist		100-year future						
Address	LAG	HEC-RAS XS	Effective	Proposed	Effective	Proposed					
	(ft)	Station	(ft)	(ft)	(ft)	(ft)					-
12 Archdale	615.85	19940	620.34	614.71	620.57	615.24				///	
14 Archdale	615.85	19710	620.29	614.28	620.51	614.84					
16 Archdale	615.10	19610	619.89	613.34	620.09	613.89			~		
48 Archdale	613.88	19485	616.49	612.05	616.88	612.40		فيمسم	3		
				-011	-iswew-bw	*					1
						20.80	1	3			

#### **Questions?**

Jason Claudio-Diaz, P.E., CFM

Kimley-Horn and Associates

Jason.Diaz@kimley-horn.com

