

NORTH CAROLINA
WAKE COUNTY

MEMORANDUM OF AGREEMENT

BETWEEN

CITY OF DURHAM

NORTH CAROLINA
FLOODPLAIN MAPPING
PROGRAM

This MEMORANDUM OF AGREEMENT (hereinafter, “MOA” or “Agreement”), made and entered into this the 28th day of October, 2013, between the CITY OF DURHAM, hereinafter referred to as the City, and the NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM, an office within the Division of Emergency Management in the Department of Public Safety of the State of North Carolina, hereinafter referred to as the NCFMP;

WITNESSETH:

WHEREAS, the State of North Carolina has established, and FEMA has delegated the Floodplain Mapping Program in the North Carolina Department of Public Safety (DPS) as the lead organization to update and maintain the Special Flood Hazard Areas (SFHAs) and the associated Flood Insurance Rate Maps (FIRMs) for North Carolina; and

WHEREAS, the NCFMP’s Primary Strategy 1 includes dissemination of current flood hazard studies, and the NCFMP’s Business Plan meets this strategy by establishing a goal of updating digital FIRMs (DFIRMs) in each NFIP-participating community at least once every five (5) years; and

WHEREAS, the Durham County Flood Insurance Study effective date is May 2, 2006 for the entire county and August 2, 2007 for panels associated with a Physical Map Revision for DFIRM panels 0718, 0719, 0729, 0810, 0820 and 0821; and

WHEREAS, the NCFMP has initiated map maintenance in Durham County as of Federal Fiscal Year 2009 to include updates to the streams and DFIRM panels listed in Exhibit A; and

WHEREAS, the City is an active partner with NCFMP’s CTS Committee as a NCFMP Cooperating Technical Partner; and

WHEREAS, a number of the streams shown on the Durham County effective DFIRMs include future conditions 100-year profiles; and

WHEREAS, the City has requested that in addition to the streams previously studied with future conditions and the streams listed in Exhibit A; that the 2009 Map

Maintenance include studies to have all streams in Durham County include the future conditions 100-year (1% annual chance) profile and floodplain; and

WHEREAS, both the City and the NCFMP recognize the need to function as a cooperative team; and

WHEREAS, the City and the NCFMP mutually agree this Agreement allows for efficient use of both agencies' resources and has been developed in a manner to realize efficiencies with project schedule and cost; and

WHEREAS, the City and the NCFMP have developed this Agreement to keep the NCFMP's FIRMs current in regard to the Durham County SFHAs; and

WHEREAS, the City and the NCFMP in accordance with the provisions hereinafter set forth propose to enter into an agreement for services that are essential to project development.

NOW, THEREFORE, the parties hereto, each in consideration of the promises and undertakings of the other as herein provided, do hereby covenant and agree, each with the other, as follows:

1. The NCMFP will study all flooding sources listed in Exhibit A and shown in Exhibit B to include the future conditions 100-year floodplains based on the ultimate buildout conditions as provided in Durham's comprehensive land use plan, and for areas not covered by the plan through the use of appropriate equivalent methods.
2. The NCFMP will provide the following additional data and information:
 - a. The +10% impervious coverage profile to Lick Creek and Northeast Basin studied streams; and
 - b. The 50% annual chance profile (2-year recurrence interval) profile for studied streams.
3. The NCFMP and the City agree to cooperatively fund the future conditions flood studies and associated DFIRMs for the streams listed in Exhibit B, as follows:
 - a. The City will provide funding to the NCFMP in the amount of \$160,000.
 - b. The NCFMP will provide funding in the amount not to exceed \$220,000.
4. Durham will provide the following data and support information:
 - i. Ellerbe Creek Watershed Plan;
 - ii. Third Fork Creek Watershed Plan;
 - iii. Gum Creek modeling;
 - iv. Comprehensive Plan; and
 - v. City of Durham "Reference Guide for Development".
5. The NCFMP will utilize the NCFMP's engineering and mapping contractor(s) to complete work described in the MOA.
6. The NCFMP will provide the data as part of this MOA following the existing Durham County Map Maintenance schedule.

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, the day and year heretofore set out, on the part of the City and the NCFMP by authority duly given.

CITY OF DURHAM

BY: _____

Name

TITLE

NORTH CAROLINA FLOODPLAIN
MAPPING PROGRAM

BY: _____

John Kay Dorman

DIRECTOR

EXHIBIT A: Durham County 2009 Map Maintenance Study Streams

The following streams were funded for inclusion in the 2009 funded DFIRM updates for Durham County:

Burdens Creek Tributary	Panther Creek
Cabin Branch	Panther Creek
Ellerbe Creek	Panther Creek
Ellerbe Creek	Sandy Creek
Ellerbe Creek Tributary A	Sandy Creek Tributary A
Ellerbe Creek Tributary B	Sandy Creek Tributary D
Eno River Tributary A	South Ellerbe Creek
Gum Creek Tributary	South Ellerbe Creek Tributary
Lick Creek	Stirrup Iron Creek
Lick Creek	Stirrup Iron Creek Tributary A
Lick Creek Tributary 1	Stirrup Iron Creek Tributary B
Little Lick Creek	Stirrup Iron Creek Tributary C
Little Lick Creek Tributary 1B	Stirrup Iron Creek Tributary C
Little Lick Creek Tributary 1B	Tributary 1 to Little Lick Creek
Little Lick Creek Tributary 1D	Tributary 1B
Little Lick Creek Tributary 2	Tributary to Stirrup Iron Creek
Little River (upstream)	Tributary A
Little River (downstream)	Unnamed Tributary No. 1 to Stirrup
Little River North Fork	Iron Creek Tributary C
Little River North Fork Tributary 1	Unnamed Tributary No. 1 to Stirrup
Little River South Fork	Iron Creek Tributary C
Little River Tributary 1	Unnamed Tributary No. 2 to Stirrup
Long Branch	Iron Creek Tributary C
Mud Creek	Unnamed Tributary to Little Briar
Mud Creek	Creek
New Hope Creek	Unnamed Tributary to Northeast
New Hope Creek Tributary 1	Creek
Northeast Creek North Prong	Unnamed Tributary to Northeast
Tributary	Creek
Northeast Creek North Prong	Unnamed Tributary to Stirrup Iron
Tributary A	Creek
Northeast Creek Tributary 1	Unnamed Tributary to Stirrup Iron
Northeast Creek Tributary 1	Creek
Northeast Creek Tributary C	Unnamed Tributary to Stirrup Iron
Northeast Creek Tributary D	Creek

EXHIBIT B: Streams to be Added to the Durham County Scope as Part of this MOA

The following limited detail study streams that are to be upgraded to include the 100-year future conditions profile and DFIRM mapping:

Basin 18, Stream 13	Little Creek
Buffalo Creek (into Little River North Fork)	Little Lick Creek
Buffalo Creek (into Little River)	Little Lick Creek Tributary 1
Buffalo Creek Tributary 1	Little Lick Creek Tributary 3
Buffalo Creek Tributary 2	Little Lick Creek Tributary 3A
Burdens Creek	Little Lick Creek Tributary 4
Cabin Branch Tributary	Little River
Camp Creek	Little River North Fork
Camp Creek Tributary 3	Little River Tributary 1
Camp Creek Tributary 4	Little River Tributary 2
Chunky Pipe Tributary 1	Little River Tributary 3
Chunky Pipe Tributary 2	Little River Tributary 4
Crooked Creek (into Eno River) Tributary 2	Little River Tributary 4A
Crooked Creek (into Eno River) Tributary 2A	Little River Tributary 5
Deep Creek	Little River Tributary 6
Dial Creek	Little River Tributary 7
Ellerbe Creek	Martin Branch
Ellerbe Creek Tributary 1	Morgan Creek
Ellerbe Creek Tributary 2	Mountain Creek
Ellerbe Creek Tributary 3	Mountain Creek Tributary 1
Ellerbe Creek Tributary 4	Mountain Creek Tributary 2
Eno River	Mountain Creek Tributary 3
Eno River Tributary	Mountain Creek Tributary 4
Eno River Tributary 6	Mountain Creek Tributary 4A
Eno River Tributary 7	Mountain Creek Tributary 5
Eno River Tributary 8	New Hope Creek
Eno River Tributary 9	New Hope River
Flat River	North Fork Little River Tributary 2
Flat River Tributary 1	Northeast Creek
Flat River Tributary 2	Northeast Creek Tributary 2
Flat River Tributary 3	Panther Creek
Flat River Tributary 4	Panther Creek Tributary 1
Flat River Tributary 5	Panther Creek Tributary 2
Flat River Tributary 6	Rocky Branch
Flat River Tributary 7	Rocky Branch (near Falls Lake)
Flat River Tributary 8	Rocky Branch Tributary 1
Knap of Reeds Creek Tributary 2	Rocky Creek (into Flat River)
Knap Reed Tributary	Rocky Creek Tributary 1
Laurel Creek	Rocky Creek Tributary 2
Lick Creek	Sevenmile Creek Tributary 1
Lick Creek Tributary 2	Sevenmile Creek Tributary 2
Little Brier Creek (Basin 18, Stream 15)	Southwest Creek Tributary 2
Little Brier Creek (Basin 18, Stream 16)	Stirrup Iron Creek
Little Brier Creek Tributary 1	Stirrup Iron Creek Tributary B
Little Brier Creek Tributary 2	Stirrup Iron Creek Tributary B-1
	Stirrup Iron Creek Tributary C
	Stirrup Iron Creek Tributary D
	Sycamore Creek (Basin 18, Stream 6)
	Tributary to Stirrup Iron Creek Tributary A

The following streams that are to be studied by Detailed methods and are in addition to the streams listed in Exhibit A:

Burdens Creek Tributary
Cabin Branch
Lick Creek
Lick Creek Tributary 1
Little Lick Creek
Little Lick Creek Tributary 1B
Little Lick Creek Tributary 1D
Little Lick Creek Tributary 2
Northeast Creek North Prong Tributary
Northeast Creek North Prong Tributary A
Northeast Creek Tributary 1
Northeast Creek Tributary C
Northeast Creek Tributary D
Saddletree Swam Tributary
Tributary to Little Lick Creek Tributary 1B
Tributary to Gum Creek
Unnamed Stream
Unnamed Tributary No. 2 to Stirrup Iron Creek Tributary

The following stream was originally scoped to as Limited Detail Study and to be included in the stream list in Exhibit A, but will be upgraded to be studied with Detailed methods:

Gum Creek

EXHIBIT C: Map of All Streams to be Studied (Combining the Streams for the 2009 Map Maintenance and this MOA)

