

FRM

**Fayette Raleigh Metropolitan
Planning Organization**

Extreme Weather At-Risk Roadway System

2016

INTRODUCTION

The 2015-2016 Unified Planning Work Program (UPWP) was created by the Fayette Raleigh Metropolitan Planning Organization (FRM) to ensure transportation planning is established and maintained for the metropolitan area. Task II in the UPWP contains the Short Range Planning objective to analyze and identify potential solutions to address transportation problems in particular areas, and/or further refine the scope of projects and programs recommended in the Long Range Transportation Plan. As part of this objective, identified activities included building scope to pursue assessment of roadway infrastructure in the urbanized area to identify areas of vulnerability to extreme weather events, including flooding, and recommend steps to address safety risks and reduce roadway damage at those locations. To this end, roadway system mapping enclosed in this report identifies areas particularly at risk from extreme weather events.

VULNERABILITY

Flooding

By overlaying digital 1% Annual Chance (100 year floodplain) layers on the existing roads network, FRM is able to evaluate the roads most regularly impacted by potential flooding. Additionally, jurisdictional officials were offered the opportunity to identify areas of special concern with regards to water pooling. These areas are indicated on the enclosed maps, in Appendix A, and specific roads have been identified by the responsible parties, listed in Appendix B by the community in which or directly outside of which they are located.

Snow

While snow events affect the Fayette and Raleigh County region fairly uniformly, snow depth impacts a higher volume of people within urban areas, as regards transportation, simply due to the increased volume of traffic. However, rural areas are impacted by a lower snow clearance prioritization. It is the recommendation of FRM that community leaders evaluate snow removal procedures and needs respective to each individual jurisdiction based on applicable knowledge and annual citizen input.

Appendix C compares available normal snowfall data for all incorporated places within Fayette and Raleigh counties. Normal snowfall is an average rating over a 30 year span. All incorporated communities within Fayette and Raleigh Counties experienced a yearly average of 62 inches of snow over the past three decades from 1980 – 2010 except Montgomery and Ansted which reflected annual averages of 36.4 and 38.7 inches, respectively. There was no data for Smithers or Gauley Bridge but due to their proximity it is inferable that that Smithers' snowfall amounts would be comparable to Montgomery.

Additionally it should be noted that the uniformity of the figures is potentially due to the fact that much of the source data in the National Oceanic and Atmospheric Administration's (NOAA) Severe Weather Data Inventory (SWDI) is automatically derived from radar data and represents

probable conditions for an event, rather than a confirmed occurrence or the low number of weather stations and the probability that many of these communities' snowfall averages could be taken from the same station.

IMPLEMENTATION

It is the recommendation of FRM that community leaders prioritize roadways and identify best practices to increase safety and mediate risks at individual site-specific locations based on:

- Local knowledge,
- Traffic volume,
- Accident statistics,
- Public input,
- Existing plans, and
- Leading industry solutions.

FRM further recommends the following steps to reduce roadway damage at indicated locations:

- Problem cause identification (i.e. floodplain, DOH drainage, local stormwater maintenance issue)
- Current level of damage and projected deterioration,
- Party responsible for road maintenance,
- Best practices to impede future damage, and
- Identification of recommended repair activities and potential funding sources.

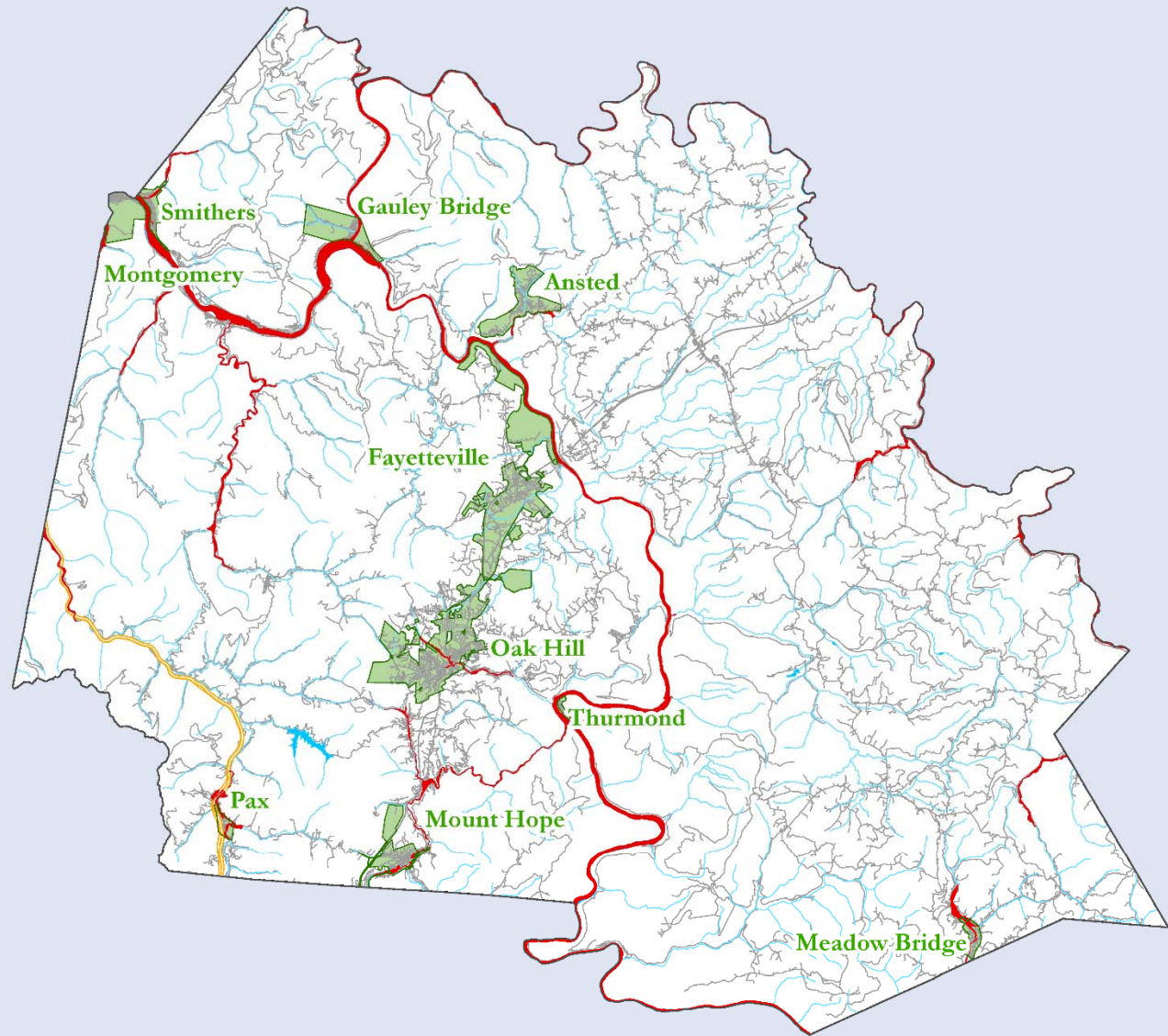
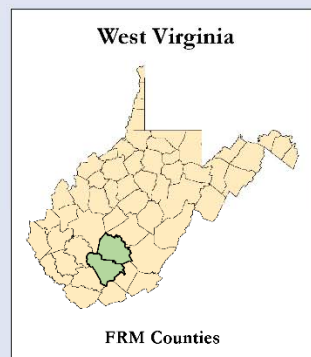
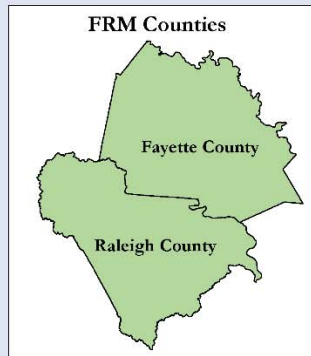
This report is made available to all identified jurisdictions for the purpose of integration into the implementation steps identified above. The enclosed maps in Appendix A and street listings in Appendix B may be used to create a priority list for future planning and funding efforts.

APPENDIX A

Maps

Fayette County Water Features, Flood Plains, & Roads

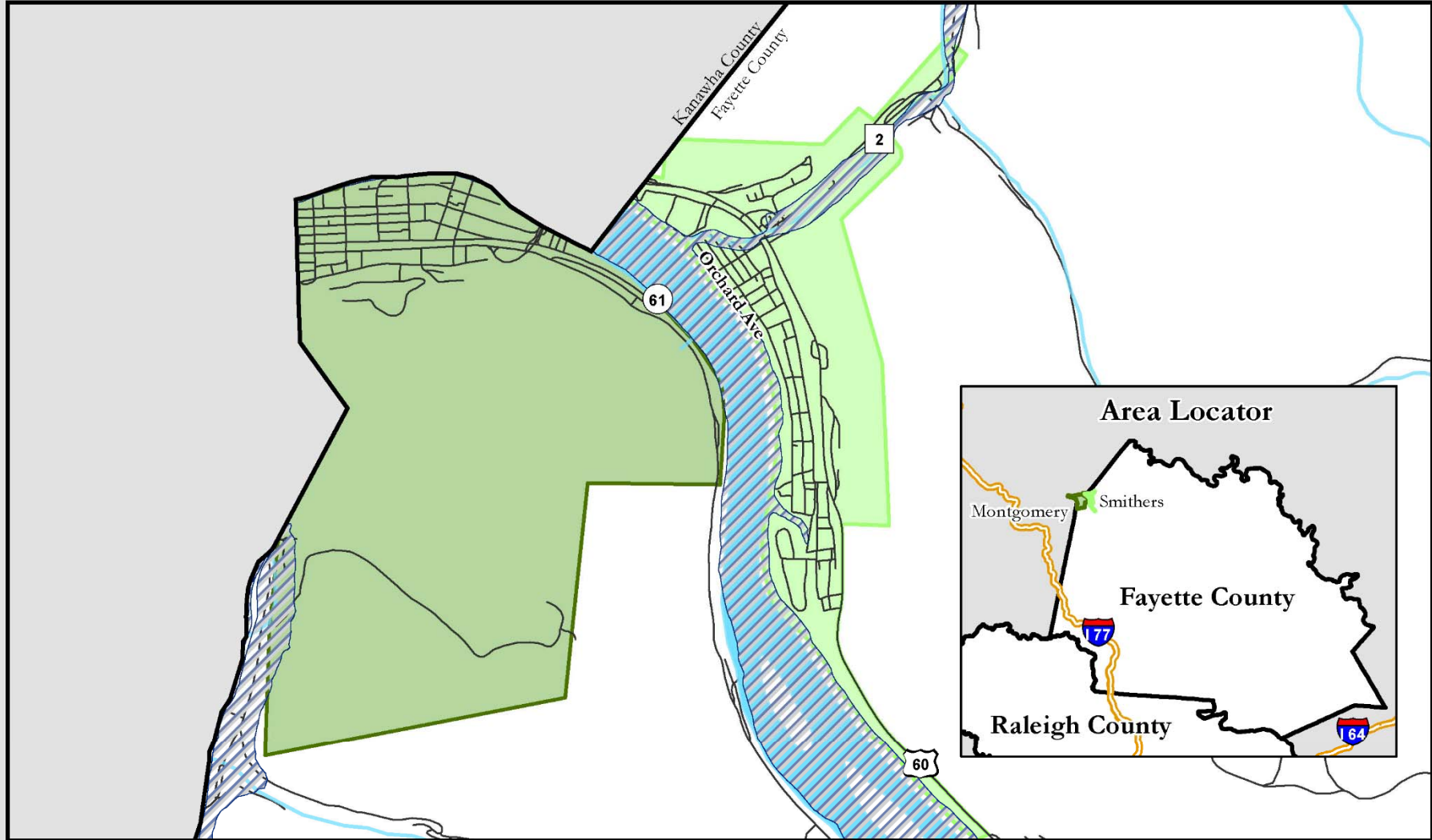
-  Interstates
-  Roads
-  Water Features
-  Incorporated Places
-  Flood Zone (1% annual chance)









0 2.5 5 10 Miles

Montgomery & Smithers, Fayette County

Water Features, Flood Plains, & Roads



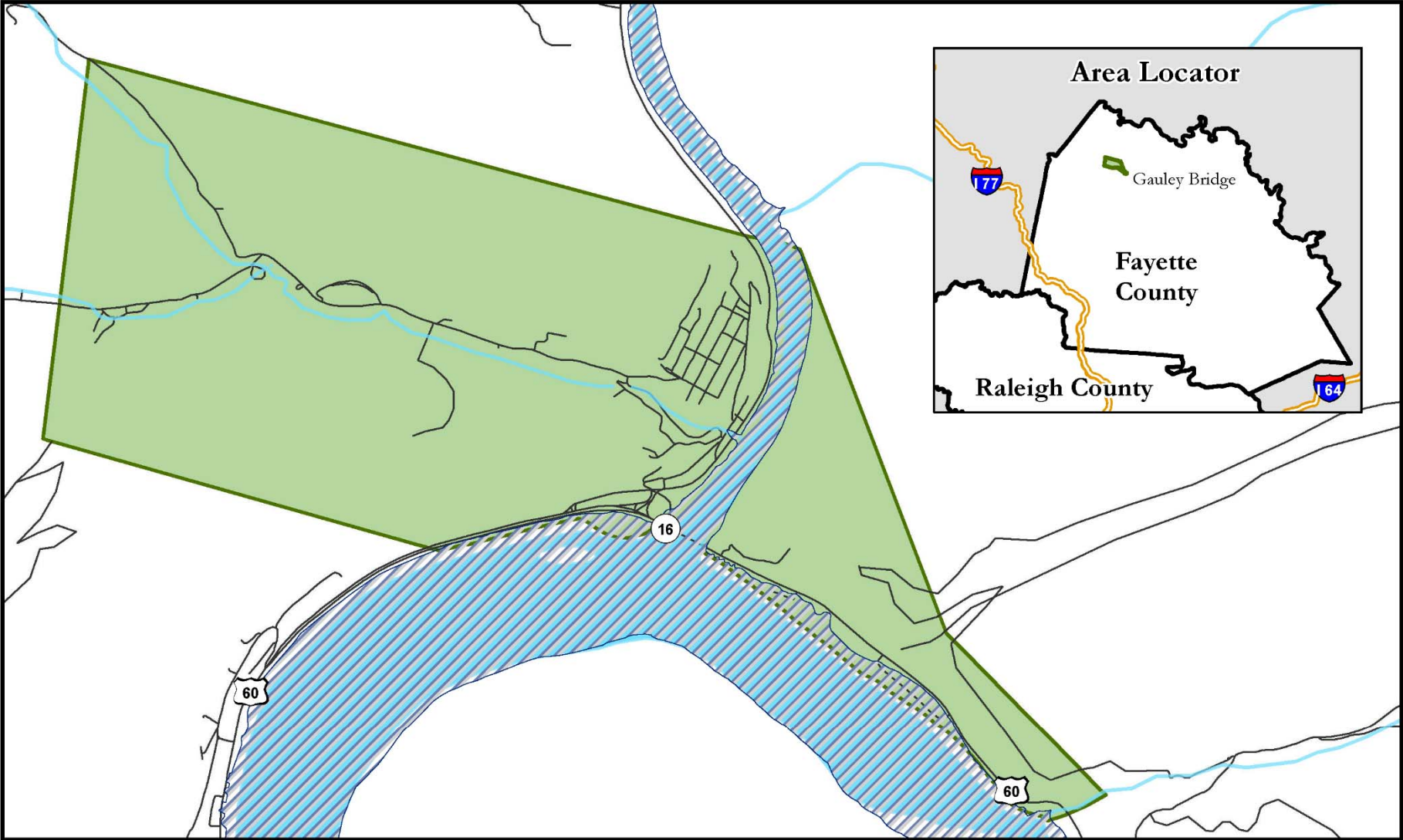
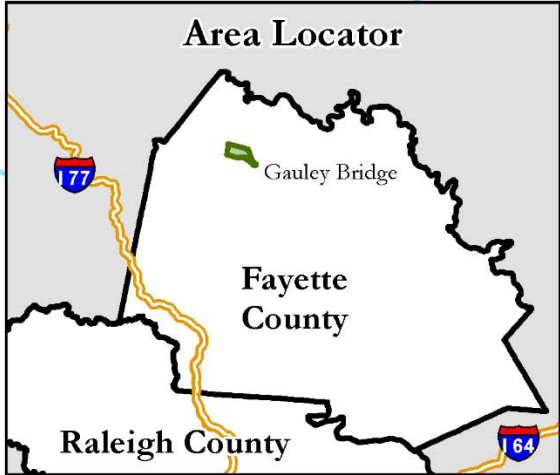
-  Interstates
-  Roads
-  Water Features
-  Montgomery
-  Smithers
-  Flood Zone (1% annual chance)

0 0.25 0.5 1 Miles

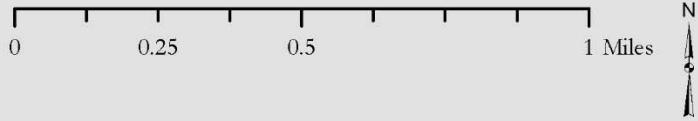


Gauley Bridge, Fayette County

Water Features, Flood Plains, & Roads

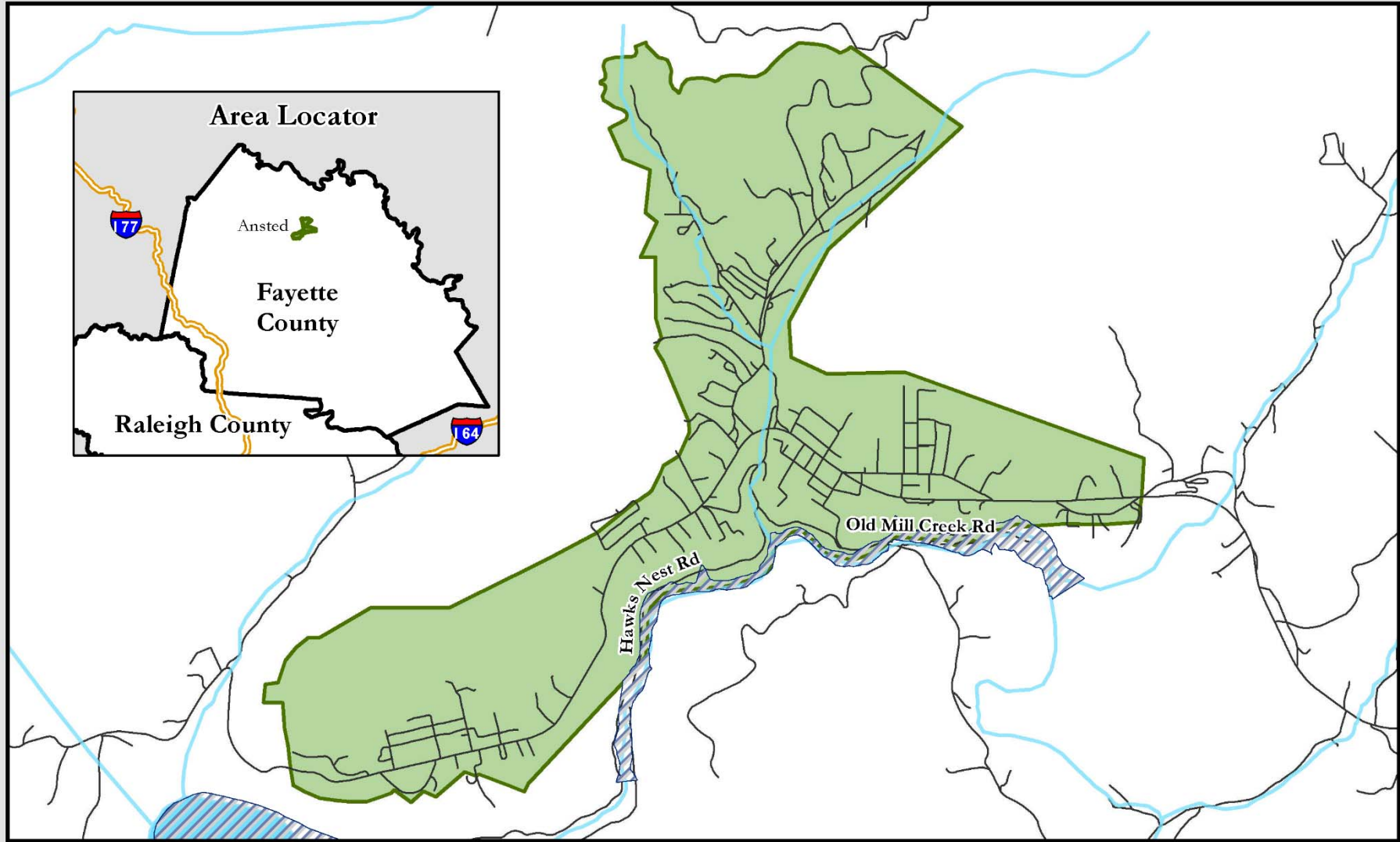


-  Interstates
-  Roads
-  Water Features
-  Gauley Bridge
-  Flood Zone (1% annual chance)




Ansted, Fayette County

Water Features, Flood Plains, & Roads




 Interstates

 Roads

 Water Features

 Ansted

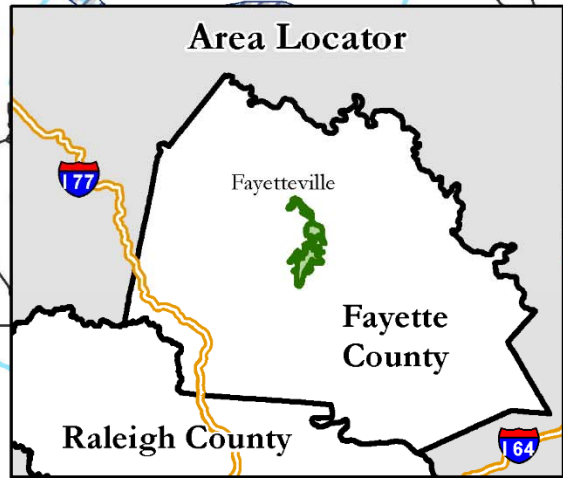
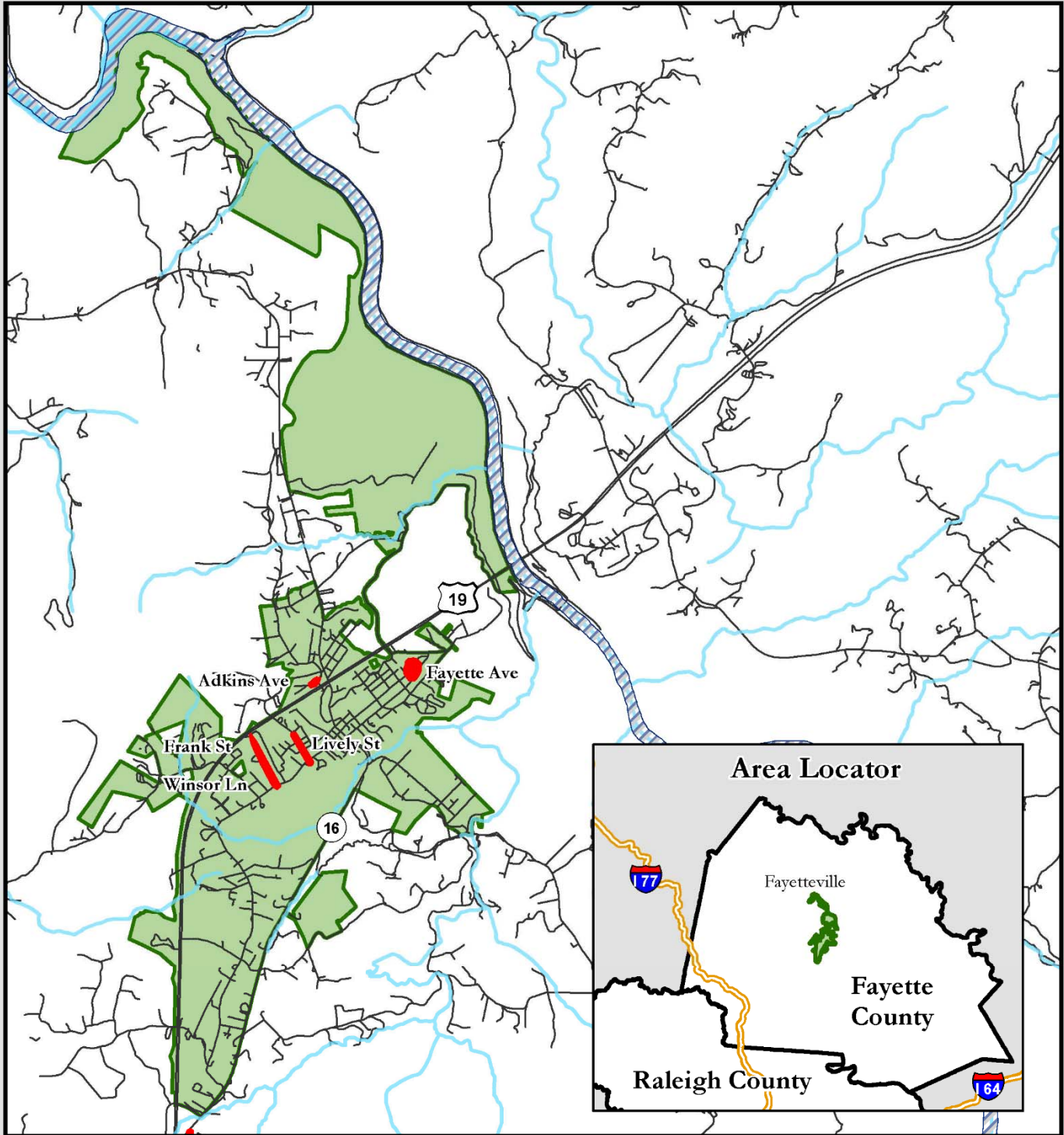
 Flood Zone (1% annual chance)






0 0.25 0.5 1 Miles



Fayetteville, Fayette County

Water Features, Flood Plains, Roads, & Areas of Concern



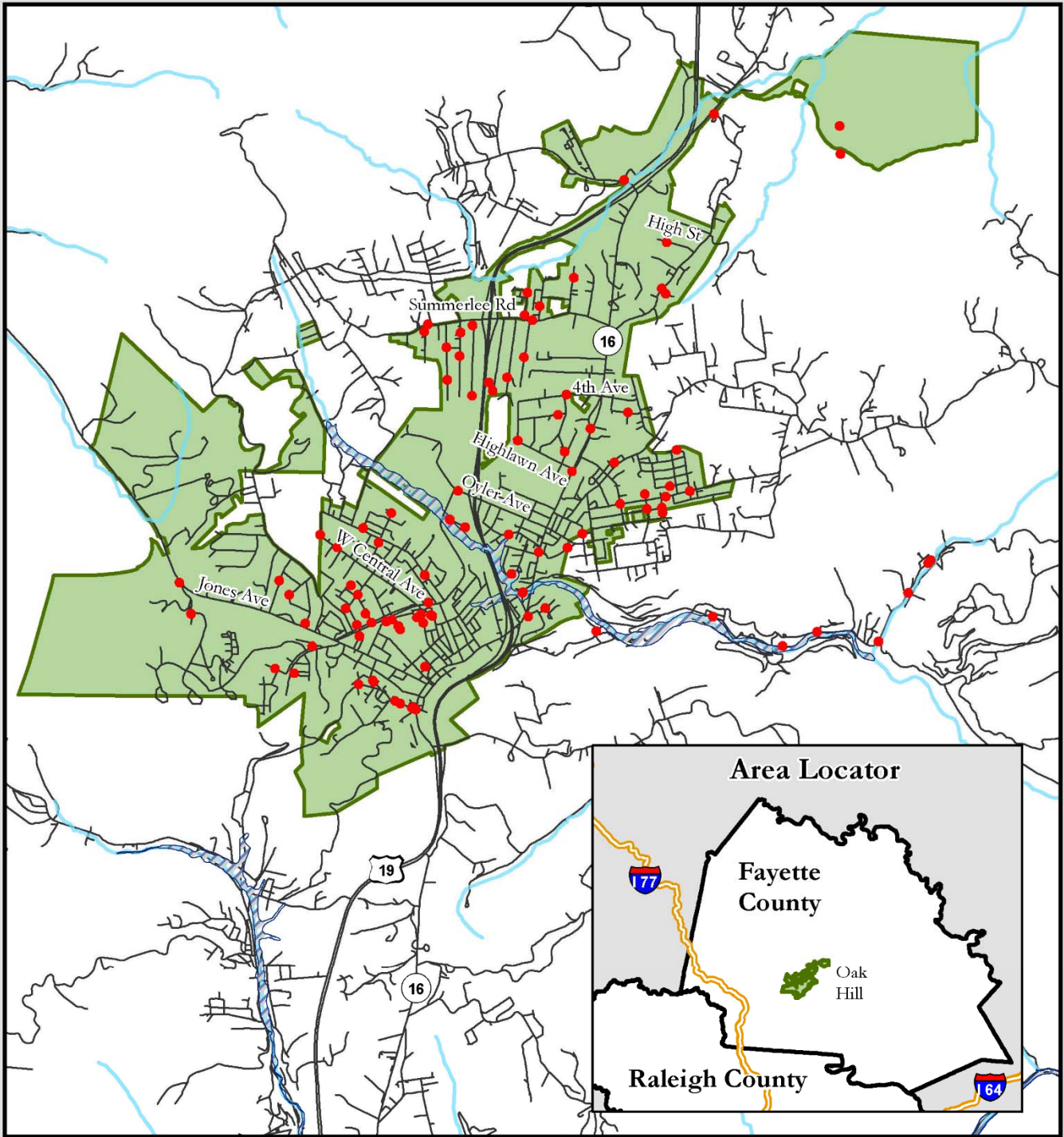
-  Interstates
-  Roads
-  Water Features
-  Areas of Concern
-  Flood Zone (1% annual chance)
-  Fayetteville







0 0.5 1 2 Miles



Oak Hill, Fayette County

Water Features, Flood Plains, Roads, & Areas of Concern



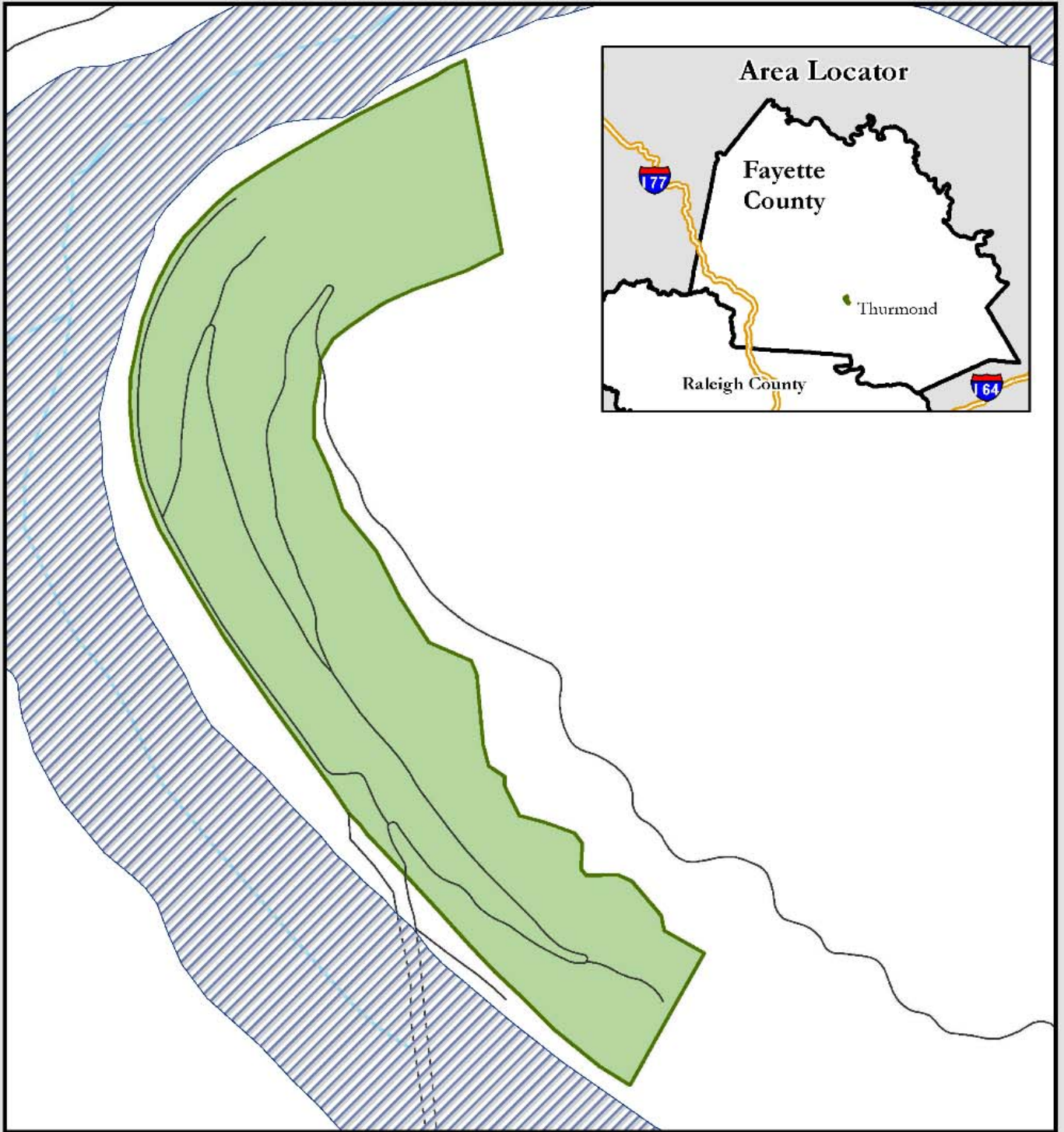
-  Interstates
-  Roads
-  Water Features
-  Oak Hill
-  Areas of Concern
-  Flood Zone (1% annual chance)

0 0.5 1 2 Miles



Thurmond, Fayette County

Water Features, Flood Plains, & Roads



Legend:

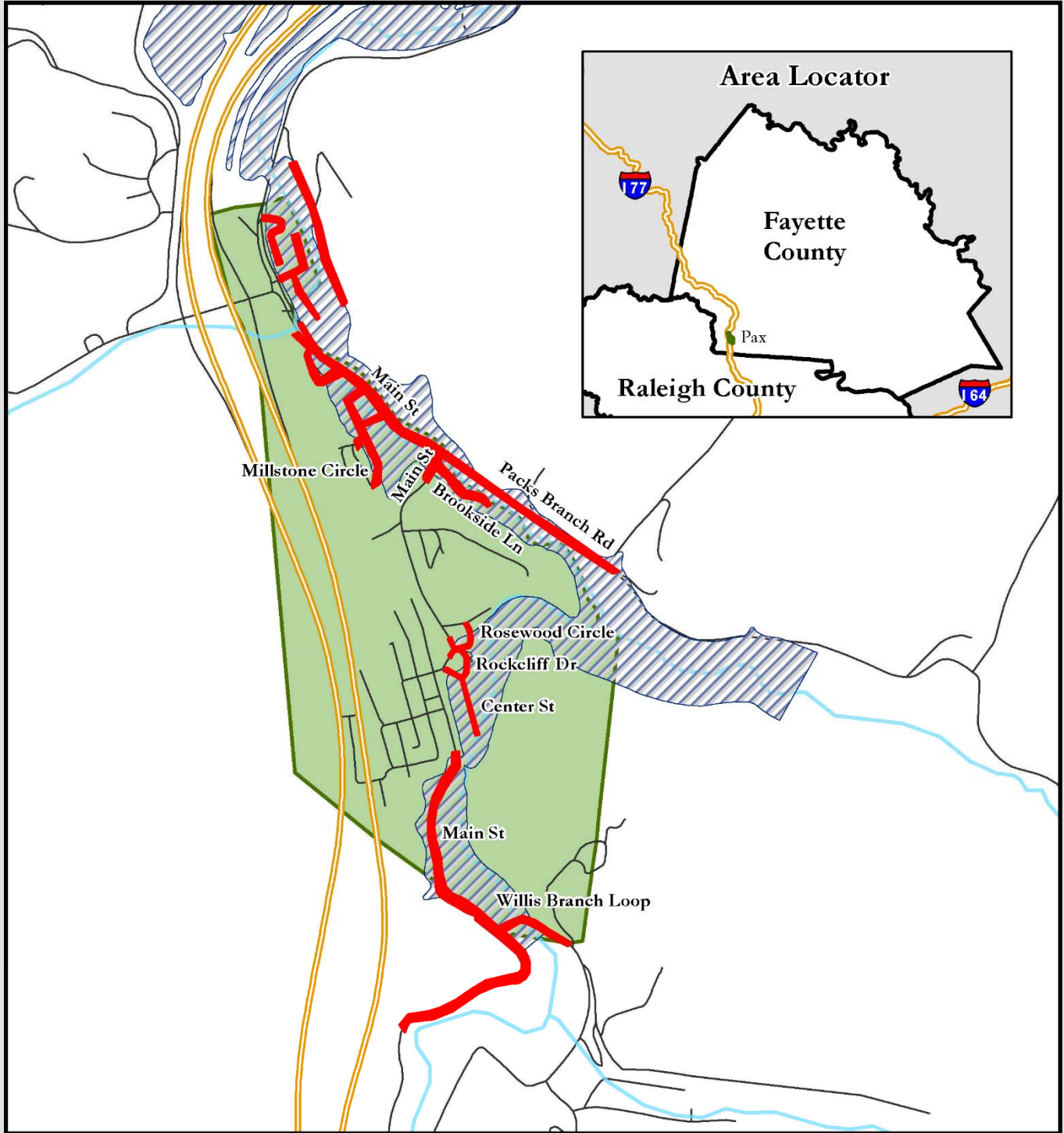
- Interstates (I-77, I-64)
- Roads
- Water Features
- Thurmond
- Flood Zone (1% annual chance)







Scale: 0, 0.075, 0.15, 0.3 Miles

N

Pax, Fayette County

Water Features, Flood Plains, Roads, & Areas of Concern



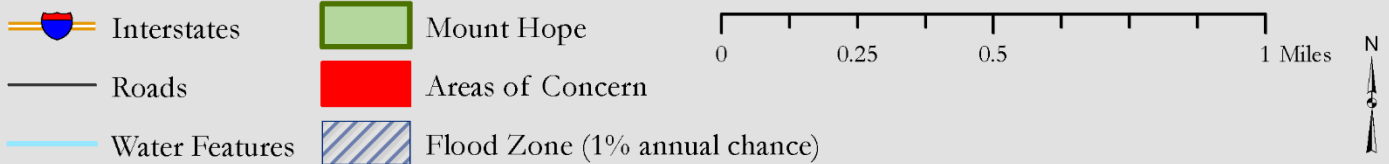
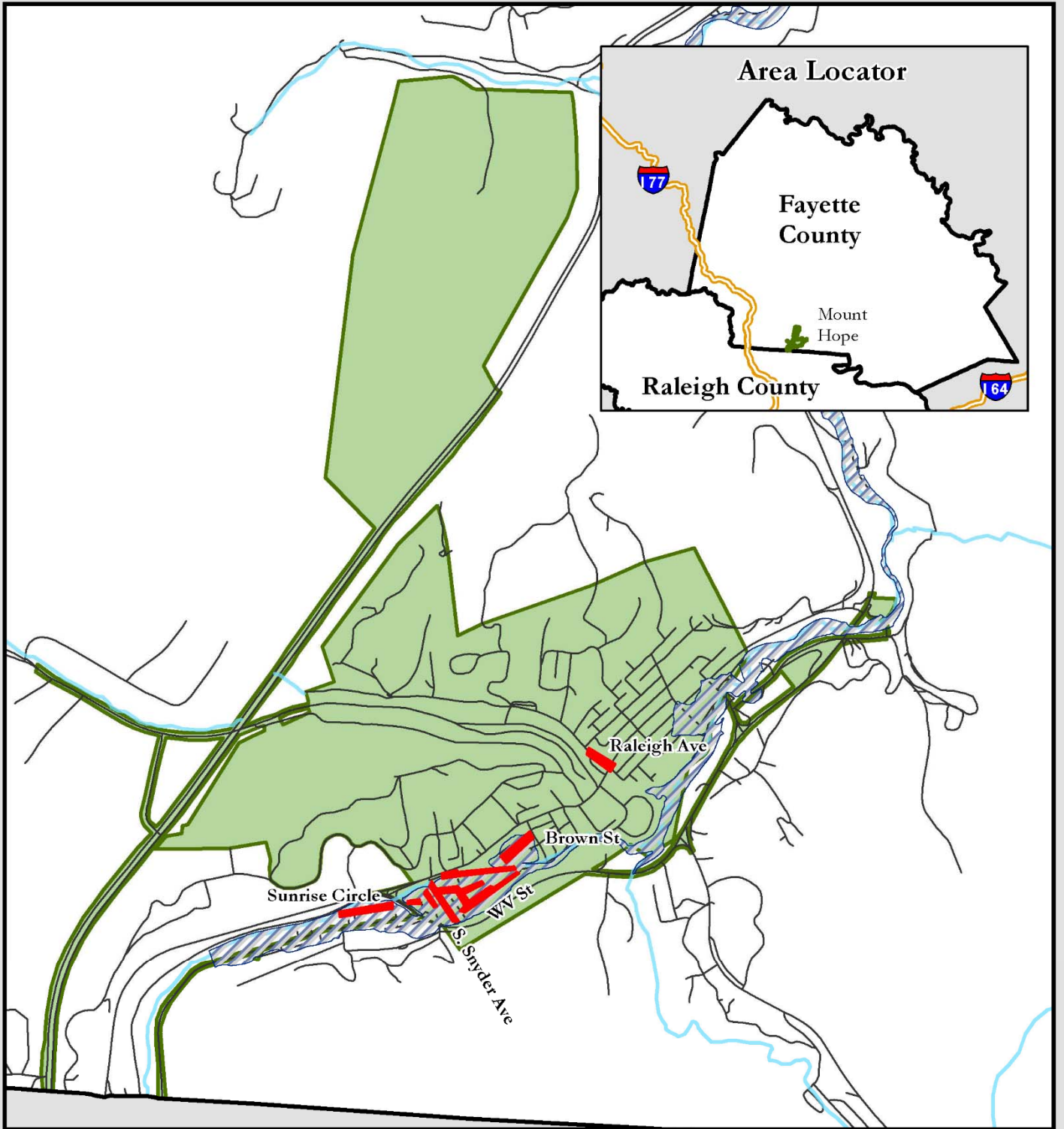
-  Interstates
-  Roads
-  Water Features
-  Pax
-  Areas of Concern
-  Flood Zone (1% annual chance)

0 0.125 0.25 0.5 Miles



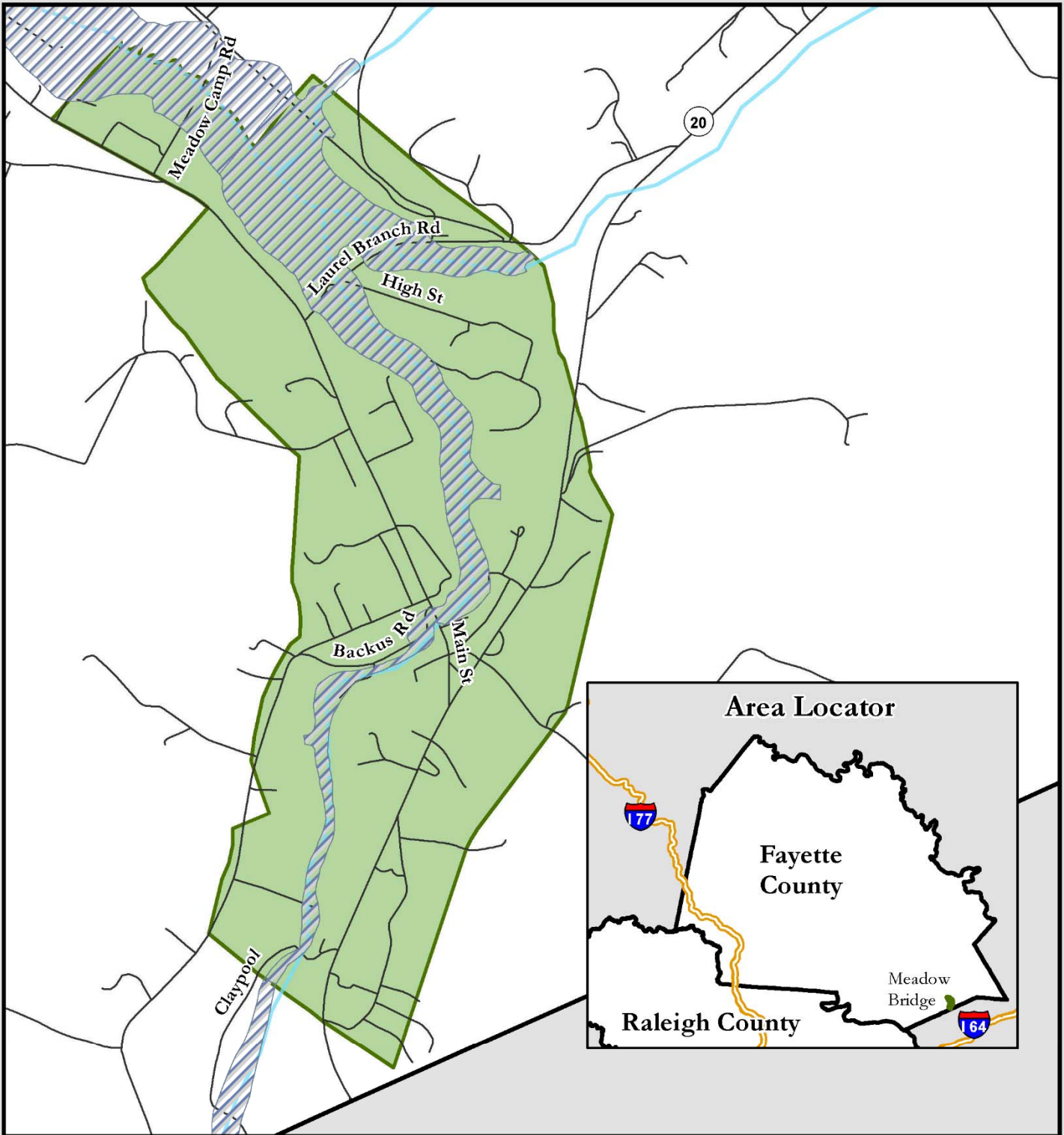
Mount Hope, Fayette County






Water Features, Flood Plains, Roads, & Areas of Concern

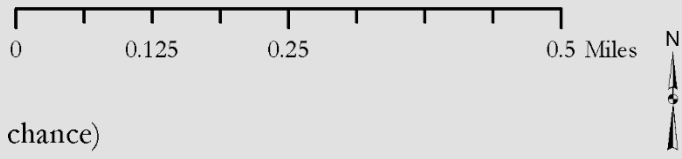


Meadow Bridge, Fayette County

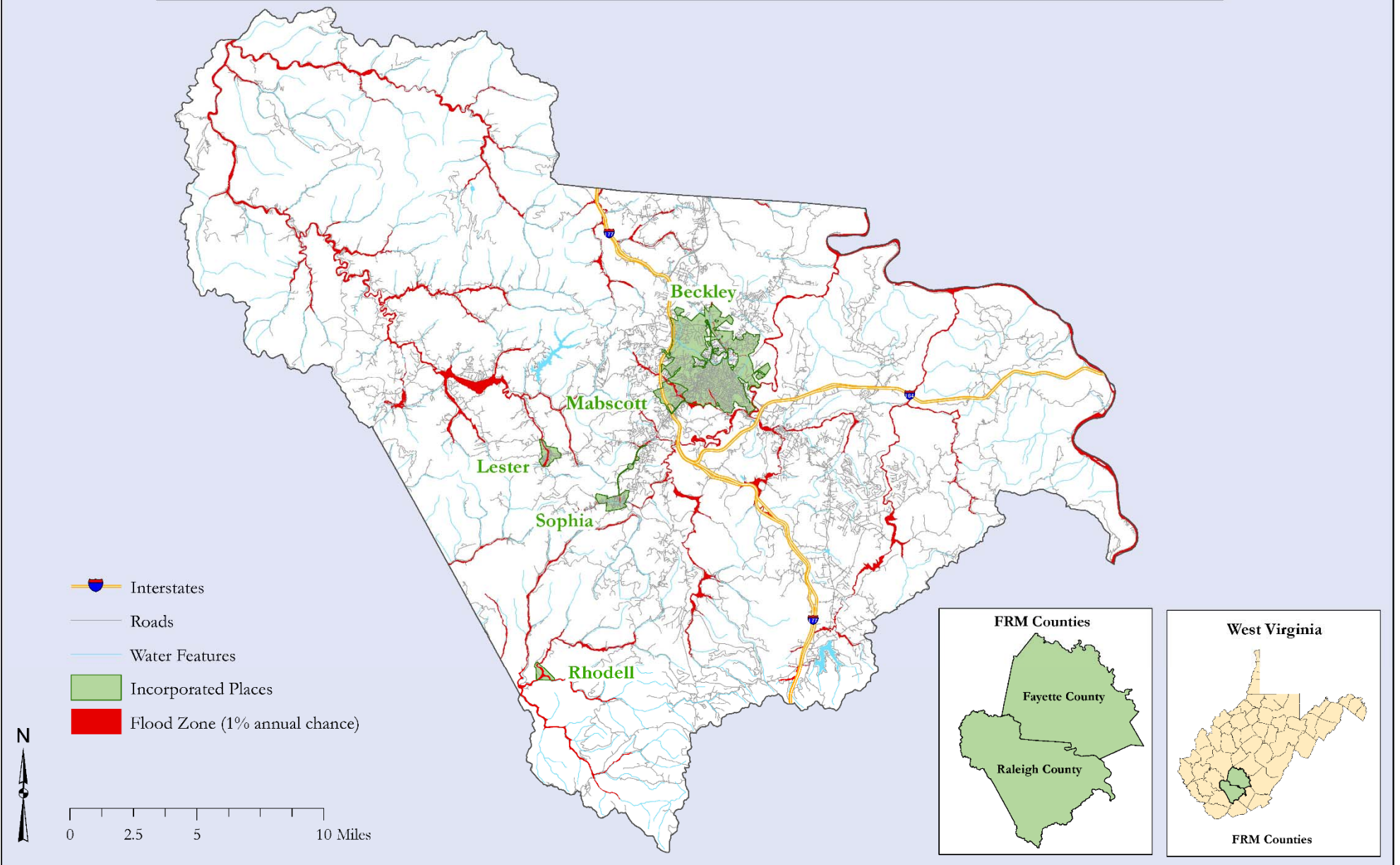
Water Features, Flood Plains, & Roads



-  Interstates
-  Roads
-  Water Features
-  Meadow Bridge
-  Flood Zone (1% annual chance)

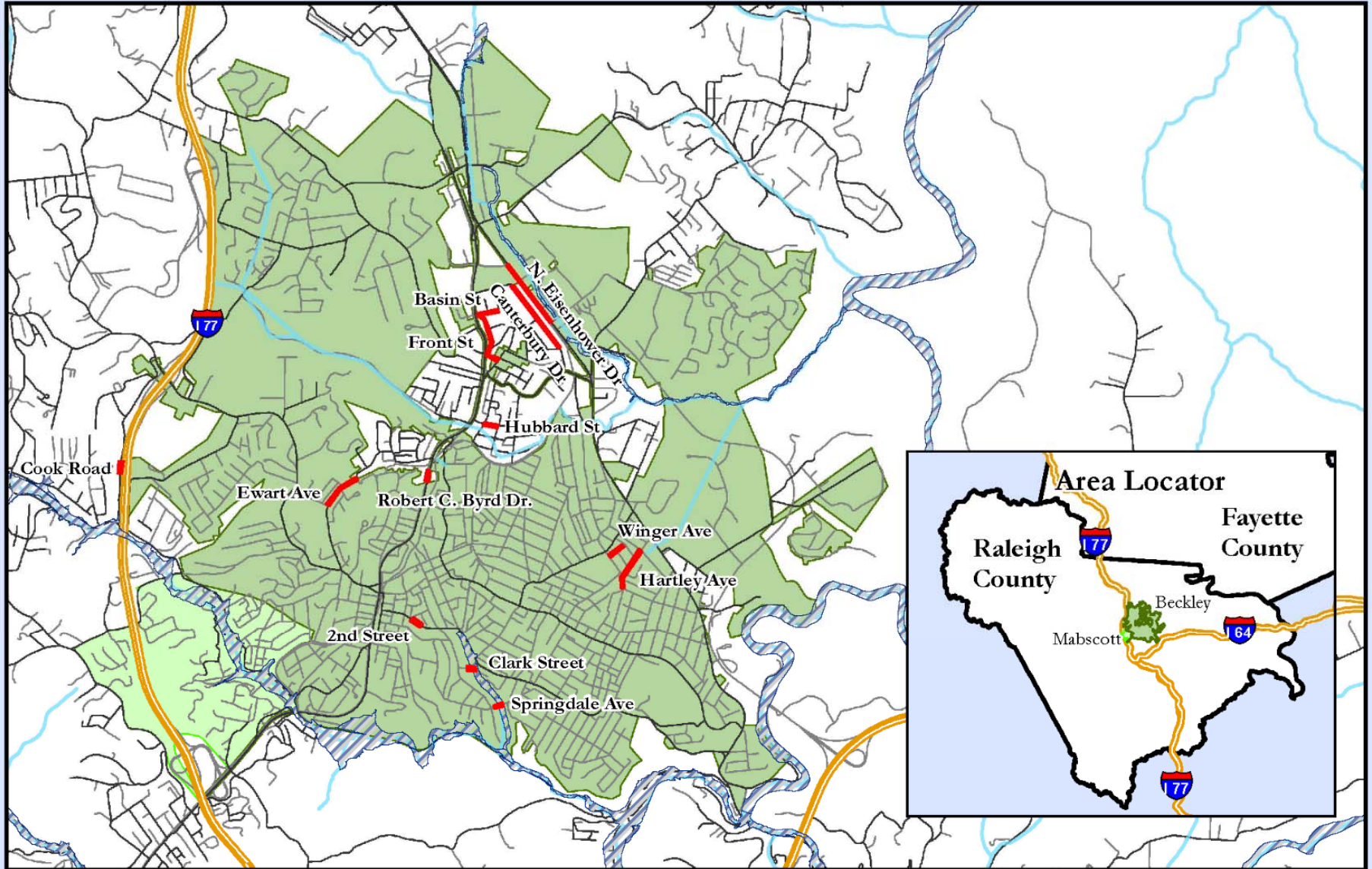


Raleigh County Water Features, Flood Plains, & Roads

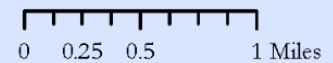


Beckley & Mabscott

Water Features, Flood Plains, Roads, & Areas of Local Concern

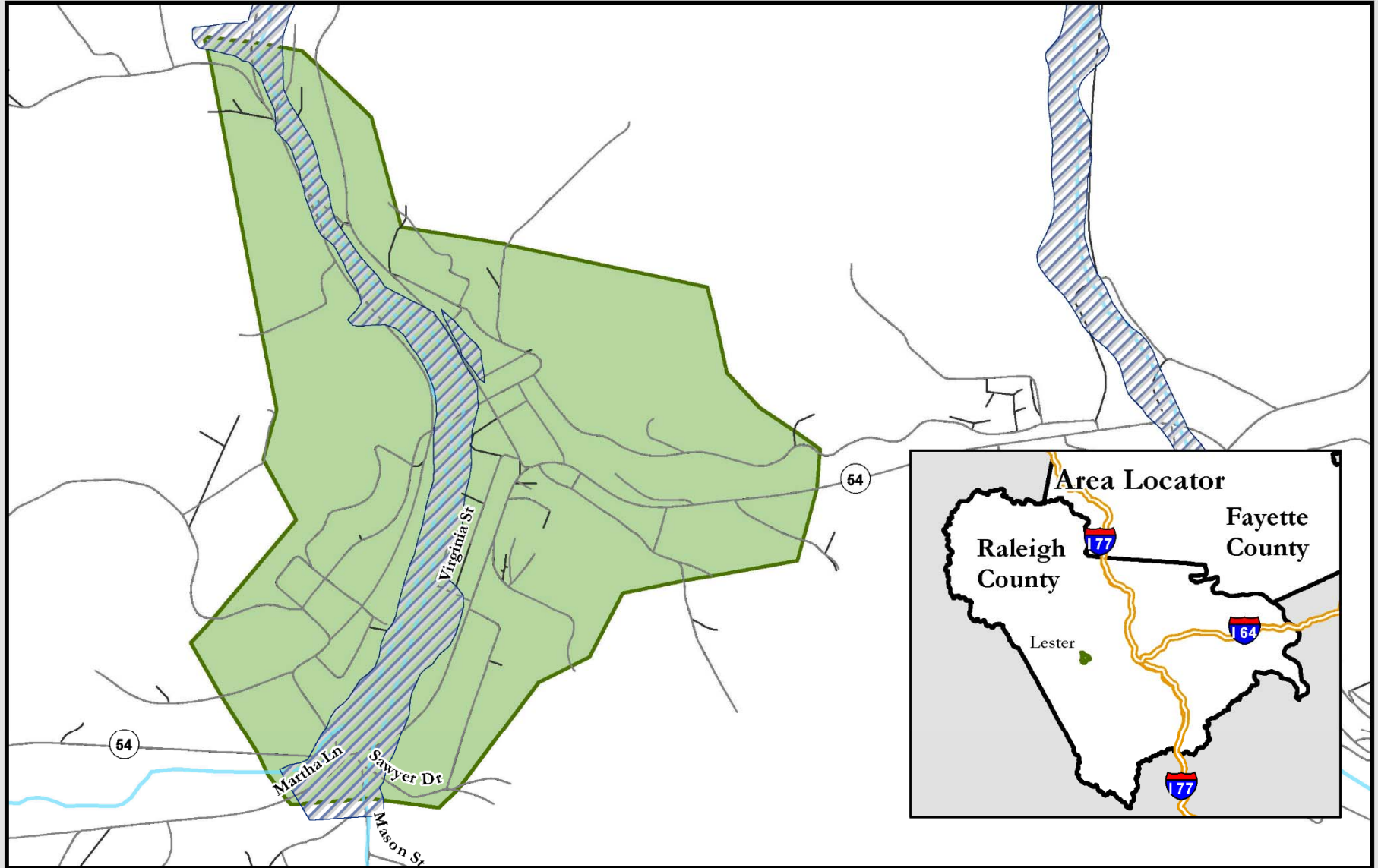


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|----------------|-------------|----------|-------------------------------|
| Water Features | Interstates | Beckley | Areas of Concern |
| Local Streets | Major Roads | Mabscott | Flood Zone (1% annual chance) |

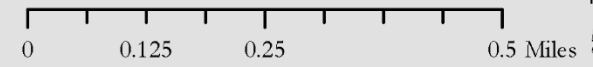


Lester, Raleigh County

Water Features, Flood Plains, & Roads

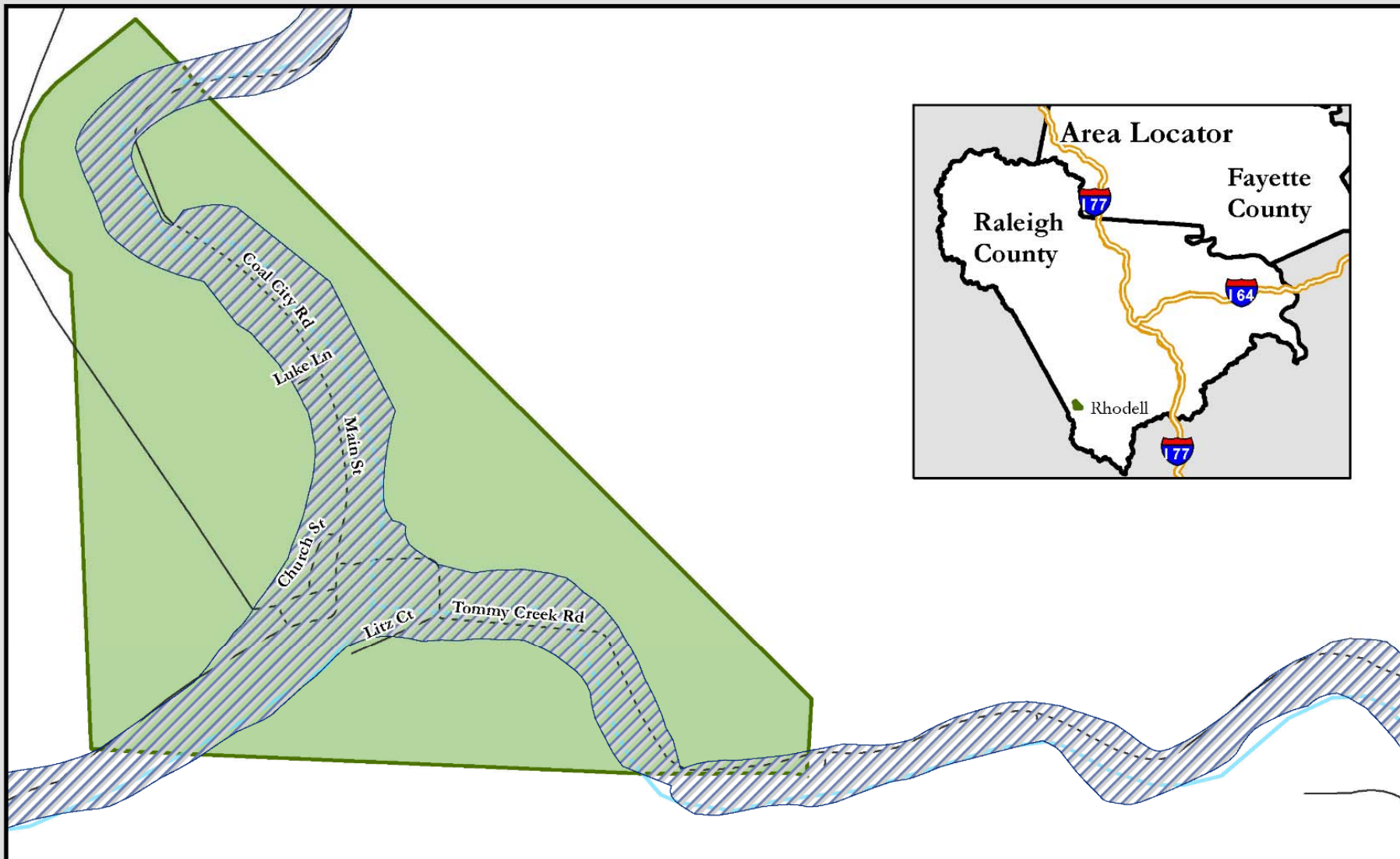
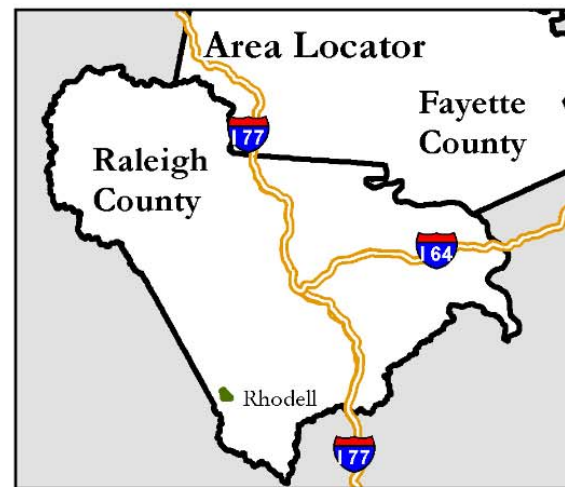


- Water Features
- Local Streets
- Lester
- Flood Zone (1% annual chance)
- Interstates
- Roads



Rhodell, Raleigh County

Water Features, Flood Plains, & Roads



- Interstates
- Roads
- Water Features
- Rhodell
- Flood Zone (1% annual chance)

0 0.125 0.25 0.5 Miles



APPENDIX B

Street Names Corresponding to Areas of Concern

City of Beckley

North Eisenhower Drive
Canterbury Drive
Ewart Ave
Robert C. Byrd Drive
Hubbard Street
Front Street
Basin Street
2nd Street
Clark Street
Springdale Ave
Hartley Ave
Winger Ave

Sophia

Polk St
Daniel Dr
Jessup Hollow
Robert C. Byrd Dr.
Riffe St
E. Main St
W. Main St

Mount Hope

Raleigh Ave
Brown St
West Virginia Street
S.Snyder Ave
Sunrise Circle

Fayetteville

Fayette Ave
Lively St
Adkins Ave
Frank St
Winsor Ln
Carolina St
S. Adams Ave
Delaware St

Oak Hill

Summerlee Rd
Trump St
Center St
Jordan St
Crawford St
Boley St
Halstead Ave
Valley St
Dickerson St
Rogers St
Broadway Ave
Crouse St
High St
Lochgelly Rd
Nick Rahall Greenway
4th Ave
3rd Ave
2nd Ave
Highlawn Ave
Delta Rd 145
25th St
21st St
Webster Ave
Spruce St
Johnson St
Huff ST
S. Sidney St
E. Martin Ave
Willywood Ave
Main St E
Riner Ave
Harvey Ave
Minden Rd
Old Minden Rd
Pacwood Dr
Oyler Ave
Duncan Ave
Trump Ave
Weaver St
Morris St
Park Dr
Central Ave
Washington Ave
Lewis St
Maple Ave

Scarbro Rd
Ford St
Thurmond Dr
Sunnyside Dr
Woodbridge Rd
Minden Ave
Minersville Rd

Pax

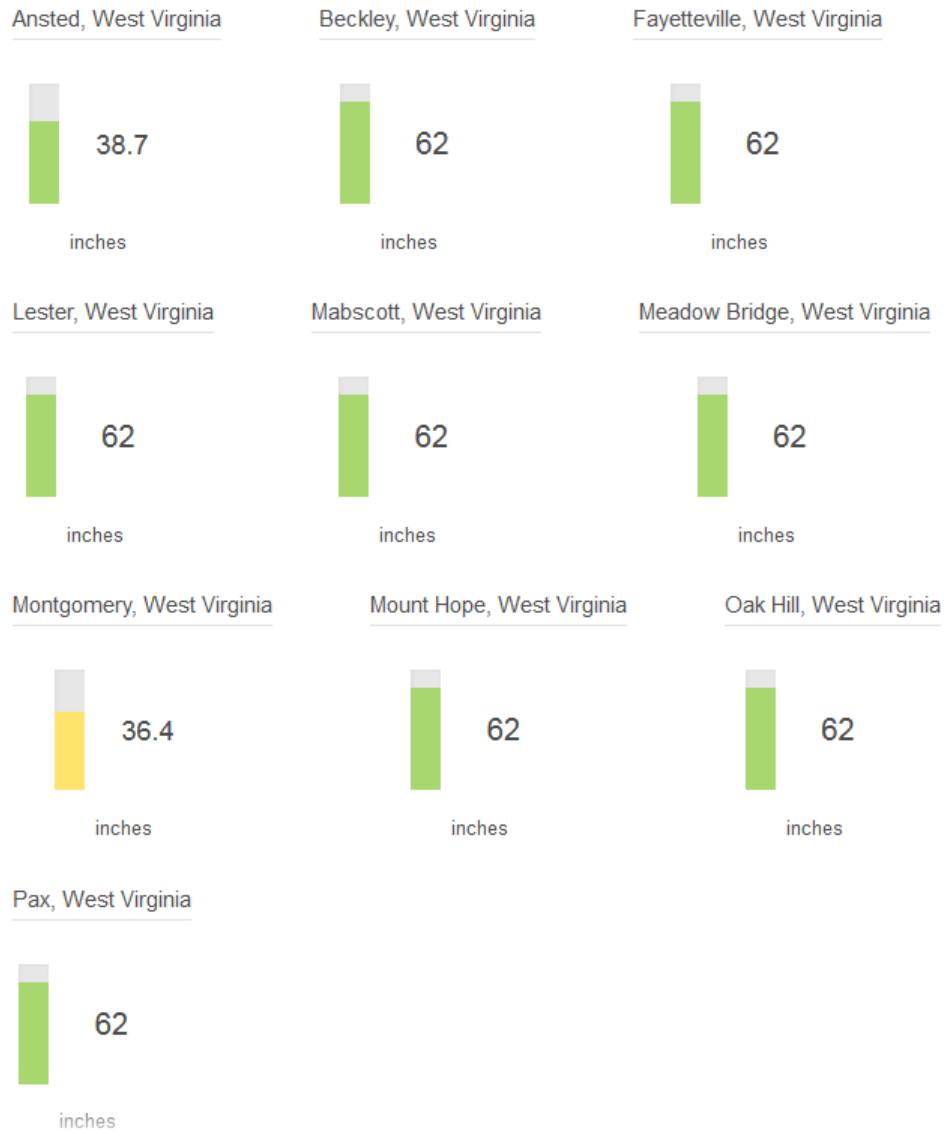
Packs Branch Rd
Paint Creek Rd
Main St
Millstone Circle
Brookside Lane
Rosewood Circle
Rockcliff Dr
Pax Rd
Center St
Willis Branch Loop

APPENDIX C

Snowfall Data

Average Annual Snowfall

The normal snowfall is the arithmetic mean for each month over a 30-year period, adjusted as necessary.



This data was acquired via weatherdb.com based on the National Oceanic and Atmospheric Administration (NOAA) Severe Weather Data Inventory and may be reproduced via the following link: http://snowfall.weatherdb.com/compare/707-1744-8635-14493-15385-16349-17257-17588-18896-19931-21711-23986-24145-25614/Ansted-West-Virginia-vs-Beckley-West-Virginia-vs-Fayetteville-West-Virginia-vs-Lester-West-Virginia-vs-Mabscott-West-Virginia-vs-Meadow-Bridge-West-Virginia-vs-Montgomery-West-Virginia-vs-Mount-Hope-West-Virginia-vs-Oak-Hill-West-Virginia-vs-Pax-West-Virginia-vs-Rhodell-West-Virginia-vs-Smithers-West-Virginia-vs-Sophia-West-Virginia-vs-Thurmond-West-Virginia?utm_source=email&utm_medium=share