

**TITLE III:**

**ADMINISTRATION**

**Chapter 39**

**Emergency  
Management Services  
(EMS)**

## **CHAPTER 39: EMERGENCY MANAGEMENT SERVICES (EMS)**

### Section

39.01 National Incident Management System (NIMS) Adoption Ordinance

39.02 Pre-Disaster Hazard Mitigation Plan (PDM) Ordinance

### **§ 39.01 NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) ADOPTION ORDINANCE**

#### (A) Purpose.

- (1) NIMS establishes a single, comprehensive approach to domestic incident management to ensure that all levels of government across the nation have the capability to work efficiently and effectively together using a national approach to domestic incident management.
- (2) NIMS provides a consistent nationwide approach for federal, state and local governments to work together to prepare for and respond to, and recover from domestic incidents regardless of the cause, size or complexity.
- (3) NIMS provides for interoperability and compatibility among federal, state and local capabilities and includes a core set of concepts, principles, terminology and technologies covering the Incident Command System, Unified Command, training, management of resources and report

#### (B) Enforcement.

- (1) All federal departments and agencies shall make adoption of the NIMS a requirement for providing federal preparedness assistance through grants, contracts or other activities to local government.
- (2) All local public safety and emergency response organizations, including emergency management agencies, law enforcement agencies, fire departments, and emergency medical services, shall implement the standardized unified incident command system and that those agencies that do not establish such systems shall not be eligible for state reimbursement for any response or recovery related expenses.

(Ord. Passed 03-25-08)

### **§ 39.02 PRE-DISASTER HAZARD MITIGATION PLAN (PDM) ORDINANCE**

#### (A) Preface/Vision for the Future.

- (1) Emergency Managers succeed and fail by how well they follow the following fundamental principles of emergency management, mitigation, preparedness, response and recovery. Purposefully, our emergency management forefathers put the word mitigation first as a “means” to prevent or minimize the effects of disasters.
- (2) Mitigation forms, or should form, the very foundation of every emergency management agency. For the prevention of disasters in communities, emergency management agencies that adopt mitigation practices in an effort to reduce, minimize, or eliminate hazards in their community have found, the vision for the future of emergency management. The Federal Disaster Mitigation Act of 2000 has set the benchmark and outlines the criteria for communities with the vision to implement hazard mitigation practices in their communities.

- (3) Pike County and its municipalities realize the benefits achieved by the development and implementation of mitigation plans and strategies in our community. Pike County elected officials, public safety organizations, planners, and many others have proved that by working together towards the development and implementation of this plan, they have the vision to implement mitigation practices therefore reducing the loss of life and property in their communities.
- (B) Plan, Background and Purpose.
- (1) About the Plan.
    - (a) The Pike County Pre-Hazard Mitigation Plan is the first phase of a multi-hazard mitigation plan for our community. The plan as written fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The Act is administered by the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA). The Mitigation Act provides federal assistance to state and local emergency management and other disaster response organizations in an effort to reduce damage from disasters. The plan also encourages cooperation among various organizations and crosses political subdivisions.
    - (b) This plan complies with all requirements and scope of work as written in Pike County's Hazard Mitigation Grant application.
  - (2) Authority.

Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Title 44 CFR as amended by Section 102 of the Disaster Mitigation Act of 2000 gives state and local governments the framework to evaluate and mitigate all hazards as a condition of receiving federal disaster funds. The Pike County Pre-Hazard Mitigation Plan is a requirement of the law.
  - (3) Funding.

Pike County has been awarded a \$20,000.00 hazard mitigation planning grant by the Georgia Emergency Management Agency for the development of the plan. The grant requires a 25% match by Pike County that can be fulfilled by utilizing "in-kind" services. In kind services documentation available upon request.
  - (4) Scope.
    - (a) The scope of the Pike County Pre-Disaster Mitigation Plan encompasses all areas of Pike County including all its municipalities. The plan will identify all natural and technological hazards that could threaten life and property in Pike County communities. The scope of this plan includes both short and long term mitigation strategies, implementation and possible sources of project funding.
    - (b) The plan also contains the following information:
      - (i) The vision of mitigation in the community (§ 39.02(A): Preface).
      - (ii) The profile of Pike County, its geography, history, physical features and other community indicators (§ 39.02(C): County Profile).
      - (iii) The planning process and the involvement of all municipal, state and federal governments, the public, industry and other community players (§ 39.02(D): Planning Process).
      - (iv) Documentation of Pike County's past and predicted exposure to natural hazards and the potential risks that include the impacts on critical infrastructure with anticipated losses (§ 39.02(E): Risk Assessments).

- (v) An overview of Pike County’s capabilities to implement hazard mitigation goals and objectives, policies that will effectively mitigate risks to the community (§ 39.02(F): Natural & Technological Hazard Mitigation Goals & Objectives).
  - (vi) Procedures for maintaining an effective, long range hazard mitigation plan and strategy to implement. (§ 39.02(G): Plan Implementation & Maintenance).
  - (vii) An assessment of Pike County’s current policies, goals and regulations that pertain to hazard mitigation.
  - (viii) Critical facilities information
  - (ix) Documentation of the process (§ 39.02(I): Appendices).
- (5) Purpose.
- (a) The purpose of the Pike County Emergency Management Agency’s Pre-Hazard Mitigation Plan is to identify risks and vulnerability to Pike County and to formulate a plan of action to reduce damage and loss of life from natural and technological disasters. This plan shall serve as a benchmark for future mitigation activities and will identify Pike County and its municipality’s mitigation goals and objectives. The plan will also prioritize potential risks and vulnerabilities in an effort to minimize the effects of disasters in the community.
  - (b) Realizing that identifying the community’s risks and working collectively toward the prevention of disasters in the community is in everyone’s best interest. The Pike County Emergency Management Agency has taken a lead role in the development of the Pike County Pre-Hazard Mitigation Plan. Under the Agency’s leadership, there has been an endorsement and a commitment by the Pike County Board of Commissioners and the governing body of each municipality.
  - (c) Mitigation planning is imperative to lessen the impacts of disasters in Pike County. The written plan is an excellent method by which to organize Pike County’s mitigation strategy, but the implementation of the plan and its components is vital to achieve a community that is resistant to the effect of a disaster. The implementation of the plan will provide a reduction in the loss of life and property and allow the community to prosper with minimal disruption of vital services to Pike County citizens.
- (6) Consistency with Federal and State Mitigation Policies
- (a) The plan is intended to enhance and complement state and federal recommendations for the mitigation of natural and technological hazards in the following ways:
    - (i) Substantially reduce the risk of life, injuries and hardship from the destruction of natural and technological disasters on an ongoing basis.
    - (ii) Create a greater awareness to the public about the need for individual preparedness and about building safer, more disaster resistant communities.
    - (iii) Develop strategies for long-term community sustainability during community disasters.
    - (iv) Develop governmental and business continuity plans that will continue essential private sector and governmental activities during disasters.
  - (b) The Federal Emergency Management Agency publishes many guidance documents for local governments for mitigating natural disasters. The Pike County Pre-Hazard Mitigation plan fully recognizes, adopts, incorporates and endorses the following principals:

- (i) Develop a strategic mitigation plan for Pike County.
- (ii) Enforce current building codes.
- (iii) Develop incentives to promote mitigation.
- (iv) Incorporate mitigation of natural hazards into land use plans.
- (v) Promote awareness of mitigation opportunities and programs throughout our community on a continual basis.
- (vi) Identify potential funding sources for mitigation projects.
- (c) The private sector is often an overlooked segment of the community during disasters. It is vital that this sector of a community is included in mitigation efforts that are consistent with state and federal recommendations such as:
  - (i) Develop mitigation incentives with insurance agencies and lending institutions.
  - (ii) Encourage the creation of a business continuity plan for the continuance of commerce during disasters.
  - (iii) Partner with businesses in an effort to communicate with customers about the hazards in our community and possible solutions.
- (d) Individual citizens must be made aware of the hazards they face. Additionally, they must be educated in how to protect themselves from the hazards they face. They must be shown that mitigation in their community is an important part of reducing loss of life and property in their community. Their support is critical to the success of any mitigation effort. The Pike County Plan supports the following FEMA recommendations regarding individual citizens:
  - (i) Become educated on the hazards that your community and you face.
  - (ii) Become part of the process by supporting and encouraging mitigation programs that reduce vulnerability to disasters.
  - (iii) An individual's responsibility is for safeguarding their family, as well as themselves, prior to a disaster event.
- (7) Goals and Objectives.
  - (a) The following goals and objectives are the basis of this plan and summarize what the Pike County Pre-Hazard Mitigation Plan team will accomplish as a result of implementing this plan:
    - (i) Maximize the use of all resources by promoting intergovernmental coordination, partnerships in the public and private sectors.
    - (ii) Harden communities against the impacts of disasters through the development of new mitigation strategies and strict enforcement of current regulations that have proven effective.
    - (iii) Reduce and where possible, eliminate repetitive damage, loss of life and property from disasters.
    - (iv) Bring greater awareness throughout the community about potential hazards and the need for community preparedness.
- (C) County Profile.
  - (1) History & Map.
 

In 1822 Pike County, the state's fifty-sixth county, was created from Monroe County in west central Georgia by the state legislature. Later, parts of Pike County were used to create Upson (1824), Spalding (1851), and Lamar (1920) counties. Pike County, which comprises 218 square miles, and its county seat, Zebulon, are named after Zebulon

Pike, a general in the War of 1812 and an explorer of the Louisiana Territory. "Pike" was made famous by his discovery of a Colorado mountain, subsequently named, "Pikes Peak".

Zebulon was incorporated in 1825, and a two-story wood-frame building was constructed to serve as a courthouse. This building served the county until 1844, when a brick building in the "Greek Temple" style replaced it.

This structure was in turn, replaced by the present courthouse in 1895. Other incorporated towns in Pike County are Concord, Meansville, Molena, and Williamson.



Pike County Courthouse

Early white settlers in the area used Indian trails in lieu of roads. However, in the 1830's they improved the main trail by laying down planks that could support stagecoaches. This route became known as the Old Plank Road. Another old stagecoach line in Pike County came from Columbus, GA. traversed Pike County up to Indian Springs, and then continued to Augusta. This was known as the Old Alabama Road.

Agriculture and forest products have traditionally been the economic mainstay in Pike County.



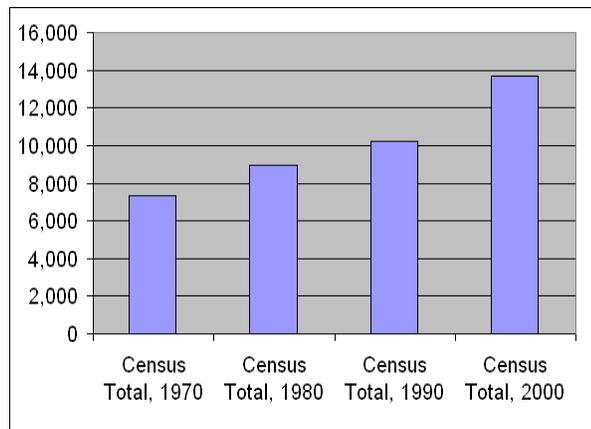
Pike County Sawmill

Early crops like soybeans became important farm products as well. Beginning in the 1970's, the county emerged as one of metropolitan Atlanta's bedroom communities. By 2000 more than 75 percent of Pike County's residents were employed outside the county.

Notable residents include; Charles Barrett, a founder of the Georgia Farmers Union and longtime president of the National Farmers Union, and Jacques Futrelle, a novelist, journalist, and writer of detective fiction who died in the sinking of the *Titanic*.

According to the 2000 U.S. Census, the population of Pike County was 13,688 (83.6 % white, 14.8 % black, and 1.2 % Hispanic), an increase of 33.9 % from 1990.

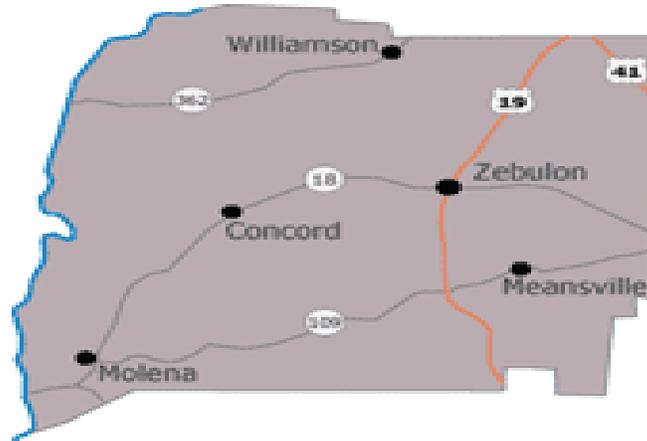
**Location Map of Pike County Ga. Pike County Population Post 1970**



(2) Government.

Pike County is governed by a County Manager and a five member Board of Commissioners that are elected by popular vote. There are five municipalities in Pike County that include Zebulon (the county seat), Concord, Meansville, Molena and Williamson. A City or Town Council and a Mayor represent these municipalities. They are elected by popular vote.

**Political Boundaries in Pike County**



(3) Demographics

The follow statistical data from the U. S. Census Bureau represents the demographics of Pike County, Georgia.

People QuickFacts	Pike County	Georgia
Population, 2006 estimate	16,801	9,363,941
Population, percent change, April 1, 2000 to July 1, 2006	22.7%	14.4%
Population, 2000	13,688	8,186,453
Persons under 5 years old, percent, 2006	5.9%	7.5%
Persons under 18 years old, percent, 2006	24.3%	26.2%
Persons 65 years old and over, percent, 2006	10.8%	9.7%
Female persons, percent, 2006	49.9%	50.8%
White persons, percent, 2006 (a)	86.2%	65.8%
Black persons, percent, 2006 (a)	12.7%	29.9%
American Indian and Alaska Native persons, percent, 2006 (a)	0.2%	0.3%
Asian persons, percent, 2006 (a)	0.4%	2.8%
Native Hawaiian and Other Pacific Islander, percent, 2006 (a)	Z	0.1%
Persons reporting two or more races, percent, 2006	0.5%	1.1%
Persons of Hispanic or Latino origin, percent, 2006 (b)	1.4%	7.5%
White persons not Hispanic, percent, 2006	84.9%	58.9%
Living in same house in 1995 and 2000, pct 5 yrs old & over	57.4%	49.2%
Foreign born persons, percent, 2000	1.0%	7.1%
Language other than English spoken at home, pct age 5+, 2000	2.9%	9.9%
High school graduates, percent of persons age 25+, 2000	75.3%	78.6%
Bachelor's degree or higher, pct of persons age 25+, 2000	14.0%	24.3%

Persons with a disability, age 5+, 2000	2,433	1,456,812
Mean travel time to work (minutes), workers age 16+, 2000	30.6	27.7
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Housing units, 2006	6,497	3,873,183
Homeownership rate, 2000	81.6%	67.5%
Housing units in multi-unit structures, percent, 2000	4.1%	20.8%
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Median value of owner-occupied housing units, 2000	\$103,000	\$111,200
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Households, 2000	4,755	3,006,369
Persons per household, 2000	2.81	2.65
Median household income, 2004	\$47,415	\$42,679
Per capita money income, 1999	\$17,661	\$21,154
Persons below poverty, percent, 2004	10.5%	13.7%
<b>Business QuickFacts</b>		
	<b>Pike County</b>	<b>Georgia</b>
Private nonfarm establishments, 2005	232	220,528 <sup>1</sup>
Private nonfarm employment, 2005	1,323	3,489,046 <sup>1</sup>
Private nonfarm employment, percent change 2000-2005	8.4%	0.2% <sup>1</sup>
Nonemployer establishments, 2005	1,197	657,318
Total number of firms, 2002	1,172	674,521
Black-owned firms, percent, 2002	F	13.4%
American Indian and Alaska Native owned firms, percent, 2002	F	0.7%
Asian-owned firms, percent, 2002	F	4.0%
Native Hawaiian and Other Pacific Islander owned firms, percent, 2002	F	0.0%
Hispanic-owned firms, percent, 2002	F	2.7%
Women-owned firms, percent, 2002	S	29.1%
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Manufacturers shipments, 2002 (\$1000)	NA	126,156,636
Wholesale trade sales, 2002 (\$1000)	D	201,091,040
Retail sales, 2002 (\$1000)	17,750	90,098,578
Retail sales per capita, 2002	\$1,215	\$10,551
Accommodation and foodservices sales, 2002 (\$1000)	1,670	12,740,423
Building permits, 2006	255	104,200
Federal spending, 2004 (\$1000)	83,740	55,152,911 <sup>1</sup>
<b>Geography QuickFacts</b>		
	<b>Pike County</b>	<b>Georgia</b>
Land area, 2000 (square miles)	218.37	57,906.14
Persons per square mile, 2000	62.8	141.4
FIPS Code	231	13
Metropolitan or Micropolitan Statistical Area		

#### (4) Economy.

- (a) Pike County and municipalities economy is primarily agricultural and light industrial in nature. There are two industrial parks in the County that host light industries and the County has a development authority that attracts industries to the County to provide a tax base and employment opportunities for the residents. Compared to the rest of the country, Pike County's cost of living is 14.78% Lower than the U.S. average. Pike County public schools spend \$4,759.00 per student. The average school expenditure in the U.S. is \$6,058.00.

There are about 15 students per teacher in Pike County. The unemployment rate in Pike County is 3.70 % (U.S. avg. is 4.60%). Recent job growth is positive. Pike County employment figures have increased by 2.82 %. Recent economic problems, in Georgia and in the United States, have affected these figures and may do so for the foreseeable future.

- (b) Ten Largest Employers – Pike County Area
  - (i) AMI Griffin-Spalding Hospital (Spalding)
  - (ii) Home Nurse Inc. (Spalding)
  - (iii) Caterpillar Inc. (Spalding)
  - (iv) Springs Industries Inc. (Spalding)
  - (v) Wal-Mart Associates Inc. (Spalding)
  - (vi) Wal-Mart Associates Inc. (Upson)
  - (vii) Impact Outsourcing Solutions I LLC (Spalding)
  - (viii) Nacom Corp (Spalding)
  - (ix) Upson Regional Medical Center (Upson)
  - (x) Quad/Graphics Inc. (Upson)

Economy	Pike, GA	United States
<u><a href="#">Unemployment Rate</a></u>	3.70%	4.60%
<u><a href="#">Recent Job Growth</a></u>	2.82%	1.40%
<u><a href="#">Future Job Growth</a></u>	27.78%	11.90%
<u><a href="#">Sales Taxes</a></u>	6.00%	6.00%
<u><a href="#">Income Taxes</a></u>	6.00%	5.02%
<u><a href="#">Income per Cap.</a></u>	\$21,738	\$24,020
<u><a href="#">Household Income</a></u>	\$50,499	\$44,684
<b>ESTIMATED HOUSEHOLDS BY HOUSEHOLD INCOME</b>		
<u><a href="#">Income Less Than 15K</a></u>	12.53%	13.64%
<u><a href="#">Income between 15K and 25K</a></u>	9.56%	11.21%
<u><a href="#">Income between 25K and 35K</a></u>	9.72%	11.46%
<u><a href="#">Income between 35K and 50K</a></u>	17.23%	15.84%
<u><a href="#">Income between 50K and 75K</a></u>	24.65%	19.28%
<u><a href="#">Income between 75K and 100K</a></u>	12.49%	11.53%
<u><a href="#">Income between 100K and 150K</a></u>	9.36%	10.70%
<u><a href="#">Income between 150K and 250K</a></u>	3.63%	4.43%
<u><a href="#">Income between 250K and 500K</a></u>	0.62%	1.31%
<u><a href="#">Income greater than 500K</a></u>	0.22%	0.61%
<b>POPULATION BY OCCUPATION</b>		
<u><a href="#">Management, Business, and Financial Operations</a></u>	9.53%	13.61%
<u><a href="#">Professional and Related Occupations</a></u>	14.95%	20.24%
<u><a href="#">Service</a></u>	14.80%	14.75%

<u>Sales and Office</u>	24.23%	26.74%
<u>Farming, Fishing, and Forestry</u>	0.58%	0.74%
<u>Construction, Extraction, and Maintenance</u>	16.06%	9.48%
<u>Production, Transportation, and Material Moving</u>	19.85%	14.44%

(5) Climate.

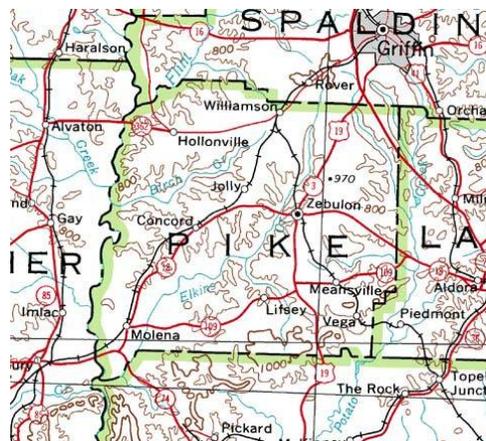
- (a) Pike County, GA, gets 51 inches of rain per year. The US average is 37 inches. Snowfall is 1 inch. The average US city gets 25 inches of snow per year. The number of days with any measurable precipitation is 97.
- (b) On average, there are 217 sunny days per year in Pike County, GA. The July high is around 90 degrees. The January low is 34. Our comfort index, which is based on humidity during the hot months, is a 32 out of 100, where higher is more comfortable. The US average on the comfort index is 44.

(6) Physical Features.

The general physical features of Pike County's terrain are characteristic of the Piedmont region of Georgia, with rolling hills, broad ridges, sloping uplands and relative narrow valleys. Land elevations within Pike County range from 720 to 1,005 feet above sea level. Pike County still has much undeveloped land particularly in south-unincorporated Pike County. According to the Pike County Planning Department, there are 94,264 acres in Pike County. Of those, 21,870 acres are developed and 24,701 are undeveloped but considered forested and agriculture usage. Therefore, 49.4% of the County is considered undeveloped. Some agricultural practices continue but are declining.

(7) Transportation

- (a) Vehicle Traffic. Pike County's transportation system primarily consists of state highways, arterial collectors, and secondary county roads. State and federal highways 18, 19, 74, 109, and 362 are major transportation routes that carry the majority of passenger and commercial traffic in and out of Pike County. Congestion in these transportation corridors are creating traffic problems as the increase in population brings additional vehicles. Currently there is no interstate or mass transit system that serves Pike County.
- (b) Transportation Map of Pike County.



(c) Major Highways.

- (i)  [U.S. Highway 19](#)
- (ii)  [Georgia State Route 18](#)
- (iii)  [Georgia State Route 74](#)
- (iv)  [Georgia State Route 109](#)
- (v)  [Georgia State Route 362](#)

The average one-way commute in Pike County, GA, takes 34 minutes. 79% of commuters drive their own car, alone. 15% carpool with others. 0% take mass transit and 2% work from home.

(d) Rail. Pike County does not currently have existing passenger or freight rail services. There are existing abandoned, non-functioning, rail lines that transgress the county.

(e) Air Service.

- (i) Peach State Airport is located in the town of Williamson. The airport has one paved 2,400 foot runway and subsequent hanger space that is utilized by 21 private aircrafts located at the airfield. There is no control tower and no scheduled commercial flights into or out of Peach State Airport. Pike County has approximately 25 private airfields again with no scheduled commercial flight service. Pike County does have a “fly in” community called Eagles Landing that boasts two grass landing strips. These 3,500 and 2,500 foot runways accommodate pilot homeowners who live in the subdivision and use the airfields for general recreational aviation use.
- (ii) The majority of air transportation needs of Pike County are met by scheduled flights from Hartsfield-Jackson International Airport. Pike County is located due south of Hartsfield-Jackson International Airport and it is one of the largest airports in the world with nearly 6,000 arrivals and departures a day. Most major airlines have scheduled daily arrivals and departures from the airport.



**Ariel Photo of Peach State Airport**

(8) Utilities.

Pike County's utility needs are met by a variety of both public and private entities.

- (a) Electricity. Electrical power is obtained from a variety of sources and companies: Principally Georgia Power Company, Upson Electric Membership Cooperative (EMC) and Central Georgia EMC, and Southern Rivers Energy. These four companies provide utility services with minimal disruption.
- (b) Natural Gas and Propane. Propane is the primary source of heating and cooking fuel for Pike County residents especially in unincorporated areas. This vital fuel is delivered to residents and some businesses by tank truck on an ongoing basis with peak demand in the winter months. Georgia Natural Gas and other gas marketers do provide limited natural gas service in Pike County and has established natural gas service in the town of Concord. Atlanta Gas Light is the primary emergency response agency in addition to local public safety agencies to natural gas leaks. Private propane companies in conjunction with local public safety officials respond to propane tank leaks as needed. There are many propane distributors with large quantities of propane stored on site. These locations are identified in this plan in the hazardous materials section.
- (c) Water. There are various water sources for Pike County and the various municipalities. A new reservoir was completed that provides ample drinking water for those areas that are connected to the municipal water system. The system capacity is roughly 1,300,000 gallons per day and consumption is near 90,000 gallon a day average with a maximum daily output of 400,000 gallons per day. Storage capacity is 500,000 gallon by elevated tank and 200,000 gallons by ground. Major sources are Elkins Creek and the City of Griffin Water Authority that serves water lines to Zebulon and Williamson in Pike County.

(i) Water Supply Resources by City:

- (aa) Concord. The City of Concord's public water distribution system comes from the only spring being utilized in Pike County (Ward Spring) which produces approximately 100,000 gallons per day. Pumping capacity is 300 gallons per minute from a clear well of 70,000 gallons capacity. Concord has one back up pump of 230 gallons per minute for emergency use. In general, water service within the City of Concord is considered adequate at the present time, but major improvements are planned. The water tank (capacity 60,000 gallons) needs replacing. The City of Concord anticipates a new tank of 200,000 gallons capacity by the year 2011, along with improvements for the distribution system and spring area. The water system has online one small producing well of 15 gallons per minute (21,000 gallons per day). The total water production is approximately 121,000 gallons per day, and the city is currently utilizing approximately 80,000 gallons per day for residential and industrial.
- (bb) Meansville. The City of Meansville has three deep wells producing 355 gallons of water per minute. The city maintains a 75,000 gallon overhead water tank and an underground water distribution system.
- (cc) Molena. Molena uses artesian well water that consists of two deep wells producing 200 gallons of water per minute. The city maintains a 60,000 gallon overhead water tank and an underground water distribution system.

- (dd) Williamson. The city of Williamson purchases all public water from the City of Griffin. Approximately 145 customers are served.
- (ee) Zebulon. Zebulon purchases all public water from the City of Griffin. Water services are provided to around 582 customers (approximately 500 in the city). The City has several backup and emergency water sources including the Elkins Creek intake site at the Highway 18 Bridge west of the city, and a backup well in the northeastern quadrant of the city. The city holds permits to withdraw from these two sources. The Elkins site has two systems permitted to treat 749,000 gallons per day and 288,000 gallons per day. The groundwater well has a capacity of 50 gallons per minute. The distribution system consists of 10", 8", 6", and smaller lines and a 500,000-gallon ground storage tank located on Highway 18 near the county line on the east of Zebulon.
- (ii) Wastewater Services. The majority of Pike County's population is reliant on septic tank systems for wastewater treatment.
- (iii) Solid Waste. Pike County has one public transfer station located at 362 Twin Oaks Road. It is owned by Pike County and under contract by Pike Countryside Sanitation. The transfer station accepts and collects solid waste and then transfers the waste to Taylor County under a long-term agreement. The transfer station also accepts yard waste that is chipped and then recycled as mulch. All solid waste collections from homes and businesses are done by private contractors or by the property owner.
- (d) Communications.
  - (i) Pike County's hardline phone service primary provider is Bell South. There is one central phone backup facility in Pike County. This facility provides primary and battery backup phone capabilities. All major cell phone providers have cell towers and capabilities in Pike County including Nextel and Southern Linc direct connect. Like most communities, Pike County residents are transitioning to more mobile wireless phones.
  - (ii) Pike County public safety agencies communicate on a UHF and VHF radio system from a central 911 Communication Center. The Center has emergency plans in place for the forwarding of calls in an emergency and has a maintained back up generator for power outages.
  - (iii) Pike County has many media outlets that consist of print, radio, and television. Local print media consists of the Pike Journal Reporter that is the official newspaper for legal notices. The County is served by various radio stations such as 92.5 The Bear, and 101.5. 96 Rock. All metro Atlanta television stations broadcast in Pike County such as, WSB TV, Fox Network, 11 Alive, Clear Channel News, and Channel 46 News.
- (D) The Planning Process.
  - (1) The Pike County Pre-Hazard Mitigation Planning Committee.
    - (a) County Manager Steve Marro, tasked with developing the Pre-Hazard Mitigation Planning Committee at the direction of the Pike County Board of Commissioners. This Team is tasked with the development and completion of this plan as required per state and federal guidelines. The Pike County Emergency Management Agency has overseen the project, organized the data, set and held meeting dates,

documented in-kind services, and worked with the Georgia Emergency Management Agency to complete this plan. The Mitigation Team is comprised of the following officials representing their respective organizations and political jurisdictions:

- (i) Steve Marro - County Manager
  - (ii) Mike Singleton – Emergency Management Director
  - (iii) Pete Nelms-Project Consultant
- (b) Additional Partners. The Pike County Pre-Hazard Mitigation Planning Committee relied on the assistance of various public and private organizations in compiling the data, maps and other vital components of the plan. This includes industrial development authority of Pike County. There are no higher education facilities in Pike County; therefore, the plan does not reflect their involvement. This plan would not be possible were it not for their contributions. The Pre-Hazard Mitigation Planning Steering Committee would like to acknowledge these individuals and organizations for their contributions.
- (c) The Pike County Pre-Disaster Mitigation Planning Steering Committee:
- (i) Steve Marro Pike County Administrator
  - (ii) Mike Singleton Director Pike County EMA
  - (iii) Sheriff Jimmy Thomas Pike County Sheriff’s Department
  - (iv) Mayor Sonny Story City of Concord
  - (v) Mayor Gail Burden City of Meansville
  - (vi) Tom Morton City of Meansville
  - (vii) Mayor Elizabeth Barker City of Molena
  - (viii) W.B. Hilley City of Williamson
  - (ix) Mayor Mike Beres City of Zebulon
  - (x) Carmen Westerfeld National Resources Conservation Service
  - (xi) William Pitts Natural Resources Conservation Service
  - (xii) Joe Walter Precision Planning (engineer)
  - (xiii) Terrell Moody Pike County Industrial Development Authority
  - (xiv) Jeannie Haddock Pike County Tax Assessor
  - (xv) Brenda Shaw Planner, Pike County Planning and Development
  - (xvi) David Allen Pike County Planning and Development
  - (xvii) Kyle Gooden Pike County GIS
  - (xviii) Darlene Smith Pike County EMS
  - (xix) Bill Dial Pike County Emergency Service (fire Dept)
  - (xx) Jimmy Gilbert City of Concord

Documentation of attendance of the Committee members can be found in Appendix J Committee Meeting Documentation

**Note: The city of Molena did not have representation at the Steering Committee meeting however, the information that was provided is included in this plan as evident by the notarized letter from the Emergency Management director that documents Molena’s participation in the planning process. This documentation can also be found in Appendix J.**

(2) Plan Organization.

- (a) The Pre-Hazard Mitigation Planning Committee is responsible for the organization, data collection and completion of the plan. The Pre-Hazard Mitigation Planning

- Steering Committee involves upper-level administrative personnel.
- (b) It is the responsibility of the members of the Pre-Hazard Mitigation Planning Steering Committee to include all pertinent departments within their respective governments and to request information as needed for the completion of the plan. These other departments include a variety of organizations whose input and data is vital to the success and accuracy of the plan.
  - (c) The Pre-Hazard Mitigation Planning Steering Committee conducted several meetings and involved all available departments and resources in an effort to gain any information that would increase the effectiveness of the plan.
  - (d) The Pre-Hazard Mitigation Planning Steering Committee is also tasked with including any external organizations that can benefit the overall effectiveness of the plan. The Pre-Hazard Mitigation Planning Steering Committee is aware of the importance of including a variety of external and internal organizations. Their input is vital to the short and long-term success of the plan. Among external organizations that have been included, but are not limited to, are the Georgia Emergency Management Agency, the Federal Emergency Management Agency, National Weather Service, local citizens, businesses and industry, media outlets, the National Flood Insurance Program representatives, the Pike County Board of Education and others.
  - (e) The plan is based on the data gathered and identified by all committee members, the public and all jurisdictions in an effort to prioritize mitigation projects in the order of severity in an effort to reduce loss of property and life.
- (3) Planning Team Goals & Objectives. The Pike County Pre-Hazard Mitigation Planning Steering Committee, early in the process, established a set of goals and objectives in order to ensure the effectiveness of this plan. These goals and objectives established the paradigm for the planning process. These goals and objectives are as follows:
- (a) To actively involve and gain support from all municipal governments and unincorporated Pike County for the reduction of disasters in our community.
  - (b) Prioritize identified mitigation projects.
  - (c) Seek and implement any grant funding for the reduction of disasters in Pike County and its cities.
  - (d) Monitor, evaluate, and update the progress of the plan as needed.
  - (e) To form partnerships among local, state, and federal agencies to make Pike County more resistant to the effects of disasters.
- (4) Multi-Jurisdictional Considerations.
- (a) Pike County, like many counties in Georgia, has numerous municipalities and political subdivisions. Some years ago, Pike County government initiated a Georgia Emergency Management Agency sponsored “Kick Off” meeting, in an effort to start the process for developing a Pre-Disaster Mitigation Plan. Those efforts failed for unknown reasons. In November of 2008, a consultant was hired to assist Pike County and the municipalities in the development and implement a workable plan for the county and municipal partners. All participants and municipalities were notified in late November of 2008, of the requirement concerning the Pre-Disaster Mitigation Plan and process. Pike County government as well as the municipalities of Williamson, Molena, Meansville, Zebulon, and Concord, has a documented commitment to the planning process. Representatives from all municipalities and

the County participated in the general session meeting on December 10, 2008 at the Pike County Commissioners office. All have worked collectively over the past months to gather data that included known hazards, flood prone areas, areas of vulnerability, existing mitigation plans and projects, and technical information for the plan. The data was forwarded to the County's consultant and the local Emergency Management director for computation into the plan. Subsequent meetings have been held in an effort to ensure that all information is correct and that all agencies and organizations input were included as presented. Letters documenting each jurisdictions support and attendance for the Pre-Disaster Hazard Mitigation plan meetings are included in this plan. See Appendix E, Sample Letter Requesting Support. See Appendix F, Letters of Support from Municipalities. Listed below is a chronology of meetings and events.

- (b) Chronology for the Pike County Hazard Mitigation Plan:
  - (i) December 2008 Kick off Meeting with all Parties/Data Assignments
  - (ii) January 2009 Site visit by the consultant
  - (iii) March 2009 First draft review by all parties/1<sup>st</sup> Public Review
  - (iv) April 2009 Revision implemented and final draft submitted
  - (v) May 2009 Approval by elected officials/Public Hearing
  - (vi) June 2009 Submission to GEMA/FEMA for approval
- (5) Review of Existing Technical/Planning Information. The Pre-Hazard Mitigation Planning Steering Committee reviewed technical and planning information from all municipalities. The Committee extensively reviewed the all Land Use Plans that contained valuable data that has been included in the plan. Listed below is the information that the Committee reviewed for inclusion in the plan.
  - (a) Land Use Plans (See Appendix L, Elements of the Land Use Plan)
  - (b) Flood Plain Ordinances
  - (c) Development Regulations
  - (d) Existing Plans for Drainage and Flood Prevention Projects
  - (e) Dam Construction Regulations
  - (f) Zoning Ordinances
  - (g) Hazardous Materials Locations
  - (h) Emergency Services and Response
  - (i) Development Trends
- (6) Public Outreach. To be an effective plan, input from the public is vital. The Pre-Hazard Mitigation Planning Steering Committee recognizes the valuable contribution that the public can provide to the contents and accuracy of this plan. As required, the Pre-Hazard Mitigation Planning Steering Committee has conducted public meetings in an effort to allow the public to provide comments on the plan. The Pike County Manager coordinated with all municipalities regarding the public hearing aspect of the plan in an effort to allow all citizens and municipalities to comment on the content and accuracy of the information in the plan. The public hearing was advertised in the legal section of Pike County Journal Reporter and was held at the Pike County Board of Commissioners Office on April 30, 2009 at the Pike County Board of Commissioners office. In addition another public hearing was held during the approval period for the County and each municipality. See public comment documentation in Appendix K Public Meeting Comments and Schedule.

(E) Risk Assessment.

- (1) The Risk Assessment Process. The Pre-Hazard Mitigation Planning Steering Committee conducted a comprehensive hazard, risk and vulnerability assessment of Pike County and its municipalities. The Assessment will form the basis for the plan. The Assessment includes the following components for each hazard.
  - (a) Critical Facilities: These will be defined as facilities that are critical to the continuity of Pike County government and economy. These facilities if damaged or destroyed would have an impact on the delivery of public safety and governmental services to the public. The loss of all or part of these facilities would also have a devastating effect on the economy, response capabilities, and the well-being of Pike County and its citizens.
  - (b) Hazard Identification: The Pre-Hazard Mitigation Planning Steering Committee has identified five natural and two technological hazards that have consistently affected Pike County and its municipalities. These hazards were identified by using statistical data and records from a variety of sources including presidential disaster declarations, maps, and hazardous materials response data. The list of hazards is based upon frequency, severity, probability, potential loss, and vulnerability, and large scale effects on Pike County.
  - (c) Profile of Hazards: Each hazard will be profiled as to how it will or has affected Pike County. This will include areas prone to specific hazards and the effects that they have had on Pike County infrastructure.
  - (d) Vulnerability Assessment: The plan compares and identifies hazards with the inventory of affected critical facilities and the effects on the population that is exposed to each hazard. This section will also include vulnerability assessment for future development such as schools, water and waste treatment facilities and other critical infrastructure.
  - (e) Damage Assessment: This component of the plan will estimate the damage and loss projections in a geographical area of Pike County based on the disaster. The information in the Damage Assessment section was derived from a combination of Critical Facility information and data from the Pike County Tax Assessors Office.
  - (f) Land Use Plans and Development Trends: This component of the plan will identify land use trends, the County's land use and development plans. References current plans and regulations that are in place for Pike County, regarding land use plans and trends that could prevent the impact of the disaster.
  - (g) Multi-Jurisdictional Concerns: Multi-jurisdictional concerns will explain what geographic areas will be affected by the particular disaster.
  - (h) Hazard Summary: The Hazard Summary will summarize the findings of the particular hazard.
- (2) Identification of Natural Hazards. The Pike County Pre-Disaster Mitigation Planning Steering Committee collected data related to all natural hazards that have historically affected the county. The types of events, which were determined to have a significant impact included, floods, tornadoes, thunderstorm winds and lightning, winter storms, and drought.

(3) Flooding.

- (a) Hazard Identification - Overflow of rivers and streams due to severe storms or torrential rains may result as a secondary effect to a tropical storm or hurricane. Different variables impact flooding, topography, ground saturation, previous rainfall, soil types, drainage, basin size, drainage patterns of streams, and vegetative cover. Georgia's red clay contributes to the problem in the piedmont area of the state. Flooding may occur slowly or become a flash flood, such as in the case of a dam failure. The potential failure of a dam may result in loss of life and property for those living downstream. Weathering, mechanical changes, and chemical agents can impact a dam. Reservoir sedimentation can significantly reduce flood control capability. Protective construction techniques of dams may assist in mitigating such a hazard. The Pike County Pre-Hazard Mitigation Steering Committee researched historical data from the National Weather Service, National Climatic Data Center, Georgia Department of Natural Resources, GEMA, local newspapers, and interviews, during its research on the effects of floods in Pike County. After extensive research, the Committee was unable to locate any accurate data regarding flooding events prior to 1980. See table Significant Flood Events in Pike County.
- (b) Hazard Profile – According to the National Climatic Data Center there has been thirteen significant flooding events on record at the National Climatic Data Center for Pike County in the past fourteen years. Most significant were the floods that struck Georgia and Pike County in July of 1994 as a result of Tropical Storm, “Alberto”. Due to its rural setting and mostly undeveloped land mass, Pike County has few areas that repetitively flood. While flood plain exists most of the flood plain and floodway is undeveloped. Based on the information provided and researched and according to the Pike County Hazard Frequency Table referenced in Appendix N there is a 100% chance of flooding in Pike County. The National Weather Service in Peachtree City has recorded significant, “river flood stage” information regarding major flood events on the Flint River, which is the largest river in Pike County. Tropical Storm Alberto was by far the most significant flood event on the Flint River in memory. There are periodic minor flood events throughout the county. These consist of minor street flooding and can cause some difficulty at times, in emergency responses to the affected area. Historical data records some events for single jurisdictions; it also includes events where Pike County is included as part of a much larger event with several other counties and jurisdictional specific data is not available. The Committee could not make an accurate jurisdictional analysis of the probability of future occurrences. See Hazard Frequency Table in Appendix N.
- (c) Pike County Stream Gage Data Historic River Crests for the Flint River
  - (i) Source National Weather Service, Peachtree City Forecast Office

**Carsonville Stream Gage**  
U.S. Hwy 19 (USGS)  
Flood Categories (in feet)

Major Flood Stage:	47
Moderate Flood Stage:	25
Flood Stage:	18
Action Stage:	17

Historical Crests

- (1) 45.73 ft. on 07/06/1994
- (2) 38.40 ft. on 03/15/1929
- (3) 38.00 ft. on 03/17/1990
- (4) 34.70 ft. on 11/28/1948
- (5) 34.39 ft. on 03/03/1971
- (6) 34.36 ft. on 04/08/1964
- (7) 33.30 ft. on 07/19/1916
- (7) 33.30 ft. on 07/09/1916
- (9) 32.89 ft. on 07/12/2005
- (10) 32.80 ft. on 02/25/1961
- (17) 27.80 ft. on 03/22/1942

Griffin Stream Gage

GA Hwy. 16 (USGS)

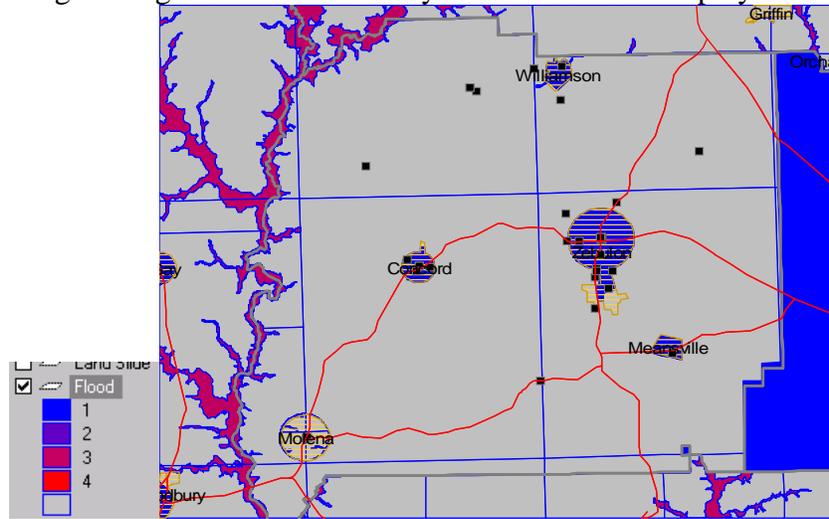
Flood Categories (in feet)

Major Flood Stage:	20
Moderate Flood Stage:	16
Flood Stage:	12
Action Stage:	10

Historical Crests

- (1) 24.22 ft. on 07/06/1994
- (2) 18.00 ft. on 11/27/1948
- (3) 17.90 ft. on 03/14/1929
- (4) 17.46 ft. on 07/12/2005
- (5) 17.00 ft. on 03/22/1942
- (6) 16.70 ft. on 03/03/1971
- (7) 16.20 ft. on 03/17/1990
- (8) 16.18 ft. on 02/26/1961

(ii) Georgia Mitigation Information System Flood Data Map by Jurisdiction



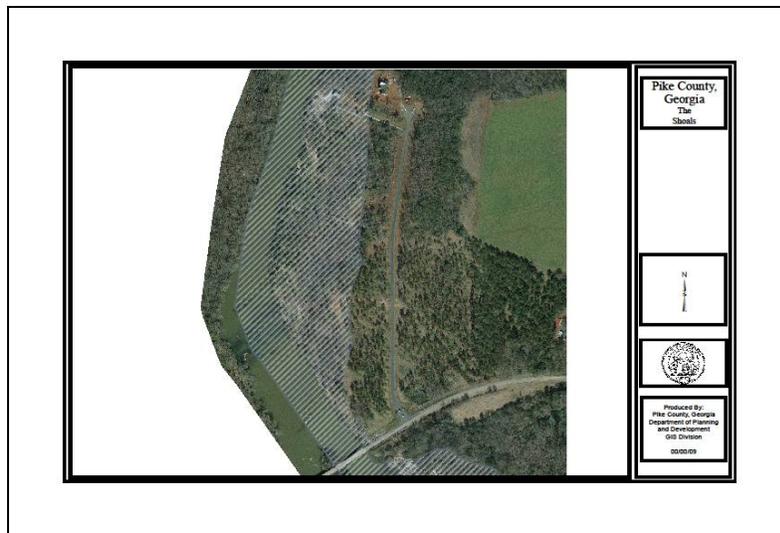
(iii) Vulnerability Assessment – There are relatively few assets within Pike County, which are exposed to flooding hazards. There are currently 6 residential properties, 0 commercial properties, 0 office & industrial facilities, 0 religious, 0 government owned buildings, 0 educational and non-profit institutional facilities, and 0 public utilities located within the flood zones of Pike County. Overall, this constitutes less than 1% of the properties in Pike County. Continued enforcement of development regulations and the land use plan will significantly reduce vulnerability and prevent future development projects and building critical infrastructure in flood prone areas. The Committee was not able through extensive research to identify any repetitive loss properties in Pike County. The Steering Committee did however enter data into the Georgia Mitigation Information System in an effort to better define potential flood damage by jurisdiction. That

Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
2	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

information is located in Appendix N.

- (e) Assets Exposed to Hazard –There are three areas in Pike County that have the potential for flood losses. These include unincorporated areas along the Flint River. Residential property in the Shoals subdivision and two other areas along the Flint River are prone to a higher incident of flooding due to the construction of these properties in the flood plain. These four areas and the assets that are exposed to flooding are clearly defined in this section. The data was collected from the various municipalities and the Pike County Tax Assessors Office. Aerial photograph was incorporated by the Pike County Information Technology department to outline the flood plain in the area and tax parcel identification numbers are used to identify assets that are exposed to flooding hazard. The Committee did identify in the Georgia Mitigation Information System that there are no repetitive loss structure reported in Pike County or its municipalities.
- (f) Damage Assessment –Complete losses of those properties located within flood zones in Pike County would result in \$1,491,382 in damages (assuming 100% loss).  
**Special Note:** All structure listed below have been identified in the flood plain as identified by prior flooding events, federal flood plain maps or Pike County or municipal maps. Not all structures that have been identified and listed have or will experience damage from floods. Further studies including professional surveys would have to be conducted to determine exactly which structures are at consistent risk from flooding

**Pike County Potential Flood Prone Areas  
The Shoals Subdivision on the Flint**



# Kings Bridge Road Area



# River Rd Area

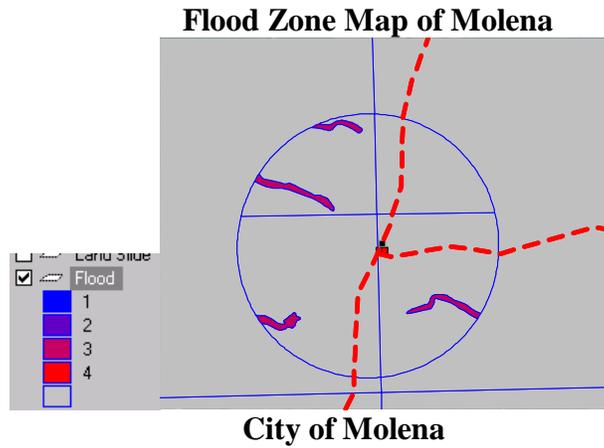


**Potential Flood Loss of Assets Exposed to Flood Hazard  
Pike County Flood Prone Areas Potential Loss**

TAX ID #	STRUCTURE	VALUE	CONENT VALUE	WATERWAY	JURISDICTION
024-001	SF Residence	\$123,451	\$40,738	Flint River	Unincorporated
024-002	SF Residence	\$56,552	\$18,662	Flint River	Unincorporated
009-001A	SF Residence	\$400,233	\$132,076	Flint River	Unincorporated
009--10	SF Residence	\$50,858	\$16,783	Flint River	Unincorporated
16-102	SF Residence	\$353,538	\$116,667	Flint River	Unincorporated
16-111	SF Residence	\$506,750	\$167,227	Flint River	Unincorporated
<b>TOTALS</b>		<b>\$1,491,382</b>	<b>\$492,156</b>		

**Source: Pike County Tax Assessors Office**

- (g) Land Use & Development Trends – Pike County has and continues to make significant efforts to prevent the placement of structures identified in flood hazard areas. Pike County and the cities of Zebulon and Molena participate in the National Flood Insurance Program (NFIP). The County and all municipalities have enacted and vigorously enforce land use plans. These land use plans provide guidance for the prevention of development within flood prone areas. Current development regulations Chapter 152 of Pike County Regulations entitled Flood Plain Regulations will prevent future development such as schools, water treatment facilities, residential structures or other structures in known flood plains. The Land Use Plan must have seven elements to be approved by State regulatory agencies and are included in this plan. *See Appendix B for Land Use Trends. See Appendix C for Land Use Maps.*
- (h) Multi-Jurisdictional Concerns – Few areas within Pike County can be affected by flooding with the exception of the Flint River basin. There are some areas in the county where localized street flooding has occurred (due to flash flooding). All mitigation efforts will focus on countywide improvements. The Steering Committee did identify that the city of Molena is undesignated as far as flood plain is concerned. The jurisdictions of Williamson, Zebulon, Concord, and Hollonville are listed as zone one (1) and unincorporated Pike County is listed as unmapped, however, a FEMA flood plain study is currently under revision and Pike County’s and municipal involvement is listed as a goal and objective in §39.02(F)(3). See Hazard Frequency Table in Appendix N.



- (i) Hazard Summary – Flooding poses a minor threat in Pike County. The Pre-Hazard Mitigation Planning Steering Committee has identified mitigation efforts related to flooding. Pike County and its municipalities have worked hard to mitigate the loss of life and property in the community from flood hazards. This has been accomplished by taking a countywide approach to code enforcement strict adherence to flood plain ordinances. Flood Mitigation Goals & Objectives are located in §39.02(F)(3). *Also see Appendix H Flood Plain Ordinance.*

## Significant Flooding Events in Pike County

13 FLOOD EVENT(S)  
were reported in Pike County, Georgia between  
01/01/1994 and 09/30/2008

**Mag:** Magnitude  
**Dth:** Deaths  
**Inj:** Injuries  
**PrD:** Property Damage  
**CrD:** Crop Damage

*Click on Location or County to display Details.*

Georgia								
Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 Pike County	07/06/1994	11:00 AM	Flood	N/A	0	0	3.0M	0
1 <a href="#">124</a>	10/04/1995	0100	Flash Flood	N/A	0	0	0	0
3 <a href="#">GAZ032 - 042&gt;043 - 048 - 052&gt;053 - 056 - 058&gt;059 - 068&gt;073 - 078&gt;084 - 091&gt;098 - 103&gt;112</a>	03/08/1998	07:00 AM	Flood	N/A	0	0	500K	0
4 <a href="#">GAZ068&gt;069 - 089 - 104</a>	03/03/2001	09:00 PM	Flood	N/A	0	0	0	0
5 <a href="#">Zebulon</a>	03/15/2001	04:35 AM	Urban/sml Stream Fld	N/A	0	0	0	0
6 <a href="#">Countywide</a>	04/07/2003	11:20 AM	Flash Flood	N/A	0	0	0	0
7 <a href="#">Countywide</a>	05/08/2003	12:00 AM	Flash Flood	N/A	0	0	2K	0
8 <a href="#">GAZ022 - 027 - 041 - 047&gt;048 - 053&gt;054 - 057 - 060 - 068 - 070 - 072 - 081 - 084 - 097&gt;098 - 104 - 106&gt;107 - 113</a>	09/06/2004	09:00 PM	Flood	N/A	0	0	57K	0
9 <a href="#">Countywide</a>	09/16/2004	04:10 PM	Flash Flood	N/A	0	0	5K	0
10 <a href="#">GAZ033 - 068&gt;069</a>	11/24/2004	10:00 AM	Flood	N/A	0	0	0	0
11 <a href="#">GAZ042 - 053&gt;054 - 066&gt;069 - 071 - 078&gt;079 - 081&gt;083 - 094 - 096&gt;097 - 107&gt;109 - 111</a>	03/27/2005	01:00 PM	Flood	N/A	0	0	0	0
12 <a href="#">GAZ005 - 012&gt;013 - 020&gt;021 - 031&gt;033 - 041&gt;047 - 049 - 053&gt;058 - 067&gt;072 - 078&gt;080 - 082 - 089 - 091 - 093 - 103&gt;107</a>	07/10/2005	11:00 PM	Flood	N/A	0	0	665K	0

(4)Tornadoes.

- (a) Hazard Identification - Violent whirling wind accompanied by a funnel-shaped cloud is classified as a tornado. Severe weather conditions, such as a thunderstorm or hurricane, can produce a tornado. The extension may be up to 50 miles and move at speeds of 10 to 50 miles per hour. Through combined action of strong rotary winds and the impact of wind-born debris, destruction occurs. The official tornado season begins in March and continues through August, but may occur at any given time. The Pike County Pre-Hazard Mitigation Planning Steering Committee researched historical data from the National Weather Service, National Climatic Data Center, Georgia Tornado Database, local newspapers, and interviews during its research on the effects of tornadoes on Pike County.
- (b) Hazard Profile – Six tornadoes have been recorded since statistical data has been recorded in Pike County since 1956. These tornadic events have resulted in more than \$4,000,000 dollars in damages, resulted in 2 deaths, and one resident being paralyzed, as a result of their injuries. Most recently in 2006, an F-3 tornado struck the town of Hollonville, extensively damaging or destroying five homes and two vehicles. The reported tornadoes have ranged from F0 to F3 in strength. A frequency analysis shows that a tornado has a 11% chance of occurring in any given year. Historical records document some events for single jurisdictions it also includes events where Pike County is included as part of a much larger event with several other counties and jurisdictional specific data is not available. Therefore an accurate jurisdictional analysis of the probability of future occurrences is not available. See Wind Hazard Frequency Table in Appendix N.
- (c) Vulnerability Assessment - All assets within Pike County are exposed to the hazards of tornados. There are currently 9,447 residential properties, 553 commercial properties, 45 office & industrial facilities, 1,753 agricultural facilities, 147 (exempt) religious, government owned buildings, educational and non-profit institutional facilities that have been identified as vulnerable to tornadoes. This constitutes all of the properties in Pike County. Tornadoes in Pike County have not followed a particular path. All structures and critical infrastructure are susceptible to damage from tornados.
- (d) Assets Exposed to Hazard - All of Pike County is susceptible to tornadoes as they are unpredictable in nature and do not follow any given pattern.
- (e) Damage Assessment - Because all facilities within the county are subject to potential losses via tornadoes, estimations were done assuming 25%, 50%, 75%, and 100%. After extensive research the committee was unable to locate any verifiable and accurate historical record that shows specific damage and losses by jurisdiction.

### Potential Losses Due to Tornadoes

Structure Type Amount of Structures	Value	75%	50%	25%
Residential 9447	\$600,419,632	\$450,314,724	\$300,209,816	\$150,104,908
Commercial 553	\$31,647,520	\$23,735,640	\$15,823,760	\$7,911,880
Industrial 45	\$9,674,780	\$7,256,085	\$4,837,390	\$2,418,695
Agricultural 1753	\$7,965,463	\$5,974,097	\$3,982,731	\$1,991,365
Exempt (Gov, Non-profit, Ed) 147	\$20,897,100	\$15,672,825	\$10,448,550	\$5,224,275

**Source: Pike County Tax Assessors Office**

**Note: Pike County government does not have sufficient and accurate data to break down the above information on a jurisdictional basis. The Steering Committee did however enter data into the Georgia Mitigation Information System in an effort to better define potential wind damage by jurisdiction. That information is located in Appendix N.**

- (f) Land Use & Development Trends - Continued development in Pike County will result in an increase in the potential for damage from tornados. The County and its municipalities have a land use plan that clearly identifies future development. The Pike County Building Department and the various municipalities enforce the 2003 International Building Code. The use and enforcement of these codes provides reasonable protection from most natural hazards including tornados. Updating building codes and the adoption of these codes will reduce vulnerability and damage from tornados. There are seven elements in the Land Use Plan that must be included, to be approved by State regulatory agencies. The elements are included in this plan. *See Appendix B, Land Use Trends, See Appendix C Land Use Maps.*
- (g) Multi-Jurisdictional Concerns - There is not sufficient data to identify a preferred path that tornados seek in Pike County. The cities of Concord and Zebulon will experience more damage, as they are the most densely developed areas of the County; however, all of Pike County is vulnerable to the effects of a tornado. All mitigation projects will consider a countywide approach. Pike County and its municipalities use the 2003 International Building Code and enforcement policy.
- (h) Hazard Summary – Pike County has had minor history with tornado activity. For this reason, the identified mitigation projects are seen as a priority need especially for the protection of vulnerable populations. Tornado specific mitigation actions are provided in §39.02(F)(4).

**Major Tornado Events in Pike County**  
**Source: Georgia Tornado Database**

INDEX #	DATE	STATE	FUJITA	FATALITIES	INJURIES	COUNTIES
19561223.13.17	1956-12-23	Georgia	1	0	1	Troup, Harris, Pike Meriwether
19710226.13.21	1971-02-26	Georgia	1	0	1	Pike
19800517.13.19	1980-05-17	Georgia	1	0	0	Pike
19930221.13.9	1993-02-21	Georgia	2	1	2	Pike
20000403.13.14	2000-04-03	Georgia	1	0	0	Pike, Lamar, Spalding
20060102.13.2	2006-01-02	Georgia	3	0	3	Pike

**(5) Severe Thunderstorms**

- (a) Hazard Identification - Thunderstorm winds tend to be short in duration, involving straight-line winds and/or gusts in excess of 50 mph. By definition, all thunderstorms are accompanied by lightning. Lightning strikes precede from cloud to cloud, cloud to ground and ground to cloud. The Pike County Hazard Mitigation Planning Steering Committee researched data from the National Climatic Data Center and the National Weather Service for this hazard.
- (b) Hazard Profile - Thunderstorms are the most prevalent natural hazards in Pike County. Over the last twenty-five years, 42 occurrences of major thunderstorm weather events have been reported. Pike County is extremely vulnerable to severe thunderstorms that are accompanied by frequent lightning and straight-line winds. These events, especially lightning, are responsible for numerous fatalities and injuries and cause millions of dollars in property damages. These are mainly from lightning strikes and resulting structure fires. The Pike County Hazard Frequency Table shows that Pike County overall has a 155% chance of experiencing a thunderstorm event annually that affect the community with damaging winds, hail and frequent lightning. The Committee was unable to locate any area of Pike County or municipality that was more susceptible to severe thunderstorms than another after examining the wind zone data from the Georgia Mitigation Information System. An accurate jurisdictional analysis of the probabilities of future occurrences is not possible. See Hazard Frequency Table in Appendix N.
- (c) Vulnerability Assessment - All assets within Pike County are exposed to the hazards of severe thunderstorms. There are currently 9,447 residential properties, 553 commercial properties, 45 office & industrial facilities, 1,753 agricultural facilities, 147 (exempt) religious, government owned buildings, educational and non-profit institutional facilities that have been identified as vulnerable to severe thunderstorms. This constitutes all of the properties in Pike County. Severe thunderstorms cause significant damage in Pike County and have not followed a particular path. All structures and critical infrastructure is susceptible to damage from severe thunderstorms.

- (d) Assets Exposed to Hazards - There is no way to estimate the facilities most likely to be damaged by thunderstorm winds and lightning, due to their widespread nature.
- (e) Damage Assessment –Because all facilities within the county are subject to potential losses via thunderstorm winds and lightning, estimations were done assuming 25%, 50%, 75%, and 100% damages.

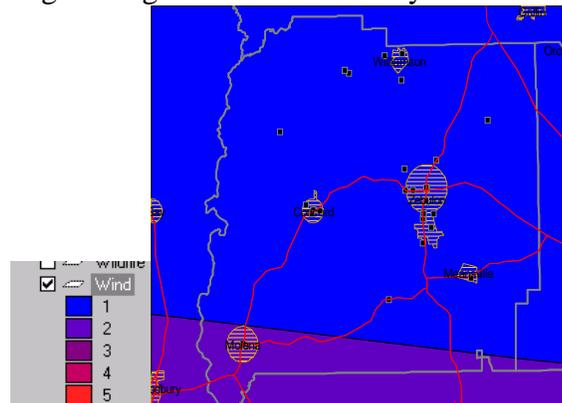
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<b>Commercial</b> 553	\$31,647,520	\$23,735,640	\$15,823,760	\$7,911,880
<b>Industrial</b> 45	\$9,674,780	\$7,256,085	\$4,837,390	\$2,418,695
<b>Agricultural</b> 1753	\$7,965,463	\$5,974,097	\$3,982,731	\$1,991,365
<b>Exempt (Gov, Non-profit, Ed)</b> 147	\$20,897,100	\$15,672,825	\$10,448,550	\$5,224,275

Source: Pike County Tax Assessors Office

Note: Pike County government does not have sufficient and accurate data to break down the above information on a jurisdictional basis. The Steering Committee did however enter data into the Georgia Mitigation Information System in an effort to better define potential wind damage by jurisdiction. That information is located in Appendix N.

- (f) Land Use & Development Trends - Continued development in Pike County will increase the potential for damage from severe thunderstorms. Pike County and its municipalities strictly enforce the 2003 International Building code that provides construction standards and reasonable structure protection from most natural hazards including thunderstorm wind and lightning. The “Land Use Plan” requires seven elements to be approved by State Regulatory agencies and is included in this plan. *See Appendix B for Land Use Trends, See Appendix C for Land Use Maps.*
- (g) Multi-Jurisdictional Concerns - All of Pike County and its municipalities are subject to severe storms and therefore should be included in any prospective mitigation projects.

Georgia Mitigation Information System Jurisdictional Wind Map



Score	Original Value	Description
5	> 120 mph	3 second gust greater than 120 mph
4	110 to 119 mph	
3	100 to 109 mph	
2	90 to 99 mph (or ZONE IV)	This score is also given to an area with Zone IV of the "Design Wind Speed Map for Community Shelters," representing an area exposed to 250 mph winds. This area is the Northwestern corner of the state.
1	< 90 mph	

(h) Hazard Summary - Severe thunderstorms are the most prevalent natural hazards in Pike County. They have the capability of producing widespread property damage, Injuries, and even death. Mitigation projects must be considered which reduce the overall damage due to thunderstorm winds and lightning. Mitigation plans in relation to severe storms are contained in §39.02(F)(5).

Thunderstorm, Lightning and High Wind Events in Pike County, Georgia								
Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 <a href="#">PIKE</a>	04/03/1982	0630	Tstm Wind	0 kts.	0	0	0	0
2 <a href="#">PIKE</a>	07/22/1984	1715	Tstm Wind	0 kts.	0	0	0	0
3 <a href="#">PIKE</a>	07/24/1987	1805	Tstm Wind	0 kts.	0	0	0	0
4 <a href="#">PIKE</a>	05/22/1989	2130	Tstm Wind	0 kts.	0	0	0	0
5 <a href="#">PIKE</a>	03/29/1991	0943	Tstm Wind	0 kts.	0	0	0	0
6 <a href="#">PIKE</a>	05/05/1991	1545	Tstm Wind	0 kts.	0	0	0	0
7 <a href="#">PIKE</a>	05/05/1991	1545	Tstm Wind	0 kts.	0	0	0	0
8 <a href="#">PIKE</a>	06/04/1991	1740	Tstm Wind	0 kts.	0	0	0	0
9 <a href="#">PIKE</a>	08/27/1992	1910	Tstm Wind	0 kts.	0	0	0	0
10 <a href="#">Zebulon</a>	06/04/1994	1600	Thunderstorm Winds	0 kts.	0	0	1K	0
11 <a href="#">Zebulon</a>	07/04/1994	2030	Thunderstorm Wind	0 kts.	0	0	5K	0
12 <a href="#">Zebulon</a>	07/05/1994	0058	Thunderstorm Wind	0 kts.	0	0	50K	0
13 <a href="#">Zebulon</a>	05/15/1995	1615	Thunderstorm Winds	0 kts.	0	0	0	0
14 <a href="#">Concord</a>	07/29/1995	1700	Thunderstorm Wind	0 kts.	0	0	1K	0
15 <a href="#">GAZ001&gt;17</a>	10/05/1995	0600	Thunderstorm Winds	0 kts.	8	7	75.0 M	50.0M

<a href="#">19&gt;23&gt;30&gt;34&gt;41&gt;46&gt;52&gt;5766&gt;70&gt;78&gt;80 89&gt;93102&gt;106 120122</a>								
16 <a href="#">Meansville</a>	03/16/1996	02:45 PM	Tstm Wind	0 kts.	0	0	20K	0
17 <a href="#">Molena</a>	08/24/1996	05:30 PM	Tstm Wind	0 kts.	0	0	1K	0K
18 <a href="#">Concord</a>	04/22/1997	05:30 PM	Tstm Wind	0 kts.	0	0	5K	0
19 <a href="#">Zebulon</a>	05/09/1997	03:00 PM	Tstm Wind	0 kts.	0	0	1K	0
20 <a href="#">Concord</a>	07/15/1997	07:00 PM	Tstm Wind	0 kts.	0	0	2K	0
21 <a href="#">Hollonville</a>	10/25/1997	04:25 PM	Tstm Wind	50 kts.	0	0	15K	0
22 <a href="#">Zebulon</a>	06/05/1998	06:28 PM	Tstm Wind	0 kts.	0	0	1K	0
23 <a href="#">Zebulon</a>	06/05/1998	08:30 AM	Tstm Wind	0 kts.	0	0	25K	0
24 <a href="#">Countywide</a>	06/15/1998	11:25 PM	Tstm Wind	0 kts.	0	0	5K	0
25 <a href="#">Williamson</a>	02/27/1999	11:40 PM	Tstm Wind	0 kts.	0	0	1K	0
26 <a href="#">Molena</a>	07/20/2000	09:00 PM	Tstm Wind	50 kts.	0	0	10K	0
27 <a href="#">Hollonville</a>	12/16/2000	08:50 PM	Tstm Wind	0 kts.	0	0	1K	0
28 <a href="#">Molena</a>	06/04/2002	05:50 PM	Tstm Wind	0 kts.	0	0	5K	0
29 <a href="#">Zebulon</a>	07/04/2002	03:25 PM	Tstm Wind	0 kts.	0	0	1K	0
30 <a href="#">Hollonville</a>	03/05/2003	11:00 PM	Tstm Wind	60 kts.	0	0	20K	0
31 <a href="#">Countywide</a>	05/02/2003	08:05 PM	Tstm Wind	56 kts.	0	0	5K	0
32 <a href="#">GAZ001&gt;009 - 011&gt;016 - 019&gt;025 - 027 - 030&gt;039 - 041&gt;060 - 066&gt;073 -</a>	02/25/2004	09:30 PM	Strong Wind	39 kts.	0	0	170K	0

<a href="#">078 - 082 - 089&gt;090</a>								
33 <a href="#">Countywide</a>	07/07/2004	04:15 PM	Tstm Wind	50 kts.	0	0	0	0
34 <a href="#">GAZ021&gt;023 - 032&gt;036 - 045&gt;046 - 048&gt;050 - 052&gt;060 - 066&gt;073 - 075 - 079&gt;085 - 091&gt;098 - 104&gt;113</a>	09/06/2004	04:30 PM	High Wind	36 kts.	0	0	14.0 M	26.5M
35 <a href="#">GAZ001&gt;002 - 006&gt;009 - 011 - 013&gt;016 - 019&gt;025 - 030&gt;038 - 041&gt;047 - 049 - 049 - 053&gt;056 - 066 - 068&gt;069 - 071 - 089</a>	09/16/2004	10:00 AM	High Wind	65 kts.	0	2	14.3 M	0
36 <a href="#">Countywide</a>	11/24/2004	10:00 AM	Tstm Wind	50 kts.	0	0	1K	0
37 <a href="#">Zebulon</a>	04/22/2005	01:15 PM	Tstm Wind	50 kts.	0	0	1K	0
38 <a href="#">Concord</a>	07/06/2005	07:55 PM	Tstm Wind	56 kts.	0	0	10K	0
39 <a href="#">GAZ001&gt;008 - 011&gt;015 - 019&gt;023 - 030&gt;035 - 041&gt;049 - 052&gt;058 - 066&gt;070 - 078&gt;080 - 089&gt;093 - 102&gt;104</a>	07/10/2005	03:00 PM	Strong Wind	34 kts.	1	0	246K	0

40 <a href="#">Concord</a>	06/23/2006	07:00 PM	Tstm Wind	50 kts.	0	0	2K	0
41 <a href="#">Williamson</a>	08/05/2006	03:00 PM	Tstm Wind	50 kts.	0	0	3K	0
42 <a href="#">Lifsey</a>	07/20/2007	13:40 PM	Thunderstorm Wind	50 kts.	0	0	3K	0K
TOTALS:				9		9	103.889M	76

Source: National Climatic Data Center

(6) Winter Storms.

- (a) Hazard Identification – A freezing rain or ice storm occurs when the surface temperature falls below freezing. High winds accompanied by freezing rain are more likely to become an ice storm. Liquid that falls and freezes on impact results in a coat of ice glazed on exposed objects. An ice storm may range from a thin glaze to a heavy coating. A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and power lines. Streets and highways become extremely hazardous to motorists and pedestrians, trees fall, and power outages occur.
- (b) Hazard Profile – There have been 8 snow and ice events recorded in the 13-year winter storm history for Pike County. This correlates to a 61% chance of a snow and/or ice event occurring every 1 (one) year. These events have ranged in magnitude from ½ inch to 8” of snow that fell and devastated Pike County in the blizzard of 1993. The blizzard, called “the storm of the century” caused extensive damage and economic hardship across Georgia and Pike County. This and other winter storms have resulted in a Presidential Disaster Declaration. After extensive research the Committee was unable to identify any specific area of Pike County or municipalities that are more susceptible than another and therefore the entire County is potentially at risk. Historical records only include data where Pike County is included as part of a much larger area with several other counties and jurisdiction specific data is not available. Therefore an accurate jurisdictional analysis of the probability of future occurrences is not possible. See Hazard Frequency Table Appendix N.
- (c) Vulnerability Assessment - All assets within Pike County are exposed to the hazards of winter storms. There are currently 9,447 residential properties, 553 commercial properties, 45 office, & industrial facilities, 1,753 agricultural facilities, and 147 (exempt) religious and government owned buildings, educational and non-profit institutional facilities that have been identified as vulnerable to winter storms. This constitutes all of the properties in Pike County. Winter storms cause significant damage in Pike County. Damage to public electrical utilities from accumulating ice and trees falling on power lines causes wide spread power outages and significant damage to electrical transmission lines as well as personal and economic hardship on our community. These rare winter storms have not followed a particular path and all structures and critical infrastructure are susceptible to damage.
- (d) Assets Exposed to Hazard - All assets within the county are susceptible to winter storms. Mitigation projects focusing on back-up power sources and debris removal should be given high priority countywide.

- (e) Damage Assessment - Because all facilities within the county are subject to potential losses due to winter storms, estimations were done assuming 25%, 50%, 75%, and 100% damages.

Structure Type of Structures	Amount	Value	75%	50%	25%
Residential 9447		\$600,419,632	\$450,314,724	\$300,209,816	\$150,104,908
Commercial 553		\$31,647,520	\$23,735,640	\$15,823,760	\$7,911,880
Industrial 45		\$9,674,780	\$7,256,085	\$4,837,390	\$2,418,695
Agricultural 1753		\$7,965,463	\$5,974,097	\$3,982,731	\$1,991,365
Exempt (Gov, Non-profit, Ed) 147		\$20,897,100	\$15,672,825	\$10,448,550	\$5,224,275

Source: Pike County Tax Assessors Office

Note: Pike County government does not have sufficient and accurate data to break down the above information on a jurisdictional basis.

- (f) Land Use & Development Trends - Future development throughout Pike County will result in the potential for damage from winter storms. The Pike County Building Department and the various municipalities enforce the 2003 International Building codes that provide for reasonable protection from most natural hazards including winter storms. The Land Use Plan requires seven elements to be approved by State regulatory agencies and is included in this plan. *See Appendix B for Land Use Trends, See Appendix C for Land Use Maps.*
- (g) Multi-Jurisdictional Concerns - All of Pike County is subject to winter storms and therefore should be included in any prospective mitigation projects.
- (h) Hazard Summary - When winter storms hit the southeastern United States, they generally are devastating due to the rarity of the event and lack of individual preparedness. Motorists are not generally accustomed to driving in snow and ice conditions thereby increasing the chances for accidents and injuries. Power outages from fallen trees cause tremendous challenges for Emergency Managers and other response organizations. Icy conditions also challenge emergency response vehicles responding to the increase of calls due to winter storms. Winter Storm related mitigation activities could be viewed in §39.02(F)(6).

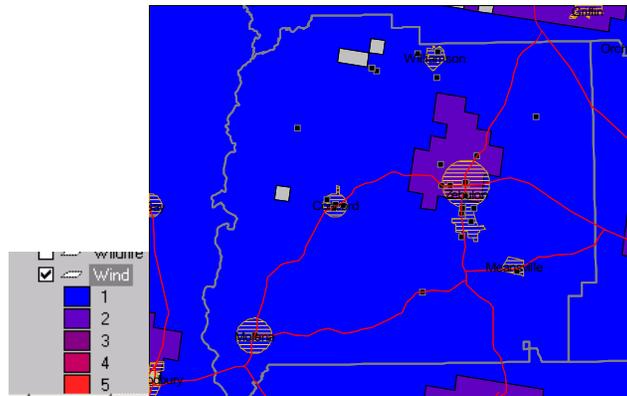
### Winter Weather Events in Pike County, Georgia

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
<a href="#"><u>1 GAZ019 - 030&gt;031 - 041&gt;043 - 053&gt;054 - 056</u></a>	2/16/1996	6:00 AM	Snow	N/A	0	0	0	0
<a href="#"><u>2 GAZ024&gt;025 - 027 - 035&gt;038 - 042 - 044&gt;050 - 052&gt;060 - 066&gt;068 - 070&gt;072</u></a>	3/14/1998	6:00 PM	Heavy Snow	N/A	0	0	0	0
<a href="#"><u>3 GAZ001&gt;009 - 011&gt;016 - 019&gt;025 - 027 - 030&gt;039 - 041&gt;055 - 057</u></a>	1/22/2000	1:00 PM	Ice Storm	N/A	0	1	48.0M	0
<a href="#"><u>4 GAZ001&gt;009 - 011&gt;016 - 019&gt;025 - 027 - 030&gt;039 - 041&gt;059 - 061&gt;062 - 066&gt;072</u></a>	1/28/2000	7:00 PM	Ice Storm	N/A	0	0	2.0M	0
<a href="#"><u>5 GAZ001&gt;009 - 011&gt;014 - 016 - 019&gt;025 - 030&gt;035 - 041&gt;047 - 052&gt;057 - 059</u></a>	2/19/2000	7:30 AM	Winter Storm	N/A	0	0	0	0
<a href="#"><u>6 GAZ005&gt;009 - 013&gt;016 - 019 - 021&gt;022 - 024&gt;025 - 027 - 031&gt;033 - 035&gt;038 - 042&gt;048 - 053&gt;056</u></a>	12/28/2000	12:00 AM	Winter Storm	N/A	0	0	0	0
<a href="#"><u>7 GAZ001&gt;008 - 011&gt;013 - 015 - 019&gt;021 - 030&gt;033 - 041&gt;044 - 053&gt;054</u></a>	1/1/2001	7:58 AM	Light Snow	N/A	0	0	0	0
<a href="#"><u>8 GAZ007&gt;009 - 013&gt;016 - 019&gt;025 - 027 - 030&gt;039 - 041&gt;062 - 066&gt;076 - 078&gt;086 - 089&gt;098 - 102&gt;107 - 109&gt;110</u></a>	1/2/2002	6:00 AM	Heavy Snow	N/A	0	0	0	0
<b>TOTALS</b>					<b>0</b>	<b>1</b>	<b>50.020 M</b>	<b>0</b>

Source: National Climatic Data Center

(7) Drought.

- (a) Hazard Identification - A drought is a prolonged period without rain. It can range from two weeks to six months or more and affects water availability and quality. In Georgia, droughts affect municipal and industrial water supplies, stream-water quality, recreation at reservoirs, hydropower generation, navigation, agricultural, wells, structural and wild land firefighting efforts and forest resources. Data collected from the National Climatic Data Center and the Georgia Forestry Commission was used for this report.
- (b) Hazard Profile – Seven drought events were recorded over the past 78 years. Using statistical data from the Hazard Frequency Table there is an 8% chance of drought every 1 (one) year. Significant increase in wildfire activity was recorded in Pike County. The fires were stopped by local fire departments and the Georgia Forestry Commission. These fires caused damage to structures and caused the implementation of outdoor burning bans during periods of drought. A reduced water supply from drought can cause economic hardship on residents and businesses and ultimately the community.
  - (i) Wildfire Risk Scores - The Wildfire Risk Layer was based on the USDA Forest Service, RMRS Fire Sciences Laboratory “Wildland Fire Risk to Flammable Structures, V 1.0” map. Although this data was not intended for use at a detail greater than state-wide analysis, it has been included as the best available data on wildfire risk. The scores are based on the risk value from the original layer. The horizontal positional accuracy is unknown for this layer.



Score	Original Value	Description
4	5	High
3	4	Moderate
2	3	Low
1	2	Very Low
0	1	No Houses
	7	Agriculture
	8	Water
	9	City

- (ii) The Georgia Mitigation Information System historical data show that all areas of Pike County are susceptible to drought. The nature of drought is such that when drought does occur in any part of the County, it affects the entire County at the same time. Therefore, there is no difference in the probability of future occurrences between different jurisdictions. See Appendix N Hazard Frequency Tables.
- (c) Vulnerability Assessment - All assets within Pike County are exposed to the hazards of drought. Pike County has an active yet slightly declining agricultural base. The County is slowly transitioning from primarily a farming community to a population center suburb of Atlanta. Because of this transition, the effects of drought could impact drinking water supplies in the County's reservoirs and water tables that supply water from wells. The County's and municipal leaders have anticipated droughts and focused on building water storage capacity to insure that our community has adequate water supplies to meet our growing population during times of drought. During previous droughts, the County enacted State mandated water restrictions as a way on conserving water and ensuring adequate capacity. These actions with the additional storage capacity should significant reduce the effects of drought in Pike County. Drought related goals and objectives are listed in §39.02(F)(7)(c).
- (d) Assets Exposed to Hazard - The exposure of assets to drought related hazards are generally indirect. The occurrence of a drought drastically increases the risks of fire. In addition, could directly impact the economy and could impede the fire departments ability, to suppress structure and brush fires.
- (d) Damage Assessment - There is no estimated damage to facilities due to droughts. All impact would be secondary in nature.
- (f) Land Use and Development Trends - Pike County and the various municipalities continue to develop land according to their land use plans. Continued development will increase consumption of raw water reserves throughout the County. Many residents still rely on wells for water for residential housing. Drought has and will continue to affect those utilizing wells for water consumption. Pike County has adequate water reserves for the foreseeable future and implements water restriction during times of drought as a way of conserving water. The Pike County and municipal water systems have planned for future water needs as development continues. Check Appendix B for Land Use Trends, See Appendix C for Land Use Maps.
- (g) Multi-Jurisdictional Concerns - The highest occurrence of losses due to drought will be in the rural agricultural areas of Pike County. The entire county should be included in drought planning.
- (h) Hazard Summary - Although droughts do not generally have an immediate effect, they cause many problems through secondary means such as wildfires, reduction in water supplies and economic and development stress. Drought related mitigation strategies are present in §39.02(F)(7).

### Pike County Drought Events 1930-Present

Pike County	Moderate	1930-1935	Crop Damage
Southeastern US	Moderate/Severe	1938-1944	Crop Damage
Pike County	Moderate	1950-1957	Economic Hardship
Pike County	Severe/Moderate	1980-1982	Crop Damage
Southeastern US	Moderate	1985-1989	Economic Hardship
Southeastern US	Moderate	1998-2002	Economic Hardship
Georgia/Southeast	Severe	2006-Present	Crop and Hardship

Source: U.S. Geological Survey Water Supply Paper Publication 2375

(8) Identification of Technological Hazards

- (a) Technological hazards include hazards that are of a technical nature and manmade. There are more than 5 million pounds of hazardous materials that are reported through the Pike County Local Emergency Planning Committee SARA Title III program. Although rare, hazardous material releases do occur mostly in fixed industrial sites. The Pike County Pre-Hazard Mitigation Committee has also identified Category I dams as a technological hazard. Lack of zoning regulations prior to 1980 regarding construction permits in dam inundation areas created hazards from manmade dams.
- (b) The following items are listed below are the technological or manmade hazards that could possibly affect Pike County.

(9) Hazardous Materials Releases

- (a) Hazard Identification - A major source of hazardous material accidents are released along roadways, railways, pipelines, and into rivers and creeks. Hazardous materials are substances, which are harmful to the health and safety of people and property. Jurisdictions with facilities that produce, process or store hazardous materials are at risk, as are facilities that treat, or dispose of hazardous wastes. Mitigation of this hazard may be accomplished by adhering to state and federal, and manufacture safety standards. Proper packaging, storage, and handling will assist in elimination of hazardous materials incidents. Historical data was collected from Pike County Emergency Services, Historical data and from the Georgia Department of Natural Resources Environmental Protection Division.
- (b) Hazard Profile - Pike County has been fortunate that major hazardous material releases have not occurred. A lack of consistent hazardous materials release reporting the Georgia Environmental Protection Agency has hampered the Committees ability to accurately depict how many hazardous materials releases have occurred. According to the Georgia Department of Natural Resources Environmental Protection Divisions database, there have only been 19 reported hazardous material releases that have been reported over the past 9 years. This trend suggests that it is rare that hazardous materials releases occur and better reporting requirements need to be developed. The Committee, using historical data and the Hazard Frequency Table below was able to identify hazardous material releases by jurisdiction.

## Pike County Georgia Hazardous Material Hazard Frequency Table

PIKE COUNTY

HAZARD FREQUENCY TABLE

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year
HazMat Release (Uninc.)	7	9	7	0	0	1.29	77.78	0.7	0
HazMat Release (Concord)	1	9	1	0	0	9.00	11.11	0.1	0
HazMat Release (Meansville)	0	0	0	0	0	#DIV/0!	#DIV/0!	0	0
HazMat Release (Molena)	2	9	2	0	0	4.50	22.22	0.2	0
HazMat Release (Williamson)	3	9	3	0	0	3.00	33.33	0.3	0
HazMat Release (Zebulon)	6	9	6	0	0	1.50	66.67	0.6	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

### HAZARDOUS MATERIAL RELEASES IN PIKE COUNTY AND BY JURISDICTION



**Emergency Response Team  
Incident Query System**

Date	Spill #	Facility/ Incident Name	Incident Location	City	County	Material	Waterway Impacted	Referred To
03- JUN- 1991	0877	DUMPING	GOLA CREEK		PIKE	OTHER	GOLA CREEK	DNR-LE
03- APR- 1992	1484	BURNING	NOT GIVEN		PIKE	OTHER		None
10- JUN- 1992	1899	CEDAR PINES GOLF	THE PINES		PIKE	HAZARDOUS MATERIAL		DNR-LE
17- AUG- 1992	0279	DRUM	CONCORD HOLINDALE ROAD		PIKE	OTHER		Region
02- SEP- 1993	05	COUNTY ROAD SERVICE	HARDEN ROAD		PIKE	OTHER	NONE	Other
03- SEP- 1993	08	CHEETAH TRANSPORTATION	HWY 19 , 1.4 MILES NORTH OF ZEBULON		PIKE	GASOLINE/FUEL OIL	UNKNOWN NAME	ERT
21- JUL- 1994	08	UNKNOWN	995 REIDSBORO RD.	WILLIAMSON	PIKE	RAW SEWAGE	N	
11- DEC- 1994	09	UNKNOWN GAS LEAK		ZEBULON	PIKE	NATURAL GAS	N	
05- MAY- 1995	01	MR. ROY BRYANT-TIRE BURNING	OFF OF WEEMS ROAD	ZEBULON	PIKE	TIRES	NO	
01- NOV- 1995	03	SOUTHERN MILLS	1683 LAWRENCE ROAD OFF HWY 74	MOLENA	PIKE	CHLORINE	NONE	
07- MAR- 1996	10	OPEN BURNING	169 NAZARENE CHURCH ROAD	ZEBULON	PIKE	TIRES		
18- SEP- 1996	06	GEORGIA POWER COMPANY	115 WILLIAMSON DRIVE	WILLIAMSON	PIKE	HYDRAULIC FLUID	NO	
27- OCT- 1997	16	SOAP IN CREEK	SR 109 WEST	MOLENA	PIKE	UNKNOWN	ELKINS CREEK	
11- FEB- 1998	3	FUEL SPILL	HIGHWAY 19 SOUTH	ZEBULON	PIKE	DIESEL FUEL		

20- MAY- 1998	11	UNKNOWN / TANKER JACK- KNIFED	SR 362 @ WILLIAMS ROAD	WILLIAMSON PIKE GASOLINE	NONE	
01- MAY- 1999	01	BOB'S AUTO SERVICE PARTS	US HWY 19 SOUTH @ PATTON ROAD	GRIFFIN	PIKE AUTO FLUIDS	NONE OTHER
15- FEB- 2000	05	Zebulon Collision Center	Hwy 19 North	Zebulon	PIKE auto fluids	None REGION
13- MAR- 2000	03	Supreme Inc.	531 Hwy 41 Bypass	Zebulon	PIKE Unknown	No
18- JUL- 2000	05	UNK	HARRIS ST	CONCORD	PIKE TIRES	N

- (c) Vulnerability Assessment-Pike County is 92% residential with a population of approximately 17,000. Five industrial facilities report hazardous materials as required by the SARA Title III requirements. They are considered high risks due to the potential of the material, the quantity and the location of the facility. If a catastrophic release were to occur some of the population in the immediate area would be effected. The highways in Pike County are primary transportation routes for the delivery and pass through of hazardous materials. These state highways provide access to the industrial basin in the county. These routes and the homes and businesses along these routes, are vulnerable to possible technological hazards. There is no interstate highway that runs through Pike County.
- (d) Assets Exposed to Hazard - The most prevalent asset damaged during a hazardous materials release is the environment. Waterways and storm water runoff are impacted most by hazardous material releases. Certain areas of the population could be impacted by release of certain chemicals. These areas have been identified by the local fire department and the emergency management agency. Due to security concerns that information is available only by request.

- (e) Damage Assessment - The damage to the environment due to hazardous materials releases cannot be estimated. The permanent damage to a critical facility due to a fixed facility release has not been recorded. A release of certain types of chemicals in certain areas would have catastrophic effects on the population. These have been identified by the local fire department and emergency management and are available by request.
- (f) Land Use & Development Trends - There are currently land use and development trends directly relating to placement of industries that use hazardous materials. By following land use plans response organizations are able to better plan for major industrial hazardous material incidents. The Land Use Plan requires seven elements to be approved by State regulatory agencies and is included in this plan. See Appendix B for Land Use Trends, see Appendix C for Land Use Maps.
- (g) Multi-Jurisdictional Concerns – Few hazardous materials incidents have been recorded in Pike County jurisdictions. Those jurisdictions that have fixed industrial facilities are most susceptible to releases of hazardous material. In Pike County, water and waste treatment facility should be of major concern and heavily involved in planning for hazardous material incidents. Pike County has two major pipelines that transcend the county. These pipelines are operated by both the Dixie Pipeline Company and the Plantation Pipeline Company. These two companies have an excellent safety record and ruptures, explosions, and or leaks are extremely rare. Both companies have monitoring programs and pipelines are well marked, however the potential does exist for problems with in Pike County regarding pipeline operating in the community. The pipelines are in unincorporated Pike County and should a rupture occur the city of Zebulon could potentially be affected as these two pipelines intersect just east of the city. Planning and partnership regarding the response to a pipeline emergency is listed as a goal and objective in Chapter 5. See Appendix I Pipeline Map and Data.
- (h) Hazard Summary - Hazardous materials releases are a relatively uncommon occurrence in Pike County. Major hazardous material releases would impact our environment and could have serious consequences should one occur. Mitigation plans must be executed to reduce the threat to lives and property as a result of hazardous materials releases. Mitigation strategies specific to this threat can be found in §39.02(F)(5)

(10) Major Fixed Hazardous Material Facilities in Pike County

Facility	Jurisdiction	Chemical
Bell South R2157	Concord	By Request
Bell South R 2168	Zebulon	By Request
Pike County Propane	Concord	Propane
Flash Foods	Zebulon	By Request
Yancey Brothers	Pike County	By Request
Concord South #1 Wastewater Treatment	Concord	By Request
Concord North #2 Wastewater Treatment	Concord	By Request
Zebulon WPCP Waste Water Treatment	Zebulon	By Request
Plantation Pipeline Company	From West to East Across the County	By Request
Dixie Pipeline Company	From Northwest to South East across the County	By Request

Source: Georgia Environmental Protection Division,  
The Pipeline Group, The Pipeline and Hazardous  
Materials and safety Administration

(11) High Risk Manmade Dams in Pike County.

- (a) Hazard Identification: Pike County has more than 100 man-made lakes, ponds and dams that retain water and some are used as flood control devices. Most of the lakes are privately owned and were built post-depression as an agricultural incentive to provide water for livestock and crop irrigation. As Pike County transitions from a rural farming community to a suburb of Atlanta, these lakes have become a prime site for single-family dwellings and subdivisions. Most of these dams are not well maintained and are not regulated because there is no risk associated with a breach or failure. Pike County does have however, four dams that are considered Category I, or high risk in nature due to their size, height, surface acres, and because of downstream impact. In addition, Pike County has twenty Category II dams. Of those, five are scheduled to be studied as to the risk that they pose to the community should a breach should occur. The Georgia Department of Natural Resources Safe Dams Division, establishes permits, performs studies on and enforces, dam safety and maintenance regulations, for Category I dams only in Pike County.
- (b) Hazard Profile: The Pre-Hazard Mitigation Steering Committee was unable to identify a dam breach in Pike County that caused loss of life or property. The potential does exist for an intentional or accidental breach. Of the four Category I dams in Pike County, Still Branch Reservoir is currently leaking and according to the Georgia Safe Dams Division is currently being repaired to prevent deteriorating dam conditions. It is a major source of raw water retention for drinking water, for an adjacent County. Potato Creek dam is currently being studied and a dam break analysis is being performed to determine the effects of dam breach due to the lack of a known dam breach and historical data the probability of future occurrences cannot be determined. The Georgia Safe Dams division has or will in the near future conduct a dam break analysis of each Category I dam in Pike County. These analyses have or will be provided to the Pike County Emergency Management Agency and have proved beneficial in planning for potential dam breaks.

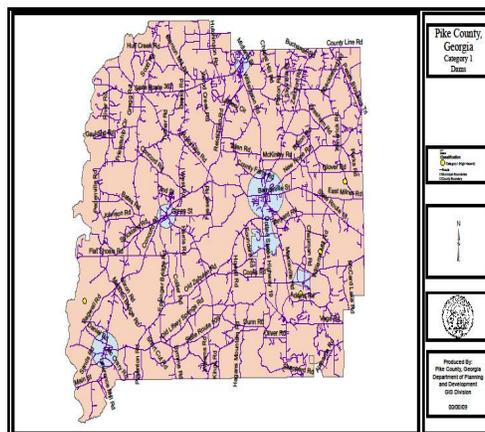
## (12) List of Dams and Including Category High Risk Dams in Pike County

Dam Name	Classification	State ID #	Latitude DD	Longitude DD	Dam Height	Maximum Storage
PIKE COUNTY REGIONAL RESERVOIR DAM	I	114-031-05283	33.04166667	-84.51861111	88	16336
HANKINS LAKE DAM	II	114-002-02295	33.02194444	-84.35138889	23.6	471
BOTTOMS LAKE DAM	II	114-004-02310	33.11	-84.43138889	19.5	337
WILLOW WINDS LAKE DAM	II (TBS)	114-022-02390	33.13805556	-84.37055556	32.9	965
POTATO CREEK STR W/S # 66	I	114-025-03755	33.06666667	-84.29	29.5	2152
POTATO CREEK W/S STR # 56	II (TBS)	114-024-03685	33.17166667	-84.28833333	37	1606
POTATO CREEK STR W/S # 33	I	114-027-03689	33.04166667	-84.31	26.9	533
PINE VALLEY CAMP LAKE DAM	II	114-003-02294	33.04583333	-84.2775	33.9	415
POTATO CREEK W/S STR # 82	I	114-026-03684	33.10833333	-84.265	35.6	1400
POTATO CREEK W/S STR # 58	II (TBS)	114-023-02391	33.14333333	-84.275	32.2	1794
CORLEY LAKE DAM	II	114-021-02389	33.15694444	-84.34083333	22	173
UPPER WILDWOOD FARMS LAKE DAM	II	114-007-02315	33.11388889	-84.44777778	23.4	182
JONES LAKE DAM	II	114-013-02384	33.08444444	-84.48666667	24.6	481
BROWN LAKE DAM	E	114-019-02351	33.15916667	-84.36194444	18.3	84
LEACH LAKE DAM	E	114-015-02349	33.13722222	-84.27222222	19	92
JOHNSON LAKE DAM	II	114-014-02385	33.18194444	-84.38361111	24.7	379
WINSHIP LAKE DAM	E	114-005-02296	33.12583333	-84.4425	10.2	62
MIDDLEBROOKS LAKE DAM	E	114-020-02388	33.08638889	-84.29388889	14.7	67
FERREL LAKE DAM	E	114-016-02386	33.125	-84.31388889	13.9	87
EDWARDS LAKE DAM	II (TBS)	114-001-02290	33.11027778	-84.33972222	24.9	382
WILDWOOD FARMS LAKE DAM	II	114-006-02314	33.12	-84.45111111	12.6	157
BATES LAKE DAM	II (TBS)	114-010-02448	33.01388889	-84.405	24.3	125
LAWRENCE LAKE DAM	II	114-012-02348	33.01361111	-84.5175	19	116
BROWNS POND DAM	II	114-017-02387	33.14222222	-84.35222222	24	129

EAGLES LANDING ESTATES DAM	II	114-018-02350	33.15583333	- 84.36777778	23.6	114
MCCARDS LAKE DAM	II	114-008-02316	33.04972222	- 84.26333333	21.8	119
THOMASTON MILLS LAKE DAM	II	114-009-02317	33.06722222	- 84.33416667	19	177.5
RANCLAND LAKE DAM	II	114-029-04520	33.15861111	- 84.38388889	19.9	700
LAKE RANCLAND	II	114-029-04520	33.15861111	- 84.38388889	20	356.25
JOHNSON LAKE DAM	II	114-014-02385	33.1819	-84.3833	20.9	99
Category I (High Hazard)						
Category II (Low Hazard)						
E = Exempt						
EH = Exempt High Hazard						
TBS = To Be Studied						
ND = Breached						

Source: Georgia Safe Dams

## Pike County Category I Dams



- (a) Vulnerability Assessment - Pike County is home to over 100 ponds and lakes with dams. Of these dams four are considered to be high hazard dams as classified by the Safe Dams division of the Georgia Department of Natural Resources. There are six homes that are vulnerable to possible dam breaks. The total value of these assets threatened by Category I dams is \$618,528.00. Dam breaks can occur as a result of poor design, excess water capacity, discharge pipe failure, and poor dam maintenance. Generally, the structures, occupants, and roadways directly beneath the dam are at risk. The dam break analysis data that was supplied by the Ga. Safe Dams Program is limited in that the analysis only shows the first point of impact, should there be a dam break occurrence. This plan exceeds the first point of impact and

includes an estimate of the second point of impact. A true dam analysis has not been performed by Pike County or the Safe Dams Division. Annual inspections, citations and permitting of these Dams by Safe Dams of Georgia, significantly reduce the vulnerability of the structures, residents, and roadways below.

- (b) Assets Exposed to Hazards The Pre-Hazard Mitigation Planning Steering Committee identified and analyzed dam break analysis in order to identify assets that are exposed to Category I dam hazards in Pike County. Below is a list of assets that the Committee identified as a result of their findings.

### Assets Exposed to Category I Dams Pike County

**Potato Creek STR W/S #33**

Parcel Number	Address	Jurisdiction	State	Zip	Value
082-042-N	690 Sprayberry Drive	Unincorporated Pike County	GA	30286	\$93,288.00
082A-104	Old Cannery Rd		GA		\$26,250

**Potato Creek STR W/S #66**

Parcel Number	Address	Jurisdiction	State	Zip	Value
093-001 A	Williams Mill Road	Unincorporated Pike County	Ga	30295	\$227,240.00
093-003 B	2052 Williams Mill Road	Unincorporated Pike County	Ga	30295	\$52,500.00

**Potato Creek STR W/S #82**

Parcel Number	Address	Jurisdiction	State	Zip	Value
090-011 D	2420 Glover Road	Unincorporated Pike County	GA	30295	\$107,500.00
090-011 E	2424 Glover Road	Unincorporated Pike County	GA	30295	\$111,750.00
<b>Total</b>					<b>\$618,528.00</b>

Source: Pike County Tax Assessors Office

### Category I Still Branch Reservoir Dam (Also referred to as the Pike County Regional Reservoir Dam)



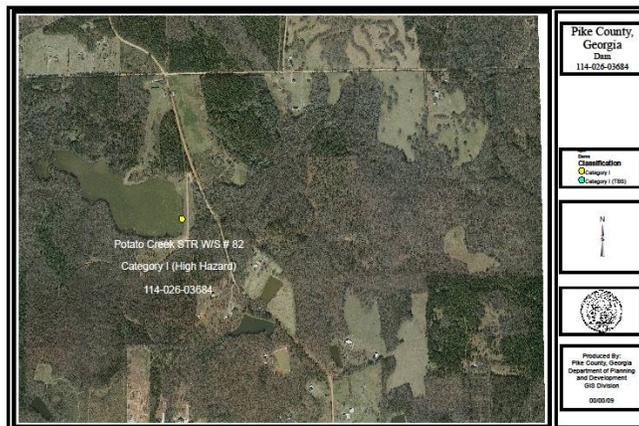
### Category I Potato Creek Dam #33



### Category I Potato Creek Dam #66



### Category I Potato Creek Dam #82



- (c) Damage Assessment - The total value of assets in Pike County that are threatened by Category I dams is \$592,278.00 This figure is an estimate as no true dam break analysis has been conducted. The EPD through its Safe Dams program has performed a dam break analysis on each Category I dam but only to the first structure. This plan includes the estimated second point of impact but not beyond. Therefore, it is difficult to accurately determine the total fiscal impact given the potential for downstream impact.
  - (d) E. Land Use and Development Trends - Pike County's population has doubled in the last 30 years. That trend currently continues today and development of what was once farmland is being developed for mostly residential housing. Pike County was a benefactor of a largely successful flood control project along Potato Creek between the 1950 and 1970. During that time, the Soil Conservation Service constructed a series of dams to provide long-term flood mitigation in anticipation of long-term growth. Development of residential property in this area will benefit from this pro-active flood control project. Pike County currently reviews plans for single dwelling houses and subdivisions in an effort to prevent the creation of dam break hazards. The Pike County and respective planning and zoning departments are tasked with enforcing rules and regulations and making recommendations to prevent the construction of dwellings below a dam. *See Appendix B Land Use Trends, See Appendix C Land Use Maps.*
    - (i) Pike County's and its municipalities position is that the "Georgia Safe Dams" program, a division of the Environmental Protection Division, is that it is the responsibility of the dam owner to maintain and operate a safe and permitted dam as to prevent a dam failure, thus preventing the loss of life or property.
  - (e) Multi-Jurisdictional Concerns - Currently only unincorporated Pike County has identified Category I dams in their jurisdictions. That trend however is likely to change as the Safe Dam division conducts more studies on the many dams that are in Pike County and its municipalities. The Georgia Safe Dams program conducts annual inspections, issues permits and citations for those owners who are not in compliance. There are currently no critical facilities threaten by Category I dams, the structures identified as a vulnerable to Category I dam failures are listed by physical address.
  - (f) Hazard Summary.
    - (i) The Pike County Emergency Management Agency has placed a high priority on dam safety. The Agency works closely with the EPD's Safe Dams personnel to ensure high hazard dams are maintained and inspected annually.
    - (ii) The Still Branch Reservoir dam is considered to be of high priority in our mitigation strategy (§39.02(F)(11)Action Step 1) due to the condition of the dam, past history, and the downstream potential. *Also see Appendix G Category I Dam data.*
- (F) Natural Hazard Mitigation Goals & Objectives
- (1) Natural Hazard Mitigation Goals & Objectives. The foundation of this plan is the identification of strategies through which Pike County will implement natural hazard mitigation goals, objectives and actions. As identified in Chapter 4, "Risk Assessment", the Pre-Hazard Mitigation Planning Steering Committee has a clear understanding of the community's hazards and risks. The next step is to develop a mitigation strategy.

The Pre-Hazard Mitigation goals, objectives and actions are listed in order of priority for this chapter. The methodology that was used to determine the priority of projects was based on repetition of the event, monetary loss, anticipated costs, and the potential for loss of life. For each of the hazards identified in Chapter 4, “Risk Assessment”, the Pre-Hazard Mitigation Planning Committee has outlined below our goals and objectives as part of the mitigation strategy. Mitigation actions for Zebulon, Molena, Concord, Williamson and Hollonville are incorporated in Pike County’s goals, objectives, and actions. These municipalities do not have any different risks from the County although, they have limited capacity to develop and implement them.

- (2) Previous Hazard Mitigation Accomplishments. Pike County has made previous efforts to mitigate hazards in the community. Some have been significant and have been beneficial to reducing loss of life and property from disasters throughout Pike County. Among them are:
  - (a) The United States Soil Conservation Service erected flood control measures along the Potato Creek water shed.
  - (b) Implemented severe weather warning sirens in some areas.
  - (c) Adopted Flood plain regulations.
  - (d) Changed and updated building codes to higher standards.
  - (e) Implemented a storm water management plan.
  - (f) Strict enforcement of land use plans.
  - (g) Two communities in Pike County participate in the National Flood Insurance Program.
  - (h) Placed some NOAA Weather Radios in all public buildings, churches, nursing homes, and day care centers.
- (3) Flooding.
  - (a) Mitigation Goals - As noted in §39.02(c)(1), flooding has caused damage throughout the years in Pike County. There are three main locations throughout the county where localized flooding is a problem during heavy rains. Mitigation strategies, which reduce the negative effects of flooding, must be considered.
  - (b) Range of Mitigation Options - The mitigation options to reduce the effects of flooding in Pike County include continual updates of policies, procedures, enhanced data collection, and efforts to reduce localized flooding.
  - (c) Mitigation Strategies for Flooding.
    - (i) Mitigation Goal # 1 - *“To minimize the losses of life and property due to flooding in Pike County.”*
    - (ii) Objective #1 - To protect the residents and reduce damage to property, from the effects of flooding in Pike County.
    - (iii) Action Steps:
      - (aa) Implement strict code enforcement of the Flint River drainage basin, especially in the area of the Shoals subdivision.

Responsible Organization	Pike County Engineering/Elected Officials/Planning Dept
Coordinating Organization	Pike County Engineering
Timeline	Current – to Build out
Approximate Cost	Ordinances Pre-exist
Funding Sources	General funds

(bb) Develop a strategy for Pike County and non-participating municipalities to become members of the National Flood Insurance Program.

Responsible Organization	Pike County and Municipality Elected Officials
Coordinating Organization	Pike County EMA
Timeline	Current – To Build out
Approximate Cost	Staff Time
Funding Sources	Local Funding Sources

(cc) Conduct accuracy assessments and oversight of the new proposed FEMA flood maps for Pike County and its cities, to accurately map the flood plain and problem areas not already on the FEMA maps.

Responsible Organization	County & Municipal Engineering Departments
Coordinating Organization	Pike County
Timeline	In Progress
Approximate Cost	Unknown
Funding Sources	Federal, State or Local Grants

(dd) Update as needed county and city soil erosion and sediment control ordinances. In order to further, protect valuable water resources.

Responsible Organization	County & Municipal Engineering Departments
Coordinating Organization	Pike County
Timeline	On-going
Approximate Cost	Staff Time
Funding Sources	DNR General funds

(ee) Comply with the Metropolitan North Georgia Water Planning District, storm water management ordinances, and possible implementation of the Model Flood Plain and Flood Damage and Prevention Ordinance.

Responsible Organization	Pike County Engineering and municipal engineering departments
Coordinating Organization	Pike County Water Engineering and municipal engineering departments
Timeline	2005 – 2010
Approximate Cost	\$250,000.00
Funding Sources	Tax Digest & Grant Funding

(ff) Implement a mitigation buyout program to eliminate known or potential structures and flood hazards along the Flint River basin and others identified in this plan.

Responsible Organization	Pike County Engineering and municipal engineering departments
Coordinating Organization	Pike County EMA
Timeline	2012-2020
Approximate Cost	\$2.2 million
Funding Sources	Tax Digest & Mitigation Grant Funding

- (d) Multi-Jurisdictional Considerations – Flooding events are rare in Pike County due to its sparse population. Not all areas of Pike County participate in the National Flood Insurance Program, therefore not all home owners and businesses are eligible for flood insurance. Pike County and the cities of Zebulon and Molena participate in the National Flood Insurance Program and the other cities participating have been identified in §39.02(F). There is no divergence in flood mitigation strategy with an overall goal of identifying and mitigating flooding countywide.
  - (e) Public Information Strategies - The Pike County Pre-Hazard Mitigation Planning Steering Committee has identified public awareness campaigns as a way to ensure that the citizens of Pike County are informed of the hazards affecting them and about the mitigation efforts that are taking place to mitigate flooding situations.
- (4) Tornadoes.
- (a) Mitigation Goals - The potential for significant damages to property, injuries and/or deaths are often associated with tornadoes. There is a need for advanced planning due to major consequences this type of event can cause. There are several courses of action below that could increase survival chances for vulnerable populations, while also, reducing the overall damage to critical infrastructure.
  - (b) Range of Mitigation Options - The suggested mitigation options for tornadoes in Pike County provide enhanced sheltering, advanced warning, and options for more sustainable facilities.
  - (c) Mitigation Strategy for Tornadoes.
    - (i) Mitigation Goal #1 - *“To minimize the losses of life and property due to tornadoes in Pike County.”*
    - (ii) Objective #1 - To provide advanced severe weather warning in Pike County, in order to protect the residents and their property, from the effects of tornadoes.
    - (iii) Action Steps:
      - (aa) Encourage retrofitting of existing and future public schools with special high wind resistant films, for doors and windows.

Responsible Organization	Pike County Board of Education
Coordinating Organization	Pike County Board of Education
Timeline	2012
Approximate Cost	\$990,000
Funding Sources	Board of Ed, General funds, SPLOST

- (bb) Increase enforcement, requiring enhanced anchoring of existing and future manufactured homes.

Responsible Organization	Pike County Code Enforcement
Coordinating Organization	Pike County Emergency Management
Timeline	2009-
Approximate Cost	\$125,000
Funding Sources	Private Owners

- (cc) Construction and use safe rooms in shelter areas of mobile home parks, fairgrounds, park, schools and other vulnerable public areas.

Responsible Organization	Pike County EMA
Coordinating Organization	Pike County EMA
Timeline	2015
Approximate Cost	\$1.1 million
Funding Sources	Mitigation Grants

- (dd) Continue to increase the number of outdoor warning sirens in high risk and vulnerable populations.

Responsible Organization	Pike County Board of Commissioners and Municipal Governing Bodies
Coordinating Organization	Pike County EMA
Timeline	2015
Approximate Cost	1,000,000.00
Funding Sources	Tax Digest and Mitigation Grants

- (ee) Identify public gathering areas such as schools, churches, public buildings and installation of NOAA weather radios to increased warning capabilities during weather watches and warnings.

Responsible Organization	Pike County Government
Coordinating Organization	Pike County EMA
Timeline	2010
Approximate Cost	\$2500.00
Funding Sources	Tax Digest and Mitigation Grants

- (ff) Develop an annual countywide public weather awareness campaign, during severe weather awareness week, to promote weather safety and preparedness through public education.

Responsible Organization	Pike County Board of Commissioners and Municipal Governing Bodies
Coordinating Organization	Pike County EMA
Timeline	2011
Approximate Cost	\$1000.00
Funding Sources	Mitigation Grants

- (gg) Implement the National Flood Insurance Program in the cities of Williamson, Hollonville, and Concord.

Responsible Organization	Williamson, Hollonville, and Concord Municipal Governing Bodies
Coordinating Organization	Pike County EMA
Timeline	2012
Approximate Cost	\$25,000.00
Funding Sources	Tax Digest, Grants

- (c) Multi-Jurisdictional Considerations - Tornadoes can affect all areas of Pike County. All of the municipalities in Pike County should be participants in tornado mitigation activities.

- (d) Public Information and Awareness Strategies - The Pike County Hazard Mitigation Steering Committee has identified many public awareness campaigns to ensure that the citizens of Pike County have advanced warning of the hazards affecting them and about the mitigation efforts in place to mitigate potential tornado situation.
- (5) Thunderstorm Wind and Lightning.
  - (a) Mitigation Goals - Thunderstorm winds and lightning have caused numerous injuries and deaths, as well as millions of dollars in property damages in Pike County over the past 45 years. There is a great need to reduce the risk to lives and property due to this hazard. There are many similarities for mitigating thunderstorm winds and tornadoes. This section identifies mitigation solutions to lightning events and tropical storms.
  - (b) Range of Mitigation Options - Possible mitigation options for severe storms include early warning devices and property protection systems. The early warning devices should allow residents to take shelter before the storm approaches.
  - (c) Mitigation Strategy for Thunderstorm Wind and Lightning
    - (i) Mitigation Goal #1 - “To minimize the losses of life and property due to thunderstorm winds and lightning in Pike County.”
    - (ii) Objective #1 - To adequately warn citizens, protect citizens and their property, from the effects of thunderstorm winds and lightning in Pike County.
    - (iii) Action Steps:

(aa) Equip all county and city recreational parks with adequate early severe weather warning devices and lightning detection devices.

Responsible Organization	Pike County Recreation and Municipal Recreation Departments Pike County EMA
Coordinating Organization	Pike County EMA
Timeline	2009 - Ongoing
Approximate Cost	\$300,000
Funding Sources	Mitigation Grants, General Fund

(bb) Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties to reduce damage from lightning strikes.

Responsible Organization	County and City Governments, Private Business and Homeowners
Coordinating Organization	Pike County EMA
Timeline	2009-2015
Approximate Cost	\$10,000
Funding Sources	General Funds/Home and Business Owners

- (d) Multi-Jurisdictional Considerations - All of Pike County should be considered when developing mitigation strategies related to thunderstorm winds and lightning. Thunderstorms with associated lightning have caused significant damage in all areas of the County.
- (e) Public Information and Awareness Strategies - The Pike County public safety community is taking an, “all hazards approach” to community awareness programs. Thunderstorm winds and lightning events are inclusive of this all hazards program. Pike County EMA has implemented some NOAA weather radios in some facilities. Local fire departments should become more pro-active, in a public awareness campaign, and as a community service, distribute severe weather information to the

most vulnerable areas of the community to bring awareness of potential severe weather.

(6) Winter Storms.

- (a) Mitigation Goals - Although winter storms are not a frequent occurrence in Pike County, they do have the potential to cause extensive problems when they occur. Pike County and its municipalities do not have the proper equipment to efficiently deal with snow and ice removal.
- (b) Range of Mitigation Goals - The major mitigation need for Pike County in relation to winter storms is to educate and prepare residents of our community for winter storms.
- (c) Mitigation Strategy for Winter Storms
  - (i) Mitigation Goal #1 - “To minimize the losses of lives and property due to winter storms in Pike County.”
  - (ii) Objective #1 - To educate and prepare the residents of Pike County for effects of winter storms.
  - (iii) Action Steps:
    - (aa) Develop and implement an education and preparedness strategy such as a Citizens Emergency Response Team (CERT) in an effort to reduce the effects of winter storms on our citizenry.

Responsible Organization	Pike County EMA, Fire Departments
Coordinating Organization	Pike County EMA
Timeline	2011
Approximate Cost	\$10,500
Funding Sources	General funds, State CERT Grants

- (d) Multi-Jurisdictional Considerations - Winter storms have affected all areas of Pike County. All of the municipalities in Pike County should participate in winter storm mitigation and preparedness activities.
- (e) Public Information and Awareness Strategies - The Pike County Pre-Hazard Mitigation Planning Committee has identified and implemented many public awareness campaigns to ensure that the citizens of Pike County are kept abreast of the hazards affecting them and the mitigation efforts to reduce the severity of winter storm situations.

(7) Drought.

- (a) Mitigation Goals - Droughts have had severe effects upon the southern states during the past decade. Pike County has historically witnessed water shortages as a result of widespread droughts. Pike County has made substantial progress in increasing the capacity of our water supply.
- (b) Range of Mitigation Goals - The main areas where mitigation projects are needed for drought conditions include expanding and enhancing the public water supply capacity as well as increasing the public awareness about water conservation.
- (c) Mitigation Strategy for Drought
  - (i) Mitigation Goal #1 - “To minimize the effects of drought in Pike County.”
  - (ii) Objective #1 - Protect people and property from the effects of droughts by ensuring an adequate water supply in Pike County.

(iii) Action Steps:

(aa) Develop a public awareness campaign to promote water-saving campaigns such as low-flow water saving devices in toilets.

Responsible Organization	Pike County Water System, Pikeville Water Department various private water systems
Coordinating Organization	Pike County EMA
Timeline	2012
Approximate Cost	\$40,000
Funding Sources	Organizations budgets

(bb) Increase capacity of raw water to ensure adequate water supplies during times of drought.

Responsible Organization	Pike County Water System, and municipal Water System various private water systems
Coordinating Organization	Pike County Water System
Timeline	2015
Approximate Cost	\$8,000,000
Funding Sources	Grants, Water System Revenues, general funds

(cc) Participate in the Georgia Forestry's Wildland Fire prevention Program to mitigate brush and wildland fires.

Responsible Organization	Fire Departments
Coordinating Organization	Ga. Forestry
Timeline	Permanently
Approximate Cost	\$6000 Staff Time
Funding Sources	Georgia Forestry and General Funds

(dd) Develop a countywide drought contingency plan in coordination with all municipalities for use during severe water shortages or water outages.

Responsible Organization	Pike County EMA, municipal governing bodies
Coordinating Organization	Pike County EMA
Timeline	2011
Approximate Cost	\$2500
Funding Sources	Hazard Mitigation Grant

(d) Multi-Jurisdictional Considerations - Drought has affected all areas of Pike County. All of the municipalities in Pike County should participate in drought related mitigation activities.

(e) Public Information and Awareness Strategies - The Pike County Hazard Mitigation Steering Committee has identified and implemented public awareness campaigns to ensure that the citizens of Pike County are kept abreast of the hazards affecting them and the mitigation efforts to reduce the effects of potential drought situations. These include ordinances for the enforcement of outdoor water bans.

(8) All Hazards.

- (a) Mitigation Goals - Pike County follows an all-hazards approach to community planning. There are many mitigation projects, which can positively influence the outcomes of any natural disaster; these projects are described in this All Hazards section.
- (b) Range of Mitigation Goals - All hazards mitigation goals cover a wide variety of areas. There is a great need in Pike County for an emergency operations center dedicated to the management of medium and large scale events within the county (especially those that cross jurisdictional boundaries).
  - (i) Increased early warning capabilities for severe weather are a high priority. Severe weather especially lightning is responsible for the greatest property damage in our community in terms of dollar loss.
- (c) Mitigation Strategies for All Hazards
  - (i) Mitigation Goal #1 - "To minimize the losses of life and property due to all natural hazards in Pike County."
  - (ii) Objective #1 - To protect people and property from the effects of all potential hazards in Pike County.
  - (iii) Action Steps:
    - (aa) Placing severe weather warning sirens as a method of early warning, for possible inclement weather or other hazards, in all public parks and recreational facilities.

Responsible Organization	Pike County Board of Commissioners, local City and Town Councils and Recreation Departments
Coordinating Organization	Pike County EMA
Timeline	2010
Approximate Cost	\$225,000
Funding Sources	Tax Digest, Grants

(bb) Develop a Community Emergency Response Team (CERT) program.

Responsible Organization	Pike County EMA
Coordinating Organization	Pike County EMA
Timeline	2009-2011
Approximate Cost	\$49,000
Funding Sources	State Cert Grants

(cc) Work with local cable and radio providers to develop and broadcast public education on Emergency Preparedness.

Responsible Organization	Pike County Public Information Officer, Comcast Cable Company
Coordinating Organization	Pike County EMA
Timeline	2009-2010
Approximate Cost	\$1000 Staff Time
Funding Sources	Donations, General funds, Grant

- (dd) Conduct public education and awareness campaigns targeting nursing homes regarding the development and testing of emergency plans to include possibility of complete evacuation of facility.

Responsible Organization	Pike County EMA
Coordinating Organization	Pike County EMA
Timeline	2009-2011
Approximate Cost	\$1000
Funding Sources	General funds, state grants

- (ee) Develop a plan for the construction and implementation of safe, sustainable, and interoperable Emergency Operation Center.

Responsible Organization	Pike County EMA
Coordinating Organization	Pike County EMA
Timeline	2009-2015
Approximate Cost	\$2.2 million
Funding Sources	Mitigation Grant, General funds, SPLOST

- (ff) Acquire a reverse 911 system for the Pike County 911 Communications Center to alert and warn residents and businesses and the public of specific community threats.

Responsible Organization	Pike County Government and Municipalities
Coordinating Organization	Pike County 911
Timeline	2009-2012
Approximate Cost	\$25,000
Funding Sources	Mitigation Grant, General funds, LEPC Funding

- (gg) Develop a planning and zoning review committee that oversees the prevention of the creation of hazards during the planning and review process of development in Pike County.

Responsible Organization	Pike County Government and Municipalities, EMA
Coordinating Organization	Planning and Zoning Departments
Timeline	2009-2012
Approximate Cost	\$9000 Staff Time
Funding Sources	Local Government

- (hh) Create a comprehensive continuity of operations plan. (COOP) for Pike County government and its municipalities in effort to provide essential services during times of disasters.

Responsible Organization	Pike County Government and Municipalities, EMA
Coordinating Organization	Pike County Administrator/Mayors
Timeline	2009-2012
Approximate Cost	\$50,000.00
Funding Sources	Local Government/Grants

- (ii) Expand and or overhaul the Pike County 911 Center capabilities to include interoperability and regional collaboration therefore increasing the response communication capabilities and safety of 1<sup>st</sup> responders.

Responsible Organization	Pike County Government and Municipalities
Coordinating Organization	Pike County Administrator/Mayors
Timeline	2009-2015
Approximate Cost	\$8,361,688
Funding Sources	Grants and General Funds

- (jj) Develop a program that captures important historical data that relates to disasters and areas to be mitigation for future mitigation planning efforts.

Responsible Organization	Pike County Government and Municipalities
Coordinating Organization	Pike County Administrator/Mayors
Timeline	2009-2015
Approximate Cost	\$3000.00 Staff Time
Funding Sources	Grants and General Funds

- (d) Multi-Jurisdictional Considerations - Some of the above projects cross-jurisdictional boundaries (such as training and early warning). All jurisdictions should be involved in the planning process.
- (e) Public Information and Awareness Strategies - The Pike County Pre-Hazard Mitigation Planning Steering Committee has identified many public awareness campaigns to ensure that the citizens of Pike County are kept abreast of the hazards affecting them and the mitigation efforts to alleviate potential situations.
- (9) Technological Hazard Mitigation Goals & Objectives.  
Pike County has two types of technological hazards, hazardous materials and Category I dams. Both these man made hazards have been identified in §39.02(E) Risk Assessment as a potential risk to the community. The Mitigation Planning Committee has identified and will work toward implementation of the following goals and objectives that will reduce Pike County’s vulnerability to technological hazards.
- (10) Hazardous Materials Releases.
- (a) Mitigation Goals - Hazardous material releases are identified as a technological hazard in our community. Historical trends suggest that there will be approximately one major hazardous material event in the county during any given year. This includes both fixed facility and transportation related incidents.
- (b) Range of Mitigation Options - The identified mitigation strategies for hazardous materials include ensuring that first responders are trained and equipped to effectively and efficiently respond to the incident. Additionally, to work in partnership with industry to plan an effective response strategy to hazardous materials incidents.
- (c) Mitigation Strategy for Hazardous Materials Spills
- (i) Mitigation Goal #1 - “To minimize the losses of lives, property and damage to the environment due to hazardous materials spills in Pike County.”
- (ii) Goal #1 - To protect the people, property and the environment from the effects of hazardous materials spills in Pike County.
- (iii) Action Steps:

- (aa) Develop and create a sustainable Local Emergency Planning Committee (LEPC) in partnership with first responders, local businesses, and industry to mitigate hazardous materials releases and increase planning activities.

Responsible Organization	All Emergency Response Agencies, local Industry
Coordinating Organization	Pike County EMA
Timeline	2010
Approximate Cost	\$1500
Funding Sources	Private Funding/State Grant

The development of a sustained Local Emergency Planning Committee (listed as a Hazardous Material Goal in §39.02(F)(10)(C)(i) is responsible for planning and public awareness regarding hazardous material incidents in the community. It will bring about a first responder and industrial partnership in a collaborative effort to significantly reduced hazardous material incidents in Pike County. Therefore, potentially providing a source of revenue for first response agencies.

- (bb) Conduct a hazardous materials exercise.

Responsible Organization	All Emergency Response Agencies, Industry
Coordinating Organization	Pike County EMA/Fire Dept.
Timeline	2011
Approximate Cost	\$1500
Funding Sources	Private Funding, State Grant

- (cc) Purchase additional hazardous materials response equipment necessary to sustain hazardous materials response operations, as well as, new chemicals entering the community.

Responsible Organization	Pike County Local Fire Departments
Coordinating Organization	Pike County EMA
Timeline	2009 – Ongoing
Approximate Cost	\$50,000
Funding Sources	Tax Digest, Industrial Donations, Homeland Security All Hazard Council Grants

- (dd) Develop a strategy with the local Development Authority to develop funding strategies to support first responders and to identify new chemical facilities that locate in Pike County.

Responsible Organization	Pike County Development Authority
Coordinating Organization	Pike County EMA
Timeline	2009 – Ongoing
Approximate Cost	\$10,000 Staff Time
Funding Sources	Private funding

- (ee) Work with and encourage industry to reduce chemical inventories at fixed facilities.

Responsible Organization	Pike County Development Authority Industry
Coordinating Organization	Pike County EMA
Timeline	2009 – Ongoing
Approximate Cost	\$800,000
Funding Sources	Industrial Funding

- (ff) Implement an onsite material safety data sheet (MSDS) and chemical inventory program.

Responsible Organization	All Fire Departments Pike County LEPC
Coordinating Organization	Pike County LEPC
Timeline	2009-2012
Approximate Cost	\$5000
Funding Sources	LEPC Funding

- (gg) Develop security strategies and safeguards for the containment of hazardous materials at fixed facilities.

Responsible Organization	Pike County Law Enforcement
Coordinating Organization	Pike County EMA
Timeline	2009-2015
Approximate Cost	\$350,000
Funding Sources	Private Funding

- (hh) Collaborate with the various pipeline companies that operate in Pike County to mitigate pipeline emergencies and ensure an efficient and effective response to pipeline emergencies.

Responsible Organization	Local Fire Department
Coordinating Organization	Pike County EMA
Timeline	2009-2010
Approximate Cost	\$2500 Staff Time
Funding Sources	Private Funding

- (ii) Pre-identify high population areas along major pipelines and develop a mitigation strategy to prevent loss of life for pipeline emergencies

Responsible Organization	Law Enforcement/Local Fire Department
Coordinating Organization	Pike County EMA
Timeline	2009-2010
Approximate Cost	\$2500 Staff Time
Funding Sources	Private Funding

- (d) Multi-Jurisdictional Considerations - Hazardous materials events are rare, but have occurred in Pike County. However, as the County diversifies its tax base with industrial development, hazardous materials incidents will increase. The County and municipalities are always susceptible to transportation accidents on its state highway system.

- (e) Public Information and Awareness Strategies. The Pike County Pre-Hazard Mitigation Planning Steering Committee has identified public awareness campaigns to ensure that the citizens of Pike County are kept abreast of the hazards affecting them and the mitigation efforts to alleviate potential situations.

(11) Category I Dams.

- (a) Mitigation Goals - A major concern is that an accidental or intentional breach of a high-risk Category I dam, that would result in the loss of life and or property. The chances of one occurring are improbable but if did occur, could have catastrophic effects. Periods of heavy rain, deteriorating pipes and drains over a period of time could result in a dam breach. Goals and objectives for mitigating dam failures will be identified in this section.
- (b) Range of Mitigation Options - The range of mitigation options include identifying the dam, its downstream affects to life and property and the development of a response plan for each dam. Additionally, to ensure that other structures are not placed in the inundation zone of existing or future Category I dams.
- (c) Mitigation Strategies for Category I Dams
  - (i) Mitigation Goal #1 - “To minimize the losses of life and property from a dam failure in Pike County.”
  - (ii) Goal # 1 – To protect the lives and property that live below Category I Dams in Pike County.
  - (iii) Action Steps:
    - (aa) Ensure that the City of Griffin is implementing the corrective action plan regarding the Still Branch Reservoir. See Appendix H Still Branch Reservoir Letter.
    - (bb) Work closely and proactively with the Georgia Safe Dams Division with regards to Category II dams that have the potential to become Category I dams.

Responsible Organization	Safe Dams/ Emergency Management
Coordinating Organization	Emergency Management
Timeline	2009-2011
Approximate Cost	\$1500 Staff Time
Funding Sources	General Fund

- (cc) Develop a plan and strategy for the reduction of water levels of Category I dams prior to tropical storms or known heavy rain events in an effort to reduce the potential for a dam breach.

Responsible Organization	Dam Owners/Emergency Management
Coordinating Organization	Emergency Management
Timeline	2009-2011
Approximate Cost	\$2000 Staff Time
Funding Sources	General Fund

- (d) Multi-Jurisdictional Considerations - Pike County currently has two Category I dams that have been identified. Both are in unincorporated Pike County.
- (e) E. Public Information and Awareness Strategies.
  - (i) The Pike County Pre-Hazard Mitigation Planning Steering Committee has identified public information and awareness as an important strategy to promote dam safety especially for those living below Category I dams. It is believed by the

committee, that with Emergency Management being the facilitator, interfacing the owners of Category I dams, and the Georgia Safe Dams Division, is the best way to achieve awareness to the potential losses of a dam failure in our community.

- (ii) Pike County Emergency Management will partner and work extensively with the owners and operators of Category I dams to minimize the impacts and potential of a dam breach.

(G) Executing the Plan.

- (1) Plan Implementation. The Pike County Pre-Hazard Mitigation Planning Steering Committee process was overseen by Pike County Government with the Pike County Emergency Management Agency serving in a leadership and coordination role. This plan has been submitted and reviewed by Georgia Emergency Management Agency and the Federal Emergency Management Agency for approval. The Pike County Board of Commissioners and all municipalities have formally adopted the plan by resolution in accordance with the Federal Disaster Act of 2000. See Appendix J, Formal Adoption Resolution.
- (2) Evaluation.
  - (a) All members of the Pike County Pre-Hazard Mitigation Planning Steering Committee and the EMA Director are responsible for ensuring that the Pre-Hazard Mitigation Plan is evaluated as required. The evaluation will include analyzing current mitigation projects and evaluating success, reevaluating future mitigation needs and prioritization based upon changes in needs and/or capabilities of Pike County. The public was provided multiple opportunities to review the content of the plan to ensure the knowledge they had, was included and documented.
  - (b) The Pike County Pre-Hazard Mitigation Planning Steering Committee will reconvene annually to ensure that projects are on track and to reevaluate the mitigation goals, objectives, and action steps. The mitigation plan shall be viewed as a “living document”.
- (3) Multi-Jurisdictional Strategy and Considerations. The Pike County EMA Director will lead activities for mitigation planning countywide. All jurisdictions within the county are participating in this process through active involvement on the Pre-Hazard Mitigation Planning Steering Committee.
- (4) Plan Update. The Federal Disaster Mitigation Act of 2000 requires that the Pre-Hazard Mitigation Plan be updated at least once every five years. The Pike County EMA Director is responsible for ensuring that this requirement is met. The Pre-Hazard Mitigation Planning Steering Committee will be involved in this process to ensure all jurisdictions provide input into the planning process. The public will be invited to participate in this process through public hearings.
- (5) Plan Maintenance. It is the intention of all documented plan participants to formally adopt future Pre-Disaster Mitigation Plan revisions after each maintenance cycle. Once future changes are adopted by all participants, the revised plan will be submitted to the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA). The plan will be revised and maintained as required under the guidance of the Pre-Hazard Mitigation Planning Steering Committee and formally adopted by the Board of Commissioners and City or Town Councils after each future revision.

- (6) Incorporation into Existing Planning Mechanisms. All participants in the development of this plan, those that will be impacted, and those that could provide future information for the update of the plan will be provided a copy. These will include but not limited
- (a) Planning and Zoning Departments  
(Development Regulations/Zoning Ordinances)
  - (b) Federal Emergency Management Agency
  - (c) Georgia Emergency Management Agency
  - (d) Engineering Departments  
(Flood Plain Ordinances/Storm Water Retention, Dam Construction Ordinances)
  - (e) Major Employers
  - (f) Pike County Board of Education
  - (g) All Municipalities  
(Land Use Plans)
  - (h) Pike County Development Authority  
(Development Trends)
  - (i) Fire/EMS Departments  
(Emergency Services)
  - (j) Law Enforcement
  - (k) The Public (Public Library and by Request)
  - (l) National Weather Service
  - (m) Pike County Tax Assessors Office
  - (n) Local Chapter American Red Cross

All organizations will incorporate the Pre-Hazard Mitigation Plan into existing plans in an effort to mitigate the impact of future disasters.

(H) Summary.

(1) Conclusion.

- (a) Pike County is still considered to be rural in nature by many. The County has a low population, low housing density and a wonderful small town atmosphere. Being just 35 miles away from the City of Atlanta, Pike County is not unlike many counties and cities that surround it. Many of those counties have experienced unprecedented growth over the last 20 years. This growth has brought an increase in population, higher density and yes, a greater risk of loss of life and property from man-made and technical hazards. Pike County will experience many of the same problems that other counties have experienced. As Atlanta grows, so will Pike County and the risk from disasters.
- (b) The creation of the Pike County Pre-Hazard Mitigation Planning Steering Committee has brought together stakeholders from communities and organizations into one planning team. This group has been able to work together effectively and efficiently to produce this document and establish a greater awareness of risks and mitigation strategies.
- (c) Through the development of this plan by the committee, Pike County and its municipalities have developed a thorough hazard history, an inventory of critical facilities, and an updated contact list for emergency contacts at critical facilities. This data, when used in conjunction with the updated information about hazard threats and vulnerabilities, will prove to be invaluable to the County and its municipalities in planning for and reducing hazards in the community.

- (d) Natural and technological hazards have also been identified countywide. Possible mitigation projects that would reduce the risk of the loss of lives and property, due to the identified threats, have been compiled and prioritized. This plan will continue to evolve as necessary to properly, represent the threats and vulnerabilities affecting Pike County and its municipalities.

(2) References.

(a) Publications.

- (i) FEMA Pre-Disaster Mitigation How-to-Guides #1, 2, 3, 7
- (ii) GEMA Supplements to FEMA Pre-Disaster How-to-Guides
- (iii) Pike County Emergency Operations Plan
- (iv) Georgia Tornado Database 1950 – 2008
- (v) The Atlanta Journal Constitution
- (vi) Pike Journal Reporter

(b) Web Sites

- (i) FEMA ([www.fema.gov](http://www.fema.gov))
- (ii) GEMA ([www.gema.state.ga.us](http://www.gema.state.ga.us))
- (iii) Pike County ([www.Pikecountyga.gov](http://www.Pikecountyga.gov))
- (iv) National Climatic Data Center ([www.ncdc.noaa.gov](http://www.ncdc.noaa.gov))
- (v) National Weather Service ([www.srh.noaa.gov/ffc/default.html](http://www.srh.noaa.gov/ffc/default.html))

(c) Other Sources

- (i) American Red Cross
- (ii) City of Zebulon
- (iii) City of Concord
- (iv) City of Williamson
- (v) City of Meansville
- (vi) City of Molena
- (vii) Pike County Government
- (viii) Georgia Forestry Commission
- (ix) Georgia Department of Natural Resources
- (x) National Weather Service Peachtree City
- (xi) U.S. Geological Survey

(I) Appendix

(1) Appendices

- (a) Appendix A – Existing Land Use Plan
- (b) Appendix B – Development by Trends
- (c) Appendix C - Land Use Maps
- (d) Appendix D – Critical Facility Inventory
- (e) Appendix E – Sample Letter Requesting Support
- (f) Appendix F – Letters of Support from the Municipalities
- (g) Appendix G - Category I Dam Data
- (h) Appendix H - Flood Plan Ordinance
- (i) Appendix I - Pipeline Maps and Data
- (j) Appendix J – Committee Member Documentation

- (k) Appendix K – Public Meeting Schedule and Comments
- (l) Appendix L – Formal Adoption Documentation
- (m) Appendix M – FEMA Approval Letter
- (n) Appendix N – Hazard Frequency Table by Jurisdiction

**EXHIBIT “A”**  
**6.0.0 LAND USE**  
**Pike County Joint Comprehensive Plan**

The Land Use element of the Comprehensive Plan reflects a culmination of efforts to balance a community's future demand for services and its ability to deliver them as efficiently as possible. In order for a government to effectively manage resources and deliver public services it must understand the development trends and apply land use regulations that guide new growth towards areas best suited for each land use activity. This chapter presents an inventory of existing land use patterns within Pike County, analyzes the prevailing trends to identify preferred goals and patterns of growth for the future and explores implementation measures and policies for achieving those goals. Land use policies and regulations, the guidelines for shaping future development patterns, should then be amended to support the goals and objectives recommended within the Comprehensive Plan.

EXISTING LAND USE  
General Narrative  
Inventory  
Assessments  
 FUTURE LAND USE  
Controlling Factors  
Projection of needs  
Articulation of goals  
 General Narrative – Future Growth Strategy  
Future Land Use Map

6.1.0 Inventory  
*Pike County Joint Land Use Plan*

Land Use Coding

The use of a property may be broken down into specific categories for trend analysis. A parcel which contains a house is considered a residential land use, whereas a parcel containing a store is considered a commercial land use, and so forth. Land uses may be further categorized by the intensity of the particular land use: Typically, residential development is rated by the number of units per acre, with scales identifying low, medium and high density conditions. Within this plan, the existing and future land uses were classified based on the coding system required in the Minimum Standards and Procedures for Local Comprehensive Planning. At a minimum, the following categories of land uses were included in the inventory and can be identified on the maps contained within this plan.

- **Agriculture/Rural Residential** - Land in this category includes farming, livestock raising, kennels, and large (5 acres or more) estate-type residential uses.
- **Commercial/Retail** - Commercial land use includes land used for retail, office and service businesses. Included in this category are shopping centers, restaurants, grocery stores, clothing stores, garden centers, gas stations, car dealerships, hotels, office buildings and home businesses, among others.
- **Industrial** - The industrial category includes all land used for mining and extracting raw materials, and land that contains structures to convert raw materials into finished products. Landfills and waste water treatment plants are also included in this category.
- **Parks/Recreation/Conservation** - This category includes all land dedicated for active or passive recreation. Private recreational uses are also included.
- **Institutional/Public** - This category includes land used for public and semi-public uses. Public uses include government and educational activities and structures. Semi-public uses include churches, and synagogues, as well as clubs and fraternal organizations.
- **Residential** - This category includes land utilized for single-family detached homes, duplexes and multi-family structures, as well as manufactured housing.
- **/Utilities (TCU)** - This category includes uses such as power generation plants, railroad facilities, radio towers, telephone switching stations, airports and other similar uses.
- **Vacant/Undeveloped** - Vacant land consists of land that has not been developed for a specific use or land upon which no structures are built and/or no activity is being conducted on an ongoing basis. This category includes old run-down vacant structures. This category does not include vacant land owned by a government agency, such as the county or a municipality. Publicly held vacant land is included under the Institutional/Public land use category.

General Narrative

Pike County remains a largely rural area with early signs of suburban development patterns. The largest concentrations of population and developments exist in and around Zebulon and the northern fringes of the county near Williamson and the Spalding County line. Much of the remaining unincorporated areas remain sparsely populated, exhibiting some of the agricultural character that has defined Pike County's history. Some residential development has also clustered along the base of the Pine Mountain range that forms the county's southern boundary and near the County's two golf courses between the cities of Concord, Zebulon and Williamson.

What exists for commercial and industrial activity can be found along the major arterials or within the City limits. The most notable of industrial sites include the Pike County Industrial Park and old Carter's Mill facility south of Zebulon, select locations along US 41 in the northeast, and smaller sites within Zebulon. Most of the commercial centers are modest in scale and scattered along US 19 as it runs north/south through the County. However, as metropolitan Atlanta moves further down Interstate 75 and US Highway 41, higher density subdivisions and suburban commercial centers have become familiar sights in and around northern Pike County.

Inventory

Tables 6.1.1&2 show the proportion of land use types within each jurisdiction, indicating the overall value of natural, rural landscapes to Pike County residents. Even with the municipalities

factored in, there are just over 7 acres of land *per person* categorized for Undeveloped, Agricultural/ Forestry, or Park/ Recreation/ Conservation use. This means that over 73% of the county, and nearly 90% of the unincorporated County, features large tracts of land in relatively natural open states.

Table 6.1.1 – 2004 Land Use, Pike County

Land Use	Acres	Percent	Acres/Person*
Undeveloped	53	0.0%	0.0
Agricultural/Forestry	109,856	73.6%	6.91
Residential	38,182	25.6%	2.40
Commercial	583	0.4%	0.4
Public/Institutional	150	0.1%	0.1
Park/Recreation/Conservation			
TCU			
Industrial	352	0.2%	0.2
Total	149,175	100.0%	

Source: MTRDC, 2004

\*=Based on 2004 estimate from MTRDC

Table 6.1.2 – 2004 Land Use, Pike County Municipalities

Land Use (%)	Concord	Meansville	Molena	Williamson	Zebulon
Undeveloped	0.0%	0.0%	0.0%	0.0%	0.0%
Agricultural/Forestry	0.0%	0.0%	0.0%	0.0%	0.0%
Residential	94.1%	100.0%	96.1%	96.3%	65.1%
Commercial	4.40.0%	0.0%	1.9%	1.7%	6.2%
Public/Institutional	0.0%	0.0%	0.0%	0.0%	8.2%
Park/Recreation/Conservation	0.0%	0.0%	0.0%	0.0%	0.0%
TCU	0.0%	0.0%	0.9%	0.0%	0.0%
Industrial	1.4%	0.0%	1.1%	1.9%	20.6%
Total	496	315	1,029	279	2,662

Source: MTRDC, 2004

Unincorporated Area

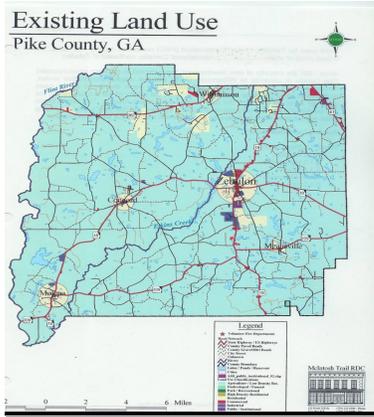
Pike County encompasses 147,200 acres (230 square miles), 142,656 acres of which are unincorporated. These unincorporated areas are predominantly rural, featuring dispersed housing with some farms and small churches or businesses intermixed. This can be attributed to many factors, including history and the lack of public sewer service: The resultant use of individual septic systems requires larger minimum lot sizes. Commercial land use is located primarily along U.S. 19 and along State Routes 362, 18 and 109 and consists primarily of small, neighborhood-oriented establishments such as gas stations and convenience stores. What little industrial land use exists is found primarily along U.S. 41 or State Route 19, the establishments being small and typically involved in fabrication and precision production. Public and institutional land use within unincorporated Pike County includes numerous churches and cemeteries; the Georgia Baptist Children's Home on U.S. 19; and Pine Valley Girl Scout Camp near Meansville. Land used for Park/Recreation/Conservation (PRC) comprises roughly 400 acres, the majority of which is found at two privately operated golf courses and the County's recreation complex located on County Farm Road northeast of Zebulon.

Since 1990 the majority of new development has occurred in Northern unincorporated Pike County in proximity to Williamson, Griffin and the major transportation routes. Several modern and conventional subdivisions have been developed and/or been proposed as more residents flock to the county craving such rural lifestyles. The overall levels and density of current developments is growing high enough that the County is pursuing water service in an effort to please the residents and manage the local environment.

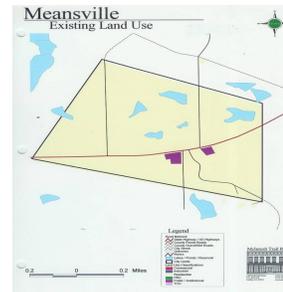
Fig 6.1.3 Pike County Existing Land Use Map

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**



and zoned for residential purposes. Some residential properties retain larger lot sizes suitable for private agricultural use, and a few others are relatively undeveloped. The absence of greater utility capacity and the distance to Hwy 19 have rendered the need and viability of commercial or industrial activity in Meansville to a perceived zero. Most residents support this extreme sense of a small town and generally desire to maintain the quiet atmosphere.



**Concord**

**Residential**

Residential development represents the largest type of land use in Concord. Only agriculture/conservation use space comprises more acreage. Residential land uses occupy a total of 299.66 acres in Concord. This amounts to 61 percent of the total land area in the city.

**Commercial**

Approximately 27.86 acres, or 6 percent of the total land area is currently in commercial development. Much of the existing commercial development lies in the central business district along S.R. 18 and Main Street. However, a substantial amount of such development may be found to the west of the central business district along several collector streets.

**Industrial**

Concord has experienced some industrial growth. Presently, there are two active industrial activities in the city. (Sonny's Ice and Pallet Company)

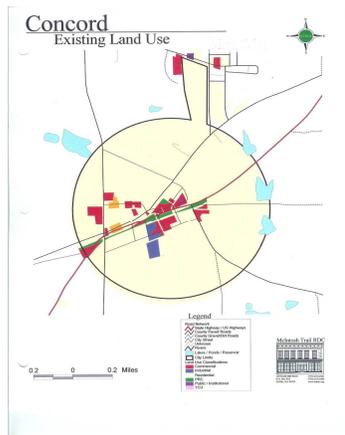
**Institutional**

Cemeteries, churches, government offices, and recreation areas are included in this land use category. Concord presently has a total of 11.59 acres devoted to such uses.

**Agriculture/Conservation**

Agriculture/Conservation use consists of all undeveloped areas. This is the second largest land use category in Concord, comprising 153.67 acres. This represents 31 percent of the total land area in Concord. Agriculture/Conservation Space is suitable for future development in a variety of land uses, depending on the location and development constraints present.

Fig 6.1.4 Concord Existing Land Use

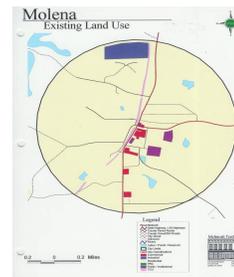


**Molena**

Residential land use characterized by low to medium density single-family development comprises the largest use within Molena. As with the other three smaller municipalities within Pike County, many of the residences include larger lots with some private agricultural use/potential. However, primary commercial agricultural activity within the City limits has faded over the years. Commercial land uses, consisting mostly of gas stations and neighborhood shopping, are found primarily in Molena's downtown area and along S.R. 18. Public/institutional land uses consist of the Molena Nursing Home, governmental facilities (City Hall, Post Office, Fire Station), and various churches and cemeteries.

Unlike Concord, Meansville and Williamson, Molena sits at the intersection of two arterials. While current traffic rates do not present this intersection as one of notable economic activity, it does afford Molena the chance to preserve the more intimate portion of downtown shops and homes along the quieter Hwy 109 while the Hwy 18 corridor supplies heavier, auto-centric uses for through traffic.

Fig 6.1.6 Molena Existing Land Use



**Williamson**

Low to medium density single-family residential development is the predominant land use in Williamson. The city closest to the suburban development within neighboring Spalding County, Williamson and the surrounding areas have seen notable increases in subdivision and single home construction.

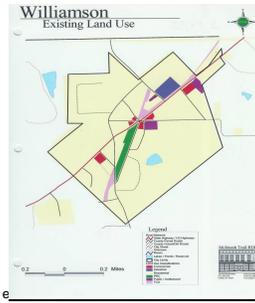
Commercial land use consists of roughly 10 acres and is found primarily along S.R. 362 and in the city's downtown area. Public/institutional land uses consist of governmental facilities (City Hall, Post Office, Fire Station), the City Park and walking trail, churches and cemeteries.

**Meansville**

The entirety of Meansville is used as either Residential or Public/Institutional. The few Public/Institution land uses consist of governmental facilities (City Hall, Post Office, Fire Station), and various churches and cemeteries. All remaining properties are used

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**



**Zebulon**

*Agricultural/Estate Residential*

The land in this category includes farming, kennels, and large (5 acres or more) estate-type residential uses. The northeast quadrant of Zebulon falls into this category, stretching from the east side of Hwy 19 to Barnesville St (Hwy 18). Most of this land is held by one group of landowners and is a very beautiful example of the only pastoral countryside in Zebulon. Other agricultural/estate uses are south of Barnesville Street towards Rawlins Road and on the western side of Old Meansville Road near the Elementary School.

*Residential*

*Residential land uses make up the bulk of the land within Zebulon. The city has a mix of older Victorian era neighborhoods, Craftsman bungalows, post war ranch houses, newer subdivisions, apartments and town homes. Residential uses are intermixed in some areas with office and commercial uses, as is typical with older small towns.*

Zebulon is divided into "fourths" by GA Hwy 19, running north to south and GA Hwy 18, which runs east to west. During the development of the city, houses and businesses were established along these two roadways. The oldest houses in Zebulon are found just east of the Square on Jackson Street and Barnesville Street; south of the square on Meansville Street; and west of the square on and off of Concord Street. As more and more people moved to Zebulon, land between the main highways was subdivided and streets were laid out. These neighborhoods each have distinctive housing types and also have houses in common as infill development has occurred. Because Zebulon has a municipal sewer system, the housing density is greater than areas in the County, but comparable to other municipalities of its size with sewer.

Concord Street is a good example of the timeline of residential development in Zebulon. Adjacent to the square are numerous Victorian houses and one house from the 1830's. Proceeding westward past Head Street the houses advance into the twenties and thirties era bungalows. Past Franklin Street are the post-WW II ranch houses and newer split levels of the seventies and eighties to the City limits. At the corner of Concord and Pope Streets a newer group of four houses has been recently built that break up the pattern of houses.

*Other clusters of residential uses include:*

- Neighborhoods surrounding Old Meansville Road, including Trice, Passamore, Thomas Streets and MLK, JR. Circle
- Neighborhoods east of 19 along Banks Street, Jackson street extension and Beckham Street.
- Neighborhoods south of Concord Street with several densities of development along Pine Street, Gwyn Street, Head Street, Whitman Street, Joy Drive, Adkerson Drive, Pope Street. Elkins Creek subdivision, off of Joy Drive, is one of Zebulon's newest subdivisions, built in the 1980's.
- A small neighborhood north of Concord Street along Adams Street and Dunn Street.
- A small neighborhood along Williamson Road and County Farm Road.
- Houses along Hwy 19 south to the City limits, including a subdivision developed in the 1980's along Woodland Drive. Houses along Hwy 19 south contain a variety of styles and eras. Many of the houses along this street have been removed as commercial and office uses.

Multifamily and duplex residential uses exist in several locations throughout the City, including County Farm Road and Williamson Road (Pike's Peak Townhouses, Piedmont village Apts.) off of Jackson Street (Oak Village Apts., unnamed quadruplex on Jackson and Banks St.); numerous duplexes off of Joy Drive and Franklin Streets; and duplexes along Old Meansville Road. A new townhouse development (Wrightsburg) is being constructed on Barnesville St. near the old depot.

*Commercial/Retail*

*This category includes all retail and commercial service activities such as shopping centers, gas stations, motels, restaurants, banks, grocery stores, funeral homes, etc. Older commercial development is located on the west and south sides of the Courthouse Square. Commercial uses radiate outward from the square along US Hwy 19 in both directions. Some neighborhood commercial uses are located off Old Meansville Rd. Several commercial developments are underway in Zebulon, including a new shopping center north of the Williamson Road/Hwy 19 split and infill commercial south of the square (two new retail buildings).*

*Office/Professional*

*This category includes business concerns that generally operate only during daylight hours. These concerns do not primarily involve the manufacture, storage or distribution of products. It includes small, single occupant offices as well as large office parks with many tenants in multi-story buildings. Typical occupants of these offices include lawyers, accountants, realtors, doctors, consultants, etc. Zebulon contains a variety of office uses in older, converted homes and in office buildings. Several of the buildings around the square have a mix of office and commercial uses. Two banks have offices on the square. United Bank has its Operation Center on the southeast corner of the square and First bank of Pike has its Zebulon Branch on the northwest corner of the square. The Chandler Building on West Jackson Street contains office and residential apartments. Two of the County's banks have built new buildings in the last several years north of the square off of Hwy 19.*

*Industrial*

*Industrial land uses involve assembly, storage and distribution activities. Industrial uses in Zebulon also include the manufacturing of raw materials into finished products. Zebulon has four clusters of industrial development:*

- **Industrial Drive in the southeastern portion of the City off of Old Meansville Rd. Southside Steel and Buffington Cabinet Co. are two industries in this area. Touchstone Embroidery is located on Old Meansville Road in the**

same area, so it is classified in with this cluster. Industrial Drive also contains two commercial uses and some residential uses.

- **Hwy 19 North of the square near Williamson Rd.(Palco Industries, Middle Georgia Water Systems)**
- **County Farm Road west of Hwy 19. Diversified Waste and Peachtree Stone and Stucco are examples of industrial uses in this area.**
- **Southern Mills (formerly Thomaston Mills) on Hwy 19 South near Hughley Drive.**

*Transportation/Communications/Utilities*

*This includes landfills, water treatment plants, wastewater treatment plants, power sub-stations, rail yards, private and public airfields, cable company facilities, transportation facilities, radio and TV station facilities, and telephone company facilities. The Bellsouth switching office is located on Gwyn Street and Church Street. Georgia Power has an office and substation on Williamson Road. Georgia DOT has its county maintenance facility on Old Meansville Road. The City of Zebulon also has several wastewater treatment facilities within the city limits, consisting of the oxidation pond on Concord Street, a holding pond off of Franklin Street and the land application spray field on Sullivan Road and Hwy 19 south. The City of Zebulon also has its old water treatment plant on Concord Street at Elkins Creek; however, it is currently only used for yard waste storage.*

*Institutional/Public*

This category includes schools, hospitals, fire stations, churches, other private non-profit facilities, country clubs, public offices, and publicly held vacant land. Being the County seat, Zebulon contains numerous Public facilities, including:

- Zebulon City Hall complex – Hwy 19 South
- Pike County Courthouse – "On the square"
- Pike County Courthouse Annex – Jackson Street
- Pike County Sheriff's Office/Jail/911 – Jackson Street
- Pike County Health Department – Griffin Street
- Pike County Board of Education – W. Jackson Street
- Pike County Bus Barn/Storage – Adams Street
- Pike County Schools complex – between Hwy 19 South and Old Meansville Road
- Pike County Annex – Gwyn Street
- Pike County Authorities Building – Gwyn Street
- Georgia Department of Juvenile Justice – Griffin Street
- Pike County Business Park – Hwy 19 South near Hughley Road
- US Post Office –Meansville Street

*Institutional uses include:*

- Zebulon United Methodist Church/Cemetery – Meansville Street
- First Baptist Church of Zebulon – Concord Street
- Eastview Cemetery – Adams and View Streets
- Old Cemetery – behind Zebulon City Hall
- Mt. Hope Baptist Church – Meansville Street
- Fuller Chapel Unite Methodist Church -Old Meansville Road
- Grace Baptist Church – Hwy 19 North
- New Life in Jesus Ministries- Meansville Street
- Christ Chapel Community Church- Meansville Street
- Deliverance Fellowship Holiness Church - Old Meansville Road
- Pike County Lions Club building (Old Zebulon Depot) – Barnesville Street
- Montgomery Masonic Lodge - Barnesville Street

*Parks/Recreation*

*Parks and recreation land in the City includes publicly held parks and recreation facilities, vacant land used for passive recreation and recreation/amenity areas developed for residential subdivisions. Zebulon currently contains no park or recreation facilities. The High School fields were included in the Institutional category.*

*Vacant*

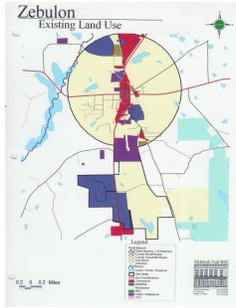
Vacant land consists of land that has not been developed for a specific use or land upon which no structures are built and/or no activity is being conducted on an ongoing basis. This category includes old run-down vacant structures. This category does not include vacant land owned by a government agency, such as the county or the City. Publicly held vacant land is included under the Institutional/Public land use category. There are several vacant and underutilized buildings scattered throughout the City. There are several burned out or decrepit buildings in the City as well.

Several large tracts of land within the City have been classified as vacant because there are development proposals undergoing City review. If these projects were improved in some form, then the character of the City will change, thus the vacant/undeveloped categorization. These tracts are located of Hughley Road, County Farm Road, Franklin Street/Joy Drive. There are adjacent properties that have also been categorized as vacant/undeveloped.

Fig 6.1.8 Zebulon Existing Land Use

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**



6.2.0 Land Use  
Pike County Joint Comprehensive Land Use Plan

Assessment

In addition to an inventory of the existing land use and development patterns, land use planning requires an analysis of various forces and factors that may further influence future development patterns. Plans for improved utilities, demands for more park space and other issues can dictate specific conditions and concerns that must be addressed in projecting future land use.

Pike County

Historical Factors

An agricultural economy is the prevailing theme of historical development patterns for Pike County. Farms supplied goods and commerce for the regional centers of Griffin and Thomaston, and it was not until the textiles industry and the expansion of Highway 19 that Pike County evolved into a bedroom community for industrial jobs outside the county. While many of those original textile and older industrial jobs have vanished with tough economic times, the majority of Pike County residents are still employed elsewhere, a fact that will not change until more jobs are created within the County.

Land Use Patterns and Density

Pike County's established development is clustered around the municipalities in traditional, small American townscape style. Development from the past decade features more suburban, automobile oriented styles that are not in need of larger lots for agricultural use nor dependent on proximity to water or population centers. As a result the overall density remains very rural at roughly 9+ acres for every resident or more than 12 acres for each resident in the unincorporated area.

Blighted and Transition areas

The unincorporated parts of the county do feature any concentrations of older development to constitute a blighted area. While individual structures and lots may be in need of repair or investment, there are no areas

Market forces and development policies

As suggested earlier, the county is experiencing growth pressures from suburbanizing Spalding County to the north. The dominant trends are for new residential construction in subdivisions throughout the north of the county, with new small businesses locating along Hwy 19 and 362. The factors controlling these lie mostly in access to commercial and employment opportunities in Griffin and metropolitan Atlanta, while still being within the rural landscape of Pike County. The absence of sewer and water has left most developments to modest scales and sparse density such as 2-acre lots or larger. Some new subdivisions do include amenity areas but there has been no mixed-use project to incorporate commercial or office structures into a residential development.

Local policies have fostered these conditions, as well. The AR zoning so prominent throughout the county requires only a 2-acre minimum lot size, permitting the development of multiple large lot subdivisions without requiring a rezoning.

Conflicting land uses

Given Pike County's rural nature there are only a few places where conflicting land uses can develop. Within the unincorporated county, the only community-sensitive land use would be the prison located just northwest of Zebulon. The prison's relatively small size and minimum-security status soften the impact of this facility, and to date its location does not present a conflict with current or projected development patterns.

The potential for conflicting land uses can occur at the County's boundaries with the cities and other counties. At present, no notable conflicts have arisen regarding incompatible land use types, due mostly to the absence of more dynamic commercial or industrial activity. While some additional residential development is occurring across the county line in Spalding, it essentially mimics the patterns occurring in Northern Pike County. Along all other county boundaries the development patterns are also similar in rural pattern and very static. Some issues have been raised concerning development density, however, particularly as the communities of Williamson and Zebulon explore annexation and/or new residential development. The availability of utilities within the cities permits higher density but can sometimes upset neighboring residents or property owners with the resulting changes to community scale and activities. None of these conflicts has been significant enough to warrant legal remediation, and no such activity is expected within the unincorporated county.

Environmentally Sensitive Areas

Unincorporated Pike County exhibits a significant amount of environmental features that require protective measures against various development types and activities, most notably areas related to water resources. The eastern 1/3 of the county lies within the Potato Creek Watershed, which serves as the water supply for Thomaston and Upson County to the south. Overall density of development and the nature of land use activities must be monitored within this watershed to help manage water quality and flood control issues. The same attention must be shown to the small watershed surrounding the to-be-completed Still Branch Reservoir just northwest of Molena and the Flint River. Both will serve as a water source for the region and the Flint has garnered further protection requirements due to its protected river status.

In addition to the watersheds, Pike County also features two significant groundwater recharge areas in the southwest corner, several concentrations of flood plains and wetlands scattered throughout the county, as well as concentrations of steep slopes and sensitive soil conditions along the Pine Mountain ridge. The County has been and will be maintaining the minimum regulations necessary to protect these resources, but additional monitoring and planning

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**

measures should be observed in the future as the county progresses from a rural state to more suburban in nature.

Cultural Resources

Pike County's most notable cultural asset is the rural, rolling landscape that comprises most of the county. Defined by the Pine Mountain range along the Southern boundary, the scenic vistas provided by this landscape have nurtured the small, agricultural town mentality. Even as Pike County evolves with new development, numerous farms, homesteads and historic structures provide opportunities to build around and onto this character.

Target Areas for Infill Development

Unlike the cities, unincorporated Pike County does not have concentrations of vacant structures. Various homes and buildings may go temporarily unoccupied as part of natural owner turnover rates, but the county's slower pace and density of development currently yields much greater occupancy rates. Areas that exhibit characteristics of needing infill, however, may be found in relatively vacant, undeveloped land between concentrations of other developments. Because these are Greenfield areas (undeveloped), they cannot be considered targets for infill. Yet the most efficient development pattern for the county is to assume new development in between areas already laden with public utilities and services. As such, those areas adjacent to/ between existing development and around the cities or to the north of Zebulon contain the most capacity for addressing new growth with minimal need for new, larger capital investments.

Identified Needs – Pike County

- Preservation of rural character
- Preservation of environmentally sensitive areas
- Identify land for possible future green space and/or park space
- Maximize development opportunities where public utilities and services are available
- Explore options for new school campus within northern part of the county
- Encourage development that supports use of sidewalks and trails to public and civic areas
- Identify more/new land for industrial and commercial centers
- Ensure new development does not adversely impact traffic conditions
- Regularly update the Future Land Use Strategy to coordinate with capital improvements and growth trends

Concord

Historical Factors

The City of Concord is located almost in the center of Pike County along State Route 18. The adjacent railroad bed now used as a walking path was once used by the train that carried President Franklin Delano Roosevelt to Warm Spring. Concord is the home of one of the oldest Garden Clubs in Georgia, and is still very active. There are only two properties listed on the National Register of Historic Places in Pike County, and one is located in the City of Concord, the R. F. Strickland Company Building. This 1907 large two story brick building is located on Main Street and housed the first business in the area. Strickland's Company began in 1840, and shaped the development of the town of Concord. This building is an important landmark in Pike County and will be used as a Community Center for the City of Concord and the surrounding regional area. Other turn-of-the-century buildings include a Cotton Ware House, Mule Barn, Raven Grocery Store, Mallory's Drugstore, Carriage House, and Old Concord School (Now being used by Magnolia Farms Equestrian Center). Strickland House (Hill Street), this 1860 house belonged to Issac Strickland, who started the first business in the area. Originally the house contained only four rooms but was remodeled in 1920 by Isaac's son, William Andrew Strickland, a state representative. Caldwell-Goodman House (Highway 18 and Milner Street), this was one of the first homes in Concord, built in the 1880s. Christy Log House (Located on Hill Street), this pre-1850 house was moved a distance of eight miles from near Flat Shoals in 1972.

Land Use Patterns and Density

Concord has the benefit of numerous streets and small blocks clustered around the downtown area, permitting past expansion of neighborhood-scale shopping off of the main through road. The increased use of Hollonville Road for commuters has heightened the potential for that activity to continue on a north-south axis as well as east-west along Hwy 18. The density of the developed lots in the downtown area, despite some remaining vacant, offers the chance for infill development but also limits cost-effective road expansions for Hwy 18. The remaining land surrounding the downtown is residential or agriculture/ undeveloped.

Blighted and Transition areas

The following areas considered blighted and/or transitional areas: Two Story Wood Structure located at Main and Lee Street (Currently being used as storage). This particular building could be considered as a blighted and transitional building. Burt building located on Lee Street used for office space at one time now owned by the City of Concord considered as a transitional building. The building located east of R. F. Strickland building, with its rear roof collapsed, is considered blighted. R. F. Strickland building owned by the City of Concord considered as a transitional building (building to be used by different organizations and family groups).

Market forces and development policies

The City of Concord has a desire to revitalize the downtown area by adding additional park area along the walking path. The City of Concord has acquired several parcels of land in the downtown area to preserve green space within the general area of Main Street. It is the City's desire to create a new town center park to function as the "Front Door" for the R. F. Strickland Community Center. It will be designed to accommodate individual users, small groups or large festivals. The intent of the design is to create an urban edge to the park that will buffer the park from the busy adjacent highway 18 and provide a transition from the walking path to a safe and inviting public common. It will include sidewalks that are lined with decorative streetlights, shade trees and raised planters. It could include several small shops on the outer edge next to Hill Street. A water fountain within the center park area would also be appropriate. Years ago small stores were in this same particular area on Hill Street. A walking path from the park to the recently built gazebo located at the R. F. Strickland Community Center will be provided. Conceptual view of the City of Concord's new town center park attached. This proposed development will provide a scenic attraction for tourists traveling along state route 18.

Conflicting land uses

Currently the City of Concord serves approximately 150 water customers out side the city limits. It is the desire of the City Government to annex all water line and customers into the City, therefore eliminating any territorial problems with the county. There are areas at the present time located outside the city limits requesting water from the City of Concord, approval must come from the County that presents a problem, therefore annexation would eliminate this problem.

Environmentally Sensitive Areas

The City of Concord's public water distribution system comes from the only spring being utilized in Pike County (Ward Spring). The City of Concord consider this particular Spring an environmentally sensitive area, currently located within the county area and not in the city limits of Concord, therefore no protective ordinances are in place by the county of Pike to protect this vital water supply. Encroachment of subdivisions with septic tanks could and will contaminate this vital source of water for the City of Concord. Again, annexation could give the City of Concord authority to put into effect rules and guidelines to protect this particular resource. Other springs in the Pike County area are being encroached upon, and also need to be protected.

**Cultural Resources**

The City of Concord recently acquired the R. F. Strickland building through generous donations from local citizens. This particular building is one of two buildings in Pike County presently on the National Register. The City of Concord is in the process of restoring the building to be used as a community center, and also to preserve some of our cultural resources within the downtown area. Several homes in the area dates back late 1800s, and is presently being lived in and preserved.

**Target Areas for Infill Development**

Several areas along Hill Street West could be utilized for small shops. Also along Main Street east of the downtown area could be utilized for a small housing project. Development of a park area within the downtown area to accommodate the R. F. Strickland Community Center and Gazebo.

**Identified Needs - Concord**

- Address vacancy of downtown/ commercial structures
- Ability to accommodate new growth
- Compatibility of new and existing development
- Protection of environmentally sensitive areas
- Preservation of green space/ park space within City limits

**Meansville**

**Historical Factors**

Meansville exists as a small civic and cultural meeting center for a once agricultural area. As traffic and industry located along other routes in other areas, Meansville had little opportunity to expand upon this role. Limitations with utilities and the desire to retain this small scale have left residents content with a literal bedroom community. Zebulon and other commercial centers are within a short drive, while access to Griffin, Barnesville and Thomaston permit relatively easy access to larger employment and service centers.

**Land Use Patterns and Density**

Meansville is aligned east-west along Hwy 109, and all public uses lie along this road. Most of the larger residential lots and neighborhoods are on the north side of Hwy 109, homage to the concept that the greater concentration of suburban activity rests in that direction headed toward Zebulon. South of Meansville, however, gives way to more traditional farmland and agricultural activity.

**Blighted and Transition areas**

Meansville lacks the density to have blighted areas, though several lots exhibit notable concerns for structural and mechanical upkeep. The community as a whole may face more issues in this area, however, depending on the long-term monitoring and maintenance of the existing water system.

Meansville's size also effectively limits the prospects for transition areas. Outside the City limits, though, are numerous properties that hold the potential for subdivision development within the planning period, and several relatively large-scale projects have been proposed for the area between Meansville and Zebulon. The realization of such development may alter the pressures on Meansville, increase the viability of utility improvements and alternate land uses within or adjacent to the city.

**Market forces and development policies**

As discussed above, there are minimal amounts of development forces directed in or immediately surrounding Meansville. The City lacks the immediate attraction for development and the current policies essentially prohibit larger developments or non-residential uses. The existing residents and officials have expressed a strong desire to retain the community's scale and nature, and currently have not encountered any proposals that would suggest notably different alternatives are viable.

**Conflicting land uses**

At the current time there are no concerns for conflicting land uses within or immediately surrounding Meansville. This is likely only subject to change as the County and/or Zebulon permits more development south and east of the County seat. Depending on the scale and type of development that may occur, the potential for outside forces to alter the land use demands in and around Meansville will increase. In an effort to monitor and manage such concerns, the City officials are encouraged to maintain the Service Delivery Agreement with the County and, when necessary, update the land use plan and regulations to better shape development that may annex into or abut the City.

**Environmentally Sensitive Areas**

Several ponds and potential wetlands lie within the City. Current and projected development patterns are not expected to damage these resources. Further, the City has adopted the Minimum Environmental Planning Criteria required by the State.

**Cultural Resources**

Meansville's cultural resources are limited to the public/ institutional uses found within the City. Within close proximity to the city is a Girl Scout Campground and Hwy 109 is a potential Scenic Byway that is highly regarded for local scenery and its appeal for bicyclists during select events.

**Target Areas for Infill Development**

Meansville's size and the desire to remain a residential community leaves no areas targeted for infill development. Vacant or under-managed lots are encouraged for redevelopment, but no concentration of these lots exists to warrant formal intervention.

**Identified Needs – Meansville**

- Maintain scenic and traffic quality of Hwy 109
- Plans for civic uses and recreation space
- Maintain residential character and general scale

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**

**Preservation of environmentally sensitive areas**

**Molena**

**Historical Factors**

Molena was established at the crossroads of what would be come Highways 18 and 109. The structural remnants of a commercial center comparable to Concord's still hold potential for restoration and reuse, though most of the current commercial activity lies along the more traveled north-south corridor of Hwy 18. Running parallel to that highway is the old rail bed that runs from Griffin to Warm Springs. This combined with the distance from the other cities and proximity to the Flint River helped the city grow as a modest community center. Area residents and visitors would use Molena as a destination along tourist routes, visits to the river and general public gatherings. Limited public water and sewer has since kept the city within the small-town scale, and what new development has come within the past few years has been essentially one or a few structures at a time.

**Land Use Patterns and Density**

Molena has commercial and public uses along both axial highways, with the east-west corridor of Hwy 109 retaining the most historic structures. Most of the established residential neighborhoods are oriented off this route, with Hwy 18 and the old rail bed creating a form of barrier. Larger residences and former agricultural properties are more prominent on the west side of the rail bed, closer to the river and larger wetlands.

**Blighted and Transition areas**

Molena does not have any notable transition or blighted areas. Select properties can and should be targeted for renovation but Molena does not exhibit the structural decay of many other isolated small towns. The commercial buildings within downtown should be monitored, however, for as the foremost concentration of public uses and structures within the city. Their viability is currently tied to the collective architectural character of downtown and thus is highly susceptible to changes or adjacent new development.

**Market forces and development policies**

Highway 18 is targeted for long-term improvements, including the possible expansion. The portion running through Molena has also been nominated for Scenic Byway designation and is part of the State Bicycle Highway Plan. This growth as a rural tourist route will continue to drive the prospects for commercial and other uses along 18. The designations demand some restrictions to preserve the surrounding character but also raise the potential for increased use and change.

The Still Branch Regional Reservoir is also being constructed a few miles northwest of Molena. If the reservoir were to increase recreational, seasonal or residential traffic Molena could experience stronger growth pressures. At present the full scope of access to the reservoir and surrounding areas has not been determined, but once made clear officials from Molena will have to review the potential impacts and revise the City's land use strategy as needed.

The City does employ zoning and development regulations that have been reviewed within the past five years. No issues have been raised about land use regulations or policies.

**Conflicting land uses**

Molena has not experienced any conflicting land uses within or immediately surrounding the City. As the reservoir project is completed the growth patterns will have to be monitored for any change in the overall density or demand for non-residential uses in the area.

**Environmentally Sensitive Areas**

Molena does have several ponds and wetlands within the City limits. At present and throughout the planning period none of these resources should experience adverse impacts from land development or use. The City has adopted the Minimum Environmental Planning Criteria required by the State.

**Cultural Resources**

Molena's primary cultural resource is the collection of downtown shops and houses. This concentration of structures share architectural styles and detailing and as such provide a civic center to the City as well as traditional character. While none of these structures stands out for individual recognition, the integrity of the downtown is dependent on the collection remaining largely intact.

**Target Areas for Infill Development**

Molena's size and rural community leaves no areas targeted for infill development. Vacant or under-managed lots are encouraged for redevelopment, but no concentration of these lots exists to warrant formal intervention.

**Identified Needs - Molena**

- Desire for commercial activity within/near the city
- Plan for coordinating land use around/ near the Still Branch Reservoir
- Maintain scenic and traffic quality of Hwy 18
- Plans for civic uses and recreation space
- Preservation of environmentally sensitive areas

**Williamson**

**Historical Factors**

Williamson is a small civic and commercial center in Northern Pike County that has experienced recent growth in the form of spillover development from Spalding County. With Hwy 362 providing the through traffic and access to Griffin and points west, this route attracted the bulk of commercial and public activity. Residential development then spurred off the downtown area, with more reaching south along Old Zebulon Road.

A rail bed runs along portions of Hwy 362 and turns south towards Concord and Molena. A portion of this has been converted into the walking trail and park alongside Old Zebulon Road.

Williamson also benefits from access to public water from the City of Griffin. This utility has permitted slightly higher scales and densities of development though the City has worked to remain rural in character.

**Land Use Patterns and Density**

Williamson remains modest in its density and traditional pattern of residential development surrounding downtown. The areas around the City are experiencing rapid growth, however, due to proximity to Griffin and the available water line feeding Williamson. The general density and character has changed dramatically from a predominantly large-lot, rural pattern to one with more suburban subdivisions. Additional commercial and industrial activity has come about just

northeast of the City.

#### **Blighted and Transition areas**

Williamson does not have any notable transition or blighted areas. Select properties can and could be targeted for renovation but the City does not exhibit any concentrations of substandard housing or impoverished areas.

#### **Market forces and development policies**

*Williamson does have zoning and development regulations, including a Subdivision Ordinance. The City is in a position to experience more growth through annexation and the development of more commercial activity in town.*

*More importantly, Williamson lies in the path of surging growth and development, where market forces have driven residential construction into northern Pike County. Hwy 362 has now been targeted for future improvements and possible expansions. Such changes to the roadways function and traffic patterns would be detrimental to one facet of Williamson's neighborhood-scale and sense of community. The City must monitor all plans for this corridor and play an active role in shaping future improvements.*

#### **Conflicting land uses**

To date no conflicting land uses have been raised concerning development within or surrounding Williamson. This must be regularly monitored, however, given the City's ¼ mile proximity to the County line. Spalding County has permitted commercial and industrial activity further out along Hwy 362, and as the overall population for the area increases so will the demand for more services and commerce. Williamson will experience a greater variety of land uses and scales of development throughout the planning period, and must be poised to adjust or risk adversely impacting the community.

#### **Environmentally Sensitive Areas**

There are ponds, perennial creeks and wetlands within Williamson. At present none of these resources is considered at risk. The City does have regulations consistent with the State requirements for minimal environmental protection.

#### **Cultural Resources**

*Williamson's City Park is the known unique attraction, featuring a retired military helicopter, pavilion and picnic area. There is also the walking trail along the abandoned rail bed.*

No other notable historic or cultural resources have been identified within Williamson.

#### **Target Areas for Infill Development**

Williamson's size and recent growth leaves no areas targeted for infill development. Vacant or under-managed lots are encouraged for redevelopment, but no concentration of these lots exists to warrant formal intervention.

#### **Identified Needs – Williamson**

- Maintain (increase?) commercial activity within/near the city
- Continued monitoring of Spalding County development patterns
- Maintain traffic quality of Hwy 362
- Plans for more/expanded civic uses and recreation space
- Preservation of environmentally sensitive areas
- Ensure compatibility of new residential development with existing neighborhoods

#### **Zebulon**

##### **Historical Factors**

*As Pike County attracts new residents from the metropolitan Atlanta area, Zebulon looks attractive to developers because of its central location and the existence of the sewer system. Zebulon has experienced modest growth over the last twenty-four years, from 995 persons in 1980 to 1,181 persons in 2000. Zebulon has increased its municipal boundaries to the south over the last several years, including the Business Park property on Hwy 19 South and the vacant property east of Southern Mills along Hughley Road. The population gains have not been more significant because of sewer system limitations and the fact that the City contains many large agricultural tracts.*

##### **Transitional and Blighted Areas**

*There are several transitional and blighted areas in Zebulon, including:*

- Old ZTR Building - Thomaston Street (Hwy 19 South)
- Burned out building behind Mt. Hope Baptist Church – Trice Street
- Residential structures on Thomaston Street between Gwyn and Giant Mart – transitional structures.
- Several abandoned house on Jackson St extension and Beckham Streets.
- Residences along Griffin St. (Hwy 19 N.) north of the liquor store – transitional structures.
- Vacant Victorian house adjacent to the Post Office – Meansville Street
- Residences along Banks Street behind Post Office.
- Vacant building between car wash and Dunn Street – Hwy 19 S.
- Downtown Development Authority property on corner of Concord and Thomaston Street (Hwy 19 South) – presently blighted and are in process of transition.
- Palco and Hammerhead Lumber properties on Hwy 19 South – transitional uses.
- Giant Mart building on Thomaston Street – transitional use once Giant Mart moves to the north side of town.

#### **Market Forces and Development Trends**

There is a desire to revitalize the square area and bring more retail opportunities to downtown Zebulon. Many communities of Zebulon's size and function as the county seat are experiencing the same challenges. Most of the retailers have left the square for newer buildings along US 19 or have gone out of business. The Zebulon Auto Parts store and Hometown Hardware are currently the only two retail businesses on the square. There are two restaurants on the Square and other service commercial uses. However, there is a growing movement to recapture the spirit of when the downtown area around the square was the place to go and visit, shop, and catch up on the news. Attracting retailers to the square will be a challenge because of the lack of

available space and/or spaces that are not setup for retail uses. The DDA is currently working on assembling the resources necessary to renovate the buildings on the west side of the square. When completed, these buildings will increase the amount of space available for retail uses on the square.

As has been mentioned previously, the City has three large residential zoning proposals under review at the time of this report and one project in the final stages of construction. These projects are:

1. Proposed residential and industrial development off of County Farm Road (Old King Farms).
2. Proposed Planned Development on large vacant property behind Southern Mills off of Hughley Road.
3. Proposed residential development on Joy Drive.
4. Wrightsburg Townhouses (45 units) Barnesville Street across from the Old Depot.

There is a potential increase of 814 households if all three projects were approved at the requested densities. Given Zebulon's current number of housing units are about 511, these projects, if developed at current densities, more than double the households in the city. Given Zebulon's average household size of 2.55 persons/hh this would be an increase of a high end estimate of 2,075 people. Zebulon's potential population in ten years could be approximately 3,300.

It is easy to see that there are significant development pressures on the City at the moment. Sewer capacity issues remain a significant factor in determining the future mix of Zebulon's land uses. The Business Park needs sewer extended into its property to attract industries. The Board of Education is also planning a new Middle School on Hughley Drive in the near future, which will change the land use in that area. The City is currently extending a sewer line along Hughley Road to the Southern Mills property, which will provide sewer to this part of the City. One of the constraints to the sewer in the basin is the 8" line which will carry the sewage from this area back to the treatment facility. It is too small for the number of users who wish to tie on to the line. However, the City currently does not have the resources to upgrade the line from the south side of town to the treatment facility.

#### **Cultural Resources**

*Zebulon has a number of historic and culturally important properties within the City limits. Several houses date back to the founding of the town. Several churches also date their origins back to 1825, although the present buildings are around 100 years old. The Pike Courthouse, built in 1895, is on the National Register of Historic Places and is the focus of a new streetscape project. The City of Zebulon and the Commissioners recently received a \$413,000 TE grant to improve the sidewalks and grounds in and around the Courthouse Square. The end result of this project will improve the safety of pedestrians around the square as well as reinforce a sense of community. The Zebulon Downtown Development Authority (DDA) is currently working on a historic district designation for parts of Zebulon.*

The old elementary school on Adams Street contains a wonderful auditorium that could be renovated for community use. Several different discussions are taking place amongst the Board of Education and the County Commissioners about the future of the building. One proposed scenario is for the Board of Education to renovate the building and move their central offices into the facility. Another scenario is for the County Commissioners to purchase the property and renovate it for new office and courtroom space. Since the Commissioners sold the "Old Trawick buildings" (corner of Thomaston and Concord Streets) to the Zebulon DDA earlier this year, they are rethinking their future space needs.

#### **Target Areas for Infill Development**

*Several retail buildings along Thomaston Street are in need of renovation and rejuvenation. The community is afraid that these building might fall into disuse if tenants cannot remain in them. Currently, the practice is for new retail buildings to buy vacant properties in the city and develop them as a new facility. The new Dollar General Building on Thomaston Street and the new retail building next to B & P Bonding on Thomaston Street as well are examples of this pattern. The DDA buildings on the square are also targeted for renovation to add to the retail mix on the square.*

#### **Environmentally Sensitive Areas**

*Several tributaries of Elkins Creek pass through the City in the northwestern part of the community. These lands must be protected from erosion and sedimentation from future development. The City is currently discussing a proposal to build a multi use trail from the southern end of town to the County Recreational Park on County Farm Road. This trail would connect to the Nature Trail that runs through the Schools complex. The High School nature Trail gives students a chance to see wetlands and other sensitive habitats without unnecessarily disturbing them.*

#### **Conflicting Land Uses**

As has been stated earlier, the Pike County Sheriff's Office/Jail/911 Center is located on Jackson Street just north of the Courthouse. The Sheriff's Office has occupied this space for many years and has been renovated and expanded as the needs of law enforcement have grown. The Jail was recently expanded in 1996. However, there is no additional room to expand the Sheriff's operations any further on this site. Having the Jail on the square makes many court functions easier because there are fewer inmate transportation problems. The development tensions exist due to a desire to have the court and administrative functions in the downtown area and the desire to have more marketable space on the square for future commercial development. The County is contemplating relocating office and court functions to a new location, which has yet to be determined. By State law, the Courthouse has to be in the city limits of Zebulon, the county seat. Hopefully a site will be located that will allow all parties to benefit.

#### **Identified Needs – Zebulon**

- development Retain viability of downtown businesses; Foster infill
- Management of sewer capacity to permit industrial development

### **Title III – Administration**

## **Chapter 39 – Emergency Management Services (EMS)**

needs

Possible relocation of County facilities from downtown square

Maintain quality housing for mix of household incomes and

Maintain traffic flow along Highway 19; Support development of truck route around Zebulon's east side.

Protection of environmentally sensitive areas.

6.3.0 Future Land Use  
*Pike County Joint Comprehensive Plan*

Goals

	traveling to jobs. Extensive paving and improvement schedule.	development. Greater attention & management of bike & pedestrian paths, horse trails, scenic and tourist routes.	transportation concerns addressed through grants.
Fire Protection	Increased demand for water lines, full time fire fighting force w/ more equipment. Greater demand for access to training facilities and heavier equipment.	Some need for increases in personnel and equipment. Likely 1-2 new stations.	Some need for increases in personnel and equipment. Likely 2-4 new stations

The goal of a Future Land Use strategy is to set forth a community's preferences for the general locations of land uses that are consistent with the needs, goals and policies developed in other elements of the plan. In developing this strategy the following growth scenarios were proposed as options for assessing the conditions best suited for Pike County and guiding future growth policies:

- Industrial Scenario – Given the general location and development trends for Pike County, the ability to attract and sustain more and more growth is very possible. To do this will require additional improvement to water and sewer service and, more importantly, will require concerted efforts to upgrade economic development to provide jobs and commerce for new residents. Under this scenario, the County could attain upwards of 34,000 residents by the year 2025 depending on growth trends in surrounding counties and strong local support to progress from the current rural character.
- Rural Scenario – This scenario suggests the County should refrain from major capital improvements that would attract/sustain much more development. Limited expansion of water and sewer service areas would minimize the amount of new residents and businesses that enter the county, thus keeping Pike County predominantly rural. The appeal of this scenario is the ability to keep capital expenditures low and to keep community conditions much as they are. Several economic factors (such as industrial diversity) may suffer under this scenario, however the County must ensure the revenue streams to maintain the current level of service. Economic growth in surrounding counties means Pike County would still see modest amounts of new development requiring proper management to sustain community character. Under this scenario, the county could manage a population level of just under 26,000 residents by 2025.
- Current Trends Scenario– The default scenario, this assumes no special action to direct or manage growth above and beyond the measures already in place. Even with the absence of water and sewer service, much of county would remain eligible for residential development based upon the housing trends and current zoning standards. The population projection for this scenario, a straight extrapolation of current trends, could reach roughly 28,300 people by 2025. Like the Rural Scenario, this options requires minimal amounts of capital improvements and expenditures, but would leave a significant amount of new residential development dependent on wells and/or septic systems. This also does not provide special measures to attract or expand business areas or coordination with the existing municipalities.

In addition to the discussing this array of growth scenarios the Comprehensive Plan Committee and county residents were presented with potential impacts and conditions to determine which features appeared more favorable for the future of Pike County. A series of public hearings were held to debate the growth strategies and the desired land use goals, using the following matrix as a guide for discussion:

ALTERNATE GROWTH STRATEGIES			
	Industrial Route	Rural Route	Current Trend
Residential Use	Demand for workforce housing increases, combined with higher total population. More housing located near jobs.	Combinations of conservation design and larger rural lots (5 acres+). Higher densities fostered near cities/ designated areas.	Existing subdivision and zoning policies continue to accommodate growth near Spalding County and Zebulon.
Industrial Use	In addition to Ind. Park, County also fosters industrial development along US 19 north of Zebulon and US 41. Long-term consideration for Hwy 362 and possible Griffin by-pass. Emphasis on specific industrial types.	Investment focuses on Ind. Park only until the Park is considered full. Pressure to go beyond that (location or capacity) is reserved until completion of a detailed economic assessment of the county. Types of industry less important.	Types of industry less important. Industry accepted along north side and along arterials.
Commercial Use	Directed to cities and the arterials of US 19 and 41 and Hwy 362.	Directed to cities and select nodes along arterials. Village scale development encouraged outside Zebulon.	Directed to arterials.
Rural Character	Preserved through lot size and conservation design. Parks and recreation plan developed.	Make Plans for Parks and Recreation, Rural Preservation and Tourism. Policies to require conservation design, buffers. Efforts to protect conservation areas.	Environmental protection ordinances and select preservation overlays.
Transportation	Emphasis on arterials for industrial traffic and collector network for residents	Select improvements, less emphasis on paving to control pace/ location of	Modest road improvements according to budget and immediacy of needs. Alternate

Results of the public forums, Committee meetings and a survey provided in the local newspaper revealed a strong general preference for the conditions within the Rural Scenario along with a desire to increase industrial and commercial activity within the county.

**PUBLIC FORUM - 2/28/04**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	7 20.6%	21 61.8%	6 17.6%	34
Residential Use	4 11.8%	24 70.6%	6 17.6%	34
Industrial Use	18 54.5%	11 33.3%	4 12.1%	33
Commercial Use	6 18.2%	20 60.6%	7 21.2%	33
ural Character	8 25.8%	16 51.6%	7 22.6%	31
Transportation	10 31.3%	16 50.0%	6 18.8%	32
Fire Protection	13 41.9%	10 32.3%	8 25.8%	31

**NEWSPAPER SURVEY**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	10 16.4%	49 80.3%	2 3.3%	61
Residential Use	3 4.7%	50 78.1%	11 17.2%	64
Industrial Use	25 39.7%	35 55.6%	3 4.8%	63
Commercial Use	16 25.4%	38 60.3%	9 14.3%	63
Rural Character	7 10.4%	49 73.1%	11 16.4%	67
Transportation	14 22.2%	36 57.1%	13 20.6%	63
Fire Protection	24 38.7%	26 41.9%	12 19.4%	62

**SUBMITTED TO RDC**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	0 0.0%	10 100.0%	0 0.0%	10
Residential Use	0 0.0%	10 100.0%	0 0.0%	10
Industrial Use	1 10.0%	9 90.0%	0 0.0%	10
Commercial Use	1 10.0%	9 90.0%	0 0.0%	10
Rural Character	0 0.0%	10 100.0%	0 0.0%	10
Transportation	1 10.0%	9 90.0%	0 0.0%	10
Fire Protection	1 10.0%	9 90.0%	0 0.0%	10
TOTAL				
	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	17 16.2%	80 76.2%	8 7.6%	105
Residential Use	7 6.5%	84 77.8%	17 15.7%	108
Industrial Use	44 41.5%	55 51.9%	7 6.6%	106
Commercial Use	23 21.7%	67 63.2%	16 15.1%	106
Rural Character	15 13.9%	75 69.4%	18 16.7%	108
Transportation	25 23.8%	61 58.1%	19 18.1%	105
Fire Protection	38 36.9%	45 43.7%	20 19.4%	103

Given the desire to retain Pike County's rural character, further discussion and study was held to more clearly define what constituted rural conditions and/or characteristics that should warrant preservation and promotion. The majority of public responses to this question suggested a combination of the following features:

- Generally low density, with a minimum lot size of 2 acres and preferences for 3 or more;
- Enough natural landscaping to mask or hide development, in the form of buffers,

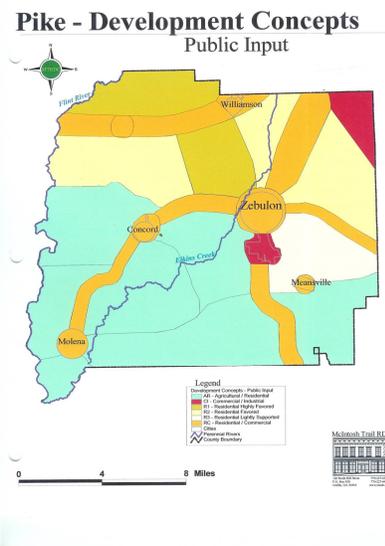
berms and undisturbed wooded areas;

- Large volumes of open space, either undeveloped or used for agriculture, in between suburban and urban areas. This included support for scenic vistas of the river and Pine Mountain Range, as well as maintaining the relatively low amount of development along Highways 109 and 18.

In addition to recommending development policies that support the above notions, planning participants did express a strong desire to attract some industry to the county, preferably brining a diverse range of business types. With the new industrial park already in development and the prospects for greater utility service areas, the County and each City would have the ability to shape the growth already expected over the next 20-25 years. In keeping with the above mentioned concerns for maintaining rural character, then, additional measures would be needed to direct preferable growth types and conditions. Most importantly new growth should be directed toward areas with utility capacity and within adjacent to existing cities. The more new development is placed in areas already developing, including concessions for higher densities, the greater the chance of leaving large portions of the county in more rural states.

To help accommodate new development, particularly more industrial activity, the County and Cities are encouraged to concentrate industrial and commercial development in and immediately around Zebulon. This is to maximize utility service conditions, minimize traffic impacts and create an economy of scale for supporting industries and local tax revenue. Additional development suggestions include preferences for infill and renovation of existing structures and concentrating heavier uses along Highways 19 and 41. A truck route around the eastern half of Zebulon has been proposed as part of the within Economic Development goals and Facilities and Services goals for Pike County and Zebulon. When this route becomes a reality both jurisdictions should work to ensure the route remains primarily for through-traffic, easing traffic concerns with downtown Zebulon and not adversely impacting local businesses.

Fig 6.3.1 Public Input Development Concepts



**Categories of Development**

**Rural** – Consists primarily of large lots with very little land development, limited impervious surfaces and generates little automobile traffic.

- Protects environment; preserves rural character and beauty; open space
- Does not overburden public facilities and service
- Provides parcels and conditions necessary for viable agricultural uses

**Suburban** – Provides for medium size residential lots, primarily in the fashion of subdivision development. Lots characteristically 1 acre or larger, often accommodating septic systems. Can produce densities moderately efficient for utilities and service, while also feeling more rural than urban.

- Allows up to 50% impervious surface
- Predominantly residential in use
- Safe for septic systems

**Urban** – Introduces greater mix of land uses, seeking vitality of commercial and residential development. Generates traffic at most intensive activity centers (shopping centers) but also creates opportunities for alternative transportation and increases economic activity.

- Allow up to 100% impervious surface
- Facilitates utility and service delivery; Generates economies of scale
- Promotes alternative transportation (walking, biking, etc.)
- Permits alternative housing (ie: care homes, affordable housing)

**Activity Center** – Industrial parks and similar large employment commercial sites. Usually a large scale development with severe traffic, utility demands, and impacts on natural features. Typically create secondary developments responsive to the activity center, and can produce influences of a regional scale.

**Land Use Demands**

Steps 1 & 2 of the land use design process define the rough land use demands for Pike County through the year 2025, as well as the conditions favorable/necessary for certain development patterns to ensure the types and volume of land use needed to accommodate the projected goals and populations. For this study, location conditions demanded are assessed by spatial relationships to existing community facilities and services. The amount of space needed will be based on projected populations for the county, with development requirements being distributed according to goals and objectives expressed by Pike County citizens during the planning process.

- (1) Determine location conditions demanded. Each land use has preferences for location conditions, typically defined by spatial relationship or functional needs based on the particular use. While these conditions are general, they provide a safe approximation for forecasting where new development may come based on availability of utilities and services.

Table 6.3.3 – Minimum conditions for development types

	Rural	Suburban	Urban	Activity Ctr.
w/in 3 miles of fire station		X	X	x
w/in 2 miles of arterial		X	x	
w/in 1 mile of arterial				X
w/in 1 mile of utility			x	X
w/in 2 miles of cities		X	X	
2 miles from Urban areas	X			

- (2) Determine amount of space demanded. Utilizing per-acre ratios, demographic and economic projections can estimate the amount of land needed to accommodate new development for future population levels. Again, these are approximation, but it provides a portrait of the new conditions that would come with population growth.

Table 6.3.4 – Pike County; Prospective Land Use Increase

Land Use	2004	2025	2025	Change in Acres 2025-2004
	Acres/Person	Acres/Person	Acres/Person X Pop <sup>h</sup>	
Residential	2.40	1.70	47,282	11,455
Commercial	0.40	0.40	11,125	2,825
Public Institutional	0.10	0.06	1,669	1,482
Park/Recreation/Conservation	0.09	0.09	2,503	2,488
Transportation/Comm./Utilities	0.06	0.05	1,391	1,390
Industrial	0.20	0.15	4,172	1,187

Source: MTRDC

• = Based on 2025 estimate of 27,813 from MTRDC, 2004

The adjustments made to the ratios of Acres per Person in Table 6.3.4 (Column 3) were done to account for the development guidelines proposed as part of the plan:

- The lower residential factor was considered to account for a) the volume of large lot residences currently predominant throughout the County, and b) the availability of more water and sewer service within the planning period that will permit more high and medium density development.
- The lower industrial factor was provided to adjust for the inclusion of the new industrial park, which is currently vacant, in the 2004 figures. Only small amounts of new industrial land will be needed until this park is completely occupied.
- The adjustment made for Public/Institutional is to account for existing civic structures such as fire stations and parks that can easily be upgraded or have been designed to meet future capacities and demands.

The amount of new acres needed for each new land use outlined in Table 7.4 is largely representative. Many conditions are subject to change between now and 2025 and this plan will have to be reviewed and updated every few years. The figures do provide a starting point for understanding the volume change to be expected throughout the County and help every jurisdiction prepare for meeting the needs of such a population. By planning to accommodate the volume of land demanded for each land use outlined above, Pike County and the five Cities can more effectively provide services, plan for efficient location of new facilities and preserve sensitive portions of the county.

The potential distribution of the new land development can be assessed for more specific location conditions based on the factors discussed in Step 1. Table 7.5 below provides an assessment on where new development will occur within Pike County based upon 1) the conditions demanded for each land use, and 2) the conditions supported by the Rural growth scenario with additional support for industrial activity included. In this case, the majority of new development will go to suburban areas of unincorporated county because of the abundance of land and expected provision of utilities and services.

**Spatial Analysis**

Spatial analyses can be defined as five tasks designed to match supply with demand. Knowing that each land use requires certain traits for development, local governments can project where each land use is suitable based on those traits. After determining each property's potential for development, the community may then project the land use demands for future populations and locate each use according to where the conditions are most desirable. This process not only provides for an efficient allocation of existing land and resources, but also serves to protect vital environmental resources, preserve the land necessary for future growth, and guide future public works and capital improvement projects.

- 1) Determine location conditions demanded. Each land use has requirements or conditions necessary for locating in a particular place, typically defined by spatial relationships with respect of households, firms, etc.
  - 2) Determine amount of space demanded. Utilizing per-acre ratios, demographic and economic projections can estimate the amount of land needed to accommodate new development for future population levels. Again, these are approximation, but it provides a portrait of the new conditions that would come with population growth.
  - 3) Identify location conditions available. Using the conditions demanded by each land use defined in Step 1, the suitability of existing land for various uses can be determined by identifying environmental factors (i.e., wetlands, soil traits, etc.), and prevalent development conditions (utilities, arterial access, etc.)
  - 4) Identify amount of space available. Comparing the amount of land available for each use (Step 3) that can accommodate the amount of each land use demanded (Step 2).
  - 5) Develop future land use scenario. Comparing the supply and demand for suitable land in Step 4, differing land uses can then be targeted for certain areas based upon the principles and guidelines suggested within the Plan Goals.
- For evaluating land suitability and availability, development patterns are divided into three categories: Rural, Suburban, and Urban (each defined below). Most land uses fall into one or two of these categories. An additional category, Activity Center, is later defined for the additional social impacts and regional influence of such land uses. The following matrix shows the ratios/scales used to categorize the levels of development suggested in an area. They represent the average density of residential development acceptable for each district, while keeping in mind the commercial, office, and other activities of similar scale needed to sustain each category of development.

Table 6.3.2 – Scale for assigning proposed land uses

	Acres/Unit	Avg. Acres/Unit	Avg. Units/Acre
Rural	6+	10	.10
Suburban	1 – 5	3	.33
Urban	<.9	14	.7

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**

Table 6.3.5 – Distribution of New Land Development  
Source: MTRDC, 2004

	Capture Rates		New Acres/ Person			
	Rural	Urban	Rural	Urban	Urban	
Residential	20.0%	60.0%	20.0%	2,291	6,873	2,291
TCU		20.0%	80.0%		565	2,260
Public/ Institutional		20.0%	80.0%		296	1,186
Industrial			100.0%			2,488
Commercial		25.0%	75.0%		347	1,042
Parks/ Rec/ Conservation		75.0%	25.0%		890	297

"Urban" includes all five cities

**Land Supply**

Steps 3 & 4 of the land use design process assess the amount and locations of land available within the county to support those land uses.

- Identify location conditions available. All land can be 'measured' for suitability in accommodating each type of land use. Using the conditions defined in Step 1, land suitability can be determined by identifying environmental factors (i.e., wetlands, soil traits, etc.), the projected land use and transportation patterns, and so on. Some lands will be suitable for more than one use.

	Rural	Suburban	Urban	Activity Ctr.
Flint River Buffer	150'	150'	500'	500'
Wetlands	Minimal	Moderate	Serious	Serious
Water Supply Watersheds	Minimal	Moderate	Serious	Serious
Recharge Areas	Minimal	Moderate	Serious	Serious
Severe Soil Limitations	Minimal	Moderate	Moderate	Serious
Steep Slopes	Minimal	Moderate	Moderate	Serious

Table 6.3.6 – Land Use Restrictions

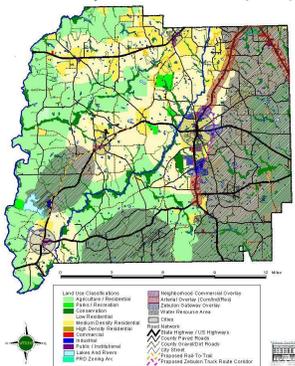
The categorizations listed in Table 6.3.6 are approximations and to be used as a guide for the county as a whole. Unique situations and design techniques may be used to sufficiently mitigate the impact of an urban development located within a water supply watershed, or allow an activity center to be developed in areas with severe soil limitations. However, this table is representative of the entire county, for which the bulk of land uses should be located in accordance with the matrix above to properly achieve the land use goals identified for Pike County.

- Identify amount of space available. Existing (or preferred) ratios of acres per units of land use (housing, commercial, etc.) can be used to establish a carrying capacity for the existing land supply. Once determined, the capacity of the suitable land supplied can be compared with the future needs of each land use.

Pike County has sufficient amounts of relatively undeveloped land to meet the land use demands shown through 2025. The Future Land Use Map shows the "Target Areas" for capturing new growth within Pike County by combining the data from Maps. This map shows the undeveloped land within the county that is also a) within close proximity to existing water or fire protection service, and b) not exhibiting environmental sensitivity. Basic assessment suggests new development should be directed toward these target areas first to maximize existing service capacities and to preserve the remaining rural landscape and environmental conditions.

Fig 6.3.7 Pike County Future Land Use Map

**Pike County Future Land Use (2025)**



**Developing the Future Land Use Scenario**

The Future Land Use Map does not mean the property must be used for the land use category shown but merely gives the County planning officials, the public and other agencies a guide for understanding the land uses that the County is expecting and preparing to sustain. In addition to referencing the map, development proposals within Pike County should be reviewed against all of the goals and policies discussed in that chapter and throughout the entire Comprehensive Plan. This map may be amended based upon evolving conditions and goals for Pike County citizens and at a minimum must be updated every ten years.

Having identified the amounts and locations of land needed and available for each land use, we can allocate the new land uses on to the Future Land Use Map based upon the development conditions desired for Pike County and each City. Based on the relative support and viability of factors cited within the proposed growth scenarios, the Rural Growth theme provides the general direction of how and where new development should be directed within Pike County.

Greenspace protection and parks should be encouraged to preserve rural areas throughout the county. Strong consideration should be given to land within the watersheds for Potato Creek, Elkins Creek, the Still Branch Reservoir and along the Flint River. He preservation of these resources will aid efforts to attract and retain tourists to the County as well as maintain the quality of the water. Additional targets include land within sight of and along the ridgeline of Pine Mountain.

Strong support has also been given to the economic development plans within the Industrial Growth theme. As such additional land and investment must be made to secure industrial growth and efficient utility capacities. Much of this should be directed towards Zebulon with the potential to expand utility service and along highway 41. Housing and supporting commercial development should be within reasonable proximity of these industrial centers so as to minimize traffic congestion and create economies of scale for commercial success within the county.

In addition to these general guidelines the proceeding lists of development policies, land use goals and objectives prescribe the conditions outlined on the Future Land Use map (map 6.3.1). This map provides an approximation of land uses for the year 2025 with various new land uses distributed according to the goals and policies described within the body of the Comprehensive Plan. This map is used to guide development policies and public improvement efforts to help shape land use into the most desirable patterns for the community.

**General Development Policies**

- Residential**
  - Suburban conditions allowing higher densities allowed within 2 miles of existing city centers (3 miles for Zebulon), and within 1 mile of utility service areas
  - Suburban conditions encouraged around Hollonville as a future focal point for commercial and public uses
  - Rural Residential development within environmentally sensitive areas
- Commercial**
  - Neighborhood commercial uses within downtowns of Concord, Molena and Williamson and within unincorporated Hollonville. Such uses include smaller facilities comparable in scale to surrounding residential units and fostering pedestrian access between residential and commercial areas
  - Heavy commercial uses located only along arterials of US 41 and Highway 19 north of the Highway 109 intersection. Such uses include commercial strip centers and developments requiring interior roadways.
- Industrial**
  - Industrial uses located only along arterials of US 41 and Highway 19 north of the Highway 109 intersection.
- Civic**
  - Civic uses should be directed towards existing cities or developed areas, preferably adjacent to other civic uses or public activity centers. Development should foster pedestrian access and efficient management of traffic and utilities
- Conservation**
  - Land for conservation purposes should be targeted within and around environmentally sensitive areas, particularly along perennial streams, the Flint River and the Pine Mountain Range. Additional efforts should try to secure greenspace within developing

areas

**Pike County**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance Pike County's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all county residents.*

**Objectives:**

- 1) Corridor Management Areas should be established for select arterials within the county. These will accommodate a mix of uses but ensure that each development is coordinated with additional plans for the roadway and surrounding properties. Upon adoption of the Comprehensive Plan, more detailed specific Corridor Management Plans should be developed for each.
  - Hwy 19 north of Zebulon – Must accommodate mix of residential, commercial and industrial uses while maintaining traffic flow. Preference for commercial activity to cluster at key intersections and to minimize curb cuts.
  - Hwy 41 – Potential for commercial and industrial use must also accommodate access from Pike County and show coordination with neighboring communities to ensure the traffic flow of the highway.
  - Proposed Zebulon Truck-route – Development along the eastern half of Zebulon must be managed to ensure both a) the relative availability of low-cost land for the construction of such a road and b) to maintain the road as an express route and not a destination.
- 1) Zebulon Gateway Management Areas should be established along Hwy 19 both north and south of the city and east of Zebulon along Hwy 18. Coordinated with the locations of intersections with the proposed Zebulon Truck Route, these areas should maintain the architectural style and scale of downtown Zebulon and encourage uses that support existing businesses and community activities. The concept will be to provide a clear delineation between the rural environment of Pike County and the urban townscape of Zebulon.
- 2) Coordinate residential growth more closely with the provision of public services. Direct residential development towards the parts of the county with/ planned to receive water and/or sewer service. To assist in this effort and to maximize the benefit of such services, development policies should encourage more distinct differences between permissible densities between areas with water and sewer and those without.
- 3) Unincorporated Hollonville should be targeted for future concentrations of commercial and civic structures. As Northern Pike County begins to grow, this area should concentrate activities within a modest area to foster a potential economic center around the intersection of Hwy 362 and Hollonville Road. Such actions would support future provisions of public utilities and services and improve the potential success of commercial activity within the area.
- 4) To help preserve the county's appearance of rural character a minimum of two actions are recommended: 1. Pursuit of a Rural Pike County study. Many residents have expressed a strong desire to maintain Pike County's rural character, despite differing opinions on what to preserve and how to preserve it. The County should more clearly define the attributes that make up the area's rural character (forests, scenic vistas) and develop a strategy for their preservation. 2. In lieu of further measures, the County should amend development regulations to foster more rural residential development patterns.
  - **Encourage, by incentives residential lots of 5 acres or greater;**
  - Continue to encourage residential subdivisions with minimum lot sizes of 2 acres.
  - Encourage residential subdivisions with minimum lot sizes of under 2 acres providing that development includes greenspace (yielding net density to at least 2 acres minimum) and proper buffering and landscaping around the subdivision.
- 5) Review potential sites for future industrial and commercial use. The volume of land allocated for industrial exceeds the minimum amount necessitated by the projections due to the evolving goals for the County. Limitations with the local sewer capacity and labor force may prohibit the amount of new business that moves into the county. However, the scheduled and desired infrastructure and utility improvements may allow the County to pursue a variety of options for locating industrial growth at this time.
- 6) Develop a primary and secondary conservation area map. To aid in the protection of resources and preservation of rural character, the County should identify areas requiring protection on a map and incorporate protective measures into their development policies.

**Concord**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- 1) Direct commercial and office uses to downtown and along arterials; Begin a revitalization study to examine ways to assist economic development within existing city limits and to fill/reuse vacant structures. The City should also prepare for the ability to support expanded commercial and office use stretching along Hwy 18 and possibly Old Zebulon Road (to Hollonville).
- 2) Corridor Study for Hwy 18; The main arterial for direct and through traffic for Concord, this route is scheduled for future improvements. The City must plan for proper land use management around the roadway and to ensure the City receives the maximum benefits from all changes to the roadway.

**Title III – Administration**

**Chapter 39 – Emergency Management Services (EMS)**

- 3) Increased housing capacity; The City should explore a "build-out" scenario to determine possible and acceptable increases in new housing units given expanded utility capacity. This study should also define target areas for future utility improvements and service areas, to be coordinated with the County and the Water Authority.

**Meansville**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- 1) Joint long-term utility and land use planning with Zebulon and Pike County; The City pursue a collaborative plan with these other communities to clearly define utility improvement areas and capacities for the area between Meansville and Zebulon. Issues such as traffic management and the development of commercial and industrial sites south of Zebulon should be assessed with recommendations for each jurisdiction clearly identified. Meansville should then develop an annexation strategy for accommodating new growth while working to maintain an individual identity.
- 2) Develop new and improved Civic spaces; In order to sustain the desired level of residential character and overall quality of life, Meansville should pursue additional civic gathering spaces such as parks and plazas, a long term plan for improving City Hall and for fostering a true downtown. The small town nature must be preserved, yet it must also be strengthened in lieu of the growth and changes expected for Pike County.
- 3) Closer ties to the Girl Scout Camp?

**Molena**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- 1) Begin collaborative land use planning with Pike County for Still Branch Reservoir area; Molena should serve as the commercial and civic center for any new development immediately around the reservoir. As such the City should work to provide the proper traffic management and appropriate scales of public services and activity.
- 2) Corridor Study for Hwy 18; The main arterial for direct and through traffic to Molena, this route is scheduled for inclusion in a scenic byway and for future improvements. The City must plan for proper land use management around the roadway and to ensure the City receives the maximum benefits from all changes to the roadway.

**Williamson**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- 1) Begin collaborative facilities planning with Pike County; Williamson is the commercial and civic center for northern Pike County. As such the City and County should coordinate future public utilities and facilities to ensure efficient service delivery. Williamson should continue to participate with the Service Delivery Agreement (SDA) for Pike County and strive to have future County civic functions and structures located within City limits to maintain a sense of community center and an effective scale of urban amenities.
- 2) Corridor Study for Hwy 362; The main arterial for direct and through traffic to Williamson, this route is scheduled for future improvements that may or may not affect the downtown businesses and houses. The City must monitor such plans and make sure the needs of local interests and destination traffic are not adversely impacted by accommodations for through traffic. The possibility of a new route for 362, bypassing the City's downtown, must be addressed and mitigated to preserve the vitality of the City.

**Zebulon**

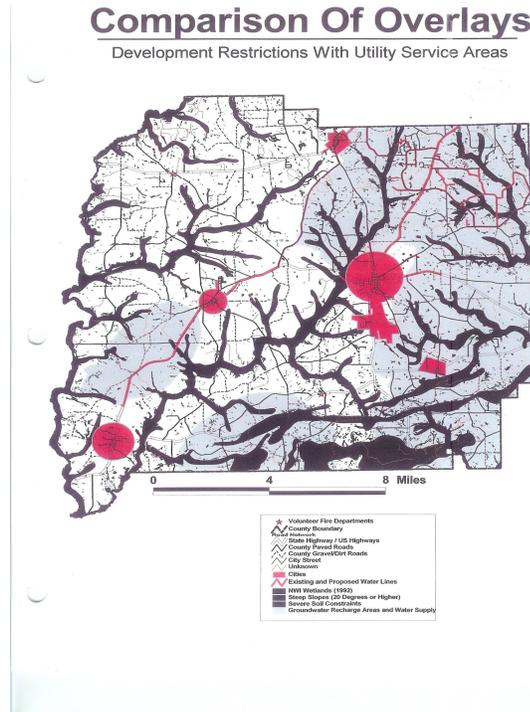
**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- 1) Encourage rural, low density development on the City's east side. Until plans for a truck route are determined, development within this land should be kept to a minimum to prevent future conflicts between area residents and business and the construction of the roadway.
- 2) Foster pedestrian connectivity to and around the downtown square. As the City encourages more business and social functions around downtown, the ability to provide safe, reasonable access by sidewalk, bike or other non-vehicular means should be considered a high priority. This would aid in accommodating high volumes of people and activities and support further infill development and renovation of existing structures.
- 3) Corridor Management Areas should be established along Highways 19 and along 18. Coordinated with the locations of intersections with the proposed Zebulon Truck Route, these areas should maintain the architectural style and scale of downtown Zebulon and encourage uses that support existing businesses and community activities. The concept will be to provide a clear delineation between the rural environment of Pike County and the urban townscape of Zebulon.
- 4) Support infill development of existing neighborhoods and business centers; Ensure compatibility of new and existing development. Where possible, the City should direct foster the reuse and renovation of existing properties within the city,

encouraging architectural designs and property development that matches the detailing, scale and community impact of surrounding properties.

Fig 6.3.9 Comparison of Overlays-Development Restrictions with Utility Service Areas



## EXHIBIT “B”

Annex B Development by Trends  
6.3.0 Future Land Use  
Pike County Joint Comprehensive Plan

### Goals

The goal of a Future Land Use strategy is to set forth a community's preferences for the general locations of land uses that are consistent with the needs, goals and policies developed in other elements of the plan. In developing this strategy the following growth scenarios were proposed as options for assessing the conditions best suited for Pike County and guiding future growth policies:

- Industrial Scenario** – Given the general location and development trends for Pike County, the ability to attract and sustain more and more growth is very possible. To do this will require additional improvement to water and sewer service and, more importantly, will require concerted efforts to upgrade economic development to provide jobs and commerce for new residents. Under this scenario, the County could attain upwards of 34,000 residents by the year 2025 depending on growth trends in surrounding counties and strong local support to progress from the current rural character.
- Rural Scenario** – This scenario suggests the County should refrain from major capital improvements that would attract/sustain much more development. Limited expansion of water and sewer service areas would minimize the amount of new residents and businesses that enter the county, thus keeping Pike County predominantly rural. The appeal of this scenario is the ability to keep capital expenditures low and to keep community conditions much as they are. Several economic factors (such as industrial diversity) may suffer under this scenario, however the County must ensure the revenue streams to maintain the current level of service. Economic growth in surrounding counties means Pike County would still see modest amounts of new development requiring proper management to sustain community character. Under this scenario, the county could manage a population level of just under 26,000 residents by 2025.
- Current Trends Scenario**– The default scenario, this assumes no special action to direct or manage growth above and beyond the measures already in place. Even with the absence of water and sewer service, much of county would remain eligible for residential development based upon the housing trends and current zoning standards. The population projection for this scenario, a straight extrapolation of current trends, could reach roughly 28,300 people by 2025. Like the Rural Scenario, this options requires minimal amounts of capital improvements and expenditures, but would leave a significant amount of new residential development dependent on wells and/or septic systems. This also does not provide special measures to attract or expand business areas or coordination with the existing municipalities.

In addition to the discussing this array of growth scenarios the Comprehensive Plan Committee and county residents were presented with potential impacts and conditions to determine which features appeared more favorable for the future of Pike County. A series of public hearings were

held to debate the growth strategies and the desired land use goals, using the following matrix as a guide for discussion:

### ALTERNATE GROWTH STRATEGIES

	Industrial Route	Rural Route	Current Trend
Residential Use	Demand for workforce housing increases, combined with higher total population. More housing located near jobs.	Combinations of conservation design and larger rural lots (5 acres+). Higher densities fostered near cities/ designated areas.	Existing subdivision and zoning policies continue to accommodate growth near Spalding County and Zebulon.
Industrial Use	In addition to Ind. Park, County also fosters industrial development along US 19 north of Zebulon and US 41. Long-term consideration for Hwy 362 and possible Griffin by-pass. Emphasis on specific industrial types.	Investment focuses on Ind. Park only until the Park is considered full. Pressure to go beyond that (location or capacity) is reserved until completion of a detailed economic assessment of the county. Types of industry less important.	Types of industry less important. Industry accepted along north side and along arterials.
Commercial Use	Directed to cities and the arterials of US 19 and 41 and Hwy 362.	Directed to cites and select nodes along arterials. Village scale development encouraged outside Zebulon.	Directed to arterials.
Rural Character	Preserved through lot size and conservation design. Parks and recreation plan developed.	Make Plans for Parks and Recreation, Rural Preservation and Tourism. Policies to require conservation design, buffers. Efforts to protect conservation	Environmental protection ordinances and select preservation overlays.

## Title III – Administration

### Chapter 39 – Emergency Management Services (EMS)

		areas.	
Transportation	Emphasis on arterials for industrial traffic and collector network for residents traveling to jobs. Extensive paving and improvement schedule.	Select improvements, less emphasis on paving to control pace/ location of development. Greater attention & management of bike & pedestrian paths, horse trails, scenic and tourist routes.	Modest road improvements according to budget and immediacy of needs. Alternate transportation concerns addressed through grants.
Fire Protection	Increased demand for water lines, full time fire fighting force w/ more equipment. Greater demand for access to training facilities and heavier equipment.	Some need for increases in personnel and equipment. Likely 1-2 new stations.	Some need for increases in personnel and equipment. Likely 2-4 new stations

Results of the public forums, Committee meetings and a survey provided in the local newspaper revealed a strong general preference for the conditions within the Rural Scenario along with a desire to increase industrial and commercial activity within the county.

**PUBLIC FORUM - 2/28/04**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	7 20.6%	21 61.8%	6 17.6%	34
Residential Use	4 11.8%	24 70.6%	6 17.6%	34
Industrial Use	18 54.5%	11 33.3%	4 12.1%	33
Commercial Use	6 18.2%	20 60.6%	7 21.2%	33
Rural Character	8 25.8%	16 51.6%	7 22.6%	31
Transportation	10 31.3%	16 50.0%	6 18.8%	32
Fire Protection	13 41.9%	10 32.3%	8 25.8%	31

**NEWSPAPER SURVEY**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	10 16.4%	49 80.3%	2 3.3%	61
Residential Use	3 4.7%	50 78.1%	11 17.2%	64
Industrial Use	25 39.7%	35 55.6%	3 4.8%	63
Commercial Use	16 25.4%	38 60.3%	9 14.3%	63
Rural Character	7 10.4%	49 73.1%	11 16.4%	67
Transportation	14 22.2%	36 57.1%	13 20.6%	63
Fire Protection	24 38.7%	26 41.9%	12 19.4%	62

**SUBMITTED TO RDC**

	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	0 0.0%	10 100.0%	0 0.0%	10
Residential Use	0 0.0%	10 100.0%	0 0.0%	10
Industrial Use	1 10.0%	9 90.0%	0 0.0%	10
Commercial Use	1 10.0%	9 90.0%	0 0.0%	10
Rural Character	0 0.0%	10 100.0%	0 0.0%	10
Transportation	1 10.0%	9 90.0%	0 0.0%	10
Fire Protection	1 10.0%	9 90.0%	0 0.0%	10

TOTAL	INDUSTRIAL	RURAL	CURRENT	TOTAL
Overall Theme	17 16.2%	80 76.2%	8 7.6%	105
Residential Use	7 6.5%	84 77.8%	17 15.7%	108
Industrial Use	44 41.5%	55 51.9%	7 6.6%	106
Commercial Use	23 21.7%	67 63.2%	16 15.1%	106
Rural Character	15 13.9%	75 69.4%	18 16.7%	108
Transportation	25 23.8%	61 58.1%	19 18.1%	105
Fire Protection	38 36.9%	45 43.7%	20 19.4%	103

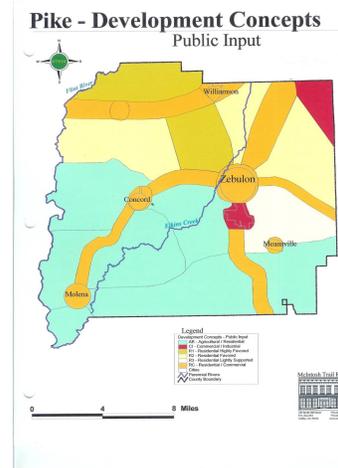
Given the desire to retain Pike County's rural character, further discussion and study was held to more clearly define what constituted rural conditions and/or characteristics that should warrant preservation and promotion. The majority of public responses to this question suggested a combination of the following features:

- Generally low density, with a minimum lot size of 2 acres and preferences for 3 or more;
- Enough natural landscaping to mask or hide development, in the form of buffers, berms and undisturbed wooded areas;
- Large volumes of open space, either undeveloped or used for agriculture, in between suburban and urban areas. This included support for scenic vistas of the river and Pine Mountain Range, as well as maintaining the relatively low amount of development along Highways 109 and 18.

In addition to recommending development policies that support the above notions, planning participants did express a strong desire to attract some industry to the county, preferably bringing a diverse range of business types. With the new industrial park already in development and the prospects for greater utility service areas, the County and each City would have the ability to shape the growth already expected over the next 20-25 years. In keeping with the above mentioned concerns for maintaining rural character, then, additional measures would be needed to direct preferable growth types and conditions. Most importantly new growth should be directed toward areas with utility capacity and within/ adjacent to existing cities. The more new development is placed in areas already developing, including concessions for higher densities, the greater the chance of leaving large portions of the county in more rural states.

To help accommodate new development, particularly more industrial activity, the County and Cities are encouraged to concentrate industrial and commercial development in and immediately around Zebulon. This is to maximize utility service conditions, minimize traffic impacts and create an economy of scale for supporting industries and local tax revenue. Additional development suggestions include preferences for infill and renovation of existing structures and concentrating heavier uses along Highways 19 and 41. A truck route around the eastern half of Zebulon has been proposed as part of the within Economic Development goals and Facilities and Services goals for Pike County and Zebulon. When this route becomes a reality both jurisdictions should work to ensure the route remains primarily for through-traffic, easing traffic concerns with downtown Zebulon and not adversely impacting local businesses.

Fig 6.3.1 Public Input Development Concepts



**Spatial Analysis**

Spatial analyses can be defined as five tasks designed to match supply with demand. Knowing that each land use requires certain traits for development, local governments can project where each land use is suitable based on those traits. After determining each property's potential for development, the community may then project the land use demands for future populations and locate each use according to where the conditions are most desirable. This process not only provides for an efficient allocation of existing land and resources, but also serves to protect vital environmental resources, preserve the land necessary for future growth, and guide future public works and capital improvement projects.

- 1) **Determine location conditions demanded.** Each land use has requirements or conditions necessary for locating in a particular place, typically defined by spatial relationships with respect to households, firms, etc.
- 2) **Determine amount of space demanded.** Use demographic and economic projections to calculate (roughly) the amount of land needed to accommodate future populations and comparable levels of commercial activity, park space, etc.
- 3) **Identify location conditions available.** Using the conditions demanded by each land use defined in Step 1, the suitability of existing land for various uses can be determined by identifying environmental factors (i.e., wetlands, soil traits, etc.), and prevalent development conditions (utilities, arterial access, etc).
- 4) **Identify amount of space available.** Comparing the amount of land available for each use (Step 3) that can accommodate the amount of each land use demanded (Step 2).
- 5) **Develop future land use scenario.** Comparing the supply and demand for suitable land in Step 4, differing land uses can then be targeted for certain areas based upon the principles and guidelines suggested within the Plan Goals.

For evaluating land suitability and availability, development patterns are divided into three categories: Rural, Suburban, and Urban (each defined below). Most land uses fall into one or two of these categories. An additional category, Activity Center, is later defined for the additional social impacts and regional influence of such land uses. The following matrix shows the ratios/scales used to categorize the levels of development suggested in an area. They represent the average density of residential development acceptable for each district, while keeping in mind the commercial, office, and other activities of similar scale needed to sustain each category of development.

Table 6.3.2 - Scale for assigning proposed land uses

	Acres/ Unit	Avg. Acres/ Unit	Avg. Units/ Acre
Rural	6+	10	.10
Suburban	1 - 5	3	.33
Urban	< .9	.14	7

**Categories of Development**

**Rural** - Consists primarily of large lots with very little land development, limited impervious surfaces and generates little automobile traffic.

- Protects environment; Preserves rural character and beauty; open space
- Does not overburden public facilities and services
- Provides parcels and conditions necessary for viable agricultural uses

**Suburban** - Provides for medium size residential lots, primarily in the fashion of subdivision development. Lots characteristically 1 acre or larger, often accommodating septic systems. Can produce densities moderately efficient for utilities and services, while also feeling more rural than urban.

- Allows up to 50% impervious surface
- Predominantly residential in use
- Safe for septic systems

**Urban** - Introduces greater mix of land uses, seeking vitality of commercial and residential development. Generates traffic at most intensive activity centers (shopping centers) but also creates opportunities for alternative transportation and increases economic activity.

- Allows up to 100% impervious surface
- Facilitates utility and service delivery; Generates economies of scale
- Promotes alternative transportation (walking, biking, etc.)
- Permits alternative housing (ie: care homes, affordable housing)

**Activity Center** - Industrial parks and similar large employment/ commercial sites. Usually a large scale development with severe traffic, utility demands, and impacts on natural features. Typically create secondary developments responsive to the activity center, and can produce influences of a regional scale.

**Land Use Demands**

Steps 1 & 2 of the land use design process define the rough land use demands for Pike County through the year 2025, as well as the conditions favorable/ necessary for certain development patterns to ensure the types and volume of land use needed to accommodate the projected goals and populations. For this study, location conditions demanded are assessed by spatial relationships to existing community facilities and services. The amount of space needed will be based on projected populations for the county, with development requirements being distributed according to goals and objectives expressed by Pike County citizens during the planning process.

- (1) **Determine location conditions demanded.** Each land use has preferences for location conditions, typically defined by spatial relationships or functional needs based on the particular use. While these conditions are general, they provide a safe approximation for forecasting where new development may come based on availability of utilities and services.

Table 6.3.3 – Minimum Conditions for Development Types **Source: MTRDC**

	Rural	Suburban	Urban	Activity Ctr.
w/n 3 miles of fire station		X	X	X
w/n 2 miles of arterial		X	X	X
w/n 1 mile of arterial				X
w/n 1 mile of utility			X	X
w/n 2 miles of cities		X	X	
2 miles from Urban areas	X			

- (2) **Determine amount of space demanded.**

Utilizing per-acre ratios, demographics and economic projections can estimate the amount of land needed to accommodate new development for future population levels. Again, these are approximation, but it provides a portrait of the new conditions that would come with population growth.

Table 6.3.4 – Pike County, Prospective Land Use Increase

Land Use	2004	2025	2025	Changes in Acres
	Acres/Person	Acres/person Adj. Ratio	Acres/Person x Pop*	
Residential	2.40	1.70	47,282	11,455
Commercial	0.40	0.40	11,125	2,825
Public/Institutional	0.10	0.06	1,669	1,482
Park/Recreation/ Conservation	0.09	0.09	2,503	2,488
Transportation/ Comm./Utilities	0.06	0.05	1,391	1,390
Industrial	0.20	0.15	4,172	1,187

	Rural	Suburban	Urban	Activity Ctr.
Flint River Buffer	150'	150'	500'	500'
Wetlands	Minimal	Moderate	Serious	Serious
Water Supply Watersheds		Moderate	Serious	Serious
Recharge Areas	Minimal	Moderate	Serious	Serious
Severe Soil Limitations	Minimal	Moderate	Moderate	Serious
Steep Slopes	Minimal	Moderate	Moderate	Serious

\*Based on 2025 estimate of 27,813 from MTRDC, 2004

The adjustments made to the ratios of Acres per Person in Table 6.3.4 (Column 3) were done to account for the development guidelines proposed as part of the plan:

- The lower residential factor was considered to account for a) the volume of large

lot residences currently predominant throughout the County, and b) the availability of more water and sewer service within the planning period that will permit more high and medium density development.

- The lower industrial factor was provided to adjust for the inclusion of the new industrial park, which is currently vacant, in the 2004 figures. Only small amounts of new industrial land will be needed until this park is completely occupied.
- The adjustment made for Public/Institutional is to account for existing civic structures such as fire stations and parks that can easily be upgraded or have been designed to meet future capacities and demands.

The amount of new acres needed for each new land use outlined in Table 7.4 is largely representative. Many conditions are subject to change between now and 2025 and this plan will have to be reviewed and updated every few years. The figures do provide a starting point for understanding the volume change to be expected throughout the County and help every jurisdiction prepare for meeting the needs of such a population. By planning to accommodate the volume of land demanded for each land use outlined above, Pike County and the five Cities can more effectively provide services, plan for efficient location of new facilities and preserve sensitive portions of the county.

The potential distribution of the new land development can be assessed for more specific location conditions based on the factors discussed in Step 1. Table 7.5 below provides an assessment on where new development will occur within Pike County based upon 1) the conditions demanded for each land use, and 2) the conditions supported by the Rural growth scenario with additional support for industrial activity included. In this case, the majority of new development will go to suburban areas of unincorporated county because of the abundance of land and expected provision of utilities and services.

Table 6.3.5 – Distribution of New Land Development

	Capture Rates			New Acres/ Person		
	Rural	Urban	Urban	Rural	Urban	Urban
Residential	20.0 %	60.0 %	20.0 %	2,291	6,873	2,291
TCU		20.0 %	80.0 %		565	2,260
Public/Institutional		20.0 %	80.0 %		296	1,186
Industrial			100.0 %			2,488
Commercial		25.0 %	75.0 %		347	1,042
Parks/Rec./Conservation		75.0 %	25.0 %		890	297

Source: MTRDC, 2004  
 \*Urban\* includes all five cities

**Land Supply**

Steps 3 & 4 of the land use design process assess the amount and locations of land available within the county to support those land uses.

- 3) *Identify location conditions available.* All land can be "measured" for suitability in accommodating each type of land use. Using the conditions defined in Step 1, land suitability can be determined by identifying environmental factors (i.e., wetlands, soil traits, etc.), the projected land use and transportation patterns, and so on. Some lands will be suitable for more than one use.

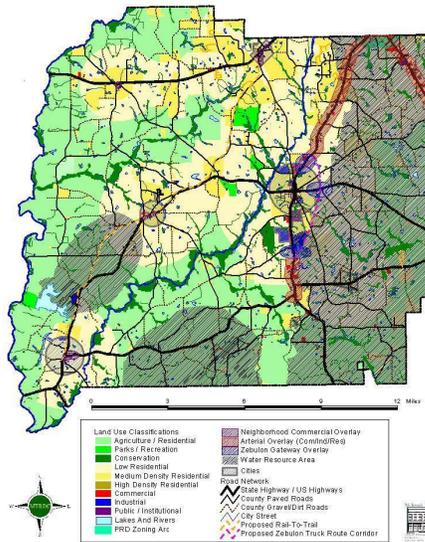
Table 6.3.6 – Land Use Restrictions

The categorizations listed in Table 6.3.6 are approximations and to be used as a guide for the county as a whole. Unique situations and design techniques may be used to sufficiently mitigate the impact of an urban development located within a water supply watershed, or allow an activity center to be developed in areas with severe soil limitations. However, this table is representative of the entire county, for which the bulk of land uses should be located in accordance with the matrix above to properly achieve the land use goals identified for Pike County.

- 4) *Identify amount of space available.* Existing (or preferred) ratios of acres per units of land use (housing, commercial, etc.) can be used to establish a carrying capacity for the existing land supply. Once determined, the capacity of the suitable land supplied can be compared with the future needs of each land use.

Pike County has sufficient amounts of relatively undeveloped land to meet the land use demands shown through 2025. The Future Land Use Map shows the "Target Areas" for capturing new growth within Pike County by combining the data from Maps. This map shows the undeveloped land within the county that is also a) within close proximity to existing water or fire protection service, and b) not exhibiting environmental sensitivity. Basic assessment suggests new development should be directed toward these target areas first to maximize existing service capacities and to preserve the remaining rural landscape and environmental conditions.  
 Fig 6.3.7 Pike County Future Land Use Map

**Pike County Future Land Use (2025)**



**Developing the Future Land Use Scenario**

The Future Land Use Map does not mean the property must be used for the land use category shown but merely gives the County planning officials, the public and other agencies a guide for understanding the land uses that the County is expecting and preparing to sustain. In addition to referencing the map, development proposals within Pike County should be reviewed against all of the goals and policies discussed in that chapter and throughout the entire Comprehensive Plan. This map may be amended based upon evolving conditions and goals for Pike County citizens and at a minimum must be updated every ten years.

Having identified the amounts and locations of land needed and available for each land use, we can allocate the new land uses on to the Future Land Use Map based upon the development conditions desired for Pike County and each City. Based on the relative support and viability of factors cited within the proposed growth scenarios, the Rural Growth theme provides the general direction of how and where new development should be directed within Pike County.

Greenspace protection and parks should be encouraged to preserve rural areas throughout the county. Strong consideration should be given to land within the watersheds for Potato Creek, Elkins Creek, the Still Branch Reservoir and along the Flint River. The preservation of these resources will aid efforts to attract and retain tourists to the County as well as maintain the quality of the water. Additional targets include land within sight of and along the ridge line of Pine Mountain.

Strong support has also been given to the economic development plans within the Industrial Growth theme. As such additional land and investment must be made to secure industrial growth and efficient utility capacities. Much of this should be directed towards Zebulon with the potential to expand utility service and along highway 41. Housing and supporting commercial development should be within reasonable proximity of these industrial centers so as to minimize traffic congestion and create economies of scale for commercial success within the county.

In addition to these general guidelines the proceeding lists of development policies, land use goals and objectives prescribe the conditions outlined on the Future Land Use map (map 6.3.1). This map provides an approximation of land uses for the year 2025 with various new land uses distributed according to the goals and policies described within the body of the Comprehensive Plan. This map is used to guide development policies and public improvement efforts to help shape land use into the most desirable patterns for the community.

**General Development Policies**

- |                    |  |
|--------------------|--|
| <b>Residential</b> | <ul style="list-style-type: none"> <li>• Suburban conditions allowing higher densities allowed within 2 miles of existing city centers (3 miles for Zebulon), and within 1 mile of utility service areas</li> <li>• Suburban conditions encouraged around Hollonville as a future focal point for commercial and public uses</li> <li>• Rural Residential development within environmentally sensitive areas</li> </ul>                      |
| <b>Commercial</b>  | <ul style="list-style-type: none"> <li>• Neighborhood commercial uses within downtowns of Concord, Molena and Williamson and within unincorporated Hollonville. Such uses include smaller facilities comparable in scale to surrounding residential units and fostering pedestrian access between residential and commercial areas</li> <li>• Heavy commercial uses located only along arterials of US 41 and Highway 19 north of</li> </ul> |

		the Highway 109 intersection. Such uses include commercial strip centers and developments requiring interior roadways.	acres minimum) and proper buffering and landscaping around the subdivision.
Industrial	•	Industrial uses located only along arterials of US 41 and Highway 19 north of the Highway 109 intersection.	(6) Review potential sites for future industrial and commercial use. The volume of land allocated for Industrial exceeds the minimum amount necessitated by the projections due to the evolving goals for the County. Limitations with the local sewer capacity and labor force may prohibit the amount of new business that moves into the county. However, the scheduled and desired infrastructure and utility improvements may allow the County to pursue a variety of options for locating industrial growth at this time.
Civic	•	Civic uses should be directed towards existing cities or developed areas, preferably adjacent to other civic uses or public activity centers. Development should foster pedestrian access and efficient management of traffic and utilities	(7) Develop a primary and secondary conservation area map. To aid in the protection of resources and preservation of rural character, the County should identify areas requiring protection on a map and incorporate protective measures into their development policies.
Conservation	•	Land for conservation purposes should be targeted within and around environmentally sensitive areas, particularly along perennial streams, the Flint River and the Pine Mountain Range. Additional efforts should try to secure greenspace within developing areas	<b>Concord</b>  <b>Land Use Goal:</b> <i>To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.</i>  <b>Objectives:</b>  (1) Direct commercial and office uses to downtown and along arterials; Begin a revitalization study to examine ways to assist economic development within existing city limits and to fill/reuse vacant structures. The City should also prepare for the ability to support expanded commercial and office use stretching along Hwy 18 and possibly Old Zebulon Road (to Hollonville).  (2) Corridor Study for Hwy 18; The main arterial for direct and through traffic for Concord, this route is scheduled for future improvements. The City must plan for proper land use management around the roadway and to ensure the City receives the maximum benefits from all changes to the roadway.  (3) Increased housing capacity; The City should explore a "build-out" scenario to determine possible and acceptable increases in new housing units given expanded utility capacity. This study should also define target areas for future utility improvements and service areas, to be coordinated with the County and the Water Authority.

**Pike County**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance Pike County's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all county residents.*

**Objectives:**

- (1) Corridor Management Areas should be established for select arterials within the county. These will accommodate a mix of uses but ensure that each development is coordinated with additional plans for the roadway and surrounding properties. Upon adoption of the Comprehensive Plan, more detailed specific Corridor Management Plans should be developed for each.
  - Hwy 19 north of Zebulon – Must accommodate mix of residential, commercial and industrial uses while maintaining traffic flow. Preference for commercial activity to cluster at key intersections and to minimize curb cuts.
  - Hwy 41 – Potential for commercial and industrial use must also accommodate access from Pike County and show coordination with neighboring communities to ensure the traffic flow of the highway.
  - Proposed Zebulon Truck-route – Development along the eastern half of Zebulon must be managed to ensure both a) the relative availability of low-cost land for the construction of such a road and b) to maintain the road as an express route and not a destination.
- (2) Zebulon Gateway Management Areas should be established along Hwy 19 both north and south of the city and east of Zebulon along Hwy 18. Coordinated with the locations of intersections with the proposed Zebulon Truck Route, these areas should maintain the architectural style and scale of downtown Zebulon and encourage uses that support existing businesses and community activities. The concept will be to provide a clear delineation between the rural environment of Pike County and the urban townscape of Zebulon.
- (3) Coordinate residential growth more closely with the provision of public services. Direct residential development towards the parts of the county with/ planned to receive water and/or sewer service. To assist in this effort and to maximize the benefit of such services, development policies should encourage more distinct differences between permissible densities between areas with water and sewer and those without.
- (4) Unincorporated Hollonville should be targeted for future concentrations of commercial and civic structures. As Northern Pike County begins to grow, this area should concentrate activities within a modest area to foster a potential economic center around the intersection of Hwy 362 and Hollonville Road. Such actions would support future provisions of public utilities and services and improve the potential success of commercial activity within the area.
- (5) To help preserve the county's appearance of rural character a minimum of two actions are recommended: 1. Pursuit of a Rural Pike County study. Many residents have expressed a strong desire to maintain Pike County's rural character, despite differing opinions on what to preserve and how to preserve it. The County should more clearly define the attributes that make up the area's rural character (forests, scenic vistas) and develop a strategy for their preservation. 2. In lieu of further measures, the County should amend development regulations to foster more rural residential development patterns.
  - Encourage, by incentives residential lots of 5 acres or greater;
  - Continue to encourage residential subdivisions with minimum lot sizes of 2 acres.
  - Encourage residential subdivisions with minimum lot sizes of under 2 acres providing that development includes greenspace (yielding net density to at least 2

**Meansville**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- (1) Joint long-term utility and land use planning with Zebulon and Pike County; The City pursue a collaborative plan with these other communities to clearly define utility improvement areas and capacities for the area between Meansville and Zebulon. Issues such as traffic management and the development of commercial and industrial sites south of Zebulon should be assessed with recommendations for each jurisdiction clearly identified. Meansville should then develop an annexation strategy for accommodating new growth while working to maintain an individual identity.
- (2) Develop new and improved Civic spaces; In order to sustain the desired level of residential character and overall quality of life, Meansville should pursue additional civic gathering spaces such as parks and plazas, a long term plan for improving City Hall and for fostering a true downtown. The small town nature must be preserved, yet it must also be strengthened in lieu of the growth and changes expected for Pike County.
- (3) Closer ties to the Girl Scout Camp?

**Molena**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- (1) Begin collaborative land use planning with Pike County for Still Branch Reservoir area; Molena should serve as the commercial and civic center for any new development immediately around the reservoir. As such the City should work to provide the proper traffic management and appropriate scales of public services and activity.
- (2) Corridor Study for Hwy 18; The main arterial for direct and through traffic to Molena, this route is scheduled for inclusion in a scenic byway and for future improvements. The City must plan for proper land use management around the roadway and to ensure the City receives the maximum benefits from all changes to the roadway.

**Williamson**

**Land Use Goal:** *To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.*

**Objectives:**

- (1) Begin collaborative facilities planning with Pike County; Williamson is the commercial and civic center for northern Pike County. As such the City and County should coordinate future public utilities and facilities to ensure efficient service delivery. Williamson should continue to participate with the Service Delivery Agreement (SDA) for Pike County and strive to have future County civic functions and structures located within City limits to maintain a sense of community center and an effective scale of urban amenities.

- (2) Corridor Study for Hwy 362; The main arterial for direct and through traffic to Williamson, this route is scheduled for future improvements that may or may not affect the downtown businesses and houses. The City must monitor such plans and make sure the needs of local interests and destination traffic are not adversely impacted by accommodations for through traffic. The possibility of a new route for 362, bypassing the City's downtown, must be addressed and mitigated to preserve the vitality of the City.

- (4) Support infill development of existing neighborhoods and business centers; Ensure compatibility of new and existing development. Where possible, the City should direct foster the reuse and renovation of existing properties within the city, encouraging architectural designs and property development that matches the detailing, scale and community impact of surrounding properties.

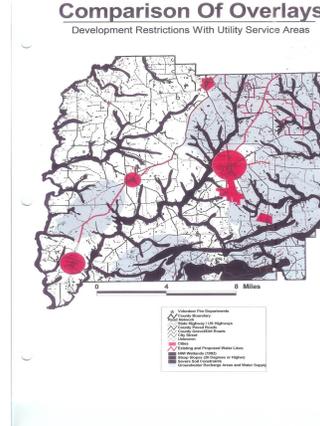
**Zebulon**

**Land Use Goal:** To ensure that land resources are allocated for uses that will accommodate and enhance the City's economic development, natural and cultural resources, community facilities and housing to protect and improve the quality of life for all residents.

**Objectives:**

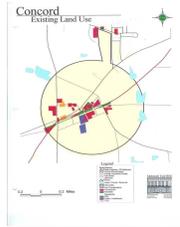
- (1) Encourage rural, low density development on the City's east side. Until plans for a truck route are determined, development within this land should be kept to a minimum to prevent future conflicts between area residents and business and the construction of the roadway.
- (2) Foster pedestrian connectivity to and around the downtown square. As the City encourages more business and social functions around downtown, the ability to provide safe, reasonable access by sidewalk, bike or other non-vehicular means should be considered a high priority. This would aid in accommodating high volumes of people and activities and support further infill development and renovation of existing structures.
- (3) Corridor Management Areas should be established along Highways 19 and along 18. Coordinated with the locations of intersections with the proposed Zebulon Truck Route, these areas should maintain the architectural style and scale of downtown Zebulon and encourage uses that support existing businesses and community activities. The concept will be to provide a clear delineation between the rural environment of Pike County and the urban townscape of Zebulon.

Fig 6.3.9 Comparison of Overlays-Development Restrictions with Utility Service Areas

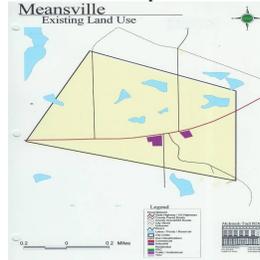


## EXHIBIT "C" LAND USE MAPS

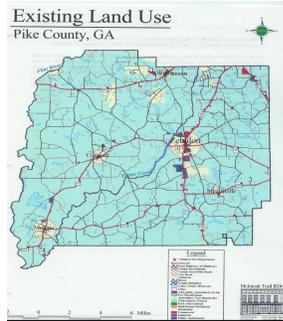
**Concord Land Use Plan**



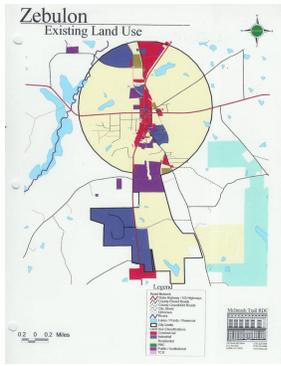
**Meansville Land Use Map**



**Pike County Existing Land Use Plan**



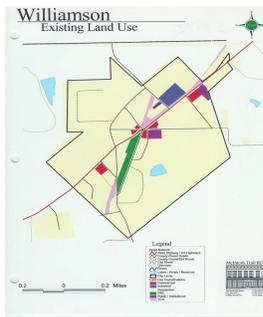
**Zebulon Land Use Map**



**Molena Land Use Map**



**Williamson Land Use Map**



## EXHIBIT “D”

### Critical Facilities - Pike County, GA

Facility name	Address	Type	Value
#1 - Concord Station	200 Main St., PO Box 175, Concord GA 30206	Fire Station	\$96,000
#2 - Hollonville (under construction)	4056 Concord Rd., Concord GA 30206	Fire Station	\$300,000
#3 - Lifsey Springs Station	8033 Hwy 109, Zebulon, GA. 30295	Fire Station	\$268,936
#4 - Meansville Station	201 Means St., Meansville, GA 30256	Fire Station	\$66,000
#5 - Molena Station	Hwy 109 and Spring Road, Molena, GA 30258	Fire Station	\$20,000
#6 - Williamson Station	4417 Williamson - Zebulon Rd., Williamson, GA 30292	Fire Station	\$291,238
#7 - Zebulon Station	500 Hwy 19 South, P O Box 1052, Zebulon, GA 30295	Fire Station	\$1,200,000
#8 - Second District Station	1585 Gresham Rd., Zebulon, GA 30295	Fire Station	\$66,000
Pike County Middle School	406 Hughley Rd., Zebulon, GA 30295	School	\$17,800,000
Pike County High School	Hwy 19 South, P O Box 819, Zebulon, GA 30295	School	\$4,919,940
Pike County Elementary School	607 Pirate Dr., Zebulon, GA 30295	School	\$10,000,000
Pike County Primary School	7218 Hwy 19 South, Zebulon, GA 30295	School	\$9,000,000
Pike County (Old) Middle School	570 Hwy 19 South, P O Box 405, Zebulon GA 30295	School offices	\$4,000,000
J. Joel Edwards Library	618 U S Hwy 19 South, Zebulon, GA 30295	Library	\$482,000
Peachstate Aerodrome	349 Jonathan's Roost Rd., Williamson, GA 30292	Airport (private)	0
City of Williamson Water System	107 Midland St., P O Box 9, Williamson, GA 30292	Water System(tank)	\$650,000
Concord South #1 Wastewater Treatment	College St., P O Box 175, Concord, GA 30206	Water System(pond)	\$0
City of Concord Water System	Spring Rd., P O Box 175, Concord, GA 30206	Water System(tank)	\$650,000
Concord North #2 Wastewater Treatment	Green St., P O Box 175, Concord, GA 30206	Water System(pond)	\$0
City of Meansville Water System	Mean St., P O Box 519, Meansville, GA 30256	Water System(tank)	\$650,000
City of Molena Water System	Ga Hwy 18, P O Box 194, Molena, GA 30258	Water System(tank)	\$650,000
Zebulon WPCP Waste Water Treatment	Ga Hwy 18, P O Box 385, Zebulon, GA 30295	Water System	\$51,375
City of Zebulon Water System	Concord St., P O Box 385, Zebulon, GA 30295	Water System	\$1,064,690
City of Zebulon Water System	210 Sullivan Rd, Zebulon, GA 30295	Water System(tank)	\$496,800
West Central State Prison	335 County Farm Rd., P O Box 589, Zebulon, GA 30295	State Prison	\$2,600,000
Zebulon City Hall	500 Hwy 19 South, P O Box 385, Zebulon, GA 30295	City Hall	\$1,200,000
Pike County Courthouse	U S Hwy 19 - Ga Hwy 18, Zebulon, GA 30295	Courthouse	\$390,000
Pike County Sheriff's Office / 911 Center	142 E Jackson St., Zebulon, GA 30295	Sheriff	\$662,651
Concord City Hall	200 Main St., P O Box 175, Concord, GA 30206	City Hall	\$96,000
Meansville City Hall	Mean St., P O Box 266, Meansville, GA 30256	City Hall	\$40,000
Williamson City Hall	107 Midland St., P O Box 9, Williamson, GA 30292	City Hall	\$97,840
4510 Pike Silo #10	UGA Griffin Campus - Pike Co., Griffin, GA 30212	Public University	\$10,000
4503 Pike Res. Mang.	UGA Griffin Campus - Pike Co., Griffin, GA 30212	Public University	\$100,000
Molena City Hall	104 Springs Street, Molena, GA 30258	City Hall	\$35,000
Pike County Jail	140 E Jackson Street, Zebulon, GA 30295	Jail	\$229,500
Pike County Health Dept.	165 Griffin Street, PO Box 377, Zebulon GA 30295	Health Dept	\$500,000
Allie Barkston Edwards Senior Center	9716 Hwy 19 North, Zebulon, GA 30295	Seniors	\$181,925
Courthouse Annex	73,75,79 Jackson Street, Zebulon, GA 30295	County Offices	\$270,000
North Judicial Annex	325 Thomaston Street, Zebulon, GA 30295	County Offices	\$85,237

EXHIBIT "E"

**Appendix E**  
**Sample Letter of Support**

Mr. Steve Marro  
County Manager  
Pike County Government  
P.O. Box 377  
Zebulon, Ga. 30295-0377

Dear Mr. Marro,

Please accept this letter as representation of the City/Town of \_\_\_\_\_ support for the development of the Pike County Pre-Hazard Mitigation Plan. The City/Town \_\_\_\_\_ wholeheartly supports the project and will cooperate fully in the research and development of the plan in an effort to reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens.

Sincerely,

Mayor or City/Town Manager should sign below

EXHIBIT "F"  
Letters of Support from the Municipalities

CITY OF MOLENA  
P. O. BOX 247  
MOLENA, GEORGIA 30258

PHONE : 770-884-9711  
FAX: 770-884-0344

---

**March 13, 2009**

Mr. Steve Marro  
County Manager  
Pike County  
Government P. O.  
Box 377  
Zebulon, Georgia 30295-0377

Dear Mr. Marro,

Please accept this letter as representation of the City of Molena's support for the development and implementation of the Pike County Pre-Hazard Mitigation Plan. The City of Molena **supports** the project and will cooperate fully in the research and development of the plan in an **effort to** reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens.

Sincerely,



**Elizabeth** Arnie Barker

MIKE BERES, Mayor  
DAVID WOODS, Councilman  
DEWEY YARBROUGH, Councilman  
WILLIAM THOMAS, Councilman  
HARRY RAWLINS, Councilman

## CITY OF ZEBULON

P.O. Box 385  
Zebulon, Georgia 30295

CITY HALL: (770) 567-8748  
FAX: (770) 567-8802



Mr. Steve Marro  
County Manager  
Pike County Government  
P.O. Box 377  
Zebulon, GA 30295-0377

December 11, 2008

Dear Mr. Marro,

Please accept this letter as representation of the City of Zebulon of support for the development and implementation of the Pike County Pre-Hazard Mitigation Plan. The City of Zebulon wholeheartedly supports the project and will cooperate fully in the research and development of the plan in an effort to reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Beres".

Mike Beres  
Mayor

The City of Zebulon is an equal opportunity employer

**CITY OF MEANSVILLE**

P.O. Box 266  
Meansville, GA 30256  
(770)-567-3258

Gayle Burden, Mayor  
Sandy Mitchell, Vice Mayor  
Verlin Rachels, Councilperson  
Melvin Colquitt, Councilperson  
Betty Bradshaw, Councilperson  
Al Milby, Councilperson  
Donna Chavez, City Clerk

December 16, 2008

Thomas Morton, City Attorney  
(770)-567-8534

Mr. Steve Marro  
County Manager  
Pike County Government  
Zebulon, Ga 30295-0377



Dear Mr. Marro:

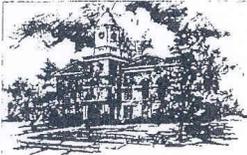
Please accept this letter as a representation by the City of Meansville in support of the development and implementation of the Pike County Pre-Hazard Mitigation Plan. The City of Meansville wholeheartedly supports the project and our city will cooperate fully in the research and development of the plan in an effort to reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens.

Sincerely,

A handwritten signature in cursive that reads "Gayle Burden".

Gayle Burden  
Mayor  
City of Meansville

R:\COM\Marro L 12-11-2008.doc



PIKE COUNTY BOARD OF COMMISSIONERS

PO Box 377  
Zebulon Georgia 30295

Phone: (770) 567-3406 Fax (770) 567-2006 email: [www.pikecounty.ga.gov](http://www.pikecounty.ga.gov)

Roosevelt Willis, 1<sup>st</sup> Dist. Commissioner  
Tommy Powers, 3<sup>rd</sup> Dist. Commissioner

Steve Fry, Chairman

Panish Swift, 2<sup>nd</sup> Dist. Commissioner  
"Jake" Garner, 4<sup>th</sup> Dist. Commissioner

December 11, 2008

Georgia Emergency Management Agency  
P.O. Box 5826  
Cordele, GA 31010

ATN: Mr. R. Alan Sloan, CFM  
Hazard Mitigation Planner

Dear Sir:

Please accept this letter as representation of Pike County, Georgia's support for the development and implementation of the Pike County Pre-Hazard Mitigation Plan. The County wholeheartedly supports the project and will cooperate fully in the research and development of the plan in an effort to reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens.

Respectfully yours,

Stephen A. Marro  
County Manager

C:\SaMarro's files\E.M.A. communications\PDM committment LTR 121108.doc



CITY OF CONCORD  
P.O. BOX 175  
CONCORD, GEORGIA 30206

770-884-5221 770-884-9666 FAX

[cityofconcord@bellsouth.net](mailto:cityofconcord@bellsouth.net)

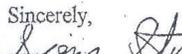
Mr. Steve Marro  
County Manager  
Pike County Government  
P.O. Box 377  
Zebulon, Georgia 30295-0377

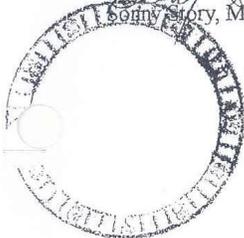
Dear Mr. Marro,

Please accept this letter as representation of the City of Concord's support for the development and implementation of the Pike County Pre-Hazard Mitigation Plan. The City of Concord wholeheartedly supports the project and will cooperate fully in the research and development of the plan in an effort to reduce or eliminate the effects of disasters in our community and to enhance the protection of our citizens. It also understood that this particular project will not incur any cost for the City of Concord other than manpower for research.

This letter also certify that the City of Concord has in place Zoning Ordinances that are being complied with.

Sincerely,

  
Sonny Story, Mayor



# EXHIBIT "G"

## CATEGORY I DAM DATA

**Georgia Department of Natural Resources**  
 205 Butler Street, SE, East Floyd Tower, Atlanta, Georgia 30334  
Lance G. Barrett, Commissioner  
 Harold F. Rehels, Director  
 Environmental Protection Division

December 4, 1998

FILE COPY

Ms. Lisa Hutchenson  
 Interim City Manager  
 City of Griffin  
 Post Office Box T  
 Griffin, GA 30224

CERTIFIED MAIL P 033 093 412  
 RETURN RECEIPT REQUESTED

SUBJECT: Proposed Pike County  
 Regional Reservoir Dam  
 Pike County

Dear Ms. Hutchenson:

The Proposed Pike County Regional Reservoir Dam in Pike County has been classified Category I by the Environmental Protection Division. The classification resulted from a dam failure flood analysis which showed a floodwave of 12 feet above finished floor which would destroy a house located 5.3 miles downstream. A probable loss of life situation would exist, necessitating a Category I classification.

A Category I classification is based upon a finding that a probable loss of life would occur in the event of a dam failure. In order to reclassify a Category I dam to a Category II dam, the Department of Natural Resources must be satisfied that a dam failure will not result in a probable loss of life downstream. At a minimum, the following events must occur in order for the Department of Natural Resources to review any Category I classification at any time other than that required by O.C.G.A. § 12-5-375 (b):

1. The existing dambreak model would need to be expanded by engineers employed by the owner of the dam to establish the entire dam flood failure zone and the location and nature of any structures, businesses, recreation facilities within that dam failure flood zone;
2. Any structures, businesses or recreation facilities within the dam failure flood zone would have to be relocated and/or permanently vacated.

Should the dam owner undertake the above actions, the Department may review the Category I classification. However, the Division does not guarantee that the taking of the above actions will result in either a review or reclassification of any Category I dam.

Proposed Pike County Regional Reservoir Dam  
 December 4, 1998  
 Page No. 2

Under provisions of the Safe Dams Act and the Rules for Dam Safety of the Environmental Protection Division, a permit from the Division will be required for the construction and operation of this dam (see enclosed copies of the Safe Dams Act and the Rules for Dam Safety). Please fill out and return to the Director of the Division the enclosed "Application for Dam Operation Permit". Application for such a permit shall be accompanied by a geotechnical report, hydraulic and hydrologic calculations and any other pertinent information as may be required by "Section 391-3-8-.08 Permits for the Construction and/or Operation of New and Existing Dams and Section 391-3-8-.09 Standards for the Design and Evaluation of Dams" of the Rules for Dam Safety. This information must be sealed by a professional engineer registered in Georgia.

**INVENTORY INFORMATION**

<b>ID. NO.</b>	P-114-031-5283	<b>COE. NO.</b>	---
<b>LAT.</b>	33° 02' 30"	<b>QUAD.</b>	Gay & Concord
<b>LONG.</b>	84° 31' 07"	<b>STREAM.</b>	Sully Branch
<b>HGT. (TOD):</b>	88 feet	<b>TRIB.</b>	Film River
<b>STG. (MAX):</b>	16,336 acre-feet	<b>INV. BY.:</b>	Jerald Little
<b>STG. (NWL):</b>	11,938 acre-feet	<b>CLASS. BY.:</b>	Bob McClelland, PE

**DIRECTIONS:** From Atlanta, take I-75 south to US 19 & 41 (to Griffin). Continue south on US 19 & 41 to State Route (SR) 3 and US 19 (South of Griffin). Continue south on SR 3 and US 19 to the City of Zebulon. Go west on SR 18 in Zebulon 10.5 miles to Pullians Road. Go west on Pullians Road 1.4 miles to an unnamed dirt road. Go south on dirt road 0.8 mile to dam site.

The classification of this structure as a Category I dam is deemed an action of the Director which you may appeal if you disagree with this classification. Accordingly, you are hereby informed of the right to appeal this Category I classification within thirty (30) days from the date of issuance of the same, and such classification shall become final unless a petition for a hearing is filed with the Director as set forth below within thirty (30) days from the date of issuance of the classification.

The ORIGINAL AND THREE (3) COPIES of any petition for a hearing in this matter shall be filed with the Director by hand (delivering same to Ms. Louise Mathis, Filing Clerk, Environmental Protection Division, 205 Butler Street, SE, Suite 1152, Atlanta, GA 30334, or by mailing same to the Director at the following address:

Mr. Harold F. Rehels  
 Director  
 Environmental Protection Division  
 205 Butler Street, SE  
 Suite 1152  
 Atlanta, GA 30334

Attn: Ms. Louise Mathis  
 Filing Clerk

Proposed Pike County Regional Dam  
 December 4, 1998  
 Page No. 3

The Petition for Hearing shall be deemed filed on the date received by the Filing Clerk or when mailed by first class mail, with proper postage attached, and properly addressed, whichever comes first.

A separate copy of any Petition for Hearing shall be served on the Director's counsel of record, to wit:

Robert S. Bomar  
 Senior Assistant Attorney General  
 122 State Judicial Building  
 40 Capitol Square, SW  
 Atlanta, GA 30334-1300

If there are any questions, please contact the Safe Dams Program at (404) 362-2678.

Sincerely,

Harold F. Reheis  
 Director

cc: Ron Harris, Engineering Strategies, Inc.  
 Pike County EMA  
 GEMA



July 6, 1983

Mr. Leonard Ledbetter, Director  
 Environmental Protection Division  
 Department of Natural Resources  
 3420 Morris Berry Drive  
 Mableton, GA 30156

Dear Mr. Ledbetter:

The Potato Creek Watershed Structure Number 82 in Pike County has been classified a Category 1 by the State Soil and Water Conservation Committee in accordance with the Georgia Safe Dam Act of 1978, as amended in 1982.

Dam failure flood studies show that if this dam failed suddenly the churches located 2 1/2 miles downstream would be flooded about 2 1/2 feet. This condition would develop in 20 minutes after floodwaters reached the flood level of the dike and persist for several hours before receding. Flooding conditions were not investigated beyond this point.

ID NO.	114-026-3084	COE NO.	01062-00
LEI.	33' 00" 30" W	QUAD	Zebulon
LONG.	84° 15' 54" W	STREAM	Hardin Creek
HEIGHT (TD)	35.4 Feet	TRIB.	Turner Creek
STG. (W)	100 sq. ft.	OWNER	Twelve Soil & Water Conservation District, New Yorks, Chairman
STG. (W)	100 sq. ft.	DESIGNER	Ruschar/Barnett
INV. BY	Ruschar/Barnett		

To reach this dam go east from Zebulon on GA-18 for 2.85 miles. Take the left fork and go 2.5 miles, turn left and go 0.8 mile to Hardin Creek. The dam is a few hundred feet upstream.

The two 6-inch toe drains were operating when this dam was checked. The embankment had a cover of grass and weeds and a few small trees.

Sincerely,

*(Signature)*  
 K. P. Barnett, P.E.  
 Safe Dams Program Leader

APB:nbj

cc: Owner, Classifier, David Bennett, SCS State Engineer

With the Right One Covers the Drop in Coverage  
 With the Right One of the Other's Obligations of Coverage

ENVIRONMENTAL PROTECTION DIVISION  
 SAFE DAMS PROGRAM  
 ATLANTA TRANSPORT, SUITE 110  
 4244 INTERNATIONAL PARKWAY  
 ATLANTA, GEORGIA 30324  
 (404) 362-2678

CONVEY: Pike  
 NAME: Pike County Regional Res. Dam  
 HAZARD CATEGORY: I  
 For Office Use Only

**APPLICATION FOR DAM OPERATION PERMIT**

INSTRUCTIONS: Complete the applicable portions and forward to the above address. Please type or print.

I. OWNERSHIP DATA  
 Owner/Operator Name \_\_\_\_\_ Phone Number (\_\_\_\_) \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State \_\_\_\_\_ Zip Code \_\_\_\_\_  
 Name & phone number of person immediately responsible for dam if other than owner/operator \_\_\_\_\_  
 Phone Number (\_\_\_\_) \_\_\_\_\_

II. LOCATION DATA  
 Dam's Name \_\_\_\_\_ County \_\_\_\_\_  
 Other identifying names (subdivision, farm, etc.) \_\_\_\_\_

III. HISTORICAL DATA  
 Design Engineer \_\_\_\_\_ Constructed by \_\_\_\_\_  
 Date Completed \_\_\_\_\_ Date & Description of any major repairs \_\_\_\_\_  
 (Use additional sheets if necessary)  
 Present Use: \_\_\_\_\_ agriculture \_\_\_\_\_ recreational \_\_\_\_\_ other \_\_\_\_\_  
 I certify that the above information is true to the best of my knowledge.  
 Signature \_\_\_\_\_ Date \_\_\_\_\_

FOR OFFICE USE ONLY  
 DNR Identifying # P-114-021-5281 \_\_\_\_\_ Quad Map Name Ray & Concord  
 Latitude 33° 02' 30" \_\_\_\_\_ North, Longitude 84° 31' 02" \_\_\_\_\_ West  
 Height 88 \_\_\_\_\_ Feet, Volume 16, 336 \_\_\_\_\_ Acre Feet  
 Notes: From Atlanta, take I-75 south from I-75 at I-20 official, continue south on I-75 to I-41 to State Route 181 and on 181 south to official. Continue south on 181 and on 181 to the City of Zebulon. 2.5 miles to Potato Creek. On west side of Potato Creek 1.4 miles to an unnamed dirt road. On south side of road 0.8 miles to dam site.


 JUL 11 1983  
**RECEIVED**  
 JUN 11 1983  
**DAM SAFETY**

July 7, 1983

Mr. Leonard Ledbetter, Director  
 Environmental Protection Division  
 Department of Natural Resources  
 3425 Norman Berry Drive  
 Marietta, GA 30064

Dear Mr. Ledbetter:

The Potato Creek Watershed Structure Number 66 in Pike County has been classified a Category I by the State Soil and Water Conservation Committee in accordance with the Georgia Safe Dams Act of 1976, as amended in 1982.

Dam failure flood studies show that an unoccupied trailer 2.4 miles below the dam would be flooded more than three feet above the floor level if this dam failed suddenly. If this trailer is moved to an elevation equal to that of the occupied trailer at this same location this classification can be changed to Category II; provided no additional hazards are discovered further downstream. The occupied trailer is about 11 feet above a dam-failure flood wave crest.

ID NO.	114-025-3755	QOE NO.	01059-80
LAT.	33° 06' 20" N	QUAD	Zebulon
LONG.	84° 17' 24" W	STREAM	Little Potato Creek
HEIGHT (TOD)	29.5 feet	TRIB.	Potato Creek
STG. (WAL)	2152 ac. ft.	OWNER	Towhige Soil & Water Conservation District, Rex Verkes, Chairman
STG. (WAL)	147 ac. ft.	RE.	1, The Rock, GA 30285
INV. BY	Ruscher/Barnett		

To reach the dam take GA-18 east from Zebulon and take first right after water tank. Follow for 2.6 miles, turn left and follow 0.8 mile to dam.

The two drains of this dam were functioning at the time of this visit. The embankment had a heavy cover of grass and weeds along with small pines and hardwoods.

Sincerely,  
  
 A. P. Barnett, P.E.  
 Safe Dams Program Leader  
 APB:hbj

cc: Owner, Classifier, David Bennett, SCS State Engineer

With the Right to Own Comes the Duty to Conserve  
 With the Privilege of Use Comes the Obligation of Stewardship


 JUN 23 1983  
**RECEIVED**  
 JUN 27 1983  
**DAM SAFETY**

June 23, 1983

Mr. Leonard Ledbetter, Director  
 Environmental Protection Division  
 Department of Natural Resources  
 3425 Norman Berry Drive  
 Marietta, GA 30064

Dear Mr. Ledbetter:

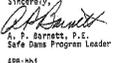
The Potato Creek Watershed Structure Number 33 in Pike County has been classified a Category I by the State Soil and Water Conservation Committee in accordance with the Georgia Safe Dams Act of 1976, as amended in 1982.

The group of residences 0.47 mile below the dam would be flooded from 1.3 to 2.3 feet, if this dam failed suddenly. These circumstances constitute a probable loss of life situation making necessary a Category I classification.

ID NO.	114-027-3689	QOE NO.	01650/80.
LAT.	33° 02' 30" N	QUAD	Zebulon
LONG.	84° 13' 56" W	STREAM	Goth Creek
HEIGHT (TOD)	25.2 feet	TRIB.	Little Potato Creek
STG. (WAL)	305 ac. ft.	OWNER	Towhige Soil & Water Conservation District, Rex Verkes, Chairman
STG. (WAL)	88 ac. ft.		
INV. BY	Ruscher/Barnett		

This dam is located approximately 1/2 mile south of Marietta.

The two toe drains in this dam were functioning when this dam was checked. Slight erosion had occurred on the embankment. The dam had a heavy cover of weeds a few trees and alders at the waterline.

Sincerely,  
  
 A. P. Barnett, P.E.  
 Safe Dams Program Leader  
 APB:hbj

cc: Owner, Classifier, David Bennett, SCS State Engineer

With the Right to Own Comes the Duty to Conserve  
 With the Privilege of Use Comes the Obligation of Stewardship