



City of Fayetteville Sustainability Master Plan

October 12, 2009

Prepared by
Environmental Services Department

In cooperation with
Sustainable Sandhills
GreenWorks Partners, LLC

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i. INTRODUCTION

The City of Fayetteville Sustainability Master Plan is the result of the city's desire to become a leader in sustainability, particularly in North Carolina and the Southeast. The specific directive was the City of Fayetteville 2009 Strategic Plan Goal 3: *More Attractive City—Clean and Beautiful, Objective 2 and 3—Green City Policy Development.*

Tie to Federal Priorities

The development of the plan was funded by a U.S. Department of Energy Efficiency and Conservation Block Grant

The EECBG program was established as part of the 2009 Federal American Recovery and Reinvestment Act. The program's desired outcomes include:

- Increase energy efficiency, reduced energy consumption and reduced energy costs through efficiency in the building, transportation and other appropriate sectors.
- Create new jobs and increase productivity to spur economic growth and community development
- Accelerate deployment of market-ready distributed renewable energy technologies
- Improve air quality through reduction in use of fossil fuels
- Improve coordination of energy-related policies and programs across jurisdictional borders
- Increase security, resilience and reliability of energy generation and transmission infrastructure
- Develop programs that will continue beyond the three year funding period
- Leverage the funds through coordination with other public and private entities

Defining Sustainability

The plan addresses the broad definition of sustainability that incorporates the environment, social equity, and the economy. This approach is often referred to as the triple bottom line. Long term sustainability depends on a careful balancing of economic, social, and environmental goals and objectives. Proposed efforts had to take into account and benefit all three objectives. If a proposed activity did not meet all three objectives, it was not included.

Local stakeholders requested that they develop their own definition of sustainability unique to the City of Fayetteville's cultural and regional characteristics. The following is the agreed upon definition: *Living today in a way that permits future generations to live the same way or better.*

The Process

The City of Fayetteville Sustainability Master Plan is the culmination of a multi-step transparent process:

1. A knowledge base of existing efforts was developed through research and interviews.
2. Stakeholders representing the public and private sectors were interviewed, including key leaders from academia, business, Fort Bragg, the City and public utilities. Interviews focused on learning about current sustainability efforts and soliciting ideas for the city's plan.

3. National best practices were identified that are appropriate for Fayettevill
4. Guiding principles were developed that reflect Federal priorities. These principles set the foundation for the plan
5. Goals were set for each of the four major topics
6. Proposed efforts were drafted that reflect the principles, help implement the goals, compliment existir activities, fit culturally, and match public policy trends at both the state and federal levels.

Once drafted, the Sustainability Master Plan was reviewed internally and distributed to Departmental Managers and City Staff for their review and input. Comments were collected and then a revised version was distributed to the Mayor and City Council. The plan was then distributed to a group of key stakeholders, the Sustainability Task Force. The Task Force's stakeholders represented a wide variety of interests similar to those interviewed.

The Sustainability Task Force reviewed the plan in detail, deleted redundant goals and edited added and deleted proposed efforts. Next, they prioritized each effort, dividing them into short, middle and long term measures, and further prioritized the short term efforts. Finally a glossary and a definition of sustainability were added.

The revised plan and outcomes of the stakeholder meetings were presented to the Mayor and City Council at the September 8, 2009 work session. The Council vote unanimously to continue the development of the plan.

The plan was posted on the City's website for review and comment. The City held four public meetings on September 2, 24, 28 and 29 to solicit public comment. The plan was again revised based on the public input from these meetings.

The plan is scheduled to be presented for adoption by the City Council on October 12. Once adopted, it will be submitted the U.S. Department of Energy as part of the city EECBG grant proposal.

Plan Format

The Sustainability Master Plan focuses on four areas:

- Environment and Natural Resource:
- Planning
- Community
- City Agencies

Each focus area has overarching goals, is subdivided into specific sustainability topics, and is further divided into current and proposed efforts. Each effort is prioritized as short, middle or long term, identifies the responsible City department and includes a brief status.

The format was selected because it mirrors the City's Strategic Plan and will therefore be easy to incorporate as an addendum. In addition, the matrix format is action-oriented and can be used as a management tool.

Implementation

The plan identifies the top priority efforts, which focus on low or no cost organizational steps to lay a foundation for future progress. Another initial step should be to calculate the carbon footprint of City operations and facilities by measuring the carbon emissions from the City's energy and fuel use, and to utilize this data to set quantifiable targets.

Implementation of the Sustainability Master Plan will be the responsibility of senior city managers. Each responsible manager will assign staff and budget accordingly to implement the proposed efforts that fall within their departmental areas. Progress towards reaching goals and implementing proposed efforts will be tracked as part of monthly management meetings. Implementation of the plan will also be an element of each manager's annual review.

Implementation will be monitored to ensure financial viability and effectiveness of each initiative. The status of the Sustainability Master Plan will be reviewed in an annual report to be submitted to the Mayor and City Council. The plan is not intended to be a static document; rather it will be revised and the bar raised on an ongoing basis to reinforce the Fayetteville's role as a leader in the Southeast.

Note: Bold efforts represent the highest priority initiatives as determined by the Sustainability Task Force.

ii. ACKNOWLEDGEMENTS

The following people contributed to the development of this Plan. The City wishes to thank them for their contribution.

Sustainability Task Force

Bill Berry, City of Fayetteville Public Works Commission
Amanda Blue, Sustainable Sandhills
Maurizia Chapman, FAMPO
Jerry Dietzen, City of Fayetteville Department of Environmental Services
John Gillis, Home Builders Association of Fayetteville
Eva Hansen, Partnership for Children
Heidi Johnson, Sustainable Sandhills
Dale Iman, City Manager, City of Fayetteville
Karl Legatski, Sandhills Area Land Trust
Julia Love, Sustainable Fort Bragg
Keith Lynch, City of Fayetteville Public Works Commission
Dr. John Maddox, Fayetteville State University
Karen Moore, City of Fayetteville Department of Environmental Services
Jon Parsons, Sustainable Sandhills
Jody Risacher, Cumberland County Public Library
Laurie Shrauger, City of Fayetteville Public Works Commission
Terri Union, City of Fayetteville Public Works Commission
James Wilson, TREC Enterprises
Natalie Woodbury, Homebuilders Association of Fayetteville

Stakeholder Interviews

Rick Anderson, City of Fayetteville Public Works Commission
Rob Anderson, City of Fayetteville Development Services
Don Belk, BRAC Regional Task Force
Bill Berry, Fayetteville Public Works Commission
H. Jay Blausler, Fayetteville State University
Kathy Boyer, Triangle J Council of Governments
Sanford Cain, Fayetteville Technical Community College
Rudolph Cardenas, Fayetteville State University
Maurizia Chapman, FAMPO
Tony Chavonne, Mayor, City of Fayetteville
Dawn Driggers, Fayetteville Metropolitan Housing Authority
Erica Gordon, Cumberland Community Foundation
David Heins, Fort Bragg Environmental Sustainment Division
Jim Hickman, State of North Carolina Depart. of Energy & Natural Resources
Bobby Howard, Cumberland County Solid Waste Management
Bobby Hurst, Fayetteville Beautiful
Keith Lynch, Fayetteville Public Works Commission
Dr. John Maddox, Fayetteville State University
Kathy Miller, Cumberland County Schools
John Monaghan, Piedmont Natural Gas
Jon Parsons, Sustainable Sandhills
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Laurie Shrauger, Fayetteville Public Works Commission
Mike Stout, Fayetteville Metropolitan Housing Authority
Bob Stranger, Cumberland County engineer?
Terri Union, City of Fayetteville Public Works Commission
Candace Williams, Sustainable Area Land Trust
Brian Wilson, Pratt Industries
Natalie Woodbury, Homebuilders Association of Fayetteville

Glossary & Resources

1. ASHRAE 90.1 energy efficiency building code, American Society of Heating, Refrigerating and Air Conditioning Engineers, ashrae.org,
2. Combined Air Team, a group of organizations and agencies working collaboratively to reduce greenhouse gas emissions and improve air quality in the Greater Cumberland County and Fayetteville area
3. Eat Smart Move More: North Carolina movement that promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray, eatsmartmovemorenc.com
4. East Coast Greenway, greenway.org
5. FAMPO, Fayetteville Area Metropolitan Planning Organization, fampo.org
6. FAST, Fayetteville Area System of Transit, ridefast.org
7. Environmental Services Department, City of Fayetteville, ci.fayetteville.nc.us/portal/sanitation/
8. Greater Fayetteville Futures II, greaterfayettevillefutures.org/
9. International Energy Conservation Code (IECC), icc-safe.org
10. LEED, Leadership in Energy & Environmental Design, a green building rating system, usgbc.org
11. Mid-Carolina COG, mccog.org
12. NCDENR/DAQ, North Carolina Department of Environmental and Natural Resources, Division of Air Quality, daq.state.nc.us
13. Plug-in Hybrid Electric Vehicles (PHEV), hybridconsortium.org
14. Plug-in Partners, pluginpartners.org
15. Project NC Get Ready!, projectgetready.com/
16. PWC, Public Works Commission, City of Fayetteville, faypwc.com
17. Sustainable Sandhills, sustainablesandhills.org
18. UDO, Unified Development Ordinance, City of Fayetteville, ci.fayetteville.nc.us/files/14/unified_development_ordinance/default.aspx

iv. GUIDING PRINCIPLES

Sustainability = Living today in a way that permits future generations to live the same way or better

The following seven guiding principles, in alignment with the Federal Sustainable Communities Initiative, provide the foundation of the Fayetteville Sustainability Master Plan.

1. Promote national energy independence, reduce carbon emissions & contribute to a healthier environment: Establish sustainability goals and objectives to reverse the effects of climate change and achieve “absolute” reductions in carbon emissions through achieving federal, state and local priorities. These priorities include 1) allocating resources to infrastructure that will reduce vehicle miles traveled by promoting public transit, walking and biking and linking commercial and housing development with transit; and 2) by promoting the adoption of energy efficiency and renewable energy practices ar
2. Increase competitiveness & produce economic benefits: 1) Support regional multimodal transportation systems that provide access, mobility and connectivity throughout the region by leveraging modal efficiencies, existing infrastructure and development that encourages alternative forms of transportation; 2) improve opportunities for green jobs; and 3) support the development of clean energy and recycling industries.
3. Promote regional cooperation: Educate, involve and create partnerships with all stakeholders including individual citizens, community and regional based organizations, businesses, Fort Bragg, the School District, colleges and universities, the County and the State to take an active part in reaching sustainability goals and towards achieving a sustainable communi
4. Preserve neighborhoods & maintain housing affordability: Create affordable housing policies so that development utilizes existing infrastructure, encourages the use of alternative forms of transportation and incorporates green strategies that maximize energy and water efficiency and ensure occupant health.
5. Develop healthier communities & social equity: 1) Allocate resources to activities that improve air quality; 2) create public green space, including trails, alongside environmentally responsible and sustainable development that promotes improvements in public health and active lifestyles; and 3) ensure that residents, businesses and other stakeholders have access to the benefits of a sustainable community.
6. Lead by example: Serve as a model for the state and region by 1) integrating financially responsible sustainability into all appropriate city decision making in order to maximize environmental benefits and reduce or eliminate negative environmental impacts; 2) exploring, utilizing and sharing best practices with the community; and 3) meeting all environmental mandates while striving to exceed them to the extent practical.
7. Utilize performance metrics & ensure accountability: 1) Establish measurable sustainability goals and objectives; 2) regularly evaluate, measure and report the program’s status to ensure that resources are being utilized to their highest and best use and that the city is achieving national, state and local performance measures; and 3) determine each initiative’s cost effectiveness utilizing a life cycle assessment that incorporates all environmental, economic and social costs and benefits.

1. ENVIRONMENTAL AND NATURAL RESOURCES					
<p>Goals: Minimize air pollution, including climate-impacting emissions. Increase the awareness of projected adverse climate change impacts. Maximize energy and water efficiency and the use of alternative sources in the City operations and the community. Protect the Cape Fear River watershed. Minimize the generation of waste and maximize the use of recycled and regional content materials. Create an environment that expects the use of sustainability best practices and promotes the development of model programs. Embrace the sustainability principle that recognizes and takes advantage of the life cycle of goods and materials.</p>					
Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
a. Air Quality & Climate Protection					
Current Efforts					
1. Continue to work with Sustainable Sandhills, Sustainable Fort Bragg, FAMPO, NCDENR/DAQ, PWC, FAST, Mid-Carolina COG and others on the Combined Air Team, to plan and implement projects to improve air quality, reduce greenhouse gas emissions and avoid non-attainment status for ground level ozone.					
2. See 2.c. Transportation					
3. See 4.a. City Facilities & Operations					
4. The city has joined the Triangle Clean Cities Coalition					
5. Fayetteville Technical Community College has signed the American College & University Presidents Climate Commitment					
Proposed Efforts					
1. Adopt model city operations and citywide sustainability and green building programs that incorporate best practices utilized by other agencies and institutions such as the Sustainable Fort Bragg program	X				
2. Join and support additional appropriate local, regional and state sustainability-related organizations and partnerships	X				
3. Encourage local institutions to make sustainability commitments through signing protocols appropriate to their function	X				
4. Adopt a program to limit city and commercial vehicle idling time, including delivery and construction vehicles, such as adopted by the School District	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
5. Develop an urban forestry plan, including parking lot standards, to protect and expand the city's tree resources and to minimize the urban heat island effect (lower local temperatures); adopt ordinances, such as UDO, that assists with implementation and requires reforestation as a stormwater/air quality mitigation for tree removal	X				
b. Energy Efficiency & Alternate Energy Sources					
Current Efforts					
1. See 4.b Public Works Commission, below					
Proposed Efforts					
1. Maximize cost effective energy efficiency and the use of alternative energy sources in city facilities and operations (see 4.a City Facilities & Operations)		X			
2. Maximize cost effective energy efficiency and the use of alternative energy sources by the community through Public Works Commission initiatives (see 4.b Public Works Commission)		X			
3. Adopt minimum energy efficiency standards for all new buildings and modernization projects, such as the International Energy Conservation Code (IECC) or ASHRAE 90.1; identify key areas of opportunity such as parking lots		X			
4. Collaborate with local stakeholders to develop an integrated alternate fuels strategy for public and private vehicles, including: a. Maximizing the use of locally derived fuels b. Ensuring the development of required alternate fuel infrastructure such as electric vehicle charging stations		X			
c. Water Efficiency & Quality					
Current Efforts					
1. Enforce the Water Shortage Response Ordinance that mandates an odd/even irrigation schedule and modify as necessary to meet the adopted goals					
2. The Stormwater Management Utility Ordinance, effective January 1, 2009, includes a. Programs designed to protect and manage water quality and quantity by controlling the level of point and non-point pollutants in stormwater runoff, and the quantity and rate of stormwater received and conveyed by structural and natural stormwater and drainage systems of all types b. Establishes a schedule of charges c. Defines the control, collection, and disbursal of funds d. Sets forth penalties, methods of appeals and exemptions					

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
3. Water rates are structured to encourage efficiency through charging more for higher, non-essential potable water uses such as ornamental water uses; residential lawn irrigation; non-commercial washing of motor vehicles; washdown of impervious services; recreational pools serving less than 25 residential units; public parks; and serving water in restaurants except by request					
Proposed Efforts					
1. Prepare and implement an integrated water resources plan that evaluates and plans for the use of water in City operations and communitywide. An integrated plan: a. Addresses all water issues in a unified manner to maximize water efficiency b. Maximizes the use of alternative sources of water (recycled water, gray water, stormwater and groundwater) which otherwise enters the stormwater system due to the dewatering of subterranean structures c. Protects groundwater and the watershed d. Ensures that the City's water infrastructure is maintained in a manner that minimizes leakage and ensures adequate supply		X			
2. Work with other stakeholders to protect the Cape Fear River watershed, including the uplands, to ensure the future availability and quality of the city's water supply and its biological integrity		X			
3. Adopt minimum water efficiency standards in the building code that go beyond Federal standards such as water fixture maximum flow rates	X				
4. Maximize the cost effective water efficiency and use of alternative water sources in City facilities and operations (see 4.a City Facilities & Operations)			X		
d. Recycling, Waste Management & Materials					
Current Efforts					
1. City facility and operations recycling program has 100% participation					
2. Commingled recyclables collected from single family residences with 70% participation					
3. October 1, 2009 State plastic bottle recycling requirement					
4. DAK industries plant (see 3.b Economic Development)					
Proposed Efforts					
1. Develop an integrated waste management plan that includes long range recycling and reuse goals, using treated waste to create clean energy and public education		X			
2. Expand the City's existing recycling program by adding multi-family residential , commercial and industrial buildings, parks and other public facilities		X			

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
3. Establish minimum construction and demolition waste recycling requirements for all development projects, including requirements for the appropriate disposal of hazardous materials such as mercury		X			
4. Work with local stakeholders to develop a regional deconstruction program to maximize the reuse of components from demolished buildings		X			
5. Work with local stakeholders to establish a regional electronic waste recycling and disposal program		X			
6. Work with local stakeholders to encourage the growth of markets for recycled content products		X			
7. Maximize the cost effective use of low emitting and recycled content materials and the recycling of waste in City facilities and operations (see 4.a. City Facilities & Operations, below)		X			

2. PLANNING

Goals:

Maximize the appropriate incorporation of green building and other sustainability practices into the City's building, land use and transportation policies, ordinances and regulations.

Maximize the use of smart growth and urban infill for the City's future development.

Maximize the use of alternate sources of transportation including transit, ridesharing, bicycling and walking.

Promote the development of infrastructure and land use planning to incorporate clean energy technology.

Encourage and promote mixed use development throughout the community.

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
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a. Green Buildings

Current Efforts

1. Draft Unified Development Ordinance (UDO) (June 2009) offers sustainable development practices incentives in Mixed Residential 5 (MR-5) and Downtown (DT) districts; projects providing required number of sustainable features are eligible for a density bonus of up to 20 percent beyond the maximum allowable gross residential density and increases in the maximum allowable height up to two stories beyond the maximum allowable height in the base zoning district; 12 eligible features range from renewable energy to LEED Silver certification to community gardens.					
2. New Century International School will be a new green school					
3. As a pilot program, PWC attaches monitoring devices to customer's HVAC and water heaters. This allows PWC to measure efficiency of HVAC, Water heater and home. PWC can notify customer of inefficiencies and offer suggestions to become more efficient thus saving customer money and reducing environmental footprint.					

Proposed Efforts

1. Require that all new City buildings over 7,500 square feet meet LEED Silver or equivalent standards, as required by the Department of Defense for all military construction		X			
2. Expand the availability of incentives in the UDO for the incorporation of sustainability features to include additional appropriate districts	X				
3. Ensure that the UDO's "Menu of Sustainability Features" reflects the city's priorities and that the individual items are weighted to their environmental value or of equal environmental value as determined through a life cycle assessment	X				
4. Develop a program to achieve LEED for Existing Buildings Certified standards or equivalent for all City buildings of at least 25,000 square feet			X		

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
5. Ensure that all City regulations, codes, rates structures and other programs do not impede and, where possible, provide incentives for the adoption of sustainable products and strategies by the City, businesses and residents		X			
6. Conduct green building training for community housing development organizations (UDOs) which receive City financing assistance to build and rehabilitate low-income affordable housing. Incorporate a module on energy and water efficiency, indoor air quality and other green building strategies for contractors working under the City's Community Development programs	X				
7. Work with vendors on securing best prices for energy and water efficient appliances and components (doors, windows, toilets) for replacements made under Fayetteville Urban Ministry Emergency Repair Program	X				
8. Build all low-income affordable housing financed with City resources to the Enterprise Community Green Building Criteria		X			
9. Encourage and support the development of affordable housing that maximizes green building strategies focused on indoor air quality and minimizing utility costs	X				
b. Land Use & Open Space					
Current Efforts					
1. All new development is required to include 500 square feet of open space per residential unit					
2. Fayetteville and Cumberland County have adopted the 2030 Growth Vision Plan					
Proposed Efforts					
1. In the Draft Unified Development Ordinance (UDO): a. Incorporate smart growth and school centered community principals b. Prioritize urban infill, transit oriented and walkable development c. Incorporate the planning and development of park and ride facilities to support existing and future transit d. Incorporate the planning and development of "complete streets" that accommodate all forms of transportation along appropriate corridors e. Incorporate pedestrian-oriented sidewalks design standards, such as the separation of sidewalks & traffic lanes f. Encourage the protection of the city's historic integrity while incorporating sustainable practices, including both buildings and neighborhoods	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
g. Incorporate low impact development standards h. Incorporate strategies to minimize surface parking lots i. Incorporate tree preservation and reforestation plan j. Adopt development standards that separate, buffer and protect sensitive receptors (e.g. school facilities, child care, health facilities, residential units located on major arterials, and senior facilities) from significant sources of pollution to the greatest extent possible					
2. Work with stakeholders to develop an integrated regional comprehensive development plan		X			
3. Evaluate rezoning incorporating suitability and sustainability issues using resources such as the 2030 Plan, the Sand Hills Suitability maps etc	X				
4. Create an inventory of all Brownfield properties in the city and establish goals, priorities and procedures for their abatement and reuse		X			
c. Transportation					
Current Efforts					
1. Continue to work with local stakeholders to maximize the utility of the local transit system; develop programs and educate employers about employee rideshare and transit; and promote mass transit ridership through careful planning of routes, headways, origins and destinations, and types of vehicles					
2. Greater Fayetteville Futures II Objective 6 is Traditional Connectivity Infrastructure (transportation).					
3. New and improved bus routes and later scheduling will better align transit with employee work hours and locations					
4. Signal lights are being synchronized at all appropriate intersections					
5. City has joined Plug-in Partners, a national grass-roots initiative to demonstrate to automakers that a market for flexible fuel Plug-in Hybrid Electric Vehicles (PHEV) exists today.					
6. Traffic circles are being utilized as traffic calming and safety devices					
Proposed Efforts					
1. Develop a program to connect and assist potential rideshares	X				
2. Promote the use of high mileage, alternative fueled and low emitting vehicles by businesses and residents, including through participation in Project NC Get Ready! to facilitate the adoption of electric and plug-in electric vehicles		X			
3. Create a bicycle master plan consistent with the regional Connectivity Report		X			
4. Increase the availability of safe pedestrian cross walks		X			
5. Review prior studies and analyze the feasibility of a plan to reserve corridors for future light rail.		X			

3. COMMUNITY

Goals:

Protect and enhance environmental and public health by minimizing the levels of pollutants entering the air, soil and water and, whenever possible, eliminating the use of hazardous or toxic materials by the City, residents and businesses.

Encourage residents to improve their health by increasing access to a diverse mix of wellness activities and fresh, locally produced, organic food.

Ensure that all socioeconomic groups in the City are equally protected from environmental pollution.

Nurture a diverse and stable local economy that supports the provision of basic needs for all segments of the community.

Encourage the efficient and sustainable use of all resources to maximize the retention of dollars in the local economy.

Encourage all local businesses, organizations and public agencies to adopt sustainable practices, led by City example.

Encourage businesses with services and products that increase sustainability to locate within the City.

Ensure that all members of the community are able to meet their basic needs and are empowered to enhance the quality of their lives.

Promote access for all members of the community to beneficial housing, health services, education, economic opportunity and cultural and recreational resources.

Communicate the City's sustainability commitment and goals to staff and the community through ongoing educational programs including providing information on how staff and residents can adopt sustainability practices in their lives.

Provide every citizen with access to high speed broad band.

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
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a. Environmental & Public Health

Current Efforts

1. Better Health Cumberland County's has an Eat Smart Move More campaign.					
2. Greater Fayetteville Futures II Objective 7 is Improve and Sustain Health Services and Wellness					
3. The Fayetteville Community Garden was established in 2001					

Proposed Efforts

1. Ensure public access to local rivers for recreation and other uses; develop a maintenance and "leave no trace" education plan for public use areas		X			
2. Connect state park lands into an integrated whole, i.e., Long Valley Farm & the River Oaks Preserve			X		
3. Support and promote recreational activities and community gardens in every District with priority on low income areas.		X			
4. Educate residents and businesses about safe alternatives to the use of toxic and hazardous and non-recyclable materials.	X				
5. Work with stakeholders to strengthen and promote the programs to safely collect and dispose of toxic and hazardous waste	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
6. Identify and implement ways to reduce unnecessary pesticide application and irrigation through the use of Integrated Pest Management and the use of native plants		X			
7. Promote the use of green chemistry in business practices.	X				
8. Promote and support programs that encourage residents to maintain and improve their health through recreation, healthy eating and other similar activities	X				
9. Construct a permanent farmer's market structure.		X			
b. Economic Development					
Current Efforts					
1. Greater Fayetteville Futures II Objectives encourage economic development, including Objective 1 – Model Education System including high quality early care and education; Objective 2 – Economic Development; Objective 4 – Improved Public Services; Objective 8 - Grow and Sustain a "Green" Community; and Objective 10 – Cultural and Recreational Resources.					
2. The East Coast Greenway, a bicycle and hiking trail, which in Fayetteville includes the Cape Fear River Trail and other local trails, connects Fayetteville with other North Carolina cities and other states and can be utilized for economic development, including ecotourism including linear park system					
3. DAK America is developing a plastic bottle recycling plant; the recycled material will be utilized to manufacture carpeting, among other products					
4. Sustainable Sandhills' Certified Green Business program provides recognition and technical assistance. The program is being expanded to schools, with Fayetteville State University serving as the model, and to cities with this Sustainability Master Plan the model					
Proposed Efforts					
1. Survey green companies as to factors that contributed to their locating in the city	X				
2. Develop an inventory of the existing workforce and industry for potential conversion to green economy and identify gaps.	X				
3. Establish sustainability, green jobs and sourcing local green products and services, including food, as a priority economic development strategy; work with stakeholders to develop and implement a green jobs training strategy, and develop a strategy and offer incentives as appropriate to attract green economy companies to the city		X			
4. Develop a cultural and historic preservation strategy in conjunction with energy efficient renovations to preserve the city's key cultural assets in a sustainable manner		X			

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
5. Enhance the "State of the Chamber Report" and the City's "Annual Report" by adding a sustainable development component	X				
6. Expand existing fiber optic network to allow high speed internet access for the purposes of economic growth and telecommuting		X			
7. Work with local education stakeholders and others to develop and offer green jobs training programs		X			
c. Social Equity					
Current Efforts					
1. Greater Fayetteville Futures II objectives include Objective 3 – Security and Safety for All and Objective 6 – Connectivity (broadband access)					
Proposed Efforts					
1. To ensure excellent customer services to all citizens the city's policies and programs will be reviewed and compared to best practices	X				
2. Incorporate environmental and economic sustainability into the city's quality of life and human resources programs	X				
d. Community Education & Civic Participation					
Current Efforts					
1. Fayetteville recently established the Environmental Services Department; the Department's webpage provides consumer information					
2. Sustainable Sandhills' programs encourage and support the adoption of sustainability practices					
3. Greater Fayetteville Futures II process encourages community participation supports and supports education on sustainability and other topics of importance to the region					
4. Ft. Bragg was the first Army installation to accept the challenge to approach long-term planning using sustainable principles and concepts.					
5. Establish benchmarks and measurable goals for both City operations and facilities and the community as a whole for all key sustainability topics including energy, water, transportation, waste, economic diversity, jobs/housing balance, business reinvestment in the community and the quality of jobs created; use common data for both the baseline data and the goal year					
6. Establish auditing methods to evaluate the extent of success in meeting the goals as well as the effectiveness of the programs, strategies and technologies					

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
7. Report at least annually to the City Council and community on the status of the Sustainability Master Plan, including: <ul style="list-style-type: none"> a. Sustainability indicators b. Costs and benefits c. Successes, challenges and strategies d. Funding opportunities 					
8. Work in concert with current partners and identify additional appropriate partnerships to further the implementation of the Sustainability Master Plan, including with the County, School District, business community, Fort Bragg and community based organizations					
9. Continue to support and expand as beneficial the Sustainable Sandhills Green Business Program that recognizes and certifies green businesses					
10. Coordinate educational efforts between PWC and the City's Community Development program, i.e., disseminate energy saving tips etc at neighborhood meetings, community development week and other marketing programs					
Proposed Efforts					
1. Tie the sustainability efforts into the City's marketing and branding programs		X			

4. CITY AGENCIES					
Goals:					
The City, including the Public Works Commission, should create a model and lead by example with programs and strategies that successfully incorporate sustainability principles into the City's facilities and operations.					
Educate internal and external stakeholders on the benefits of sustainable efforts, products and programs.					
The Public Works Commission should continue serving as a model utility in sustainability practices, including energy efficiency, load management and the use of alternate sources of power and water for both its facilities and operations and for its customers.					
Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
a. City Facilities & Operations					
Current Efforts					
1. Develop and implement a comprehensive, integrated City facilities and operations sustainability strategy, including baseline information (carbon footprint; energy and water use; waste production), measurable goals, policies, strategies and timelines; report at least annually on the strategy's status					
2. Utilize the Sustainability Task Force convened to develop the Sustainability Master Plan to work on and report the status of its implementation					
3. Develop a funding strategy to support the implementation of sustainability initiatives, especially capital investments; analyze all available options including in-house and outside capital sources and a revolving fund that is repaid through utility cost savings					
4. Fire Station #19 and Veteran's Park are being designed to LEED standards					
5. LED (light emitting diode) streetlights are being studied					
6. The City uses grass mulching mowers (mowers that leave the clippings in place) on all City property					
Proposed Efforts					
1. Assist residents, businesses and institutions in implementing sustainability practices wherever joint efforts would help implement the Plan's goals, through strategies as assisting large landowners with stormwater management programs.	X				
2. Make success in implementing the Sustainability Master Plan an element in departmental manager reviews	X				
3. Provide adequate staff and other needed support to implement the Plan's goals and policies; ensure adequate staff training on sustainability principles; utilize volunteers where possible, particularly for the outreach campaign	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
4. As an element of the City facilities and operations sustainability plan, generate a baseline of city facility and operations energy and water usage and cost and include these costs as line items in the budget with projected price increases; develop a plan, including goals and a timeline, to maximize energy and water efficiency and the use of cost effective alternate sources; and work with and identify best practices from local stakeholders such as Cumberland County		X			
5. See 2.a Green Buildings, Proposed Efforts Measure 1, Green buildings for City facilities		X			
6. Design new City buildings to maximize, on a cost effective basis, their energy and water efficiency and the use of renewable resources		X			
7. Continue to maintain and upgrade the City's facilities according to the existing plan utilizing schedules based on the anticipated life of each system, while adopting proven practices and technologies that will advance environmental sustainability goals, maintain high quality standards and reduce long-term costs.	X				
8. Develop a utility infrastructure plan to maintain and improve the storm drainage system, streets and sidewalks and other systems based on the anticipated life of each system, while adopting proven practices and technologies that will advance environmental sustainability goals, maintain high quality standards and reduce long-term costs.	X				
9. Develop and implement an environmentally and socially green procurement program for all products and services utilizing life cycle assessment that incorporates, at a minimum, the following elements: a. Purchase recycled and regional content and low emitting products wherever viable, b. Minimize the waste and maximize the recycling from all City services and operations c. Utilize green cleaning practices and products in city facilities d. Install cool roofs whenever a roof on a city facility is upgraded e. Purchase vehicles which are the most efficient in their class and which use alternate fuels to the maximum extent viable f. Purchase electric powered equipment such as mowers whenever possible	X				
10. Incorporate sustainability principals into all city services, including: a. Minimize the emissions of all city vehicles through strategies such as installing diesel particulate traps and after-market small engine diesel emission controls b. Develop an alternate fuels strategy for city vehicles, including biodiesel blend B20	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
<p>c. Utilize integrated pest management strategies for all city owned facilities and open space to minimize the use of toxic chemicals</p> <p>d. Provide incentives for City employees to carpool, use transit and walk or bike to work and pursue a partnership with Share the Ride NC</p> <p>e. Develop a green space maintenance strategy which classifies lawn areas into standard mowing (once per month), high visibility mowing (once per week) and no mow areas, such as done at Ft. Bragg</p>					
b. Public Works Commission					
Current Efforts					
<p>1. Sustainable community, one of six PWC Strategic Plan goals adopted in February 2009, has the following objectives:</p> <ul style="list-style-type: none"> a. Reduce customer use of water and electricity b. Develop models for environmentally sensitive buildings and programs c. Increase the use of renewable energy resources at the Public Works Commission and in the community d. Work with the City to develop policies and to become designated as a "Green City" e. Become responsible environmental stewards f. Reduce vehicle emissions by 10% over the next five years 					
<p>2. Current programs</p> <ul style="list-style-type: none"> a. Energy and water audits in partnership with Sustainable Sandhills Green Business Program b. Fleet maintenance, including for City vehicles, to ensure clean burning engines c. Biosolid recycling from water reclamation facilities d. Tree planting and watershed tree planting programs e. Water wise landscaping at operations complex f. Purchase, restore and manage land for watershed protection g. Operations Complex includes numerous green elements h. New Customer Service Center, under construction, will be LEED certified i. Butler-Warner Generation Plant upgrades proposed to improve environmental performance j. Internal recycling program 					

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
<p>k. To meet North Carolina mandate that 10% of all retail sales stem from renewable resources by 2018, evaluating emission credits, carbon credits and renewable energy market opportunities with the focus on solar projects, waste-to-energy applications and various energy efficiency measures</p> <p>l. Developing 10-year Electric Division Sustainability Business Plan</p> <p>m. Established alternative fuels/hybrid vehicle program, including conversion of PWC's diesel fuel to a Biodiesel Blend (B20)</p> <p>n. Sustainability public education and outreach program, and community partnerships</p> <p>o. Participating member in Sustainable Sandhills Green Business Program that recognizes and certifies green businesses</p> <p>p. Offer customers opportunity to participate in NC GreenPower, a voluntary environmental program through which customers can purchase blocks of green (renewable) power</p> <p>q. Participates in Good Sense Housing Program which promotes the construction of new energy efficient housing</p> <p>r. Developing a smart grid demonstration project with the goal of reducing on-peak electricity consumption to minimize demand charges</p> <p>s. Analyzing the potential for a methane fired boiler at the PWC waste water treatment plant</p>					
Proposed Efforts					
<p>1. Implement an aggressive program to educate all PWC customers about the projected electric rate increases due to the Progress Energy Full Requirements Contract taking effect in 2012, and how these increases can be mitigated through energy efficiency technical and behavioral measures (i.e., adjusting indoor temperature, and turning off lights and phantom loads such as televisions); within this initiative develop targeted programs for key sectors such as residential, hotel, retail and industry</p>	X				
<p>2. Provide a model for the community through the maximum cost effective utilization of energy and water efficiency, renewable energy and other sustainability practices and technologies in PWC facilities</p>	X				
<p>3. Develop and adopt a strategy to fund aggressive energy and water efficiency and renewable energy programs</p>	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
<p>4. Strengthen PWC's residential, commercial and industrial energy efficiency programs to encourage the installation of cost effective technologies; as part of this effort:</p> <ul style="list-style-type: none"> a. Increase program funding b. Establish energy efficiency or energy use reduction goals by sector c. Offer incentives d. Provide electronic and consolidated billing and energy use history upon request e. Evaluate the benefits and efficiencies of PWC customers installing electric and water submeters in their facilities, and encourage if feasible f. Coordinate energy efficiency retrofit and weatherization efforts between PWC, City Community Development Office and Cumberland County Community Action Team, including sharing information from smart grid demonstration 	X				
<p>5. Strengthen PWC's program to encourage PWC customers to use renewable energy power; as part of this effort:</p> <ul style="list-style-type: none"> a. Increase program funding b. Finalize and adopt the proposed renewable energy system interconnection agreement to establish requirements 		X			
<p>6. Establish residential and commercial water efficiency incentive programs to encourage the installation of cost effective technologies such as plumbing fixtures more efficient than required under Federal standards and water efficient irrigation strategies such as smart irrigation controllers; as part of this effort establish water efficiency goals by sector</p>		X			
<p>7. Establish a program that encourages Fayetteville's many short term residential property owners to weatherize and install energy and water efficiency measures (the average Fayetteville home is only owned for three years)</p>	X				
<p>8. Establish a smart grid program that explores regional opportunities and, among other initiatives:</p> <ul style="list-style-type: none"> a. Expands the existing fiber optic network system to deploy smart grid functionality b. Incorporates electric vehicle charging stations 		X			
<p>9. Assist the City with its proposed energy efficiency and sustainability initiative, including the implementation of the proposed street light LED demonstration project and fee abatements for projects that incorporate sustainability measures</p>	X				

Sustainable Initiative	Short	Middle	Long	Department	Status (New, Complete or Ongoing)
10. Implement at PWC sites and work with the City, County and other stakeholders on developing renewable energy systems such as the proposed: <ul style="list-style-type: none"> a. Solar farm at the Butler-Warner Generation Plant b. In-line hydroelectric generators c. Methane powered electricity plant at the County landfill d. Alternate energy systems at the water and wastewater treatment plant e. Non-incineration waste to energy plant 			X		
11. Undertake a fleet utilization study to maximize the efficiency of city and PWC vehicles and trucks through efficient routing and the use vehicles appropriate for their tasks	X				
12. Establish a pilot program to minimize “unaccounted for energy” such as system losses and theft		X			
13. Monitor developing energy and water efficiency technologies, including smart grids, LEDs for lighting, renewable energy technology, fuel cell for combined heat and power (CHP) and smart irrigation controllers	X				