Ozone Advance Program

Action Plan

Fayetteville Metropolitan Planning Area

A joint effort by USEPA Region 4, North Carolina Department of Environment Quality and the Cumberland County Board of Commissioners, Town of Falcon, City of Fayetteville, Fort Bragg Military Reservation, Town of Godwin, Town of Hope Mills, Town of Linden, Town of Spring Lake, Town of Stedman and Town of Wade and the Fayetteville Area Metropolitan Planning Organization

November 15, 2018

Table of Contents

1. Purpose of the Ozone Advance Program

1.0 Introduction

The Ozone Advance is a collaborative effort between the EPA, states, tribes, and local governments. The program encourages expedition emission reductions in ozone attainment areas to help these areas continue to meet the National Ambient Air Quality Standards (NAAQS) for ground-level ozone. Specifically, the Ozone Advance Program will:

- Help attainment areas reduce emissions to ensure continued health protection,
- Better position areas to remain in attainment, and
- Efficiently direct available resources toward actions to address ozone problems quickly.

Ozone Advance promotes local actions to reduce ozone precursors in attainment areas to help these areas continue to maintain the ozone NAAQS. The program encourages states, tribes, and local governments to take proactive steps to keep their air clean.

Ozone Advance is distinct from the former Early Action Compact (EAC) program in that it focuses on attainment areas, and it does not provide regulatory flexibility in the form of deferred designations or otherwise. The programs are similar, however, in terms of their encouragement of early actions to reduce ozone precursors, and the development of stakeholder groups.

1.1 Background and Stakeholders Involvement

The Clean Air Act (CAA), as amended in 1990, is the most recent version of a law first passed in 1970. The 1990 Amendment made some major changes in the Act, by empowering the US Environmental Protection Agency (EPA) to set up permitting and enforcing programs for larger sources that release pollutants into the air.

On July 17, 1997, the EPA promulgated revised National Ambient and Air Quality Standards, addressing changes in the Ozone and moving from 1-hour standard to an 8-hour standard, as longer exposure to ozone has been proven to have a significant impact on people and the environment. The new primary and secondary standard were set to 0.08 parts per million (ppm) for ground-level ozone.

In 2002, the EPA proposed a new program: The Early Action Compact (EAC), to areas in the country that would meet certain criteria. Each participating area was to have an Early Action Compact Memorandum of Agreement signed by December 31, 2002. The Chairman of the Cumberland County Board of Commissioners originally signed the EAC Memorandum of Agreement on December 13, 2002. The Early Action Plan, a document outlining local, state, and federal strategies to reduce ozone precursors, followed. Milestones set by EPA were met by Cumberland County resulting in designation as an

Ozone Attainment Area in April 2008. Ground level ozone standards were changed once more in 2008 and set at 0.075 ppm and updated again in 2015 to .070ppm. Cumberland County elected to continue with the air quality regional efforts in the hope that uninterrupted work would further the ozone precursors reduction. The Cumberland County Air Quality Stakeholders Committee, which was formed as a part of the EAC and met monthly to discuss and implement air quality improvement strategies.

As a former Early Action Compact Region, this area decided it was advantageous to participate in this program and the Cumberland County Board of Commissioners approved participation in the Ozone Advance (OA) Program to continue the efforts initiated in 2002. Chairman W. Marshall Faircloth signed the letter of interest on September 4, 2012. Every municipality within Cumberland County signed a resolution of support and commitment to participate in the OA program in 2013. All municipalities, including Cumberland County, were approached in early 2017 to commit to supporting Ozone Advanced again this time with the updated standard. The city of Fayetteville, Town of Hope Mills, Town of Spring Lake, Town of Eastover, and Town of Wade each passed resolutions of commitment. Town of Godwin, Town of Stedman and Cumberland County are pending for spring 2018.

The Stakeholders underwent major organizational changes beginning in 2016. These changes began with revising the by-laws in early 2016 to mandate a quarterly meeting schedule in conjunction with the Combined Air Team (CombAT). CombAT members are listed as AQ stakeholders. During 2016 and into early 2017 the Stakeholders were moved as a committee under the jurisdiction of Cumberland County, to a committee of the Fayetteville Area Metropolitan Planning Organization (FAMPO). The jurisdictional change resulted in an expanded coverage area for the stakeholder group and extended the term limits of the Air Quality Stakeholder members. The stakeholder group now includes all areas of the FAMPO services area and all communities in Cumberland County. Under FAMPO there are no term limits for members. The Stakeholders adopted a new name, The Fayetteville Planning Area Air Quality Stakeholders and By-Laws in 2017.

The Stakeholders' committee was previously supported by Combined Air Team (CombAT) that includes members of Cumberland County, City of Fayetteville, Fayetteville State University, Public Works Commission, Fayetteville Area System of Transit (FAST), the Fort Bragg Air Team. These members are listed as AQ Stakeholders as they meet regularly with the AQ Stakeholders. Some previous members of CombAT are on call to provide the Stakeholders with technical information and administrative assistance.

Public Involvement does not end with the Stakeholders. An aggressive process of education and outreach into the community has been documented since the beginning of this endeavor, to include involvement of the Public-School Systems (Cumberland County and Fort Bragg), utility providers, the Plant Managers Association, and any Organization requesting presentations. The Air Quality web page, maintained by FAMPO staff, provides information on the local effort and related links

(http://www.fampo.org/airquality.htm). FAMPO contracts with Sustainable Sandhills to plan and implement air quality related programs throughout their region. Minutes of the Stakeholders' meetings and list of outreach and presentations are on file and open to the public.

1.2 Regional Characteristics

The new AQ Stakeholder region includes all the FAMPO area and all of Cumberland County (Figure 1). FAMPO was established in 1975 by the federal surface transportation assistance act of 1973. Any urbanized area with a population greater than 50,000 was designated as a Metropolitan Planning Organization (MPO). Until 2010 the MPO boundaries included Fayetteville, Hope Mills, Spring Lake, Fort Bragg, Pope Army Field, and portions of Harnett and Cumberland County. Following the 2010 Census, the boundaries were expanded to include portions of Robeson County, including the town of Parkton and portions of Hoke County including the town of Raeford. The total population of the planning area in 2010 was 372,000.

Cumberland County is a mixture of urban and rural areas. The 2014 census population was updated for Cumberland County was 326,328. The 2010 census population for Cumberland County was 319,431 of which 42,702 rural population and 276,729 located within the Urbanized Area.

Population density is varied, as shown in Table 1. Because of the difference in land use and densities, care was exercised when proposing and selecting strategies to be implemented by several jurisdictions.

Figure 1. Map of FAMPO Region and Cumberland County

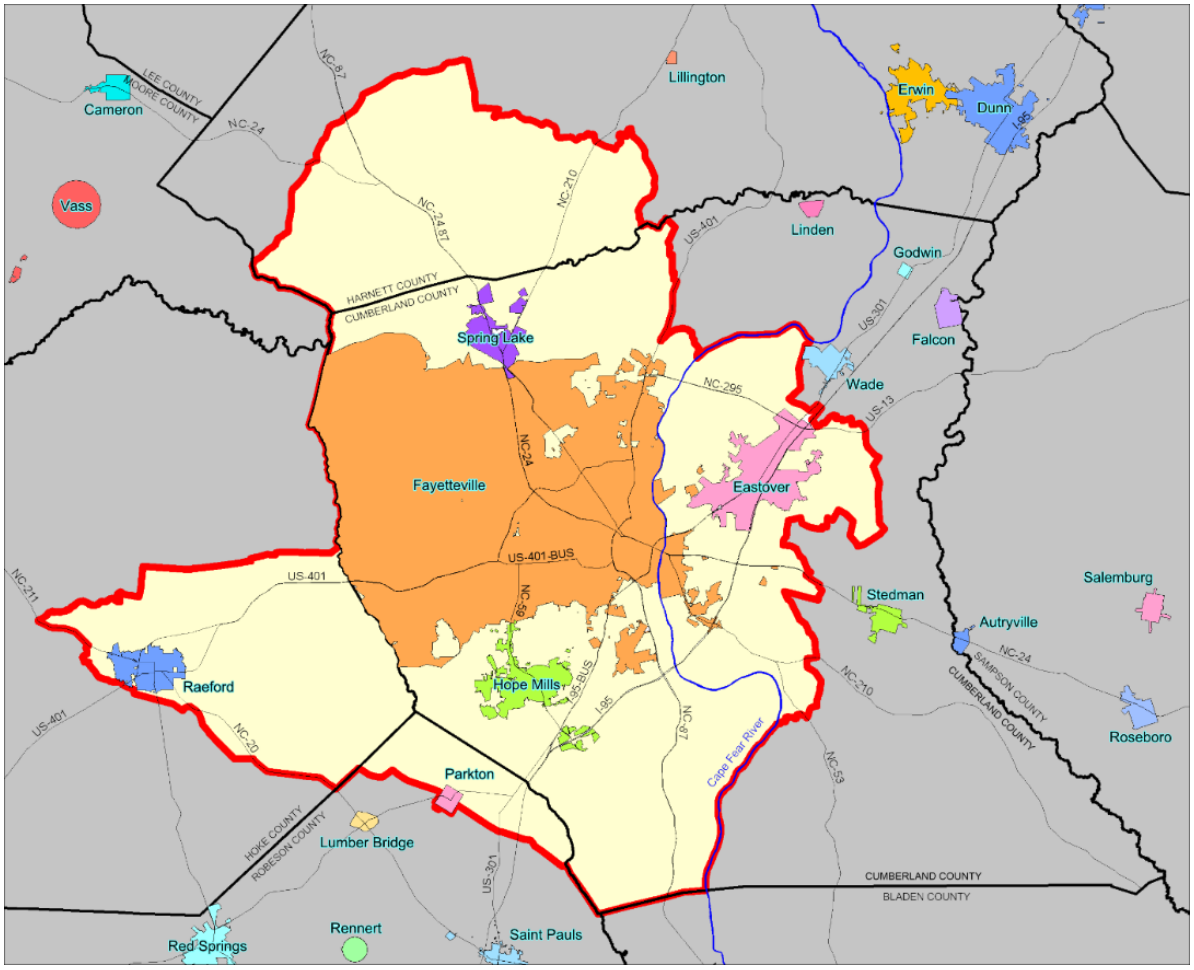

Table 1. Census 2010 Demographic Information

JURISDICTION	POPULATION	LAND AREA/Sq. MI.	DENSITY/Sq. MI.
Eastover	3,628	11.33	320.3/sq. Mi
Falcon (Part)	258	1.21	213.2/sq. Mi
Fayetteville	200,564	145.84	1375.2/sq. Mi
Godwin	139	0.52	269/sq. Mi
Hope Mills	15,176	6.94	2186/sq. Mi
Linden	130	0.51	257.2/sq. Mi
Spring Lake	11,964	23.06	518.8/sq. Mi
Stedman	1,028	2.08	493.9/sq. Mi
Wade	556	1.79	311.4/sq. Mi
Cumberland County	**319,431**	**652.31**	**489.7/sq. Mi**
Parkton	436	.62	703.23/sq. Mi
Raeford	4,611	3.8	1213/sq. Mi
FAMPO	**372,000**		

1.3 Local Efforts

In April 2001, Fort Bragg Military Reservation began planning and implementing strategies to become a sustainable installation. As part of this effort, several individuals within the surrounding Counties began working with the Military Installation to aid in the process, including the planning and implementation schedule of air quality initiatives for the metropolitan statistical area. At that point, building partnerships in support of a sustainable region were the next logical and necessary step. In partnership with the North Carolina Department of Environment and Natural Resources and stakeholders from the surrounding counties and communities, this partnership evolved into an independent community-based environmental nonprofit called Sustainable Sandhills in February 2003, with the mission to provide education, demonstration, and collaboration to preserve the environment of the Sandhills within a six-county region. In 2017 Sustainable Sandhills expanded to include two additional counties, bringing the total reach to eight counties.

The local and regional efforts to attain sustainability began prior to the development of the EPA's Early Action Compact, demonstrating the commitment of this area in attaining and maintaining healthy environment now, and for generations to come. The Air Quality Stakeholders/Technical Committee, Fort Bragg, and Sustainable Sandhills participants are working together to ensure a united campaign and to avoid duplicated efforts.

2. Overview of Air Quality in Cumberland County

The NCDAQ monitors levels of all criteria pollutants in Cumberland County and reports these levels to the EPA. According to the most recent data, Cumberland County is meeting NAAQS for all the pollutants. Federal enforcement of the ozone NAAQS is based on a 3-year monitor "design value". The design value for each monitor is obtained by averaging the annual fourth highest daily maximum 8-hour ozone values over three consecutive years. If a monitor's design value exceeds the NAAQS, that monitor is in violation of the standard. The EPA may designate part or all the metropolitan statistical area (MSA) as nonattainment even if only one monitor in the MSA violates the NAAQS. There are two ozone monitors in Cumberland County (Figure 2). One of the monitors is located northeast of Fayetteville (Wade) and the other was formerly located in Golfview but switched to a new location southeast of Fayetteville (Honeycutt) in Spring 2015 (March/April). The tables below will show Golfview for historical context. In addition, the tables and graphs include projections for 2018 based on the Ozone Predictor Tool provided by NC DEQ.

Figure 2. Map of Ozone Monitor Locations

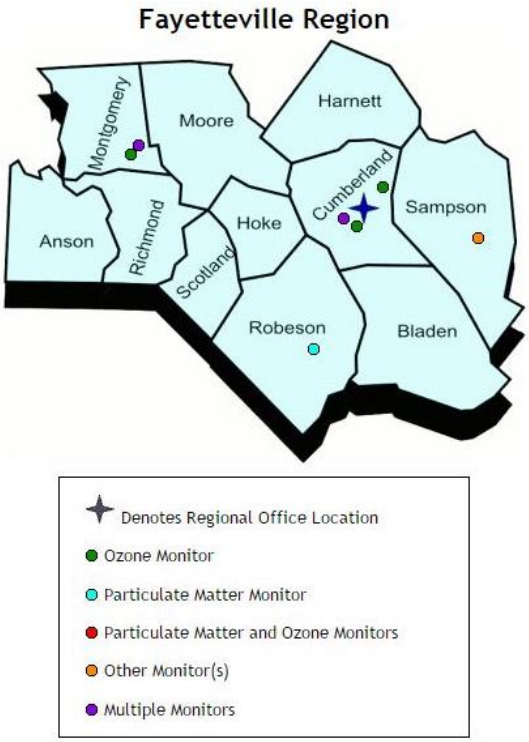

Table 2. Summary of 4th Highest 8-Hour Ozone Values (ppm)

	4th Highest Ozone											
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018^
Wade	80	75	64	71	73	68	62	61	60	64	63	63
Honeycutt*	--	--	--	--	--	--	--	--	62	64	63	63
Golfview*	82	75	65	73	76	69	62	66	--	--	--	--

Table 3. Summary of Exceedance Days

	Number of Exceedance Days										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Wade	8	3	0	2	0	1	0	0	0	0	0
Golfview*	7	4	1	2	4	2	0	0	--	--	0
Honeycutt*	--	--	--	--	--	--	--	--	0	0	--

*2007 -2014 exceedance days based on maximum Ozone Concentration of >75ppb.
2015-2018 exceedance days based on maximum Ozone Concentration of >70ppb

Graph 1. Number of Exceedance Days

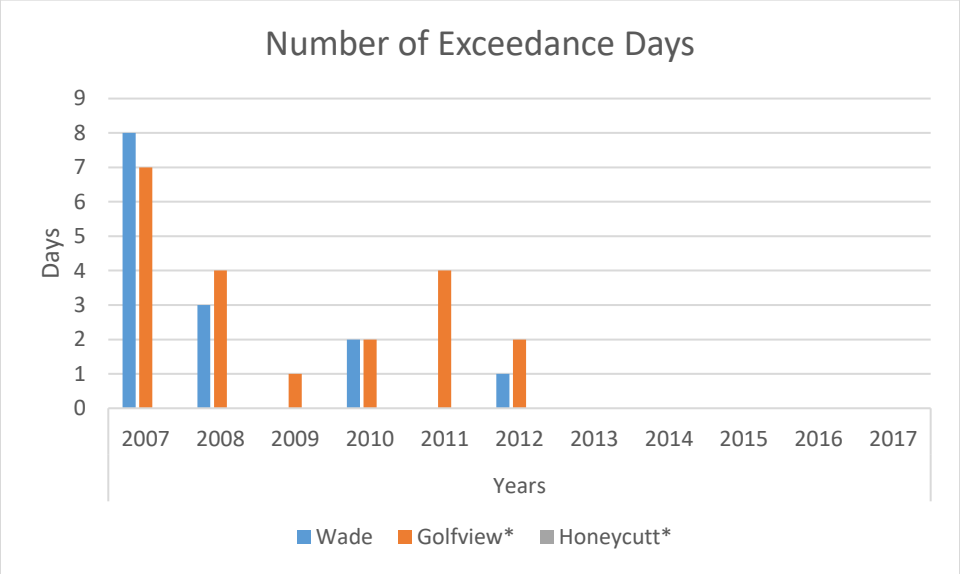

Table 4. Summary of Design Values (ppm) – Shaded areas exceeded 0.075 pm O_3 NAAQS Standard

	Ozone Design Values (ppb)

	05-07	06-08	07-09	08-10	09-11	10-12	11-13	12-14	13-15	14-16	15-17	16-18^
Wade	78	75	73	70	69	70	67	63	60	64	62	63
Honeycutt	--	--	--	--	--	--	--	--	--	--	63	63
Golfview*	82	77	74	71	71	72	69	65	63	--	--	--

^projected values by DEQ Design Value Predictor tool.

On June 29, 2018, the EPA proposed that the 2016 Cross-State Air Pollution Rule be fully updated to address the 20 covered states interstate pollution transport obligations for the 2008 NAAQS. EPA made the proposal based on the latest available modeling. According to the analysis, there are no areas projected to be designated non-attainment or maintenance by 2023.

Previous projections showed that monitors for Cumberland County would not be in non-attainment. The proposed close out of the 2016 Cross-State Air Pollution Rule, will be finalized by December 6th, 2018.

3. Ozone Health Effects and Sources

3.0 Overview of Ozone

Ozone (O_3) is a tri-atomic ion of oxygen. In the stratosphere or upper atmosphere, ozone occurs naturally and protects the Earth's surface from ultraviolet radiation. Ozone in the lower atmosphere is often called ground-level ozone, tropospheric ozone, or ozone pollution to distinguish from upper-atmospheric or stratospheric ozone. Ozone does occur naturally in the lower atmosphere (troposphere), but only in relatively low background concentrations of about 0.030 parts per million (ppm), well below the NAAQS. The term "smog" is also commonly used to refer to ozone pollution. Although ozone is a component of smog, smog is a combination of ozone and airborne particles having a brownish or dirty appearance. It is possible for ozone levels to be elevated even on clear days with no obvious "smog". In the lower atmosphere, ozone is formed when airborne chemicals, primarily nitrogen oxides (NOx) and volatile organic compounds (VOCs), combine in a chemical reaction driven by heat and sunlight. These ozone-forming chemicals are called precursors to ozone. Man-made NOx and VOC precursors contribute to ozone concentrations above natural background levels. Since ozone formation is greatest on hot, sunny days with little wind, elevated ozone concentrations tend to occur during the warm weather months, generally May through September. In agreement with EPA's guidance, North Carolina operates ozone monitors from April 1 through October 31 to capture high ozone events.

3.1 Ozone Health Effects

The form of oxygen humans needs to breathe is O2. When we breathe ozone, it acts as an irritant to our lungs. Short-term, infrequent exposure to ozone can result in throat and eye irritation, difficulty drawing a deep breath, and coughing. Long-term and repeated exposure to ozone concentrations above the NAAQS can result in the reduction of lung function as the cells lining the lungs are damaged. Repeated cycles of damage and healing may result in scarring of lung tissue and permanently reduced lung function. Health studies have indicated that high ambient ozone concentrations may impair lung function growth in children, resulting in reduced lung function into adulthood. In adults, ozone exposure may accelerate the natural decline in lung function that occurs as a part of the normal aging process. Ozone may also aggravate chronic lung diseases such as emphysema and bronchitis and reduce the immune system's ability to fight off bacterial infections in the respiratory system. Asthmatics and other individuals with the respiratory disease are especially at risk from elevated ozone concentrations. Ozone can aggravate asthma, increasing the risk of asthma attacks that require a doctor's attention or the use of additional medication. According to the EPA, one reason for this increased risk is that ozone increases susceptibility to allergens, which are the most common triggers for an asthma attack. In addition, asthmatics are more severely affected by the reduced lung function and irritation that ozone causes in the respiratory system. There is increasing evidence that ozone may trigger, not just exacerbate, asthma attacks in some individuals.

All children are at risk from ozone exposure because they often spend a large part of the summer playing outdoors, their lungs are still developing, they breathe more air per pound of body weight, and they are less likely to notice symptoms. Children and adults who frequently exercise outdoors are particularly vulnerable to ozone's negative health effects because they are repeatedly exposed to elevated ozone concentrations while breathing at an increased respiratory rate.

3.2 Ozone Sources

Ozone-forming pollutants or precursors are volatile organic compounds (VOCs) and nitrogen oxides (NOx).

3.2.1 Volatile Organic Compounds

Volatile organic compounds (VOCs) are sometimes referred to as hydrocarbons. In North Carolina, large portions of precursor VOCs are produced by natural, or biogenic, sources, which are primarily trees. Man-made or anthropogenic VOCs also contribute to ozone production, particularly in urban areas. Sources of anthropogenic VOCs include unburned gasoline fumes evaporating from gas stations and cars, industrial emissions, and consumer products such as paints, solvents, and the fragrances in personal care products.

3.2.2 Nitrogen Oxides

Nitrogen oxides (NOx) are produced when fuels are burned and result from the reaction atmospheric nitrogen at the high temperatures produced by burning fuels. Power plants and highway motor vehicles are the major contributors in urban areas, and off-road mobile source equipment (such as construction equipment, lawn care equipment, trains, boats, etc.) are the major sources of NOx. Other NOx sources include "area" sources (small, widely-distributed sources) such as fires (forest fires, backyard burning, house fires, etc.), and natural gas hot water heaters. Generally, North Carolina, including the Fayetteville area, is considered "NOx-limited" because of the abundance of VOC emissions from biogenic sources. Therefore, current ozone strategies focus on reducing NOx. However, VOC reduction strategies, such as control of evaporative emissions from gas stations and vehicles, could reduce ozone in urban areas where biogenic VOC emissions are not as high.

3.2.3 NOx and VOCs

The following lists the sources, by category, that contribute to NOx and VOC emissions:

Biogenic: Trees and other natural sources
Mobile: Vehicles traveling on paved roads: cars, trucks, buses, motorcycles, etc.
Non-road: Vehicles not traveling on paved roads: construction, agricultural, and lawn care equipment, motorboats, locomotives, etc.
Point: "Smokestack" sources: industry and utilities
Area: Sources not falling into above categories. For VOCs, includes gas stations, dry cleaners, print shops, consumer products, etc. For NOx, includes forest and residential fires, natural gas hot water heaters, etc.

Table 5. Cumberland County Emissions Estimates (ton/year)

	Point		**Area**		**On-road**		**Non-road**	
Year	NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
2007	669	1,078	231	3,925	9,222	4,618	1,575	1,246
2011	379	811	234	2,666	6,415	3,366	808	853
2018	370	808	234	2,666	3,008	1,603	485	620

ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/reports/2011ed_2018ed_2011eh_2017eh_county_annual_totals.xlsx
ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/reports/DetailsAboutEmissionsDataFiles07232015.pdf

4 Control Measures

Several control measures are already in place and being implemented as part of the original Early Action Compact Plan for Cumberland County, which continues to focus on

reductions in point, highway mobile, and non-road mobile source emissions. Fort Bragg Military Reservation continues to implement strategies to meet its sustainability goals, to include zero waste, construction of US Green Building Council LEED certified buildings, transportation multi-modal choices, and reforestation. Retrofitted and new municipal buildings still include white/light roofing and are periodically inspected, through the energy saving guarantee program, to verify that they still meet energy efficiency goals.

4.1 Proposed Local Control Measures

The following list of Air Quality Action strategies indicate several new and ongoing techniques that will be used locally to reduce ozone precursors. Although some are not quantifiable, all these strategies are directionally correct. Strategies marked as "Ongoing" continue to serve the objectives of reducing ozone levels. As part of the Ozone Advance Program Action Plan, Cumberland County will submit an annual report verifying activities and implementations. Additional strategies may be communicated as they develop.

Appendix A. Air Quality Proclamations

AIR QUALITY STAKEHOLDERS SELECTED OZONE CONTROL STRATEGIES AND IMPLEMNTATION SCHEDULE

AWARENESS

City of Fayetteville/Transit	**Strategy:** Promote Bus Ridership in the Cumberland County High Schools	**Implementation Date**: 02/2012	**Updated/revised**: 2018
Strategy Description:			
Fayetteville Area System of Transit will implement a Transit Marketing/Outreach Campaign in the high schools. This strategy impacts 3,500 students within the FAST service area. Planned impact is reduced NOx emissions by increasing future mass transit use and reducing private vehicle miles travelled. Program began in April 2014.			
Updated Description:			
FAST expanded transportation options for all youth in its service area. In addition to the after-school activity pass, FAST offers a $15 Summer Fun Pass (unlimited rides June thru August) for those under 18 years and a new Youth Day Pass for ages 6-18 ($2 vs regular $3 day pass).			
FAMPO/Sustainable Sandhills	**Strategy:** Air Quality Poster Contest	**Implementation Date**: 2002/2003	**Updated/revised**: 2018
Strategy Description:			
Promote art contest with Air Quality themes. Twelve winners included in calendars distributed to Stakeholders and the community to promote conservation efforts and air quality education for grades K-5. Offered in Cumberland County and plans to expand to he portions of Hoke, Robeson, and Harnett counties, that are in the Metropolitan Planning Are for the Fayetteville Area Metropolitan Planning Organization			
Updated Description:			
Ongoing. For the 2017update, the contest saw more than 400 participants from Schools (Public and Private) in Cumberland County. In order to engage more participation the contest will be promoted along with a short air quality awareness lesson to teacher that teach health and wellness in grades K - 5 through the Cumberland County Public Schools.			
FAMPO/Sustainable Sandhills	**Strategy:** Direct Community Outreach	**Implementation Date**: 2011/2012	**Updated/revised**: 2018
Strategy Description:			
Display Air Quality information at community events and festivals, using educational collateral and games. Enhanced collaboration included info booths at Marksmen Hockey team Kids Nights and Swamp Dogs Green Night.			
Updated Description:			
Information booths were at the Go Green Earth Day Event, Swamp Dogs Go Green Night, Fayetteville Marksmen, PWC Conservation Fair, South River EMC Co-op Membership Fair, First Friday's Downtown Fayetteville, and Dirtbag Ales Farmers Market.			

AWARENESS

Fayetteville Public Works Commission	**Strategy Title:** Tree Power	**Implementation Year: 05/2005**	**Updated/revised**: **2018**
Strategy Description:			
Program implemented to commemorate their 100 year anniversary by planting 100 Dogwood trees along the Fayetteville Dogwood Trail, as well as educate customers about benefits of trees to the environment and air quality while demonstrating the proper placement of trees near utility. Up to 1,000 free tree seedlings are provided annually during community education seminars and events.			
Updated Description:			
Program continues to reach out and educate customers on how trees reduce/absorb air pollution and help reduce energy consumption, proper planting and tree trimming, how trees provide shade and windbreaks to help reduce energy costs, and beautify the community. In addition to the free tree seedlings provided annually (800 in 2018), PWC also annually plants Long Leaf pine on its Watershed area.			
Fort Bragg	**Strategy:** Train Building Monitors	**Implementation Date**: 2013	**Updated/revised**: 2017
Strategy Description:			
Fort Bragg trains Repair and Upgrade Soldiers to look for energy conservation possibilities at the facility level. This strategy will reduce the demand for electricity and the amount of fossil fuel required for power generation.			
Updated Description:			
Fort Bragg continues ongoing training for Repair and Upgrade Soldiers. Quarterly updates are added to Energy Profile and Energy Use index.			
Fort Bragg	**Strategy:** Environmentally Preferred	**Implementation Date**: 2014	**Updated/revised**: 2018
Strategy Description:	Purchasing training for GPC holders		
Provide an Environmentally Preferred Training module at the monthly Government Purchase Card Holders training. Training includes mandates requiring environmentally preferred products be first choice. Air quality topics include purchase of Energy Saver or other third-party certified products for energy savings and low VOC purchases.			
Updated Description:			
Environmentally Preferred Purchasing training module continues on a monthly basis. All GPC holders are required to receive annual training.			

AWARENESS

Cumberland County Schools	**Strategy:** Education Reports	**Implementation Date**: 2015	**Updated/revised**: 2018
Strategy Description:			
Each of the Cumberland County Schools participate in Air Quality Awareness using the color coded flags. The Flags are raised each day along with the United States Flag and North Carolina Flag. For schools that offer a morning TV program, air quality is one of the discussion topics.			
Updated Description:			
Cumberland County Schools is still participating in the program As of fall 2017, more than 60 % of all Cumberland County Schools were participating in the program daily. For the 2018-2019 school year work will be done to increase participation at the remaining schools. Additional analysis of the program can be found in the body of the Ozone Action Plan.			
City of Fayetteville/Transit	**Strategy:** Increase Ridership	**Implementation Date**: 2014	**Updated/revised**: 2018
Strategy Description:			
The construction of a multi-modal transit facility provides opportunity to layer mass transit and low-emissions transit. This strategy ranges from improving air and water quality to reducing solid waste, benefitting owners, occupiers, and society as a whole.			
Updated Description:			
The new FAST Transit Center provides opportunity to layer mass transit and low-emissions transit. This strategy ranges from improving air and water quality to reducing solid waste, benefitting owners, occupiers, and society as a whole. The new facility is designed to be certified as LEED-Silver and captures rain water for irrigation and HVAC systems to reduce energy consumption and costs. Current experience indicates utility costs are approximately 30% less than planned. The FAST Transit Center also consolidated FAST Services with Greyhound and MegaBus intercity services making bus transit more convenient.			
City of Fayetteville/Transit	**Strategy:** Green Business	**Implementation Date**: 2012	**Updated/revised**: 2015
Strategy Description:			
Transit system received Sustainable Sandhills Green Business certification in 2012. This strategy reduces solid waste, water consumption, and reduces operating costs.			
Updated Description:			
Fayetteville Area System of Transit received a Sustainable Sandhills Green Business re-certification in 2015 and adopted the strategy for green infrastructure, including hybrid buses, fleet vehicles, carpooling, and the addition of more buses with bicycle transportation attachments.			

AWARENESS

Fort Bragg	**Strategy:** Awareness activities and public relations	**Implementation Date:** 2016	**Updated/revised: 2017**
Strategy Description:			
Fort Bragg Energy Team creates energy awareness articles for the local newspaper, the Paraglide, and the Public Works digest. They also have a presence on social media with periodic updates on the Fort Bragg Facebook page and Sustainable Fort Bragg Facebook page. Fort Bragg also participates in Energy Action Month.			
Updated Description:			
Fort Bragg continues to promote awareness programs and information through printed and social media.			
Sustainable Sandhills	**Strategy:** Alternative Energy Development and Promote Rooftop	**Implementation Date**: 06/2015	**Updated/revised**:2017
Strategy Description:			
Sustainable Sandhills opened a Solarize Sandhills program in 2015 to develop small-scale commercial and residential solar energy production in Fayetteville, Cumberland County, and the region.			
Updated Description:			
For 2018 Sustainable Sandhills is exploring options to increase the adoption of roof top solar in communities in the Sandhills region, including parts of Cumberland County.			
Sustainable Sandhills	**Strategy:** Green Business Certification Program	**Implementation Date**: 2009	**Updated/revised**:2018
Strategy Description:			
Sustainable Sandhills began the Green Business Certification Program in 2009 to recognize businesses who were leaders of environmental stewardship. A key component of the program is raising awareness about multiple environmental impacts including Air Quality and Transportation Alternatives.			
Updated Description:			
The Green Business program was expanded in 2017 to include NC Green Travel Designation for qualified businesses. The program also grew to add two new Green Business Certifiers.			

AWARENESS

Fort Bragg		**Implementation Date**: 2012	**Updated/revised**: 2018
Strategy Description:	**Strategy:** Green Boot Certification		
A sustainability certification program geared towards buildings. Energy use and purchases are reviewed for energy efficiency and environmentally preference.			
Updated Description:			
Certification program continues. Number of certifications fluctuate due to renewal of certification.			
Sustainable Sandhills	**Strategy:** Burnwise Awareness	**Implementation Date**: 2016	**Updated/revised**:2018
Strategy Description:			
Sustainable Sandhills will begin promoting the EPA Burnwise Campaign beginning the Fall of 2016. These efforts will be to increase awareness to reduce pollution from burning wood for heat.			
Updated Description:			
Sustainable Sandhills has spent 2017 partnership building to launch the program in the region in late 2017. The launch of the program was delayed, but will resume in fall of 2018.			
Town of Spring Lake	**Strategy:** Educational Outreach	**Implementation Date**: 2016	**Updated/revised**:2018
Strategy Description:			
Providing educational outreach to citizens and businesses by providing solutions to reduce pollution and improve air quality. The Town will publicly support initiatives such as Bike to Work Day, National Dump the Pump Day and Air Quality Awareness Week.			
Updated Description:			
This was not adopted by the Board in 2018. Will revisit in 2019.			
Town of Spring Lake	**Strategy:** Advisory Committee	**Implementation Date**: 2016	**Updated/revised**:2018
Strategy Description:	Awareness		
The Sustainability Advisory Committee was created to assist the Board of Aldermen adopt and promote sustainable practices in air quality, water quality, energy reduction and efficiency, reduction of waste, recycling, transportation, and resource conservation.			
Updated Description:			
The committee and bylaws have been adopted by the Board of Aldermen were adopted and are currently appointing members. Still working on adding members to complete committee roster.			

AWARENESS

Fort Bragg	**Strategy:** Green Barracks Contest	**Implementation Date**: 2016	**Updated/revised**: 2017
Strategy Description:	Public relations		
Fort Bragg Energy Team created the Green Barracks contest to promote energy conservation and waste reduction in barracks facilities. This is a quarterly contest.			
Updated Description:			
The Green Barracks Contest has been funded for an additional year and continues to award participants for the best recycling and energy savings efforts on a quarterly basis.			
Fort Bragg	**Strategy:** Green Barracks Contest	**Implementation Date**: 2017	**Updated/revised**: 2017
Strategy Description:	Public relations		
Fort Bragg Energy Team created the "Turn Down for Watt" program to promote energy awareness. The program uses energy producing spin bikes to make users aware of the effort required to produce a watt of power.			
Updated Description:			
Town of Parkton	**Strategy:** Wood Smoke Reduction	**Implementation Date**: 2017	**Updated/revised**: --
Strategy Description:			
The Town of Parkton adopted a no open burning ordinance to address particulate air quality.			
Updated Description:			
Newly listed measure - see above.			

AWARENESS

Fort Bragg	**Strategy:** Awareness activities and public relations	**Implementation Date:** 2016	**Updated/revised: 2017**
Strategy Description:			
Fort Bragg Energy Team creates energy awareness articles for the local newspaper, the Paraglide, and the Public Works digest. They also have a presence on social media with periodic updates on the Fort Bragg Facebook page and Sustainable Fort Bragg Facebook page. Fort Bragg also			
Updated Description:			
Fort Bragg continues to promote awareness programs and information through printed and social media.			
FAMPO	**Strategy:** Social Media - Awareness	**Implementation Date**: 2018	**Updated/revised**: --
Strategy Description:			
For the 2018-2019 Marksmen Hockey Season on the day of each home game, FAMPO will offer a flash contest on their Facebook page. For a chance to enter, participants must correctly answer the question posted. A winner's name is drawn from the entrants.			
Updated Description:			
Newly listed measure - see above.			

ENERGY REDUCTION

Sustainable Sandhills	**Strategy:** Local Food Access Program	**Implementation Date**: 2012	**Updated/revised**: 2018
Strategy Description:			
Educate community on benefits of sourcing food locally, reducing miles traveled by food and consumers. Liaison with Downtown Restaurant Association, Slow Food Fayetteville in the Sandhills, Sandhills Farm to Table Cooperative.			
Updated Description:			
Sustainable Sandhills works with local farm cooperative to create a local food system, including the growth of local produce box subscriptions to a Community Supported Agriculture (CSA). For 2018, Sustainable Sandhills reduced the number of CSAs they were coordinating and kept two sites open under their coordination.			
Sustainable Sandhills	**Strategy:** Local Food Access Program	**Implementation Date**:2018	**Updated/revised**: --
Strategy Description:			
Sustainable Sandhills began a farmers market in partnership with Dirtbag Ales Farmer Market. The market has attracted more than a dozen local food and craft vendors. The food vendors include local honey, produce, meat, eggs, and cheese.			
Updated Description:			
New initiative see above.			
Fayetteville Public Works Commission	**Strategy Title: Advanced Metering Infrastructure**	**Implementation Year: 06/2014**	**Updated/revised**: **2018**
Strategy Description:			
Installation of Advanced Metering Infrastructure to provide utility services through computer based remote control, automation and two-way communications. System provides 115,000+ PWC customers technology to better manage and reduce energy and water consumption. Benefits include reduction of service trips/vehicle usage. This strategy will lower NOx emissions by reduction of energy consumption and significant reduction of vehicle use/fuel consumption.			
Updated Description:			
The installation of 180,000 advanced meters was completed in September 2017. Since the installation began in 2014, annual service trips/vehicle usage has already been reduced. Since 2015, 495,000 truck rolls have been eliminated and annual mileage has been reduced approximately 100,000 a year for field vehicles. The Advanced metering also provides hourly meter reading for both electric and water services which has provided PWC information to implement a leak			

ENERGY REDUCTION

Fayetteville Public Works Commission	**Strategy Title: LED Street Lighting**	**Implementation Year: 06/2014**	**Updated/revised**: **2018**
Strategy Description:			
System-wide conversion of streetlights to LED because LEDs have a longer life span and use less energy than traditional street lights. Immediate benefits will include reduction in energy consumption and in service trips/vehicle usage. This strategy will lower NOx emissions by reduction of energy consumption and significant reduction of vehicle use/fuel consumption. Slated to be complete by 2019. A significant portion of the LED project is funded by Renewable Energy fees collected from customers. The fees are allowed to be recovered through North Carolina's Renewable Energy Mandates.			
Updated Description:			
To date, 22,000 streetlights have been installed and PWC has completed the LED installation in neighborhoods and started replacement of lighting on major thoroughfares and private lighting such as parking lots and security lighting. Through 2017, LED Lighting is saving approximately 2.73.9 million kWh annually.			
Fayetteville State University	**Strategy:** LEED Silver or Equivalent Building Standard	**Implementation Date**: 2012	**Updated/revised**: 2017
Strategy Description:			
Saving goal related to projected new building space starting 2012. A 20% electrical and natural gas savings, GHG reduction of 154 tons (CO_2 Equivalent) annually and total of 2,000 tons by 2025			
Updated Description:			
Two buildings on campus are LEED Silver Certified. One building on Campus is awaiting certification. Two additional buildings will be renovated to meet LEED Silver Certification by 2018. This program is on-going.			
Fayetteville State University	**Strategy:** FSU Energy-Savings	**Implementation Date**: 2015	**Updated/revised**: 2017
Strategy Description:	Performance Contract (ESPC) Program		
A 15% electrical and natural gas savings, GHG reduction of 183 tons (CO_2 equivalent) annually and total 2,000 tons by 2025; Upgrade applied to 900,000 SF of FSU facilities (savings to begin in 2015)			
Updated Description:			
For the 2015 -2016 school year FSU reported a 41% decrease in total energy usage from the baseline year 2002. For 2017 FSU has a set a goal to become carbon neutral by 2050.			

ENERGY REDUCTION

Fayetteville State University	**Strategy:** Continuous Re-Commissioning Program	**Implementation Date**: 2016	**Updated/revised**: 2016
Strategy Description:			
Re-commission facilities to maintain efficiency as use and occupancy changes during the school semesters/year.			
Updated Description:			
Program will begin in 2016. Delayed while both Energy Savings Performance Contract projects are ongoing and incomplete.			
Fayetteville State University	**Strategy:** Improved Space Utilization and Building Scheduling	**Implementation Date**: 2015	**Updated/revised**: 2015
Strategy Description:			
5% electrical and natural gas savings, GHG reduction of 455 tons (CO_2 Equivalent) annually and total 5,000 tons by 2025; Savings applies to all building. Savings ramp from 2% (2017) to 5% (2020).			
Updated Description:			
Project delayed by ESPC timeline. Targets may need to be revised downward. A 5% ultimate savings is more realistic by 2020.			
Fayetteville State University	**Strategy:** Food Waste Composting	**Implementation Date**: 2014	**Updated/revised**: 2017
Strategy Description:			
Capture 100% of food waste, both pre- and post- consumer; GHG reduction of 50 tons (CO_2 equivalent) annually and total 600 tons by 2025.			
Updated Description:			
FSU capturing 80% of food waste by 2015. FSU has replaced the food waste dehydrator with a contract with a commercial compost hauler. This initiative is ongoing.			
Fort Bragg	**Strategy:** Retro-Commissioning	**Implementation Date**: 2011	**Updated/revised**: 2017
Strategy Description:			
Facilities surveyed to ensure systems are performing as they were designed. Improvements such as occupancy schedules and sensors, variable frequency drives, etc. are normally installed during this process. This strategy ensures equipment is functioning efficiently.			
Updated Description:			
Retro-commissioning of facilities is ongoing.			

ENERGY REDUCTION

Fort Bragg	**Strategy:** Thermal Energy Storage	**Implementation Date**: 2011	**Updated/revised**: 2017
Strategy Description:			
Water is chilled in the evening when energy prices are lower. Chilled water is used in district system. This strategy is used to reduced cost.			
Updated Description:			
Thermal Energy Storage has been implemented and continues to run extra thermal energy storage tanks for chilled water, shifting energy use from peak hours to off-peak hours. Chilled water runs from six to eight hours a day and in circulating mode for four to six hours of the day.			
Fort Bragg	**Strategy:** Purchase Energy Star Equipment	**Implementation Date**: 2011	**Updated/revised**:2017
Strategy Description:			
Energy efficient products are procured and installed. This strategy reduces energy consumption.			
Updated Description:			
Fort Bragg's green procurement policies provide ongoing purchasing of Energy Star certified equipment.			
Fort Bragg	**Strategy:** Implement "Low-cost/No-cost"	**Implementation Date**: 2011	**Updated/revised**: 2017
Strategy Description:	energy conservation measures		
Improve facility energy use intensity by installing weather stripping around windows and doors. This strategy improves the building envelope, thus reducing energy consumption.			
Updated Description:			
Fort Bragg continues to improve facilities with weather stripping and other measures to conserve energy consumption.			
Fort Bragg	**Strategy:** Load management in cubicle/office	**Implementation Date**: 2011	**Updated/revised**: 2016
Strategy Description:	space		
Received funding for "smart strips," a load sensing power strip. This strategy reduces energy consumption by 30% based on meter data.			
Updated Description:			
Energy Office continues to maintain data on reduced energy consumption by the "smart strips."			

ENERGY REDUCTION

Fort Bragg	**Strategy:** LEED certifiable facilities	**Implementation Date**: 2011	**Updated/revised**: 2018
Strategy Description:			
Improve federal facilities resource efficiency. This strategy ranges from improving air and water quality to reducing solid waste, benefiting owners, occupants, and society as a whole.			
Updated Description:			
Energy conservation and subsequent savings are achieved through several lighting strategies. The north/south orientation of the building and window placement enables LEED facilities to reduce consumption of bulb wattage and harvest natural light in 90% of all regularly occupied spaces. Use of low VOC materials using LEED strategies improves indoor air quality.			
Fort Bragg	**Strategy:** Renewable Energy	**Implementation Date**: 2000's	**Updated/revised**: 2017
Strategy Description:			
Renewable energy is implemented where life-cycle cost is most effective.			
Updated Description:			
A large geothermal field (five well fields) is currently in development to supplement heating and cooling loads in four buildings with plans to integrate three additional facilities. Other renewable technologies include: solar thermal, solar photovoltaic, solar walls, and ground source heat pumps.			
Fort Bragg	**Strategy:** Lighting Upgrades	**Implementation Date**: 2000's	**Updated/revised**: 2017
Strategy Description:			
Eliminate inefficient lighting with more efficient lighting, such as LEDs, to reduce energy consumption.			
Updated Description:			
Fort Bragg continues to upgrade inefficient lighting to LED lighting and plans to upgrade five aircraft hangers with LED lighting. Area lighting levels are also lowered in the evenings when not needed.			

ENERGY REDUCTION

Fort Bragg	**Strategy:** Energy Audits	**Implementation Date**: 2000's	**Updated/revised**: 2016
Strategy Description:			
Audit facilities with high energy use indices to determine if high every use is due to mechanical failure or building occupant behavior.			
Updated Description:			
Address mechanical issues and/or work with building occupants to use energy more efficiently.			
Fort Bragg	**Strategy:** Building level micro-grid	**Implementation Date**: 2000's	**Updated/revised**: 2016
Strategy Description:	demonstration		
A green and energy efficiency initiative for Fort Bragg facilities. Facility will be installing approximately 150 KW of PV, DC fans, DC lighting, and battery storage.			
Updated Description:			
The first phase of the microgrid project has been constructed and the second phase is underway.			
Fort Bragg	**Strategy:** Building Automation Systems	**Implementation Date**: 2000's	**Updated/revised**: 2017
Strategy Description:	metering		
Lighting and mechanical controls integrated into building automation systems to operate and maintain facilities efficiently. Meter data collected to identify facilities that are utilizing excess energy when compared to similar facilities.			
Updated Description:			
Fort Bragg continues to implement this strategy across base in new and existing facilities. In 2016, Fort Bragg participated in a retuning study with Pacific Northwest National Laboratories to optimize energy use by retuning control systems.			
Fayetteville Public Works	**Strategy Title: Electric Vehicle Charging**	**Implementation Year: 2015**	**Updated/revised**: **2018**
Strategy Description:	**Stations**		
PWC received a $37,000 grant from NC Green Technology Center to purchase, install, and promote use of four Level 2 Dual Electric Vehicle Charging stations throughout the PWC service area.			
Updated Description:			
Charging stations were installed in four locations around the Fayetteville Area. The Charging stations are free for public use and are managed and reported through the Chargepoint Network. Installation completed in December 2015. Since installation, the charging stations have been used over 1,400 times and the estimated Greenhouse Gas savings from the EVC stations is 3,364 kg.			

ENERGY REDUCTION

City of Fayetteville/ Transit	**Strategy:** Fuels Efficient Bus Upgrades	**Implementation Date**: 2016	**Updated/revised**: --
Strategy Description:			
Upgrading buses for maximum fuel efficiency.			
Updated Description:			
Sixteen small capacity busses have been converted to propane. Resulting in a 40% savings of fuels savings. All transit buses regardless of age have been upgraded with new radiators to improve engine cooling and fuels efficiency.			
Town of Spring Lake	**Strategy:** LED Street Lights	**Implementation Date**: 2017	**Updated/revised**:2018
Strategy Description:			
The Town of Spring Lake worked with Duke Energy Progress to begin converting all existing street lighting (800+) to LED bulbs to reduce energy consumption and provide a $10,000/year savings cost to the Town ($100,000 over 10 years).			
Updated Description:			
All streetlights in Town Limits have been converted to LED.			
Town of Spring Lake	**Strategy:** Transportation	**Implementation Date**: 2016	**Updated/revised**:2017
Strategy Description:			
The Town is currently working with FAST to offer additional routes to Spring Lake residents to increase public transportation ridership and reduce emissions from			
Updated Description:			
This is an ongoing project.			
Town of Spring Lake	**Strategy:** Idle Reduction Policy	**Implementation Date**: 2016	**Updated/revised**:2017
Strategy Description:			
Development of policy for reduction of idle time of Town fleet vehicles to reduce fuel use and emissions.			
Updated Description:			
Policy development is ongoing.			

ENERGY REDUCTION

Fayetteville Public Works	**Strategy Title: LEED Gold Building**	**Implementation Year: 2014**	**Updated/revised**: **2017**
Strategy Description:			
PWC's 10,000 sq. ft. Customer Payment Center is one of the first buildings in the County to earn LEED certification. The project met over 25 LEED standards including a geothermal heat pump, solar reflectant roof surface and fixed louvers on the buildings west side to minimize energy cost by adjusting to the sunlight exposure.			
Updated Description:			
San energy management system was added in 2014 that allowed for increased monitoring and better scheduling controls. Since the addition of the EMS, energy consumption has see a 10% annual reduction.			
Fayetteville Public Works	**Strategy Title: Community Solar**	**Implementation Year: 2017**	**Updated/revised**: **2018**
Strategy Description:	**Infrastructure**		
PWC has planned a 1MW solar farm that will be funded through a community solar model. A portion of the project is funded by Renewable Energy fees collected from customers. The fees are allowed to be recovered through North Carolina's Renewable Energy Mandates.			
Updated Description:			
PWC is working with the North Carolina State Clean Technology Center to design and build a 1 MW solar farm in 2018. The farm will have over 3,000 panels that will be available for customer subscription (both residential & commercial) by the end of 2018. The project will also include a 500 kW battery storage unit.			
Fayetteville Public Works	**Strategy Title: Customer Incentive Programs**	**Implementation Year: 2014**	**Updated/revised**: **2018**
Strategy Description:			
PWC provides customer incentive programs that help customers save energy and money by replacing outdated appliances with Energy Star certified appliances. Programs include: Refrigerator, Clothes Washer, Dryer, Dishwasher, HVAC, LED lighting and LED Seasonal Lighting.			
Updated Description:			
In 2018, 453 customers participated in incentive programs and the results of their replacements is anticipated to have a annual projected savings of 308,693 kwh.			

ENERGY REDUCTION

Cumberland County	**Strategy Title: Methane Gas Uses**	**Implementation Year: --**	**Updated/revised**: **2017**
Strategy Description:			
The Cumberland County Landfill has an agreement with Cargill to capture methane gas from the landfill to use for operations at the Cargill Soybean Oil Plant.			
Updated Description:			
At this time Cumberland County Solid Waste is seeking new opportunities to use landfill gas.			
Cumberland County	**Strategy Title: Building Efficiency**	**Implementation Year: 2017**	**Updated/revised**: --
Strategy Description:			
Utilizing existing operating funding for County facilities, Engineering & Infrastructure staff will identify opportunities to improve energy efficiencies for County owned facilities. Possible efficiencies may include the installation of LED lights and replacement of end of life mechanical equipment with higher energy rated equipment.			
Updated Description:			
New Initiative - See Above			
Cumberland County	**Strategy Title: Hybrid Fleet**	**Implementation Year: 2017**	**Updated/revised**: --
Strategy Description:			
The Central Maintenance Department will continue the practice of purchasing hybrid vehicles to replace existing fleet vehicles as they become eligible for replacement.			
Updated Description:			
New Initiative - See Above			

ENERGY REDUCTION

Fayetteville Public Works	Strategy Title: Retro-Commissioning	Implementation Year: 2014	Updated/revised: 2018
Strategy Description:			
Retro-commissioning project on main operations/administration building resulted in many HVAC improvements to reduce energy consumption. Improvements included upgrades to the building automation system (BAS) to establish a more efficient sequence of operations for the chiller plant, enhanced scheduling of air handling units, demand controls, holiday schedules, night and weekend temperature setbacks, chiller pump and cooling tower operations, enhanced economizer controls, etc. Additional improvements included variable frequency drives (VFD) for fan and pump motors, testing and balancing of air handling units, lighting controls for unoccupied hours, occupancy sensors and other improvements.			
Updated Description:			
Replaced 60-ton and 120-ton R-22 chillers for the Administration and Operations Buildings that utilize the latest available refrigerant that does not harm the ozone layer and that operate 15% to 20% more efficiently.			

Fayetteville Public Works	Strategy Title: Alternate Fuel/Hybrid	Implementation Year: 2014	Updated/revised: 2018
Strategy Description:	Vehicles/Equipment		
Annually replacing existing fleet and equipment with vehicles that reduce emissions and lower fuel consumption. Replaced five heavy diesel trucks in 2014 with reduced emissions diesel engines, and have replaced eight bucket trucks with two hybrids bucket trucks and six lower emission diesel engines. Currently operating five other hybrid cars/SUVs. Also replaced spark ignited propane forklifts with zero emission all -electric forklifts, a diesel directional board with zero emission solar powered message board and converted construction equipment to Tier 4 emission stands which reduces NOx emissions.			
Updated Description:			
Ongoing fleet replacement that includes hybrid vehicles, electric vehicles and lower emission vehicles (LEVs). An electric Chevy Volt sedan was added in 2017 and replaced a SUV.			

Fayetteville Public Works	Strategy Title: Fleet Management	Implementation Year: 2012	Updated/revised: 2017
Strategy Description:			
Implement efforts to better manage the overall requirements of the PWC Fleet and lower fuel consumption and emissions. Automated Information Modules and GPS modules have been installed to provide information to aid in minimizing emissions and to generate information to identify and minimize unnecessary idling of vehicles. This strategy reduces NOx emissions.			
Updated Description:			
PWC has been recognized at the "Champion" level of the NC Smart Fleet program for reducing fuel use. An average of 220 short tons of carbon dioxide were offset with fleet best practices and using telematics software to reduce idling and conserve fuel.			

ENERGY REDUCTION

Fayetteville Public Works	Strategy Title: Service Call Reduction through technology upgrades	Implementation Year: 2014/2015	Updated/revised: 2017
Strategy Description:			
PWC installed 180,000 advanced utility meters and has installed over 20,000 LED street lights. In addition to the benefit of more efficient energy use, both initiatives have the benefit of reducing of service trips/vehicle usage.			
Updated Description:			
Since 2015, 495,000 truck rolls associated with customer metering (start, stop service) have been eliminated and annual mileage has been reduced approximately 100,000 a year for field vehicles. Since the LED streetlight conversion, the number of service calls/truck rolls associated with street light repairs has been reduced by 25% a year.			

TRANSPORTATION

City of Fayetteville/Transit	**Strategy:** New Transit Routes	**Implementation Date**: 2013	**Updated/revised**: 2018
Strategy Description:			
The purpose of this service is to provide transportation options in a high growth area for commercial and institutional development. This strategy will assist with reduction of Vehicle Miles Travelled (VMTs).			
Updated Description:			
FAST introduced Sunday bus and paratransit services in November 2017. In addition, two new routes were added and bus frequency improved on two other routes.			
City of Fayetteville/Transit	**Strategy:** Providing Transportation service to FSU students.	**Implementation Date**: 2014	**Updated/revised**: 2018
Strategy Description:			
Fayetteville State University students will be provided free bus transit passes to by FAST. Transportation corridor service costs will be assisted by Fayetteville State University. This strategy will help reduce emission, promote bus-ridership, and assist university access.			
Updated Description:			
Fayetteville State University did not renew the free student pass agreement beginning July 1, 2018. FAST continues to work with FSU to make reduced fare passes available for purchase by students. FAST is also reviewing mobile ticketing options that will allow students at FSU and other colleges and universities to purchase passes and show proof of fare payment on their mobile phones.			
Sustainable Sandhills	**Strategy:** Volkswagen Mitigation fund Awareness	**Implementation Date**: 2017	**Updated/revised**: 2018
Strategy Description:			
Sustainable Sandhills has been reaching out to all qualified government entities of the first phase of the Volkswagen Mitigation Fund distribution. In North Carolina the fund will be distributed in the 3 phases, with public participation at each level. Sustainable Sandhills has given quarterly reports to municipalities and stakeholders for the past two years to ensure that those who run local fleets can take advantage of the funds to swap out diesel engines for low emissions alternatives.			
Updated Description:			
New Initiative see above.			

TRANSPORTATION

City of Fayetteville/Transit	**Strategy:** Providing free transportation to sporting events	**Implementation Date**: 10/2014	**Updated/revised**: 2018
Strategy Description:			
High school students will be given a 30-day pass that will provide them with free transportation to sporting events or other school related activities between 3:00 and 11:00 pm. This strategy will help to reduce emissions by mass transiting students instead of multiple students driving to the same place on their own.			
Updated Description:			
FAST continues to offer transportation to Cumberland County School District students and offers transportation to after school activities from 3:30pm to 11:00pm Monday through Friday. These activities include participation in school clubs, tutoring and sports.			
City of Fayetteville/Transit	**Strategy:** Rider Promotion	**Implementation Date**: 2015	**Updated/revised: 2018**
Strategy Description:			
Fayetteville Area System of Transit newly began to promote their appreciation of customers by offering transit passes for $.25 on their website to increase and promote ridership.			
Updated Description:			
FAST continues to look for ways to promote ridership. At least annually FAST sponsors a rider appreciation day that offers significantly reduced fares and small appreciation gifts for customers. We are currently looking at other special event options to introduce more people to transit.			
City of Fayetteville	**Strategy:** Blue Toad Device use	**Implementation Date**: 2013	**Updated/revised**:2017
Strategy Description:			
Reduce idle time and travel times by monitoring vehicle timing and optimizing traffic signal timing, which will reduce gasoline consumption and emissions.			
Updated Description:			
monitoring was damaged in the flood related to Hurricane Mathew. The City is working with NC DOT to reinstate remote monitoring and optimization of traffic signals.			

TRANSPORTATION

Fayetteville Public Works Commission	Strategy Title: Fleet Management	Implementation Year: 2012	Updated/revised: 2017
Strategy Description:			
Implement efforts to better manage the overall requirements of the PWC Fleet and lower fuel consumption and emissions. Automated Information Modules and GPS modules have been installed to provide information to aid in minimizing emissions and to generate information to identify and minimize unnecessary idling of vehicles. This strategy reduces NOx emissions.			
Updated Description:			
PWC has been recognized at the "Champion" level of the NC Smart Fleet program for reducing fuel use. An average of 220 short tons of carbon dioxide were offset with fleet best practices and using telematics software to reduce idling and conserve fuel.			

Fayetteville Public Works Commission	Strategy Title: Alternate Fuel/Hybrid Vehicles/Equipment	Implementation Year: 2012	Updated/revised: 2017
Strategy Description:			
Annually replacing existing fleet and equipment with vehicles that reduce emissions and lower fuel consumption. Replaced five heavy diesel trucks in 2014 with reduced emissions diesel engines, and have replaced eight bucket truckers with two hybrids bucket trucks and six lower emission diesel engines. Currently operating five other hybrid cars/SUVs/ Also replaced spark ignited propane forklifts with zero emission all -electric forklifts, a diesel directional board with zero emission solar powered message board and converted construction equipment to Tier 4 emission stands which reduces NOx emissions.			
Updated Description:			
Ongoing fleet replacement that includes hybrid vehicles, electric vehicles and lower emission vehicles (LEVs). An electric Chevy Volt sedan was added in 2017 and replaced a SUV.			

Fayetteville Area Metropolitan Planning Organization (FAMPO)	Strategy Title: Alternate Transportation	Implementation Year: 2014 (2017 First Year Reporting)	Updated/revised: 2017
Strategy Description:			
Increase the amount of alternative transportation options while also improving accessibility to these options. This strategy can include sidewalks, greenways, public transportation, and rail.			
Updated Description:			
In 2017, FAMPO awarded $218,181 to public transportation oriented projects through the 5310 Grant Program. The Cumberland County Community Transportation Program will receive funds to provide public transportation for individuals who live in rural parts of the county but need access to services within the city. Meanwhile, the City of Fayetteville and Town of Spring Lake will receive funds to build sidewalks that will provide access to destinations as well as transit stops within their communities.			

TRANSPORTATION

FAMPO	**Strategy Title: Congestion Management**	**Implementation Year: 2017**	**Updated/revised**: **2017**
Strategy Description:			
FAMPO has hired a consulting firm to compile a Congestion Management Plan for the Town of Hope Mills. This is a $149,554 investment and will develop strategies, highway and non-highway, for reducing congestion within the Hope Mills town limits. Reduced congestion will lead to less idle time and travel time, reducing the negative effects on air quality within the FAMPO region.			
Updated Description:			

FAMPO	**Strategy Title:** Bicycle Connectivity	**Implementation Year:** 2017	**Updated/revised**: 2017
Strategy Description			
FAMPO has received a grant from the North Carolina Department of Transportation Bicycle and Pedestrian Division to carry out a Regional Bicycle Plan. FAMPO is currently in the RFP stage, however when complete the plan will show how bicycling can be a more viable option within an eight county region, including the entire FAMPO region.			
Updated Description:			

LAND USE

Town of Spring Lake	**Strategy:** Land Use Open Space Development	**Implementation Date**: 2014	**Updated/revised**: 2018
Strategy Description:			
Riparian buffers, same as or similar to Cumberland County provisions, adopted August 2012; Tree preservation; Mandate double landscaping when clear cut, with extra credit given for retaining existing trees, similar to Hope Mills standards, adopted October 2008; Mandate interconnectivity (lateral access) between developments, particularly commercial.			
Updated Description:			
The Town Manager will review and implement strategies.			

LAND USE

Fort Bragg	**Strategy:** Creation of green space review board for construction	**Implementation Date**: 2000's	**Updated/revised**: 2018
Strategy Description:			
Use of the required "Tree City USA" Arbor Board to review landscape designs and site demolition plans for construction projects. This strategy minimizes tree loss during construction and assures proper plant selection/placement for passive solar design and heat island mitigation.			
Updated Description:			
Fort Bragg continues to protect the Long Leaf Pine ecosystem. They have earned the Tree City USA Growth Award seven consecutive years for progress in the areas of community forestry programs, education and public relations. the provide continuing education for tree managers, planning and management, municipal funding, and tree inventory and analysis.			
Fort Bragg	**Strategy:** Creation of tree bank mitigation for construction projects	**Implementation Date**: 2000's	**Updated/revised**: 2018
Strategy Description:			
Created a tree mitigation policy that requires onsite replanting for trees removed during construction or, if replanting is not possible on site, the funding for replanting is deposited into a mitigation tree fund that will fund replanting elsewhere on post. This strategy guarantees no deficit tree loss will result from construction projects.			
Updated Description:			
Fort Bragg continues to protect the Long Leaf Pine ecosystem by maintaining prescribed burns and replanting on unused property.			
City of Spring Lake	**Strategy:** Murchison Road Landscaping	Implementation Date: 2019	**Updated/revised**:2018
Strategy Description:			
The Town partnered with NCDOT to upgrade interior medians along Murchison Road project (NCDOT U-4444B) from asphalt/concrete to tree lined grassed median for aesthetics and to help mitigate emissions from vehicular traffic.			
Updated Description:			
Working with NCDOT to complete contract for landscaping and irrigation of medians.			

LAND USE

City of Spring Lake	**Strategy:** Sidewalk Improvement	**Implementation Date**: 2018	**Updated/revised**:2018
Strategy Description:			
The Town received a $200,000 Section 5310 Grant from FAMPO to install sidewalks and pedestrian improvements along Bragg Blvd and Lillington Highway to enhance mobility for seniors and individuals with disabilities, upgrading interconnectivity between commercial and residential neighborhoods and providing easier access to public transportation stops.			
Updated Description:			
Sidewalks have been installed on Lillington Highway and Bragg Blvd			
City of Spring Lake	**Strategy:** Land Use Ordinance	**Implementation Date**: 2016	**Updated/revised**:2018
Strategy Description:			
The City of Spring Lake has a Land Use Ordinance in place. Proposed amendments will be reviewed by Sustainability Advisory Committee, additional amendments and/or revisions may be included based upon their review.			
Updated Description:			
Awaiting completion of Sustainability Advisory Committee.			
City of Spring Lake	**Strategy:** Land Conservation	**Implementation Date**: 2016	**Updated/revised**:2018
Strategy Description:			
The Town acquired approximately 60 acres of undeveloped property along Little River to dedicate as a conservation area that will include walking trails and serve as an educational tool for educational outreach. The property will serve as a protective buffer by restricting development along that portion of Little River. The Town is proposing to acquire an additional 40 acres that is adjacent to include in the project.			
Updated Description:			
Property was zoned under the Town's Conservation District and master planning for future use will begin in 2018-2019.			

RESOLUTION SUPPORTING THE OZONE ADVANCE PROGRAM

WHEREAS, the federal Clean Air Act, through the Environmental Protection Agency (EPA), establishes air quality standards to protect public health and welfare; and

WHEREAS, Cumberland County has acknowledged the importance of these standards in promoting quality of life, economic development, and future healthy development; and

WHEREAS, Cumberland County concurs with efforts by the Fayetteville Metropolitan Area Air Quality Stakeholders Committee to maintain at or below the federal standard as set annually by the EPA; and

WHEREAS, in 2003 the Cumberland County Board of Commissioners partnered with all of its municipalities to participate in the EPA's Early Action Compact and created the Air Quality Stakeholders of Cumberland County to proactively improve air quality for our citizens; and

WHEREAS, EPA, in conjunction with state governments, business, industry, and environmental interest, has developed an option known as an "Ozone Advance Program," through which an area, in partnership with the North Carolina Department of Environmental and Natural Resources and EPA, can voluntarily improve conditions through strategies developed through an Action Plan to help avoid a designation of non-attainment; and

WHEREAS, the benefits of participating in an Ozone Advance Program include: clean air sooner, potentially avoiding non-attainment designation; preference during EPA federal grant allocations; flexibility to achieve standards in cost effective ways; development of local standards in partnership with stakeholders and the state, and other benefits;

NOW, THEREFORE, BE IT RESOLVED, that Cumberland County supports the Ozone Advance Program and will participate in the development and implementation of an Action Plan with the purpose of reducing ground-level ozone concentrations.

This the 18th day of June 2018.

Larry L. Lancaster, Chairman

ATTEST:

Candice H. White, Clerk to the Board

TOWN *of* EASTOVER

3863 Dunn Road
Eastover, North Carolina, 28312

RESOLUTION SUPPORTING THE OZONE ADVANCE PROGRAM

RESOLUTION 2018-05

WHEREAS, the federal Clean Air Act, through the Environmental Protection Agency (EPA), establishes air quality standards to protect public health and welfare; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee has acknowledged the importance of these standards in promoting quality of life, economic development, and future healthy development; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee will strive to maintain at or below the Federal ozone standard as set annually by the EPA; and

WHEREAS, in 2003, the Air Quality Stakeholders Committee was created to proactively improve air quality for the citizens in the Fayetteville Metropolitan Area and its participating local governments; and

WHEREAS, EPA, in conjunction with state governments, business, industry, and environmental interest, has developed an option known as an "Ozone Advance Program", through which an area, in partnership with the North Carolina Department of Environmental Quality (NC DEQ) and EPA, can voluntarily improve conditions through strategies developed through an Action Plan to help avoid a designation of non-attainment; and

WHEREAS, the benefits of participating in an Ozone Advance Program include: clean air sooner, potentially avoiding non-attainment designation; preference during EPA federal grant allocations; flexibility to achieve standards in cost effective ways; development of local standards in partnership with stakeholders and the state, and other benefits;

NOW, THEREFORE, BE IT RESOLVED BY THE EASTOVER TOWN COUNCIL, that the Council fully supports the Ozone Advance Program as approved by the Fayetteville Area Metropolitan Planning Organization Transportation Policy Board and will participate in the development and implementation of an Action Plan, which will reduce ground-level ozone concentrations in preparation for the upcoming ozone standard.

Adopted this 10th day of July, 2018.

TOWN OF EASTOVER

Charles G. McLaurin, Mayor

ATTEST:

Elizabeth S. Bass, Town Clerk

Proclamation
Air Quality Stakeholders Committee

WHEREAS, the federal Clean Air Act, through the Environmental Protection Agency (EPA), establishes air quality standards to protect public health and welfare; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee has acknowledged the importance of these standards in promoting quality of life, economic development, and future healthy development; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee will strive to maintain at or below the Federal ozone standard as set annually by the EPA; and

WHEREAS, in 2003, the Air Quality Stakeholders Committee was created to proactively improve air quality for the citizens in the Fayetteville Metropolitan Area and its participating local governments; and

WHEREAS, EPA, in conjunction with state governments, business, industry, and environmental interest, has developed an option known as an "Ozone Advance Program", through which an area, in partnership with the North Carolina Department of Environmental Quality (NC DEQ) and EPA, can voluntarily improve conditions through strategies developed through an Action Plan to help avoid a designation of non-attainment; and

WHEREAS, the benefits of participating in an Ozone Advance Program include: clean air sooner, potentially avoiding non-attainment designation; preference during EPA federal grant allocations; flexibility to achieve standards in cost effective ways; development of local standards in partnership with stakeholders and the state, and other benefits;

NOW, THEREFORE, BE IT RESOLVED BY THE FAYETTEVILLE METROPOLITAN AREA AIR QUALITY STAKEHOLDERS COMMITTEE, that the Committee fully supports the Ozone Advance Program as approved by the Fayetteville Area Metropolitan Planning Organization Transportation Policy Board and will participate in the development and implementation of an Action Plan, which will reduce ground-level ozone concentrations in preparation for the upcoming ozone standard.

Proclaimed this 16th Day of April, 2018.

TOWN OF HOPE MILLS CHARTERED 1891

Jackie Warner

JACKIE WARNER, MAYOR

Harnett COUNTY NORTH CAROLINA

www.harnett.org

A RESOLUTION IN SUPPORT OF THE FAYETTEVILLE METROPOLITAN AREA AIR QUALITY STAKEHOLDERS' COMMITTEE

WHEREAS, the federal Clean Air Act, through the Environmental Protection Agency (EPA), establishes air quality standards to protect public health and welfare; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders' Committee has acknowledged the importance of these standards in promoting quality of life, economic development, and future healthy development; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee will strive to maintain at or below the Federal ozone standard as set annually by the EPA; and

WHEREAS, in 2003, the Air Quality Stakeholders Committee was created to proactively improve air quality for the citizens in the Fayetteville Metropolitan Area and its participating local governments; and

WHEREAS, EPA, in conjunction with state governments, business, industry, and environmental interest, has developed an option known as an "Ozone Advance Program", through which an area, in partnership with the North Carolina Department of Environmental Quality (NC DEQ) and EPA, can voluntarily improve conditions through strategies developed through an Action Plan to help avoid a designation of non-attainment; and

WHEREAS, the benefits of participating in an Ozone Advance Program include: clean air sooner, potentially avoiding non-attainment designation; preference during EPA federal grant allocations; flexibility to achieve standards in cost effective ways; development of local standards in partnership with stakeholders and the state, and other benefits;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Harnett County, North Carolina as a member of the Fayetteville Metropolitan Area Air Quality Stakeholders Committee, that the Committee fully supports the Ozone Advance Program as approved by the Fayetteville Area Metropolitan Planning Organization Transportation Policy Board and will participate in the development and implementation of an Action Plan, which will reduce ground-level ozone concentrations in preparation for the upcoming ozone standard.

Duly adopted this 20th day of August, 2018 and effective upon adoption.

HARNETT COUNTY BOARD OF COMMISSIONERS

Gordon Springle, Chairman

ATTEST:

Margaret Regina Wheeler, Clerk to the Board

BOARD OF COMMISSIONERS HARNETT COUNTY, N.C.

RESOLUTION IN SUPPORT OF THE OZONE ADVANCE PROGRAM APPROVED BY FAYETTEVILLE AREA METROPOLITAN PLANNING ORGANIZATION TRANSPORTATION POLICY BOARD

WHEREAS, the Federal Clean Air Act, through the Environmental Protection Agency (EPA), establishes air quality standards to protect public health and welfare; and

WHEREAS, the Fayetteville Metropolitan Area Air Quality Stakeholders Committee has acknowledged the importance of these standards in promoting quality of life, future economic development, and healthy communities; and

WHEREAS, the Fayetteville Public Works Commission is a member of the Fayetteville Metropolitan Area Air Quality Stakeholders Committee; and, **WHEREAS,** for the benefit of our region we commit to maintain at or below the Federal ozone standard as set annually by the EPA; and

WHEREAS, in 2003 the Cumberland County Board of Commissioners and partner municipalities, including the Fayetteville Public Works Commission, participated in the EPA's Early Action Compact and created a Committee focused on Air Quality to proactively improve air quality for our citizens; and

WHEREAS, the EPA "Ozone Advance Program", an initiative developed in conjunction with state governments, business, industry, and environmental interest, where local municipalities in partnership with the North Carolina Department of Environmental Quality (NC DEQ) can voluntarily improve conditions through strategies developed through an Action Plan to help avoid a designation of non-attainment; and

WHEREAS, the benefits of participating in an Ozone Advance Program include: clean air sooner, potentially avoiding non-attainment designation; preference during EPA federal grant allocations; flexibility to achieve standards in cost effective ways; development of local standards in partnership with stakeholders and the state, and other benefits;

NOW, THEREFORE, BE IT RESOLVED BY THE FAYETTEVILLE PUBLIC WORKS COMMISSION, that we fully support the Ozone Advance Program as approved by the Fayetteville Area Metropolitan Planning Organization Transportation Policy Board and resolves to maintain attainment and work to improve Air Quality as a partner.

ADOPTED this 25th day of July, 2018.

FAYETTEVILLE PUBLIC WORKS COMMISSION

Wade R. Fowler, Jr., Chairman

ATTEST:

Darsweil L. Rogers, Secretary

Prepared by Sustainable Sandhills staff Denise Bruce , Environmental Outreach Coordinator, in cooperation with the Air Quality Stakeholders of Cumberland County, Carolyn Justice Hinson Chair, and Meg Larson Vice- Chair

Denise Bruce
Sustainable Sandhills
Greenaction@sustainablesandhills.org

Sustainable Sandhills
(910) 484-9098
info@sustainablesandhills.org

Deloma Graham, Planner
FAMPO
(910) 678-7628
delomagraham@co.cumberland.nc.us