



North Carolina Department of Environment and Natural Resources
Division of Energy, Mineral, and Land Resources

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MEMORANDUM

To: Tracy Davis, PE, CPM

From: Matthew B. Poling, PE
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Subject: Local Program responses to questions asked by the Environmental Review Commission subcommittee that is studying the effects of local environmental ordinances being more stringent than state or federal laws and regulations.

The following is a compilation of responses from local municipalities to the specific questions asked below:

- Examples of local environmental ordinances more stringent than state or federal laws/rules and why a stronger ordinance is necessary; and
- Specific consequences of not allowing more stringent local environmental ordinances.

Town of Beech Mountain

Example:

The first example that comes to mind of a local environmental ordinance in Beech Mountain that is more stringent than state or federal laws/rules, is the requirement for a Sedimentation and Erosion Control Plan for land disturbing activities at the one half acre threshold rather than the one acre threshold as mandated by State Law. This half-acre standard also is the trigger for the installation of sedimentation and erosion control devices and the mandate to retain sediment on-site.

Consequence:

These stronger regulations are necessary in Beech Mountain primarily due to the existing land development patterns. Beech Mountain was originally conceived as a private development, in which nearly all of the land was subdivided into one quarter to one half acre lots. Today over 5,000 of these lots comprise the bulk of the Town's land area. Were the land disturbance

requirements to follow the state's one acre standard, erosion and sedimentation control laws would essentially have no meaning, as there are very few tracts of land of that size. The half-acre standard allows Beech Mountain to adequately protect its drinking water basin. In this high-elevation headwaters area, the Town struggles to achieve an adequate supply of clean source water to serve its population. It is critical that the water resources that we do have are protected. Reverting to a one-acre standard would result in the Town having very little ability to protect its source water supply.

City of Winston Salem

Example:

In our erosion control ordinance we regulate to 10,000 square feet for commercial development and 20,000 square feet for single family home construction.

Consequence:

The more stringent threshold is to help better comply with the TMDL TSS requirements of the City's NPDES permit. If we cannot regulate smaller land disturbing activities it will be more difficult to meet the TMDL requirements. Also, if we could not regulate any more stringent than the state standard of 1 acre it would have a big impact on revenue. Currently our fee schedule is \$642 for the first acre and \$202 for each additional acre or any part of an acre, with a max fee of \$8040 (38 acres). With our current ordinance thresholds of 10,000 square feet commercial and 20,000 square feet for single family homes we are collecting the \$642 anytime a project crosses those thresholds. If we had to drop back to the 1 acre the City would lose revenue for the projects that had been regulated that now would not be.

City of Henderson

Examples:

- a. Examples of more stringent rules for Erosion Control in local ordinance:
 - i. City of Henderson requires erosion control requirements for greater than ½ acre of disturbance in lieu of greater than 1 acre of by the state/federal rules.
 - ii. The City requires higher per acre fee for disturbed areas.
- b. Why more stringent rules are necessary:
 - i. The general rule for greater than 1 acre of disturbance works in rural areas, but within urban locations, most of the occurrences are smaller than 1 acre, but greater than ½ acre. This allows us to capture most of local development and disturbances within urban areas.
 - ii. The higher fees are used to help offset some of the program costs for personnel time and training.

Specific consequences:

- a. Most developments within urban areas will be outside of the erosion control and sedimentation regulations.
- b. The smaller fees would impair local program bottom lines and personnel. With smaller budgets, more emphasis is being placed on generating fees to offset positions within each department. This may also allow municipalities and counties to reduce or remove their local programs to save costs.
- c. Local programs would default their right for existence and return the responsibility to the State for plan review, enforcement and inspection of sites. The question that would cause this is “Why have a local program if we do not have a say in how to manage and place restrictions into the ordinance that is more in line with local policy and conditions than overall State policy and regulations?”

Haywood County

Examples, Consequences, and Insight:

Two examples of ordinances stricter than the state are the Haywood County Erosion and Sediment Control Ordinance and the Haywood County Slope Ordinance.

- 1- **Educational component:** Haywood County includes several clarifying definitions in its ordinances that are not included in the state law. These definitions have the effect of helping those undertaking land-disturbing activities, to understand the process and technicality of disturbing land in complex metamorphic conditions. This somewhat broader level of defining helps to educate developers and contractors who may only have entry level of experience in manipulating topography in the western mountains.
- 2- **Local control of problematic sites:** Haywood County issues Land-Disturbing Permits on sites “under one acre of disturbed area” because of widely varying topographic conditions that require (in many instances) greater levels of planning due to steep slopes, poor quality soils for compaction, narrow depth to bedrock, high volumes and velocities of concentrated runoff in steep areas, plastic soils, sensitive natural resources, and varying antecedent moisture conditions due in part to unpredictable ground water movement in highly folded, fractured and faulted metamorphic areas. Historically, a lot of constructions sites “under one acre disturbed” have caused tremendous problems to off-site properties and natural resources; hence the lower threshold for control in Haywood County (which also provides an educational provision for growing professionals in the discipline).
- 3- **Balanced program guidance:** To provide for balanced, fair direction in application of environmental rules to the regulated public, Haywood County has established two volunteer (non-compensated) oversight boards for the Erosion Control Program and administration of the Slope Ordinance. They are: The Haywood County Sediment Control Board and The Haywood County Engineering Review Board. These boards are not required by state law but by local requirements. These boards contain community leaders, elected officials, contractors, developers, professional engineers, surveyors, and representatives of the local Soil and Water Conservation District. These board members must be approved to serve by Haywood County’s elected Board of Commissioners.

- 4- **Educational focus:** It is a widely held opinion that local leaders generally have a deeper understanding of local problems than those not living in the region of subject. State environmental rules and regulations over-arch the controlled issues to a large extent. However, local input (control) is viewed as valuable (locally) due to area specific conditions that may not be fully addressed in the general guidance given in state environmental rules and regulations. The state's rules and "regs" are sufficient at times. At times, they may not be. The end goal is to provide adequate and reasonable levels of private property protection, as well as protection for public properties and the valuable water resources society desires and depends upon to sustain life, provide for recreation, and add to property values.

Town of Wake Forest

Examples:

Town of Wake Forest's erosion and sediment control ordinance is more stringent than the State of North Carolina.

E&SC Permits:

- 21,780 sf of disturbance or greater, no limit
- \$400 per acre rounded up instead of \$65. This covers administration, review, inspection, and close out of a project (2 years)
- \$65 per single family lot that is not permitted to cover E&SC inspections of required silt fence and construction fence on every lot
- \$250 per acre rounded up for renewals (annual after 2 years, revised LD okay)
- preconstruction meeting prior to start of work

Details:

- NCDELMR details and follow the NPDES seeding schedule of 7-14 days

E&SC Inspections:

- Initial inspection after installation of measures prior to grading to check E&SC measures before they are allowed to clear the lot -> certificate of compliance
- Monthly inspections
- Final inspection upon completion -> certificate of completion

Violations/Enforcement:

- NOV- 7 days
- Civil- \$5,000 per violation per day, worksheet utilized to determine penalty
- Criminal

All of these tools aid in the enforcement of smaller projects that more often than not are repeat violators and can cause serious damage to the environment. Often times, the small builders and part time developers are trying to save a lot of money and cut corners to do so. They are also less informed of the laws, rules, and regulations and often grade in buffers and wetlands. By requiring permits from the smaller land disturbance we are able to teach and guide those that may not have had as much training and experience with environmental regulations but are more than capable of constructing a home or building.

Consequences:

Before the Town of Wake Forest was delegated the E&SC program in 2006, projects were permitted for 1 acre and above. With the boom of construction in the early 2000's, the projects were not in compliance with the Clean Water Act, Sediment Pollution Control Act of 1973 or the County E&SC Ordinance. That's when Wake Forest decided to step in and take control of our waters. We lowered the permit limit to ½ acre (21,780 sf) to curb some of the sediment loss by single family lot builders and small commercial lots that were contributing to erosion, drainage complaints, and sedimentation in our streams.

In 2008, Smith Creek Watershed was placed on NC DWR's 303d impaired water's list due to lack of intolerant macro invertebrates. We are now studying the stream and have found a heavy sediment load and lack of intolerant benthos (mayfly, caddisfly, stonefly) which are the beginning of the food chain/life cycle. We have also found that there are multiple buffer violations contributing to the stream degradation.

If regulations were to become less stringent, many of the problems that we were faced with prior to 2006 would inevitably revert back to mud in the streets, total disregard for others, lack of emergency access, clogging of storm drains (ie: flooding damage), and tax payers and business' leaving to find a nicer place to live or work.

Construction of single family homes in Wake Forest is on the rise. There is increased pressure to build on what's left, cheaply, and make a profit. This means in our water supply watershed, low lying areas near wetlands and streams, and in our riparian buffers.

Jackson County

Examples:

- 1) Our Sedimentation and Erosion Control Ordinance provides for supervision of sites that have a disturbance during development of greater than one-half acre. The state model ordinance only provides for supervision of site with a disturbance greater than one acre.
- 2) Our Mountain and Hillside Development Ordinance establishes density limits for development on slopes greater than 30%. More than 70% of our county is classified as steeper than 30% average slope.
- 3) We currently have a Ground Water Recharge Ordinance that limits impervious surface in all types of development other than single family homes. The state stormwater regulations do not impose any impervious surface limits on Jackson County, other than in our watershed areas.

Consequences:

We believe that due to the steep slopes in our county that a greater level of supervision is required to protect our land and streams, the majority of which are classified as trout waters or other high quality waters. Without stricter regulations, the county will not be able to adequately protect our citizens or our environment.

Town of Lake Lure

Examples:

- The Town of Lake Lure's has ordinances that are more stringent than state or federal law/rules. Our local sediment and erosion control regs exceed state standards as far as requirements for a permit for projects less than an acre. We also require that measures be designed to accommodate the 25-yr storm which exceeds the state standard except for in High Quality Water areas. The Town has also adopted steep slope regulations due to issues with landslides, unsafe and unsustainable development practices in areas with poor or thin soils, or conditions unsuitable for septic systems.
- Our ordinances were developed for the specific intent of protecting property values in the Town, protecting the waters of our namesake, which incidentally is the primary driver of not only the Town economy, but the economy of Rutherford County. Prior to adoption of our local program, on more than one instance there were significant water quality impacts from land development that were under the state's jurisdiction. Town officials also recognized that multiple single family projects, while individually might not have a huge impact (but often do), collectively they can create large sedimentation issues. Our state regional office was simply not staffed to be able to provide the frequent inspection needed to make sure those sites stayed in compliance. Enforcement was almost completely complaint driven and that was when the Regional Office actually had personnel. Since the cutbacks, enforcement is even more difficult.
- Clearly, local programs with stricter standards benefit the state because they take into account projects that may otherwise go un-noticed by the state. Local programs provide state officials more eyes on the ground that can respond to community concerns more effectively than state officials.
- Because these ordinances have been developed with community input through public hearings and so forth, the community as a whole typically supports the standards called for in the local ordinance. The stricter standards, again, do not always apply to the projects an acre or greater. They are made to deal with a specific need of the community or to afford a specific protection not provided under the state law/rules.

Consequences:

- First and foremost, it is an intrusion on communities and local governments' ability to provide the services that the constituents of that local government have asked for. State chartered communities have the right to decide what is best for their communities and that has always more or less been the unspoken rule. Those communities know better than the state or federal government what their issues are, what the best mechanisms for solving those problems are, and are willing to commit resources to that end. (So many of our legislators claim that they want Washington to keep out of our state affairs. Those same legislators should keep in mind that they are doing the same thing to local governments when they prevent local governments from enforcing the ordinances that a community has chosen to adopt because they seek a greater standard).

- Failure to enforce more stringent local ordinances may threaten human health and safety, property values, natural resources, rare and endangered species, and recreational resources.
- It opens the door for unsustainable development that at the end of the day impacts local economies that may depend heavily on tourism, recreation, and outdoor resources (Lake Lure is an example of that). If there was no local oversight for development projects in Lake Lure, our primary resource would simply go away. Already the Town spends hundreds of thousands of dollars yearly to remove sediment that comes into our lake from upstream areas. Some of those upstream areas are actually under local program jurisdiction. If those other local programs were not in place, the costs would balloon exponentially. No lake means no local tax base, no tourism dollars which go in the Rutherford County coffers creating further economic impact to one of the most economically depressed counties in the state.
- Right now, large projects (over an acre) are pretty well regulated so I don't see as many significant impacts in that area. The big impact will be the problems generated from single family home construction, particularly on steep slopes in poor soils. Many mountain aquatic systems have been affected by this type of activity, even before the development boom. Stricter enforcement is the way to reduce sediment from these projects and those projects go largely un-noticed by state enforcement officials because they don't require any type of plan submittal. Under the local program, we get the opportunity to approve these projects with conditions that call for better construction methods, better site location of structures, and better education for property owners that may otherwise make mistakes that could be costly to them and their neighbors in the long-run.

Town of Cary

Examples & Consequences:

1. The Town of Cary requires an erosion control plan be approved prior to issuance of a grading permit for land disturbance activities greater than 12,000 sq ft. LDO ref 3.13.1

The Town of Cary is urban and new and re - development tends to occur in close proximity to existing development. This provides some level of protection for existing citizens.

2. We require a certificate of compliance to be obtained prior to mass grading and issuance of building permits. LDO ref 3.13.5

This is a management tool to ensure all erosion control measures are installed and functional per the approved plan prior to commencement of grading.

3. Residential Single Family Development less than 3 du/acre may only grade infrastructure until building permit is issued for the lot (lots may be graded only if infrastructure is needed to be placed on the lot or there are severe topographic issues). LDO ref 7.4.3 (G)

This is a management tool that was enacted in response to several large acreage mass grading operations in the past decade and our community desire to limit the amount of exposed area at any one time. It provides some level of protection to the existing citizens.

4. Limits on medium density residential (anything that exceeds 8 units per acre shall not grade more than 25 acres per phase or section of development. Each section must be seeded and stabilized prior to additional grading. Exceptions may be granted. LDO ref 7.4.3(H)

This is a management tool that was enacted in response to several large acreage mass grading operations in the past decade and our community desire to limit the amount of exposed area at any one time.

Iredell County

Examples of local environmental ordinances more stringent than state or federal laws/rules and why a stronger ordinance is necessary:

Iredell County's Erosion Control Ordinance is more stringent than state or federal laws/rules in two areas. The first being ground cover requirements matching those of the NPDES permit. Iredell County staff felt this was a necessary step to streamline the permitting process for applicants. Since local programs can only grant NPDES coverage to sites with plans that identify ground cover stabilization within the 14/7 days of inactivity required by NC DENR Water Quality, it made sense for all plans submitted to mirror NC DENR Water Quality requirements. Being able to grant NPDES coverage to applicants simplified the permitting process and reduced plan review time. Also, stabilization is the best form of erosion control. By reducing the amount of time inactive areas may sit disturbed, you reduce the potential and actual amount of offsite sedimentation.

The second area where Iredell County's Erosion Control Ordinance is more stringent than state or federal laws/rules is requiring erosion control plans for disturbances more than 0.5 acres in a watershed. Lake Norman and the Catawba River are very important to the financial, recreational and public wellbeing of not only Iredell County, but our neighbors to the south in Mecklenburg County. Lake Norman serves multiple municipalities as a drinking water source. It is also a destination for recreational activities such as swimming, fishing, boating, etc. We are also working to protect existing home and business owners from being impacted by under monitored development. The development occurring in these areas are usually individual lots, on existing roads with multiple builders. The majority of complaints received in this office is from property owners adjacent to these types of land disturbing activities and are being impacted negatively from them.

Specific consequences of not allowing more stringent local environmental ordinances:

By not allowing local erosion control programs to address local conditions and circumstances you remove the ability of local government to best meet the needs of its constituents. If Iredell County is not allowed to require ground cover more stringently than the model ordinance, developers may see a delay in getting their projects up and running without their NPDES permit. As for requiring erosion control plans on development greater than 0.5 acres in a watershed, the impact that results from not monitoring these construction activities greatly outweighs the inconvenience of permitting these sites and holding developers responsible for maintaining good erosion control practices in areas that are sensitive for people's drinking water, homeowners and outdoor enthusiasts.

City of Monroe

Examples & Consequences:

This is to follow up on your request for information regarding local environmental ordinances that are more stringent than state or federal law and justifications by the community for a stronger ordinance.

The City of Monroe's local program was originally implemented in 2002 in response to increased development in the region and a desire to better protect our surface supply watersheds from the harmful effects of sedimentation. Typical issues affecting Monroe at the time of the ordinance adoption related to the impacts of numerous uncontrolled small site developments versus fewer controlled large site disturbances. The City of Monroe has the poster child for what occurs due to effects of erosion. Lake Lee, one of our secondary water supply lakes, has had its supply capacity significantly reduced by sediment by almost 70 percent, providing about 120 million gallons of storage. Dredging the lake to gain back the original storage of 370 million gallons is estimated at \$20 million which is cost prohibited.

The process to adopt our local ordinance started in 2001 and was vetted by the City's Environment and Water Resources Committee and the Land Development Committee. In addition to a public hearing held at the time of adoption, City staff also conducted a Residential Builders Forum to discuss the proposed Erosion and Sedimentation Control Ordinance. One hundred six homebuilders were sent proposed program information and invited to attend. Twenty-eight were present for a detailed presentation of the proposed ordinance. At the completion of the review, there were no concerns raised by any of the attendees. The effort in public outreach was important to convey and to obtain buy in from the many stakeholders that would be affected. The local ordinance was adopted unanimously on April 2, 2002 by our City Council to require commercial, industrial or subdivision sites of 12,000 square feet or more disturbed area to submit for a formal permit and implement approved control measures. Individual residential sites disturbing less than one acre are required to execute an Erosion and Sedimentation Control maintenance agreement form when applying for a building permit to acknowledge and to guide the installation of proper controls during construction. A copy of Section 158.05 General Requirements and Objectives from Monroe's Sedimentation and Erosion Control Ordinance which defines our thresholds for land disturbances is attached for your reference.

In general, the City of Monroe's goal is to ensure any sediment from a given property stays on that property. The benefits of the program include the protection of our surface water supply watersheds from accelerated sedimentation, prevention of sedimentation across public and private properties and prevention of the environmental and financial impacts of erosion. Because each city's situation is unique, no one set of regulations will suit all conditions. Topography, zoning and soil types vary across the State and each play a role in how best to manage sediment laden runoff from entering local water supplies and threatening wildlife living in the streams and lakes. With municipal water supplies all vying for limited water sources and as illustrated by Lake Lee, it becomes more apparent that protection of the existing facilities should be a priority.

City of Archdale

Examples & Consequences:

The City of Archdale has had ordinances that are more stringent than state or federal law/rules. For example, our local sediment and erosion control regulations exceed state standards as far as requirements for a permit for projects less than an acre. These modifications were developed starting with the Model Ordinances provided by the State of North Carolina and monitored under the ACE (Archdale's Community Effort) Integrated Stormwater Management Program. These standards were developed after extensive public education and outreach in addition to multiple public hearings.

- Our ordinances were developed for the specific intent of protecting property values in the City, protecting the natural resources of our community and reduction of long term costs to our citizens. Prior to adoption of our local program, on more than one instance there were significant water quality impacts from land development that were under the state's jurisdiction. City officials recognized that multiple single family projects, while individually might not have a huge impact, collectively create larger impacts which drain limited municipal maintenance funds. Our state regional office was simply not staffed to be able to provide the frequent inspection needed to make sure those sites stayed in compliance. Enforcement was almost completely complaint driven thus providing a strain on the State Regional Office as well as dissatisfaction among citizens. Since inception, a local presence allows for a proactive stance and a reduction of long term maintenance costs.
- Our local program with stricter standards benefits the state, because they take into account projects, which although smaller, collectively create a larger problem and cost for the municipality. Local programs, through effective communication with state officials provide an effective and efficient response to community concerns at the time of occurrence. In addition, after establishment of the program, proactive response prior to an incident becomes common place.
- Because these ordinances have been developed with community input through public hearings and so forth, the community as a whole typically supports the standards called for in the local ordinance. The stricter standards, again, do not always apply to the projects an acre or greater. They are made to deal with a specific need of the community or to afford a specific protection not provided under the state law/rules. I cannot stress enough that more stringent standards in a community is a reflection of the wants of the community. Over time, it becomes one of the selling points for a community to attract people to relocate to the community, thus improving economic stability.

Considering the authority of rules and regulations, typically, no subordinate government or entity is allowed to create regulations which are less stringent than the federal guidelines. However, the federal guidelines are written vaguely to allow for adoption by the subordinate entity to meet local needs, under this premise, the most prominent consequence is:

- An intrusion on communities and local governments' ability to provide the services that the constituents of that local government have asked for. State chartered communities have the right to decide what is best for their communities through, in our case, a City

Council/Mayor/City Manager form of local government. Those communities know better than the state or federal government what their issues are, what the best mechanisms for solving those problems are, and are willing to commit resources to that end.

- Echoing claims of our state legislators who want Washington to keep out of our state affairs. Those same legislators should keep in mind that they are doing the same thing to local governments when they prevent local governments from enforcing the ordinances that a community has chosen to adopt because they seek a greater standard.
- Strained resources at the State level for a communities level of expectations drives more stringent local ordinances when addressing concerns that may threaten human health and safety, property values, natural resources, rare and endangered species, recreational resources, and economic development.
- Under a local program, we get the opportunity to approve these projects with conditions that call for better construction methods, better site location of structures, and better education for property owners that may otherwise make mistakes that could be costly to them and their neighbors in the long-run.

Town of Kitty Hawk

Examples and Consequences:

In a community where land is a relatively scarce resource and property values are high, the Town of Kitty Hawk has very few large properties available for development. A vast majority of our Town's development occurs on parcels less than one (1) acre in size. When Kitty Hawk became a local program and adopted an erosion and sediment control ordinance, the Town opted to require permits and apply erosion and sediment control standards to all land disturbing activities greater than 5,500 square feet. The actual standards are consistent with State requirements, but the Town applies them to smaller properties as well.

In addition, the Town of Kitty Hawk presently requires a land disturbance permit that documents and sets standards for clearing, filling, and grading activities in preparation for development of residential lots when the land disturbing activity is 5,500 square feet or less.

The Town of Kitty Hawk has an interest in preventing erosion and sediment control issues to protect the rights of adjoining property owners, as well as protecting adjoining public roads and waterways. These interests will be compromised if the Town's ability to enforce standards for properties under one (1) acre in size is eliminated.

City of Raleigh

Examples:

The City of Raleigh's threshold for a land disturbance permit is 12,000 square feet compared to the state's threshold of 1 acre.

Consequence:

A ¼ acre lot can produce a considerable amount of erosion and sedimentation which without proper measures can have an impact on the community and citizens (eg safety, natural resource impacts, etc.). Projects ¼ acre and greater are very common within the City of Raleigh especially given our high density of development. Located entirely within the Neuse River Basin our commitment to protecting this waterbody, its tributaries, and public water supply is contingent upon our ability to regulate a majority of construction projects within our ETJ.

Example:

Settling efficiencies for sediment basins for “High Quality Waters” is set at 85% for the 40 micron size soil particle versus the states requirement of 70% for the 40 micron size soil particle.

Consequence:

The City of Raleigh lies in an area with highly erodible friable clay soils where construction activities have increased potential for turbidity and sediment releases compared to municipalities in other physiographic regions. Due to these factors, the City has implemented higher settling efficiency requirements. In addition, our basin requirements for the 10 and 25 year storm not only creates capacity for increased settling but also helps alleviate flooding issues downstream and decreases velocity of runoff during construction.

Without these requirements we would have a potential for increase in personal property damage and environmental impacts (eg sediment/turbidity in waterbodies/personal property, stream channel alteration due to increased runoff, etc.)

Example:

The City of Raleigh requires surety bonds for \$1000.00 per acre for stabilization purposes.

Consequence:

These bonds ensure stabilization of sites when the financially responsible party is unable to do so. Without surety's we have to rely solely on holding COs and enforcement. Enforcement can be time consuming and may not result in stabilization in a timely manner (eg prior to sedimentation impacts occurring).

Examples:

- For any land disturbing activity on sites...between 5 and 15 acres...peak stormwater runoff leaving the site at each discharge point for the 2 and 10-year storm shall be no greater during construction than for pre-development conditions...
- For any land disturbing activity on sites...greater than 15 acres...peak stormwater runoff leaving the site at each discharge point for the 2, 10 and 25-year storm shall be no greater during construction than for pre-development conditions...
- Regulation shall not be applicable when disturbed acreage is less than 5 acres and the 2-year peak discharge for the disturbed condition is less than 10% of the peak discharge from the contributing watershed as measured at the nearest receiving watercourse...

Consequences:

The City of Raleigh receives a high call volume of complaints from residents that live in areas that were developed prior to these Peak Attenuation regulations being in-place. These complaints are generally due to increase in impervious area and reduction of vegetated habitats with effects of increased surface water runoff volume/velocities. In these areas we most commonly observe stream channel instability (eg channel incision, entrenchment, widening, bank erosion, etc.) which has resulted in structural/yard flooding and decrease in usable property area. While the City has funds to aid these residents in remediating/lessening impacts of flooding in older communities, we prefer to take a more proactive approach by requiring developers to meet certain requirements to alleviate these impacts in downstream communities from future development. To this will help reduce downstream flooding impacts to personal and public property from new development. In addition to personal property impacts, the City is also seeing sewer line impacts due to streambank stabilization issues and increased flooding creating potential for sanitary sewer overflows. These issues could lead to a variety of water quality impacts (eg fish kills, increase nutrification, ecosystem alteration, etc.) in an already sensitive Neuse River watershed.

Lincoln County

- I. Examples of local environmental ordinances more stringent than state or federal laws/rules and why a stronger ordinance is necessary.

A. Soil Erosion and Sedimentation Control Ordinance.

Lincoln County's Soil Erosion and Sedimentation Control Ordinance is more stringent than state law as follows:

1. Land disturbance less than one acre but greater than 1000 sq. ft. requiring a building permit, must complete an erosion and sediment control application before land disturbance. This is a one page form with landowner information, direction of water flow on lot and measures going to be used to control sediment runoff.

Why: our greatest number of complaints come from home owners that are experiencing sediment leaving a construction site next door that consist of less than 1 acre disturbance.

2. Any non-residential land disturbance of less than one acre but greater than 20,000 sq. ft. requiring a building permit must have an approved Soil Erosion and Sedimentation Control Plan before any land disturbance takes place.

Why: Many non-residential land disturbances are within an outparcel tract of land that contains storm water inlets. Without a plan showing measures that need to be installed, we previously had to make on the spot decisions after the land disturbance had occurred and this put us in a liable situation.

3. Buffer zones must follow the approved County Buffer Ordinance. Buffer widths must be a minimum 50 feet wide if not in the 100-year floodplain and the width of the floodplain if within a 100-year floodplain.

Why: see below under buffer ordinance.

4. An Environmental Review Board is charged with overseeing the enforcement of the County Soil Erosion and Sedimentation Control Ordinance. This Board is appointed by the County Commissioners and consist of the following:
 - a. One person appointed by a participating municipality;
 - b. President of the County Home Builders Association, or his or her designee;
 - c. Chairperson of the County Soil and Water Conservation District, or his or her designee;
 - d. Chairperson of the County Natural Resource Committee, or his or her designee;
 - e. Two persons appointed by the County Board of Commissioners, with one being a professional environmental biologist;
 - f. A professional engineer registered under the provision of G.S. Chapter 89C, appointed by the Board of Commissioners.

B. Streamside Buffer ordinance.

A Streamside Buffer Ordinance was established in 2007. The Streamside Buffer Ordinance applies to Perennial and Intermittent streams within the entire county and not just in water-supply watersheds. The Ordinance requires a minimum 50-foot vegetative buffer in areas that are not in the 100-year floodplain and the width of the 100-year floodplain where the 100-year floodplain exist, prohibiting any development in the buffer area except for necessary stream crossings.

Why: The Streamside Buffer Ordinance was created due to an environmental review by federal and state agencies of Lincoln County's request to build a wastewater treatment plant. The U.S. Fish and Wildlife Service and the N.C. Wildlife Resources Commission recommended stronger regulations to offset the impacts of the development that would increase due to the increased availability of sewer service.

The County Commissioners adopted unanimously the Ordinance County wide. The Buffer Ordinance not only protects the quality of the streams and wildlife habitat but also strengthened the floodplain management and reduced the risks associated with flood hazards by prohibiting any building in flood-prone areas.

II. Specific Consequences of not allowing more stringent local environmental ordinances.

Many times regulations that come from the top down do not address each circumstance on a local level. Across North Carolina, the topography drastically changes, Water uses change, stream classifications vary, and Soils classifications are dependent upon physiography and geology of the regions of the state. So how one rule could fit every region of the state is not acceptable. It is better to have decisions made on a local level where the outcome addresses the issues.

Buncombe County

Examples and Consequences:

Buncombe County requires erosion control measures to be designed for the 25-year storm, above the states required 10-year storm design requirement.

Buncombe County has steep slope development requirements that are enforced as a component of the Zoning Ordinance. Buncombe County has hillside development provisions authorized through the Subdivision Ordinance and enforced by the Erosion Control staff. The intent of these provisions are to account for the unique topographic environment found within Buncombe County and to protect against slope failures and sedimentation. Western North Carolina is a region classified as a temperate rainforest. Large quantities of high velocity runoff (created by high elevations and steep slopes) cause the region to experience events which can cause substantially more damage, much more quickly than anywhere else in the state. The Hillside Ordinance offers protection for areas of disturbance of one quarter of an acre. Erosion Control approves the plans and enforces the Erosion and Sedimentation Control Ordinance for these sites. This is very important in that single family sites and sites under an acre are a major source of erosion and sedimentation. These are sites that for which the State would not require permits and would only investigate after a complaint (resulting from off-site sedimentation) has occurred. The State does not have the time or personal to monitor these sites for conformance. Additionally, complaint-driven enforcement does not prevent the problems associated with sedimentation, it merely attempts to punish the responsible party after damage has occurred.

In the mountains of Western NC, due to our topographic conditions, stricter standards for erosion and sedimentation control are necessary to prevent natural resource loss and degradation. The local programs personal are on-site and can monitor erosion control measures for performance providing specific recommendations relevant to the local area. Local personal can also respond in 24 hours or less; thus reducing the impact of the damage and ensuring that further damage is quickly mitigated against. The local citizens of Buncombe County want the added protection that the stricter measures allow. It is the responsibility of the State and Buncombe County to protect the natural resources of the State of North Carolina. Lowering the standards or forcing a county or municipality to lower it standards is not protecting the natural resources of the State of North Carolina. Much of our wildlife habitat, particularly trout streams (which are specific to WNC), are highly impacted by turbidity increases stemming from erosion. Failing to put controls into place specific to this environment prevents us from having the protections that we need. It is not only the desire of the County and its citizens to protect resources but there exists a technical and topographic rationale for having a higher standard of protection.

The less restrictive erosion control measures of the state ordinance would allow more erosion and sedimentation in Buncombe County. More erosion and sedimentation will destroy irreplaceable natural resources such as our creeks and rivers. Our local economy relies heavily on these resources (i.e., the terrain, natural beauty and waterways) in the form of tourism, and damage to these resources places strains on Buncombe County's economic well-being.

Counties are responsible for protecting the livelihoods and property of their citizens. Specific local standards (which are contextually more stringent than the State standard) allow Buncombe County to perform and be responsible to the level deserved by its citizens.

Pitt County

Example:

Tar-Pamlico Stormwater Ordinance

In accordance with stormwater rule 15A NCAC 2B .0258 *Tar-Pamlico River Basin-Nutrient Sensitive Waters Management Strategy: Basinwide Stormwater Requirements*, Pitt County adopted its Stormwater Ordinance to comply with the substantive requirements of the Rule. However, Pitt County is located within both the Tar-Pamlico and Neuse River Basins. In an effort to be consistent throughout the county, Pitt County's Stormwater Advisory Committee recommended that the stormwater regulations apply within all areas of the County's planning jurisdiction. Therefore the County's Stormwater Ordinance is applied countywide, except that the area within the Neuse basin need not comply with the phosphorus loading limits. Phosphorus loadings are not taken into account in the Neuse basin since the Neuse Stormwater Rule (which Pitt County is not subject to) only targets nitrogen loadings.

Consequence:

Tar-Pamlico Stormwater Ordinance

Due to an effort to be consistent in enforcement of the State mandated stormwater rule, Pitt County voluntarily chose to apply the rule countywide. This action was recommended by the County's Stormwater Advisory group, which was comprised of Pitt County Soil and Water Department, Pitt County Planning Department, Pitt County Engineering Department, Developers, Surveyors, Private Engineers and Local Environmentalists, primarily to improve water quality, but to not direct growth in one area of the County as well. The Committee felt that by not regulating stormwater within the Neuse Basin, developers may find it more economical to focus development activities in that area of the County because there were fewer regulations.

Henderson County

Examples and Consequences:

Henderson County requires a professional engineer or Landscape Architect to design plans for the following amounts of land disturbance in addition to the state minimum of 1 acre of land disturbance;

- Any land-disturbing activity which uncovers one-half (1/2) acre or more (21,780 square feet) of land with an average slope of 16 percent (7.2 degrees) to 25 percent (11.25 degrees) in its natural state. The average slope shall be calculated only for the disturbed area.
- Any land-disturbing activity which uncovers one-quarter (1/4) acre or more (10,890 square feet) of land with an average slope over 25 percent (11.25 degrees in its natural state). The average slope shall be calculated only for the disturbed area.

Due to soil types and topography erosion is more likely to occur. This ordinance was written to accommodate special mountainous terrain.

Town of Apex

Examples and Consequences:

1. No person shall initiate any land-disturbing activity which uncovers more than 20,000 square feet without having a soil erosion and sedimentation control plan approved by the town as evidenced by receipt of a letter of soil erosion and sedimentation control plan approval.

While the majority of Town development projects do exceed the 1 acre State minimum there are enough small and infill projects that fall within the 20,000 sf and 1 acre disturbed area that the Apex Town Council wanted to make sure that they followed all of the required standards and requiring that they have an approved erosion control permit ensures that.

2. Grading and development of sites including single family residential lots not exceeding 20,000 square feet in surface area shall implement and maintain control measures to restrain erosion and prevent off-site sediment migration. No person shall initiate any land disturbing activity under 20,000 square feet without submitting an erosion and sedimentation control installation and maintenance agreement for residential lots.

Most residential lots within the Town of Apex are less than 20,000 sf and thus would be exempt from an individual permit. The requirement by the Town's Inspections Department that the Owner/Contractor sign an installation and maintenance agreement ensures that all developed lots will have a minimum of perimeter silt fence and a proper construction entrance installed at the start of construction and that they will be maintained during construction. It also allows the Town to enforce the agreement.

3. Prior to the town's issuing a letter of soil erosion and sedimentation control plan approval for an approved soil erosion and sedimentation control plan, the applicant shall provide a performance guarantee in the form of a certified check, cash or irrevocable letter of credit from any commercial bank doing business in the State of North Carolina in terms and form approved by the town. The amount of the performance guarantee shall be \$2,500.00 per disturbed acre as defined in the request for plan approval and approved by the public works director or designee.

The performance guarantee is a requirement of all development projects that have an active erosion control permit. The money is held by the Town and only used if there is an erosion or stabilization problem on site due to a lack of performance by the financial responsible party or withdrawal from the site by the financial responsible party. This money is fully refunded at the successful completion of the project.

4. Minimum design criteria for S&E devices shall be the following:
 - a. Required Volume – 3600 cubic feet per disturbed acre.
 - b. Required Surface Area – Shall be based on the drainage area and the peak flow rate from a 25-year, 24-hour storm event (Q25).
 - c. The outlet structure from a sediment basin shall only withdraw water from the surface.

The Apex Town Council adopted these minimum design criteria at the same time that a mass grading provision was also adopted. Mass grading of developed sites is now

limited to a maximum of 15 acres of disturbed area at one time. Phased projects are required for sites that are larger than 15 acres. The required volume and surface area of permanent/temporary sediment basins was increased from the State minimums in order to provide another layer of protection to downstream property owners especially for back to back storm events and to bring the requirements closer to what is required for projects that impact high quality waters.

Chatham County

Examples and Consequences:

- Chatham County currently has several ordinances that are more stringent than state or federal laws/rules. Examples of these ordinances include 1) Soil Erosion and Sedimentation Control, 2) Stormwater Management, and 3) Watershed Protection. As growth and development increased significantly over the last decade, changes to these ordinances were necessary to address public demand for natural resource protection. Several provisions within the erosion and sedimentation control ordinance were strengthened to address impacts associated with the boom in residential construction. In 2008, the threshold of land disturbance triggering the requirement for an erosion control plan was reduced to 20,000 square feet and issuance of a Residential Lot Disturbance Permit became necessary for all new residential dwellings. Timelines for stabilization were reduced to 7, 10, and 15 days as per slope designation and phasing limitations were included to minimize the exposure on areas with more highly erosive conditions. These are some of the changes that reflect the intense local support for regulations tailored to address the impacts associated with land-disturbing activity in Chatham County.
- Prohibiting local governments from implementing ordinances that address area-specific issues would undoubtedly result in negative environmental and economic consequences. Mountain and coastal counties and municipalities would not be well served by a “one size fits all” approach based on physical geography alone. Furthermore, the nature and intensity of development can vary widely from urban to rural areas. Allowing targeted processes and solutions within environmental regulations offers clear benefits when dealing with diverse landscapes and natural resources. Citizens and elected officials should remain able to assess and self-determine the provisions within environmental regulations that are best suited to protect the character and assets of a given community.

City of High Point

Examples and Consequences:

Approximately 75% of the City of High Point drains into the City of High Point’s Water supply Watershed. The lakes in this water supply watershed provide potable water to High Point, Greensboro, Jamestown, Archdale, Randleman and other outlying areas. The City of High Point and the local governments mentioned above have all modified our ordinances to best protect our water supply. Without potable water there will be no development. The City of High Point has more stringent regulations than the State of North Carolina in our Erosion Control Ordinance in the following areas:

ORDER OF ISSUANCE

The order of permit issuance shall be as follows:

- **Land-disturbing permits:** If required, land-disturbing permits shall be issued in advance of other permits and approval except watershed development plans.

The purpose of this is to prevent developers and contractors from starting projects without a Land-Disturbing permit.

Land Disturbing Permits are also required no matter what the size of the site under the following conditions:

SOIL K FACTOR

WILL TAKE PLACE ON HIGHLY ERODIBLE SOILS WITH A "K" FACTOR GREATER THAN 0.36;

These soils generate large quantities of sediment for small amounts of disturbed area.

TIER ONE AND TIER TWO OF THE WATERSHED CRITICAL AREAS

- Will take place in Tier 1 or Tier 2 of a watershed critical area;

WATER QUALITY DEVICES

- Includes a water quality pond or retention structure in a watershed, or drains into a water quality pond or retention structure in any part of a watershed;

We Require a Land Disturbing Permit on any site that has water quality device or drains to a regional water quality pond.

15% SLOPES

- **Application:** Such addition to the surface water buffer requirements shall only apply where that portion of the surface water is adjacent to moderate to steep slope areas. For slopes with a value of 15 percent or less, no additional buffering is required. For slopes of greater than 15 percent up to 25 percent, an additional 15-foot wide undisturbed buffer shall be required. For slopes greater than 25 percent, an additional 30 feet of undisturbed buffer shall be required. These calculations shall be made from each side of the surface water bank. Such additional buffer required by this section shall extend Zone 2 of the surface water buffer. In the case where Zone 3 is required, the extension of the Zone 2 surface water buffer may be offset by an identical decrease in width in Zone 3.
- **Determination:** The determination of whether such moderate to steep slope areas exist adjacent to a surface water shall be made by making 100 foot long perpendicular measurements at intervals, not greater than 50 feet in length, or at intervals as otherwise determined by the Technical Review Committee, along the entire length of the surface water as measured from the top of bank. These measurements shall be based on the most recent topographic survey of land that utilizes the smallest contour interval. See the Guidebook of Standards and Practices for Development for specific calculations, instructions and illustrations.

- In any instance where extensive erosion control measures are required.

SURETY

- Surety: The applicant for a land-disturbing permit to grade more than one (1) acre may be required to file with the Enforcement Officer an improvement security, bond, or other instrument satisfactory to the Enforcement Officer to cover all costs of protection of the site according to requirements of this Ordinance. Such surety shall remain in force until the work is completed in accordance with the land-disturbing permit and said work is approved by the Enforcement Officer. Upon violation of this Ordinance, applicable surety shall be used to establish protective cover on the site, to control the velocity of runoff, and/or prevent off-site sedimentation. Any monies in excess of the cost of providing protective measures shall be refunded to the appropriate person.

Without this part of the ordinance, bankrupted projects can be left denuded and eroding for years. These sites can fill our lakes with sediment and do severe damage to infrastructure and personal property downstream.

City of Asheville

Examples and Consequences:

- The City of Asheville has a grading, sedimentation and erosion control ordinance that requires property owners to obtain permits for work less than one acre. This ordinance is necessary to protect neighboring properties and also public infrastructure from sediment deposits from other properties. By having erosion control measures on these sites that are less than one acre, it prevents off site sedimentation and protects the environment. The sites less than one acre can produce off site sediment and impact neighboring properties and also be a safety concern for motorist traveling on public infrastructure due to sediment deposited on the roadways.
- The COA has a stormwater ordinance that provides more protection to the streams and water bodies than do the minimum requirements. Also it protects downstream neighbors from increased flooding levels.
- The COA is a NPDES Phase II community in which federal permits require that we uphold our ordinances.
- The COA has a steep slope ordinance and a ridge top ordinance that controls the total disturbance to an area that falls within a higher hazard for slope failure; considerations include topography, slope and the lot size. This is necessary to protect neighboring properties and the goal is to reduce the potential future slope failures in these areas.
- The COA has higher standards regarding the flood ordinance. This provides additional protections to new and substantially improved properties located in the SFHA. In order to maintain or enter the Community Rating System program (CRS), higher standards are required. The CRS provided citizens who reside or own businesses in the SFHA to obtain reductions in their flood insurance premiums.

- Each local government and region have unique challenges related to topography, soil type, and specific local citizens concerns that are addressed on a local basis through the drafting of these local ordinances. The importance of public input through the development of the ordinance is critical and Asheville had done that by forming policy groups to discuss the very important topics. Being in the mountains, Asheville has unique topography with everything from steep slopes to the special flood hazard areas that we must provide protection to our citizens.