AGENDA

Commission for the Environment
January 14, 2013
7:30 p.m.

Environment and Agricultural Center
306 Revere Road, Hillsborough

Time	Item	Title
7:30	**--**	**Refreshments / Informal conversation**
7:45	**I.**	**Call to Order**
7:46	**II.**	**Additions or Changes to Agenda**
7:48	**III.**	**Approval of Minutes – December 10** (Attachment 1)
7:50	**IV.**	**Proposed new stormwater plan requirements** The BOCC asked Michael Harvey (Current Planning Supervisor) to brief the CFE on proposed new procedures for the submission of stormwater plans for new development, and to report back with any comments or feedback from the CFE (Attachments 2 - 3)
8:15	**V.**	**Proposed Renewable Energy and Efficiency Work Group** The CFE Energy Resources Committee will present a proposal for supporting the promotion of solar, geothermal, energy efficient and green technologies in Orange County. The CFE will consider finalizing a memo intended as a response to the BOCC (Attachment 4)
9:00	**VI.**	**Updates and Information Items** Staff and/or CFE members will provide updates on the following items: ➢ CFE roster and draft recruitment flyer (Attachments 5 - 6) ➢ ICLEI Membership update (Attachment 7) ➢ New NCDENR Secretary – John Skvarla (Attachment 8) ➢ Sustainable Energy Conference – March 2013 (Attachment 9) ➢ Former Colorado governor advises NC fracking panel (Attachment 10) ➢ State seeks more information from UNC Bingham facility (Attachment 11) ➢ Forestry Best Management Practices newsletter (Attachment 12)
9:15	**VII.**	**Committee Meetings** (brief meetings if time allows)
9:30	**VIII.**	**Adjournment**

Next meeting: February 11 (Chapel Hill)

Adopted 9/12/11

CFE Meeting Ground Rules

1. Keep to agenda topic under discussion
2. Share relevant information
3. One person speaks at a time after recognition by the Chair
4. Everyone is invited to participate in discussions / no one person should dominate discussions
5. Strive to reach consensus first before voting

Orange County
Commission for the Environment

DRAFT Meeting Summary

December 10, 2012
Environment and Agricultural Center, Hillsborough

MEMBERS PRESENT: Jan Sassaman (Vice Chair), Lucy Adams, May Becker, Terri Buckner, Peter Cada, Loren Hintz, Bill Kaiser, Tom O'Dwyer, David Welch

MEMBERS ABSENT: David Neal, Michele Drostin, Gary Saunders, Sam Yellen

STAFF PRESENT: Rich Shaw, Tom Davis

I. **Call to Order**: Sassaman called the meeting to order at 7:35 pm. He said Neal, Drostin, and Saunders had notified staff they would not be able to attend this meeting.

II. **Additions or Changes to Agenda** – There were none. Sassaman reported that the BOCC Clerk notified staff that O'Dwyer and Kaiser were eligible to continue serving on the CFE for up to one year beyond the end of their term (12/31/12) or until their slots were filled. He said both have indicated they would be willing to serve until that time.

III. **Welcome New Members** – Sassaman welcomed Buckner to the Commission and pointed out that Yellen was absent. CFE members introduced themselves. Buckner summarized her interests and experience with environmental matters.

IV. **Approval of Minutes** – Kaiser identified a typo on Page 2 of the meeting summary. Kaiser motioned to approve the November 12 meeting summary as corrected; seconded by O'Dwyer. The motion was approved unanimously.

V. **Recruitment of New CFE Applicants** – Sassaman noted there is a current need to fill three vacancies on the CFE due to the previous and forthcoming departures of Hughes, Price and Drostin. He added there will be a need to fill two additional slots once Kaiser and O'Dwyer vacate their positions in 2013. Sassaman said he and Neal reviewed the list of current applicants and that Neal will contact one of those people to confirm his or her availability. Sassaman circulated the list of applicants and asked if members wished to comment. Welch endorsed one of the applicants. Sassaman asked CFE members to consider people they know who might be good candidates and ask them to apply.

It was suggested that staff prepare a flyer to help CFE members recruit applicants from acquaintances and for sending to civic groups, environmental organizations, universities and churches. Staff was also directed to advertise on the DEAPR website.

VI. **ICLEI – Local Governments for Sustainability** – Shaw reported that the BOCC has asked the CFE for a recommendation on whether the County should continue its membership with ICLEI-Local Governments for Sustainability. He said the annual membership is due to expire and dues are $1,750. Shaw said ICLEI resources were used for developing the Orange County greenhouse gas (GHG) inventory, but the County had not been able to utilize its services over the past two years. Adams and Buckner commented on ICLEI's active involvement in the 2006-06 inventory project. Bucker opined that the resulting model, data, and recommendations were incomplete.

Hintz said he favors support of organizations that promote energy conservation. Kaiser said he found the GHG recommendations useful. Other members agreed that continuing the ICLEI membership would be beneficial if the County and CFE took advantage of its resources. Sassaman suggested tabling discussion of the County's ICLEI membership until after the committee reports. CFE members agreed.

VII. **Committee Meetings** – Sassaman reported that he and Neal had met to discuss the current committee structure and have some changes for CFE consideration. He proposed reformulating into three committees: **Air and Water Resources**, **Biological Resources**, **Energy and Sustainability**. Members discussed pros and cons of that proposal. Hintz reminded members of the former Environmental Education committee, which was converted to the current Energy Resources Committee. Adams suggested it may be difficult for one committee to address both air and water issues properly.

Other ideas and combinations that were discussed for committee restructuring were **Air and Energy**, **Biological and Water Resources**, and **Sustainability and Education**. Sassaman asked that the CFE table this issue and continue the discussion at the next meeting when Neal and Saunders would be able to participate.

CFE members met in their respective committees to discuss ongoing and future tasks.

VIII. **Committee Reports** – The CFE reconvened for committee reports. Kaiser reported that the Air Resources Committee wants to urge the County to update the Greenhouse Gas Inventory and to use the findings to improve County Government's energy consumption and sustainability. Cada reported that the Water Resources Committee would like to recruit graduate students to assist the CFE and DEAPR with priority tasks, such as the development of a surface water monitoring plan. Hintz reported that the Biological Resources Committee awaits further assistance from Johnny Randall (NC Botanical Garden) to begin the roadside habitat project that was authorized by the BOCC. He asked staff to find out whether County tax bills could be used to educate public about protecting Orange County's biodiversity. Welch reported on the committee's continued interest in developing a comprehensive conservation plan for achieving a network of protected open space through the county. Sassaman and O'Dwyer reported that the Energy Resources Committee continued its discussion of convening a work group of CFE and Planning Board members and others that would glean information from different experts on specific topics. O'Dwyer asked if the County's ICLEI membership would provide access to resources pertinent to the committee's interests. O'Dwyer said he would contact Stancil to find out how he (O'Dwyer) could access the ICLEI website so that he could evaluate its value and assess whether it would be worthwhile to renew the County's membership for another year. He said he would report his findings to the CFE.

IX. **Updates and Information Items** – Staff provided information on the following issues: a) CFE Annual Report and Work Plan, b) proposed new site plan requirements for stormwater plan, c) 2012 State of the County Health Report, d) UNC Bingham Facility update, e) the value of forests for storing carbon, f) and a news article about "fracking" for natural gas extraction in Pennsylvania. Shaw reported that the BOCC directed Planning staff to seek CFE comments on the proposed new requirements for upfront stormwater plans. He said Michael Harvey (Planning staff) has asked that this item be placed on the CFE's January meeting in order to respond to that request.

X. **Adjournment** – Sassaman adjourned the meeting at 9:45 pm.

Summary by Rich Shaw, DEAPR Staff

COMPREHENSIVE PLAN/ FUTURE LAND USE MAP AND UNIFIED DEVELOPMENT ORDINANCE (UDO) AMENDMENTOUTLINE

UDO / Zoning-2012-016

Amendment(s) requiring submittal of formal site plans and stormwater management plans for residential and non-residential projects

A. AMENDMENT TYPE

Map Amendments

☐ Land Use Element Map:
From: ---
To: ---

☐ Zoning Map:
From:- --
To:---

☐ Other:

Text Amendments

☐ Comprehensive Plan Text:
Section(s):

☒ UDO Text:

☐ UDO General Text Changes
☒ UDO Development Standards
☐ UDO Development Approval Processes

Section(s):
1. Section 2.4.1 *Zoning Compliance Permits – Applicability*
2. Section 2.5.3 *Plan Specifications*
3. Section 7.6.3 *Land Suitability*

☐ Other:

B. RATIONALE

1. **Purpose/Mission**

In accordance with the provisions of Section 2.8 *Zoning Atlas and Unified*

Development Ordinance Amendments of the UDO, the Planning Director has initiated a text amendment to modify existing language requiring the submittal of formal stormwater plans as part of subdivision and development applications.

The State recently implemented stormwater management and nutrient reduction strategies. As part of these strategies, the County recently modified existing regulations mandating the preparation and submittal of formal, engineered, stormwater management plans as part of any development project where proposed land disturbance reached the following thresholds:

Watershed/River Basin	Stormwater – Non-residential	Stormwater – Residential
Cape Fear (includes the Back Creek, Haw River, Cane Creek, Jordan Lake, and University Lake protected and critical watershed overlay districts as well as those properties within the basin not located in a watershed overlay district)	Projects proposing over 21,780 square feet of disturbance are required to submit a stormwater management plan	Projects proposing over 43,560 square feet of disturbance are required to submit a stormwater management plan
Neuse (includes Flat River, Little River, Upper and Lower Eno protected and critical watershed overlay districts as well as those properties within the basin not located in a watershed overlay district)	Projects proposing over 12,000 square feet of disturbance are required to submit a stormwater management plan	Projects proposing over 21,780 square feet of disturbance are required to submit a stormwater management plan
Roanoke (includes South Hyco Creek protected watershed overlay district)	Projects proposing over 20,000 square feet of disturbance are required to submit a stormwater management plan	Projects proposing over 43,560 square feet of disturbance are required to submit a stormwater management plan

These changes were incorporated into the UDO on April 17, 2012.

This proposed amendment is designed to:

1. Require formally prepared site plans for those projects exceeding established stormwater disturbance thresholds for residential projects.

   Submittal of formal site plans is already required for all non-residential projects regardless of the proposed land disturbance activity.

2. Incorporate references within various locations of the UDO identifying which land development projects need to comply with these standards in an effort to

eliminate confusion and provide definitive application submittal standards.

3. Analysis

As required under Section 2.8.5 of the Orange County Unified Development Ordinance, the Planning Director is required to: '*cause an analysis to be made of the application and, based upon that analysis, prepare a recommendation for consideration by the Planning Board and the Board of County Commissioners'*.

The required analysis will be completed before the public hearing and will be part of the quarterly public hearing materials.

4. Comprehensive Plan Linkage (i.e. Principles, Goals and Objectives)

This amendment is designed to provide additional references to existing development standards already contained within the UDO.

5. New Statutes and Rules

This amendment is designed to reference compliance with recently adopted modifications to the UDO related to stormwater management and nutrient reduction standards consistent with the following State regulations:

- 15A NCAC 2B. 0277 Falls Lake Stormwater New Development Rule
- 15A NCAC 2B. 0265 and Session Law 2009-484 Jordan Lake Stormwater New Development Rules

C. PROCESS

1. TIMEFRAME/MILESTONES/DEADLINES

a. BOCC Authorization to Proceed

November 8, 2012

b. Quarterly Public Hearing

February 25, 2013

c. BOCC Updates/Checkpoints

December 5, 2012 - BOCC members receive materials to be reviewed by the Planning Board's Ordinance Advisory Committee (ORC) as part of the Planning Board packets sent to all BOCC members each month
February 5, 2013 – Approval of legal ad
May 7, 2013 - Receive Planning Board recommendation

d. Other

2. PUBLIC INVOLVEMENT PROGRAM

Mission/Scope: Public Hearing process consistent with NC State Statutes and Orange County ordinance requirements

a. Planning Board Review:

January 13, 2013 – Ordinance Review Committee (ORC).

March 6, 2013 – April 3, 2013 (recommendation)

b. Advisory Boards:

Commission for the Environment – January 2013

c. Local Government Review:

Courtesy Review – Town(s) of Chapel Hill, Carrboro, Hillsborough, City of Mebane

d. Notice Requirements

Legal advertisement will be published on February 13 and 20, 2013.

e. Outreach:

- ☐ General Public:
- ☐ Small Area Plan Workgroup:
- ☐ Other:

3. FISCAL IMPACT

While these proposed amendments are merely designed to incorporate necessary references with respect to complying with established thresholds, and requiring the submission of formal site plans in the event a stormwater management plan is required, staff had previously identified compliance with these new State required standards will impose additional costs for development projects and require additional staff resources.

Workload for Current Planning and Erosion Control staff to review and approve stormwater management plans required by the rules is expected to increase. Workload for staff with respect to the inspection of stormwater management features is also expected to increase. This may necessitate an increase in fees charged to

developers.

As reported at the February 27, 2012 Quarterly Public Hearing, it is expected that enforcement of the new regulations will require, at a minimum, one up to one additional full time employee for Erosion Control with an approximate cost of $65,000.

Staff is continuing to evaluate workload and needs as the process moves forward.

D. AMENDMENT IMPLICATIONS

The amendments are in response to recent modifications to the UDO relating to compliance with stormwater and nutrient management requirements and staff's desire to ensure proper reference for compliance with these aforementioned new standards.

As previously indicated by staff, compliance with these required standards is expected to increase the cost of development and increase staff workload.

E. SPECIFIC AMENDMENT LANGUAGE

Available as part of public hearing materials.

Primary Staff Contact:
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Planning

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(D) Amendments initiated by Orange County shall not be subject to time limitations other than those specified by the Board of County Commissioners during the public hearing process.

(E) Evidence not presented at the public hearing may be submitted in writing to the Planning Board for consideration prior to the Planning Board's recommendation to the Board of County Commissioners. The Planning Board may consider additional oral evidence only if it is for the purpose of presenting information also submitted in writing.

2.3.11 Action by Board of County Commissioners

(A) The Board of County Commissioners shall not consider enactment of the proposed amendment until the Planning Board either makes its recommendation or takes no action on the application as prescribed in this section.

(B) In making its decision, the Board of Commissioners shall consider all relevant evidence presented at the public hearing and any submitted written evidence that was considered by the Planning Board in making its recommendation.

(C) The Board of Commissioners, upon receipt of a recommended Comprehensive Plan or portion thereof from the Planning Board, shall consider such recommendations and adopt them by resolution, either unchanged or with modifications.

SECTION 2.4: ZONING COMPLIANCE PERMITS

2.4.1 Applicability

(A) As required by this Ordinance, a Zoning Compliance Permit must be issued before any new site development, building, structure, or vehicular use area may be erected, constructed or used.

(B) Submittal and approval of a site plan (see Section 2.5) is required for issuance of a Zoning Compliance Permit except for:

(1) Single-family detached dwellings and duplexes, and accessory structures to those residential uses; ~~provided, however, when such uses are located in the~~located outside of the Upper Eno Critical, University Lake and Cane Creek Protected and Critical Watershed Protection Overlay Districts. In these instances a Plot Plan, as detailed within Section 2.4.3 of this Ordinance, shall be required., ~~site plan approval shall be required.~~[1]

~~(a) Single-family detached dwellings and duplexes outside of the University Lake Watershed Protection Overlay District and accessory structures to those residential uses shall be required to submit a Plot Plan (see Section 2.4.3 for Plot Plan specifications).~~

(2) Interior renovation or repair of an existing structure, provided the use of the lot and/or structure has not changed.

In those instances where the proposed level of land disturbance exceeds established thresholds detailed within Section 6.14.5 of the Ordinance a formal site plan, prepared in accordance with Section 2.5, shall be required for submittal and approval regardless of the proposed land use or Watershed Protection Overlay District designation.[2]

[1] The existing wording of the UDO has created confusion in the past over when a site plan is required. We have streamlined existing language in an attempt to eliminate confusion and specifically spell out when a plot plan versus a site plan is actually required. Staff is also proposing to add language requiring formal site plans in other Watershed Overlay Districts having similar characteristics to the University Lake Protected and Critical Watershed Overlay in order to establish greater uniformity within the Ordinance.

[2] There is an existing disconnect between permit submittal requirements for a Zoning Compliance Permit and a Stormwater plan. Staff of Current Planning and Erosion Control could, essentially, be looking at 2 different proposals as there is not an appropriate reference to the stormwater permitting requirement in this section of the

(C) Issuance of a Zoning Compliance Permit is required prior to beginning the excavation for the construction, moving, alteration, or repair, except ordinary repairs, of any building or other structure, including an accessory structure. The Zoning Compliance Permit shall include a determination that plans, specifications and the intended use of the structure conforms to the provisions of this Ordinance.

(D) Issuance of a Zoning Compliance Permit is required to change the type of use or type of occupancy of any building, or to expand any use on any lot on which there is a non-conforming use. The Zoning Compliance Permit shall include a determination that the proposed use conforms to the provisions of this Ordinance.

2.4.2 Requirements and Conditions

(A) In cases where the development and/or commencement of a land use requires the issuance of a Special Use or a Conditional Use Permit, a Zoning Compliance Permit shall not be issued until the aforementioned permit has been issued by the responsible board in accordance with the review and approval procedures detailed herein.

(B) Issuance of a Special Use or Conditional Use Permit does not negate the requirement for a Zoning Compliance Permit.

(C) Issuance of a Zoning Compliance Permit does not establish a vested right to begin and complete construction or change the use/occupancy of a lot or building should regulations change subsequent to issuance of said permit.

(D) Application for Zoning Compliance Permit shall specify the method of disposal of trees, limbs, stumps and construction debris associated with the permitted activity. Open burning of trees, limbs, stumps, and/or construction debris associated with the permitted activity is expressly prohibited.

(E) No building, structure, or zoning lot for which a Zoning Compliance Permit has been issued shall be used or occupied until the Building Inspector has, after final inspection, issued a Certificate of Occupancy indicating compliance with all the provisions of this Ordinance.

(F) No building, structure, or zoning lot for which a Zoning Compliance Permit has been issued shall be used or occupied until the Orange County Health Department has approved the water supply and sewage disposal systems serving that use.

(G) Issuance of a Certificate of Occupancy by the Building Official or the approval of a water supply and sewage disposal system by the Health Department shall in no case be construed as waiving any provision of this Ordinance.

(H) Zoning Compliance Permits shall become null and void after 18 months from the date of issuance if a building permit is not applied for or land disturbing activities are not commenced in accordance with the provisions of this Ordinance.

2.4.3 Plot Plan Specifications

(A) For development types requiring a plot plan rather than a site plan, the plot plan shall contain the following:

(1) A scaled drawing denoting the length of all property lines,

(2) A north arrow denoting the orientation of the lot and all proposed structures,

(3) The location of the proposed structure(s) and distances from all property lines,

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UDO. There is also a disconnect with respect to the required level of site plan detail (i.e. professionally prepared versus scaled plot plan) to obtain a land disturbing permit. Staff is proposing to add language requiring a formal site plan, completed by a land surveyor or engineer, in all instances where proposed land disturbance thresholds require the development of a formal stormwater plan. The hope here is we will avoid the necessary duplication of submittal information and ensure all County review agencies are utilizing and reviewing the same development proposal to avoid unnecessary confusion and error.

(4) The location of the proposed driveway,

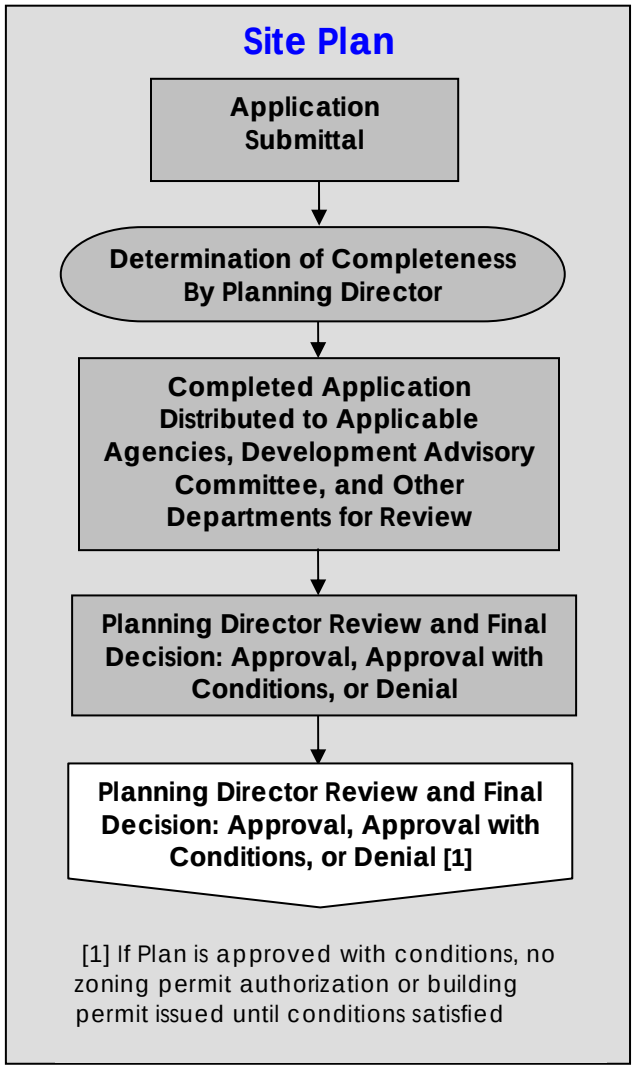
(5) The location of the proposed septic system and proposed drain lines on the property,

(6) The location of the proposed well, and

(7) The location of any protected features on the property (i.e. stream buffers, flood plain, wetlands, etc).

(B) Base plot plans are available from the Planning Department and can be printed for a fee in accordance with the established fee schedule. Applicants may also use other sources of base plot plans provided the requirements of this Section are met.

(1) Planning staff is available to discuss compliance matters but shall not complete plot plans.



SECTION 2.5: SITE PLAN REVIEW

2.5.1 Review and Approval Flow Chart

The review and approval process for a Site Plan is shown in the procedure's flowchart.

2.5.2 Application Requirements

(A) Each site plan shall be prepared and sealed by an appropriately licensed professional with the following exceptions:

(1) Proposed additions to existing permitted non-residential structures where the use of the structure and lot has not changed and the floor area is not increased more than 25%.

(2) Accessory structures to existing permitted non-residential structures where vehicular use area is not extended and changes to existing grade are not more than one foot in elevation.

~~**(3)** Single-family detached dwellings and duplexes, and accessory structures to such uses.~~ [3]

~~**(4)**~~**(3)** Large day care homes, as defined in Article 10, Definitions.

~~**(5)**~~**(4)** Rural Guest Establishments with three guestrooms or less - Bed & Breakfasts.

(B) The applicant shall submit to the Planning and Inspections Department:

[3] Staff is eliminating contradictory language within this section of the UDO.

(1) Three copies of the site plan prepared in accordance with the provisions detailed in this Section. Additional copies may be required depending on the nature and location of the proposed development);.

(2) The completed site plan application form;

(3) A copy of the Orange County tax map with the subject property identified;

(4) Legal documentation, to be approved by the County Attorney, establishing entities responsible for control over common areas and facilities.

(5) Three copies of the Environmental Assessment and/or Environmental Impact Statement, if required under Section 6.16 of this Ordinance.

(6) A statement regarding the method of disposal of trees, limbs, stumps and construction debris associated with the permitted activity. Open burning of trees, limbs, stumps, and/or construction debris associated with the permitted activity is expressly prohibited.

(C) Other items which should be submitted simultaneously, but are not required as part of the site plan application are:

(1) Erosion control and grading plans as necessary to be approved by the Erosion Control Officer for a grading permit,

~~(1)~~(2) Stormwater management plans as necessary to be approved by the Erosion Control Officer prior to the issuance of a Zoning Compliance Permit, and

~~(2)~~(3) Building construction plans to be approved by the Building Official prior to issuance of a building permit.

2.5.3 Plan Specifications

Each site plan shall be drawn at a scale adequate to show required detail and shall contain the following information:

(A) The boundary of the lot(s) to be developed labeled with bearings and distances;

(B) The name, address, and phone number of the applicant and the property owner;

(C) Name of project, vicinity map, north arrow, scale, tax map reference number, date of plan preparation, and subsequent revision dates;

(D) Zoning of the property to be developed and all adjacent zoning and existing adjacent land uses;

(E) Adjacent right-of-way widths with road names and numbers;

(F) A development summary including total acres, proposed use(s), total building square footage, required and proposed parking spaces.

(G) Demonstrated compliance with all applicable performance standards contained in Articles 3, 4, 5, and 6 of this Ordinance;

(H) Maximum and proposed impervious surface and required stream buffers as detailed in Sections 4.2 and 6.12 of this Ordinance;

(I) Estimated traffic generated by the proposed development in trips per day. If the estimate exceeds 800 trips per day, a traffic impact study must be submitted in accordance with Section 6.17;

(J) Front, side, and rear building setbacks as required by Articles 3 and 5 of this Ordinance;

(K) Location of all proposed buildings and structures labeled with floor area, building height and function, and proposed finished floor elevation;

(2) The estimated cost of the required improvements must be itemized and certified by the applicant's licensed professional engineer or licensed professional surveyor, if the surveyor was the original preparer of the plans for the subdivision.

(3) In the case of minor subdivisions, the subdivider's licensed professional engineer or licensed professional surveyor may provide the itemized cost estimate.

(4) Cost estimates must be based on industry norms within Orange County.

(5) The Planning Director or Planning Board may require a higher guarantee amount when deemed necessary to address higher potential correction costs due to the subdivision's size and site characteristics, but in no event may the amount exceed 25% of estimated construction costs.

(E) The guarantee shall have a term of two years and shall provide an option for annual renewal if the subdivider/developer has:

(1) Arranged for County inspection of the improvements,

(2) Submitted to the County an acceptable estimate of the costs necessary to correct any deterioration or defects discovered by the inspection, and

(3) Increased the amount of the security by the amount of said estimate.

(F) The subdivider/developer shall pay a fee in accordance with the Fee Schedule adopted by the Board of County Commissioners at the time of the initial posting of the guarantee and for each subsequent renewal or extension to cover the County's administrative costs.

SECTION 7.5: SUBDIVISION AGREEMENTS

(A) The subdivider of all minor and major subdivisions shall record a subdivision agreement outlining the limitations associated with the development of created lots at the Orange County Register of Deeds at the same time the Final Plat is recorded.

(B) The purpose of the subdivision agreement is to provide detail on various development limitations that will regulate the overall development of property consistent with the approval of the subdivision.

(C) This subdivision agreement shall, at a minimum, outline the following development criteria for property within the subdivision:

(1) Required development setbacks for lots within the project.

(2) Impervious surface limits for the lots within the development.

(3) The presence of identified environmental features (i.e. stream buffers, flood plain, wetlands, etc) and an explanation on how development of the lot(s) is impacted.

(4) The presence of identified cultural features listed by the North Carolina Heritage Program, or identified in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina".

(5) Identification of soil and septic limitations, if any, for each lot.

(6) Access restrictions for the project and individual lots.

(7) Limitations on land uses.

(8) Maintenance requirements for all roadways as well as references to the project's road maintenance agreement, if required.

SECTION 7.6: GENERAL DESIGN STANDARDS

The avoidance of congestion and overcrowding and the creation of conditions essential to public health, safety and the general welfare may be best accomplished through the application of design standards

providing for the distribution of population and traffic, safe and coordinated street systems, approved water supply and sewage disposal systems, usable lots and conformance to plans for Orange County as recommended by the Planning Board and adopted by the Board of Commissioners. The following general requirements and principles of land subdivision shall be observed:

7.6.1 Minimum Lot Size

(A) All lots shall contain the minimum lot area required by Article 3 of this Ordinance and shall comply with all applicable development standards.

(B) Any lot which provides an easement for individual septic disposal for use by a separate lot shall contain an additional 20,000 square feet to accommodate the septic easement.

7.6.2 Residential Density

The allowable density on a given parcel of property proposed for subdivision shall comply with the residential maximum density requirements in Section 4.2.4.

7.6.3 Land Suitability

(A) In reviewing subdivision proposals, the Planning Department and Planning Board shall consider the overall design of the subdivision with the suitability of the land for development to insure that the platting and development of the subdivision will not create a danger to the health, safety, and welfare of Orange County residents.

(B) Land suitability shall be determined by an investigation of conditions including but not limited to flood prone areas, soil drainage, drainage patterns, slope, historic sites, maximum anticipated levels of land disturbance for the project and all proposed individual lots, and unique natural areas. The investigations shall be carried out by the Planning Board, the Planning Department, or other agencies or individuals having the appropriate technical expertise.

(C) Special Flood Hazard Areas shall be considered during the review process.

(D) Soils shall be evaluated for suitability or provisional suitability for septic tanks according to guidelines established in the Laws and Rules for Ground Absorption Sewage Disposal Systems, incorporated herein by reference.

(1) Each lot that does not contain a suitable building site shall be designated on the plat as being of restricted development potential and by instrument recorded in the Orange County registry as specifically prescribed by Section 7.14.3(E)(1) of this Ordinance.

(E) Drainage

(1) Soil suitability, including slope and drainage, shall also be evaluated according to soil characteristics indicated by the Orange County Soil Survey and topography indicated by the U.S. Geological Topographic Maps.

(2) Each lot shall contain a suitable building area safe from inundation and erosion.

(3) Sanitary sewer systems, septic tank drainfields, water systems, wells, and adjacent properties shall be protected from inundation by surface water.

(4) Roads, driveways and utilities shall be protected from damage caused by improper stormwater management.

(5) Mechanical devices, drainage easements, natural buffers, large lots, and/or other technical means may be used to achieve these drainage objectives. Natural drainageways are a preferred means of stormwater run-off removal. The characteristics (including capacity) of natural drainageways shall be protected.

(6) Runoff levels from the 25-year storm after the site is developed shall not be greater than the rate of runoff on the same site in its natural state.

(7) In cases where anticipated land disturbance for the subdivision and the proposed lots will cumulatively exceed established thresholds denoted within Section 6.14.5 of this Ordinance, a formal stormwater management plan shall be required as part of the application submittal.[4]

(F) Resource Protection

(1) Applications for subdivision shall be evaluated by the Planning Department and Planning Board for potential impairment of habitat of rare and endangered species or unique natural areas.

(2) A strategy shall be developed to protect resources listed by the North Carolina Heritage Program, or identified in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina".

(a) The strategy shall provide protection of identified natural and cultural resources from impacts which could result from development of the subdivision, and shall include one or more of the following:

(i) Dedication of conservation easements,

(ii) Restrictive covenants prohibiting clearing or disturbance of the resource areas,

(iii) Dedication of resource areas to Orange County,

(iv) Clustering of lots to minimize land disturbance and preserve the special features of the property,

(v) Other restrictions or development options which provide an adequate level of protection.

(3) The Planning Department shall review available documentation of the particular site and determine if the proposed strategy adequately protects the identified resources.

(4) Maps, studies, and reports which are relevant to this section shall be maintained by the Planning Department.

SECTION 7.7: LOTS

7.7.1 Generally

All lots shall conform to all of the requirements of this Ordinance for the zoning district and any overlay district in which they are located.

7.7.2 Shape and Orientation

(A) The shape and orientation of lots shall be appropriate to the location of the subdivision and the development intended.

(B) Interior lot lines extending from a street should be approximately perpendicular or radial to the street right of way line.

(C) Lot lines shall be located to permit efficient installation and maintenance of utility lines on utility easements, to maximize buildable area, and, where applicable, to provide a suitable area for septic systems.

[4] Staff would prefer comprehensive stormwater management plans rather than multiple plans, multiple systems, on individual lots that all have to be inspected by Erosion Control on a semi annual basis and maintained by individual property owners. Through this process staff is hoping to encourage neighborhood wide stormwater management plans to avoid unnecessary development and maintenance costs on individual property owners and encourage a comprehensive approach to stormwater and nutrient management.

Orange County
COMMISSION FOR THE ENVIRONMENT

Memorandum

To: Board of County Commissioners

From: Chair / _____

Date: January __, 2013

Re: Proposal for a Renewable Energy and Efficiency Work Group Convened by the CFE

Goal #1 of the 2030 Orange County Comprehensive Plan, Natural and Cultural Resources Element: *Energy conservation, sustainable use of non-polluting renewable energy resources, efficient use of non-renewable energy resources, and clean air* (Page 6-9).

The BOCC requested that the Orange County Commission for the Environment (CFE) propose a response to the August 8, 2012 letter from Jim Warren of NC WARN. The CFE recommends convening an ongoing work group that would support energy efficiency, renewable energy, and related sustainable development strategies in Orange County. This Renewable Energy and Efficiency Work Group (REnEW Group) would be charged with bringing public and private stakeholders together to develop policies and initiatives that promote sustainable economic development, energy efficiency, and renewable energy in Orange County. The CFE would, in turn, bring vetted proposals from the REnEW Group to the BOCC for consideration.

As it presently operates, the CFE has an Energy and Sustainability Committee. The present committee would act as a host and liaison with the CFE for the work group and would convene meetings, workshops, and other activities of the REnEW Group. The work group would consist of CFE members, representatives of municipal and county planning boards and staff, municipal and county sustainability staff or committee members, and any BOCC who might wish to participate. The REnEW Group would host individual public workshops and forums with emphasis on specific topics such as:

- Reducing energy use in existing buildings and new construction
- Maximizing the production and use of renewable and clean energy
- Reducing carbon emissions in transportation
- Promoting strategies for offsetting carbon emissions
- Eliminating or altering any existing policies or code provisions that hinder any of the above at the county level

Reducing our collective carbon emissions should be a high priority for Orange County. Global climate change is accelerating at a rate exceeding scientific expectations, exacerbating drought, storms, and flooding with devastating effects. Climate scientists agree that society must make dramatic changes in the way we source and use energy in the next several years. The consequences of inaction threaten to be drastic.

The REnEW Group would provide an opportunity for Orange County to promote forward-thinking local policies with the cooperation of local government representatives, private businesses, and environmental groups. With collaboration and input from a variety of experts, municipal and county staff, elected officials, and other stakeholders, we can find creative ways to lower our carbon footprint while also giving a boost to our local economy. By coming together at a central point to share information and coordinating action, we can avoid the pitfalls of working in isolated silos. Finally, the REnEW Group would enhance information sharing and communication with the deployment of an Orange County Green webpage.

The CFE unanimously approved this proposal and requests the BOCC's consideration and endorsement of CFE's convening an Alternative Energy and Efficiency Work Group.

Orange County
COMMISSION FOR THE ENVIRONMENT
(updated December 2012)

NAME OF MEMBER HOME ADDRESS/TELEPHONE	POS #	DATE OF APPOINTMENT COMMITTEE (Representation)	TERM ENDS	BUSINESS TELEPHONE E-MAIL	TOWNSHIP OF RESIDENCE
Lucy Adams 5128 Green Meadow Rd. Hillsborough, NC 27278 (919) 942-8925	#2	3/21/06 Air Resources (Air Quality)	12/31/13	(919) 316-3916 lhadams1@mindspring.com	Chapel Hill
May Becker 511 Cotton Street Chapel Hill, NC 27516 (919) 969-7439	#1	9/21/10 Energy Resources (At Large)	12/31/14	(919) 969-7439 tomatocutter@yahoo.com	Chapel Hill
Terri Buckner 306 Yorktown Drive Chapel Hill, NC 27516 (919) 942-9055	#6	11/8/12 Energy Resources (At Large)	12/31/13	919-672-8271 tbuckner@ibiblio.org	Chapel Hill
Peter Cada 420 Coach House Lane Hillsborough, NC 27278 (919)599-9866	#10	9/21/10 Water Resources (At Large)	12/31/14	(919) 485-8278 peter.cada@tetratech.com	Hillsborough
~~Michele Drostin~~ VACANT	#5	(Water Resources)	12/31/12		
Loren Hintz 804 Kings Mill Rd. Chapel Hill, NC 27517 (919) 993-8987	#4	1/27/09 Biological Resources (Biological Resources)	12/31/13	(919) 929-2106 x41157 ldhintz@bellsouth.net	Chapel Hill
William R. Kaiser 2112 Markham Dr. Chapel Hill, NC 27514 (919) 933-9794	#14	11/09/05 Air Resources (At Large)	12/31/12	w_mckaiser@hotmail.com	Chapel Hill
David Neal (Chair) 323 West Queen Street Hillsborough, NC 27278 (919) 824-1814	#13	9/21/10 Energy Resources (At Large)	12/31/15	(919) 732-2156 David.L.Neal@gmail.com	Hillsborough
Tom O'Dwyer 105 Boulder Lane Chapel Hill, NC 27514	#15	8/28/06 Energy Resources (At Large)	12/31/12	(919) 906-0581 greenbuilder4us@aol.com	Chapel Hill
~~Renee Price (Chair)~~ VACANT	#8	(At Large)	12/31/13		
Gary Saunders 103 Woodshire Lane Chapel Hill, NC 27514 (919) 942-0045	#9	1/27/09 Air Resources (At Large)	12/31/14	(919) 707-8413 gary.saunders@ncdenr.gov	Chapel Hill
Jan Sassaman (Vice Chair) 201 Bolinwood Drive Chapel Hill, NC 27514	#7	12/13/11 Energy Resources (At Large)	12/31/13	(919) 933-1609 jan.sassaman@gmail.com	Chapel Hill
Samuel Yellen 121 Hanna Street Carrboro, NC 27510 (919) 368-1611	#3	11/8/12 TBD (Land Resources)	12/31/14	(919) 843-2025 samuel.yellen@gmail.com	Chapel Hill
David Welch 20 East Drive Chapel Hill, NC 27516 (919) 929-8391	#11	9/21/10 Biological Resources (At Large)	12/31/14	(919) 406-2101 davwelch@hotmail.com	Chapel Hill
~~Michael Hughes (Vice Chair)~~ VACANT	#12	(Engineering)	12/31/12		
David Stancil 245-2522 Rich Shaw 245-2514 Tom Davis 245-2513 Beverly Shuford 245-2510		Director, Dept. of Environment, Agriculture, Parks & Rec. Land Conservation Manager Water Resources Coordinator Administrative Assistant		dstancil@co.orange.nc.us rshaw@co.orange.nc.us tdavis@co.orange.nc.us bshuford@co.orange.nc.us	

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Consider an Appointment to Orange County's Commission for the Environment

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- Recommend new county policies and initiatives
- Find ways to reduce the County's "carbon footprint"
- Perform special studies/projects on environmental issues

The Orange County Commission for the Environment meets
the second Monday of each month at 7:30 pm
In Chapel Hill or Hillsborough

The Commission for the Environment is an advisory board; members are appointed by the Board of County Commissioners

For more information and meeting agendas check the web at
http://orangecountync.gov/ercd/commission_for_environment.asp
or apply on line at http://orangecountync.gov/boards/index.asp
or call CFE staff at 919-245-2514

Orange County
COMMISSION FOR THE ENVIRONMENT

DRAFT Memorandum

To: Board of County Commissioners

From: David Neal, Chair
Orange County Commission for the Environment

Date: January __, 2013

Re: The County's Membership to ICLEI-Local Governments for Sustainability

---

In early December the Commission for the Environment (CFE) was asked for a recommendation on whether Orange County should continue its membership with ICLEI-Local Governments for Sustainability. The annual membership is $1,750, paid by the Department of Environment, Agriculture, Parks and Recreation (DEAPR).

CFE discussed this matter at its December 2012 and January 2013 meetings. Staff pointed out that ICLEI resources were used for developing the Orange County greenhouse gas (GHG) inventory (2005-06), but the County has not been able to utilize ICLEI services over the past two years. CFE members agreed that continuing the ICLEI membership would be beneficial only if the County and its advisory boards (including the CFE) took advantage of its resources.

The CFE discussed the potential use of ICLEI resources by its Energy Resources Committee and the proposed new Renewable Energy and Efficiency Work Group (REnEW Group). The CFE decided it would be beneficial to tap into those resources and services over the next year before canceling the County's membership.

The CFE recommends Orange County renew its membership for one more year (2013) during which the CFE and its staff will utilize ICLEI resources and assess whether it would be worthwhile to continue the membership in the future.

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Modified Wed, Dec 26, 2012 04:50 AM

New DENR chief seeks balance between environment, 'customers'

By Craig Jarvis - cjarvis@newsobserver.com
PUBLISHED IN: STATE

RALEIGH -- When John Skvarla becomes the new secretary of the state Department of Environment and Natural Resources next month, he will arrive at an agency that's feeling a little shell-shocked.

Over the past two years, the Republican-controlled state legislature has moved entire divisions into different parts of state government and consolidated other operations. Along with cuts in appropriations that have left the department's budget about half of what it was just two years ago, Republican lawmakers have been beating up on the agency for what they say is a culture of hostility to business.

A package of regulatory reforms has either streamlined or weakened environmental protections – depending on your point of view – and further rolling back regulations is high on the General Assembly's agenda next session.

Now, Skvarla comes with a mandate from Gov.-elect Pat McCrory to impose an attitude of "customer service" on state government. He arrives with a record of inspiring new and struggling businesses, solidly conservative politics, and the view that global warming is still an open question.

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tiwabu@newsobserver.com

John Skvarla, middle, who will be the secretary of the Department of Environment and Natural Resources, talks to other administration members for Pat McCrory, Susan Kluttz, left, and Lyons Gray, right.

Skvarla said he's anxious to move the needle back from what he sees as over-regulation toward what he promises will be a middle ground that protects the environment without hindering economic growth. Change doesn't have to hurt, he said.

In an interview in the McCrory team's transition offices in Raleigh last week, Skvarla said he wants to meet with environmentalists as soon as possible.

"I want to find out where we have common ground, because we don't have to be enemies," Skvarla said, jabbing his finger on his desk for emphasis.

"We're all in this because we love North Carolina and we want clean air, we want clean water, we want nice coastlines. It's not hard, it's common sense. Everybody's got their fists up all the time."

Skvarla comes from a company that makes its money navigating environmental regulators in eight states. Restoration Systems restores damaged waterways and deals in "mitigation banking" – collecting credits for improving sites that can be used to offset development elsewhere.

The company is politically well-connected and has won about $4 million in state projects since 2009. To avoid a conflict of interest, Skvarla said his interest in the company will be held in a blind trust.

Also, he will have no idea what the firm is doing and will not have any decision-making authority over projects in which the company is involved.

DENR – with a budget of $109 million and about 4,000 permanent and temporary employees – has fallen victim to what he sees is a natural inclination to expand: Bureaucracies want to get bigger for the same reason businesses do.

"I will tell you unequivocally, North Carolina is the most difficult that we deal with," he said. "Do I think DENR has probably gotten a little bit out of balance? Anecdotally and from an experiential standpoint with our company, it probably has.

"But that doesn't mean it's bad. It just means it's human nature. Sometimes you just need a little bit of a refreshing look at it."

A string of successes

Skvarla, 64, of Pinehurst has had a string of careers and entrepreneurial pursuits that have paid off well.

When he started out as a young lawyer in Raleigh, who had moved here from New York to go to law school at Carolina, he didn't plan that course. It turned out that he had the ability to recognize promising ventures and make them profitable. One success led to another: tax and business law, aviation, health care, and environmental restoration.

"Serendipitously, the phone just rings. They just call me," Skvarla said. "Knock on wood, they've all been pretty successful runs, and it's been an absolute joyful rocket ride."

Politically, of course, Skvarla is firmly conservative. He has contributed financially to state and national Republican political candidates. In the early 1990s, he wrote a book critiquing the nation's health care system. (He says as a young man growing a company that owned physical therapy centers, he once thought he could solve that problem, but it was like running into a brick wall.)

Former state GOP chairman Tom Fetzer got to know Skvarla when Fetzer was an assistant secretary at DENR in the late 1980s, early 1990s, and said he was immediately impressed by his intellect and personality. Fetzer describes him as extraordinarily bright, curious, funny, self-effacing and inclined to treat those who disagree with him respectfully.

"I think the activist environmental community is always nervous when a Republican gets a key environmental post," Fetzer said. "I think they're going to find John very receptive. He's such an innovative thinker, I think they're going to be pleasantly surprised. I think he could be the best secretary that department has ever had."

It's a tough job

One former DENR secretary cautioned that it won't be an easy task. What's good for someone upstream might be bad for someone else downstream, Bill Holman noted.

"It's impossible to make everybody happy," said Holman, who ran the department under Gov. Jim Hunt. "It requires some skillful leadership by DENR to get people to the table to figure out a good solution."

Despite the GOP's pro-business agenda, by law DENR's job is to protect public health and the environment, not the economy.

"Sometimes that means telling people 'no,' " Holman said. "You can do that in a customer-friendly way. That doesn't mean people are going to like the answer any better."

Holman, acknowledging he isn't an objective source, disagrees that DENR has become hostile to businesses.

"There are two constants in the environmental business, going back to the '70s: The public supports environmental protection; folks that pollute don't want to pay to clean up their mess.

"Every governor I've ever known, Democrat or Republican, has been a business-friendly governor. Every DENR administration has worked hard to be responsive to the governor's support for economic development," Holman said. "I would argue the places in the state with the strictest environmental regulations are generally the most prosperous regions of the state as well."

For Skvarla, it's a matter of cost-effective scale. His role, he said, is to determine whether a regulation is beneficial enough to warrant the cost it imposes. "To add an eyelash of value for an extreme cost is a very difficult call," he said.

"It depends on who your customer is," he added. "If your customer is the environment, then the answer is you should be an absolute cop. You should be a mean, big bad cop.

"But I'm afraid if it was the environment solely, we would all paddle canoes to work. At some point in time, you have to balance."

Jarvis: 919-829-4576

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State imports advice on fracking

Dec 20, 2012

Former Colorado governor advises North Carolina panel

By John Murawski
jmurawski@newsobserver.com

RALEIGH North Carolina's fracking commissioners picked up some pointers on public safety and public relations from a former governor of Colorado who five years ago oversaw that state's overhaul of its fracking rules.

Bill Ritter, a one-term Democrat who now leads Colorado State University's Center for the New Energy Economy, shepherded a process that resulted in what some consider some of the strictest natural gas mining regulations in the country. His appearance Wednesday before the N.C. Mining & Energy Commission was also noteworthy because Ritter's name emerged this week on a shortlist of potential candidates to head the U.S. Department of Energy.

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Ritter urged the commission to build public trust, saying public acceptance will be necessary to give energy developers "the social license to operate" in local communities. But Ritter didn't duck the hard reality that fracking – an industry term for extracting natural gas from shale rock formations – remains divisive in his state, where several cities have adopted fracking bans.

"There was a lot of tension, lots of controversy," Ritter said of Colorado's debate over fracking standards. "We filled hearing rooms everywhere we went."

The N.C. Mining & Energy Commission is several months into what's expected to be a two-year project of conducting research and writing safety standards to govern

SEE **FRACKING,** PAGE 7B

FRACKING

CONTINUED FROM PAGE 1B

the hydraulic fracturing and horizontal drilling of natural gas in this state.

Commissioners said Ritter's presentation, which lasted nearly an hour, was immensely helpful. However, Ritter said little that hasn't been revealed in studies, reports and news accounts, and deferred to other experts on technical questions.

"You've given us some very useful pointers," Commissioner Vikram Rao told Ritter. "This was a great meeting. It's our first substantive meeting, and actually not boring."

Fracking opponents say shale gas extraction is a high-risk industrial activity that will lead to chemical spills, well blowouts and drinking water contamination, among other problems.

Ritter also noted that Colorado's stringent safety standards haven't immunized the state from chemical accidents.

"There have been a number of spills," he said. "However strict your regulations are, they're only as good as your enforcement."

> 'Drilling for oil and gas are pretty significant industrial processes.'
>
> **BILL RITTER**
>
> FORMER GOVERNOR OF COLORADO

The Denver Post reported this month that Colorado has experienced more than 2,000 fracking-related spills in the past five years, and that 17 percent of them resulted in groundwater contamination. In one county, 40 percent of spills reached groundwater. Some of the spills contained cancer-causing benzene, the newspaper reported.

Colorado has nearly 50,000 active wells, up 31 percent since 2008, the Denver Post reported.

Colorado this year won plaudits from fracking foes for requiring drillers to disclose the chemicals and their concentrations used in the fracking process. A horizontally drilled well can require as much as 5 million gallons of water mixed with sand and chemicals to fracture shale rock under high pressure and release natural gas and other fuels trapped inside for millions of years.

Colorado's fracking board, known as the Oil and Gas Conservation Commission, is considering a proposal that would require drillers to test groundwater before and after drilling to provide baseline data that could be used to determine whether fracking harms well water.

The N.C. Mining & Energy Commission is also considering such a requirement. Duke University hydrologists have proceeded with conducting such tests in Lee County. North Carolina is believed to have a small natural gas reserve concentrated around Lee, Chatham and Moore counties that could be used in local manufacturing or in power plants.

"There is no doubt that drilling for oil and gas are pretty significant industrial processes," Ritter said. "It is a 24/7 process."

Murawski: 919-829-8932

State seeks more information about UNC animal research wastewater plan

News & Observer Dec 20, 2012

By Mark Schultz
mschultz@newsobserver.com

CHAPEL HILL Neighbors of UNC's animal research facility in rural Orange County will get much of the information they want after the state asked the university for more details about its wastewater.

Lowman

UNC is seeking state approval to modify and resume using its wastewater treatment system at the Bingham Facility, three buildings west of Carrboro that currently house about 150 dogs used to study hemophilia and other blood disorders.

Last month the Orange County Board of Adjustment denied neighbors' request for a public hearing on a new permit when it determined the university's plans fell outside the county's jurisdiction and required only state approval.

In a Dec. 6 letter, however, the state Division of Water Quality asked the university for much more information about its plans.

The state wants to know what pollutants are in the wastewater, the effectiveness of proposed treatment of any carcinogens and isotopes, and a list of surfactants (detergents) used in washing down cages and throughout the facility.

The letter from environmental engineer Nathaniel Thornburg also asks UNC to reconsider how much wastewater it expects to generate and possibly scale back the irrigation field where it plans to spray the treated wastewater.

"It's more than what we would usually ask an applicant to provide," Thornburg said. "We want to address the public's concern and get the information on the record."

The state's request, especially its suggestion that UNC consider downsizing its spray field, addresses neighbors' major fear. They worry that a bigger field, plus the university's purchase of three nearby properties, signals plans for a bigger facility.

Associate Vice Chancellor Bob Lowman, however, has stressed that the university has no plans to expand at Bingham.

"We are very pleased," said Laura Streitfeld, director of the grass-roots watchdog group Preserve Rural Orange. "I consider it great progress and a victory for all of the neighbors who expressed the concerns. I think it's terrific."

The state has given UNC a Jan. 5 deadline to respond but says the university can request an extension.

The university has been spending about $3,500 a month pumping and hauling the Bingham Facility's waste to the Orange Water and Sewer Authority treatment plant since it shut its system down two and half years ago, Lowman said.

A three-month delay could cost about $10,000.

The News & Observer

Schultz: 919-932-2003

Jan.-Feb.-Mar. 2013
Issue Number P.1.13

North Carolina Forest Service
An agency of the N.C. Department of Agriculture & Consumer Services

Piedmont Region BMP Newsletter Update

What Is This? And Why We're Doing It . . .

This newsletter will focus on BMP-related topics, and will include a specific BMP-focused theme in each issue. We want to keep you updated on what's going on related to forestry BMPs, rules, water resources, and let you know what kind of water-related projects the North Carolina Forest Service is working on.....*we do a lot more than ride around in our green pickup trucks and put out wildfires, you know....*

We hope that this quarterly newsletter will supplement your relationship and communication with our agency's Rangers and Foresters in your area.

If you want to get a printed copy of each new edition of this newsletter, or if you wish to receive an email notification that the new edition is posted to our website, send us an email with your preference, to:

forestry.npsunit@ncagr.gov

Inside this issue:

BMP Focus: Forest Roads 1
Healthy Forests = Clean Water 3
District Office BMP Contacts 4
Where Does Your Water Flow? 4

BMP Assistance from NCFS:

- Identify Streams on Site
- Determine Stream Buffer & SMZ Width
- Loan Bridgemats for Crossing Streams or Ditches
- Pre-Harvest Planning
- Road Layout
- Harvest Inspection

BMP Focus: *Forest Roads*

A good road can lead you to prosperity..... And a bad road can lead you to a hard time.

It sometimes seems hard to believe that anybody would need to build a new access road to harvest timber, when you think about the millions of little woods road, farm roads and hunting trails that criss -cross all over central North Carolina.

Continued on Page 2 —>

BMP Focus: *Forest Roads* *{continued}*

Know The Rule !

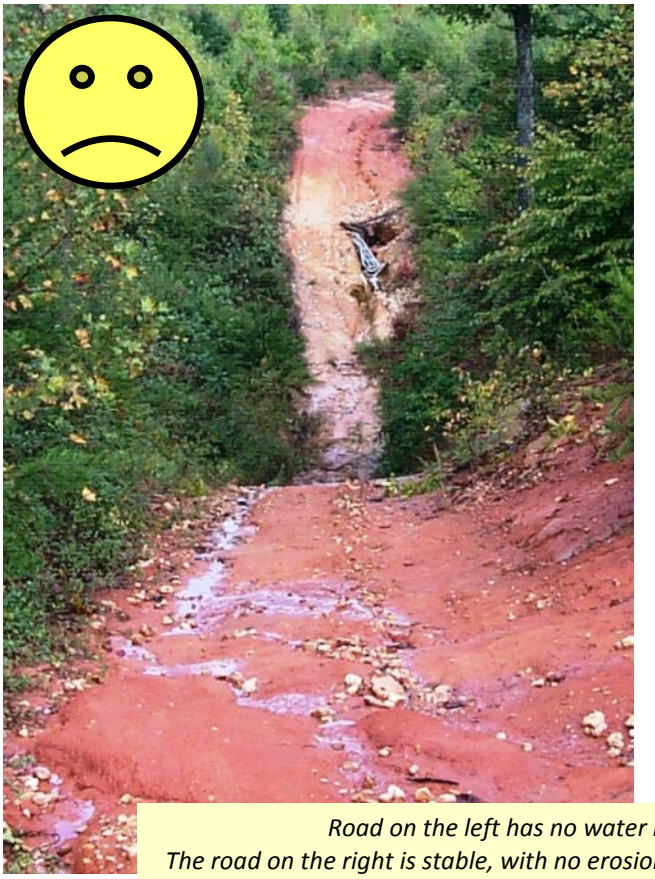
The "riparian buffer rules" which apply in many river basins and watersheds of the Piedmont have limitations on forest roads within the mandatory buffer zone. Know what rules apply.

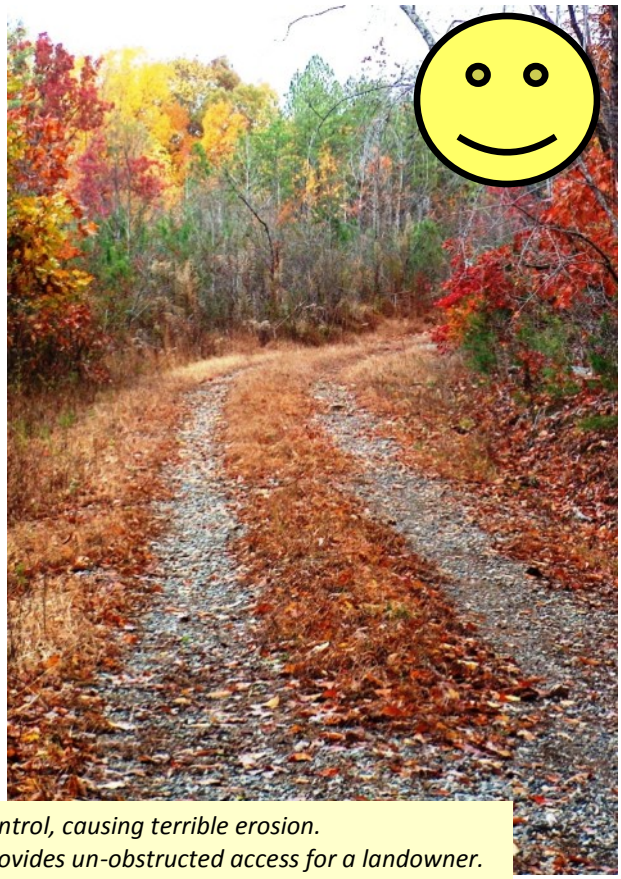
But, it never fails: the place that you need to cut timber is the place where there is no good road for log trucks, so that means you need to build a new road (or greatly improve an old road). Forest roads are time-consuming to install correctly and can become a long-term headache for maintenance, trespassing, runoff, and water control.

But fear not, there is ample assistance available for you, and most of the time that assistance won't cost you! The N.C. Forest Service can meet with you on site and examine your options for building a good quality road. The NC Forestry BMP Manual has an extensive chapter on forest roads including information for constructing new roads, maintaining existing roads, and retiring old roads.

Soils frequently found in the Piedmont can quickly erode and wash abundant sediment into nearby creeks. Whenever you build a road, maintain a road, or intensively use a forest road, you need to install water runoff control structures to manage surface runoff. The goal is to prevent the runoff from increasing in speed and volume, which will easily wash away your hard-earned investment in your road.

Bottomline: When managing runoff on a forest road or skid trail:
Slow It Down... & Spread It Out.





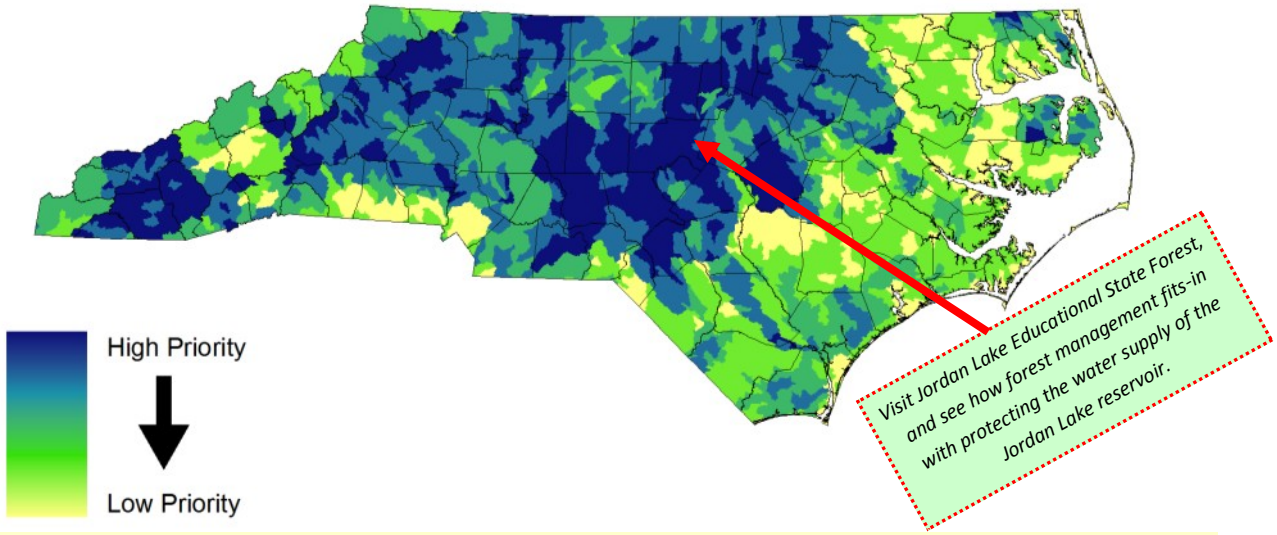
Road on the left has no water runoff control, causing terrible erosion.
The road on the right is stable, with no erosion, and provides un-obstructed access for a landowner.

Healthy Forests = Clean Water

Many North Carolinians who live in the Piedmont get their drinking water from surface water impoundment reservoirs (you know them as "lakes"). Many of these water supply lakes have one problem in common: Too much nutrient and sediment pollution. Over time, stormwater runoff carries this pollution into the lake, and it remains trapped there, unable to naturally cycle through the water system due to the dam impoundment. How can this stormwater pollution be managed? Easy: forests.

Research from nearly 75 years of effort by the U.S. Forest Service and others has shown that in the eastern United States, where precipitation is abundant, a watershed that is abundantly covered with forests can yield high quality, clean, and reliable supplies of water.

So what does this mean, for a town or county that wants to see increased economic development in their water supply watershed, while still keeping enough forestland to protect their water? Well, the N.C. Forest Service, in partnership with the U.S. Forest Service and others, is working on multiple projects to demonstrate that managing forestlands in a watershed can be a practical, low-cost solution to keeping water supplies clean, abundant, and safe.



This map is part of the 2010-2015 North Carolina Forest Action Plan. The map highlights those watersheds where continued conservation, management, and protection of forestlands can be expected to have the most rewarding influence on protecting our future water supply lakes. This map, and others, along with explanations on how each map was produced, are available in the North Carolina Forest Action Plan, at www.ncforestactionplan.com.

BMP Focus: *Forest Roads* *{continued from page 2}*

When you build a forest road on soils that are prone to erosion, follow BMPs and:

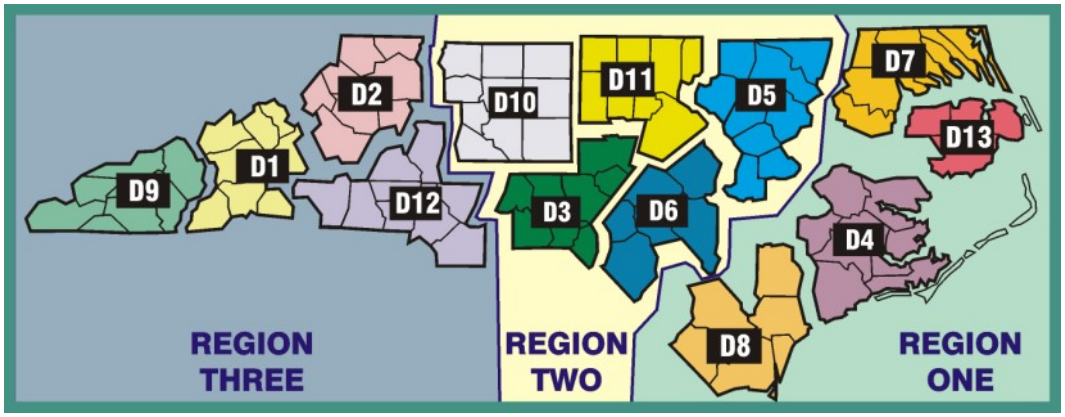
- **Only cross a stream, creek, or ditch when you have no other alternative.**
- **Keep roads at least 50 feet away from any creek or natural open water.**
- **Apply gravel and crushed stone atop bare soil, and/or abundant vegetation to keep the road surface from washing away.**
- **Frequently install turnouts, waterbars, broad based dips, or other runoff diversions to manage and control storm water runoff.**

Don't Do It !

Stream crossings are the #1 water quality problem in forestry ! Avoid crossings at all costs.

North Carolina Forest Service

Forestry Nonpoint Source Branch
1616 Mail Service Center. Raleigh, NC. 27699-1616



Surf The Web

Manage and Protect Your Forest - www.ncforestservice.gov
NCDA&CS Agricultural Services - www.ncagr.gov
Keep Your Home Safe From Wildfire - www.ncfirewise.org
Go Out and Learn in the Forest - www.ncesf.org
Locate NC-Grown Farm and Forestry Products - www.ncfarmfresh.com

District Office BMP Contacts

Northwest Piedmont: D-10
Lexington: 336-956-2111
Keith Money, Water Quality Forester

North Central Piedmont: D-11
Hillsborough: 919-732-8105
John McBryde, Water Quality Forester

Northeast Piedmont: D-5
Rocky Mount: 252-442-1626
Aaron Levine, Water Quality Forester

Western Sandhills: D-3
Rockingham: 910-997-9220
Matt Vincett, Water Quality Forester

Eastern Sandhills: D-6
Fayetteville: 910-437-2620
Roger Hart, Assistant District Forester

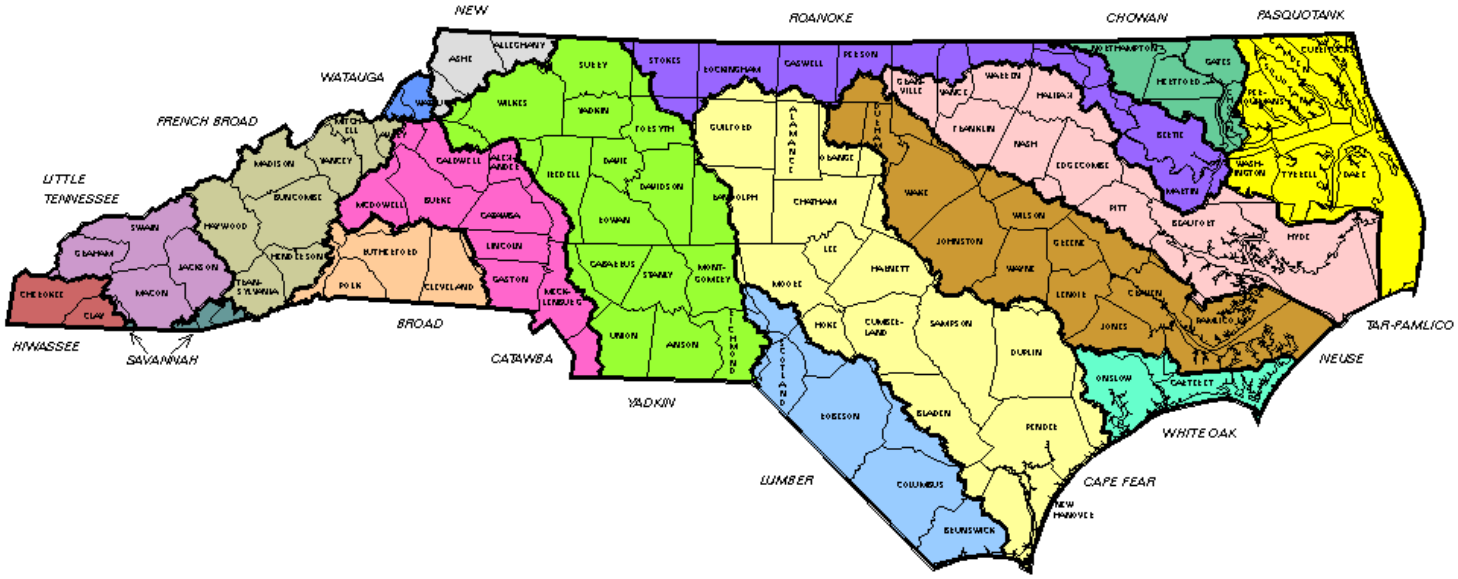
Piedmont Region Office: R-2
Jordan Lake: 919-542-1515
Mark Bost, Assistant Regional Forester for Forest Management

Where Does Your Water Flow?

North Carolina has 17 large river basins. The largest four river basins are:
- Cape Fear: 9,149 square miles of land
- Yadkin-Pee Dee: 7,213 square miles of land
- Neuse: 6,192 square miles of land
- Tar-Pamlico: 5,440 square miles of land

As a size reference, 1 square mile equals 640 acres!

If we get familiar with where our river's flow, then we might be careful about polluting the streams and waterways, because what we do will affect somebody else downstream.



Attachment

CFE Committee Priorities

Updated December 21, 2012

Air Resources Committee (**Gary Saunders**[1], Lucy Adams, Bill Kaiser)

1. Assist in evaluating the County's carbon footprint as follow-up to the 2005 GHG inventory.

2. Help implement the County's goal of Environmental Responsibility in County Government.

3. Monitor upcoming revisions to two federal ozone and particulate matter standards (anticipated in 2013), which may affect both stationary and mobile emission sources and require revisions in Orange County's transportation planning. Advise BOCC on any policy implications for county.

Water Resources Committee (**Peter Cada**, _____)

1. Develop and implement a monitoring plan and associated Quality Assurance Protection Plan for more frequent monitoring at existing State sampling locations; identify and initiate monitoring at other locations in the county to support State water quality objectives under the Clean Water Act. Collaborate with other entities that may support these efforts (e.g., Eno River Association).

2. Explore and pursue funding sources to increase funding for the County's groundwater observation well network (Orange Well Net).

3. Initiate efforts to create a detailed Water Budget for all of Orange County.

Biological Resources Committee (**Loren Hintz**, David Welch)

1. Implement project to identify and protect special roadside native plant habitat from herbicides.

2. Help further the development of a comprehensive conservation plan for Orange County.

3. Educate the public about the benefits of protecting Orange County's biodiversity.

Energy Resources Committee (**David Neal**, May Becker, Tom O'Dwyer, Jan Sassaman, Terri Buckner)

1. Recommend a variety of strategies to the BOCC that would encourage energy efficiency in new construction and existing buildings, and recommend requirements for preserving Renewable Energy sights on new land development.

2. Create a countywide composting initiative that would help reduce solid waste disposal.

3. Examine solid waste issues and collaborate with the Solid Waste Advisory Board (SWAB) on charting a course for the future with a focus on conservation and energy reduction.

4. Research and recommend appropriate use of biofuels and look into UNC's planned use of wood to replace coal at its cogeneration plant.

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[1] Committee spokespersons identified with **bold** print (by request of the Chair)