Chatham County Planning Board
Approved Minutes
September 4, 2018

The Chatham County Planning Board met in regular session on the above date in the Agriculture Building Auditorium, Pittsboro, North Carolina. Members present were as follows:

Present:	Absent:
Carolina Siverson, Chair	Brian Bock
George Lucier, Vice-Chair	
Jamie Hager	
Allison Weakley	
Tony Gaeta	
Bill Arthur	
Clyde Frazier	
Gene Galin	
Emily Moose	
Jon Spoon	

Planning Department:
Jason Sullivan, Planning Director

I. INVOCATION AND PLEDGE OF ALLEGIANCE:
Mr. Galin delivered the invocation and afterwards everyone stood and recited the Pledge of Allegiance.

II. CALL TO ORDER:
Chair Siverson called the meeting to order at 6:30 p.m.

III. DETERMINATION OF QUORUM:
Chair Siverson stated there is a quorum (10 members were present and 1 absent). Mr. Bock was absent.

IV. APPROVAL OF AGENDA:
Approval of the Agenda- Chair Siverson asked the board members if there were any issues with the Agenda. There was not and it was approved.

V. APPROVAL OF THE MINUTES: Chair Siverson asked for consideration of a request for approval of the August 7, 2018 minutes with a couple of minor proposed changes. There were no objections by board members and the August 7, 2018 minutes were approved.

Motion was made by Vice-Chair Lucier to approve; seconded by Mr. Arthur.

Motion passed 8-0

Ms. Moose and Ms. Hager did not vote on the minutes because they were absent during the August 7, 2018 Planning Board meeting.

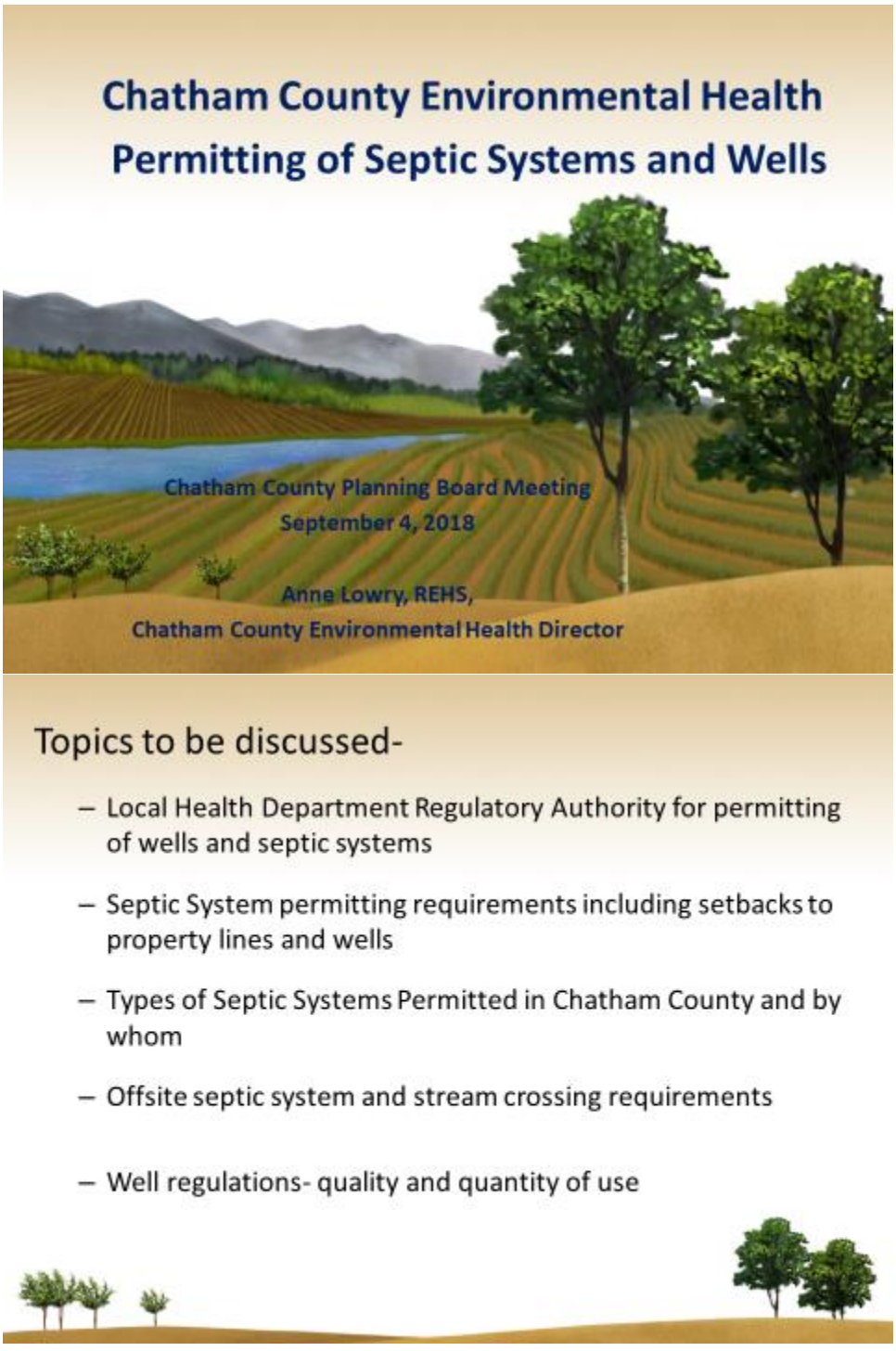
VI. PUBLIC INPUT SESSION: There were no citizens signed up to speak.

VII. SUBDIVISION: No Items

VIII. ZONING: No Items

GUEST SPEAKER:

Presentation by Anne Lowry, Chatham County Environmental Health Director, about environmental health regulations for well and septic system permitting.


Chatham County Environmental Health
Permitting of Septic Systems and Wells
Chatham County Planning Board Meeting
September 4, 2018
Anne Lowry, REHS,
Chatham County Environmental Health Director
Topics to be discussed-
– Local Health Department Regulatory Authority for permitting of wells and septic systems
– Septic System permitting requirements including setbacks to property lines and wells
– Types of Septic Systems Permitted in Chatham County and by whom
– Offsite septic system and stream crossing requirements
– Well regulations- quality and quantity of use

Regulatory Authority

Septic System permitting –

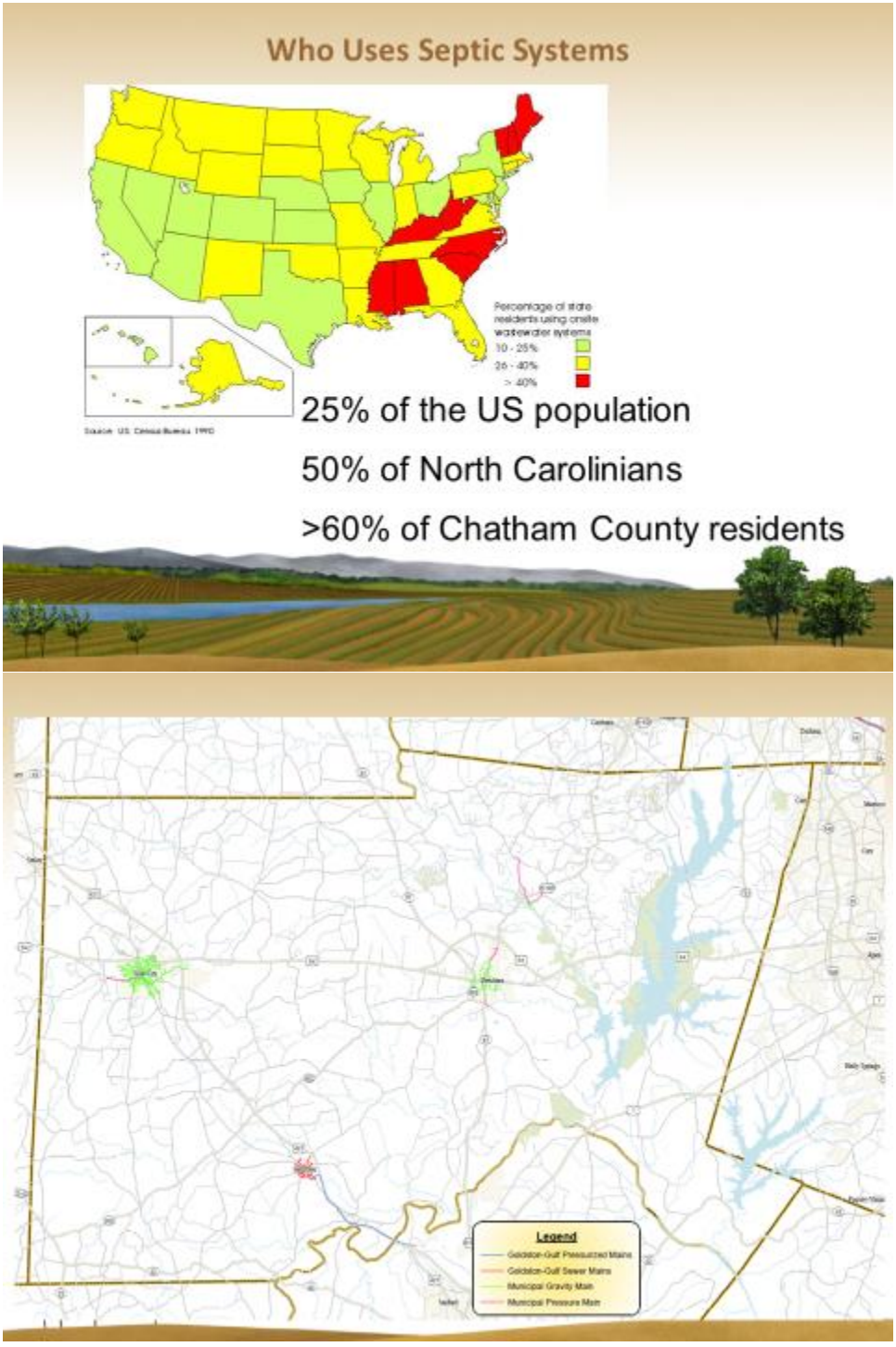
General Statutes – NCGS 130A-335

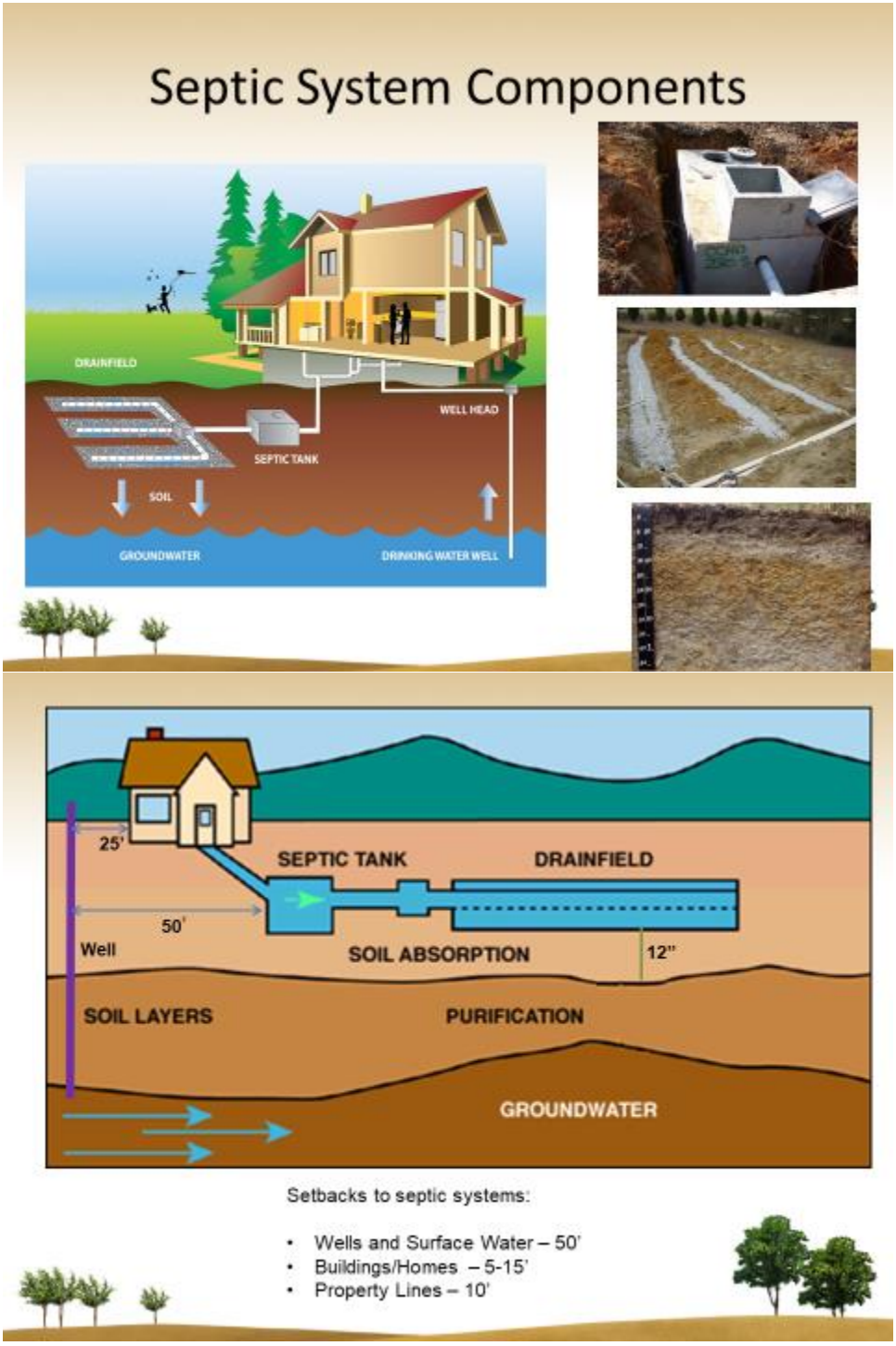
State Rules – 15A NCAC 18A .1900

Why do we use septic systems

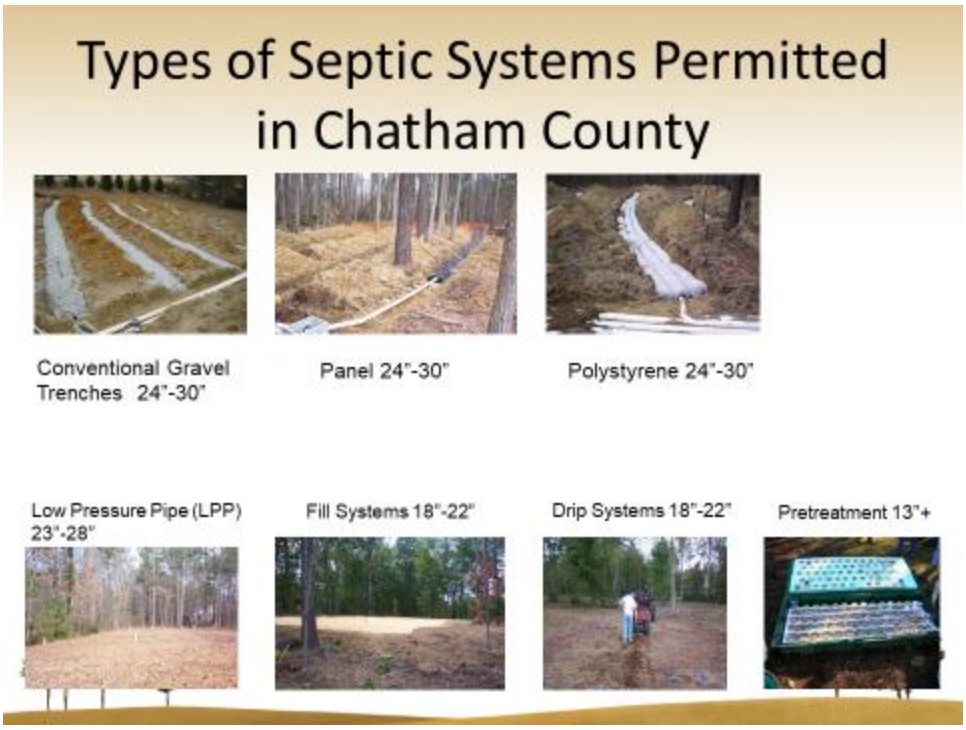
Why do we use septic systems:

- Safely TREAT and dispose of wastewater
- Protect your family's health
- Protect public health in the community
- Protect ground and surface water
- Help keep housing affordable (municipal sewer is very expensive to install and maintain)


Who Uses Septic Systems
Percentage of state residents using onsite wastewater systems
10 - 25%
26 - 40%
> 40%
25% of the US population
50% of North Carolinians
>60% of Chatham County residents
Legend



- A board member asked, what are the current septic setbacks? Ms. Lowry stated that septic setbacks from the well are now 50 feet, not 100 feet like it was before and set back is 10 feet from the property line.



- Ms. Weakley asked regarding Pretreatment septic systems, if this was depth to ground water? Ms. Lowry stated that is was suitable soil depth.

- Mr. Gaeta asked, what determines what system is installed? Ms. Lowry stated that the staff will evaluate the soils with different tools to help determine the type of septic system to approve for installation.

- Vice-Chair Lucier asked, what happens if they hit rock while doing the evaluation? Ms. Lowry stated if they hit rock they need to keep moving.

- Vice-Chair Lucier asked, how many holes do they have to dig? For example, developers come in and say they want to build 40 lots and another one wants to build 90 lots, conceivably the soil will not be the same in all those places. Ms. Lowry stated that they have a policy of a minimum of 5 holes per lot, one on each corner and one in the middle. The size of the holes are 4 inches in diameter. They need to be sure to find the best place suitable for the septic system.

- A board member asked, if there was a charge towards developers to dig extra holes. Ms. Lowry stated there is no extra charge.

- Vice-Chair Lucier asked, what does the Planning department require before something comes to a public hearing and the approval process starts? Mr. Sullivan answered by saying, by the time it gets to the first plat, which the

Planning Board will see, they will need to have a preliminary service analysis. They may not have looked at each lot, but they have a soil scientist go out and do an evaluation. The degree of the evaluation depends on how much the developer wants to spend. Sometimes it is just a general evaluation if the developer isn't afraid of losing some lots. They are looking for general adequate soil for preliminary plat. When they start the construction plans and the final plat, they will pay their consultant to go out and do a detailed analysis.

Ms. Lowry stated they have a three stage permitting process. An Improvement Permit, where they go out and evaluate the soils. A Construction Authorization, which can happen immediately or up to 5 years later, where they go out and confirm the site plan is still the same. Then Operation Permit, the septic has been installed, inspected and approved.

Mr. Sullivan stated that the liability is between the licensed soil scientist and the developer.

- A board member asked, if there was any safeguard or concern for the soil scientist to be adhering to the rules or collusion between the developer and the licensed soil scientist consultant? Ms. Lowry stated that Environmental Health would have the last say in the end. She stated that there is legislation that was passed allowing a licensed soil scientist to collect all the data and submit the findings for the permit without Environmental Health actually going out to the site. Environmental Health would go to the site for inspection and installation of the septic system. If they see something wrong then they will have them correct it.

  A board member stated that Environmental Health can fail it and the developer is liable for a lot of money invested at that point and they would lose all of that investment if they tried to get away with something. She stated that there are checks and balances because they will not be able to pull a fast one without inspection. Ms. Lowry stated that was correct.

- A board member asked, is the different septic systems dictated by Environmental Health staff, or are they options for the builder or the home owner to choose? Ms. Lowry stated that the Conventional Gravel system is what she really likes because it is a little more secure and you can drive over it, even though that is not recommended. Most of what they see now is the Panel and Polystyrene systems because those systems allow 25% reduction in the linear footage of the drain field. These are beneficial systems in Chatham County that don't have a lot of good soil, but just enough to make it work.

- A board member asked about the Panel system image where the trenches are between the trees, he asked, if root infiltration was an issue? Ms. Lowry stated trees are not recommended in drain field areas, but they are not disallowed. There are two reasons why they do not recommend trees in the drain field. First there will be roots cut when the trenches are dug and some trees may die and fall, they might bring some of the drains with them. Second, trees next to the drain field love the drain field. It is perfect nutrients, especially during a drought and they could plug the drain field. They do recommend a certain distance between trees and the drain field based on the drip line and how tall a tree is.

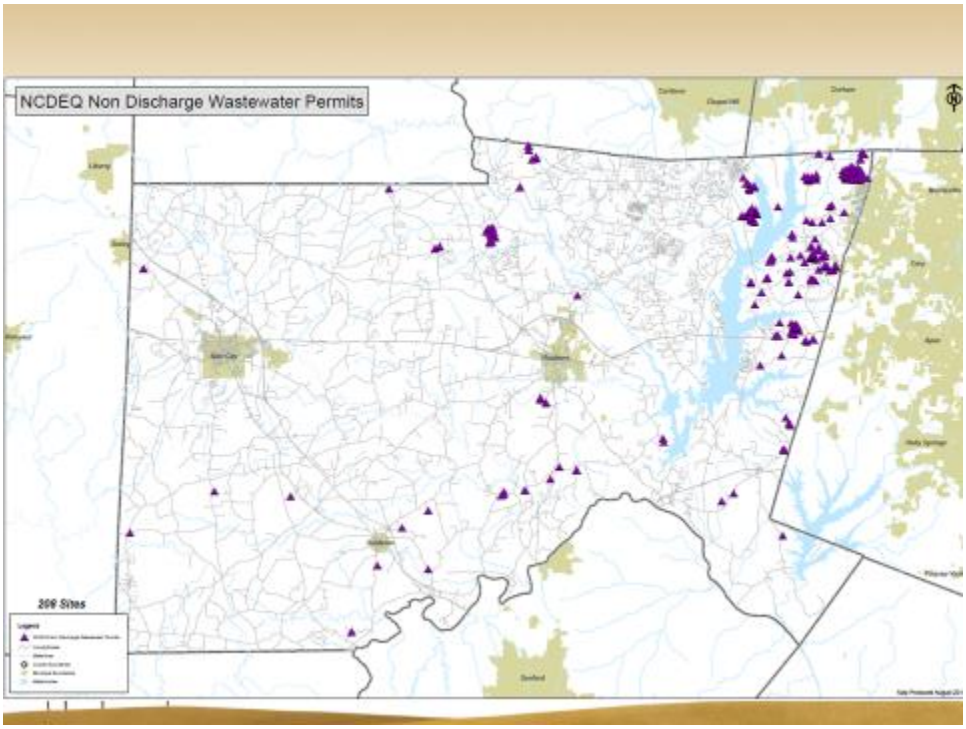
- A board member asked, what is the definition of a surface system? Ms. Lowry stated that the Health department issues subsystem permits and DEQ issues surface system permits. A surface system is on the surface and has a direct discharge.

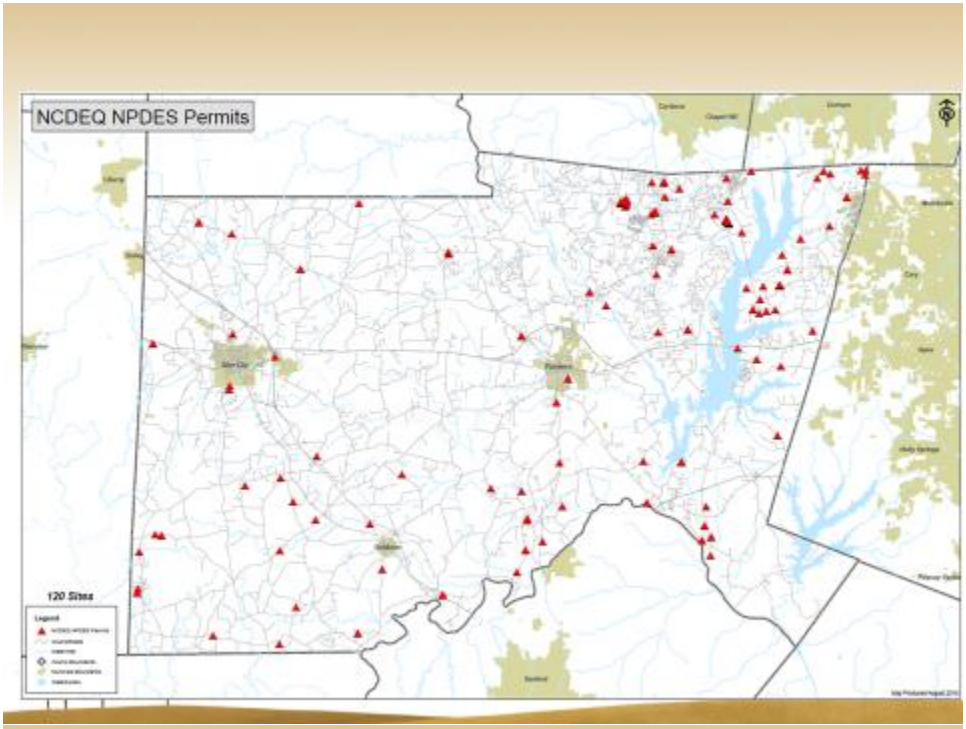
- A board member asked, how much square footage a septic field requires? Ms. Lowry stated when they issue a permit they are looking at the initial area and a 100% repair area. That area combined is 10,000 square feet.

  A board member asked, at what point do home owners go to use the replacement field? Ms. Lowry stated that when the system fails. One definition of failure is if the septic backs up into the house, another is when it is surfacing to ground level.

- A board member asked, on average what is the timeline on system failure? Ms. Lowry stated that all septic systems fail, but the better you treat them the longer they will last. She also stated that septic drain fields can recover and then you can shift it back and forth between the fields.

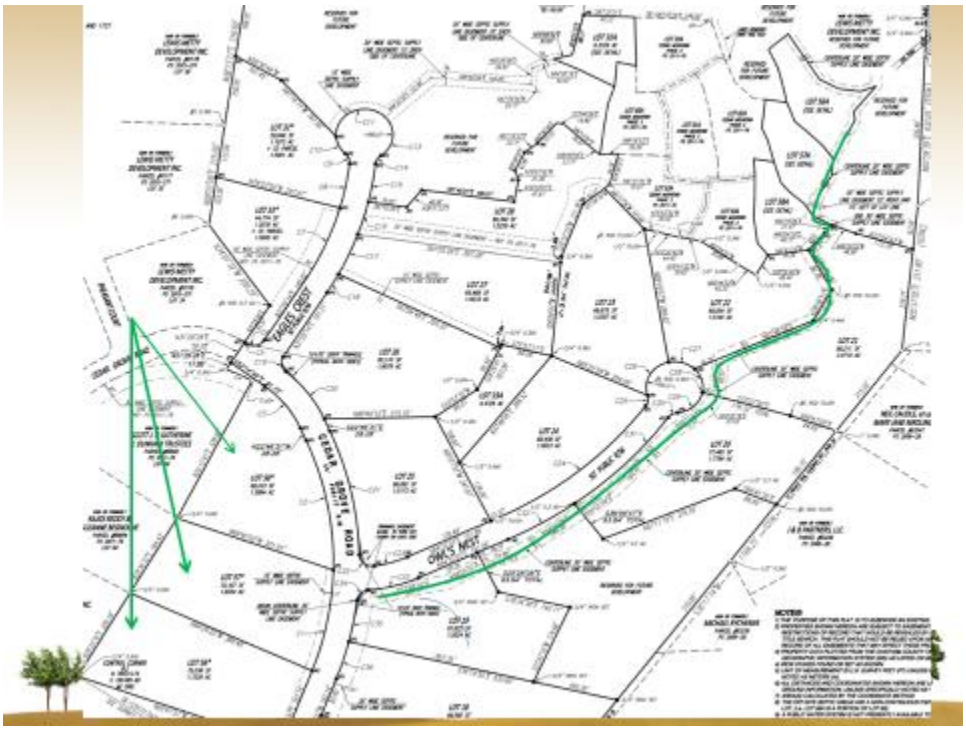
- A board member asked, is it helpful to use the additive that is sold in stores that you pour into the toilet once a month? Ms. Lowry stated, that there was a study at N.C. State University and it was shown that it did not make a difference or was harmful to the septic system. She also stated that it can pollute the ground water. The way to protect the drain fields is to keep all the solids in the tank. She stated instead of using the additive, have the tank pumped every 3 to 5 years and with two people, maybe every 7 or 8 years.


NCDEQ Non Discharge Wastewater Permits
209 Sites



Off Site Septic Systems

Defined - Wastewater system where any components of the system serving two or more facilities are located on property other than the building lot.


EAGLE CREST
CEDAR GROVE CHURCH ROAD
OWLS NEST

- Ms. Lowry stated that when pipes are being laid for off-site septic, all pipes are buried at the same time regardless as to when the home will be build. She also stated that each pipe has the lot number on it, pipes are 3 inches and 3 inch separation per pipe, and the easement will be 15 feet wide. The home owner is required monitoring once a year and the Environmental Health department will monitor every five years.

- Mr. Spoon asked, if there is a cap as to how many plats can have off-site septic systems? Ms. Lowry stated that each system is an individual system and there is not necessarily a cap, but at some point the soils are not going to be able to support that volume. They don't like to see more than 10 lots.

- A board member asked, if the off-site septic systems have to be separated or can they be combined? Ms. Lowry stated that they can be combined into one and there are some homes that share a septic system and share the responsibility.

- A board member asked, when Environmental Health goes out every 5 years, do they check for records that the owners have them annually inspected? Ms. Lowry stated that yes, the operator will submit those records to the department.

- Mr. Sullivan asked, is the septic tank located on the lot and then there is a pump, which pumps it off-site? Ms. Lowry stated that is correct, the liquid will be pumped, but the solids stay in the tank.

- Vice-Chair Lucier asked, how many years' experience does Chatham County have with off-site septic systems? Ms. Lowry stated that in 1977 the rules were passed. When they were able to add a pump to the system, which is when the offsite systems were starting to be used around 1977.

- Vice-Chair Lucier asked, in your experience, have off-site septic systems been more problematic than on-site septic systems? Ms. Lowry stated that not necessary problematic, more so as a delay in the notice of failure because nobody is near them to see them fail.

- A board member asked about distance from the trees to the supply line. Ms. Lowry stated that the supply line is solid and will not have any waste water or nutrients for the tree, so that is not a problem.

Stream Crossings

- 15A NCAC 18A .1950
  - Sewer lines may cross a stream if at least three feet of stable cover can be maintained or the sewer line is of ductile iron pipe or encased in concrete or ductile iron pipe for at least ten feet on either side of the crossing and protected against the normal range of high and low water conditions, including the 100 year flood. Aerial crossings shall be by ductile iron pipe with mechanical joints or steel pipe.

Stream Crossings

- Other agencies involved
  - Chatham County Watershed Protection Department – Stream Buffer Requirements
  - NC DEQ – Stream Buffer Requirements – Utility Exemptions
  - Army Corps of Engineer – Direct stream Crossings (Nationwide Permit 12)

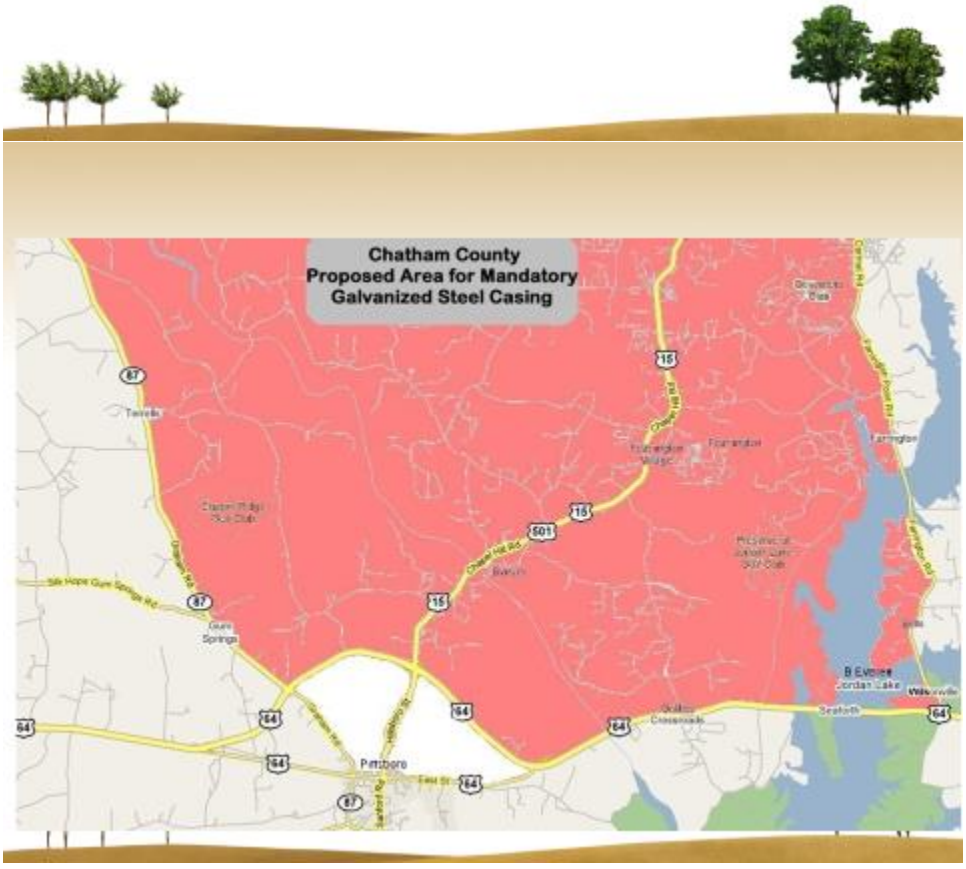
Groundwater Quality and Quantity

Well Permitting – Regulatory Authority

General Statutes – NCGS 87(87-97)

State Rules – 15A NCAC 02C .0100 (well construction standards)
15A NCAC 18A .3800 (drinking water well sampling)
15A NCAC 02C .0300 (well permitting & inspection)

Local Ordinance – Construction, Repair, and Abandonment of Wells in Chatham County



Water Quality

Chatham County

Contaminant	Number of wells tested	Minimum	Maximum	Average	Maximum Contaminant Level (MCL) * Secondary MCL	Units	Number of wells tested above MCL	Percentage of wells tested above MCL	Number of wells below MCL	Percentage of wells tested below MCL
1,2-Dibromoethane	8	0.25	0.25	0.25	0.05	µg/L	0	0.00%		
1,2-Dichloropropane	8	0.25	0.25	0.25	5	µg/L	0	0.00%		
Arsenic	1,547	0.5	127	2.4	10	µg/L	34	2.20%		
Barium	345	50	50	50	2,000	µg/L	0	0.00%		
Benzene	8	0.25	0.25	0.25	5	µg/L	0	0.00%		
Cadmium	345	0.5	2.5	0.5	5	µg/L	0	0.00%		
Chromium	345	5	110	5.9	100	µg/L	2	0.58%		
cis-1,2-Dichloroethene [c-DCE]	26	0.25	0.25	0.25	70	µg/L	0	0.00%		
Copper	1,544	25	1,900.00	38.80	1,300*	µg/L	1	0.06%		
Ethylbenzene	12	0.25	1.1	0.45	700	µg/L	0	0.00%		
Fluoride	3,493	100	4,550.00	437.30	4,000*	µg/L	3	0.09%		
Iron	1,539	25	52,120.00	540.70	300*	µg/L	329	21.38%		
Isopropyl Ether	8	0.25	0.25	0.25	No drinking water standard	µg/L				
Lead	1,627	2.5	162	3.8	15	µg/L	47	2.89%		
Magnesium	1,544	50	50	50	No drinking water standard	µg/L				
Manganese	1,544	15	6,280.00	126.90	50*	µg/L	505	32.71%		

Groundwater Quantity

- Minimal state regulations governing the quantity of use of a private drinking water well
  - NCGS 87-88- Requires Environmental Management Commission to grant permission for any water well or well system to use 100,000 GPD or more of water per day.
  - Wake County enacted a Well Interference Ordinance in 2009

http://www.wakegov.com/water/wells/Documents/WellInterferenceOrdinance.pdf

Board Discussion followed after the presentation and Ms. Lowry from Environmental Health was able to answer questions.

- Vice-Chair Lucier asked, for example if there was a gas tank that leaked due to rusting at a gas station and getting into the ground water, is that something Environmental Health department would look into? Ms. Lowry stated that typically DEQ has a leaking underground storage tank program. They would develop a targeting sampling area for wells in that area of the leaking underground storage tank. Vice-Chair Lucier asked if they report that back to the County. Ms. Lowry stated, not typically. DEQ posts on their website the findings and you can do a search just for Chatham County.

- A board member asked, what do you do if there is a high content of Arsenic in a well? Ms. Lowry stated that there are treatment systems out there that can remedy that issue.

- A board member asked, what is the average household use of a well? Ms. Lowry stated that the prescribed water use for each home is around 60 gallons per person, the actual use is probably closer three quarters to half that 30-45 gallons per person per day. However, the well could be used for other things like watering lawns and filling pools.

- Mr. Gaeta asked, is there a significant overall cost between the different types of septic systems? Ms. Lowry stated that yes there is a difference in cost. The Gravel, Panel, and Polystyrene can be $8000 to $12,000 range. The systems with a pump required can run up to $20,000, and the Pretreatment systems can run up to $35,000.

- Mr. Gaeta asked, if someone was interested in buying some acreage in the middle of the country, would Chatham County come out and test that before they were to buy the property? Ms. Lowry stated, yes, they would prefer if the potential buyer would go through the county first. This shows them that there is due diligence for individual home owners by having the county evaluate it for them.

- A board member asked, once Environmental Health goes out to a site and evaluates it, does the department give options for the septic system, or do you have specific recommendations? Ms. Lowry stated, usually the cheapest option for the specific needs of the soil.

- A board member asked, if Chatham County has done any county wide assessment of ground water quantity? Ms. Lowry stated that the County doesn't have the expertise to measure ground water quantities.

- A board member asked, as this county continues to develop, and more subdivisions come into the county, and more septic systems are coming in. What rules do the Planning Board and the BOC have that can determine septic tanks or no septic tanks, or sewer system? The board member brought up an example of Briar Chapel and their sewer system. He asked, if this was required by the County or was it voluntary on their part? Mr. Sullivan stated that it was part of their application packet and he said he didn't believe it was a requirement, but to make the density work in that subdivision it is the only option to make that work. Developments with smaller lot sizes, septic is not an option.

  Vice-Chair Lucier stated that there are some developments that have a treatment facility and then use the golf course as a spray field.

- A board member asked, if there was going to be any requirement for treatment systems? Mr. Sullivan stated that there will be discussion about that in the Unified Development Ordinance (UDO). He stated that if there is going to be a package waste water system, you need to have public water, you would not want to run those on a community well system.

- Ms. Hager asked if Ms. Lowry could speak briefly about off-site septic stream crossing. Ms. Lowry stated that when there is a stream crossing, the stream is diverted, the pipe goes in, and then return the stream to the original way that it was. Ms. Lowry continued stating that ductile iron pipe is a more secure and tougher pipe than a PVC pipe.

  Ms. Weakley stated stream crossing should be avoided because over time the changes in hydrology and stream characteristics causes issues.

- Chair Siverson asked, how useful is the Chatham County soil survey if a developer is looking for a piece of land and want to figure out beforehand if the soil is suitable for septic? Ms. Lowry stated that it is helpful because if the bio of the soil survey shows a particular soil type, it would describe if it useful for septic systems. She also stated that even if it says that the soil is not useful for septic systems, say if it was a 2 or 5 acre lot, and were just looking for 10,000 square feet to put the septic.

The Planning Board members thanked Ms. Lowry for her time and presentation.

IX. NEW BUSINESS: None

X. BOARD MEMBERS ITEMS:

1. Update from the Planning Board liaisons.
   - Vice-Chair Lucier stated that there was no Pittsboro Planning Board meeting this week because of Labor Day, but they will meet next Monday. On the Pittsboro Planning website there is a Land Use Plan for North Village in Chatham Park.

   - Chair Siverson stated that Siler City is starting to do some rezoning downtown.

   - Ms. Moose stated she did not attend the Agriculture Advisory meeting, but will be attending their next meeting.

- Ms. Hager stated that High Performance Building Council is hosting the North Carolina Wildlife Certification Program at the Bond Brothers Beer Company on September 6th.

- Ms. Weakley stated that the Chatham Conservation Partnership will be hosting a meeting on October 18th and the topic is Water Resources. Guest speakers will be talking about water quality and quantity.

- Mr. Galin stated that he attended the Chatham County Chamber of Commerce Chatham Development Briefing and he said the speakers informed that Chatham County economy is doing well.

PLANNING DIRECTOR'S REPORTS:

Mr. Sullivan reported on the following:

1. *Minor Subdivisions/Exempt Maps* - Information was included in tonight's agenda packet for your review.

General Planning Board Discussion:

XI. ADJOURNMENT:

There being no further business, the meeting adjourned at 7:50 p.m.

Signed: _____/ _____
Caroline Siverson, Chair Date

Attest:
_____/_____
Daniel Garrett, Clerk to the Board Date