

Local Program Report to the SCC

Iredell County

Iredell County's local program was reviewed September 16, 2008. There are three full-time positions. There are currently 110 active projects. The staff has approved fifty-eight projects since the program started in July of 2007. There were thirty-nine disapprovals. The staff conducted 552 inspections from July 2007 to August 2008. Six Notices of Violation and six initial civil penalties were assessed. The County has issued nineteen stop work orders.

Five projects were evaluated. Two of the sites had insufficient measures to retain sediment on the site. Sediment was washing into a roadside ditch at the entrance of a 1.2-acre residential site. Runoff had overtopped a silt fence at a 4.7-acre commercial site. The sedimentation and erosion control plans for each of the sites were adequate. General documentation was good for all files reviewed. The County uses the Land Quality Section's model documents as a basis for its official correspondence.

Staff recommends continued delegation of the program.

Lincoln County

Lincoln County's local program was reviewed September 17, 2008. Currently a staff of four contributes 2.5 full time equivalents to erosion and sedimentation control. There are currently 411 active projects of which 162 are larger than an acre. The staff has approved eighty-seven projects since the program started. There were no disapprovals since the staff was able to obtain revised submittals before the review deadline. The staff conducted 1496 inspections since January 2008. The County sends a Notice of Noncompliance for violations, and issued 599 in 2008. Of those, 154 were for projects over an acre and 445 were under an acre. Twenty-seven enforcement actions were taken on sites larger than an acre. Civil penalties for all sites totaled \$49,855. The County does not use stop work orders, but holds up building inspections on sites out of compliance.

Six projects were evaluated. Four of the six projects were found out of compliance. The first site was a 65-acre industrial park that was out of compliance due to a lack of groundcover and failure to maintain measures. There were areas where sediment had left the perimeter however it had not left the tract. This site had been started before the plan was approved.

The second site was a 9-acre residential clubhouse site with offsite sedimentation damage. Diversion ditches were deeply eroded and the embankment of a sediment basin had washed out. Silt fence and inlet projection were not maintained. The County had not completed a written inspection report since January 2008.

The third site was a 1.6-acre industrial site out of compliance for failure to maintain measures. This site is currently under a Notice of Non Compliance because a sediment basin needed cleaning. Sediment fence also needed repair and maintenance. The site was issued a notice on September 10, 2008 and had a compliance deadline of September 29, 2008. The violations had not been corrected on September 17, 2008.

The fourth site was a 2.2-acre residential site out of compliance for failure to install and maintain sediment control measures. Notable was a cross pipe discharging into a sediment basin. It was full of mud, and runoff was breaking over the road and eroding the interior slopes of the basin. The spillway and earthen embankment were at the same elevation on a second basin. The relative elevations must be corrected to prevent future overtopping of the embankment.

Plan review was generally adequate. One plan was drawn on a topographical map, which included a sediment basin without supporting calculations. Another plan was approved using the old standard silt fence detail with wooden posts, but in fact steel posts were actually used on the site.

Three out of the six sites did not have current inspection reports. Two were last inspected in March and one in January. This is a major deficiency in the program. Sites greater than one acre in area must be given priority over single-family lot construction.

Land Quality is concerned that the plan reviewer designs erosion and sediment control plans in other counties. The County has been advised to eliminate any appearance of a conflict of interest between its staff and the regulated community.

Staff has requested a report from Lincoln County addressing these concerns, and recommends continuing the review until the February 2009 meeting.



**Iredell County
Erosion Control
349 North Center Street
P.O. Box 788
Statesville, NC 28687**

November 1, 2008

Gray Hauser
North Carolina Department of Environment and Natural Resources
Division of Land Resources, Land Quality Section
1612 Mail Service Center
Raleigh, NC 27699-1612

RE: Sedimentation and Erosion Control Local Program Review

Dear Mr. Hauser:

Your office conducted a review of the Iredell County local program on September 16, 2008 and the results of that review were reported under separate cover dated September 30, 2008. Recommendations for strengthening the Iredell County program have been implemented. Since program implementation, Iredell County has utilized the standards contained in the NC Erosion and Sediment Control Planning and Design Manual as the basis for proper onsite installation. Updates on the specific projects that were reviewed are included below.

1. Cypress Acres

This site is in compliance with the approved erosion control plan. All ditchlines have been seeded, matted, and check dams have been installed to control velocity; the construction entrance was widened and flared so that vehicle bypass was not possible (the road is now being paved); all basins have baffles per the approved plan, and sediment fence installed around basins at outlet and stockpile areas.

2. Twin Creek Subdivision

Areas of sparse vegetation have been reseeded and matted. Once vegetation is established, this site will be closed out.

3. Lowe's Planogram Facility

This site was annexed by the municipality so jurisdiction reverted to NCDENR.

4. AAA Self Storage

Areas of sparse vegetation have been reseeded and mulched.

5. River Park Lots 19, 20, 22, and 24

This site is in compliance with the approved erosion control plan. The installation of storm drainage with inlet protection at the low point of this site has alleviated the stress/topping of the silt fence. Additionally, silt sacks have been installed. Additional

baffles have been installed per approved plan. This site had just started construction when the inspection occurred, which is the reason the lower inlet had not been installed.

If further clarification is required, please contact me at 704-832-2352 at your earliest convenience.

Sincerely,

Mark A. Selquist
Erosion Control Administrator

MS/fw



SOIL EROSION and SEDIMENTATION CONTROL

Lincoln County Natural Resources Department

115 West Main Street, Lincolnton, NC 28092 704-736-8501 Fax: 704-736-8504

DATE: October 30, 2008
TO: N.C. Sedimentation Control Commission
FROM: Rick McSwain
SUBJECT: Local Program Review Response for Lincoln County, NC

Lincoln County had a Local Program Review on September 17, 2008. The review made twenty (20) recommendations to strengthen the program. The following is what Lincoln County has done to address the 20 issues:

1. Complete a formal written inspection report when doing site inspections for erosion control and sediment control at least once a month for the duration of the land-disturbing activity. Document violations and needed corrective actions on the reports. Continue to use written inspection reports for sites that are found out of compliance until the site has been brought back into compliance. Willow Farms, the Verdict Ridge Patio Lots, and Lots at Verdict Ridge had not been inspected in the past six to eight months. Projects should not be released until construction is complete and permanent stabilization is obtained on all slopes and disturbed areas.

Since September 17th as site inspections have been completed, proper documentation such as inspection forms and notes have been placed in the project's file. Our goal has been to visit each site based on the severity of risk of the site such as proximity to water bodies including Lake Norman or blue line streams, and size of the project site such as large disturbed areas or steep sloped sites having a higher priority than other sites and our experience with the developer. We have tried to visit the higher priority sites once a month. We have 411 sites and it is neither effective nor efficient to treat all sites the same. No guidance has been given to Lincoln County requiring us to visit each site on a monthly basis. Please provide us with either the statute or the administrative regulation that requires this frequency of inspections. Project sites are not released until construction has been completed and permanently stabilized.

2. The County needs to eliminate any appearance of a conflict of interest between its staff and the regulated community. Mr. David Ledford should not be in the employ of any development interest that has the potential to conduct a land-disturbing activity in Lincoln County. Any development or developer doing business in Lincoln County for whom Mr. Ledford has worked in the past should be regulated by other County staff.

To eliminate any appearance of a conflict of interest between staff and the regulated community, a list of individuals/companies has been posted in the office that staff has worked with or are currently working with. Any individual/company submitting a plan for review and/or later site inspection will only be conducted by office staff that has no conflict of interest.

3. The field inspector should carry copies of previous inspection reports to the field for reference during subsequent field inspections.

Refer to item # 1 above.

4. Document the completion of graded slopes on inspection reports and require ground cover on all exposed slopes within 21 calendar days upon the completion of any phase of grading. Permanent ground cover sufficient to restrain erosion must be accomplished within 15 working days or 90 calendar days following completion of construction or development, whichever period is shorter. Require areas where work has discontinued for more than 21 calendar days to be temporarily seeded and stabilized. For those areas where the grading is complete, require permanent seeding and stabilization. Areas where rills have developed will need to be reworked before temporary or permanent seeding can be established.

Upon inspection of project sites, phase of grading is documented on inspection reports and ground cover is required within 21 calendar days upon completion of any phase of grading. Where work has been discontinued for more than 21 calendar days, these sites have been required to seed and stabilize the area. Areas with rills have been required to be reworked before being seeded.

5. Require plans with structures such as sediment basins, sediment traps, or any measures that require design to be accompanied with supporting calculations.

Plans with structures such as sediment basins, sediment traps or any measures that require designs had supporting calculations accompanying the plans. One plan reviewed by the state staff during the review had a calculation for sizing a sediment basin by using surface area calculation only. This provided sufficient storage capacity for the location where the structure was used. Approximately 95% of the time, surface area calculations provide sufficient cubic foot storage requirements by state design standards.

6. Plan reviewer should place a copy of any written comments concerning plans in the project file.

Any written comments are included in the letter of receipt of a plan. Modifications are listed as part of plan review. Any other comments would be on inspection reports respectively noted as onsite inspections.

7. Require measures on the approved plan to be implemented in the field unless approval has been given to omit the measures. A revised plan should be required if significant changes to the design are needed. For example, a rock dam measure at the Crate & Barrel Distribution Center was not installed per approved plan.

Any significant changes to plans approved have been required to submit a revised plan with supporting calculations. Additional measures have been implemented on site by developer or grading contractor that may not have been required on the approved plans. These measures added to the effectiveness of the plan.

8. Require measures to meet the standards set forth in the Erosion and Sediment Control Planning and Design Manual. A sediment fence detail was not to current standards.

In the beginning of enforcement of the State's Soil Erosion and Sedimentation Control laws, a few multiple individual lot plans were using wooden stakes for silt fence design. We required them on the design to include metal stakes. A reviewed plan design still had use of wooden stakes but upon a visit to the site, they had used metal stakes and not wooden. Since Sept. 17th, review of plan details has been looked at closer to match all state standards.

9. Require measures to be shown on plan in the appropriate location as well as in plan notes, such as matting on slopes.

Notes approved on plans are based on situations where these measures may or may not be needed at completion of installation of these slopes or measures. This in turn allows on site inspection to determine the need for these measures.

10. Require measures to be installed per approved plan, such as drop inlet and pipe inlet protection. Inlet protection should be maintained until ground cover is established.

During normal inspections, all measures have been required to be upgraded to minimum standards if found to be insufficient. These measures sometimes have been changed since last inspection, but can only be detected during the next inspection.

11. Sediment fence should not be used in areas of concentrated flow. High volumes of water will undermine the sediment fence. Stone outlets or special sediment fence should be considered to deal with concentrated flow.

Sediment fence placed in areas of concentrated flow has been one of our biggest problems. We have been informing developers that silt fences can not be used in area of water concentration. We have been requiring them to use stone outlet weirs below the silt fences where concentrated flow is occurring.

12. Specify diversions to ensure runoff from affected areas is directed to a basin. Require adequate stabilization of diversion ditches, with temporary liners or temporary check dams.

This remark is referring to a site that State staff said a diversion or silt fence should have been used to divert runoff to basin. After further review by Lincoln County office staff of the plan and revisiting the site, the plan called for using an existing ditch just inside the tree line. An onsite revisit indicated a ditch did exist to divert runoff from disturbed area. An existing diversion on the opposite side of the area in question needed to be seeded and check dams added, see note for Willow Farms actions taken.

13. Require pipes to be cleaned of sediment before removing sediment controls to prevent sediment from entering streams or leaving property via pipes. An inlet pipe on Planter's Ridge needs to be cleaned out to allow stormwater to be diverted from the site. The blocked pipe caused the ditch to fill and diverted the water at a low point, which blew out the inlet side of the basin across the road.

One of the sites visited on Sept. 17th had a cross-pipe under the road that had stopped up with debris. This pipe outlet goes into an existing sediment basin. This pipe stopped up due to an 8.2 inch rainfall which is a 25-year storm event. Stormwater went over the road and washed out a rip-rap channel on the lower side of the road. However, both the pipe outlet and the flow from the rip-rap channel were directed into the same sediment basin on the lower side of the road. Refer to attached follow up actions taken per site visited by Lincoln County staff and State staff on Sept. 17th.

14. Require maintenance of sediment basins and sediment traps immediately when basins are damaged and have become ineffective to prevent additional sediment loss.

Findings of inadequate BMP's or maintenance of BMP's during an inspection is followed by a formal Notice of Non-Compliance letter with actions needed to correct the problems. Two (2) of the sites visited on Sept. 17th had severe damage done by the 8.2 inch rain fall event two (2) weeks prior to this inspection on Sept. 17th. See attached follow up actions taken per site visited by Lincoln County staff and State staff on Sept. 17th.

15. Require maintenance of erosion and sedimentation control measures for the duration of the project or until such time as it is appropriate to remove those measures.

See item # 14 above.

16. Require sedimentation control basins or traps below storm drainage system outlets and below the toe of high fill slopes.

We do not know what finding this comment refers to. All stormwater outlets are required to have sediment traps or structures due to concentrated flow. All fill slopes require silt fence with or without rock outlets depending on the area of the slope.

17. Require check dams to be installed and maintained as per approved plan. Dams should have a low point in the center and accumulated sediment should be removed from check dams when they are half full.

During our initial visit we require all installed check dams to have a low center. On return visits for inspections, if measures have accumulated sediment, we require this sediment to be removed.

18. Document the completion of graded slopes on inspection reports and require ground cover on all exposed slopes within 21 calendar days upon the completion of any phase of grading. Permanent ground cover sufficient to restrain erosion must be accomplished within 15 working days or 90 calendar days following completion of construction or development, whichever period is shorter. Require areas where work has discontinued for more than 21 calendar days to be temporarily seeded and stabilized. For those areas where the grading is complete, require permanent seeding and stabilization. Areas where rills have developed will need to be reworked before temporary or permanent seeding can be established.

This comment is the same as comment # 4. See item #4 above.

19. Verify that the elevations of sediment basins and traps provide adequate spillway capacity to prevent overtopping of the embankment.

This comment is referring to a previously State approved site. This site was previously stabilized with permanent vegetative cover. Due to drought conditions, reseeding was warranted. Reworking the spillway would cause more damage than preventing sediment runoff from the site. Debris had built up on the weir to the point that it reduced the amount of water that could flow through the weir. This material has been removed. Some pre-existing plans transferred to Lincoln County by the State consisted of improperly installed measures but were inspected several times by State staff, with no recommendations reported for modification. When Lincoln County staff visited these sites, the required modification would create greater sedimentation conditions, so no modifications from Lincoln County staff were required. Any plan approved by our office requires a preconstruction conference and a temporary erosion control measure inspection to verify installation per minimum state requirements. Some older plans include older specifications that failed to comply with State's current standards.

20. Projects that start without an approved plan should be considered for an initial one-day penalty. The erosion and sediment control plan submitted for the Crate and Barrel Distribution Center was received on 07/02/08 and sealed by engineer on 07/07/08. Site was inspected on 07/24/08 and the inspection revealed that work had begun on site. The plan was approved on 07/29/08 and letter of approval was dated on 07/30/08. This means the site started before the plan was approved.

The Crate and Barrel Distribution Center was given tentative verbal approval to install perimeter silt fence measures, while a revised plan was being reviewed that needed minimum verbiage changes such as including a preconstruction conference and typical notes. As of Sept. 17th no verbal approvals to start construction have been given. Construction cannot start until approval documentation has been completed.

Additional Comments

On day one of Lincoln County taking over the enforcement of the Soil Erosion and Sedimentation Control Program, over 200 open plans were transferred to us from the Mooresville Regional Office. Additional new plans came in on a daily bases. No training on how to handle the program was provided by DENR. We developed our own computer programs and forms. This has been a monumental task. In the beginning of the program, May 1st 2007, we staffed with a plan reviewer, an inspector and part-time secretary. Eight months into the program, January 2008, we lost our inspector. This position was filled in March 2008. Training took place for the next several months for this new inspector. Therefore, we got a little behind on inspecting job sites from our goal of visiting the higher priority sites and lower priority sites.

The Local Program Review pointed out that we should visit all sites on a monthly basis. This is not risk based as we have 162 one (1) acre or more project sites that are on a higher risk ranking based on the size of the site and proximity to water bodies. Lower risk ranking sites are scheduled to be visited once every 3 months or as soon as possible if a major rain event takes place. We were never told that the state requires visits every month. In the current files that were transferred from Mooresville, many sites were not visited by the State for months, a year, or in some cases more than a year. If there is to be a site visit requirement from the State please provide the state statute or administrative regulation citation.

On August 25-26, 2008, three weeks prior to the State's Local Program Review on September 17th, Lincoln County had an 8.2 inch rainfall (25-year storm) from tropical depression Faye. Many construction sites had a problem due to this excessive rainfall. This rainfall event was not mentioned in the report. We asked that this rainfall event be recorded in this report from the Local Program Review. I would like to report that of the six sites visited on September 17th, only one site had sediment that left the site, which was due to the excessive amount of rainfall that blew out in a bend of a diversion ditch. I think that it is remarkable that only one site of six had sediment leave site after a 25-year storm event.

The State's reports stated that, "It appears that more effort has been spent on sites under an acre and not much oversight is provided to sites over an acre."

- We did not have an inspector from January to March 2008. The new inspector was under training supervision from March until August. Therefore, a six month timeframe existed where we had only one inspector to visit 162 sites.
- Sites with less than one acre have been a big problem in Lincoln County for years. Many of these project sites are located along the banks of Lake Norman or in close proximity to the lake. For this reason, Lincoln County added that sites less than one acre land disturbance and requiring a building permit must have a land disturbing permit from Lincoln County before earth disturbance can be initiated. What we began to find out was that many builders owned multiple lots, example ten (10) lots within one subdivision and in many cases adjacent to each other. Yes, much effort has been put forth on sites with less than one (1) acre disturbance. We have ranked all sites, including those less than one (1) acre and those greater than one (1) acre, to better protect the lake and water courses of Lincoln County.

Regarding the issue with Willow Farms, a statement on the report is as follows, “Basins were not designed by or sealed by a professional engineer.” Our understanding is that no professional engineer is required to seal an erosion control plan. If this is a requirement, please provide the supporting authority.

I have worked for the Soil and Water Conservation District for 19 years. I take pride in my staff for their effort to protect the streams and lakes of Lincoln County and the State of North Carolina. The Lincoln County Soil and Water Conservation District has gone through many program reviews over the years from the Division of Soil and Water Conservation and from the Federal Natural Resources Conservation Service. Program reviews are intended to make programs work proficiently. I welcome reviews to show our strengths and weaknesses. We have taken this review with a positive response to improve on our professionalism and proper record keeping. After a year and six months of working with landowners and developers, we have come a long way to improving the working relationship with these individuals and improving the water quality in Lincoln County. I have seen a drastic improvement on site construction across the county through improved installation and maintenance of BMP's. One of the measuring tools that I use to gauge the effectiveness of this program has been the number of complaint calls that have been directed into the Soil and Water Conservation District office over the years. This past year our number of complaint calls dropped substantially. This tells me we are making a difference.

FOLLOWUP OF SITES INSPECTED AND FOUND TO BE OUT OF COMPLIANCE

Project Name: Planters Ridge

Site is in compliance: Sediment fence has been repaired. All roadside ditches have been reseeded. Head cut above basin has been repaired and culvert pipe under street has had sediment removed. Debris has been removed from weir of sediment basin so that the basin will not over top. This site was inspected by staff other than plan reviewer David Ledford to prevent any conflict of interest.

Project Name: Crate & Barrel Distribution Center

Site is in compliance: Check dams have been cleaned. The exterior basin slopes and trap embankments have been reworked and seeded per plan requirements. Matting notes on plans have been revised to state that all permanent slopes greater than 2.5:1 will be required to be matted. This requirement is still greater than state minimum requirements but no current slopes will be required to be matted since they are 2.5:1 or less. Very slight sediment paste the perimeter (one yard or less) has a 200' dense buffer past the deposit area before leaving site. The lower rock dam was installed at the end of the 401 permitted area. However, the upper rock dam had not been installed yet since the area had only been cleared in the past week. A temporary earthen dam was installed until area was available for installation of the second rock dam. This temporary upper rock dam was planned in a location of fill material and after a few days of the State inspection this area has completed the phase of fill grading therefore this second rock dam is no longer needed. In all locations of the silt fence being close to slopes all have a minimum of at least 12-15' from the toe of the slope. Site did have a verbal approval with minor verbiage modifications on plans to start installing perimeter devices.

Project Name: Denver Industrial Lot #22

Site is in compliance: Site was under a NONC at the time of inspection for sediment basin clean out and silt fence repairs. Sediment basin has been cleaned, baffles reinstalled, silt fence has been repaired, check dams cleaned, entire site has been seeded down and a rock weir in the silt fence has been installed to filter flow from sediment trap.

Project Name: Verdict Ridge Patio Lots

Site still in compliance: Silt sacs were reinstalled in catch basins to improve any chance of sediment not going offsite. Formal inspection notes and forms are completed in plan folder.

Project Name: Lots @ Verdict Ridge

Site is in compliance: Minor sediment in the road has been cleaned. Lot #340 in question has been sodded and silt fence taken down completely. All areas at bottom of stabilized slope have been reseeded and any area of concentrated flow has been matted. Check dam was the outlet protection for the pipe and has been modified.

Project Name: Willow Farms

Site is in compliance: Inlet protection gravel has been added. Check dams have been added to diversion ditch. Diversion ditch has been repaired and seeded. Silt fence has been repaired and sediment removed in areas where sediment had collected. The additional measures stated as being needed on the west side of property does not have to be added. Upon reviewing the plan in the office, an existing ditch just inside the tree line was going to be used as a diversion to carry runoff into the basin. Upon next inspection of the site, the ditch exists and is carrying runoff into the basin. The plan has a calculation of surface area for the basin. This was sufficient for the sizing of the basin with minimum requirements with regard to depth for the cubic foot storage of the basin. The report also states that a Professional Engineer is required to design or seal a plan. We need something in writing to show this requirement.