NC COASTAL RESOURCES COMMISSION
August 24-25, 2011
NOAA/NCNERR Administration Building
Beaufort, NC

The State Government Ethics Act mandates that at the beginning of any meeting the Chair remind all the members of their duty to avoid conflicts of interest and inquire as to whether any member knows of any conflict of interest or potential conflict with respect to matters to come before the Commission. If any member knows of a conflict of interest or potential conflict, please state so at this time.

Wednesday, August 24th

10:00 ESTUARINE AND OCEAN SYSTEMS SUBCOMMITTEE (Auditorium) — Bill Peele, Chair
- Marsh Sills and Estuarine Shoreline Stabilization *(CRC-11-16)* — Mike Lopazanski
  Panel Discussion (John Fear, Ted Tyndall -DCM; Anne Deaton –DMF; Cindy Karoly-DWQ; Maria Dunn – WRC; Tracey Wheeler – USACE)

12:00 LUNCH

1:00 OCEAN HAZARDS SUBCOMMITTEE (Auditorium) — Lee Wynns, Chair
- Consideration of Sandbag Stakeholder Recommendations *(CRC-11-15)* — Mike Lopazanski

3:00 COMMISSION CALL TO ORDER (Auditorium) — Bob Emory, Chair
- Roll Call

CONTESTED CASES
- Busik v. DCM *(10EHR 8355)* — Christine Goebel

VARIANCES
- Sugar Creek II *(CRC-VR-11-03)* Dare County, Buffer — Ward Zimmerman

5:00 PUBLIC INPUT AND COMMENT

6:00 EXECUTIVE COMMITTEE MEETING (Auditorium) — Bob Emory, Chair

RECESS

Thursday, August 25th

9:00 COMMISSION CALL TO ORDER (Auditorium) — Bob Emory, Chair
- Roll Call
- Approval of May 5, 2011 & July 29, 2011 Meeting Minutes
- Executive Secretary's Report — Jim Gregson
- Chairman's Comments — Bob Emory
- Committee Reports — Lee Wynns, Bill Peele

ACTION ITEMS
Land Use Plan Certifications and Amendments — John Thayer
- Brunswick County LUP Amendment *(CRC-11-17)*
- City of Jacksonville LUP Certification *(CRC-11-21)*

PRESENTATIONS
- Terminal Groins - CRC Study & Recommendations, Legislation, and Permit Process — Jim Gregson, Doug Huggett

12:00 LUNCH

1:15 PRESENTATIONS

- Estuarine Shoreline Mapping – Preliminary Results *(CRC-11-18)* — Lisa Cowart
- Amendments to 15A NCAC 7H .0304(1)(b) – 100 Year Storm Recession Line and Extent of Ocean Erodible AEC *(CRC-11-19)* — Mike Lopazanski
- NC Coastal Reserve Update — Rebecca Ellin
- 2011-2013 CHPP Implementation Plan *(CRC-11-20)* — Mike Lopazanski

ACTION ITEMS

- Fiscal Analysis Approval – 15A NCAC 7H .0304 — Mike Lopazanski
- Fiscal Analysis Approval – 15A NCAC 7K .0214 — Tancred Miller
- Fiscal Analysis Approval – 15A NCAC 7H .0312 — Tancred Miller

OLD/NEW BUSINESS — Bob Emory, Chair

5:00 ADJOURN

Executive Order 34 mandates that in transacting Commission business, each person appointed by the governor shall act always in the best interest of the public without regard for his or her financial interests. To this end, each appointee must recuse himself or herself from voting on any matter on which the appointee has a financial interest. Commissioners having a question about a conflict of interest or potential conflict should consult with the Chairman or legal counsel.

N.C. Division of Coastal Management
www.nccoastalmanagement.net
Next Meeting:
October 26-27, 2011
NOAA/NCNERR Administration Building
Beaufort, NC

Coastal Resources Commission Standing Committee Assignments
August 2011

Estuarine and Ocean Systems Committee

CRC
Bill Peele (Chair)
Pat Joyce
Ed Mitchell
Jamin Simmons
David Webster
Joan Weld
Lee Wynns
Melvin Shephard

CRAC
Bert Banks
Anne Deaton
William Gardner
Renee Gledhill Earley
Judy Hills
Wayne Howell
Charles Jones
Cyndi Karoly
Joe Lassiter
Travis Marshall
Chris Mele
Bill Morrison
Lee Padrick
Spencer Rogers
Harry Simmons
Bob Shupe
Tracy Skrabal
Tim Tabak
Rhett White
Traci White
Vernon Cox
Richard Newman
Lester Simpson

Ocean Hazard Areas Committee

CRC
Lee Wynns (Chair)
Chuck Bissette
Renee Cahoon
Boots Elam
Veronica Carter
Jim Leutze
Jerry Old

CRAC
Webb Fuller
William Gardner
Phil Harris
Joe Lassiter
Gary McGee
Mike Moore
Bob Shupe
Spencer Rogers
Dara Royal
Frank Rush
Bob Shupe
Harry Simmons
Tracy Skrabal
Debbie Smith
Dave Weaver
Joe Beck
Bryant Buck
Carlton Davenport
Jerry Parks
Joy Wayman
Beans Weatherly
William Wescott
Paul Spruill

Ex Officio Members of Each Committee
Bob Emory
Joan weld
Ray Sturza

NC COASTAL RESOURCES COMMISSION (CRC)
May 5, 2011
NOAA/NCNERR Auditorium
Beaufort, NC

Present CRC Members
Bob Emory, Chairman
Joan Weld, Vice-Chair

Renee Cahoon
Charles Elam
David Webster
Jerry Old
Veronica Carter
Melvin Shepard
Lee Wynns
Benjamin Simmons
Pat Joyce

Present Attorney General's Office Members
Christine Goebel
Mary Lucasse

CALL TO ORDER/ROLL CALL
Chairman Emory called the meeting to order and reminded Commissioners of the need to state any conflicts due to Executive Order Number One and also the State Government Ethics Act. Chairman Emory stated the State Government Ethics Act mandates that at the beginning of each meeting he remind all members of their duty to avoid conflicts of interest and inquire as to whether any member knows of any conflict of interest or potential conflict with respect to matters to come before the Commission. If any member knows of a conflict of interest or a potential conflict of interest, please state so when the roll is called.

Angela Willis called the roll. There were no conflicts reported. James Leutze, Chuck Bissette, Bill Peele, and Ed Mitchell were absent. Based upon this roll call, Chairman Emory declared a quorum.

Chairman Emory read the following letter from Governor Perdue.
Dear Board members,
As you may know I issued Executive Order Number 34 on December 9, 2009, requiring appointees to attend at least 75% of the Board's regularly scheduled meetings. I recognize extreme circumstances may have made this Order difficult for some to follow. Please make every effort to attend 75% of the Board's meetings in the coming year to remain in keeping with Executive Order Number 34. Do not hesitate to contact my Office of Boards and Commissions at 919-715-0275 if you have any questions. Thank you for your willingness to serve the State of North Carolina.
Governor Beverly Perdue

MINUTES

Melvin Shepard made a motion to approve the minutes of the February 23-24, 2011 Coastal Resources Commission meeting. Lee Wynns seconded the motion. The motion passed unanimously (Weld, Cahoon, Elam, Webster, Old, Carter, Shepard, Simmons, Wynns, Joyce).

EXECUTIVE SECRETARY'S REPORT

DCM Director Jim Gregson gave the following report.

Budget

The House budget released last week includes some items that affect the Division of Coastal Management. As with the Governor's budget, the House Money Report shifts five DCM positions from state funds to federal receipts. Additional DCM positions may be affected if the reduction in federal receipts for next year's grant cycle is substantial. We are currently planning, and have been told by NOAA, to plan for a 10% reduction in the federal funds (around $200,000.00).

The budget also calls for the closure of the Raleigh DCM office and eliminates the Assistant Director for Policy and Planning, which is Steve Underwood's position. It is unclear what timeframe what would be mandated for the office closure. We are already planning for the closure of that office by July 2013.

The Department as a whole takes quite a hit in this budget proposal, including a major reduction in staff at all seven regional offices. So far, that does not appear to include any of the DCM staff at the Washington and Wilmington offices. The budget transfers several DENR programs into the Department of Health and Human Services and the Department of Agriculture and Consumer Services. The total DENR budget was reduced by roughly $35 million for each of the next two fiscal years.

Legislative Update/Bills of Interest:

SB 110 - Terminal Groin Bill: To allow terminal groins to be constructed in N.C. inlets for the purpose of erosion control. The Senate bill, which passed in March, would allow up to two terminal groins per inlet. The bill was amended by the House to allow only three terminal groins to be built, two with public money and one with private money. The House bill also bars local governments from borrowing money for a project unless the debt has been approved by a referendum. The Senate did not concur with the amended bill, so it will now go to conference committee for resolution.

HB 819 - CAMA Setback Requirements: Introduced by Rep. McElraft, this bill would allow repair or replacement of single-family and duplex structures that do not currently meet the CRC's large structure oceanfront setback. These types of structures that are larger than 5,000 square feet, and that were constructed before August 11, 2009, would have to meet a minimum setback of 60 feet or 30 times the erosion rate, whichever is greater, for replacement. This bill has passed the House.

SB 22 (S.L. 2011-13) – APA Rules: Increasing Costs Prohibition: Prohibits agencies from adopting rules that result in a financial impact on all persons subject to the rule of at least $500,000 in a 12-month period. This has been signed by Governor Perdue.

SB 709 – Energy Jobs Act: Directs Governor Perdue to create a compact with the governors of Virginia and South Carolina to work toward expanding the search for offshore oil and natural gas, and to lobby for a state share of any revenues generated. The bill also renames the current Energy Policy Council to the Energy Jobs Council, and makes some changes to the membership of that council. A committee substitute passed the Senate Commerce committee on Tuesday, which made several changes to the original bill. First, lawmakers changed the distribution formula to give DENR a larger share of offshore royalties. The money could go toward things such as inlet management projects, channel navigation or water quality management. The committee reduced the royalties for community colleges in order to increase the DENR allocation. The committee also added three members to the Energy Jobs Council, with expertise in wind energy, biofuels and environmental management.

SB 747 – Offshore Wind Jobs and Economic Development: Encourages development of the state's offshore wind energy resources and encourages wind turbine manufacturing facilities to locate in NC. The bill requires utility companies to sign long-term power purchase agreements for 2,500 megawatts of offshore wind capacity by 2017. This bill is currently in the Senate Commerce Committee.

HB 116 – Coastal Wetland Riparian Buffer Grandfather: Allows development of single-family residences to encroach in the current Neuse and Tar-Pamlico River Basin 50-foot buffer under certain conditions. This bill is currently in the House Environment Committee.

HB 415 - Topsail Beach/Nags Head Littoral Rights: States that the owners of Topsail Beach and Nags Head property that abuts lands raised by beach nourishment projects shall keep the littoral rights they possessed prior to the beach nourishment project, including direct access to the Atlantic Ocean. Passed the House in March; currently in Senate committee on state and local government.

SB 428 – Study Consolidated Environmental Commission: Directs the Environmental Review Commission to study the feasibility of consolidating the state's environmental commissions into one full-time commission. This is similar to bills introduced in previous sessions. Currently in Senate committee.

SB 482/HB 623 – ALJ Final Decision Authority: These companion bills eliminate agency authority to make final decisions in contested cases; instead, the Administrative Law Judge's decision would be final. For us, this means that contested cases would no longer come back to the CRC for a final agency decision. Both of these bills are currently being considered in their respective committees.

Nags Head Nourishment
The Nags Head beach nourishment project is moving forward. This project will affect DCM's management of sandbag structures located in Nags Head. You'll be hearing a more complete report on this from Ted Tyndall later this morning.

BIMP Final Report
The Beach and Inlet Management Plan final report is now available for download from DCM's website. The link is located under "What's New" on the left side of the homepage.

APNEP Grant
DCM's Coastal Reserve-National Estuarine Research Reserve Program has been awarded a $27,000 grant from the Albemarle-Pamlico National Estuary Program to conduct an estuarine shoreline outreach and education campaign. The campaign will promote awareness and stewardship of estuarine habitats through hands-on workshops for teachers, decision makers and the public.

Staff News
Raleigh office policy analyst Scott Geis and his wife Gina welcomed a baby girl, Sophie Marie, on April 14. Wilmington District Manager Steve Everhart will retire from DCM on June 1. Rick Carraway, NC Geodetic Survey, has moved into the Morehead City DCM office due to the budget cuts. Rick Carraway and Loie Priddy's names are on the original Inlet Hazard Report that dates back to the 1970's.

CHAIRMAN'S COMMENTS

Chairman Emory introduced May Lucasse, CRC Counsel. Chairman Emory stated the State is in tough budget times and it will affect the Division's programs as well as the CRC schedule. If there are not variances or legal items then we will squeeze the other items into a one day meeting. There will not be a CRAC meeting. We are in the process of reinstituting standing committees. There will be the need for at least one of the standing committees to meet at the next meeting. This will give the CRAC more of a voice in these meetings. By our next meeting we will likely know the fate of the groin bill and depending on how that goes it will dictate how we spend our time over the next year or two.

PRESENTATIONS

Marsh Sill Study Results (CRC 11-08)
Dr. John Fear

Dr. John Fear stated this study was done in response to a CRC request. The Division conducted the study with the participation of many other organizations. We defined a marsh sill for this study as a shore parallel structure. It is made up of two critical pieces. The first is an offshore mound that is used to break wave energy and the second is an intertidal area behind the mound where emergent marsh grows. We wanted to see if the marsh sills are performing as we thought they might. The first thing most important to the property owner and the primary function of the marsh sill is if it protected the shoreline where it was installed. Secondary to that we wanted to see if there were any unexpected impacts caused by the sill that might have cause detrimental or

positive impacts. We also wanted to look at the existing marsh sill General Permit conditions to see if any of them might need revision. We also added a public outreach and public input piece to this project. We wanted to get an idea of what the public thinks about these structures. We asked the homeowners that have sills as well as the adjacent property owners what they think about this method of stabilizing the shoreline. We went out in the field as a team and we visited the sills that have been constructed within the state. There were 27 sites. We feel like we had a good representation of the conditions that sills can be located within the state. At each sill each property team member filled out a questionnaire and surveyed landowners and adjacent land owners. All that data was combined and analyzed and used to come up with the results. We saw sills made up of various materials from oyster bags to granite rock. Granite rock was the most predominant sill material that we observed. We had one sill that was made out of broken concrete. We saw sills of different lengths ranging from a single property size sill of about 95 feet to a sill that was over 1,000 feet long. We also looked at sills in different tide states. We also saw sills of various ages. The oldest sills in the state are going on 10-12 years. The team also saw sills that are brand new. We were able to come up with 10 project findings which are included in the report. The first finding was that the marsh sills did not appear to present a hazard to navigation. This is a good thing to find because the CAMA permits are designed to not cause a hazard to navigation. We also observed that the sills were providing erosion protection to the property on which they were installed. We also found that marsh sills were often combined with other stabilization structures. Of all the 27 sites we saw, 44% of them were associated with another structure. The team found that sills that utilize the gap or overlap design provided better water, fish and other nekton access to the intertidal area behind the offshore wall. It was unclear to the team whether marsh sills caused any erosional impact on adjacent property. While it might sound like a non-finding, it is an important finding. Because of the nature of the study, the team was only afforded a one-time snapshot view of the sills. While we might have seen some erosion on the adjacent property, we couldn't say that it was caused by the sill. From looking at all the data, it did not seem that this was a predominantly problem for marsh sills. However, the adjacent property owner questionnaire showed that 50% of adjacent property owners did think that the sills were causing them problems. Another important finding was after the completion of the field aspect of this project, the resource agencies still desired permit review on a case by case basis. At the end of the project the resource agencies sent us letters summarizing their thoughts and feelings from this project. The Wildlife Resources Commission, Division of Water Quality, and Division of Marine Fisheries all stated very similar things that marsh sills need to be considered on a case by case basis and that the permit review process should remain as it is now. We found that the mound material used in marsh sill construction was often colonized with oysters. You can consider these oysters new habitat and new oyster growth. Oysters are declining in this State so this could be a partial bump up in oyster levels. We found that the marsh sills were supporting marsh grass and did not appear to be creating new uplands. Creation of new uplands was one of the main concerns when sills were first proposed many years ago. The field team did not see this going on in the field. The team also observed that marsh sills seem to be free from damage. The property owner survey results corroborated this. The property owners said that they were very happy with their sills and the only instance where they had to be repaired was one person had to replant their grass after a major storm. The team also did not observe any issues with water quality due to the sill. While we were there the sill had already been constructed and was in the operational phase. I have no doubt that during

construction that there might have been some initial temporary impacts to water quality. The oysters growing on them might actually cause a water quality benefit.

Dr. Fear stated the CRC requested this study. With the new information coming out in the next couple of months, the CRC should have a wealth of information to take into committee and decide what the next steps will be.

Commissioner Weld suggested an ad hoc committee to begin to look at this and try to come up with some suggestions while we wait for the other information. Chairman Emory stated the Estuarine and Ocean Systems Committee will have this as the first thing on their agenda to come up with next steps.

Amendments to 15A NCAC 07H .0312 Sediment Criteria (CRC 11-10)
Jim Gregson

Jim Gregson stated staff is proposing amendments to the technical standards for beachfill projects. This rule became effective in February 2007. This is a very technical rule. The rule has been amended once. In 2008 it became apparent that some of the requirements for seafloor surveys that couldn't be done based on water depth. The rule was amended to not require geophysical imaging of the seafloor in areas that were less than ten feet of water. Based on some recent meetings with representatives from Carteret County, New Hanover/Wilmington Ports Waterway and Beach Commission, as well as two engineering firms that work on beach nourishment projects it became apparent that there were some changes that were needed and need to be done fairly soon to the sediment criteria. These would affect the characterization of borrow areas that are located within navigation channels or existing sediment basins within the active nearshore or inlet shoal complex, as well as offshore disposal areas. The only offshore disposal area affected would be the EPA designated ODMDS off of Morehead City. These are changes that only reduce the amount of sampling. There is nothing in these proposed changes that would increase what the permittees would have to do. A lot of the projects that were formerly only federally projects are potentially having to be taken over by local governments because of the reduction in federal funds. The federal government doesn't have to meet our sediment criteria. For the offshore dredged material disposal sites we are proposing that there only be one set of imagery without elevation that is required. The line spacing for the geophysical imaging should be reduced from 1,000 feet to 2,000 feet. The grid spacing for the actual sediment sampling should be reduced from 1,000 feet to 2,000 feet. Characterization of the material deposited in those disposal sites after the initial characterization of the entire site shouldn't be required if it can be documented that the new material that is removed came from the active nearshore beach or inlet shoal system and if the original two sampling sets are compatible with Section 3(a) of the rule. It would reduce the sampling protocol for federal or state maintained channels that would be expanded to include all maintained navigation channels or sediment deposition basins that are located within the active nearshore beach or inlet shoal system. In these areas only five evenly spaced vertical samples or sample spacing of no more that 5,000 linear feet per channel or sediment basin would be required. That is the existing criteria for removing material from state and federally maintained channels. Swath sonar imaging of the seafloor without elevation or geophysical imaging of the subsurface would not be required. Characterization of the recipient beach would not be required for removal from these

areas and carbonate analysis would not be required. For subsequent nourishment events, two consecutive sets of sampling, with at least one dredging event in between, from these areas could be used for characterization of material if the original two sampling sets are found to be compatible with Section 3(a) of the rule. These changes would be intended to reduce sampling costs for communities where past sampling and/or project history has shown that removal of material from these types of areas has consistently been beach compatible material. It is estimated for the Bogue Banks project that implementation of these changes would reduce the sampling costs by about a half a million dollars. This is a very significant cost savings.

Joan Weld made a motion to send the amendments to 15A NCAC 07H .0312 to public hearing. Renee Cahoon seconded the motion. The motion passed unanimously (Joyce, Simmons, Webster, Wynns, Carter, Weld, Shepard, Cahoon, Elam, Old).

Sandbag Enforcement Update
Ted Tyndall

Ted Tyndall stated back in February we issued 12-13 letters to the most egregious sandbag structures in South Nags Head requiring that the bags be removed within 30 days. It was an effort to get the letters out due to the nature of the ownership. In the meantime, Nags Head took the ball and got their nourishment project permitted and it is now taking shape. They have a pre-construction meeting coming up next week. Several folks with the Division and had conversations with stakeholders about revisiting the sandbag removal. There is a condition on the major permit that says no sand shall be placed on sandbags that are determined to be required for removal according to the rule. If the property owners don't remove the sandbags then they won't get sand. When the dredge and pipeline gets in front of your house there will be an issue about where the sand can go. We ran into this situation down south the property owners were very receptive in getting the sandbags out so they could get the sand along the beach like everyone else. We feel it best to upgrade the number of letters that we are sending out and go forward with removal letters to the entire 52-55 property owners in Nags Head. The Attorney General's office is reviewing property ownership to make sure we have accurate addresses. In the letter there will be language that talks about DCM working with the property owners in the timing and amount of removal of the structures.

Sandbag Stakeholder Meetings Summary Report (CRC 11-09)
Mike Lopazanski

Mike Lopazanski stated there have been a series of stakeholder meetings regarding the implementation of the Commission's temporary erosion control structures policy and enforcement. In 2007, the Commission and the Division of Coastal Management began to prepare to notify property owners of the May 2008 deadline for removal of a large number of sandbag structures. This was based on a prioritization that the Division did looking at the bags least in compliance with the CRC's rules and were an impediment to beach access. Throughout 2008 DCM moved through the enforcement process. Also around this time the Commission was looking at some of the specifics of the rules and how they were being applied in the inlet hazard areas. The CRC made special provisions that expanded the use of sandbags and giving them a longer timeframe as well as allowing them to be used repeatedly based on whether their

community was participating in an inlet relocation project. At the end of 2008, DCM began to send notices of violation to property owners. In 2009, the General Assembly enacted a moratorium on the removal of sandbags in communities that were anticipating beach nourishment projects. While the moratorium was related to enforcing the time limits on sandbags, it didn't prevent DCM from moving forward on acting on sandbags that were in violation of the other provisions of the rules. In 2010, we were looking at the pending expiration of the moratorium. The Commission again decided to direct the Division to enforce the provisions of the sandbag rules. At the same time the CRC requested that Staff engage stakeholders in an effort to discuss how the structures were being managed as well as look for opportunities to facilitate some changes in the implementation of the sandbag policy. We had four sandbag stakeholder meetings. At these meetings a variety of people attended including representatives of the CRC, the CRAC, local government, representatives of property owners, DCM Staff, and contractors. During these meetings we discussed the evolution of the sandbag rules and some of the specific management issues such as the requirement for removal of sandbags prior to nourishment projects, covered and vegetated requirements, and use of other criteria in the permitting and removal of sandbag structures. The group began to refine the issues including how federal flood insurance payouts as well as building standards related to piling depths may be contributing to the problem. Since the National Flood Insurance Program will not pay a claim until there is a loss, there is no incentive for the property owner to remove the structure prior to that event. Requirements for piling depths and the use of sister pilings maintain these structures longer than might be expected under the circumstances. Many of the structures are held by out of state owners or LLCs and it makes it difficult to contact the property owners once the structures are condemned. In most cases is becomes the local government's responsibility to pursue removal once they are condemned and there has been little financial help. There was general agreement that while the focus has been on the sandbag structures protecting the houses, it has been the houses on the public beach that is the core issue. Several people in the group proposed possible solutions that CRC could consider. Some of them involved the technical and specific aspects of sandbag structures such as configuration and installation/removal criteria, alignment and anchoring. There was a proposal for local government management of sandbags. You will recall that prior to 1996, sandbags were permitted under the local permitting program. This proposal would allow communities to be responsible for management of sandbags as part of a locally implemented shoreline management plan. Sandbags would only be allowed if the community was pursuing a beachfill or inlet relocation project under an umbrella permit to the local government. The local government would have this authority once the shoreline management plan was approved by the CRC similar to the static line exception provisions. There would be no time limits associated with sandbag structures as they would be tied to the shoreline management plan. Once a beachfill project is approved, the sandbag structures would no longer be necessary and could be removed. Much of the discussion of this option centered on whether or not the same pitfalls, which currently exist for the state regarding the removal of structures, could be avoided by local government. We heard about an innovative strategy that involved a tax credit in exchange for an advanced agreement to remove a structure. This strategy would utilize a property owner incentive to ensure removal of the structure once it became threatened by erosion. In exchange for getting a tax credit on the value of the property, the owner would obtain an insurance or bond that would ensure the state that the structure would be removed. Under this scenario no sandbags would be allowed since once it became threatened then the structure is supposed to be removed from the

property. There was some concern about how much value the property owner could receive and the limitations of individuals capable of taking advantage of such a tax credit. There were also questions about implementing bond requirements versus escrow. We heard a proposal to address existing sandbag structures that would further limit their use. They would only be allowed in limited circumstances such as to allow time for removal of a threatened structure or when a pending beachfill or inlet relocation project would offer protection. There were also suggestions made for limiting the size and number of bags to prevent the creation of seawalls and requiring restoration of the oceanfront lot and daily penalties for exceeding time limits. The group heard other suggestions for management of existing sandbag structures including tying continued use of sandbags to the viability of the structure being protected such as a Certificate of Occupancy. There is interest in looking at the financial responsibility for sandbags to be incorporated into the deed, talks about reconsideration of the dimensional requirements after installation, requiring that property owners keep sandbags covered with sand, and allow sandbag installation contractors the ability to experiment with sandbag dimensions, methods of placement and anchoring to secure alignments within permitted dimensions. The group discussed the need for financial assistance and what may be available for property owners and local governments to remove structures. The Upton-Jones Amendment to the Federal Flood Insurance Program was cited as having been an effective measure to achieve removal of the structures from the beach. The Texas Open Beaches Act was also mentioned as a successful program where cash payment is made to the property owner for removal of structures. The Hazard Mitigation Program was also seen as an option to assist local government with structure removal. You will recall from the February meeting that there was a presentation on this program and interest was expressed in submitting an application to FEMA for the removal of structures. The possible solutions for the management of sandbags and the implementation of the temporary erosion control measure policy focused on community management, tax credits, refinement of rules, cash payments, private salvage efforts, as well as possible help form the FEMA Hazard Mitigation Program. There was general agreement that the issue ultimately has fallen to the local government as has been seen in the Town of Nags Head. There was interest expressed by some in drafting rule language that would address the community management idea however; there was concern of a potential conflict with taking steps to change the rule while there were ongoing enforcement actions to remove sandbags. Since many of the properties subject to ongoing enforcement were unlikely to benefit from a potential rule change because they are on the beach, this may not be that much of a problem. These potential solutions are being forwarded to the Commission for consideration in the management of sandbags and the implementation of the temporary erosion control policy.

Chairman Emory stated the Ocean Hazard Area Committee will take this report and further discuss the options.

National Flood Insurance Program – Community Rating System
Berry Williams, Williams & Associates

Berry Williams stated that in the 20 coastal counties there are 47 communities that's citizens hold a flood insurance policy saves six million dollars per year in the premiums that they do not have to pay. This is a result of the efforts undertaken by local governments and some state agencies, including the Coastal Resources Commission's rules and regulations that have been

adopted and enforcement procedures that have been set in place. Two and a half years ago we adopted a strategic plan to look at the entire Community Rating System to see if the things we are doing are achieving the goals that have been set out for the program. We are looking at all 18 activities where local governments can receive credit. Not all changes will help every community. We will probably reduce credits in some categories. In June we are going to look at the value of rate reductions that we give for every activity and every element within that activity. There are three goals (1) reducing flood damage to insurable property, (2) trying to strengthen the insurance aspects of the NFIP to make sure that the rates are equitable, and (3) encourage a more comprehensive approach to floodplain management than we have seen in the past. The CRC helps do that in a number of activities including the planning that you have local governments undertake. There are 500 points needed to move from one class to another in the current system. There are 10 classes. If you are a Class 9 community you have score at least 500 points and properties that are in a special flood hazard area the policy holders receive a 5% rate break. Class one is the best and we do not have a community at that level in North Carolina. There is one nationally and that is in Roseville, California. There are a little over 1,100 participating communities in the country. In North Carolina, there are nine communities in Class 9. There are 27 Class 8 communities. There are seven Class 7 communities and five Class 6 communities within the twenty coastal county area that comes under CAMA. There are no Class 1 - Class 5's. When you look at the way coastal communities get their credit, you can see that the highest percentage of the communities get that credit by providing a map information service. They are helping local citizens, lenders, insurance agents, and others understand the flood insurance rate maps and what the risks mean (worth 140 points). This credit will go down. Coastal communities in North Carolina should still do very well because of the new provisions we are writing in to help. Open space preservation is the next highest category. In the future we will increase the credits available in this category, in part, because of climate change and sea level rise. The next highest category is storm water management. After that it is higher regulatory standards. In North Carolina, more than 80% of local governments have adopted freeboards (building higher than the base flood elevation provided by FEMA). There are 18 activities and they are grouped under four series (1) public information, (2) mapping and regulations, (3) flood damage reduction and (4) flood preparedness. Public information provides information to your citizens about the risks and things that can be done to minimize the risks in the future. North Carolina communities are going to lead the nation in the mapping/regulation category because of the state's mapping program. We have been in a series of meetings with State about the current program and that is going to drive some changes in how we score things in the National Program. Flood damage reduction includes both floodplain management planning, acquisition and relocation. Flood preparedness changes will have little impact in North Carolina. North Carolina engaged in updating its mapping and taking ownership of the maps after Hurricane Flood due to all of the flooding. We clearly realized what poor quality the maps were. With the open space preservation, if you have a problem in that you have buildings that were built and you build them to a higher standard then you get more credit. The biggest benefit at reducing flood loss really comes from leaving the floodplain open. You will see that in the new rating system these points may double. You will find if you look at the planning process you will see that it mirrors the process that the CRC has laid out. Communities can score pretty well in the state but the big deficiency seems to be not having the level of public participation in the planning process that we credit. If the CRC ever looks at these rules again then you may go back and look at the Community Rating System to see how credits are given. Habitat

conservation plans are worth 10 points if a community has one and it includes certain items. We have some conservation habitat plans in this state that have not been credited yet because the local government hasn't shown them to the office specialist that comes to visit them but we are going to correct this. In the new rewrite which will come out in 2012, you will see that we will substantially increase these points. For acquisition and relocation after Hurricane Floyd we moved between 4,500 and 5,000 buildings out of the floodplain in this state. Those local governments can get quite a bit of credit for that. We have one local government that is a Class 5 community because so many buildings that were moved that it automatically became a Class 5 community. Coastal communities tend to score pretty well with the flood warning and emergency operations. The biggest deficiencies have to do with how emergency operations plans are written. We have identified in our hazard mitigation plan the kinds of problems that we could face for the facilities and people that will need help, but then when we look at the operations plan we don't see how we are going to deal with it so it doesn't score very well. When it comes to hazard mitigation planning and floodplain management planning we are going to move to doing a content analysis. We want to be crediting implementation.

The first thing that we need to do from a coastal erosion standpoint to get credit is that we need to map the erosion rates. Local governments in North Carolina, because of the work that the CRC has undertaken, receive 50 points without any impact adjustment. If you had just drawn a line on a map and said that you measure from this line, that would not be as good in our view and we may only give half as many points. There are some states that do it that way, but I encourage you to keep the process that you have now. Open space credit in the coastal area. We give credit for the area that is preserved between the dune and the sea. We don't give credit currently for any area that is behind there. Seaward of the dune you can get open space credit. The area behind the dune would not get you any credit. We are getting ready to change that. Areas behind the dune are the areas where all of the buildings are located. If we could encourage folks not to build there, or to build to a higher standard and leave more open space in the parcels, the fund would benefit the disaster program because we wouldn't pay as many disaster losses. We are looking to give substantially more credit. Your coastal regulations for setbacks and setback revisions are also credited. Thirty points is given now. With the new scale that the CRC has adopted we could give more than 30 points, but I would have to work with each local jurisdiction to see the permitting pattern in order to adjust the score. You require that the buildings be setback at least 60 feet and it is 20 points for that. If you require substantially improved buildings to meet the erosion setbacks then it is an additional 15 points. If the building is substantially damaged and the new building must meet the setback standard then it is another 15 points. When a building becomes threatened and you require it to be removed and the court upholds the provision in your regulations then we will give every coastal community in North Carolina 75 points. FEMA doesn't like hardened structures. They give credit if hardened structures are prohibited. I am glad that you are moving forward on the sandbag enforcement provisions. There has been some discussion about taking away the 50 points from North Carolina communities because there has been no enforcement. If a building has to be setback, even if it is an accreting area, you can earn 25 points and the CRC has this provision in the state. If a local government has regulations prohibiting vehicular or pedestrian traffic across dunes then we give credit for that. For prohibiting building seaward of existing buildings along the oceanfront there are points available. The frequency of updating the shoreline erosion rates is important. Local governments in North Carolina have been getting 10 points. But since the CRC

did not update on a five year cycle, we have now been taking the points away. There is some discussion of changing the frequency to 10 years. The current standard is five years. The maintenance of the beach nourishment projects that are going on is very important and we give credit depending upon the level of protection that those nourishment projects provide. After Hurricane Katrina, we had an opportunity to go back and look at the buildings that were damaged. After Hurricane Floyd some of us went out and did a study for FEMA to talk about rates. We changed the Community Rating System to give a community up to 650 points if it will require buildings in the zone behind the V Zone to be constructed up to V Zone standards. We are now getting communities that are adopting these regulations because they are now showing up on the flood insurance rate maps as new studies or done. At the end of this year or next year when you get your preliminary maps for the coastal area you will see this new zone called a Coastal A Zone. This is the area between the V Zone, which is bounded by a three foot breaking wave, to an area that they have mapped further inland where you have a 1 ½ foot breaking wave. In that area if you regulate to V Zone standards then you can receive a substantial amount of credit. It used to be that even though the regulation said that you only get 650 points, communities were only getting ten percent of that because there was a default value. Now, we have changed that and now the average community with these regulations is getting 245-265 points. That is half a Class. A couple years ago, FEMA started a series of studies looking at climate change and at the frontal dune regulations and the Coastal A Zone. Out of the studies, they said that they did a much more extensive analysis and we really need to be concerned about an area further back than the Coastal A Zone. The proposal out of the study is to divide the Coastal A Zone into three areas. Eventually you will see these on the map. The Community Rating System is going to do something in advance of this. In the January manual that comes out you will see that we are going to provide credits for all three of these areas and we will have building standards for all three of the areas. The credits in these areas will be substantial for the local government if they adopt them. After FEMA maps these areas, different insurance rates will be established for these three zones. FEMA has a climate change study underway on its own but it isn't released yet. As far as the CRS was concerned, we said that we need to move ahead because we want to put out a new manual in 2012 and cannot wait on the FEMA study. We have gone back and looked at various studies to see what the CRS can do to encourage better development. We have not tried to debate the science. We looked at the likely effects that will occur and what should we do about it to encourage a change in behavior in how people build. Increased flooding, damage to our natural features, and coastal erosion are the big three effects to coastal areas. We set three goals (1) encourage local governments to find and use the best available data for their jurisdiction, (2) educate their citizens about changes that are coming and (3) undertake mitigation actions to help reduce future flood risks. We set certain actions in each case. We are looking at creating a website to assist local governments with this process. We are going to add credits to the program for communities that educate their citizens about climate change and sea level rise. You can expect that the current credits for freeboarding will increase. A jurisdiction can now get up to 300 points. That may go up to 500 in the new manual. One of the problems we continuously see is enclosures. We have substantial credits for buildings where local governments prohibit enclosures or limit the size of enclosures. You can expect that these credit points will increase. We want to see better planning when it comes to infrastructures. We want communities to look at future floodplains and making decisions about whether it is a good place for infrastructure that encourages development. Some communities are doing this. We want to encourage communities that adopt open space provisions based on future conditions are

given credit. Communities that have rules that protect the natural and beneficial functions of floodplains can get 25 points. This will go to 250 points in the new manual. The emphasis is on trying to get communities to think about what the future may look like. The NFIP has limitations that maps are based on current conditions. We need to move beyond that and this is one way of doing it.

PUBLIC INPUT AND COMMENT

There were no public comments received.

PRESENTATIONS

2011 Draft Erosion Rates 15A NCAAC 07H .0304 (CRC 11-11)
Ken Richardson

Ken Richardson stated we received an e-mail in January that advised that communities needed points to apply to the Community Rating System. That made updating the erosion rates a high priority for the Division. This will mark the sixth update study that the Division has done since CAMA was enacted. The current rates became effective in 2003. We try to update the rates on a five year cycle, but we are a little overdue. This method was the same as we have done with all the erosion rate updates by applying the end point method. The rate is the measurement of distance between the two shorelines divided by the time between the two shorelines. To do this you need two shorelines and one transect. You need an early shoreline. You need a recent shoreline, and in this case it is the 2009 shoreline. You need a transect which is perpendicular to the trend of the shorelines. The required data is a transect and the two shorelines. The transects are spaced 50 meters apart perpendicular to the shoreline. They are consistent with previous studies because they are the same transects were used in earlier studies. The early shoreline is a composite of National Ocean Survey Topographic (NOS T-Sheets) and early photography. The current shoreline is the 2009 wet-dry line that we pulled off of aerial imagery that was supplied by the USDA National Agricultural Imagery Program. This imagery was taken during the summertime. The early shoreline is a composite. The NOS T-Sheet shorelines are a variety of shorelines starting in 1933 and 1952. We did not have a set of T-Sheets for 1933 for the entire coast so we had to take what was available. The spatial extent was from the South Carolina/North Carolina border to approximately Nags Head. In the previous study we were trying to get 50 years in between current and early shoreline to meet the long-term definition. The imagery that was used came from the Army Corps of Engineers. Most of that imagery was 1940 from Nags Head to the northern end of Corolla. 1962 photography was used around certain parts of the National Wildlife Refuge. When we use imagery to define the shoreline we use the wet-dry line. The wet-dry line is where the wet sand ends and the dry sand begins. Each transect has a value. The way we smooth the raw data is a 17 point running average. We take 17 transects, average those values, and get a smoothed rate. Blocked and smoothed data is the same as the setback factor. There are several rules that are applied to get blocked data. For erosion rates that are less than two feet per year they receive a blocked default value of 2. We group liked segments based on the mean smoothed rate. We prefer to take blocked segments and transition to the next one at one foot intervals where feasible. We would use a minimum of eight transects to block when you have a rapid increase in numbers, such as when you approach an inlet. If a transition boundary splits a single-family lot, that boundary is slid towards the higher rate to give the property owner the benefit of the lower rate. If it splits a larger parcel or multi-

family parcel, we slide the boundary between the structures themselves giving that structure the benefit of the lower rate. At inlet hazard areas, as per the rule, blocked rates are applied into the inlet hazard area. For the most part, either rates stayed the same or they dropped a little bit. As you get into areas like Nags Head you have some fluctuation where in some places it was 3.5 feet and now it is 2.5 or 4.5 feet. There were 307 miles analyzed, 103.7 miles was actual accretion. Staff is recommending approval of the report and the results of the erosion rates. Public hearings will be held in the eight oceanfront counties. We are working towards having the rule adopted by the October 2011 meeting, however with the new requirements for rulemaking, it may make this projection a little bit more difficult.

David Webster made a motion to approve the erosion rate report and send 15A NCAC 07H .0304 to public hearing. Melvin Shepard seconded the motion. The motion passed unanimously (Joyce, Simmons, Webster, Wynns, Carter, Weld, Shepard, Cahoon, Elam, Old).

Chairman Emory stated that staff should let the CRC know the schedule for the erosion rate public hearings so Commissioners can attend in their area if they are able to attend.

Implementation of Beach and Inlet Management Plan
Steve Underwood

Steve Underwood stated this is a big deal not only for the Division of Coastal Management but also for the State as well. I honestly think this Plan is going to create the new beginning for how North Carolina manages, funds and environmentally reviews projects on our state. I am so proud to be a part of these effort. The timing in my opinion is good as it brings good news from DENR in the midst of all the bad news that is being cast out there. More importantly with the very limited dollars that are available, it helps outline one way for the state to spend some of its money to get the highest return on that investment. This promotes a strong economy and a healthy environment. This BIMP is the state's first comprehensive Plan for its 320 miles of coast and its 19 inlets. Originally, the BIMP began as a joint project with the Division of Water Reources and our Divisions, but now DCM has taken the lead role in implementing this Plan. DWR was responsible for securing the original funds through appropriations from the General Assembly. DWR then contracted Moffatt & Nichol to help develop the BIMP. Eventually the USACE is going to need to play a role in implementation as well. They have a similar program called the Regional Sediment Management Program which has very similar ideas and goals related to managing sediment on a regional basis and working on reviewing projects with a Programmatic EIS. Together we can also work on the funding needed for true implementation of our respective programs. The Wilmington district will be getting a new colonel in July, so we will make sure we brief the new colonel on the BIMP and also sit down with the outgoing Colonel Ryscavage on his thought and ideas on these efforts. The BIMP is posted on our website. We also have a limited number of CDs available. You will notice on the CD that it has all the Adobe pdfs to choose from, but they are listed in alphabetical order and not in the order that you will see on the website. If you want it displayed as it is on the website then there is a link to the BIMP Final Report on the CD as well. The legislature appropriated funds for the BIMP because the realized the need for as systematic management strategy for North Carolina's

326 miles of oceanfront barrier islands and 19 active tidal inlet complexes. The BIMP is also a culmination of past efforts, legislative actions, and studies and recommendations and they all needed to be combined and implemented. We know that North Carolina's barrier island populations have continued to increase and demand for those resources are greater than ever. The demand for cost of shoreline and inlet management projects have increased and we have outgrown the financial foundation that we now have in place. We need a long-term plan and a way to pay for it. Without one, the state will lost business and cost the state income. We need to do more shoreline management and not crisis response. We need to keep making investments that create jobs. We need to show that we can afford our commitments. Comprehensive planning leads to better natural resource protection. This program can drive innovations. The BIMP has three primary objectives. The first begins to comprehensively evaluate the condition of the state's beaches, quantifies the socio-economic values of our beaches, and provides estimates of the total and annual costs of beach maintenance. By doing this it provides necessary starting point for the funding analysis and recommendations. This is the first document that attempts to pull the economics and costs in one comprehensive document. However, this strategy is more than just a plan for funding beach nourishment. It is about the importance of the state having numerous options for management strategies to help address ongoing challenges to coastal erosion, accelerated sea-level rise, shifting shorelines, and storms. The second thing the BIMP does is to divide the North Carolina coast into four regions and five subregions. These regions reflect physical distinctions along the coast and generally coincide with established political and jurisdictional boundaries, providing framework for development of regional funding strategies. The obvious advantages include planning projects regionally allows for an efficiency of scale which can reduce the costs associated with individual projects; the potential to save time and reduce costs if the environmental, geotechnical, and monitoring studies for similar projects are combined, and voiding individual local governments competing for the same resource. The third objective is the BIMP supports the need to develop a stable funding mechanism to support the state's shoreline management and beach restoration programs. A stable source of funding for coastal communities could help facilitate long-term planning and establish a predictable local match. Establishment of such a fund would reduce financial uncertainties at the local level that often contribute to project delays, cost increases, and the disruption of local planning efforts. A program of reliable and predictable state funding would better position coastal communities in allocating new or existing sales or property tax revenues to coastal projects, knowing the state was committed to a share of the project. We want to develop a smaller version of the BIMP. We want to disseminate BIMP CDs along with a cover letter from the DENR Secretary, DCM Director, or CRC Chairman to the Congressional representatives in DC and select General Assembly members and some of the original sponsors of HB1840. We want to hold meetings with local governments in all BIMP regions to discuss funding criteria and ideas for a permanent fund. We want to have meetings with the Division of Water Resources to discuss funding criteria. There should be discussions with CRAC and newly formed subcommittees. We should pursue grant opportunities for implementation form Coastal Services Center and Projects of Special Merit. We should also support coastal communities that have already initiated some of the BIMP recommendations. DCM is part of the PEIS process for Bogue Banks. Because of this work that we are doing with them it has also led to the changes to the sediment criteria. The Department requested money to assist Bogue Banks, but it fell through. Another example of BIMP concepts being implemented on the ground is the Wilmington-New Hanover Ports, Waterways and Beach Commission for the process they use of local control through a

coordinating body, and a dedicated funding source in the form of a local occupancy tax. There are a couple of examples we should continually support and recognize and learn from. The CRC and CRAC have a very long-term track record on having a forward thinking mindset. Support from our North Carolina citizens, including the legislature, is especially critical. The state can't do it by itself. We will see how well it gets implemented, but I look forward to that effort and putting this document on other people's desks and generating some positives for the public and the legislature to consider. We can't afford to let this moment and opportunity pass. An opportunity now exists to reopen the dialogue concerning the adequacy of the state's existing shoreline project funding programs and management strategies and to reconsider the previous attempts to create a dedicated state fund for coastal projects and we continue to ensure that our natural resources are protected.

Chairman Emory stated at the next meeting there should be a review of what is in the BIMP. Just a bulleted list and simple statements without a lot of detail will be provided as a reminder to Commissioners. This bulleted list should also be available to local governments.

Progress on Sea-Level Rise Policy Development
Tancred Miller

Chairman Emory circulated a letter received from the Carteret County Board of Commissioners. The Board had expressed great concern with our original draft policy. This letter expresses their support for the changes that were made at the last meeting.

Tancred Miller stated this letter from Carteret County is representative of the general tone since the CRC has made the changes to the draft policy. There have been a few meetings with local governments since then with North Topsail Beach, Southport, and a regional meeting in Dare County. There was a lot of satisfaction with the direction the Commission has gone with the draft policy. A couple of folks said that maybe the Commission had gone too far in the other direction, but that is reflective of the CRC's approach that this policy is about education and conversation. The Science Panel met about a month ago and they looked at some of the reviews, critiques, and criticisms that have come out on their report. They take them very seriously. There was a lot of discussion and they have expressed a desire to strengthen their report. They also expressed even more confidence in the one meter planning benchmark. We have not had a lot of requests from communities to come out and speak about the policy, so we will offer two or three more regional meetings and then move forward with a decision on whether or not to move forward with rulemaking. The real value in these meetings has been the education.

Determining the Socio-Economic and Environmental Impacts of Sea-Level Rise to Bogue Banks, NC
Jeff Allenby, Duke University

Jeff Allenby stated he is a Masters student at Duke University. This presentation is part of a GIS based model of sea level rise on Bogue Banks based on the state's estimates of .381 and 1.4 meters. The study area used was Bogue Banks. There are four incorporated towns and one unincorporated town on the island. Each of the towns have exercised the ability to make their

own CAMA land use plan. There are two types of barrier islands. The regressive barrier island which is historically been building out into the ocean. Transgressive barrier islands have lower elevation and migrate landward. Recently, the entire island has been experiencing erosion counteracted though beach nourishment. I created a GIS based tool that modeled the effects of sea level rise on Bogue Banks. Most existing models focus on the issue of coastline retreat, however my model also addresses the issue of sound-side inundation. After the at-risk areas were determined on both sides of the island for each of the official sea level rise scenarios, they were combined with county tax maps to determine the number of properties that would be affected, the acreage impacted, and the potential loss in tax base for each of the towns. These totals were calculated based on sound side inundation and shoreline retreat and then combined for a total risk for each of the sea level rise scenarios. It is important to know that the erosion rates used in this analysis are based on 2004 DCM data. The model I used for the shoreline retreat was based on the Bruun Rule which is a method of thinking about shoreline retreat. It also incorporates the amount of existing erosion. The tool calculates the base of the active beach profile and determines the length of the profile and the height of the profile. From these values, in addition to the existing erosion rates, retreat rates were calculated for each of the points and then connected to form the new shoreline. Areas at rist to inundation were calculated by identifying all of the land with an elevation below the estimated amount of sea level rise as well as the area that would be inundated by an average astronomical spring tide. This land will be at risk to wetland conversion and will cause other problems for development. The western end of Emerald Isle shows limited coastline retreat and estuarine inundation due to it higher elevation in the low scenario. Emerald Isle also has a history of beach nourishment which partly explains the low rates of erosion. With one meter of sea level rise more properties along the front row will be affected, however there is not much of a change on the estuarine side in the extent of inundated land. There is a higher percentage of the affected land that will be permanently inundated. The high scenario shows an increase in properties affected by coastline retreat, however the extent of inundation still does not change much. Almost all of the land affected will be permanently inundated. The Eastern portion of Emerald Isle shows very similar changes. There is not much shoreline retreat in the low scenario. The one meter scenario shows limited erosion and no change in the extent of inundation. There is an increased amount of permanently inundated land. The high scenario shows significant shoreline retreat and almost all of the inundated land will continuously be underwater. There was not a significant change in the amount of land effected on the sound side. For Indian Beach and Salter Path there is a substantial amount of shoreline retreat including a number of large multi-unit buildings. There is a very limited amount of inundation on the sound side of the towns for the low scenario. For the one meter scenario there is an increased amount of retreat as well as a substantial amount of temporarily inundated land. Of particular concern is that a large portion of this land consists of a mobile home park. In the high scenario, a large portion of the back side of the island will be inundated regularly and the new shoreline will be about equal to the primary vegetation line. With this decrease protection of the dune system, the entire island could be at risk of overwash and the island could transition to a transgressive barrier island, much like Atlantic Beach. For Pine Knoll Shores in the low scenario, shoreline retreat will be an issue for many front row properties in Pine Knoll Shores. Inundation is concentrated within the Roosevelt Natural Area and almost no residential areas will be affected by it. The one meter scenario shows almost the entire first row of properties affected and some second row properties. Inundation is concentrated within the Roosevelt Natural Area. Some residential properties will also be affected. The potential for overwash and flooding of

Highway 58 is fairly high in the western portion of the town. The high scenario will affect a large portion of properties along the coast and inundation will permanently flood a large portion of the natural area including the aquarium. A number of interior residential properties will experience periodic flooding that could significantly impact zoning and septic tank permits. The difference in the effects of sea level rise on transgressive barrier islands, such as Atlantic Beach, is immediately apparent with large portions of the back side of the island, including large development, being affected by inundation. Due to the amount of beach nourishment Atlantic Beach receives, it will not be affected by coastline retreat in the low model. In the one meter scenario, inundation will affect a significant portion of the town including a number of areas that are not currently considered at flood risk. This inundation will include the entire Causeway coming to Morehead City. This is one of the main evacuation routes off of the island. Coastline retreat is still negated by beach nourishment, however the future coastline is about even with the current coastline in places and some properties on the far eastern and western sides of the town will be affected. The high scenario sees large portions of the island, including a large number of developments and the causeway to Atlantic Beach, permanently flooded. Coastline retreat will also negate nourishment efforts causing properties to be at an increased risk. There is a threat of inlets breaking through the island in a number of places where inundation and coastline retreat meet. The socio-economic effects of sea level rise will be significant to Bogue Banks with between $1.67 and $4.36 billion dollars of property value being at risk and thousands of property owners having to make important decisions about how to manage the effects of sea level rise. Even in the low scenario, which is a direct extrapolation of the historic rate of sea level rise, will cause extensive damage on the island causing a drastic loss in tax revenue for the island's communities and the county. Due to its low elevation and the slope of the coastal plain, much of eastern North Carolina will feel the effects of sea level rise. Wetlands will migrate into land that is now dry, causing a number of zoning issues. Septic tanks will have a higher rate of malfunctioning with a higher water table, which has the potential to release raw sewage into coastal ecosystems. Flooding and storm surges will affect properties that were previously safe and cause insurance and zoning issues. Finally roads may become impassable due to higher sea level and the issue will not be whether or not they happen, but the extent to which they will happen.

Sea Level Rise and Marsh Migration – High Marsh
Dr. Bob Christian, ECU

Dr. Bob Christian stated this discussion will be about sea level rise and marsh migration. Carolyn Currin spoke at the last meeting and focused on the low marshes. This discussion will focus on the high marshes. High marshes are irregularly flooded. In a tide like you would have with a strong astronomical signal, you have the movement of water back and forth and generally in the summertime it stays in the low marsh and then moves up into the high marsh on spring tides or storm tides. In the summertime in Pamlico Sound it doesn't penetrate to the high marsh except during a major storm or a hurricane. In the wintertime you will have the same picture with a few more incursions into the higher marsh. You can have the high marsh flooded for days, weeks, or months in the winter. The patterns of flooding are very different. One of the things that is important in these marshes is that the sediments are trapped by the marsh as the water moves across the marsh. If we think about how marshes stay up with sea level, the only reason we have marshes today is that for the past thousands of years they have been able to keep

up as sea level has risen since the ice age. There are two primary ways that marshes keep up with sea level. The first is the deposition of sediments. The second is the development of organic matter falling onto the surface and become peat or the organic component of the soil. Because in the irregularly flooded marshes you don't have a lot of sediment coming in, the primary mechanism for the development and the elevation increases in the high marsh are due to plant processes. We have a different mechanism which dominates how these marshes can keep up with sea level rise compared to the low marsh. If you look at a transect from the low marsh to the high marsh to the upland, you find that the organic matter in the soil is much more prevalent in the high marsh than in the low marsh. If you look at spartina alternaflora as you decrease the amount of flooding from the edge it grows better on the edge and then gets worse as you go inland. If you are talking about sea level rise then you are increasing the amount of inundation of the marsh and are improving the production of the marsh. Does the high marsh act in the same way? The jury is out on that. A lot of the models about how marshes move and grow are based on spartina alternaflora and not what it happening in the high marsh. This is one of the complications of what we don't know. If a marsh is moving up and the upland isn't, the marsh is likely to move over the sand. The migration part of the story of how marshes move inland depends upon the slope between the marsh and the upland. If you have a steep slope the marsh stalls. The migration of the marshes also depends on the kinds of plants that are there, the soils, hyrdrogeomorphology, and the human activity near or on the marsh. When we talk about marshes that exist along the edge of a stream a lot of the migration occurs in pushing the stream upward. With sea level rise we push inward and lengthen the stream with marsh. A fringe marsh when moving up also moves across the landscape. At the outer regions of Pamlico Sound there is nowhere to migrate. Marsh moves up and erosion is always occurring so you end up losing the marsh. Barrier islands are susceptible to erosional forces by storms and hurricanes. Portions of the barrier island complex can disappear rapidly.

NC Coastal Reserve Education Efforts (CRC 11-12)
Scott Kucera

Scott Kucera stated I am the Education Coordinator of the North Carolina Coastal Reserve and National Estuarine Research Reserve. The CRC has identified estuarine shorelines and sea level rise as priorities for observing, understanding, and managing North Carolina coastal systems. These management issues are also priorities in the management plan of the NCNERR. Education is a key aspect of coastal management and managing coastal resources. Citizens who are informed about coastal issues will be prepared to make better decisions that could impact the resources. The North Carolina Coastal Reserve is one of 28 Reserves within the NERR system. Our education section is guided by the broad goals of the National Reserve system. Number one is to enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education, training, and interpretation. Number two is to conduct and coordinate estuarine research and gather and deliver information necessary for improved understanding and management of these estuarine areas. I collaborate with my colleagues in the research and stewardship sections to collect and analyze data, engage the audience with issues and inspire responsible actions that affect coastal communities and ecosystems. We also work the Division policy and regulatory staff. We develop messages and programs that support their activities. The North Carolina Coastal Reserve has a staff of four in the education section, including one in the coastal training program. We target three main audiences. The formal

education audience includes kindergarten through college students and teachers. The informal education audience includes families, civic groups and the general public. The decision maker audience includes professionals dealing with coastal issues, such as elected officials, planners and resource managers. The majority of the education programming takes place here in Beaufort, but we are working to expand our activities in the southern and the northern regions of our coast. We offer a variety of programs and activities to reach a wide audience. Site visits and guided field trips are popular with the general public as well as teachers and their students. During a field trip, the guide introduces the site and gives a brief background about the designation as a reserve. These protected, natural areas also make excellent outdoor classrooms where participants can observe a variety of estuarine shorelines, witness ongoing shoreline erosion and see representative flora and fauna. Indoor classroom activities expand on concepts and fundamentals of physical and biological sciences. All of our formal education programs are aligned with the North Carolina standard course of study for science. We offer outreach programs to schools that cannot travel to Reserve sites. The informal education audience includes families with children and civic groups.Site visits and outreach programs are offered throughout the year to teach about our estuarine areas. The third main audience is coastal decision makers. Elected officials and professionals attend the highly effective workshops in our coastal training program to learn about a range of coastal issues such as sustainable development and water quality in the estuary. Each year we are reaching a wider audience ranging from pre-kindergarten to senior citizens through a variety of educational programs. I want to focus on three specific issues that we address in current programs and that will be a significant part of future program development. These are climate change, sea level rise, and estuarine shorelines. The reserve education section has a spectrum of programs and activities that already incorporate these topics. We are developing new products to create awareness and understanding. The DCM recognizes the importance of sea level rise and estuarine shoreline as part of a comprehensive management strategy. These topics are also a priority at the NERR system which is beginning a climate change initiative strategy in the next fiscal year. The goal of this initiative is to understand, mitigate and adapt to climate change impacts on estuaries and coastal communities. Existing reserve funding, staff and programs will focus on carrying out this initiative and we will seek partnerships and other resources to implement the strategy. One proposed goal is to establish a network of Sentinel Sites for climate change impacts on coastal habitats. The focus will be on the impacts of sea level change and inundation on emergent and submerged vegetation. The Rachel Carson Reserve was selected as one of five Sentinel Sites in the nation because the data collection infrastructure was already in place. Our staff and the research, education and stewardship sections will collaborate to interpret this data for the target audiences. This scientific data presented in engaging programs will help create awareness and understanding of climate change impacts on the estuary system locally and across the nation. Reserve educators from around the country are collaborating on projects that deal with climate change. We are writing a middle school science curriculum that includes climate change education in each of ten principles about estuaries. At the North Carolina Reserve we are developing a new sea level rise curriculum that includes GIS mapping and we are collaborating with local middle schools to host a climate change student summit next year. These new tools and collaborations will be incorporated into future programs at the North Carolina Reserve sites. The Albemarle-Pamlico National Estuary Program recently awarded the reserve a $27,000 grant to teach the value and function of estuarine habitats, how these habitats may be affected by sea level rise, and alternative methods of estuarine shoreline stabilization. This campaign will

incorporate the various resources and activities that DCM staff has already been working on with respect to estuarine shorelines. We will utilize the data collected in the CICEET project that was presented to the CRC previously by Dr. John Fear. We will also refer to data from the estuarine shoreline mapping, the marsh sill assessment project, and the estuarine shoreline vegetation monitoring. The latter is a part of the Sentinel Site here in North Carolina. Our education staff will use this information to develop engaging workshops, trainings and field experiences that explain the estuarine shoreline in the Albemarle-Pamlico region. The deliverables generated in this grant will also be used with central and southern regions of our coast in the future. This grant award gives us an opportunity for the first time to address all three of our target audiences on the same topic. This will serve as a model for future education efforts. Through the Division's efforts to address sea level rise, it has become clear that education is a necessary step to increase the public's and coastal decision maker's understanding to support policy changes related to planning. Division staff will utilize the sea level rise scoping survey and the APNEP Climate Ready Estuaries survey to develop messages and strategies for raising awareness about sea level rise. These efforts will be coupled with the National Reserve system's climate change initiative strategy to understand, mitigate and adapt to adverse changes in the estuary system. Climate change, sea level rise, and estuarine shorelines are complicated, scientific phenomena. If we want to engage our audience and effectively teach these issues then we need a trained staff that is able to communicate these complex ideas. Our programs need to make it easy or to facilitate so the audience will understand how they can make a difference. The education staff has a network of professionals to work with and gain insight from. Education coordinators from other Reserves collaborate on training and workshops. Our CTP coordinator completed an online workshop series on communicating climate change. NOAA, the National Parks Service, USGS, and other national agencies have many resources and opportunities for training. In the fall we will take part in a climate change communication training that is offered by the North Carolina Aquarium at Pine Knoll Shores. These networks and other resources will enhance our staff capacity to deliver an effective and robust message on climate change, sea level rise and estuarine shorelines in North Carolina. In conclusion, I would like to tell you about a recent guided field trip in the Rachel Carson Reserve. Our education specialist was leading a group of about 20 adults and children. A kayak was taking a break on the Reserve and as we passed she asked if we were from the Aquarium. After an explanation of who we were she said that she was not aware that we offered education programs. We have a dedicated staff that reaches thousands of participants each year. They are effectively teaching about the importance of estuaries and how we are connected to them. I plan to do more to create awareness about our program. As we focus our attention on the priorities of DCM and the National Estuarine Research Reserve system, our highly trained staff will incorporate climate change, sea level rise and estuarine shorelines into our existing programs. We will develop new opportunities to engage our audience by interpreting and facilitating awareness and the impacts on our estuaries.

Sea Level Rise Education and Outreach for Coastal North Carolina (CRC 11-12)
Casey Dziuba, Duke University

Casey Dziuba, Nicholas School of the Environment at Duke University, stated I am a second year Master's Student at Duke University. For my Masters project I worked on Sea Level Rise Education and Outreach for Coastal North Carolina. I am sure everyone here is familiar with sea

level rise, however not everybody is. Sea level rise falls under the category of what are known as global, environmental problems. These tend to be more difficult to understand than other environmental issues due to their nature as a long-term process, the fact that they are abstract and contain some degree of uncertainty which the general public tends to have trouble understanding. North Carolina is ranked as extremely vulnerable to sea level rise due to its low lying elevation, gradual slope, barrier islands, and high rate of erosion. Sea level rise presents a number of impacts including coastal erosion, inundation and damage to property. The studies that I have read have said that about seven billion dollars in property is considered at risk from sea level rise in North Carolina. The CRC's draft policy on sea level rise advocates from public education on sea level rise. As part of my Masters project at Duke I worked on an educational section of the Division of Coastal Management's website and created an educational module for use by DCM and other agencies. The module includes a PowerPoint presentation, demonstrations, hands on activities, a field activity as well as lessons that anyone could run through and present this module. The first think I did was to work on an educational section of the DCM website. Websites serve as great educational tools because they can dispaley a large amount of information, they allow for the use of graphics and other images that can aid in reader comprehension and understanding, and they can provide links to additional sources of information on the subject. The website addresses a lot of common questions such as what sea level rise is, what causes it, why predictions vary, some of the rates for North Carolina, how it will affect the coast, and links to current news stories on sea level rise. There are hands on activities for students to understand and grasp some of the more difficult to visualize processes. The module is loosely divided into two sections. The first is the science behind why sea level rise happens. The second is more applied and looks at how sea level rise might impact the North Carolina coast. When I designed this module I tried to appeal to different styles of learning. It includes a visual component of a PowerPoint presentation. It includes an auditory component of a lecture with group work and discussion. It also has hands on activities and demonstrations. There is also a field component. The engage state was addressed by a KWL Chart at the beginning of the module. This is a form of self evaluation. This leads to the explore stage which is addressed by incorporating hands on activities and demonstrations. After these activities, the module goes into the explain stage in which the learner is explained to what they witnessed in the activities. Finally, evaluation is done through the completion of the last column of the KWL Chart. One piece of the module deals with the effects of melting ice on sea level rise. It first explains about land-locked ice and compares these to floating ice. Then it moves on to an activity in which the students observe differences in how the melting of these two types of ice will impact sea level rise. Students will observe the models, write down their observations and then follow up with discussion. The first demonstration that I incorporated into the module was on thermal expansion. Thermal expansion has been the largest contributor to present day sea level rise. This section starts off with an explanation of different states of matter and that matter has a tendency to expand when it is heated. Another activity includes the examination of how sea level rise impacts coastal areas with different topography, elevation and slope. Sea level rise is not expected to have the same effect everywhere and that is what this activity demonstrates. The final activity included was a two part activity that looks at some of the effects of sea level rise and coastal infrastructure. For the second part of the activity the students are instructed that they are in charge of deciding where to put homes and roads on the coastline. Finally, I included a field component in the module. This field component was designed to see how sea level rise might impact coastal marshes. For this activity the students identify different zones of the marsh

based on flooding characteristics and specific vegetation. Once students have identified the zones of the marsh they are asked to envision how the marsh might change with the rise in sea level. I came across a couple of things I would like to recommend. One is to alter and expand the module to target a variety of age groups. This module is catered toward a middle school age audience. Another suggestion would be that a museum or aquarium program would be a great way to get this information out there. Television remains the public's dominant media source for getting news and information about science. The last suggestions would be to get some sort of infomercial or television commercial would be good way to reach a very large audience.

ACTION ITEMS
Land Use Plan Certifications and Amendments

Town of Shallotte LUP Amendment (CRC 11-14)
John Thayer

John Thayer stated staff has reviewed the request for the Town of Shallotte Land Use Plan amendment and believes it meets the substantive requirements of the 7B guidelines and has been duly adopted. Staff recommends certification.

Charles Elam made a motion to certify the Town of Shallotte Land Use Plan amendment. Renee Cahoon seconded the motion. The motion passed unanimously (Joyce, Wynns, Weld, Shepard, Cahoon, Elam, Old) (Simmons, Webster, Carter absent for vote).

OLD/NEW BUSINESS
Chairman Emory stated that Commissioner Peele will Chair the Estuarine and Ocean Systems subcommittee. The members of this subcommittee will be Pat Joyce, Ed Mitchell, Melvin Shepard, Jamin Simmons, and David Webster. Commissioner Carter will be assigned to this subcommittee as well. Commissioner Wynns will Chair the Ocean Hazards Areas subcommittee. The members of this subcommittee will be Chuck Bissette, Renee Cahoon, and Boots Elam. Commissioners Leutze and Old will be assigned to this subcommittee. Ray Sturza, CRAC Chair, will make assignments of the eight CRAC members that did not sign-up for a subcommittee preference.

With no further business, the CRC adjourned.

Respectfully submitted,

James H. Gregson, Executive Secretary

Angela Willis, Recording Secretary

NC COASTAL RESOURCES COMMISSION (CRC)
July 29, 2011
Conference Call

CALL TO ORDER/ROLL CALL

Chairman Emory called the meeting to order and reminded Commissioners of the need to state any conflicts or potential conflicts in accordance with the State Government Ethics Act. Angela Willis called the roll. The following Commissioners participated in the conference call: Bob Emory, Jim Leutze, Chuck Bissette, Renee Cahoon, David Webster, Jerry Old, Veronica Carter, Ed Mitchell, Benjamin Simmons, Lee Wynns and Pat Joyce. Joan Weld, Charles Elam, Bill Peele and Melvin Shepard did not participate. Jim Leutze stated he would recuse himself from the variance request submitted by the Village of Bald Head Island. There were no other conflicts reported. Based upon this roll call, Chairman Emory declared a quorum.

VARIANCES

Village of Bald Head Island (CRC VR-11-06)

Christine Goebel of the Attorney General's Office represented staff. Ms. Goebel reviewed the stipulated facts of this variance request. Ms. Goebel stated the Point lies directly adjacent to the Cape Fear River Inlet. The Cape Fear River Inlet is a federally maintained shipping channel. The federal project includes a Sand Management Plan. The island is scheduled, under the Plan, to receive sand from maintenance dredging. Funding was not available for scheduled dredging on Bald Head Island in 2010-2011 or 2011-2012. Bald Head Island is scheduled to receive sand from the next channel maintenance dredging if funding is available. Bald Head Island last received sand from the U.S. Army Corps of Engineers dredging in 2006. No sand has been placed since the 2009-2010 placement of sand by the Petitioner. The current long-term average annual erosion rate in the vicinity of the Point is eight feet. The landmark roads at issue are South Bald Head Wynd, owned by the Petitioner, and Sandpiper Trail, also owned by the Petitioner. South Bald Head Wynd is approximately 400 feet landward of the proposed work. Associated with these roads are water, sewer, electric, cable and telephone transmission lines. In 1995 the Petitioner received a CAMA Major Permit for a beach nourishment project in this area. In February 1995, the Petitioner applied for a variance from the CRC's rules to construct 14 to 16 sand tube groins. This variance request was granted. Petitioner's coastal engineer has recommended adding a sandbag revetment to the sand tube groin field project. The coastal engineer has advised that severe erosion and shoreline recession near the Point is expected to occur to historical levels and irreparable impacts are imminent. In July 2011, Petitioners applied for a minor modification to their permit to construct a 1,300 linear-foot sandbag revetment along South Beach and the western edge of the Point. Based on measurements taken on July 14, 2011 by DCM staff, the closest dwelling to the erosion escarpment in the project area is 97.5 feet. South Bald Head Wynd is 400 feet from the erosion escarpment in the project area and Sandpiper Trail is 285 feet away. Petitioners are requesting sandbags that would vary between 6 and 12 feet in height with a base width of between 20 and 40 feet. The size would be determined by the scarp elevation at the time of construction. DCM denied the permit modification request.

Ms. Goebel reviewed the statutory criteria which must be met in order to grant the variance. Ms. Goebel stated Petitioners say that the project is meant to protect critical habitat, roads, homes and

infrastructure. The nearest dwelling is 97 feet away from the erosion scarp and the roads are 285 and 400 feet away. Petitioners say this is due to the threats from rapid erosion. The Commission's rules acknowledge and warn that ocean hazard AECs have a special vulnerability to erosion and this is especially true at inlets. The CRC's rules allow for sandbags in limited ways at very specific times as a temporary measure. The rules only allow 6x20 structures, they only allow it within 20 feet of the erosion scarp generally, and they are only allowed to protect principal residences, septic tanks and roads and not accessory structures. They are also time limited depending upon the structure. This request is to vary three of the four limitations. They want them bigger. They want them sooner. They want them to protect sand dunes and not structures. Staff argues that there is not an imminent threat to roads, houses and or infrastructure. Staff can and will allow sandbags once they are within 20 feet of the erosion scarp and see no unnecessary hardship. The dunes are also a stated concern of the Petitioners which focus on these dunes only as potential habitat for turtles, other wildlife and birds. However, it ignores the other functions of dunes which are protective features acknowledged in the CRC's rules, therefore Staff disagrees on the first factor. On the second factor, Petitioners say the hardship is due to its location on the shipping channel and allege this is the cause of the increased erosion. Staff notes that erosion and high rates of erosion are common on the ocean and at inlets like the Point. The long-term rate is eight feet per year. Petitioners will attempt to show some impressive erosion rates, but Ms. Goebel cautioned that the slides show the shoreline between April of last year and April of this year and compares a 2010 shoreline that was shortly after Petitioners placed sand on the beach. Ms. Goebel also cautioned that when they claim that there is erosion at a very fast rate, the current erosion that has happened in the last year as shown in the slides had been on a much flatter beach profile. If you look at some of the site-level slides, you can see that the dune area in between the current erosion scarp and the structures is a much taller beach profile. Staff says that this erosion hardship is not peculiar to the site. The third factor is a yes or no statutory factor. When Staff approached it, they acknowledged that erosion generally is not caused by people or petitioners, however, because of the existence of the groin field, Staff cannot say with any certainty about what the role of the groin field might play. We know groins can cause erosion from the terminal groin report that was reviewed in the last year. We do not know if that is the cause here. Staff says that there might be a possibility that Petitioner's groin field is causing the erosion in this area. On the fourth factor, Petitioners focus on the habitat value. Habitat is not the only function of sand dunes. The Petitioners also focus on the protection of property, but Staff feels that they can do that in plenty of time once the structures are imminently threatened and there is no need to do it now. Once the imminently threatened structures are within 20 feet then sandbags can be put in. The roads, houses and infrastructure are not imminently threatened by the definition of the rule. Staff feels they can protect it in time. It is unfortunate about the lack of Corps funding for the Sand Management Plan, but Staff feels that justice would be better served by a denial of the variance.

Charles Baldwin of Rountree, Losee & Baldwin, L.L.P, represented the Petitioners. Mr. Baldwin reviewed the stipulated facts and exhibits which he contends supports the granting of this variance request. Mr. Baldwin stated the proposed 350 foot sandbag revetment is necessary to prevent the groin field from failing. The work is necessary and was advised by the Village's long-time coastal engineer. The stipulated facts in this matter are very important. A Sand Management Plan is in effect and the Village is scheduled, under the Sand Management Plan, to receive sand at the next placement. It is not just beach placement; it is maintenance dredging for

the shipping channel and therefore simply has to occur. Unfortunately it will not happen this winter, but it will happen in the winter of 2012-2013. We are now only a year and a half post the Village's private sand placement and for the beach and protective dunes to have any chance of surviving another year, the groin field has to be kept functioning and intact. Stipulated exhibit 13 is the recommendation of the coastal engineer. He has advised that severe erosion and shoreline recession near the Point is expected to occur to historical levels. We are in a disadvantaged position today, just one and a half years post-renourishment as compared to the events we experienced in 2003 and 2009. Stipulated fact #14 states that the proposed sandbag revetment would be a short-term, temporary measure pending the anticipated large-scale beachfill placement by the Corps. This fact is contrary to DCM's position that we are seeking some sort of seawall or permanent structure. There are peculiar circumstances and topography at issue here. Stipulated fact #24 states, as shown on stipulated exhibit #4 topographic exhibit of Cape Fear Trail, the interior of Bald Head Island is low-lying and subject to flooding. The additional stipulated fact circulated this morning (#2008) which states in 2003, the Corps of Engineers required the Petitioner to restore the sand tube groin field as a condition to receiving sand placement under the Sand Management Plan. The groin field is something the island is required to have and it is not fair to say that the groin field is the fault of the Island. The groin field functions as intended to retain sand and slow the rate of erosion and is overall beneficial. The Village is trying to keep it functionally working as best as it can. There is an absolutely unsupported allegation that we all know groin fields cause erosion. That is simply not true. In fact, the CRC report states that of the groins studied, the areas were eroding prior to the groin field construction and are generally accreting post-construction. There is not a single bit of evidence in the record that a groin field causes erosion. Staff's position relates to a statement that it could not be determined whether natural resources are harmed by groins. That section concerns fish and benthic and these were not studied or recorded with respect to the study site. No conclusions can be drawn. The Village has done everything in its power to avoid the situation we are in today with erosion. Mr. Baldwin does not know what the Village could have possibly done in addition to try to avoid being here today. There is no engineering evidence in the record contrary to the imminent harm and dire loss of protective dunes and groin field depictions of Erik Olsen. Is this an unnecessary hardship the Petitioner should not have to suffer? Absolutely. The photos show this. Even though these dunes are tall they are being consumed at a huge pace. According to Mr. Olsen it is a pace that will increase. We cannot risk the safety of homes, roads and property. The answer is yes that the conditions are peculiar to the Petitioner's property. We are located adjacent to the shipping channel which provides a Sand Management Plan. The groins are required by the Corps of Engineers and the low-lying topography of the island is such that if the groin field fails and the dunes are breached then the flooding will go inland and harm roads and property. There is already a property 97 feet from the erosion. We are asking for a short-term, stop-gap measure to address the situation. This is not the fault of the Village. For the fourth criteria, this variance will preserve and protect the groins; it will protect the dunes and prevent the groin field from failing. It will protect public trust beaches, protect life and property and it is a temporary measure in the public interest and public safety and welfare and substantial justice will be done. Because these things are true, the converse is also true. A denial of the permit will not be in the public interest and will not be consistent with the spirit, purpose and intent of the rules. We are not setting a precedent. These are unique and emergency circumstances.

Renee Cahoon asked Mr. Baldwin if it is the Village's intention to take the sandbags out before the beachfill occurs. Mr. Baldwin stated that it is more important that the bags be put in timely and the Village would be willing to have permit modifications or requirements to facilitate this.

Veronica Carter asked if this is to be done until the Village receives the Corps' sand and you haven't received sand from the Corps in two years, does the Village have a backup plan if it doesn't receive sand from the Corps for another year or two? Mr. Baldwin stated that the only other tool that the Village has at its disposal is a very, very small sand placement. There is very little we can do which is why it is so critical that this groin not be allowed to fail and set off a chain reaction.

Jerry Old made a motion that strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardship. Renee Cahoon seconded the motion. The motion passed with seven votes in favor (Old, Simmons, Wynns, Bissette, Cahoon, Joyce, Mitchell) and two opposed (Carter, Webster).

Jerry Old made a motion that hardships result from conditions peculiar to the petitioner's property. Renee Cahoon seconded the motion. The motion passed with seven votes in favor (Old, Simmons, Wynns, Bissette, Cahoon, Joyce, Mitchell) and two opposed (Carter, Webster).

Jerry old made a motion that hardships do not result from actions taken by the petitioner. Renee Cahoon seconded the motion. The motion passed with eight votes in favor (Old, Simmons, Wynns, Bissette, Cahoon, Carter, Joyce, Mitchell) and one opposed (Webster).

Jerry Old made a motion that the variance request will be consistent with the spirit, purpose and intent of the rules, standards or orders issued by the Commission; secure the public safety and welfare; and preserve substantial justice. Renee Cahoon seconded the motion. The motion passed with eight votes in favor (Old, Simmons, Wynns, Bissette, Cahoon, Carter, Joyce, Mitchell) and one opposed (Webster).

Renee Cahoon made a motion to amend the previous motion to include the condition that the sandbags be removed prior to any large-scale nourishment project. Jerry Old accepted the amendment. Jamin Simmons seconded the motion. The motion passed with eight votes in favor (Old, Simmons, Wynns, Bissette, Cahoon, Carter, Joyce, Mitchell) and one opposed (Webster).

This variance request was granted with the condition that the sandbags be removed prior to any large-scale nourishment project.

With no further business, the CRC adjourned.

Respectfully submitted,

James H. Gregson, Executive Secretary

Angela Willis, Recording Secretary

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

CRC-11-16

August 2, 2011

MEMORANDUM

TO: Estuarine and Ocean Systems Subcommittee

FROM: Mike Lopazanski

SUBJECT: Marsh Sills and Estuarine Shoreline Stabilization

You will recall that at the May 2011 CRC meeting in Beaufort, Dr. John Fear presented the findings of the permitted marsh sill assessment conducted at the request of the Commission. The purpose of this study was to conduct a qualitative assessment of existing marsh sills, evaluating their performance and the perception of land owners as a stabilization option. The Commission expressed an interest in using this information to begin a discussion of next steps as other studies that should provide additional valuable data (Sustainable Estuarine Shoreline Stabilization: Research, Education, and Public Policy in NC; and Fisheries Habitat Impacts of Marsh Sills [Living Shorelines] as a Shoreline Stabilization/Restoration Alternative to Bulkheads) are completed.

Specifically, the Commission requested a discussion of the marsh sill General Permit (15A NCAC 7H .2700) and the numerous associated conditions in light of the findings of the marsh sill assessment. To facilitate this discussion, Dr. Fear will give a brief review of the findings of the marsh sill assessment, followed by a panel discussion of representatives from the involved agencies (DCM, DMF, DWQ, WRC, USACE). Each agency representative will give a brief overview of their agency's position relative to marsh sills (concerns, issues, preferences) and reasoning for the various conditions placed on the permit. While many of the concerns of possible negative impacts associated with sills were not evident in the assessment, 22 of the 27 sills in the study underwent through an individual review through the Major Permit process. It is not unreasonable to assume that the success of these structures could be in part due to the site-specific design and coordination with the key regulatory and resource agencies. It should also be noted that one of the findings of the assessment was the resource agencies preference to continue the review of marsh sill permits on a case-by-case basis.

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Although the assessment did not provide conclusive evidence that the unique specific conditions of the General Permit are not necessary, there are two that could possibly be modified. Theses two conditions involve the allowable material for sill construction and use of gaps as opposed to dropdowns for the openings. In the case of mound material used for construction, oyster shell could be considered as an additional appropriate material since oysters were colonizing the rock structures and a few sills were successfully constructed utilizing oyster shell. With regard to drop downs, many were blocked by fallen rock or colonizing oysters, obstructing fish and water passage. The use of gaps may be more appropriate.

To further facilitate the discussion, I have included the findings from the Marsh Sills Assessment as well as the General Permit 7H .2700. It is hoped that this discussion, and the anticipated completion of the additional stabilization studies will further the Commission's analysis of estuarine shoreline stabilization policy as well as any decision regarding future rulemaking.

Attachments

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor James H. Gregson, Director Dee Freeman, Secretary

August 8, 2011

MEMORANDUM

TO: Ocean Hazards Subcommittee

FROM: Mike Lopazanski

SUBJECT: Consideration of Sandbag Stakeholder Meetings Report

The Commission has been actively considering its policy for temporary erosion control since 2007 when the May 2008 deadline for many sandbag structures would need to be removed was approaching. Over the course of the past four years, the Commission has reviewed the development and evolution of the temporary erosion control rules, and has maintained a clear understanding that property owners want to protect their homes from erosion. The CRC modified the rules to accommodate the need of property owners to temporarily protect imminently threatened oceanfront structures through the use of sandbags, while pursuing more permanent solutions, such as beach nourishment or relocation of the structure. It has also been clear that the CRC has attempted to achieve a balance between a homeowner's desire to protect private property and the public's right to use the state's beaches.

The deliberations of the temporary erosion control rules has included an engagement of stakeholders in an effort to pursue alternative sandbag structure management strategies including, nuances of the sandbag rules and to facilitate possible changes in the implementation of the Commission's sandbag policy. You will recall that a total of four meetings were held from September 2010 to February 2011 which included representatives of the Commission, Advisory Council, local government, property owner representatives, and DCM staff. The meetings were summarized at the May 2011 CRC meeting in which several suggestions were made for consideration by the Commission. These ideas ranged from a return to a community based management approach, tax credits and agreement to remove the structure, to linking the use of sandbags and condemnation of the structure, as well as financial assistance to communities and homeowners.

As the subcommittee prepares to consider the future management of sandbags, Staff has also reviewed the existing rules and have several suggestions for modification. You'll recall that changes were made in 2009 to the management of sandbags in Inlet Hazard Areas, addressing the time period, number of times sandbags could be used on a property as well as a broadening of the activities associated with "actively pursuing" beach fill or inlet relocation

projects. Staff is suggesting using the same rationale for extending the time period for inlet relocation projects, to beach fill projects on the oceanfront. The state has had a great deal more experience with the timeframes involved in securing a beach fill project. In addition to the permitting aspects of these projects, there is a degree of effort involved on the part of the beach communities in securing the funding and easements, as evidenced by the recent Nags Head project, that needs to be recognized. Staff believes that extending the eight-year timeframe to the oceanfront in communities actively pursuing a beach nourishment project is a reasonable approach to addressing this issue. The two and five year timeframes were originally tied to the small and large structure setback provisions of the old oceanfront setback rules and do not necessarily relate to the time needed in securing a beach nourishment project. These timeframes were an assessment of how long it might take to relocate what were defined as large and small structures.

Also given the level of interest and commitment on the part of local governments in maintaining beach fill projects, Staff is suggesting removing the one time per property restriction from oceanfront under that same conditions used in the Inlet Hazard Areas. That is, the structure being protected is once again imminently threatened and is located in a community actively seeking beach nourishment. For structures located outside of areas seeking nourishment projects, the two and five-year timeframes would remain.

Staff believes that these modifications reflect the current realities of shoreline management in NC and will also provide uniformity in administration of the sandbag rules. It should be noted that these proposed changes would be dependent upon maintaining the provision for the removal of sandbags once they are no longer needed (i.e., the structure is not imminently threatened). As the Subcommittee considers future temporary erosion control policy and the management of sandbags, there needs to be an awareness that since 1985, sandbags have been intended to provide temporary protection to imminently threatened structures and were not envisioned as a permanent protective measure for chronic oceanfront erosion. Since the passing of the May 2008 sandbag deadline, the Commission has also consistently directed DCM to enforce the provisions of the sandbag rules. The Subcommittee should also be aware that a large number of sandbag structures (50), including many that were originally prioritized for removal, are in the area of the Nags Head nourishment project. A condition was placed on the project permit that the beach fill will make the sandbags unnecessary and per the Commission's rules, will need to be removed. The Division is currently working with the Town and property owners on this matter.

In order to facilitate the discussion, I have attached the Sandbag Stakeholder report and the Temporary Erosion Control Structure rules - 15A 7H .0308(a)(2). In addition to the amendments proposed by staff, I have included a list of possible actions that were raised during the stakeholder meetings ranging from the status quo, to elimination of use of sandbags. I look forward to our meeting in Beaufort and this important policy discussion.

SANDBAG POLICY OPTIONS

- Enforce current rules with no changes.
- Modify rules based on staff recommendations
- Eliminate all timeframes associated with use of sandbags allowing maintenance of structures.
- Eliminate all timeframes associated with use of sandbags not allowing maintenance.
- Allow communities to manage sandbags.
- Provide a tax credit in exchange for conservation easement and agreement to remove the structure.
- Require a bond to ensure removal of sandbags.
- Allow sandbags to remain when there is a pending beach fill or inlet relocation project.
- Only allow sandbags prior to removing or relocating a structure.
- Allow sandbags to remain and be covered during nourishment projects.
- Allow sandbags to remain provided the property maintains a certificate of occupancy.
- Limit the size and number of sandbags to prevent the creation of “seawalls”.
- Require daily financial penalties for expired sandbag permits.
- Financial responsibility for sandbags should be incorporated into the deed.
- Reconsider dimensional requirements after installation (timeframe to address exceedance of permitted dimensions)
- Require property owners to keep sandbags covered.
- Allow contractors to experiment with sandbag dimensions, placement and anchoring.
- Disallow the use of sandbags as a method of temporary erosion control.

COASTAL RESOURCES COMMISSION
SANDBAG STAKEHOLDER MEETINGS
SUMMARY REPORT
APRIL 2011

Background

Beginning in 2007, the Coastal Resources Commission and the Division of Coastal Management began to prepare for the approaching May 2008 deadline for when a large number of temporary erosion control structures (sandbags) that had been subject to numerous extensions would be required to be removed. While the Division moved forward with enforcement of the Commission rules on the use of temporary erosion control structures, Session Law 2009-479 established a moratorium on enforcement actions related to the time limits placed on sandbag structures until September of 2010. With the expiration of the moratorium, the Commission once again directed the Division at the Commission's July 2010 meeting to enforce the provisions of the sandbag rules.

Division staff was also requested to engage stakeholders in an effort to discuss how sandbag structures were being managed, nuances of the temporary erosion control structure rules and to facilitate possible changes in the implementation of the Commission's sandbag policy. A total of four meetings were held (September 15, 2010; October 4, 2010; January 17, 2011 and February 23, 2011) which included representatives of the Commission, Advisory Council, local government, property owner representatives, and DCM staff.

Over the course of these meetings, the evolution of the temporary erosion control structure rules was discussed as well as a focus on some of the specific issues related to the management of sandbag structures used as a temporary erosion control measure. These issues included the requirement for removal of sandbags prior to nourishment projects, the covered and vegetated requirements and the possible use of other criteria in the permitting and removal of sandbags such as beach elevation and shoreline recession.

Refinement of the issues led to discussions of FEMA and how insurance payouts related to the National Flood Insurance Program (NFIP) as well as building standards (piling depths) may be contributing to the problem. There was general agreement that while the focus has been on the sandbag structures protecting houses, it is the houses on the public beach that continues to be the core issue. Since the NFIP does not pay the insurance claim until there is a loss, there is no incentive for the property owner to remove the structure prior to that event. Adding to the problem is the fact many of the structures are held by out of state owners or are owned by LLCs. In most cases it is the local government's responsibility to pursue removal of structures once they are condemned and there is considerable difficulty in locating owners, or the structures are simply abandoned. There has been little financial help for local governments as the state is under no obligation to assist the local government with removal of the structures from the public beach.

The Town of Nags Head was cited in many examples of the issues facing local government. Mayor Oakes provide additional details on how condemnations were being handled in Nags

Head and how the Town would exchange civil penalty collection for the ability to take the house down, which is often less expensive then court costs associated with forcing a property owner to remove the structure.

Various methods of dealing with structures that are condemned frequently were considered such as piling depths, the use of sister pilings, permit conditions for removal and a repetitive loss trigger. The Town of Nags Head has adopted a new ordinance for condemned structures in which they are declared a nuisance once they encroach on the public trust beach. In this way, re-establishment of septic and utilities does not necessarily lift the designation and the need to remove the structure remains. However, the ordinance has not been fully tested in the courts.

Possible Solutions

Over the course of the stakeholder meetings, several suggestions were made as to how sandbags could be better managed and the issue of chronic erosion addressed. In addition to the more technical and specific aspects of sandbags structures (configuration and installation/removal criteria), there was discussion of local government management of sandbags. While local governments previously had authority to permit sandbags prior to 1996 under the local permitting program, the idea discussed involved allowing communities to be responsible for management of sandbags as a part of a locally implemented shoreline management plan. Specifically, sandbags would only be allowed if the community was pursuing a beach nourishment project and the authority would be under an "umbrella" permit to the local government similar to what done for beach bulldozing. The blanket authority would be extended to the local government once the shoreline management plan was approved by the CRC. The overall approach would be similar to the static line exception provisions connected with a long-term beach fill project. There would be no time limits associated with sandbag structures as they would be tied to an approved shoreline management plan. Once a beach fill project is approved, the sandbag structures would no longer be necessary and could be removed. Much of the discussion of this option centered on whether or not the same pitfalls that currently exist for the state regarding the removal of structures could be avoided by local governments.

Another suggestion utilizes an innovative strategy involving a conservation tax credit in exchange for advance agreement on the removal of a structure. The focus of this strategy is to plan ahead for the eventual removal of a structure once it is threatened by erosion, giving property owners an incentive to get out of harm's way. In exchange for a tax credit toward the value of the property, the property owner would obtain insurance or a bond to assure the state that structure would be removed once it was threatened. Discussion of this option centered on how much of the value of the property would be allowed as a credit and the limitations of individuals capable of taking advantage of such a tax credit. Questions were also raised with regard implementing bond requirements and that the use of escrow accounts may be easier from an administrative standpoint.

There were also suggestions for dealing with existing sandbag structures. Under one scenario, sandbag structures would be allowed in limited circumstances where time is needed to remove a threatened structure or a where a permitted beach fill or inlet relocation project will

protect a threatened structure. Provisions were also suggested for limiting the size and number of bags to prevent the creation of “seawalls”, including authorization for removal of sandbags and restoration of the oceanfront lot, as well as daily financial penalties for leaving sandbags beyond their permitted time.

Other suggestions for management of existing sandbags structures included tying the continued use of sandbags to the viability of the structure being protected such as maintaining an occupancy permit; financial responsibility for sandbag structures incorporated into the deed; reconsideration of the dimensional requirements after installation (timeframe to address exceedance of permitted dimensions); requiring that property owners keep sandbags covered with sand; and allow sandbag installation contractors the ability to experiment with a variety of sandbag dimensions, methods of placement, and anchoring to secure alignments within permitted dimensions.

Finally, there was discussion of financial assistance that may be available to assist property owners and local governments with removal of structures. Initiatives such as the Upton-Jones Amendment to the Federal Flood Insurance Program were seen as an effective measure to remove structures from the beach before they are destroyed. The Texas Open Beaches Act was also mentioned as a successful program where there is a cash payment to the property owner for removal of structures from the beach. There were also questions raised about the possibility of using the Hazard Mitigation Program to assisting local government with the removal of structures. A presentation on the program at the February 2011 CRC provided additional information.

There are three possible programs that could address structures on the public beach associated with the Hazard Mitigation Program. These are the Flood Mitigation Assistance Program, the Repetitive Loss Program and the Severe Repetitive Loss Programs which are aimed specifically at reducing claims on the NFIP. The only eligible properties for these three programs are flood insured properties that have had two or more losses in previous rolling ten year periods. The Repetitive Flood Loss Program is an attempt to identify the worst of the worst repeat offenders in the NFIP. The other use of this program depends on identifying a local government that does not have the capacity to manage one of these projects on their own and have eligible properties within their jurisdiction. The Severe Repetitive Loss Program is aimed specifically at repetitive loss NFIP structures. These are properties that have had four or more claims in the previous ten year period or where the amount of the claim is approaching the value of the property. Traditionally the State of North Carolina has picked up the entire non-federal match in these projects. In an acquisition project, the local government has to agree to take title to the underlying property. The structure is removed and then the local government records a deed restriction holding the property as public open space in perpetuity. All these programs are voluntary on the part of the local government and the individual participants. During the presentation, the representative of the program indicated a willingness to work with local governments interested in submitting an application to FEMA for the removal of condemned structures.

Conclusions

While many of the issues were more thoroughly considered during the stakeholder meetings, no specific recommendations were being directed to the Commission. Possible solutions for the management of sandbags and the implementation of the temporary erosion control measure policy focused on funding, tax credits cash payments, private entities interested in salvaging condemned structures and possible help from the FEMA Hazard Mitigation Program. There was general agreement that the issue ultimately falls to the local government as has been seen in the Town of Nags Head. Interest was expressed by some in drafting rule language that would address the community management idea however; there was concern of a potential conflict with taking steps to change the rule while there were ongoing enforcement actions to remove sandbags. Since many of the properties subject to ongoing enforcement were unlikely to benefit from a potential rule change (due to their being on the beach), this may not be that much of a problem. The recommendation from the final stakeholder meeting was to summarize the discussion as well as the potential actions for further research and discussion by the CRC.

SUBCHAPTER 7H - STATE GUIDELINES FOR AREAS OF ENVIRONMENTAL CONCERN

15A NCAC 07H .0308 SPECIFIC USE STANDARDS FOR OCEAN HAZARD AREAS

(a) Ocean Shoreline Erosion Control Activities:

(1) Use Standards Applicable to all Erosion Control Activities:

(A) All oceanfront erosion response activities shall be consistent with the general policy statements in 15A NCAC 07M .0200.

(B) Permanent erosion control structures may cause significant adverse impacts on the value and enjoyment of adjacent properties or public access to and use of the ocean beach, and, therefore, are prohibited. Such structures include bulkheads, seawalls, revetments, jetties, groins and breakwaters.

(C) Rules concerning the use of oceanfront erosion response measures apply to all oceanfront properties without regard to the size of the structure on the property or the date of its construction.

(D) All permitted oceanfront erosion response projects, other than beach bulldozing and temporary placement of sandbag structures, shall demonstrate sound engineering for their planned purpose.

(E) Shoreline erosion response projects shall not be constructed in beach or estuarine areas that sustain substantial habitat for fish and wildlife species, as identified by natural resource agencies during project review, unless mitigation measures are incorporated into project design, as set forth in Rule .0306(i) of this Section.

(F) Project construction shall be timed to minimize adverse effects on biological activity.

(G) Prior to completing any erosion response project, all exposed remnants of or debris from failed erosion control structures must be removed by the permittee.

(H) Erosion control structures that would otherwise be prohibited by these standards may be permitted on finding that:

(i) the erosion control structure is necessary to protect a bridge which provides the only existing road access on a barrier island, that is vital to public safety, and is imminently threatened by erosion as defined in provision (a)(2)(B) of this subchapter;

(ii) the erosion response measures of relocation, beach nourishment or temporary stabilization are not adequate to protect public health and safety; and

(iii) the proposed erosion control structure will have no adverse impacts on adjacent properties in private ownership or on public use of the beach.

(I) Structures that would otherwise be prohibited by these standards may also be permitted on finding that:

(i) the structure is necessary to protect a state or federally registered historic site that is imminently threatened by shoreline erosion as defined in provision (a)(2)(B) of this subchapter; and

(ii) the erosion response measures of relocation, beach nourishment or temporary stabilization are not adequate and practicable to protect the site; and

(iii) the structure is limited in extent and scope to that necessary to protect the site; and

(iv) any permit for a structure under this Part (I) may be issued only to a sponsoring public agency for projects where the public benefits outweigh the short or long range adverse impacts. Additionally, the permit shall include conditions providing for mitigation or minimization by that agency of any unavoidable adverse impacts on adjoining properties and on public access to and use of the beach.

(J) Structures that would otherwise be prohibited by these standards may also be permitted on finding that:

(i) the structure is necessary to maintain an existing commercial navigation channel of regional significance within federally authorized limits; and

(ii) dredging alone is not practicable to maintain safe access to the affected channel; and

(iii) the structure is limited in extent and scope to that necessary to maintain the channel; and

(iv) the structure shall not adversely impact fisheries or other public trust resources; and

(v) any permit for a structure under this Part (J) may be issued only to a sponsoring public agency for projects where the public benefits outweigh the short or long range adverse impacts. Additionally, the permit shall include conditions providing for mitigation or minimization by that agency of any unavoidable adverse impacts on adjoining properties and on public access to and use of the beach.

(K) The Commission may renew a permit for an erosion control structure issued pursuant to a variance granted by the Commission prior to 1 July 1995. The Commission may authorize the replacement of a permanent erosion control structure that was permitted by the

Commission pursuant to a variance granted by the Commission prior to 1 July 1995 if the Commission finds that:

(i) the structure will not be enlarged beyond the dimensions set out in the permit;

(ii) there is no practical alternative to replacing the structure that will provide the same or similar benefits; and

(iii) the replacement structure will comply with all applicable laws and with all rules, other than the rule or rules with respect to which the Commission granted the variance, that are in effect at the time the structure is replaced.

(L) Proposed erosion response measures using innovative technology or design shall be considered as experimental and shall be evaluated on a case-by-case basis to determine consistency with 15A NCAC 7M .0200 and general and specific use standards within this Section.

(2) Temporary Erosion Control Structures:

(A) Permittable temporary erosion control structures shall be limited to sandbags placed landward of mean high water and parallel to the shore.

(B) Temporary erosion control structures as defined in Part (2)(A) of this Subparagraph shall be used to protect only imminently threatened roads and associated right of ways, and buildings and their associated septic systems. A structure shall be considered imminently threatened if its foundation, septic system, or right-of-way in the case of roads, is less than 20 feet away from the erosion scarp. Buildings and roads located more than 20 feet from the erosion scarp or in areas where there is no obvious erosion scarp may also be found to be imminently threatened when site conditions, such as a flat beach profile or accelerated erosion, increase the risk of imminent damage to the structure.

(C) Temporary erosion control structures shall be used to protect only the principal structure and its associated septic system, but not appurtenances such as pools, gazebos, decks or any amenity that is allowed as an exception to the erosion setback requirement.

(D) Temporary erosion control structures may be placed seaward of a septic system when there is no alternative to relocate it on the same or adjoining lot so that it is landward of or in line with the structure being protected.

(E) Temporary erosion control structures shall not extend more than 20 feet past the sides of the structure to be protected. The landward side of such temporary erosion control structures shall not be located more than 20 feet seaward of the structure to be protected or the right-of-way in the case of roads. If a building or road is found to be imminently threatened and at an increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet seaward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or their designee.

(F) Temporary erosion control structures may remain in place for up to two years after the date of approval if they are protecting a building with a total floor area of 5000 sq. ft. or less and its associated septic system, or, for up to five years for a building with a total floor area of more than 5000 sq. ft. and its associated septic system. Temporary erosion control structures may remain in place for up to five years if they are protecting a bridge or a road. The property owner shall be responsible for removal of the temporary structure within 30 days of the end of the allowable time period.

(G) Temporary sandbag erosion control structures may remain in place for up to five years from the date of approval if they are located in a community that is actively pursuing a beach nourishment project, and for up to eight years from the date of approval if they are located in an Inlet Hazard Area adjacent to an inlet for which a community is actively pursuing an inlet relocation project. For purposes of this Rule, a community is considered to be actively pursuing a beach nourishment or inlet relocation project if it has:

(i) an active CAMA permit, where necessary, approving such project; or

(ii) been identified by a U.S. Army Corps of Engineers' Beach Nourishment Reconnaissance Study, General Reevaluation Report, Coastal Storm Damage Reduction Study or an ongoing feasibility study by the U.S. Army Corps of Engineers and a commitment of local or federal money, when necessary; or

(iii) received a favorable economic evaluation report on a federal project or,

(iv) is in the planning stages of a project that has been designed by the U.S. Army Corps of Engineers or persons meeting applicable State occupational licensing requirements and has been initiated by a local government or community with a commitment of local or state funds to construct the project and the identification of the financial resources or funding bases necessary to fund the beach nourishment or inlet relocation project.

If beach nourishment or inlet relocation is rejected by the sponsoring agency or community, or ceases to be actively planned for a section of shoreline, the time extension is void for that section of beach or community and existing sandbags are subject to all applicable time limits set forth in Part (F) of this Subparagraph.

(H) Once the temporary erosion control structure is determined to be unnecessary due to relocation or removal of the threatened structure, a storm protection project constructed by the U.S. Army Corps of Engineers, a large-scale beach nourishment project or an inlet relocation project, it shall be removed by the property owner within 30 days of official notification from the Division of Coastal Management regardless of the time limit placed on the temporary erosion control structure.

(I) Removal of temporary erosion control structures shall not be required if they are covered by dunes with stable and natural vegetation.

(J) The property owner shall be responsible for the removal of remnants of all portions of any damaged temporary erosion control structure.

(K) Sandbags used to construct temporary erosion control structures shall be tan in color and three to five feet wide and seven to 15 feet long when measured flat. Base width of the structure shall not exceed 20 feet, and the height shall not exceed six feet.

(L) Soldier pilings and other types of devices to anchor sandbags shall not be allowed.

(M) An imminently threatened structure may be protected only once, regardless of ownership unless the threatened structure is located in an Inlet Hazard Area and in a community that is actively pursuing an inlet relocation project in accordance with (G) of this Subparagraph. Existing temporary erosion control structures located in Inlet Hazard Areas may be eligible for an additional eight year permit extension provided that the structure being protected is still imminently threatened, the temporary erosion control structure is in compliance with requirements of this Subchapter and the community in which it is located is actively pursuing an inlet relocation project in accordance with Part (G) of this Subparagraph. In the case of a building, a temporary erosion control structure may be extended, or new segments constructed, if additional areas of the building become imminently threatened. Where temporary structures are installed or extended incrementally, the time period for removal under Part (F) or (G) of this Subparagraph shall begin at the time the initial erosion control structure is installed. For the purpose of this Rule:

(i) a building and septic system shall be considered as separate structures.

(ii) a road or highway shall be allowed to be incrementally protected as sections become imminently threatened. The time period for removal of each section of sandbags shall begin at the time that section is installed in accordance with Part (F) or (G) of this Subparagraph.

(N) Existing sandbag structures may be repaired or replaced within their originally permitted dimensions during the time period allowed under Part (F) or (G) of this Subparagraph.

History Note: *Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b)(6)a.,b.,d.; 113A-124;*
Eff. June 1, 1979;
Filed as a Temporary Amendment Eff. June 20, 1989, for a period of 180 days to expire on December 17, 1989;
Amended Eff. August 3, 1992; December 1, 1991; March 1, 1990; December 1, 1989;
RRC Objection Eff. November 19, 1992 due to ambiguity;
RRC Objection Eff. January 21, 1993 due to ambiguity;
Amended Eff. March 1, 1993; December 28, 1992;
RRC Objection Eff. March 16, 1995 due to ambiguity;
Amended Eff. April 1, 1999; February 1, 1996; May 4, 1995;
Temporary Amendment Eff. July 3, 2000; May 22, 2000;
Amended Eff. July 1, 2009; April 1, 2008; February 1, 2006; August 1, 2002.

STATE OF NORTH CAROLINA
DEPARTMENT OF JUSTICE

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August 10, 2011

Mr. James H. Gregson
Executive Secretary
NC Coastal Resources Commission
400 Commerce Avenue
Morehead City, NC 28557

Re: *Busik v. DENR- DCM and 1118 Longwood*; 10 EHR 8355,

Dear Mr. Gregson:

At the direction of Coastal Resources Commission (CRC) Counsel Ms. Mary L. Lucasse, Respondent Division of Coastal Management (DCM) and Respondent-Intervenor 1118 Longwood Avenue Realty Corporation (Longwood), hereby submit their Exceptions to the Administrative Law Judge's Decision in the above referenced case by the deadline of August 10, 2011. Respondent and Respondent-Intervenor's argument in support of each proposed exception is included in the following document. Respondent and Respondent-Intervenor submit this for the consideration of the CRC's at its August 24-25, 2011 meeting in Beaufort. Also, Respondent and Respondent-Intervenor each request oral argument to address these exceptions and to respond to Petitioner's arguments.

Thank you for your attention to this matter. With best wishes, we are

Sincerely,

Christine A. Goebel
Assistant Attorney General

FOR William A. Raney, Jr., Esquire
Counsel for Respondent-Intervenor

Enclosures
cc(w/enc.): Mary L. Lucasse, CRC Counsel, by email
Kenneth A. Shanklin, Counsel for Petitioner, by email

STATE OF NORTH CAROLINA COUNTY OF BRUNSWICK	IN THE OFFICE OF ADMINISTRATIVE HEARINGS 10 EHR 8355
KEVAN BUSIK, Petitioner, v. NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF COASTAL MANAGEMENT, Respondent, and 1118 LONGWOOD AVENUE REALTY CORPORATION, Respondent-Intervenor.	**RESPONDENT'S AND RESPONDENT INTERVENOR'S EXCEPTIONS TO THE ALJ'S DECISION**

NOW COMES Respondent, North Carolina Department of Environment and Natural Resources (DENR), Division of Coastal Management (DCM), and Respondent-Intervenor 1118 Longwood Avenue Realty Corporation (Longwood), and file these Exceptions to the Administrative Law Judge's (ALJ) Decision, and written arguments in support thereof. This document addresses the portions of the ALJ's Decision to which the Respondent and Respondent-Intervenor take exception, summarizes the legal and factual basis for those exceptions, and submits proposed changes for the Commission's consideration.

Summary of Respondent's Exceptions and Argument in Support

The single issue of law before the ALJ and now before the Coastal Resources Commission (CRC) concerns the correct reading of 15A N.C.A.C. 7H .0306. Petitioner contends that the use of the plural "structures and buildings" in the definition of "total floor area" in 7H .0306(a)(1) means that when calculating oceanfront setbacks, you add the total off all

structures and buildings proposed on a lot, and if it exceeds 5,000 square feet, the erosion rate is multiplied by 60 instead of 30 per 7H .0306(b). Respondent and Respondent-Intervenor instead contend that the plural "structures and buildings" in the definition of "total floor area" is used only to contrast "structures and buildings" with the "total area of footprint for development other than structures and buildings." However, the specific sub-parts of this rule which assign the setback multiplier for a specific "total floor area" range (7H .0306(b)(1)(A & B)), use the singular, disjunctive phrase "a building or other structure." Therefore, the use of the singular, disjunctive in the specific setback factor rule sub-part indicates that the "total floor area" and corresponding setback applies to each separate "building or other structure", and not to the combined total floor area of all structures with "total floor area" on a particular lot. As further support, Respondent and Respondent-Intervenor note that their reading of 7H.0306 is consistent with the policy of the Commission which focus on structure relocation as a preferred response to chronic erosion in 15A N.C.A.C. 7M .0202. Additionally, other rules of the Commission use similar language and the same logic as the rule at issue, including 7H .0308(a)(2)(F) (time limit for sandbags "protecting a building with a total floor area of 5,000 sw. ft. or less..."), 7H .0306(a)(8)(B) (where the actual vegetation line may be used instead of the static line where "total floor area of a building is no greater than 2,500 square feet"), and 7H .0306(a)(6) (which talks about structural increases in the "total floor area of a building or structure represent expansions to the total floor area and shall meet the setback requirements..."). Because structurally-separate structures can be relocated separately, setbacks should likewise look at structures individually in determining the degree of setback required.

Exceptions to Findings of Fact

First, Respondent and Respondent-Intervenor make exceptions to several of the Findings of Fact (FOF), and though they may be factually accurate, are not relevant and should be stricken, or are incomplete citations of the rules. They include the following facts for the following reasons:

1. FOF 11 is not relevant to the decision at issue regarding the issuance of the CAMA permit, and should be stricken.

2. FOF 12 is not relevant to the decision at issue regarding the issuance of the CAMA permit, does not reference a term used in the relevant rule at issue (15A N.C.A.C. 07H.0306) and should be stricken.

3. The last sentence of FOF 13 regarding "appurtenances" is not relevant to the decision at issue regarding the issuance of the CAMA permit, does not reference a term used in the relevant rule at issue (15A N.C.A.C. 7H .0306) and should be stricken.

4. FOF 18 is incomplete where it describes that the "new" setback rules use "Total Floor Area" as the sole determining factor when determining the setback. This FOF ignores the second part of 15A N.C.A.C. 7H .0306(a)(1), which uses the "total area of footprint" in determining the size of "development other than structures and buildings." This additional information should be added to ensure a complete characterization of this relevant rule.

5. FOF 29 incorrectly lists "ISA" as the rule cite for the portion of the Administrative Code quoted, when the correct cite is 15A. This typographical error should be corrected for clarity.

6. FOF 30 incorrectly quotes the rule cited where "a building or structure" actually reads "a building or *other* structure." This typographical error should be corrected for clarity.

Exceptions to the Conclusions of Law

Respondent and Respondent-Intervenor make exceptions to several of the Conclusions of Law (COL) made by the ALJ in this case. They include the following conclusions for the following reasons:

7. COL 6 summarizes what this cited rule says, without quoting what Respondent and Respondent-Intervenor assert is the important, relevant language of the rule. Instead of the language "development totalling less than 5,000 square feet...", the rule actually states that, "a building or other structure less than 5,000 feet..." Respondent and Respondent-Intervenor object to this wording in COL 6 because the exact language of this rule, which prescribes the exact setback to be used, doesn't use the term "development". Instead, the rule is specific to "a building or other structure" which is in the singular and disjunctive form. This specific rule language provides the basis for Respondent's and Respondent-Intervenor's interpretation of this rule that it applies to singular buildings or structures which are structurally separate, and not to all the "development," a term which broadly defines DCM's and the CRC's subject matter jurisdiction through its definition at N.C.G.S. 113A-103(5)a., proposed by Intervenor-Respondent in their CAMA permit application. Respondent and Respondent-Intervenor contend that it is precisely this substitution of terms which Petitioner must rely on to make his case for his interpretation of 15A N.C.A.C. 7H.0306. Respondent and Respondent-Intervenor contend that the rule should be quoted exactly instead of summarized to favor Petitioner's argument which is not grounded in the actual words of the Commission's rule. Therefore, COL 6 should be changed to read: *The New Setback Rules require "a building or other structure less than 5,000 square feet" to be located 30 times the 2-foot erosion rate, or 60 feet, from the line of vegetation, as set by the LPO. 15A N.C.A.C. 7H .0306(a)(2)(A).*

8. COL 7 summarizes what this cited rule says, without quoting what Respondent and Respondent-Intervenor assert is the important, relevant language of the rule. Instead of the rules requiring "development totalling more than 5,000 square feet but less than 10,000 square feet...", the rule states that, "a building or other structure greater than or equal to square feet but less than 10,000 square feet..." Respondent and Respondent-Intervenor object to this wording in COL 7 for the same reasons it objects to COL 6 in paragraph 7 above, and contends that the rule should be quoted exactly instead of summarized to favor Petitioner's argument which is not grounded in the actual words of the Commission's rule. Also, the typographical error that lists the total setback as 1,200 feet instead of 120 feet should be corrected. Therefore, COL 7 should be changed to read: *The New Setback Rules require "a building or other structure greater than or equal to 5,000 square feet but less than 10,000 square feet" to be located 60 times the 2-foot erosion rate, or 120 feet, from the line of vegetation, as set by the LPO. 15A N.C.A.C. 7H .0306(a)(2)(B).*

9. COL 8, like COLs 6 and 7 above, incorrectly uses the term "development" instead of using the actual rule language of "a building or other structure." This COL then, based on this more general and all-encompassing use of "development" incorrectly concludes that "the square footage of all proposed structures and buildings are to be added together pursuant to the definition of "Total Floor Area" found in 15A N.C.A.C. 7H 0306(a)(1)." This conclusion can only be made by substituting the concept of "development" and looking at *all* of the activities that could take place on the lot subject to CAMA regulation to arrive at a total floor area. However, if the Commission's specific setback rule language of "a building or other structure" is used as proposed by the Respondent, it clearly anticipates that DCM or the appropriate CAMA Local Permitting Officer (LPO) would look separately at the "total floor area" of each "building

or other structure" proposed in determining a setback. This supports the Respondent's and Respondent-Intervenor's "count structurally separate structures separately" analysis for the setback rule. COL 8 should be changed to read:

> *15A N.C.A.C. 7H .0306(a)(1) uses the plural "structures and buildings" in the plural for the definition of "total floor area" only to contrast buildings with the "total area of footprint for development other than structures and buildings." The specific sub-parts of this rule which assign the setback multiplier for a specific "total floor area" range (7H .0306(b)(1)(A & B)), however, use the singular, disjunctive phrase "a building or other structure." Therefore, the use of the singular, disjunctive in the specific setback factor rule sub-part indicates that the "total floor area" and corresponding setback applies to each separate "building or other structure", and not to the combined total floor area of all structures with "total floor area" on a particular lot. As a matter of law the various structures on the lot do not constitute one structure as intended by the ocean hazard setback rule.*

10. COL 9 is based on the incorrect analysis of the setback rule in COL 6-8 and should be removed because it is the square footage of "a building or other structure", not the "development size" that is relevant for determining the setback. The correct analysis of the setback rule is that the singular and disjunctive use of "a building or other structure" requires the total floor area of structurally separate structures (ie: the main house vs. the crofter and other structures) to be calculated separately for setback purposes. Accordingly, this COL should be removed.

11. COL 10 is based on the incorrect analysis of the setback rule in COL 6-8 and should be changed because it is the square footage of "a building or other structure", not the "development size" that is relevant for determining the setback. The correct analysis of the setback rule is that the singular and disjunctive use of "a building or other structure" requires the total floor area of structurally separate structures (ie: the main house vs. the crofter and other structures) to be calculated separately for setback purposes. Accordingly, COL 10 should be changed to read: *The LPO acted correctly in calculating the total floor area for each "building*

or other structure" and correctly applied the appropriate setback of 60 feet (30 x 2' per year) for each "building or other structure" proposed.

12. COL 11 is based on the incorrect analysis of the setback rule in COL 6-8 and should be changed because it is the square footage of "a building or other structure", not the "development size" that is relevant for determining the setback. The correct analysis of the setback rule is that the singular and disjunctive use of "a building or other structure" requires the total floor area of structurally separate structures (ie: the main house vs. the crofter and other structures) to be calculated separately for setback purposes. Accordingly, COL 11 should be changed to read: *The total floor area of the single family residence totals less than 5,000 square feet, and Respondent DCM, through the Village's CAMA LPO, correctly determined the setback to be 60 feet (30 x 2' per year).*

13. COL 12 is based on the incorrect analysis of the setback rule in COL 6-8 and should be changed because it is the square footage of "a building or other structure", not the "development size" that is relevant for determining the setback. The correct analysis of the setback rule is that the singular and disjunctive use of "a building or other structure" requires the total floor area of structurally separate structures (ie: the main house vs. the crofter and other structures) to be calculated separately for setback purposes. Accordingly, COL 12 should be changed to read: *Pursuant to 15A N.C.A.C. 7H.0306(a)(2)(A), the appropriate setback for each "building or other structure" in the proposed project is 60 feet from the first line of stable and natural vegetation determined by the LPO.*

14. COL 13 is based on the incorrect analysis of the setback rule in COL 6-8 and should be changed because it is the square footage of "a building or other structure", not the "development size" that is relevant for determining the setback. The correct analysis of the

setback rule is that the singular and disjunctive use of "a building or other structure" requires the total floor area of structurally separate structures (ie: the main house vs. the crofter and other structures) to be calculated separately for setback purposes. Accordingly, COL 13 should be changed to read: *CAMA Minor Permit 2010-05 properly allows each of the structurally separate buildings or other structures to be placed 60 feet or more from the vegetation line.*

15. COL 15 should be stricken because there is no evidence in the record that Petitioner's rights are substantially prejudiced by the issuance of CAMA Minor Permit 2010-05. While Petitioner has claimed this harm in his affidavit at Record Page 614, there is no substantial prejudice to Petitioner's rights because the Respondent correctly interpreted the relevant rule.

16. Respondent and Respondent-Intervenor finally contend that portions of the "Decision" section should be changed to reflect a Decision and Order in favor of Respondent DCM's Motion for Summary Judgment, in opposition to Petitioner's Motion for Summary Judgment, and affirming the issuance of CAMA Minor Permit 2010-05 to the Intervenor-Respondent for the Commission's Final Agency Decision.

Respectfully submitted this the 10th day of August, 2011.

ROY COOPER
Attorney General

By: _____

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By: _____
FOR

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CERTIFICATE OF SERVICE

A copy of the foregoing was e-mailed to:

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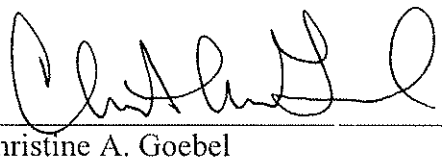
Mary L. Lucasse, CRC Counsel
mlucasse@ncdoj.gov

Kenneth A. Shanklin
kshanklin@shanklaw.com

William A. Raney, Jr.
waraney@bellsouth.net

This the 10th day of August, 2011.



Christine A. Goebel
Assistant Attorney General

STATE OF NORTH CAROLINA	BEFORE THE COASTAL RESOURCES COMMISSION
COUNTY OF BRUNSWICK	OAH FILE: 10 EHR 08355

KEVAN BUSIK, Petitioner, v. N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF COASTAL MANAGEMENT, Respondent and 1118 LONGWOOD AVENUE REALTY CORP., Respondent-Intervenor.	)	RESPONDENT-INTERVNOR'S ARGUMENT IN SUPPORT OF RESPONDENT AND RESPONDENT-INTERVENOR'S EXCEPTIONS TO THE ALJ'S DECISION

The Respondent-Intervenor hereby submits the following Argument in support of the Exceptions submitted by the Respondent and the Respondent-Intervenor to the Decision of the Administrative Law Judge.

ISSUE

For purposes of the ocean hazard setback rule, is the "total floor area" and corresponding setback determined for each separate structure or building, or is the total floor area determined by adding the total floor areas of all structures and buildings for which the permit is being sought.

ARGUMENT

The Administrative Law Judge incorrectly determined that for purposes of determining the ocean hazard setback, the total floor area of all structures and buildings should be added together rather than adopting the interpretation of the Division of Coastal Management that the total floor area of each separate structure or building determines the setback for that structure or building.

The top administrators in the Division of Coastal Management (DCM) have been involved in the interpretation of the ocean hazard setback rule for many years. They were heavily involved in the development of the new rule for ocean hazard setbacks, including the staff discussions, public hearings, and CRC discussions. They have interpreted both the old rule and the new rule in a way that fit their understanding and interpretation of the language of the rule and their understanding of the intent of the rule gleaned from their involvement in the creation and adoption of the new rule.

Both Jim Gregson and Doug Huggett expressed the reasons for the staff interpretation in affidavits found in pages 144-153 of the Record. They both mention several projects involving multiple buildings that were permitted using the same interpretation used by the LPO for Bald Head in this case.

The cardinal principle of statutory construction is to discern the intent of the legislature. *Strong's NC Index 4th, Statutes, §28* and cases cited therein. In this case the legislative body is the Coastal Resources Commission. Having been heavily involved with the CRC and the rule making process, the understanding of both Gregson and Huggett should be carefully considered. The construction of a rule by those who execute and administer the rule is highly relevant. State v. Moore, 132 N.C. App. 802, 513 S.E.2d 346 (1999).

Determining the purpose and intent of a rule is the ultimate goal of statutory interpretation, the purpose and intent is first ascertained from the plain words of the rule. Electric Supply Co. v. Swain Electrical, 328 N.C. 651, 403 S.E.2d 291 (1991). In this case the specific part of the rule dealing with the setbacks states that "a building or other structure less than 5,000 square feet requires a minimum setback of 60 feet or 30 times the shoreline erosion rate, whichever is greater;". 15A NCAC 7H.0306(a)(2)(A). In this case the residence is "a building", the crofter is "a building", the raised driveway is a "structure" and the HVAC platform is "a structure". The 60' setback was correctly applied to each of these buildings or structures by the LPO.

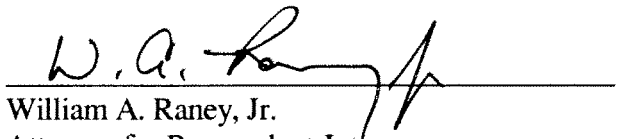
The Administrative Law Judge (ALJ) resorted to the creation of a provision that appears nowhere in the rule to try to justify his interpretation of the rule. He found as fact that the Respondent-Intervenor proposes to build a single-family residence with "appurtenant structures". He concludes that the rule requires the square footage to include both the residence and appurtenant structures, yet there is no mention of appurtenant structures anywhere in the rule.

The decision by the ALJ is not based on the plain words of the rule and is based on a misunderstanding of the rule.

For the foregoing reasons the Respondent-Intervenor requests that the Commission accept the Exceptions submitted by the Respondent and Respondent-Intervenor (Exceptions) and make a Decision that implements the Findings of Fact and Conclusions of Law proposed by the Exceptions.

This the 10th day of August, 2011.

WESSELL & RANEY, L.L.P.

By: 

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CERTIFICATE OF SERVICE

A copy of the foregoing was e-mailed to:

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Mary L. Lucasse, CRC Counsel
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Kenneth A. Shanklin
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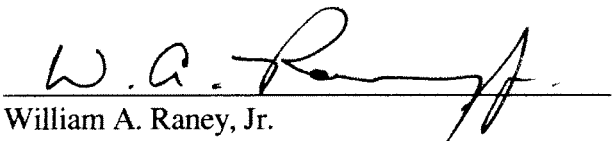
Christine A. Goebel
cgoebel@ncdoj.gov

This the 10th day of August, 2011.

WESSELL & RANEY, L.L.P.

By: 

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WAR\environ\R10-117-009

Kevan Busik
v.
DENR, DCM
and
1118 Longwood Avenue Realty Corp.
10 EHR 8355

OAH Record

STATE OF NORTH CAROLINA
DEPARTMENT OF JUSTICE

ROY COOPER
ATTORNEY GENERAL

REPLY TO:
WARD ZIMMERMAN
wzimmerman@ncdoj.gov

MEMORANDUM

TO: Coastal Resources Commission
FROM: Ward Zimmerman, Assistant Attorney General
DATE: August 8, 2011 (for the August 2011 CRC Meeting)
RE: **Variance Request # 11-03 by Sugar Creek II, LLC**

Petitioner proposes to build a 16-foot by 24-foot pergola over tables on a grassy area adjacent to its restaurant. The Town of Nags Head Local Permit Officer denied Petitioner's application based on the proposed development's inconsistency with the Coastal Resource Commission's (CRC) 30-foot estuarine buffer rule set forth in Rule 15A NCAC 7H.0209(d)(10). Petitioner seeks a variance from this rule.

The following additional information is attached to this memorandum:

Attachment A: Relevant Rule
Attachment B: Stipulated Facts
Attachment C: Petitioner's Position and Staff's Response to Criteria
Attachment D: Petitioner's Variance Request and Other Exhibits

cc: E. Crouse Gray, Jr., Esq., Attorney for Petitioner
Kelly Wyatt, LPO, Town of Nags Head
DCM Staff
Mary Lucasse, Special Deputy Attorney General and CRC Counsel

ATTACHMENT A
(Relevant Rule)

Rule 15A NCAC 7H.0209(d). Coastal Shorelines. Use Standards.

****

(10) Within the Coastal Shorelines category (estuarine and public trust shoreline AECs), new development shall be located a distance of 30 feet landward of the normal water level or normal high water level, with the exception of the following:

(A) Water-dependent uses as described in Rule 07H .0208(a)(1) of this Section;
(B) Pile-supported signs (in accordance with local regulations);
(C) Post- or pile-supported fences;
(D) Elevated, slatted, wooden boardwalks exclusively for pedestrian use and six feet in width or less. The boardwalk may be greater than six feet in width if it is to serve a public use or need;
(E) Crab Shedders, if uncovered with elevated trays and no associated impervious surfaces except those necessary to protect the pump;
(F) Decks/Observation Decks limited to slatted, wooden, elevated and unroofed decks that shall not singularly or collectively exceed 200 square feet;
(G) Grading, excavation and landscaping with no wetland fill except when required by a permitted shoreline stabilization project. Projects shall not increase stormwater runoff to adjacent estuarine and public trust waters;
(H) Development over existing impervious surfaces, provided that the existing impervious surface is not increased and the applicant designs the project to comply with the intent of the rules to the maximum extent feasible;
(I) Where application of the buffer requirement would preclude placement of a residential structure with a footprint of 1,200 square feet or less on lots, parcels and tracts platted prior to June 1, 1999, development may be permitted within the buffer as required in Subparagraph (d)(10) of this Rule, providing the following criteria are met:
    (i) Development shall minimize the impacts to the buffer and reduce runoff by limiting land disturbance to only so much as is necessary to construct and provide access to the residence and to allow installation or connection of utilities such as water and sewer; and
    (ii) The residential structure development shall be located a distance landward of the normal high water or normal water level equal to 20 percent of the greatest depth of the lot. Existing structures that encroach into the applicable buffer area may be replaced or repaired consistent with the criteria set out in Rules .0201 and .0211 in Subchapter 07J of this Chapter; and
(J) Where application of the buffer requirement set out in 15A NCAC 07H .0209(d)(10) would preclude placement of a residential structure on an undeveloped lot platted prior to June 1, 1999 that are 5,000 square feet or less that does not require an on-site septic system, or on an undeveloped lot that is 7,500

square feet or less that requires an on-site septic system, development may be permitted within the buffer if all the following criteria are met:

(i) The lot on which the proposed residential structure is to be located, is located between:
   (I) Two existing waterfront residential structures, both of which are within 100 feet of the center of the lot and at least one of which encroaches into the buffer; or
   (II) An existing waterfront residential structure that encroaches into the buffer and a road, canal, or other open body of water, both of which are within 100 feet of the center of the lot;

(ii) Development of the lot shall minimize the impacts to the buffer and reduce runoff by limiting land disturbance to only so much as is necessary to construct and provide access to the residence and to allow installation or connection of utilities;

(iii) Placement of the residential structure and pervious decking may be aligned no further into the buffer than the existing residential structures and existing pervious decking on adjoining lots;

(iv) The first one and one-half inches of rainfall from all impervious surfaces on the lot shall be collected and contained on-site in accordance with the design standards for stormwater management for coastal counties as specified in 15A NCAC 02H .1005. The stormwater management system shall be designed by an individual who meets applicable State occupational licensing requirements for the type of system proposed and approved during the permit application process. If the residential structure encroaches into the buffer, then no other impervious surfaces will be allowed within the buffer; and

(v) The lots must not be adjacent to waters designated as approved or conditionally approved shellfish waters by the Shellfish Sanitation Section of the Division of Environmental Health of the Department of Environment and Natural Resources.

ATTACHMENT B
(Stipulated Facts)

1. Petitioner is Sugar Creek II, LLC (Petitioner).

2. Petitioner owns a restaurant with take-out service and land located at 7340 South Virginia Dare Trail in the Town of Nags Head, Dare County, North Carolina.

3. Petitioner has owned this property since 2005. *See* Attachment D.

4. This property is located adjacent to the estuarine waters of the Roanoke Sound. Seventy-five feet landward of the normal water level is designated as an Estuarine Shoreline Area of Environmental Concern (AEC).

5. Any development in this AEC requires a CAMA development permit pursuant to N.C. Gen. Stat. § 113A-118.

6. There is a retaining wall/bulkhead along the property's shoreline of the Roanoke Sound. *See* Attachment D. There is a five-foot wide wooden dock that runs parallel to the retaining wall/bulkhead.

7. There is a grassy area with tables for the restaurant patrons' use between the north side of the restaurant and the water.

8. Petitioner's restaurant is located, on average, approximately thirty-five feet from the retaining wall/bulkhead.

9. On 4 March 2011, Petitioner applied for a Coastal Area Management Act (CAMA) minor permit from the Dare County Minor Permit Program to construct:

   (a) A 13-foot by 24-foot roof addition over existing wood-slated decking outside the thirty-foot estuarine buffer.

   (b) A 16-foot by 24-foot pergola over a portion of the grassy area within the thirty-foot buffer. The pergola would be porous and is designed to provide shade to the outdoor dining area. The proposed structure would consist of 2-foot by 10-foot rafters, spaced at 1-foot increments that would be supported by the existing building on one end and post and girders at its distal end. The structure would be approximately 10 feet tall, would not consist of any roof sheathing, and would be open on three sides with the fourth side being the existing two-story take-out restaurant building. *See* Attachment D.

10. In accordance with the CAMA minor permit application process, written notification of the proposed development was provided to the adjacent property owners. *See* Attachment D.

11. On 21 March 2011, Town of Nags Head Local Permit Officer (LPO) Kelly Wyatt approved Petitioner's application for construction of the proposed roof addition outside the thirty-foot estuarine buffer (Stipulated Fact 9(a), above) and denied Petitioner's application for construction of the proposed pergola (Stipulated Fact 9(b), above), because of its inconsistency with Rule 15A NCAC 07H.0209(d)(10) by being located within 30 feet of the normal water level and without being one of the specific exceptions. *See* Attachment D.

12. On 25 April 2011, Petitioner submitted this variance petition to the Division of Coastal Management (DCM). *See* Attachment D.

ATTACHMENT C

(Petitioner's Position and Staff's Response to Criteria)

I. Will strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardships? If so, the petitioner must identify the hardships.

Petitioners' Position: Yes.

"This picnic area is popular with guests for outdoor soundside dining. However, at the time frame this area is being used the most, it is also the hottest, being the summertime. At least partial shading by the pergola is proposed in order to give some shade in this area. Applicant has previously utilized awnings and umbrellas. However, due to the high winds that this area frequently receives, the awnings and umbrellas were not capable of withstanding those winds and created more concerns or problems than benefits. Furthermore, awnings and umbrellas created potential issues preventing free passage of storm water to the grass below. Not only is there a constant cost to replace awnings and umbrellas and the mechanical systems to raise and lower awnings and umbrellas, there is a substantial great risk of injury to parties when umbrellas and awnings are moved by high winds. A stable pergola will alleviate those hardships."

Staff's Position: Yes.

Staff agrees that strict adherence to applicable development rules would cause the petitioner unnecessary hardship. Rule 15A NCAC 07H .0209 is designed to protect the public trust rights and the biological and physical functions of the estuarine system. This is accomplished by limiting the acceptable uses to those types of development activities that will not be detrimental to the system. Subsection (d)(10) of this Rule sets forth a list of exceptions; and pergolas are not listed among these exceptions. However, a pergola is a porous structure that allows rainfall to pass through to the ground. As such, this development would minimally alter the pattern of rainfall runoff on Petitioner's property. While strict application of the rules limits development to those specifically enumerated exceptions set forth in Rule 15A NCAC 07H.0209(d)(10), denying this structure that has the benefit of simultaneously providing shade (similar to umbrellas on tables), allowing rainfall to pass through to the ground, and withstanding high winds would produce unnecessary hardship.

II. Do such hardships result from conditions peculiar to the petitioner's property, such as location, size, or topography of the property? Explain.

Petitioners' Position: Yes.

"This area is the most suitable and accessible for soundside dining. Given the fact that this area is the Outer Banks of North Carolina, many people wish to spend as much time outdoors as possible, including eating outside. This property is one of the few that has the capability of allowing outside dining on natural grass. The grassy area faces North. The 2x12's of the pergola would be in a North/South direction. That means as the sun rises in the East or

sets in the West, the sun is hitting the 12 inch face of the 2x12's to provide shading for almost the entire day, except when the sun is directly over the top of the pergola. However, the actual land coverage is only 2 inches by 192 inches (16 feet) by 24 strips for approximately 64 square feet of actual coverage in a total area of 768 square feet or in other words, only 8.33% land coverage in the pergola area."

Staff's Position: No.

Although Staff does not agree with Petitioner that hardship results from conditions peculiar to the property, Staff does agree with Petitioner that the most suitable and accessible site for sound-side dining is the location proposed.

III. Do the hardships result from the actions taken by the Petitioner? Explain.

Petitioners' Position: No.

"Applicant has attempted to use awnings and umbrellas to provide shade in the picnic area in the past. Applicant is trying to create a cooler outdoor area for guests. Allowing the variance will provide a permeable shade structure as awnings and umbrellas concentrate water runoff."

Staff's Position: Yes.

Staff does not agree with the Petitioner that the hardships are not the result of Petitioner's action. The Petitioner purchased the property in 2005, after the coastal shoreline rules were adopted.

IV. Will the variance requested by the petitioner: (1) be consistent with the spirit, purpose, and intent of the rules, standards, or orders issued by the Commission; (2) secure the public safety and welfare; and (3) preserve substantial justice? Explain.

Petitioners' Position: Yes.

"By granting the variance request, it will be consistent with the spirit, purpose, and intent of the CRC Rules, Standards or Orders since it will allow use of the property in a fashion and in a way that will not be harmful to the protected waters of the State of North Carolina. This permeable structure will allow free passage of storm water to the grass below. Even though the property has a retaining wall between the grassy area and the Albermarle Sound, by use of the pergola, it will not increase runoff but will provide much needed shade."

Staff's Position: Yes.

Rule 15A NCAC 07H.0209 is designed to protect North Carolina's coastal shorelines by creating a thirty-foot buffer adjacent to estuarine and public trust waters. Subsection (d)(10) of this Rule sets forth a list of development exceptions that would not be detrimental to the public trust rights and the biological and physical functions of the estuarine system. Slatted, wooded,

elevated, unroofed decks are among these exceptions. Pergolas are not listed among these exceptions. However, a pergola is a structure that allows rainfall to pass through its roof to the ground; and, thus, it has a limited affect upon water runoff within the footprint of the structure. Petitioner's proposed pergola meets the spirit, purpose, and intent of Rule 15A NCAC 07H.0209(d)(10) in that it minimally alters the runoff patters of the existing property by not increasing the percent imperviousness of the site, while furthering the "social, aesthetic, and economic values" set forth in the Management Objective of Rule 15A NCAC 07H.0209(c) by providing expanded use and shading for the restaurant's patrons.

Staff is satisfied that Petitioner's proposal secures the public safety and welfare by protecting a public resource and that it preserves substantial justice by enabling Petitioner to proactively seek a remedy consistent with the spirit, purpose, and intent of the rules, standards, or orders issued by the Commission.

ATTACHMENT D

(Petitioner's Variance Request and Other Exhibits)

CAMA VARIANCE REQUEST DCM File No.: 11-03

Petitioners Name: Sugar Creek II, LLC
County where development is proposed: Dare

PROPOSED STIPULATED FACTS

1. Sugar Creek II, LLC is an owner of a tract of land located within the Town of Nags Head, Dare County.

2. A restaurant is located on the property.

3. In addition to the restaurant, the property contains a two-story frame on piling building out of which is operated a take-out restaurant.

4. That the property in question is immediately adjacent to the Albemarle Sound.

5. That there presently is located between the take-out restaurant building and the Sound, being the North side of the take-out restaurant building, a grassy area upon which is contained several existing tables for the use of clientele for the take-out restaurant.

6. The purpose for the application to construct a "pergola", to provide some shading above the existing picnic tables on the lawn.

7. The proposed structure would consist of 2 x 10 rafters spaced at 12 inch OC supported by post and girders at its distal end and by the existing building.

8. The proposed structure would be located approximately 10 feet above the ground and would not have any roof sheathing above the rafters.

9. The proposed structure would be open on three sides with the side that is not open being the existing two-story take-out restaurant building.

10. Between the grassy area and the Sound, there is an existing retaining wall.

11. The proposed "pergola" or open structure, would be located in an area subject to the Coastal Resource Commission rules.

12. Should the Coastal Resources Commission grant the variance for construction of pergola within the 30 foot estuarine buffer, the zoning permit will then be issued as the proposal does meet all other requirements of the Town of Nags Head Zoning Ordinance (i.e., setbacks and lot coverage) as set forth in letter dated May 6, 2011 revised June 3, 2011 from Kelly Wyatt, Zoning Administrator and LPO to Albemarle & Associates, Ltd., attention John DeLucia, copy of said letter being attached as Exhibit "A".

RESPOND TO THE FOUR STATUTORY VARIANCE CRITERIA:

I. Identify the hardship(s) you will experience if you are not granted a variance and explain why you contend that the application of this rule to your property constitutes an unnecessary hardship. [The North Carolina Court of Appeals has ruled that this factor depends upon the unique nature of the property ranter than the personal situation of the landowner. It has also ruled that financial impact alone is not sufficient to establish unnecessary hardship, although it is a factor to be considered. The most important consideration is whether you can make reasonable use of your property if the variance is not granted. [*Williams v. NCDENR, DCM, and CRC, 144 N.C. App. 479, 548 S.E.2d 793 (2001).*]

This picnic area is popular with guests for outdoor soundside dining. However, at the time frame this area is being used the most, it is also the hottest, being the summertime. At least partial shading by the pergola is proposed in order to give some shade in this area. Applicant has previously utilized awnings and umbrellas. However, due to the high winds that this area frequently receives, the awnings and umbrellas were not capable of withstanding those winds and created more concerns or problems than benefits. Furthermore, awnings and umbrellas created potential issues preventing free passage of storm water to the grass below.

II. Describe the conditions that are peculiar to your property (such as location, size, and topography), and cause your hardship.

This area is the most suitable and accessible for soundside dining. Given the fact that this area is the Outer Banks of North Carolina, many people wish to spend as much time outdoors as possible, including eating outside. This property is one of the few that has the capability allowing outside dining on natural grass.

III. Explain why your hardship does not result from actions that you have taken.

Applicant has attempting to use awnings and umbrellas to provide shade in this picnic area in the past. Applicant is trying to create a cooler outdoor area for guests. Allowing the variance will provide a permeable shade structure as awnings and umbrellas concentrate water runoff.

IV. Explain why the granting of the variance you seek will be consistent with the spirit, purpose, and intent of the CRC's rules, standards, or orders; preserve substantial justice; and secure public safety.

By granting the variance, it will be consistent with the spirit, purpose and intent of the CRC Rules, Standards or Orders since it will allow use of the property in a fashion and in a way that will not be harmful to the protected waters of the State of North Carolina. This permeable structure will allow free passage of storm water to the grass below. Even though the property has a retaining wall between the grassy area and the Albemarle Sound, by use of the pergola, it will not increase runoff but will provide much needed shade.

Town of Nags Head

Planning and Development
Department

Post Office Box 99
Nags Head, North Carolina 27959
www.townofnagshead.net

Telephone 252-441-7016
FAX 252-441-4290

May 6, 2011
Revision Date: June 3, 2011

Albemarle & Associates, Ltd.
Attn: John Delucia
P.O. Box 3989
Kill Devil Hills, NC 27948

REF: Pergola at Sugar Shack, 7340 S. Virginia Dare Trail

Mr. Delucia:

On March 4, 2011 Ervin Bateman submitted a CAMA Minor Permit Application for construction of the following at the above location:

- Construction of a 16 x 24 pergola behind the Sugar Shack, and
- Construction of a roof over the existing wood-slatted deck at Sugar Creek Restaurant.

Current CAMA rules, set forth in 15A NCAC 07H.0209(d)(10), list specific types of development permitted within the 30 ft. estuarine buffer area (ie: elevated wooden boardwalks, pile supported signs and fences, crabshedders, observation decks limited to 200 sq. ft., etc.), however, John Cece, DCM Representative informed me that a pergola is not enumerated or included as an allowable use. I could not issue a CAMA Minor Permit for the pergola but could and did issue a CAMA Minor Permit for the construction of the roof over the existing wood-slatted deck on March 21, 2011.

The Zoning Department does not issue zoning permits for proposed development within the CAMA AEC until the CAMA Minor Permit has been issued. The pergola therefore cannot be permitted under Town zoning unless a variance from the CAMA Regulations is granted for this application by the Coastal Resources Commission. The Town of Nags Head does not provide for variances under the circumstances of this application.

Should the CRC grant the variance for construction of a pergola within the 30 ft. estuarine buffer the zoning permit will then be issued as the proposal does meet all other requirements of the Town's zoning ordinance (ie: setbacks and lot coverage).

Please do not hesitate to contact me if you have additional questions.

Thank you,

Kelly Wyatt
Zoning Administrator & LPO
Town of Nags Head
(p) 252-449-6042
(e) wyatt@townofnagshead.net

EXHIBIT
A

Albemarle
& ASSOCIATES, LTD.

April 25, 2011

Mr. James H. Gregson, Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

RE: Request for Variance – Sugar Creek II, LLC
4370 S Virginia Dare Trail
Nags Head, NC

Dear Mr. Gregson:

Find enclosed the information to make application for a variance from 15A NCAC 07H0209(3)(10). The Town of Nags Head denied the permission to construct a pergola shade structure at this facility based upon the aforementioned section. We appealed the Town's decision (letter attached) but were advised to make application for a variance.

The application and requested attachments are included with this cover letter. Mr. Bateman, the owner, will be represented by his attorney Mr. E. Crouse Gray, Jr. (252) 441-4338 at the hearing. Please have this matter included on the next available CRC meeting.

Sincerely,

John M. DeLucia, PE
Principal Engineer

Enc

cc: File 04859A
Ervin Bateman
Environmental Division
E Crouse Gray, Jr.

Land Planning – Engineering – Surveying – Environmental – Construction Management
P.O. Box 3989, 115 W. Saint Clair St., Kill Devil Hills, North Carolina 27948
North Carolina License No. C-1027
Phone: 252-441-2113 www.AlbemarleAssociates.com Fax: 252-441-0965

CAMA VARIANCE REQUEST FORM

DCM FORM 11
DCM FILE No.: 11-03

PETITIONER'S NAME Sugar Creek II, LLC

COUNTY WHERE THE DEVELOPMENT IS PROPOSED Dare

Pursuant to N.C.G.S. § 113A-120.1 and 15A N.C.A.C. 07J .0700 *et seq.*, the above named Petitioner hereby applies to the Coastal Resources Commission (CRC) for a variance.

VARIANCE HEARING PROCEDURES

A variance petition will be considered by the CRC at a regularly scheduled meeting, heard in chronological order based upon the date of receipt of a complete petition. 15A N.C.A.C. 07J .0701(e). A complete variance petition, as described below, must be *received* by the Division of Coastal Management (DCM) a minimum of six (6) weeks in advance of the first day of a regularly scheduled CRC meeting to be eligible for consideration by the CRC at that meeting. 15A N.C.A.C. 07J .0701(e). The final set of stipulated facts must be agreed to at least four (4) weeks prior to the first day of a regularly scheduled meeting. 15A N.C.A.C. 07J .0701(e). The dates of CRC meetings can be found at DCM's website: **www.nccoastalmanagement.net**

If there are controverted facts that are significant in determining the propriety of a variance, or if the Commission determines that more facts are necessary, the facts will be determined in an administrative hearing. 15A N.C.A.C. 07J .0701(b).

VARIANCE CRITERIA

The petitioner has the burden of convincing the CRC that it meets the following criteria:

(a) Will strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardships? Explain the hardships.

(b) Do such hardships result from conditions peculiar to the petitioner's property such as the location, size, or topography of the property? Explain.

(c) Do the hardships result from actions taken by the petitioner? Explain.

(d) Will the variance requested by the petitioner (1) be consistent with the spirit, purpose, and intent of the rules, standards or orders issued by the Commission; (2) secure the public safety and welfare; and (3) preserve substantial justice? Explain.

Please make your written arguments that Petitioner meets these criteria on a separate piece of paper.

The Commission notes that there are some opinions of the State Bar which indicate that non-attorneys may not represent others at quasi-judicial proceedings such as a variance hearing before the Commission. These opinions note that the practice of professionals, such as engineers, surveyors or contractors, representing others in quasi-judicial proceedings through written or oral argument, may be considered the practice of law. Before you proceed with this variance request, you may wish to seek the advice of counsel before having a non-lawyer represent your interests through preparation of this Petition.

For this variance request to be complete, the petitioner must provide the information listed below. The undersigned petitioner verifies that this variance request is complete and includes:

✓ The name and location of the development as identified on the permit application;

✓ A copy of the permit decision for the development in question;

✓ A copy of the deed to the property on which the proposed development would be located;

✓ A complete description of the proposed development including a site plan;

___ A stipulation that the proposed development is inconsistent with the rule at issue;

✓ Proof that notice was sent to adjacent owners and objectors, as required by 15A N.C.A.C. 07J .0701(c)(7);

___ Proof that a variance was sought from the local government per 15A N.C.A.C. 07J .0701(a), if applicable;

✓ Petitioner's written reasons and arguments about why the Petitioner meets the four variance criteria, listed above;

___ A draft set of proposed stipulated facts and stipulated exhibits. Please make these verifiable facts free from argument. Arguments or characterizations about the facts should be included in the written responses to the four variance criteria instead of being included in the facts.

✓ This form completed, dated, and signed by the Petitioner or Petitioner's Attorney.

Due to the above information and pursuant to statute, the undersigned hereby requests a variance.

Signature of Petitioner or Attorney

4 20 11
Date

Erin M Bateman
Printed Name of Petitioner or Attorney

Email address of Petitioner or Attorney

PO Box 1127
Mailing Address

(252) 202-1072
Telephone Number of Petitioner or Attorney

Kitty Hawk NC 27949
City State Zip

( )
Fax Number of Petitioner or Attorney

DELIVERY OF THIS HEARING REQUEST

This variance petition must be **received by** the Division of Coastal Management at least six (6) weeks before the first day of the regularly scheduled Commission meeting at which it is heard. A copy of this request must also be sent to the Attorney General's Office, Environmental Division. 15A N.C.A.C. 07J .0701(e).

Contact Information for DCM:

By mail, express mail or hand delivery:
Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

By Fax:
(252) 247-3330

By Email:
Check DCM website for the email address of the current DCM Director
www.nccoastalmanagement.net

Contact Information for Attorney General's Office:

By mail:
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001

By express mail:
Environmental Division
114 W. Edenton Street
Raleigh, NC 27603

By Fax:
(919) 716-6767

Revised: February 2011

SUGAR CREEK II LLC
RESPONSE TO VARIANCE CRITERIA
APRIL 20, 2011

What did you seek a permit to do?

To add an uncovered 16'x24' pergola shade structure above an existing outdoor grassed picnic area. Photos and Plans attached.

What Coastal Resources Commission rule(s) prohibit this type of development?

15A NCAC 07H.0209(3)(10)

Can you redesign your proposed development to comply with this rule? *No.*

If your answer is no, explain why you cannot redesign to comply with the rule.

The existing building location/picnic area cannot be relocated and this shade structure is desired to be effective in shading this area.

Can you obtain a permit for a portion of what you wish to do? ***No.***

If so, please state what the permit would allow.

State with specificity what you are NOT allowed to do as a result of the denial of your permit application. It will be assumed that you can make full use of your property, except for the uses that are prohibited as a result of the denial of your permit application.

We were denied permission to erect a wooden pergola latticed shade structure above an existing picnic area.

RESPOND TO THE FOUR STATUTORY VARIANCE CRITERIA:

I. Identify the hardship(s) you will experience if you are not grated a variance and explain why you contend that the application of this rule to your property constitutes an unnecessary hardship. The North Carolina Court of Appeals has ruled that this factor depends upon the unique nature of the property rather than the personal situation of the landowner. It has also ruled that financial impact alone is not sufficient to establish unnecessary hardship, although it is a factor to be considered. The most important consideration is whether you can make reasonable use of your property if the variance is not granted. [*Williams v NCDENR, DCM, and CRC, 144 N.C. App. 479, 548 S.E.2d 793 (2001).]*

   The picnic area is popular with guests for outdoor, soundside dining. This area becomes hot and in need of shade. Previously utilized awnings and umbrellas are not capable of withstanding the winds in this area.

II. Describe the conditions that are peculiar <u>to your property</u> (such as location size, and topography), and cause your hardship.

This area is the most suitable and accessible for soundside dining. Previous attempts to provide shade to this area have not been successful.

III. Explain why your hardship does not result from actions that you have taken.

We have attempted to use awnings and umbrellas to provide shade to the picnic area. We are trying to create a cooler outdoor area for guests. Allowing this variance will provide a permeable shade structure.

IV. Explain why the granting of the variance you seek will be consistent with the spirit, purpose, and intent of the CRC's rules, standards, or orders; preserve substantial justice; and secure public safety.

This structure will be more permeable than the awnings or umbrellas and will allow free passage of stormwater to the grass below. It will not increase run-off and will provide us the ability to shade this area. The photos illustrate a wooden retaining wall that would further preclude stormwater run-off within this area and promote infiltration.

Nags Head
Local Government

11-7
Permit Number

CAMA
MINOR DEVELOPMENT
PERMIT

as authorized by the State of North Carolina, Department of Environment, and Natural Resources and the Coastal Resources Commission for development in an area of environment concern pursuant to Section 113A-118 of the General Statutes, "Coastal Area Management"

Issued to **Sugar Creek II, LLC.**, agent Ervin Bateman, authorizing development in the Estuarine Shoreline (AEC) at 7340 S. Virginia Dare Trail, in Nags Head, as requested in the permittee's application, dated March 4, 2011. This permit, issued on March 21, 2011, is subject to compliance with the application and site drawing (where consistent with the permit), all applicable regulations and special conditions and notes set forth below. Any violation of these terms may subject permittee to a fine, imprisonment or civil action, or may cause the permit to be null and void.

This permit authorizes: Approx. 13' x 24' roof addition over existing open wood-slated decking (deck permit # 10-84-CAMA 30% lot coverage was calculated with permit 10-84 at 29.8%), no additional coverage proposed with roof addition. This permit DOES NOT authorize the construction of the 16'x24' pergola (see condition #10 below).

(1) All proposed development and associated construction must be done in accordance with the revised permitted work plat drawings(s) dated received on March 4, 2011 (roof addition only).

(2) All construction must conform to the N.C. Building Code requirements and all other local, State and Federal regulations, applicable local ordinances and FEMA Flood Regulations.

(3) Any change or changes in the plans for development, construction, or land use activities will require a re-evaluation and modification of this permit.

(4) A copy of this permit shall be posted or available on site. Contact this office at 441-7016 for a final inspection at completion of work.

(Additional Permit Conditions on Page 2)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. From the date of an appeal, any work conducted under this permit must cease until the appeal is resolved. This permit must be on the project site and accessible to the permit officer when the project is inspected for compliance. Any maintenance work or project modification not covered under this permit, require further written permit approval. All work must cease when this permit expires on:

DECEMBER 31, 2014

In issuing this permit it is agreed that this project is consistent with the local Land Use Plan and all applicable ordinances. This permit may not be transferred to another party without the written approval of the Division of Coastal Management.

Kelly Wyatt
CAMA LOCAL PERMIT OFFICIAL
PO Box 99
Nags Head NC

PERMITTEE
(Signature required if conditions above apply to permit)

(5) The amount of impervious surface shall not exceed 30% of the lot area within 75 feet of Normal Water Level (Estuarine Shoreline Area of Environmental Concern). Current calculations reflect 29.8% coverage including the roofed-deck.

(6) Unless specifically allowed in 15A NCAC 07H. 0209(d)(10), and shown on the permitted plan drawing, all development/construction shall be located a distance of 30 feet landward of NWL. No portion of the roof overhang shall encroach into the 30 ft. buffer.

(7) All unconsolidated material resulting from associated grading and landscaping shall be retained on site by effective sedimentation and erosion control measures. Prior to any land-disturbing activities, a barrier line of filter cloth must be installed between the land disturbing activity and the adjacent marsh or water areas, until such time as the area has been properly stabilized with a vegetative cover.

(8) Any proposed for grading within the 30' buffer from the Normal Water Level must be contoured to prevent additional stormwater runoff to the adjacent marsh. This area shall be immediately vegetatively stabilized, and must remain in a vegetated state.

(9) All other disturbed areas shall be vegetatively stabilized (planted and mulched) within 14 days of construction completion.

.(10) This permit **DOES NOT** authorize construction of the 16' x 24' pergola as requested. It is proposed within the 30 ft. buffer and does not meet the criteria set forth in 15A NCAC 07H. 0209(d)(10). Attached for your review.

SIGNATURE: _____ DATE: 3 21 11

PERMITTEE

Albemarle
& ASSOCIATES, LTD.

April 8, 2011

HAND DELIVERED
Town of Nags Head
PO Box 99
Nags Head, NC, 27959

ATTN: Kelly Wyatt

RE: CAMA Permit for Sugar Creek II, LLC

Dear Ms. Wyatt:

We have received CAMA permit 11-7 issued to Sugar Creek II, LLC authorizing development at 7340 S. Virginia Dare Trail in Nags Head. As you are aware, the permit does not authorize the construction of the 16'x24' pergola. As authorized by and on behalf of Sugar Creek II, LLC, please consider this letter as a formal appeal of the denial of the pergola construction requested in accordance with the permit conditions. Please advise us as to additional information required to facilitate this appeal.

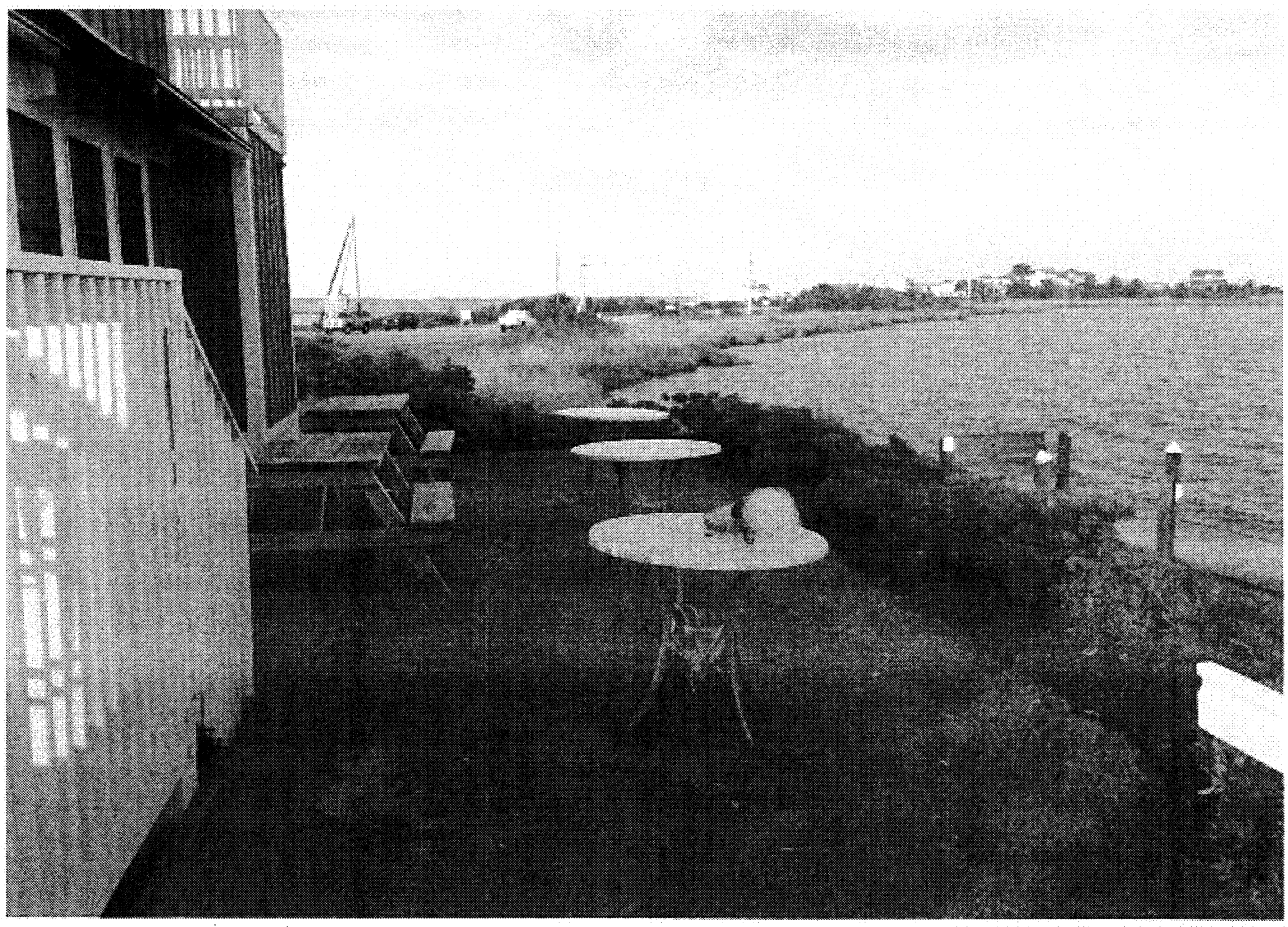
Sincerely,

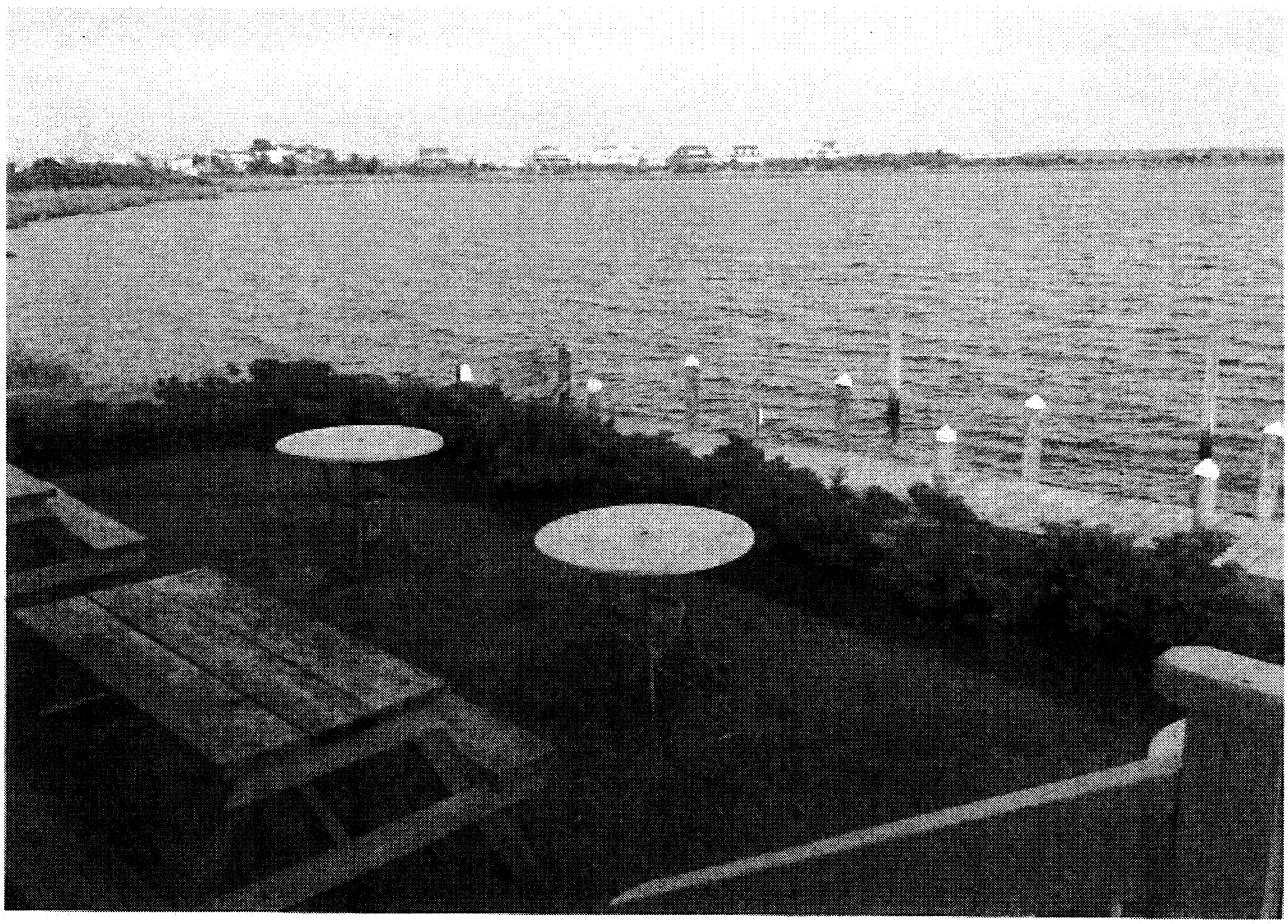
John M. DeLucia

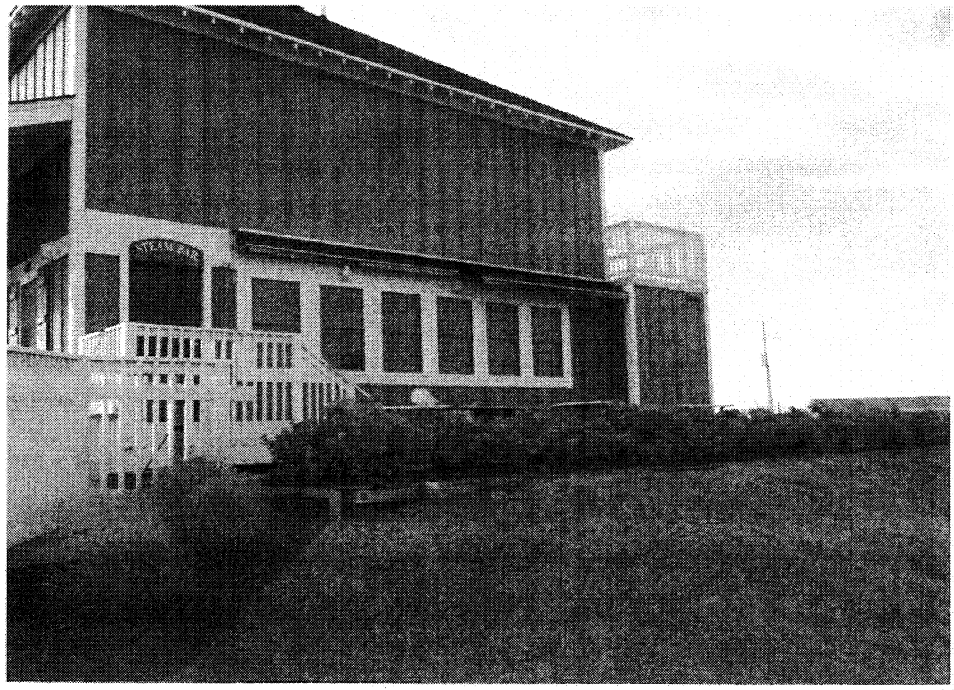
John M. DeLucia, PE
Principal Engineer

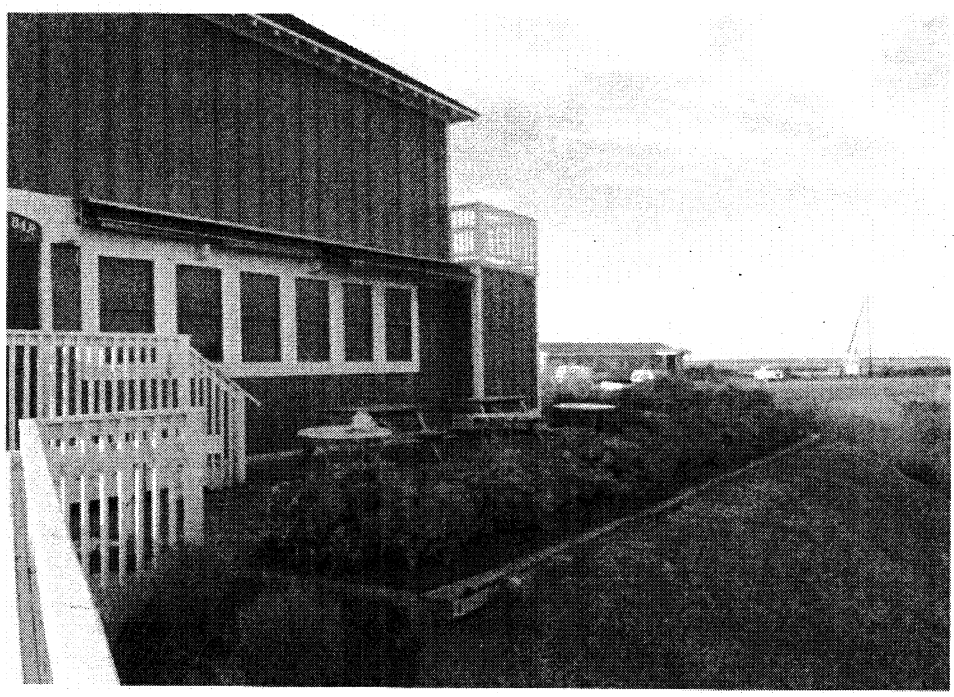
cc: File 04859B
Ervin Bateman

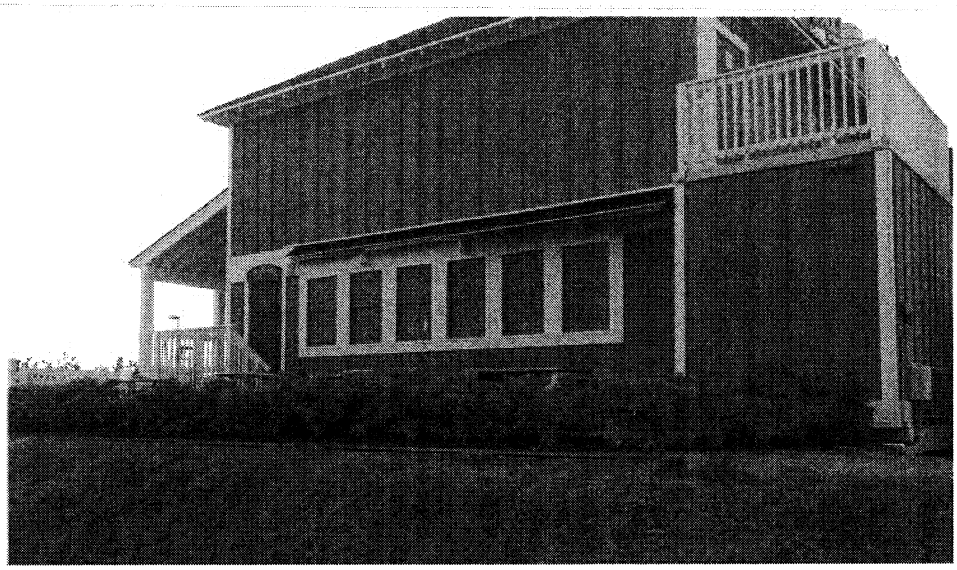
Land Planning – Engineering – Surveying – Environmental – Construction Management
P.O. Box 3989, 115 W. Saint Clair St., Kill Devil Hills, North Carolina 27949
North Carolina License No. C-1027
Phone: 252-441-2113 www.AlbemarleAssociates.com Fax: 252-441-0965









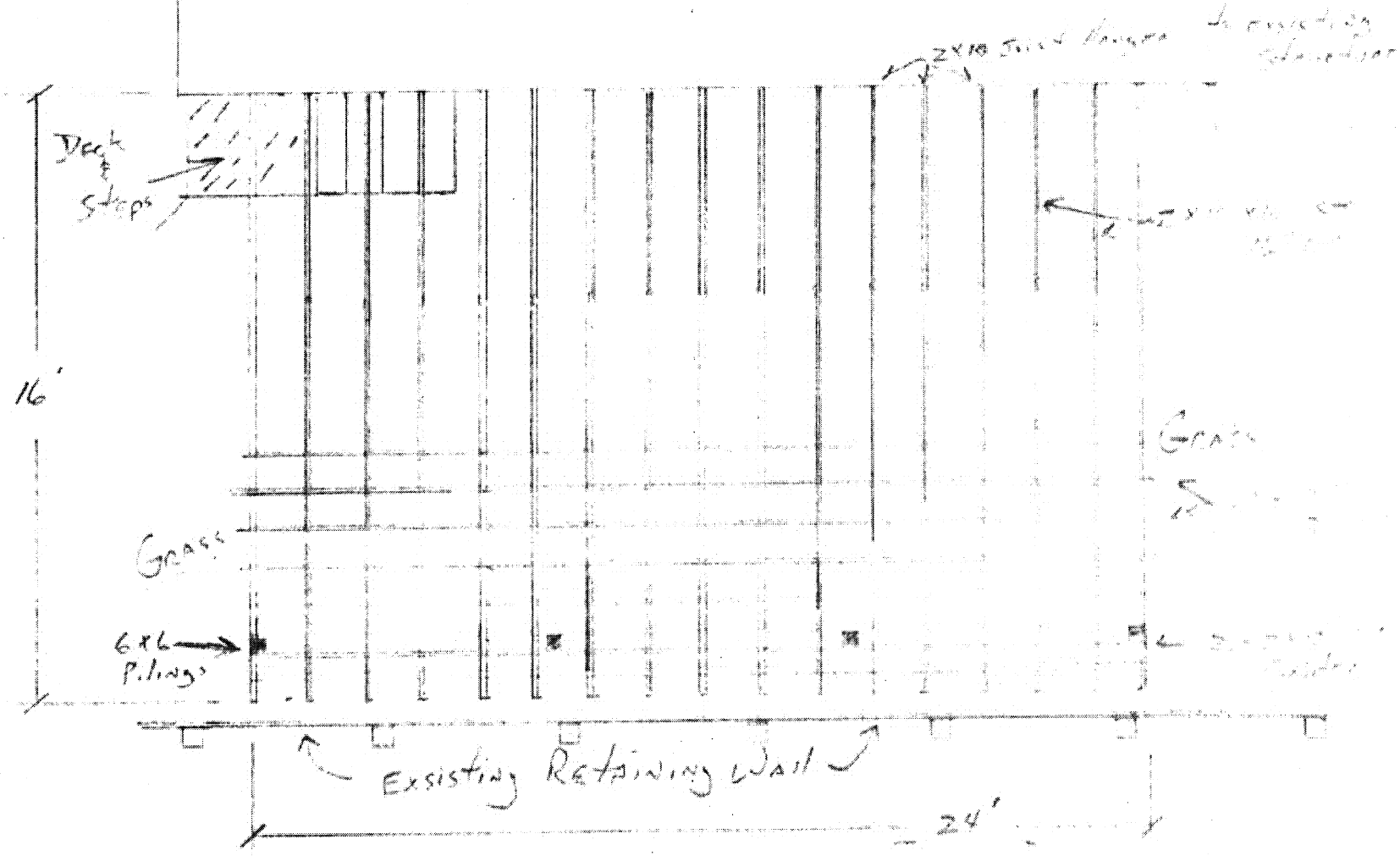


Sugar Shack

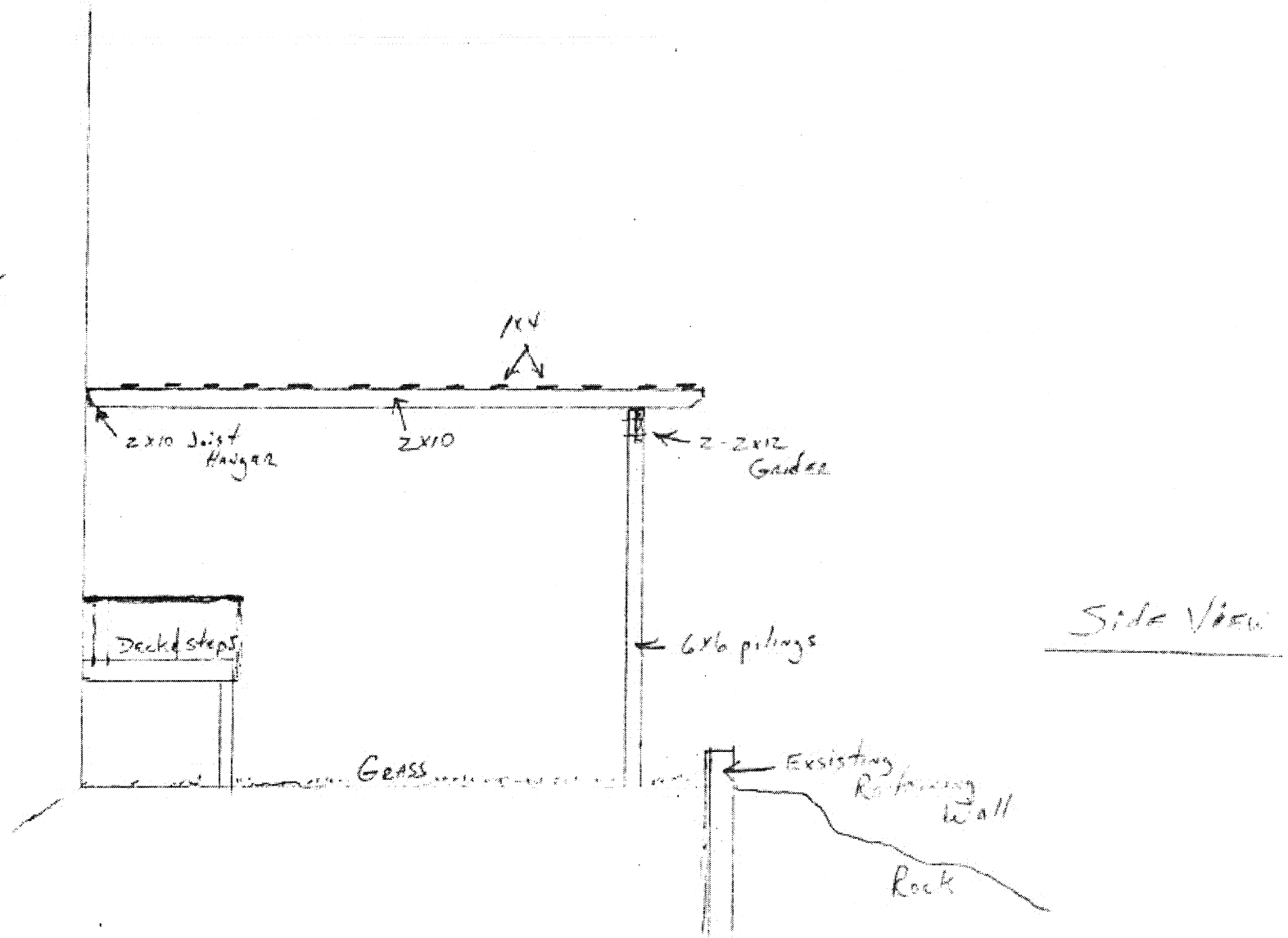
Pergola not authorized by CAMA Permit 11-7.
Kelly Wyatt
3/21/11

Top View

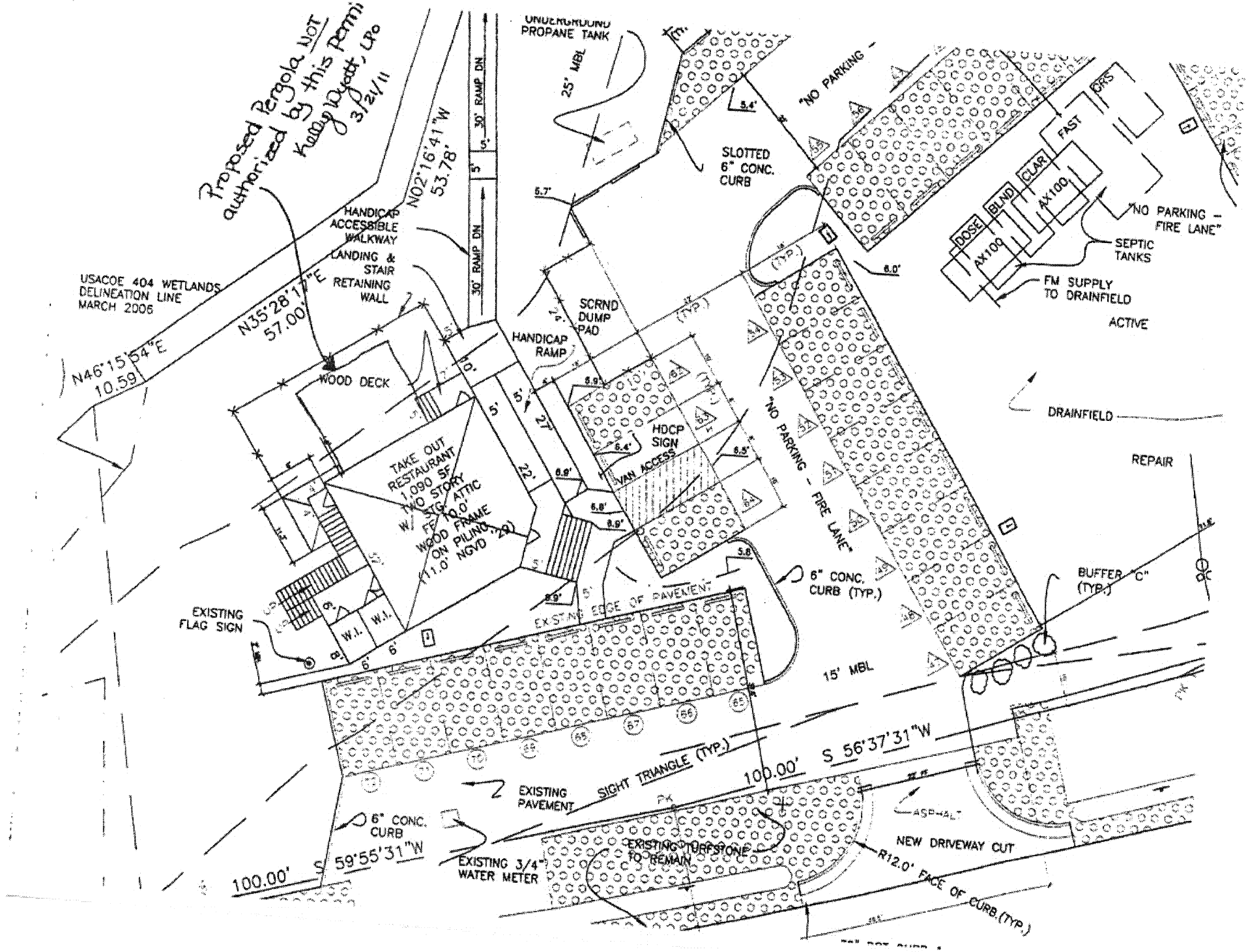
Existing Building



Sugar Shack



Side View


Proposed Pergola NOT authorized by this Permit
Kathy Wyatt, LPO
3/24/11
UNDERGROUND PROPANE TANK
25' MBL
30' RAMP DN
5'
N02°16'41"W
53.78'
"NO PARKING -
SLOTTED 6" CONC. CURB
DOSE
BLND
CLAR
AX100
FAST
DRS
"NO PARKING - FIRE LANE"
SEPTIC TANKS
FM SUPPLY TO DRAINFIELD
ACTIVE
HANDICAP ACCESSIBLE WALKWAY
LANDING & STAIR
RETAINING WALL
USACOE 404 WETLANDS DELINEATION LINE MARCH 2006
N35°28'17"E
57.00'
N46°15'54"E
10.59
WOOD DECK
SCRND DUMP PAD
HANDICAP RAMP
HDCP SIGN
VAN ACCESS
TAKE OUT RESTAURANT
1,090 SF
TWO STORY
W/ STG. ATTIC
FF 10.0
WOOD FRAME
ON PILINGS
111.0 NGVD
"NO PARKING - FIRE LANE"
DRAINFIELD
REPAIR
BUFFER "C" (TYP.)
6" CONC. CURB (TYP.)
EXISTING EDGE OF PAVEMENT
EXISTING FLAG SIGN
W.I.
15' MBL
SIGHT TRIANGLE (TYP.)
100.00'
S 56°37'31"W
EXISTING PAVEMENT
6" CONC. CURB
S 59°55'31"W
100.00'
EXISTING 3/4" WATER METER
EXISTING TURFSTONE TO REMAIN
ASPHALT
NEW DRIVEWAY CUT
R12.0' FACE OF CURB (TYP.)

Albemarle
& ASSOCIATES, LTD.

March 25, 2011

Mr. Ervin Bateman
Sugar Creek II LLC
PO Box 935
Nags Head, NC 27959

RE: Sugar Shack Restaurant – Shade Structure Addition

Dear Mr. Bateman:

This letter is to provide an opinion regarding the installation of a shade structure onto the NE side (sound side) of the Sugar Shack in Nags Head, NC. You indicated that this structure would consist of 2x10 rafters spaced at 12" oc supported by posts and girders at its distal end and by the existing building. This would provide some shading above the existing picnic tables on the lawn in this area. This structure would be located approximately ten feet above the ground and would not have any roof sheathing above the rafters. You had indicated that this shade structure would be completely open on three sides and that the existing lawn area and picnic tables will remain.

It is my opinion that this structure will not increase lot coverage nor will it produce any significant change in storm water run-off volume or quality. The height above the grassed lawn and lack of roof sheathing will not impeded or channelize rainfall in this area. A structure of this nature will allow rainfall to reach the ground surface nearly unimpeded by the rafters and will not alter the infiltrative capabilities of the underlying sandy soils. Planting several trees in this area, if they could survive, would be more likely to alter the run-off patterns in this area than a uncovered shade structure such as this.

If I can provide any additional information at this time, please do not hesitate to call me.

Sincerely,

John M. DeLucia, PE
Principal Engineer

cc: File 04859B
Ervin Bateman

Land Planning – Engineering – Surveying – Environmental – Construction Management
P.O. Box 3989, 115 W. Saint Clair St., Kill Devil Hills, North Carolina 27948
Phone: 252-441-2113 www.AlbemarleAssociates.com Fax: 252-441-0965

DARE COUNTY REAL ESTATE TRANSFER TAX

2084-05 | 8 | 21,775 00

6182587
Page: 1 of 4
03/15/2005 03:53P

APPROVED
DARE COUNTY TAX
COLLECTOR
NO. 2084-05
$21,775.00

Filed Book: 1519 Page: 168
03/15/2005 03:53PM
Doc Code: DEED
BARBARA H GRAY, REGISTER OF DEEDS

Doc Id: 6182587
Receipt #: 135473
NC Excise Tax Pd: $4355.00
DARE CO, NC

NORTH CAROLINA GENERAL WARRANTY DEED

Excise Tax: $4,355.00

Parcel Identifier No. 006947-000, 006948-000 Verified by _____ County on the ____ day of _____, 20__
By: _____

Mail/Box to: Lennie Hughes, P. O. Box 561, Elizabeth City, NC 27907

This instrument was prepared by: Aldridge, Seawell, Spence & Felthousen, LLP, 805 North Main Hwy, Manteo, NC 27954

Brief description for the Index: _____

THIS DEED made this 7th day of March, 20 05, by and between

GRANTOR	GRANTEE
R. V. Owens, III and wife Julie T. Owens	Sugar Creek II, LLC, a one-half undiv. int. Sugar Creek III, LLC, a one-half undiv. interest as tenants in common 7340 S. Virginia Dare Trail Nags Head, NC 27959

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of Nags Head, Nags Head Township, Dare County, North Carolina and more particularly described as follows:

See Exhibit "A"

The property hereinabove described was acquired by Grantor by instrument recorded in Book 1280 page 782.

A map showing the above described property is recorded in Plat Book _____ page _____.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever, other than the following exceptions: Easements and restrictions appearing of record.

IN WITNESS WHEREOF, the Grantor has duly executed the foregoing as of the day and year first above written.

_____ (Entity Name)

By: _____ Title: _____

By: _____ Title: _____

By: _____ Title: _____

RVO—III (SEAL)
R. V. Owens, III

Julie T Owens (SEAL)
Julie T. Owens

_____ (SEAL)

_____ (SEAL)

State of North Carolina - County of Dare

I, the undersigned Notary Public of the County and State aforesaid, certify that R. V. Owens, III and wife Julie T. Owens personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp or seal this 7th day of March, 2005.

My Commission Expires: 7-13-07

Sandra K. Atkinson
Notary Public

State of North Carolina - County of _____

I, the undersigned Notary Public of the County and State aforesaid, certify that _____ personally came before me this day and acknowledged that he is the _____ of _____, a North Carolina or _____ corporation/limited liability company/general partnership/limited partnership (strike through the inapplicable), and that by authority duly given and as the act of such entity, he signed the foregoing instrument in its name on its behalf as its act and deed. Witness my hand and Notarial stamp or seal, this ____ day of _____, 20__.

My Commission Expires: _____

_____
Notary Public

State of North Carolina - County of _____

I, the undersigned Notary Public of the County and State aforesaid, certify that _____

Witness my hand and Notarial stamp or seal, this ____ day of _____, 20__.

My Commission Expires: _____

_____
Notary Public

The foregoing Certificate(s) of Sandra K. Atkinson Notary Public is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

BARBARA McGRAY Register of Deeds for Dare County NC
By: _____ Deputy/Assistant - Register of Deeds

EXHIBIT "A"

PARCEL ONE: Beginning at a concrete monument located in the North margin or right-of-way of U.S. Highway 64/264, also known as South Virginia Dare Trail, said point of beginning being also designated as N.C. Grid coordinates N 801,506.27 feet, E 3,006,174.14 feet NAD'27, said point of beginning being also located in the West line of property now or formerly owned by Robert O. Ballance heirs; thence along the North Margin or right-of-way of U.S. Highway 64/264 South 48 deg. 37 min. 46 sec. West 100.00 feet to an iron rod or other marker; thence continuing along the North margin or right-of-way of U.S. Highway 64/264 South 51 deg. 55 min. 46 sec. West 100.00 feet to a set "PK" nail or other mark; thence North 38 deg. 27 min. 29 sec. West 174.80 feet to a concrete monument; thence continuing North 38 deg. 27 min. 29 sec. West 37.49 feet to a point located in the highwater mark of the Roanoke Sound; thence along the highwater mark of the Roanoke Sound North 12 deg. 49 min. 51 sec. East 50.92 feet to a point; thence continuing along the highwater mark of the Roanoke Sound North 42 deg. 13 min. 03 sec. East 43.88 feet to a point; thence continuing North 46 deg. 00 min. 09 sec. East 28.75 feet to a point; thence continuing along the highwater mark of the Roanoke Sound North 83 deg. 30 min. 26 sec. East 43.58 feet to a point; thence continuing along the highwater marker of the Roanoke Sound South 73 deg. 35 min. 31 sec. East 13.35 feet to a point; thence continuing along the highwater mark of the Roanoke Sound South 45 deg. 07 min. 04 sec. East 65.76 feet to a point; thence continuing along the highwater mark of the Roanoke Sound South 19 deg. 20 min. 54 sec. East 14.80 feet to a point; thence continuing along the highwater mark of the Roanoke Sound South 47 deg. 17 min. 14 sec. East 103.70 feet to a point; thence North 85 deg. 30 min. 33 sec. East 31.67 feet to a point in the West line of the aforesaid Ballance property; thence along the West line of the aforesaid Ballance property South 33 deg. 30 min. 45 sec. East 16.22 feet to the point and place of beginning.

This being that certain property described and delineated on that plat entitled "Physical Survey for Sugar Creek II, L.L.C. and Sugar Creek III, L.L.C. of a Parcel of Land Described in DB 1280, PG 782 in Nags Head - Nags Head Township - Dare County - North Carolina", dated March 3, 2005, prepared by Robert C. Cummins, Registered Surveyor, which map or plat is recorded in Plat Cabinet G-1, Slide 21, Dare County Registry.

There is also conveyed hereby all of the Seller's right, title and interest in and to those wooden bulkheads, boardwalks, wooden walkways, piers, covered walkways, gazebo, and storage areas located North and East of the above described property as more particularly described on the above referenced plat, and all of Seller's riparian rights associated with said property.

PARCEL TWO: Beginning at a "PK" nail or other marker located in the North margin or right-of-way of U.S. Highway 64/264, also known as South Virginia Dare Trial, said point of beginning also located North 42 deg. 26 min. 52 sec. West 2,117.46 feet from a concrete monument located at N.C. Grid coordinates NAD'27 N.C. Station "Bodie Island North Base AZ MK" N 800,074.310 feet, E 3, 007,733.98 feet; thence from said point of beginning along the North margin or right-of-way of U.S. Highway 64/264 South 56 deg. 41 min. 11 sec. West 33.45 feet to a concrete monument; thence continuing along the North margin or right-of-way of U.S. Highway 64/264 South 56 deg. 37. min. 31 sec. West 66.55 feet to a set iron rod or other marker; thence continuing along the North margin or right-of-way of U.S. Highway 64/264 South 59 deg. 55 min. 31 sec. West 100.00 feet to an existing iron rod located in the East line of the property now or formerly owned by Josephine S. Korbach; thence along the aforesaid Korbach property North 24 deg. 46 min. 29 sec. West 50.00 feet to a set iron rod or other marker; thence continuing along the aforesaid Korbach property line North 24 deg. 46 min. 29 sec. West 39.80 feet to a point located in the highwater mark of the Roanoke Sound; thence turning and running along the highwater mark of the Roanoke Sound North 34 deg. 14 min. 35 sec. East 68.08 feet to a point; thence continuing along the highwater mark of the Roanoke Sound North 01 deg. 02 min. 38 sec. West 52.72 feet to a point; thence continuing along the highwater mark of the Roanoke Sound North 26 deg. 53 min. 20 sec. East 80.26 feet to a point; thence continuing along the highwater mark of the Roanoke Sound North 12 deg. 11 min. 10 sec. East 9.47 feet to a point; thence turning and running South 38 deg. 27 min. 29 sec. East 37.49 feet to a concrete monument; thence continuing South 38 deg. 27 min. 29 sec. East 174.80 feet to a "PK" nail set, being the point and place of beginning.

This being that certain property described and delineated on that plat entitled "Revised Physical Survey for Sugar Creek II, L.L.C. and Sugar Creek III, L.L.C. of a Parcel of Land Described in DB 1357, PG 441 in Nags Head - Nags Head Township - Dare County - North Carolina", dated March 3, 2005, prepared by Robert C. Cummins, Registered Surveyor, which map or plat is recorded in Plat Cabinet G-1, Slide 30, Dare County Registry.

There is excluded from the above described property any portion thereof located below the highwater mark of the Roanoke Sound.

There is also conveyed hereby all of the Seller's right, title and interest in and to those wooden bulkheads, boardwalks, wooden walkways, piers and gazebo located in and along the Roanoke Sound along the North boundary of the above described property as more particularly described on the above referenced plat, and all of Seller's riparian rights associated with said property.

Sent 3/3/11

Adjacent Property Owner Notification of a Minor CAMA Permit Application

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

3 3 11
Date

Elizabeth C Falgenhauer
Adjacent Property Owner

6708 George Town Rd
Mailing Address

Midway Kentucky 40347
City, State, Zip Code

Dear Adjacent Property Owner:

This letter is to inform you that I, Erin Bateman have applied for a CAMA
Property Owner

Minor Permit on my property at 7340 South Old Nags Head Susan Creek Rest in Nags Head, North
Property Address

Carolina. I have enclosed a copy of my permit application and a copy of the drawing(s) of my proposed project. No action is required from you or you may sign and return the enclosed no objection form.

If you have any questions or comments on my proposed project, please contact me at: 252 202 1072
Applicant's Phone #

or by mail at the address listed below. If you wish to file written comments or objections with the Town of Nags Head, you may submit them to:

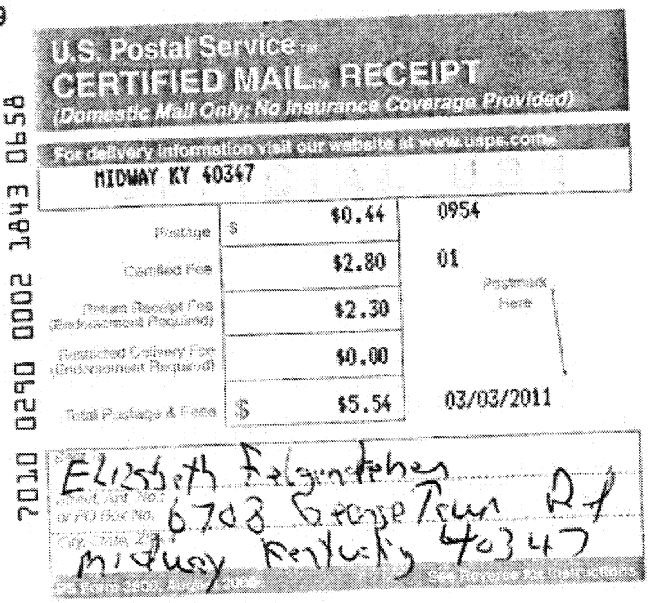
CAMA LOCAL PERMIT OFFICER
TOWN OF NAGS HEAD
PO BOX 99
NAGS HEAD, NC 27959

Sincerely,

Erin Bateman
Property Owner

PO 935
Mailing Address

Nags Head NC 27959
City, State, Zip Code



ADJACENT RIPARIAN PROPERTY OWNER STATEMENT

I hereby certify that I own property adjacent to Susan Creek II 's

(Name of Property Owner)

property located at 736 South Us Hwy 17, ,

Susan Creek (Lot, Block, Road, etc.)

on Roach Pond, in Nags Head Dare Co. N.C.

(Waterbody) (Town and/or County)

He has described to me as shown below, the development he is proposing at that location, and, I have no objections to his proposal.

DESCRIPTION AND/OR DRAWING OF PROPOSED DEVELOPMENT

(To be filled in by individual proposing development)

Cover on Deck at Susan Creek

16X24 Pergola Behind Susan Shack

Signature

Print or Type Name

Telephone Number

Date:

Adjacent Property Owner Notification of a Minor CAMA Permit Application

Signed 3/3/11

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

3 3 11
Date

Charles VanBeek
Adjacent Property Owner

7312 South Virginia Dare Trail
Mailing Address

Nags Head NC 27959
City, State, Zip Code

Dear Adjacent Property Owner:

This letter is to inform you that I, Erin Bateman (Property Owner) have applied for a CAMA Minor Permit on my property at 7340 South Virginia Dare Trail (Property Address), in Nags Head, North Carolina. I have enclosed a copy of my permit application and a copy of the drawing(s) of my proposed project. No action is required from you or you may sign and return the enclosed no objection form.

If you have any questions or comments on my proposed project, please contact me at: 252 441 4822 (Applicant's Phone #)

or by mail at the address listed below. If you wish to file written comments or objections with the Town of Nags Head, you may submit them to:

CAMA LOCAL PERMIT OFFICER
TOWN OF NAGS HEAD
PO BOX 99
NAGS HEAD, NC 27959

Sincerely,

Erin Bateman
Property Owner

PO Box 127
Mailing Address

Nags Head NC 27959
City, State, Zip Code

ADJACENT RIPARIAN PROPERTY OWNER STATEMENT

I hereby certify that I own property adjacent to SUGAR CREEK 's

(Name of Property Owner)

property located at _____,

(Lot, Block, Road, etc.)

on _____, in _____, N.C.

(Waterbody) **(Town and/or County)**

He has described to me as shown below, the development he is proposing at that location, and, I have no objections to his proposal.

DESCRIPTION AND/OR DRAWING OF PROPOSED DEVELOPMENT

(To be filled in by individual proposing development)

Cover on Deck at sugar creek

pergola Behind sugar shack

Charles G Korbach

Signature

CHARLES G. KORBACH

Print or Type Name

252 715 1749

Telephone Number

Date: 3/3/2011

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor **James H. Gregson, Director** Dee Freeman, Secretary

MEMORANDUM **CRC-11-17**

To: The Coastal Resources Commission

From: Michael Christenbury, Wilmington District Planner

Date: August 9, 2011

Subject: Certification of Amendment #2 of the 2007 Brunswick County Core Land Use Plan

Staff Recommendation: Certification of the 2007 Brunswick County Core LUP Amendments based on the determination that the amendments has met the substantive requirements outlined within the 2002 7B Land Use Plan Guidelines and that there are no conflicts evident with either state or federal law or the State's Coastal Management Program.

Overview:

Brunswick County is located in southeast North Carolina along the coast between New Hanover County and the South Carolina State line. This is the Second (2nd) amendment to the 2007 Brunswick County Core Land Use Plan (LUP), certified by the Coastal Resources Commission (CRC) on November 30, 2007.

Specifically, the amendments involve four (4) components: (1) changes to the Future Land Use Plan Map and the Future Land Use Acreage Table; (2) changes to the Comprehensive Wastewater Service Area Map and Service Area Tables; (3) a text amendment to the Cultural, Historic and Scenic Areas Policies and Implementing Actions; and (4) amendments to the Zoning Map and the Zoning Table.

Component 1:

Brunswick County strives to keep the LUP as up to date as possible by amending the plan anytime there are changes to the plan itself.

The first component of this amendment involves 17 changes to the Future Land Use Map designations, as well as changes to the corresponding Future Land Use Map Acreage Table (Table 64). The update to Table 64 is needed to insure that the table accurately reflects the acreage changes made to each Future Land Use Map designation.

Specifically, changes to the Future Land Use Map designations and Table are as follows (in acres):

Future Land Use Map Designations:	Amending from: (Approx. Acres)	Amending to: (Approx. Acres)	% of Change: (Approx.)
Commercial	11,195	11,550	3.0% Increase
Community Commercial	4,802	4,826	0.4% Increase
Conservation	186,739	184,865	1.0% (Decrease)
High-Density Residential	930	931	0.1% Increase
Industrial	18,169	19,491	7.2% Increase
Low-Density Residential	193,009	193,357	0.1% Increase
Medium-Density Residential	27,282	27,043	0.8% (Decrease)
Military	9,147	9,147	No Change
Mixed Use	5,653	5,715	1.3% Increase
Protected Lands	13,731	13,731	No Change
Recreation	672	672	No Change

See 'Exhibit A' for Future Land Use Map amendments and changes to the Future Land Use Map Table.

Component 2:

The second component of this amendment involves updating the Comprehensive Wastewater Service Area Map (Map 32) as well as a text amendment related to Tables 75-78 and an update to Table 79.

The information depicted on the Comprehensive Wastewater Service Area Map within the LUP is an overlay on top of the Future Land Use Map. Once changes are made to the Future Land Use Map, the Comprehensive Service Area Map must also be amended to insure internal consistency within the plan. Updating the Comprehensive Service Area Map to reflect changes made to the Future Land Use Map insures that both maps are accurate and up-to-date.

The second part of this component involves a text amendment and updates to Table 79. The text amendment simply adds the word ***"projected"*** to the titles of Tables 75, 76, 77 and 78 to clarify that the tables are depicting projected growth in each service area. The update to Table 79 is also needed to insure that this table accurately reflects the acreage changes made to each Future Land Use Map designation.

See 'Exhibit B' for changes to the Comprehensive Wastewater Service Area Map (Map 32) as well as the text amendment to Tables 75-78 and update to Table 79.

Component 3:

The third component is a text amendment which adds **cemeteries** to the Cultural, Historic and Scenic Areas; Section 6, Policies 102 and 103 of the plan, as well as to Implementation Action I.106a.

See 'Exhibit C' for this text amendment.

Component 4:

Component 4 of this amendment involves changes to the Brunswick County Zoning Map, which is Map 24 within the LUP and its corresponding Zoning Table (Table 60 within the plan). Changes to county zoning come primarily due to requests for rezoning from individual property owners, as well as the annexation of county jurisdiction into municipalities within the county. Once changes are made to the zoning map within the plan, amendment(s) to the Zoning Table are needed to accurately reflect the number of acres within each zoning district noted on the zoning map.

'Exhibit D' reflects the newly amended Zoning Map and corresponding Zoning Table.

Conclusion

It is the desire of Brunswick County to keep the Land Use Plan up to date. These amendments (map, table and text) help further the County's vision and desire to plan for future development. The amendments also help the plan serve as the basis and guide for subsequent changes to the County's development regulations, furthering the likelihood of the County achieving its vision.

The Brunswick County Board of Commissioners unanimously adopted the amendments by resolution following a public hearing that was held on June 6, 2011.

Brunswick County reviewed the amendments and determined they are not in conflict with any other policies or sections of the 2007 Brunswick County Land Use Plan, nor with any other Brunswick County plan(s) or Ordinance(s).

The public had the opportunity to provide written comments to DCM up to fifteen (15) business days (excluding holidays) prior to the CRC meeting. No comments have been received, written or otherwise as of the date of this memorandum.

To view the full 2007 Brunswick County Core Land Use Plan, go to the following link and scroll down to Shallotte LUP:

http://www.nccoastalmanagement.net/Planning/under_review.htm

Exhibit A: Future Land Use Map Amendments and changes to the Future Land Use Map Table.

Exhibit B: Changes to the Comprehensive Wastewater Service Area Map (Map 32) as well as text amendment to Tables 75-78.

Exhibit C: Text Amendment to Section 6 – Cultural, Historic and Scenic Areas.

Exhibit D: Amended Zoning Map and corresponding Zoning Table.

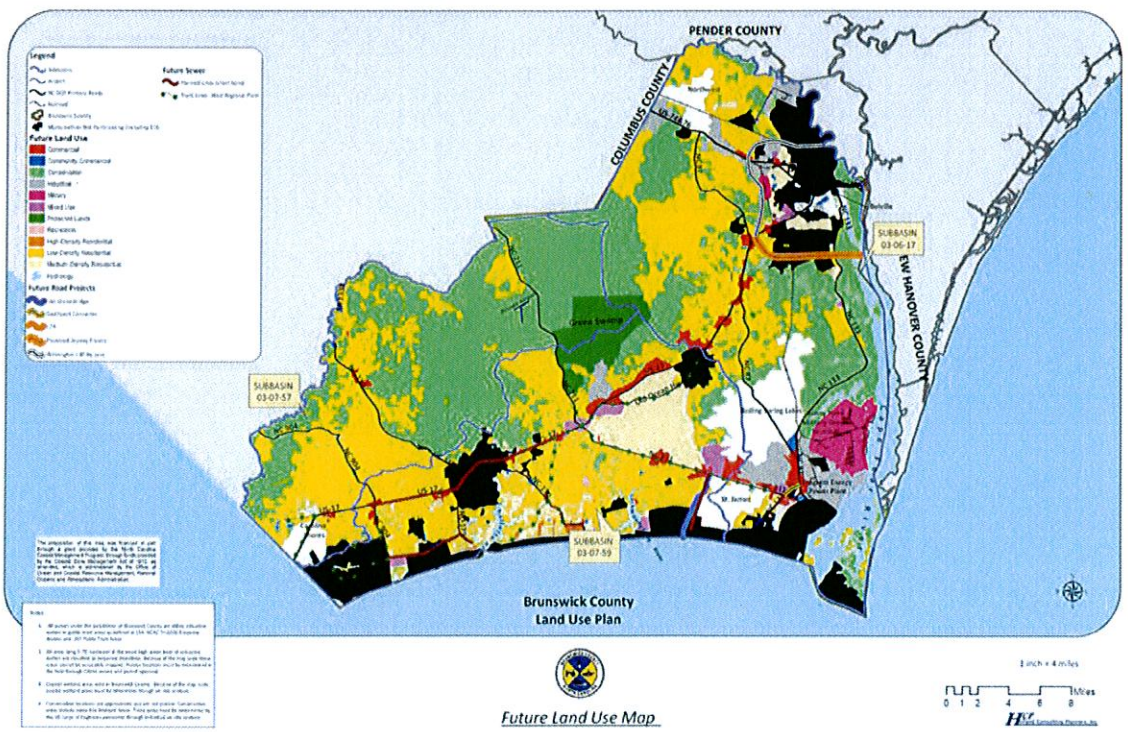
EXHIBIT A

NOTICE OF PUBLIC HEARING
TO AMEND THE OFFICIAL BRUNSWICK COUNTY COASTAL AREA MANAGEMENT ACT (CAMA) CORE LAND USE PLAN

The Brunswick County Board of Commissioners will hold a public hearing on June, 6 2011 at 6:30 p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center concerning the following CAMA Land Use Plan Amendments:

- **LAND USE PLAN MAP AMENDMENT (LUM-639) FOR REZONING CASE Z-639:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial Tax Parcel 04700002 located on Old Lanvale Rd (SR 1700) and Buckeye Rd (SR 1415) near Leland, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-640) FOR REZONING CASE Z-640:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Industrial for Tax Parcel 2290006402 located on Pigott Rd (SR 1152) near Shallotte, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-641) FOR REZONING CASE Z-641:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for a portion of Tax Parcel 0700004805 located on Ocean Highway (US 17) and Snowfield Road (SR 1522) near Leland, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-643) FOR REZONING CASE Z-643:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Mixed Use for Tax Parcel 1850001708 located on Southport-Supply Road (NC 211) and Zion Hill Road (SR 1114) near Bolivia, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-645) FOR REZONING CASE Z-645:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial for Tax Parcel 1860000104 located on Clemmons Road (SR 1505) near Supply, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-646) FOR REZONING CASE Z-646:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial for Tax Parcels 243IB017 and 243IB018, located at 6913 and 6917 Robinson Street (SR 1876) near Ocean Isle Beach, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-647) FOR REZONING CASE Z-647:** Request to amend the Official Brunswick County Land Use Plan Map from Conservation and LDR (Low Density Residential) to Industrial for a portion of Tax Parcel 01400001 located on Andrew Jackson Highway (US 74/76), Northwest Road (SR 1419), and Port Royal Road (SR 1420) near Northwest, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-650) FOR REZONING CASE Z-650:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to CC (Community Commercial) for Tax Parcels 1390004205 (requested by applicant), 1390004206, and 1390004207 (added by staff) located off Old Ocean Highway (Old US 17), N. Piney Grove Road (SR 1445) and Thomasine Lane near Bolivia, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-653) FOR REZONING CASE Z-653:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for Tax Parcel 1680004402 located off Swain Creek Trail and Ocean Highway (US 17) near Supply, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-656) FOR REZONING CASE Z-656:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for Tax Parcel 20300039 located off Southport-Supply Road (NC 211) near Oak Island, NC.

- **LAND USE PLAN MAP AMENDMENT (LUM-657) FOR REZONING CASE Z-657:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for Tax Parcel 18600015 located off Southport-Supply Road (NC 211) near Oak Island, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-658) FOR REZONING CASE Z-658:** Request to amend the Official Brunswick County Land Use Plan Map from Commercial to LDR (Low Density Residential) for Tax Parcels 232HB001, 232HB00105, and 232HB00202 located at 2612 and 2614 Holden Beach Road (NC 130) and 1779 Pine Valley Drive (SR 1248) near Holden Beach, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-659) FOR REZONING CASE Z-659:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for Tax Parcel 216EB031 located at 2434 Stone Chimney Road (SR 1115) near Supply, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-660) FOR REZONING CASE Z-660:** Request to amend the Official Brunswick County Land Use Plan Map from LDR (Low Density Residential) to Commercial for Tax Parcel 18200097 located at 2519 Ocean Highway (US 17) near Shallotte, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-662) FOR REZONING CASE Z-662:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial for Tax Parcels 232HA014 and adjoining Angler Drive Right-of-Way located at 2573 Angler Drive near Holden beach, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-664) FOR REZONING CASE Z-664:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial for Tax Parcels 2150006103 and 2150006105 located at 2345 and 2355 Holden Beach Road (NC 130) near Holden Beach, NC.
- **LAND USE PLAN MAP AMENDMENT (LUM-665) FOR REZONING CASE Z-665:** Request to amend the Official Brunswick County Land Use Plan Map from MDR (Medium Density Residential) to Commercial for Tax Parcels 2423A056, 2423A057, 2423A058, 2423A059, and 2423A060 located at 7171, 7175, 7177, 7185, and 7189 Westbrook Avenue (SR 1269) near Sunset Beach, NC.
- **FUTURE LAND USE MAP (MAP 26):**



Future Land Use Map

- **SECTION 6.V.C (TABLE 64):**

Table 64.
Brunswick County Future Land Use Acreages

	Acres	% of Total
Commercial	11,550.0	2.5%
Community Commercial	4,826.1	1.0%
Conservation	184,865.4	39.2%
High-Density Residential	931.0	0.2%
Industrial	19,491.3	4.1%
Low-Density Residential	193,357.1	41.0%
Medium-Density Residential	27,042.5	5.7%
Military	9,147.2	1.9%
Mixed Use	5,715.0	1.2%
Protected Lands	13,731.3	2.9%
Recreation	672.0	0.1%
TOTAL	471,328.9	100.0%

*The acreages in this table assume total build-out of the attached future land use map.
NOTE: The acreages included only the unincorporated areas of the County.
Source: Holland Consulting Planners, Inc.

Copies of the amendments can be viewed at the Brunswick County Planning and Community Development Department at the Brunswick County Government Center in Building I (75 Courthouse Drive NE, Bolivia, NC 28422) and at the Brunswick County Courthouse on the first floor (310 Government Center Dr NE, Bolivia, Building S, NC 28422) during normal work hours.

Brunswick County invites your comments to this important CAMA Land Use Plan Amendments. **Again, Brunswick County will consider this issue on June 6, 2011 at 6:30p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center.**

If adopted, the amendments will be submitted to the Coastal Resources Commission (CRC) for Certification on July 13-14, 2011 at the CRC meeting. Written objections, comments, and/or statements of support shall be submitted to the NC Division of Coastal Management District Planner, Michael Christenbury, 127 Cardinal Drive Ext., Wilmington, NC 28405-3845. Written comments must be received no less than 15 business days prior to the July 13-14, 2011 CRC meeting where the amendments are scheduled to be considered for Certification. Copies of the amendments are available online at www.brunswickcountync.gov and are available for review and may be checked out for a 24-hour period at the Brunswick County Government Center during normal business hours. The public is encouraged to review the amendments.

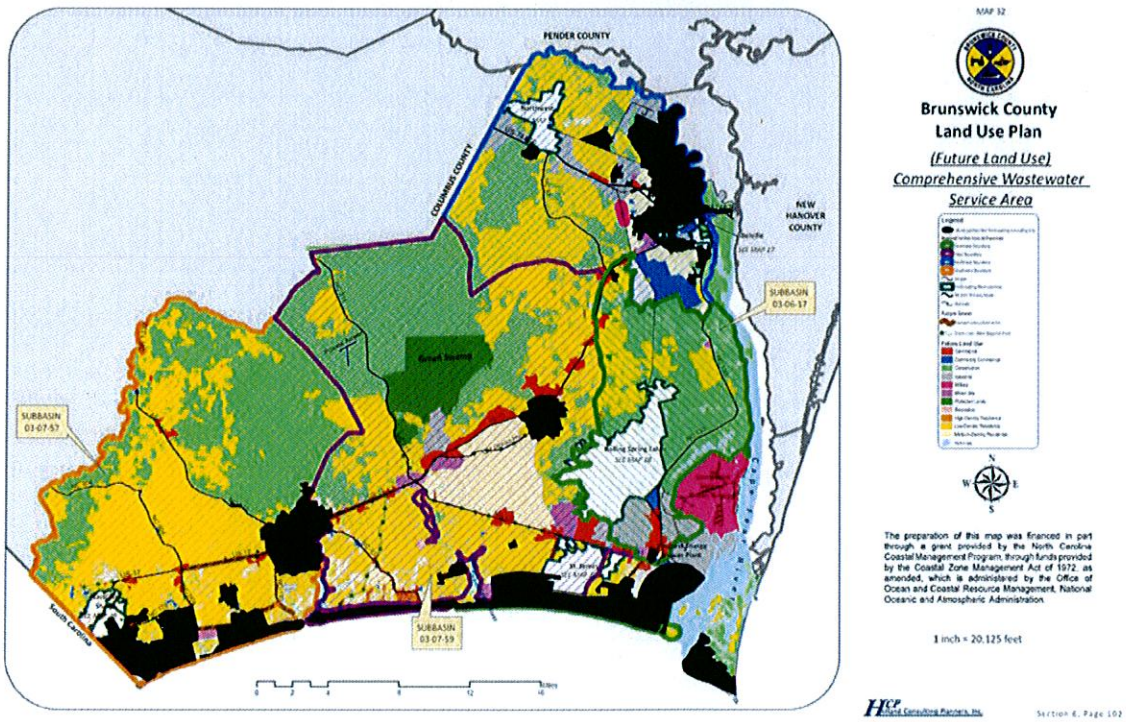
For more information or questions regarding the Land Use Plan Amendments, contact the Brunswick County Planning and Community Development Department in person at 75 Courthouse Drive NE, Bolivia, NC, 28422, by phone at 910-253-2025 or toll free at 1-800-621-0609, or by email at kdixon@brunsco.net.

EXHIBIT B

NOTICE OF PUBLIC HEARING
TO AMEND THE OFFICIAL BRUNSWICK COUNTY COASTAL AREA MANAGEMENT ACT (CAMA) CORE LAND USE PLAN

The Brunswick County Board of Commissioners will hold a public hearing on June, 6 2011 at 6:30 p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center concerning the following CAMA Land Use Plan Amendments:

- **COMPREHENSIVE WASTEWATER SERVICE AREA MAP (MAP 32):**



- **SECTION 6.V.E (TABLE 75-78):**

  Proposed text amendment to add the verbiage "*Projected*" to title of Table 75, 76, 77, and 78 to clarify that the tables are depicting projected growth in each service area.

- **SECTION 6.V.F (TABLE 79):**

Table 79.
Brunswick County Future Land Use Acreages*

Land Use**	Northeast (acres)	Southeast (acres)	Southwest (acres)	West (acres)	Total
Commercial	473.7	1,917.5	1,352.2	7,386.3	11,129.7
Community Commercial	3,559.2	422.1	420.5	265.8	4,667.6
Conservation	19,219.7	40,172.1	58,329.4	58,898.3	176,619.5
High Density Residential	5.2	45.3	129.6	716.2	896.3
Industrial	7,433.0	5,537.9	222.9	2,161.4	15,355.2
Low Density Residential	33,746.9	11,875.8	70,457.3	72,826.7	188,906.7
Medium Density Residential	5,036.3	15.3	1,266.5	20,418.2	26,736.3
Military	608.6	16.5	0.0	0.0	625.1
Mixed Use	549.4	340.1	343.1	4,472.0	5,704.6
Protected Lands	0.0	147.0	0.0	13,584.3	13,731.3
Recreation	0.0	0.2	58.1	158.9	217.3
Total	70,632.0	60,489.8	132,579.6	180,888.1	444,589.5

* This table includes all areas that have been included in the Brunswick County Comprehensive Wastewater and Water Master Plans. The acreage does not include waterbodies, water road right of ways, or the following municipalities: Leland, Navassa, Sandy Creek, Southport, Oak Island, Caswell Beach, Shallotte, Sunset Beach, Calabash, Ocean Isle Beach, and Bald Head Island. These municipalities may be affected by the water and sewer improvements discussed, but did not participate in the County's Land Use Plan Update.
**For land use category explanations and associated densities included in the Brunswick County Unified Development Ordinance see Section 6.V.D.

Source: Holland Consulting Planners, Inc.

Copies of the amendments can be viewed at the Brunswick County Planning and Community Development Department at the Brunswick County Government Center in Building I (75 Courthouse Drive NE, Bolivia, NC 28422) and at the Brunswick County Courthouse on the first floor (310 Government Center Dr NE, Bolivia, Building S, NC 28422) during normal work hours.

Brunswick County invites your comments to this important CAMA Land Use Plan Amendments. **Again, Brunswick County will consider this issue on June 6, 2011 at 6:30p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center.**

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For more information or questions regarding the Land Use Plan Amendments, contact the Brunswick County Planning and Community Development Department in person at 75 Courthouse Drive NE, Bolivia, NC, 28422, by phone at 910-253-2025 or toll free at 1-800-621-0609, or by email at kdixon@brunsco.net.

EXHIBIT C

NOTICE OF PUBLIC HEARING
TO AMEND THE OFFICIAL BRUNSWICK COUNTY COASTAL AREA MANAGEMENT ACT (CAMA) CORE LAND USE PLAN

The Brunswick County Board of Commissioners will hold a public hearing on June, 6 2011 at 6:30 p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center concerning the following CAMA Land Use Plan Amendments:

- **SECTION 6.IV.C.P.102 & 103 (Policies - Cultural, Historic, and Scenic Areas):**

  Policies – Cultural, Historic, and Scenic Areas

  Cultural, Historical, and Scenic Areas Polices P.102, P.104, and P.105 does not currently have an impact within the Town of St. Jame's jurisdiction.

  P.102 Brunswick County supports preservation of historic sites, buildings, written records, cemeteries, and oral history.

  P.103 Brunswick County encourages efforts to protect cultural and historic resources to preserve their cultural, educational, and aesthetic values and qualities. Please refer to both the "**Comprehensive Historical Architectural Site Survey of Brunswick County, NC**" prepared by Landmark Preservation Associates in September 2010 and the "**Brunswick County Unincorporated Communities and Cemeteries Final Report**" prepared by the Brunswick County Planning and Community Development Department and the Brunswick County Geographic Information Systems in September 2010.

- **SECTION 6.IV.C.I.106a (Implementing Actions - Cultural, Historic, and Scenic Areas):**

  Implementing Actions – Cultural, Historic, and Scenic Areas

  I.106a Brunswick County will ~~not~~ only support the relocation of existing cemeteries ~~except~~ in instances where the overall public interest is served and upon confirmed notification to the Brunswick County Historical Society, and in accordance with N.C.G.S. 65. *Schedule: Continuing Activity.*

Copies of the amendments can be viewed at the Brunswick County Planning and Community Development Department at the Brunswick County Government Center in Building I (75 Courthouse Drive NE, Bolivia, NC 28422) and at the Brunswick County Courthouse on the first floor (310 Government Center Dr NE, Bolivia, Building S, NC 28422) during normal work hours.

Brunswick County invites your comments to this important CAMA Land Use Plan Amendments. **Again, Brunswick County will consider this issue on June 6, 2011 at 6:30p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center.**

If adopted, the amendments will be submitted to the Coastal Resources Commission (CRC) for Certification on July 13-14, 2011 at the CRC meeting. Written objections, comments, and/or statements of support shall be submitted to the NC Division of Coastal Management District Planner, Michael Christenbury, 127 Cardinal Drive Ext., Wilmington, NC 28405-3845. Written comments must be received no less than 15 business days prior to the July 13-14, 2011 CRC meeting where the amendments are scheduled to be considered for Certification. Copies of the amendments are available online at www.brunswickcountync.gov and are available for review and may be checked out for a 24-hour period at the Brunswick County Government Center during normal business hours. The public is encouraged to review the amendments.

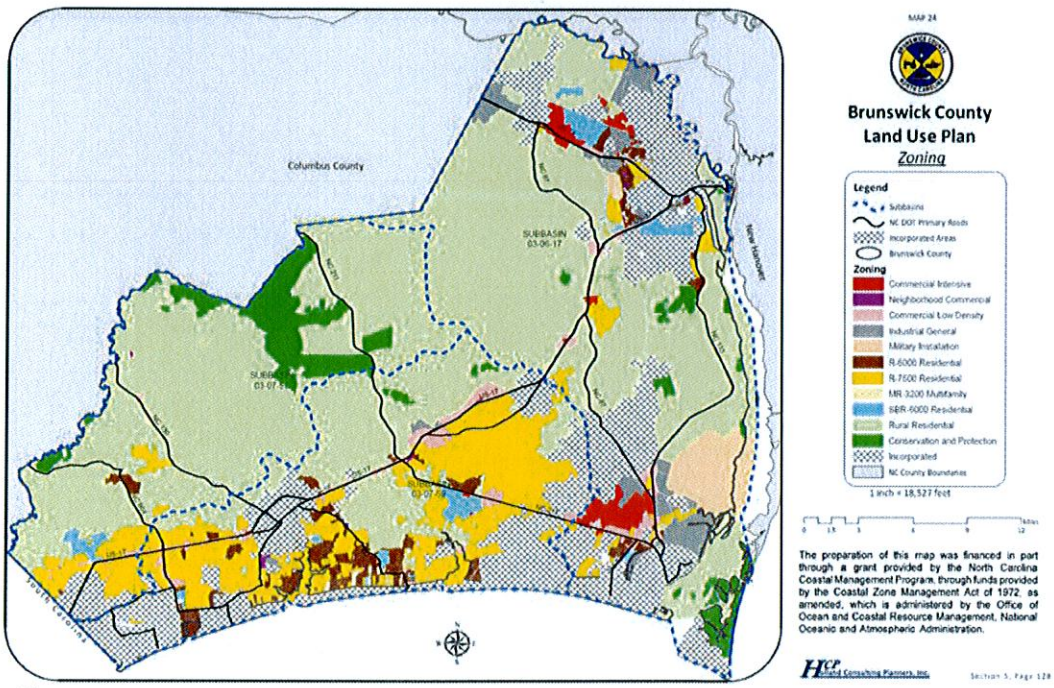
For more information or questions regarding the Land Use Plan Amendments, contact the Brunswick County Planning and Community Development Department in person at 75 Courthouse Drive NE, Bolivia, NC, 28422, by phone at 910-253-2025 or toll free at 1-800-621-0609, or by email at kdixon@brunsco.net.

EXHIBIT D

NOTICE OF PUBLIC HEARING
TO AMEND THE OFFICIAL BRUNSWICK COUNTY COASTAL AREA MANAGEMENT ACT (CAMA) CORE LAND USE PLAN

The Brunswick County Board of Commissioners will hold a public hearing on June, 6 2011 at 6:30 p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center concerning the following CAMA Land Use Plan Amendments:

- **ZONING MAP (MAP 24):**



- T

- **SECTION 5.V.A (TABLE 60):**

Table 60.
Brunswick County - Zoning

Districts	Acres	% of Total
Commercial Intensive	5,958.7	1.3%
Neighborhood Commercial	644.1	0.1%
Commercial Low Density	11,012.4	2.4%
Conservation and Protection	24,000.3	5.3%
Industrial - General	12,901.9	2.8%
Military Installation	11,773.9	2.6%
MR-3200 High Density Residential	673.2	0.1%
R-6000 Residential	13,075.9	2.9%
R-7500 Residential	61,565.3	13.5%
Rural Residential	306,836.5	67.3%
SBR-6000 Residential	7,259.6	1.6%
Total	455,701.8	100.0%

NOTE: Figures include only the unincorporated areas of the County.
Source: Holland Consulting Planners, Inc.

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Brunswick County invites your comments to this important CAMA Land Use Plan Amendments. **Again, Brunswick County will consider this issue on June 6, 2011 at 6:30p.m. in the Commissioners Chambers of the David R. Sandifer Administration Building at 30 Government Center Drive at the Brunswick County Government Center.**

If adopted, the amendments will be submitted to the Coastal Resources Commission (CRC) for Certification on July 13-14, 2011 at the CRC meeting. Written objections, comments, and/or statements of support shall be submitted to the NC Division of Coastal Management District Planner, Michael Christenbury, 127 Cardinal Drive Ext., Wilmington, NC 28405-3845. Written comments must be received no less than 15 business days prior to the July 13-14, 2011 CRC meeting where the amendments are scheduled to be considered for Certification. Copies of the amendments are available online at www.brunswickcountync.gov and are available for review and may be checked out for a 24-hour period at the Brunswick County Government Center during normal business hours. The public is encouraged to review the amendments.

For more information or questions regarding the Land Use Plan Amendments, contact the Brunswick County Planning and Community Development Department in person at 75 Courthouse Drive NE, Bolivia, NC, 28422, by phone at 910-253-2025 or toll free at 1-800-621-0609, or by email at kdixon@brunsco.net.

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor James H. Gregson, Director Dee Freeman., Secretary

MEMORANDUM

CRC-11-21

To: The Coastal Resources Commission
From: Maureen Meehan Will, Morehead City District Planner
Date: August 5, 2011
Subject: Certification of the City of Jacksonville Land Use Plan (August 2011 CRC Meeting)

Staff Recommendation: Certification of the City of Jacksonville Land Use Plan based on the determination that the document has met the substantive requirements outlined within the 2002 7B Land Use Plan Guidelines and that there are no conflicts evident with either state or federal law or the State's Coastal Management Program.

Overview

The City of Jacksonville is centrally located in Onslow County, adjacent to the New River and Camp Lejeune, which includes the Marine Corps Base, the New River Air Station, and the Greater Sandy Run Training Area. Hwy 17 and NC 24 are the main transportation routes serving the municipality.

The city's population and economy is directly influenced by the military presence. Sudden changes in military activity can cause major fluctuations (both positive and negative) in the community fabric. While there can be unforeseen changes and less market stability with this type of population, the military is a major employer and consumer of goods and services. The unique coastal setting in a non urban region helps keep the military presence viable.

The Future Land Use Plan Map depicts the major land use and development goals and policies of the region. The classification system is broken down into 11 different classes ranging from Conservation, which only allows limited development to Regional Commercial, which allows the most intensive large scale commercial developments. The map also directs industrial uses to the most appropriate areas using transportation system, adjacent land use, and water quality considerations.

There are no specific notable policies, but it is important to recognize that the City built the plan to be a growth management comprehensive plan that meets the State planning guidelines. The plan guides growth into areas most compatible by use and intensity. Further, growth tiers are used to ensure new development, infill, and redevelopment is located where it is most appropriate based on existing levels of public facilities and services and the ability of the city to provide additional facilities and services as necessary.

400 Commerce Ave., Morehead City, NC 28557-3421
Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

The plan was prepared through a facilitated process utilizing workshops with citizens, elected officials, and the Land Use Planning Committee. The goals and policies in the plan are a result of detailed analysis and discussion of key issues identified in the workshops. The City held a duly advertised public hearing and voted by resolution to adopt the land use plan, on July 19, 2011.

The public had the opportunity to provide written comments up to fifteen (15) business days prior to the CRC meeting (August 24-25, 2011). August 4th was the deadline date. No comments were received, written or otherwise.

To view a copy of the City of Jacksonville Land Use Plan, go to the link below and scroll down to Jacksonville LUP.

http://www.nccoastalmanagement.net/Planning/under_review.htm

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2011

SESSION LAW 2011-387
SENATE BILL 110

AN ACT TO AUTHORIZE THE PERMITTING AND CONSTRUCTION OF UP TO FOUR TERMINAL GROINS AT INLETS UNDER CERTAIN CONDITIONS.

Whereas, it has been the policy of the State of North Carolina since 1985, as stated in the Coastal Area Management Act and rules adopted pursuant to the act, to give preference to nonstructural responses to erosion, including relocation of threatened structures, beach nourishment, inlet relocation, and the temporary use of sandbags for short-term stabilization; and

Whereas, a terminal groin is a permanent erosion control structure that is constructed on the side of an inlet at the terminus of an island generally perpendicular to the shoreline to limit or control sediment passage into the inlet channel; and

Whereas, a terminal groin may reduce beach erosion, reduce the frequency of beach nourishment projects, and slow the migration of inlets; and

Whereas, the use of terminal groins on inlet beaches may adversely impact the value and enjoyment of adjacent properties, damage the public beach, obstruct public access to the beach and to navigable waters, and result in increased erosion to adjacent and downdrift properties; and

Whereas, due to the uncertainties associated with the costs and benefits of terminal groins, it is reasonable to authorize the Coastal Resources Commission to establish a terminal groin pilot program under which the Commission may permit the construction of up to four terminal groins under certain conditions; and

Whereas, it is reasonable to authorize the Coastal Resources Commission to permit the construction of a terminal groin under the pilot program if the Commission finds that (i) structures or infrastructure are imminently threatened by erosion and that nonstructural approaches to erosion control are impractical; (ii) the terminal groin will be accompanied by a concurrent beach fill project; (iii) construction and maintenance of the terminal groin will not result in significant adverse impacts to private property or to the public recreational beach; (iv) the terminal groin will be managed pursuant to an inlet management plan; and (v) there are sufficient financial resources to cover the costs associated with the terminal groin; Now, therefore,

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 113A-115.1 reads as rewritten:

"**§ 113A-115.1. Limitations on erosion control structures.**

(a) As used in this section:

(1) "Erosion control structure" means a breakwater, bulkhead, groin, jetty, revetment, seawall, or any similar structure.

(1a) "Estuarine shoreline" means all shorelines that are not ocean shorelines that border estuarine waters as defined in G.S. 113A-113(b)(2).

(2) "Ocean shoreline" means the Atlantic Ocean, the oceanfront beaches, and frontal dunes. The term "ocean shoreline" includes an ocean inlet and lands adjacent to an ocean inlet but does not include that portion of any inlet and lands adjacent to the inlet that exhibits characteristics of estuarine shorelines.

(3) "Terminal groin" means a structure that is constructed on the side of an inlet at the terminus of an island generally perpendicular to the shoreline to limit or control sediment passage into the inlet channel.

(b) No person shall construct a permanent erosion control structure in an ocean shoreline. The Commission shall not permit the construction of a temporary erosion control

structure that consists of anything other than sandbags in an ocean shoreline. This section shall not apply to ~~(i) any~~any of the following:

(1) Any permanent erosion control structure that is approved pursuant to an exception set out in a rule adopted by the Commission prior to ~~1 July 2003 or (ii) any~~ July 1, 2003.

(2) Any permanent erosion control structure that was originally constructed prior to ~~1 July 1974~~July 1, 1974, and that has since been in continuous use to protect an inlet that is maintained for navigation.

(3) Any terminal groin permitted pursuant to this section.

(b1) This section shall not be construed to limit the authority of the Commission to adopt rules to designate or protect areas of environmental concern, to govern the use of sandbags, or to govern the use of erosion control structures in estuarine shorelines.

(c) The Commission may renew a permit for an erosion control structure issued pursuant to a variance granted by the Commission prior to ~~1 July~~July 1, 1995. The Commission may authorize the replacement of a permanent erosion control structure that was permitted by the Commission pursuant to a variance granted by the Commission prior to ~~1 July 1995~~ July 1, 1995, if the Commission finds that: (i) the structure will not be enlarged beyond the dimensions set out in the original permit; (ii) there is no practical alternative to replacing the structure that will provide the same or similar benefits; and (iii) the replacement structure will comply with all applicable laws and with all rules, other than the rule or rules with respect to which the Commission granted the variance, that are in effect at the time the structure is replaced.

(d) Any rule that prohibits permanent erosion control structures shall not apply to terminal groins permitted pursuant to this section.

(e) In addition to the requirements of Part 4 of Article 7 of Chapter 113A of the General Statutes, an applicant for a permit for the construction of a terminal groin shall submit all of the following to the Commission:

(1) Information to demonstrate that structures or infrastructure are imminently threatened by erosion, and nonstructural approaches to erosion control, including relocation of threatened structures, are impractical.

(2) An environmental impact statement that satisfies the requirements of G.S. 113A-4.

(3) A list of property owners and local governments that may be affected by the construction of the proposed terminal groin and its accompanying beach fill project and proof that the property owners and local governments have been notified of the application for construction of the terminal groin and its accompanying beach fill project.

(4) A plan for the construction and maintenance of the terminal groin and its accompanying beach fill project prepared by a professional engineer licensed to practice pursuant to Chapter 89C of the General Statutes.

(5) A plan for the management of the inlet and the estuarine and ocean shorelines immediately adjacent to and under the influence of the inlet. The inlet management plan shall do all of the following relative to the terminal groin and its accompanying beach fill project:

a. Describe the post-construction activities that the applicant will undertake to monitor the impacts on coastal resources.

b. Define the baseline for assessing any adverse impacts and the thresholds for when the adverse impacts must be mitigated.

c. Provide for mitigation measures to be implemented if adverse impacts reach the thresholds defined in the plan.

d. Provide for modification or removal of the terminal groin if the adverse impacts cannot be mitigated.

(6) Proof of financial assurance in the form of a bond, insurance policy, escrow account, or other financial instrument that is adequate to cover the cost of:

a. Long-term maintenance and monitoring of the terminal groin.

b. Implementation of mitigation measures as provided in the inlet management plan.

c. Modification or removal of the terminal groin as provided in the inlet management plan.

d. Restoration of public, private, or public trust property if the groin has an adverse impact on the environment or property.

(f) The Commission shall issue a permit for the construction of a terminal groin if the Commission finds no grounds for denying the permit under G.S. 113A-120 and the Commission finds all of the following:

(1) The applicant has complied with all of the requirements of subsection (e) of this section.

(2) The applicant has demonstrated that structures or infrastructure are imminently threatened by erosion and that nonstructural approaches to erosion control, including relocation of threatened structures, are impractical.

(3) The terminal groin will be accompanied by a concurrent beach fill project to prefill the groin.

(4) Construction and maintenance of the terminal groin will not result in significant adverse impacts to private property or to the public recreational beach. In making this finding, the Commission shall take into account mitigation measures, including the accompanying beach fill project, that will be incorporated into the project design and construction and the inlet management plan.

(5) The inlet management plan is adequate for purposes of monitoring the impacts of the proposed terminal groin and mitigating any adverse impacts identified as a result of the monitoring.

(6) Except to the extent expressly modified by this section, the project complies with State guidelines for coastal development adopted by the Commission pursuant to G.S. 113A-107.

(g) The Commission may issue no more than four permits for the construction of a terminal groin pursuant to this section.

(h) No permit may be issued where funds are generated from any of the following financing mechanisms and would be used for any activity related to the terminal groin or its accompanying beach fill project:

(1) Special obligation bonds issued pursuant to Chapter 159I of the General Statutes.

(2) Nonvoted general obligation bonds issued pursuant to G.S. 159-48(b)(4).

(3) Financing contracts entered into under G.S. 160A-20 or G.S. 159-148."

SECTION 2. The Department of Environment and Natural Resources shall amend the management program it adopted pursuant to the federal Coastal Zone Management Act, 16 U.S.C. § 1451, et seq., to ensure the management program is consistent with G.S. 113A-115.1, as amended by Section 1 of this act, and shall seek approval of the proposed amended management plan by the United States Secretary of Commerce or the Secretary's authorized designee no later than six months after the effective date of this act.

SECTION 3. The Department shall adopt any rules necessary to implement this act.

SECTION 4. No State funds may be spent for any activities related to a terminal groin and its accompanying beach fill project permitted pursuant to G.S. 113A-115.1, as amended by Section 1 of this act, unless the General Assembly enacts legislation appropriating funds explicitly for such purpose. This section shall not apply to any beach fill or beach nourishment project initiated prior to the effective date of this act.

SECTION 5. No later than September 1 of each year, the Coastal Resources Commission shall report to the Environmental Review Commission on the implementation of this act. The report shall provide a detailed description of each proposed and permitted terminal groin and its accompanying beach fill project, including the information required to be submitted pursuant to subsection (e) of G.S. 113A-115.1, as amended by Section 1 of this act. For each permitted terminal groin and its accompanying beach fill project, the report shall also provide all of the following:

(1) The findings of the Commission required pursuant to subsection (f) of G.S. 113A-115.1, as amended by Section 1 of this act.

(2) The status of construction and maintenance of the terminal groin and its accompanying beach fill project, including the status of the implementation of the plan for construction and maintenance and the inlet management plan.

(3) A description and assessment of the benefits of the terminal groin and its accompanying beach fill project, if any.

(4) A description and assessment of the adverse impacts of the terminal groin and its accompanying beach fill project, if any, including a description and assessment of any mitigation measures implemented to address adverse impacts.

SECTION 6. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 16th day of June, 2011.

s/ Walter H. Dalton
President of the Senate

s/ Thom Tillis
Speaker of the House of Representatives

This bill having been presented to the Governor for signature on the 17th day of June, 2011 and the Governor having failed to approve it within the time prescribed by law, the same is hereby declared to have become a law. This 28th day of June, 2011.

s/ Karen Jenkins
Enrolling Clerk

NC COASTAL RESOURCES COMMISSION
TERMINAL GROIN STUDY
RECOMMENDATIONS
APRIL 1, 2010

The N.C. General Assembly enacted Session Law 2009-479 (House Bill 709) to direct the Coastal Resources Commission (CRC) in consultation with the Division of Coastal Management (DCM), the Division of Land Resources, and the Coastal Resources Advisory Commission (CRAC) to study the feasibility and advisability of the use of a terminal groin as an erosion control device. The Session Law also mandated that the CRC develop recommendations to be presented to the Environmental Review Commission and the General Assembly by April 1, 2010.

Specifically, the CRC was directed to consider six focus areas:

(1) Scientific data regarding the effectiveness of terminal groins constructed in North Carolina and other states in controlling erosion. Such data will include consideration of the effect of terminal groins on adjacent areas of the coastline.
(2) Scientific data regarding the impact of terminal groins on the environment and natural wildlife habitats.
(3) Information regarding the engineering techniques used to construct terminal groins, including technological advances and techniques that minimize the impact on adjacent shorelines.
(4) Information regarding the current and projected economic impact to the State, local governments, and the private sector from erosion caused by shifting inlets, including loss of property, public infrastructure, and tax base.
(5) Information regarding the public and private monetary costs of the construction and maintenance of terminal groins.
(6) Whether the potential use of terminal groins should be limited to navigable, dredged inlet channels.

The DENR has contracted with engineering firm Moffatt & Nichol to complete the study for the CRC at a cost of $287,420. The project team members were:

- Moffatt & Nichol -Project Lead/ Coastal Engineering Analyses/Construction/Costs/Locations
- Dial Cordy and Associates, Inc.- Environmental Resource Assessment
- Dr. Duncan M. FitzGerald, Boston University - Coastal Geology
- Dr. Chris Dumas, UNC Wilmington - Socio-Economics

STUDY PROCESS

The Project Team was provided guidance by a Terminal Groin Study Steering Subcommittee comprised of CRC/CRAC members:

Bob Emory - CRC	Dara Royal – CRAC
Jim Leutze - CRC	Spencer Rogers - CRAC
Melvin Shepard - CRC	Anne Deaton - CRAC
Veronica Carter - CRC	Tracy Skrabal - CRAC
Charles “Boots” Elam - CRC	Bill Morrison – CRAC

The Commission also utilized the CRC’s Science Panel on Coastal Hazards to provide guidance on the proposed scope of work, the methodologies to be used for the various aspects of the study as well as the selection of study sites.

While House Bill 709 required the CRC to hold only three public hearings on the issues, the Commission held five public hearings including three at meetings of the full Commission. In addition to the public hearings, written comments could be submitted to the executive secretary of the CRC. The five meetings of the Science Panel were also publicized and the public was allowed to attend and hear the discussions, although public comment was not taken at those meetings. All meeting minutes, presentations and public comments have been posted on the Division of Coastal Management website (www.nccoastalmanagement.net/CRC/tgs/terminal%20groin%20study.html).

SELECTION OF INLETS

In consultation with the Science Panel, five sites were selected to be included in the study. These sites were selected based on three main criteria developed by the Science Panel. First, whether the structure at the site fit the definition of a terminal groin; second, whether the site had similarity to potential North Carolina scenarios; and third, whether there was a reasonable expectation that a suitable quality and quantity of data was available for the location. For the purposes of this study, a terminal groin was defined as a structure built with the primary purpose to retain sand and not for navigation (jetty). Therefore, a terminal groin is defined as a narrow, roughly shore-normal structure that generally extends only a short distance offshore.

Additionally, the sites were chosen to reflect a variety of structures, inlet size and characteristics. Most sites contain a single terminal groin, that is, a terminal groin not part of a groin field located adjacent to a tidal inlet. The general consensus and direction given by the Science Panel was to study only terminal groins adjacent to inlets. The House Bill had defined the study to include “the feasibility and advisability of the use of a terminal groin as an erosion control device at the end of a littoral cell or the side of an inlet” and defined a littoral cell is as “any section of coastline that has its own sediment sources and is isolated from adjacent coastal reaches in terms of sediment movement.” The decision as to where a littoral cell begins or ends along a barrier island is extremely

difficult to pinpoint and can shift. An inlet provides a clearly defined location and is generally the location of a terminal groin.

The five sites selected for the study are the terminal groins at Oregon Inlet and Beaufort Inlets (Fort Macon) in North Carolina, and at Amelia Island, Captiva Island and John's Pass in Florida.

TIMELINE OF HARDENED STRUCTURES BAN IN NC

- June 1, 1979 – CRC limits the use of permanent erosion control methods to protect structures existing as of this date.
- 1984 - Outer Banks Erosion Task Force recommends prohibiting hardened structures unless strict criteria can be met.
- January 1985 - CRC bans hardened structures regardless of construction date.
- December 1989 - CRC amends rule to allow for the protection of the Bonner Bridge.
- August 1992 – Amendments to allow for the protection of nationally significant historic sites and existing commercial navigation channels.
- March 1995 – CRC grants a variance to allow a sand filled tube groin field on Bald Head Island.
- July 2003 – CAMA amended to prohibit permanent erosion control structures with limited exceptions.

DISCUSSION OF FINDINGS

As with any study of this nature that has schedule and budgetary constraints, there are limitations that should be noted with respect to the quantity and quality of available data and analysis procedures. No new data collection efforts were undertaken for this study. Rather, available data (shoreline changes, nourishment and dredging activities, natural resources, etc.) were collected from as many sources as possible. Additionally, most of the data originally were collected for purposes other than determining the potential impact of a terminal groin.

In the CRC's discussion of the findings of the study, specific issues stand out in considering the siting of terminal groins in NC. Some of the issues are clear, such as it being expensive to remove one of these structures. Other issues, including the most relevant ones regarding the effects of such structures are less clear, making it difficult to draw definitive conclusions. The Commission has concluded that the general impacts of the groins, as reported in this study, tend to be lost in the "noise" of other inlet management activities. The most substantial (longer, higher and/or less permeable) terminal groins were typically found in areas where the greatest amount of dredging activity occurs. It was found that the more significant the dredging activities, the potentially greater the impacts on adjacent shorelines. The impacts from these dredging activities may greatly overshadow any potential long-term shoreline changes resulting from the construction of a terminal groin. It is worth noting that at the majority of sites studied there were other stabilization structures present such multiple groins, and breakwaters.

While the groins do appear to hold the tip of the island in place, stabilizing the terminal groin side of the inlet, there can be other resultant impacts such as changes to the inlet cross-section – a general narrowing and deepening over time which may cause the channel to shift and potentially undermine the groin. The study also found that, in some cases, there were increases in beach volume on the terminal groin side of the inlet. In other cases there were decreases in beach volume on the terminal groin side after subtracting all beach nourishment volumes. The response of the beach did vary by distance from the groin. The permeability of the structure was found to have a significant impact on adjacent shorelines. The Amelia Island structure has allowed some material to bypass, limiting the effects on downdrift shorelines and volumes. However, the structure has also had a limited impact on the updrift shoreline (mainly within the first 0.5 miles). The other structures studied have impermeable cores and appear to hold more sand for a greater distance on their updrift shorelines.

In looking for commonalities between the sites studied, the CRC found that the structure side of the inlets were eroding prior to construction of the terminal groins; and after construction, the shorelines on the structure side were generally accreting. However the data for the shorelines on the opposite side of the inlets did not display a clear trend. Some were accreting and some were eroding. Generally, there is a reduction of erosion or increased accretion over the first mile of shoreline (except for Amelia Island as noted above). For the shorelines opposite of the terminal groin, a minor to moderate increase in erosion or decrease in accretion occurs over the first half to three-quarters of a mile. However, it is not possible to definitively conclude if this is the effect of terminal groin construction or other impacts such as increased dredging or migrating inlets. Making an assessment of the general effects on adjacent shorelines requires caveats and assumptions. As with nourishment, the influence of dredging material from the inlet system must be accounted for when attempting to assess the impact of the terminal groins.

Again the “noise” of other inlet management activities make identification of structure impacts on adjacent shorelines difficult to discern if they exist at all if located adjacent to a highly managed, deeper-draft navigable inlet. The relative impact of these structures on adjacent areas is likely increased when sited next to natural or minimally managed shallow-draft inlets. Should a structure be considered in these locations, additional care and study (geologic setting, sediment budgets, etc.) is warranted to be sure that the terminal groin’s impacts are acceptable or can be mitigated through minimal human activities (dredging and nourishment).

Dredging and nourishment were common and necessary activities associated with these structures. Terminal groins are typically constructed as part of a broader beach management plan and may make nourishment adjacent to inlets feasible, but they do not eliminate the need for ongoing beach nourishment. Initial project costs including construction of the terminal groin, initial beach nourishment and permitting and design fees may range from about $3.5 million for a shorter groin to over $10 million for a larger one. Annual project costs including structure maintenance/repair, annual beach

nourishment, and monitoring could be in the range of $0.7 million to over $2 million. While sea level rise is included in the above estimates, it is prudent to assume that these costs may increase over the life span of an individual project.

With regard to the effects of a terminal groin on wildlife and the environment, the study found that the environmental effects of a terminal groin structure alone could not be isolated from the effects of the associated beach nourishment activity. The potential effects of terminal groins in conjunction with shoreline management (i.e. beach nourishment) on natural resources, such as sea turtles and shorebirds, vary according to the type of construction equipment used, the nature and location of sediment discharges, the time period of construction and maintenance in relation to life cycles of organisms that could be potentially affected, and the nature of the interaction of a particular species.

The study indicated that the construction of a terminal groin, along with beach nourishment and dune construction prevents natural overwash and inlet migration from occurring. The interruption of these natural processes contributes to a loss of habitat for breeding and non-breeding shorebirds, including the endangered piping plover. The study also notes that groins are typically used in combination with a long-term shoreline protection program (beach fill), in areas where pre-project shoreline conditions are generally degraded and offer only limited potential for sea turtle nesting activity.

With respect to fish and bottom dwelling species, the placement of rock to construct a terminal groin would result in a temporary and footprint-specific loss of the existing benthic community. The placement of rock may also result in the permanent loss of intertidal and nearshore subtidal habitat, but this loss may be negligible when compared to the total amount of intertidal habitat within a specific project area. The loss of these habitats could also be replaced by rocky, “hardbottom” material that would add diversity to the bottom habitat, providing a new habitat type that can be utilized by certain groups of invertebrates, juvenile/larval fish, and birds. According to NC Division of Marine Fisheries, rocky habitat adjacent to an inlet is not natural to NC and therefore is not needed by the native fish or bird community. The addition of rocky habitat within a sandy intertidal area is not necessarily a positive benefit, but rather a habitat trade-off. It has also been suggested that creating rocky habitat has led to the introduction of non-native invasive species within the vicinity of the structure.

Due to a lack of historic natural resource data, it is difficult to draw conclusions on the effects of the construction and operation of the terminal groin on natural resources. Based upon the historical nature of the terminal groins at Beaufort Inlet (Fort Macon), John’s Pass (northern groin), and Redfish Pass, discernible trends of the effects of these terminal groins on the natural resources are somewhat limited. The lack of preconstruction data makes an empirical determination of post-construction effects at these sites difficult if not impossible. Additionally, there were no pre-construction or post-construction data available for fish or benthic organisms.

In order to define an area considered for the economic values at risk, the study utilized a 30-year risk area developed by the Science Panel in their deliberations of Inlet Hazard Areas. The purpose was to provide a designation of risk that is approximately equal to the level of risk indicated by the setbacks in the adjacent oceanfront areas. The study found that the economic values within the 30 year risk areas for developed shorelines varies from about $27 million at Ocean Isle to over $320 million at Bald Head Island. The study further refined the economic value at current or imminent risk (as defined by the presence of sandbags for temporary protection) for developed shorelines from just under $3 million at North Topsail Beach to about $26 million at the north end of Figure Eight Island. It must be noted that a single terminal groin could not protect all properties identified as being "at risk" near any given inlet; a terminal groin on one side of an inlet will only stabilize the shoreline on that side of the inlet.

It is difficult to draw conclusions on the effects associated with a terminal groin on an unmanaged inlet since all of the structures considered for this study were located at inlets adjacent to navigable, dredged channels. It can be said that the structure will alter the natural inlet processes of a specific inlet. In what manner and to what degree can only be determined through specific study of the geologic setting, sediment budgets and hydrodynamics of the individual inlet.

RECOMMENDATIONS

Under Article 14, Section 5 of the North Carolina Constitution, it is the policy of the State to conserve and protect its lands and waters for the benefit of all its citizenry, and to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, open lands, and places of beauty. In G.S. 113A-102(b), the General Assembly identified one of the goals of the Coastal Area Management Act as follows:

> (1) To provide a management system capable of preserving and managing the natural ecological conditions of the estuarine system, the barrier dune system, and the beaches, so as to safeguard and perpetuate their natural productivity and their biological, economic and esthetic values.

CAMA also specifically directed the Commission to develop standards capable of protecting the natural resources of the coastal area, including fish and wildlife, and maintaining public trust rights. CAMA recognized that the Commission would also need to consider economic development and impacts to private property.

As permanent erosion control structures may cause significant adverse impacts on the value and enjoyment of adjacent properties, the Commission has relied on nonstructural approaches to coastal hazard mitigation. Those methods include:

- development standards for the ocean and inlet hazard areas, including building setbacks;
- land use planning and land classification ;

- relocation of threatened structures;
- subdivision regulations;
- management of vegetation to stabilize dunes;
- beach nourishment;
- use of sandbags for short-term stabilization; and
- inlet relocation.

The use of sand trapping devices, such as terminal groins, has not been allowed on ocean and inlet shorelines except in extraordinary circumstances (i.e., protection of important public infrastructure The CRC has allowed exceptions for an erosion control structure that is necessary to:

1. protect a bridge that provides the only existing road access on a barrier island and is vital to public safety;
2. protect a state or federally registered historic site; or
3. maintain an existing commercial navigation channel of regional significance within federally authorized limits.

Current rules also allow renewal of a permit for a structure that was constructed pursuant to a variance granted by the Commission prior to 1 July 1995. In each case, the rules require measures to minimize adverse impacts on adjoining properties and on public access to and use of the beach.

It is imperative that activities in the coastal area reflect an awareness of the natural dynamics of the oceanfront. Government policies should not only address existing erosion problems, but should aim toward mitigating the public cost of erosion response. Actions required to deal with erosion problems are expensive and the direct costs of erosion abatement measures and other costs such as maintenance of projects, disaster relief and infrastructure repair will be borne by the public sector. Responses to erosion should be designed to limit these public costs.

The findings of the terminal groin study are inconclusive due to the individual nature of inlets. It also was not possible to entirely separate the effect of an individual terminal groin from the effects of other inlet management activities taking place at or near the site. Based on the results, the Commission can not make a determination that terminal groins would or would not cause adverse impacts on the environment or adjacent properties. The individuality of inlets necessitates case specific study and even then it may be difficult to accurately predict the impacts of a terminal groin in a particular location, the cost of maintaining the structure, and the effectiveness of measures necessary to minimize its impacts. It is within this context that the following recommendations are made.

The Commission has adopted rules that give preference to non-structural responses to erosion including relocation of threatened structures, beach nourishment, inlet relocation and the temporary use of sandbags for short-term shoreline stabilization. The Commission has recently amended its rules on the use of sandbags in Inlet Hazard

Areas to allow the extended use of these structures as well as the repetitive use of sandbags in conjunction with channel realignment projects.

Terminal groins have been shown to be able to anchor the ends of barrier islands adjacent to inlets if associated with long-term beach maintenance. They can likely protect some property at risk but not all properties. The construction and maintenance of terminal groins is very expensive and removing them, if necessary, would be both expensive and disruptive to natural resources. Inlets provide sediment to build up the backside of barrier islands, a vital function in the natural maintenance of these islands.

The General Assembly directed the CRC to conduct a study on the feasibility and advisability of the use of terminal groins as an erosion control device. The study determined that terminal groins, in combination with beach nourishment, can be effective at controlling erosion at the end of barrier islands. The individuality of inlets necessitates site-specific analysis. The study findings were mixed regarding the effects of terminal groins on wildlife habitat and marine resources. If it is the desire of the General Assembly to lift some of the limitations specific to terminal groins, due to the individual nature of inlets, the following factors must be effectively met:

1. **In light of the current policy favoring a non-structural approach to erosion control, the use of a terminal groin, should be allowed only after all other non-structural erosion control responses, including relocation of threatened structures, are found to be impracticable.**

2. **The effects of a terminal groin on adjacent beaches are variable and a primary concern. Any use of such a structure should include siting and construction that avoid interruption of the natural sand movement to downdrift beaches.**

3. **The nature of terminal groins and the potential effects on coastal resources adjacent properties necessitate a full environmental review. Any proposal for the construction of a terminal groin should be accompanied by an environmental impact statement that meets the requirements of the NC Environmental Policy Act (NC G.S. 113-4).**

4. **To ensure the adequacy of compliance with SEPA and the protection of the public interest, third-party review of all environmental documents should be required. The cost of third-party review should be borne by those responsible for the project. This third-party review should include all design, construction, maintenance and removal criteria.**

5. **Since a terminal groin may impact properties well beyond those adjacent to the structure, notification of property owners in areas with the potential to be affected by the terminal groin should be required. This notification should include all aspects of the project likely to affect the adjacent**

shoreline, including construction, maintenance and mitigation activities as well as post-construction effects.

6. **As the post-construction effects of a terminal groin on coastal resources and adjacent properties are difficult to predict, financial assurance in the form of a bond, insurance policy, escrow account or other financial instrument should be required to cover the cost of removing the terminal groin and any restoration of adjacent beaches. Financial assurance should also be required for the long-term maintenance of the structure including beach nourishment activities. (Legislative authorization for requiring financial assurance would be necessary).**

7. **The use of a terminal groin would need an adequate monitoring program to ensure that the effects on coastal resources and adjacent properties doe not exceed what would be anticipated in the environmental documents. All monitoring of impacts of a terminal groin on coastal resources and adjoining properties should be accomplished by a third-party with all cost borne by those responsible for the project.**

8. **As terminal groins are typically used in combination with a long-term shoreline management program, any proposal for use of a terminal groin in NC should be part of a large-scale beach fill project, including subsequent maintenance necessary to achieve a design life of no less than 25 years.**

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

CRC-11-18

August 05, 2011

MEMORANDUM

TO: Coastal Resources Commission

FROM: Lisa Cowart

SUBJECT: Estuarine Shoreline Mapping - Preliminary Results

Introduction and Background

At the September 2010 CRC meeting, Scott Geis presented an update of the Estuarine Shoreline Mapping Project (ESMP). The EMSP began in 2006 with the objective of creating a continuous estuarine shoreline for the 20 North Carolina CAMA counties.

In addition to creating a continuous estuarine shoreline, the goals of the ESMP include quantifying the mileage of shoreline types and number of shoreline structures, with the intention of further understanding the effects of development along the shoreline, as well as the effects of permitted activities on coastal residents and the environment. To accomplish the objective and goals of the ESMP, a detailed methodology was created and East Carolina University (ECU) was contracted to delineate the estuarine shoreline of the CAMA counties. The shorelines were digitized using the most recent available aerial photography for each county. Once a county was digitized, it was checked by DCM staff according to a quality accuracy quality control (QA/QC) protocol. The accuracy of the data, once QA/QC'ed by DCM staff, is dependent on the accuracy of the imagery used.

Project Progress

To date, 17 counties have been digitized, which include Beaufort, Bertie, Brunswick, Camden, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, Onslow, Pamlico, Pasquotank, Perquimans, Tyrrell, and Washington County. Of the 17 counties digitized, five have been QA/QC'ed by DCM staff and are considered complete (Pasquotank, Perquimans, Currituck, Tyrrell, and Washington County). There are three counties that have yet to be digitized (Carteret, Pender, and New Hanover County). Carteret County is being digitized in house by DCM staff and Pender and New Hanover counties are being digitized by ECU. The digitization process is expected to be completed by December 2011.

A basic statistics and summary analysis has been performed on the five completed counties. The analysis includes calculations of length of five distinct shoreline types (swamp forest, marsh, sediment bank,

modified, and miscellaneous), length of the types of modified shoreline (boat ramp, riprap revetment, and bulkhead), and the number of modified structures (bridge, pier/floating dock/wharf/, and unknown). The results from this analysis will be presented at the upcoming CRC meeting in Beaufort.

In order to highlight the potential use of the data, an expanded analysis was performed for Washington County. This analysis includes results to some of the questions that have been repeatedly raised by DCM, the CRC and various stakeholders. Below is a sampling of the type of information that can be queried from the project:

1. How many linear feet of bulkhead is located landward of marsh shoreline?
2. How many linear feet of bulkhead is located waterward of marsh shoreline?
3. How many linear feet of riprap is located landward of marsh shoreline?
4. How many linear feet of riprap are located waterward of marsh shoreline?
5. What square footage of structures is shading the water (area of piers/docks/wharves and bridges waterward of shoreline line)?
6. What square footage of piers/docks is located over Primary Nursery Areas (PNA)?
7. What square footage of piers/docks is located over Submerged Aquatic Vegetation (SAV) Habitat?
8. What is the average width of boat ramps and average length of groins, sills, breakwaters?

Future Goals and Collaboration

There are many ways DCM can use the estuarine shoreline data generated from the ESMP. The expanded analysis performed for Washington County will be performed for the remaining 19 CAMA counties. This analysis can aid in, among other things, further understanding the amount and distribution of shoreline types, density of modified structures within the North Carolina estuarine system, the amount of public trust water shaded by docks and piers, and the potential impact of modified structures on PNAs and SAV habitat.

There has been discussion in obtaining additional shoreline data to perform estuarine shoreline change analyses. Using the shorelines digitized within the ESMP as a baseline, additional shorelines could be used to calculate shoreline change rates and possibly highlight high erosion areas. Collaborative efforts have been initiated with the Shellfish Sanitation Branch of DMF utilizing their field operations to ground truth some of the data generated in the ESMP. Technical questions about the data or the project in general can be directed to Lisa Cowart (Morehead City 252-808-2808 Lisa.M.Cowart@ncdenr.gov) or Bonnie Bendell (Raleigh 919-733-2293 Bonnie.Bendell@ncdenr.gov). I look forward to presenting this preliminary data at the upcoming meeting.

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

CRC-11-19

August 9, 2011

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski

SUBJECT: Amendments to 15A NCAC 07H .0304 Extent of the Ocean Erodible AEC and the 100-year Storm Recession Line within Ocean Hazard Areas

During 2010, the Commission approved several amendments to three separate sections within 15A NCAC 07H.0304 (AECs within Ocean Hazard Areas). One of these changes was to 07H.0304(1)(a) consisting of an increase in the formula used to calculate the width of the Ocean Erodible Area of Environmental Concern (OEA) in order to be consistent with the CRC's new setback policy (T15A NCAC 07H.0306) effective August 11, 2009.

The OEA boundary is defined oceanward by mean low water (MLW) and landward by a distance measured from the first line of stable and natural vegetation (FLS&NV) equal to 60 times the long-term annual erosion rate (ER). The landward extent of the OEA also includes the distance of shoreline recession that would be generated from a 100-year storm event (SR). The shoreline recession model has a minimum and maximum value of 25 and 330 feet, respectively. The current OEA width formula can be simplified as: OEA = [(60 x ER) + SR].

As a reminder, this issue is of particular concern under 07H.0306 for development greater than 10,000 square feet, which is required to follow a graduated setback factor between 60 and 90 based on total floor area (07H.0306(a)(1)(A) – (a)(1)(J)). The maximum setback factor is 90 times the erosion rate for structures greater than or equal to 100,000 ft^2.

In the course of developing the fiscal analysis for the rule change, it was noted that changing the OEA factor from 60 to 90 substantially increased the AEC and therefore the Commission's permitting jurisdiction. Upon further consideration and analysis, the Division believes that the extent of this increase is beyond what is necessary to achieve the management objectives of the Ocean Hazard Area – reduction of the loss of life and property due to the forces indigenous to the Atlantic shoreline. Staff believes that while the OEA factor does need to be changed for consistency with the 7H .0306 setback rules, use of the 100-year storm recession line may no longer be needed as the

increase from 60 to 90 combined with the High Hazard Flood Area (V-Zones), provides the necessary CAMA jurisdiction to implement the management objectives of the Ocean Hazard Area. The Ocean Hazard AEC is comprised of the Ocean Erodible Area, the High Hazard Flood Area and the Inlet Hazard Area. There are General (7H .0306) and Specific (7H .0308) Use Standards for the Ocean Hazard Areas. These standards include provisions for setbacks, dune protection, erosion control activities, sandbags, beach nourishment, beach bulldozing, dune establishment and stabilization, accessways, and construction standards. Reducing the OEA, does not impact the implementation of these standards or the signing of the Ocean Hazard AEC notice as these provisions are applied to the Ocean Hazard Area universally.

The inclusion of the 100-year storm recession line is linked to the early days of the coastal program and the initial development of AECs. The intent of the recession line was to protect the dunes after 30 years of erosion based on modeling. The effort was a precursor to the development of erosion rates along the coast and was intended to delineate the regulatory area of the OEA. The recession line has not been updated and the FEMA revisions to the V-zones during the 1990's added dune erosion to the modeling. As this proposed action concerns the permitting jurisdiction of the Commission, particularly the landward edge as opposed to the seaward edge, Staff believes this recession line can be removed from the calculation without significantly affecting the management objectives. By increasing the OEA factor to 90, large development (greater than 100,000 square feet) will be beyond the OEA and by default, meeting the setback requirement.

Removing the recession line from the calculation will also provide a degree of regulatory relief to some areas of the coast, most notably New Hanover County where approximately 900 lots will no longer be within the OEA or High Hazard Flood (V-Zones) AECs. However, in other areas such as Dare County, there will still be an increase in jurisdiction where the OEA and High Hazard Flood AECs will encompass an additional 275 lots. Coastwide, there will be a net reduction of 1,500 lots that fall within an Ocean Hazard AEC. Again, it is important to keep in mind that the impact of this action is on the landward edge of the OEA affecting large scale development. At the upcoming meeting in Beaufort, I will have some specific graphic examples of how this amendment would change the width of the AEC from its current dimensions. Attached is a copy of 7H .0304(1)(a) with this proposed amendment highlighted. I have also included an analysis of the number of properties affected by this action.

Number of Properties Affected by Proposed AEC Modification

Brunswick County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Sunset Beach	959	908	-51
Ocean Isle	2936	2792	-144
Holden Beach	2843	2740	-103
Oak Island	2376	2276	-100
Caswell Beach/Ft. Caswell	251	194	-57
Bald Head Island	1123	1095	-28
TOTAL:	**10488**	**10005**	-483

New Hanover County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Kure Beach	718	328	-390
Carolina Beach	951	803	-148
Wrightsville Beach	1276	997	-279
Figure Eight Island	409	313	-96
TOTAL:	**3354**	**2441**	-913

Pender County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Topsail Beach	757	604	-153
Surf City	1268	1030	-238
TOTAL:	**2025**	**1634**	-391

Onslow County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Surf City	161	118	-43
North Topsail Beach	3380	3311	-69
TOTAL:	**3541**	**3429**	-112

Carteret County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Emerald Isle	1695	1705	10
Indian Beach	563	563	0
Salter Path	74	74	0
Pine Knoll Shores	763	769	6
Atlantic Beach	941	950	9

Fort Macon State Park	1	1	0
TOTAL:	**4037**	**4062**	25

Hyde County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Ocracoke	No Digital Parcel Data	No Digital Parcel Data	
TOTAL:			

Dare County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Hatteras-Buxton	1441	1465	24
Avon	898	955	57
Salvo - Rodanthe	716	776	60
Whalebone - Nags Head	1276	1331	55
Kill Devil Hills	534	558	24
Kitty Hawk	657	697	40
Southern Shores	273	273	0
Duck - Dare County Line	459	474	15
TOTAL:	**6254**	**6529**	275

Currituck County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Currituck County Line - Corolla	816	816	0
Wildlife Refuge - VA	863	897	34
TOTAL:	**1679**	**1713**	34

Statewide Totals:	**31378**	**29813**	**-1565**

15A NCAC 07H .0304 AECS WITHIN OCEAN HAZARD AREAS

The ocean hazard system of AECs contains all of the following areas:

(1) Ocean Erodible Area. This is the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The ~~seaward~~ oceanward boundary of this area is the mean low water line. The landward extent of this area is determined as follows:

(a) a distance landward from the first line of stable and natural vegetation as defined in 15A NCAC 07H.0305(a)(5)to the recession line that would be established by multiplying the long-term annual erosion rate times 90 ~~60, provided that, where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation~~. For the purposes of this Rule, the erosion rates are the long-term average based on available historical data. The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "Long Term Annual Shoreline Change Rates updated through 1998" and approved by the Coastal Resources Commission on January 29, 2004 (except as such rates may be varied in individual contested cases, declaratory or interpretive rulings). In all cases, the rate of shoreline change shall be no less than two feet of erosion per year. The maps are available without cost from any ~~local permit officer~~ Local Permit Officer or the Division of Coastal Management; and

(b) ~~a distance landward from the recession line established in Sub-Item (1)(a) of this Rule to the recession line that would be generated by a storm having a one percent chance of being equaled or exceeded in any given year.~~

(2) The High Hazard Flood Area. This is the area subject to high velocity waters (including hurricane wave wash) in a storm having a one percent chance of being equaled or exceeded in any given year, as identified as zone V1-30 on the flood insurance rate maps of the Federal Insurance Administration, U.S. Department of Housing and Urban Development.

(3) Inlet Hazard Area. The inlet hazard areas are natural-hazard areas that are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets. This area shall extend landward from the mean ~~normal~~ low water line a distance sufficient to encompass that area within which the inlet ~~shall,~~ shall migrate, based on statistical analysis, ~~migrate,~~ and shall consider such factors as previous inlet territory, structurally weak areas near the inlet and external influences such as jetties and channelization. The areas identified as suggested Inlet Hazard Areas included in the report entitled INLET HAZARD AREAS, The Final Report and Recommendations to the Coastal Resources Commission, 1978, as amended in 1981, by Loie J. Priddy and Rick Carraway are incorporated by reference ~~without future changes~~ and are hereby designated as Inlet Hazard Areas except for: ~~that:~~

(a) the Cape Fear Inlet Hazard Area as shown on said map shall not extend northeast of the ~~Baldhead~~ Bald Head Island marina entrance ~~channel.~~ channel, and

(b) the former location of Mad Inlet, which closed in 1997.

~~These~~ The ~~areas~~ Inlet Hazard Area shall be extensions of the adjacent ocean erodible areas and the width of the inlet hazard area shall not be less than the width of the adjacent ocean erodible area. This report is available for inspection at the Department of Environment and Natural Resources, Division of Coastal Management, 400 Commerce Avenue, Morehead City, North Carolina. Photo copies are available at no charge.

(4) Unvegetated Beach Area. The Unvegetated Beach Area shall not apply to Inlet Hazard or High Hazard Flood Areas. Only ~~Beach~~ beach areas within the Ocean Erodible ~~Hazard~~ Area where no stable natural vegetation is present may be designated as an ~~unvegetated beach area~~ Unvegetated Beach Area on either a permanent or temporary basis:

(a) An area appropriate for permanent designation as an ~~unvegetated beach area~~ Unvegetated Beach Area is a dynamic area that is subject to rapid unpredictable landform change from wind and wave action. The areas in this category shall be designated following studies by the Division of Coastal Management. ~~Coastal Resources Commission~~. These areas shall be designated on maps approved by the Coastal Resources Commission and available without cost from any ~~local permit officer~~ Local Permit Officer or the Division of Coastal Management.

(b) An area that is suddenly unvegetated as a result of a hurricane or other major storm event may be designated as an ~~unvegetated beach area~~ Unvegetated Beach Area for a specific

period of time. At the expiration of the time specified by the Coastal Resources Commission, the area shall return to its pre-storm designation. Areas appropriate for such designation are those in which vegetation has been lost over such a large land area that interpolation ~~extrapolation~~ of the vegetation line under the procedure set out in Rule .0305(a) of this Section is inappropriate.

~~The Commission designates as temporary unvegetated beach areas those oceanfront areas on Hatteras Island west of the new inlet breach in Dare County in which the vegetation line as shown on Dare County orthophotographs dated 4 February 2002 through 10 February 2002 was destroyed as a result of Hurricane Isabel on September 18, 2003 and the remnants of which were subsequently buried by the construction of an emergency berm. This designation shall continue until such time as stable, natural vegetation has reestablished or until the area is permanently designated as an unvegetated beach area pursuant to Sub-Item 4(a) of this Rule.~~

History Note: *Authority G.S. 113A-107; 113A-113; 113A-124;*
Eff. September 9, 1977;
Amended Eff. December 1, 1993; November 1, 1988; September 1, 1986; December 1, 1985;
Temporary Amendment Eff. October 10, 1996;
Amended Eff. April 1, 1997;
Temporary Amendment Eff. October 10, 1996 Expired on July 29, 1997;
Temporary Amendment Eff. October 22, 1997;
Amended Eff. January 1, 2010, February 1, 2006; October 1, 2004; Amended Eff. April 1, 2004; August 1, 1998.

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

CRC-11-20

July 29, 2011

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski

SUBJECT: 2011-2012 CHPP Implementation Plan

The agencies and commissions involved with the NC Coastal Habitat Protection Plan (CHPP) have been developing bi-annual implementation plans that address the goals and recommendations of the CHPP through specific actions. The first implementation plans were developed during the 2005-2007 time period. The CHPP was updated and approved by the commissions in 2010 and the attached proposed 2011-2012 Implementation Plan is intended to address this update. Many of the original goals remain in the 2010 CHPP with some modifications. The proposed Implementation Plan contains actions that have carried over from previous years, new actions to address existing recommendations and actions to address modified recommendations.

Recognizing that the recent budget cuts will have a profound impact on their ability to address the recommendations and goals, many of the agency actions focus on research, outreach and education, as well as actions that are central to the mission of the agency. Likewise, DCM is proposing to focus on several initiatives that have been part of the last two implementation plans. These actions include implementation of the BIMP recommendations, continued work on alternatives to vertical stabilization methods, and analysis of the estuarine shoreline mapping work to be completed later this year. New actions focusing on research and education include several projects involving the National Estuarine Research Reserve – outreach on the value of estuarine habitats, the nursery role of SAV, oysters and wetlands, monitoring of emergent aquatic vegetation and shell bottom at sentinel sites. The Division is also proposing to continue development of the sea level rise policy as well as an outreach and education strategy utilizing an Albemarle-Pamlico National Estuary Program (APNEP) grant.

I will be presenting the proposed implementation plan for CRC approval at the upcoming meeting in Beaufort and look forward to discussing the particulars of the actions.

400 Commerce Ave., Morehead City, NC 28557
Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

NORTH CAROLINA'S COASTAL HABITAT PROTECTION PLAN

2011 - 2013

BI-ANNUAL IMPLEMENTATION PLAN

FROM

NORTH CAROLINA MARINE FISHERIES COMMISSION,
NORTH CAROLINA COASTAL RESOURCES COMMISSION,
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION, AND
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION
AND
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

August 2011

Introduction

The legislative goal of the NC Coastal Habitat Protection Plan (CHPP) is the long term enhancement of coastal fisheries associated with coastal habitats. Since 2004, when the CHPP was originally approved, North Carolina's environmental agencies and commissions have been working together to achieve this goal through the development of bi-annual implementation plans that work toward achieving the goals and recommendations of the CHPP.

Agencies involved with CHPP implementation include NC Department of Environment and Natural Resources (DENR) Divisions of Marine Fisheries (DMF), Coastal Management (DCM), Water Quality (DWQ), Ecosystem Enhancement Program (EEP), Environmental Health/Shellfish Sanitation (reorganized in July 2011 as a section under DMF), Forestry (DFR) (reorganized in July 2011 under the NC Department of Agriculture and Consumer Services), Parks and Recreation (DPR), Soil and Water Conservation (DSWC) (also reorganized in July 2011 under the NC Department of Agriculture and Consumer Services), and the Water Resources (DWR). The Wildlife Resource Commission joined the CHPP Steering Committee in 2010. Additional agencies involved in implementation of the CHPP include the Albemarle Pamlico National Estuary Program (APNEP), Duke University, National Estuarine Research Reserve (NERR), NC Sea Grant, National Oceanic and Atmospheric Administration (NOAA), US Army Corps of Engineers (ACE), and the Water Resources Research Institute (WRRI).

The first implementation plan covered the 2005-2007 period. There have been two updates (2007-2009, 2009-2011) to that original implementation plan. This document serves as the third update (2011-2013) to the original CHPP implementation plan.

Each division and commission was charged with developing bi-annual implementation actions that address the goals and recommendations of the CHPP. The CHPP was updated and approved in 2010 (http://portal.ncdenr.org/web/mf/59). The majority of the recommendations in that plan remained similar to the original recommendations, with a few additions and modifications (Appendix 2). The 2011-2013 Implementation Plan contains some ongoing actions from previous plans, new actions for previously existing recommendations, and some new actions for new recommendations contained in the 2010 CHPP.

By working together on complicated, multi-jurisdictional issues, the CHPP Steering Committee (CSC) has played a key role in accomplishing or making substantial progress on several environmental issues over the past six years. This included improving compliance on existing environmental rules, completion or major progress on mapping of shell bottom, SAV, and wetland shorelines, restoration of subtidal oyster reefs, increasing public awareness on environmental issues, supporting research and conducting analyses to identify Strategic Habitat Areas for focused protection, completion of a beach and inlet management plan, and passing of the coastal stormwater rules.

Over the next few years, successful implementation of a number of CHPP initiatives will be more difficult brought about by a reduction in funding and staff needed to work on these initiatives. The Department will realize budget cuts of approximately 28% over the next two years. A number of the reductions involved programs and personnel critical to the implementation of the CHPP and the restoration and protection of important fish habitats. Eastern North Carolina's economy is strongly linked to a healthy environment, including clean waters for swimming and shellfish harvesting and robust fish populations for recreational and commercial fishing. Studies compiled in the CHPP clearly show that degraded habitats and water quality negatively impact fish populations and the economy. With that in mind, the CSC remains committed to moving forward to protect our estuarine resources through execution of the 2011-2013 Implementation Plan.

Implementation of the CHPP will continue in the face of budget cuts, but progress will likely slow down given the reductions in staff and funding seen in each agency. Over the next two years, implementation will focus on:

Outreach to increase awareness of the value of habitat conservation, the effect of human activities on the environment, and voluntary means to reduce nonpoint pollution such as low impact development and proper use and disposal of endocrine disrupting chemicals like certain pesticides and prescription medications.

Monitoring and assessment of habitat conditions through continued mapping and monitoring, support of applicable research, and analysis of Strategic Habitat Areas.

Restoration of fish habitat, with particular focus on improving fish passage through obstruction removal or modification and developing non-traditional compensatory mitigation techniques to restore ecological functions where traditional mitigation is not feasible.

Protecting shallow wetlands and nursery areas by considering modifications of shoreline stabilization rules.

Below is a complete list of implementation actions that each agency has committed to working on in the next two-year cycle:

Division of Marine Fisheries

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Action
1.2	Develop a data system for monitoring data and mapping the closure of shellfishing waters to enhance the sharing of information among Departmental Divisions.
1.3	Promote habitat conservation by creating informational materials highlighting life history, habitat use, and threats of focal species at festivals; 2) set up fish habitat displays, such as a marsh tank, for longer events; 3) seek funding for additional displays.
1.3	Incorporate CHPP materials into current DMF outreach activities ('This Week at the Fisheries' articles, Fish Eye News, Zoo FileZ).
1.3	Encourage CRFL projects related to habitat education.
1.4	Continue to review development issues and address environmental issues as they relate to the CAMA Land Use Planning Program.
1.6	Participate in state and federal efforts to control invasive aquatic species and educate staff and partner agencies.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Action
2.1a	Facilitate mapping of deep (>15 ft) estuarine bottoms, starting with lower Neuse River.
2.1b	Conduct cooperative DMF/NOAA research on methods for evaluating status and trends in SAV distribution and condition.
2.1b	Continue mapping of all shallow estuarine bottom and bottom types.

2.1b	Investigate SAV and shell bottom monitoring methods for trend assessments.
2.2	Complete SHA evaluation for Region 2.
2.2	Conduct groundtruthing of Region 1 SHA nominations.
2.2	Conduct SHA evaluation for Region 3.
2.2	Integrate resulting criteria and information from SHA committee into DENR Divisions' guidelines, policies, and rulemaking.
2.2	Study the feasibility and benefits of developing an SAV Restoration Program.
2.2	Work with DENR to include SHA priorities within EEP local watershed plans and DENR conservation planning tool.

Goal 3: Enhance habitat and protect it from physical impacts

Rec	**Action**
3.1a	Continue expanding the oyster sanctuary program.
3.1a	Cooperate with university researchers on oyster larvae distribution and movement investigations.
3.1a	Enhance oyster shell recycling program. Discourage use of shell material for landscaping or other uses besides shellfish cultch.
3.1a	Work with university researchers to monitor fish/invertebrate use of oyster sanctuaries and effect of oysters on local water quality.
3.1b	Make protection and restoration of critical fisheries habitats a priority part of the One North Carolina Naturally initiative, through incorporation of DMF data on habitat and SHAs.
3.1b	Obtain funding to restore designated streams and associated wetlands designated as anadromous fish spawning areas in the Albemarle Sound area as implementation steps for the River Herring Fishery Management Plan.
3.1b	Support efforts to restore SAV.
3.2	Work with the Division of Water Resources to minimize conflicts between Aquatic Weed Control practices and protection of SAV habitat
3.3	Evaluate through the FMP process the need for further restrictions of bottom-disturbing gear.
3.5b	Continue to study the feasibility and benefits of dam and barrier removal in general and for mitigation.
3.5b	Survey previously identified Albemarle Sound river herring spawning areas to estimate current condition and spawning function, and identify stream obstructions on river herring spawning streams.

Goal 4: Enhance and protect water quality

Rec	**Action**
4.1a	Seek funding to initiate research on impacts of endocrine-disrupting chemicals to blue crabs and oysters.
4.1a	Work with the Department of Agriculture and Consumer Services to develop and implement a drug disposal program for pharmaceuticals.
4.5b	DMF will seek grant funding to reduce stormwater runoff from the HQ property through use of stormwater infiltration, rain gardens, and shoreline marsh plantings.

4.6c	Form workgroup to determine water quality standards necessary to support SAV habitat.

Division of Coastal Management

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Action
1.3	DCM will incorporate CHPP into their research and education efforts.
1.3	Distribute brochures and posters about fish, fish habitat, and fishing to be available for general distribution by DENR staff.
1.3	Provide information to focus students in K-12 understanding the biodiversity of lakes, streams, and estuaries.
1.4	Continue to review development issues and address environmental issues as they relate to the CAMA Land Use Planning Program.
1.5	Begin analysis of DCM's estuarine shoreline mapping project.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Action
2.1b	NERR will initiate emergent wetland vegetation monitoring of sentinel sites.
2.1c	Conduct research on the nursery role of SAV, oysters, and wetlands (through NERR in conjunction with UNC-IMS).
2.1c	Conduct research to manage intertidal oyster reefs in a changing climate (through NERR in conjunction with UNC-IMS).

Goal 3: Enhance habitat and protect it from physical impacts

Rec	Action
3.1c	Conduct research to determine if clams can enhance eel grass growth.
3.1c	Support efforts to restore SAV.
3.2	DCM will serve as a clearinghouse for beach nourishment monitoring data and distribute reports to review agencies.
3.2	Develop minimum criteria for monitoring beach nourishment projects.
3.4	Use shoreline mapping to develop methodology to determine estuarine shoreline recession rates.
3.4	Encourage alternatives to vertical shoreline stabilization methods through permit requirements and fees (including but not limited to refining rule 15A NCAC 07H .2700 GP for Marsh Sills).
3.4	Use NOAA grant to delineate estuarine shorelines; apply methods to CAMA counties.
3.7	Develop an interagency policy for marina siting to minimize impacts to ecologically important shallow habitats such as PNAs, AFSAs, and SAV.
3.8	Develop CRC Sea Level Rise Policy.
3.8	Teach the value and function of estuarine habitats, how these habitats may be affected by sea level rise, and alternative methods (other than bulkheads) of estuarine shoreline stabilization.

3.8	Develop a sea level rise education strategy including messages and audiences with CTP and other DCM staff utilizing the information gathered from the DCM's Sea Level Rise Perception Survey, APNEP's Climate Ready Estuary Program, and existing sea level rise educational materials available through the NERRS and other programs.

Goal 4: Enhance and protect water quality

Rec	Action
4.1c	Incorporate power washing BMPs into the Clean Marina Manual.
4.5a	Enhance DCM education efforts such as the N.C. NERR Septic Systems Workshops.
4.5a	Implement Pivers Island stormwater BMP project.
4.5e	Incorporate areas of high aquatic habitat value in addition to high terrestrial habitat value into the NC CELCP.
4.5f	Develop a clean boater initiative
4.7	Improve wastewater/stormwater management at coastal marinas
4.7	Inventory docks and piers in the 20 coastal counties.
4.7	North Carolina's Clean Marina Program and Clean Vessel Act activities will emphasize the threats to fish habitat and benefits of BMPs.
4.7	Seek dedicated funding to staff DCM's Clean Marina Program and effectively implement Best Management Practices as a non-regulatory way to improve water quality in and around marinas and docks.

Division of Water Quality

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Action
1.3	Conduct outreach to educate citizens about DWQ's Neuse and Tar-Pamlico riparian buffer rules and 401 Water Quality Certification program.
1.3	Provide information to focus students in K-12 understanding the biodiversity of lakes, streams, and estuaries.
1.3	Implement workshops for engineers and consultants on stormwater, buffer, and 401 Water Quality Certifications.
1.4	Continue to review development issues and address environmental issues as they relate to the CAMA Land Use Planning Program.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Action
2.2	Study the feasibility and benefits of developing an SAV Restoration Program.

Goal 3: Enhance habitat and protect it from physical impacts

Rec	Action
3.1c	Support efforts to restore SAV.
3.5b	Continue to study the feasibility and benefits of dam and barrier removal in general and for mitigation.

Goal 4: Enhance and protect water quality

Rec	Action
4.1a	Work with the Department of Agriculture and Consumer Services to develop and implement a drug disposal program for pharmaceuticals.
4.1c	Incorporate power washing BMPs into the Clean Marina Manual.
4.4	Provide Phase II stormwater educational & technical assistance to local governments through the DENR Runoff Pollution Campaign and through partnerships with the Division of Community Assistance and UNC Institute of Government.
4.6b	Work towards developing a model framework to begin to evaluate the impact of the new coastal stormwater rules on the level of non-point source runoff pollutant concentrations.
4.6c	Form workgroup to determine water quality standards necessary to support SAV habitat.
4.7	Improve wastewater/stormwater management at coastal marinas.
4.8a	Support early implementation of environmentally superior alternatives to waste lagoon and spray field systems. Encourage commissions to express their support for early implementation.

Wildlife Resources Commission

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Action
1.3	Promote habitat conservation through the Wildlife Action Plan (Green Toolbox) and Educational Centers.
1.3	Encourage CRFL projects related to habitat education.
1.4	Continue to review development issues and address environmental issues as they relate to the CAMA Land Use Planning Program.
1.6	Participate in state and federal efforts to control invasive aquatic species and educate staff and partner agencies.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Action
2.2	Conduct SHA evaluation and designation process for Pamlico Sound and tributaries (Region 2).
2.2	Conduct SHA evaluation and designation process for White Oak basin (Region 3).

2.2	Integrate resulting criteria and information from SHA committee into DENR Divisions' guidelines, policies, and rulemaking.
2.2	Study the feasibility and benefits of developing an SAV Restoration Program.

Goal 3: Enhance habitat and protect it from physical impacts

Rec	Action
3.1b	Obtain funding to restore designated streams and associated wetlands designated as anadromous fish spawning areas in the Albemarle Sound area as implementation steps for the River Herring Fishery Management Plan.
3.1b	Continue to study the feasibility and benefits of dam and barrier removal in general and for mitigation.
3.1b	Survey previously identified Albemarle Sound river herring spawning areas to estimate current condition and spawning function, and identify stream obstructions on river herring spawning streams.

Goal 4: Enhance and protect water quality

Rec	Action
4.1c	Work with NC State to develop a GIS-based map of potential sources of endocrine disrupting chemicals statewide.

DENR

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Action
1.3	Develop and distribute brochures and posters about fish, fish habitat, and fishing to be available for general distribution by DENR staff.
1.3	The Department, through the Public Information Office will coordinate with the Zoo, Aquariums, Museum of Natural Sciences, State Parks, Educational State Forests and Environmental Education Centers to integrate the relevant components of the CHPP into exhibits and programs.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Action
2.1a	Complete and disseminate photo-interpretation of 2007-08 coast-wide SAV imagery.

Goal 3: Enhance habitat and protect it from physical impacts

Rec	Action
3.1b	DENR review of state agency requests to the Natural Heritage Trust Fund will place a priority on those proposals that would further the protection and restoration of critical fisheries habitats.

3.1b	Make protection and restoration of critical fisheries habitats a priority part of the One North Carolina Naturally initiative, such as developing conservation plans for the twenty coastal counties that identify potential conservation focus areas.
3.1b	The Department will assist coastal local governments in identifying navigation and stream restoration projects of particular importance to both fish and fisheries with grants from the State-Local projects program of the Division of Water Resources.
3.6	Provide support for ongoing marine spatial planning efforts (BOEM) task force.

Goal 4: Enhance and protect water quality

Rec	Action
4.4	Provide Phase II stormwater educational & technical assistance to local governments through the DENR Runoff Pollution Campaign and through partnerships with the Division of Community Assistance and UNC Institute of Government.
4.4	Pursue funding for the Community Conservation Assistance Program with emphasis on CHPP stormwater priorities in coastal counties.
4.8a	Support early implementation of environmentally superior alternatives to waste lagoon and spray field systems. Encourage commissions to express their support for early implementation.

Other Agencies

Goal 1: Improve effectiveness of existing rules and programs protecting coastal fish habitats

Rec	Agency	Action
1.1	DFR	Evaluate use of forestry BMPs at logging sites.
1.2	APNEP	The Department, through the APNEP, will develop a comprehensive monitoring plan for the estuarine system.
1.3	APNEP	Conduct outreach to educate citizens about DWQ's Neuse and Tar-Pamlico riparian buffer rules and 401 Water Quality Certification program.
1.3	DPR, APNEP, DSWC	Provide information to focus students in K-12 understanding the biodiversity of lakes, streams, and estuaries.
1.3	DFR	Enhance forestry BMP compliance with education videos, outreach projects, and guide books.
1.3	WRRI	Implement workshops for engineers and consultants on stormwater, buffer, and 401 Water Quality Certifications.
1.4	NC Sea Grant	Continue to review "Inner banks" development issues and address environmental issues

1.4	DFR	The DFR will revise its Memorandum of Agreement (MOA) documents with the NC Division of Land Resources and the NC Division of Water Quality to ensure compliance monitoring and enforcement policies are consistently practiced in a timely and seamless manner. These MOAs primarily address interdivisional communication on the nine forestry performance standards known as the Forest Practice Guidelines Related to Water Quality (FPGs) and the Riparian Buffer Rules applicable to NC's river basins.
1.5	DFR	Develop threshold criteria for determining when a noncompliant forestry operation directly contributes to a degradation or loss of in-stream aquatic habitat sufficient to warrant restoration or remediation of the affected water resource.

Goal 2: Identify, designate and protect strategic habitat areas

Rec	Agency	Action
2.1a	APNEP	Complete and disseminate photo-interpretation of 2007-08 coast-wide SAV imagery.
2.1a	APNEP	Conduct cooperative DMF/NOAA research on methods for evaluating status and trends in SAV distribution and condition.
2.2	EEP	Study the feasibility and benefits of developing an SAV Restoration Program.
2.2	EEP	Work with DENR to include SHA priorities within EEP local watershed plans and DENR conservation planning tool.

Goal 3: Enhance habitat and protect it from physical impacts

Rec	Agency	Action
3.1b	DSWC	DSWC encourage local SWCDs to include Strategic Habitat Areas and other CHPP priorities in local priority ranking system for the Agriculture Cost Share Program and the Community Conservation Assistance Program.
3.1b	DSWC	Include Strategic Habitat Areas as a priority area for CREP.
3.1b	DWR	The Department will assist coastal local governments in identifying navigation and stream restoration projects of particular importance to both fish and fisheries with grants from the State-Local projects program of the Division of Water Resources.
3.1b	DFR	The DFR will work with other DENR agencies to start pre-construction water quality and water quantity monitoring of 'The Canal'.

3.1b	EEP	EEP will work with the Army Corps of Engineers, the NC Department of Transportation, and the Interagency Review Team (IRT) on innovative mitigation projects and an appropriate crediting system. Such projects may include the protection and restoration of SAV and oyster beds (or other degraded fish habitats), and the removal of certain dams and other aquatic organism barriers.
3.1b	APNEP, EEP	Obtain funding to restore designated streams and associated wetlands designated as anadromous fish spawning areas in the Albemarle Sound area as implementation steps for the River Herring Fishery Management Plan.
3.5b	EEP, ACE	Continue to study the feasibility and benefits of dam and barrier removal in general and for mitigation.
3.5b	EEP, ACE, DWR	The Department, through the Division of Water Resources and the Ecosystem Enhancement Program will pursue dam removal projects where appropriate.
3.1c	APNEP, EEP	Support efforts to restore SAV.

Goal 4: Enhance and protect water quality

Rec	**Agency**	**Action**
4.4	DSWC	Pursue funding for the Community Conservation Assistance Program with emphasis on CHPP stormwater priorities in coastal counties.
4.5a	Duke, NOAA	Implement Pivers Island stormwater BMP project.
4.5b	DFR	The DFR will begin long-term water quality and water quantity monitoring of Beddingfield Creek during 2007 in anticipation of implementing a 3,000+ acre watershed restoration effort in the Neuse River Basin.

APPENDIX 1. GLOSSARY OF ACRONYMS

ACE	US Army Corps of Engineers
APNEP	Albemarle Pamlico National Estuary Program
CHPP	Coastal Habitat Protection Plan
CSC	CHPP Steering Committee
DCM	Division of Coastal Management
DENR	Department of Environment and Natural Resources
DFR	Division of Forestry Resources
DMF	Division of Marine Fisheries
DSWC	Division of Soil and Water Conservation
DWQ	Division of Water Quality
DWR	Division of Water Resources
EEP	Ecosystem Enhancement Program
NERR	National Estuarine Research Reserve
NOAA	National Oceanic and Atmospheric Administration
SAV	Submerged Aquatic Vegetation
WRRI	Water Resources Research Institute

APPENDIX 2. CHPP GOALS AND RECOMMENDATIONS (DEATON ET AL. 2010)

GOAL 1. IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

1. Continue to enhance enforcement of, and compliance with, Coastal Resources Commission (CRC), Environmental Management Commission (EMC), Marine Fisheries Commission (MFC), and Wildlife Resources Commission (WRC) rules and permit conditions.
2. Coordinate and enhance water quality, physical habitat, and fisheries resource monitoring (including data management) from headwaters to the nearshore ocean.
3. Enhance and expand educational outreach on the value of fish habitat, threats from land-use and human activities, climate change, and reasons for management measures.
4. Coordinate rulemaking and data collection for enforcement among regulatory commissions and agencies.
5. Develop and enhance assessment and management tools for addressing cumulative impacts.
6. Enhance control of invasive species with existing programs.

GOAL 2. IDENTIFY, DESIGNATE, AND PROTECT STRATEGIC HABITAT AREAS

1. Support Strategic Habitat Area assessments by:
    a. Coordinating, completing, and maintaining baseline habitat mapping (including seagrass, shell bottom, shoreline, and other bottom types) using the most appropriate technology.
    b. Selective monitoring of the status of those habitats, and
    c. Assessing fish-habitat linkages and effects of land use and human activities on those habitats
2. Identify, designate, and protect Strategic Habitat Areas.

GOAL 3. ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

1. Expand habitat restoration in accordance with ecosystem restoration plans, including:
    a. Creation of subtidal oyster reef no-take sanctuaries.
    b. Re-establishment of riparian wetlands and stream hydrology.
    c. Restoration of SAV habitat and shallow soft bottom nurseries.
    d. Developing compensatory mitigation process to restore lost fish habitat functions.
2. Sustain healthy barrier island systems by maintaining and enhancing ecologically sound policies for ocean and inlet shorelines and implement a comprehensive beach and inlet management plan that provides ecologically based guidelines to protect fish habitat and address socio-economic concerns.
3. Protect habitat from fishing gear effects through improved enforcement, establishment of protective buffers around habitats, modified rules, and further restriction of fishing gears, where necessary.
4. Protect estuarine and public trust shorelines and shallow water habitats by revising shoreline stabilization rules to include consideration of erosion rates and prefer alternatives to vertical shoreline stabilization measures that maintain shallow nursery habitat.
5. Protect and enhance habitat for migratory fishes by:
    a. Incorporating the water quality and quantity needs of fish in water use planning and rule making.
    b. Eliminating or modifying obstructions to fish movements, such as dams and culverts, to improve fish passage.

6. Ensure that energy development and infrastructure is designed and sited in a manner that minimizes negative impacts to fish habitat, avoids new obstructions to fish passage, and where possible provides positive impacts.
7. Protect important fish habitat functions from damage associated with activities such as dredging and filling.
8. Develop coordinated policies including management adaptations and guidelines to increase resiliency of fish habitat to climate change and sea level rise.

GOAL 4. ENHANCE AND PROTECT WATER QUALITY

1. Reduce point source pollution discharge by:
    a. Increasing inspections of discharge treatment facilities, collection infrastructure, and disposal sites.
    b. Providing incentives for upgrading all types of discharge treatment systems.
    c. Develop standards and treatment facilities that minimize the threat of endocrine disrupting chemicals on aquatic life.
2. Adopt or modify rules or statutes to prohibit ocean wastewater discharges.
3. Prevent additional shellfish and swimming closures through targeted water quality restoration and prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (EMC surface water classifications SA and SB) except during times of emergency (as defined by the Division of Water Quality's Stormwater Flooding Relief Discharge Policy) when public safety and health are threatened, and continue to phase-out existing outfalls by implementing alternative stormwater management strategies.
4. Enhance coordination with, and financial/technical support for, local government actions to better manage stormwater and wastewater.
5. Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through voluntary actions, assistance, and incentives, including:
    a. Improved methods to reduce pollution from construction sites, agriculture, and forestry.
    b. Increased on-site infiltration of stormwater.
    c. Documentation and monitoring of small but cumulative impacts to fish habitats from approved, un-mitigated activities.
    d. Encouraging and providing incentives for low impact development.
    e. Increased inspections of onsite wastewater treatment facilities.
    f. Increased water re-use and recycling.
6. Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through rule making, including:
    a. Increased use of effective vegetated buffers.
    b. Implementing and assessing coastal stormwater rules and modify if justified.
    c. Modified water quality standards that are adequate to support SAV habitat.
7. Maintain adequate water quality conducive to the support of present and future aquaculture.
8. Reduce non-point source pollution from large-scale animal operations by the following actions:
    a. Support early implementation of environmentally superior alternatives to the current lagoon and spray field systems as identified under the Smithfield Agreement and continue the moratorium on new/expanded swine operations until alternative waste treatment technology is implemented.
    b. Seek additional funding to phase-out large-scale animal operations in sensitive areas and relocate operations from sensitive areas, where necessary.
    c. Use improved siting criteria to protect fish habitat.

APPENDIX 3. CHPP STEERING COMMITTEE MEMBERS, 2009–2010

Marine Fisheries Commission

Ms. Anna Beckwith	Morehead City	252-671-3474
Dr. B. J. Copeland	Pittsboro	919-837-5024

Environmental Management Commission

Dr. Charles H. Peterson	Morehead City	252-726-6841
Mr. Tom Ellis	Raleigh	919-872-0897

Coastal Resources Commission

Ms. Joan Weld	Currie	910-283-4521
Mr. Bob Emory	New Bern	252-633-7417

Wildlife Resources Commission

Mr. Bobby Purcell	Cary	919-387-0465
Mr. Ray White	Manteo	252-441-4464

Beach and Inlet Management Plan Highlights

The NC Beach and Inlet Management Plan (BIMP) is a comprehensive plan for the conservation, management and long-term sustainability of North Carolina's beaches and inlets. The BIMP is intended to achieve three primary objectives: (1) begin to comprehensively evaluate the condition of the state's beaches, and provide estimates of the total and annual costs of beach maintenance; (2) promote a regional approach for related segments of the coast, and (3) support the development of a stable and predictable funding mechanism for shoreline management, beach restoration programs and strategies.

Development of Beach and Inlet Management Regions

- Sustainable management of the state's beaches and inlets requires regional approaches that consider related segments of the coast rather than a project by project approach.
- Planning projects on a regional scale balances environmental and economic needs, facilitating collaboration and pooling of local resources.
- The delineation of the regions and subregions considered the geologic framework, physical processes (wave exposure, sediment pathways, etc.), geography, sand sources, natural resources, and common sociopolitical concerns.

Development of Beach and Inlet Management Strategies

- The state strategy should consider a range of options: beach nourishment, increased beach access, removal of structures encroaching onto public beach areas, inlet channel realignment, dredging navigation channels at inlet crossings, incentives for projects that exceed minimum public access requirements, and acquisitions or conservation easements to restrict or prevent development in high risk areas.
- Assuming beach nourishment would be the initial strategy that all the regions could support with local cost-share, preliminary cost estimates of short- and long-term beach nourishment were compiled.
- The projected costs use the current cost-share ratio of the federal government paying 65 percent, and 35 percent is shared by the state and local governments.
- The cost estimates assumed 112 miles of developed oceanfront shoreline that either 1) have received public funding for past beach fill projects or for current USACE beach fill projects; or 2) are actively involved in a USACE-sponsored investigation of a long-term beach fill project.
- The total state funding required for beach nourishment and inlet dredging per decade is projected to be $77.4 million ($7.7 million per year). This projection is based on $44 million for beach nourishment and $33.4 million for inlet dredging.

Funding and Prioritization Strategies for Beach and Inlet Projects

- The BIMP recommends: 1) Expanded use of regional planning for beach and inlet management projects; and 2) A dedicated state fund to support regional projects.
- The regional planning model could provide coordinated project planning and management maximizing efficiency through area-wide sand search investigations, comprehensive shoreline monitoring for all projects in the region, and coordinated environmental investigations and studies.
- Regional project planning could simplify coordination between state and local governments through a regional entity.
- Creation of a state dedicated fund would make state contributions more predictable removing uncertainties for local governments in their local financing plans such as allocation of new or existing sales or property tax revenues.
- With project uncertainties reduced, the dredging industry could better anticipate future work, increasing competition and potentially reducing project costs, and develop new innovative technologies to stay competitive.

Future Updates

- Future updates to the BIMP should focus on filling the data gaps identified in the plan, formalization of funding mechanisms, and modifications of strategy options.

CHPP Steering Committee Meeting
January 24, 2011
Craven County Cooperative Extension Building
New Bern, NC

Meeting Attendees: Bob Emory (CRC), BJ Copeland (MFC), Pete Peterson (EMC), Tom Ellis (EMC), Ray White (WRC), David Knight (DENR), Anne Deaton (DMF), Katy West (DMF), Kevin Hart (DMF), Jessi O'Neal Baker (DMF), Jeanne Hardy (DMF), Jim Gregson (DCM), Mike Lopazanski (DCM), Ted Tyndall (DCM), Bill Diuguid (DWQ), Patti Fowler (DEH-SS), Jimmy Johnson (DENR), Tom Gerow (DFR), Rob Breeding (EEP), Kristin Miguez (EEP), Maria Dunn (WRC), Kristina Fischer (DSWC), Dean Carpenter (APNEP), Dave Timpy (USACE), Lynette Batt (American Rivers), David Emmerling (PTRF), Tess Sanders (White Oak/New Riverkeeper), John Fear (NERR), Dick Bierly (NCCF)

Call to Order and Introductions:

Dr. Pete Peterson, chair, called the meeting to order at 10:10am. A moment of silence was held in memory of Dr. Mark Brinson.

Introductions of attendees took place. The agenda was reviewed and approved as submitted.

A motion to accept the minutes from the meetings on 3/17/2010 and 4/21/2010 was made by BJ Copeland and a second was provided by Bob Emory. The motion to accept the two sets of minutes as written passed unanimously.

CHPP Implementation Updates

MFC/DMF – Anne Deaton
Anne reported that the 2010 Coastal Habitat Protection Plan had been approved by all four commissions and has been forwarded to the Environmental Review Commission and the Joint Legislative Commission for Seafood and Aquaculture. The two legislative commissions were at the end of their 30 day review timeline. If no comments or objections are received by end of the 30 day period, the 2010 CHPP process will be complete and the CHPP adopted by all parties. One hundred copies of the 2010 CHPP will be printed with funding coming from the Albemarle Pamlico National Estuary Program. Copies of the Research and Management Needs chapter were provided to the Steering Committee and the Division representatives present.

There was considerable discussion about the upcoming budget proposal and the implications it had regarding the implementation of the CHPP. As currently proposed by the Governor, the Oyster Sanctuary Program would not be funded enough to allow the purchase of oyster shells or marl for the upcoming budget cycle. There will be money available to continue with monitoring the current sanctuaries. Money received from the American Recovery and Reinvestment Act of 2009 has kept the building of oyster sanctuaries ahead of schedule. It was noted that the marl being placed for oyster recruitment was breaking down much more quickly than had been anticipated. It has been suggested that a switch to granite might be appropriate.

With regards to the SAV Mapping position within DMF, that position is still vacant. The Shellfish Mapping Program has made significant progress working in Brunswick County. There is a pilot

project underway in the Pamlico Sound mapping deepwater shellfish beds. APNEP is a funding partner with this project.

The DMF has provided comments regarding the listing of Atlantic Sturgeon as endangered or threatened. DMF is concerned that any listing of Sturgeon will complicate data collection and make it more difficult. It also will affect the permitting of certain activities.

Anne noted that the CHPP positions within the DMF have remained fully staffed.

CRC/DCM – Mike Lopazanski
Mike reported to the Steering Committee that the Beach and Inlet Management Plan recommendations were released to the public in November. The BIMP strongly encourages regional planning efforts and there are some dedicated dollars available to help with some planning efforts.

The Steering Committee was informed that the DCM has hired a Clean Marina Coordinator. Currently there are 19 certified "Clean Marinas" in the state. The coordinator will work with new certifications as well as with marinas that need to be recertified. Educational workshops for this program are being planned for later this year.

The CRC is currently working on a Sea Level Rise Policy for the state. It is being suggested that a one inch rise in the sea level by 2100 be used for planning purposes. This rate would be used in the DCM's standards and policies. A presentation was made to the Carteret County Commissioners about the SLR Policy. The commissioners had many questions and the suggested rate of sea level rise generated a lot of debate.

The DCM has submitted its Sediment Criteria to both NOAA and the ACE.

Mike said that the division hopes to have its estuarine shoreline mapping effort completed by year end for all coastal counties. Sixteen or 17 should be completed by June. Dr. Peterson mentioned that there had been some discrepancies found by Dr. Carolyn Currin using these aerial photographs and there is a need to physically verify the findings. David Knight asked what the purpose was behind this mapping effort. The DCM hopes to have a number of questions answered by this mapping exercise: how much shoreline is armored, number of docks and piers, differing shoreline types, stabilization methods used, and erosion rates.

EMC/DWQ – Bill Diuguid
Bill briefly discussed the impacts of Executive Order #70 and its effects regarding the CHPP. Bill seemed to think the impacts would be negligible as far as the CHPP was concerned. He noted that the Stormwater Rules were already in place, but that the second cycle of the Phase II regulations was approaching. Of more concern were the potential impacts of staffing issues depending on the outcome of the budget negotiations later this year. Bill stated that the DWQ's Regional Supervisors were in the middle of a workload analysis. The division's management was using this to look at possible cutbacks brought about by potential significant budget cuts.

Dr. Peterson brought up the issue of enforcement and inspections if the expected budget cuts become a reality. David Knight stated there was still a lot of uncertainty surrounding "Regulatory Reform" and what it means to the new legislature.

WRC – Maria Dunn
Maria reported that the WRC is continuing with their collaborative efforts with other DENR agencies regarding CHPP issues: SHA 2, SAV Workgroup, potential dam removals, fish sampling, and invasive species monitoring. Maria also informed the Steering Committee that WRC had submitted comments as well opposed to the listing of Sturgeon as either endangered or threatened.

DEH-SS – Patti Fowler
It was mentioned how thankful we are to have Patti still with us after having suffered a serious heart attack while attending meetings on the Gulf Coast. Patti told the Steering Committee that she was still looking for comments regarding the Draft Interagency Taskforce document. She reminded the group that the purpose of the taskforce was to try and eliminate redundancy in inspections and to agree on "like" forms and software to be used by agencies when carrying out inspections. Jimmy will send the draft document out once more for comments.

Patti also noted that there are now an additional 40 Shellfish Dealers from two years ago that Shellfish Sanitation is now responsible for inspecting.

DSWC – Kristina Fischer
Kristina informed the committee that the Division of Soil and Water had changed some of the requirements under their Community Conservation and Assistance Program to allow funding to go to non-agricultural landowners. The significance of this is that now the division, through CCAP, can fund the building and placement of rain gardens, cisterns and marsh sills. Currently, portions of two marsh sills are being funded through CCAP – one in Pamlico County and one in Brunswick County.

EEP – Rob Breeding
Rob reported that the EEP is currently looking for projects in the White Oak Watershed that would fall under their new non-traditional Mitigation Program. The EEP is in the process of conducting a feasibility study on at least one project in this watershed.

Rob also reported that the EEP has had their Eastern Planner position frozen under the new budgetary restrictions.

DFR – Tom Gerow
Tom reported that the DFR's Year in Review 2010 – Water Quality Accomplishments was now available for anyone interested. He also told the committee that the DFR has completed its assessment NC's forest resources. That report can be accessed at: www.ncforestassessment.com The assessment reports on the status and trends of the forest resources in North Carolina. The DFR has also completed an internal review of the agency utilizing public input and interaction to help the agency better define their purpose and plan.

Tom asked about the linkage between the recommendations found in the CHPP and the Coastal Recreational Fishing License Grants. In the eyes of the DFR, there seems to be a disconnect as far as water quality projects are concerned.

APNEP – Dean Carpenter

Dean reported that the Comprehensive Conservation Management Plan (CCMP) was being rewritten by the APNEP staff for the first time since 1994. The new CCMP will support the principles behind an Ecosystem Based Management approach. The document should be available for public review in the spring of 2011.

Dean made informed the committee about the APNEP's Climate Ready Estuary report written by Bill Holman from Duke University's Nicholas School of the Environment. The project was funded through a grant from the National Estuary Program and was designed to as an outreach grant to local governments and elected officials. The report will be received by APNEP's Policy Board at their February 3rd meeting.

The SAV Baseline Map of the entire coast of NC will be available by the middle of the year. This map will be generated by the photographs taken in late 2007/early 2008.

A State of the Sounds seminar will be held in New Bern on November 17th. The new CCMP will be released at this seminar.

Operation Medicine Cabinet – David Emmerling (PTRF) and Tess Sanders (White Oak/ New Riverkeeper)

David and Tess gave a presentation to the committee regarding their efforts at minimizing the contamination of our waters through the dumping and flushing of pharmaceuticals. 40% of all prescription drugs are never used. Many are simply flushed down the toilet as a means of disposal. In NC, 128 million prescriptions are filled each year. Information on this program can be found at www.ncdoi.com/OSFM/Safekids/sk_OperationMedicineDrop

American Rivers – Lynette Batt

Lynette gave a PowerPoint presentation regarding American Rivers' efforts to remove dams and obstructions in order to restore habitat to anadromous fish and how the organization's efforts relate to the CHPP. Currently there are approximately 5600 dams in NC waters of which 70% are listed as primarily in place for recreation. 86% of the dams in NC are privately owned.

A Dam Removal Task Force has been meeting over the past year in order to identify dams with high potential for removal and to help dam owners work through the permitting process for removal of the dams. Since 1998, 6 dams have been removed and there are currently 4 potential dams being reviewed for removal. Lynette said that it costs between $50K and $75K to remove a small five to seven foot dam. Removal of a 10 foot plus high dam will cost more than $150K.

2011-2013 CHPP Implementation Plan

The committee had a discussion about the progress, process and accomplishments of the CHPP. Several potential issues were discussed which should be considered for the next two year cycle. Among the issues discussed were: wind energy and the implications to fish habitat, bi-valve shellfish mariculture and how it relates to ecosystem management and the leasing of public trust

bottom, non-traditional compensatory mitigation, SAV rehabilitation, rapid infiltration systems and Low Impact Development.

CICEET Grant – John Fear

John gave an update on the progress of the Cooperative Institute for Coastal and Estuarine Environment Technology grant. This was intended to be a six year grant. However, CICEET was defunded by Congress and the length of the grant was reduced to two years. The issues being studied through the grant are: the eroding of estuarine shorelines, increasing coastal populations, the importance of fringing marshlands, sea level rise and the impact of bulkheads on salt marshes and their ecosystem services. More information regarding this grant and the findings from the grant can be found at: www.nccoastalreserve.net

Marsh Sill Update and Discussion – David Knight

Assistant Secretary Knight introduced the topic and referenced a letter provided to the committee from Secretary Freeman to Colonel Ryscavage with the Army Corps of Engineers. David then asked John Fear to give a brief presentation of work currently being done to assess whether or not the 28 currently permitted marsh sills are doing what they were intended to do. Questions that were asked regarding the marsh sills were: Have they stabilized the property? Are there any unanticipated problems with the marsh sills? Did the neighboring properties experience any problems with regards to the marsh sills? The full results from this study will be available in May of 2011 and will be presented to the CRC.

Dave Timpy with the ACE was asked to share with the committee the position of the ACE regarding the permitting of marsh sills. The position of the ACE is that they have a General Permit for marsh sills based on certain size restrictions and the ability of the property owner to avoid and minimize impacts to the ecosystem. A project that does not meet the GP conditions is elevated to a GP291 which is similar to the DCM's major permit with a 5 year monitoring component.

During the discussion, it was suggested that there be a pre-application meeting between the different agencies involved and the contractor to discuss alternative stabilization methods. It was also suggested that there be a requirement for compensatory mitigation for bulkheads in order to make marsh sills more economically attractive. Significant discussion continued. Questions were asked about other states and how they are able to do what they do regarding marsh sills.

The discussion ended with the question, how do we make it easier for marsh sill or more difficult for bulkheads? It was also suggested that a meeting take place with DENR agencies to look at the permit parameters and to include the ACE, NOAA and the Coast Guard in the meeting.

The meeting adjourned at 4:45pm.

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor James H. Gregson, Director Dee Freeman, Secretary

August 12, 2011

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski and Tancred Miller

SUBJECT: Fiscal Analysis Approvals:

- 15A NCAC 7H .0304 AECs within Ocean Hazard Areas *(Page 2)*
- 15A NCAC 7H .0312 Technical Standards for Beach Fill Projects *(Page 14)*
- 15A NCAC 7K .0214 Installation and Maintenance of Regulatory Signs and Markers Exempted *(Page 20)*

Session Law 2011-398 made numerous changes to the N.C. Administrative Procedures Act (APA), several of them that affect the Commission's rulemaking requirements. One of the new APA requirements is that the Commission must review and approve any fiscal note prepared by DCM prior to our submitting the rule for publication in the N.C. Register.

The APA requires agencies to prepare fiscal notes if a rulemaking action triggers any of three conditions:

1. The expenditure or distribution of funds subject to the State Budget Act;
2. A change in the expenditures or revenues on a unit of local government; or
3. A substantial economic impact in aggregate on all affected parties. A substantial economic impact is at least $500,000 in a 12-month period.

The new APA requirements apply to three rules that the Commission has already approved for public hearing. The APA also requires that fiscal notes be included in the public hearing packet, and that the Commission accept public comments on the fiscal notes as well as the rules themselves.

The analyses for the three rules are attached, and staff will review them with the Commission in August.

Fiscal Analysis

AECs within Ocean Hazard Areas

T15A NCAC 07H.0304

Prepared by

Mike Lopazanski
Ocean and Coastal Policy Manager
Policy & Planning Section
NC Division of Coastal Management
(252) 808-2808, ext. 223

August 11, 2011

Basic Information

Agency	DENR, Division of Coastal Management (DCM) Coastal Resources Commission
Title of the Proposed Rule	AECs within Ocean Hazard Areas
Citation	T15A NCAC 07H.0304
Description of the Proposed Rule	7H.0304 defines and establishes Areas of Environmental Concern (AECs) that are considered to be within the Ocean Hazard Areas along the State's Atlantic Ocean shoreline. Ocean Hazard Area AECs include the Ocean Erodible Area, High Hazard Flood Area, Inlet Hazard Area and the Unvegetated Beach Area.
Agency Contact	Mike Lopazanski Coastal and Ocean Policy Analyst Mike.Lopazanski@ncdenr.gov (252) 808-2808
Authority	G.S. 113A-107; 113A-113; 113A-124

Impact Summary		
	State government:	Yes
	Local government:	No
	Substantial impact:	No
	Federal government:	No
	Small Business:	No

Screening Assessment

Table 1. Screening Assessment

Circumstances	**Yes or No**
Federal Rule Certification Required: Does the proposed rule require a federal certification statement under NCGS 150B-21(f1)?	NO
"Substantial Economic Impact" Analysis - Federal Rule Exemption: Does this rule meet the criterion of Federal Exemption found in NCGS 150B-21.4(b1)?	NO
Temporary Rules: Does this rule meet the criteria listed in NCGS 150B-21 relating to Temporary Rules?	NO
Technical Corrections: Does this rule meet the criteria for a Technical Correction laid out in NCGS 150B-21.5?	NO
Repeal of Regulatory "Deadwood": There are a series of situations that may render a rule obsolete; does this rule meet any of those criteria?	NO
Service/Financial Program: Were Proposed Rule's Impact on State Funds under $3 Million	N/A

Summary

The proposed rule language clarifies how the OEA setback formula is calculated and applied to oceanfront lots, and provides consistency with existing CRC policies regarding maximum setbacks for structures 100,000 square

feet and greater (maximum setback equals 90 time the erosion rate). The proposed language will also remove the 100-year shoreline recession line from the calculation of the Ocean Erodible Area of Environmental Concern (OEA). The rule language also clarifies that the use of the Unvegetated Beach (UB) designation be limited to the OEA and that this temporary designation is being removed from Hatteras Village as the vegetation line has exhibited recovery since 2004 and is no longer necessary. Finally, the proposed changes will remove the Inlet Hazard Area designation from the site formerly occupied by Mad Inlet (which closed in 1997 and is not expected to reopen). The groups most affected by these changes will be property owners located within an area between 60 and 90 times the long-term annual erosion rates, oceanfront property owners in area of Hatteras Village designated as an unvegetated beach and property owners with in the Mad Inlet designated Inlet Hazard Area. We estimate these annual savings from this action to be **$344,370**. This value does not exceed the $500,000 threshold; therefore this rule is not considered to have a significant economic impact.

Introduction and Purpose

The Coastal Resources Commission (CRC) is initiating rule making to amend its administrative rules governing three separate sections within 15A NCAC 07H.0304 (AECs within Ocean Hazard Areas). The first rule change is to 07H.0304(1)(a) and consists of change in the formula used to calculate the width of the Ocean Erodible Area of Environmental Concern (OEA) to be consistent with the CRC's amended setback policy (T15A NCAC 07H.0306) effective August 11, 2009. The second rule change is to 07H.0304(4) related to the Unvegetated Beach (UB) Area of Environmental Concern (AEC) designation. The CRC has adopted changes to rule language that make the UB AEC only applicable within the OEA, as well as removing the current temporary UB designation for Hatteras Village (adopted in 2004). The third rule change removes the Inlet Hazard Area designation for Mad Inlet, which closed in 1997. It is considered highly unlikely by the CRC Science Panel that Mad Inlet will reopen under current conditions.

These actions are being proposed in pursuit of multiple objectives:

1. To address deficiencies within the Ocean Hazard Area AEC rules resulting from amendment of the CRC's setback rules (15 A NCAC 07H.0306) that became effective August 11, 2009. This action will clarify the language in 15A NCAC 07H.0304 and ensure consistency with existing CRC rules.
2. To ensure that large-scale development within the OEA, particularly growth in areas with higher erosion rates (> 10 feet per year), is able to meet the CRC oceanfront setbacks to their full extent and be required to: 1) acknowledge relevant hazards and removal requirements contained within the AEC Hazard Notice; and 2) obtain a CAMA permit in accordance with the current CRC setback rules and consistent with the CRC's statutory duty and regulatory authority to protect life and property.
3. To remove the UB designation on Hatteras Village, as the vegetation line has exhibited recovery since 2004 and can once again be used for setback determinations. The UB designation was a temporary designation and with recovery of the vegetation line this action is seen as being consistent with established CRC policy.

The anticipated effect of this proposed rule will be a consistent application of the OEA setback formula and an adherence to the CRC's setback rules established under 07H.0306. While the proposed rule amendment will increase the jurisdiction of the CRC in some areas, there will be decreases in jurisdiction in other areas. The net result of the actions will be a decrease of 1,565 properties subject to the jurisdiction of the CRC and the requirement for CAMA permits. Delineations of AEC boundaries are within the CRC's authority under CAMA (G.S. 113A-113). Based on a GIS study conducted by DCM staff using 2009 aerial base photos, there will be approximately a 16.4% reduction in the number of properties within the OEA along the developed portions of the barrier islands. However, as the Ocean Hazard Area of Environmental Concern in comprised of the OEA, Inlet Hazard Area of Environmental Concern and High Hazard Flood Area of Environmental Concern, the percentage of properties that will fall outside of the CRC's jurisdiction is approximately 4.9%.

The removal of the temporary UB designation on Hatteras village will have no significant effect as the stable and natural vegetation has re-established itself at or oceanward of the measurement line set forth in the UB designation (i.e., in some cases, the UB designation has been more restrictive for development setbacks). The removal of the Inlet Hazard Area designation for the former location of Mad Inlet removes all of the restrictions and use standards (15A NCAC 7H .0310) set forth by the CRC for development adjacent to active tidal inlets. Future development would then be subject to the use standards common along all oceanfront shorelines.

Description of the Proposed Rules

OCEAN ERODIBLE AREA

The OEA boundary is defined oceanward by mean low water (MLW) and landward by a distance measured from the first line of stable and natural vegetation (FLS&NV) equal to 60 times the long-term annual erosion rate (ER). For the developed coastline, ERs range between two and 15 feet per year. The CRC's setback rules require that a minimum ER of two feet per year be applied to areas where the erosion rate is less than two feet per year. In addition, the OEA width adds to the setback calculation the distance of shoreline recession (SR) that would be generated from a 100-year storm event with the minimum and maximum values of 25 and 330 feet, respectively. The current OEA width formula can be simplified as: OEA = [(60 x ER) + SR].

When placed in the context of the CRC's amended setback rules (T15A NCAC 07H.0306 - effective August 11, 2009) which establish graduated setback requirements based on building size, the current OEA width is inadequate to ensure that larger-scale oceanfront development complies with the maximum setback factor of 90 times the erosion rate. This issue is of particular concern for development greater than 10,000 square feet, which is required to follow a graduated setback factor between 65 and 90 based on total floor area. However, changing the OEA factor from 60 to 90 substantially increases the boundary of the OEA and therefore the Ocean Hazard AEC. The Commission believes this increase is beyond what is necessary to achieve the management objectives of the Ocean Hazard AEC – reduction in loss of life and property due to the forces indigenous to the Atlantic shoreline.

The Commission has determined that use of the 100-year storm recession line is no longer needed as the increase from 60 to 90 combined with the High Hazard Flood Area (V-Zones), provides the necessary CAMA jurisdiction to implement the management objectives of the Ocean Hazard Area. The Ocean Hazard AEC is comprised of the Ocean Erodible Area, the High Hazard Flood Area and the Inlet Hazard Area. There are General (7H .0306) and Specific (7H .0308) Use Standards for the Ocean Hazard Areas. These standards include provisions for setbacks, dune protection, erosion control activities, sandbags, beach nourishment, beach bulldozing, dune establishment and stabilization, accessways, and construction standards. Reducing the OEA, does not impact the implementation of these standards or the signing of the Ocean Hazard AEC notice as these provisions are applied to the Ocean Hazard Area universally.

The inclusion of the 100-year storm recession line is linked to the early days of the coastal program and the initial development of AECs. The intent of the recession line was to protect the dunes after 30 years of erosion based on modeling. The effort was a precursor to the development of erosion rates along the coast and was intended to delineate the regulatory area of the OEA. The recession line has not been updated and the FEMA revisions to the V-zones during the 1990's added dune erosion to the modeling. As this proposed action concerns the permitting jurisdiction of the Commission, particularly the landward edge as opposed to the seaward edge, removal of the recession line from the calculation will not significantly affect the management objectives. By increasing the OEA factor to 90, large development (greater than 100,000 square feet) will be beyond the OEA and by default, meeting the setback requirement.

Removing the recession line from the calculation will also provide a degree of regulatory relief to some areas of the coast, most notably New Hanover County where approximately 900 lots will no longer be within the OEA or High Hazard Flood (V-Zones) AECs. However, in other areas such as Dare County, there will still be an increase in jurisdiction where the OEA and High Hazard Flood AECs will encompass an additional 275 lots. Coastwide, there will be a net reduction of 1,500 lots that fall within an Ocean Hazard AEC. Table 1. depicts the effects of this action on the CRC's jurisdiction in the eight oceanfront counties and their municipalities and communities. Negative values indicate the number of properties that will be outside the Ocean Hazard AEC.

Table 1. Number of Properties Affected by Proposed AEC Modification

Brunswick County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Sunset Beach	959	908	-51
Ocean Isle	2936	2792	-144
Holden Beach	2843	2740	-103
Oak Island	2376	2276	-100
Caswell Beach/Ft. Caswell	251	194	-57
Bald Head Island	1123	1095	-28
TOTAL:	**10488**	**10005**	**-483**

New Hanover County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Kure Beach	718	328	-390
Carolina Beach	951	803	-148
Wrightsville Beach	1276	997	-279
Figure Eight Island	409	313	-96
TOTAL:	**3354**	**2441**	**-913**

Pender County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Topsail Beach	757	604	-153
Surf City	1268	1030	-238
TOTAL:	**2025**	**1634**	**-391**

Onslow County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Surf City	161	118	-43
North Topsail Beach	3380	3311	-69
TOTAL:	**3541**	**3429**	**-112**

Carteret County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Emerald Isle	1695	1705	10
Indian Beach	563	563	0
Salter Path	74	74	0
Pine Knoll Shores	763	769	6
Atlantic Beach	941	950	9
Fort Macon State Park	1	1	0
TOTAL:	**4037**	**4062**	**25**

Hyde County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Ocracoke	No Digital Parcel Data	No Digital Parcel Data	National Seashore
TOTAL:	**NA**	**NA**	NA

Dare County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Hatteras-Buxton	1441	1465	24
Avon	898	955	57
Salvo - Rodanthe	716	776	60
Whalebone - Nags Head	1276	1331	55
Kill Devil Hills	534	558	24
Kitty Hawk	657	697	40
Southern Shores	273	273	0
Duck - Dare County Line	459	474	15
TOTAL:	**6254**	**6529**	**275**

Currituck County	Current Ocean Hazard AEC (SBF*60+100 Yr+Ve Zone) Number of Lots	Proposed Ocean Hazard AEC (SBF*90+Ve Zone) Number of Lots	Difference Between Current and Proposed Number of Lots
Currituck County Line - Corolla	816	816	0
Wildlife Refuge - VA	863	897	34
TOTAL:	**1679**	**1713**	**34**

Statewide Totals:	**31378**	**29813**	**-1565**

UNVEGETATED BEACH AREA

A second issue being addressed through this rule change focuses on the Unvegetated Beach (UB) AEC designation and its application by the CRC on either a temporary or permanent basis to areas where no stable natural vegetation is present. In May 2004, the CRC approved the UB designation as a temporary measurement line used in place of the actual first line of stable and natural vegetation after the loss of vegetation from Hurricane Isabel (September 2003). The only oceanfront community currently with an UB designation is Hatteras Village and this proposed rule change would remove the UB designation from the Village.

Present rule language allows the UB designation in all AECs within the Ocean Hazard System (OEA, Inlet Hazard, High Hazard Flood). However, the CRC has decided that the designation is only appropriate for the oceanfront shoreline (OEA) and not the shoreline adjacent to inlets (Inlet Hazard Areas) where dynamic vegetation movement is a constant and natural response to inlet processes.

INLET HAZARD AREA

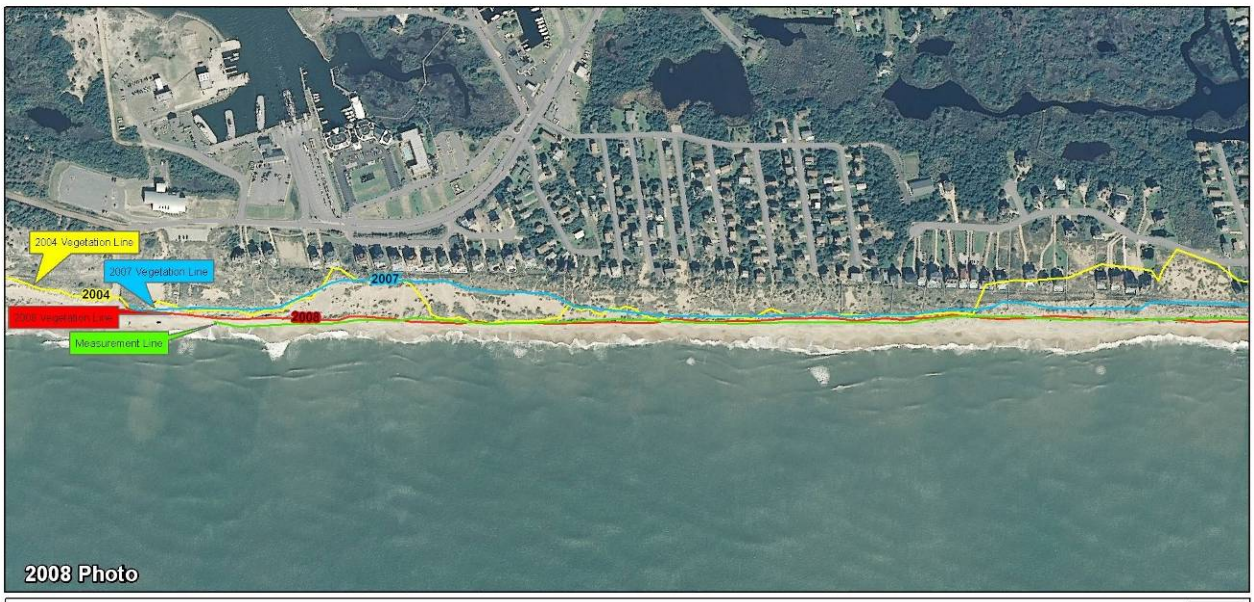
The Inlet Hazard Area designations are based on a 1978 study with minor amendments in 1981. Mad Inlet closed in 1997 and previously separated Sunset Beach and Bird Island (part of the North Carolina Coastal Reserve system). As part of the CRC Science Panel's ongoing review of the State's 12 developed inlets, the Panel opted not to review the boundary for the former Mad Inlet as it was generally accepted that the inlet would not reopen. The CRC is therefore proceeding with removing the Inlet Hazard Area designation from the area formally known as Mad Inlet. Removal of the IHA designation will allow property owners to develop under the more common oceanfront development standards as opposed to the more restrictive IHA standards.

Rule Change 1: Recalculation of OEA Formula

The anticipated effect of this proposed rule will be a consistent application of the OEA setback formula and an adherence to the CRC's setback rules established under 07H.0306. While the proposed rule amendment will increase the jurisdiction of the CRC in some areas, there will be decreases in jurisdiction in other areas. The net result of the actions will be a decrease of 1,565 properties subject to the jurisdiction of the CRC and the requirement for CAMA permits. Delineations of AEC boundaries are within the CRC's authority under CAMA (G.S. 113A-113). Based on a GIS study conducted by DCM staff using 2009 aerial base photos, there will be approximately a 55% reduction in the number of properties within the OEA along the developed portions of the barrier islands. However, as the Ocean Hazard Area of Environmental Concern in comprised of the OEA, Inlet Hazard Area of Environmental Concern and High Hazard Flood Area of Environmental Concern, the percentage of properties that will fall outside of the CRC's jurisdiction is approximately 4.9%. Other minor changes are also in the rule language for clarity and consistency with other CRC rules and policies as well as APA standards.

Rule Change 2: Removal of Hatteras Village Unvegetated Beach Designation

After on-the-ground observations at Hatteras Village in February 2010 and a review of the vegetation line recovery since 2004, the temporary UB designation for Hatteras Village is being removed. The photos below show how the vegetation line has reestablished itself since 2004. The result of this action will be an easing of the setback restrictions with a return in many areas to pre-storm conditions. The actual number of properties that will benefit is unknown as setback delineations (based on the first line of stable and natural vegetation) are determined on a lot-by-lot basis and dependent upon the size (square footage) of development proposed for the property.



Hatteras Village

Oceanfront Vegetation Line

Legend

- Measurement Line *(Un-Veg. Beach)*
- Vegetation Line - 2007
- Vegetation Line - 2008
- Vegetation Line - 2004

NOTE: Vegetation Line represents "stable-natural" as interpreted from photography

Datum: NAD 83
Projection: North Carolina State Plane
Units: Feet

0 600 1,200 2,400 Feet

0 0.125 0.25 0.5 Miles

2008 Photo Map 1 of 2

by Ken Richardson

NC DENR - Division of Coastal Management - 2010

Rule Change 3: Use of Unvegetated Beach Designation only in the OEA

The UB designation is being modified to allow its use only along the oceanfront shoreline (the OEA) and not the Inlet Hazard AEC. Current rule language allows the UB designation in all other AECs within the Ocean Hazard System (OEA, Inlet Hazard, High Hazard Flood). However, the CRC feels that this policy is only appropriate for the oceanfront shoreline (OEA) and not the shoreline adjacent to inlets (Inlet Hazard Areas) where dynamic vegetation movement is a constant and natural response to inlet processes. The UB is also not applicable to the High Hazard Flood Area landward of the OEA. Minor changes are also incorporated in 07H.0304(4) for clarity and consistency with other CRC rules and policies.

Rule Change 3: Use of Unvegetated Beach Designation only in the OEA

The Inlet Hazard Area designations are based on a 1978 study with minor amendments in 1981. Mad Inlet closed in 1997 and had separated Sunset Beach and Bird Island (part of the North Carolina Coastal Reserve system). As part of the CRC Science Panel's ongoing review of the State's 12 developed inlets, the Panel opted not to review the boundary for the former Mad Inlet as it was generally accepted that the inlet would not reopen. With closure of the inlet, the designation and accompanying restrictions are no longer necessary. Removing the Inlet Hazard Area designation from the area formally known as Mad Inlet will allow property owners to develop under the more common oceanfront development standards as opposed to the more restrictive IHA standards.

COSTS

Private Property Owners

Recalculation of OEA Formula

Property owners within CAMA's Ocean Hazard Area of Environmental Concern (AEC) may be affected by this action. The majority of development within the Ocean Hazard Area of Environmental Concern falls under the CAMA Minor Permit program for single family residential structures. A CAMA Minor Permit has a $100 fee for development within the OEA. Single family structures within the Ocean Hazard AEC but outside the OEA are eligible for a CAMA Permit Exemption provided they meet specific standards. The fee for processing the exemption is $50. Since FY 05/06, the CAMA Minor Permit Program has averaged 1,091 permits per year. Assuming this average rate, a 16.4% reduction in the OEA and that the properties qualify for the Exemption, there will be a savings in permit fees to property owners of $8,946 per year (1,091 permits X .164 X $50). In addition, elevation surveys and engineering drawings (piling depths) are required as part of the Minor Permit application which can add a cost of approximately $1,000 to the property owner. This action will result in a savings of $178,924 in ancillary costs (1,091 permits X .164 X $1,000). Finally, the proposed amendment will remove 1,565 properties from permitting jurisdiction, eliminating the need for permits. This has the potential of $156,500 in savings. Since the action only alters existing permitting jurisdiction with a net result of decreasing the permitting jurisdiction and not the requirements for development in the Ocean Hazard Area, no significant impact on development potential is expected. In total, the proposed action will result in regulatory savings to property owners of **$344,370**.

Removal of Hatteras Village Unvegetated Beach Designation

This action will affect property owners in the vicinity of Hatteras Village. The result of this action will be an easing of the setback restrictions with a return in many areas to pre-storm conditions. The actual number of properties that will benefit is unknown as setback delineations (based on the first line of stable and natural vegetation) are determined on a lot-by-lot basis and dependent upon the size (square footage) of development proposed for the property. However, removal of the fix measurement line will allow the use of existing vegetation to determine setbacks. As the vegetation continues to recover, building envelopes within the area will likely increase offering more opportunities for development by property owners.

Removal of Inlet Hazards Area Designation

This action will affect property owners in the vicinity of the area formally known as Mad Inlet. The result of the removal of the designation will lift the restrictions placed on development in the area. Currently, density of development is limited to no more than one commercial or residential unit per 15,000 square feet of land area and only residential structures of four units or less or non-residential structures less than 5,000 square feet. There are approximately 126 properties located in this area. Less than 10 are undeveloped. These properties would longer be required to adhere to the density and size restrictions should they be developed or redeveloped. This will particularly beneficial to any large, not previously subdivided as it could be developed at a greater density than under the Inlet Hazard Area designation. The benefit to property owners is a greater development potential.

NC Department of Transportation

Pursuant to G.S. 150B-21.4, the agency reports that the proposed amendments to 7H.0304 will not affect environmental permitting for the NC Department of Transportation (NCDOT). Though the maximum setback factor used in the OEA calculation becomes 90 times the erosion rate for structures greater than or equal to 100,000 ft^2, development such as roads, parking lots, and other public infrastructure such as utilities continue to have a minimum setback factor of 60 feet or 30 times the shoreline erosion rate (whichever is greater) as defined

by 07H.0306(a)(2)(I). In the event that NCDOT needs to build or maintain a road located within an Ocean Hazard AEC, the proposed amendments will not change the CRC's approach to permitting that activity.

Division of Coastal Management

These amendments do not reflect significant changes in how various projects are reviewed or permitted by the Division of Coastal Management, and the Division does anticipate change in permitting receipts due to the proposed action. However, the CAMA Minor Permit Program is administered by participating local governments whereas they collect the $100 fee. As part of the CAMA Minor Permit Program, the Division of Coastal Management also reimburses the participating local government for each permit processed (Minor Permit - $115 for counties and $95 for municipalities; Exemptions - $25). Over the past five years, counties have issue an average of 341 permits per year and municipal governments 750 permits per year. The proposed action will result in a per year savings to the Division of **$13,643** [341 County Minor Permits .164 X ($115-$25) = $5,033; 750 Municipal Minor Permits X .164 X ($95-$25) = $8,610; assuming reimbursement for exemptions].

Local Government

These amendments do not reflect significant changes in how various projects are reviewed or permitted by the Division of Coastal Management, and the Division does anticipate change in permitting receipts due to the proposed action. However, the CAMA Minor Permit Program is administered by participating local governments whereas they collect the $100 fee. While this action will reduce fees collected by local government, the $100 does not cover all the cost incurred by the local government when the $75-$100 public notice, site visits and other administrative costs are factored. The shift from Minor Permits to Exemptions is anticipated to result in a decrease in permitting receipts to local governments coastwide participating in the Minor Permitting Program of **$13,643** which is equal to reduction in reimbursements from the Division.

BENEFITS

The overall benefits of the proposed actions will be a decrease in the regulatory burden on property owners within the Ocean Hazard Area of Environmental Concern. Proposed changes to the calculation used in defining the Ocean Erodible Area will make more properties eligible for a CAMA Permit Exemption. There will also be an overall decrease in the number of properties that would require development permits. The action improves the permitting process by eliminating overlapping permit requirements of existing CRC jurisdictions within the Ocean Hazard Area of Environmental Concern (Ocean Erodible AEC and High Hazard Flood AEC). The amendments also utilize existing federal program designations (FEMA V-Zone flood mapping) to assist the Commission in achieving its management objectives for the Ocean Hazard Area.

There will be a return to the standard practice of utilizing the first line of stable and natural vegetation in the determination of oceanfront setbacks for the Hatteras Village area. Property owners will benefit from recovery of the beachfront and the associated dunes that will allow natural conditions to dictate the siting of development as opposed to a measurement line imposed in the aftermath of a storm.

The amendments will respond to natural changes in the environment by removing the Inlet Hazard AEC designation and its associated development restrictions for properties in the vicinity of the now closed Mad Inlet.

Assumptions Used in Calculations

- There 31,378 properties in the current Ocean Hazard AEC
- There are 29,813 properties in the proposed Ocean Hazard AEC

- There are 20,734 properties in the current Ocean Erodible AEC
- There are 17,333 properties in the proposed Ocean Erodible AEC
- There is a 16.4% decrease in the proposed Ocean Erodible AEC
- The Minor Permit fee is $100
- The Exemption fee for single family structures is $50
- Approximately 1,091 Minor Permits are issued per year (five year average)
- Counties issue approximately 341 Minor Permits per year (five year average)
- Municipalities issue approximately 750 Minor Permits per year (five year average)
- Counties are reimburse $115 per Minor Permit issued
- Municipalities are reimburse $95 per Minor Permit issued
- Counties and municipalities are reimbursed $25 per Exemption issued

Fiscal Analysis

TECHINCAL STANDARDS FOR BEACH FILL PROJECTS

T15A NCAC 07H.0312

Prepared by

Jim Gregson, Director
Tancred Miller, Coastal Policy Analyst
NC Division of Coastal Management
(252) 808-2808

August 11, 2011

Basic Information

Agency	DENR, Division of Coastal Management (DCM) Coastal Resources Commission
Title of the Proposed Rule	Technical Standards for Beach Fill Projects
Citation	T15A NCAC 07H .0312
Description of the Proposed Action	The Coastal Resources Commission (CRC) proposes to amend its rule that establishes standards for sediment that may be placed on public beaches in fill projects, including beach nourishment, dredged material disposal, habitat restoration, storm protection, and erosion control.
Agency Contact	Jim Gregson Director Jim.Gregson@ncdenr.gov (252) 808-2808
Authority	G.S. 113-229; 113A-102(b)(1); 113A-103(5)(a); 113A-107(a); 113A-113(b)(5) and (6); 113A-124

Impact Summary		
	State government:	No
	Local government:	Yes
	Substantial impact:	No
	Federal government:	No
	Small Business:	No

Screening Assessment

Table 1. Screening Assessment

Circumstances	Yes or No
Federal Rule Certification Required: Does the proposed rule require a federal certification statement under NCGS 150B-19.1(g)(1)?	NO
State Funds Affected: Does the proposed permanent rule require the expenditure or distribution of funds subject to the State Budget Act, Chapter 143C of the General Statutes?	NO
DOT Funds Affected: Will the proposed rule result in an increased cost to the NC Department of Transportation?	NO
Local Funds Affected: Will the proposed permanent rule affect the expenditures or revenues of any units of local government?	YES
Substantial Economic Impact Analysis: Does the proposed amendment result in a substantial economic impact as defined in G.S. 150B-21.4(b1)?	NO
Substantial Economic Impact Analysis - Federal Rule Exemption: Does this rule meet the criterion of Federal Exemption found in NCGS 150B-21.4(b1)?	NO
Technical Corrections: Does this rule meet the criteria for a Technical Correction laid out in NCGS 150B-21.5?	NO
Repeal of Regulatory "Deadwood": There are a series of situations that may render a rule obsolete; does this rule meet any of those criteria?	NO

Introduction

The Coastal Resources Commission (CRC) is proceeding with rule making in order to amend its administrative rule that establishes sediment compatibility standards for beach fill projects. The Division of Coastal Management (DCM) has recently identified certain locations and circumstances where a reduced sampling protocol should be implemented. Reduced sampling requirements will result in substantial cost savings to permit applicants.

Purpose of Rule Change

The proposed rule change is intended to reduce sampling costs in situations where past sampling and/or project history has shown that material from these areas has consistently been beach compatible material.

Description of the Proposed Rule

The CRC's Technical Standards for Beach Fill Activities rule, 15A NCAC 7H.0312, first took effect in February 2007. The rule sets forth the protocols for characterizing the native beach sediments prior to a fill project, for sampling and characterizing potential borrow area sediments, and for ensuring that the two are compatible. The rule also establishes general criteria for excavation and placement of sediment. The rule was amended effective April 1, 2008 to change the requirements for seafloor surveys and geophysical imaging of the seafloor in areas with water depths of less than 10 feet due to the technical challenges and physical limitations at these shallow depths.

These amendments would affect the characterization of borrow areas that are located within navigation channels or sediment basins located within the active nearshore or inlet shoal complex, as well as borrow areas that are located within offshore dredged material disposal sites. A brief summary of the proposed changes are as follows:

- For offshore dredged material disposal sites, only one set of imagery without elevation would be required. Line spacing for geophysical imaging would be reduced from 1,000 feet to 2,000 feet. Grid spacing for sediment sampling would be reduced from 1,000 feet to 2,000 feet. Characterization of material deposited after the initial characterization would not be required if the new material was removed from a maintained navigation channels or sediment deposition basin within the active nearshore, beach or inlet shoal system and if the original two sampling sets are found to be compatible with Section 3(a) of the rule, i.e., less than 10% fine grained material.
- Reduced sampling protocol for federal or state maintained navigation channels would be expanded to include all maintained navigation channels and sediment deposition basins that are located within the active nearshore, beach or inlet shoal system. In these areas only five (5) evenly spaced vertical samples or sample spacing of no more than 5,000 linear feet, per channel or sediment basin, whichever is greater, would be required. Swath sonar imaging of the seafloor without elevation or geophysical imaging of the subsurface would not be required. Characterization of the recipient beach would not be required. Carbonate analysis would not be required.
- For subsequent nourishment events, two consecutive sets of sampling (with at least one dredging event in-between) from navigation channels or sediment basins could be used for characterization of material if the original two sampling sets are found to be compatible with Section 3(a) of the rule, i.e., less than 10% fine grained material.

The following is a description of the individual sections of the rule, along with a discussion of any proposed changes.

7H.0312 (1) Characterization of the Recipient Beach

This section establishes the methodology that applicants must follow in order to determine the sediment composition of the recipient beach.

- Part 1(a) is proposed for amendment to broaden the situations in which the characterization of the recipient beach would not be required. Characterization of the recipient beach would no longer be required if the material is taken directly from and completely confined to maintained navigation channels or associated sediment basins within the active nearshore, beach or inlet shoal system.

7H.0312 (2) Characterization of the Borrow Area Sediments

This section establishes the methodology that permittees must follow in order to determine the sediment composition of potential sediment sources.

- Part 2(c) is proposed for amendment to only require one set of imagery without elevation for offshore dredged material disposal sites and to not require sonar imaging of the seafloor without elevation for borrow sites completely confined to maintained navigation channels or sediment depositions basins within the active nearshore, beach or inlet shoal system.
- Part 2(d) is proposed for amendment to reduce the grid spacing for geophysical imaging of the seafloor subsurface in offshore dredged material disposal sites from 1,000 feet to 2,000 and to only require one set of imaging. The allowance for not requiring subsurface geophysical imaging for borrow sites completely confined to federally or state maintained navigation channels or upland sites would be expanded to include all navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system.
- Part 2(e) is proposed for amendment to reduce the sediment sampling for borrow sites completely confined to maintained navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system to no less than five (5) evenly spaced vertical samples per channel or sediment basin, or sample spacing of no more than 5,000 linear feet (1,524 meters), whichever is greater. Two sets of sampling data (with at least one dredging event in-between) from maintained navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system can be used to characterize material for subsequent nourishment events from those areas if the sampling results are found to be compatible with Section 3(a) of this rule. The allowance for not requiring geophysical imaging of and below the seafloor for borrow sites completely confined to federally or state maintained navigation channels where water depths are less than 10 feet would be expanded to include all navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system.

  Part 2(f) is proposed for amendment to reduce the grid spacing to 2,000 feet and to not require characterization after the initial characterization if all of the material deposited complies with Section 3(a) of this rule as demonstrated by at least two sets of sampling data with at least one dredging event in-between.
- Part 2(h) is proposed for amendment to expand the allowance for not requiring carbonate analysis for borrow sites completely confined to federally or state maintained navigation channels to include all navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system.

7H.0312 (3) Compatibility Determination

This section contains the criteria for determining whether recipient beach sediments and borrow area sediments are compatible.

- Part 3(a) is proposed for amendment to expand the compatibility determination for borrow sites completely confined to federally or state maintained navigation channels that are no less than 10% fine grained material to include all navigation channels or sediment deposition basins within the active nearshore, beach or inlet shoal system.

7H.0312(4) Excavation and Placement of Sediment

This section sets out general criteria for removing sediments from borrow areas and placing them on a recipient beach.

- Part 4(a) is proposed for amendment to require that sediment excavated from a maintained navigation channel (not just federally or state maintained) not exceed the permitted dredge depth of the channel.

Affected Parties

All parties that currently or may in the future undertake regular beach fill projects along the oceanfront can be affected, including Federal and State agencies, local governments, and unincorporated communities.

Pursuant to G.S. 150B-21.4(b) the agency reports that the proposed amendments may affect expenditures for communities that undertake beach fill projects from borrow areas that will be subject to reduced sampling. The proposed changes can substantially lower the costs of sediment compatibility sampling.

NC Department of Transportation

Pursuant to G.S. 150B-21.4(a1), the agency reports that the proposed amendments will not affect environmental permitting for the NC Department of Transportation (NCDOT). NCDOT does not perform beach fill projects, nor to the agency's knowledge, does it intend to begin doing so. Dredging, spoil disposal, transportation-related fill, and dune fortification are exempted activities under this rule.

Anticipated Effects

The primary anticipated effect of this action is a significant reduction in sampling costs to establish sediment compatibility for certain beach fill projects. These amendments do not reflect significant changes in how various projects are reviewed or permitted by the Division of Coastal Management, nor do they affect permit application fees or the number of parties subject to permitting. The Division does not anticipate any change in permitting receipts due to the proposed action.

The types of activities that would be impacted by the proposed rule changes are large beach fill or nourishment projects which are not undertaken by private property owners. Therefore, there should be no cost to private property owners as a result of the rule amendments.

The proposed rule changes would result in a significant cost savings to any community or group proposing a beach fill project utilizing material from an offshore disposal site or a navigation channel or sediment deposition basins within the active nearshore, beach or inlet shoal system. Costs are incurred to mobilize and demobilize equipment, to drill, retrieve and analyze sediment core samples, and to collect geophysical data. These costs can be substantially reduced by decreasing the amount of sampling required in areas where previous sampling has consistently shown the sites to hold beach-quality sand. Conversations with the engineering firm Moffatt and Nichol, contractor for the proposed Bogue Banks nourishment project in Carteret County indicate that the proposed reduction in sampling would result in a cost savings of over $450,000 for an upcoming nourishment project.

CARTERET COUNTY PROJECT COST SAVINGS

Vibracoring Cost Savings

Initial Costs Incurred for Offshore Dredged Material Disposal Site (ODMDS):

Average costs based on 3 Contractors:

Mobilization/Demobilization = $ 37,475 Analysis cost per core = $2,713

ODMDS (Incl. Mob/Demob) @ 1000' Spacing = 181 cores	528,528
ODMDS (Incl. Mob/Demob) @ 2000' Spacing = 53 cores	181,264
One-Time Vibracore Cost Savings for 2000' Spacing	**$ 347,264**

Ongoing Costs Incurred Each Time Inlet Is Used:

Beaufort and Bogue Inlet (Incl. Mob/Demob). 5 Vibracores/Inlet = 10 cores **$ 64,605**

Geophysical Cost Savings

ODMDS (Incl. Mob/Demob). 1000' Spacing. $1,500/mile x 62.9 miles	$ 94,350
ODMDS (Incl. Mob/Demob). 2000' Spacing. $1,500/mile x 34.1 miles	51,150
One Time Geophysical Cost Savings for 2000' Spacing	**$ 43,200**

Similarly, the other long-term maintenance projects at Carolina Beach, Kure Beach and Ocean Isle will experience significant cost savings by this action. Figures provided by another marine contractor show an average cost of $57,000 per inlet for vibracoring and analysis.

The cost savings realized by reducing the sampling intensity for an ODMDS will vary according to the size of the site, but will be about two to three times lower than the existing requirement. In the Carteret County example above, the county would eventually save as much as $622,878 per ODMDS project, and $64,605 per inlet project, if they were able to comply with the proposed amendments to the rule. Just the grid spacing changes to the rule would save Carteret County $390,464 on this project.

In no case can this proposed action result in an increased financial burden on the parties subject to this rule. To the contrary, the parties to whom these changes would apply will experience substantial cost savings.

Fiscal Analysis

INSTALLATION AND MAINTENANCE OF REGULATORY SIGNS AND MARKERS EXEMPTED

T15A NCAC 07K .0214

Prepared by

Jim Gregson
Director
NC Division of Coastal Management
(252) 808-2808

July 8, 2011

Basic Information

Agency	DENR, Division of Coastal Management (DCM) Coastal Resources Commission
Title of the Proposed Rule	Installation and Maintenance of Regulatory Signs and Markers Exempted
Citation	T15A NCAC 07K .0214
Description of the Proposed Action	The Coastal Resources Commission (CRC) proposes to adopt a rule that exempts from the permitting requirements of CAMA certain regulatory signs and markers that are installed by state, federal or local government agencies or by individuals acting on behalf or said agencies.
Agency Contact	Jim Gregson Director Jim.Gregson@ncdenr.gov (252) 808-2808
Authority	G.S. 113A-103(5)(c)

Impact Summary		
	State government:	No
	Local government:	Yes
	Substantial impact:	No
	Federal government:	No
	Small Business:	No

Screening Assessment

Table 1. Screening Assessment

Circumstances	Yes or No
Federal Rule Certification Required: Does the proposed rule require a federal certification statement under NCGS 150B-19.1(g)(1)?	NO
State Funds Affected: Does the proposed permanent rule require the expenditure or distribution of funds subject to the State Budget Act, Chapter 143C of the General Statutes?	NO
DOT Funds Affected: Will the proposed rule result in an increased cost to the NC Department of Transportation?	NO
Local Funds Affected: Will the proposed permanent rule affect the expenditures or revenues of any units of local government?	YES
Substantial Economic Impact Analysis: Does the proposed amendment result in a substantial economic impact as defined in G.S. 150B-21.4(b1)?	NO
Substantial Economic Impact Analysis - Federal Rule Exemption: Does this rule meet the criterion of Federal Exemption found in NCGS 150B-21.4(b1)?	NO
Technical Corrections: Does this rule meet the criteria for a Technical Correction laid out in NCGS 150B-21.5?	NO
Repeal of Regulatory "Deadwood": There are a series of situations that may render a rule obsolete; does this rule meet any of those criteria?	NO

Introduction

The Coastal Resources Commission (CRC) is proceeding with rule making in order to adopt an administrative rule that exempts from the permitting requirements of the Coastal Area Management Act (CAMA) certain regulatory signs and markers that are installed by state, federal or local government agencies or by individuals acting on behalf or said agencies.

Purpose of Rule Change

The proposed rule is intended to eliminate permitting requirements and associated fees for the placement of certain regulatory signs and markers. The rule would reduce the regulatory burden for an activity that has been and is occurring on a regular and customary basis, has little to no resource impact and in many cases, needs to be carried out expeditiously. In order to expedite the installation of these types of signs and markers, they should be exempted by rule from the CAMA Permit requirements.

Description of the Proposed Rules

The proposed rule would exempt from the CAMA Permit requirements of G.S. 113A-118 certain regulatory signs and markers that are installed by state, federal or local government agencies or by individuals acting on behalf or said agencies.

Permits are currently required for installation of regulatory signs and markers; however, the requirement has not been widely understood or vigorously enforced. The Division estimates that approximately ten permit applications would be processed annually for these types of signs within CAMA AECs.

Anticipated Effects

The proposed rule is intended to eliminate certain permitting requirements for federal state or local governmental agencies. Therefore, there should be no cost to private property owners as a result of the rule amendments.

These amendments would eliminate permit requirements for the installation of certain regulatory signs and markers. These type permit requests represent a small percentage of the total permits processed by the Division, typically less than ten per year. The Division anticipates a decrease of less than $1,000 in permitting receipts per year due to the proposed action.

The proposed rule change would allow for the expeditious installation of certain regulatory signs and markers and would remove a permitting burden from governmental agencies for these types of activities that have little to no environmental impact. The financial impact on local governments, if any, will be a very small reduction in expenditures.

NC Department of Transportation

Pursuant to G.S. 150B-21.4, the agency reports that the proposed amendments will not affect environmental permitting for the NC Department of Transportation (NCDOT).

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor James H. Gregson, Director Dee Freeman, Secretary

August 10, 2011

MEMORANDUM

TO: CRC & Interested Parties
FROM: Tancred Miller
SUBJECT: Rulemaking Update

Along with this memo is a spreadsheet that contains all of the Commission's rules that are currently in the rulemaking process—from those being proposed for initial action to those reviewed by the N.C. Rules Review Commission (RRC) since the last CRC meeting. Listed below is a description and recent history of the CRC's action on each rule. Complete drafts of rules scheduled for public hearing at this meeting will be available on the DCM website.

RULE DESCRIPTIONS

1. 15A NCAC 7H.0304 AECs Within Ocean Hazard Areas
   Status: Fiscal review.
   The original amendments will change the formula used to calculate the Ocean Erodible AEC to make it consistent with the CRC's new oceanfront setbacks, and remove the "unvegetated beach" designation for Hatteras Island that was adopted in 2004. Additional changes were approved in May to update long-term annual erosion rates for the oceanfront. Under new amendments to the Administrative Procedures Act, the Commission must approve the fiscal analysis for the proposed changes prior to publication in the NC Register.

2. 15A NCAC 7H.0310 Use Standards for Inlet Hazard Areas
   Status: On hold.
   The CRC directed staff to put further rule development on hold until after the oceanfront erosion rate update is complete.

3. 15A NCAC 7H.0312 Technical Standards for Beach Fill Projects
   Status: Fiscal review.
   The Commission approved changes to sampling requirements be sent to public hearing. Under new amendments to the Administrative Procedures Act, the Commission must approve the fiscal analysis for the proposed changes prior to publication in the NC Register.

4. 15A NCAC 7H.0214 Installation and Maintenance of Regulatory Signs Exempted
   Status: Fiscal review.
   The proposed adoption would exempt certain regulatory signs from permitting requirements. Under new amendments to the Administrative Procedures Act, the Commission must approve the fiscal analysis for the proposed changes prior to publication in the NC Register.

5. 15A NCAC 7M.1300

   Status: In discussion/development.

   A draft policy on sea-level rise is under development and will be on the Commission's February 2011 agenda as a discussion item. Staff is continuing to present the draft to local governments and soliciting their feedback.

COASTAL RESOURCES COMMISSION RULEMAKING STATUS - AUGUST 2011					
Item #	**Rule Citation**	**Rule Title**	**August '11 Status**	**August Action Required?**	**Next Steps**
1	15A NCAC 7H.0304	AECs Within Ocean Hazard Areas	Going to public hearing	**Yes**	Commission must approve fiscal analysis before public hearings can be scheduled.
2	15A NCAC 7H.0310	Use Standards for Inlet Hazard Areas	On hold	No	On hold until oceanfront erosion rates update is completed.
3	15A NCAC 7H.0312	Technical Standards for Beach Fill Projects	Going to public hearing	**Yes**	Commission must approve fiscal analysis before public hearings can be scheduled.
4	15A NCAC 7K.0214	Installation & Maintenance of Regulatory Signs Exempted	Approved for public hearing	**Yes**	Commission must approve fiscal analysis before public hearings can be scheduled.
5	15A NCAC 7M.1300	Sea-Level Rise Policy	In discussion	No	Continue to accept informal public comment.