

Town of North Topsail Beach
Infrastructure Analysis

As of October 12, 1982

Prepared July, 2009

North Topsail Beach Infrastructure Analysis Table of Contents

Introduction

Analysis Summary

Background Information

FWS Infrastructure Analysis (2006)
Onslow County Coastal Regulations

Infrastructure Analysis

Methodology and Criteria
Roadway Infrastructure
Electric Infrastructure
Onslow County Coastal Regulations
Water and Wastewater Infrastructure
Conclusions

Exhibits

Roadway Infrastructure
Electric Infrastructure
Coastal Development Regulations
Water and Wastewater Infrastructure
Congressional History
1982 CBRA Analysis
1990 CBIA Analysis

Introduction

The 2000 Coastal Barrier Resources Reauthorization Act provides direction to both the Service and “*the public in understanding which type of situations may merit a technical correction to a CBRS map*”.

In particular, the Act *codified* criteria for recommending appropriate “*undeveloped*” coastal barriers for inclusion in the System, and for *reviewing* a unit’s *development status* at the time of inclusion to determine whether an area was undeveloped and appropriately included in the System. The **two criteria** are *density of development* and *level of infrastructure* present at the time of inclusion.

The Congressional directive to undertake a Digital Mapping Pilot Project allows the Fish and Wildlife Service to (1) correct past errors:

“*Comprehensive map modernization will **proactively address errors** on the CBRS maps that inadvertently affect private properties*” by “*assessing each boundary in the pilot project unit to understand the intent of the boundary with respect to geomorphic, development, and cultural features*”.

And (2) provide a foundation to mitigate the need for future CBRS modifications:

“*Comprehensive map modernization will significantly reduce the need for technical correction changes that remove land from the CBRS, with revisions necessary only to account for geomorphic change and to add appropriate land to the CBRS*”.

North Topsail Beach is supportive of this effort as a full complement of roads, electric, water, and wastewater service existed prior to System inclusion (L06). We believe the infrastructure assessment process will confirm that the Town was placed within the System in error as the presence of *infrastructure* in *undeveloped* sections of Island Drive and New River Inlet Road were not given consideration during the original designation process.

Though both a *density of development* and *level of infrastructure* review process were mandated by Congress, the Service acknowledged that, “*development status was determined primarily on the basis of the density of visible structures*”. Background documents confirm that assessments of undeveloped areas were made primarily by relying “*on aerial imagery*”. We believe this type of imagery can not accurately depict the existence of electrical lines or underground water/sewer infrastructure.

A private utility company, established by local developers in 1979, provided the area with central water and sewer services. As these utilities came online, over 375 new dwellings were erected in North Topsail Beach between 1980 and 1982. This compares to a total of only 32 new dwellings in the three years prior to 1980. In 1980 North Topsail Beach was recognized as one of North Carolina fastest growth centers.

Onslow County cited this growth to the Service by noting that beyond what was visible on the ground; an “*additional 600 units*” were already planned. Yet when local officials also referenced physical infrastructure, including “*operating a water system*” and that the area had “*invested substantially in a wastewater treatment system*” within the proposed System unit, the response was that **pre-existing infrastructure had no relevance in the process**.

“*Prior investments likewise are not relevant considerations in designating coastal barriers*” (FWS, 1982)

This response not only contradicts Congressional intent, but also the Service's internal policy stating: "When landowners wrote to the [Department], however claiming a full complement of infrastructure was in place in their property, the claims were investigated."

Moreover, Congress had provided the Secretary of Interior with specific *infrastructure* guidance to be used in determining whether land within a coastal barrier is considered "undeveloped".

*"An area that has a full complement of infrastructure (i.e., some combination of roads, waters, sewers, electrical lines, etc.) but not structures, suggests that the area is as a practical matter **already developed**."*

(House Report 97-158, Volume 1, page 100)

We believe that the Service was in error when it suggested that water and sewer services were "not relevant considerations in designating coastal barriers" and subsequently did not consider the claims. As a result, since October 12, 1982, many North Topsail residents and landowners have been excluded from federal assistance commonly available to other coastal communities.

Since the Service was not given the authority to correct technical errors, North Topsail Beach anticipated that, with enactment of the 2000 Reauthorization of CBRA and the required Digital Mapping Project, our concerns would be investigated. However, as outlined in the Report to Congress, the Service subsequently determined it would be too costly to process *infrastructure assessments* for pilot project units. The Service has still left open the opportunity for interested parties to obtain and submit the necessary infrastructure documentation.

"The Service concluded it would be cost prohibited to conduct infrastructure assessments for all pilot project units" therefore, if a unit "contained a full complement of infrastructure at the time of designation within the CBRS, interested parties will provide the necessary documentation during the public review period".

As advised, the Town of North Topsail Beach has completed an infrastructure analysis verifying the existence of "on-the-ground" infrastructure per FWS regulatory and Congressional statutory requirements. We look forward to assisting the Service with a review of our analysis.

North Topsail Beach Infrastructure Analysis Summary

Roadways have existed along the entire length of North Topsail Beach since the 1940's. State records indicate a fully paved road in 1953 which became part of the Highway system by 1968. The 1982 Onslow County Zoning Map documents all lots as having direct road access. A 1981 Fish and Wildlife Service (FWS) infrastructure review attests to "*paved road throughout the unit*".

Jones-Onslow EMC has provided electrical service to North Topsail Beach since the 1940's. Easement records demonstrate that the utility company aggressively expanded electrical service throughout the Island in 1977 and 1978. Maps supplied by Jones-Onslow document that along North Topsail's CBRS unit "*the entire area had electrical service even to the northern most area*" by 1980.

As direct mainland access increased pressure for coastal development, Onslow County resisted aggressive subdivision of Topsail Island property. In 1978 the Onslow Board of Commissioners stated it would not allow any re-zoning for *coastal development without central water and sewer in place*. A utility company was formed by local developers in early 1979 to provide North Topsail Beach with the required infrastructure. A few months later Onslow County granted a *conditional permit* to its first large scale coastal development however, *land sales were not allowed until paved roads and State approved water/sewer systems were in place*. Records show that these land sales began in 1980.

North Topsail Water and Sewer was established in 1979 to provide water and sewer services to North Topsail Beach. Records indicate that the company gained easements to install its water and sewer infrastructure initially within the *North Topsail Shores* area in 1979. The North Carolina DOT granted the company easements to extend its utility lines along State Road 1568 (New River Inlet Road) in 1980. A pump station from its water source in *Sea Ranches* subdivision, near the center of New River Inlet Road, was also put into operation in 1980.

As North Topsail Beach area was "*experiencing rapid economic growth*" in 1980, the county also moved to construct its own water system. The county's system gained utility easement rights along the developed Island Dr. corridor, while the New River Inlet Road area was still serviced by *North Topsail Water and Sewer*. In 1981 *North Topsail Water and Sewer* transferred ownership of its water system to Onslow County. Deed records establish the location of the company's "*in place*" utility lines as running from Hwy 210 to the New River Inlet. Onslow County completed its water pipelines along the Island Dr. section by the end of 1981.

Initial sewer permits were issued in 1979 to service the northern section of Topsail. A 53,000 feet extension of sewer lines were installed in 1982, as well as a pump station located near the bridge area. *Most significantly*, an expanded 33.4 acre treatment facility and a 268 acre irrigation area was constructed which, still today, manages North Topsail Beach's wastewater needs.

A 1981 FWS mapping review *confirmed a full complement of infrastructure within the unit's excluded areas*; however, areas lacking existing structures were not substantially examined. As part of the CBRS Digital Mapping Pilot Project the Service once again performed an analysis "*that affirmed sewer and water lines were installed along main roads and primary electric service was available to all lots*" by 1982.

As Onslow County mandated the availability of full water and sewer services prior to subdivision, large areas of North Topsail Beach had direct road access with associated electric, water and sewer service. Our analysis substantiates that North Topsail Beach was placed in the CBRS in error and we request to be treated equitably to other areas who met the statutory criteria.

Background Information

Fish and Wildlife Service Infrastructure Analysis (2006)

As part of this pilot project the Service conducted an infrastructure analysis based on indications that some areas of System unit L06 were served by a full complement of infrastructure that was not evident on the quadrangles used when the area was originally mapped.

The town agrees and endorses most of the results of the analysis that affirms sewer and water lines were installed along main roads and that primary electric service was available to all lots. The study did not cite any information on the Town's roadways.

We would further direct the Service to its internal mapping documentation of December 14, 1981 *Coastal Barrier Task Force Checklist* which indicated full infrastructure as existing in both excluded areas.

This FWS analysis cites evidence of water installation throughout the area in the 1979/1980 timeframe; and sewer service since 1980/1981 as permit # 5574 was issued on 10/26/1979 to allow construction of a central wastewater system. The electrical system has been in place since the 1940's and further improvements were made to encompass the entire island by the 1970's.

The town does question the Service's use of the term "secondary services" as stated in Exhibit D on page 14, "*but secondary services were not constructed until the lots were developed*".

The term seems to reference infrastructure installed from a primary utility line onto the building site. It was referenced by a Jones-Onslow engineer to a question posed by the Service, "*Is electric infrastructure available to all lots in the service area*" regarding Galleon Bay subdivision. His response was yes but "*secondary services are not constructed until the lots are developed*". In his example, the secondary services refers to the electrical "*meter bases*", which register the amount of electrical usage from the building site, are not installed until the site begins to use electrical power.

It is our understanding that proposed guidance requires an *undeveloped lot* to have a meter base in place in order for the lot to be considered to have a full complement of electrical infrastructure.

As it is common practice for electric utilities not to install meter boxes until it can register some kind of usage, this opinion would seemingly make it impossible for any undeveloped property to qualify as having the proper infrastructure. We do not believe the criterion has been applied in this way before.

The 2000 Reauthorization Act makes a clear distinction between "*lot*" and "*building site*". We strongly disagree with the interpretation that reasonable availability of electrical service to a "*lot*" is not met unless lines and/or equipment are constructed to non-existing structures.

Onslow County Coastal Regulations

Onslow County's zoning and development requirements show that on-the-ground infrastructure was a **pre-condition** to coastal development in North Topsail Beach.

In the early 1970's, the State of North Carolina expanded access to Onslow County's coastline with construction of a high-rise bridge over the inter-coastal waterway onto present day North Topsail Beach (known as West Onslow Beach before incorporation).

However, during most of the 70's, Onslow County rejected efforts to re-zone existing larger parcels of coastal property in West Onslow Beach into smaller more affordable units. The Onslow County Board of Commissioners expressed a desire to implement a responsible coastal land use plan prior to allowing for higher density construction. In 1978 Onslow County developed coastal guidelines that included specific infrastructure requirements for water and wastewater treatment. (Note the County considered electrical service as already in place)

*Onslow County Board of Commissioners Resolution/Policy (February 7, 1978) states the Board would not re-zone any lots in West Onslow Beach (North Topsail) to smaller than 20,000 square feet without individual wells and septic tanks **in place** and 12,000 square feet without central water and sewer **in place**.*

As placing individual wells and septic systems on each proposed lot prior to re-zoning was not economically feasible, in essence this policy dictated that West Onslow Beach development could only move forward with central water and sewer system in place. In early 1979 a utility company, *North Topsail Water and Sewer*, was formed by local developers in response to this policy.

Corporation Filing for North Topsail Water and Sewer (February 5, 1979) states the purpose of the company is "to operate and maintain sewer, water, and street treatment".

Since, as of July 1979, utility services were not yet available from North Topsail Water and Sewer; the first large scale coastal development in West Onslow Beach was *conditionally* approved based on the understanding that an approved central water and sewer system would be in place prior to any land sales.

*The recorded (July 2, 1979) North Topsail Shores Subdivision conditional use permit allows higher density development but stipulates **no land sales** until the availability of:*

Direct or immediate access to a central water system approved by the North Carolina Department of Human Resources, Division of Health Services, and

Direct or immediate access to a central sewage disposal system approved by the North Carolina Department of Natural Resources, Division of Environmental Management.

A paved street adjacent to each lot, said paved street approved by the North Carolina Department of Transportation.

Onslow County GIS and deed records shows new structures/dwellings were erected and sold within North Topsail Shores by 1980 as North Topsail Water and Sewer's services came on-line. Utility lines were expanded throughout West Onslow Beach by 1981. Onslow County merged operations of the company's water system with its own in August 1981.

While sections of North Topsail Shores Subdivision were excluded from the CBRs because of visible structures, the remainder of West Onslow Beach was included in the System because, even though a full complement of utilities existed, structures had yet to be constructed. As the Service stated, "*development status was determined primarily on the basis of visible structures*".

Documented within the 1982 Onslow County Zoning map, are a number of other re-zoned developments which were approved by 1982, *without* conditional permits, due to the newly installed infrastructure. (Topsail Dunes, Bay View, Ship Watch Town Homes, Ocean Bay Village Town Homes) All these subdivisions were included within the 1982 CBRs.

Subdivision maps show utility lines running along each of these developments. The Ocean Bay and Ship Watch maps had to be revised in 1984/5 due to a proposed State DOT relocation of State Road 1568. In the case of Ship Watch this also meant a relocation of their utility lines which are noted as stating "*existing water and sewer mains*" to be relocated.

Bay View Subdivision's building sites included a number of duplexes and associated party wall agreements that required owners to "*shall share equally in cost of repair and maintenance of **water and sewer facilities** ... as be necessary for continued service*".

Developers were able to substantially increase in the number of newly erected dwellings once North Topsail Water and Sewer services became available.

North Topsail Beach Erected Dwellings (per Onslow GIS)

1975	8
1976	8
1977	10
1978	15
1979	8
1980	138
1981	138
1982	100
1983	179
1984	232
1985	250

1980 Onslow County Resolution that states West Onslow Beach is "*experiencing rapid economic growth*" and was nominated as a State-wide "*growth center*".

Infrastructure Analysis

Infrastructure Analysis Methodology and Criteria

L06 (Topsail Island) unit sections were added to the CBRS on 10/12/1982 and 11/16/1990.

Development Criteria

The Service established the criterion for a barrier island to be considered developed as, “a density threshold of roughly one structure per five acres of fastland” or “if there is a full complement of infrastructure in place”. Guidelines were originally published in the Federal Register August 16, 1982; however a detailed infrastructure analysis was not used by the Service to make initial CBRS development determinations.

As the Service notes “detail assessment of the status of infrastructure was not possible, given limitations of available information and resources. When landowners wrote to the [Department], however claiming a full complement of infrastructure was in place in their property, the claims were investigated. When a full complement of infrastructure (roads, water, electric lines) provided by the developer to each lot or building site was verified, the barrier was considered developed.”

Generally the infrastructure criterion applied to unit reviews. Senate Report 106-252 states “The criteria are based on a rule that was proposed by the Department of the Interior in August of 1982, but was never finalized (47 FR 35696). Despite never being finalized, the proposed rule has long served as a guideline for Congress and the Fish and Wildlife Service when they review suggested changes to the CBRS”.

Due to the inconsistent interpretation and application of the regulation, the criterion to be used “in determining whether, at the time of inclusion of a System unit within the System, a coastal barrier is developed” was codified by Congress in the 2000 Reauthorization of CBRA.

Again Senate Report 106-252 states the “bill to reauthorize and amend the Coastal Barrier Resources Act, makes several changes to the Act, *the most significant* of which is the codification of criteria to determine whether a coastal barrier is developed”. The Senate Report continues:

“Section 2(1) amends the Coastal Barrier Resources Act by establishing a set of criteria to serve as a guide to the Congress, the U.S. Fish and Wildlife Service, and the public to determine whether a coastal barrier should be considered developed, and therefore excluded from the CBRS.”

The FWS notes, a clearly defined set of criteria have not only been helpful to the Service, “but also to the public in understanding which types of situations may merit a technical correction to a CBRS Map”.

As cited in P.L. 106-514 Section 2, the criteria is, an existing infrastructure consisting of

- a road, with reinforced road bed, to each lot or building site in the area,
- a wastewater disposal system sufficient to serve each lot or building site in the area,
- electric service for each lot or building site in the area, and
- a fresh water supply for each lot or building site in the area

The analysis focused solely on infrastructure available to lots existing within North Topsail Beach as of October 12, 1982.

Note that that “North Topsail Beach” and “West Onslow Beach” are used interchangeably. The area was known as West Onslow Beach in 1982 but it changed its name after incorporation to North Topsail Beach in 1990.

As the time period reviewed is over 30 years old, many documents and permits no longer exist. Wherever possible we present recorded collateral materials as additional evidence of on-the-ground infrastructure.

The analysis includes:

- Local regulations and coastal development requirements,
- Statements from local utilities,
- Evidence of existing on-the-ground infrastructure
- Documentation from the Fish and Wildlife Service

Roadway Infrastructure

Evidence of Infrastructure from:

North Carolina Department of Transportation County Maintenance Maps

December 14, 1981 FWS Coastal Barrier Task Force Checklist

Onslow County 1982 Zoning Map

- | | |
|----------------|---|
| January, 1949 | NCDOT map of bituminous road from Surf City to New River Inlet (Exhibit A-1) |
| January, 1953 | NCDOT map of Topsail Island road upgraded to “ <i>fully paved</i> ” from Onslow-Pender line to New River Inlet, present day North Topsail Beach (Exhibit A-1) |
| January, 1968 | NCDOT map of road from Surf City to the Northern Tip of Topsail Island (New River Inlet) upgraded to become part of State Hwy 210 (Exhibit A-1) |
| January, 1974 | High-rise Bridge connects Sneads Ferry area to Island Drive. Bridge becomes part of Highway 210; Section running north from bridge area to the Inlet (New River Inlet Road) is officially renamed State Road 1568 (Exhibit A-1) |
| December, 1981 | Fish and Wildlife Service infrastructure review notes the existence of a “ <i>paved road the entire length of the unit</i> ”. (Exhibit A-2) |
| January, 1982 | 1982 Onslow County Zoning map documents North Topsail Beach building sites and road system. Note all lots zoned for development have direct road access. (Provided within enclose CD) |

Electric Infrastructure

Evidence of Infrastructure from:

*Recorded Documents in Onslow County Courthouse, Onslow Real Estate Conveyance Books
Jones-Onslow EMC Maps and Documentation*

Documentation and maps from Jones Onslow of the Topsail CBRA areas stating "*the entire area had electrical service even to the northern most area*" by 1980 (Exhibit B1)

- | | |
|------------------|---|
| 1977/78 | Jones Onslow acquires easements to " <i>place, construct, operate ... electric transmission or distribution lines</i> " throughout North Topsail (Exhibit B2) |
| January 28, 1978 | Jones Onslow provides Security Lighting services Rogers Bay Campground. Area is within the Island Drive section of L06. (Exhibit B3) |
| August 14, 1979 | Jones Onslow supplies electrical services to Marina at Galleon Bay (Exhibit B4) |
| March 10, 1980 | Jones Onslow provides Security Lighting services Topsail Reef Condominiums. Area is within the northern boundary of L06. (Exhibit B5) |
| May 19, 1980 | North Topsail Water and Sewer operates water system pump house from Sea Ranches Subdivision in West Onslow Beach. Area is within the center of New River Inlet Road. (Exhibit D6) |

Onslow County Coastal Regulations

In-place infrastructure was a pre-condition to coastal development by county

Evidence of Infrastructure from:

Recorded Documents in Onslow County Courthouse, Onslow Real Estate Conveyance Books

Recorded Documents in Onslow County Courthouse, Onslow Map Books

Recorded Documents in Onslow County Courthouse, Onslow Board of Commissioners Meetings

North Carolina Secretary of State Corporate Records

- November 21, 1977 Onslow County Board of Commissioners *reject* high density construction in West Onslow Beach until a comprehensive coastal land use plan is agreed to. (Exhibit C1)
- February 7, 1978 Onslow County Board of Commissioners Resolution/Policy states that they would not re-zone any lots in West Onslow Beach into smaller developable parcels without “*central water and sewer in place*”. (Exhibit C2)
- February 5, 1979 *North Topsail Water and Sewer* is established “*to operate and maintain sewer, water, and street treatment*” in Coastal Onslow County (Exhibit C3)
- July 2, 1979 First large scale coastal development in West Onslow Beach, *North Topsail Shores*, is *conditionally* approved by Onslow County BOC. The permit **restricted any land sales** until “*approved central water and sewer system are in place*”. (Exhibit C4)
- 1980 West Onslow Beach “*experiencing rapid economic growth*” and nominated as a State “*growth center*”. (Exhibit C5)
- 1980 Onslow County GIS data and deeds show new structures/dwellings were *erected and sold* within North Topsail Shores by 1980 as *North Topsail Water and Sewer’s* services came on-line. (Exhibit C6)
- 1982 Additional subdivisions are approved without the need for conditional permits. *Topsail Dunes, Bay View, Ocean Bay Village, and Ship Watch* maps each depict existing utility lines. *Ship Watch* map implicitly note “*existing water and sanitary sewer main*”. (Exhibit C6)
- Bay View’s party wall agreements stated owners “*shall share equally in cost of repair and maintenance of water and sewer facilities ... as be necessary for continued service*”. (Exhibit C7)

Water and Wastewater Infrastructure

Evidence of Infrastructure from:

FWS L06 Public Comments, 1981 OBRA

FWS Infrastructure Analysis, 2006

Recorded Documents in Onslow County Courthouse, Onslow Real Estate Conveyance Books

Recorded Documents in Onslow County Courthouse, Onslow Board of Commissioners Meeting

North Carolina Secretary of State Corporate Records

NC Department of Natural Resources and Community Development, Permit

Statement from ONWASA 1980/81 of Service to North Topsail Beach (Exhibit D10)

Statement from Utilities, Inc. of 1980/81 service to North Topsail Beach (Exhibit D2)

NC Department of Environment, Health, and Natural Resources Reg. (15A NCAC 18A .1937) (a) requires: “Any person owning or controlling a residence, place of business, or place of public assembly containing water-using fixtures connected to a water supply source **shall discharge all wastewater directly to an approved wastewater system**”. Septic tanks were common prior to sewer service (Exhibit D14)

- | | |
|------------------|---|
| February 5, 1979 | North Topsail Water and Sewer Incorporated to <i>provide water and sewer services</i> in the Topsail Island Area (Exhibit C3) |
| July 2, 1979 | Special Use Permit granted to North Topsail Shores <i>requires</i> availability of central water and sewer systems (Exhibit C4) |
| August 7, 1979 | North Topsail Water and Sewer receives recorded easement to “ <i>construct and maintain water and sewer lines</i> ” throughout North Topsail Shores (Exhibit D1) |
| October 26, 1979 | North Topsail Water and Sewer issued initial wastewater permit #5574 by NC Department of Natural Resources and Community Development. (Exhibit D2) |
| April 24, 1980 | North Topsail Water and Sewer receives recorded right of way from North Carolina Department of Transportation to install utility lines along entire length of “ <i>State Road 1568</i> ” (Exhibit D3) |
| May 5, 1980 | Onslow County establishes county-wide water system (Exhibit D4) |
| May 6, 1980 | Onslow County acquires easements along Island Drive (Hwy 210) and all developed subdivisions with recorded “ <i>plats in the Onslow County Register showing these subdivisions with various streets and avenues and lots abutting said streets and avenues</i> ” as, “Onslow County is presently constructing a county water system and desires to service the residents of these and other areas by installing water pipelines within said right of way”. (Exhibit D5) |

- May 19, 1980 North Topsail Water and Sewer receives easement to water source and pump house located in *Sea Ranches* Subdivision on West Onslow Beach. This pump station was expanded in 1981. (Exhibit D6)
- August 17, 1981 North Topsail Water and Sewer transfers water system “*lying within the right of way of 1568*” to Onslow County (Exhibit D7)
- August 17, 1981 North Topsail Water and Sewer conveys “*water system and lines located in a subdivision known as North Topsail Shores*” to Onslow County (Exhibit D8)
- August 17, 1981 North Topsail Water and Sewer convey *additional utility lines* to Onslow County. *Deed lists physical location of these existing utility lines* in lands outside of State Road 1568. (Exhibit D9)
- September 1981 Pridgen Consultants “As Built” Notes reflect completion of the Island Drive (Hwy 210) water system project. (Exhibit D10)
- November 16, 1981 North Topsail water system fully operational, Onslow County BOC discusses dissatisfaction of contractor’s maintenance response to leak in one of West Onslow Beach’s pipelines. (Exhibit D11)
- 1982 Onslow County public comment response to the 1981 OBRA states the county is operating a water system and has invested significantly in a wastewater system capable of handling West Onslow Beach’s needs. (Exhibit D12)
- May 1982 North Topsail Water and Sewer receives wastewater permit #7346 from NC Department of Natural Resources and Community Development; Expansion of the original Topsail Development permit extends service with an additional *53,000 feet of sewer mains and additional pump stations*. (Exhibit D13)
- May 1982 Permit #7346 also sufficiently increases treatment capacity by providing for an expanded “*33.4 acre wastewater treatment facility and associated 268 acre irrigation area*”. The facility was not only capable of serving the 1982 needs of West Onslow Beach, but is still in operation today, serving both North Topsail Beach and Southeast Onslow County. (Exhibit D13)

Analysis Conclusions

This analysis demonstrates that corridors of both Island Drive and New River Inlet Road had a full complement of electric, water and wastewater services available to lots and subdivisions abutting those roads in 1982. A key aspect of the infrastructure criterion is that capital outlays are made by either private sources or in conjunction with private development activities. Infrastructure placed on North Topsail Beach met both these standards

The 1982 Onslow County Zoning map depicts subdivisions and lots with direct access to the Island Drive and New River Inlet Road corridor.

Capital outlays for the electric service were made by a private utility company during the late 1970's. Documentation shows electrical service available to all areas of Topsail.

Local developers established plans to connect the entire community with central water and sewer services in 1979. By 1980 the first phase of utility lines were servicing the New River Inlet Road area from its water source in *Sea Ranches Subdivision* north to *North Topsail Shores* at the northern tip of the Island. The second phase of utility line construction extended these services along the remainder of New River Inlet Road and connected to the county project at Island Drive in 1981. While developers subsequently transferred operations of the water system to Onslow County, they continued with construction of the Island Drive sewer project in 1982 which expanded sewer lines by over 10 miles and significantly increased the size of the treatment plant.

Documentation reveals that the Onslow County water project along the Island Drive corridor was prioritized due to what was noted as "*rapid economic growth*" from private development in the area. Construction on this project began in 1980 and was complete by the end of 1981.

The physical water and sewer lines installed along lots in the *undeveloped* sections of New River Inlet Road were identical to the lines laid along the excluded *Galleon Bay* and *North Topsail Shore* subdivisions. In fact the New River Inlet Road utility lines run directly through both excluded areas which the Service found to meet the infrastructure standard in 1981.

Likewise the southern end of West Onslow Beach was also not included in the System. The utility system in this southern *developed* area was also identical to lines directly north in the CBRS area. Island Drive extends through both southern excluded area and the actual System unit. Water from the county system could not reach the southern end within traveling through the Island Drive CBRS area. Similarly, as the wastewater facility was located off the island, sewage had to also travel back along Island Drive to the pump station near the high rise bridge area.

While this analysis specifically documents *on-the-ground* infrastructure, we believe that the 1979 *North Topsail Water and Sewer* utility project also meets the "*phase development*" criterion as set forth by the Service. The project was well documented to provide water and sewer lines to West Onslow Beach. It was privately capitalized and continuously owned by one entity. The project involved well over 100 lots (in aggregate) and multiple phases were complete prior to CBRS designation. In fact the provided documentation suggests that all infrastructure construction relating to North Topsail Beach was substantially complete by 1982, and therefore this criterion has no significant impact on the analysis.