

# **PRELIMINARY ENGINEERING REPORT**

## **Bull Creek / Myrtle Beach Water System Interconnection**

PREPARED BY:  
GRAND STRAND WATER AND SEWER AUTHORITY  
PO BOX 2368  
CONWAY, SC 29528

February 2009

# **PRELIMINARY ENGINEERING REPORT**

## **BULL CREEK / MYRTLE BEACH WATER SYSTEM INTERCONNECTION**

### **General Information**

Name: Bull Creek / Myrtle Beach Water System Interconnection

Owner: Grand Strand Water and Sewer Authority  
PO Box 2368  
Conway SC 29526

Engineer: Grand Strand Water and Sewer Authority  
Christina Everett, P.E.

The GSWSA Bull Creek Water System provides water service to a majority of the unincorporated portions of Horry County with retail service and provides wholesale service to the municipalities within the county as well as Little River. The GSWSA Myrtle Beach Water System provides water service to the City of Myrtle Beach and North Myrtle Beach through wholesale contracts. The two systems have generally operated independently of one another. The service area for the Bull Creek system is predominantly residential with a portion consisting of retail, neighborhood commercial facilities, and light industrial. The Myrtle Beach system service area consists of both residential as well as recreational and tourism related businesses. The local economy in the service area for both systems is relatively stable, and the estimated rate of development based on current market conditions is 2%. Since the service area for both systems is located in a coastal county, the terrain is relatively flat.

The customers for this project will consist of all residential, commercial, and light industrial facilities located within Horry County. The water main will connect the Bull Creek Water System and the Myrtle Beach Water System, and the Booster Pump Station will allow the flexibility to divert flows between the two systems based on demand as well as maintain adequate water system pressures.

### **Discussion of Need**

The GSWSA Bull Creek and Myrtle Beach Water systems provide water service either through direct retail or wholesale to a majority of residents and businesses in Horry County. Currently, there is no major back-up water service provider to the communities and commercial areas who receive water service by these systems. The interconnection between the two systems would provide emergency back-up water service to customers in the event of a natural disaster or terrorist act. The interconnection would also allow flexibility to divert flows from one system to the other to meet domestic and fire flow pressure requirements for customers.

### **Discussion of Alternatives**

- a. No Action: If the Bull Creek and Myrtle Beach Water Systems continue to operate independently without a major back-up water supply, there is a potential risk for a water supply shortage in the event of a natural disaster or terrorist act. Additionally, there is a potential for reduced water pressures in the service areas resulting in residential and commercial facilities without fire flow protection.
- b. Construct a Water Main and Booster Pump Station: In order to provide adequate emergency back-up water service to the Bull Creek and Myrtle Beach Water System service areas, a transmission system and booster pump station must be installed. The water main will be installed within private easements and highway right of ways and will cross the Atlantic Intracoastal Waterway via directional drilling method. The main will connect the existing 36" water main located in the Myrtle Beach service area to the existing 20" water main in the Bull Creek service area. The water main portion of the project will also consist of a 30" main to be located in the Bull Creek system. The booster pump station will be constructed on property owned by GSWSA located adjacent to the existing water main in the Myrtle Beach service area. This proposed system will consist of transmission lines only and will not include individual service connections for residential and commercial

facilities. Also, there are no residents or commercial buildings located along the route that do not have water service available currently.

- c. Construct a new Surface Water Treatment Plant: As the need for this project is to provide an emergency back-up water supply for the Bull Creek and Myrtle Beach service areas, the construction of a new surface water treatment plant would not be economically feasible. In addition, the investment in treatment facilities is typically a result of additional capacity needs. The Bull Creek and Myrtle Beach water systems have adequate capacity to serve their respective service areas.

### **Discussion of Rationale for Selected Alternative**

For the reasons stated above a water main system and booster pump station is the only reasonable and most economical system to install to provide back-up service for the two service areas. The portion of installation for the 36" water main along the highway right of ways will minimize any potential environmental impacts. The 30" water main portion of project will be installed adjacent to an existing overhead power transmission line which has previously been cleared. This construction route will also minimize the impacts on the environment. Overall, the project will provide emergency back-up water supply while providing the necessary domestic and fire flow pressures to protect the residents and commercial facilities.

### **Selected Alternative Costs**

Planning and Design	\$250,000
Legal and Appraisal	5,000
Land	260,000
Equipment	
Materials	
Construction	9,390,909
Contingency (10% construction)	939,091
Construction Engineering	155,000
SRF Loan Total	\$11,000,000

SRF Loan Fee (1%)	110,000
<b>Total Project Cost</b>	<b>\$11,110,000</b>

### **Design Parameters**

The project will consist of approximately 30,500 linear feet of 30" water main, 8,400 linear feet of 36" water main, and a booster pump station. The 30" water main will connect an existing 30" water main with an existing 20" water main in the Bull Creek water system. The 36" water main will connect an existing 36" water main in the Myrtle Beach water system with the 20" water main in the Bull Creek system. The pump station will be located adjacent to the existing 36" main and will consist of three booster pumps. Each pump will have a capacity of approximately 12 million gallons per day (MGD). The pumping and pipeline capacity proposed for this project will certainly be capable of diverting flows to provide emergency back-up water supply between the two service areas as well as provide for fire flow protection.

### **Environmental**

The project will consist of the construction of approximately 30,500 linear feet of 30" water main and 8,400 linear feet of 36" water main. The 30" water main portion of the project will be installed adjacent to an existing cleared and maintained overhead power transmission line. There will be some minimal environmental impacts with this portion of the project pertaining mostly to wetlands. The 36" main will be installed mostly along existing highway rights-of-way. A portion of the project will be constructed in a wooded private easement that will need to be cleared. The impacts will be minimal in nature and will consist of noise and soil disruption. Approved erosion control measures will be used to reduce any construction/soil disturbing activities.

This project has undergone an Environmental Review, and the agency responses are attached. A summary of these comments follow.

SC DNR – No natural resources of specific concern have been identified.

Minimize impact to wetland areas.

SC Dept of Archives and History – No affected properties.

US Fish and Wildlife Service – Concurred that the project is not likely to adversely affect listed species.

SC DHEC, OCRM – Consistent with Management Plan.

SC DHEC, Water Quality Certification, Navigable Waters, and Wetlands Programs – Complies with General Permit specifications.

The only issue identified is in regards to the crossing of the Atlantic Intracoastal Waterway as well as the wetland crossings adjacent to the overhead power transmission line right-of-way. GSWSA proposes to directional bore under the waterway which will negate the need for a wetland permit. However, the pipeline installation in the wetland areas near the power line right-of-way will require a Corps of Engineers permit. Otherwise, there will be minimal negative environmental effects or impacts from this project.

### **Public Notice**

This project has met all required public notice and environmental review requirements of the program.

There was a public hearing held regarding the project. A public notice was placed in The Sun News on February 8, 2009 (attached), and the meeting was held March 11, 2009. Two individuals attended the public meeting, a pipeline supplier and a utility contractor. A sign-in sheet is attached. The participants were interested in the scope of the project and the construction schedule. The project scope and tentative construction schedule were discussed. The participants were satisfied with the information provided.

**PUBLIC NOTICE OF MEETING  
AND  
AGENCY COMMENTS**

Engineering

**SUN PUBLISHING COMPANY, INC.**

PO Box 406 • MYRTLE BEACH, SC 29578-0406

**Grand Strand Water & Sewer**

PO Box 2368

Conway, SC 29528

February 12, 2009

Newspaper: The Sun News

Ad Number: 1154468

Date(s) of Publication: February 8, 2009

AFFIDAVIT OF PUBLICATION: State of South Carolina  
County of Horry

Before me, Pamela J. Browning, a Notary Public personally appeared who, after being duly sworn, deposes and says: That she is publisher of the Sun Publishing Company, Inc., at Myrtle Beach, South Carolina. In the county and state aforesaid: that the above ad(s) was (were) printed and published in said newspaper, on said date(s).

*PJ Browning*

Pamela J. Browning

Sworn to and subscribed before me this 12th day of February 2009.

*Dana Doyle*

Notary Public

My Commission Expires July 24, 2016.

**GRAND STRAND WATER & SEWER AUTHORITY**  
**REQUEST FOR PROPOSAL**

**PUBLIC NOTICE**

The Grand Strand Water & Sewer Authority (GSWSA) proposes to conduct a Public Meeting to receive input about construction of a pipeline to serve the Bull Creek/Myrtle Beach Water Systems Interconnect. The project will consist of 30,500 LF of 30" water main, 8,400 LF of 36" water main, and a booster pump station. The project will be installed within existing private easements and property owned by GSWSA.

The interconnection project will provide emergency back-up water supply to the Bull Creek and Myrtle Beach Water service areas while maintaining adequate pressures for fire flow protection.

**WHEN:** 5:30 P.M. Wednesday, March 11, 2009  
**WHERE:** GSWSA Central Office - 166 Jackson Bluff Road, just off Highway 544 - 1 mile south of Coastal Carolina University.

**Contact:** Christy Everett,  
Chief of Engineering & Construction  
843-443-8293 or e-mail [ceverett@gswsa.com](mailto:ceverett@gswsa.com)



**BULL CREEK-MYRTLE BEACH WATER SYSTEM  
INTERCONNECTION**

**PUBLIC MEETING  
MARCH 11, 2009  
ATTENDANCE**

**PROJECT: BULL CREEK-MYRTLE BEACH WATER SYSTEM  
INTERCONNECTION**

**DATE/TIME: MARCH 11, 2009, 5:30 PM**

	<u>NAME</u>	<u>ADDRESS</u>	<u>PHONE NUMBER</u>
1.	Christy Everett	GSWSA	843-443-8293
2.	DAN MOORE	MAINLINE SUPPLY	843-651-7780
3.	KENT SLIPPER	RH MOORE Co. Inc	843-650-2155
4.			
5.			
6.			
7.			
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11.			
12.			
13.			
14.			
15.			

BOARD:  
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C. Earl Hunter, Commissioner

*Promoting and protecting the health of the public and the environment*

January 29, 2009

BOARD:  
Henry C. Scott  
M. David Mitchell, MD  
Glenn A. McCall  
Coleman F. Buckhouse, MD

Ms. Susan Davis  
Environmental Programs Director  
S.C. Department of Natural Resources  
PO Box 12559  
Charleston, SC 29412

Re: Grand Strand Water and Sewer Authority  
Proposed Bull Creek / Myrtle Beach Water System Interconnection  
SRF 2620004-21

Dear Ms. Susan Davis:

Grand Strand Water and Sewer Authority is pursuing a State Revolving Fund (SRF) loan for construction of water mains and a water booster pump station. To qualify for this funding, the sponsor is required to develop a preliminary engineering report evaluating the environmental effects of the proposed project. Specific project information is enclosed for your review. (attachment)

Please comment on the proposed construction with respect to your department's concerns. Identify any sensitive resources relating to the conservation of wildlife, such as fisheries habitat, water quality, and recreation.

We would greatly appreciate your prompt attention to this matter, and request that any response be made within the next 15 days. Should you have any questions or need additional information concerning this project, please contact me at [wattssg@dhec.sc.gov](mailto:wattssg@dhec.sc.gov) or 803-898-4171.

Sincerely,

Sheila Watts, P.E.  
Project Manager  
State Revolving Fund Section  
Water Facilities Permitting Division

enclosures

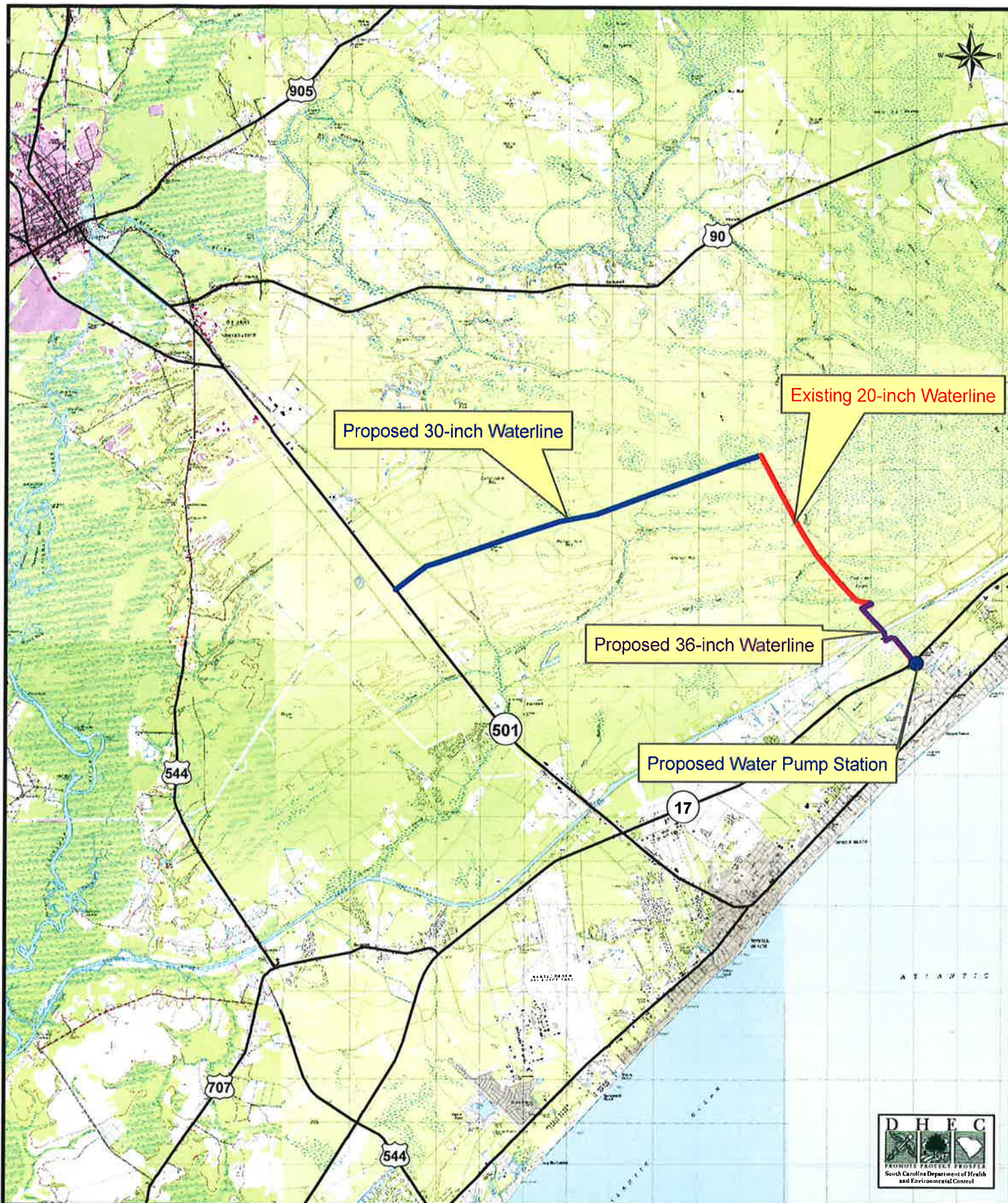
cc: Christy Everett, P.E., Grand Strand Water & Sewer Authority (w/enclosures)

January 29, 2009

### **PROJECT DESCRIPTION**






Grand Strand Water and Sewer Authority (GSW&SA) is proposing the construction of a water booster pump station, approximately 8,400 LF of 36-inch waterline, and approximately 30,500 LF of 30-inch waterline. Please see attached project location map. This project will allow an interconnect between Myrtle Beach Water System and Bull Creek Water System from 62<sup>nd</sup> Avenue at US Highway 17 By-Pass in Myrtle Beach across the Atlantic Intra-Coastal Waterway at International Drive and south at US Highway 501. The proposed 30-inch waterline will be constructed parallel to an existing powerline. GSW&SA owns both Myrtle Beach and Bull Creek Water Systems. These Systems are separated by the Intra-Coastal Waterway. The proposed project will provide a backup water supply and enhance security and pressure for fire protection.





# **Grand Strand Water & Sewer Authority Bull Creek/Myrtle Beach Water System Interconnection**

0 0.5 1 2 3 4 5 Miles

-  Proposed Water Pump Station
-  Existing 20-inch Waterline
-  Proposed 30-inch Waterline
-  Proposed 36-inch Waterline
-  Highways





# South Carolina Department of Natural Resources



February 12, 2009

Ms. Sheila Watts, P.E.  
SCDHEC  
State Revolving Fund Section  
2600 Bull Street  
Columbia, SC 29201

RECEIVED

FEB 17 2009

WATER FACILITIES  
PERMITTING DIVISION

John E. Frampton  
Director  
Robert H. Boyles, Jr.  
Deputy Director for  
**Marine Resources**

Re: SRF 1010001-01 thru 07 & SRF 2620004-21, Grand Strand Water & Sewer Authority

Dear Ms. Watts:

Personnel from the South Carolina Department of Natural Resources have reviewed the above referenced projects and evaluated their impact on fisheries and wildlife habitat, water quality, recreation and other factors relating to the conservation of natural resources. No natural resources of specific concern have been identified along the proposed utility corridors. However, the proposed lines may cross wetland areas and we recommend the following to minimize impacts to these resources.

- 1) Once project construction is initiated, it is carried to completion in an expeditious manner in order to minimize the period of disturbance to the environment.
- 2) Best management practices are implemented during and after all construction work and include the use of silt fences, berms, hay bails or other structures necessary to control erosion and sedimentation in wetland areas.
- 3) Wetland impacts are avoided and minimized to the greatest extent possible by maximizing the use of available high ground for utility line and substation construction. Every effort should be made to locate utilities within existing road right-of-ways or other maintained corridors.
- 4) Installation methods that result in minimal impact to wetland areas are given full consideration. We recommend the use of directional drilling as opposed to the open trench method whenever possible.
- 5) Adjacent high ground is utilized to the maximum extent possible for access and floating barge mats are used to access wetland areas. Access using barges should be limited to navigable waterways and should not involve the use of small creeks or newly constructed canals.
- 6) Upon completion of construction activities, all disturbed areas, including those impacted for access, are immediately restored to pre-project elevations. Restored areas should be monitored to ensure reestablishment of native wetland vegetation.

Page 2

7) Adjacent wetland areas are maintained free of construction materials, debris, and chemical contaminants.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan F. Davis". The signature is fluid and cursive, with a large initial "S" and a distinct "F" and "D".

Susan F. Davis  
Coastal Environmental Coordinator

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January 29, 2009

BOARD:  
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Glenn A. McCall  
Coleman F. Buckhouse, MD

Ms. Rebekah Dobrasko  
Review and Compliance Programs Coordinator  
S.C. Department of Archives and History  
8301 Parklane Road  
Columbia, SC 29223-4905

Re: Grand Strand Water and Sewer Authority  
Proposed Bull Creek / Myrtle Beach Water System Interconnection  
SRF 2620004-21

Dear Ms. Dobrasko:

Grand Strand Water and Sewer Authority is pursuing a State Revolving Fund (SRF) loan for construction of water mains and a water booster pump station. To qualify for this funding, the sponsor is required to develop a preliminary engineering report evaluating the environmental effects of the proposed project. Specific project information is enclosed for your review. (attachment)

Please comment on the proposed project with respect to your department's concerns, specifically any archaeological or historic sites that may be impacted in the project area.

We would greatly appreciate your prompt attention to this matter, and request that any response be made within the next 15 days. Should you have any questions or need additional information concerning this project, please contact me at [wattssg@dhec.sc.gov](mailto:wattssg@dhec.sc.gov) or 803-898-4171.

Sincerely,

Sheila Watts, P.E.  
Project Manager  
State Revolving Fund Section  
Water Facilities Permitting Division

enclosures

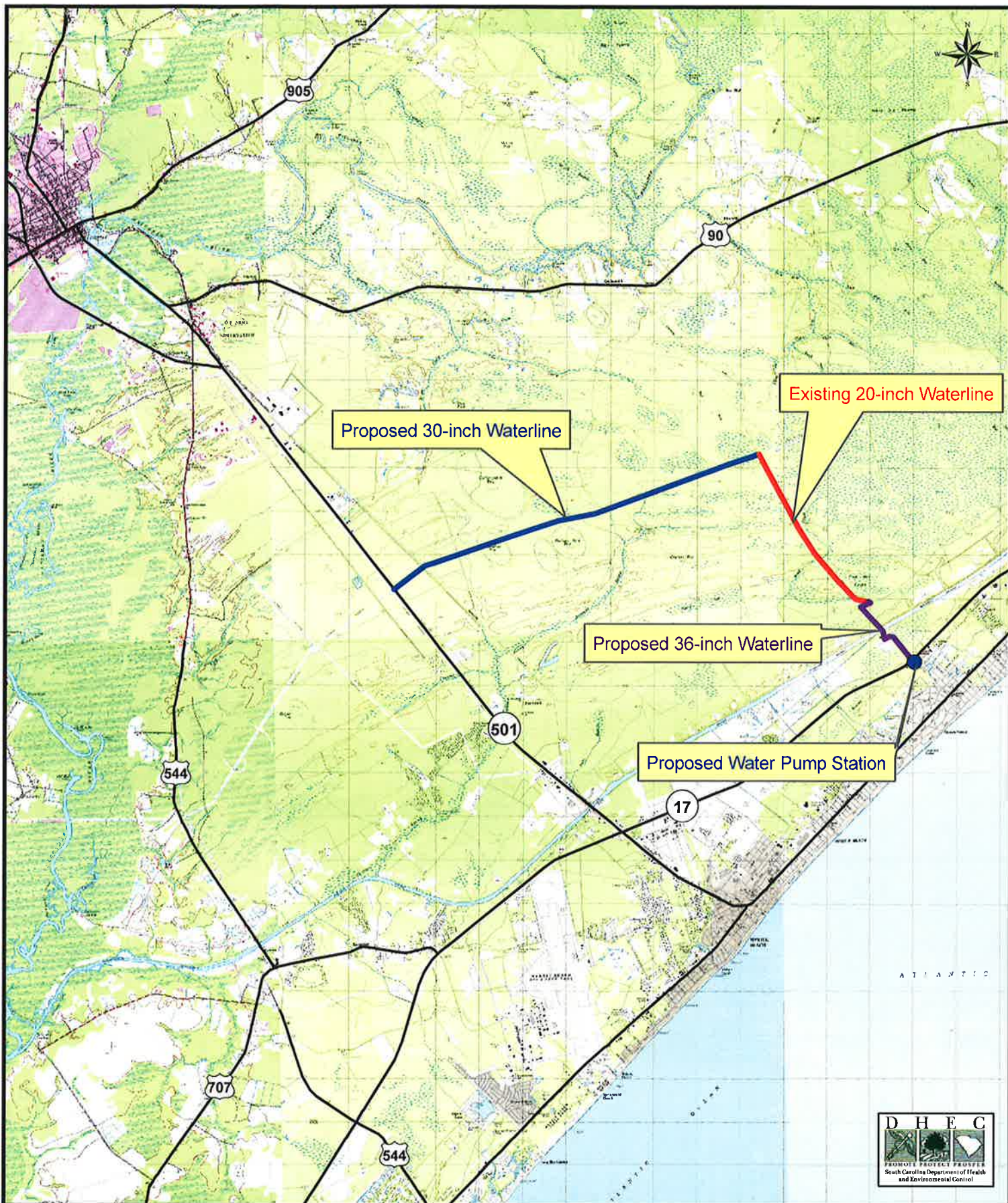
cc: Christy Everett, P.E., Grand Strand Water & Sewer Authority (w/enclosures)

January 29, 2009

### **PROJECT DESCRIPTION**

Grand Strand Water and Sewer Authority (GSW&SA) is proposing the construction of a water booster pump station, approximately 8,400 LF of 36-inch waterline, and approximately 30,500 LF of 30-inch waterline. Please see attached project location map. This project will allow an interconnect between Myrtle Beach Water System and Bull Creek Water System from 62<sup>nd</sup> Avenue at US Highway 17 By-Pass in Myrtle Beach across the Atlantic Intra-Coastal Waterway at International Drive and south at US Highway 501. The proposed 30-inch waterline will be constructed parallel to an existing powerline. GSW&SA owns both Myrtle Beach and Bull Creek Water Systems. These Systems are separated by the Intra-Coastal Waterway. The proposed project will provide a backup water supply and enhance security and pressure for fire protection.





# **Grand Strand Water & Sewer Authority Bull Creek/Myrtle Beach Water System Interconnection**

- Proposed Water Pump Station
- Existing 20-inch Waterline
- Proposed 30-inch Waterline
- Proposed 36-inch Waterline
- Highways





SHPO Number 09-FK0013

2 March 2009

Ms. Sheila Watts  
State Revolving Fund Section  
Water Facilities Permitting Division  
S.C. Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201



Re: Grand Strand Water and Sewer Authority  
Proposed Bull Creek / Myrtle Beach Water System Interconnection  
SRF 2620004-21

Dear Ms. Watts:

Thank you for your letter of January 29, 2009, which we received on February 2, 2009, regarding the Proposed Bull Creek / Myrtle Beach Water System Interconnection. We also received a brief project description and locational map as supporting documentation for this undertaking. The State Historic Preservation Office (SHPO) is providing comments to the Department of Health and Environmental Control pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800: Protection of Historic Properties.

The probability for significant archaeological sites and above-ground cultural resources to be present in the areas that will be affected by the proposed water system interconnection is low. The SHPO recommends that a cultural resources survey is not necessary in the areas that will be affected. Our Office knows of no properties included in or eligible for inclusion in the National Register of Historic Places that will be affected by the proposed project.

We do, however, request that our Office be notified immediately if archaeological or other cultural materials are encountered prior to or during the construction of these facilities. Archaeological materials consist of any items, fifty years or older, that were made or used by humans. These items include, but are not limited to, stone projectile points (arrowheads); ceramic sherds; bricks; worked wood, bone, and stone; metal and glass objects; and human skeletal remains. These materials may be present on the ground surface and/or under the surface of the ground.

Please reference SHPO Number 09-FK0013 on any future correspondence with our Office regarding this project. If you have any questions, please contact me at (803) 896-5487 or at [fknight@scdah.state.sc.us](mailto:fknight@scdah.state.sc.us).

Sincerely,

Frances R. Knight  
Staff Archaeologist  
State Historic Preservation Office

RECEIVED

MAR 05 2009

WATER FACILITIES  
PERMITTING DIVISION

BOARD: ,  
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Coleman F. Buckhouse, MD

January 29, 2009

Ms. Melissa Bimbi  
US Department of the Interior  
Fish and Wildlife Service  
176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407

Re: Grand Strand Water and Sewer Authority  
Proposed 30-inch Waterline  
SRF 2620004-21

Dear Ms. Bimbi:

Grand Strand Water and Sewer Authority is pursuing a State Revolving Fund (SRF) loan for construction of a water main. SCDHEC is the non-federal representative for conducting informal consultations with the Fish and Wildlife Service. To qualify for this funding, the sponsor is required to develop a preliminary engineering report evaluating the environmental effects of the proposed project. Specific project information is enclosed for your review. (see attachment)

According to the SC Distribution Records of Endangered, Threatened, Candidate and Species of Concern (3/4/04), there are ten endangered or threatened species and one federally protected species known to occur in Horry County. The seven endangered species listed are the West Indian manatee (*Trichechus manatus*), the wood stork (*Mycteria americana*), the red-cockaded woodpecker (*Picoides borealis*), the Kemp's ridley sea turtle (*Lepidochelys kempii*), the leatherback sea turtle (*Dermochelys coriacea*), the shortnose sturgeon (*Acipenser brevirostrum*), and the chaff-seed (*Schwalbea americana*). The three threatened species listed are the piping plover (*Charadrius melodus*), the loggerhead sea turtle (*Caretta caretta*), and the sea-beach amaranth (*Amaranthus pumilus*). The one federally protected species is the bald eagle (*Haliaeetus leucocephalus*). Preliminary review involved the comparison of the habitat for the listed species to the specific habitat that may be affected by the proposed project. Our conclusion is that the proposed project is not likely to adversely affect the endangered and threatened species listed above (see attachment). Please provide comments on the proposed project with respect to your department's concerns.

We would greatly appreciate your prompt attention to this matter, and request that any response be made within the next 15 days. Should you have any questions or need additional information concerning this project, please contact me at [wattsgg@dhec.sc.gov](mailto:wattsgg@dhec.sc.gov) or 803-898-4171.

Sincerely,

A handwritten signature in cursive script that reads 'Sheila Watts'.

Sheila Watts, P.E.  
Project Manager  
State Revolving Fund Section  
Water Facilities Permitting Division

enclosures

cc: Christy Everett, P.E., Grand Strand Water & Sewer Authority (w/enclosures)

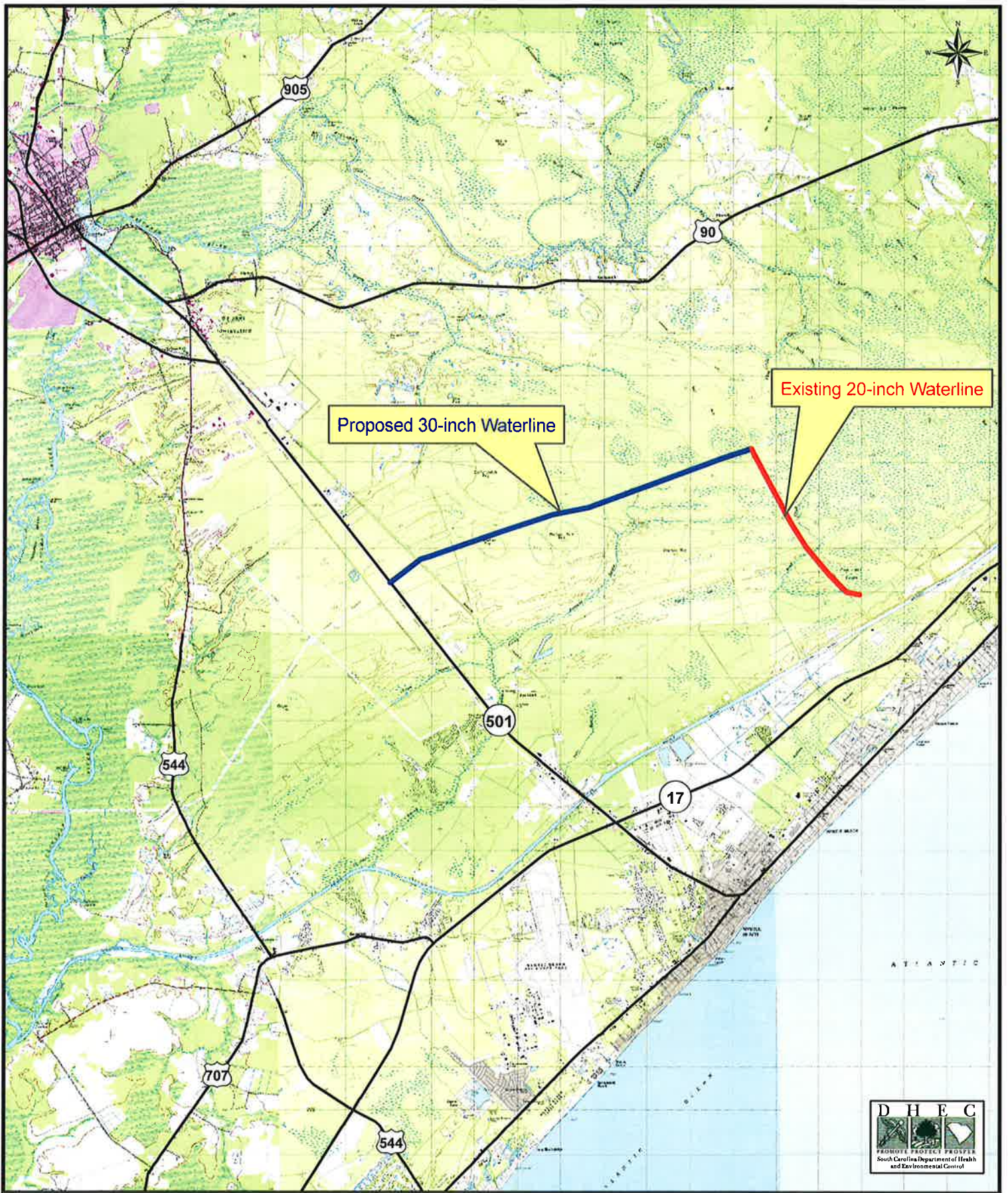
January 29, 2009

**PROJECT DESCRIPTION AND CONCLUSION OF ANALYSIS**

Grand Strand Water and Sewer Authority (GSW&SA) is proposing the construction of a 30-inch waterline. The proposed 30-inch waterline will be constructed parallel to an existing powerline. Please see attached project location map. The proposed project will help provide a backup water supply and enhance security and pressure for fire protection.




The ten endangered and threatened species and one federally protected species for Horry County are not likely to be adversely affected by the proposed construction but we are requesting that you review the proposed project and please provide any comments with respect to your department's concerns.





# Grand Strand Water & Sewer Authority Proposed 30-inch Waterline



-  Existing 20-inch Waterline
-  Proposed 30-inch Waterline
-  Highways







## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407



March 10, 2009

Mr. Chris Potter  
Coastal Science Associates, Inc.  
P.O. Box 11687  
Columbia, SC 29211

Re: Endangered and Threatened Species Survey  
Grand Strand Sewer Authority/City of Myrtle Beach.  
Inter-connection Project, 8,600 Linear Feet  
Horry County, South Carolina  
FWS Log No. 2009-I-0026

Dear Mr. Potter:

The U.S. Fish and Wildlife Service (Service) has reviewed the information you provided for the above-reference project in Horry County, South Carolina. The following comments are provided in accordance with the Fish and Wildlife Coordination Act as amended (16 U.S.C. 661-667e), and section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The Service, in a letter dated November 7, 2008, had concerns with the potential impact the proposed project may have had on the federally endangered red-cockaded woodpecker (RCW). RCWs are in the vicinity and the project site does have some potential to provide RCW foraging and nesting habitat. The Service therefore requested surveys be conducted for the presence of RCW cavity trees within the project site. Subsequently, a survey was conducted in late January 2009, in which all trees  $\geq 10$ " dbh were examined for RCW cavities. No RCW cavity trees were discovered.

Therefore, based on the information provided, we have determined that the proposed project is not likely to adversely affect federally listed or proposed, endangered or threatened species, including the RCW. Therefore, the requirements of section 7 of the Act have been fulfilled relative to the proposed action, and no further consultation is necessary at this time. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation; or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

**TAKE PRIDE  
IN AMERICA** 

Your interest in ensuring the protection of endangered and threatened species is appreciated. In future correspondence concerning this project, please reference FWS Log No. 2009-I-0026.

Sincerely,

A handwritten signature in dark ink, appearing to read "Timothy N. Hall", written over a faint horizontal line.

Timothy N. Hall  
Field Supervisor

TNH/JTA



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

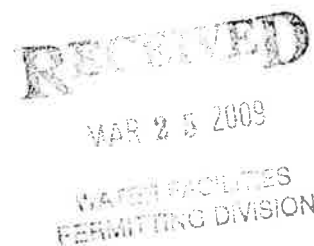
176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407



March 23, 2009

Ms. Sheila Watts  
S.C. Department of Health  
and Environmental Control  
2600 Bull Street  
Columbia, SC 29201

Re: Grand Strand Water and Sewer Authority  
Horry County, SC  
FWS Log No. 2009-TA-0181



Dear Ms. Watts:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter dated January 29, 2009, regarding the above-reference project. Grand Strand Water and Sewer Authority is pursuing a State Revolving Fund loan to construct a new waterline in Horry County. The following comments are provided in accordance with the Fish and Wildlife Coordination Act as amended (16 U.S.C. 661-667e), and section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The Service is concerned about residential and commercial development that will result from the installation of centralized water services. Increased development impairs water quality through direct construction runoff, altered hydrology from increased impervious surface area, nutrient loading from wastewater treatment effluent, and water temperature increases due to deforestation of the watershed, among others. With regard to the proposed water line project, we recommend utilizing best management practices for the prevention of soil erosion during the construction process. Minimizing soil disturbance using silt fences will reduce sediment loads from entering waterways and thus reduce potential negative impacts to aquatic resources. Additionally, any required stream crossings should be achieved by either attaching the new line to an existing structure (i.e., bridge), or by directional drilling to avoid open trenching of the stream. No fill should be placed in wetlands or streams, and adjacent access roads and drainage ditches should not alter natural flow regimes through these areas. Where lines will be placed in trenches, the natural pre-project elevations should be maintained. All lines that are constructed in wetland or riparian areas should be re-vegetated in native plant species. Compensatory mitigation should be





provided for all adverse impacts. Finally, construction and maintenance activities in forested communities should take place outside of the breeding season of migratory birds (March – August).

We recommend that project plans be developed to avoid impacting wetland areas and reserve the right to review any required Federal or state permits at the time of public notice issuance. All unavoidable impacts including temporary ones must be mitigated for under the revised Department of the Army Corps of Engineers Regulatory Division Standard Operating Procedure (RD-SOP-02-01). The U.S. Army Corps of Engineers should be contacted to assist you in determining if wetlands are present or if a permit is required for this activity.

The proposed project will be partially constructed adjacent to the S.C. Department of Natural Resources' (SCDNR's) Lewis Ocean Bay (LOB) heritage preserve which is inhabited by the federally endangered, red-cockaded woodpecker (RCW). In fact, the proposed waterline will be constructed within the foraging partition of two of the RCW clusters at LOB. RCWs forage in forest stands consisting of pine trees at least 10" in diameter at breast height (dbh). The Service was concerned that this project may result in the loss of habitat for the RCW and requested additional information be provided. Grand Strand Water and Sewer Authority subsequently stated that at a maximum of only four pine trees  $\geq 10''$  dbh would be removed as a result of this project.

Based on the information provided, phone conversations with SCDNR, and other information we obtained, we ill concur with your determination that the proposed project is not likely to adversely affect federally listed or proposed, endangered or threatened species, including the RCW. Therefore, the requirements of Section 7 of the Act have been fulfilled relative to the proposed action, and no further consultation is necessary at this time. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation; or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Your interest in endangered and threatened species is appreciated. If you have any questions please contact Ms. Melissa Bimbi of my staff at (843) 727-4707, ext. 217. In future correspondence concerning this project, please reference FWS Log No. 2009-TA-0181.

Sincerely,



Timothy N. Hall  
Field Supervisor

TNH/JTA

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January 29, 2009

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Ms. Barbara Neale  
Office of Ocean and Coastal Resources Management  
1362 McMillan Ave., Suite 400  
Charleston, SC 29405

Re: Grand Strand Water and Sewer Authority  
Proposed 30-inch Waterline  
SRF 2620004-21

Dear Ms. Neale:

Grand Strand Water and Sewer Authority is pursuing a State Revolving Fund (SRF) loan for construction of a water main. To qualify for this funding, the sponsor is required to develop a preliminary engineering report evaluating the environmental effects of the proposed project. Specific project information is enclosed for your review. (attachment)

Please comment on the proposed project with respect to your department's concerns, regarding consistency with the Coastal Zone Management Plan.

We would greatly appreciate your prompt attention to this matter, and request that any response be made within the next 15 days. Should you have any questions or need additional information concerning this project, please contact me at [wattssg@dhec.sc.gov](mailto:wattssg@dhec.sc.gov) or 803-898-4171.

Sincerely,

Sheila Watts, P.E.  
Project Manager  
State Revolving Fund Section  
Water Facilities Permitting Division

enclosures

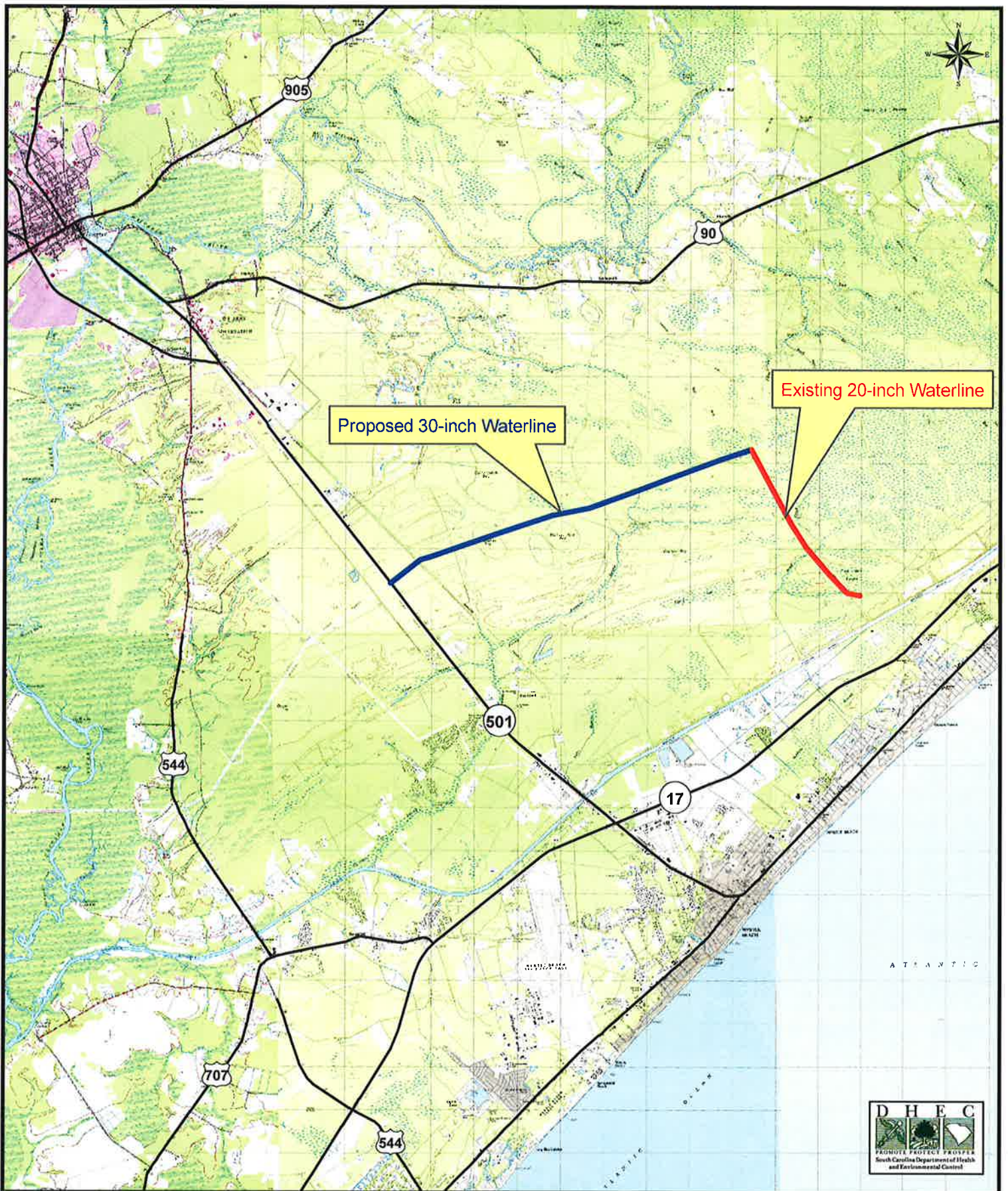
cc: Christy Everett, P.E., Grand Strand Water & Sewer Authority (w/enclosures)

January 29, 2009




### **PROJECT DESCRIPTION**

Grand Strand Water and Sewer Authority (GSW&SA) is proposing the construction of a 30-inch waterline. The proposed 30-inch waterline will be constructed parallel to an existing powerline. Please see attached project location map. The proposed project will help provide a backup water supply and enhance security and pressure for fire protection.





# Grand Strand Water & Sewer Authority Proposed 30-inch Waterline

-  Existing 20-inch Waterline
-  Proposed 30-inch Waterline
-  Highways



0 0.5 1 2 3 4 5 Miles



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Glenn A. McCall  
Coleman F. Buckhouse, MD

December 2, 2008

GSW & SA  
P.O. Box 2368  
Conway, SC 29528  
Attn: Christy Everitt

Re: Public Utilities General Permit Authorization; GSW & SA water line, directional bore.

Dear Mrs. Christy Everitt:

The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed your application for Construction in Navigable Waters General Permit authorization for the proposed installation of the GSW & SA waterline by directional boring under the Atlantic Intracoastal Waterway in Horry County, South Carolina. It is the determination of this office that your application complies with the General Permit issued by the SCDHEC for public utility installation by directional boring in navigable waters of South Carolina and meets all General Permit specifications. Therefore, you may consider this letter as the necessary authorization to undertake the activity described in your application in strict accordance with the plans and specifications provided and subject to all conditions of the General Permit. A copy of the General Permit is enclosed

Additionally, the proposed 1,250 linear foot 42" HDPE waterline will not require a right-of-way easement from the South Carolina Budget and Control Board because of the already existing utility easement.

Sincerely,

Erin Jones, Project Manager  
Water Quality Certification,  
Navigable Waters, and Wetlands Programs

Enclosures

cc: Tanitra Marshall  
OCRM, Charleston

w/o enclosures

SCDHEC Regional Office

w/o enclosures

James Wooten  
DDC Engineers, Inc  
1298 Professional Drive  
Myrtle Beach, SC 29577

w/o enclosures



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
1949 Industrial Park Road, Suite 140  
CONWAY, SOUTH CAROLINA 29526

December 9, 2008

Regulatory Division

Grand Strand Water and Sewer  
c/o Mr. James M. Wooten  
DDC Engineers, Inc.  
1298 Professional Drive  
Myrtle Beach SC 29577

SAC# 2008-02008-3NY  
GSWSA Water Line Interconnection

Dear Mr. Wooten:

This letter is in response to a Pre-Construction Notification (PCN) dated October 15, 2008, which was received on October 20, 2008. By submittal of the PCN, you requested verification that the proposed project is authorized by a Department of the Army Nationwide Permit.

The PCN contains the following identifying information for this project. The work affecting waters of the United States is part of an overall project known as GSWSA – Water Line Interconnection Project. The project involves impacts to not more than 332 linear feet of waters of the United States. The project is located on the Atlantic Intercoastal Waterway within an existing 30' utility easement that parallels Robert Grissom Parkway in Myrtle Beach, Horry County, South Carolina. The PCN also includes drawing sheets 1-4 of 4 titled "GSWSA Water Line Interconnection" and dated November 26, 2008.

Based on a review of the PCN, including the supplemental information indicated above, it has been determined that the proposed activity will result in minimal individual and cumulative adverse environmental effects and is not contrary to the public interest. Furthermore, the activity meets the terms and conditions of Department of the Army Nationwide Permit(s) # 12.

For this authorization to remain valid, the project must comply with the enclosed Nationwide Permit General Conditions, Charleston District Regional Conditions, and the following special conditions:

1. That prior to beginning the authorized work the permittee must obtain and provide the Corps with a copy of all appropriate state certifications and/or authorizations (i.e. 401 Water Quality Certification, Coastal Zone Management Consistency Determination, State Navigable Waters Permit). If the permittee fails to obtain the necessary state certifications and/or authorizations prior to beginning work, this will be considered a willful and knowing violation of the Clean Water Act and appropriate enforcement action will be taken.

2. That impacts to aquatic areas do not exceed those specified in the above mentioned PCN, including any supplemental information or revised permit drawings that were submitted to the Corps by the permittee.

3. That the construction, use, and maintenance of the authorized activity is in accordance with the information given in the PCN, including the supplemental information listed above, and is subject to any conditions or restrictions imposed by this letter;

4. That the permittee shall submit the attached signed compliance certification to the Corps within 30 days following completion of the authorized work.

5. That the permittee shall place signs on each side of the waterway marking the location of the underground utility. Each sign shall adhere to US Coast Guard standards for aids to navigation in a federal channel.

This verification is valid until the Nationwide Permits (NWP) expires or for two (2) years, whichever comes first. The time specified for this authorization will remain valid if the Nationwide Permit(s) is reissued without modification, or the activity complies with any subsequent modification; however, the provisions of 33 CFR 330.6(b) will apply if the Nationwide Permit expires, is suspended or revoked, or is modified such that the activity no longer complies with the original terms and conditions. In general, these provisions provide that if the work authorized by this letter has commenced in accordance with the requisite terms and conditions or you, acting in reliance of this Nationwide Permit, have entered into a contract to have the work performed prior to such date, this authorization will remain in effect if the work can be completed within twelve months of the date of the Nationwide Permit's expiration, modification or revocation unless discretionary authority has been exercised in accordance with 33 CFR 330.4(c) or (d).

Your cooperation in the protection and preservation of our navigable waters and natural resources is appreciated. In all future correspondence concerning this matter, please refer to our file number SAC 2008-02008-3NY. A copy of this letter is being forwarded to certain State and/or Federal agencies for their information. If you have any questions concerning this matter, please contact T. Brian Hardee at 843-365-0848.

Sincerely,



Chad Konickson  
Watershed Manager

Enclosures:

Permit Drawings  
Charleston District Regional Conditions  
Nationwide Permit General Conditions  
Customer Service Survey

Copy Furnished:

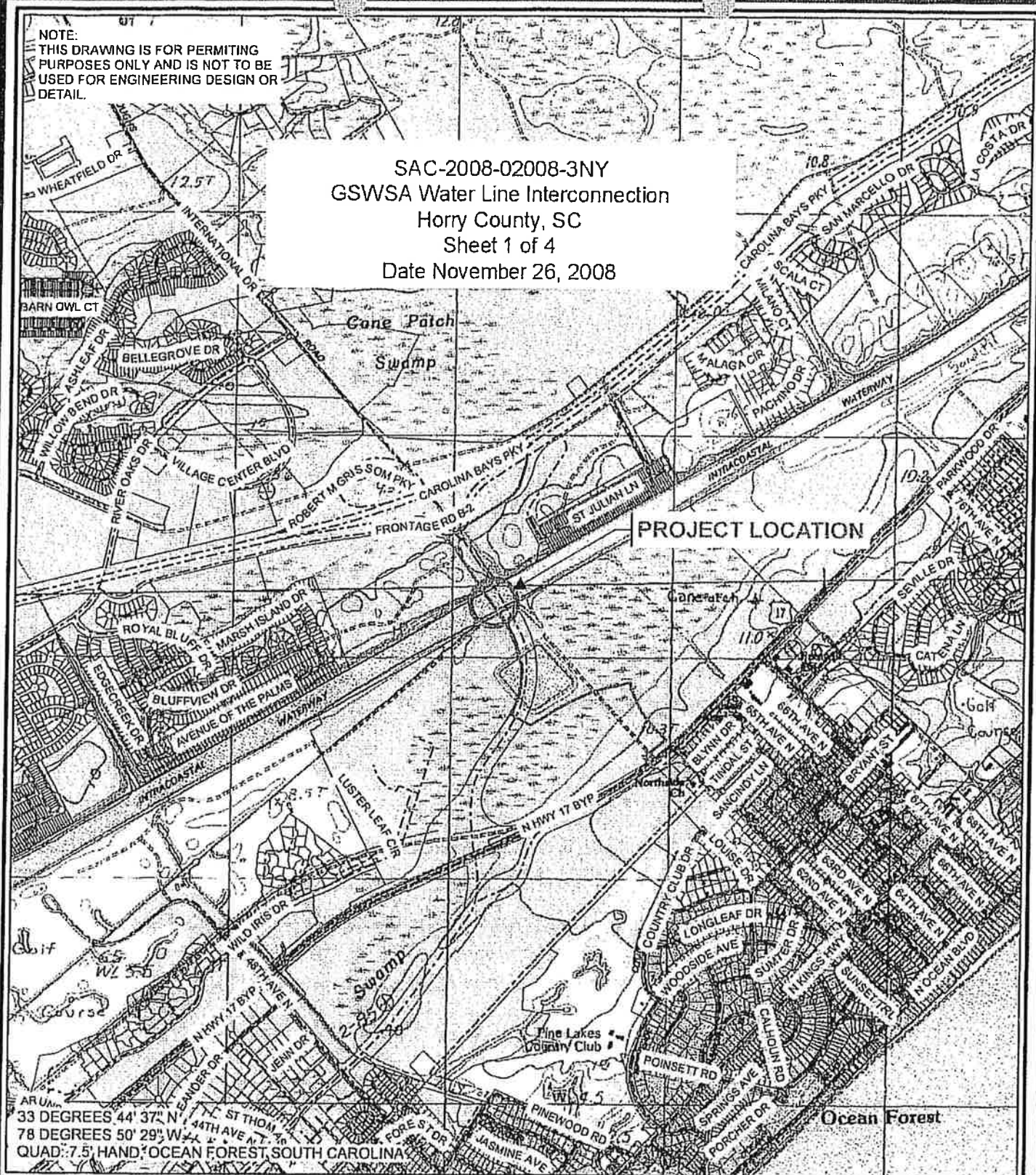
South Carolina Department of  
Health and Environmental Control  
Bureau of Water Pollution Control  
2600 Bull Street  
Columbia, South Carolina 29201

NOAA's National Ocean Service  
SSMC4, Room 13632  
1305 East-West Hwy  
Silver Spring, Maryland 20910



NOTE:  
THIS DRAWING IS FOR PERMITTING  
PURPOSES ONLY AND IS NOT TO BE  
USED FOR ENGINEERING DESIGN OR  
DETAIL.

SAC-2008-02008-3NY  
GSWSA Water Line Interconnection  
Horry County, SC  
Sheet 1 of 4  
Date November 26, 2008

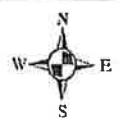


GSWSA / MB  
WATERLINE  
DIRECTIONAL BORE

VICINITY MAP

PURPOSE: UTILITY LINE  
PLACEMENT

COUNTY: HORRY  
STATE: SOUTH CAROLINA



SHEET \_\_\_ OF \_\_\_

DDC PN: 07.08077E

SCALE: 1" = 2000'

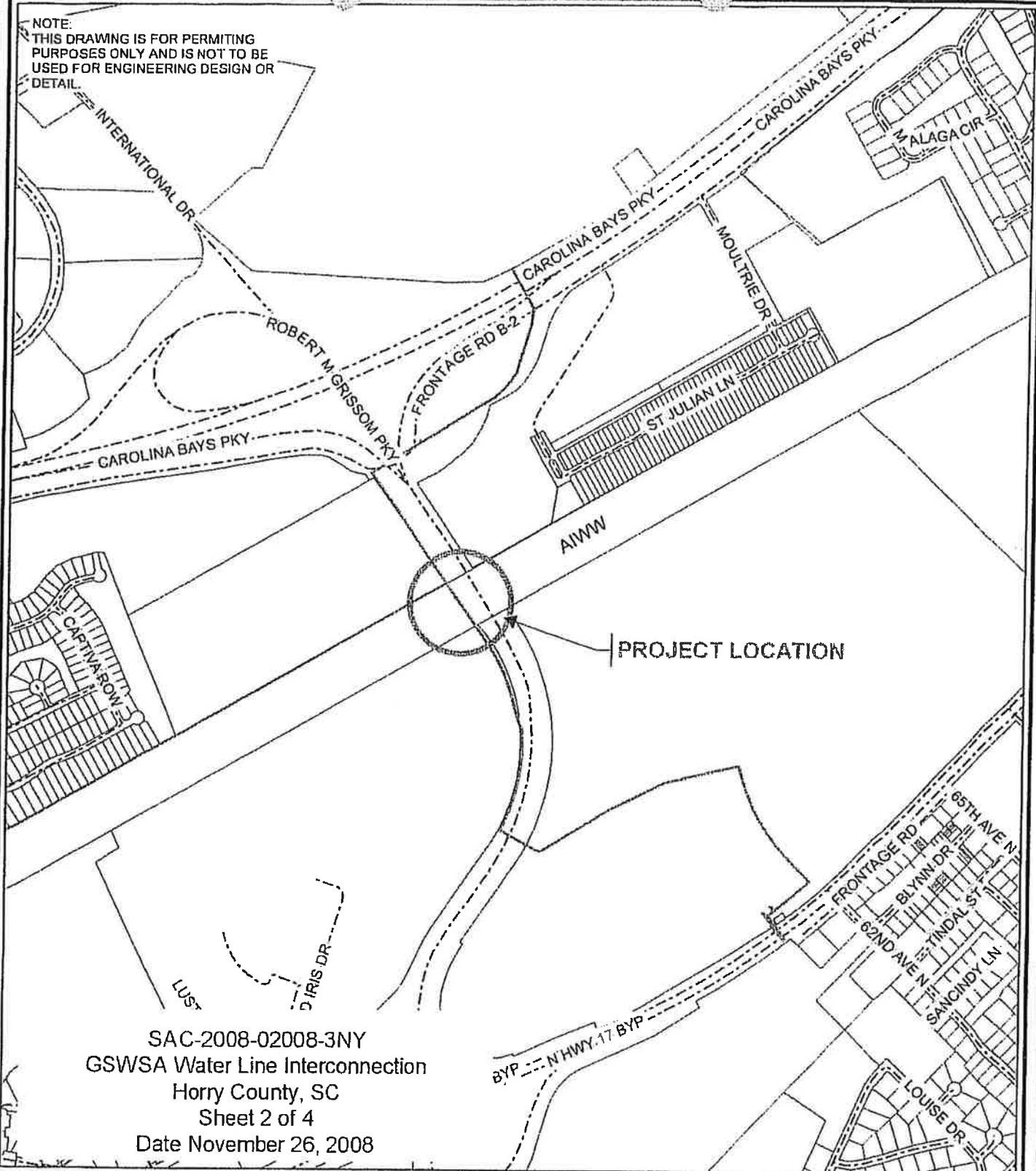


CONSULTING ENGINEERS, SURVEYORS, PLANNERS  
LANDSCAPE ARCHITECTS & ENVIRONMENTALISTS  
1258 PROFESSIONAL DRIVE  
MYRTLE BEACH, SOUTH CAROLINA 29577  
PHONE: (843) 692-3200  
FAX: (843) 692-3210



ORIGINAL DATE: 10/10/2008  
REVISED DATE:

APPLICANT: GSWSA / MB

NOTE:  
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SAC-2008-02008-3NY  
GWSA Water Line Interconnection  
Horry County, SC  
Sheet 2 of 4  
Date November 26, 2008

GWSA / MB WATERLINE DIRECTIONAL BORE	LOCATION MAP		PURPOSE: UTILITY LINE PLACEMENT  COUNTY: HORRY STATE: SOUTH CAROLINA	
SHEET ____ OF ____	DDC PN: 07.08077E	SCALE: 1" = 1000'	 CONSULTING ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS & ENVIRONMENTALISTS 1208 PROFESSIONAL DRIVE MYRTLE BEACH, SOUTH CAROLINA 29577 PHONE: (843) 602 - 3200 FAX: (843) 692 - 3210	
ORIGINAL DATE: 10/10/2008 REVISED DATE:	APPLICANT: GWSA / MB			



DDC



EXHIBIT



NO. 100-100-100-100

NO. 100-100-100-100

NO. 100-100-100-100

NO. 100-100-100-100

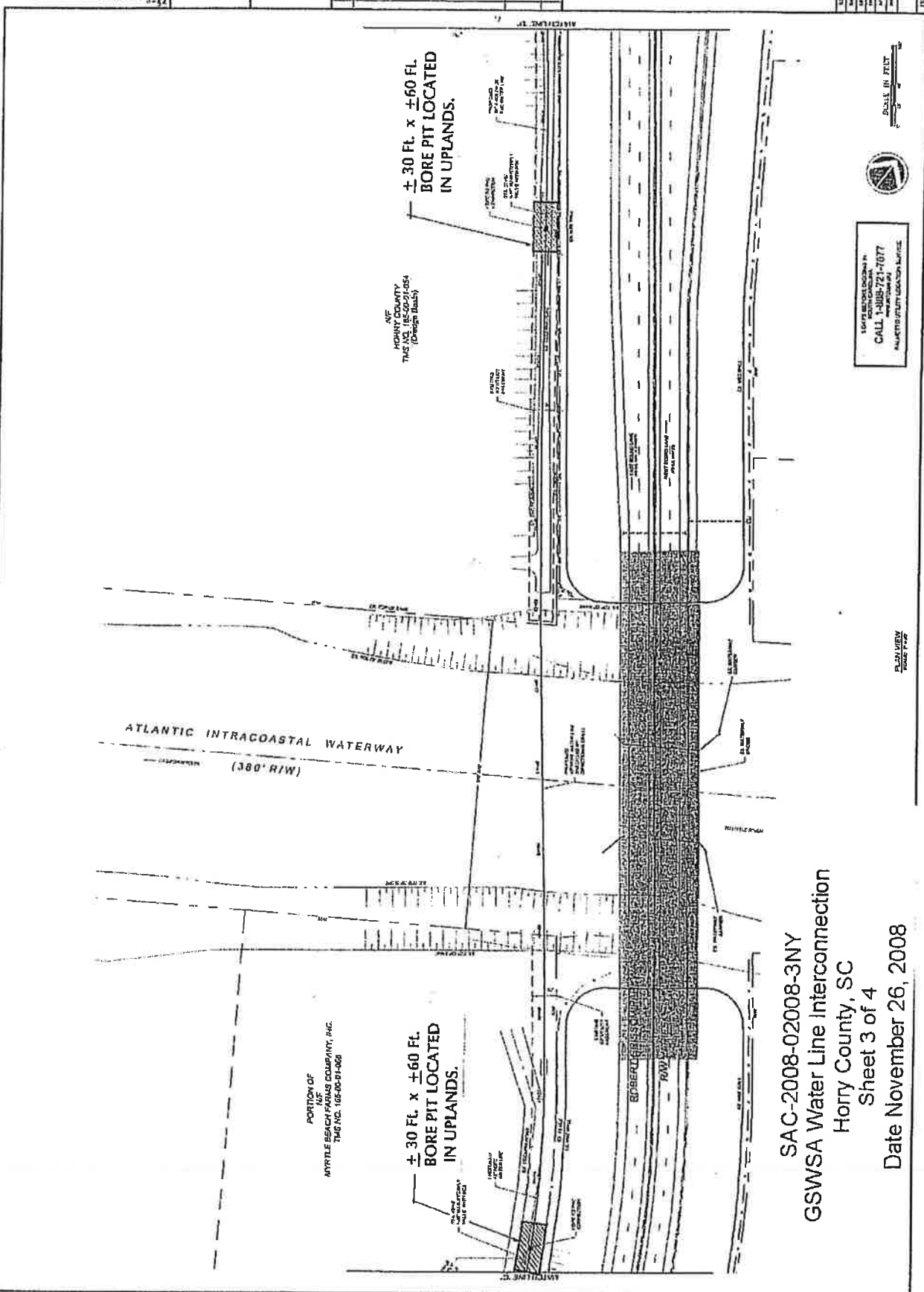
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NO. 100-100-100-100



SAC-2008-02008-3NY  
GSWSA Water Line Interconnection  
Horry County, SC  
Sheet 3 of 4  
Date November 26, 2008

FOR MORE INFORMATION  
CALL 1-803-721-7077  
HARRIS COUNTY, TEXAS

SCALE IN FEET  
1" = 100'



BORE PIT LOCATION MAP

GSWSA / MB WATER LINE INTERCONNECTION PROJECT  
HARRIS COUNTY, SOUTH CAROLINA

PREPARED FOR: CHRYSLER FINANCIAL GROUP

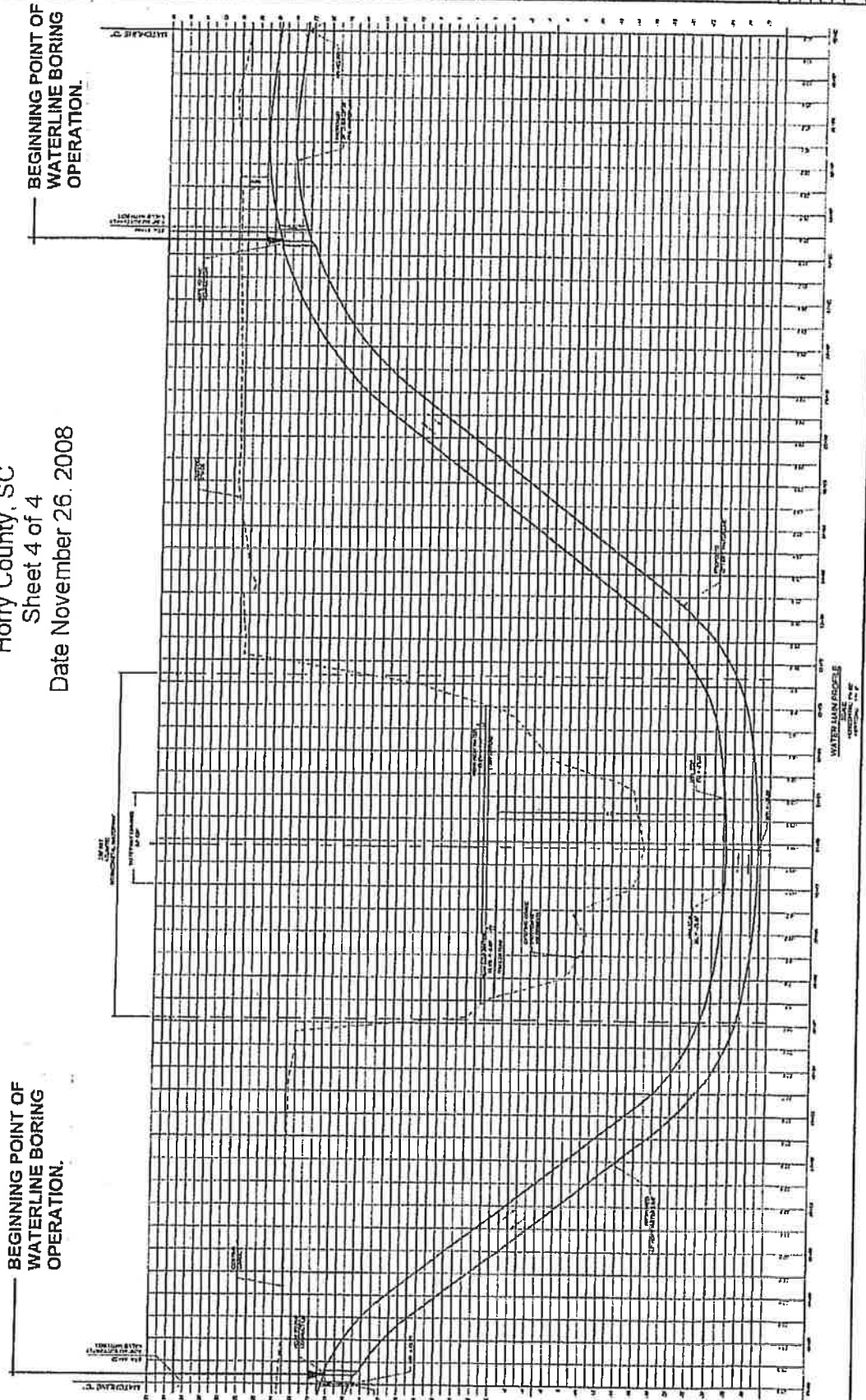
DATE: 11/26/08

SHEET 3 OF 4



## CSW/BSA / MB WATER LINE INTERCONNECTION PROJECT

**BEGINNING POINT OF  
WATERLINE BORING  
OPERATION.**



## NATIONWIDE PERMIT REGIONAL CONDITIONS FOR SOUTH CAROLINA

The following Regional Conditions have been implemented by the Charleston District for the nationwide permits (NWP) published in the September 26, 2006 Federal Register as authorized under General Condition #23. Regional conditions are authorized to modify NWP's by adding conditions or a generic basis applicable to certain activities or specific geographic areas. Certain terminologies used in the following conditions are identified in *italics* and are defined in the above referenced Federal Register under Definitions.

### For All Nationwide Permits:

1. The applicant must implement *best management practices* during and after all construction to minimize erosion and migration of sediments off site. These practices may include use of devices capable of preventing erosion and migration of sediments in streams and wetland areas. These devices must be maintained in a functioning capacity until the area is permanently stabilized. All disturbed land surfaces must be stabilized upon project completion.
2. Necessary measures must be taken to prevent oil, tar, trash, debris and other pollutants from entering the adjacent waters or wetlands.
3. Any excess excavated materials not utilized as authorized back fill must be placed and contained on high land well away from waters of the U.S., including wetlands. Such material must be permanently stabilized to prevent erosion.
4. Placement and/or stockpiling (double handling) of excavated material in waters of the U.S., including wetlands, is prohibited unless specifically authorized by the nationwide permit verification. Should double handling be authorized, the material must be placed in such a manner to allow for adequate circulation of water and not be dispersed by currents or other erosive forces.
5. Once project construction is initiated, it must be carried to completion in an expeditious manner in order to minimize the period of disturbance to aquatic resources and surrounding environment.
6. The permittee must notify the Corps of Engineers, Charleston District in the event archaeological or paleontological remains are found during the course of work. Archaeological remains consist of any materials made or altered by man, which remain from past historic or prehistoric times (i.e., older than 50 years). Examples include old pottery fragments, metal, wood, arrowheads, stone implements or tools, human burials, historic docks, structures, or non-recent (i.e., older than 100 years) vessel ruins. Paleontological remains consist of old animal remains, original or fossilized, such as teeth, tusks, bone, or entire skeletons.
7. Use of nationwide permits does not obviate requirements to obtain other Federal, State, county, or local government authorizations.
8. With the exception of NWP 38, no NWP is authorized in areas of known or suspected sediment contamination.

### FOR SPECIFIC NATIONWIDE PERMITS:

9. For NWP's 12, 14, 18, 27, 29, 38, 39, 40, 42, 43, and 44 a discharge cannot cause the loss of greater than 300 linear feet of streambed.
10. For NWP's 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15, and 36, a notification must be submitted for any activity that would be located adjacent to an authorized Federal Navigation project. These Federal navigation areas include Adams Creek, Savannah River, Jeremy and Town Creek at McClellanville, Village Creek at Beaufort, the Charleston Harbor Navigation Project (to include the federal navigation

## NATIONWIDE PERMIT REGIONAL CONDITIONS FOR SOUTH CAROLINA

23. For NWP's 14, 29, and 39, stream crossings are required to accommodate bankfull\* flows by maintaining the existing bankfull channel cross sectional area. Flows that exceed bankfull flow must be accommodated by placement of additional culverts above the bankfull elevation.
24. For NWP 29, the loss of waters of the U.S. is limited to 1/4-acre for a single family residence.
25. Notifications for aquatic habitat restoration, establishment, and enhancement activities authorized by NWP 27 will require coordination with appropriate Federal, State, and local agencies. The coordination activity will be conducted by the Corps of Engineers. Agencies will generally be granted 15 days to review and provide comments unless the District Engineer determines that an extension of the coordination period is reasonable and prudent.
26. For NWP 36, the width of the boat ramp will be limited to 12 feet, only one boat ramp may be constructed on a single lot or tract of land (e.g. each lot within a subdivision), and the ramp must be limited to single family recreational uses or non-commercial, non-profit, recreational uses.
27. For NWP 38, notifications require the following information:
- documentation that the specific activities are required to effect the containment, stabilization, or removal of hazardous or toxic waste materials as performed, ordered, or sponsored by a government agency with established legal or regulatory authority;
  - a narrative description indicating the size and location of the areas to be restored, the work involved and a description of the anticipated results from the restoration;
  - a plan for the monitoring, operation, or maintenance of the restored area.
28. For NWP's 29 and 39, the discharges of dredged or fill material for the construction of *stormwater management facilities in perennial streams* are not authorized.
29. For NWP's 29 and 39, channel relocations are limited to man-made drainage ditches.
30. For NWP 41, notification must be submitted for projects that require mechanized land clearing in waters of the U.S., including wetlands, in order to access or perform reshaping activities.
31. NWP 41 is prohibited in channelized streams or stream relocation projects that exhibit natural stream characteristics and/or perform natural stream functions.

\*Bankfull corresponds to the discharge at which channel-forming processes, such as forming or removing bars or meanders, is most effective. It is typically associated with the 1.5-year storm event, the "ordinary high water mark", and the elevation on the stream bank where flooding begins in a stable stream system. It can often be identified in the field by the elevation of the highest depositional feature (e.g. point bars), a recognizable floodplain, or a break in perennial vegetation.

restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

**10. Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

**11. Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

**12. Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

**13. Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**14. Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

**15. Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

**16. Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

**17. Endangered Species.** (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases

include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties

**19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**20. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1.2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented



**26. Compliance Certification.** Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

**27. Pre-Construction Notification.** (a) **Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) **Contents of Pre-Construction Notification:** The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or

1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

**28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

#### **Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

Permit Number: \_\_\_\_\_

Name of Permittee: \_\_\_\_\_

Date of Issuance: \_\_\_\_\_

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers  
Regulatory Division  
69A Hagood Avenue  
Charleston, South Carolina 29403-5107

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

=====

***I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.***

\_\_\_\_\_  
Signature of Permittee



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
69A Hagood Avenue  
CHARLESTON, SOUTH CAROLINA 29403-5107

*Grande Dunes*

April 28, 2006

Regulatory Division

Paul Booth, Ph.D.  
WEST Consulting, Inc.  
2411 Oak Street, Suite 108  
Myrtle Beach, South Carolina 29577

Re: SAC 82-2001-1172  
Horry County

Dear Dr. Booth:

This is in response to your request for a time extension on 13 jurisdictional wetland determinations made by this office. The determinations in question were previously consolidated under one file number SAC-82-2001-1172 and extended for five years. This previous extension was authorized in our letter of July 23, 2001 addressed to you. These various tracts are known as the Grande Dunes Resort Project and are located basically on both sides of the Atlantic Intracoastal Waterway in the City of Myrtle Beach, Horry County, South Carolina.

The 13 individual jurisdictional determinations that were consolidated are as follows:

SAC-81-98-1135(Y), SAC-84-98-1053(Y), SAC-81-98-1134(Y), SAC-81-98-1132(Y),  
SAC-84-98-1133(Y), SAC-81-98-1359(Y), SAC-84-98-0202(Y), SAC-84-98-1161(Y),  
SAC-84-98-2119(Y), SAC-84-98-2120(Y), SAC-84-98-1750(Y), SAC-81-98-3280(S),  
and, SAC-81-98-0168(S).

After reviewing the information you have provided, it is apparent that substantial resources have continued to be expended during the effective period of the previous consolidated delineations acting in reliance on the wetland surveys. Based on this information, I have concluded that it is appropriate to extend the expiration date of the consolidated wetland determinations referenced above for another five years from the date of this letter.

In future correspondence concerning this matter, please refer to SAC-82-2001-1172. If you have any questions concerning this matter, please contact me at 843-329-8044 or toll free at 1-866-329-8187.

Respectfully,

Tina B. Hadden  
Chief, Regulatory Division



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
65A Hagood Avenue  
CHARLESTON, SOUTH CAROLINA 29403-5107

July 23, 2001

Regulatory Division

Mr. Paul Booth, Jr.  
Project Manager  
Wetland and Environmental Services, Inc.  
2411 Oak Street, Suite 302  
Myrtle Beach, South Carolina 29577

Re: SAC-81-98-1135(Y)  
SAC-84-98-1053(Y)  
SAC-81-98-1134(Y)  
SAC-81-98-1132(Y)  
SAC-84-98-1133(Y)  
SAC-81-99-1359(Y)  
SAC-84-98-0202(Y)  
SAC-84-98-1161(Y)  
SAC-84-98-2119(Y)  
SAC-84-98-2120(Y)  
SAC-84-98-1750(Y)  
SAC-81-98-3280(S)  
SAC-81-99-0168(S)

Dear Mr. Booth:

This is in response to your letter dated July 5, 2001, wherein you requested that the above referenced wetland determinations be consolidated and their expiration dates extended until 2006. Your rationale for consolidation is based on the fact that these various tracts of land have been combined since they are all involved in a single development site involving multiple closely related projects each having synergy with the other. The jurisdictional determinations that are the subject of this letter involve land located near in Myrtle Beach, Horry County, South Carolina. The information provided with the above referenced letter attests to the fact that substantial resources have been expended by your client and development activities occurred during the effective period of the delineations all acting in reliance on the above mentioned jurisdictional determinations made by the Corps of Engineers.

After careful review of the information provided and after considering all aspects and equities involved, I have concluded that it is appropriate to extend the life of the above referenced jurisdictional delineations. Therefore, the expiration date for the above referenced delineations is hereby extended until July 9, 2006.





DEPARTMENT OF THE ARMY  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 919  
CHARLESTON, S.C. 29402-0919

REPLY TO  
ATTENTION OF

August 12, 1998

Regulatory Branch

Dr. Paul Booth  
Wetland and Environmental Services, Inc.  
2411 Oak Street, Suite 302  
Myrtle Beach, South Carolina 29577

Dear Dr. Booth:

Re: SAC 84-98-2119(Y)

This is in response to your letter dated August 4, 1998, requesting a wetland determination for a 156.7 acre tract on behalf of the Burroughs and Chapin Company, located on the west side of U.S. Highway 17 By-pass, between 67th Avenue North and 79th Avenue North, in the City of Myrtle Beach, Horry County, South Carolina. The project area is depicted on the survey plat you submitted. The survey plat was prepared by Associated Land Surveyors, dated August 4, 1998, and entitled, "Boundary Survey of 156.7 Acre TMS 165-00-01-023 419.94 Acre TMS 165-00-01-021 Dogwood Neck Township Near Myrtle Beach Horry County, S.C. Prepared For: Myrtle Beach Farms Company, Inc."

Based on a review of the plans which you submitted, in conjunction with an on-site inspection and review of aerial photography and soil information, I have determined that the referenced property does not contain jurisdictional wetlands and, as such, Department of the Army authorization will not be required for mechanized land clearing, excavation, nor the placement of dredged or fill material on this site.

Please be advised that this determination is valid for five (5) years from the date of this letter unless new information warrants revision of the delineation before the expiration date. All actions concerning this determination must be complete within this time frame, or an additional wetland delineation must be conducted.

In future correspondence concerning this matter, please refer to SAC 84-98-2119(Y). You may still need state or local assent. Prior to performing any work, you should contact the South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management (OCRM). A copy of this letter is being forwarded to them for their information.

**Associated Land Surveyors**  
 1100 1/2 1st St. N.E.  
 WASHINGTON, D.C. 20002  
 Phone: 202-544-1100

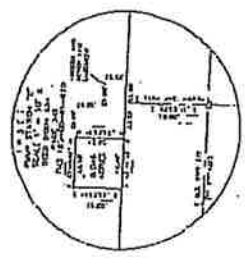


BOUNDARY SURVEY OF  
 156.7 ACRES TMS 155-00-01-021  
 419.84 ACRES TMS 155-00-01-021  
 PREPARED FOR  
 HONOR COUNTY, S.C.  
 WYKES BEACH FEMALE CORP. & SON

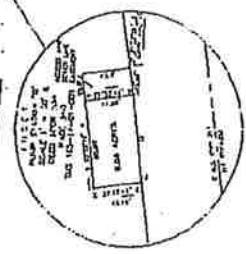
DATE	1975
BY	W.B.
FOR	W.B.
FILE	155-00-01-021
PROJECT	155-00-01-021
SECTION	155-00-01-021
TOWNSHIP	155-00-01-021
RANGE	155-00-01-021
COUNTY	155-00-01-021
STATE	155-00-01-021

**NOTICE TO THE PUBLIC**  
 This is to certify that the within and foregoing plat of land is a true and correct copy of the original plat as filed in the office of the Register of Deeds for the County of Honnor, South Carolina, on this 15th day of May, 1975.

- LEGEND**
- 1. Surveyed by W.B.
  - 2. Surveyed by J. Smith
  - 3. Surveyed by R. Jones
  - 4. Surveyed by M. White
  - 5. Surveyed by K. Brown
  - 6. Surveyed by L. Green
  - 7. Surveyed by P. Black
  - 8. Surveyed by S. Gray
  - 9. Surveyed by D. Blue
  - 10. Surveyed by F. Red
  - 11. Surveyed by G. Yellow
  - 12. Surveyed by H. Purple
  - 13. Surveyed by I. Pink
  - 14. Surveyed by J. Orange
  - 15. Surveyed by K. Green
  - 16. Surveyed by L. Blue
  - 17. Surveyed by M. Red
  - 18. Surveyed by N. Yellow
  - 19. Surveyed by O. Purple
  - 20. Surveyed by P. Pink
  - 21. Surveyed by Q. Orange
  - 22. Surveyed by R. Green
  - 23. Surveyed by S. Blue
  - 24. Surveyed by T. Red
  - 25. Surveyed by U. Yellow
  - 26. Surveyed by V. Purple
  - 27. Surveyed by W. Pink
  - 28. Surveyed by X. Orange
  - 29. Surveyed by Y. Green
  - 30. Surveyed by Z. Blue



This is to certify that the within and foregoing plat of land is a true and correct copy of the original plat as filed in the office of the Register of Deeds for the County of Honnor, South Carolina, on this 15th day of May, 1975.



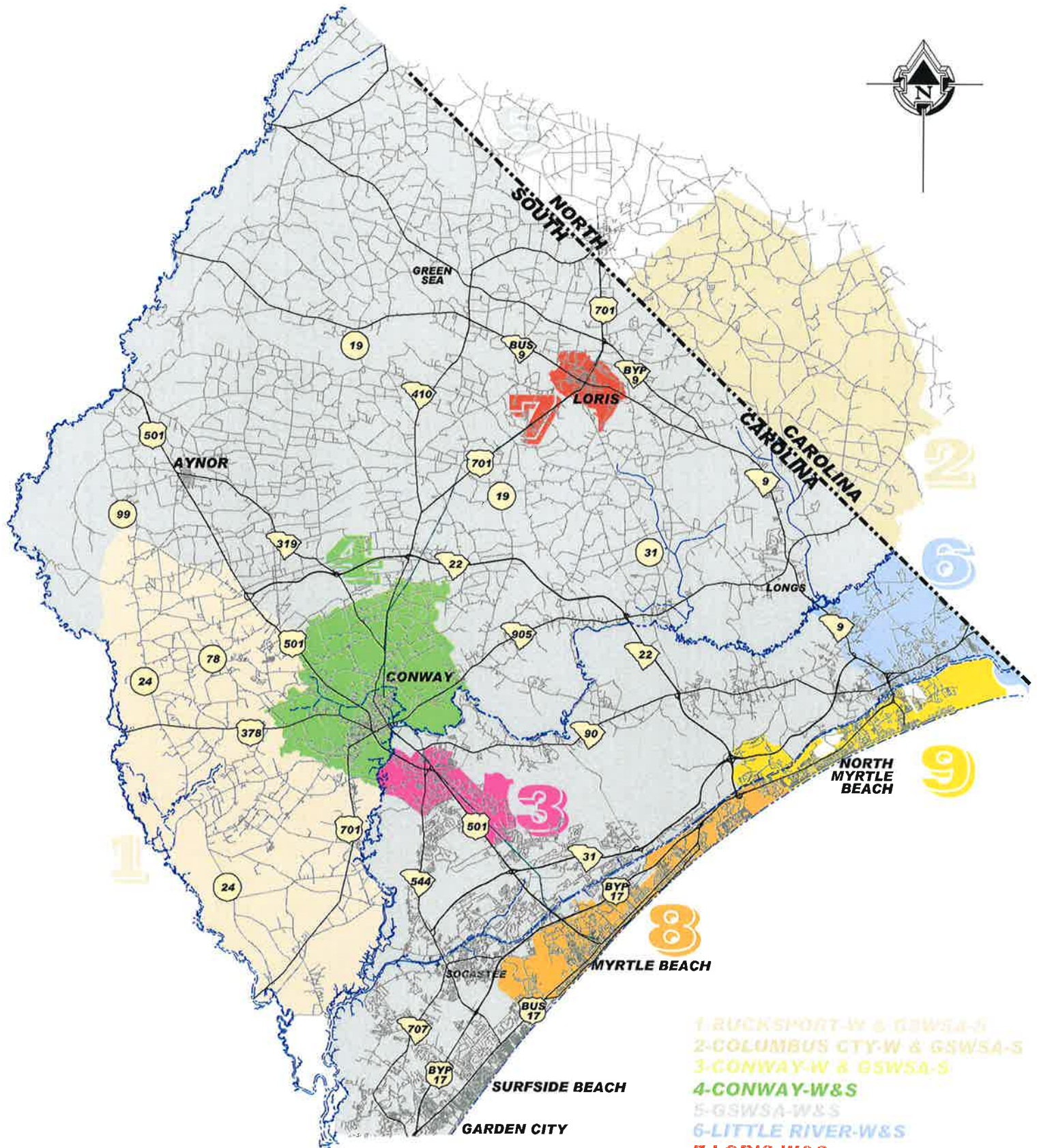
TMS 155-00-01-023  
 6,025.880 sq. ft.  
 156.70 acres

TMS 155-00-01-021  
 18,252,526 sq. ft.  
 419.84 acres



**GRAPHIC SCALE**  
 1 inch = 100 feet  
 1 mile = 63,360 feet

**FIGURE 1**  
**GSWSA SERVICE AREA**



**FIGURE 2**  
**PROJECT OVERVIEW**



# GRAND STRAND WATER & SEWER AUTHORITY CAPITAL PROJECTS

