



ROY COOPER  
Governor

MICHAEL L. HOLDER  
Acting Secretary

January 19, 2017

MEMO TO: Kevin G. Bowen, PE  
Division Construction Engineer

FROM: Jon W. Giles *JWG*  
Environmental Consultant for NCDOT Division 3

SUBJECT: SR-1172 Sunset Blvd S (Sunset Beach Causeway)

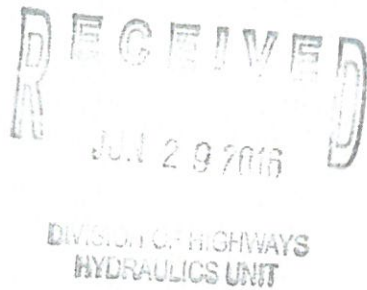
Attached is the permit package for the proposed retrofitting of the stormwater infiltration basin and the repair of erosion caused by Hurricane Matthew to the shoreline along the northern side of SR-1172 Sunset Blvd S (Sunset Beach Causeway) in Brunswick County. You may proceed with the retrofitting of the stormwater infiltration basin in accordance with all conditions listed in the attached CAMA Refinement Letter dated June 06, 2016. Additionally, you may proceed with the work to armor the northside of the causeway in accordance with all conditions listed in the attached CAMA Permit Minor Modification dated January 11, 2017.

Please note the following:

- Riprap shall be free of loose dirt or other pollutants and shall be of sufficient size to prevent its movement by current or wave action.
- The project shall be constructed in accordance with the provisions of the NCDOT's National Pollutant Discharge Elimination (NPDES) Stormwater Permit NCS000250, including the applicable requirements of the NCG0100.
- The onsite project supervisor or contractor must keep a copy of the attached permit package with them onsite during construction.
- No erosion control plans were submitted with the permit package. Erosion control measures shall be approved by Jerry Yarborough CPESC, Roadside Environmental Field Operations Engineer, prior to commencing construction.
- A pre-construction meeting shall be scheduled prior to commencing construction. Please provide ample notice as Stephen Lane, DCM Transportation Representative will need to attend and he is based out of Morehead City.
- The retrofit to the infiltration basin does not have any permitted impacts. Therefore, all work shall remain contained within the existing basin walls.

If you have any questions or concerns with the permit conditions, and/or if there is a need for a change in the scope of the work, contact me before you begin work. Furthermore, if you would like to have an onsite meeting prior to construction of this project; please contact me to schedule. I can be reached by phone or email. My cell number is 910-620-1560, office 910-341-2000 or email at [jwgiles@ncdot.gov](mailto:jwgiles@ncdot.gov).





PAT McCRORY  
Governor

DONALD R. VAN DER VAART  
Secretary

TRACY DAVIS  
Director

June 24, 2016

Mason Herndon, Environmental Supervisor  
NC Department of Transportation / Division 3  
5501 Barbados Blvd.  
Castle Hayne, NC 28429-5647

**Subject: Approved Plan Revision #3  
Sunset Beach Bridge  
Stormwater Project No. SW8 060460  
Brunswick County**

Dear Mr. Herndon:

On March 21, 2016, the Wilmington Regional Office received a request to revise the approved plans for Stormwater Management Permit Number SW8 060460 as follows:

1. Installation of a 6" perforated pipe underdrain system to improve overall infiltration of the runoff.

It has been determined that a formal permit modification is not required for the proposed changes. We are forwarding you an approved copy of the revised plans for your files. Please add the most recent approved plan sheets to the previously approved plan set.

Please be aware that all terms and conditions of the state stormwater permit issued on January 12, 2007, remain in full force and effect until January 12, 2021, when the NCDOT post-construction permit requirements will become applicable to the project. Please also understand that the approval of this revision to the approved plans for the subject State Stormwater Permit is done on a case-by-case basis. Any other changes to this project must be approved through this Office prior to construction. The issuance of this plan revision does not preclude the permittee from complying with all other applicable statutes, rules, regulations or ordinances which may have jurisdiction over the proposed activity, and obtaining a permit or approval prior to construction.

If you have any questions concerning this matter, please do not hesitate to call me at (910) 796-7215.

Sincerely,

Linda Lewis, E.I.  
Environmental Engineer III

GDS\arl: G:\\Stormwater\Permits & Projects\2006\060460 HD\2016 06 permit\_pr 060460

cc: **Brian Lipscomb, PE, NC DOT Hydraulics Unit (MSC 1590 Raleigh 27699-1590)**  
Stephen Lane, DCM  
Wilmington Regional Office Stormwater Permit File



Coastal Management  
ENVIRONMENTAL QUALITY

PAT MCCRORY

*Governor*

DONALD R. VAN DER VAART

*Secretary*

BRAXTON DAVIS

*Director*

June 30, 2016

Mason Herndon  
Division 3 Environmental Program Supervisor  
N.C. Department of Transportation  
5501 Barbados Boulevard  
Castle Hayne, North Carolina 28429

RE: Refinement of CAMA Major Permit No. 22-07 (TIP No. B-682)  
Bridge No. 198 over the AIWW, Sunset Beach Bridge Replacement, Brunswick County.

Dear Mr. Herndon:

This letter is in response to the request from the N.C. Department of Transportation (NCDOT), dated March 16, 2016, including the attached workplan drawings (7): 1 dated 5/11/16, 3 dated 2/5/16, 1 dated 3/15/16, and 2 dated as received on 6/29/16. The request states that the existing stormwater infiltration basin located at the southwest quadrant of the bridge is not infiltrating as expected. NCDOT proposes to resolve the infiltration issue by installing an underdrain system with a bubbler box as well as the removal of fine sediments within the basin and replacement with clean sand. In the request NCDOT also indicates that in the immediate vicinity of the infiltration basin, there is a washout of the pavement structure. NCDOT proposes to fill in the washed areas, repave the patched areas with asphalt, and install up to 200 linear feet of 6" asphalt curb.

The March 16, 2016 request, including the attached workplan drawings, demonstrates that all authorized work shall occur outside of wetlands, and above the Spring High Tide Line (SHTL). The Department of Environmental Quality (DEQ) Division of Energy, Mineral and Land Resources (DEMLR) approved the proposed revisions to the Stormwater Permit SW8 060460 in a letter dated June 24, 2016. The DEQ Division of Water Resources (DWR) stated in an e-mail dated March 21, 2016 that written approval of the proposed revisions under the 401 Water Quality Certification program is not required.

The active permit includes a condition that in order to protect spawning adult and juvenile anadromous fisheries resources, no in-water work shall be conducted from April 1<sup>st</sup> through August 30<sup>th</sup> of any year without prior approval of DCM, in consultation with the N.C. Division of Marine Fisheries (DMF) and the N.C. Wildlife Resources Commission (WRC).

Please be advised that through this **Letter of Refinement** the N.C. Division of Coastal Management (DCM) conveys its determination that the proposed revisions are consistent with the existing State rules and regulations, and are keeping with the original purpose and intent of CAMA Major Permit No. 22-07.



This Letter of Refinement supercedes the Letter of Refinement issued by DCM on August 18, 2014 for a different alternative drainage system design for the stormwater infiltration basin. That design was never implemented by NCDOT due to additional subsequent coordination that occurred with the State of North Carolina Stormwater Permitting staff.

This letter shall be attached to the original of CAMA Permit No. 22-07, which was issued on February 27, 2007, as well as the amended permit that was issued on March 5, 2007, and all subsequent modifications and letters of refinement, and copies of all documents shall be readily available on site when a DCM representative inspects the project for compliance. All conditions and stipulations of the active permit remain in force unless altered herein. This approval does not eliminate the need to obtain any additional permits, approvals, or authorizations that may be required.

Please contact Stephen Lane at (252) 808-2808 or via e-mail at [Stephen.Lane@ncdenr.gov](mailto:Stephen.Lane@ncdenr.gov) or Cathy Brittingham at (919) 707-9149 or via e-mail at [cathy.brittingham@ncdenr.gov](mailto:cathy.brittingham@ncdenr.gov) if you have any questions or concerns.

Sincerely,



Doug Huggett  
Major Permits Coordinator

cc: Brad Shaver, USACE  
Joanne Steenhuis, NCDWR  
Chris Rivenbark, NCDOT  
Linda Lewis, DEMLR



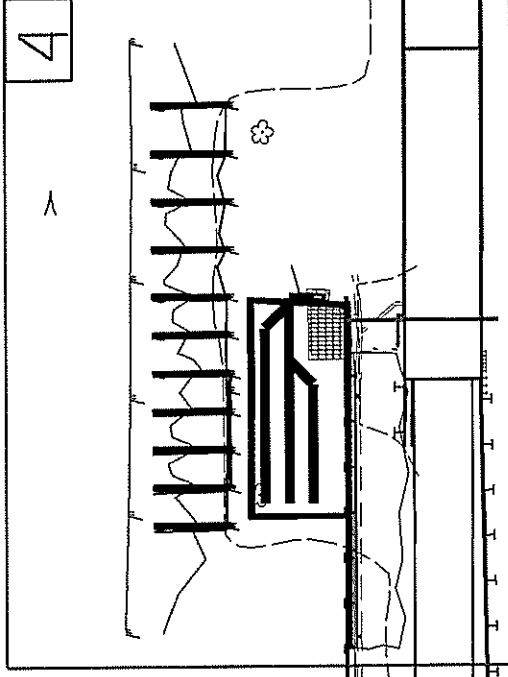
**TIP PROJECT: R-4436CF**

**CONTRACT: 34625.2.55**

### TYPE OF WORK: GRADING AND DRAINAGE



## THE BIG NARROWS



SUNSET BLVD (SR 172) 182 9ST

BRIDGE  
No. 198

TO NC 179

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4436CF	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34625.2.55	STP-1172(007)	CONSTRUCTION	

**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

**Brian Lipscomb, PE**  
**PROJECT ENGINEER**

**LETING DATE:**  
JULY 21, 2016

**Brian Lipscomb, PE**  
**PROJECT ENGINEER**

**Jordan Woodward, PE**  
**PROJECT DESIGN ENGINEER**

HYDRAULICS ENGINEER



9/11/15

*Don L Ford*  
SIGNATURE





Note: Not to Scale  
\*S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

State Line \_\_\_\_\_  
County Line \_\_\_\_\_  
Township Line \_\_\_\_\_  
City Line \_\_\_\_\_  
Reservation Line \_\_\_\_\_  
Property Line \_\_\_\_\_  
Existing Iron Pin \_\_\_\_\_  
Property Corner \_\_\_\_\_  
Property Monument \_\_\_\_\_  
Parcel/Sequence Number \_\_\_\_\_  
Existing Fence Line \_\_\_\_\_  
Proposed Woven Wire Fence \_\_\_\_\_  
Proposed Chain Link Fence \_\_\_\_\_  
Proposed Barbed Wire Fence \_\_\_\_\_  
Existing Wetland Boundary \_\_\_\_\_  
Proposed Wetland Boundary \_\_\_\_\_  
Existing Endangered Animal Boundary \_\_\_\_\_  
Existing Endangered Plant Boundary \_\_\_\_\_  
Existing Historic Property Boundary \_\_\_\_\_  
Known Soil Contamination: Area or Site \_\_\_\_\_  
Potential Soil Contamination: Area or Site \_\_\_\_\_

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap \_\_\_\_\_  
Sign \_\_\_\_\_  
Well \_\_\_\_\_  
Small Mine \_\_\_\_\_  
Foundation \_\_\_\_\_  
Area Outline \_\_\_\_\_  
Cemetery \_\_\_\_\_  
Building \_\_\_\_\_  
School \_\_\_\_\_  
Church \_\_\_\_\_  
Dam \_\_\_\_\_

HYDROLOGY:

Stream or Body of Water \_\_\_\_\_  
Hydro, Pool or Reservoir \_\_\_\_\_  
Jurisdictional Stream \_\_\_\_\_  
Buffer Zone 1 \_\_\_\_\_  
Buffer Zone 2 \_\_\_\_\_  
Flow Arrow \_\_\_\_\_  
Disappearing Stream \_\_\_\_\_  
Spring \_\_\_\_\_  
Wetland \_\_\_\_\_  
Proposed Lateral, Tail, Head Ditch \_\_\_\_\_  
False Sump \_\_\_\_\_

CONVENTIONAL PLAN SHEET SYMBOLS

RAILROADS:

Standard Gauge \_\_\_\_\_  
RR Signal Milepost \_\_\_\_\_  
Switch \_\_\_\_\_  
RR Abandoned \_\_\_\_\_  
RR Dismantled \_\_\_\_\_

RIGHT OF WAY:

Baseline Control Point \_\_\_\_\_  
Existing Right of Way Marker \_\_\_\_\_  
Existing Right of Way Line \_\_\_\_\_  
Proposed Right of Way Line \_\_\_\_\_  
Proposed Right of Way Line with Iron Pin and Cap Marker \_\_\_\_\_  
Proposed Right of Way Line with Concrete or Granite RW Marker \_\_\_\_\_  
Proposed Control of Access Line with Concrete C/A Marker \_\_\_\_\_  
Existing Control of Access \_\_\_\_\_  
Proposed Control of Access \_\_\_\_\_  
Existing Easement Line \_\_\_\_\_  
Proposed Temporary Construction Easement - \_\_\_\_\_  
Proposed Temporary Drainage Easement \_\_\_\_\_  
Proposed Permanent Drainage Easement \_\_\_\_\_  
Proposed Permanent Drainage / Utility Easement \_\_\_\_\_  
Proposed Permanent Utility Easement \_\_\_\_\_  
Proposed Temporary Utility Easement \_\_\_\_\_  
Proposed Aerial Utility Easement \_\_\_\_\_  
Proposed Permanent Easement with Iron Pin and Cap Marker \_\_\_\_\_

ROADS AND RELATED FEATURES:

Existing Edge of Pavement \_\_\_\_\_  
Existing Curb \_\_\_\_\_  
Proposed Slope Stakes Cut \_\_\_\_\_  
Proposed Slope Stakes Fill \_\_\_\_\_  
Proposed Curb Ramp \_\_\_\_\_  
Existing Metal Guardrail \_\_\_\_\_  
Proposed Guardrail \_\_\_\_\_  
Existing Cable Guidrail \_\_\_\_\_  
Proposed Cable Guidrail \_\_\_\_\_  
Equality Symbol \_\_\_\_\_  
Pavement Removal \_\_\_\_\_

VEGETATION:

Single Tree \_\_\_\_\_  
Single Shrub \_\_\_\_\_  
Hedge \_\_\_\_\_  
Woods Line \_\_\_\_\_

Orchard \_\_\_\_\_  
Vineyard \_\_\_\_\_

EXISTING STRUCTURES:

MAJOR:  
Bridge, Tunnel or Box Culvert \_\_\_\_\_  
Bridge Wing Wall, Head Wall and End Wall - \_\_\_\_\_  
MINOR:  
Head and End Wall \_\_\_\_\_  
Pipe Culvert \_\_\_\_\_  
Footbridge \_\_\_\_\_  
Drainage Box: Catch Basin, DI or JB \_\_\_\_\_  
Paved Ditch Gutter \_\_\_\_\_  
Storm Sewer Manhole \_\_\_\_\_  
Storm Sewer \_\_\_\_\_

UTILITIES:

POWER:  
Existing Power Pole \_\_\_\_\_  
Proposed Power Pole \_\_\_\_\_  
Existing Joint Use Pole \_\_\_\_\_  
Proposed Joint Use Pole \_\_\_\_\_  
Power Manhole \_\_\_\_\_  
Power Line Tower \_\_\_\_\_  
Power Transformer \_\_\_\_\_  
UG Power Cable Hand Hole \_\_\_\_\_  
H-Frame Pole \_\_\_\_\_  
Recorded UG Power Line \_\_\_\_\_  
Designated UG Power Line (S.U.E.\*) \_\_\_\_\_

TELEPHONE:

Existing Telephone Pole \_\_\_\_\_  
Proposed Telephone Pole \_\_\_\_\_  
Telephone Manhole \_\_\_\_\_  
Telephone Booth \_\_\_\_\_  
Telephone Pedestal \_\_\_\_\_  
Telephone Call Tower \_\_\_\_\_  
UG Telephone Cable Hand Hole \_\_\_\_\_  
Recorded UG Telephone Cable \_\_\_\_\_  
Designated UG Telephone Cable (S.U.E.\*) \_\_\_\_\_  
Recorded UG Telephone Conduit \_\_\_\_\_  
Designated UG Telephone Conduit (S.U.E.\*) \_\_\_\_\_  
Recorded UG Fiber Optics Cable \_\_\_\_\_  
Designated UG Fiber Optics Cable (S.U.E.\*) \_\_\_\_\_

WATER:

Water Manhole \_\_\_\_\_  
Water Meter \_\_\_\_\_  
Water Valve \_\_\_\_\_  
Water Hydrant \_\_\_\_\_  
Recorded UG Water Line \_\_\_\_\_  
Designated UG Water Line (S.U.E.\*) \_\_\_\_\_  
Above Ground Water Line \_\_\_\_\_

TV:

TV Satellite Dish \_\_\_\_\_  
TV Pedestal \_\_\_\_\_  
TV Tower \_\_\_\_\_  
UG TV Cable Hand Hole \_\_\_\_\_  
Recorded UG TV Cable \_\_\_\_\_  
Designated UG TV Cable (S.U.E.\*) \_\_\_\_\_  
Recorded UG Fiber Optic Cable \_\_\_\_\_  
Designated UG Fiber Optic Cable (S.U.E.\*) \_\_\_\_\_

GAS:

Gas Valve \_\_\_\_\_  
Gas Meter \_\_\_\_\_  
Recorded UG Gas Line \_\_\_\_\_  
Designated UG Gas Line (S.U.E.\*) \_\_\_\_\_  
Above Ground Gas Line \_\_\_\_\_

SANITARY SEWER:

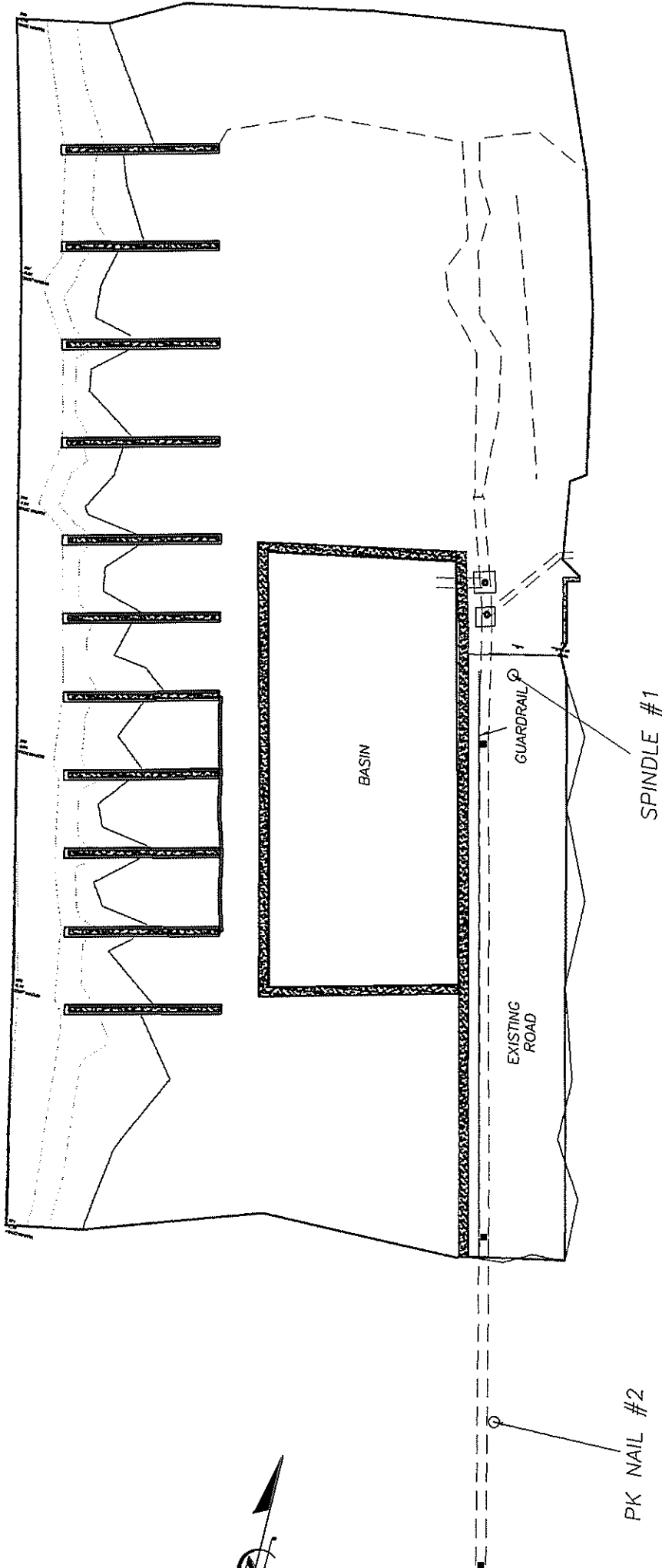
Sanitary Sewer Manhole \_\_\_\_\_  
Sanitary Sewer Cleanout \_\_\_\_\_  
UG Sanitary Sewer Line \_\_\_\_\_  
Above Ground Sanitary Sewer \_\_\_\_\_  
Recorded SS Forced Main Line \_\_\_\_\_  
Designated SS Forced Main Line (S.U.E.\*) \_\_\_\_\_

MISCELLANEOUS:

Utility Pole \_\_\_\_\_  
Utility Pole with Base \_\_\_\_\_  
Utility Located Object \_\_\_\_\_  
Utility Traffic Signal Box \_\_\_\_\_  
Utility Unknown UG Line \_\_\_\_\_  
UG Tank; Water, Gas, Oil \_\_\_\_\_  
Underground Storage Tank, Approx. Loc. \_\_\_\_\_  
AG Tank; Water, Gas, Oil \_\_\_\_\_  
Geoenvironmental Boring \_\_\_\_\_  
UG Test Hole (S.U.E.\*) \_\_\_\_\_  
Abandoned According to Utility Records \_\_\_\_\_  
End of Information \_\_\_\_\_

SURVEY CONTROL SHEET

NOTE: SURVEY COMPLETED USING NAD83 (NSRS 2007) AND DATUM NAVD 88



POINT	NORTH	EAST	ELEVATION
SPINDLE #1	46781.4029	2148803.7761	14.78'
PK NAIL #2	46632.5359	2148836.2111	8.50'
PK NAIL #3	46534.7059	2148915.4011	7.05'

LOCATION AND SURVEY PROVIDED TO HSP BY PRIVATE CONTRACTOR AS AN AS-BUILT SURVEY.  
ORIGINAL FILES ARE AVAILABLE UPON REQUEST.



# INFILTRATION BASIN DETAIL

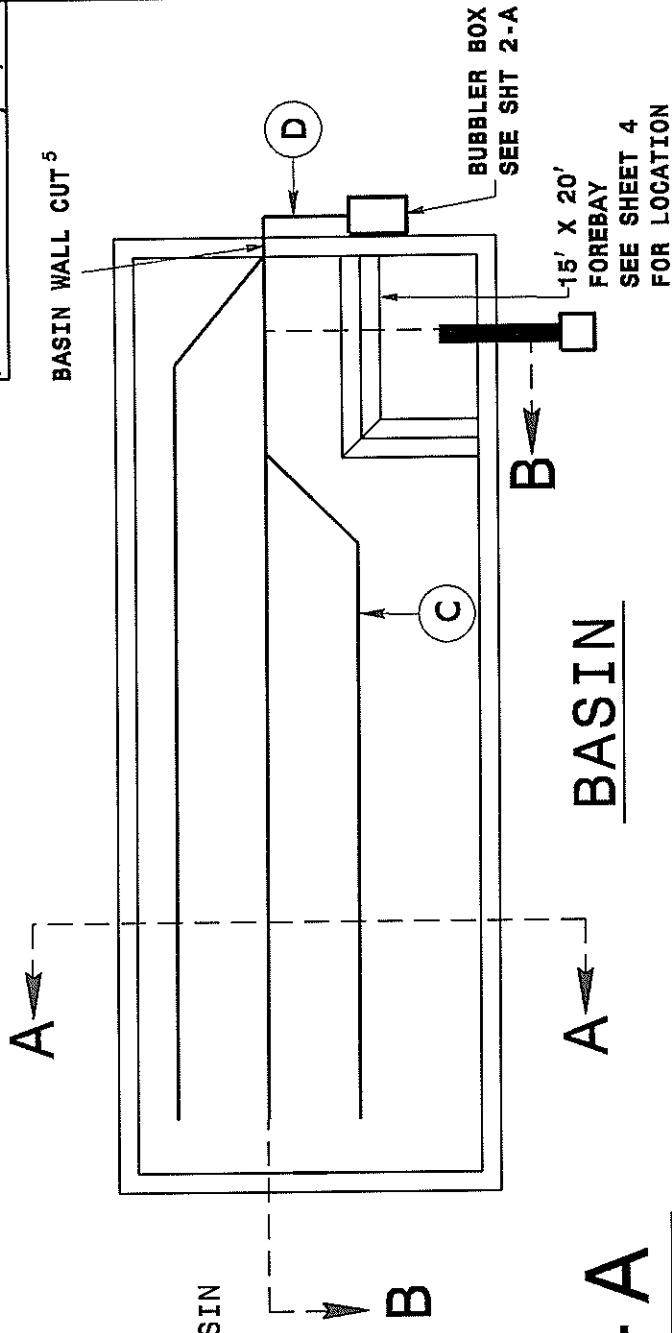
**\*NOT TO SCALE\***

MATERIALS	
A	GEOTEXTILE FABRIC
B	24" INLET PIPE
C	6" PERFORATED HDPE D/W W/ FILTER SOCK
D	6" SOLID HDPE D/W
E	SAND, SPEC. 2S OR COARSER
F	CLASS B RIP RAP

**NOTE:**

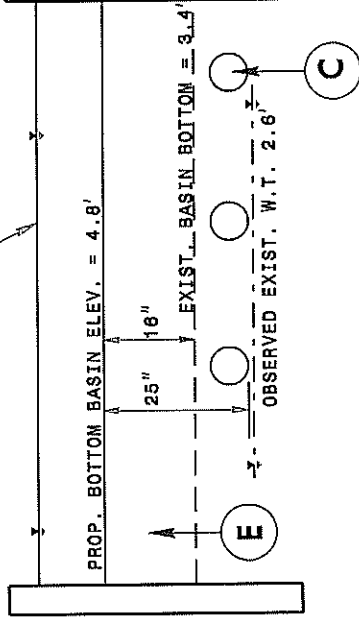
SEE PLAN SHEET #4 FOR SHAPE AND SIZE OF BASIN AND LENGTH OF UNDERDRAIN PIPES.

WATER QUALITY VOLUME = 7,439 CU. FT.



WATER QUALITY VOLUME  
7.439 CF

TOP OF CONCRETE CAP  
ON SHEET PILES  
—ELEV. = 7.7'



# BASIN

WATER QUALITY VOLUME  
7,439 CF  
ELEV. = 8.7'

PROP. BOTTOM BASIN ELEV. = 4.8'

EXIST. BASIN BOTTOM = 3.4'

0.0% PIPE SLOPE

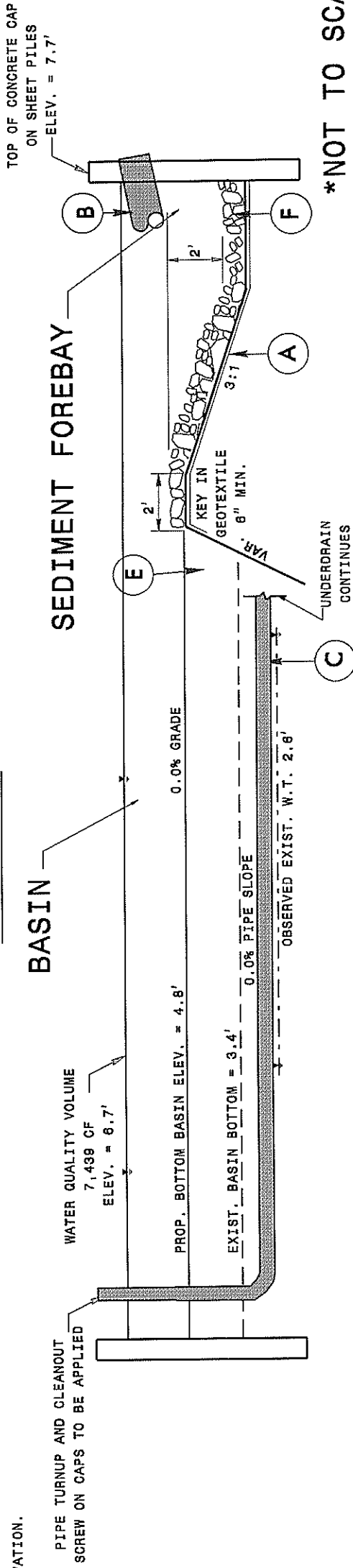
OBSERVED EXIST. W.T. 2.8'

OBSERVED EXIST. W.T. 2.8'

**\*NOT TO SCALE**

## NOTES

1. ENTIRE SEDIMENT FOREBAY WILL BE LINED WITH FILTER FABRIC.
2. FOREBAY FLOOR DIMENSIONS ARE 9' LONG BY 14' WIDE.
3. REMOVE SEDIMENT AND TOP INCH OF SAND FROM EXISTING BASIN BOTTOM.
4. EXCAVATE TRENCHES FOR UNDERDRAIN PIPE AND LAY PIPE.
5. CUT HOLE IN BASIN WALL LARGE ENOUGH FOR UNDERDRAIN TO FIT THROUGH.
6. LINE INTERIOR OF WALL WITH GEOTEXTILE TO PREVENT MATERIAL ESCAPING AROUND UNDERDRAIN.
5. BACKFILL WITH CLEAN SAND TO DESIGN ELEVATION.



**\*NOT TO SCALE**





SUMMARY OF QUANTITIES

EARTHWORK

QUANTITY	UNIT	ITEM DESCRIPTION
15	CY	TRENCH EXCAVATION
10	CY	UNCLASSIFIED EXCAVATION
190	CY	SAND BORROW

GEOTEXTILE

QUANTITY	UNIT	ITEM DESCRIPTION
70	SY	GEOTEXTILE

UNDERDRAIN

QUANTITY	UNIT	ITEM DESCRIPTION
240	LF	6" PERFORATED HDPE DW UNDERDRAIN PIPE WITH FILTER SOCK
10	LF	6" SOLID HDPE DW PIPE
2	EA	6" 45 DEGREE ELBOW
1	EA	6" 90 DEGREE ELBOW
2	EA	6" 45 x 13.5 DEGREE WYE
3	EA	6" CLEANOUT CAPS

ASPHALT CURB

QUANTITY	UNIT	ITEM DESCRIPTION
5	CY	FLOWABLE FILL
200	LF	6" ASPHALT CURBING (MEDIAN CURB DIMENSIONS 846.01)

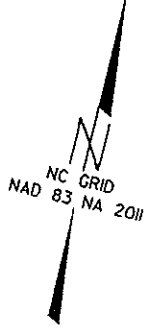
STONE

QUANTITY	UNIT	ITEM DESCRIPTION
4	TN	57 STONE
18	TN	CL B RIP RAP

EROSION CONTROL

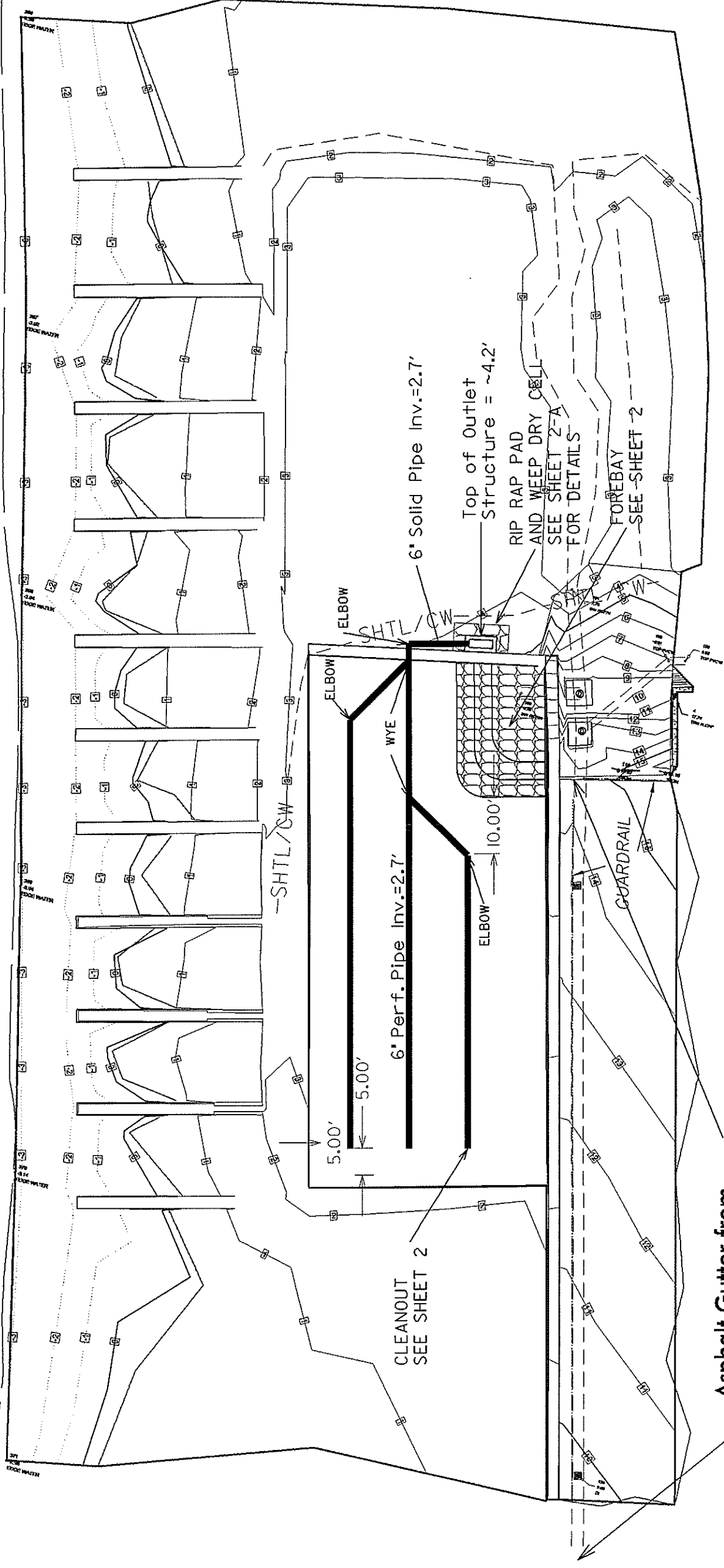
QUANTITY	UNIT	ITEM DESCRIPTION
45	LF	COIR FIBER WATTLES





EXISTING R/W

EXISTING R/W



Asphalt Gutter from  
Edge of Retaining Wall  
to Last Drop Inlet.  
Approx. 185ft.  
(See Sht. 2-B)

NOTE: MAINTAIN 10' SPACING BETWEEN UNDERDRAIN LINES

REVISIONS

HIGHWAY EROSION CONTROL  
BRUNSWICK COUNTY

PROJECT REFERENCE NO.  
R-4436CF

SHEET NO.  
EC-1

HYDRAULICS  
ENGINEER

SEAL  
033181

BRUNSWICK COUNTY  
NORTH CAROLINA  
REGISTERED PROFESSIONAL  
ENGINEER

3/15/16

Reviewed by W. Chardier - 1/14/18  
(Roadside Environmental Unit)

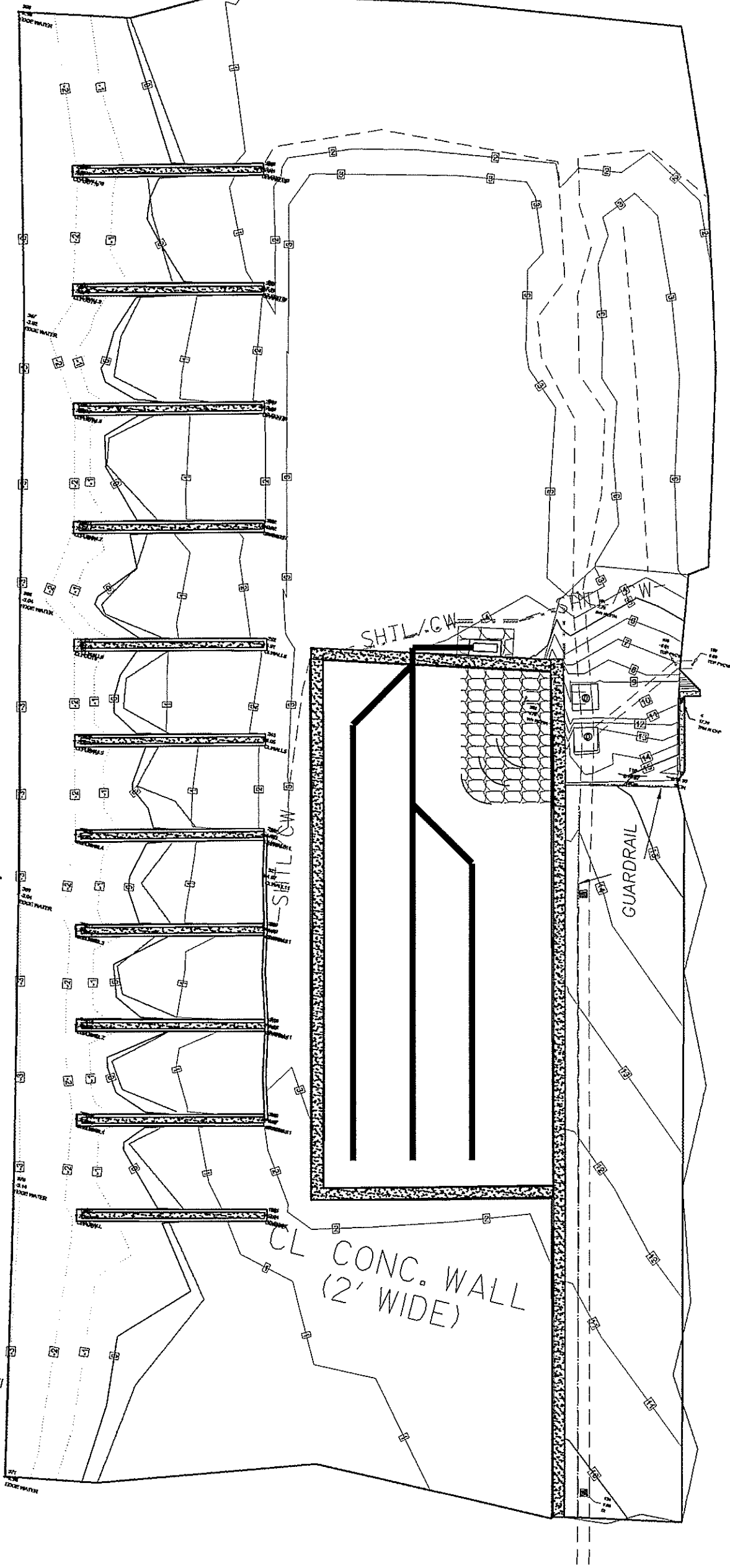
Notes:

1. Location of wattles should be field adjusted and placed in a manner to avoid or minimize impact to vegetation. Wattles shall not be placed within the Coastal Wetlands (CW) or below the Spring High Tide Line (SHTL).
2. Location of wattles should be field adjusted and placed in a manner to avoid Rip Rap around the bridge abutment.
3. Basin should be dewatered by pumping.
4. Pump discharge hose shall be placed into the lower junction box through the manhole and discharge out of the existing concrete pipe.
6. Pumping rate shall be at a rate low enough to not produce a scour condition at the pipe outlet or along the outlet channel. Generally, for a sandy channel velocity should not exceed 2.5 fps. Contractor should be prepared for dewatering to possibly occur over multiple days.

EROSION AND SEDIMENT CONTROL MEASURES

Description	Symbol
Cair Fiber Wattles	-----

NC GRID  
NAD 83 NA 2011



# COIR FIBER WATTLE DETAIL

PROJECT REFERENCE NO.  
R-44360F

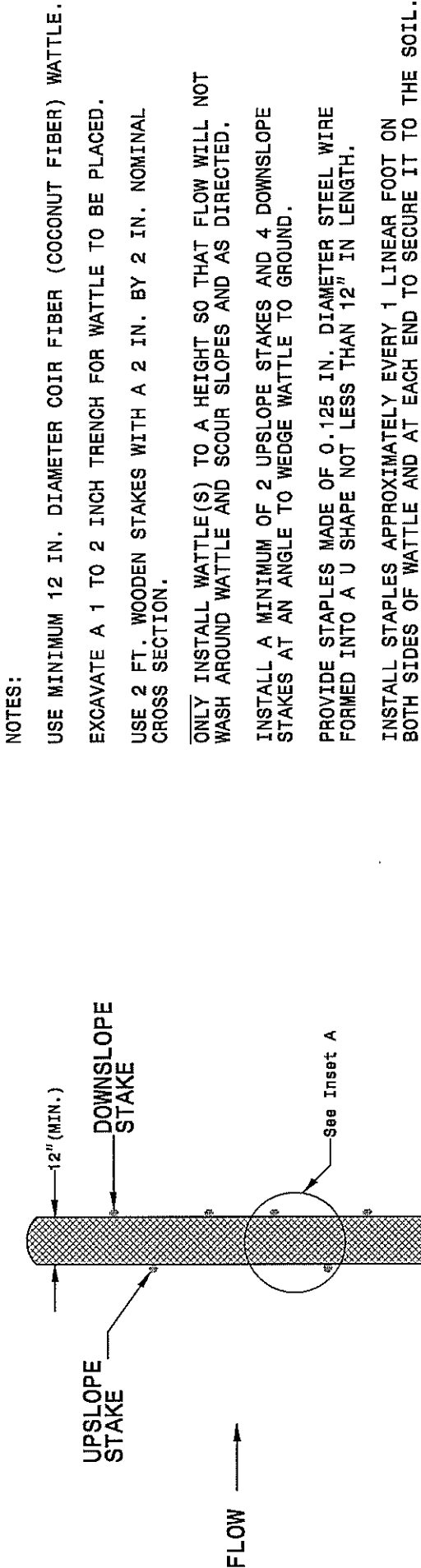
SHEET NO.  
EC-2

HYDRAULICS  
ENGINEER

SEAL  
033181

Professional Engineer  
State of California  
No. 033181

2/5/16



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT SO THAT FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.





Permit Class  
**MODIFICATION/MINOR**

Permit Number  
**22-07**

STATE OF NORTH CAROLINA  
Department of Environmental Quality  
and  
Coastal Resources Commission

# Permit

for

☒ Major Development in an Area of Environmental Concern  
pursuant to NCGS 113A-118

☒ Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 5501 Barbados Boulevard, Castle Hayne, NC 28429**

Authorizing development in Brunswick County at the Atlantic Intracoastal Waterway, Bridge No. 198 on SR 1172 (Sunset Beach Bridge), as requested in the permittee's application letter dated 12/12/16, including the attached workplan drawings (3) dated 12/8/16, 12/12/16, and 12/15/16.

This permit, issued on 1/11/17, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

- 1) Unless specifically altered herein, this Minor Modification authorizes the placement of 1,901 linear feet of riprap along the causeway from Station 12 + 75 to Station 31 + 76, and the repair of erosion around the drop inlet near STA 31 + 00 +/- RT, all as depicted on the attached workplan drawings.

**NOTE:** The work to repair minor erosion around the drop inlet near STA 31 + 00 +/- LT proposed in the permittee's letter dated 12/12/16 was previously approved by the N.C. Division of Coastal Management (DCM) in a Letter of Refinement dated 6/30/16.

- 2) The placement of riprap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities. It shall be of a size sufficient to prevent its movement from the authorized alignment by wave or current action. The riprap material shall consist of clean rock or masonry materials such as but not limited to granite, marl, or broken concrete.

(See attached sheet for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

**No expiration date, pursuant to GS 136-44.7B**

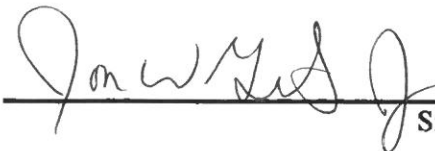
In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DEQ and the Chairman of the Coastal Resources Commission.



Braxton C. Davis, Director  
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

**ADDITIONAL CONDITIONS**

- 3) The activities authorized by this Minor Modification shall not result in any additional permanent or temporary impacts to wetlands or waters of the State, without permit modification.
- 4) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM may be required. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.
- 5) This Minor Modification does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.
- 6) This Minor Modification shall be attached to the original of Permit No. 22-07, which was issued on 2/27/07, as well as the amendment issued on 3/5/07, and all subsequent modifications and/or refinements, and copies of all documents shall be readily available on site when a Division representative inspects the project for compliance.
- 7) All conditions and stipulations of the active permit remain in force under this Minor Modification unless altered herein.

**NOTE:** A minor modification application processing fee of \$100 was received by DCM for this project.

## Giles, John W

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**From:** Steenhuis, Joanne  
**Sent:** Monday, December 12, 2016 12:56 PM  
**To:** Giles, John W; Lane, Stephen  
**Cc:** Herndon, T. Mason; Shaver, Brad E SAW  
**Subject:** RE: Sunset Beach Causeway

Thanks Jon! There will not be a 401 required as there is not a 404 required for this project.

**From:** Giles, John W  
**Sent:** Monday, December 12, 2016 11:54 AM  
**To:** Lane, Stephen <stephen.lane@ncdenr.gov>  
**Cc:** Herndon, T. Mason <tmherndon@ncdot.gov>; Steenhuis, Joanne <joanne.steenhuis@ncdenr.gov>; Shaver, Brad E SAW <Brad.E.Shaver@usace.army.mil>  
**Subject:** RE: Sunset Beach Causeway

Stephen,

Please find attached cover letter and drawings for the Sunset Beach Causeway repair and riprap armoring plans. If you have any questions please feel free to contact me. I will need your courier # to send the hard copies to you, if needed. Also, by receipt of this email I am copying Brad and Joanne of the proposed work.

I look forward to hearing from you when the modification has been issued.

Sincerely,

Jon Giles  
NCDOT Division 3 Environmental Consultant  
910-620-1560

**From:** Lane, Stephen  
**Sent:** Tuesday, November 29, 2016 11:17 AM  
**To:** Giles, John W <[jwgiles@ncdot.gov](mailto:jwgiles@ncdot.gov)>  
**Subject:** Re: Sunset Beach Causeway

Hi Jon,

No forms needed. Just include a cover letter requesting a minor modification of the existing Major Permit, the purpose and need of the proposal, and describe what DOT proposes to do. Also please include a plan view and x-section of the riprap, as well as a WBS # and authorization to debit the \$100 application fee. Just let me know if I can be of any further assistance.

Thanks,  
Stephen

---

**From:** Giles, John W  
**Sent:** Tuesday, November 29, 2016 10:55:05 AM

**To:** Lane, Stephen  
**Subject:** Sunset Beach Causeway

Stephen,

I am working on the permitting for Sunset Beach Causeway rip rap slope protection. I believe Mason spoke with you about this and it was going to be a minor mod to the existing permit. Please let me know what you will need as far as applications filled out for this request. Also, you will need a planview and a cross-section anything else?

Thanks,

Jon

---

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.



## Giles, John W

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**From:** Herndon, T. Mason  
**Sent:** Monday, December 12, 2016 11:32 AM  
**To:** Giles, John W  
**Subject:** FW: Sunset Beach Causeway

Mason Herndon  
Environmental Program Supervisor  
Division 3  
NCDOT- Division of Highways

910-341-2036 office  
910—604-0050 mobile  
tmherndon@ncdot.gov

5501 Barbados Blvd  
Castle Hayne, NC 28429

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

-----Original Message-----

**From:** Shaver, Brad E CIV USARMY CESAW (US) [mailto:Brad.E.Shaver@usace.army.mil]  
**Sent:** Monday, December 12, 2016 11:28 AM  
**To:** Herndon, T. Mason <tmherndon@ncdot.gov>; Steenhuis, Joanne <joanne.steenhuis@ncdenr.gov>  
**Subject:** RE: Sunset Beach Causeway

Mason,

Based on CFR Section 323.4 (a)(2) the activity you have described (repair of storm damage within the same footprint) is exempt from permitting and would not require a 404 or Section 10 permit.

If you have any questions about this determination please let me know,

Brad

-----Original Message-----

**From:** Herndon, T. Mason [mailto:tmherndon@ncdot.gov]  
**Sent:** Thursday, December 08, 2016 5:49 PM  
**To:** Shaver, Brad E CIV USARMY CESAW (US) <Brad.E.Shaver@usace.army.mil>; Steenhuis, Joanne <joanne.steenhuis@ncdenr.gov>  
**Subject:** [EXTERNAL] Sunset Beach Causeway

Brad & Joanne,

We are in the process of preparing a permit package for DCM to rebuild and armor the North side of causeway. All work will be within the pre-existing toe of fill (actually a little narrower). Since the adjacent system is coastal wetlands and not streambank I was wondering if Nationwide 13 would even apply since this is similar to toe protection. So my question is, does this require a permit, if so what permit and does it require written approval?

Thanks!

MH

Mason Herndon

Environmental Program Supervisor

Division 3

NCDOT- Division of Highways

910-341-2036 office

910-604-0050 mobile

tmherndon@ncdot.gov

5501 Barbados Blvd

Castle Hayne, NC 28429

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North Carolina Public Records Law and may be disclosed to third parties.

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Permit Class  
**Amended**

Permit Number  
**22-07**

STATE OF NORTH CAROLINA  
Department of Environment and Natural Resources  
and  
Coastal Resources Commission

# Permit

for

☒ Major Development in an Area of Environmental Concern  
pursuant to NCGS 113A-118

☒ Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1548**

Authorizing development in Brunswick County at the Atlantic Intracoastal Waterway,  
Bridge No. 198 on SR 1172 (Sunset Beach Bridge) as requested in the permittee's application dated 11/1/06  
including the attached eighty nine (89) 1/2-size workplan drawings as referenced in Condition No. 1 of this permit.

This permit, issued on 3/5/07, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

## **Replacement of Sunset Beach Bridge (TIP No. B-0682)**

- 1) All work authorized by this permit must be carried out in accordance with the following workplan drawings, except as modified herein:

1/2 size drawings: fifty (50) drawings dated 3/27/06; one (1) drawing dated 4/25/06; one (1) drawing dated 5/3/06; four (4) drawings dated 8/22/06; ten (10) drawings dated 8/24/06; sixteen (16) drawings dated 8/28/06; five (5) drawings dated 10/13/06; two (2) drawings dated 10/23/06.

**(See attached sheets for Additional Conditions)**

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

## **No Expiration Date, pursuant to GS 136-44.7B**

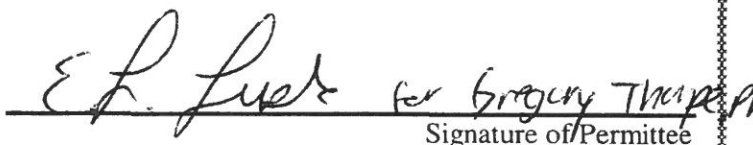
In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.



Charles S. Jones, Director  
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee



### ADDITIONAL CONDITIONS

- 2) In order to protect spawning adult and juvenile anadromous fisheries resources, no in-water work shall be conducted from April 1st through August 30th of any year without prior approval of the NC Division of Coastal Management (DCM), in consultation with the NC Division of Marine Fisheries (DMF) and the N.C. Wildlife Resources Commission (WRC). For the purposes of this moratorium, in-water is defined as those areas that are inundated at any time during construction, including waters or contiguous inundated wetlands.
- 3) The permittee shall implement NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage, except as modified in Condition No. 2 of this permit.
- 4) The West Indian Manatee, *Trichechus manatus*, which is listed as a federally endangered species, has been reported in North Carolina waters. In order to protect the West Indian manatee all in-water work should be done during the period from November 1 to May 31. If work must be done during the period from June through October the enclosed guidelines prepared by the U.S. Fish and Wildlife Service (USFWS) (rev. 06/2003), entitled "Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters" shall be followed.
- 5) The NCDOT document "Best Management Practices for Bridge Demolition and Removal" (final 9/20/99) shall be followed during both demolition and construction activities.
- 6) All materials and debris associated with the removal and/or construction of the existing and/or new bridge, roadway asphalt, and associated materials shall be disposed of at an approved upland site or shall be recycled in an environmentally appropriate manner provided appropriate authorizations from any relevant state, federal, or local authorities are obtained.
- 7) Debris resulting from demolition of the existing bridge, including deck components, shall not enter wetlands or waters of the State, even temporarily.
- 8) The permittee shall exercise all available precautions in the day-to-day operation of the facility to prevent waste from entering the adjacent waters.
- 9) The permittee and/or his contractor shall provide for proper storage and handling of all oils, chemicals, etc., necessary to carry out the project.

### Excavation and Fill

- 10) Material excavated may be used in fill areas associated with the project or shall be removed from the site and taken to an approved high ground location.
- 11) All excavated materials shall be confined above normal water level and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids into any wetlands or surrounding waters, except for the excavated materials to be used as substrate for wetland restoration as authorized in the attached workplan drawing(s).

### ADDITIONAL CONDITIONS

- 12) The temporary placement and double handling of any excavated or fill material within waters or vegetated wetlands is not authorized, with the exception of that fill necessary for the construction of the temporary detour bridge, the widening of the existing causeway, and the installation of erosion control devices, all as depicted in the attached workplan drawing(s).
- 13) All authorized temporary fill shall be placed on geo-textile fabric to facilitate the total removal upon completion of the project.
- 14) No excavation shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawing(s), without permit modification.
- 15) No excavated or fill material shall be placed at any time in any vegetated wetlands or surrounding waters outside of the alignment of the area(s) as indicated on the attached workplan drawing(s), without permit modification.
- 16) All fill material shall be clean and free of any pollutants except in trace quantities.
- 17) Live concrete shall not be allowed to contact waters of the State or water that will enter waters of the State the water in or entering into the Atlantic Intracoastal Waterway or the adjacent wetlands. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to the wetlands or waters when it no longer poses a threat to aquatic organisms.
- 18) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.
- 19) Placement of riprap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material shall be free from loose dirt or any pollutant. The riprap material shall consist of clean rock or masonry materials, such as but not limited to, granite, marl, or broken concrete.
- 20) Pilings from the existing bridge, as well as remnant pilings from previous bridges, shall be removed in their entirety, except that in the event that a piling breaks during removal and cannot be removed in its entirety, the piling may be cut off flush with the bed of the water body, and the NC Division of Coastal Management shall be notified of each occurrence within one working day.
- 21) All construction access shall be through the use of the existing bridge and temporary detour and work bridges. Use of mats for construction access across wetlands shall require additional authorization from DCM.

### Sedimentation and Erosion Control

- 22) The permittee shall follow "Best Management Practices for the Protection of Surface Waters" and shall also implement sedimentation and erosion control measures sufficient to protect aquatic resources.
- 23) Appropriate sedimentation and erosion control devices, measures or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and property (e.g. silt fence, diversion swales or berms, etc.).

**ADDITIONAL CONDITIONS**

- 24) This project shall conform to all requirements of the NC Sedimentation Pollution Control Act and NC DOT's Memorandum of Agreement with the Division of Land Resources.

**Pond Draw-down to Slough Canal**

**NOTE:** The proposed location of the new roadway approach situated at the northern terminus of the project, at the south end of Sea Trail Golf Resort, necessitates the draining of a portion of an existing golf course pond into the upper end of Mary's Creek, also referred to in the permit application as the "Slough Canal".

- 25) The partial drainage of the existing golf course pond shall be carried out in accordance with the attached document, "Monitoring Protocol for Pond Draw-down to Slough Canal Associated with TIP Project No. B-0682", dated 10/5/06. Any deviation from this protocol shall require authorization from the NC Division of Coastal Management, in consultation with the NC Division of Water Quality (DWQ), the NC Division of Marine Fisheries (DMF), and the NC Division of Environmental Health – Shellfish Sanitation and Recreational Water Quality Section.
- 26) In accordance with "Monitoring Protocol for Pond Draw-down to Slough Canal Associated with TIP Project No. B-0682", dated 10/5/06, the pond draw-down shall not take place from March 1<sup>st</sup> through July 31<sup>st</sup>. This is an abbreviated moratorium applicable only to the pond draw-down. All other in-water work is subject to the moratorium specified in Condition No. 2 of this permit.

**NOTE:** The permittee is strongly encouraged to avoid draining the golf course pond from August 1<sup>st</sup> through October 31<sup>st</sup>, which is the remainder of the recreational swimming season.

- 27) Should draining the pond occur from August 1st through October 31st, the permittee shall notify the Shellfish Sanitation and Recreational Water Quality Section of the Division of Environmental Health (DEH), (252-726-6827), at least one week prior to discharge in order to provide an opportunity for DEH to visit the site and determine if posting of a swimming advisory in the area is necessary.

**Bulkhead/Retaining Wall**

- 28) The bulkhead/retaining wall shall be structurally tight so as to prevent seepage of fill materials through the structure.
- 29) The bulkhead/retaining wall shall be solid and constructed of treated wood, concrete slabs, metal sheet piles or other suitable materials approved by the N.C. Division of Coastal Management.
- 30) The bulkhead/retaining wall shall be in place prior to any backfilling activities.
- 31) All backfill material shall be obtained from a high ground source. No unconfined backfill shall be discharged into wetlands or estuarine or public trust waters. The fill material shall be clean and free of any pollutants except in trace quantities.

## ADDITIONAL CONDITIONS

### Navigation/Public Trust Usage

- 32) No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work.
- 33) In accordance with commitments made by the permittee and as requested by the Town of Sunset Beach, approximately 105 feet of the existing bridge on the north side of the Atlantic Intracoastal Waterway shall be left in place for public access use.
- 34) The issuance of this permit does not relieve the permittee from taking all proper steps to ensure the integrity of the remaining portion of the bridge and the safety of those utilizing the structure.
- 35) The permittee shall install and maintain any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the portion of the existing bridge to be left in place. At a minimum, permanent reflectors shall be attached to the structure in order to make it more visible during hours of darkness or inclement weather.

### Mitigation

- 36) In accordance with commitments made by the permittee, in order to mitigate for the loss of approximately 2.4 acres of Coastal Wetlands associated with the project, the permittee shall restore approximately 2.8 acres of Coastal Wetlands by the removal of approximately 1,150 linear feet of the existing causeway.
- 37) Except as specified by conditions of this permit, on-site mitigation shall be carried out as described in the document titled "Sunset Beach Wetland Restoration Plan at Bridge No. 198 over the Intracoastal Waterway on SR1172, Brunswick County" dated 7/6/06.
- 38) Any subsequent changes to the mitigation plan authorized by this CAMA permit shall require additional authorization from the N.C. Division of Coastal Management.
- 39) The portion of the existing causeway to be restored shall be returned to an elevation that matches the surrounding marsh elevation.
- 40) Within 30 days of project completion, the permittee shall provide verification to the N.C. Division of Coastal Management (DCM) that the wetland restoration areas have been restored to the approximate elevation of the approved reference wetlands.
- 41) An as-built report for the mitigation site shall be submitted to the NC Division of Coastal Management within 90 days after the mitigation site has been constructed.



### ADDITIONAL CONDITIONS

- 42) The wetland restoration areas shall be fully contained by silt fence until all of the unsuitable fill material has been removed and the restoration areas have been restored to the approximate natural elevation of the adjacent, similar undisturbed wetlands and stabilized with appropriate coastal wetland vegetation. Turbidity curtains shall also be used to contain the wetland restoration areas where the restoration area located on the existing causeway comes within close proximity to the Atlantic Intracoastal Waterway and the Big Narrows.
- 43) Upon removal of all temporary wetland fill, the original marsh elevation shall be returned to an elevation that matches the surrounding marsh.
- 44) Due to the possibility that compaction, mechanized clearing and/or other site alterations might prevent the temporary wetland impact area from re-attaining pre-project wetland functions, the permittee shall monitor temporary wetland impacts for three years after project completion. The permittee shall schedule a meeting with DCM to verify the extent and location of temporary impacts upon project completion. The permittee shall then provide an annual update on any wetland areas temporarily impacted by this project. This annual update shall consist of photographs and written report on the progress of these temporarily impacted areas in re-attaining wetland jurisdictional status. Three years after project completion, the permittee shall schedule an agency field meeting with the N.C. Division of Coastal Management (DCM) to determine if the wetland areas temporarily impacted by this project have re-attained pre-project wetland functions. If at the end of 3 years the wetland areas temporarily impacted by this project have not re-attained pre-project wetland functions, DCM shall determine whether compensatory wetland mitigation shall be required.
- 45) If existing wetlands temporarily impacted during construction of the mitigation site do not re-attain their pre-project wetland functions within 3 years of mitigation site construction, then the temporary impacts shall be reclassified as permanent impacts and shall be mitigated. Should this occur, the permittee shall coordinate with DCM to determine appropriate additional mitigation requirements.

**NOTE:** The exact amount of wetland mitigation credits will not be determined until the permittee receives confirmation from the NC Division of Coastal Management (DCM) that the coastal wetland restoration has been successful.

**NOTE:** This permit does not convey or imply approval of the suitability of the excess mitigation generated by this project as compensatory wetland mitigation for any particular future projects. The use of any portion of the excess mitigation generated by this project as compensatory mitigation for future projects will be approved on a case-by-case basis during the CAMA permit review and/or consistency process.

- 46) Annual monitoring reports for the mitigation sites shall be provided to the N.C. Division of Coastal Management (DCM) for a minimum of three years after mitigation site construction, or until DCM determines that the site is successful. Annual monitoring reports shall include photos, a description of species present, a visual estimate of percent vegetation coverage, and an assessment of whether the site is achieving success. Progress reports shall also be provided upon request. After three years, monitoring may cease if the permittee can demonstrate that the site has been successfully restored and written concurrence is received from DCM.

## ADDITIONAL CONDITIONS

### Subaqueous Utility Lines

- 47) Any relocation of utility lines that is not already depicted on the attached workplan drawings, or described within the attached permit application, shall require approval by DCM, either under the authority of this permit, or by the utility company obtaining separate authorization.
- 48) Subaqueous lines must be placed at a depth of six feet below the project depth of federal projects. In other areas they shall be installed at a minimum depth of two feet below the bottom contour.
- 49) There shall be no resultant change in preconstruction bottom contours. Authorized fill includes only that necessary to backfill or bed the utility line. Any excess material shall be removed to an upland disposal area. Finished grades of subaqueous or wetland crossings shall be returned to preproject contours and elevations.
- 50) The utility line route or construction method shall not disrupt the movement of those species of aquatic life indigenous to the waterbody.

### General

- 51) If it is determined that additional permanent and/or temporary impacts (such as, but not limited to, temporary access roads, detours, or matting to transport equipment across wetlands) are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from the N.C. Division of Coastal Management (DCM) shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.
- 52) The waters adjacent to the permitted project are classified by the Marine Fisheries Commission as both "Conditionally Approved-Open" and "Conditionally Approved-Closed". The construction and/or operation of the authorized facilities shall not directly result in a permanent closure of these conditionally approved waters. Any such permanent closure directly attributable to the authorized facility shall require that the permittee undertake remedial actions to remedy the situation. Such actions may include mitigative measures to reduce or eliminate the cause(s) of the closure.
- 53) The N.C. Division of Water Quality (DWQ) authorized the proposed project (DWQ Project No. 20061743) on February 23, 2007 under Individual Certification No. 3596. Any violation of the Certification approved by the DWQ shall be considered a violation of this CAMA permit.
- 54) The N.C. Division of Water Quality (DWQ) Stormwater Management Section approved this project under the stormwater management rules of the Environmental Management Commission under Stormwater Permit No. SW8060460 on 1/12/07. Any violation of the permit approved by the DWQ shall be considered a violation of this CAMA permit.

**ADDITIONAL CONDITIONS**

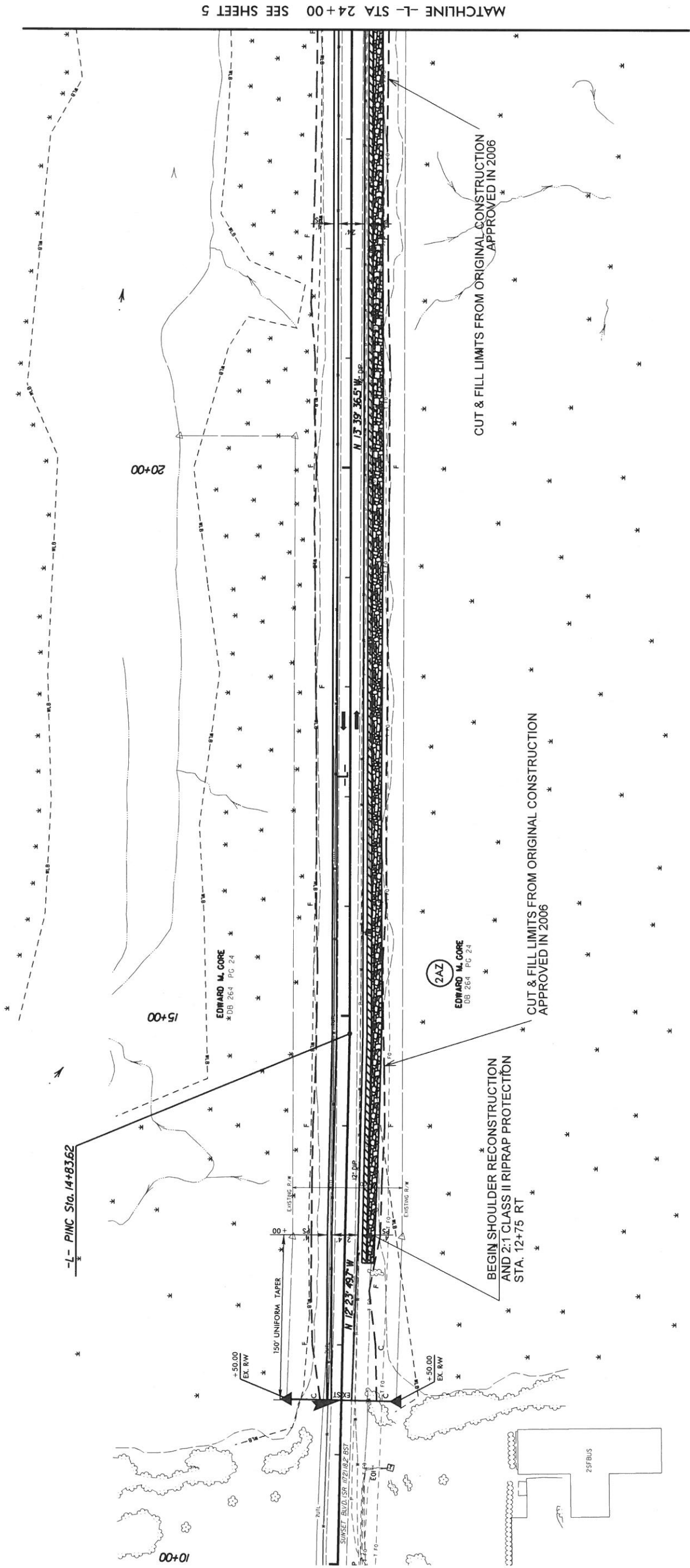
- 55) Unless specifically altered herein, any environmental commitments specifically made by the permittee in the CAMA permit application, the Final Environmental Impact Statement (FEIS) of October 1997, and/or during the NEPA/404 Merger Process, shall be implemented, regardless of whether or not such commitments are addressed by individual conditions of this permit.
- 56) This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.
- 57) The permittee and/or contractor shall contact the N.C. Division of Coastal Management Transportation Project Coordinator at (252) 808-2808 to schedule a pre-construction conference prior to project initiation.

**NOTE:** The U.S. Army Corps of Engineers assigned COE Action ID No. 199300088 to the project.



PROJECT REFERENCE NO.	SHEET NO.
B-0682	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
R/W SHEET NO.	

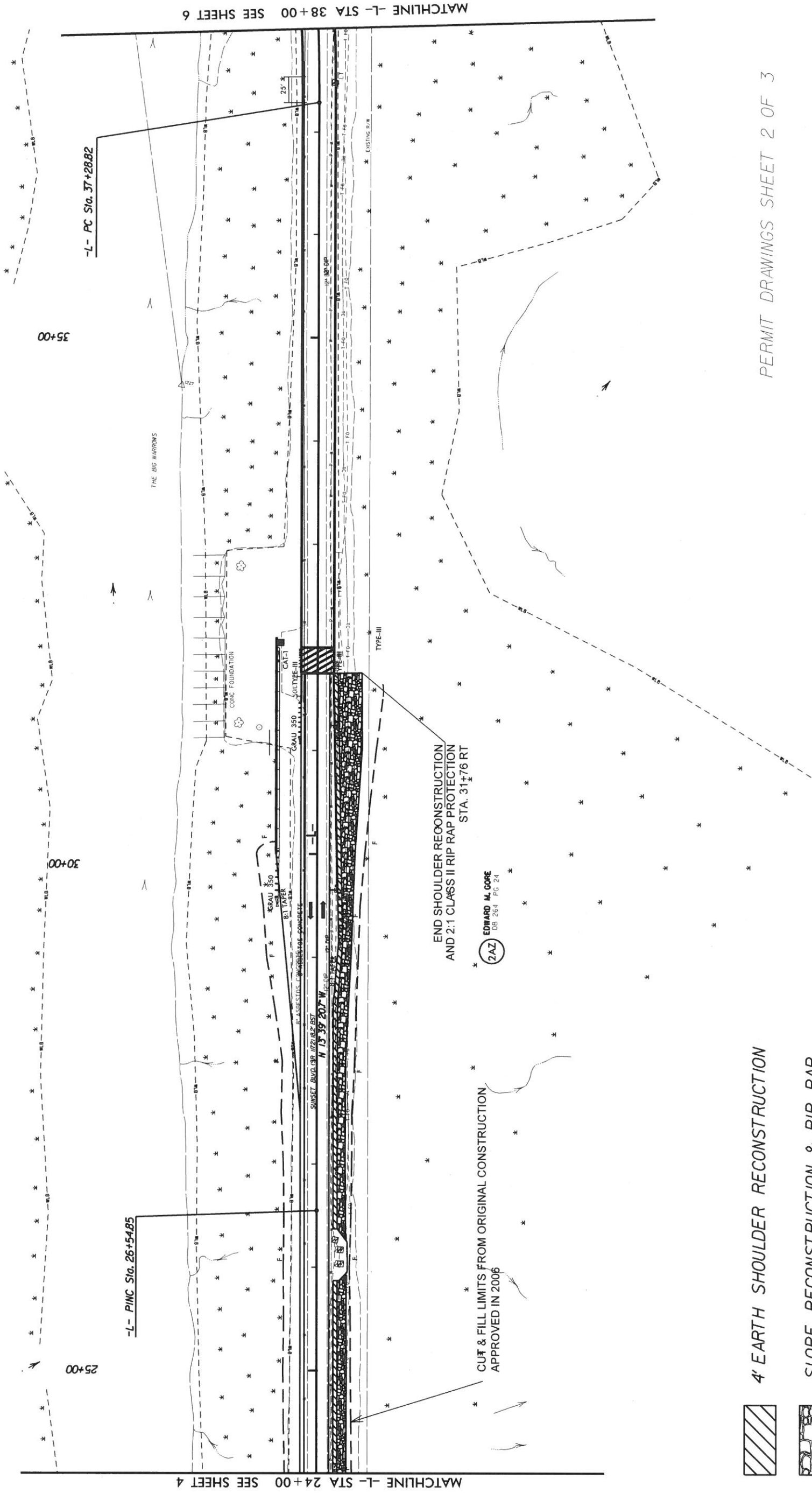
PERMIT DRAWINGS TO  
REPAIR EROSION ESCARPMENT AND  
RIP RAP SLOPE PROTECTION  
DRAWING DATE: 12/08/2016  
Revised 12/15/2016



- 4' EARTH SHOULDER RECONSTRUCTION
- SLOPE RECONSTRUCTION & RIP RAP SLOPE PROTECTION (2:1 SLOPE)

PROJECT REFERENCE NO.	SHEET NO.
B-0682	5
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

PERMIT DRAWINGS TO  
REPAIR EROSION ESCARPMENT AND  
RIP RAP SLOPE PROTECTION  
DRAWING DATE: 12/08/2016



4' EARTH SHOULDER RECONSTRUCTION

SLOPE RECONSTRUCTION & RIP RAP  
SLOPE PROTECTION (2:1 SLOPE)



