STATE OF NORTH CAROLINA
COUNTY OF BRUNSWICK

This instrument has been filed for registration on the date, time and in the Book and Page shown on the first page hereof, and is being returned for your convenience.

Robert J. Robinson, Register of Deeds

Brunswick County---Register of Deeds
Robert J. Robinson
Inst #337105 Book 2414Page 1051
06/22/2006 12:25:30pm Rec#275249

RET JPM
TOTAL 17 REV ____ TC# 1
REC# ____ CK AMT 3 CK# 1304
CASH ____ REF ____ BY MS

(No Taxable Consideration)

Excise Tax — Recording Time, Book and Page

Tax Lot No. _____ Parcel Identifier No. _____
Verified by _____ County on the ____ day of _____
By _____
Mail after recording to Ronald P. Johnson
440 West Market Street, Suite 300, Greensboro, North Carolina 27401
This instrument was prepared by: Ronald P. Johnson (without title examination)

Brief description for the index

NORTH CAROLINA SPECIAL WARRANTY DEED

THIS DEED made this 20th day of June, 2006, by and between

Grantor	Grantee
David W. Picha	Kay P. Picha 6965 Lorien Chanter Drive Randleman, NC 27317-7222

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

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

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

Being all of Lot 10 in the Odell and Virginia Williamson Irrevocable Trust Subdivision, as shown on map thereof recorded in Map Book Z at Page 16, in the Brunswick County Registry.

This conveyance is made pursuant to North Carolina General Statutes Section 39-13.3(c) and is intended to dissolve the tenancy by the entirety and to vest title exclusively in the Grantee.

The property hereinabove was acquired by Grantor by instrument recorded in Book _____, Page _____.

A map showing the above-described property is recorded in Plat Book Z, Page 16.

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

And the Grantor covenants with the Grantee, that Grantor has done nothing to impair such title as Grantor received, and Grantor will warrant and defend the title against the lawful claims of all persons claiming by, under and through Grantor, except for the exceptions hereafter stated.

Title to the property hereinabove described is subject to the following exceptions:

Easements, restrictions, rights-of-way of record and ad valorem taxes for the current year.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

David W. Picha (SEAL)

(Corporate Name)

By: _____ President

ATTEST: _____ Secretary (Corporate Seal)

SEAL-STAMP

NORTH CAROLINA, Guilford COUNTY.

I, Ronald P. Johnson, a Notary Public of Guilford County, North Carolina, certify that David W. Picha, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 20 day of June, 2006.

RONALD P. JOHNSON
NOTARY PUBLIC
GUILFORD COUNTY, NORTH CAROLINA
My Commission Expires JAN. 11, 2008

My commission expires: 1-11-2008 Ronald P. Johnson Notary Public

SEAL-STAMP

NORTH CAROLINA, _____ COUNTY.

I, a Notary Public of the County and State aforesaid, certify that _____ personally came before me this day and acknowledged that he is _____ Secretary of _____ a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its _____ President, sealed with its corporate seal and attested by _____ as its _____ Secretary.

Witness my hand and official stamp or seal, this _____ day of _____, _____.

My commission expires: _____ _____ Notary Public

The foregoing Certificate(s) of _____

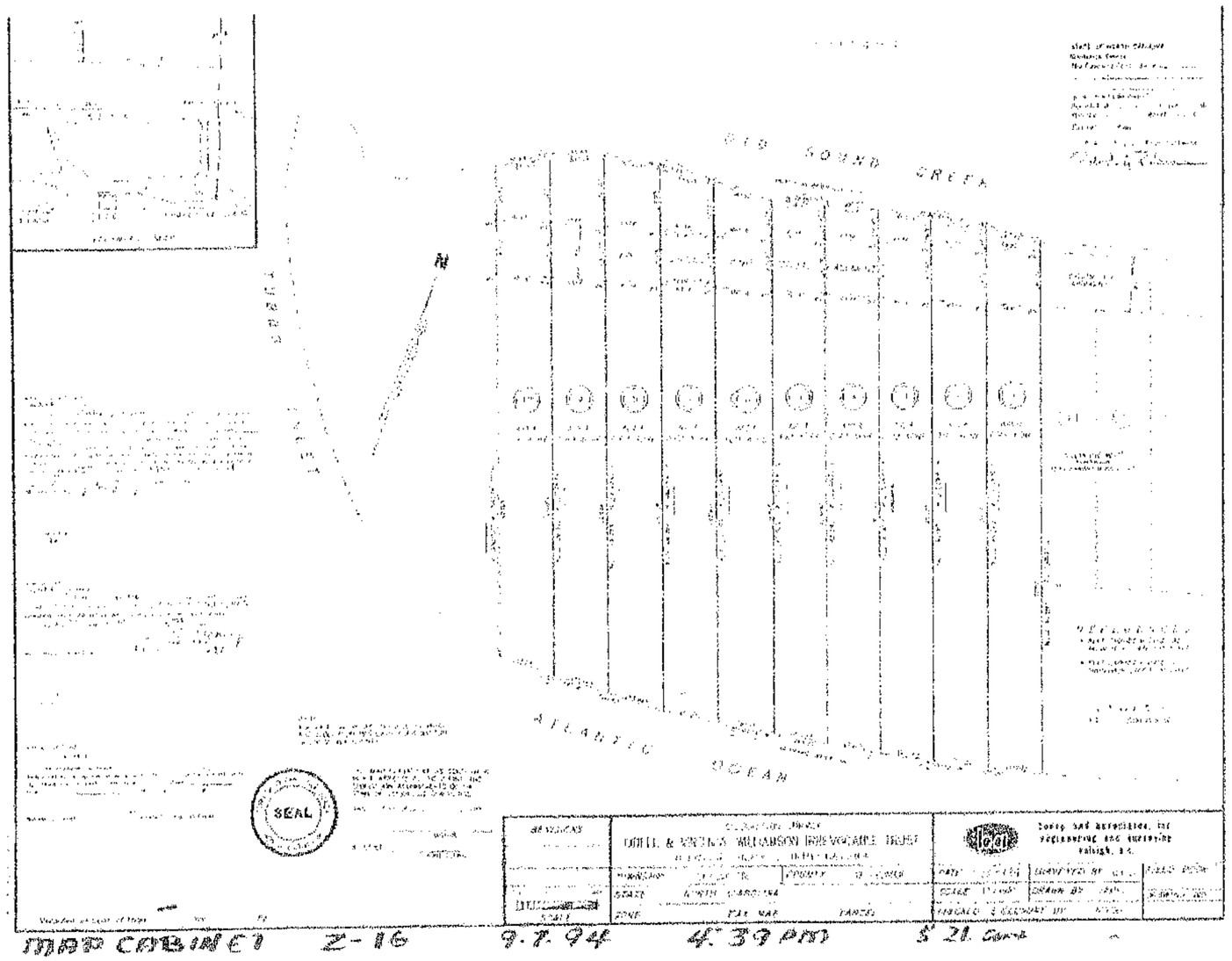
_____

_____

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

_____ REGISTER OF DEEDS FOR _____ COUNTY

By _____ Deputy/Assistant-Register of Deeds.



MAP CABINET Z-16 9.7.94 4:39 PM 5 21 Carol

07/15/2003
$3,750.00 27

STATE OF NORTH CAROLINA Real Estate Excise Tax

Brunswick County--Register of Deeds
Robert J. Robinson
Inst #166797 Book 1784Page 139
07/14/2003 04:06:16pm Rec# 153160

RET LQG Dan
TOTAL 17 REV 3750 TC# 50
REC# ____ CK AMT 3834 CK# 02116
CASH ____ REF ____ BY GW

MAP	AUX	CON	GR	PCL	SPL
6	I	257II	E	010	T
MAP	MPSUF	BLK	PIN	SUF	INT
					GW

NORTH CAROLINA GENERAL WARRANTY DEED

Excise Tax: $ 3,750.00

Parcel Identifier No. 257IE010 **Verified by** ____________ **County on the** ____ **day of** ____________, **20**__
By: ____________

Mail/Box to: LILES & GODBEY, P.C., 6406 BEACH DRIVE SW, OCEAN ISLE BEACH, NC 28469

This instrument was prepared by: LILES & GODBEY, P.C., 6406 BEACH DRIVE SW, OCEAN ISLE BEACH, NC 28469

Brief description for the Index: LT 10, ODELL AND VIRGINIA WILLIAMSON IRREVOCABLE TRUST

THIS DEED made this 11th **day of** July, **20**03, **by and between**

GRANTOR	GRANTEE
DALLAS W. SMITH and wife, WILMA S. SMITH 478 FORK BIXBY ROAD ADVANCE, NC 27006	DAVID W. PICHA and wife, KAY P. PICHA 6965 LORIEN CHARTER DRIVE RANDLEMAN, NC 27317

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

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

BEING ALL OF LOT 10, IN THE ODELL AND VIRGINIA WILLIAMSON IRREVOCABLE TRUST SUBDIVISION AS SHOWN ON A MAP THEREOF RECORDED IN MAP BOOK Z AT PAGE 16, IN THE BRUNSWICK COUNTY PUBLIC REGISTRY.

The property hereinabove described was acquired by Grantor by instrument recorded in Book ________ **page** ________.

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

NC Bar Association Form No. L-3 © 1976, Revised © 1977, 2002

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

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

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

_____ (Entity Name)

By: _____
Title: _____

By: _____
Title: _____

By: _____
Title: _____

Dallas W. Smith (SEAL)
DALLAS W. SMITH

Wilma S. Smith (SEAL)
WILMA S. SMITH

_____ (SEAL)

_____ (SEAL)

State of North Carolina - County of BRUNSWICK

I, the undersigned Notary Public of the County and State aforesaid, certify that DALLAS W. SMITH and wife, WILMA S. SMITH personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp or seal this 11th day of July, 2003.

My Commission Expires: 11-28-04

JAMES GODBEY NOTARY PUBLIC NEW HANOVER COUNTY

Notary Public

State of North Carolina - County of _____

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

My Commission Expires: _____

_____

STATE OF NORTH CAROLINA
COUNTY OF BRUNSWICK

The Foregoing (or annexed) Certificate(s) of JAMES GODBEY

Notary(ies) Public is (are) Certified to be Correct.
This Instrument was filed for Registration on this 14th Day of July, 2003
in the Book and page shown on the First Page hereof.

Robert J. Robinson JR
ROBERT J. ROBINSON, Register of Deeds

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

_____ Register of Deeds for _____ County
By: _____ Deputy/Assistant - Register of Deeds

BRUNSWICK COUNTY **7/5/2016 3:46:50 PM**

PICHA KAY P Return/Appeal Notes: **Parcel: 257IE010**

149 OCEAN ISLE WEST BLVD OI PLAT: /UNIQ ID 138487

64388750 ID NO: 105412867154

BRUNSWICK COUNTY (100), OCEAN ISLE BEACH (100), OIB FIRE (300) CARD NO. 1 of 1

Reval Year: 2015 Tax Year: 2016 L-10 .76AC WILLIAMSON IRREVOC TRUST PL Z/16 1.000 LT SRC=

Appraised by A2 on 02/22/2011 606WE OIB WEST END (GATED) TW-06 CI-12FR-11EX- AT- LAST ACTION 20160309

CONSTRUCTION DETAIL

Foundation - 3	
Piers>8ft w/Con	4.00
Sub Floor System - 4	
Plywd/Ptl bd	8.00
Exterior Walls - 19	
Hardy Plank	32.00
Roofing Structure - 04	
Hip	9.00
Roofing Cover - 06	
Arch Shingle	5.00
Interior Wall Construction - 5	
Drywall/Sheetrock	28.00
Interior Wall Construction - 6	
Custom Interior	0.00
Interior Floor Cover - 11	
Ceramic Clay Tile	14.00
Interior Floor Cover - 14	
Carpet	0.00
Heating Fuel - 04	
Electric	1.00
Heating Type - 09	
Heat Pump Only	4.00
Air Conditioning Type - 03	
Central	4.00
Bedrooms/Bathrooms/Half-Bathrooms	
6/6/1	18.000
Bedrooms	
BAS - 2 FUS - 4 LL - 0	_
Bathrooms	
BAS - 2 FUS - 4 LL - 0	_
Half-Bathrooms	
BAS - 1 FUS - 0 LL - 0	_
Office	
BAS - 0 FUS - 0 LL - 0	0
TOTAL POINT VALUE	127.000

BUILDING ADJUSTMENTS

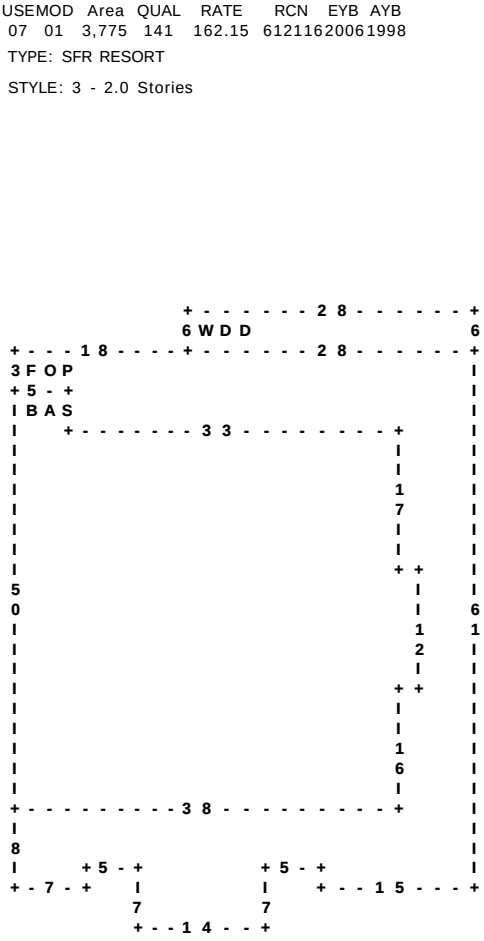
Market/Design	5		1.0600
Quality	4	Above Average	1.1000
Size	Size	Size	0.9500
TOTAL ADJUSTMENT FACTOR			1.110
TOTAL QUALITY INDEX			141

MARKET VALUE

	Eff.		BASE			
USE	MOD	Area	QUAL	RATE	RCN	EYB AYB
07	01	3,775	141	162.15	612116	2006 1998

TYPE: SFR RESORT

STYLE: 3 - 2.0 Stories



DEPRECIATION

Standard 0.09000

% GOOD 91.0

SFR CONSTRUCTION

CORRELATION OF VALUE

CREDENCE TO	MARKET
DEPR. BUILDING VALUE - CARD	557,030
DEPR. OB/XF VALUE - CARD	37,830
MARKET LAND VALUE - CARD	878,750
TOTAL MARKET VALUE - CARD	1,473,610
TOTAL APPRAISED VALUE - CARD	1,473,610
TOTAL APPRAISED VALUE - PARCEL	1,473,610
TOTAL PRESENT USE VALUE - PARCEL	0
TOTAL VALUE DEFERRED - PARCEL	0
TOTAL TAXABLE VALUE - PARCEL $	1,473,610

PRIOR

BUILDING VALUE	355,560
OBXF VALUE	43,917
LAND VALUE	900,000
PRESENT USE VALUE	0
DEFERRED VALUE	0
TOTAL VALUE	1,299,477

PERMIT

CODE	DATE	NOTE	NUMBER	AMOUNT

ROUT: WTRSHD:

SALES DATA

OFF. RECORD BOOKPAGE	DATE MOYR	DEED TYPE	Q/UV/I	INDICATE SALES PRICE
024141081	6 2006	WD	U I	0
017840139	7 2003	WD	U V	1875000
011970515	1 1998	WD	U V	300000
007940967	2 1990	WD	U V	0

HEATED AREA 3,469

NOTES

07ST#09050

SUBAREA TYPE	GS AREA	%	RPL	CS
BAS	1,759	100	2852	22
FOP	1,241	030	6032	086
FUS	1,710	090	2495	4912
LLU	216	020	697	227
WDD	312	020	1005	338
FIREPLACE	1 - None		072	
SUBAREA TOTALS	5,238		612,116	

CODE	DESCRIPTION	COUNT	LTH	WTH	UNITS	UNIT PRICE	ORIG % COND	BLDG#	AYB	EYB	ANN DEP RATE	% OVR	% COND	OB/XF DEPR. VALUE
30	ELEVATOR (PASSENGER)	1	1	1	18,000.00		0	1	1998	1998		S2	66	11880
86	POOL (RESID)	0	0	432	60.00		0	1	1998	1998		S3	49	12701
12	BULK HEAD	72	5	72	100.00		0	1	1998	1998		S3	49	3528
27	DECK	64	5	320	12.00		0	1	2002	2002		S3	61	2342
38	GAZEBO	12	12	144	30.00		0	1	1998	1998		S3	49	2117
72	PIER/DOCK (RESID)	64	4	256	9.00		0	1	1998	1998		S2	66	1521
72	PIER/DOCK (RESID)	10	12	120	9.00		0	1	1998	1998		S2	66	713
25	DOCK (FLOATING)	8	16	128	16.00		0	1	1998	1998		S3	49	1004
32	FENCING	344	4	344	12.00		0	1	1998	1998		S3	49	2023
	TOTAL OB/XF VALUE													37,829

BUILDING DIMENSIONS

FOP=W33N5W5N3E18WDD=N6E28S6W28$E28S61W15N3W5S7W14N7W5S3W7N8E38N16E2N12W2N17$BAS=W33N5W5S50E38N16E2N12W2N17$FUS=1710$FOP=168$WDD=144$LLU=216$.

LAND INFORMATION

HIGHEST AND BEST USE	USE CODE	LOCAL ZONING	FRON TAGE	DEPTH	DEPTH / SIZE	LND MOD	COND FACT	OTHER ADJUSTMENTS AND NOTES RF	AC	LC	TO	OT	ROAD TYPE	LAND UNIT PRICE	LAND UNITS	UNT TYP	TOTAL ADJST	ADJUSTED UNIT PRICE	LAND VALUE	OVERRIDE VALUE	LAND NOTES
SFR OCEAN	0107	C1	0	0	1.0000	0	1.8500						PS	475,000.00	1.000	LT	1.850	878,750.00	878750	0	
TOTAL MARKET LAND DATA																				878,750	
TOTAL PRESENT USE DATA																					

Permit Class

NEW

FILE Bob Strand

Permit Number

240-89

Mod, FYI

STATE OF NORTH CAROLINA
Department of Natural Resources and Community Development
and
Coastal Resources Commission

Permit

RECEIVED
JAN 4 1990
OFFICE OF COASTAL MANAGEMENT
WILMINGTON REGIONAL OFFICE

for

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

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

Issued to Ocean Isle Developing Co., #1 Causeway Drive, Ocean Isle, NC 28459

authorizing development in Brunswick County at west end of 2nd Street, Ocean Isle Beach as requested in the permittee's application dated June 18, 1989 including plans, sheets 1-3 of 4 with plan view and cross section, and blueline plan view sheet 4 of 4.

This permit, issued on December 13, 1989, 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 a fine, imprisonment or civil action; or may cause the permit to be null and void.

1) The exact alignment of the proposed structure must be established by Division of Coastal Management (DCM) and Corps of Engineers personnel prior to construction.

2) The east end of the proposed revetment will connect to the existing revetment at or near the mean high water contour, not at the western terminus of the existing structure, and will not extend more than 5 feet waterward of the mean high water line.

3) The riprap must consist of clean marl stone or other similar material. Metal products, organic materials, or unsightly debris will not be used.

4) Future highground development may require a modification of this permit or a new permit. A major permit(s) must be obtained as part of the full disclosure policy of the DCM.

(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. 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 Departmental approval.

All work must cease when the permit expires on

December 31, 1992

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 DNRCD and the Chairman of the Coastal Resources Commission.

for George T. Everett, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

Signature of Permittee

ADDITIONAL CONDITIONS

NOTE: The activity will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge.

NOTE: The proposed project is certified under General Water Quality Certification No. 1664 issued on September 8, 1983, for rip-rap placement.

Ocean Isle phone 910-575-8393

☑CAMA / ☑DREDGE & FILL GENERAL PERMIT

Nº 49157-D

☑New ☐Modification ☐Complete Reissue ☐Partial Reissue

Previous permit # _____
Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700 ☐Rules attached.

Applicant Name Kay Picha
Address 6965 Lorien Chanter Dr.
City Randleman State NC ZIP 27317
Phone # (336) 674-9176 Fax # (___) _____
Authorized Agent _____

Project Location: County Brunswick
Street Address/ State Road/ Lot #(s) 149 Ocean Isle West
Subdivision _____
City Ocean Isle Beach ZIP 28469
Phone # (___) _____ River Basin Lumber
Adj. Wtr. Body Atlantic Ocean (ocean/man /unkn)
Closest Maj. Wtr. Body Atlantic Ocean

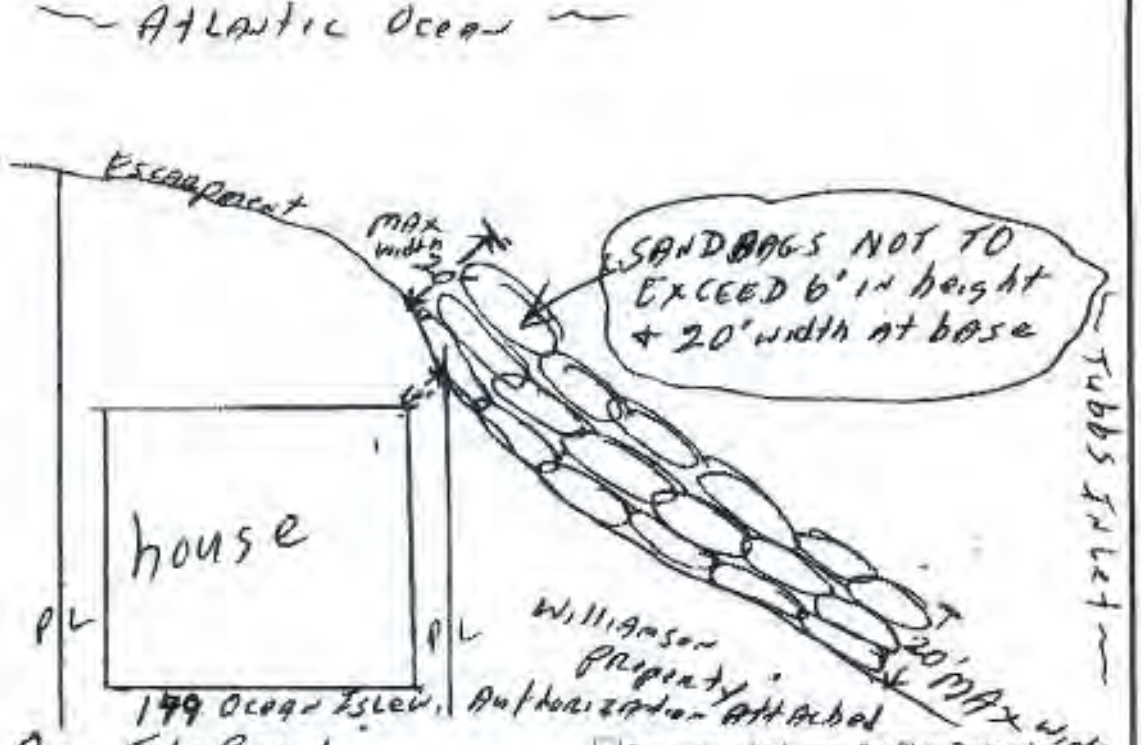
Affected AEC(s): ☐CW ☐EW ☐PTA ☐ES ☐PTS ☐OEA ☐HHF ☑IHW ☐URA ☐N/A ☐PWS _____ ☐FC _____

ORW: yes (no) PNA yes / (no) Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect Threatened Structure

(Scale: 1" = 30')

Pier (dock) length _____
Platform(s) _____
Finger pier(s) _____
Groin length _____
number _____
Bulkhead/ Riprap length _____
avg distance offshore _____
max distance offshore _____
Basin, channel _____
_____
cubic yards _____
Boat ramp _____
Boathouse/ Boatlift _____
_____
Beach Bulldozing _____
Other Sandbags 102' x 20' x 6'
_____
Shoreline Length _____
SAV: not sure yes (no)
Sandbags: not sure yes (no)
Moratorium: n/a (yes) no
Photos: (yes) no
Waiver Attached: (yes) no



A building permit may be required by: Ocean Isle Beach

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact Dave Timpy with U.S. Army Corps of Engineers @ (910) 251-4634 prior to beginning work.

Kay P. Picha
Agent or Applicant Printed Name

Kay P. Picha
Signature * Please read compliance statement on back of permit **

$400

Permit Officer's Signature Debra D. Wilson

10/30/07 Issuing Date

11/30/07 Expiration Date

Ocean Isle Beach N1030208
River Basin File Name

Nº 49198-D

☑CAMA / ☑DREDGE & FILL
GENERAL PERMIT
☐New ☑Modification ☐Complete Reissue ☐Partial Reissue

Previous permit # 49157-D
Date previous permit issued 10-30-07

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700 ☐Rules attached

Applicant Name Kay Picha
Address 6965 Lorien Chanter Dr.
City Randleman State NC ZIP 27317
Phone # (336) 674-8176 Fax # (___)
Authorized Agent

Project Location: County Brunswick
Street Address/ State Road/ Lot #(s) 149 Ocean Isle West
Subdivision
City Ocean Isle Beach ZIP 28469
Phone # (___) River Basin Lumber
Adj. Wtr. Body Atlantic Ocean (sd/man /unkn)
Closest Maj. Wtr. Body Atlantic Ocean

Affected AEC(s): ☐CW ☐EW ☐PTA ☐ES ☐PTS ☑OEA ☑HHF ☑IH ☐UBA ☐N/A ☐PWS: ☐FC:

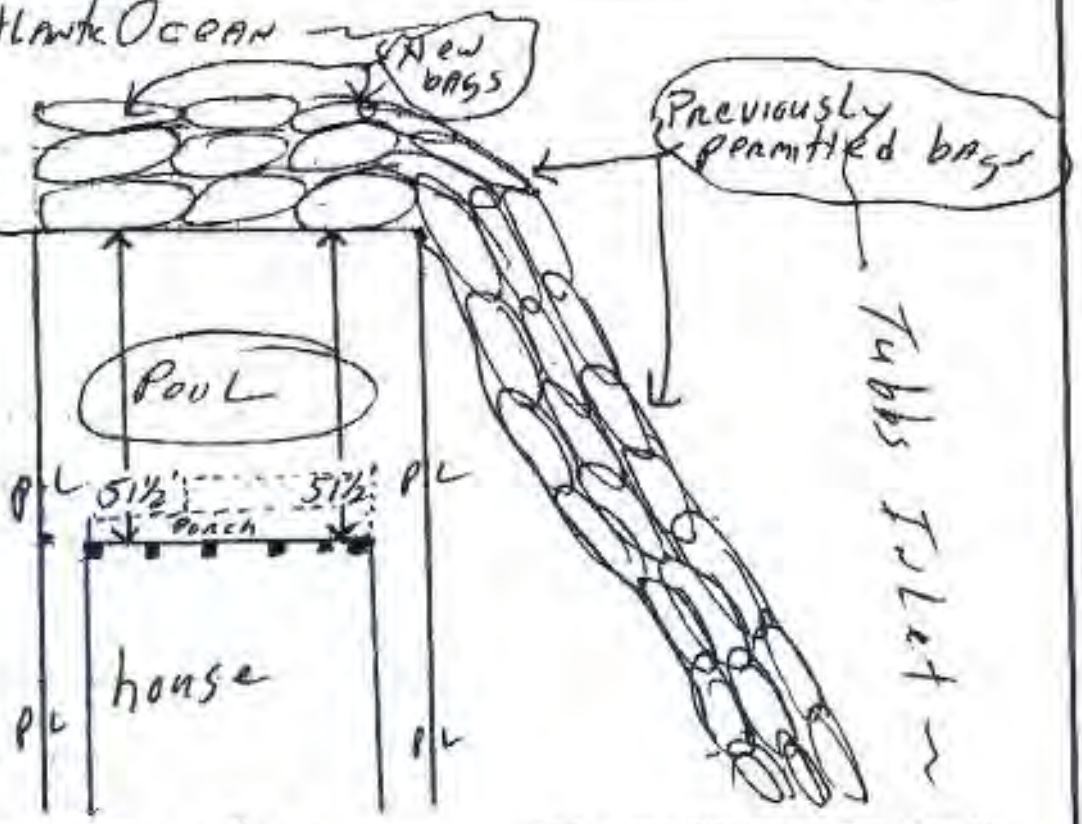
ORW: yes / no PNA yes / no Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect Threatened Structure

(Scale: 1"=30')

Pier (dock) length
Platform(s)
Finger pier(s)
Groin length
number
Bulkhead/ Riprap length
avg distance offshore
max distance offshore
Basin, channel
cubic yards
Boat ramp
Boathouse/ Boatlift
Beach Bulldozing
Other Sandbags 149'x 20'x6'

Shoreline Length 61'
SAV: not sure yes no
Sandbags: not sure yes no
Moratorium: n/a yes no
Photos: yes no
Waiver Attached: yes no



A building permit may be required by: Ocean Isle Beach
☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact Dave Timpy @ USACOE - (910) 251-4634 prior to beginning work for Required Federal Permits

Kay P. Picha
Agent or Applicant Printed Name

Kay P. Picha
Signature ** Please read compliance statement on back of permit **

$400 - #1277

12-9-2007
Permit Officer's Signature Debra Wilson

11/14/07
Issuing Date

11/30/07
Expiration Date

Ocean Isle Beach N103020A
Local Planning Jurisdiction Rover File Name

☑CAMA / ☑DREDGE & FILL

GENERAL PERMIT

☑New ☐Modification ☐Complete Reissue ☐Partial Reissue

Nº 49148

Previous permit # _____

Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700

☑Rules attached.

Applicant Name Ocean Isle Beach West % Curt Rodgers

Address 4601 Ray Kendall Rd.

City Charlotte State NC ZIP 28270

Phone # (704 846-1298 Fax # (___) _____

Authorized Agent Yogi Harper

Project Location: County Brunswick

Street Address/ State Road/ Lot #(s) West END of Ocean Isle West Blvd.

Subdivision _____

City Ocean Isle Beach ZIP 28469

Phone # (___) _____ River Basin Lumber

Adj. Wtr. Body Tubbs Inlet (nat./man./unkn)

Closest Maj. Wtr. Body Atlantic Ocean

Affected AEC(s): ☐CW ☐EW ☐PTA ☐ES ☐PTS ☐OEA ☐MHF ☐IH ☐UBA ☐N/A ☐PWS: _____ ☐FC: _____

ORW: yes / no PNA yes / no Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect the west End of Ocean Isle West Blvd. (Temporary Structure)

(Scale: 1" = 20')

Pier (dock) length _____

Platform(s) _____

Finger pier(s) _____

Groin length _____

number _____

Bulkhead/ Riprap length _____

avg distance offshore _____

max distance offshore _____

Basin, channel _____

cubic yards _____

Boat ramp _____

Boathouse/ Boatlift _____

Beach Bulldozing _____

Other SANDBAGS 68' x 20' x 6'

Shoreline Length 60'

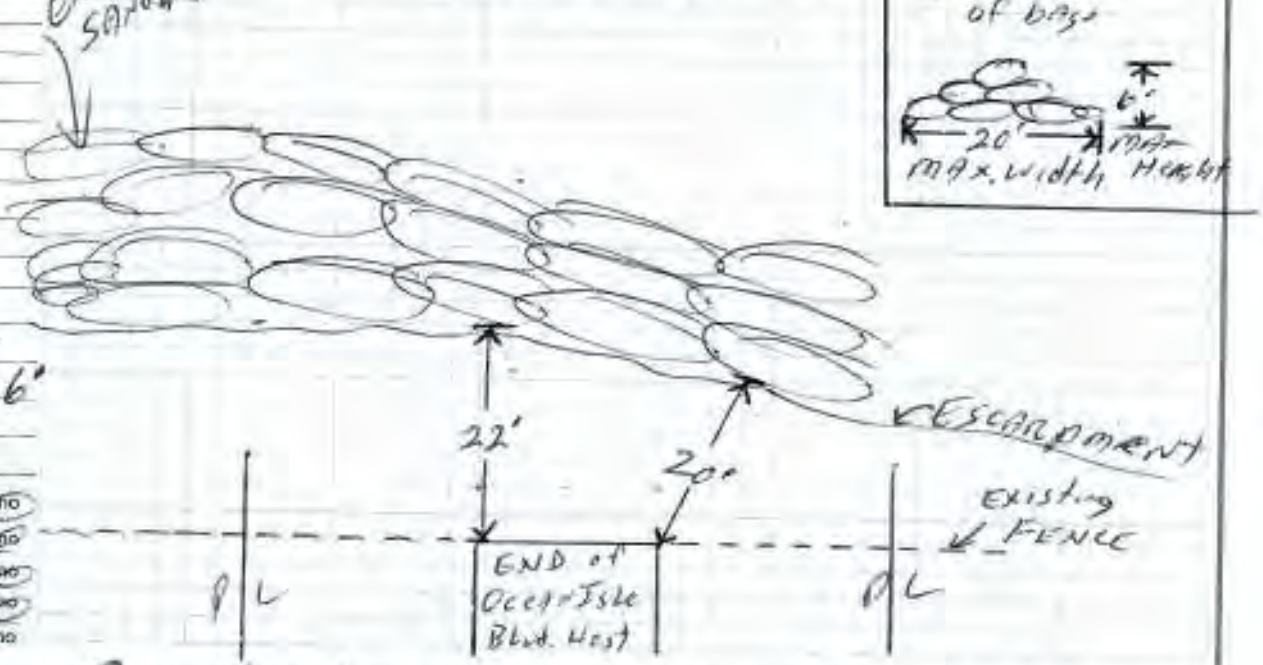
SAV: not sure yes (no)

Sandbags: not sure yes (no)

Moratorium: n/a yes (no)

Photos: yes (no)

Waiver Attached: (yes) no



A building permit may be required by: Ocean Isle Beach

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact U.S. Army Corps of Engineers (Dave Timpy @ 251-4634) prior to beginning work.

Yogi Harper

Agent or Applicant Printed Name

Yogi Harper

Signature ** Please read compliance statement on back of permit **

$400 - #1279

Application Fee(s) Check #

Debra Wilson

Permit Officer's Signature Debra Wilson

12/13/07 01/13/08

Issuing Date Expiration Date

Ocean Isle Beach N112218A

Local Planning Jurisdiction Rover File Name

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Coastal Management
James H. Gregson
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

May 7, 2009

David and Kay Picha
6965 Lorien Charter Drive
Randleman, North Carolina 27317

RE: EXEMPTED PROJECT - MAINTENANCE AND REPAIR
G.S. 113A-103(5)(b)(5) and 15A NCAC 07J .0210

PROJECT ADDRESS – 149 Ocean Isle Road
Ocean Isle Beach, North Carolina 28469

AREA OF ENVIRONMENTAL ONCERN – Ocean Erodible Area, High Hazard Flood Area, Inlet Hazard Area, Estuarine Shoreline

Dear Mr. and Mrs. Picha:

I have reviewed the information submitted to this office by your consultant (Coastal Science and Engineering) concerning the repair of a riprap revetment at your property in Ocean Isle Beach, NC, adjacent to Tubbs Inlet and Old Sound Creek in Brunswick County. I have determined that the activity you propose is exempt from needing a CAMA development permit as long as it remains consistent with the revised site drawings received on April 30, 2009 and revised site drawing (sheet 5 of 6) received on May 7, 2009, and meets the conditions specified below. If your plans should change and your project will no longer meet these conditions, please contact me before proceeding.

MAINTENANCE AND REPAIR - G.S.113A-103(5)(B)(5) and 15A NCAC 07J .0210 – Maintenance and repair (excluding replacement) necessary to repair damage to structures caused by the elements is not considered development subject to CAMA permit requirements. For revetments, the proposed work is considered replacement if more than 50 percent of the linear footage of the structure must be rebuilt to restore the structure to its pre-damage condition. The repairs shall be limited to the following guidelines and conditions:

1. The project consists of the repair of approximately 110 linear feet of riprap revetment per site drawings sheets 3and 4 of 6 revised on April 30, 2009, sheet 5 of 6 revised on May 1, 2009 and sheet 6 of 6 revised on April 22, 2009.
2. The proposed repairs shall be consistent with all other applicable local ordinances and North Carolina Building Code standards.

This exemption to CAMA permit requirements does not alleviate the necessity of your obtaining any other State, Federal or Local authorization and N.C. Building Permits. This exemption expires 90 days from the date of this letter.

Sincerely,

Jim Gregson
Director

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

STATE OF NORTH CAROLINA COUNTY OF BRUNSWICK	IN THE OFFICE OF ADMINISTRATIVE HEARINGS 08 EHR 2262

KAY PICHA, Petitioner, v. DEPARTMENT OF ENVIRONMENT, AND NATURAL RESOURCES, DIVISION OF COASTAL MANAGEMENT, Respondent.	)	**SETTLEMENT AGREEMENT**

Pursuant to N.C. Gen. Stat. §150B-31(b), 26 NCAC 03.0106 and other applicable law, Kay Picha ("Petitioner,") and the North Carolina Department of Environment and Natural Resources, Division of Coastal Management, ("Respondent") now enter into this Settlement Agreement ("Agreement") to resolve all matters in controversy between them. This matter arises out of Petitioner's September 26, 2008 filing of a petition for contested case hearing challenging Respondent's September 8, 2008 denial letter regarding Petitioner's application for a Coastal Area Management Act ("CAMA") permit for the construction of a bulk head at the rear of their property. This Agreement also addresses a related Notice of Violation ("NOV") issued by Respondent to Petitioner on March 13, 2008 (NOV #08-13D), and a subsequent continuing NOV ("CNOV"), issued by Respondent to Petitioner on September 23, 2008 (CNOV #08-13D). In addition, this Agreement addresses a separate NOV issued by Respondent to Ocean Isle West Homeowners Association, Inc. ("HOA") on February 13, 2008 (NOV #08-08D), and a subsequent CNOV issued to that same entity on September 23, 2008 (CNOV #08-08D).

Finally, this Agreement addresses the NOV issued to Erosion Control Specialists, LLC c/o Yogi Harper on February 18, 2008 (NOV# 08-16D).

Subsequent to the filing of Petitioner's petition for a contested case, the parties have engaged in numerous informal, good faith settlement discussions, as well as two days of formal mediation. As a result, the parties have reached agreement on all issues, as set forth in this Agreement. Additionally, in light of the terms of this Agreement, the Petitioner will dismiss the outstanding contested case against Respondent.

Without any hearing of fact or law in this contested case, and in consideration of the mutual promises and obligations as set forth in this Agreement, which the parties each agree constitute mutual, good and valuable consideration, the Parties now CONTRACT, SETTLE AND AGREE AS FOLLOWS:

1. To avoid the costs, uncertainties and delay of litigation, and to constructively address and resolve their differences, the parties voluntarily enter into this Agreement and agree that all parties to this contested case proceeding are correctly designated, and there is no question as to misjoinder or nonjoinder of parties.

2. The parties agree that the proposed rock revetment repair work described in the "Shore Protection of 149 Ocean Isle Road" Plan as prepared by James William Foreman, Jr. of Coastal Science & Engineering and amended as of May 1, 2009 ("Plan"), constitutes "maintenance and repair" as that term is defined in 15A NCAC 07J.0210 and N.C.G.S. 113A-103(5)(b)(5), and thus does not constitute "development" as that term is defined in the CAMA statute, and does not require a CAMA permit. The parties agree that upon the issuance of a permit exemption letter by Respondent, the Petitioner and her

contractors/agents may begin work immediately to do the repair that was proposed in the Plan, a copy of which is attached as "Exhibit A" to this Agreement.

3. Within 20 days of Petitioner signing this Agreement, Petitioner will pay the sum of $500.00 (five hundred dollars and no cents) to Respondent. Payment shall be made to "N.C. Department of Environment and Natural Resources", and mailed or delivered to:

N.C. Division of Coastal Management
c/o Roy Brownlow, Compliance Coordinator
400 Commerce Avenue
Morehead City, NC 28557

This payment shall constitute full settlement of the following enforcement matters:

a) NOV#08-13D issued March 13, 2008 to Kay Picha
b) CNOV#08-13D issued September 23, 2008 to Kay Picha
c) NOV#08-08D issued February 13, 2008 to Ocean Isle West HOA
d) CNOV#08-08D issued September 23, 2008 to Ocean Isle West HOA
e) NOV#08-16D issued February 18, 2008 to Erosion Control Specialists, LLC c/o Yogi Harper

This payment will first be applied to cover any of DCM's enforcement costs related to these enforcement cases.

4. Petitioner agrees to be responsible for those sandbags installed pursuant to CAMA General Permit # 49148, issued to the Ocean Isle West Homeowners Association, Inc. on December 13, 2007. Petitioner paid for the installation of these sandbags, and hereby agrees to responsible for their continued maintenance and removal as required by rule or law, as if the permit was originally issued to Petitioner. Petitioner agrees to execute a sandbag removal notice form supplied by Respondent, within 20 days of the Petitioner's execution of this agreement.

5. Respondent agrees not to take further enforcement action related to the sand bags as currently situated and located on Petitioner's beach property (149 Ocean Isle Road West). However, Respondent reserves the right to require relocation or removal of existing sand bags should any sand bags materially shift or move in the future. Respondent also reserves the right to enforce permit conditions related to maintenance of sandbags pursuant to 15A NCAC 7H.0308(a)(2)(I) if determined by Respondent that the need for maintenance has arisen. Respondent shall not consider any of the matters at issue in this contested case (and now resolved in this Agreement) against Petitioner. Respondent shall not require removal or relocation of any future sand bag shifts or movements unless Respondent, in its reasonable discretion, finds that such shifts or movements have resulted in a significant or material horizontal expansion of the width of the existing sand bag alignment.
6. If Petitioner elects to submit to Respondent an application for additional sand bags for Petitioner's beach property at 149 Ocean Isle Road West, Respondent agrees to expeditiously process the same.
7. Nothing in this Agreement shall restrict the right of Respondent to inspect or take enforcement action against Petitioner for any new or subsequent violations of CAMA, its implementing regulations, or the North Carolina Dredge & Fill law. Nothing in this Agreement shall restrict the right of Petitioner to contest a new or subsequent enforcement action or permit decision arising outside of the matters addressed and resolved in this Agreement.
8. Within 20 days of Petitioner's Execution of this Agreement, Petitioner agrees to file a Voluntary Dismissal and Withdrawal of her Petition for a Contested Case Hearing in

this matter at the Office of Administrative Hearings ("OAH"). The parties agree this matter is concluded once the terms of this Agreement are carried out, and that no further proceedings are needed or required by OAH to resolve this contested case.

9. The parties agree that the consideration for this settlement is the promises contained herein and that this Agreement contains the whole agreement between them, and that this Agreement is a settlement of disputed claims with no admissions of liability by any party.

10. This Agreement shall be interpreted and implemented in accord with North Carolina Law, and shall be binding upon the parties, their successors and assigns, upon execution by the undersigned, who represent and warrant that they are authorized to enter into this agreement on behalf of the named party associated with their signature.

FOR THE DIVISION OF COASTAL MANAGEMENT:

Kay Picha, Petitioner — date 5-7-09

Jim Gregson — date 05-07-09
Director of Respondent- DCM

APPROVED AS TO FORM:

By: _____
Christine A. Goebel — date
Assistant Attorney General

06/30/2009 18:57 2 K PAGE 01

X CAMA / X DREDGE & FILL GENERAL PERMIT

Nº 52423-C

X New ☐ Modification ☐ Complete Reissue ☐ Partial Reissue

Previous permit #

Date previous permit issued

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H, 1700

☐ Rules attached

Project Location: County BRUNSWICK

Street Address/ State Road/ Lot #(s) 149 OCEAN ISLE WEST BLVD.

Subdivision OCEAN ISLE WEST

City OCEAN ISLE BEACH ZIP 28469

Phone # (336 402 5206 River Basin LUMBER

Adj. Wtr. Body TUBBS INLET/OLDSMANS CRK. (nat /man /unkn)

Closest Maj. Wtr. Body ATLANTIC OCEAN

Affected AEC(s): ☐ CW ☐ EW ☐ PTA ☐ ES ☐ PTS ☑ OEA ☐ HHF ☐ PH ☐ UBA ☐ N/A ☐ PWS: ☐ FC:

ORW: yes / (no) PNA yes / (no) Crit.Hab. yes / no

Type of Project/ Activity EMERGENCY SAND BAGS TO PROTECT WEST END OF OCEAN ISLE WEST BLVD. (UNDERLINED STRUCTURE)

(Scale: 1" = 30')

Pier (dock) length

Platform(s)

Finger pier(s)

Groin length

number

Bulkhead/ riprap length

avg distance offshore

max distance offshore

Basin, channel

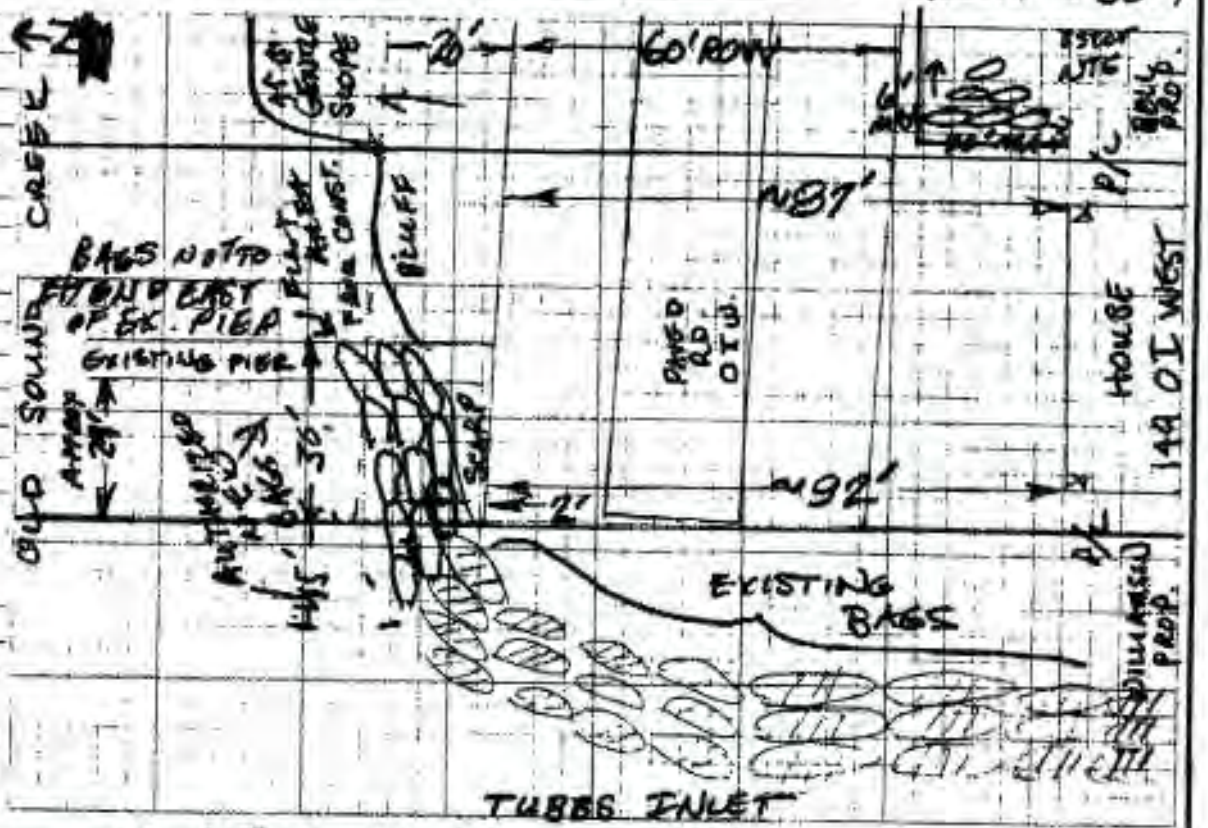
cubic yards

Boat ramp

Boathouse/ Boatlift

Beach Bulldozing

Other SANDBAGS 30'TO 45' X 20' X 6'



Shoreline Length ~60'

SAV:	not sure	yes	no
Sandbags:	not sure	yes	no
Monitorkum:	n/a	yes	no
Photos:		yes	no
Waiver Attached:		yes	no

A building permit may be required by: OCEAN ISLE BEACH ☐ See note on back regarding River Basin rules.

Notes/ Special Conditions CONTACT USACE (DAVE TIMPY @ 251-4634) PRIOR TO BEGINNING WORK. ALL CONDITIONS OF 7H.1700 APPLY IN ADDITION TO ANY OTHER STATE, FEDERAL, OR LOCAL REGULATIONS

~~JAMES HARPER~~ RAY PICHA
Agent or Applicant Printed Name

Signature ** Please read compliance statement on back of permit **

$400 1442

Permit Officer's Signature

6/30/09 Issuing Date

7/30/09 Expiration Date

OCEAN ISLE BEACH Local Planning Jurisdiction

NG6012A River File Name

CERTIFICATE OF EXEMPTION
FROM REQUIRING A CAMA PERMIT

PH 1.29.15

No. 01416D

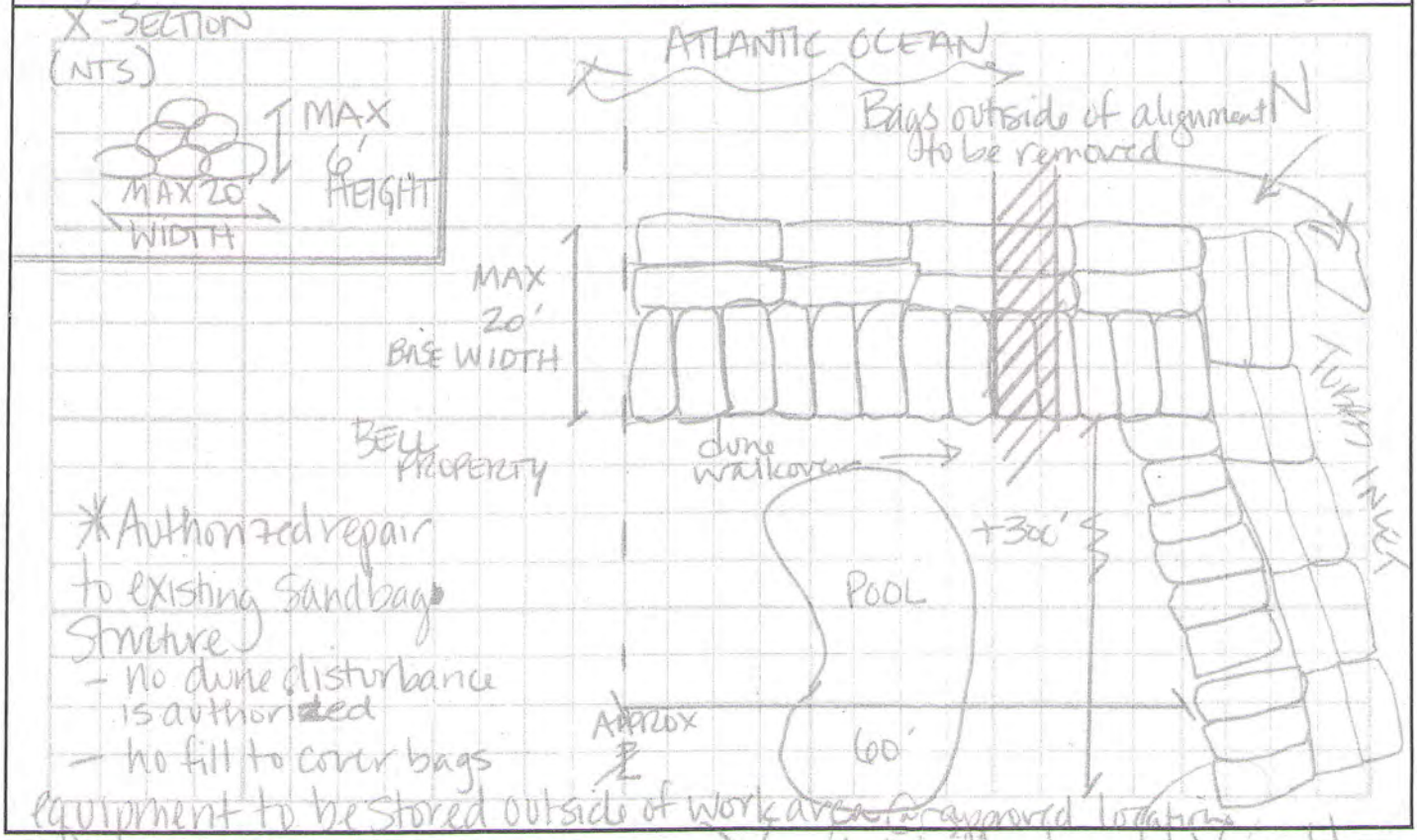
as authorized by the State of North Carolina,
Department of Environment and Natural Resources and the Coastal Resources Commission
in an area of environmental concern pursuant to 15 NCAC Subchapter 7K .0103.

Applicant Name David & Kay Picha c/o Erosion Control Specialists Phone Number (252) 473-0549 agent
Address 6965 Loren Chester Drive
City Randleman State NC Zip 27317
Project Location (County, State Road, Water Body, etc.) Brunswick County located at Ocean Isle West Blvd in the Town of Ocean Isle Beach adj to the Atlantic Ocean
Type and Dimensions of Project Repair Sandbags approximately ~ 50-60 Bags 20'W x 300'L x 6'H

The proposed project to be located and constructed as described above is hereby certified as exempt from the CAMA permit requirement pursuant to 15 NCAC 7K .0103. This exemption to CAMA permit requirements does not alleviate the necessity of your obtaining other State, Federal or Local authorization.

This certification of exemption from requiring a CAMA permit is valid for 90 days from the date of issuance. Following expiration, a re-examination of the project and project site may be necessary to continue this certification.

SKETCH (SCALE: 1" = 20')



Any person who proceeds with a development without the consent of a CAMA official under the mistaken assumption that the development is exempted, will be in violation of the CAMA if there is a subsequent determination that a permit was required for the development.

The applicant certifies by signing this exemption that (1) the applicant has read and will abide by the conditions of this exemption, and (2) a written statement has been obtained from adjacent landowners certifying that they have no objections to the proposed work.

X Yogi Harper
Applicant's signature

CAMA Official's signature

1/23/15
Issuing date

4/23/15
Expiration date

Attachment: 15 North Carolina Administrative Code 7K

...MA / ☑ DREDGE & FILL

GENERAL PERMIT

No. 19152-D

☑ New ☐ Modification* ☑ Complete Reissue ☐ Partial Reissue

Previous permit # _____

Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700

☑ Rules attached.

Applicant Name Kay Picha

Address 6965 Lorien Chantin Dr.

City Randleman State NC ZIP 27317

Phone # (336) 674-8176 Fax # (___) _____

Authorized Agent _____

Project Location: County Brunswick

Street Address/ State Road/ Lot #(s) 149 Ocean Isle West

Subdivision _____

City Ocean Isle Beach ZIP 28469

Phone # (___) _____ River Basin Lumber

Adj. Wtr. Body Atlantic Ocean (nat./man /unkn)

Closest Maj. Wtr. Body Atlantic Ocean

Affected AEC(s): ☐ CW ☐ EW ☐ PTA ☐ ES ☐ PTS ☑ OEA ☐ HHF ☑ IH ☐ UBA ☐ N/A ☐ PWS: _____ ☐ FC: _____

ORW: yes / (no) PNA yes / (no) Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect Threatened Structure

(Scale: 1" = 30')

Pier (dock) length _____

Platform(s) _____

Finger pier(s) _____

Groin length _____

number _____

Bulkhead/ Riprap length _____

avg distance offshore _____

max distance offshore _____

Basin, channel _____

cubic yards _____

Boat ramp _____

Boathouse/ Boatlift _____

Beach Bulldozing _____

Other Sandbags 102' x 20' x 6'

Shoreline Length _____

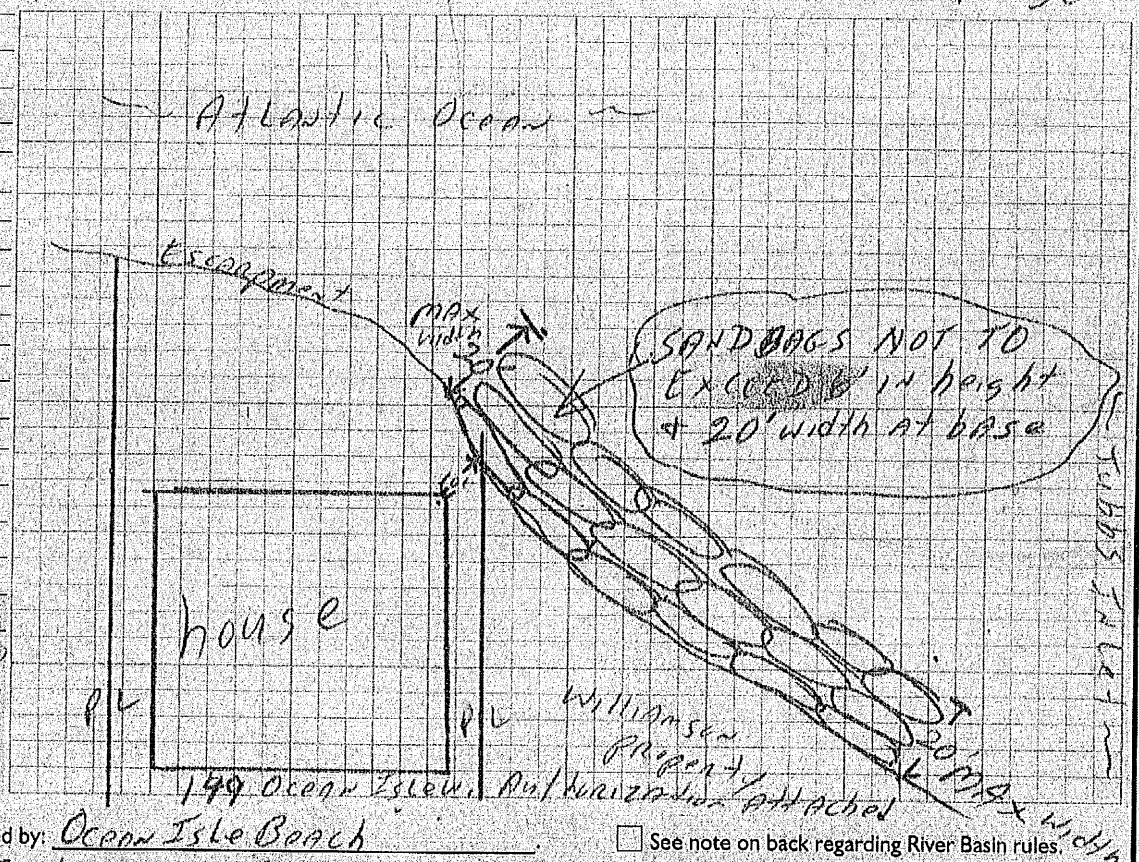
SAV: not sure yes (no)

Sandbags: not sure yes (no)

Moratorium: n/a (yes) no

Photos: (yes) no

Waiver Attached: (yes) no



A building permit may be required by: Ocean Isle Beach

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact Dave Timpy with U.S. Army Corps of Engineers @ (910) 251-4634 prior to beginning work.

Kay P. Picha

Agent or Applicant Printed Name

Kay P. Picha

Signature ** Please read compliance statement on back of permit **

$400 Application Fee(s)

#1271 Check #

Permit Officer's Signature Debra D. Wilson

10/30/07 Issuing Date

11/30/07 Expiration Date

Ocean Isle Beach Local Planning Jurisdiction

N1030209 Rover File Name

SANDBAG REMOVAL NOTICE

TO WHOM IT MAY CONCERN:

I, Kay Picha, give permission to Yogi Harper to act as my agent in my behalf in obtaining a CAMA General Permit to place sandbags as a temporary erosion control structure in front of my property at 149 OIW.

I, Kay Picha, have read the specifications in 15A NCAC 7H-1700 and understand that the sand bags may remain in place for up to 2 years after the date of permit approval. I understand that I will be responsible for removing the sandbags within 30 days after that period or at any time that they are determined by DCM staff or its agent to be unnecessary due to relocation or removal of the structure. I will also be responsible for removing any damaged sandbags during the period they are authorized to be in place.

I also understand that the removal of the sandbags shall not be required if at the specified date for removal they are determined by DCM staff to be covered by dunes with vegetation sufficient to be considered stable and natural.

AUTHORIZED SIGNATURE: Kay P. Picha

DATE: 10/30/07

DP 49198-D

☐ CAMA / ☑ DREDGE & FILL

GENERAL PERMIT

☐ New ☑ Modification ☐ Complete Reissue ☐ Partial Reissue

Previous permit # 49157-D

Date previous permit issued 10-30-07

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700

☑ Rules attached.

Applicant Name Kay Picha

Address 6265 Lorien Chantea Dr.

City Randleman State NC ZIP 27317

Phone # (336) 674-8126 Fax # (___)

Authorized Agent

Project Location: County Brunswick

Street Address/ State Road/ Lot #(s) 149 Ocean Isle West

Subdivision

City Ocean Isle Beach ZIP 28469

Phone # (___) River Basin Lumber

Adj. Wtr. Body Atlantic Ocean (nat/man /unkn)

Closest Maj. Wtr. Body Atlantic Ocean

Affected AEC(s): ☐ CW ☐ EW ☐ PTA ☐ ES ☐ PTS ☑ OEA ☑ HHF ☑ IH ☐ UBA ☐ N/A ☐ PWS: ☐ FC:

ORW: yes / (no) PNA yes / (no) Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect Threatened Structure

(Scale: 1" = 30')

Pier (dock) length

Platform(s)

Finger pier(s)

Groin length

number

Bulkhead/ Riprap length

avg distance offshore

max distance offshore

Basin, channel

cubic yards

Boat ramp

Boathouse/ Boatlift

Beach Bulldozing

(Other) Sandbags 149' x 20' x 6'

Shoreline Length 61'

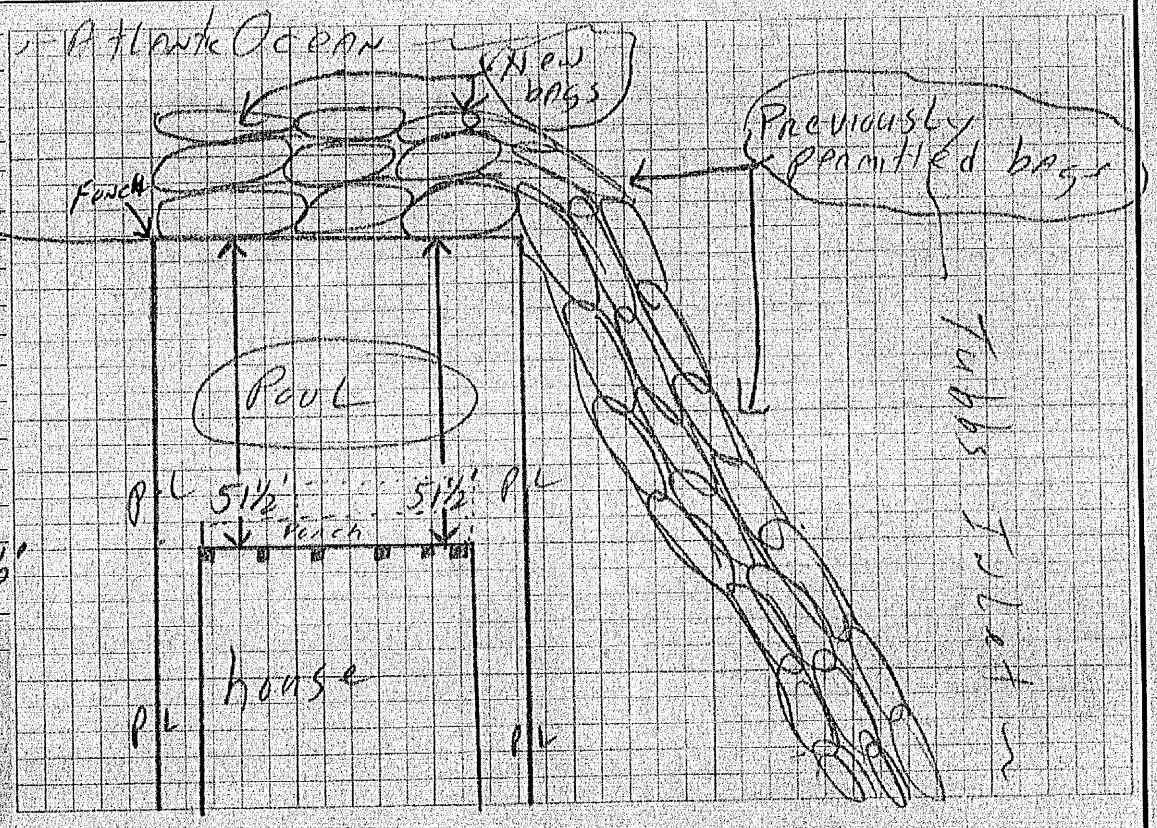
SAV: not sure yes (no)

Sandbags: not sure yes no

Moratorium: n/a (yes) no

Photos: (yes) no

Waiver Attached: (yes) no



A building permit may be required by: Ocean Isle Beach

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact Dave Timpy @ USACOE - (910) 251-4634 prior to beginning work for Required Federal Permits

Kay P. Picha

Agent or Applicant Printed Name

Kay P. Picha

Signature ** Please read compliance statement on back of permit **

$400 - #1277

Application Fee(s) Check #

Permit Officer's Signature Dana Wilson

11/14/07 Issuing Date

11/30/07 Expiration Date

Ocean Isle Beach Local Planning Jurisdiction

N1030208 ✓ Rover File Name

Fax back to Kay at
910-575-7835

SANDBAG REMOVAL NOTICE

TO WHOM IT MAY CONCERN:

I, Curt Rodgers HOA Pres., give permission to Your Harbor Erosion control Specialists to act as my agent in my behalf in obtaining a CAMA General Permit to place sandbags as a temporary erosion control structure in front of my property at End Ocean Isle Blvd west

I, Curt Rodgers HOA Pres., have read the specifications in 15A NCAC 7H-1700 and understand that the sand bags may remain in place for up to 2 years after the date of permit approval. I understand that I will be responsible for removing the sandbags within 30 days after that period or at any time that they are determined by DCM staff or its agent to be unnecessary due to relocation or removal of the structure. I will also be responsible for removing any damaged sandbags during the period they are authorized to be in place.

I also understand that the removal of the sandbags shall not be required if at the specified date for removal they are determined by DCM staff to be covered by dunes with vegetation sufficient to be considered stable and natural.

AUTHORIZED SIGNATURE: Curt J. Rogers (Pres. O.I.B.W. Homeowners Assn.)

DATE: 11-26-07

☑ CAMA / ☑ DREDGE & FILL

GENERAL PERMIT

No. 49148-2

☑ New ☐ Modification ☐ Complete Reissue ☐ Partial Reissue

Previous permit # _____

Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H.1700 ☑ Rules attached.

Applicant Name Ocean Isle Beach West % Curt Rodgers

Address 4601 Ky Kendall Rd.

City Charlotte State NC ZIP 28270

Phone # (704) 846-1298 Fax # (___) _____

Authorized Agent Yogi Harper

Project Location: County Brunswick

Street Address/ State Road/ Lot #(s) West END of Ocean Isle West Blvd.

Subdivision _____

City Ocean Isle Beach ZIP 28469

Phone # (___) _____ River Basin Lumber

Adj. Wtr. Body Tubbs Inlet (nat /man /unkn)

Closest Maj. Wtr. Body Atlantic Ocean

Affected AEC(s): ☐ CW ☐ EW ☐ PTA ☐ ES ☐ PTS ☐ OEA ☐ HHF ☐ IH ☐ UBA ☐ N/A ☐ PWS: _____ ☐ FC: _____

ORW: yes / no PNA yes / no Crit.Hab. yes / no

Type of Project/ Activity Emergency Sandbags to Protect the west End of Ocean Isle West Blvd. (Threatened Structure) **(Scale: 1" = 20')**

Pier (dock) length _____

Platform(s) _____

Finger pier(s) _____

Groin length _____

number _____

Bulkhead/ Riprap length _____

avg distance offshore _____

max distance offshore _____

Basin, channel _____

cubic yards _____

Boat ramp _____

Boathouse/ Boatlift _____

Beach Bulldozing _____

Other SANDBAGS 68'x20'x6'

Shoreline Length 60'

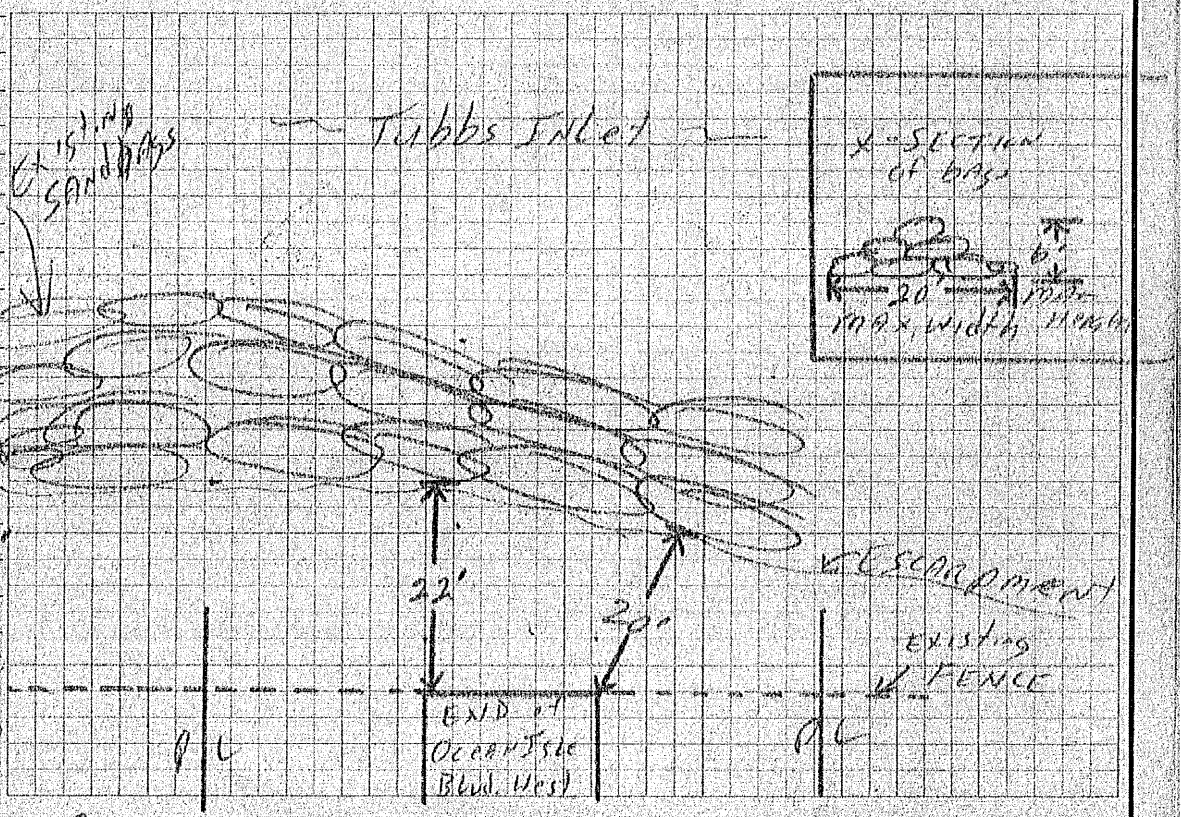
SAV: not sure yes no

Sandbags: not sure yes no

Moratorium: n/a yes no

Photos: yes no

Waiver Attached: yes no



A building permit may be required by: Ocean Isle Beach. ☐ See note on back regarding River Basin rules.

Notes/ Special Conditions Contact U.S. Army Corps of Engineers (Dave Timpy @ 251-461-4) prior to beginning work.

Yogi Harper
Agent or Applicant Printed Name

Yogi Harper
Signature ** Please read compliance statement on back of permit **

$400 — #1279
Application Fee(s) Check #

Debra Wilson
Permit Officer's Signature

12/13/07 01/13/08
Issuing Date Expiration Date

Ocean Isle Beach N1122181A
Local Planning Jurisdiction Rover File Name

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

Beverly Eaves Perdue
Governor

James H. Gregson
Director

Dee Freeman
Secretary

May 7, 2009

David and Kay Picha
6965 Lorien Charter Drive
Randleman, North Carolina 27317

RE: EXEMPTED PROJECT - MAINTENANCE AND REPAIR
G.S. 113A-103(5)(b)(5) and 15A NCAC 07J .0210

PROJECT ADDRESS – 149 Ocean Isle Road
Ocean Isle Beach, North Carolina 28469

AREA OF ENVIRONMENTAL ONCERN – Ocean Erodible Area, High Hazard Flood Area, Inlet Hazard Area, Estuarine Shoreline

Dear Mr. and Mrs. Picha:

I have reviewed the information submitted to this office by your consultant (Coastal Science and Engineering) concerning the repair of a riprap revetment at your property in Ocean Isle Beach, NC, adjacent to Tubbs Inlet and Old Sound Creek in Brunswick County. I have determined that the activity you propose is exempt from needing a CAMA development permit as long as it remains consistent with the revised site drawings received on April 30, 2009 and revised site drawing (sheet 5 of 6) received on May 7, 2009, and meets the conditions specified below. If your plans should change and your project will no longer meet these conditions, please contact me before proceeding.

MAINTENANCE AND REPAIR - G.S.113A-103(5)(B)(5) and 15A NCAC 07J .0210 – Maintenance and repair (excluding replacement) necessary to repair damage to structures caused by the elements is not considered development subject to CAMA permit requirements. For revetments, the proposed work is considered replacement if more than 50 percent of the linear footage of the structure must be rebuilt to restore the structure to its pre-damage condition. The repairs shall be limited to the following guidelines and conditions:

1. The project consists of the repair of approximately 110 linear feet of riprap revetment per site drawings sheets 3and 4 of 6 revised on April 30, 2009, sheet 5 of 6 revised on May 1, 2009 and sheet 6 of 6 revised on April 22, 2009.
2. The proposed repairs shall be consistent with all other applicable local ordinances and North Carolina Building Code standards.

This exemption to CAMA permit requirements does not alleviate the necessity of your obtaining any other State, Federal or Local authorization and N.C. Building Permits. This exemption expires 90 days from the date of this letter.

Sincerely,

Jim Gregson
Director

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

CAMA / DREDGE & FILL GENERAL PERMIT

№ 52423-C

☒ New ☐ Modification ☐ Complete Reissue ☐ Partial Reissue

Previous permit # _____
Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H, 1700

☐ Rules attached.

Applicant Name KAY PICHA
Address 6965 LORIENTHAVEN DR.
City RANDLEMAN State NC ZIP 27317
Phone # (336) 402 5206 Fax # (336) 6740116
Authorized Agent YOGI HARPER

Project Location: County BRUNSWICK
Street Address/ State Road/ Lot #(s) 149 OCEAN ISLE WEST BLVD.
Subdivision OCEAN ISLE WEST
City OCEAN ISLE BEACH ZIP 28469
Phone # (336) 402 5206 River Basin LUMBER
Adj. Wtr. Body TUBBS INLET/OLDSOUND CRK. (nat /man /unkn)
Closest Maj. Wtr. Body ATLANTIC OCEAN

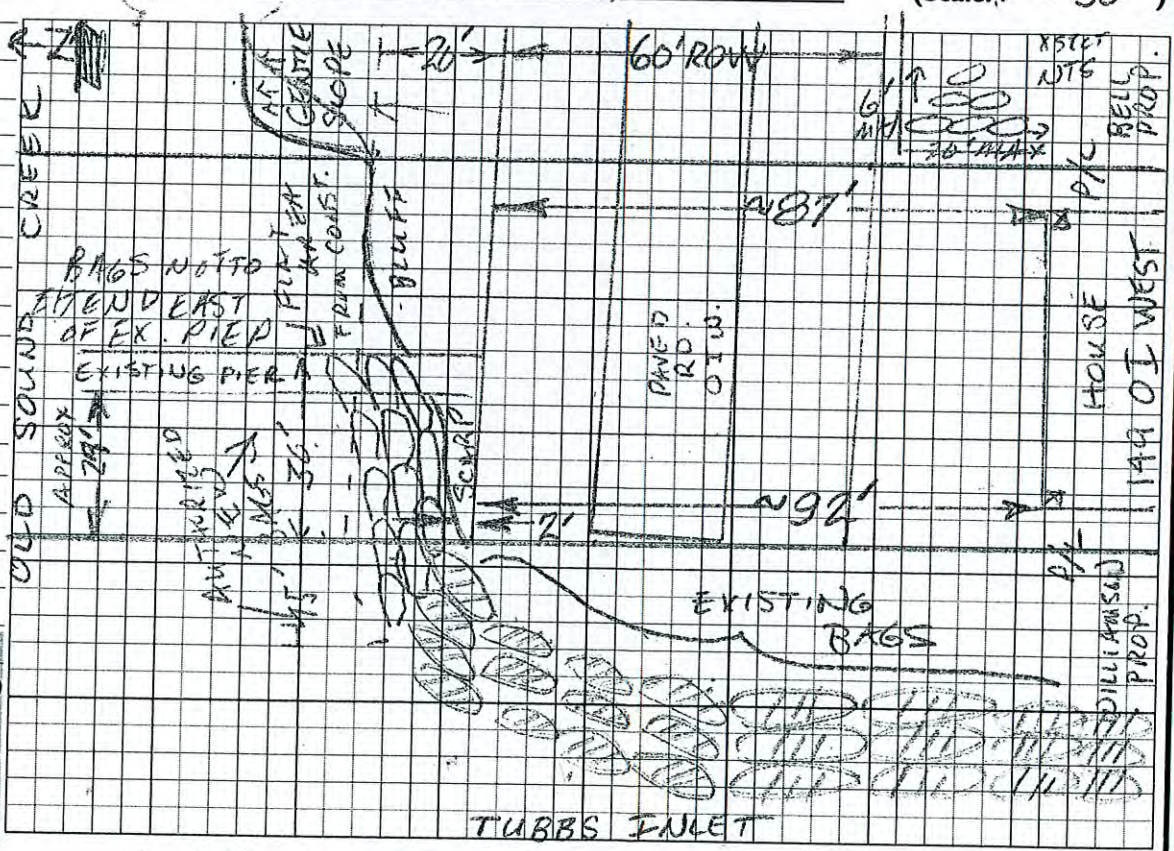
Affected AEC(s): ☐ CW ☐ EW ☐ PTA ☐ ES ☐ PTS ☑ OEA ☑ HHF ☑ IH ☐ UBA ☐ N/A ☐ PWS: _____ ☐ FC: _____

ORW: yes / (no) PNA yes / (no) Crit.Hab. yes / no

Type of Project/ Activity EMERGENCY SANDBAGS TO PROTECT WEST END OF OCEAN ISLE WEST BLVD. (THREATENED STRUCTURE)

(Scale: 1" = 30')

Pier (dock) length _____
Platform(s) _____
Finger pier(s) _____
Groin length _____
number _____
Bulkhead/ Riprap length _____
avg distance offshore _____
max distance offshore _____
Basin, channel _____
cubic yards _____
Boat ramp _____
Boathouse/ Boatlift _____
Beach Bulldozing _____
Other SANDBAGS 30+0 45' x 20' x 6'



Shoreline Length ~60'
SAV: not sure yes (no)
Sandbags: not sure (yes) no
Moratorium: n/a yes (no)
Photos: yes (no)
Waiver Attached: (yes) no

A building permit may be required by: OCEAN ISLE BEACH

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions CONTACT USACE (DAVE TIMPY @ 251-4634) PRIOR TO BEGINNING WORK. ALL CONDITIONS OF 7H.1700 APPLY IN ADDITION TO ANY OTHER STATE, FEDERAL, OR LOCAL REGULATIONS

~~YOGI HARPER (AGENT)~~ KAY PICHA
Agent or Applicant Printed Name

Signature ** Please read compliance statement on back of permit **

Permit Officer's Signature

6/30/09 Issuing Date

7/30/09 Expiration Date

$400 Application Fee(s)

1442 Check #

OCEAN ISLE BEACH Local Planning Jurisdiction

N0630124 Rover File Name

ADJACENT RIPARIAN PROPERTY OWNER STATEMENT

I hereby certify that I own property adjacent to Dave & Kay Picha 's
(Name of Property Owner)

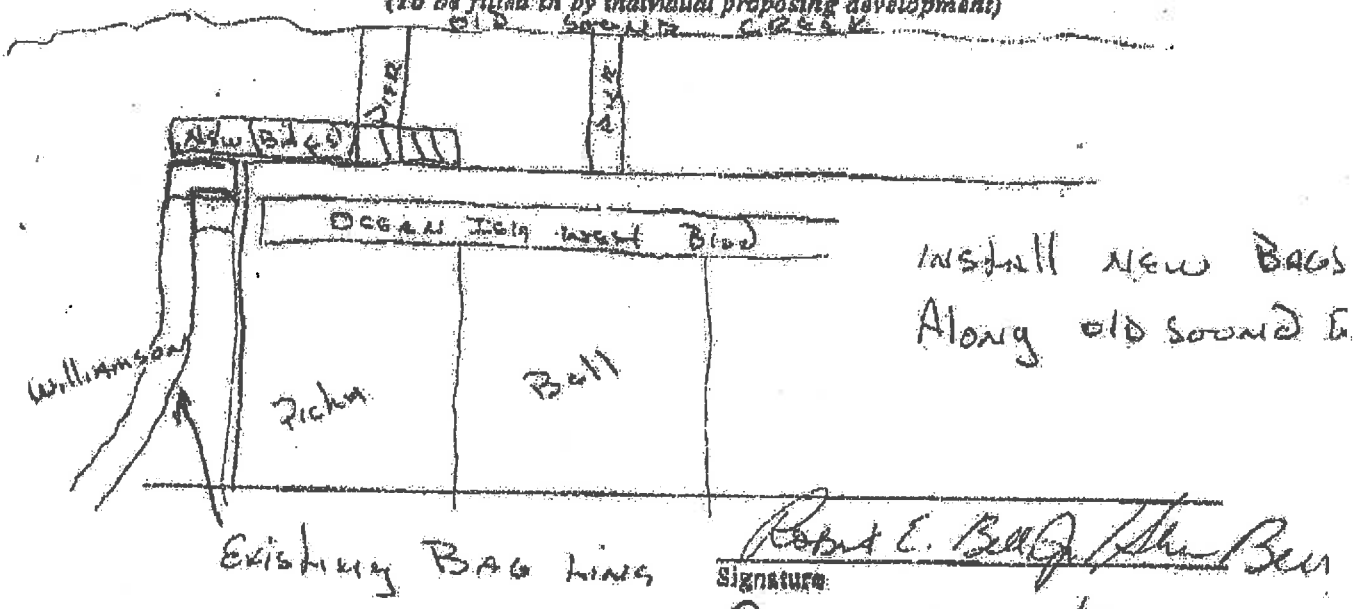
property located at 149 Ocean Isle west Blvd,
(Lot, Block, Road, etc.)

on Atlantic Ocean - Tubbs Inlet in Brunswick, N.C.
(Waterbody) (Town and/or County)
Old Sound Creek

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

DESCRIPTION AND/OR DRAWING OF PROPOSED DEVELOPMENT

(To be filled in by individual proposing development)



Robert E. Bell Jr / Sharon Bell
Signature

Robert E. Bell Jr / Sharon Bell
Print or Type Name

803-345-8020
Telephone Number

Date: 5-2-09

Return to fax no:
910-575-7835

SANDBAG REMOVAL NOTICE

TO WHOM IT MAY CONCERN:

I, Kay Picha, give permission to [illegible] LLC to act as my agent in my behalf in obtaining a CAMA General Permit to place sandbags as a temporary erosion control structure in front of my property at 149 Ocean Isle West Blvd

I, Kay Picha, have read the specifications in 15A NCAC 7H-1700 and understand that the sand bags may remain in place for up to 5 KAP years after the date of permit approval. I understand that I will be responsible for removing the sandbags within 30 days after that period or at any time that they are determined by DCM staff or its agent to be unnecessary due to relocation or removal of the structure. I will also be responsible for removing any damaged sandbags during the period they are authorized to be in place.

I also understand that the removal of the sandbags shall not be required if at the specified date for removal they are determined by DCM staff to be covered by dunes with vegetation sufficient to be considered stable and natural.

AUTHORIZED SIGNATURE: Kay P. Picha

DATE: 5-2-09

July 2, 2016

I. Clark Wright, Esq.
Davis Hartman Wright PLLC
209 Pollock Street
New Bern, NC 28560

Re: Request for expedited hearing on Picha Variance Request

Dear Mr. Wright:

I have reviewed the July 1, 2016 letter you submitted on behalf of Kay and David Picha in support of their request for an expedited hearing on a petition which has not yet been submitted. I understand that Mr. and Mrs. Picha plan to submit a petition requesting a variance from the Commission's rules which would allow them to expand an existing sandbag revetment adjacent to Tubbs Inlet at 149 Ocean Isle West Boulevard, in Ocean Isle Beach, Brunswick County. Taking the information you provided at face value, I note that information provided in support of an expedited hearing alleges that "an accelerated eastward movement in the Tubbs Inlet channel now immediately imperils the Pichas' existing sand bag revetment." In addition, you allege that "[b]etween November 25, 2015 and June 19, 2016, the tidal channel has moved approximately 77 feet closer to the western edge of the Pichas' existing sand bag revetment." And, "as of June 19, 2016, the tidal channel is located only three feet from the sand bags."

N.C.G.S. § 143-318.12(f) provides that an issue may be considered on an emergency basis in situations where "generally unexpected circumstances" are present requiring "immediate consideration by the public body." Given the information provided, I have decided to schedule a hearing on the Pichas' variance request during the Commission's July 12, 2016 meeting provided certain conditions are met. Specifically, the Commission will hear the variance request as long as the petition seeking a variance is submitted by close of business on July 5, 2016, and the stipulated facts are finalized by July 7, 2016. This will allow DCM to prepare a staff recommendation and allow the package of materials relating to the variance petition to be sent to the Commission members for review by close of business on July 8, 2016.

This decision is limited to the finding that an expedited hearing is justified and should not be read by anyone as an indication of how the Coastal Resources Commission will ultimately decide Mr. and Mrs. Pichas' request for a variance.

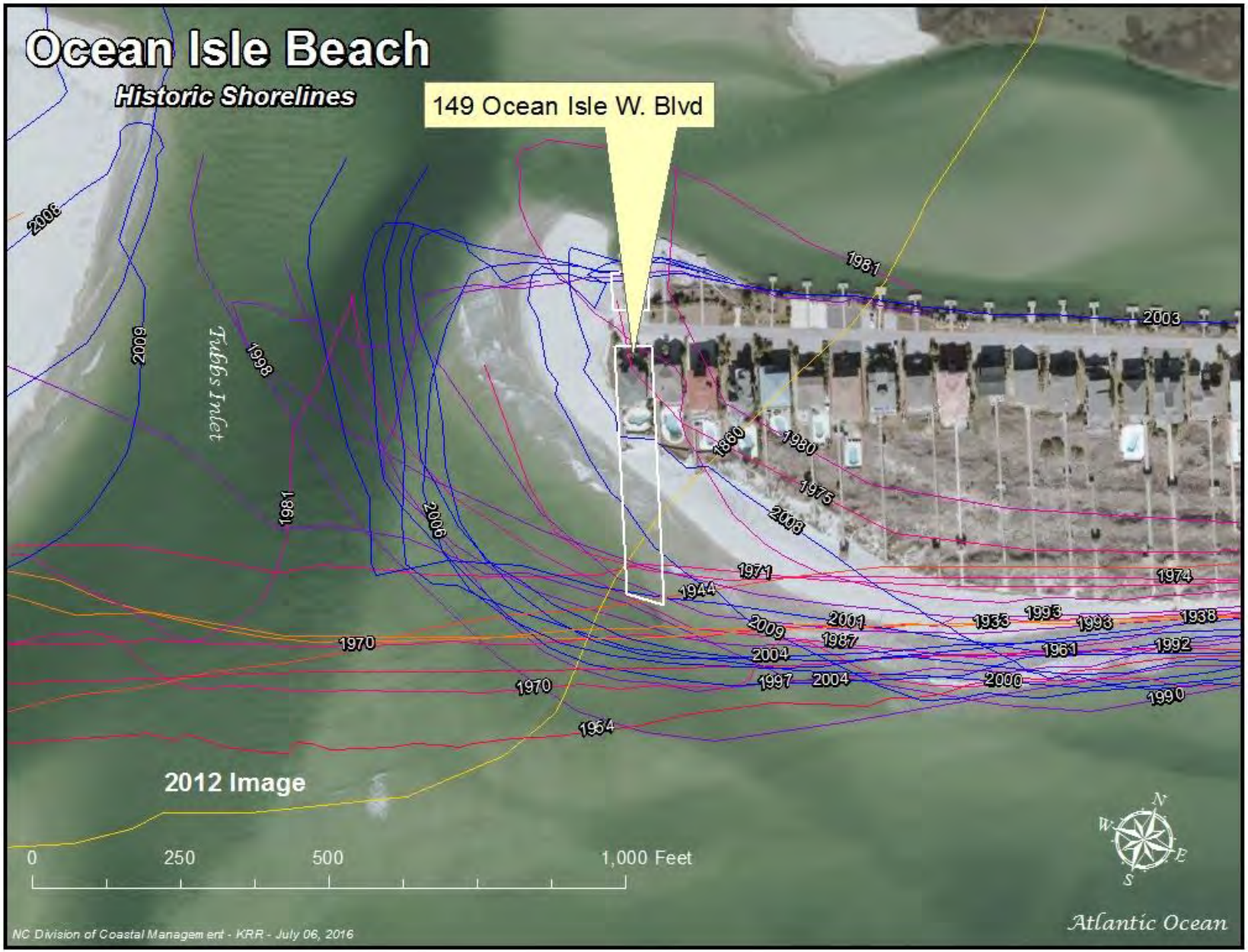
If the deadlines set forth above are not met, then I expect the request for a variance would be heard during the next regularly scheduled Commission meeting. Commission counsel, Mary L. Lucasse, Esq. will stay in contact with you and DCM's counsel to ensure that the parties have notice of the schedule relating to the hearing on this issue.

Sincerely,

Frank D. Gorham III

Frank D. Gorham, III

Division of Coastal Management
Department of Environmental Quality
400 Commerce Ave., Morehead City, North Carolina 28557
Phone 252-808-2808 FAX 919-733-1495


Ocean Isle Beach
Historic Shorelines
149 Ocean Isle W. Blvd
Tubbs Inlet
2006
2009
1998
1981
2006
1981
2003
1860
1980
1975
2008
1971
1944
1974
2009
2001
1933
1993
1993
1938
1987
1961
1992
2004
1997
2004
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1970
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2012 Image
0
250
500
1,000 Feet
N
W
E
S
Atlantic Ocean
NC Division of Coastal Management - KRR - July 06, 2016

99-308 EA-Response Figure 1-1.CDR 1/24/01

Figure 1-1
Project Location Map

APPLIED TECHNOLOGY & MANAGEMENT, INC.

1.0 Project Purpose

1.1 Introduction

The Purpose of this Environmental Assessment (EA) is to provide the North Carolina Department of Environment and Natural Resources, Division of Coastal Management (DCM), and the U.S. Army Corps of Engineers (USACOE) with a decision making tool to assess the environmental affects of dredging Old Sound Creek and performing a beach nourishment on the west end of Ocean Isle Beach.

A CAMA Major Permit Application was submitted to the North Carolina DCM and the USACOE on May 3, 2000 for review. DCM coordinates state review of this permit. Other commenting State agencies include Divisions of Water Quality, Land Quality, Water resources, Marine Fisheries, Environmental Health, Archives and History, as well as the Wildlife resources Commission, the Department of Administration, and the Department of Transportation. Federal review of this permit application is coordinated by the USACOE. Other commenting agencies include the Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), and Fish and Wildlife Service (USFWS).

The purpose of the recommended project is to protect properties located along the west shoreline of Ocean Isle Beach from future loss due to inlet-related erosion caused by the easterly migration of Tubbs Inlet. Additionally, the project will provide navigation access and access to docks located along a 2,500-foot portion of Old Sound Creek. This project will re-open Old Sound Creek, which has shoaled to depths of –4.0 ft and -2.0 ft mean sea level (NGVD) over the past 10 years. In addition, the proposed Project will restore the circulation patterns between Eastern Channel and Tubbs Inlet, thereby providing for increased tidal flows through Old Sound Creek. Restoring this tidal channel will reduce the trend of easterly inlet migration that has resulted in erosion along the adjacent beaches and eastern shore of Tubbs Inlet.

The principal cause of shoreline erosion at the western end of Ocean Isle Beach and channel shoaling at Old Sound Creek (also referred to as Eastern Channel) is the change in tidally induced circulation patterns at the confluence of Jinks Creek, Still Creek and Eastern Channel. Over the past 10 years, Eastern Channel has significantly shoaled as the result of the ebb tidal flow at Jinks Channel. The reduction of tidal flow though Eastern Channel has resulted in a flow pattern which causes ebb currents to be focused at Ocean Isle Beach. A second factor affecting this migration in recent years relates to the location of the entrance to Still Creek that is now situated west of Tubbs Inlet. As evidenced by vertically controlled aerial photographs taken between 1990 and 1998, the primary tidal channel moved to the east of both Jinks Channel and Still Creek between 1990 and 1993. The position of these two tidal channels west of Tubbs Inlet has resulted in a major change in the tidal influence of the inlet. The ebb tidal currents are aligned more toward the west end of Ocean Isle Beach, increasing the shoaling of Old Sound Creek and the easterly migration of Tubbs Inlet.

1.2 Project Objectives

The Tubbs Inlet Preservation and Management Group, a non-profit corporation consisting of property owners adjacent to the Inlet, proposes to dredge 4,000 linear feet of Old Sound Creek and Eastern Channel and place beach compatible material along 3,000 ft of beachfront and the eastern shoreline of Tubbs Inlet. This EA addresses the potential affects of the dredging and associated nourishment activities.

The design goals of the proposed project are summarized as follows:

- To restore the eroded beaches and provide erosion control for properties situated along the western end of Ocean Isle Beach.
- To re-open Old Sound Creek for dock access and navigational use;

A project location map is provided in Figure 1-1.

EROSION CONTROL SPECIALISTS

PO Box 16633, Chesapeake, VA 23322 Telephone: 252-423-0549 Email: yogi@coastalsandbags.com

May 10, 2016

Kay P. Picha
149 Ocean Isle West Boulevard
Ocean Isle Beach, NC 28469

Dear Ms. Picha:

I have been observing the shoreline conditions in the vicinity of 149 Ocean Isle West Boulevard in Ocean Isle Beach, NC, and the behavior of the Tubbs Inlet since 2007. During this period of time, this shoreline has been subjected to the effects of erosion arising from the normal and storm-driven ocean waves and the ebb and flood tidal currents of Tubbs Inlet.

In October of 2007, a flood channel for the inlet had developed that ran across the southwest portion of the Picha property allowing waves during times of high tides to rapidly erode the dune and dry sand beach along the oceanfront. This portion of the shoreline was protected by a 102-ft sandbag revetment authorized by a NC Division of Coastal Management (DCM) General Permit.

The erosion continued and an imminent threat to the Picha property developed along the oceanfront shoreline of the property. In November of 2007, this oceanfront shoreline was protected by the placement of an additional 47-ft of sandbag revetment authorized by another DCM General Permit.

The erosion continued along the inlet and the infrastructure below, and at the end of Ocean Isle Boulevard West became threatened. In December of 2007, this inlet shoreline was protected by an additional 68-ft of sandbag revetment authorized by another DCM General Permit.

By June of 2009 the northern shoreline of the property along Old Sound Creek had eroded to the point placing the Ocean Isle Boulevard West right-of-way in imminent threat, and an additional 45-ft of sandbag revetment was placed along the Old Sound Creek shoreline, again authorized by a DCM General Permit. This Old Sound Creek shoreline was further protected by DCM authorized maintenance and repair of the riprap that was placed during development of the island in 1989 under a DCM Major permit. While this Old Sound Creek shoreline was not subjected to any significant attack by waves, the very sharp turn in the tidal channel from northeast to south concentrated the ebb tide flow at this point of the shoreline.

During the period of time that this erosion protection work was taking place, the movement of the Inlet was observed to be drawing closer to the Picha shoreline. Measurements of the location of the tidal channel were initiated in 2008 and have been taken periodically up to the present time. The easterly migration of the tidal channel was confirmed by taking measurements from the southwest corner of the Gazebo located just south of Old Sound Creek and north of the sandbag revetment. These measurements were taken from the edge of the Gazebo to the edge of the tidal channel at times of low tide. These measurements were as follows:

06/17/2008	340-ft
12/13/2012	233-ft

10/09/2014	200-ft
11/25/2015	147-ft
03/25/2016	77-ft

On 03/25/2016, this measurement showed the northwest corner of the sandbag revetment to be 35-ft from the tidal channel at low tide; additional measurements were taken on this date that showed the tidal channel to be only 29-ft from the westernmost extent of the sandbag revetment, and 100-ft from the southwest corner of the sandbag revetment.

The need to increase the protective value of the existing sandbag revetment was seen to be something that would likely be needed as Tubbs Inlet continued its easterly migration. When the measurements to the tidal inlet were taken in November of 2015, it was found that the easterly migration rate had more than doubled, and that the area needed to perform the work on improving the sandbag revetment could start to become undermined within a period of months.

In order to obtain the needed Variance to enlarge the existing sandbag alignment, a permit application denial is required by the Rules of the Coastal Resources Commission, and a decision was made to apply for a Permit for a sandbag revetment that would allow increasing the width of the alignment to 45-ft and the elevation to +12-ft NAVD.

The Major Permit application was completed on April 7, 2016 and delivered to DCM's Wilmington Office on April 13, 2016. On April 11, 2016, Dave Picha took pictures of the inlet conditions adjoining the Picha property. The photo was taken at 6:02 p.m. and low tide at Tubbs Inlet was at 5:31 p.m. at 0.3-ft above Mean Low Low Water (MLLW). The photo showed the tidal channel very near to the sandbag revetment and a measurement taken by Dave Picha established the distance as 10-ft. This means that 15-ft of a portion of the proposed enlarged base for the sandbag revetment is now already underwater. This greatly accelerated migration of the inlet poses an unprecedented threat to the Picha property, and will result in a redesign of a protective alignment, greater difficulty in performing the work, and increased costs to achieve shoreline protection.

It appears that this greatly accelerated migration rate of the inlet will daily lead to greater and greater complications and costs in providing the needed shoreline protection. Time is of the essence in having this Variance request heard by the CRC. If DCM cannot issue a Permit very soon, it is very possible that significant portions of the Picha property and Ocean Isle Beach infrastructure will be damaged or destroyed. The rapid encroachment of the tidal channel has already introduced a significant difficulty by limiting the time for work to low tide cycles, and by reducing the available beach to a point where safe utilization of the construction equipment is becoming questionable.

It has now been 27 days since the Permit application was delivered to DCM and the response from DCM has been that nothing can be done to expedite the process for this emergency situation until the public comment period has expired, which will be on May 12, 2016. DCM has also advised that they will process the final decision on the Permit after staff returns from the CRC meeting that they will be attending on May 12, 2016. Thirty days will have already passed before DCM even issues a denial on this Permit request.

A different emergency situation involving the Topsail Reef Condominiums in 2012, and also seeking an enlarged sandbag revetment, had a very different timetable applied to it by DCM. In that case, a Permit application was submitted to DCM's Wilmington Office on April 25, 2012; a record of decision was reached through issuance of a Permit for a 6-ft x 20-ft sandbag revetment 9 days later on May 4, 2012. There was no issue of waiting for a public comment period to expire. An emergency convening of the CRC was agreed to on May 10, 2012, subsequently heard by the CRC, and a Permit issued for the enlarged revetment on May 29, 2012. That entire emergency process was handled in 34 days.

The encroachment of the tidal channel upon the sandbag revetment makes the construction of an enlarged sandbag revetment very difficult. The Geodynamics survey completed on April 25, 2016 documents that the Mean High Water (MHW) is now up against the existing sandbag revetment. This means that work to enlarge and broaden the base of the revetment must be performed during periods of low tide.

At present, low tide is within 10-ft of the existing revetment at its westernmost projection, and this precludes broadening the base of the revetment water-ward to the extent needed in this area. It is my opinion that each day that passes will result in further encroachment of the tidal channel toward the base of the existing sandbag revetment, complicating development of a protective design, and limiting construction methods for those designs. This encroachment will require shifting the entire alignment landward to compensate for the width of beach lost to the tidal channel.

In some areas, there does not exist room to shift the sandbag revetment alignment landward. It is my opinion that if work cannot commence to improve the revetment in these areas before the tidal channel encroaches onto the currently available width of the beach, providing an effective, protective sandbag revetment will become exceedingly difficult, if not impossible.

The erosion threat that the Picha property is currently experiencing is very different, and much greater than any of the erosion problems I have dealt with the past, which includes the construction of over 100 protective sandbag revetments and the installation of over 50,000 sandbags. I believe that this particular erosion threat is far different and far greater than that typically addressed by DCM or the CRC.

What makes this threat different and greater is the encroachment of an inlet tidal channel virtually up against the property that needs erosion protection. Property that is not located near an inlet is not subjected to the erosion of the tidal currents that run into and out of the inlets, and along the property to be protected. Such property must only be protected against the height of waves that may be magnified by Spring Tides or significant storms. Property located near to, or on an inlet is threatened by these same waves, and also by the twice daily effects of an inlet's tidal currents. In these situations, including on the Picha property up to now, the erosion threat arises from the flow of surface, or near surface currents that tend to strip away the face of the beach, and slowly retreat the shoreline. Most properties in need of protection must deal with the threat of erosion on the face of the beach and the effects of the ocean at or above high tide levels.

The uniqueness of this situation is that the threat of erosion is at the deepest levels of the beach that extend down to the bottom of the trench that constitutes the tidal channel, where the erosion forces can undermine an otherwise stable beach face. The only erosion problems that compare to this are when property is located adjacent to deep navigation channels, and in such cases the problem is addressed by the construction of massive rock revetments with rock toes designed to descend down beyond the bottom of the navigation channel, or by the construction of very deep sheet-pile bulkheads.

Very truly yours,

Yogi Harper
Erosion Control Specialists of NC

Theodore J. Sampson

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 -- Telephone: (252) 331 2447
Mobile (252) 548 4292 -- E-mail: permits@sampsonmarine.com

ENVIRONMENTAL CONSULTANT

CAREER HISTORY

Thirty years of documented successes in the field of protection of marine and aquatic resources. Federal and State Public Administration experience, which includes implementation of coastal zone management programs, and regulatory development and enforcement of pollution prevention standards for industry; education and training of both government administrators of environment protection programs and members of industry operating within the aquatic and marine environments; conducting environmental impact analyses and audits; the development of oil and hazardous material contingency plans; and leading environmental emergency response operations

EMPLOYMENT

Past employment includes: Private business experience heading marine environmental consulting firm. Seven plus years as District Manager of the Northeast District for North Carolina's Division of Coastal Management. Seven plus years as Professor at World Maritime University in Malmö, Sweden with direct responsibilities to formulate and execute University's Masters Degree level curricula in the fields of marine environment protection, maritime administration and policy, maritime safety administration, and marine affairs; two years as Adjunct Professor at Elizabeth City State University's Department of Geology, Environment and Marine Science; over twenty years in development and implementation of US Coast Guard's marine environment programs; marine environmental advisor to NGO, "HELMEPA" (the Hellenic Marine Environment Protection Association) in Athens, Greece.

UNIVERSITY PROFESSOR EXPERIENCE

Directly responsible for academic administration as professor for the General Maritime Administration and Environment Protection course of study at the World Maritime University. From 1991 to 1993 headed the General Maritime Administration Course and designed a new balance to the curriculum to support objectives for award of Master of Science degree intended for government administrators studying maritime environment policy and development issues. Coordinated the program to include the essential elements of maritime law, economics, management, safety administration and marine environmental protection, expanding the University's environmental offerings.

Developed short-term training, professional development courses for the World Maritime University for application of marine environment principles in the government and industrial settings.

As adjunct professor at Elizabeth City State University taught courses in Marine and Coastal Resources, and Island and Ocean Processes.

US COAST GUARD EXPERIENCE

Hands-on experience and senior management in environmental programs with the U.S. Coast Guard, including responsibilities for oil spill contingency planning, training and response to oil pollution incidents: Served as Commanding Officer of U.S. Coast Guard's largest of three emergency environmental response units, the Atlantic Strike Team and National Dive Team. Lead 43 man and woman team of experts in a results-oriented mission to provide the most highly trained and skilled pollution responders to environmental emergencies occurring within the inland waters and coastal regions of the United States in the area bounded by the Great Lakes and the Atlantic seaboard between the states of Maine and South Carolina.

Additional Strike Team responsibilities included providing professional development training workshops, and assessment of after action reports for oil and hazardous material responses of 22 different Coast Guard Commands within the Atlantic Area. Directed the annual review and updating of all contingency plans applicable to the region.

Headed Coast Guard's oil spill response capability in Southeast Alaska (from Canadian border to Sitka). Initiated contingency planning and equipment acquisition to prepare for response within this region.

NATURAL RESOURCE MANAGEMENT

Direct experience with government agency activities for the protection of the marine and coastal environment that included: implement Rules of North Carolina's Coastal Resources Commission within the 7 northeast counties of North Carolina; draft regulations and policy for the US Coast Guard; conduct environmental and economic impact assessments of rulemaking actions; evaluate public comments on proposed rulemakings and revise agency proposals with respect to comments; serve on Regional Response Teams for Great Lakes region, Northeast region, Mid-Atlantic region and Ohio and Upper Mississippi River region to foster Federal, State and stake-holder cooperation in addressing aquatic, coastal and marine environmental protection planning.

Provided assistance to EPA, Department of Defense and US Coast Guard to assess natural resource damage and oversee remediation and restoration efforts at Super Fund clean-up sites and in locations of oil and hazardous material spills, or long-term degraded areas. Developed training and education programs for government administrators in coastal zone management and sustainable development of coastal industries; initiated case studies within World Maritime University's curriculum to address environmental issues related to port development and dredging, disposal of dredged spoil, and the problems of filling in of wetlands and alternative or compensatory approaches. Developed environmental training program for Greek seafarers under auspices of HELMEPA.

Arranged for field studies for international Master of Science students to observe and discuss initiatives for stake-holder cooperation in management of natural resources with authorities for NOAA; State of Florida; Southampton, England; Malmö, Sweden; Copenhagen, Denmark; Oslo, Norway; and The Netherlands. Field studies included walking and diving tours to emphasize importance of wetlands ecology, coastal development and beach erosion, and familiarize administrators with the identification of coastal management issues.

PRIVATE CONSULTING EXPERIENCE

Founded F.P.I Associates, Inc., a marine environmental consulting company, in 1990. (Name of Company subsequently changed to S.A.M.P.S.O.N. and Company, Inc., and is now doing business as Sampson Marine Construction) Original business focused on providing advice and recommendations on marine environmental issues identified by both government and private entities, including the U. S. Coast Guard and the international oil companies' consortium for oil spill emergencies, the Marine Spill Response Corporation. Represented this company at the "think tank" Center for Strategic and International Studies as a member of their working group on the conversion of military technology to environmental protection applications.

Developed proposal for eight nations of the Persian Gulf to address Natural Resource Damage Assessment arising from vessel and facility emergencies, including issues of needed primary and secondary legislation, establishment of appropriate penalty and compensation schemes, provision of sensitivity indexing and mapping, and use of economic models.

Developed proposed amendment to the Kuwait Convention to institute regional contingency planning and response for oil spill emergencies arising from vessels, facilities and offshore drilling and production platforms.

Developed a remote sensing strategy to assist in managing response to massive oil spill incidents; assessed R&D needs to improve USCG's oil spill containment capability; evaluate state of the art of oil spill mechanical recovery vessels and skimmers; developed testing standards for temporary storage facilities for oil recovered during spill response.

Now serve as environmental specialist directing the environmental consulting for Sampson Contracting, Inc., which also provides marine construction and coastal development services from concept to completion. Personally provide consulting and design advice to clients seeking Permits from North Carolina's environmental agencies, including the preparation of Permit applications, wetlands evaluations, shoreline protection strategies, and the coordination with representatives of the State and federal agencies who provide review and render decisions on the Permit applications.

RESEARCH

A Computerized Mathematical Solution to the Coupled Torsional, Longitudinal Marine Propulsion Vibration Problem, 1980

Assessment of USCG Research & Development Needs for Improvement of Oil Spill Containment; MAR, Inc., (USCG Contract), 1990

Oil Spill Mechanical Recovery Vessels Overview; MAR, Inc. (USCG Contract), 1990

Oil Spill Mechanical Recovery Equipment Assessment; MAR, Inc. (USCG Contract), 1990

Oil Spill Temporary Storage Devices, Assessment & Testing Standards; MAR, Inc. (USCG Contract), 1991

Member of joint Lund University and World Maritime University research team engaged in "Sundrisk" project to analyze maritime risk at entrance to Baltic Sea; 1998-1999

PUBLICATIONS

On Scene Coordinator's Lessons Learned Report for Exxon Valdez Oil Spill; U.S. Coast Guard, 1989

Implications of Development on Chemical Pollution Training for Developing Country Ports; Second International Conference on Safety in the Port Environment, Bremen, Germany, 1992

Waste Reception Facilities: A Global Perspective; Norshipping Conference, Oslo, Norway, 1993

Introduction to Environment and Development Conflict in the Maritime Setting; Malmö; WMU, 1994

Decision Analysis for Sustainable Development**;** Malmö; WMU, 1995

Planning for Marine Environmental Emergencies; Malmö; WMU, 1995

Strategic Planning for Sustainable Development; Malmö; WMU, 1995

Maritime Transport and Sustainable Development-A Look to the Future. Malmö: WMU Essential Maritime Transport Seminar; 1995

Chapters on: Intermodal Transport & Sustainable Development, Maritime Transport, P. Alderton, 1995

Maximizing Benefits of Oil Spill Response Capability & Training; 2nd. International Oil Spill Research & Development Forum, London, UK, 1995

Designing Sustainable Development into Maritime Transport in the 21st Century--The Role and Challenge for Naval Architects and Marine Engineers, International Conference on Technologies for Marine Environment Preservation, MARIENV '95, Tokyo, Japan, 1995

The Shipping Industry & Port State Control -- A Bright but Troubled Future, HELMEPA Annual Conference on Marine Safety and Environmental Training, Pireaus, Greece, November 1996

Guidelines for Marine Environmental Damage Assessment and Compensation; by World Maritime University for Marine Emergency Mutual Aid Center (MEMAC), Bahrain; 1998

Framework Guidelines to Facilitate and Co-ordinate Marine Emergency Pollution Response Activities within the ROPME Region through MEMAC; by World Maritime University for Marine Emergency Mutual Aid Center (MEMAC), Bahrain; 1998

Guidelines to Contracting States to Facilitate the Collection of Compensation for Environmental Damages Arising from Marine Emergencies Involving Crude Oil, Refined Products or Petrochemicals; by World Maritime University for Marine Emergency Mutual Aid Center (MEMAC), Bahrain; 1998

A Report of measures Needed to be Undertaken by Contracting States to Facilitate Development of Modification of National Contingency Plans in Support of Regional Co-operative Objectives; by World Maritime University for Marine Emergency Mutual Aid Center (MEMAC), Bahrain; 1998

International Safety Management In Shipping And Environmental Quality; Hellenic Association for Quality Assurance; Athens, Greece 1998

A Vessel Oil Pollution Case Study; part of HELMEPA's 1998 – 1999 Training Program publication: "The ISM Code Implementation Onboard and Port State Control"; Athens, 1998

Introduction to the US Oil Pollution Act of 1990; part of HELMEPA's 1998 – 1999 Training Program publication: "The ISM Code Implementation Onboard and Port State Control"; Athens, 1998

US Coast Guard Port State Control Examination for Compliance with the ISM Code; part of HELMEPA's 1998 – 1999 Training

Program publication: "The ISM Code Implementation Onboard and Port State Control"; Athens, 1998

Resolving Problems during US Coast Guard Port State Control of the ISM Code; part of HELMEPA's 1998 – 1999 Training Program publication: "The ISM Code Implementation Onboard and Port State Control"; Athens, 1998

Integrating Maritime Transportation and Marine Resource Management; Conference on African Maritime Sector Faced with Economic Globalization; Cotonou, Benin 1998

Appendix I: Oil Spill Response, of Indonesia Master Plan, by Det Norske Veritas, Environmental Advisory Services, for Indonesia Directorate General for Sea Communication; Oslo, 1999

EDUCATION

Bachelors Degree, Engineering; 1968, U.S. Coast Guard Academy New London, Connecticut, USA

Master of Science Degree, Naval Architecture & Marine Engineering; 1981, Rackham School of Engineering, University of Michigan Ann Arbor, Michigan, USA

Master of Science Degree, Mechanical Engineering; 1981, Rackham School of Engineering, University of Michigan, Ann Arbor, Michigan, USA

MEMBERSHIPS AND QUALIFICATIONS

Member of ASTM Committee F20 (1977-1979) for Pollution Response Equipment for Chemical Hazards

Environmental Representative on Global Monitoring Study for the Center for Strategic & International Studies (1989-90)

Society of Naval Architects & Marine Engineers (SNAME)--Full Member

Rotary International, Malmö Club, Sweden

Expert Witness qualified in Courts of North Carolina on Coastal Wetlands and Maritime Weather conditions.

PERSONAL DATA

Captain Theodore J. Sampson, U.S. Coast Guard (Retired)
Place of Permanent Residence: North Carolina, USA
Date of Birth: 5 September 1946
Place of Birth: Wilkes-Barre, Pennsylvania, USA

Wilmer B. Harper, III (Yogi)

P.O. Box 16633 Chesapeake, Va. 23328 Telephone: (252) 441-2002

COASTAL EROSION SPECIALIST

CAREER HISTORY

Twelve years of documented successes designing, and constructing erosion control measures along the Atlantic Ocean on the US East Coast, and consulting on erosion control design measures throughout the world.

Currently owner of Erosion Control Specialists, Inc, and Erosion Control Specialists of NC, Inc., all of which specialize in the design and construction of coastal erosion control measures, with emphasis on the installation of protective sandbag revetments.

SANDBAG REVETMENTS

Over the course of the past twelve years over 100 protective sandbag revetments have been installed, with the number of individual sandbags installed totaling in excess of 45,000.

During the past 8years, sandbag revetment design and installation activities have occurred in Ocean Isle, North Carolina, North Topsail Beach and in Nags Head, North Carolina. In Ocean Isle, over the course of January 2007 to January of 2015, numerous sandbag revetment construction jobs were performed for the NC Department of Transportation, the Town of Ocean Isle, for many individual homeowners, and a number of Homeowners Associations.

Most recent sandbag revetment design and installation within the Town of Nags Head, NC, included projects for the protection of the structures of the Yachtsman Homeowners Association, the Diamond Shoals Homeowners Association, for individual properties managed by Cove Realty, along with a number of individual property owners. In North Topsail Beach the eight buildings of the Topsail Reef Condominiums were provided with an innovatively designed protective sandbag alignment to address accelerated near-inlet erosion in 2012. In Ocean Isle Beach, the most recent alignment was on the west end on Jan 2015 for Alison Dowd, Rick Gross and Kay Picha on Tubbs Inlet.

REVETMENT DESIGN & INNOVATION

In North Carolina, sandbag revetments were authorized by the Coastal Resources Commission as temporary alternatives to hardened erosion control structures, and when installed with all bags parallel to the ocean (which had become the standard practice), the “temporary” nature of the protective value of the revetments was generally limited in time until the arrival of the first storm of any significance. The forces of the ocean during such storms typically totally destroyed any protective value of the sandbag revetments.

Working within the parameters allowed under the North Carolina Coastal Resources Commission Rules, an intensive research and development program was initiated to improve the protective value of installed sandbag revetments. This research and development effort involved working closely

with the manufacturers of the geotextile materials used in the construction of sandbags to obtain sandbag material and seams suitably strong for the intended application.

The research and development effort also involved field testing of various configurations to attain a scour apron that would not move away from the sandbag revetment, but would instead sink to prevent scour while still supporting the associated revetment.

Additional design evaluation and field testing were also conducted to identify an alignment configuration that would resist rolling and settling under the ocean forces of storms. This lead to the first use of sandbag revetments in North Carolina where the majority of sandbags were placed with the length of the bags aligned perpendicular to the shoreline. The culmination of all of these research and development efforts has been the ability to construct sandbag revetments, which in all but the very worst of storms, maintain their alignments and protective value, often until beach nourishment projects are achieved that can reduce the threat to the oceanfront structures.

EXPERIENCE WITH GEOTEXTILE CHARACTERISTICS

Over the course of the past 12 years the geotextile characteristics for sandbags and underlayment mat have varied from project to project and by manufacturer. Past pumping and testing has been carried out on the geotextile materials supplied by the following major geotextile manufacturers: US Fabrics, Bradley Industries, Bulk-Lift International, Flint Industries, and Maccaferri Inc. Sandbag revetments that have been installed have utilized the products of Bulk-Lift International, Flint Industries, and Maccaferri, Inc. from 2005-2006 installed Flint Industries products, and from 2006-2012 installed every sandbag sold by Maccaferri Inc. which was manufactured by Flint industries. In 2012, began installing all the bags produced by Geosynthetics, LLC (GSI).

OTHER RELEVANT EXPERIENCE

Member of the Sandbag Stakeholder Group convened by the North Carolina Coastal Resources Commission to identify and evaluate potential future changes to State's sandbag revetment regulations.

PERSONAL DATA

Place of Residence: Chesapeake, Va.
Date of Birth: 21 January 1959
Place of Birth: Norfolk, VA, USA

MARINE ENVIRONMENTAL CONSULTING DIVISION

SAMPSON CONTRACTING, INC.

Marine Construction And Environmental Consulting Services

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

May 3, 2016

Kay P. Picha
149 Ocean Isle West Boulevard
Ocean Isle Beach, NC 28469

Re: Evaluation of Imminent Threat to property located at 149 Ocean Isle West Boulevard, Ocean Isle Beach from migration of tidal channel of Tubbs Inlet

Dear Ms. Picha:

I have reviewed the information provided to me by Erosion Control Specialists and Arendell Engineering addressing the migration of the tidal channel of Tubbs Inlet. This has included many photographs of the beach and the existing sandbag revetment from 2007 until present, shoreline measurements and aerial photography locating and depicting the ebb and flood tidal deltas, and the location of the tidal channel from 2008 to 2016, and survey data depicting the inlet profile as of 4/25/2016. This has been supplemented by independent review of other documentation on Tubbs Inlet migration processes, including historical descriptions of the inlet by Orin Pilkey, and studies and evaluation of the inlet processes by North Carolina State University's Center for Marine Coastal Studies (Sediment Movement In Tubbs Inlet North Carolina; Masterson, Machemehl and Cavoroc; 1973).

For most of the documented history on the location of Tubbs Inlet, the Inlet demonstrated a steady migration to the southwest. Masterson compiled this documentation into a graphic, which is reconstructed in Figure 1. From 1859 to 1966 the geomorphology of the tidal deltas directed the ebb tide flow to the west along a steadily elongating sand spit that grew to the west from the Ocean Isle Beach shoreline. The tidal channel for this flow was forced to make a sharp turn to the south along the Sunset Beach shoreline to reach an exit to the Ocean. When the sand spit extending from the Ocean Isle Beach shoreline grew in a northerly direction in 1943, and again in 1963, the tidal channel aggressively cut southwest into the Sunset Beach shoreline – very much a mirror image of what has been transpiring now along the Ocean Isle Beach shoreline.

In 1966 the U.S. Army Corps of Engineers relocated the Inlet to the east, approximately to its 1930 location (Living By The Rules Of The Sea; Duke University Press; Bush,Pilkey, Neal; 1996). The area occupied by the Inlet to the west of the new location was filled in with sand. This relocation was successful in halting the westward migration of the Inlet.

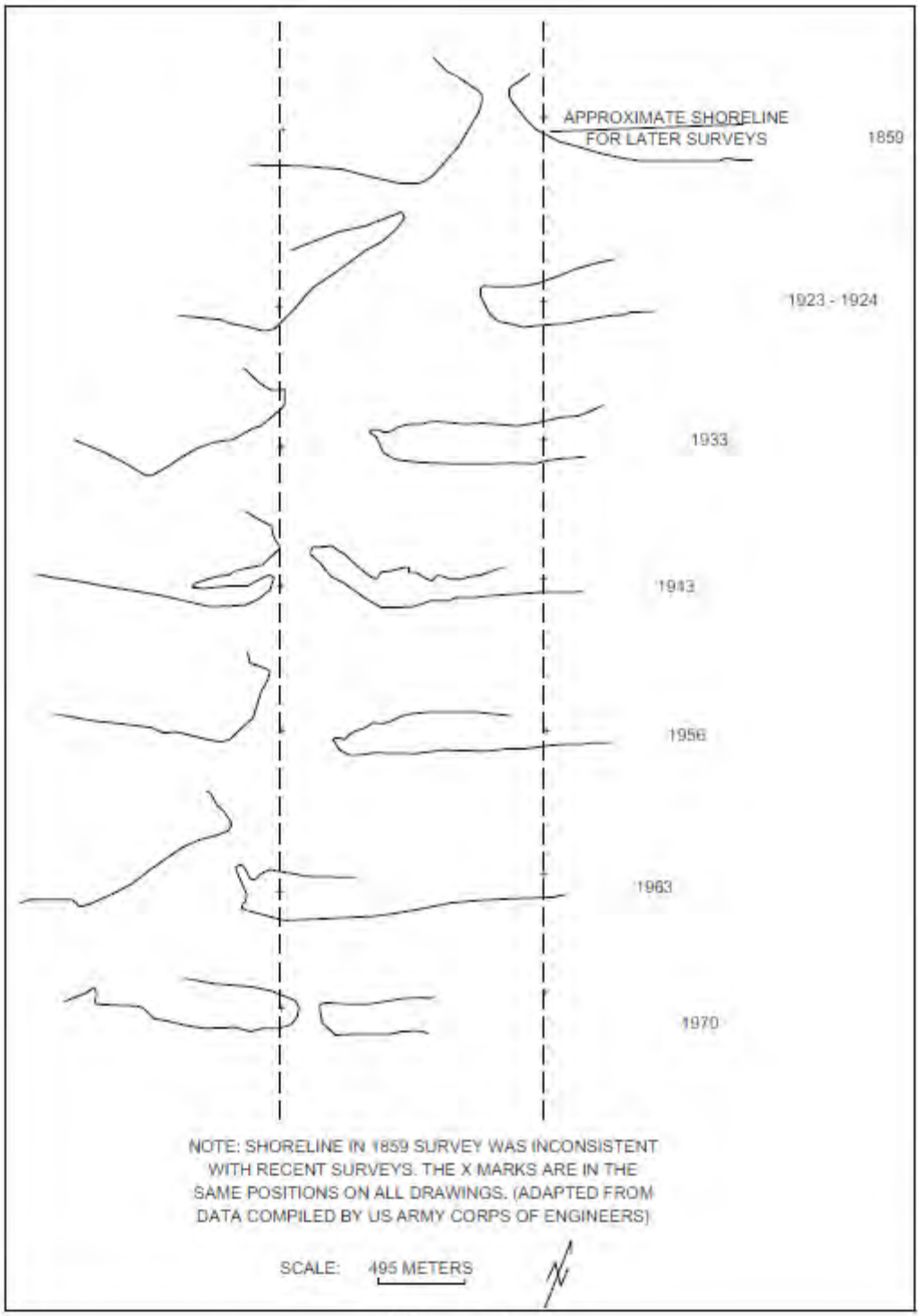


Figure 1

Since the relocation of Tubbs Inlet in 1966, no documentation is found of major storm changes to the Inlet or efforts to dredge or maintain a navigation channel to keep the Inlet in its relocated position. Since the time of the relocation of Tubbs Inlet in 1966, the Inlet has demonstrated a steady shift to the east as the oceanward accretion of Sunset Beach island provides a sand source for the tidal flood currents to deposit sand upon, and elongate the spit growing eastward into the Inlet.

If the Army Corps of Engineers had maintained this relocated channel, it is likely that the steady migration of the Inlet to the east would have been stopped, or at least retarded. If a centrally located channel were to be dredged at this time, and maintained, it is likely that the migration of the inlet could be stopped, as was done in 1966. However, there is no indication that any such dredging efforts are being pursued, or even contemplated.

Between 1993 and 1999 the spit extending from Sunset Beach began to grow to the north as well when sand was deposited on top of the flood delta. This forced the ebb currents to first flow in a northeast direction before turning back to the south to reach the ocean. This accentuated the tightness of the turn of the ebb current flow, and brought greater erosive current velocities upon the shoreline of Ocean Isle Beach. By September of 2006, the erosion had brought the high water of the Inlet up against the stable vegetation at the western extreme of Ocean Isle Beach.

By October of 2008, the high water of the Inlet had eroded all stable vegetation on the west end of Ocean Isle Beach back to the existing sandbag revetment. By March of 2011 the spit development had forced the tidal channel into a tight “hairpin” turn causing tidal flows to follow a path of approximately 160 degrees during flow into and out of Tubbs Inlet. This concentrated the erosion from both the flood and ebb currents upon the west end of Ocean Isle Beach, and upon the Picha property.

Data recorded between 2008 and 2016 has documented a steady northeasterly migration of the tidal channel. During the period of 6/17/2008 to 12/13/2012 the tidal channel migrated by 106-ft to the northeast, corresponding to a migration rate of approximately 2-ft/month. During the period of 12/13/2012 to 10/9/2014 the tidal channel migrated by 34-ft to the northeast, corresponding to a migration rate of approximately 1.5-ft/month. During the period of 10/9/2014 to 11/25/2015 the tidal channel migrated by 69-ft to the northeast, corresponding to a migration rate of approximately 5-ft/month. During the period of 11/25/2015 to 3/25/2016 the tidal channel migrated by 48-ft to the northeast, corresponding to a migration rate of approximately 12-ft/month.

Between the dates of 3/25/2016 and 4/10/2016, the tidal channel of Tubbs Inlet continued to migrate to the northeast at a rate of 70-ft per month based on field measurements. The survey performed by Geodynamics on 4/25/2016 places mean high water along the entire length of the existing sandbag revetment, and the Mean Low Water line (edge of the tidal channel) within 30 feet of the northern half of the sandbag revetment.

The potential for very high erosion rates for shorelines in Inlet Hazard Areas are known to exist in response to the dynamic changes in ebb and flood deltas. These deltas affect the direction of flow and the velocity of the ebb and flood currents as the tidal prism of Tubbs Inlet is filled and emptied twice a day in a semi-diurnal tidal regime. The erosive effects of tidal currents through an inlet are increased in response to changes that result in the narrowing of the inlet and outlet channels, which cause increases in the current velocity. When changes in tidal deltas result in the inlet and outlet channels following a curved path through the inlet, the highest current velocities, and the corresponding higher erosion rates, are found along the outside of the bends in the tidal channel.

If one of the sides of an inlet grows sufficiently to begin to narrow the area through which the tidal currents flow, the mass flow to fill and drain the tidal prism remains unchanged and the inlet responds by increased current velocity, and/or cutting a deeper channel, and/or eroding away the landform on the outer side of the tidal channel of the inlet to cut a wider channel.

These are the changes that are currently occurring at Tubbs Inlet. The sand spit extending from the Sunset Beach side of the Inlet has been growing to the northeast. This has forced the tidal channel farther to the northeast and created a tight bend in the channel as it turns to the east and south to allow flow to exit to the ocean. This tight bend is focusing the highest flow velocity of the inlet along the sandbag revetment, and has begun to cut into the Old Sound Creek side of the west end of Ocean Isle Beach.

The Geodynamics survey shows water depths increasing beyond the Mean Low Water line at increasing distances water-ward of the sandbag revetment. On 3/25/2016 and 3/26/2016 depths within the encroaching tidal channel were measured down to 4 – 9-ft below the low water level along most of the tidal channel and from 12 - 20-ft below the low water level along a considerable portion of the channel where the channel bends sharply to turn to the south.

Profile 5 of the Geodynamics survey locates the bottom of the sandbag revetment approximately 6 inches above the Mean Low Water line. This places the bottom of the existing sandbag revetment at approximately -2-ft NAVD 88. The bottom, outer sandbags of the existing 6-ft x 12-ft sandbag revetment, laid parallel to the shoreline have dropped in elevation as is expected when subjected to erosion after initial placement. These sandbags carry the underlayment mat down and secure it in place to provide the 6-ft x 20-ft revetment scour protection, and prevent the entire alignment from being rapidly scattered about the shoreline.

In many respects, it is impressive that this 6-ft x 20-ft revetment has been able to continue to provide scour protection under the existing conditions. It is my opinion that a 6-ft x 20-ft sandbag revetment cannot be designed or constructed to provide scour protection to a greater depth while maintaining sufficient elevation to offer protection from the effects of the waves that are driven against this shoreline.

The depths that have been recorded in the approaching tidal channel are such that the tidal channel will soon cause these sandbags (the ones associated with providing scour protection for the revetment) to descend beyond the end of the underlayment. It is my opinion that this can be expected to lead to a steady, and perhaps rapid failure of the existing revetment when the underlayment can no longer isolate the sand beneath the revetment from the tidal currents, and the higher placed sandbags will move water-ward and downward, also negating the protection that the revetment offers against the wave energy on this shoreline. It is also my opinion that this places your property, along with other properties and the infrastructure of the Town of Ocean Isle Beach under imminent threat of rapid, destructive erosion.

In that the Coastal Area Management Act (CAMA) specifically precludes the utilization of hardened structures for protection of shorelines such as this, your options to provide protection of your property from the encroaching tidal channel of Tubbs Inlet are limited. In that the Coastal Resources Commission (CRC) has seen fit in the past to allow enlarged sandbag revetments to be placed for the protection of shorelines where a 6-ft x 20-ft revetment is insufficient to address the extent of the threat to the property, an oversized sandbag revetment is recommended as the appropriate course of action to pursue.

An oversized sandbag revetment can be designed to provide a sufficient number of additional shoreline parallel sandbags to carry a new, and longer underlayment deeper in the sand for added scour protection. An oversized sandbag revetment can also be designed to maintain a sufficient elevation to resist the erosive forces of wave energy as existing lower level sandbags sink with the underlayment in response to the tidal channel encroaching upon the shoreline.

It is my opinion that the construction of the sandbag revetment and maintenance and repair of the rock revetment for the protection of this property from erosion processes has, to this point, functioned well while subjected to the erosive forces of waves and the ebb and flood currents of Tubbs Inlet. However, heretofore your property has been located at a significant distance to the east of the Inlet's tidal channel, or tidal gorge.

With the tidal channel well west of the existing sandbag revetment, the currents of the Inlet have not been directed against your shoreline at a depth that exceeded the ability of the existing scour protection to stabilize the shoreline. With this tidal channel now located virtually up against the bottom of the existing sandbag revetment, and given the current rate of migration of the Inlet's tidal channel toward your property, it is my opinion that immediate action is needed to improve the ability of the existing sandbag revetment to resist the very significant, and deep undercutting erosion forces of the tidal channel.

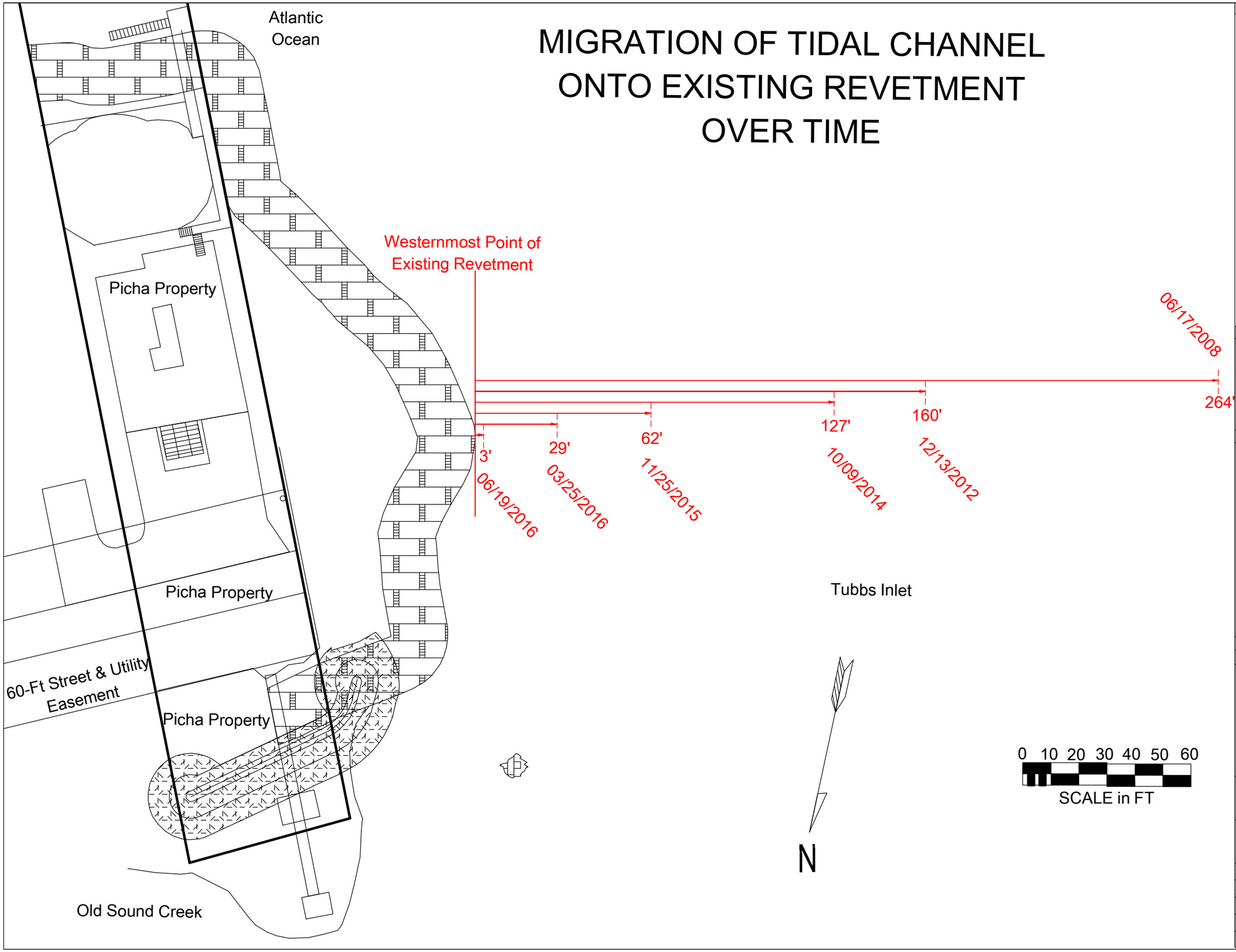
The direction of migration of Tubbs Inlet could well shift back to the west if the tidal deltas are reworked by a major storm. Barring that, and with the absence of dredging efforts to maintain a navigation channel centered in the Inlet and following a straighter path to the ocean, a directional shift in the migration of the inlet may result when the gradual geomorphological changes in the deltas redirect the tidal flows in a new direction. Barring the assistance of a storm, this may happen as the spit continues to elongate to the north, and concentrates the ebb flow from Jinks Creek (from the Intercoastal near the Sunset Beach bridge) upon the lower elevations of the spit.

It is my opinion that an enlarged sandbag revetment is the only practicable option to pursue for protection of your shoreline, and to hold back the migration of the Inlet onto your property, and into the existing development and infrastructure of Ocean Isle Beach.

Sincerely,

Theodore J. Sampson

MIGRATION OF TIDAL CHANNEL ONTO EXISTING REVETMENT OVER TIME



LEGEND/KEY

- Existing 6' x 20' Sandbag Alignment
- Existing Subsurface Rock Revetment
- Existing Remnant Riprap Groin
- Property Lines
- Distance From Western Extreme of Revetment to Inlet Tidal Channel
- Eastern Edge of Inlet Tidal Channel

NOTES

GENERAL NOTES

1) Drawings derived from field observations, Brunswick Co. GIS, Coastal Science & Engineering, PLLC drawings dated 1/11/09 and 1/13/09, and Boney & Associates, Inc. drawing dated 5/23/94.
2) Drawing is for permitting purposes only and not construction.
3)

NO	REVISION	DATE

PE STAMP

SAMPSON CONTRACTING, INC.
125 Hunters Trail West
Elizabeth City, NC 27909

PROJECT TITLE:
PICHA EROSION CONTROL

DRAWING TITLE:
INLET MIGRATION GRAPHIC

SCALE:	As Indicated
DRAWN:	TS
CHECKED:	
DATE:	07/02/16
PROJECT NO.:	04 - 032516

DRAWING NO.:
04 - 070216 - 001
SHEET 1 OF 1

ARENDELL ENGINEERS
CIVIL · COASTAL · ENVIRONMENTAL
105 North 10th Street
Morehead City, North Carolina 28557
(252) 622-4338
N. C. Certification No. C-1509

May 20, 2016

Ms. Kay P. Picha
6965 Lorien Charter Drive
Randleman, NC 27317

Re: Shore Protection at 149 Ocean Isle Rd. [16008]
Ocean Isle, Brunswick County, North Carolina

Dear Ms. Picha:

We have been asked to provide our observations of the condition of the shoreline along the east shore of Tubbs Inlet adjacent to your property and to the end of Ocean Isle Road. The objective is to provide an assessment of the conditions and potential for damage to the sand bag structure which protects the end of the island including the Picha property and the end of Ocean Isle Road. Public sewer and water and other utility systems are located in the right-of-way of the road. These facilities as well as the residential structures will be threatened if there is a failure of the bag line.

As part of that work we completed the following as part of our evaluation:

- Surveyed the inlet shoreline to determine the bottom elevations adjacent to the riprap revetment and sand bags that currently provide protection.
- Analyzed aerial photographs of Tubbs Inlet in Google Earth from 1993 to 2014.
- Visited the site and observed conditions at close to high tide.

April 2016 Survey – A topo and hydrographic survey was completed by Geodynamics, LLC on April 25, 2016. A copy of that survey is attached along with the profiles of the shoreline, sand bags and riprap revetment.

Generally, the survey shows that the inlet channel has migrated to the east and is threatening to undermine a portion of the sand bag revetment. The mean high waterline is shown on the survey to be at the toe of the structure over pretty much of its entire length in front of the Picha property and along the section protecting the end of Ocean Isle Road. The amount of sand fronting the structure from the toe to mean low water level varies but is minimum at the north end of the bag line.

The existing 6' x 20' sand bag section was not constructed with a collapsible toe to allow the lower bags to slump into an eroded channel and be sacrificed to protect the main body of the bag structure. This condition is illustrated in profiles 4 and 5 on sheet 02 of the survey. The mean low water elevation is within 40 feet of the toe of the bag line. Due to the fact that the inlet channel of Tubbs Inlet is migrating eastward, expansion of the sand bag revetment to include toe protection is advised.

Aerial Photo Analysis – We looked at sequential aerial photos available in Google Earth from 1993 to 2014. Copies of the aerial photos are attached. Of interest in the photos is the changing location of the main inlet channel over time and the condition of the shoreline at the end of Ocean Isle Road.

The position of the inlet channel was relatively stable from 1993 through 1999. Since 1999 the channel has tended to migrate to the east. In 2009 through 2014 the centerline of the main channel has migrated to a point where the shoreline at the end of Ocean Isle Road is threatened. The consequence of this trend is

realized in the April 2016 survey where the mean low water line and edge of the inlet channel is less than 40 feet from the toe of the bag structure at the end of Ocean Isle Road.

Site Visit – I visited the site on Monday May 16, 2016 to observe the condition of the shoreline as represented in the April survey. Water levels were near high tide during my visit. The top and the western end of the riprap revetment were visible. The revetment is functioning as toe protection to the steep slope along the back side of the island adjacent to the dock as to protection for the northern end of the sand bag revetment. The revetment has settled and I estimate that the existing top elevation is now around elevation 2. The original plans show the constructed elevation of +4 NGVD.

The toe of the bag line is exposed to the waves and currents around the end of the island at the end of Ocean Isle road. It appears that some settlement and sloughing of the bag line has taken place. The sand spit evident in the 2014 aerial photo on the back side of the island at the Picha dock has disappeared.

Conclusions- This evaluation is brief but the conditions of inlet migration and the exposed toe of the existing sand bags are very obvious and the need for timely action is imperative. Current conditions necessitate installation of sand bags during low water periods. The availability of land above mean high water for construction of toe protection for the existing sand bags has been lost. As the remaining sand in front of the bags continues to erode, the cost of installation of additional bags will escalate. We suggest that installation of additional bags be undertaken at the earliest possible date. The eastward migration of the inlet channel and the potential for occurrence of a significant storm event with high water levels, currents and waves will accelerate erosion in front of the bags line possible causing collapse of the bags.

The bag line that protects the end of Ocean Isle Drive is settling and the mean high waterline is at the toe. These factors together with the fact that accelerated erosion caused by eastward migration of the inlet channel presents an imminent to the residential structure and public infrastructure adjacent to the inlet. The cost associated with delay in protecting the bag line could be extensive if the bag line collapses. The cost of installation of additional protective sand bags also escalates with the migration of the channel toward the toe of the existing structure.

We appreciate the opportunity to provide services to you.

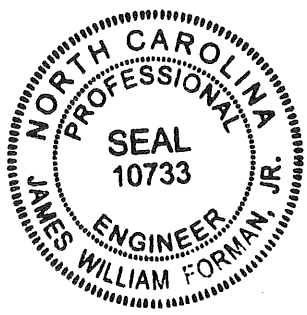
If you need additional information or have questions, please contact me.

Sincerely,

ARENDELL ENGINEERS

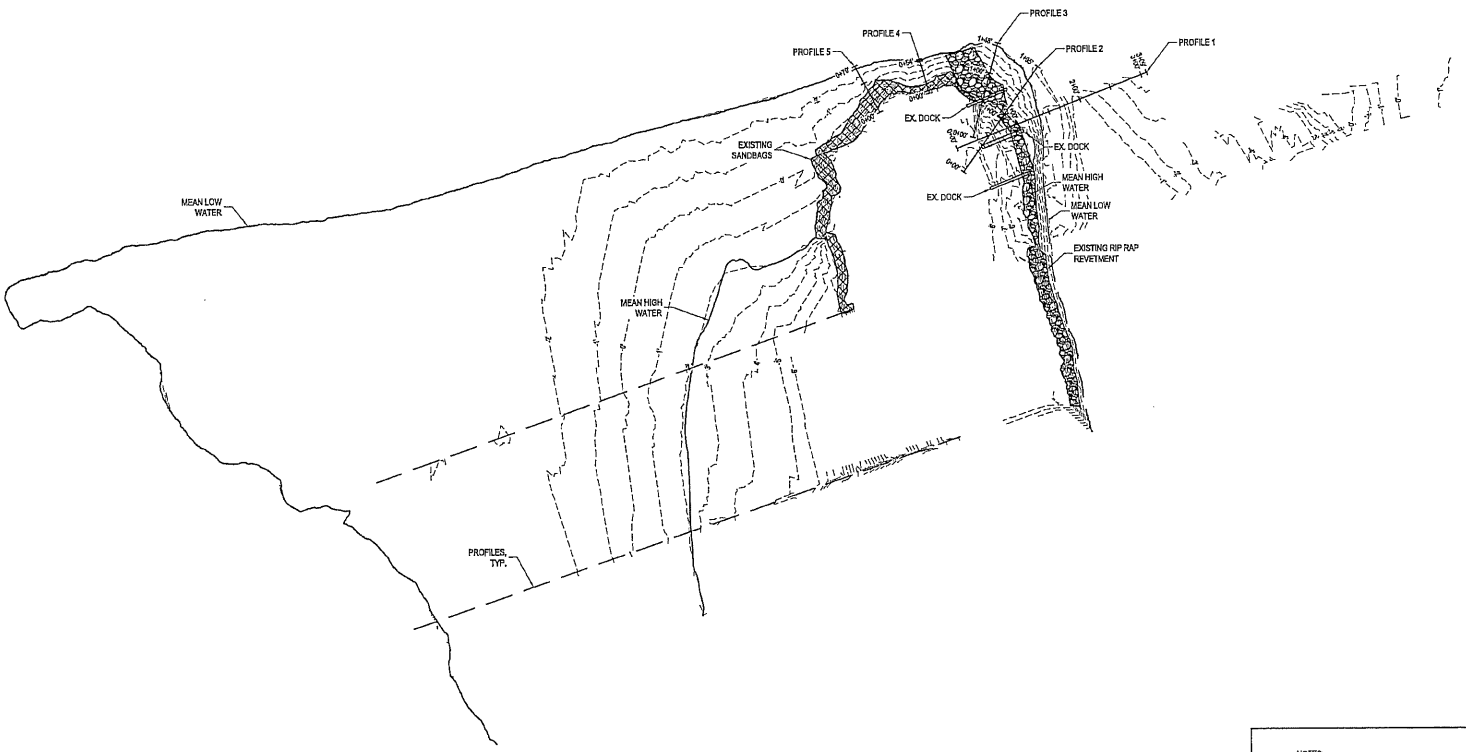
James W. (Bill) Forman, Jr., P.E.
President

5/20/16



Attachments

CC: Ted Sampson
Clark Wright



NOTES:
1. SURVEY COMPLETED BY GEODYNAMICS, CHRIS FREEMAN, PLS, DATED APRIL 25, 2016.
2. VERTICAL DATUM: NAVD 88.
3. HORIZONTAL DATUM: NC STATE PLANE COORDINATES.

N

SCALE (IN FEET):
60' 0' 80' 160'

PROJECT MANAGER: JWF
DESIGNED: JJW
DRAWN BY: JJW
CHECKED: JWF
SCALE: 1" = 80'
DATE: 05/02/16

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Fax: (252) 622-4505
www.arendellengineers.com
North Carolina Certification No. C-1509

OWNER:
KAY & DAVID PICHA
6965 LORIEN CHARTER DRIVE
RANDLEMAN, NC 27317

PROJECT:
SHORE PROTECTION
149 OCEAN ISLE ROAD
OCEAN ISLE, NORTH CAROLINA

BRUNSWICK COUNTY, NC

DRAWING:
EXISTING CONDITIONS

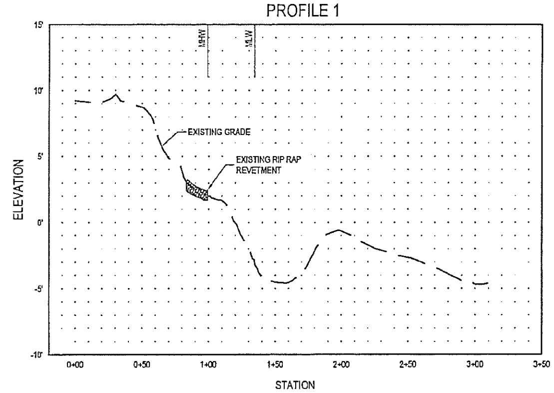
Preliminary Drawing Not For Construction

NO.	REVISION	BY	DATE

SHEET NO: 01
OF: 02
JOB NO. 16008

O:\Projects\2016\16008 Picha Shore Protection Ocean Isle\dwg\16008base.dwg, 5/2/2016 12:20:25 PM, 11" x 17", 1:2.19531

PROFILE 1



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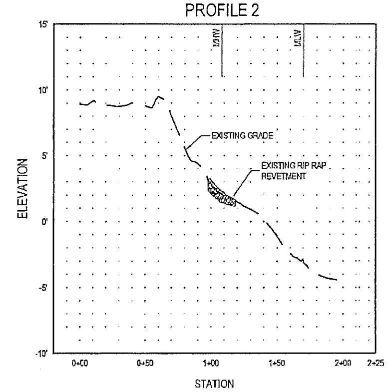

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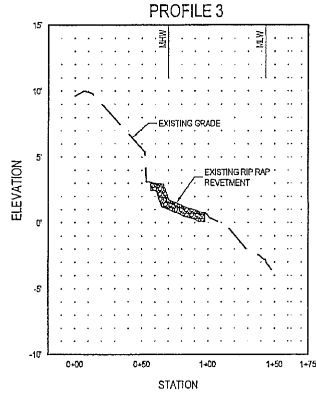
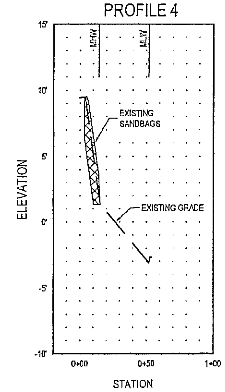
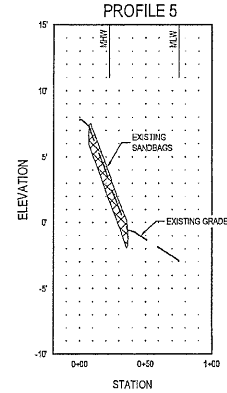


PROFILE 4



PROFILE 5



PROJECT MANAGER: JWF

DESIGNED: JJW

DRAWN BY: JJW

CHECKED: JWF

SCALE: H: 1" = 40', V: 1" = 4'

DATE: 05/02/16

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North Carolina Certification No. C-1509

OWNER:
KAY & DAVID PICHA
6965 LORIEN CHARTER DRIVE
RANDLEMAN, NC 27317

PROJECT:
SHORE PROTECTION
149 OCEAN ISLE ROAD
OCEAN ISLE, NORTH CAROLINA

BRUNSWICK COUNTY, NC

DRAWING:
EXISTING PROFILES

Preliminary Drawing
Not For Construction

NO	REVISION	BY	DATE

SHEET NO: 02

OF: 02

JOB NO. 16008

O:\Projects\2016\16008 Picha Shore Protection Ocean Isle\dwg\16008base.dwg, 5/2/2016 12:20:37 PM, 11" x 17", 1:2.19531

JAMES W. (BILL) FORMAN, JR., P.E.

PRESIDENT/SENIOR ENGINEER
ARENDELL ENGINEERS
105 N. 10TH STREET• MOREHEAD CITY, NORTH CAROLINA 28557

252-622-4338 (office) - 252-259-7224 (mobile) bill@arendellengineers.com

SENIOR CIVIL & COASTAL ENGINEER

AREAS OF EXPERTISE

Urban waterfront redevelopment engineering
Construction management
End to end project management
Construction conflict resolution
Dredging & dredged material disposal
Beach nourishment
Coastal structures
Sediment transport
Shoreline erosion assessments
Small boat harbor planning & engineering
Small boat harbor vessel traffic assessments
Fixed & floating breakwaters
Bulkheads & waterfront structures
Waterfront development
Environmental & water resource permitting
Environmental assessments & impact statements
Erosion control
Industrial site redevelopment
Horizontal directional drilling, marine outfalls, beach crossings
Site planning & design
Wastewater treatment & reuse
On-site effluent disposal systems
Water distribution systems
Sewage collection, gravity & pressure systems
Storm-water management & reuse

PROFESSIONAL ACCOMPLISHMENTS

- Developed individual specialty for execution of projects in the environmentally sensitive areas.
- Successfully executed urban waterfront redevelopment projects in Baltimore, Chicago, New Bern and Washington, Wilmington, and Beaufort, North Carolina.
- Experience with waterfront projects in Central American (Belize) and Caribbean Islands (St. Lucia and Antiqua).
- Completed environmental permitting, design and construction administration for coastal works including bulkheads, revetments, groins, fixed and floating breakwaters, beach nourishment, marinas, waterfront development, and urban waterfront redevelopment.
- Completed design and physical modeling of large coastal works for protection of valuable oceanfront historic sites.
- Design of over two miles of marine bulkhead of steel, concrete, vinyl and composite sheet piles.
- Introduced MBR wastewater treatment and water reuse/reclaim technology into the State of North Carolina.
- Successfully managed and resolved construction disputes, claims and delays.
- Designed and executed dredging and disposal projects, including beach nourishment totaling over eight million cubic yards.
- Permitted, designed and administered construction of small boat harbor and marina projects totaling over 6,000 boat slips in eastern United States.
- Designed and administered construction of steel, concrete and plastic bulkheads for over 2 miles of shoreline.
- Developed expertise in engineering of large and small diameter horizontal directional drilling including ocean beach crossings for marine outfalls and drops from offshore submarine communication cables.
- Engineer for redevelopment of waterfront industrial sites including lumber mills, coal transfer facilities and fish meal factories.

PROFESSIONAL EXPERIENCE

President/Senior Civil Engineer, Arendell Engineers, Morehead City, Morehead City, North Carolina, October 2014 to Present. ■ President and co-founder of Arendell Engineers in October 2014 ■ Project engineer for Front Street Village, Phases 2 and 3 and hotel and bistro development ■ Project engineer for investigations, design, permitting and certification of pressure sewer collection system for Harkers Island, North Carolina.

Senior Civil Engineer, Bay Design Group, P.C. and Bearing Point Consulting, Inc., Morehead City, North Carolina, 2010 to October 2104. Project engineer for Front Street Village, the redevelopment of a waterfront fish meal factory site in Beaufort, N. C. ■ Project engineer for permitting and boat traffic analysis for phase 3 expansion of City of Washington Marina, Washington, N. C. ■ Project engineer for development of Harbor Master plan for Town of Morehead City involving planning and community consensus building.

Senior Engineer/Vice President, Coastal Science & Engineering, Inc. Morehead City, North Carolina, 2000 to 2010. Manager of branch office of coastal engineering firm responsible for marketing, personnel management, engineering and project management. ■ Project engineer for beach nourishment projects at Hunting Island State Park, Edisto Beach, Isle of Palms and Arcadia Shores, S. C., and Ocean Isle Beach and Bogue Banks (3 projects) N. C. totaling over 8 million cubic yards. ■ Project engineer for design of terminal groin at Folly Beach, S. C., rehabilitation of 16 groins at Edisto Beach, S. C. and construction of six steel sheet pile groins at Hunting Island State Park, S. C. ■ Engineer for planning and permitting of redevelopment of waterfront fish meal factory in Beaufort, N. C. ■ Project engineer for permitting design and construction administration for four membrane bio-reactor (MBR) wastewater treatment plants ranging from 10,000 to 180,000 gpd capacities. ■ Project engineer for Neuse River 115 slip floating dock marina project that included 1600 linear feet of floating breakwater for two specific wave directions, fixed access piers, waterfront promenade and marina utilities and fire protection systems in Bridgeton, N. C. ■ Project engineer for waterfront development projects in Belize, Antiqua, and St. Lucia. ■ Engineer for storm water ocean outfall utilizing HDD of three 48 inch diameter pipes or direct burial of two 72 inch pipes for City of Myrtle Beach, S. C.

Project Civil Engineer, Stroud Engineering, P.A., Morehead City, North Carolina, 1997 to 2000. Project engineer for private, commercial and municipal site development projects including development of Jarrett Bay Marine Industrial Park in Beaufort, North Carolina. ■ Project engineer for feasibility study and preliminary design of first large scale non-federally funded beach nourishment project using sand from an offshore borrow area in North Carolina. ■ Introduced membrane bioreactor wastewater treatment and treated effluent reuse technology into State of North Carolina at the N.C. Aquarium at Pine Knoll Shores.

Principal/Owner, Forman Engineers, Raleigh, North Carolina, 1993 to1997. Owned and operated small engineering consulting business. ■ Principal Engineer in support of American Coastal Engineering, West Palm Beach, Florida, including design and prototype testing of low profile pre-cast submerged breakwater units for beach stabilization. ■ Project engineer for design and construction of steel sheet pile fixed breakwater for Blackbeard Sailing Club on Neuse River tributary in New Bern, North Carolina. ■ Project engineer for urban waterfront redevelopment projects in New Bern and Washington North Carolina. ■ Project engineer for development of downtown redevelopment master plan for City of Washington, N.C. ■ Project Engineer for industrial waterfront redevelopment sites in Washington, North Carolina and Mathews, Virginia. ■ Engineer for marina projects in North Carolina and Florida.

Principal Civil Engineer, Moffatt & Nichol Engineers, Raleigh, North Carolina, 1987 to 1993. Civil engineer for large multi-disciplinary marina projects in Maryland, Virginia, Delaware, Rhode Island, North Carolina, South Carolina, Florida, and Illinois. ■ Engineer for large U.S. corporation developing dry storage marinas for boat and motor marketing advantage. Completed feasibility studies, permitting and design for dry storage marinas in Florida, Maryland, Texas, Illinois, and South Carolina. ■ Provided civil engineering for commercial port, shipyard and NAVFAC projects in Florida, Virginia, Maryland, Pennsylvania, New Hampshire, North Carolina and South Carolina. ■ Project engineer for redevelopment of waterfront ship/rail coal transfer site in Baltimore Harbor, MD.

Project Engineer, The John R. McAdams Company, Inc., Chapel Hill, North Carolina, 1984 to 1987. Project engineer for private and municipal site development projects including design and construction document preparation for site grading, drainage, erosion control, sewer collection and water distribution systems, small wastewater treatment systems, and roadway design. ■ Engineer/advisor to county economic development commissions for infrastructure development to serve potential industrial sites.

Coastal Engineer, U. S Army Corps of Engineers, Wilmington District, Wilmington, North Carolina, 1979 to1984. Project coastal engineer for shore protection projects including shoreline revetment at Fort Fisher National Historic Park including scale model testing and preliminary design. ■ Project engineer for Cape Hatteras Lighthouse seawall protection works including scale model testing and preliminary design of recurved wave deflection wall. ■ Project engineer for study of use of dredging as the sole means of maintaining navigation channel at Oregon Inlet, NC. ■ Completed numerous studies of sedimentation and shoreline change at North Carolina tidal inlets.

Coastal Engineer, U. S. Army Corps of Engineers, Coastal Engineering Research Center, Fort Belvoir, Virginia, 1978 to 1979. Principal Investigator for study on geotechnical aspects of beach nourishment.

EDUCATION

B.S.C.E., 1976, Civil Engineering – North Carolina State University, Raleigh, North Carolina

M.S. 1978, Civil Engineering and Marine Sciences - North Carolina State University, Raleigh

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers, Member

National Society for Professional Engineers

American Shore and Beach Preservation Association

Chi Epsilon, National Civil Engineering Honor Society

NOTES:
1. SURVEY COMPLETED BY GEODYNAMICS, CHRIS FREEMAN, PLS, DATED APRIL 25, 2016.
2. AERIAL IMAGE PROVIDED BY NC ONE MAP GEOSPATIAL PORTAL, DATED 2012.
3. VERTICAL DATUM: NAVD 88.
4. HORIZONTAL DATUM: NC STATE PLANE COORDINATES.

SCALE (IN FEET):

80' 0' 80' 160'

PROJECT MANAGER: JWF

DESIGNED: JJW

DRAWN BY: JJW

CHECKED: JWF

SCALE: 1" = 80'

DATE: 05/02/16

ARENDELL ENGINEERS
CIVIL · COASTAL · ENVIRONMENTAL
105 North 10th Street, Suite 4
Morehead City, NC 28557
(252) 622-4338
Fax: (252) 622-4505
www.arendellengineers.com
North Carolina Certification No. C-1509

OWNER:

KAY & DAVID PICHA
6965 LORIEN CHARTER DRIVE
RANDLEMAN, NC 27317

PROJECT:

SHORE PROTECTION
149 OCEAN ISLE ROAD
OCEAN ISLE, NORTH CAROLINA

BRUNSWICK COUNTY, NC

DRAWING:

EXISTING CONDITIONS

Preliminary Drawing
Not For Construction

NO.	REVISION	BY	DATE

SHEET NO: 01

OF: 02

JOB NO. 16008

☒CAMA / ☒DREDGE & FILL

GENERAL PERMIT

☒New ☐Modification ☐Complete Reissue ☐Partial Reissue

No. 57596D

Previous permit # _____

Date previous permit issued _____

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 7H .1500.

☒Rules attached.

Applicant Name David & Kay Piccha

Address 6965 Lorien Charter Drive

City Randleman State NC ZIP 27317

Phone # (336) 674-8176 Fax # (___) _____

Authorized Agent Yogi Harper / Ike Williamson

Project Location: County Brunswick

Street Address/ State Road/ Lot #(s) (last house) 149 Ocean Isle Blvd. West

Subdivision Dean N/A

City Ocean Isle Beach ZIP 28469

Phone # (___) Same River Basin Lumber

Adj. Wtr. Body Tubbs Inlet (nat /man /unkn)

Closest Maj. Wtr. Body AIWW

Affected AEC(s): ☐CW ☒EW ☒PTA ☐ES ☐PTS ☐OEA ☐HHF ☐IH ☐UBA ☐N/A ☐PWS: _____ ☐FC: _____

ORW: yes / (no) **PNA** yes / (no) **Crit.Hab.** yes / (no)

Type of Project/ Activity Conduct maintenance excavation adjacent to existing docking facility (Scale: 1" = 30')

Pier (dock) length _____

Platform(s) _____

Finger pier(s) _____

Groin length _____

number _____

Bulkhead/ Riprap length _____

avg distance offshore _____

max distance offshore _____

Basin, channel 30'x75'x-10'

cubic yards 833 yds³

Boat ramp _____

Boathouse/ Boatlift _____

Beach Bulldozing _____

Other _____

Shoreline Length 160'

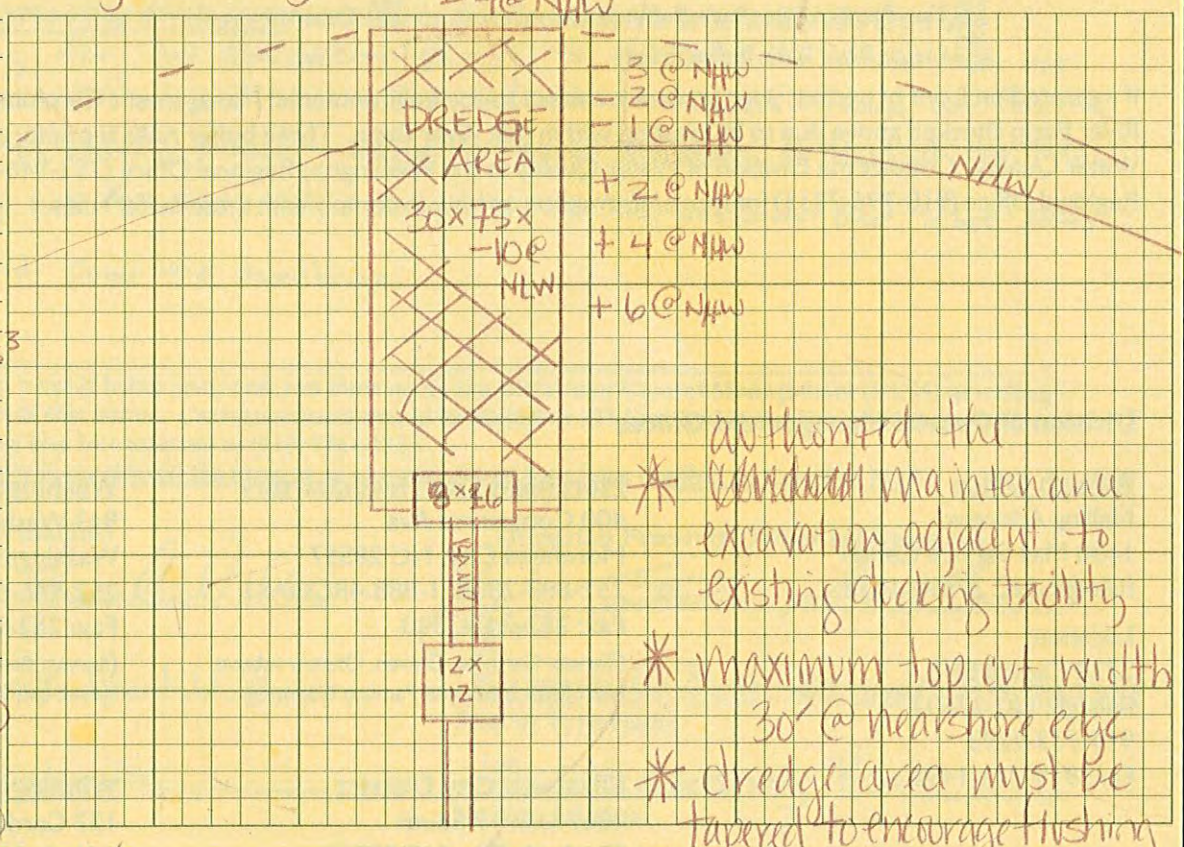
SAV: not sure yes (no)

Sandbags: not sure yes (no)

Moratorium: (n/a) yes no

Photos: (yes) no

Waiver Attached: yes (no)



A building permit may be required by: N/A.

☐ See note on back regarding River Basin rules.

Notes/ Special Conditions 7H.1500 and all other local, state and federal regulations apply. All spoil material to be placed on highground (authorized by OIB MINOR PERMIT #09-08) no spoil material is to be placed below the NHW line.

Kay Piccha
Agent or Applicant Printed Name

Kay P. Piche
Signature ** Please read compliance statement on back of permit **

$400.00
Application Fee(s)

1403
Check #

Holly Snider (HS)
Permit Officer's Signature

1/5/12
Issuing Date

3/30/12
Expiration Date

O.I.B.
Local Planning Jurisdiction

P0105141A
Rover File Name

CERTIFICATE OF EXEMPTION
FROM REQUIRING A CAMA PERMIT

PH 1.29.15

No. 01416 D

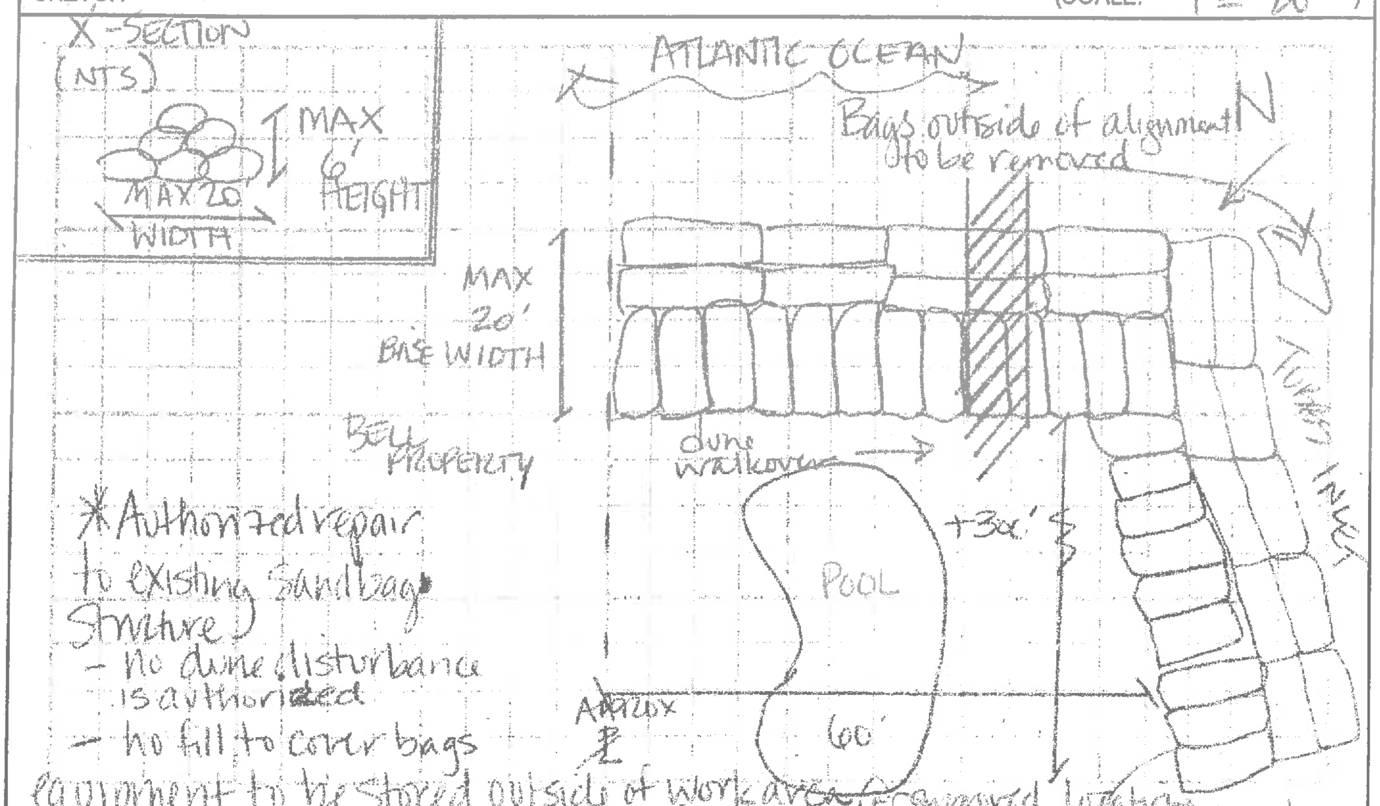
as authorized by the State of North Carolina,
Department of Environment and Natural Resources and the Coastal Resources Commission
in an area of environmental concern pursuant to 15 NCAC Subchapter 7K.0163.

Applicant Name David & Kay Picha c/o EnviroControl Specialists Phone Number (252) 473-0549 agent
Address 6965 Loren Charter Drive
City Randleman State NC Zip 27317
Project Location (County, State Road, Water Body, etc.) Brunswick County located at Ocean Isle West Blvd in the Town of Ocean Isle Beach adj. to the Atlantic Ocean
Type and Dimensions of Project Repair Sandbags 20' W x 360' L x 6' H (approximately ~50-60 Bags)

The proposed project to be located and constructed as described above is hereby certified as exempt from the CAMA permit requirement pursuant to 15 NCAC 7K .0163. This exemption to CAMA permit requirements does not alleviate the necessity of your obtaining other State, Federal or Local authorization.

This certification of exemption from requiring a CAMA permit is valid for 90 days from the date of issuance. Following expiration, a re-examination of the project and project site may be necessary to continue this certification.

SKETCH (SCALE: 1" = 20')



Any person who proceeds with a development without the consent of a CAMA official under the mistaken assumption that the development is exempted, will be in violation of the CAMA if there is a subsequent determination that a permit was required for the development.

The applicant certifies by signing this exemption that (1) the applicant has read and will abide by the conditions of this exemption, and ~~(2) a written statement has been obtained from adjacent landowners certifying that they have no objections to the proposed work.~~

Applicant's signature [signature] Yogi Harper

CAMA Official's signature [signature]

Issuing date 1/23/15

Expiration date 4/23/15

Attachment: 15 North Carolina Administrative Code 7K

MARINE ENVIRONMENTAL CONSULTING DIVISION

SAMPSON CONTRACTING, INC.

Marine Construction And Environmental Consulting Services

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

April 7, 2016

Debra Wilson
District Manager
NC Division of Coastal Management
127 Cardinal Drive Ext.
Wilmington, NC 27405

Re: Kay P. Picha; Major Permit Application for shoreline protection

Dear Ms. Wilson:

Please accept this letter and the enclosed documents as the required application for CAMA and NC Dredge and Fill permits for the proposed development.

The purpose for this permit request is to allow the owners to conduct additional shoreline protection along the Atlantic Ocean, Tubbs Inlet, and Old Sound Creek. The existing shoreline protection, while currently adequate to resist the erosive effects of ocean waves and storms, is in imminent threat of becoming undermined by the migration of the Tubbs Inlet tidal channel.

Please find as part of this request the Major Permit Application Forms, and supporting documents (including a check for the application fee) identified in the list of enclosures below. Copy of letter to the Riparian Property Owner is a part of those enclosures, which requires documentation of delivery. Provided herein are the Postal Receipts for Certified Delivery ("green card" return receipts will be provided separately once returned by the Post Office).

I would like to emphasize that time is of the essence in processing this Permit request. The current rate of migration of the Tubbs Inlet tidal channel is expected to severely limit the ability to perform the needed work within the next month. This tidal channel migration rate is expected to start undermining the existing sandbag revetment within 3 months. Once the existing alignment becomes undermined, it will be extremely difficult, if not impossible to perform the work needed to keep the existing residential structures from being lost to the inlet.

It is recognized that this Permit application cannot be granted under the existing Rules of the Coastal Resources Commission (CRC), and we intend to move as quickly as possible to have a Variance request considered by the CRC.

We respectfully request your expeditious denial of this permit request on the basis of its non-conformance with what may be permitted under the existing Rules of the CRC; this expeditious denial is needed to facilitate the hearing of the intended Variance request by the CRC at the earliest possible moment.

Many thanks for everything you can do to immediately process this request and facilitate dealing with the current emergency situation.

Sincerely,

Ted Sampson

Encl:

(1) DCM MP-1 Application for Major Development Permit
(2) DCM MP-2 Excavation and Fill
(3) SAMPSON CONTRACTING Drawing No. 04-032516-001, Sheet 1, titled Picha Erosion Control, Site Overview
(4) SAMPSON CONTRACTING Drawing No. 04-032516-001, Sheet 2, titled, Picha Erosion Control, Revetment Close-Up
(5) SAMPSON CONTRACTING Drawing No. 04-032516-001, Sheet 3, titled, Picha Erosion Control, Sandbag Revetment Cross Section and Plan View
(6) Project Narrative
(7) Vicinity Map
(8) Deed from David W. Picha to Kay P. Picha
(9) Riparian Property Owner Notification Letter to Mr. & Mrs. Bell (with attached certified letter receipt)
(10) Agency Authorization Form, Kay Picha to Ted Sampson of Sampson Contracting, Inc.
(11) SAMPSON CONTRACTING, Inc. Check # 7328, to NC DENR in amount of $400 for Permit Application Fee

MARINE ENVIRONMENTAL CONSULTING DIVISION

SAMPSON CONTRACTING, INC.

Marine Construction And Environmental Consulting Services

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

PROJECT NARRATIVE
IN SUPPORT OF REQUEST FOR MAJOR PERMIT

APPLICANT: Kay P. Picha

PROJECT: Erosion Control

LOCATION: Brunswick County, North Carolina; at western terminus of Ocean Isle W Boulevard, Ocean Isle Beach

Directions:
From US Hwy 17 (Business) in Shallotte, NC, proceed south on NC 179 to the intersection of NC 904, turning left toward Ocean Isle Beach. Proceed south, passing over the Intercoastal Waterway and continuing into Ocean Isle Beach to the traffic circle just south of 2nd Street. Proceed to the right out of the traffic circle onto Ocean Isle W Boulevard, and travel to the end, which is adjacent to the project location at 149 Ocean Isle W Boulevard.

SITE: Description:
The project area consists of two tracts of land. The first tract is owned by Kay P. Picha, and is listed by Brunswick County as Parcel # 2571E010. This tract is approximately 0.5 acres, with a 60-ft easement for Ocean Isle W Boulevard separating the portion of the tract that borders the Atlantic Ocean from the portion of the tract that borders Old Sound Creek. The second tract, where some of the existing sandbags are located, is now listed by Brunswick County as a washout lot.

The total shoreline of the area of the Project along the Atlantic Ocean, Tubbs Inlet, and Old Sound Creek is 5,710 feet. The project area lies within the Ocean Erodible and Inlet Hazard Areas of Environmental Concern.

The Picha tract of land is currently utilized for residential purposes. The residentially developed area is approximately 8-ft above Mean High Water and the land descends steeply to Mean High Water along the Atlantic Ocean, Tubbs Inlet and Old Sound Creek. Access to a pier along Old Sound Creek exists. The “Washout” lot has some isolated areas where the topography exceeds 8-ft above Mean High Water, but it transitions steeply to Mean High Water down the existing sandbag revetment along Tubbs Inlet. This “Washout” lot is undeveloped with the exception of the existing sandbag revetment and an existing rock revetment placed along Old Sound Creek during development of the island.

Adjoining Development:
Immediately adjoining the Picha tract, and extending to the east along the Atlantic Ocean, are a series of residentially developed lots with beach access, and most have access to, and piers on Old Sound Creek.

Erosion:
Erosion is ongoing, and readily discernable along the shorelines of the Atlantic Ocean, Tubbs Inlet and Old Sound Creek. The landward reach of the erosion has been stopped by the existing sandbag revetment, but the Tubbs Inlet channel has steadily migrated to the east, eroding away subsurface inlet soils on the Picha side of the Inlet. As the sand spit on the Sunset Beach side of the Inlet has grown to the east, the tidal channel has become narrowed, and the depth of the channel has increased to accommodate the flow to and from the tidal prism. These depths have recently been recorded along the Picha property ranging from 8 – 20-ft below the MLLW level.

During the period of 6/17/2008 to 12/13/2012 the tidal channel migrated by 106-ft to the northeast, corresponding to a migration rate of approximately 2-ft/month. During the period of 12/13/2012 to 10/9/2014 the tidal channel migrated by 34-ft to the northeast, corresponding to a migration rate of approximately 1.5-ft/month. During the period of 10/9/2014 to 11/25/2015 the tidal channel migrated by 69-ft to the northeast, corresponding to a migration rate of approximately 5-ft/month. During the period of 11/25/2015 to 3/25/2016 the tidal channel migrated by 48-ft to the northeast, corresponding to a migration rate of approximately 12-ft/month.

The shoreline along Tubbs Inlet near the Picha property is a high energy shoreline where winds have an unlimited open fetch of water when blowing from directions from the southwest to the southeast.

Soils:
Information available from the USDA indicates Newhan Fine Sand is the soil type that exists in the project area.

Hydrology:
The hydrology is uniform throughout the project area with the Newhan Fine Sand being located more than 80 inches above the water table and with no restrictive underlying structures.

Drainage from the project area is through sheet flow, which rapidly percolates into the Newhan Fine Sand.

Section 404 Wetlands:
A 404 wetland delineation has not been conducted for the project area; no such wetlands were observed.

Coastal Wetlands:
Coastal wetland vegetation consisting of Spartina patens was observed, but not in areas flooded by tides; as such, no coastal wetlands are considered to exist within the project area.

Uplands:
Upland vegetation includes planted shrubbery, Spartina patens, Uniola paniculata, Ammophila breviligulata, and Hydrocoytle Americana.

Waters:
The waters adjoining the project area include the Atlantic Ocean, Tubbs Inlet, and Old Sound Creek. None of the waters adjoining the project area are designated as an Anadromous Fish Spawning area, and the adjoining waters are outside any primary or secondary nursery areas. Similarly the adjoining waters are outside of any Striped Bass and Herring Management Areas. These waters have been designated by the NC Shellfish Sanitation Commission as areas open for shellfish harvesting. These waters are considered to be Coastal Waters subject to the jurisdiction of the NC Division of Marine Fisheries

Submerged Aquatic Vegetation:
No submerged aquatic vegetation has been observed within the waters adjoining the project area.

Historical-Archaeological:
No indication has been found that the project area has been identified to have either historical or archaeological importance.

Species of Concern:
The following species are recorded as being either Endangered (E) or Threatened (T) in Brunswick County, North Carolina:

	VERTIBRATES	
American alligator	*Alligator mississippiensis*	T
Green sea turtle	*Chelonia mydas*	T
Hawksbill sea turtle	*Eretmochelys imbricate*	E
Kemp's ridley sea turtle	*Lepidochelys kempii*	E
Leatherback sea turtle	*Dermochelys coriacea*	E
Loggerhead sea turtle	*Caretta caretta*	T
Piping plover	*Charadrius melodus*	T
Red-cockaded woodpecker	*Picoides borealis*	E
Red knot	*Calidris canutus rufa*	T
West Indian manatee	*Trichechus manatus*	E
Wood stork	*Mycteria Americana*	T

VASCULAR PLANTS

Cooley's meadowrue	*Thalictrum cooleyi*	E
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	E
Seabeach amaranth	*Amaranthus pumilus*	T

Eleven vertebrate species of concern are listed as either Threatened or Endangered in Brunswick County by the US Fish and Wildlife Service, and three vascular plants are listed as either Threatened or Endangered. On the project site, only the five sea turtles, the Piping plover, the Red knot and the Seabeach amaranth would have potential habitat. The dynamic nature of the inlet makes the project area unappealing for nesting of any of these species, and would serve only as a feeding area for the Piping plover and the Red knot. While Seabeach amaranth could occupy the project area, no evidence of the presence of this species was observed.

It is unlikely that the proposed development will have any impacts on the identified species.

DEVELOPMENT: This project consists of enlarging an existing erosion control sandbag revetment from nominal dimensions of 6-ft vertical by 20-ft base-width to a total base-width of 45-ft, and a vertical limit of +12-ft NGVD. While the existing revetment is functioning properly to preclude the erosion of the shoreline when subjected to the energy from ocean waves, the limited 6-ft by 20-ft nominal dimensions are simply not sufficient to preclude undercutting by the Tubbs Inlet tidal channel when it migrates to a position adjacent to the existing revetment.

This proposed project seeks to address the imminent threat to the property of the applicant, and thereby the west-end of the town of Ocean Isle Beach. At present, the work area water-ward of the proposed enlarged alignment is limited to no more than 3 - 10-ft in some areas. Having a work area water-ward of the proposed alignment is essential in order to perform the proposed work. At the current rate of migration of the tidal channel of Tubbs Inlet, this work area will not exist in some areas within 1 month. At the current rate of migration of the tidal channel, the existing sandbag revetment can be expected to be undermined in less than 3 months.

The project as proposed is in compliance with the N. C. Environmental Policy Act (N.C.G.S. 113A 1-10).

<u>Existing:</u>
NC Division of Coastal Management (DCM) General Permits, #52423D, #49148D, #49198D and #49157D, authorized a total of approximately 430 feet of 6-ft by 20-ft sandbag revetment.

Other prior development includes one residential structure with swimming pool, one beach accessway, one pier access and floating pier. Prior to the residential development of this lot, a paved, asphalt road was constructed within the roadway easement on this property.

Additionally, prior to the residential development of this lot, a rock revetment was constructed, as authorized by CAMA Major Permit 240-89 (issued in 1989), along the shore of Old Sound Creek during the development the island. This revetment extended into what has now become a part of Tubbs Inlet. Most of this revetment is covered by sand, but can be observed where the sand has been washed away by the encroaching tidal channel.

A separate rock revetment was constructed under a NC Division of Coastal Management (DCM) authorization letter for an exempted maintenance and repair project, issued on 5/7/2009. This revetment extends approximately 140-ft in length along Old Sound Creek, turning eastward along Tubbs Inlet. This revetment is approximately 20-ft in width, with a 30-ft width existing at each end of the structure.

Proposed New as Part of this Permit Application:
Enlargement of the existing sandbag revetment is proposed by increasing the height to +12 NGVD, and extending the base-width water-ward for a total base-width of 45-ft.

UTILITIES

Wastewater:
Wastewater is handled by direct connection to the Ocean Isle Beach sewerage system.

Potable Water:
Potable water is provided through connection to the Ocean Isle Beach water main.

Power, Telephone and Cable:
Power utilities are provided through underground service. Telephone and cable utilities are similarly provided through underground service.

IMPACTS

Project development under this Permit application seeks no new impervious surface.

Overall project development involves the following impacts:

Enlarged Sandbag Revetment

- Fill placed within geotextile bags, is above MHW, but could include up to 14,320 sq. ft. placed on top of existing sand that at times may be below NHW.

- Removal of approximately 2,555 cu. yds. of fill sand for the geotextile bags from below MHW within the adjoining water bodies.

Access

Access is available through the site to the Areas of Environmental Concern in the vicinity of the proposed development without crossing any Section 404 or NC coastal wetlands. Access of equipment to the shoreline will be across the slope located just to the east of the existing access to the pier on Old Sound Creek.

AVOIDANCE AND MIMIMIZATION

Applicant seeks to provide erosion protection for her property, and thereby, for the west end of the island on which Ocean Isle Beach is located. The proposed project could better be done with the use of a hardened structure, which is not allowed under current North Carolina law and rules. Applicant seeks to provide the needed protection by constraining the design to the use of temporary erosion control measures. While the size of this alignment is greater than that provided for in the rules of the Coastal Resources Commission (CRC), the design has been constrained to a width and height that the CRC has, in the past, found acceptable for situations where the nominal 6-ft by 20-ft alignment is insufficient to address the imminent threat

Signed: _____ Date: 7 April 2016

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name		Project Name (if applicable) Picha Erosion Control		
Applicant 1: First Name Kay	MI P.	Last Name Picha		
Applicant 2: First Name	MI	Last Name		
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address 6965		PO Box	City Randleman	State NC
ZIP 27317	Country USA	Phone No. 336 - 674 - 8176 ext.	FAX No. 336 - 674 - 0016	
Street Address *(if different from above)*		City	State	ZIP -
Email KPPDWP@aol.com				

2. Agent/Contractor Information

Business Name Sampson Contracting, Inc.				
Agent/ Contractor 1: First Name Theodore	MI J.	Last Name Sampson		
Agent/ Contractor 2: First Name	MI	Last Name		
Mailing Address 125 Hunters Trail West		PO Box	City Elizabeth City	State NC
ZIP 27909		Phone No. 1 252 - 548 - 4292 ext.	Phone No. 2 252 - 331 - 2447 ext.	
FAX No. 866 793 4261		Contractor # 68247		
Street Address *(if different from above)* 5 West Hargett Street, Suite 310		City Raleigh	State NC	ZIP 27601 -
Email tedsr@sampsoncontracting.com				

<Form continues on back>

3. Project Location

County (can be multiple)	Street Address		State Rd. #
Brunswick	149 Ocean Isle W Blvd		NA
Subdivision Name	**City**	**State**	**Zip**
NA	Ocean Isle Beach	NC	28469 -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
NA - - ext.	2571E010, , , ,

a. In which NC river basin is the project located?	b. Name of body of water nearest to proposed project
Lumber	Old Sound Creek; Tubbs Inlet; Atlantic Ocean
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Atlantic Ocean
e. Is proposed work within city limits or planning jurisdiction? ☒Yes ☐No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Ocean Isle Beach

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
5,710	52,625
c. Size of individual lot(s) 21,650 sf, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* 4-ft ☒NHW or ☐NWL

e. Vegetation on tract

Planted shrubbery; Spartina patens; Uniola paniculata; Ammophila breviligulata; Hydrocotyle americana

f. Man-made features and uses now on tract

Single family dwelling; swimming pool; deck; beach access & stairs; Ocean Isle W Boulevard & right-of-way with buried utilities; driveway, parking areas; fence; pier, pier access with gazebo; rock revetment; sandbag revetment

g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site.

To east: residential lot with single family dwelling. To west: shoreline of Tubbs Inlet (fishing, shelling, walking area). To north: Shoreline of Old Sound Creek (fishing, walking). To south: shoreline of Atlantic Ocean (fishing, shelling, walking area.

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) ☒Yes ☐No ☐NA
C-1	

j. Is the proposed activity part of an urban waterfront redevelopment proposal? ☐Yes ☒No

k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. ☐Yes ☐No ☒NA

If yes, by whom?

l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? ☐Yes ☒No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site?	☐Yes ☒No
(ii) Are there coastal wetlands on the site?	☐Yes ☒No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☐Yes ☐No

n. Describe existing wastewater treatment facilities.

Town of Ocean Isle Beach sewerage system

o. Describe existing drinking water supply source.

Town of Ocean Isle Beach water system

p. Describe existing storm water management or treatment systems.

None; sheet flow to sand soils.

5. Activities and Impacts

a. Will the project be for commercial, public, or private use?	☐Commercial ☐Public/Government ☒Private/Community

b. Give a brief description of purpose, use, and daily operations of the project when complete.

Project is designed to augment existing shoreline stabilization provided by increasing sandbag revetment size to prevent undercutting of sandbag revetment by encroaching tidal channel of Tubbs Inlet.

c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored.

Submersible pump slung from long-reach excavator to transfer sand from adjoining waterways into geotextile sandbags. Skid-steer to be used to shape area prior to placement of sandbags: 1 Submersible pump, 1 long-reach excavator, 1 skid-steer. All stored on uplands at northern property boundary.

d. List all development activities you propose.

Construct enlarged sandbag revetment as shoreline protection by adding on to existing sandbag alignment within a 45-ft base width, by +12-ft NGVD alignment.

e. Are the proposed activities maintenance of an existing project, new work, or both?	Both new work and maintenance of an existing project.
f. What is the approximate total disturbed land area resulting from the proposed project?	17,900 ☒Sq.Ft or ☐Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	☒Yes ☐No ☐NA

h. Describe location and type of existing and proposed discharges to waters of the state.

None, other than sheet-flow of rain run-off.

i. Will wastewater or stormwater be discharged into a wetland?	☐Yes ☐No ☒NA
If yes, will this discharged water be of the same salinity as the receiving water?	☐Yes ☐No ☐NA
j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	☐Yes ☒No ☐NA

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name Robert and Sharon Bell	Phone No. (803) 345-8020
Address 186 Heimatsweg Road, Chapin, SC 29036	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

CAMA/D&F Permits: 52423D 6/30/09 Kay Picha; 49148D 12/13/07 Curt Rodgers; 49198D 11/14/07 Kay Picha; 49157D 10/30/07 Kay Picha; 240-89 6/18/89 Ocean Isle Developing Co.

NCDCM Letter of Exemption for Maintenance & Repair project dated 5/7/2009

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date April 6, 2016

Print Name Theodore J. Sampson (for Kay Picha)

Signature 

Please indicate application attachments pertaining to your proposed project.

☒DCM MP-2 Excavation and Fill Information

☐DCM MP-3 Upland Development

☐DCM MP-4 Structures Information

☐DCM MP-5 Bridges and Culverts

Form DCM MP-2

EXCAVATION and FILL

(Except for bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

Describe below the purpose of proposed excavation and/or fill activities**. All values should be given in feet.**

	Access Channel (NLW or NWL)	Canal	Boat Basin	Boat Ramp	Rock Groin	Rock Breakwater	Other (excluding shoreline stabilization)
Length							
Width							
Avg. Existing Depth					NA	NA	
Final Project Depth					NA	NA	

1. EXCAVATION

☐ *This section not applicable*

a. Amount of material to be excavated from below NHW or NWL in cubic yards.
2555

b. Type of material to be excavated.
sand

c. (i) Does the area to be excavated include coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW _____ ☐SAV _____ ☐SB _____
☐WL _____ ☒None

(ii) Describe the purpose of the excavation in these areas:
NA

d. High-ground excavation in cubic yards.
NA

2. DISPOSAL OF EXCAVATED MATERIAL

☒ *This section not applicable*

a. Location of disposal area.

b. Dimensions of disposal area.

c. (i) Do you claim title to disposal area?
☐Yes ☐No ☐NA

(ii) If no, attach a letter granting permission from the owner.

d. (i) Will a disposal area be available for future maintenance?
☐Yes ☐No ☐NA

(ii) If yes, where?

e. (i) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW _____ ☐SAV _____ ☐SB _____
☐WL _____ ☐None

(ii) Describe the purpose of disposal in these areas:

f. (i) Does the disposal include any area in the water?
☐Yes ☐No ☐NA

(ii) If yes, how much water area is affected?

3. SHORELINE STABILIZATION

(If development is a wood groin, use MP-4 – Structures)

☐ *This section not applicable*

a. Type of shoreline stabilization:
☐Bulkhead ☐Riprap ☐Breakwater/Sill ☒Other: sandbags

b. Length: 468'
Width: 45

c. Average distance waterward of NHW or NWL: 34'

d. Maximum distance waterward of NHW or NWL: 39'

e. Type of stabilization material:
Sandbag revetment

f. (i) Has there been shoreline erosion during preceding 12 months?
☒Yes ☐No ☐NA
(ii) If yes, state amount of erosion and source of erosion amount information.
48' over 4 mo; 115' over 17 mo; field observation/measurement

g. Number of square feet of fill to be placed below water level.
Bulkhead backfill _____ Riprap _____
Breakwater/Sill _____ Other 14,320

h. Type of fill material.
sand

i. Source of fill material.
Sand from adjoining waterways

4. OTHER FILL ACTIVITIES

(Excluding Shoreline Stabilization)

☒ *This section not applicable*

a. (i) Will fill material be brought to the site? ☐Yes ☐No ☐NA
If yes,
(ii) Amount of material to be placed in the water _____
(iii) Dimensions of fill area _____'
(iv) Purpose of fill

b. (i) Will fill material be placed in coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW _____ ☐SAV _____ ☐SB _____
☐WL _____ ☐None
(ii) Describe the purpose of the fill in these areas:

5. GENERAL

a. How will excavated or fill material be kept on site and erosion controlled?
Enclosed within geotextile sandbags

b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
Submersible pump

c. (i) Will navigational aids be required as a result of the project?
☐Yes ☒No ☐NA
(ii) If yes, explain what type and how they will be implemented.

d. (i) Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No ☐NA
(ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

04/06/2016
Date

Picha Erosion Control
Project Name

Theodore J. Sampson (for Kay Picha)
Applicant Name

Applicant Signature

Project Is In An: X Ocean Erodible Area X High Hazard Flood Area ____ Inlet Hazard Area

Property Owner: Kay P. Picha

Property Address: 149 Ocean Isle W Blvd., Ocean Isle Beach, NC

Date Lot Was Platted: 9/7/1994

This notice is intended to make you, the applicant, aware of the special risks and conditions associated with development in this area, which is subject to natural hazards such as storms, erosion and currents. The rules of the Coastal Resources Commission require that you receive an AEC Hazard Notice and acknowledge that notice in writing before a permit for development can be issued.

The Commission's rules on building standards, oceanfront setbacks and dune alterations are designed to minimize, but not eliminate, property loss from hazards. By granting permits, the Coastal Resources Commission does not guarantee the safety of the development and assumes no liability for future damage to the development. Permits issued in the Ocean Hazard Area of Environmental Concern include the condition that structures be relocated or dismantled if they become imminently threatened by changes in shoreline configuration. The structure(s) must be relocated or dismantled within two (2) years of becoming imminently threatened, and in any case upon its collapse or subsidence.

The best available information, as accepted by the Coastal Resources Commission, indicates that the annual long-term average ocean erosion rate for the area where your property is located is 2 feet per year.

The rate was established by careful analysis of aerial photographs of the coastline taken over the past 50 years.

Studies also indicate that the shoreline could move as much as 25 feet landward in a major storm.

The flood waters in a major storm are predicted to be about 11 feet deep in this area.

Preferred oceanfront protection measures are beach nourishment and relocation of threatened structures. Hard erosion control structures such as bulkheads, seawalls, revetments, groins, jetties and breakwaters are prohibited. Temporary sand bags may be authorized under certain conditions.

The applicant must acknowledge this information and requirements by signing this notice in the space below. Without the proper signature, the application will not be complete.

Kay P. Picha 4/10/2016

SPECIAL NOTE: This hazard notice is required for development in areas subject to sudden and massive storms and erosion. Permits issued for development in this area expire on December 31 of the third year following the year in which the permit was issued. Shortly before work begins on the project site, the Local Permit Officer must be contacted to determine the vegetation line and setback distance at your site. If the property has seen little change since the time of permit issuance, and the proposed development can still meet the setback requirement, the LPO will inform you that you may begin work. Substantial progress on the project must be made within 60 days of this setback determination, or the setback must be remeasured. Also, the occurrence of a major shoreline change as the result of a storm within the 60-day period will necessitate remeasurement of the setback. It is important that you check with the LPO before the permit expires for official approval to continue the work after the permit has expired. Generally, if foundation pilings have been placed and substantial progress is continuing, permit renewal can be authorized. It is unlawful to continue work after permit expiration.

For more information, contact:

Robb Mairs
Local Permit Officer

127 Cardinal Drive Ext.
Address

Wilmington, NC 27405
Locality

252 264 3901
Phone Number

When you build along the oceanfront, you take a calculated risk. Natural forces of water and wind collide with tons of force, even on calm days.

Man-made structures cannot be guaranteed to survive the force of a hurricane. Long-term erosion (or barrier island migration) may take from two to ten feet of the beach each year, and, sooner or later, will threaten oceanfront structures. These are the facts of life for oceanfront property owners.

The Coastal Resources Commission (CRC) has adopted rules for building along the oceanfront. The rules are intended to avoid an unreasonable risk to life and property, and to limit public and private losses from storm and long-term erosion. These rules lessen but do not eliminate the element of risk in oceanfront development.

As you consider building along the oceanfront, the CRC wants you to understand the rules and the risks. With this knowledge, you can make a more informed decision about where and how to build in the coastal area.

The Rules

When you build along the oceanfront, coastal management rules require that the structure be sited to fit safely into the beach environment.

Structures along the oceanfront, less than 5,000 square feet in size, must be behind the frontal dune, landward of the crest of the primary dune, and set back from the first line of stable natural vegetation a distance equal to 30 times the annual erosion rate (a minimum of 60 feet). The setback calculation increases as the size of the structure increases [15A NCAC 7H.0306(a)(2)]. For example: A structure between 5,000 and 10,000 square feet would require a setback from the first line of stable , natural vegetation to a distance equal to 60 times the annual erosion rate (a minimum of 120 feet). The graduated setback continues to increase through structure sizes greater than 100,000 square feet.

The Reasons

The beachfront is an ever-changing landform. The beach and th dunes are natural "shock absorbers," taking the beating of the wir and waves and protecting the inland areas. By incorporatin building setbacks into the regulations, you have a good chance o enjoying the full life of the structure. At first, it seems ver inviting to build your dream house as close to the beach a possible, but in five years you could find the dream has become nightmare as high tides and storm tides threaten your investment.

The Exception

The Coastal Resources Commission recognized that these rule initially passed in June 1979, might prove a hardship for som property owners. Therefore, they established an exception for lo that cannot meet the setback requirement. The exception allow buildings in front of the current setback, if the following conditio apply:

(1) the lot must have been platted as of June 1, 1979, and is n capable of being enlarged by combining with adjoining lar under the same ownership;
(2) development must be constructed as far back on the proper as possible and in no case less than 60 feet landward of th vegetation line;
(3) no development can take place on the frontal dune;
(4) special construction standards on piling depth and squa footage must be met; and
(5) all other CAMA, state and local regulations must be met.

The exception is not available in the Inlet Hazard Area.

To determine eligibility for the exception the Local Permit Office will make these measurements and observations:

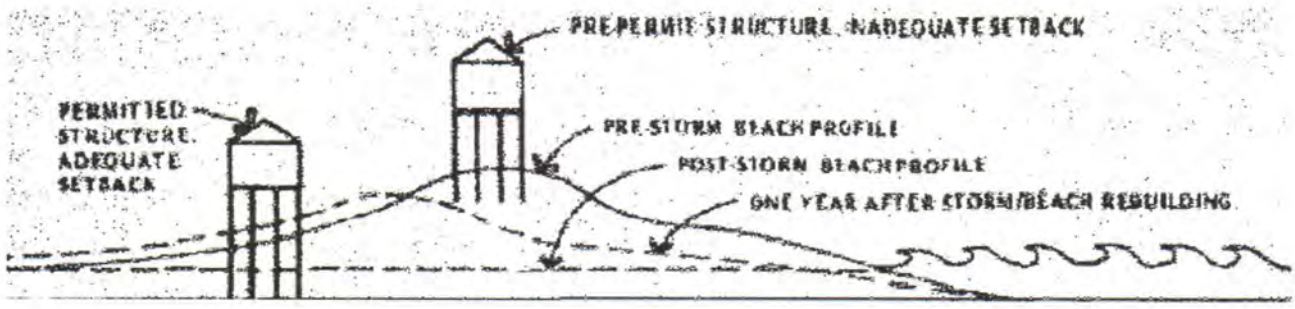
_____ required setback from vegetation line

_____ exception setback (maximum feasible)

_____ rear property line setback

_____ max. allowable square footage on lowest floor

_____ piling length needed to extend 4 feet below MSL



7014 3490 0001 4367 4436

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

CHAPIN, SC 29036

OFFICIAL USE

Postage	$3.30
Certified Fee	$2.70
Return Receipt Fee (Endorsement Required)	$0.00
Restricted Delivery Fee (Endorsement Required)	$0.00
Total Postage & Fees	$1.78
	$7.78

0449
07

Postmark Here

04/11/2016

Robert and Sharon Bell
186 Heimatsweg Road
Chapin, SC 29036

PS Form 3800, July 2014 — See Reverse for Instructions

MARINE ENVIRONMENTAL CONSULTING DIVISION

SAMPSON CONTRACTING, INC.

Marine Construction And Environmental Consulting Services

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

April 7, 2016

Robert and Sharon Bell
186 Heimatsweg Road
Chapin, SC 29036

Re: Kay P. Picha; erosion control project; at 149 Ocean Isle W Boulevard, in Ocean Isle Beach, NC

Dear Mr. and Mrs. Bell:

Our company has been retained by a neighboring property owner of yours, Kay P. Picha, to make application for the needed permits and conduct the intended work along the shoreline of their property. Mrs. Picha proposes to enlarge the existing sandbag revetment to address the encroachment of the tidal channel of Tubbs Inlet onto the existing sandbag revetment. This channel is now within 35-ft of the sandbag revetment, and has migrated 48-ft closer to the existing sandbag revetment over the course of the past 4 months. When this tidal channel migrates to the base of the existing sandbag revetment, the existing revetment will become undermined and negate its existing protective value.

One of the permits that the Pichas are required to obtain to authorize this project is a CAMA Permit from the NC Division of Coastal Management. As an adjacent riparian property owner to the Picha property, the CAMA Permit process requires that we notify you of this proposed development by Certified Mail. This notification provides you with the opportunity to advise the North Carolina Division of Coastal Management of any comments you may have concerning the proposed work. CAMA Rules allow 30 days from the date of this notification in which to comment.

Please find enclosed a copy of the Permit Application package, with supporting drawings, for the proposed project.

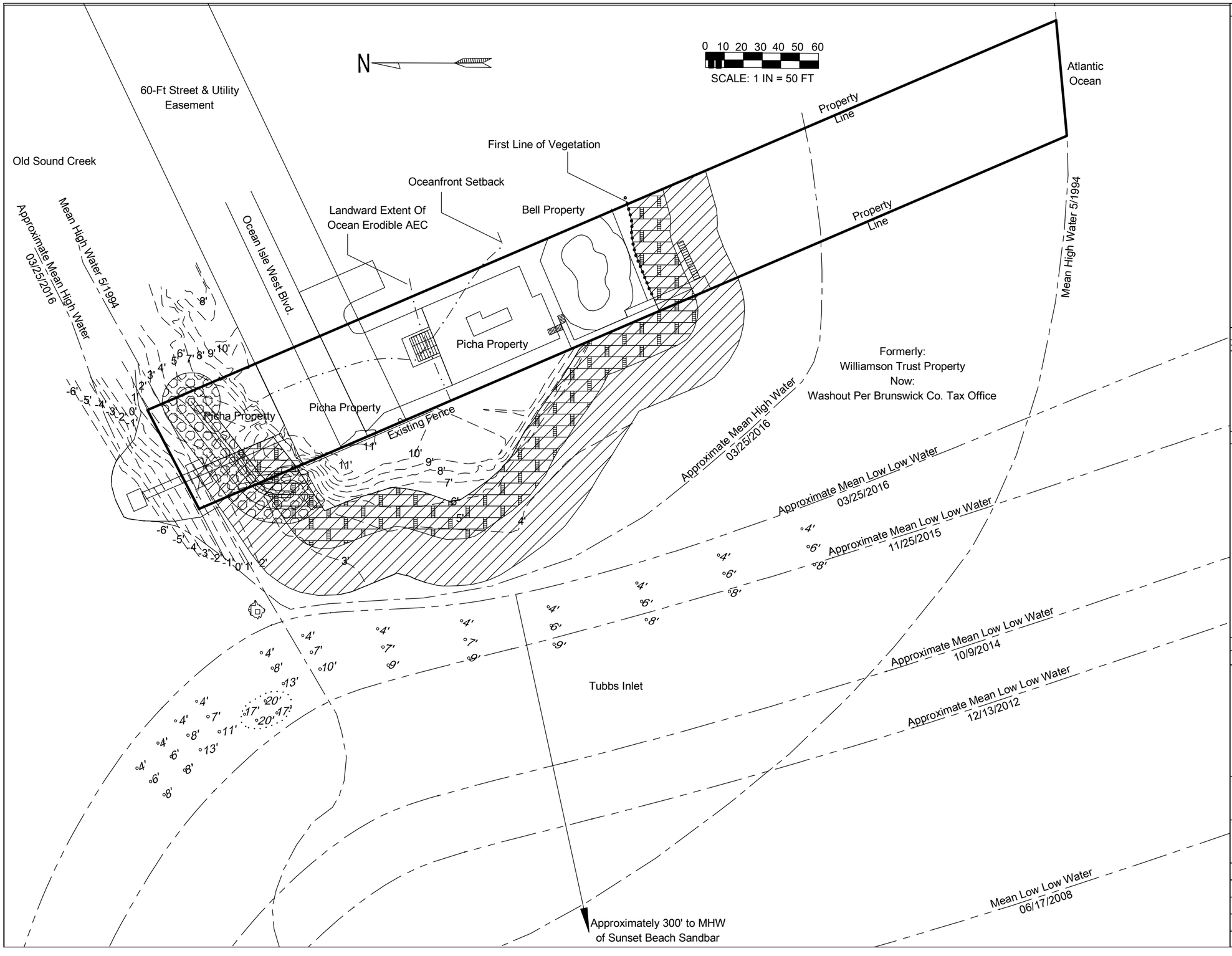
We request that you kindly review this enclosure, and if you have any questions we request that you contact us, so that we may have the opportunity to further clarify the project and/or alleviate any of your concerns.

Thank you for your kind attention to this matter. Please feel free to contact me if you have any questions.

Sincerely,

Ted Sampson
Project Manager

Encl: (1) Picha Major Permit Application Package



LEGEND/KEY

- Existing 6' x 20' Sandbag Alignment
- Existing Subsurface Rock Revetment
- Proposed Oversized 12' NGVD x 45' Sandbag Alignment
- Existing Remnant Riprap Groin
- Property Lines
- Mean High Water
- First Line of Vegetation
- Oceanfront Setback
- Landward Extent of Ocean Erodible AEC
- Approximate Mean Low Low Water
- 9' Water Depth in Channel at Low Tide 3/25/2016

NOTES

1) Elevation contours from Coastal Science & Engineering, PLLC drawings dated 1/1/09 and 1/13/09. These contours have been altered by subsequent erosion control construction and shifting sands in Old Town Creek and Tubbs Inlet. Elevation contours above the top of existing sandbags remain as indicated. Elevation of majority of developed property is approximately +8' NAVD88.

GENERAL NOTES

1) Drawings derived from field observations, Brunswick Co. GIS, Coastal Science & Engineering, PLLC drawings dated 1/11/09 and 1/13/09, and Boney & Associates, Inc. drawing dated 5/23/94.
2) Drawing is for permitting purposes only and not construction.
3)

NO	REVISION	DATE

PE STAMP

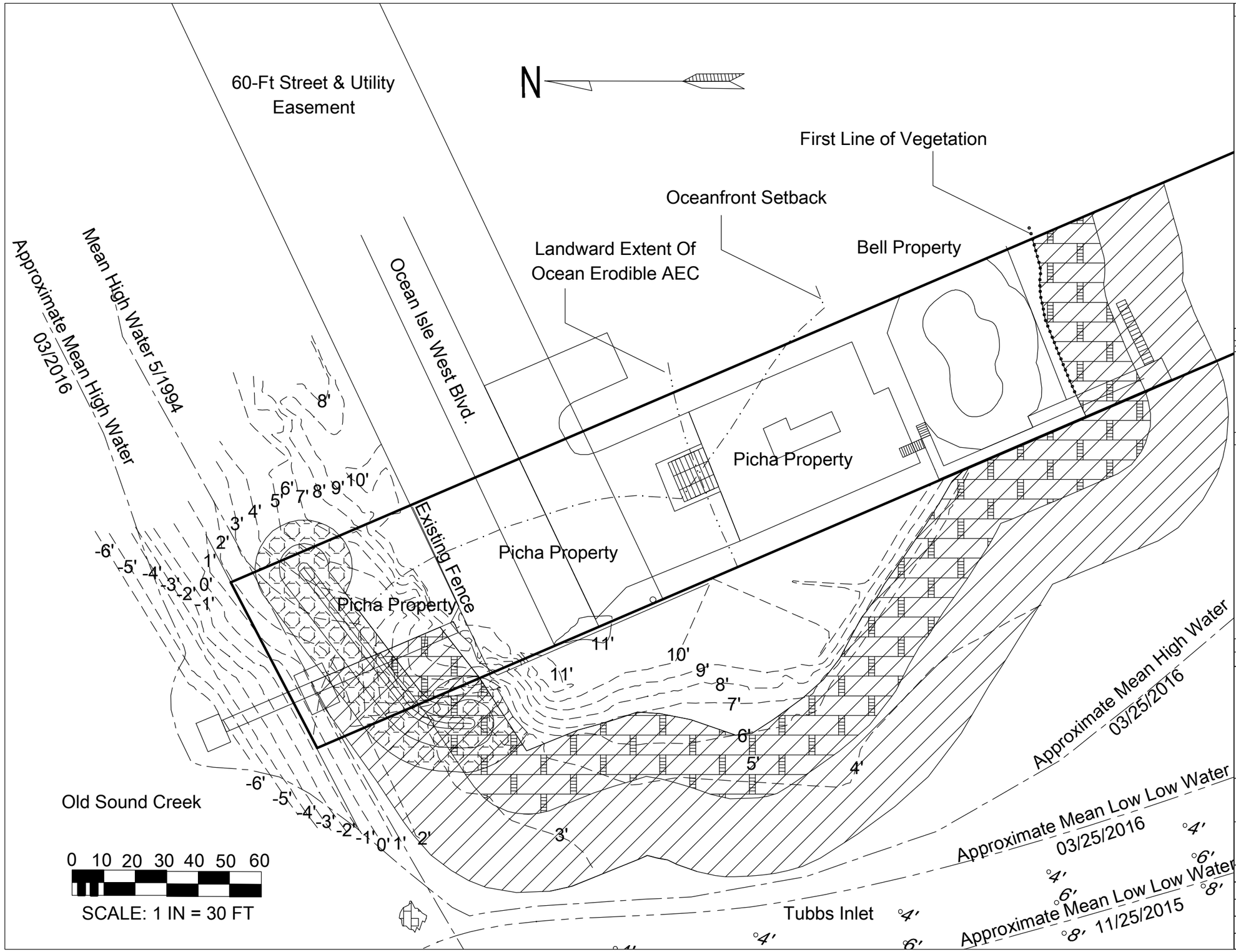
SAMPSON CONTRACTING, INC.
125 Hunters Trail West
Elizabeth City, NC 27909

PROJECT TITLE:
PICHA EROSION CONTROL

DRAWING TITLE:
SITE OVERVIEW

SCALE:	As Indicated
DRAWN:	TS
CHECKED:	
DATE:	03/28/16
PROJECT NO.:	04 - 032516

DRAWING NO.:
04 - 032516 - 001
SHEET 1 OF 3



LEGEND/KEY

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- 9' Water Depth in Channel at Low Tide 3/25/2016

NOTES

1) Elevation contours from Coastal Science & Engineering, PLLC drawings dated 1/1/09 and 1/13/09. These contours have been altered by subsequent erosion control construction and shifting sands in Old Town Creek and Tubbs Inlet. Elevation contours above the top of existing sandbags remain as indicated. Elevation of majority of developed property is approximately +8' NAVD88.

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2) Drawing is for permitting purposes only and not construction.
3)

NO	REVISION	DATE

PE STAMP

SAMPSON CONTRACTING, INC.
125 Hunters Trail West
Elizabeth City, NC 27909

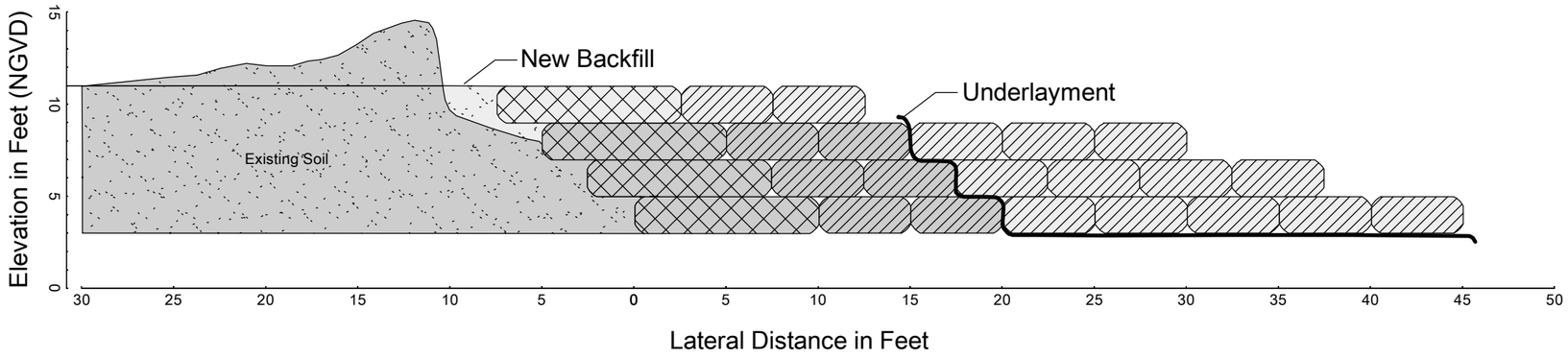
PROJECT TITLE: PICHA EROSION CONTROL

DRAWING TITLE: REVETMENT CLOSE-UP

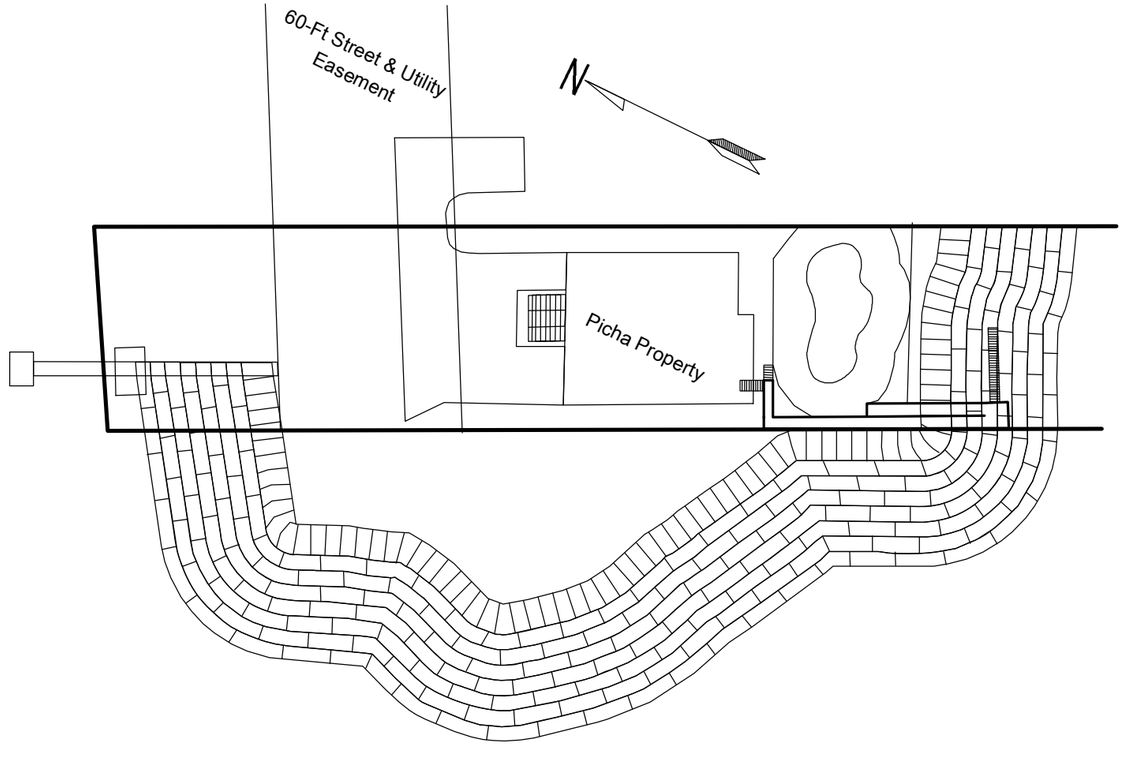
SCALE:	As Indicated
DRAWN:	TS
CHECKED:	
DATE:	03/28/16
PROJECT NO.:	04 - 032516

DRAWING NO.: 04 - 032516 - 001
SHEET 2 OF 3

TYPICAL CROSS SECTION OF OVERSIZED SANDBAG REVETMENT



PLAN VIEW OF OVERSIZED SANDBAG REVETMENT



SCALE: 1 IN = 50 FT

LEGEND/KEY

- Proposed Shoreline Parallel Sandbag (5-ft by 15-ft flat)
- Existing Shoreline Parallel Sandbag (5-ft by 15-ft flat)
- Proposed Shoreline Perpendicular Sandbag (5-ft by 10-ft flat)
- Existing Shoreline Perpendicular Sandbag (5-ft by 10-ft flat)
- Property Lines

NOTES

GENERAL NOTES

1) Drawing is for permitting purposes only and not construction.
2)

NO	REVISION	DATE

PE STAMP

SAMPSON CONTRACTING, INC.
125 Hunters Trail West
Elizabeth City, NC 27909

PROJECT TITLE:
PICHA EROSION CONTROL

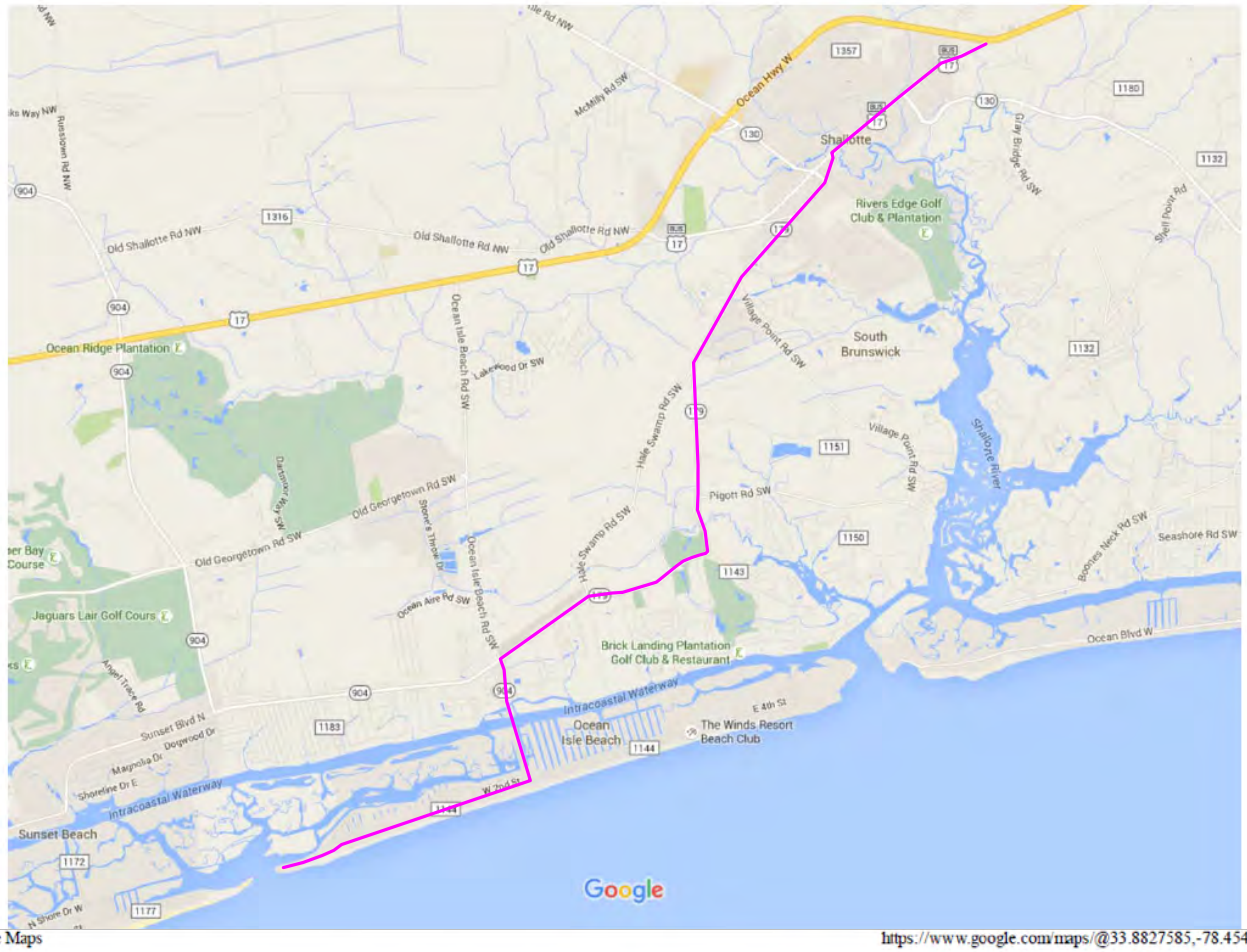
DRAWING TITLE:
SANDBAG REVETMENT
CROSS SECTION AND PLAN VIEW

SCALE:	As Indicated
DRAWN:	TS
CHECKED:	
DATE:	03/28/16
PROJECT NO.:	04 - 032516

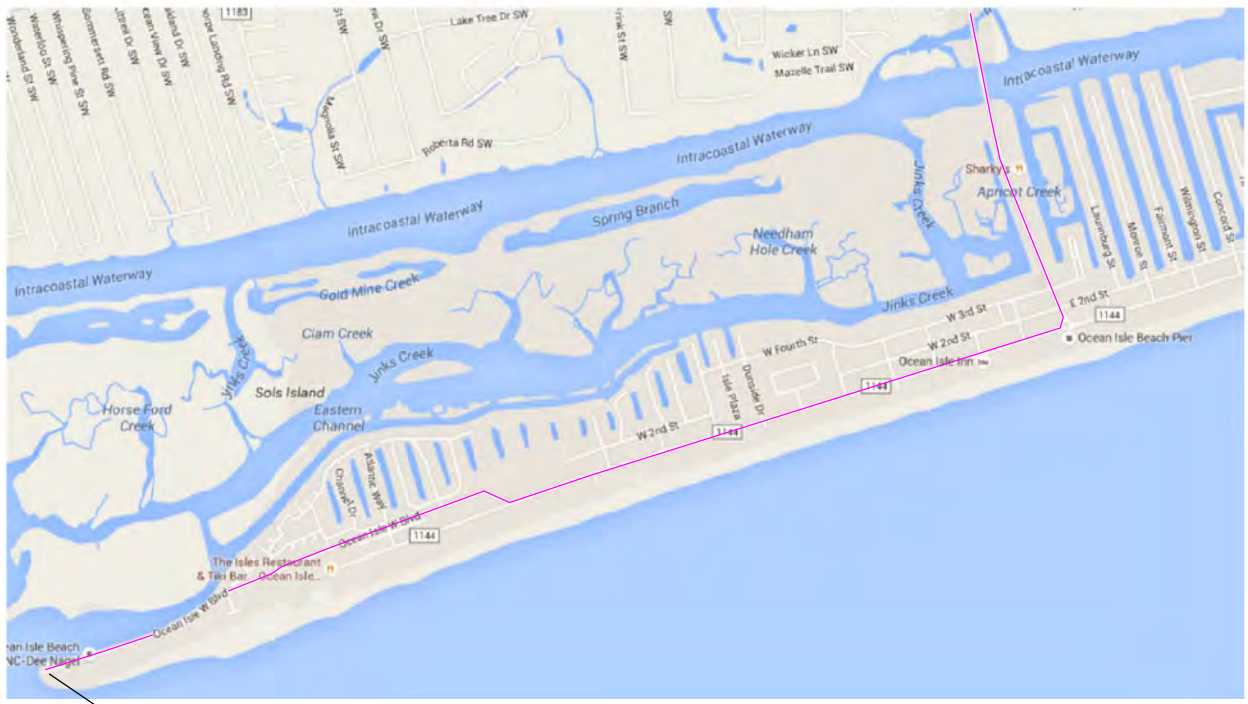
DRAWING NO.:
04 - 032516 - 001
SHEET 3 OF 3

LOCATION MAP

Google Maps https://www.google.com/maps/@33.9294355,-78.4214398,13z



Google Maps https://www.google.com/maps/@33.8827585,-78.4541199,15z



PROJECT SITE:
149 OCEAN ISLE W BLVD.
OCEAN ISLE BEACH, NC

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER AND ORIGINAL DOCUMENT SECURITY SCREEN ON BACK WITH PADLOCK SECURITY ICON.

SAMPSON CONTRACTING, INC.
5 West Hargett Street, Suite 704
Raleigh, NC 27601
919-977-4026

PNC Bank, N.A. 040

7328

15-3/540

04/07/2016

PAY TO THE ORDER OF NC DENR

$ 400.00

Four Hundred and 00/100 ---------- DOLLARS

Void after 90 days

MEMO Permit Fee – Picha Erosion Control Project

MP

AUTHORIZED SIGNATURE

Security features included. Details on back.

⑈007328⑈ ⑆054000030⑆ 532104008 1⑈

Environmental Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

April 19, 2016

Sampson Contacting, Inc.
125 Hunters Trail West,
Elizabeth City, NC 27909

Dear Mr. Sampson:

The Division of Coastal Management hereby acknowledges receipt of your application, acting as agent for Mrs. Kay Picha, for State approval for development at the property located at 149 Ocean Isle W. Blvd. adjacent to the Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in the Town of Ocean Isle Beach, in Brunswick County. It was received complete on 04/13/16, and appears to be adequate for processing at this time. The projected deadline for making a decision is 06/27/16. An additional 75-day review period is provided by law when such time is necessary to complete the review. If you have not been notified of a final action by the initial deadline stated above, you should consider the review period extended. Under those circumstances, this letter will serve as your notice of an extended review. However, an additional letter will be provided on or about the 75th day.

If this agency does not render a permit decision within 70 days from April 13, 2016, you may request a meeting with the Director of the Division of Coastal Management and permit staff to discuss the status of your project. Such a meeting will be held within five working days from the receipt of your written request and shall include the property owner, developer, and project designer/consultant.

NCGS 113A-119(b) requires that Notice of an application be posted at the location of the proposed development. Enclosed you will find a "Notice of Permit Filing" postcard which must be posted at the property of your proposed development. You should post this notice at a conspicuous point along your property where it can be observed from a public road. Some examples would be: Nailing the notice card to a telephone pole or tree along the road right-of-way fronting your property, or at a point along the road right-of-way where a private road would lead one into your property. Failure to post this notice could result in an incomplete application.

An onsite inspection will be made, and if additional information is required, you will be contacted by the appropriate State or Federal agency. Please contact me if you have any questions and notify me in writing if you wish to receive a copy of my field report and/or comments from reviewing agencies.

Sincerely,

Sean Farrell
Field Representative

Enclosure
cc: Doug Huggett, DCM
Heather Coats, DCM
Tyler Crumbley, ACOE
Debra Wilson, DCM
Keith Dycus, Town of Ocean Isle Beach LPO
Kay Picha, applicant

DIVISION OF COASTAL MANAGEMENT
FIELD INVESTIGATION REPORT

1. **APPLICANT'S NAME**: Kay Picha c/o Sampson Contracting, Inc.

2. **LOCATION OF PROJECT SITE**: The project site is located at 149 Ocean Isle West Blvd, Ocean Isle Beach, Brunswick County. The property is adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean.

Photo Index – 2006: 1-6153, 12-P
2000: 1-6, 12-P
1995: 1-6, 12-P
State Plane Coordinates – X: 2158698 **Y**: 46272
Lat.: 33°87'59.83"N **Long:** 78°47'72.51"W

3. **INVESTIGATION TYPE**: CAMA / D&F

4. **INVESTIGATIVE PROCEDURE**: **Dates of Site Visit** – April 15th, 2016
Was Applicant Present – No

5. **PROCESSING PROCEDURE**: **Application Received** – Complete 4/13/16
Office – Wilmington

6. **SITE DESCRIPTION**:
(A) **Local Land Use Plan** – Town of Ocean Isle Beach
Classification From LUP – Residential
(B) **AEC(s) Involved**: OH, IH, ES
(C) **Water Dependent**: Yes
(D) **Intended Use: Private**
(E) **Wastewater Treatment: Existing** – Municipal Sewer
Planned - N/A
(F) **Type of Structures**: **Existing** – Existing sandbag revetment, rock revetment, private docking facility, and residential structures and access-ways
Planned – Oversized sandbag revetment
(G) **Estimated Annual Rate of Erosion**: 4.3'/year **Source** – LTAASCR 2011 Update

7. **HABITAT DESCRIPTION**: **[AREA]**

	DREDGED	FILLED	OTHER
(A) Vegetated Wetlands (coastal)	N/A	N/A	N/A
(B) Non-Vegetated Wetlands - open water	~2,555 Cu. yds (for sandbag fill)	N/A	N/A
(C) Other (High ground)	N/A	~14,320 sq. ft. (sand bags placed on beach)	N/A

*N/A – Not applicable

(D) **Total Area Disturbed**: ~0.4 acres (~17,900 sq. ft.)
(E) **Primary Nursery Area**: No
(F) **Water Classification**: SA & SB **Open:** Yes

8. PROJECT SUMMARY: The applicant is proposing to increase an existing sandbag revetment to an oversized alignment to protect their single family home on the West end of Ocean Isle Beach.

9. PROJECT DESCRIPTION:

The project site is located in Ocean Isle Beach, at 149 Ocean Isle W Blvd., adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in Brunswick County. To get to the site From US HWY 17 in Shallote, turn left on to Ocean Isle Beach Rd. SW and travel approximately 3.56 miles. Continue straight on to Causeway Dr. / NC 904 and travel approximately 1.16 miles. Enter roundabout and take first right onto W. 1st Street. Travel approximately 1.34 miles then turn slight right onto Charlotte Street. Travel approximately 0.08 miles and then take a slight left onto W. 2nd Street. W. Second Street will become Ocean Isle Blvd West. Continue on Ocean Isle Blvd W. for approximately 0.55 miles until you arrive at the project site at the very end of the road.

The project area would span across two separate tracts of land at the western tip of Ocean Isle Beach. One tract is owned by the applicant Kay Picha, and the other indicated as a "washout lot" in the application. The tract of land owned by the applicant measures approximately 0.5 acres with a 60 ft. easement for Ocean Isle W Blvd. The project site is bordered by Old Sound Creek to the north, Tubbs Inlet to the west, the Atlantic Ocean to the South, and residential properties to the east. The high ground portion of the property is vegetated with Salt Meadow Hay (Spartina patens), Sea Oats (Uniola paniculata), American Beachgrass (Ammophila breviligulata), American Marsh-pennywort (Hydrocoytle americana) and planted ornamental vegetation. No wetlands were observed within the limits of the proposed project area. The current elevation of the residentially developed area of the property is approximately 8' above Mean High Water (MHW). The Annual erosion rate in the project area is 4.3'/year per the Division of Coastal Management's 2011 Annual Erosion Rate maps. Existing site conditions include a sandbag revetment measuring approximately 6' in height by 20' in width by 430' in length running along Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. The landward edge of the existing sandbag revetment is located approximately 12' waterward from the southwest corner of the existing house structure and approximately 60' waterward from the northwest corner of the existing house structure. The sandbag revetment along on the western portion of the project site, adjacent to Tubbs Inlet, incorporates property listed as a "washout lot" in the application. The existing sandbags were authorized in 2009 under CAMA General Permits #52423D, #49148D, #49198D, and #49157D. There is additional existing shoreline stabilization in the form of a dilapidated rip rap revetment that measures approximately 140' in length by approximately 20-30' in width along the northern section of shoreline adjacent to Old Sound Creek. The applicant currently maintains a private docking facility, consisting of a pier, covered platform, and floating dock within Old Sound Creek.

The Town Ocean Isle Beach Land Use Plan classifies the upland areas of the proposed project as "residential". The waters of the project site are classified as SB for adjacent Tubbs Inlet and Atlantic Ocean and SA for adjacent Old Sound Creek by the NC Division of Water Quality. The NC Division of Marine Fisheries has NOT designated this area of Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean as a Primary Nursery Area, and the waters adjacent to the proposed project area OPEN to the harvesting of shellfish.

PROPOSED PROJECT:

The applicant is proposing to increase an existing sandbag revetment to an oversized alignment to protect their single family home on the West end of Ocean Isle Beach. As proposed, the sand bag revetment would adjoin, or abut, the existing sandbag revetment located along the property's shoreline adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. As designed, the sand bag revetment would consist of multiple bag layers, with a base width of 45' and a crest height of 12' NGVD.

As described in the application's cross section (sheet 3 of 3), traditional sandbags (i.e. each tan in color, 5' in width and 10'-15' in length) would be installed along approximately 468 linear feet of beach. The proposed sand bags would abut the existing sandbag revetment extending an additional 25' waterward, in a stair stepped arrangement, for a total base width of approximately 45'.

The proposed sandbag revetment would increase the existing vertical dimension of the sandbags, with a proposed height of approximately 12'NGVD. As proposed, the most landward sand bags would be installed perpendicular to the shoreline against the existing dune escarpment. The revetment would then stair step waterward, with the bags installed parallel to the shoreline along Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. The sand bags would be placed atop a scour apron that would span the entire length of the project.

Information provided by the applicant's agent (Sampson Contracting, Inc.) indicates an approximate mean high water boundary survey was performed in the vicinity of the proposed project on March 31, 2016. Based on this data, it appears the proposed sand bag revetment would be placed along an alignment that would extend from approximately 8' landward of the approximate MHW line, in areas adjacent to the Atlantic Ocean, to approximately 1' landward of the approximate MHW line in areas adjacent to Tubbs Inlet and Old Sound Creek. The applicant has accounted for approximately 14,320 sq. ft. of impacts above the approximate MHW line, however, these numbers will likely change again prior to initiation of the project due to the continuing easterly migration of the Tubbs Inlet channel.

According to the application package, the applicant intends to fill the sand bags with sand from below MHW within the adjoining water bodies that are Tubbs Inlet and Old Sound Creek. As proposed, the applicant would remove approximately 2,555 cubic yards of sand by means of a submersible pump attached to a long reach excavator to fill the proposed bags. Prior to placement of the bags, a skid steer would be used to shape the profile of the proposed revetment area.

10. ANTICIPATED IMPACTS

The applicant's proposal to remove approximately 2,555 cubic yards of sand from the adjoining waterbodies would result in the disturbance of shallow bottom habitat for the fill of the proposed sand bags. The proposed bags would incorporate approximately 14,320 square feet of high ground area above MHW that is also proposed to be disturbed by a skid steer to shape the profile of the revetment prior to sandbag placement. The application also calls for a work area waterward of the proposed alignment where temporary impacts including increased turbidity can be expected.

As proposed, this project is INCONSISTENT with 15A NCAC 07H .0308 (a)(2)(B) (E)&(K) Temporary Erosion Control Structures. Based on this information, the Wilmington Regional Office **OBJECTS** to the project as proposed and any request for a favorable permit decision should be **DENIED**. The basis for this determination is referenced below, as specified in accordance with current Rules adopted and administered by the Coastal Resources Commission. Additionally, it should be noted that the installation of the proposed sand bag revetment may limit if not restrict public access to and/or from the public beach.

The proposal in in conflict with:
15A NCAC 07H .0308 SPECIFIC USE STANDARDS FOR OCEAN HAZARD AREAS

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

(E) Temporary erosion control structures shall not extend more than 20 feet past the sides of the structure to be protected. The landward side of such temporary erosion control structures shall not be located more than 20 feet seaward of the structure to be protected or the right-of-way in the case of roads. If a building or road is found to be imminently threatened and at an increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet seaward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or their designee in accordance with Part (2)(A) of this Subparagraph.

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

Environmental Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

April 19, 2016

Sampson Contacting, Inc.
125 Hunters Trail West,
Elizabeth City, NC 27909

Dear Mr. Sampson:

The Division of Coastal Management hereby acknowledges receipt of your application, acting as agent for Mrs. Kay Picha, for State approval for development at the property located at 149 Ocean Isle W. Blvd. adjacent to the Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in the Town of Ocean Isle Beach, in Brunswick County. It was received complete on 04/13/16, and appears to be adequate for processing at this time. The projected deadline for making a decision is 06/27/16. An additional 75-day review period is provided by law when such time is necessary to complete the review. If you have not been notified of a final action by the initial deadline stated above, you should consider the review period extended. Under those circumstances, this letter will serve as your notice of an extended review. However, an additional letter will be provided on or about the 75th day.

If this agency does not render a permit decision within 70 days from April 13, 2016, you may request a meeting with the Director of the Division of Coastal Management and permit staff to discuss the status of your project. Such a meeting will be held within five working days from the receipt of your written request and shall include the property owner, developer, and project designer/consultant.

NCGS 113A-119(b) requires that Notice of an application be posted at the location of the proposed development. Enclosed you will find a "Notice of Permit Filing" postcard which must be posted at the property of your proposed development. You should post this notice at a conspicuous point along your property where it can be observed from a public road. Some examples would be: Nailing the notice card to a telephone pole or tree along the road right-of-way fronting your property, or at a point along the road right-of-way where a private road would lead one into your property. Failure to post this notice could result in an incomplete application.

An onsite inspection will be made, and if additional information is required, you will be contacted by the appropriate State or Federal agency. Please contact me if you have any questions and notify me in writing if you wish to receive a copy of my field report and/or comments from reviewing agencies.

Sincerely,

Sean Farrell
Field Representative

Enclosure
cc: Doug Huggett, DCM
Heather Coats, DCM
Tyler Crumbley, ACOE
Debra Wilson, DCM
Keith Dycus, Town of Ocean Isle Beach LPO
Kay Picha, applicant

RECEIVED
APR 22 2016
DCM- MHD CITY

From: ted sampson [mailto:tedswampsampson@gmail.com]
Sent: Wednesday, May 04, 2016 10:34 AM
To: Wilson, Debra <debra.wilson@ncdenr.gov>
Cc: Davis, Braxton C <Braxton.Davis@NCDENR.Gov>; Clark Wright <icw@dhwlegal.com>; Bill Forman <bill@arendellengineers.com>; yogi <ecsyogi@charter.net>
Subject: Picha Shoreline Protection; Major Permit Application & Variance

Debbie, Braxton,
Could you kindly provide me with an update on where we stand with the Permit Denial so that we can move forward with submitting the Variance petition.
We are ready to move forward with the Variance and need to be entering into discussions with the attorney who will be representing DCM on this matter. Given the recent reassignment of Ms. Goebel, please advise whom we should contact so that we can try to move this process forward.
Since I am away from my office in Elizabeth City, it is important that any written correspondence also be emailed to: tedsr@sampsoncontracting.com
If written correspondence has already been sent, kindly send a copy to this email address.
Reports from the property owner indicate that the tidal channel is hard up against the sandbag revetment in a number of places. Time becomes more of the essence with each passing day.
Many thanks for anything you can do to expedite this process.
With best regards,
Ted Sampson

Coats, Heather

From: Crumbley, Tyler SAW <Tyler.Crumbley@usace.army.mil>
Sent: Thursday, May 12, 2016 11:55 AM
To: tedsr@sampsoncontracting.com
Cc: Wilson, Debra; Coats, Heather; Crumbley, Tyler SAW; Coburn, Chad
Subject: Picha Sandbag Additions (SAW-2007-03637-10 and SAW-2008-00414)

Mr. Sampson,

Thank you for speaking with me this morning. Per our conversation, this office would need some additional information from you. According to the maps and plans provided with the application, the mean high water line is below the proposed sand bag placement area. You stated on the phone that this map is inaccurate and that you have an updated survey with the correct location of the MHW. Please submit any updated mapping efforts.

Under the General Permit 80-0048, work authorized is limited to the reconstruction of primary dunes and the placement of sandbags determined to be absolutely necessary to rectify an emergency situation as defined by North Carolina Coastal Resources Commission Regulations. The NCDCM in coordination with the Corps of Engineers, Wilmington District, Regulatory Division, will make the decision whether an emergency exists. To this end, any photographic evidence that you have to support the emergency determination would be appreciated.

We also discussed the need to coordinate the proposed project with the USFWS and other resource agencies since the work being proposed falls within the habitats of species covered under the Endangered Species Act. Since your proposal includes work outside the environmental windows for these species, the use of GP 80-0048 may be precluded. Therefore this office may review your project proposal under GP 291 with a 30 day Federal Agency review time. After the Federal review, it may be determined by one of the resource agencies that some sort of consultation will be required regarding the possible impacts to the federally listed species.

This office will begin the processing of the proposal upon receipt of the supplemental material you and I discussed over the phone.

Thank you for your time.

-Tyler

Tyler Crumbley
Regulatory Project Manager
U.S Army Corps of Engineers-Wilmington District
69 Darlington Avenue
Wilmington, NC 28403

Phone: 910-251-4170
Fax: 910-251-4025
email: tyler.crumbley@usace.army.mil

"The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at: http://regulatory.usacesurvey.com/"

Gmail **ted sampson <tedswampsampson@gmail.com>**

Picha CAMA Major Permit Request

ted sampson <tedswampsampson@gmail.com> Fri, May 20, 2016 at 2:36 PM
To: tyler.crumbley@usace.army.mil
Cc: Clark Wright <icw@dhwlegal.com>, yogi <ecsyogi@charter.net>, "Ted Sampson, Sr" <TedSr@sampsoncontracting.com>

Tyler,
Forwarding this email again (less the photo); will call you shortly to see if it gets through this time.
With best regards,
Ted
---------- Forwarded message ----------
From: **ted sampson** <tedswampsampson@gmail.com>
Date: Fri, May 13, 2016 at 7:22 AM
Subject: Fwd: Picha CAMA Major Permit Request
To: tyler.crumbley@usace.army.mil

Tyler,

Thank you for the telephone call today concerning the Picha CAMA Major Permit application.
You asked that I provide you with a copy of the 4//25/2016 survey that was taken in support of our pursuance of a variance to State guidelines in sandbag revetment size to address the existing imminent threat to the Picha property from rapid migration of the tidal channel in Tubbs Inlet. You also asked that I provide you with a pdf copy of the 3 drawings that were submitted in support of the CAMA Permit application. You will find these drawings attached to this email.
You also asked if I could provide you with photographs depicting the existing situation with the inlet at the Picha property. I only got back to my computer a little while ago, and I have one such photo readily available. It is an aerial photograph taken at 6:02 p.m. on 4/11/16. Low tide at Tubbs Inlet was at 5:31 p.m. at 0.3-ft above MLLW.
This corresponds to elevations shown in the attached survey (Datum: NAVD88) of approximately -1.7-ft. I will take time tomorrow to search my records for additional photos and send them to you. This single photo does a good job of demonstrating the severity of the current threat. The water that you see in the photo along the Picha's existing sandbag revetment is what is referred to in the Permit Application as the tidal channel. This channel, which can be observed at low tide conditions shows where the concentration of the ebb and flood currents flow, depicting the path along which the majority of the water travels when filling and emptying the tidal prism. With the very sharp bend in the tidal channel almost upon the existing sandbag revetment, the highest velocities of both ebb and flood currents are concentrated along the existing revetment. The depths measured in this tidal channel at low tide on 3/25 and 3/26/2016 were recorded between 4 and 9 feet along much of the channel and up to 17 - 20 feet of depth at the sharpest part of the bend in the tidal channel. Even the least of these depths (4-ft) corresponds to an elevation of approximately -6-ft NAVD88, which is well below the base of the existing sandbag revetment. The migration of this

tidal channel toward the Picha property has been steadily increasing over the past several years. Now, with the tidal channel at its closest approach to the Picha property ever observed, the tidal channel migration rate has increased to an alarming rate of 70-ft per month, based on the most recent measurements. Thus, the conclusion of imminent threat to the Picha property.
A sandbag revetment limited by the State guidelines to a 6-ft height and a base width of 20-ft cannot, and was not designed nor constructed to be able to withstand undercutting by a tidal channel with these depths. The effort to obtain a variance to place an enlarged sandbag revetment to protect this property seeks to utilize the only type of shoreline protection that is allowed by the State for such shorelines -- sandbags. An enlarged alignment would allow additional sandbags to be placed to carry a scour apron, or underlayment down to the depths below the edge of the tidal channel, and would allow additional sandbags to be placed beyond the 6-ft limitation to reach and elevation to resist the onslaught of waves along this shoreline as existing sandbags sink to resist the encroaching tidal channel.

Today you expressed concern that the Corps could not recommend approval of the Permit due to this being turtle nesting season, and that the USF&WS may wish to have formal input to the matter. You will see on the 4/25/2016 survey that the Mean High Water line is up against the existing sandbag revetment virtually throughout its entire length. This means that there is no dry sand habitat on which sea turtles seek to nest within the project area. The local monitors for sea turtle nests should be able to confirm that sea turtles do not attempt to nest in this dynamic part of the beach within the proposed project area.

If I can provide you with additional information or answers to additional questions, please do not hesitate to contact me again. And, I will send additional photos of the area for you to peruse -- hopefully tomorrow.

Again, many thanks for taking the time to make contact with me to discuss this very important matter.

With best regards,
Ted Sampson

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6 attachments

- **Picha Sheet 1.pdf**
  132K
- **Picha Sheet 2.pdf**
  124K
- **Picha Sheet 3.pdf**
  113K
- **Survey 01 - Existing Conditions.pdf**
  5402K
- **Survey 02 - Existing Profiles.pdf**
  196K
- **Geodynamic Survey AE line work.pdf**
  883K

Gmail **ted sampson <tedswampsampson@gmail.com>**

Federal Comments for sandbag placement

ted sampson <tedswampsampson@gmail.com> Tue, Jun 14, 2016 at 1:47 PM
To: "Crumbley, Tyler SAW" <Tyler.Crumbley@usace.army.mil>
Cc: "Beter, Dale E SAW" <Dale.E.Beter@usace.army.mil>, Clark Wright <icw@dhwlegal.com>, yogi <ecsyogi@charter.net>, Bill Forman <bill@arendellengineers.com>

Tyler,
I just tried to reach you by telephone and left a request for you to call me back.
Pending our ability to discuss this matter I can offer the following on the comments by FWS and NMFS:
Relative to the FWS comment on the manatee concerns, I do not believe there is any problem incorporating the manatee protective measures into the Permit and abiding by them.

> Relative to the FWS comment on the Piping Plover and Red Knot -- The proposed measures for shoreline protection will tend to preserve dry sand areas and inter-tidal areas farther to the east of the Picha property. Without a means to arrest the eastward migration of Tubbs Inlet, more foraging/feeding areas for these species will become submerged within the inlet. Arresting of the eastward migration of the inlet should not impact nesting areas, since the accumulation of sand within the inlet deltas will continue unabated, so long as the sand source to the west (Sunset Beach) remains available to grow the deltas, as is now happening and is now forcing the eastward migration of the inlet. This project may in fact have positive effects on the piping plover and the red knot.

Relative to the NMFS comments:
No provisions to monitor, maintain or remove: NC DCM standard comments to address these matters are anticipated, and so long as they are in line with the typical provisions we are accustomed to see in similar projects, the applicant should have no problem, and this matter can be adequately addressed.
Dessication of benthic infaunal organisms, machinery crushing of organisms, burial of habitat, physical damage to intertidal & surf zone from sandbags: These potential impacts are virtually identical to the impacts associated with the NC DCM General Permit for Emergency sandbags, and the Corps' authorization of such emergency permits with these associated impacts.
Recommendation for "soft" measures as alternatives: Beach nourishment is not allowed by NC DCM in inlet areas. Sand Dune restoration is not applicable to this situation. The existing sandbag stabilized dune is being undercut by the deep tidal channel that has migrated up against the existing sandbag revetment--any dune restoration would disappear into the inlet as fast as it could be placed due to the 4-time daily tidal currents. Vegetative Plantings--have little if any shoreline stabilization effect. They can trap sand that is moving by aeolian transport and thereby help build a protective dune. But, when there is no dry sand beach, as is the case here, vegetative plantings have no benefit outside of the aesthetic.
Relative to the NMFS recommendations:
Consider only temporary emergency erosion control: By the very nature of the permit that is sought, it is only allowed by NC DCM as a temporary measure. The permit requested is anticipated to be temporary in nature. In this instance, a hard, specified date for removal is probably not appropriate because of the nature of the migration of Tubbs Inlet. These sandbags should be viewed as temporary until such time as the forces of nature come together to reverse the direction of the migration of Tubbs Inlet, or until such time as man-made efforts, such as channel realignment brings a degree of stability to this shoreline. Studying the history of the migration of Tubbs Inlet, it appears that the migration direction was to the west (toward Sunset Beach) until around 1966 when a Corps project (or perhaps a Corps authorized project) moved the natural channel along the shoreline of Sunset Beach into the middle of the Inlet. Is the Corps prepared to now take similar actions to prevent the encroachment of the Inlet upon Ocean Isle Beach with channel relocation, as it did to provide relief to Sunset Beach? This could address both the concerns for shoreline protection impacts and the temporary nature of the project proposed by the Pichas.
Recommendation for alternatives analysis, including avoidance & minimization: This was addressed succinctly in the Permit application. In essence, the do nothing alternative results in the loss of the Picha property and Town of Ocean Isle Beach utilities, to be followed by the steady loss of additional residential property and utilities to the east of the Picha property. Stabilizing the Inlet by the dredging of a central tidal/navigation channel is beyond the purview of the Picha's to request, and the amount of inlet area and habitat impacted by such action would be greatly increased when compared to the current Permit request. Seeking a hard, rock revetment or groin is something that NC DCM rules and law do not allow for owners of private property, and associated impacts would be similar to the proposed

Permit, but have the drawback of being permanent. Avoidance of all impacts is not practicable, if the property, and the neighboring properties/utilities are to be protected. Avoidance of many impacts are built-in the requested Permit, in that there is no request to reclaim land lost to the inlet, and cost and practicality of building an enlarged sandbag revetment requires the building of the smallest structure that be projected to provide the needed results, and this excludes attempting to fill-in the deep tidal channel that has since the time of this application now migrated up against and under the existing sandbag revetment. Minimization of impacts has long been built into the process that the applicant has followed to provide protection for their property. The existing sandbags were installed only incrementally, under a series of separately issued General Permits. The impacts associated with the currently requested Permit are already minimized by seeking a size of the alignment no greater than that seen by the NC CRC to be appropriate in other situations where a nominal 6-ft by 20-ft is found to be insufficient. Given the difficulty and length of time needed to obtain a Variance and Corps agreement for an enlarged sandbag revetment, it is necessary to seek a footprint for the needed protection for the full length of the shoreline, especially in light of the dynamic and changing nature of where Tubbs Inlet will concentrate its erosive forces. This means that a full 45-ft by +12 NAVD alignment may not be constructed initially along the entire shoreline--limiting the width of the alignment initially to the areas where erosion forces are concentrated. This is what was initially envisioned when the Permit application was made. However, given the very lengthy Permit and Variance process that we are experiencing, more and more of the shoreline is in need of immediate, full protection. Still, if at the time of construction commencement we find that there are segments that do not require the full enlarged revetment, these will be constructed to a smaller initial footprint to minimize impacts.

Relative to Detailed Plan for Removal, Including all Components: Such removal is required by existing NC DCM rules, and is typically made part of the Permit conditions, and applicant would likely have no objection to such typical conditions.

Relative to, Monitoring & Maintenance Plan to Prevent Marine Debris: Applicant already monitors and maintains the existing sandbag revetment which has included the removal of already failed or failing sandbags. Applicant intends to continue with this active monitoring, maintenance and removal of marine debris. If this needs to be formalized, that can be done.

I look forward to your return phone call so that we can further discuss these matters and move the process forward.

With best regards,
Ted Sampson
[Quoted text hidden]

Gmail **ted sampson <tedswampsampson@gmail.com>**

FW: [EXTERNAL] Picha draft RPMS and Terms and Conditions

ted sampson <tedswampsampson@gmail.com> Thu, Jun 16, 2016 at 9:32 AM
To: "Crumbley, Tyler SAW" <Tyler.Crumbley@usace.army.mil>
Cc: Clark Wright <icw@dhwlegal.com>, yogi <ecsyogi@charter.net>, Bill Forman <bill@arendellengineers.com>

Tyler,
Thanks so much for making the effort to get this matter clarified. The proposed conditions on the Permit should not be a problem for the applicant. We may need to know what standard must be met for our trash receptacles to be considered "predator-proof."
Hopefully, this will clear the way for NC DCM to move forward with the denial, allowing us to enter the Variance petition process.
Again, many thanks and best regards,
Ted
[Quoted text hidden]

-----Original Message-----
From: Crumbley, Tyler SAW [mailto:Tyler.Crumbley@usace.army.mil]
Sent: Tuesday, May 24, 2016 10:18 AM
To: Michael.A.Davis@uscg.mil; Huggett, Doug <doug.huggett@ncdenr.gov>; kathryn_matthews@fws.gov; Leigh_Mann@fws.gov; pace.wilber@noaa.gov; Pete_Benjamin@fws.gov; Tiffany.A.Johnson@uscg.mil; bowers.todd@epa.gov; evelynn.b.samms@uscg.mil; Wilson, Debra <debra.wilson@ncdenr.gov>; John <john_ellis@fws.gov>; Gledhill-earley, Renee <renee.gledhill-earley@ncdcr.gov>; Owens, Jennifer L SAW <Jennifer.L.Owens@usace.army.mil>; Scott.D.McAloon@uscg.mil; Derek.J.Burrill@uscg.mil; Coats, Heather <heather.coats@ncdenr.gov>; ken.riley@noaa.gov; Horton, James T SAW <James.T.Horton@usace.army.mil>; Arnette, Justin R SAW <Justin.R.Arnette@usace.army.mil>; Hutchings, Shay P MST1 <Shay.P.Hutchings@uscg.mil>; Coburn, Chad <chad.coburn@ncdenr.gov>; Snider, Holley <holley.snider@ncdenr.gov>
Cc: Beter, Dale E SAW <Dale.E.Beter@usace.army.mil>; Hair, Sarah E SAW <Sarah.E.Hair@usace.army.mil>; Crumbley, Tyler SAW <Tyler.Crumbley@usace.army.mil>
Subject: CAMA GP 291 SAW-2007-03637-10 / Picha Sandbag Extension / Brunswick **15 Day Comment Period**

All,

Pursuant to the CAMA-Corps Programmatic Permit process, the North Carolina Division of Coastal Management (NCDCM) has forwarded to our office a copy of the CAMA permit application, Field Investigation Report and BioReport for the subject project. The attached notice requests federal agency comments on this project by June 7th, 2016 (*please note this is a 15-day request for comments).

The applicant proposes to expand an existing sandbag revetment. The existing revetment is approximately 468 lf and conforms to the 20ft by 6ft standard, but is being undercut by the moving inlet (see attached survey and photos taken near low tide). The proposed expansion includes the addition of multiple bag layers, with a base width of 45' and a crest height of 12' NGVD.

The proposed expansion project is located in Ocean Isle Beach, at 149 Ocean Isle W Blvd., adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in Brunswick County, North Carolina. Coordinates in Decimal Degrees are: 33.8755740 N and -78.477237 W. Additionally, a Google Earth .kmz file is attached for reference.

Please see the attached field investigation report /application for more detailed information concerning the proposed project.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The Corps' initial determination is that the proposed project may affect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service. Impacts are expected to be minimal due to the location of the project, and currently installed sandbags in the project area, no coastal wetlands will be impacted, and the waters within the project area are not designated as PNA. SAV is not present.

The Corps has reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps has determined that the project will affect, but not likely adversely affect the following species:

West Indian Manatee, Green Sea Turtle, Loggerhead Sea Turtle, Red Knot, Piping Plover, and Seabeach Amaranth. These not likely determinations are based upon the lack of suitable nesting or foraging habitats within the project area. The MHWL is currently located at the base of the existing sandbags. The project will not affect any other species listed as threatened or endangered or their critical habitat formally designated pursuant to the Endangered Species Act of 1973 (ESA) within the project area.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, Appendix C of 33 CFR Part 325, and the 2005 Revised Interim Guidance for Implementing Appendix C, the District Engineer consulted district files and records and the latest published version of the National Register of Historic Places and initially determines that no historic properties, nor properties eligible for inclusion in the National Register, are present within the Corps' permit area: therefore, there will be no historic properties affected.

Please contact me if you have any questions and please provide comments as soon as you can, or by June 7th, 2016.

Thank you,

Tyler Crumbley
Regulatory Project Manager
U.S Army Corps of Engineers-Wilmington District
69 Darlington Avenue
Wilmington, NC 28403

Phone: 910-251-4170
Fax: 910-251-4025
email: tyler.crumbley@usace.army.mil

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#12

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

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APR 22 2016

DOA
STATE PROPERTY
OFFICE

April 19, 2016

MEMORANDUM:

TO: Tim Walton
Dept of Administration
State Property Office

FROM: Heather Coats, Assistant Major Permits Coordinator
NCDEQ – Division of Coastal Management
127 Cardinal Drive Ext., Wilm., NC 28405 *heather.coats@ncdenr.gov*
Fax: 395-3964 ***(Courier 04-16-33)***

SUBJECT: CAMA / D & F Application Review

Applicant: ***Kay Picha***

Project Location: *149 Ocean Isle West Blvd., adjacent to Tubbs Inlet and the AIWW, in Ocean Isle Beach, Brunswick County*

Proposed Project: *to increase an existing sandbag revetment*

Please indicate below your agency's position or viewpoint on the proposed project and ***return this form to Heather Coats*** at the address above by ***May 12, 2016.*** If you have any questions regarding the proposed project, contact Sean Farrell at (910) 796-7424 when appropriate, in-depth comments with supporting data is requested.

REPLY:

_____ This agency has no objection to the project as proposed.

Private use

_✓_ This agency has no comment on the proposed project.

_____ This agency approves of the project only if the recommended changes are incorporated. See attached.

_____ This agency objects to the project for reasons described in the attached comments.

SIGNED Wanda Hilliard **DATE** 5-11-2016

memo attached
USACE AIWW

RECEIVED
DCM WILMINGTON, NC

MAY 16 2016

Nothing Compares™

State Property Office
ADMINISTRATION

PAT MCCRORY
Governor
KATHRYN JOHNSTON
Secretary

May 11, 201627699

MEMORANDUM

TO: Heather Coats, Assistant Major Permits Coordinator
NCDEQ-Division of Coastal Management
127 Cardinal Drive Ext., Wilm., NC 28405

FROM: Wanda Hilliard
Real Property Agent

Re: CAMA/DREDGE & Fill Permit Application Review
Applicant - Kay Picha
Private Use

The project may require Easements for crossing the creeks, marsh & State owned-land provided the applicant qualifies for the easements. Please confirm that the proposed development and /or facilities are not located within the 1000' USACE AIWW easement area.

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

MEMORANDUM

TO: Heather Coats
Division of Coastal Management
North Carolina Department of Environmental Quality

FROM: Maria T. Dunn, Coastal Habitat Coordinator
Habitat Conservation Division

DATE: May 10, 2016

SUBJECT: CAMA Dredge/Fill Permit Application for Kay Picha, Brunswick County, North Carolina.

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the permit application with regard to impacts on fish and wildlife resources. The project site is located at 149 Ocean Isle West Blvd, in Ocean Isle Beach adjacent to the Atlantic Ocean, Tubbs Inlet, and the AIWW. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, Sections 401 and 404 of the Clean Water Act, as amended, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The applicant proposes to add additional sandbags to an existing sandbag revetment. The request would extend the sandbag height from 6' to 12' and the width to a maximum 45' base. Approximately 2,555 CY of material is proposed to be removed from below MHW via a submersible pump attached to a long reach excavator, though more may be required if erosion increases since the time of permit submittal. Prior to the placement of the bags, a skid steer would be used to shape the profile of the proposed revetment area.

The NCWRC has reviewed the proposal and is concerned with the extension of the sandbag revetment size and the more permanent aspect the structure would assume. We understand the use of sandbags to protect immanently threatened structures, but do not view sandbag revetments as long term solutions to control erosion issues along ocean front beaches. Removal of the bags or reduction in the size of the structure should occur if other shoreline protection measures are implemented. In addition to the concern with the permanent, habitat altering aspect of sandbags, the NCWRC generally requests an April 1 – November 15 moratorium for beach development activities to minimize impacts to nesting shorebird and sea turtle habitats. Obtaining beach compatible material from an upland source would further reduce impacts to aquatic resources within the intertidal and subtidal areas of Tubbs Inlet. However if it is determined to be a permitable project by the NC Division of Coastal Management, we will not object to

Mailing Address: Habitat Conservation • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

the sandbag revetment expansion nor request the activity adhere to the moratorium if the following is included as permit a condition:

- To reduce the potential for any unintended impacts to nesting sea turtles and their nests, the NCWRC requests that the work be expedited to the greatest extent possible. **All work should be conducted during the daytime only.**

We appreciate the opportunity to review and comment on this permit application. If you need further assistance or additional information, please contact me at (252) 948-3916 or at maria.dunn@ncwildlife.org

#12

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

April 19, 2016

MEMORANDUM:

TO: Gregg Bodnar
Fisheries Resource Specialist
DCM, Morehead City

FROM: Heather Coats, Assistant Major Permits Coordinator
NCDEQ – Division of Coastal Management
127 Cardinal Drive Ext., Wilm., NC 28405 *heather.coats@ncdenr.gov*
Fax: 395-3964 ***(Courier 04-16-33)***

SUBJECT: CAMA / D & F Application Review

Applicant: ***Kay Picha***

Project Location: *149 Ocean Isle West Blvd., adjacent to Tubbs Inlet and the AIWW, in Ocean Isle Beach, Brunswick County*

Proposed Project: *to increase an existing sandbag revetment*

Please indicate below your agency's position or viewpoint on the proposed project and ***return this form to Heather Coats*** at the address above by ***May 12, 2016.*** If you have any questions regarding the proposed project, contact Sean Farrell at (910) 796-7424 when appropriate, in-depth comments with supporting data is requested.

REPLY:

____ This agency has no objection to the project as proposed.

__X__ This agency has no comment on the proposed project.

____ This agency approves of the project only if the recommended changes are incorporated. See attached.

____ This agency objects to the project for reasons described in the attached comments.

SIGNED _____ **DATE** 5/10/16

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DCM WILMINGTON, NC
MAY 10 2016

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State of North Carolina | Environmental Quality | Coastal Management
127 Cardinal Drive Ext., Wilmington, NC 28405
910-796-7215

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

Coastal Management
ENVIRONMENTAL QUALITY

MEMORANDUM:

TO: Heather Coats, DCM Assistant Major Permit Coordinator

FROM: Gregg Bodnar, DCM Fisheries Resource Specialist GB

SUBJECT: Kay Picha

DATE: 5/10/2016

A North Carolina Division of Coastal Management (DCM) Fisheries Resource Specialist has reviewed the subject permit application for proposed actions that impact fish and fish habitats. The applicant proposes enhance an existing sandbag structure. The surrounding waters are classified as SA and SB, and are open to shellfish harvest. The property is located at the western end of Ocean Isle adjacent to Tubbs' Inlet.

The intertidal beach zone supports an important prey source for various fishes (ex. red drum and flounder) as well as providing forage, nursery, and refuge areas for species such as kingfish and pompano. Oceanfront shoreline armoring has been well documented to degrade beach surf zones by effecting erosion rates and sediment grain size which can result in a much narrower surf zone, increase turbidity, and reduce abundance and diversity of benthic macroinvertebrates (Deaton et al. 2010, Defeo et al. 2009, Pilkey and Wright 1988). The placement of a shore-parallel, hardened structure like a large sandbag revetment on an eroding oceanfront beach has a likelihood of resulting in significant losses to swash zone habitat. Erosive processes could undermine the structure itself, resulting in compromising infrastructure, including sewer systems, which would further degrade the surf zone habitat. For these reasons the use of shore-parallel, hardened structures has potential to result in significant impacts to surf zone fish habitat.

There is concern that, when projects increase the size and extent of a sandbag structure, that this reduces the temporary status of the structure. In addition, information presented in the Ocean Isle Beach 30-year management plan does not seem to identify nourishment status to the Tubbs' Inlet area, further indicating that the sandbag structure may become permanent. Additional information to the intent of the Ocean Isle 30-year Management Plan's to nourish this area or other management potential for the Tubbs' Inlet area would greatly enhance the understanding of the temporal requirements of the sandbag structure.

Contact Gregg Bodnar at (252) 808-2808 ext. 213 or gregg.bodnar@ncdenr.gov with further questions or concerns.

Deaton, A.S., W.S. Chappell, K. Hart, J. O'Neal, B. Boutin. 2010. North Carolina Coastal Habitat Protection Plan. North Carolina Department of Environment and Natural Resources. Division of Marine Fisheries, NC. 639 pp.

Defeo, O., McLachlan, A., Schoeman, D. S., Schlacher, T. A., Dugan, J., Jones, A., Lastra, M. and Scapini, F. (2009). Threats to sandy beach ecosystems: a review. Estuarine, Coastal and Shelf Science, 81(1), 1-12.

Pilkey, O. H., & Wright III, H. L. (1988). Seawalls versus beaches. Journal of Coastal Research, 41-64.

DIVISION OF COASTAL MANAGEMENT
FIELD INVESTIGATION REPORT

1. **APPLICANT'S NAME**: Kay Picha c/o Sampson Contracting, Inc.

2. **LOCATION OF PROJECT SITE**: The project site is located at 149 Ocean Isle West Blvd, Ocean Isle Beach, Brunswick County. The property is adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean.

Photo Index – **2006**: 1-6153, 12-P
2000: 1-6, 12-P
1995: 1-6, 12-P
State Plane Coordinates – X: 2158698 **Y**: 46272
Lat.: 33°87'59.83"N **Long:** 78°47'72.51"W

3. **INVESTIGATION TYPE**: CAMA / D&F

4. **INVESTIGATIVE PROCEDURE**: **Dates of Site Visit** – April 15th, 2016
Was Applicant Present – No

5. **PROCESSING PROCEDURE**: **Application Received** – Complete 4/13/16
Office – Wilmington

6. **SITE DESCRIPTION**:
(A) **Local Land Use Plan** – Town of Ocean Isle Beach
Classification From LUP – Residential
(B) **AEC(s) Involved**: OH, IH, ES
(C) **Water Dependent**: Yes
(D) **Intended Use: Private**
(E) **Wastewater Treatment: Existing** – Municipal Sewer
Planned - N/A
(F) **Type of Structures**: **Existing** – Existing sandbag revetment, rock revetment, private docking facility, and residential structures and access-ways
Planned – Oversized sandbag revetment
(G) **Estimated Annual Rate of Erosion**: 4.3'/year **Source** – LTAASCR 2011 Update

7. **HABITAT DESCRIPTION**:

	[AREA] DREDGED	FILLED	OTHER
(A) Vegetated Wetlands (coastal)	N/A	N/A	N/A
(B) Non-Vegetated Wetlands - open water	~2,555 Cu. yds (for sandbag fill)	N/A	N/A
(C) Other (High ground)	N/A	~14,320 sq. ft. (sand bags placed on beach)	N/A

*N/A – Not applicable

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(D) **Total Area Disturbed**: ~0.4 acres (~17,900 sq. ft.)
(E) **Primary Nursery Area**: No
(F) **Water Classification**: SA & SB **Open:** Yes

8. PROJECT SUMMARY: The applicant is proposing to increase an existing sandbag revetment to an oversized alignment to protect their single family home on the West end of Ocean Isle Beach.

9. PROJECT DESCRIPTION:

The project site is located in Ocean Isle Beach, at 149 Ocean Isle W Blvd., adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in Brunswick County. To get to the site From US HWY 17 in Shallote, turn left on to Ocean Isle Beach Rd. SW and travel approximately 3.56 miles. Continue straight on to Causeway Dr. / NC 904 and travel approximately 1.16 miles. Enter roundabout and take first right onto W. 1st Street. Travel approximately 1.34 miles then turn slight right onto Charlotte Street. Travel approximately 0.08 miles and then take a slight left onto W. 2nd Street. W. Second Street will become Ocean Isle Blvd West. Continue on Ocean Isle Blvd W. for approximately 0.55 miles until you arrive at the project site at the very end of the road.

The project area would span across two separate tracts of land at the western tip of Ocean Isle Beach. One tract is owned by the applicant Kay Picha, and the other indicated as a "washout lot" in the application. The tract of land owned by the applicant measures approximately 0.5 acres with a 60 ft. easement for Ocean Isle W Blvd. The project site is bordered by Old Sound Creek to the north, Tubbs Inlet to the west, the Atlantic Ocean to the South, and residential properties to the east. The high ground portion of the property is vegetated with Salt Meadow Hay (Spartina patens), Sea Oats (Uniola paniculata), American Beachgrass (Ammophila breviligulata), American Marsh-pennywort (Hydrocoytle americana) and planted ornamental vegetation. No wetlands were observed within the limits of the proposed project area. The current elevation of the residentially developed area of the property is approximately 8' above Mean High Water (MHW). The Annual erosion rate in the project area is 4.3'/year per the Division of Coastal Management's 2011 Annual Erosion Rate maps. Existing site conditions include a sandbag revetment measuring approximately 6' in height by 20' in width by 430' in length running along Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. The landward edge of the existing sandbag revetment is located approximately 12' waterward from the southwest corner of the existing house structure and approximately 60' waterward from the northwest corner of the existing house structure. The sandbag revetment along on the western portion of the project site, adjacent to Tubbs Inlet, incorporates property listed as a "washout lot" in the application. The existing sandbags were authorized in 2009 under CAMA General Permits #52423D, #49148D, #49198D, and #49157D. There is additional existing shoreline stabilization in the form of a dilapidated rip rap revetment that measures approximately 140' in length by approximately 20-30' in width along the northern section of shoreline adjacent to Old Sound Creek. The applicant currently maintains a private docking facility, consisting of a pier, covered platform, and floating dock within Old Sound Creek.

The Town Ocean Isle Beach Land Use Plan classifies the upland areas of the proposed project as "residential". The waters of the project site are classified as SB for adjacent Tubbs Inlet and Atlantic Ocean and SA for adjacent Old Sound Creek by the NC Division of Water Quality. The NC Division of Marine Fisheries has NOT designated this area of Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean as a Primary Nursery Area, and the waters adjacent to the proposed project area OPEN to the harvesting of shellfish.

PROPOSED PROJECT:

The applicant is proposing to increase an existing sandbag revetment to an oversized alignment to protect their single family home on the West end of Ocean Isle Beach. As proposed, the sand bag revetment would adjoin, or abut, the existing sandbag revetment located along the property's shoreline adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. As designed, the sand bag revetment would consist of multiple bag layers, with a base width of 45' and a crest height of 12' NGVD.

As described in the application's cross section (sheet 3 of 3), traditional sandbags (i.e. each tan in color, 5' in width and 10'-15' in length) would be installed along approximately 468 linear feet of beach. The proposed sand bags would abut the existing sandbag revetment extending an additional 25' waterward, in a stair stepped arrangement, for a total base width of approximately 45'.

The proposed sandbag revetment would increase the existing vertical dimension of the sandbags, with a proposed height of approximately 12'NGVD. As proposed, the most landward sand bags would be installed perpendicular to the shoreline against the existing dune escarpment. The revetment would then stair step waterward, with the bags installed parallel to the shoreline along Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean. The sand bags would be placed atop a scour apron that would span the entire length of the project.

Information provided by the applicant's agent (Sampson Contracting, Inc.) indicates an approximate mean high water boundary survey was performed in the vicinity of the proposed project on March 31, 2016. Based on this data, it appears the proposed sand bag revetment would be placed along an alignment that would extend from approximately 8' landward of the approximate MHW line, in areas adjacent to the Atlantic Ocean, to approximately 1' landward of the approximate MHW line in areas adjacent to Tubbs Inlet and Old Sound Creek. The applicant has accounted for approximately 14,320 sq. ft. of impacts above the approximate MHW line, however, these numbers will likely change again prior to initiation of the project due to the continuing easterly migration of the Tubbs Inlet channel.

According to the application package, the applicant intends to fill the sand bags with sand from below MHW within the adjoining water bodies that are Tubbs Inlet and Old Sound Creek. As proposed, the applicant would remove approximately 2,555 cubic yards of sand by means of a submersible pump attached to a long reach excavator to fill the proposed bags. Prior to placement of the bags, a skid steer would be used to shape the profile of the proposed revetment area.

10. ANTICIPATED IMPACTS

The applicant's proposal to remove approximately 2,555 cubic yards of sand from the adjoining waterbodies would result in the disturbance of shallow bottom habitat for the fill of the proposed sand bags. The proposed bags would incorporate approximately 14,320 square feet of high ground area above MHW that is also proposed to be disturbed by a skid steer to shape the profile of the revetment prior to sandbag placement. The application also calls for a work area waterward of the proposed alignment where temporary impacts including increased turbidity can be expected.

Submitted by: Sean Farrell **Date:** April 19, 2016 **Office:** Wilmington

SAMPSON CONTRACTING, INC.

Marine Construction And Environmental Consulting Services

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

PROJECT NARRATIVE
IN SUPPORT OF REQUEST FOR MAJOR PERMIT

APPLICANT: Kay P. Picha

PROJECT: Erosion Control

LOCATION: Brunswick County, North Carolina; at western terminus of Ocean Isle W Boulevard, Ocean Isle Beach

Directions:
From US Hwy 17 (Business) in Shallotte, NC, proceed south on NC 179 to the intersection of NC 904, turning left toward Ocean Isle Beach. Proceed south, passing over the Intercoastal Waterway and continuing into Ocean Isle Beach to the traffic circle just south of 2nd Street. Proceed to the right out of the traffic circle onto Ocean Isle W Boulevard, and travel to the end, which is adjacent to the project location at 149 Ocean Isle W Boulevard.

SITE: Description:
The project area consists of two tracts of land. The first tract is owned by Kay P. Picha, and is listed by Brunswick County as Parcel # 2571E010. This tract is approximately 0.5 acres, with a 60-ft easement for Ocean Isle W Boulevard separating the portion of the tract that borders the Atlantic Ocean from the portion of the tract that borders Old Sound Creek. The second tract, where some of the existing sandbags are located, is now listed by Brunswick County as a washout lot.

The total shoreline of the area of the Project along the Atlantic Ocean, Tubbs Inlet, and Old Sound Creek is 5,710 feet. The project area lies within the Ocean Erodible and Inlet Hazard Areas of Environmental Concern.

The Picha tract of land is currently utilized for residential purposes. The residentially developed area is approximately 8-ft above Mean High Water and the land descends steeply to Mean High Water along the Atlantic Ocean, Tubbs Inlet and Old Sound Creek. Access to a pier along Old Sound Creek exists. The "Washout" lot has some isolated areas where the topography exceeds 8-ft above Mean High Water, but it transitions steeply to Mean High Water down the existing sandbag revetment along Tubbs Inlet. This "Washout" lot is undeveloped with the exception of the existing sandbag revetment and an existing rock revetment placed along Old Sound Creek during development of the island.

Adjoining Development:
Immediately adjoining the Picha tract, and extending to the east along the Atlantic Ocean, are a series of residentially developed lots with beach access, and most have access to, and piers on Old Sound Creek.

Erosion:
Erosion is ongoing, and readily discernable along the shorelines of the Atlantic Ocean, Tubbs Inlet and Old Sound Creek. The landward reach of the erosion has been stopped by the existing sandbag revetment, but the Tubbs Inlet channel has steadily migrated to the east, eroding away subsurface inlet soils on the Picha side of the Inlet. As the sand spit on the Sunset Beach side of the Inlet has grown to the east, the tidal channel has become narrowed, and the depth of the channel has increased to accommodate the flow to and from the tidal prism. These depths have recently been recorded along the Picha property ranging from 8 – 20-ft below the MLLW level.

During the period of 6/17/2008 to 12/13/2012 the tidal channel migrated by 106-ft to the northeast, corresponding to a migration rate of approximately 2-ft/month. During the period of 12/13/2012 to 10/9/2014 the tidal channel migrated by 34-ft to the northeast, corresponding to a migration rate of approximately 1.5-ft/month. During the period of 10/9/2014 to 11/25/2015 the tidal channel migrated by 69-ft to the northeast, corresponding to a migration rate of approximately 5-ft/month. During the period of 11/25/2015 to 3/25/2016 the tidal channel migrated by 48-ft to the northeast, corresponding to a migration rate of approximately 12-ft/month.

The shoreline along Tubbs Inlet near the Picha property is a high energy shoreline where winds have an unlimited open fetch of water when blowing from directions from the southwest to the southeast.

Soils:
Information available from the USDA indicates Newhan Fine Sand is the soil type that exists in the project area.

Hydrology:
The hydrology is uniform throughout the project area with the Newhan Fine Sand being located more than 80 inches above the water table and with no restrictive underlying structures.

Drainage from the project area is through sheet flow, which rapidly percolates into the Newhan Fine Sand.

Section 404 Wetlands:
A 404 wetland delineation has not been conducted for the project area; no such wetlands were observed.

Coastal Wetlands:
Coastal wetland vegetation consisting of Spartina patens was observed, but not in areas flooded by tides; as such, no coastal wetlands are considered to exist within the project area.

Uplands:
Upland vegetation includes planted shrubbery, Spartina patens, Uniola paniculata, Ammophila breviligulata, and Hydrocoytle Americana.

Waters:
The waters adjoining the project area include the Atlantic Ocean, Tubbs Inlet, and Old Sound Creek. None of the waters adjoining the project area are designated as an Anadromous Fish Spawning area, and the adjoining waters are outside any primary or secondary nursery areas. Similarly the adjoining waters are outside of any Striped Bass and Herring Management Areas. These waters have been designated by the NC Shellfish Sanitation Commission as areas open for shellfish harvesting. These waters are considered to be Coastal Waters subject to the jurisdiction of the NC Division of Marine Fisheries

Submerged Aquatic Vegetation:
No submerged aquatic vegetation has been observed within the waters adjoining the project area.

Historical-Archaeological:
No indication has been found that the project area has been identified to have either historical or archaeological importance.

Species of Concern:
The following species are recorded as being either Endangered (E) or Threatened (T) in Brunswick County, North Carolina:

	VERTIBRATES	
American alligator	*Alligator mississippiensis*	T
Green sea turtle	*Chelonia mydas*	T
Hawksbill sea turtle	*Eretmochelys imbricate*	E
Kemp's ridley sea turtle	*Lepidochelys kempii*	E
Leatherback sea turtle	*Dermochelys coriacea*	E
Loggerhead sea turtle	*Caretta caretta*	T
Piping plover	*Charadrius melodus*	T
Red-cockaded woodpecker	*Picoides borealis*	E
Red knot	*Calidris canutus rufa*	T
West Indian manatee	*Trichechus manatus*	E
Wood stork	*Mycteria Americana*	T

VASCULAR PLANTS

Cooley's meadowrue	*Thalictrum cooleyi*	E
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	E
Seabeach amaranth	*Amaranthus pumilus*	T

Eleven vertebrate species of concern are listed as either Threatened or Endangered in Brunswick County by the US Fish and Wildlife Service, and three vascular plants are listed as either Threatened or Endangered. On the project site, only the five sea turtles, the Piping plover, the Red knot and the Seabeach amaranth would have potential habitat. The dynamic nature of the inlet makes the project area unappealing for nesting of any of these species, and would serve only as a feeding area for the Piping plover and the Red knot. While Seabeach amaranth could occupy the project area, no evidence of the presence of this species was observed.

It is unlikely that the proposed development will have any impacts on the identified species.

DEVELOPMENT: This project consists of enlarging an existing erosion control sandbag revetment from nominal dimensions of 6-ft vertical by 20-ft base-width to a total base-width of 45-ft, and a vertical limit of +12-ft NGVD. While the existing revetment is functioning properly to preclude the erosion of the shoreline when subjected to the energy from ocean waves, the limited 6-ft by 20-ft nominal dimensions are simply not sufficient to preclude undercutting by the Tubbs Inlet tidal channel when it migrates to a position adjacent to the existing revetment.

This proposed project seeks to address the imminent threat to the property of the applicant, and thereby the west-end of the town of Ocean Isle Beach. At present, the work area water-ward of the proposed enlarged alignment is limited to no more than 3 - 10-ft in some areas. Having a work area water-ward of the proposed alignment is essential in order to perform the proposed work. At the current rate of migration of the tidal channel of Tubbs Inlet, this work area will not exist in some areas within 1 month. At the current rate of migration of the tidal channel, the existing sandbag revetment can be expected to be undermined in less than 3 months.

The project as proposed is in compliance with the N. C. Environmental Policy Act (N.C.G.S. 113A 1-10).

Existing:
NC Division of Coastal Management (DCM) General Permits, #52423D, #49148D, #49198D and #49157D, authorized a total of approximately 430 feet of 6-ft by 20-ft sandbag revetment.

Other prior development includes one residential structure with swimming pool, one beach accessway, one pier access and floating pier. Prior to the residential development of this lot, a paved, asphalt road was constructed within the roadway easement on this property.

Additionally, prior to the residential development of this lot, a rock revetment was constructed, as authorized by CAMA Major Permit 240-89 (issued in 1989), along the shore of Old Sound Creek during the development the island. This revetment extended into what has now become a part of Tubbs Inlet. Most of this revetment is covered by sand, but can be observed where the sand has been washed away by the encroaching tidal channel.

A separate rock revetment was constructed under a NC Division of Coastal Management (DCM) authorization letter for an exempted maintenance and repair project, issued on 5/7/2009. This revetment extends approximately 140-ft in length along Old Sound Creek, turning eastward along Tubbs Inlet. This revetment is approximately 20-ft in width, with a 30-ft width existing at each end of the structure.

Proposed New as Part of this Permit Application:
Enlargement of the existing sandbag revetment is proposed by increasing the height to +12 NGVD, and extending the base-width water-ward for a total base-width of 45-ft.

UTILITIES

Wastewater:
Wastewater is handled by direct connection to the Ocean Isle Beach sewerage system.

Potable Water:
Potable water is provided through connection to the Ocean Isle Beach water main.

Power, Telephone and Cable:
Power utilities are provided through underground service. Telephone and cable utilities are similarly provided through underground service.

IMPACTS

Project development under this Permit application seeks no new impervious surface.

Overall project development involves the following impacts:

Enlarged Sandbag Revetment

- Fill placed within geotextile bags, is above MHW, but could include up to 14,320 sq. ft. placed on top of existing sand that at times may be below NHW.

- Removal of approximately 2,555 cu. yds. of fill sand for the geotextile bags from below MHW within the adjoining water bodies.

Access

Access is available through the site to the Areas of Environmental Concern in the vicinity of the proposed development without crossing any Section 404 or NC coastal wetlands. Access of equipment to the shoreline will be across the slope located just to the east of the existing access to the pier on Old Sound Creek.

AVOIDANCE AND MIMIMIZATION

Applicant seeks to provide erosion protection for her property, and thereby, for the west end of the island on which Ocean Isle Beach is located. The proposed project could better be done with the use of a hardened structure, which is not allowed under current North Carolina law and rules. Applicant seeks to provide the needed protection by constraining the design to the use of temporary erosion control measures. While the size of this alignment is greater than that provided for in the rules of the Coastal Resources Commission (CRC), the design has been constrained to a width and height that the CRC has, in the past, found acceptable for situations where the nominal 6-ft by 20-ft alignment is insufficient to address the imminent threat

Signed: _____ Date: 7 April 2016

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name		Project Name (if applicable) Picha Erosion Control		
Applicant 1: First Name Kay	MI P.	Last Name Picha		
Applicant 2: First Name	MI	Last Name		
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address 6965		PO Box	City Randleman	State NC
ZIP 27317	Country USA	Phone No. 336 - 674 - 8176 ext.	FAX No. 336 - 674 - 0016	
Street Address *(if different from above)*		City	State	ZIP -
Email KPPDWP@aol.com				

2. Agent/Contractor Information

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Business Name Sampson Contracting, Inc.				
Agent/ Contractor 1: First Name Theodore	MI J.	Last Name Sampson		
Agent/ Contractor 2: First Name	MI	Last Name		
Mailing Address 125 Hunters Trail West		PO Box	City Elizabeth City	State NC
ZIP 27909		Phone No. 1 252 - 548 - 4292 ext.	Phone No. 2 252 - 331 - 2447 ext.	
FAX No. 866 793 4261		Contractor # 68247		
Street Address *(if different from above)* 5 West Hargett Street, Suite 310		City Raleigh	State NC	ZIP 27601 -
Email tedsr@sampsoncontracting.com				

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3. Project Location

County (can be multiple)	Street Address		State Rd. #
Brunswick	149 Ocean Isle W Blvd		NA
Subdivision Name	**City**	**State**	**Zip**
NA	Ocean Isle Beach	NC	28469 -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
NA - - ext.	2571E010, , , ,
a. In which NC river basin is the project located? Lumber	b. Name of body of water nearest to proposed project: Old Sound Creek; Tubbs Inlet; Atlantic Ocean
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Atlantic Ocean
e. Is proposed work within city limits or planning jurisdiction? ☒Yes ☐No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Ocean Isle Beach

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
5,710	52,625
c. Size of individual lot(s) 21,650 sf, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* 4-ft ☒NHW or ☐NWL

e. Vegetation on tract
Planted shrubbery; Spartina patens; Uniola paniculata; Ammophila breviligulata; Hydrocotyle americana

f. Man-made features and uses now on tract
Single family dwelling; swimming pool; deck; beach access & stairs; Ocean Isle W Boulevard & right-of-way with buried utilities; driveway, parking areas; fence; pier, pier access with gazebo; rock revetment; sandbag revetment

g. Identify and describe the existing land uses adjacent to the proposed project site.
To east: residential lot with single family dwelling. To west: shoreline of Tubbs Inlet (fishing, shelling, walking area). To north: Shoreline of Old Sound Creek (fishing, walking). To south: shoreline of Atlantic Ocean (fishing, shelling, walking area.

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable)
C-1	☒Yes ☐No ☐NA

j. Is the proposed activity part of an urban waterfront redevelopment proposal? ☐Yes ☒No

k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. ☐Yes ☐No ☒NA

If yes, by whom?

l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? ☐Yes ☒No ☐NA

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m. (i) Are there wetlands on the site?	☐Yes ☒No
(ii) Are there coastal wetlands on the site?	☐Yes ☒No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☐Yes ☐No
n. Describe existing wastewater treatment facilities. Town of Ocean Isle Beach sewerage system	
o. Describe existing drinking water supply source. Town of Ocean Isle Beach water system	
p. Describe existing storm water management or treatment systems. None; sheet flow to sand soils.	

5. Activities and Impacts

a. Will the project be for commercial, public, or private use?	☐Commercial ☐Public/Government ☒Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. Project is designed to augment existing shoreline stabilization provided by increasing sandbag revetment size to prevent undercutting of sandbag revetment by encroaching tidal channel of Tubbs Inlet.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Submersible pump slung from long-reach excavator to transfer sand from adjoining waterways into geotextile sandbags. Skid-steer to be used to shape area prior to placement of sandbags: 1 Submersible pump, 1 long-reach excavator, 1 skid-steer. All stored on uplands at northern property boundary.	
d. List all development activities you propose. Construct enlarged sandbag revetment as shoreline protection by adding on to existing sandbag alignment within a 45-ft base width, by +12-ft NGVD alignment.	
e. Are the proposed activities maintenance of an existing project, new work, or both?	Both new work and maintenance of an existing project.
f. What is the approximate total disturbed land area resulting from the proposed project?	17,900 ☒Sq.Ft or ☐Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	☒Yes ☐No ☐NA
h. Describe location and type of existing and proposed discharges to waters of the state. None, other than sheet-flow of rain run-off.	
i. Will wastewater or stormwater be discharged into a wetland?	☐Yes ☐No ☒NA
If yes, will this discharged water be of the same salinity as the receiving water?	☐Yes ☐No ☐NA
j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	☐Yes ☒No ☐NA

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6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name Robert and Sharon Bell	Phone No. (803) 345-8020
Address 186 Heimatsweg Road, Chapin, SC 29036	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

CAMA/D&F Permits: 52423D 6/30/09 Kay Picha; 49148D 12/13/07 Curt Rodgers; 49198D 11/14/07 Kay Picha; 49157D 10/30/07 Kay Picha; 240-89 6/18/89 Ocean Isle Developing Co.

NCDCM Letter of Exemption for Maintenance & Repair project dated 5/7/2009

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date April 6, 2016

Print Name Theodore J. Sampson (for Kay Picha)

Signature

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Please indicate application attachments pertaining to your proposed project.

☒DCM MP-2 Excavation and Fill Information
☐DCM MP-3 Upland Development
☐DCM MP-4 Structures Information
☐DCM MP-5 Bridges and Culverts

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Form DCM MP-2

EXCAVATION and FILL

(Except for bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

Describe below the purpose of proposed excavation and/or fill activities. **All values should be given in feet.**

	Access Channel (NLW or NWL)	Canal	Boat Basin	Boat Ramp	Rock Groin	Rock Breakwater	Other (excluding shoreline stabilization)
Length							
Width							
Avg. Existing Depth					NA	NA	
Final Project Depth					NA	NA	

1. EXCAVATION

☐ *This section not applicable*

a. Amount of material to be excavated from below NHW or NWL in cubic yards.
2555

b. Type of material to be excavated.
sand

c. (i) Does the area to be excavated include coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW ____ ☐SAV ____ ☐SB ____
☐WL ____ ☒None

(ii) Describe the purpose of the excavation in these areas:
NA

d. High-ground excavation in cubic yards.
NA

2. DISPOSAL OF EXCAVATED MATERIAL

☒ *This section not applicable*

a. Location of disposal area.

b. Dimensions of disposal area.

c. (i) Do you claim title to disposal area?
☐Yes ☐No ☐NA

(ii) If no, attach a letter granting permission from the owner.

d. (i) Will a disposal area be available for future maintenance?
☐Yes ☐No ☐NA

(ii) If yes, where?

e. (i) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW ____ ☐SAV ____ ☐SB ____
☐WL ____ ☐None

(ii) Describe the purpose of disposal in these areas:

f. (i) Does the disposal include any area in the water?
☐Yes ☐No ☐NA

(ii) If yes, how much water area is affected?

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3. SHORELINE STABILIZATION

☐ *This section not applicable*

(If development is a wood groin, use MP-4 – Structures)

a. Type of shoreline stabilization:
☐Bulkhead ☐Riprap ☐Breakwater/Sill ☒Other: sandbags

b. Length: 468'
Width: 45

c. Average distance waterward of NHW or NWL: 34'

d. Maximum distance waterward of NHW or NWL: 39'

e. Type of stabilization material:
Sandbag revetment

f. (i) Has there been shoreline erosion during preceding 12 months?
☒Yes ☐No ☐NA
(ii) If yes, state amount of erosion and source of erosion amount information.
48' over 4 mo; 115' over 17 mo; field observation/measurement

g. Number of square feet of fill to be placed below water level.
Bulkhead backfill _____ Riprap _____
Breakwater/Sill _____ Other 14,320

h. Type of fill material.
sand

i. Source of fill material.
Sand from adjoining waterways

4. OTHER FILL ACTIVITIES

☒ *This section not applicable*

(Excluding Shoreline Stabilization)

a. (i) Will fill material be brought to the site? ☐Yes ☐No ☐NA
If yes,
(ii) Amount of material to be placed in the water _____
(iii) Dimensions of fill area _____
(iv) Purpose of fill

b. (i) Will fill material be placed in coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW _____ ☐SAV _____ ☐SB _____
☐WL _____ ☐None
(ii) Describe the purpose of the fill in these areas:

5. GENERAL

a. How will excavated or fill material be kept on site and erosion controlled?
Enclosed within geotextile sandbags

b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
Submersible pump

c. (i) Will navigational aids be required as a result of the project?
☐Yes ☒No ☐NA
(ii) If yes, explain what type and how they will be implemented.

d. (i) Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No ☐NA
(ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

04/06/2016
Date

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Picha Erosion Control
Project Name

Theodore J. Sampson (for Kay Picha)
Applicant Name

Applicant Signature

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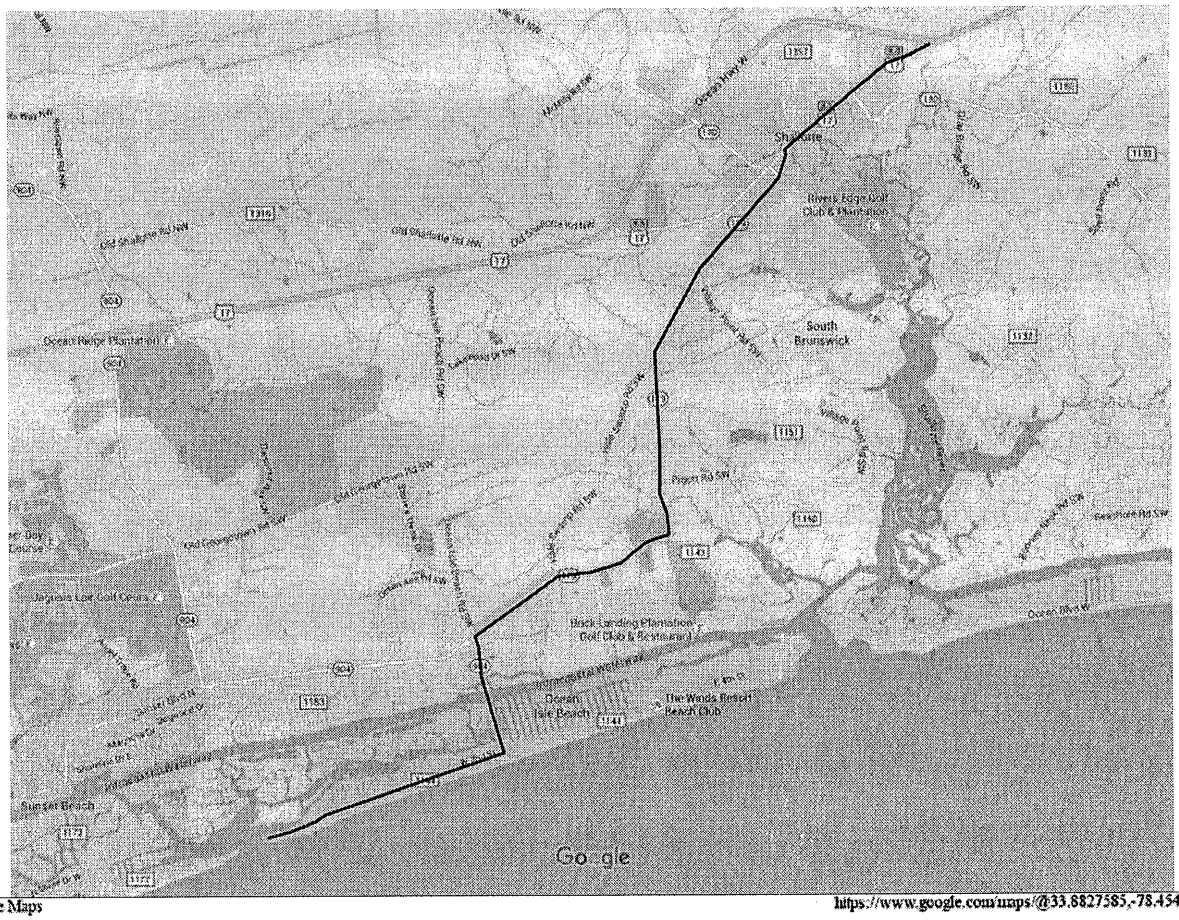
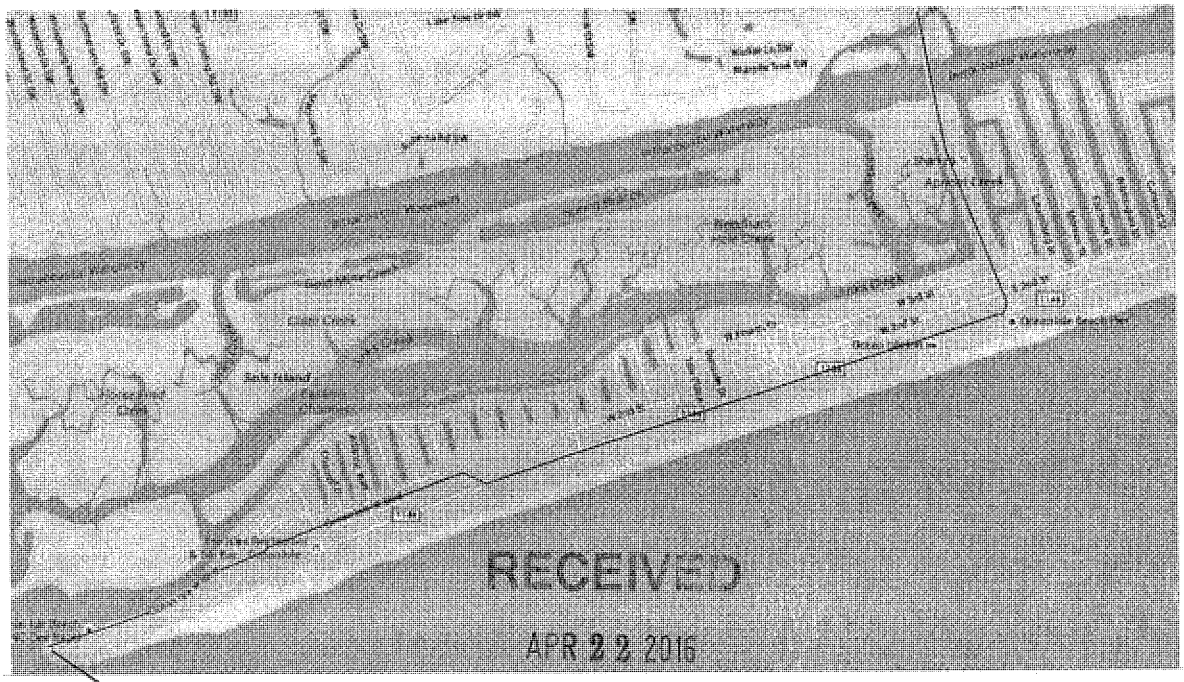
LOCATION MAP

Google Maps https://www.google.com/maps/@33.9294355,-78.4214398,13z



Google Maps https://www.google.com/maps/@33.8827585,-78.4541199,15z



PROJECT SITE:
149 OCEAN ISLE W BLVD.
OCEAN ISLE BEACH, NC

DCM- MHD CITY

HZ

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

April 19, 2016

MEMORANDUM:

TO: Gregg Bodnar
Fisheries Resource Specialist
DCM, Morehead City

FROM: Heather Coats, Assistant Major Permits Coordinator
NCDEQ – Division of Coastal Management
127 Cardinal Drive Ext., Wilm., NC 28405 *heather.coats@ncdenr.gov*
Fax: 395-3964 ***(Courier 04-16-33)***

SUBJECT: CAMA / D & F Application Review

Applicant: ***Kay Picha***

Project Location: *149 Ocean Isle West Blvd., adjacent to Tubbs Inlet and the AIWW, in Ocean Isle Beach, Brunswick County*

Proposed Project: *to increase an existing sandbag revetment*

Please indicate below your agency's position or viewpoint on the proposed project and ***return this form to Heather Coats*** at the address above by ***May 12, 2016.*** If you have any questions regarding the proposed project, contact Sean Farrell at (910) 796-7424 when appropriate, in-depth comments with supporting data is requested.

REPLY:

_____ This agency has no objection to the project as proposed.

__X__ This agency has no comment on the proposed project.

_____ This agency approves of the project only if the recommended changes are incorporated. See attached.

_____ This agency objects to the project for reasons described in the attached comments.

SIGNED _____ **DATE** 5/10/16

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MAY 10 2016

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DCM- MHD CITY

PAT MCCRORY
Governor
DONALD R. VAN DER VAART
Secretary
BRAXTON DAVIS
Director

Coastal Management
ENVIRONMENTAL QUALITY

MEMORANDUM:

TO: Heather Coats, DCM Assistant Major Permit Coordinator

FROM: Gregg Bodnar, DCM Fisheries Resource Specialist GRB

SUBJECT: Kay Picha

DATE: 5/10/2016

A North Carolina Division of Coastal Management (DCM) Fisheries Resource Specialist has reviewed the subject permit application for proposed actions that impact fish and fish habitats. The applicant proposes enhance an existing sandbag structure. The surrounding waters are classified as SA and SB, and are open to shellfish harvest. The property is located at the western end of Ocean Isle adjacent to Tubbs' Inlet.

The intertidal beach zone supports an important prey source for various fishes (ex. red drum and flounder) as well as providing forage, nursery, and refuge areas for species such as kingfish and pompano. Oceanfront shoreline armoring has been well documented to degrade beach surf zones by effecting erosion rates and sediment grain size which can result in a much narrower surf zone, increase turbidity, and reduce abundance and diversity of benthic macroinvertebrates (Deaton et al. 2010, Defeo et al. 2009, Pilkey and Wright 1988). The placement of a shore-parallel, hardened structure like a large sandbag revetment on an eroding oceanfront beach has a likelihood of resulting in significant losses to swash zone habitat. Erosive processes could undermine the structure itself, resulting in compromising infrastructure, including sewer systems, which would further degrade the surf zone habitat. For these reasons the use of shore-parallel, hardened structures has potential to result in significant impacts to surf zone fish habitat.

There is concern that, when projects increase the size and extent of a sandbag structure, that this reduces the temporary status of the structure. In addition, information presented in the Ocean Isle Beach 30-year management plan does not seem to identify nourishment status to the Tubbs' Inlet area, further indicating that the sandbag structure may become permanent. Additional information to the intent of the Ocean Isle 30-year Management Plan's to nourish this area or other management potential for the Tubbs' Inlet area would greatly enhance the understanding of the temporal requirements of the sandbag structure.

Contact Gregg Bodnar at (252) 808-2808 ext. 213 or gregg.bodnar@ncdenr.gov with further questions or concerns.

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

April 19, 2016

MEMORANDUM:

TO: Chad Coburn
401 Wetlands
DWR-WiRO / BR Co.

FROM: Heather Coats, Assistant Major Permits Coordinator
NCDEQ – Division of Coastal Management
127 Cardinal Drive Ext., Wilm., NC 28405 *heather.coats@ncdenr.gov*
Fax: 395-3964 *(Courier 04-16-33)*

SUBJECT: CAMA / D & F Application Review

Applicant: ***Kay Picha***

Project Location: *149 Ocean Isle West Blvd., adjacent to Tubbs Inlet and the AIWW, in Ocean Isle Beach, Brunswick County*

Proposed Project: *to increase an existing sandbag revetment*

Please indicate below your agency's position or viewpoint on the proposed project and *return this form to Heather Coats* at the address above by ***May 12, 2016.*** If you have any questions regarding the proposed project, contact Sean Farrell at (910) 796-7424 when appropriate, in-depth comments with supporting data is requested.

REPLY: 401 WQC issued 06/06/16 CCC

_✓_ This agency has no objection to the project as proposed.

_____ This agency has no comment on the proposed project.

_____ This agency approves of the project only if the recommended changes are incorporated. See attached.

_____ This agency objects to the project for reasons described in the attached comments

SIGNED _____ **DATE** 06/06/16

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

June 6, 2016 F/SER47:KR/pw

(Sent via Electronic Mail)

Colonel Kevin P. Landers Sr., Commander
U.S. Army Corps of Engineers Wilmington District
69 Darlington Avenue
Wilmington, North Carolina 28403-1398

Attention: Tyler Crumbley

Dear Colonel Landers:

NOAA's National Marine Fisheries Service (NMFS) reviewed the public notice for Action ID No. SAW-2007-03637-10, dated May 24, 2016. The applicants, Kay and David Picha, request authorization to expand a sandbag revetment to protect a single-family home from shoreline erosion and coastal storms. The applicants' beachfront home is adjacent to Old Sound Creek and abuts Tubbs Inlet and the Atlantic Ocean in the Town of Ocean Isle Beach in Brunswick County. The annual erosion rate in the project area is 4.3 feet per year according to the North Carolina Division of Coastal Management (NCDCM). The project location is beyond the scope of protective measures provided by shoreline or inlet management projects for the Town of Ocean Isle Beach or the Town of Sunset Beach located to the west. The Wilmington District's initial determination is the proposed project may affect essential fish habitat (EFH) or associated fisheries managed by South Atlantic Fishery Management Council (SAFMC), the Mid-Atlantic Fishery Management Council (MAFMC), or NMFS. As the nation's federal trustee for the conservation and management of marine, estuarine, and diadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to the authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Description of the Proposed Project

The applicants propose to expand an existing sandbag revetment to address chronic erosion of the oceanfront, inlet, and soundside shoreline adjacent to their residence. The existing revetment is approximately 430 linear feet and conforms to the NCDCM standards (six feet high by 20 feet wide). The revetment is being undercut by Tubbs Inlet as it migrates to the east and shoreline erosion threatens the home and associated structures (e.g., decking, walkways, stairs). The proposed expansion would abut the existing sandbag revetment extending an additional 25 feet waterward, in a stair-stepped arrangement, for a total base width of 45 feet. The project includes the addition of multiple layers of sandbags (approximately five feet wide width by 15 feet long) and would be built to a crest height of 12 feet NGVD. The sandbags would be placed atop a scour apron that would span the entire length of the project. The new sandbag revetment would impact approximately 14,320 square feet of high ground area above mean high water (MHW).

The applicants intend to fill the sandbags with sand from Tubbs Inlet and Old Sound Creek. The applicants would remove approximately 2,555 cubic yards of sand by means of submersible pump attached to a long-reach excavator. The application does not include provisions to monitor, maintain, or remove sandbags.

Impacts to Essential Fish Habitat

Pursuant to the Magnuson-Stevens Act, the SAFMC designates EFH within the study area to encompass intertidal flats, high salinity surf zones, and tidal inlets. Intertidal and subtidal communities along the shoreline provide feeding, resting, and staging habitat for a variety of commercially, recreationally, and ecologically important fish species[1]. While beachfront shorelines are subject to erosion caused by storms and natural shoreline processes, the beachfront, intertidal, and surf zone are nonetheless established seascape features providing valuable habitat for fishery resources migrating between nearshore and offshore habitats as part of their life cycle. Adverse environmental impacts within the project area will include desiccation of benthic infaunal organisms, machinery crushing organisms, burial of habitat, and physical damage to the intertidal and surf zone from placement of sandbags.

Long-term hydraulic effects from armoring the shoreline with sandbags could include increased energy seaward of the armoring, reflected wave energy, dry beach narrowing, substrate coarsening, beach steepening, changes in sediment storage capacity, loss of organic debris, and downdrift sediment starvation[2]. The NMFS recommends that wherever possible, "soft" approaches (such as beach nourishment, sand dune restoration, and vegetative plantings) be considered and utilized as a preferred alternative. In many cases where sandbags or shoreline hardening structures are used, erosion rates increase along adjacent areas resulting in increased construction and maintenance activities for shoreline protection and leading to a cumulative environmental impact on fisheries, habitat, and the shoreline hydrology.

EFH Conservation Recommendations

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH Conservation Recommendations for any federal action or permit which may result in adverse impacts to EFH. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated fishery resources:

- The NMFS recognizes that this application is an urgent request to protect a home and associated infrastructure from erosion associated with migration of Tubbs Inlet. The use of sandbags should only be considered as a temporary, emergency erosion control

[1] Hackney, C., M. Posey, S. Ross, and A. Norris (editors). 1996. A Review and Synthesis of Data on Surf Zone Fishes and Invertebrates in the South Atlantic Bight and the Potential Impacts from Beach Renourishment. Prepared for the U.S. Army Corps of Engineers Wilmington District, Wilmington, NC. 119 pages.

[2] Hanson J., Helvey M., Strach R. editors. 2003. Non-fishing impacts to essential fish habitat and recommended conservation measures. Long Beach (CA): National Marine Fisheries Service (NOAA Fisheries) Southwest Region. Version 1. 75 pages.
Johnson, M., C. Boelke, and L. Chiarella,. 2008. Impacts to marine fisheries habitat from nonfishing activities in the northeastern United States. Gloucester (MA): National Marine Fisheries Service (NOAA Fisheries) Northeast Region. 322 pages.

structure. An alternatives analysis should be conducted and include avoidance and minimization measures to evaluate the least environmentally damaging alternatives.

- The applicant should include a detailed plan for removal of sandbags including assurances to remove all components of the sandbag revetment thereby diminishing long-term impacts that could result from sandbag structures remaining in the environment.
- A monitoring and maintenance plan should be developed to prevent marine debris. Sandbags often deteriorate or become damaged, littering coastal waters and beaches.

Section 305(b)(4)(B) of the Magnuson-Stevens Act and implementing regulation at 50 CFR Section 600.920(k) require the Wilmington District to provide a written response to this letter within 30 days of its receipt. If it is not possible to provide a substantive response within 30 days, in accordance with the "findings" with the Wilmington District, an interim response should be provided to the NMFS. A detailed response then must be provided prior to final approval of the action. The detailed response must include a description of measures proposed by the Wilmington District to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with the EFH conservation recommendations, the Wilmington District must provide a substantive discussion justifying the reasons for not following the recommendations.

Thank you for the opportunity to provide these comments. Please direct related questions or comments to the attention of Dr. Ken Riley at our Beaufort Field Office, 101 Pivers Island Road, Beaufort, North Carolina 28516-9722, or at (252) 728-8750.

Sincerely,

Pete Benjamin

/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc: COE, Tyler.Crumbley@usace.army.mil
USFWS, Pete_Benjamin@usfws.gov
NCDCM, Doug.Huggett@ncmail.net
NCDCM, Gregg.Bodnar@ncdenr.gov
EPA, Bowers.Todd@epa.gov
SAFMC, Roger.Pugliese@safmc.net
F/SER4, David.Dale@noaa.gov
F/SER47, Ken.Riley@noaa.gov

SAMPSON CONTRACTING, INC.

Marine Construction And En□ironmental Consulting Ser□ices

125 Hunters Trail West, Elizabeth City, North Carolina, 27909 USA
Tel: 252 548 4292 – Fax: 866 793 4261
tedsr@sampsoncontracting.com www.sampsoncontracting.com

June 10, 2016

Braxton Davis, Director
Mike Lopazanski, Acting Assistant Director
NC Division of Coastal Management
400 Commerce Ave.
Morehead City, NC 28557

Re: Picha Major Permit Application; oversized sandbag revetment; Ocean Isle Beach, NC

Dear Messrs. Davis and Lopazanski:

It has now been 57 days since a Major Permit Application was submitted to address the immediate threat to the Picha property in Ocean Isle Beach. At this point we are still awaiting a Permit denial so that we may pursue a Variance petition for Coastal Resources Commission (CRC) authorization to increase the size of the existing sandbag revetment as needed to address the imminent threat from rapid migration of Tubbs Inlet.

I am writing now in an attempt to emphasize to you the dire nature of this emergency situation, and to provide additional photographic documentation of the immediate threat that faces the Picha property. I would also like to emphasize again the extent of this emergency that was provided with the Permit application.

This emergency does not just threaten the Picha property, but also the water, sewer, fire main, electrical, and other utilities provided for the west end of Ocean Isle Beach. These utilities are located within the road right-of-way that extends through the Picha property.

In addition, this emergency threatens the entire west end of Ocean Isle Beach, in that a loss of the Picha property to Tubbs Inlet will not be the end to the emergency. The formation of the tidal deltas has configured the tidal channel so that it must bend sharply at the northwest extreme of the Picha property in order to find a path to the ocean through which the tidal prism is emptied on each ebb tide. This very sharp turn in the tidal channel in this location concentrates the erosive forces of the ebb tide currents upon the Old Sound Creek side of the west end of Ocean Isle Beach. This means that utilities for the west end of the island are likely to be taken away by the migrating Inlet first, followed closely by the residential homes near the very west end of the island.

I wish to emphasize again that this Permit application does not seek to simply address the "normal" imminent threat of the ocean encroaching upon residential property, which usually arises after a long gradual process, sometimes correlated with prevailing erosion rates, if not exacerbated by the occurrence of a significant storm. This Permit application seeks to address the dynamic nature of property located adjacent to an inlet, where significant erosive forces are concentrated upon the property by the strong tidal currents that occur 4 times each day.

When the tidal channel of an inlet is at some distance from the adjacent property, the effects upon the shoreline are reduced as the tidal flow can spread out across the breadth of the inlet and tidal velocities upon the shorelines are much reduced. However, when the tidal channel is immediately up against the adjacent shoreline, that shoreline experiences the maximum velocities of the tidal flow, greatly increasing the erosive effects.

The rapid migration of the tidal channel of Tubbs Inlet toward the Picha property, now to the point where it is virtually up against the westernmost portion of the existing sandbag revetment, presents a significant threat. For this threat, time is very much more of the essence than for the "normal" imminent threats of erosion for which a General Permit has been provided in the CRC Rules to facilitate virtually immediate response to the threat.

In an emergency case such as this, where property requires protection beyond that provided for the "normal" cases along the coast, a property owner is required by the Division of Coastal Management (DCM) to first seek a major Permit, then must receive a denial of that Permit, and then must enter into the process for a variance. When the emergency and imminent threat are greatly increased, the ability to obtain the needed and required Permit is greatly retarded. Such built-in administrative delays are inappropriate and call for fast action on the part of DCM, and efforts to find innovative ways to accelerate this process.

It appears that such efforts have been made in the past by DCM to accelerate the Permit processing in response to similar emergencies. In one case, nearly parallel to this one, a Permit was issued pursuant to a Variance within 34 days for a shoreline already protected with a sandbag revetment previously authorized by General Permits. I am at a loss to understand why the Picha emergency, has not received similar treatment.

In the case involving the Topsail Reef Homeowners Association, DCM was able to find a way to move the process much faster into and through the Variance process. In that case the timeline was as follows:

4/25/2012	Permit application submitted to DCM's District Manager Wilson.
5/04/2012	Final Permit Decision (denial of enlarged sandbag alignment)
5/10/2012	Acknowledgement of receipt of Variance Petition and request for hearing by CRC
5/24/2012	Emergency meeting of CRC to hear Variance Petition
5/29/2012	Permit for enlarged sandbag alignment issued pursuant to CRC granting of Variance

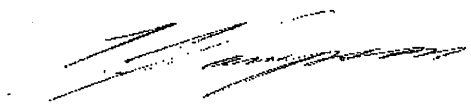
In the case of the Topsail Reef, a means was found to reach a Permit denial decision within 9 days of Permit application submittal, at which time the applicants could begin meeting with the DCM attorney to establish an agreed set of Stipulated Facts and prepare the Variance Package. Within 29 days, the Variance was being heard by the CRC. Within 34 days, the Permit needed for the emergency work was issued.

To now be at 55 days since the submittal of the Permit application, and we still do not have even a Permit denial, suggests that DCM has chosen to follow new or different procedures that no longer take into account the nature of the emergency faced by the Permit applicant.

This delay in the processing of this Permit application has resulted in the loss of much of the work area that is needed in order to reinforce the existing sandbag revetment, making the construction work to provide the needed erosion protection much more difficult, more costly, and less safe. I am attaching a series of recent photos that show the current extent of erosion, the loss of area in which to work, and in which to construct an enlarged sandbag revetment.

Gentlemen, this is a pressing emergency, and I urge you to do whatever is possible to expedite the Permit review and Variance petition process. Many thanks, in advance, for making this project a priority for all involved.

Sincerely,



Theodore J. Sampson

cc: Craig Bromby
Christy Geobel

From: Davis, Braxton C
Sent: Monday, June 20, 2016 5:07 PM
To: ted sampson <tedswampsampson@gmail.com>
Cc: Goebel, Christine A <Christine.Goebel@NCDENR.GOV>
Subject: RE: Picha Major Permit Application and Variance Petition

Ted,
Since your June 10 letter, I understand that you, Mr. Wright and Mr. Foreman have been in close contact with DCM staff and our DEQ attorney, Christy Goebel, as we are all working on this… I also understand that the US Fish and Wildlife Service has requested additional information and/or a Biological Assessment in association with the Corps of Engineers permit for this project. Since the federal review process is still ongoing, we will be unable to proceed with an emergency hearing of the Coastal Resources Commission this coming Friday, June 24. However, assuming that the federal review process concludes in time, and that the CRC chairman agrees, we will hold a place for you on the July CRC meeting agenda (July 12), as long as the permit review process is complete by July 5, and stipulated facts and the variance petition are finalized by July 7, so that we can get the package out to the CRC for review by July 8 at the very latest.

I hope this helps,
Braxton

Braxton C. Davis
Director
NC Divisions of Marine Fisheries and Coastal Management
Department of Environmental Quality

252 808 8013 Marine Fisheries Office
252 808 2808 x202 Coastal Management Office
Braxton.Davis@ncdenr.gov

Morehead City, NC 28557

From: ted sampson [mailto:tedswampsampson@gmail.com]
Sent: Monday, June 20, 2016 7:33 AM
To: Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Subject: Picha Major Permit Application and Variance Petition

Braxton,
On 10 June I emailed you a letter concerning the emergency situation at the Picha property in Ocean Isle Beach, along with additional supplemental photo documentation of the situation. I have not heard back from you, and am wondering if anything is transpiring to try to expedite this process.
With best regards,
Ted Sampson

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

June 7, 2016

Mr. Scott McLendon, Chief
Regulatory Division
Wilmington District, U. S. Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

Subject: Kay and David Picha
Sandbag Revetment Extension
Electronic Public Notice and Request for Concurrence
Brunswick County, NC
Action ID No. SAW-2007-03637-10

Dear Mr. McLendon:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) May 24, 2016 receipt of your email requesting comments on the proposed sandbag revetment extension, and requesting concurrence with your determination of the possible effects of the proposed project on the West Indian manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), seabeach amaranth (*Amaranthus pumilus*), and the loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), and Kemp's ridley sea turtles (*Lepidochelys kempii*). The U.S. Army Corps of Engineers (Corps) has made a determination of "may affect, not likely to adversely affect" (NLTAA) for all of the above-listed species.

The Service concurs with your determination concerning nesting sea turtles and seabeach amaranth, due to a lack of habitat in the project area. In addition, if the Corps would require that the applicant follow the Service's "Guidelines for Avoiding Impacts to the West Indian Manatee," then we would also concur with a NLTAA determination for the West Indian manatee. However, due to potential impacts to piping plovers and red knots, the Service cannot concur with your determination of NLTAA for the two shorebird species.

The Service recommends that the project, as proposed, not be authorized. We recommend that the Corps request initiation of formal consultation as soon as possible. We note that we do not require any additional information for the issuance of a biological opinion for this project.

If you have any questions or concerns about this consultation or the consultation process in general, please feel free to contact Kathy Matthews at 919-856-4520, ext. 27 or by e-mail at <kathryn_matthews@fws.gov >.

Sincerely,

Peter Benjamin
Field Supervisor

cc:
Ken Riley, NOAA Fisheries, Beaufort
Maria Dunn, NCWRC, Washington

Gmail **ted sampson <tedswampsampson@gmail.com>**

Federal Comments for sandbag placement

ted sampson <tedswampsampson@gmail.com> Tue, Jun 14, 2016 at 1:47 PM
To: "Crumbley, Tyler SAW" <Tyler.Crumbley@usace.army.mil>
Cc: "Beter, Dale E SAW" <Dale.E.Beter@usace.army.mil>, Clark Wright <icw@dhwlegal.com>, yogi <ecsyogi@charter.net>, Bill Forman <bill@arendellengineers.com>

Tyler,
I just tried to reach you by telephone and left a request for you to call me back.
Pending our ability to discuss this matter I can offer the following on the comments by FWS and NMFS:
Relative to the FWS comment on the manatee concerns, I do not believe there is any problem incorporating the manatee protective measures into the Permit and abiding by them.

> Relative to the FWS comment on the Piping Plover and Red Knot -- The proposed measures for shoreline protection will tend to preserve dry sand areas and inter-tidal areas farther to the east of the Picha property. Without a means to arrest the eastward migration of Tubbs Inlet, more foraging/feeding areas for these species will become submerged within the inlet. Arresting of the eastward migration of the inlet should not impact nesting areas, since the accumulation of sand within the inlet deltas will continue unabated, so long as the sand source to the west (Sunset Beach) remains available to grow the deltas, as is now happening and is now forcing the eastward migration of the inlet. This project may in fact have positive effects on the piping plover and the red knot.

Relative to the NMFS comments:
No provisions to monitor, maintain or remove: NC DCM standard comments to address these matters are anticipated, and so long as they are in line with the typical provisions we are accustomed to see in similar projects, the applicant should have no problem, and this matter can be adequately addressed.
Dessication of benthic infaunal organisms, machinery crushing of organisms, burial of habitat, physical damage to intertidal & surf zone from sandbags: These potential impacts are virtually identical to the impacts associated with the NC DCM General Permit for Emergency sandbags, and the Corps' authorization of such emergency permits with these associated impacts.
Recommendation for "soft" measures as alternatives: Beach nourishment is not allowed by NC DCM in inlet areas. Sand Dune restoration is not applicable to this situation. The existing sandbag stabilized dune is being undercut by the deep tidal channel that has migrated up against the existing sandbag revetment--any dune restoration would disappear into the inlet as fast as it could be placed due to the 4-time daily tidal currents. Vegetative Plantings--have little if any shoreline stabilization effect. They can trap sand that is moving by aeolian transport and thereby help build a protective dune. But, when there is no dry sand beach, as is the case here, vegetative plantings have no benefit outside of the aesthetic.
Relative to the NMFS recommendations:
Consider only temporary emergency erosion control: By the very nature of the permit that is sought, it is only allowed by NC DCM as a temporary measure. The permit requested is anticipated to be temporary in nature. In this instance, a hard, specified date for removal is probably not appropriate because of the nature of the migration of Tubbs Inlet. These sandbags should be viewed as temporary until such time as the forces of nature come together to reverse the direction of the migration of Tubbs Inlet, or until such time as man-made efforts, such as channel realignment brings a degree of stability to this shoreline. Studying the history of the migration of Tubbs Inlet, it appears that the migration direction was to the west (toward Sunset Beach) until around 1966 when a Corps project (or perhaps a Corps authorized project) moved the natural channel along the shoreline of Sunset Beach into the middle of the Inlet. Is the Corps prepared to now take similar actions to prevent the encroachment of the Inlet upon Ocean Isle Beach with channel relocation, as it did to provide relief to Sunset Beach? This could address both the concerns for shoreline protection impacts and the temporary nature of the project proposed by the Pichas.
Recommendation for alternatives analysis, including avoidance & minimization: This was addressed succinctly in the Permit application. In essence, the do nothing alternative results in the loss of the Picha property and Town of Ocean Isle Beach utilities, to be followed by the steady loss of additional residential property and utilities to the east of the Picha property. Stabilizing the Inlet by the dredging of a central tidal/navigation channel is beyond the purview of the Picha's to request, and the amount of inlet area and habitat impacted by such action would be greatly increased when compared to the current Permit request. Seeking a hard, rock revetment or groin is something that NC DCM rules and law do not allow for owners of private property, and associated impacts would be similar to the proposed

Permit, but have the drawback of being permanent. Avoidance of all impacts is not practicable, if the property, and the neighboring properties/utilities are to be protected. Avoidance of many impacts are built-in the requested Permit, in that there is no request to reclaim land lost to the inlet, and cost and practicality of building an enlarged sandbag revetment requires the building of the smallest structure that be projected to provide the needed results, and this excludes attempting to fill-in the deep tidal channel that has since the time of this application now migrated up against and under the existing sandbag revetment. Minimization of impacts has long been built into the process that the applicant has followed to provide protection for their property. The existing sandbags were installed only incrementally, under a series of separately issued General Permits. The impacts associated with the currently requested Permit are already minimized by seeking a size of the alignment no greater than that seen by the NC CRC to be appropriate in other situations where a nominal 6-ft by 20-ft is found to be insufficient. Given the difficulty and length of time needed to obtain a Variance and Corps agreement for an enlarged sandbag revetment, it is necessary to seek a footprint for the needed protection for the full length of the shoreline, especially in light of the dynamic and changing nature of where Tubbs Inlet will concentrate its erosive forces. This means that a full 45-ft by +12 NAVD alignment may not be constructed initially along the entire shoreline--limiting the width of the alignment initially to the areas where erosion forces are concentrated. This is what was initially envisioned when the Permit application was made. However, given the very lengthy Permit and Variance process that we are experiencing, more and more of the shoreline is in need of immediate, full protection. Still, if at the time of construction commencement we find that there are segments that do not require the full enlarged revetment, these will be constructed to a smaller initial footprint to minimize impacts.

Relative to Detailed Plan for Removal, Including all Components: Such removal is required by existing NC DCM rules, and is typically made part of the Permit conditions, and applicant would likely have no objection to such typical conditions.

Relative to, Monitoring & Maintenance Plan to Prevent Marine Debris: Applicant already monitors and maintains the existing sandbag revetment which has included the removal of already failed or failing sandbags. Applicant intends to continue with this active monitoring, maintenance and removal of marine debris. If this needs to be formalized, that can be done.

I look forward to your return phone call so that we can further discuss these matters and move the process forward.

With best regards,
Ted Sampson
[Quoted text hidden]

DEPARTMENT OF THE ARMY
Wilmington District Corps of Engineers
Regulatory Division
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

REPLY TO
ATTENTION OF

June 16, 2016

Wilmington Regulatory Field Office
SAW-2007-03637-Picha Sandbag Proposal

Mr. Pete Benjamin, Field Supervisor
c/o: Ms. Kathryn Mathews, Fish and Wildlife Biologist
Raleigh Ecological Services Field Office
U.S. Fish and Wildlife Service
P.O. Box 33726
Raleigh, North Carolina 27636-3726

Dear Mr. Benjamin:

Please reference your receipt, concurrence, and non-concurrence letter dated June 7, 2016 for the proposal by Kay and David Picha to expand an existing sandbag revetment. The project is located at 149 Ocean Isle W Blvd., adjacent to Old Sound Creek, Tubbs Inlet, and the Atlantic Ocean, in Brunswick County, North Carolina.

In response to your June 7, 2016 letter, concurring with our determinations of possible effects on nesting sea turtles and seabeach amaranth, through permit conditions, this office will require that the applicant follow the Service's "Guidelines for Avoiding Impacts to the West Indian Manatee."

In addition to the requests for the conditions discussed above, your letter did not concur with the effects determination of NLAA for the red knot and piping plover. We therefore, request initiation of formal consultation pursuant to 50 C.F.R. part 402.12 and 402.13 for the possible effects to Piping Plover and Red Knot. Your letter stated that no additional information was required for this process and that is appreciated.

If you have any questions regarding this letter, please contact Mr. Tyler Crumbley at the letterhead address, by telephone at 910-251-4170 by fax at 910-251-4025, or by email at: tyler.crumbley@usace.army.mil.

Sincerely,

Scott C. McLendon
Chief, Regulatory Division

Copies Furnished:

Mr. Doug Huggett
Division of Coastal Management
North Carolina Department of
Environmental Quality
400 Commerce Avenue
Morehead City, North Carolina 28557

Ms. Debra Wilson
Division of Coastal Management
North Carolina Department of
Environmental Quality
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

Ms. Karen Higgins
Division of Water Resources
North Carolina Department of
Environmental Quality
1650 Mail Service Center
Raleigh, North Carolina 27699-1650

Mr. Chad Coburn
Division of Water Resources
North Carolina Department of
Environmental Quality
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

NCWRC-NCDEQ Office
Attn: Ms. Maria Dunn, NE Permit Coordinator
943 Washington Square Mall
Washington, North Carolina 28479

Mr. Kenneth Riley
Habitat Conservation Division
National Marine Fisheries Service
101 Pivers Island Road
Beaufort, North Carolina 28516

-----Original Message-----
From: Coats, Heather
Sent: Friday, June 24, 2016 9:53 AM
To: Huggett, Doug <doug.huggett@ncdenr.gov>; Goebel, Christine A <Christine.Goebel@NCDENR.GOV>
Subject: FW: [EXTERNAL] Re: Federal Comments for sandbag placement, Tubbs Inlet

FYI. Tyler said this is the last of the ACE comments.

Heather Coats
Assistant Major Permits Coordinator
Division of Coastal Management
North Carolina Department of Environmental Quality

910 796 7302 office
heather.coats@ncdenr.gov

127 Cardinal Drive Extension
Wilmington, NC 28405

-----Original Message-----
From: Crumbley, Tyler SAW [mailto:Tyler.Crumbley@usace.army.mil]
Sent: Friday, June 24, 2016 7:42 AM
To: Coats, Heather <heather.coats@ncdenr.gov>
Subject: FW: [EXTERNAL] Re: Federal Comments for sandbag placement, Tubbs Inlet

-----Original Message-----
From: Ken Riley - NOAA Federal [mailto:ken.riley@noaa.gov]
Sent: Wednesday, June 22, 2016 6:02 PM
To: Crumbley, Tyler SAW <Tyler.Crumbley@usace.army.mil>
Cc: pace.wilber@noaa.gov; Robin Wiebler - NOAA Federal <robin.wiebler@noaa.gov>; Fritz Rohde - NOAA Federal <fritz.rohde@noaa.gov>
Subject: [EXTERNAL] Re: Federal Comments for sandbag placement, Tubbs Inlet

Dear Tyler,

The NMFS has reviewed the detailed response provided in reference to EFH Conservation Recommendations for expansion of a sandbag revetment for Action ID No. SAW-2007-03637-10, dated May 24, 2016. The applicants response is acceptable to the NMFS. The NMFS appreciates the applicant's commitment to monitoring, maintenance, and removal of sandbags as required.

Thanks again for the opportunity to provide these comments.

Best regards,

-Ken

Kenneth Riley, Ph.D.
Fishery Biologist
Habitat Conservation Division
National Marine Fisheries Service Southeast Region

101 Pivers Island Road, Beaufort, NC 28516
Office: 252-728-8750 <tel:252-728-8750> | Cell: 252-864-6193 <tel:252-864-6193> | Email: ken.riley@noaa.gov <mailto:ken.riley@noaa.gov>

On Mon, Jun 20, 2016 at 3:32 PM, Crumbley, Tyler SAW <Tyler.Crumbley@usace.army.mil <mailto:Tyler.Crumbley@usace.army.mil> > wrote:

Pace and Ken,

Below is the response that the Applicant's Agent (Ted Sampson) sent last week. Please review and let me know if you find these responses satisfactory. I can either write a return letter with an official response, or do what we normally do and handle it via email, but I wanted to have it worked out first.

Thank you.

-Tyler

Relative to the NMFS comments:
No provisions to monitor, maintain or remove: NC DCM standard comments to address these matters are anticipated, and so long as they are in line with the typical provisions we are accustomed to see in similar projects, the applicant should have no problem, and this matter can be adequately addressed.

Dessication of benthic infaunal organisms, machinery crushing of organisms, burial of habitat, physical damage to intertidal & surf zone from sandbags: These potential impacts are virtually identical to the impacts associated with the NC DCM General Permit for Emergency sandbags, and the Corps' authorization of such emergency permits with these associated impacts.

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will concentrate its erosive forces. This means that a full 45-ft by +12 NAVD alignment may not be constructed initially along the entire shoreline--limiting the width of the alignment initially to the areas where erosion forces are concentrated. This is what was initially envisioned when the Permit application was made. However, given the very lengthy Permit and Variance process that we are experiencing, more and more of the shoreline is in need of immediate, full protection. Still, if at the time of construction commencement we find that there are segments that do not require the full enlarged revetment, these will be constructed to a smaller initial footprint to minimize impacts.

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-Tyler

Tyler Crumbley, PWS
Regulatory Project Manager
U.S. Army Corps of Engineers-Wilmington District
69 Darlington Avenue
Wilmington, NC 28403

Phone: 910-251-4170 <tel:910-251-4170> <tel:910-251-4170 <tel:910-251-4170> >
Fax: 910-251-4025 <tel:910-251-4025> <tel:910-251-4025 <tel:910-251-4025> >
email: tyler.crumbley@usace.army.mil <mailto:tyler.crumbley@usace.army.mil> <mailto:tyler.crumbley@usace.army.mil <mailto:tyler.crumbley@usace.army.mil> >

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

June 24, 2016

Sampson Contracting, Inc.
Mr. Ted Sampson
125 Hunters Trail West
Elizabeth City, NC 27909

Dear Mr. Sampson:

This letter is with reference to your application, acting as agent for Ms. Kay Picha, for a Coastal Area Management Act Major Development permit to undertake development activities at property adjacent to Tubbs Inlet, at 149 Ocean Isle West Blvd., in Ocean Isle, Brunswick County.

Although processing of the application is nearing completion, additional time is needed for this office to complete the review and make a decision on your request. Therefore, it is necessary that the standard review time be extended. An additional 75 days is provided by G.S. 113A-122(c) which would make September 10, 2016, the new deadline for reaching a decision on your request. However, we expect to take action prior to that time and will do so as soon as possible. In the interim, if you have any question on the status of your application, do not hesitate to contact me by phone (910) 796-7302 or e-mail at: heather.coats@ncdenr.gov.

Sincerely,

Heather Coats

Heather Coats
Assistant Major Permits Coordinator

cc: Wilmington Files
Doug Huggett

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

June 29, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Kay Picha
6965 Lorian Charter Dr.
Randleman, NC 27317

Dear Ms. Picha:

This letter is in response to your application for development under the Coastal Area Management Act (CAMA) and the State Dredge and Fill Law, in which authorization was requested to expand an existing sandbag revetment adjacent to Tubbs Inlet, at 149 Ocean Isle West Boulevard, in Ocean Isle Beach, Brunswick County. Processing of the application, which was received as complete by the Division of Coastal Management's Wilmington Office on April 15, 2016, is now complete. Based on the state's review, the Division of Coastal Management has made the following findings:

1) The subject property is located adjacent to Tubbs Inlet and is located within the Inlet Hazard Area of Environmental Concern (AEC), as designated by the Coastal Resources Commission. 15A NCAC 07H.0304(2) defines Inlet Hazard Areas as "natural-hazard areas that are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets."

2) Three general permits (Numbers 49157D, 49198D and 52423D) were issued to Kay Picha from 2007 to 2009 for the installation and extension of a sandbag revetment to protect the immanently threatened single-family home at 149 Ocean Isle Boulevard in Ocean Isle Beach. The sandbag revetment was authorized at a maximum base width of 12' and maximum height of 6'. Additionally, a fourth permit (No. 49148) was issued to Ocean Isle Beach West on December 13, 2007 to protect the end of Ocean Isle West Boulevard. This permit authorized 68 linear feet of sandbags, also with a maximum base width of 20' and a maximum height of 6', which were installed contiguous to the Picha sandbags.

3) General permits 49157D (issued October 30, 2007) and 49198D (issued November 14, 2007) included Sandbag Removal Notices indicating that the authorized sandbags may remain in place for up to two years from the date of permit approval. General Permit 52423D (issued July 30, 2009), included a Sandbag Removal Notice indicating that the authorized sandbags may remain in place for up to five years from the date of permit approval.

4) In accordance with guidance provided in 15A NCAC 07H.0308(a)(2)(G), the proposed project area is not located within a community that is actively pursuing a beach nourishment project or an inlet relocation or stabilization project in accordance with G.S. 113A-115.1

5) Under the applicant's current proposal, the existing sandbag revetment would remain in place until such time as the new (proposed) bags would be removed.

6) The applicant proposes to expand the size of the existing sandbag revetment to allow for additional protection of the property. As proposed, the approximately 468 linear foot revetment would be expanded waterward to create a revetment with a base width of 45' and a crest height of 12' National Geodetic Vertical Datum (NGVD). An estimated 2,555 cubic yards of material is proposed to be excavated below mean high water (MHW) in order to fill the sandbags.

7) In Project Narrative submitted with the Major Permit application, the applicant's consultant stated, "While the existing revetment is functioning properly to preclude erosion of the shoreline when subjected to the energy from ocean waves, the limited 6-ft by 20-ft nominal dimensions are simply not sufficient to preclude undercutting by the Tubbs Inlet tidal channel when it migrates to a position adjacent to the existing revetment." However, due to the fact that the new sandbag revetment is proposed to be constructed oceanward of the existing revetment, and at the same base elevation as the existing revetment, undercutting of the proposed bags would appear to be more likely, thereby conflicting with the applicant's stated purpose and need.

8) The proposed project has been found to be in conflict with the Shoreline Erosion Policies found at 15A NCAC 07M.0202(e). This policy states that "Temporary measures to counteract erosion, such as the use of sandbags and beach pushing, should be allowed, but only to the extent necessary to protect property for a short period of time until threatened structures may be relocated or until the effects of a short-term erosion event are reversed. In all cases, temporary stabilization measures must be compatible with public use and enjoyment of the beach."

9) Based upon the above referenced findings, the Division has determined that the proposed project is inconsistent with the following Rules of the Coastal Resources Commission:

a) 15A NCAC 07H.0308(a)(2)(F), which states: "Temporary erosion control structures may remain in place for up to two years after the date of approval if they are protecting a building with a total floor area of 5000 sq. ft. or less and its associated septic system, or, for up to five years for a building with a total floor area of more than 5000 sq. ft. and its associated septic system. Temporary erosion control structures may remain in place for up to five years if they are protecting a bridge or a road. The property owner shall be responsible for removal of the temporary structure within 30 days of the end of the allowable time period";

b) 15A NCAC 07H.0308(a)(2)(G), which states: "Temporary sandbag erosion control structures may remain in place for up to eight years from the date of approval if they are located in a community that is actively pursuing a beach nourishment project, or if they are located in an Inlet Hazard Area adjacent to an inlet for which a community is actively pursuing an inlet relocation or stabilization project in accordance with G.S. 113A-115.1 For purposes of this Rule, a community is considered to be actively pursuing a beach nourishment, inlet relocation or stabilization project if it has:

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

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

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

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

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

c) 15A NCAC 07H.0308(a)(2)(K), which states: "Sandbags used to construct temporary erosion control structures shall be tan in color and three to five feet wide and seven to 15 feet long when measured flat. Base width of the structure shall not exceed 20 feet, and the height shall not exceed six feet"; and

d) 15A NCAC.0308(a)(1)(A), which states "All oceanfront erosion response activities shall be consistent with the general policy statements in 15A NCAC 07M.0200."

Given the preceding findings, it is necessary that your request for issuance of a CAMA Major Permit under the Coastal Area Management Act be denied. This denial is made pursuant to N.C.G.S. 113A-120(a)(8) which requires denial for projects inconsistent with the state guidelines for Areas of Environmental Concern or local land use plans.

If you wish to appeal this denial, you are entitled to a contested case hearing. The hearing will involve appearing before an Administrative Law Judge who listens to evidence and arguments of both parties before making a final decision on the appeal. Your request for a hearing must be in the form of a written petition, complying with the requirements of §150B of the General Statutes of North Carolina, and must be filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, within twenty (20) days from the date of this denial letter. A copy of this petition should be filed with this office.

Another response to a permit denial available to you is to petition the Coastal Resources Commission for a variance to undertake a project that is prohibited by the Rules of the Coastal Resources Commission. Applying for a variance requires that you first acknowledge and recognize that the Division of Coastal Management applied the Rules of the Coastal Resources Commission properly in processing and issuing this denial. You may then request an exception to the Commission's Rules based on hardships to you resulting from unusual conditions of the property. To apply for a variance, you must file a petition for a variance with the Division of Coastal Management Director and the State Attorney General's Office on a standard form, which must be accompanied by additional information on the nature of the project and the

reasons for requesting a variance. The standard variance forms may be obtained by contacting a member of my staff, or by visiting the Division of Coastal Management's web page at: https://deq.nc.gov/about/divisions/coastal-management/coastal-management-permits/variances-appeals.

Members of my staff are available to assist you should you desire to modify your proposal in the future. If you have any questions concerning this matter, please contact Mr. Doug Huggett at (252) 808-2808.

Sincerely,

Braxton C. Davis

cc: U.S. Army Corps of Engineers, Wilmington, NC
OCRM/NOAA, Silver Spring, MD

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City, State, ZIP+4 Kenansville NC 28349

PS Form 3800, June 2002 See Reverse for Instructions

ina | Environmental Quality | Coastal Management
herce Drive., Morehead City, NC 28557
252-808-2808

DAVIS HARTMAN WRIGHT PLLC
ATTORNEYS AT LAW

ASHEVILLE NEW BERN WILMINGTON

MICHAEL SCOTT DAVIS
J. MICHAEL GENEST
MARK SPENCE HARTMAN
SHANNON ("MISSY") S. SPAINHOUR
I. CLARK WRIGHT, JR.

209 POLLOCK STREET
NEW BERN, NC
28560
PHONE 252-514-2828
FAX 252-514-9878
ICW@DHWLEGAL.COM

July 1, 2016

VIA ELECTRONIC MAIL

The Hon. Frank Gorham, Chairman
Coastal Resources Commission
c/o Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

RE: Request for Expedited Review.
Variance Request – Kay and David Picha

Dear Chairman Gorham:

The purpose of this letter is to request, per NCGS 143-318.12(f), expedited processing and Commission review of Kay and David Pichas' expedited variance request, seeking permission from the Commission to vary from the applicable CAMA rules governing temporary erosion control structures (sand bags), to allow the Pichas to protect their ocean front home, located at the far west end of the Town of Ocean Isle Beach, and immediately adjacent to Tubbs Inlet, from recent, dramatically accelerated movements to the northeast of the Tubbs Inlet tidal channel. If granted, the requested variance would allow the Pichas to install a larger sand bag revetment than allowed by current CAMA rules, and specify an appropriate time period for such enhanced sand bags to remain in place while the Town continues its ongoing process of permitting and financing its 30 year ocean beach management plan.

More specifically, the Pichas respectfully request that this matter be heard at the Commission's regularly scheduled July Meeting (July 12, 2016), with stipulated facts and the complete variance request package filed no later than July 7, 2016, with the package then circulated to Commission Members no later than July 8, 2016. It is my sincere intent and desire to file the Pichas' complete variance request package earlier than July 7; I am grateful to Attorney Christy Goebel for working with me, Mary Lucasse and the Chair to allow this emergency matter to potentially be heard at the regular July 12, 2016 Commission meeting.

As is explained in more detail in the April 13, 2016 expedited CAMA permit application filed by the Pichas' consultants, an accelerated eastward movement in the Tubbs Inlet channel now immediately imperils the Pichas' existing sand bag revetment, thereby immediately imperiling

not only the Pichas' beach home, but also the private road and public utilities serving not only the Pichas' residence, but also a number of other west end ocean front beach homes. Between November 25, 2015 and June 19, 2016, the tidal channel has moved approximately 77 feet closer to the western edge of the Pichas' existing sand bag revetment. This movement represented an increase of several hundred percent over prior years' average monthly movements. More acutely still, as of June 19, 2016, the tidal channel is located only **three feet** from the sand bags.

Should you need or desire additional information, please do not hesitate to call me on my mobile phone at 252-229-5900.

Many thanks to you, Ms. Lucasse, Ms. Goebel and DCM staff for expedited consideration of this urgent matter.

Yours truly,

I. Clark Wright, Jr.
ICW:icw
cc: Mary Lucasse (via e-mail)
Braxton Davis (via e-mail)
Christy Goebel (via e-mail)
Ted Sampson (via e-mail)
Yogi Harper (via e-mail)
Kay and David Picha (via e-mail)

July 2, 2016

I. Clark Wright, Esq.
Davis Hartman Wright PLLC
209 Pollock Street
New Bern, NC 28560

Re: Request for expedited hearing on Picha Variance Request

Dear Mr. Wright:

I have reviewed the July 1, 2016 letter you submitted on behalf of Kay and David Picha in support of their request for an expedited hearing on a petition which has not yet been submitted. I understand that Mr. and Mrs. Picha plan to submit a petition requesting a variance from the Commission's rules which would allow them to expand an existing sandbag revetment adjacent to Tubbs Inlet at 149 Ocean Isle West Boulevard, in Ocean Isle Beach, Brunswick County. Taking the information you provided at face value, I note that information provided in support of an expedited hearing alleges that "an accelerated eastward movement in the Tubbs Inlet channel now immediately imperils the Pichas' existing sand bag revetment." In addition, you allege that "[b]etween November 25, 2015 and June 19, 2016, the tidal channel has moved approximately 77 feet closer to the western edge of the Pichas' existing sand bag revetment." And, "as of June 19, 2016, the tidal channel is located only three feet from the sand bags."

N.C.G.S. § 143-318.12(f) provides that an issue may be considered on an emergency basis in situations where "generally unexpected circumstances" are present requiring "immediate consideration by the public body." Given the information provided, I have decided to schedule a hearing on the Pichas' variance request during the Commission's July 12, 2016 meeting provided certain conditions are met. Specifically, the Commission will hear the variance request as long as the petition seeking a variance is submitted by close of business on July 5, 2016, and the stipulated facts are finalized by July 7, 2016. This will allow DCM to prepare a staff recommendation and allow the package of materials relating to the variance petition to be sent to the Commission members for review by close of business on July 8, 2016.

This decision is limited to the finding that an expedited hearing is justified and should not be read by anyone as an indication of how the Coastal Resources Commission will ultimately decide Mr. and Mrs. Pichas' request for a variance.

If the deadlines set forth above are not met, then I expect the request for a variance would be heard during the next regularly scheduled Commission meeting. Commission counsel, Mary L. Lucasse, Esq. will stay in contact with you and DCM's counsel to ensure that the parties have notice of the schedule relating to the hearing on this issue.

Sincerely,

Frank D. Gorham III

Frank D. Gorham, III

Division of Coastal Management
Department of Environmental Quality
400 Commerce Ave., Morehead City, North Carolina 28557
Phone 252-808-2808 FAX 919-733-1495

July 1, 2016

Mr. Clark Wright
Davis, Hartman, Wright PLLC
209 Pollock Street
New Bern NC 28560

RE: Town of Ocean Isle Beach – 30 Year Beach Management Plan

Dear Mr. Wright:

This is to advise you that during the course of the last 25 years, the Town of Ocean Isle Beach has been actively pursuing ways to mitigate erosion on Ocean Isle Beach. The Town currently has a Federally approved fifty-year Coastal Storm Damage project that covers approximately three and one-half miles of our beach and is nourished every three years. In addition, we are presently seeking a permit to construct a terminal groin on the east end of our island as well as a 30 Year Management Plan for our entire beachfront.

The Town intends to file a Major Permit Application with the Division of Coastal Management for its 30-Year Management Plan in the near future. Our application has been drafted but not filed at this time. If granted, this permit would include all of the shoreline of Ocean Isle Beach from Shallotte Blvd (approximate baseline Station 10+00) west to baseline 275+00 located near the east shoulder of Tubbs Inlet.

The Town has expended hundreds of thousands of dollars for terminal groins, beach nourishment and other activities pursuant to its 30-year management plan. Protection of our beach and oceanfront as well as public infrastructure is of the upmost importance to the Town and we remain committed to protecting this valuable resource.

If you need any additional information, please do not hesitate to contact our office.

Sincerely,

TOWN OF OCEAN ISLE BEACH

Debbie Smith, Mayor

DS:di

Ocean Isle Beach 30-Year Beach Management Plan
FINAL

Prepared for:

Ocean Isle Beach, North Carolina

Prepared by:

Coastal Planning & Engineering of North Carolina, Inc.

March 2015

Executive Summary

One common concern of residents and owners of oceanfront properties at Ocean Isle Beach are the threats of economic losses resulting from damages to structures and their contents due to hurricane and storm activity and the loss of beachfront land due to the ongoing shoreline erosion. In an attempt to reduce the potential damages from storm activity, the federal government authorized and implemented the nourishment of a 3.25 mile segment of the Town's 5.5 miles of oceanfront shoreline. In addition, the Town is actively pursuing the construction of a terminal groin and beach fill that will address shoreline erosion issues along the extreme eastern 0.5 miles of the island. The western portion of the island, covering approximately 1.75 miles from the west end of the federal project to the east shoulder of Tubbs Inlet, is currently unmanaged.

This report explores the existing management strategies, preliminary engineering analysis of an island-wide management program, the capacity of possible borrow sources, and environmental documentation and permitting approaches designed to help develop a single comprehensive, long-term management plan for the Town's entire oceanfront shoreline. This long-term plan was developed using the historical performance of the federal project, the anticipated shoreline protection provided by the yet-to-be constructed terminal groin, and the erosion rates documented along the unmanaged western portion of the island.

The island-wide management plan would utilize the existing borrow area within Shallotte Inlet as the primary borrow source for initial construction of the projects along the east and west ends of the Town as well as periodic nourishment of the entire 5.5 mile ocean shoreline which includes the federal storm damage reduction project. Current estimates indicate approximately 645,000 cubic yards of material will be needed every 5 years to maintain the Town's oceanfront shoreline once all shoreline management plans are implement.

Initial construction of the east end project that includes a terminal groin would likely take place during the 2015-2016 environmental dredging window and would cost an estimated $5,700,000. Construction of a project along the west end of Ocean Isle Beach could occur as early as 2016-2017 and would cost an estimated $4,266,000. Construction of the west end project would be performed in conjunction with the scheduled periodic nourishment of the federal project. Once all three components of the shoreline management plan are in place, i.e., the east end project, the west end project, and the federal project, periodic nourishment of the three components would be scheduled every 5 years beginning with the 2021-2022 dredging window.

Several environmental documents, including an Environmental Assessment (EA) would be required in support of the permitting process. It is estimated that it would take approximately 12-16 months for the Town to obtain the required authorizations and permits to manage their entire oceanfront shoreline at a cost of approximately $40,000-$60,000. Should the Town desire, a tandem permitting approach may be implemented to provide an expedited process leading to

the Town's ability to manage the oceanfront shoreline currently managed by the federal government. This would be beneficial should the federal government experience a funding shortfall for this project.

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1.0 Introduction

The Town of Ocean Isle Beach (Town) is located on a coastal barrier island along the Atlantic Ocean on the coastline of Brunswick County in southeastern North Carolina (Figure 1). The island is situated midway between the metropolitan cities of Wilmington, NC and Myrtle Beach, SC. Spanning approximately 5.5 miles, Ocean Isle Beach is oriented in an east/west direction with Shallotte Inlet located along its eastern end and Tubbs Inlet at its western end. The island has a current year-round resident population of approximately 554, with a seasonal population of 25,000.

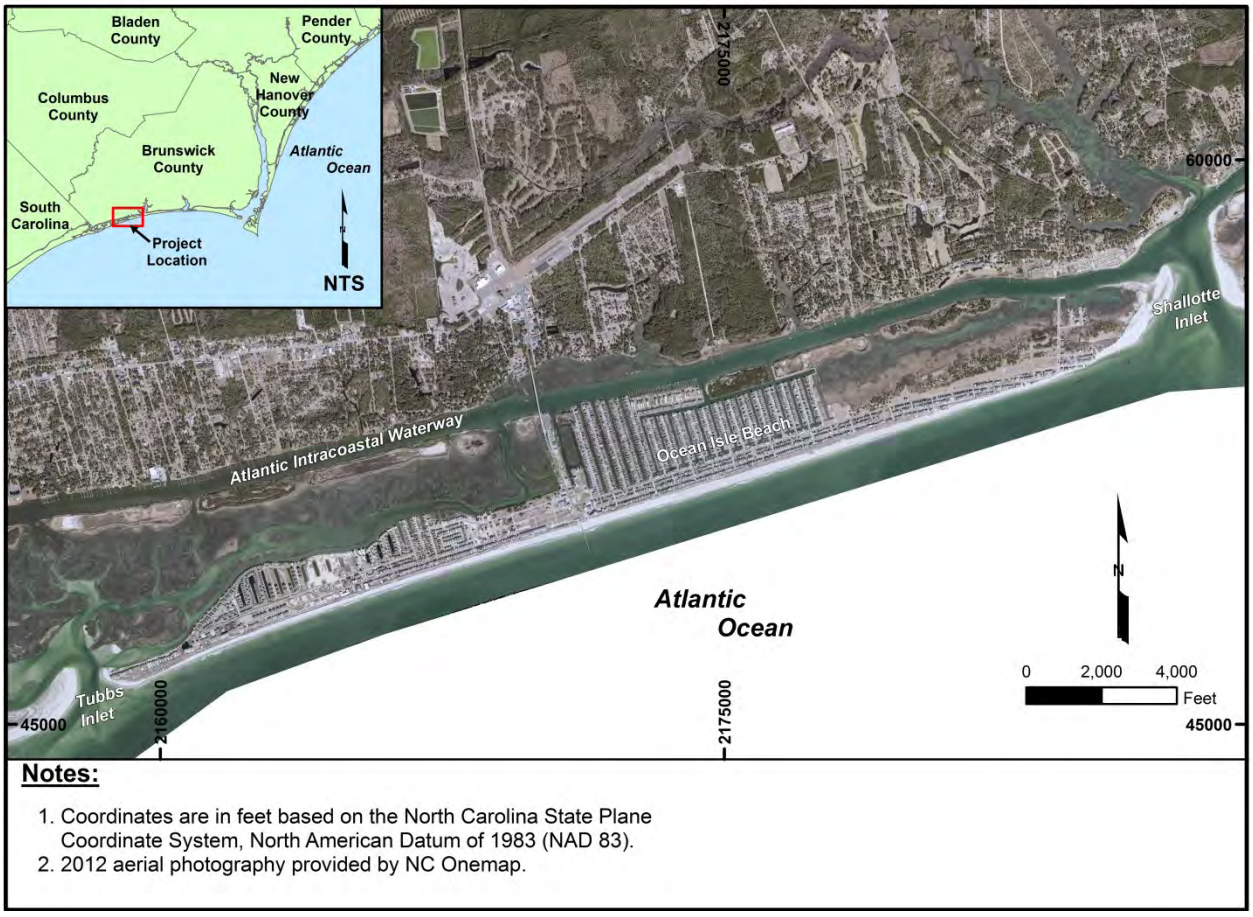

Figure 1. Location of Ocean Isle Beach, NC

Barrier islands such as Ocean Isle Beach are dynamic systems that erode and accrete depending on various factors like storms, sea level rise, their underlying geology, and stabilization efforts of the shoreline. Coastal erosion resulting from these factors is a very important issue that can present a major problem for property owners. Though these forces have chronic effects over a long period of time, any individual large storm can bring large-scale changes to a barrier island in a matter of a few hours. As such, a common concern of residents and owners of oceanfront properties at Ocean Isle Beach are economic losses resulting from damages to structures and their contents due to hurricane and storm activity and the loss of beachfront land due to the ongoing shoreline erosion. With a total tax value of property within the limits of Ocean Isle

Beach of approximately $1,816,012,300 (based on the 2012 reappraisal), the Town realizes the need to protect homes and infrastructure along its oceanfront. This assessment includes the valuation of 3,247 commercial and residential structures and property and 1,456 vacant lots (Ivey, pers. comm.).

To address this concern, the Town has worked with the US Army Corps of Engineers (USACE) since 1965 to plan and provide storm protection for a portion of its oceanfront shoreline. As described in more detail below, the USACE's federal storm damage reduction project spans 3.25 miles of the Town's approximate 5.5 mile oceanfront shoreline. The remaining 2.25 miles of oceanfront shoreline, which consist of approximately 0.5 miles east of the federal project and 1.75 miles west of the federal project, remain unmanaged today; however, the Town is actively pursuing a shoreline protection project involving the construction of a terminal groin in proximity to Shallotte Inlet which will provide added shoreline protection to the area east of the federal project.

Although the existing federal coastal storm damage reduction project and the proposed terminal groin will serve to protect the majority of the Town's oceanfront shoreline, these actions will not provide comprehensive island-wide protection. In addition, the cost sharing agreement established for the Federal project in 2001 will expire in 2051. Furthermore, federal appropriations for the project have historically been challenging and all indications suggest that funding challenges will continue jeopardizing the integrity of this vital project.

With these factors in mind, this study was conducted to assist the Town with the development of a comprehensive 30-year Beach Management Plan. The management area will consist of the beach strand from the location of the proposed terminal groin, located on the east end of the island, to the east shoulder of Tubbs Inlet, a total distance of about 5.1 miles. Components of the study include an engineering analysis of the existing federal project, a sand resource assessment, and an assessment of the environmental documentation and permitting requirements that would be necessary for the Town to manage its entire oceanfront shoreline.

2.0 Existing Beach Management

As stated above, the Town has an active beach management plan made up of several components. These include a Federal coastal storm damage reduction project, a terminal groin project (currently under design for the east end), a static line exception requiring the Town to maintain a portion of the federal project, and a beach monitoring program. This 30-Year Beach Management Plan provides an assessment of each of these components, and incorporates them into future management strategies to form one comprehensive, long-term management plan.

2.1 Federal Project

The Brunswick County Beaches, NC Federal Storm Damage Reduction Project (including a portion of the Ocean Isle Beach oceanfront shoreline was authorized by the 1966 Flood Control Act (H.D. 511, 89th Congress, 2nd session). Initial construction of the project within Ocean Isle Beach occurred between March and May 2001, the USACE constructed a federal beach fill project for coastal storm damage reduction that encompassed 17,100 feet (3.25 miles) of the Town's shoreline beginning at Shallotte Boulevard (USACE baseline station 10+00) on the east and extends to a point approximately 3,700 feet west of the Ocean Isle Beach Pier & Arcade (USACE baseline station 181+00) (Figure 2, Table 1). The westernmost 9,400 feet of the Town's

shoreline was not included in the federal project as this area was fronted by an established dune system during the time the initial feasibility study was conducted and thus was determined to be stable during the project formulation. The extreme eastern end of Ocean Isle Beach between Shallotte Boulevard and Shallotte Inlet was not included in the federal project due to predicted high rates of loss that would occur from a beach fill placed in this area. Based on the USACE economic evaluation, the cost of protecting the extreme east end of the island exceeded the value of the development and infrastructure it would protect and was therefore excluded from the federal project. The federal cost-sharing for the 3.25 mile federally authorized project is set to expire in 2051.

The initial construction of the project in 2001 involved the placement of 1,866,000 cubic yards of material obtained from a borrow area located in Shallotte Inlet (Figure 3). The Shallotte Inlet borrow area was also designated as a source for future periodic beach nourishment, which was scheduled to occur every three years. Based on USACE estimates, 300,000 cubic yards (100,000 cubic yards/year) would be needed every three years to maintain the federal project.

Since initial construction, Ocean Isle Beach has been nourished three times. The first periodic nourishment operation was accomplished between December 2006 and January 2007 and involved both a federal and a non-federal component. The federal component, which was completed in December 2006, placed 449,400 cubic yards of material between stations 10+00 and 72+00 (Shallotte Blvd. to approximately Southport St.), while the non-federal component, completed in January 2007, placed 155,000 cubic yards between stations -3+00 and 17+00 (near Charlotte St.). The portion of the fill placed between stations 10+00 and -3+00, was estimated to be 115,000 cubic yards, and was outside the authorized limits of the Federal project and represented an attempt by the Town to address the chronic erosion with beach nourishment alone.

The second periodic nourishment operation occurred between April and May 2010 and involved the placement of 509,200 cubic yards of material with federal funds. The western 6,000 feet of the federal project continues to perform very well and has not required periodic nourishment since construction in 2001. The Town did not attempt to place any additional fill east of station 10+00 during the 2010 operation due to poor performance of the fill placed east of station 10+00 in January 2007. As mentioned above, the Town placed 155,000 cubic yards of fill between baseline stations -3+00 and 17+00 in January 2007 and, as documented by beach profile surveys, essentially all of this material was lost by September 2007. This supplemental fill cost the Town $720,000 (including the cost of permitting). As a result, the Town determined continued nourishment of this portion of its shoreline was not an economical erosion response measure.

The third periodic nourishment operation for the Ocean Isle Beach storm damage reduction project was completed in April 2014 with the placement of approximately 800,000 cubic yards of material between stations 10+00 and 90+00 (Shallotte Boulevard to Leland St.).

The average amount of fill placed on Ocean Isle Beach to maintain the federal project has been approximately 408,000 cubic yards every three years. The average distribution of the 408,000 cubic yards of material every three years along Ocean Isle Beach has been as follows:

Station 10+00 to 30+00 (Shallotte Blvd. to Lumberton St.)	174,000 cubic yards
Station 30+00 to 60+00 (Lumberton St. to Sanford St.)	177,000 cubic yards

Station 60+00 to 90+00 (Sanford St. to Leland St.) 42,000 cubic yards
Station 90+00 to 120+00 (Leland St. to Concord St.) 15,000 cubic yards

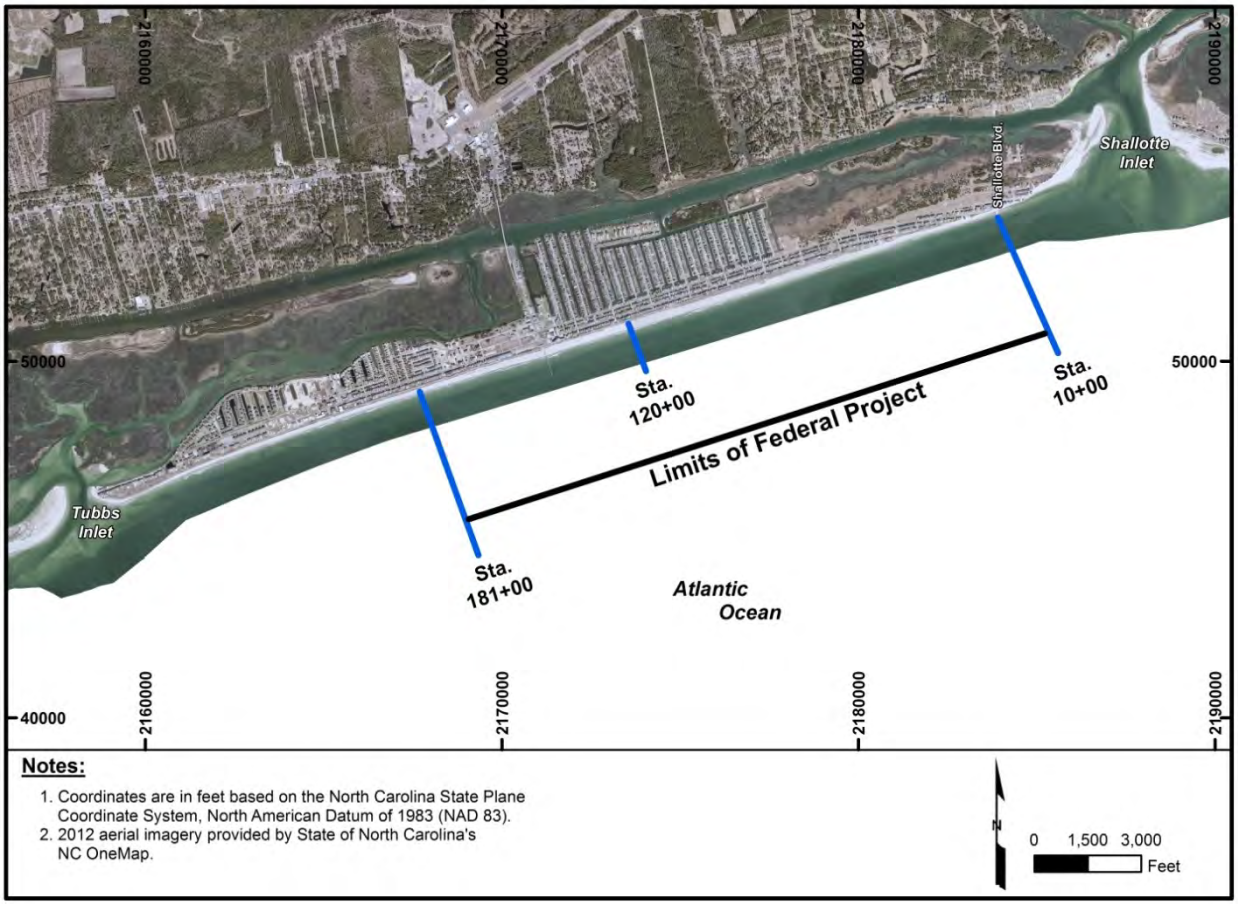

Figure 2. Authorized limits of the Ocean Isle Beach Storm Damage Reduction Project

Table 1. Station numbers and nearby cross street names

Station	Cross Street Name
-3+00	Approx. 800 ft. east of Asheville St.
10+00	Shallotte Blvd.
15+00	Charlotte St.
30+00	Approx. 215 ft. west of Lumberton St.
60+00	Approx. 200 ft. east of Sanford St.
90+00	Approx. 135 ft. west of Leland St.
120+00	Approx. 175 ft. east of Concord St.
181+00	Approx. 140 ft. east of Duneside Dr.
185+00	Isle Plaza
250+00	Coggeshall Dr.
255+00	Gate for Private Development
270+00	Approx. 480 feet east of the end of Ocean Isle W. Blvd.

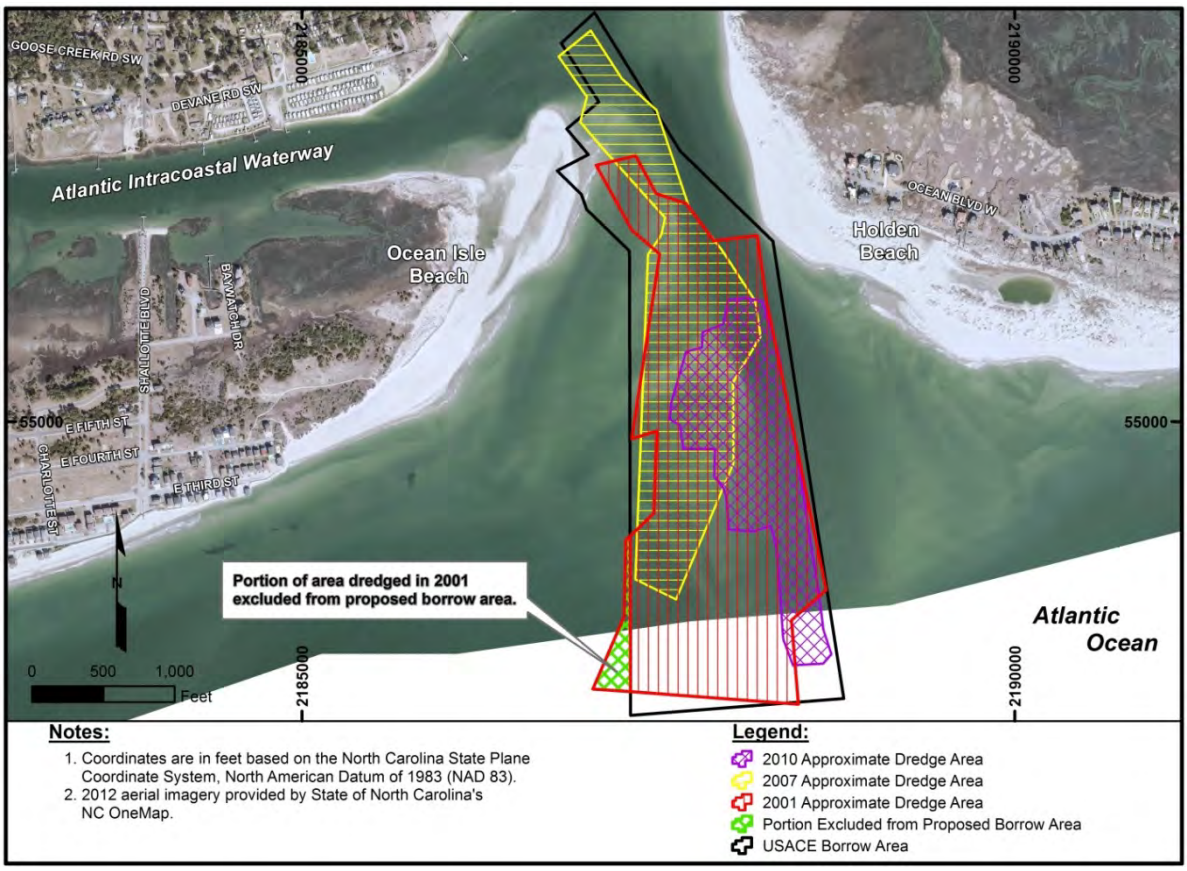

Figure 3. Map showing location of USACE approved borrow area within Shallotte Inlet and approximate locations of previously dredged areas during initial construction and maintenance events.

2.2 Beach Fill at East End

In addition to the federal storm damage reduction project, the USACE has periodically deposited material on the east end of Ocean Isle Beach from maintenance of the Atlantic Intracoastal Waterway (AIWW) at the intersection with Shallotte Inlet. An estimated 300,000 to 400,000 cubic yards of navigation maintenance material has been placed on the east end of Ocean Isle Beach since 2001. All of this material has been deposited generally within the area fronting the development east of Shallotte Boulevard (i.e., outside the limits of the federal project). The material removed from the AIWW and placed within this area has eroded quickly and has been generally ineffective in slowing the rate of erosion in the area east of Shallotte Boulevard.

Additional measures undertaken by the Town and private interests on the east end include placement of a sandbag revetment along 1,400 feet of shoreline, beginning at a point west of Shallotte Boulevard and extending east to the end of development. This revetment was installed around 2005. The sandbag revetment has recently been extended 400 feet to the west or just past Charlotte Street. Some of the recent sandbag placement was accomplished by NCDOT in an attempt to protect the eastern end of 2nd Street. The cost of erosion damages incurred by the Town since 2004, as well as the cost of erosion response measures, is estimated at $5,086,200.

Despite the previous efforts to stem the erosion along the Town's east end, since 2005, five (5) homes have been lost, and between 20 and 25 parcels have become unbuildable due to the inability to meet building setback requirements as dictated by the rules established by the NC

Coastal Resources Commission (CRC). The estimated appraised value of the lost homes and parcels since 2005 totals approximately $1.6 million.

2.3 Terminal Groin with Beach Fill

Since 2012, the Town has been pursuing a terminal groin/beach fill project to accomplish two goals: 1) mitigate inlet induced erosion that threatens development along the east end of the island, and 2) improve the performance of the federal project. The currently proposed project design includes construction of a 1,050-foot long terminal groin consisting of a 750-foot rubble mound section on the seaward end and a 300-foot long sheet pile shore anchorage section on the landward end. The terminal groin would be positioned just east of the last development on the island (Figure 3). Groin installation will be accompanied by a beach fill to create an accretion fillet immediately west of the terminal groin (Figure 4). The structure and associated fillet will be designed to provide storm damage reduction for the area east of Shallotte Boulevard and will enhance project performance along the east end of the federal project. The plan calls for a 30-year permit to be issued for the terminal groin and associated beach fill.

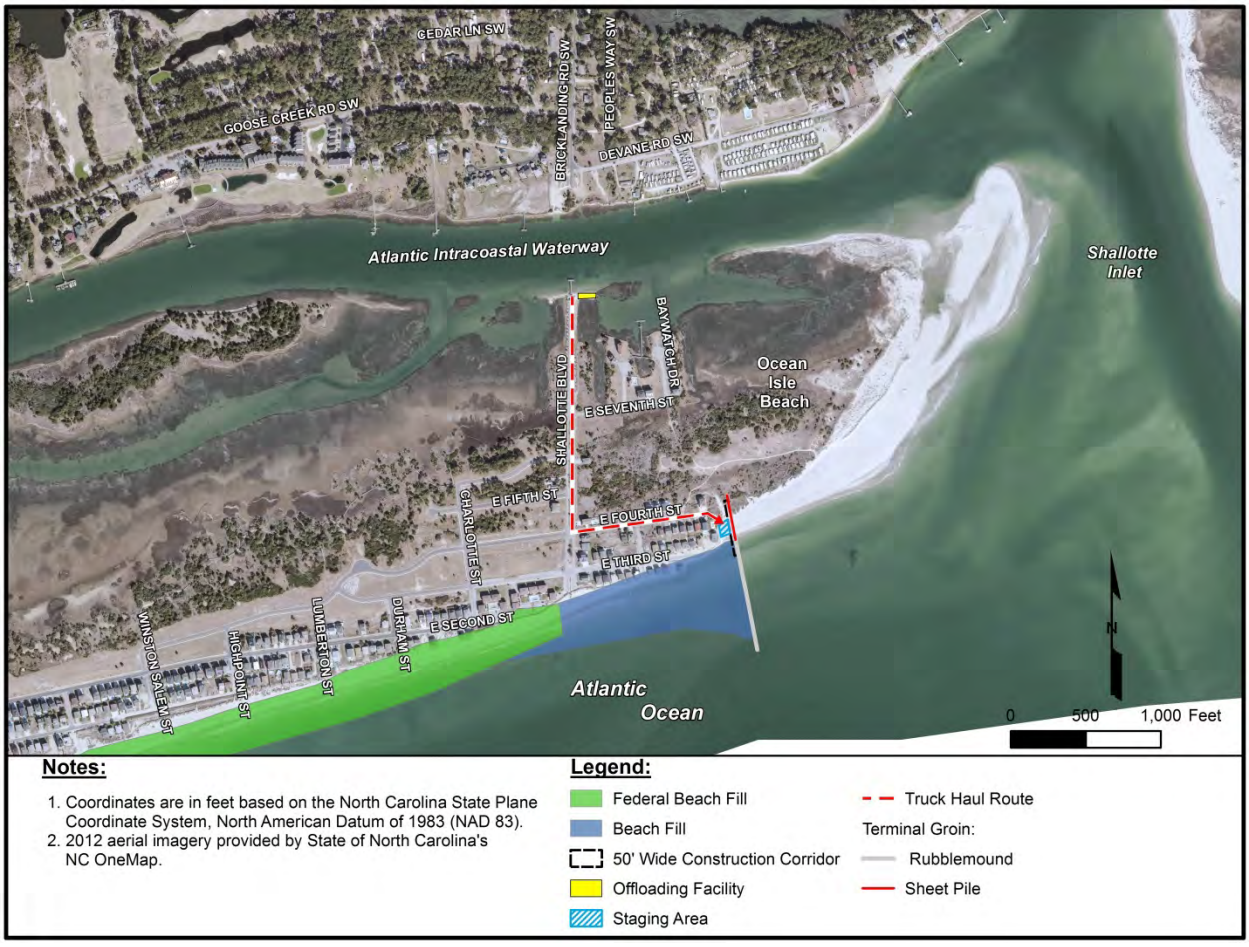

Figure 4. Location of the proposed terminal groin and associated beach fill located on the eastern portion of Ocean Isle Beach

2.4 West End of Ocean Isle Beach

The western most 9,400 feet of the Ocean Isle Beach shoreline has not been included in the federal project and is not currently managed. The presence of a stable dune system has maintained an adequate level of storm damage reduction, thereby excluding this portion of the island from nourishment needs. This study included engineering analyses of island-wide shoreline and volume change rates, which have been used to determine long-term beach nourishment needs for the foreseeable future. Essentially, these analyses establish thresholds of shoreline and volume change that would trigger the need for nourishment in order to provide an acceptable level of erosion and storm damage mitigation.

2.5 Static Line Exception

In accordance with 15A NCAC 07H .0305 (North Carolina Administrative Code), a static vegetation line was established by the Division of Coastal Management following the initial construction of the federal storm damage reduction project in 2001. A pre-construction survey of the vegetation line, made in 1999, was used to define the static vegetation line within the project area for the Ocean Isle Beach federal project as described above. In 2009, the NC Legislature amended the Coastal Area Management Act (CAMA) to allow communities with static vegetation lines to apply for a static vegetation line exception. An application for a static vegetation line exception must include: (a) documented performance of the project over at least a 5 year period prior to applying for the exception, (b) engineering design documents for the projects, (c) availability of borrow material needed to maintain the projects, (d) and a financial plan demonstrating the ability to continue maintenance of the projects for at least 25 years after the establishment of the static vegetation line exception. The Coastal Resources Commission approved a request by the Town for a static vegetation line exception on January 13, 2010. As part of the rules governing the static line exception, an applicant is required to provide a progress report to the CRC every 5 years (15A NCAC 07J .1204). This exception was extended an additional 5 years in late 2014.

2.6 Beach Monitoring

Historically, the USACE has conducted beach profile surveys along the portion of the Town included within the federal project. Initially these surveys were conducted annually; however, in recent years survey frequency has been reduced due to federal funding shortfalls. Recent survey frequency has been limited to a pre-construction survey every 3 to 4 years to allow for the design of periodic nourishment events. In 2013, the Town contracted with McKim & Creed to collect beach profile data along the portions of the Town outside of the federal project. These data have assisted CPE-NC with the design and alternative analysis associated with the terminal groin project. In addition, data collected along the western portion of the Town was used by CPE-NC in this study to determine changes occurring along this portion of the Town in an effort to better understand the shoreline change and volume change taking place west of the federal project.

3.0 Engineering Analysis

3.1 Development of Design Beach Fill Template

The beach fill for the federal storm damage reduction project between baseline stations 70+00 (just east of Southport St.) and 181+00 has performed extremely well since its initial construction in March-May 2001. While this section of the federal project has experience some

losses, the losses have not compromised the level of protection provided by the beach fill design template. As a result, this 11,100-foot section of the federal project has not required any periodic nourishment since initial construction nor has this section of the shoreline sustained any damage due to coastal storms both tropical and extra-tropical. Based on this performance, this section of the federal project was used as a guide in developing the design beach fill template for the west end of Ocean Isle Beach that is not included in the federal project. The goal of the design is to increase the level of storm protection along the west end of the island to a level comparable to that provided by the federal project.

As a first step, the volume of material on the existing profiles within the federal storm damage reduction project between station 70+00 and 180+00 was computed. The volume computations extended from the back or landward toe of the dune seaward to the -18-foot NAVD88 depth contour. An example of this area is shown in Figure 5. For this analysis, the existing profiles were based on a beach profile survey taken in 2013 by the engineering firm McKim & Creed. The volume between the back toe of the dune and the -18-foot depth contour on the existing profiles between 70+00 and 180+00 averaged 511.3 cubic yards/foot of shoreline (cy/ft.) with the volume ranging from a minimum of 474.6 cy/ft. to a maximum of 554.8 cy/ft.

Similar computations were made for the profiles along the west end of Ocean Isle beach between baseline stations 185+00 and 270+00 and the volume on those profiles compared to the average volume on the profiles within the federal project. The results are provided in Table 1.

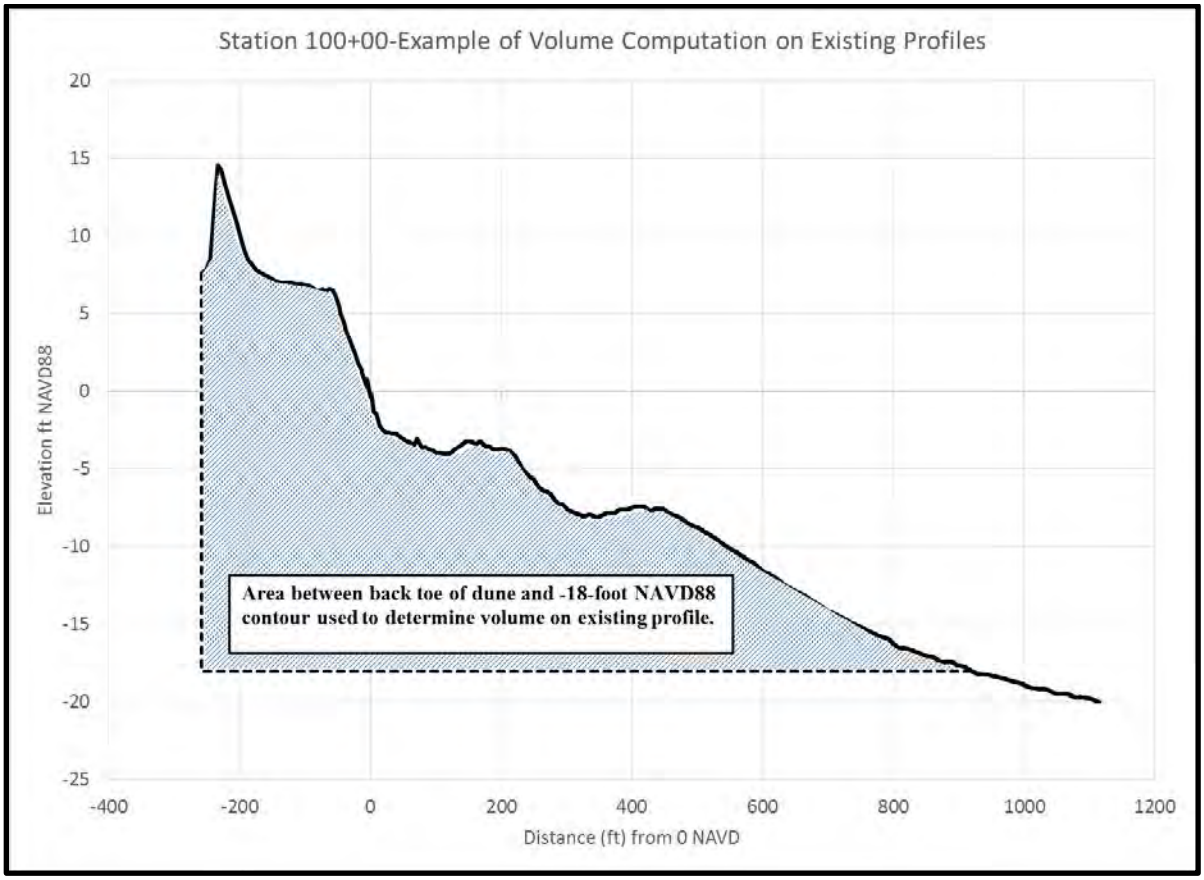

Figure 5. Example of area used to compute volume of material on the existing profiles between station 70+00 and 120+00 (Example shown is station 100+00).

For the shoreline segment between the west end of the federal project (station 181+00) and station 245+00 (baseline stationing shown on Figure 7), the difference in the volume of material on the profiles along the west end of Ocean Isle Beach and the volume within the federal project was fairly consistent, averaging a little over 34 cy/ft. (Table 1). West of station 245+00 to station 260+00, the volume of material on the profiles was approximately equal to the volume within the federal project. West of station 260+00 to station 270+00 (located near the east shoulder of Tubbs Inlet), the volume of material on the profile exceeded the volume on the profiles within the federal project. This westernmost 1000-foot segment of Ocean Isle Beach is influenced by the orientation of the ocean bar channel of Tubbs Inlet and the associated configuration of the ebb tide delta of the inlet. A discussion of the influence of Tubbs Inlet on the behavior of the extreme west end of Ocean Isle Beach is provided below.

Table 2. Difference in volume on the existing west end profiles (June 2013 survey) and the average volume on the profiles of the federal project between stations 70+00 and 180+00.

Station	Cross Street Name	Volume (cy/ft.) on existing profile	Volume Difference-federal project and west end (cy/ft.)[(1)]
185+00	Isle Plaza	470.2	-41.1[(2)]
190+00	220 ft. west of Driftwood Dr.	470.3	-41.0
195+00	Starboard St.	496.2	-15.1
200+00	200 ft. east of Beaufort St.	462.6	-48.7
205+00	305 feet west of Beaufort St.	477.0	-34.3
210+00	Ocean Isle Villas	475.6	-35.6
215+00	N/A	475.3	-36.0
220+00	210 ft. east Via Dolorsosa Dr.	479.1	-32.2
225+00	290 ft. west Via Dolorsosa Dr.	473.8	-37.5
230+00	65 ft. east entrance to Island Park Cottages	468.7	-42.6
235+00	165 ft. east Harbor Dr.	476.0	-35.3
240+00	230 east of Schooner Dr.	496.4	-14.8
245+00	140 ft. west of Schooner Dr.	481.9	-29.4
250+00	Near Coggeshall Dr.	510.1	-1.2
255+00	Gate to Private Development	510.1	-1.1
260+00	N/A	505.7	-5.5
265+00	N/A	589.8	78.5
270+00	480 ft. east of the end of Ocean Isle W. Blvd.	666.6	155.3

[(1)]Average within federal project is 511.3 cy/ft.

[(2)]Negative values indicate a deficit, positive values indicate a surplus.

Based on the comparison of the volume material on the existing profiles within the limits of the federal project to the volume of material on the profiles located west of the federal project, a design beach fill template was developed that would provide the volume of material on each west end profile that would be comparable to the volume of material residing on the profiles within the federal project between baseline stations 70+00 and 180+00. The design profile, which is shown on Figure 5, consists of a 10-foot wide dune at elevation +12.5 feet NAVD88 fronted by a 40-foot wide berm at elevation +6.0 feet NAVD88. The back or landward slope of the dune would be 1V:5H (1 Vertical to 5 Horizontal) and the front or seaward slope 1V:10H.

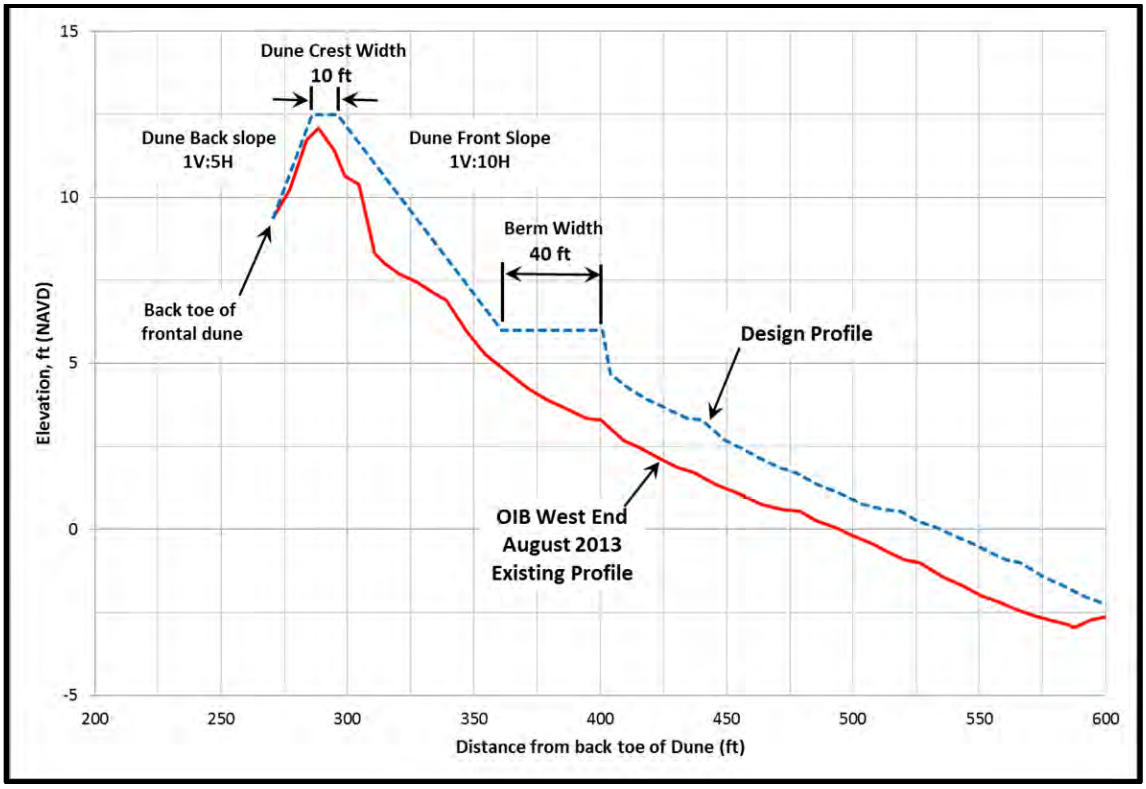

Figure 6. Recommended beach fill design template for the west end of Ocean Isle Beach.

The beach fill for the west end of Ocean Isle Beach would begin at the west end of the federal project, located at station 181+00. A 400-foot transition would be constructed between station 181+00 and 185+00 with the full design template, shown in Figure 6, extending between station 185+00 and 245+00. A 500-foot transition would be constructed on the west end between station 245+00 and 250+00 in order to merge the beach fill shoreline with the existing shoreline. A plan view showing the limits of the proposed beach fill is provided on Figure 7.

The volume of material needed to construct the design beach fill template, including the two taper sections, totals approximately 262,000 cubic yards based on the June 2013 survey. In addition to the initial construction volume, a volume of material designated as advanced nourishment should be placed seaward of the design template to account for anticipated volume losses during the time interval between completion of initial construction and the first scheduled periodic nourishment operation. Periodic nourishment requirements for the west end project are discussed below.

While the shoreline west of station 250+00 is not presently included in the beach fill estimate, the shoreline along the west end of Ocean Isle Beach is subject to rapid changes due to the influence of Tubbs Inlet, which is discussed below. In anticipation of possible future beach erosion response measures in this area, the permitting actions recommended in this report for the west end of Ocean Isle Beach include the entire shoreline west of baseline station 181+00.

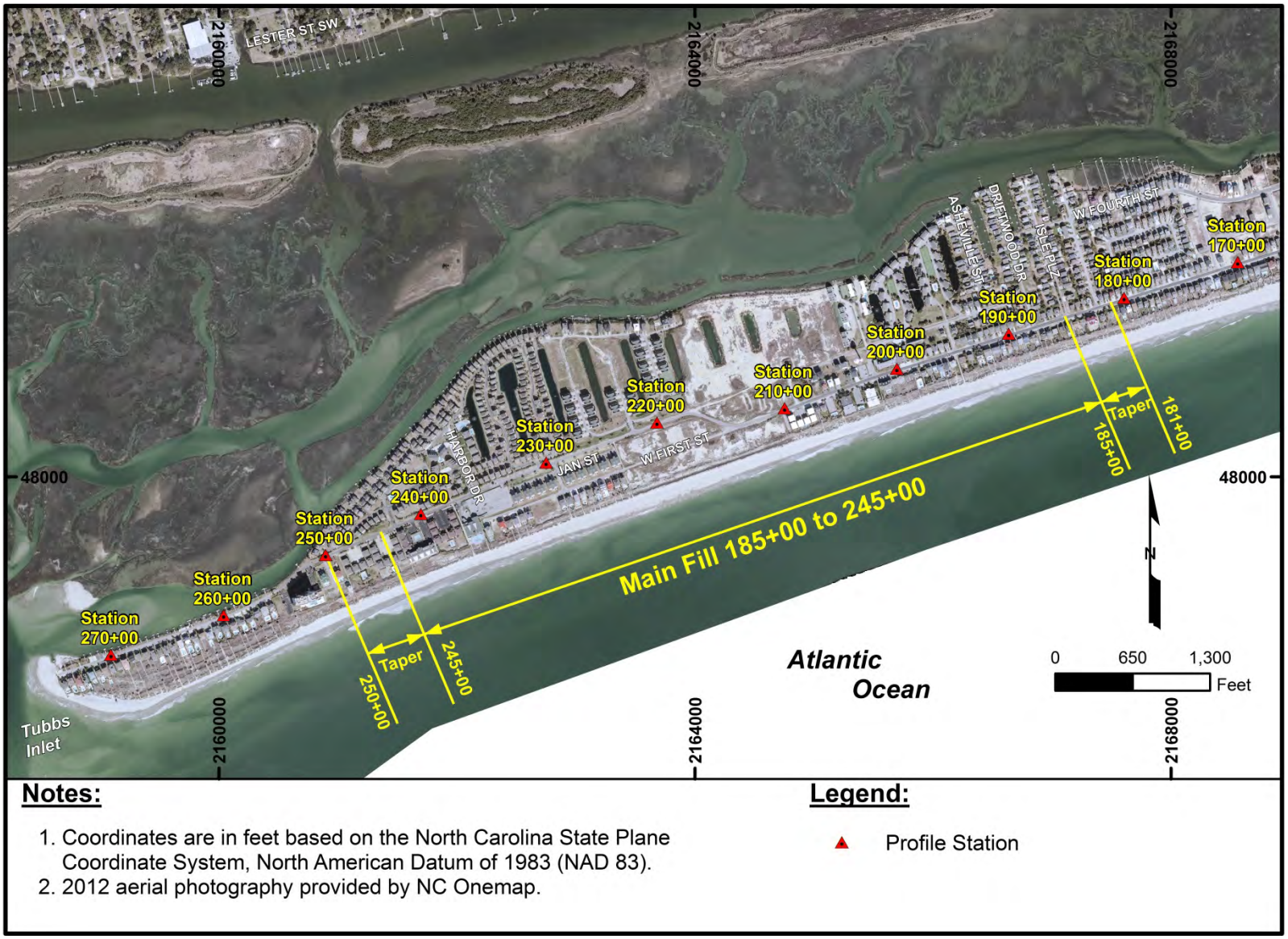

Figure 7. Baseline stationing and limits of proposed beach fill on west end of Ocean Isle Beach.

3.2 Influence of Tubbs Inlet

The orientation of the ebb tide channel running across the ocean bar of Tubbs Inlet and the associated configuration of the ebb tide delta has a significant influence on the behavior of the shoreline on the extreme west end of Ocean Isle Beach. Google Earth aerial photos of Tubbs Inlet dated from September 2006 to December 2012 are shown on Figure 8 and Figure 9. As shown on Figure 8a, the bar channel of Tubbs Inlet was oriented toward the west end of Ocean Isle Beach in September 2006. As a result of this bar channel orientation, the extreme west end of Ocean Isle Beach experienced a significant accumulation of sediment, particularly in offshore portions of the profiles west of station 260+00. Examples of this build-up of material in the offshore area are given on Figure 10 which shows comparative plots for profile stations 260+00 and 270+00, respectively, for the February 2001, April 2007 and June 2013 profile surveys.

Sometime between September 2006 and October 2007 the bar channel assumed an alignment perpendicular to the orientation of the adjacent shorelines with this orientation persisting until about October 2009. During this time, the offshore portions of the profiles east of Tubbs Inlet to about station 250+00 began to lose material as is evident on Figure 8a and b. The bar channel alignment shifted toward Sunset Beach between October 2009 and March 2011 and that alignment persist today. With the bar channel aligned toward Sunset Beach, the offshore portions of the beach profiles along the west end of Ocean Isle Beach is likely to continue to experience some erosion, however, as of June 2013, the volume of material on the profiles west of station 250+00 still exceeded the volume within the federal project by a considerable margin (Table 1). Therefore, the extreme western end of Ocean Isle Beach between station 250+00 and Tubbs Inlet does not need nourishment at this time.

The extreme west end of Ocean Isle Beach should continue to be monitored and if shoreline conditions deteriorate in the future, consideration for remedial measures along this section of the town's shoreline may be in order. While the use of beach fill alone may prove problematic given the dynamic influence Tubbs Inlet has on the west end of the island, if the Town elects to move forward with the permitting process for a project along the west end of town, the shoreline between 250+00 and Tubbs Inlet should be included in the permit application. This would allow the town to place beach fill in this area should future conditions warrant. If beach fill is placed west of station 250+00, the performance of the fill would be tracked by the monitoring surveys. If the results of the beach fill monitoring surveys along the extreme west end of the island indicate poor beach fill performance, the data collected would help in the formulation of possible alternative shoreline management measures for this area.

Figure 8. Google Earth images of Tubbs inlet during (a) September 2006 (b) October 2007, (c) October 2009, and (d) March 2011

Figure 9. Most recent Google Earth image of Tubbs Inlet – December 2012.

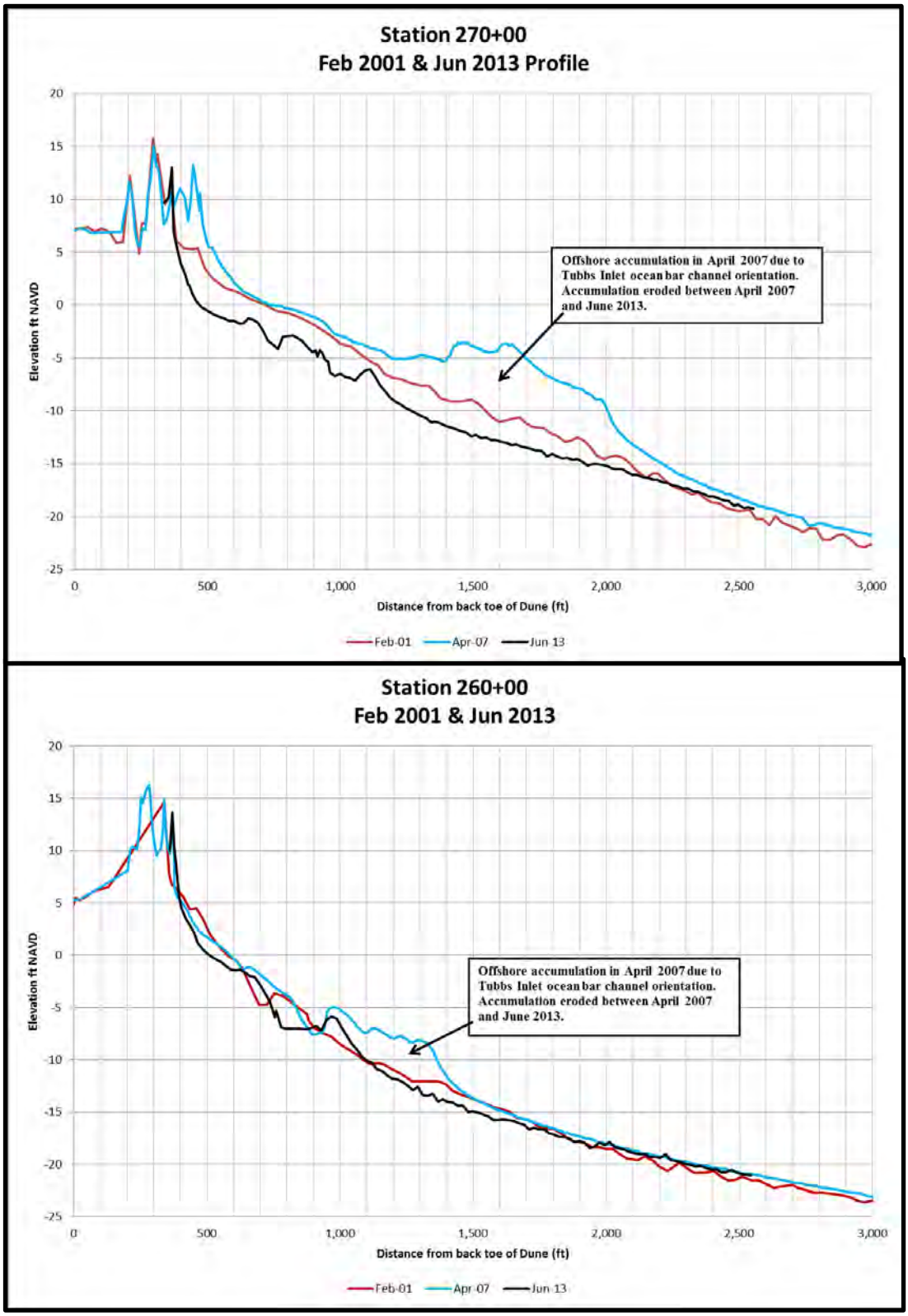

Figure 10. Comparison of February 2001, April 2007, and June 2013 profile surveys for (top) station 260+00 and (bottom) station 270+00.

3.3 Behavior of West End Shoreline.

Cumulative volumetric changes along the west end of Ocean Isle Beach were determined from 13 beach profile surveys taken between May 2002 and August 2013. As in the previous analyses, the volume of material on each profile was measured between the landward toe of the dune and the -18-foot NAVD88 depth contour. The May 2002 starting date for the analysis, which was approximately one year after the completion of the initial construction of the federal storm damage reduction project, was selected to allow time for the federal beach fill to equilibrate. The cumulative volume changes were determined for each 1,000-foot baseline station between 170+00 and 270+00. Plots of the cumulative volume changes for stations 170+00 to 240+00 are given on Figure 11 while cumulative volume changes for stations 250+00 and 260+00 are given on Figure 12. A plot of the cumulative changes for station 270+00 is not shown due to the erratic behavior and wide swings in volume caused by the influence of the ocean bar of Tubbs Inlet.

All of the profiles along the west end of Ocean Isle Beach experienced relatively rapid accretion between the May 2013 and August 2013 surveys. However, the phenomenon is believed to be temporary and not unlike similar upticks in the shoreline change trends measured over the years. For example, similar upticks in the shoreline response occurred at most profile stations between April and May 2007. Therefore, the apparent accretion during the last month of the record is not considered to be significant.

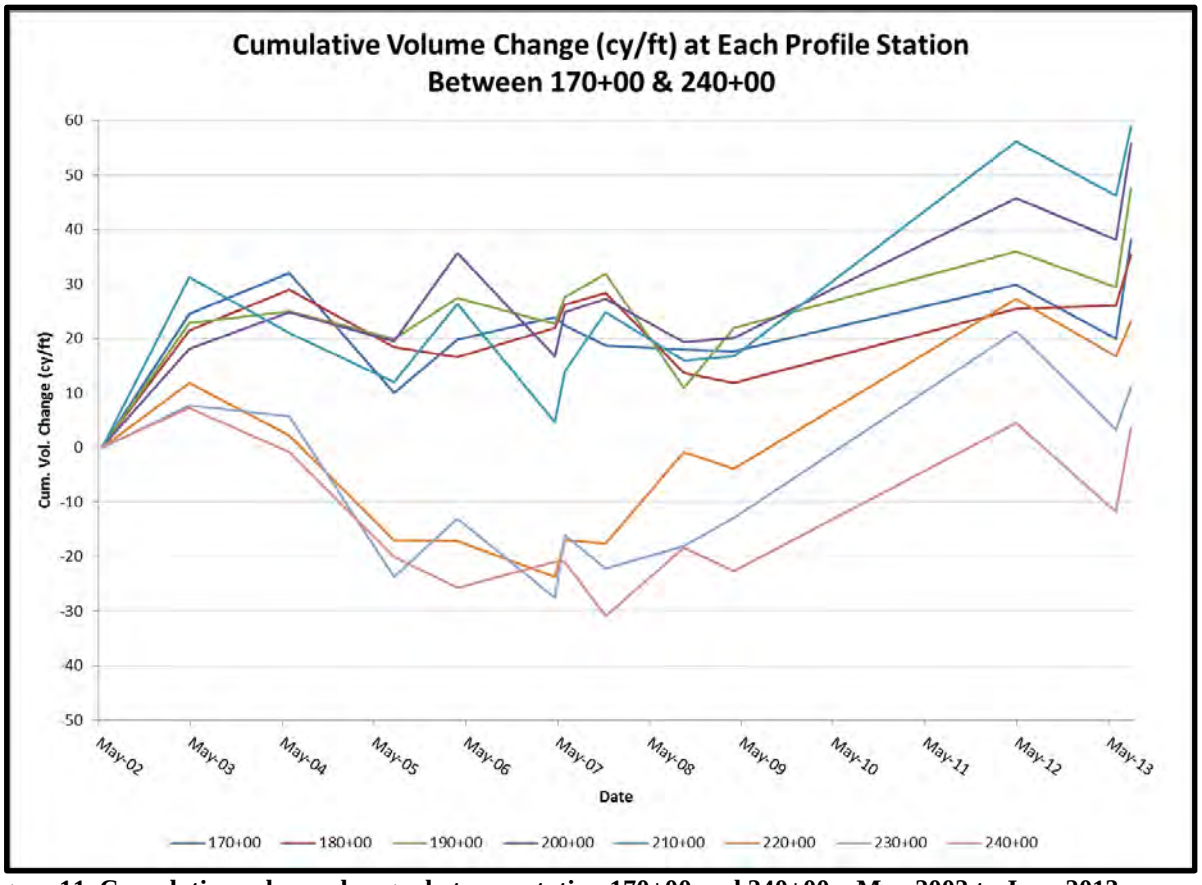

Figure 11. Cumulative volume changes between station 170+00 and 240+00 – May 2002 to June 2013.

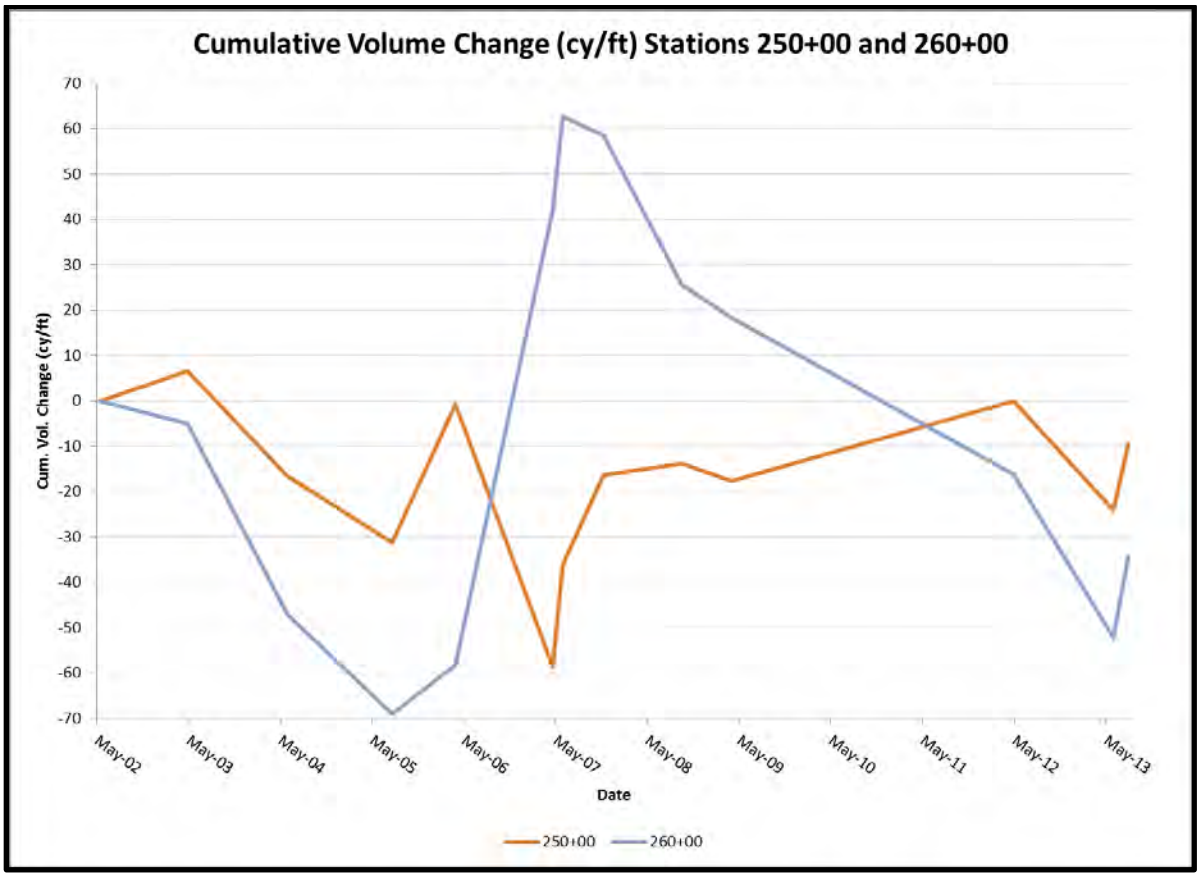

Figure 12. Cumulative volume changes stations 250+00 and 260+00 – May 2002 to June 2013.

The cumulative volume changes for stations 170+00 to 210+00 appeared to follow similar trends. Therefore, the changes between each profile survey were averaged for these stations to produce one cumulative volume change curve applicable to the shoreline between 170+00 and 210+00. This average curve is shown on Figure 11. Cumulative changes for stations 220+00 to 240+00 also appeared to follow similar trends and were averaged to produce the average cumulative volume change plot also shown on Figure 11. The cumulative volume change curves for stations 250+00 and 260+00 as well as station 270+00 (not shown) were radically different due to the influence of Tubbs Inlet and were not combined into an average curve.

As discussed above, changes in the orientation of the ocean bar channel of Tubbs Inlet and the associated impacts the channel has on the configuration of the ebb tide delta has a significant impact on the behavior of beach profiles east of Tubbs Inlet to about station 250+00. This influence is clearly demonstrated by the cumulative volume change curve for station 260+00 (Figure 12) in which the volume of material on the profile increased between July 2005 and May 2007, a time when the ocean bar channel oriented toward the west end of Ocean Isle Beach, and then rapidly decreased following the shift of the channel toward Sunset Beach in 2007. The volume of material on profile 250+00 was influenced to some extent by Tubbs Inlet but the impact was much less than that observed at station 260+00.

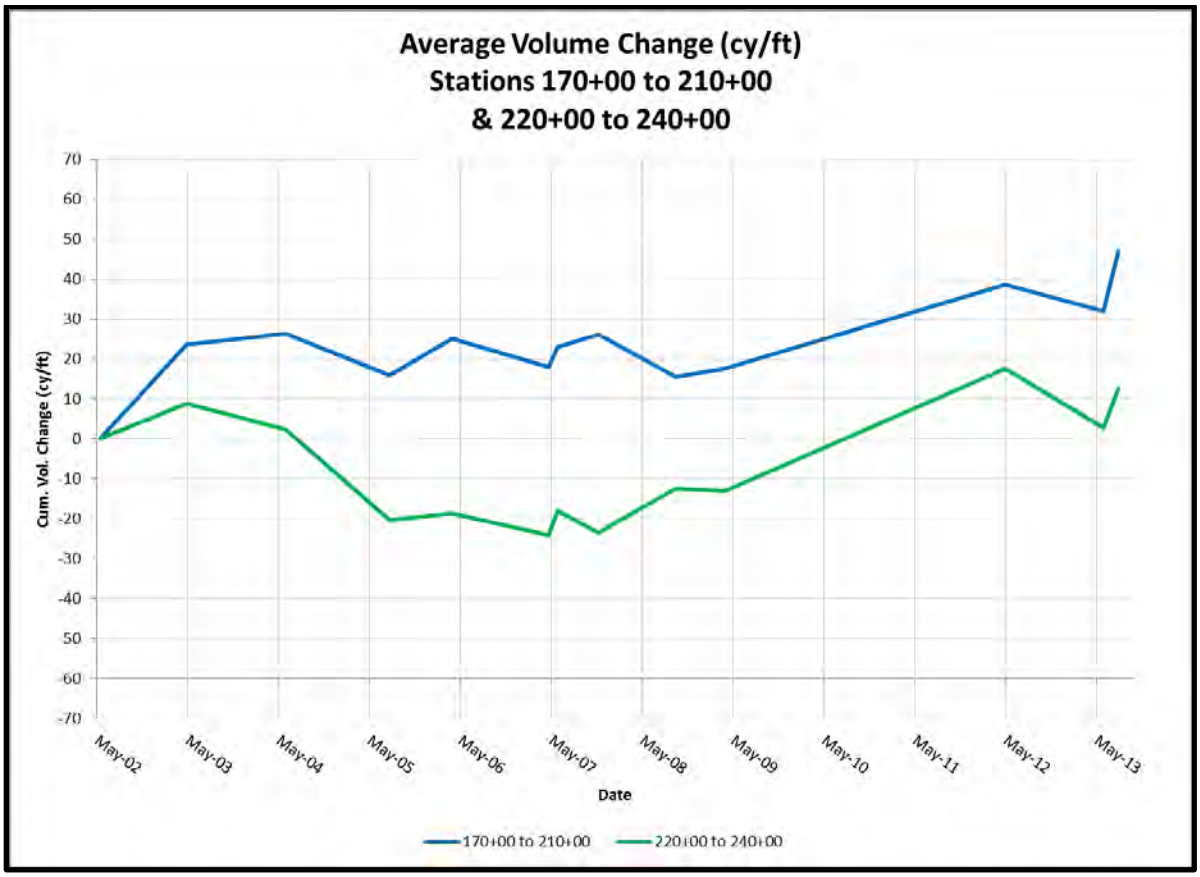

Figure 11. Average cumulative volume changes stations 170+00 to 210+00 and 220+00 to 240+00 between May 2002 and June 2013.

Since about July 2005, all of the profiles west of the federal project have experienced a cumulative increase in the volume of material residing between the landward toe of the dune and the -18-foot NAVD88 contour. Some of this accretion, particularly between stations 181+00 and 210+00, which lie outside or west of the federal project, could be due to the westward spreading of material from the federal storm damage reduction project. In this regard, the volume of material on the profiles between 181+00 and 210+00 appeared to increase significantly till about April 2003 with the volume stabilizing till around September 2008. A slightly smaller increase was observed between stations 220+00 and 240+00 which are located farther from the west end of the federal project. Beginning around November 2007, both areas began to experience gradual but significant gains. The reason for this latter trend is not clear. Some of the gains, particularly on the far west end (stations 220+00 to 240+00) could have been due to the onshore migration of some of the ebb tide delta material of Tubbs Inlet following the movement of the bar channel toward Sunset Beach; however, the extent of this impact are less likely to be attributed to gains observed along the eastern portion of this shoreline segment.

3.4 West End Beach Periodic Nourishment Requirements.

The west end of Ocean Isle Beach, situated between baseline stations 181+00 and 240+00, has been relatively stable since 2002. Even so, the placement of a beach fill along the west end of Ocean Isle Beach to enhance the level of storm damage protection would still be expected to

experience some volume losses. Losses from the beach fill would occur primarily as spreading or diffusion losses. In this regard, the placement of the beach fill would move the shoreline seaward in the placement area relative to the adjacent areas thus creating somewhat of a bulge in the planform shape. This seaward protuberance would focus more wave energy on the ends of the fill resulting in increased rates of sediment transport out of the fill area compared to sediment transport rates along the natural shoreline alignment.

An estimate of the possible losses from a fill on the west end of Ocean Isle Beach was obtained from an analysis of the behavior of the federal project between baseline stations 60+00 and 120+00. Prior to the construction of the federal project, the shoreline between station 60+00 and 120+00 was behaving in a manner similar to the west end with shoreline change rates varying from +0.3 ft./yr. to -0.4 ft./yr. Therefore, the post-construction behavior of this section of the federal project was used as proxy to develop possible periodic beach nourishment requirements for a beach fill project constructed along the west end of Ocean Isle Beach.

An average cumulative volume change curve developed for the area between baseline station 60+00 and 120+00 is provided on Figure 13. As noted on this figure, the beach project was initially constructed at the beginning of 2001 and nourished in 2006-07 and 2010.

Following initial construction, the section of the federal project between station 60+00 and 120+00 experienced an initial gain of material which lasted till around April 2003 (Figure 13). Following this initial response, this section of the project began to erode. The rate of loss from this section of the project between April 2003 and May 2006 (time period noted by green oval on Figure 13 averaged -11.4 cubic yards/foot of beach/year (cy/ft./yr.). Some of the initial gain of material between December 2001 and April 2003 was probably derived from portions of the federal project located east of station 60+00 which experienced some rather high initial rates of volume loss (CPE-NC, 2015).

Following the first periodic nourishment operation, which was completed in April 2007, the beach fill experienced an initial period of relatively rapid loss that persisted until September 2008 (Figure 13). Following this initial loss and prior to the second renourishment operation in 2010, no additional losses occurred. The rate of volume change during the initial post-nourishment period between April 2007 and September 2008 was -7.4 cy/ft./yr. The third periodic nourishment was completed in May 2010. Since that time, the volume of material between station 60+00 and 120+00 has actually accreted at a rate of 0.9 cy/ft./yr. The average rate of volume change for the three post-nourishment periods is a loss of 6.0 cy/ft./yr.

Even though the beach fill between station 60+00 and 120+00 experience a wide range of post-nourishment response, the average rate of volume change of -6.0 cy/ft./yr. was used to estimate possible periodic beach nourishment requirements for the west end of Ocean Isle Beach. This rate of volume change may be pessimistically high given the varied response of the federal project and the relative stability of the west end of the island, however, for planning purposes, particularly with respect to beach nourishment projects, a high estimate should allow the town to safely budget for future nourishment operations.

Using a periodic nourishment rate of 6.0 cy/lf/yr. and a total project length of 6,900 feet, which includes the main fill and the two taper sections, the nourishment requirement for the west end project would be 37,000 cubic yards/year.

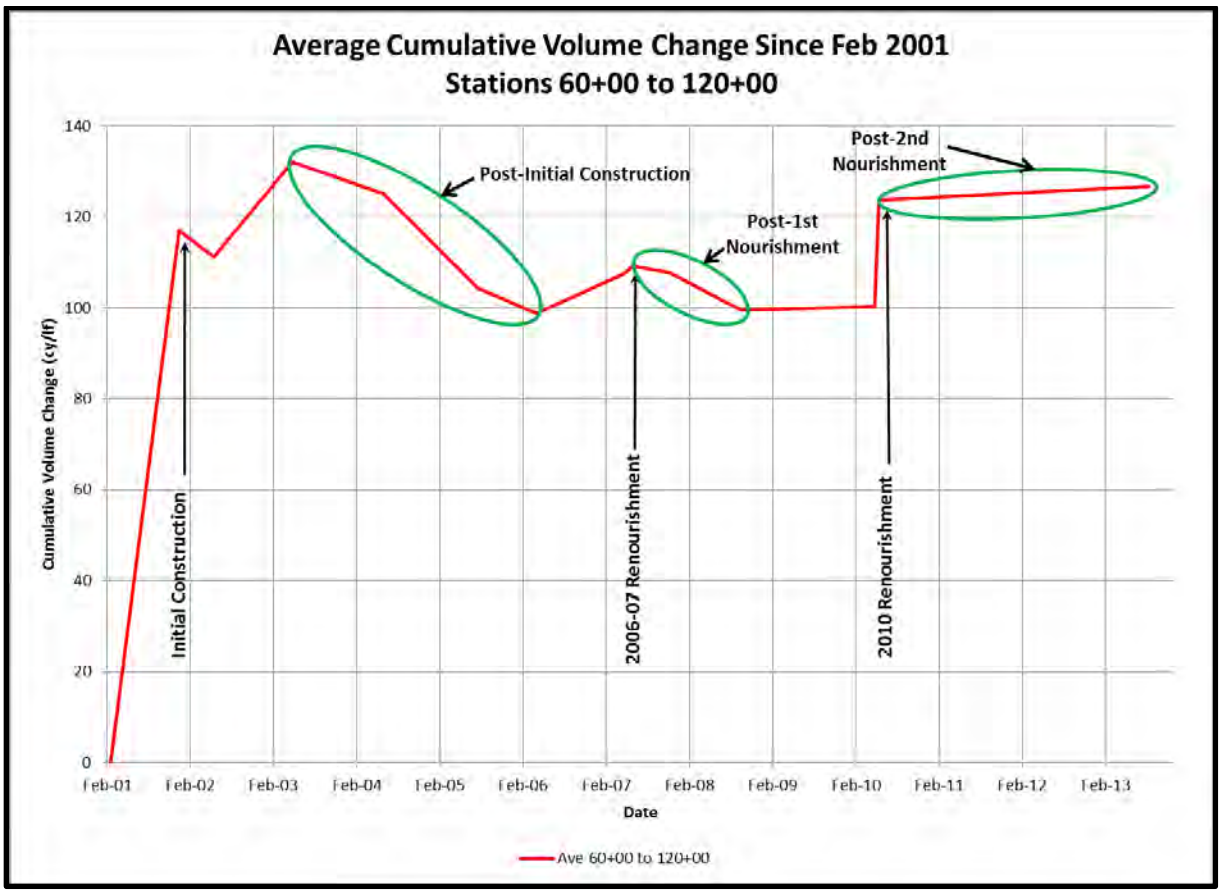

Figure 13. Average cumulative volume change for stations 60+00 to 120+00 since initial construction of the federal project in 2001.

3.5 Island-wide Periodic Nourishment Requirements.

If the Town elects to implement a beach nourishment project on the west end of the island, periodic nourishment of the west end project would be accomplished in conjunction with periodic nourishment of the federal project and possibly the Town's east end project that includes a terminal groin and beach fill. Based on the evaluation of the east end project that would include a terminal groin near the west shoulder of Shallotte Inlet, periodic nourishment of the area west of the proposed terminal groin to station 120+00 of the federal project would require 80,000 cubic yards/year (CPE-NC, 2015).

The portion of the federal project between station 120+00 and 181+00 has not required any periodic nourishment since construction and periodic nourishment of this section of the federal project is not anticipated in the near future (CPE-NC, 2015). In any event, given the possibility the area could be impacted by a severe coastal storm, for planning purposes, a nominal nourishment requirement of 2 cy/ft./yr. for this section of the federal project is recommended for

planning purposes. Therefore, periodic nourishment of this portion of the federal project could require an average of about 12,000 cubic yards/year.

Based on the assessment of the impacts of the proposed terminal groin on the shoreline of Ocean Isle Beach and the associated reduction in periodic nourishment requirements required for the federal project as well as the extreme east end of the island, a five (5) year periodic nourishment interval was recommended in the DEIS. Adopting a 5-year nourishment interval for the west end project as well, the 5-year periodic nourishment requirements needed to maintain the entire ocean shoreline of Ocean Isle Beach following the implementation of the east and west end projects, is summarized below.

Five Year Periodic Nourishment Requirements for the Town of Ocean Isle Beach:

Proposed Terminal Groin to Station 120+00	**400,000 cy**
Contingency Volume Station 120+00 to 181+00	**60,000 cy**
West End from Station 181+00 to 250+00	**185,000 cy**
Total	**645,000 cy**

The borrow source that would be used to provide material to nourish all of the segments along Ocean Isle Beach would be the existing sediment trap/borrow area located in Shallotte Inlet. This particular borrow area was originally approved for use with the federal storm damage reduction project. The inlet borrow area is also being proposed for the east end project. A discussion of the Shallotte Inlet borrow area as well as other potential borrow areas near Ocean Isle Beach is provided below in the Geotechnical Section (Section 4.0).

3.6 Implementation Schedule for a West End Project.

Implementation of a beach fill project along the west end of the Town of Ocean Isle Beach would require both federal and state permits as well as other environmental clearances (See Section 5.0 below). If the town begins the permitting process for a west end project by April 2015, the permitting process, which is discussed below, could take between 12 and 16 months to complete. Assuming 16 months as a worst case, the Town should have the necessary permits in hand by August 2016. Based on this schedule, the earliest the town could construct a project on the west end of the island would be during the 2016-2017 environmental dredging window.

Ideally, construction of a project on the west end should be done at the same time as construction of the east end project and periodic nourishment of the federal project in order to limit the cost of mobilization and demobilization of the dredge and ancillary equipment to one operation. However, the condition of the beach on the east end of Ocean Isle Beach has reached a critical point in terms of threats to existing development and infrastructure and the Town of Ocean Isle Beach is pressing to have the east end project constructed during the next environmental dredging widow that extends between November 16, 2015 and April 30, 2016. If the east end project is constructed during the 2015-2016 environmental window, construction of the west end project at the same time as the east end project would not be possible, and, due to relatively low erosion rates along the west end of the island, may not be needed.

With regard to the federal project, periodic nourishment is normally scheduled every three years. With the last nourishment operation being completed in the spring of 2014, the next scheduled periodic nourishment operation for the federal project would likely occur during the 2016-2017 environmental window. Therefore, construction of a project along the west end of Ocean Isle Beach could possibly occur in conjunction with the next nourishment of the federal project. However, due to the historical performance of the west end and the storm protection provided by the relatively healthy existing dune in this area, implementation of a beach fill project along the west end of the island should not be needed prior to the 2020-2021 environmental dredging window. The recommended schedule for implementing the various components of the island-wide shoreline management plan for the Town of Ocean Isle Beach and the estimated volume of material associated with each component are summarized in Table.

Table 3. Implementation schedule and volumes of beach nourishment projects along Ocean Isle Beach

Environmental Dredging Window	Project	Permitted Beach Fill Volume (CY)
2015-2016	**East End – Beach Fill for Terminal Groin including 5-Years of Advanced Nourishment**	**264,000**
2016-2017	**Nourish Federal Project with 4-yr volume advanced nourishment volume[(1)]**	**320,000**
2020-2021	**Periodic Nourishment Federal Project**	**400,000**
	Contingency Beach Fill Station 120+00 to 181+00 (Optional)	**60,000[(2)]**
	Initial Construction of West End Project	
	(a) Construct Design Template	262,000[(3)]
	(b) 5-Years Advanced Nourishment	185,000
	TOTAL West End Project	**447,000**

[(1)]In order to place each component of the management plan on a 5-year nourishment cycle.
[(2)]On an as-needed basis.
[(3)]Based on June 2013 survey data.

3.7 Initial Construction Cost for West End Project.

Based on the above discussion, construction of a beach fill project along the west end of Ocean Isle Beach was assumed to occur during the 2020-2021 environmental dredging window with construction of the project occurring at the same time as periodic nourishment of the federal and east end projects resulting in one island-wide nourishment operation. Based off historical erosion rates and nourishment performance, the periodic renourishment would be projected to be once every five (5) years (CPE-NC, 2015). The total volume of beach fill to be placed on the west end of Ocean Isle Beach if construction is accomplished in 2020-2021would consists of 262,000 cubic yards for construction of the design template (June 2013 survey) and 185,000 cy of advanced fill for a total of 447,000 cubic yards.

Normally, the USACE is not allowed to combine a federal project with a non-federal component. However, a non-federal entity can negotiate a separate contract with USACE selected dredging company. This was done in during the 2006-07 periodic nourishment operation in which the Town contracted directly with the company performing periodic nourishment of the federal project. Under this scenario, the Town would probably only be required to pay a negotiated unit cost to pump the material needed for the west end project the additional distance measured from the west end of the nourished portion of the federal project to the west end of the west end project. The Town would also be responsible for additional mobilization and demobilization cost associated with the longer pipeline.

Using the cost for the 2014 periodic nourishment operation as a guide, the unit cost for pumping material the additional distance to construct the west end project during the 2020-2021 environmental dredging window would be $8.14/cubic yard (Table 4). The additional cost to lay and remove the pipeline from the federal project to the west end of Ocean Isle Beach would be approximately $239,000. These costs have been inflated to reflect 2016-17 price levels. Using these adjusted costs, the estimated cost for constructing the initial fill along the west end of Ocean Isle Beach would be as presented in Table 4. Table 5 depicts the anticipated project costs for each component of the island-wide beach management plan.

Table 4. Cost Estimate for West End Project – Ocean Isle Beach

Item	Quantity	Unit Cost	Cost
Mobilization & Demobilization	1 Job	Lump Sum	$239,000
Dredging	447,00 cy	$8.14	$3,637,000
Contingency			$581,000
Engineering & Design	1 Job	Lump Sum	$110,000
Construction Observations	1 Job	Lump Sum	$120,000
TOTAL			**$4,687,000**

Table 5. Estimated project costs.

Environmental Window (Years)	Project	Estimated Non-Federal Cost
2015-2016	Initial Construction-Terminal Groin & Fill-East End	$4,941,000
2016-2017	Nourish Fed Project (non-Federal Share)	$2,049,000
2020-2021	Nourish Fed Project (non-Federal Share)	$2,481,000
2020-2021	Construct West End Project	$4,687,000
	TOTAL NON-FED COST 2020-2021	**$7,168,000**
2025-2026[(1)]	Nourish Federal Project (non-Federal Share)	$2,739,000
	Nourish West End Project	$2,424,000
	TOTAL NON-FED COST 2020-2021	**$5,163,000**

[(1)] **Nourishment cost could increase 10 to 15 percent every 5 years after 2025-2026.**

3.8 Periodic Nourishment Cost for West End Project.

Periodic nourishment of the west end project, which would be accomplished every 5 years in conjunction with the periodic nourishment operations for the other sections of the Town's shoreline, would cost approximately $2,424,000 in 2025-2026 assuming the unit cost and additional mobilization and demobilization costs inflate at a rate of 2% per year.

4.0 Geotechnical Services

As part of this study, CPE-NC conducted an assessment of sand resources available to the Town for use over the course of a long-term 30 year management program. An extensive amount of data regarding sediment resources in the vicinity of Ocean Isle Beach has been collected by the USACE. Since the 1990's, at least seven (7) geotechnical and geophysical investigations have been conducted in an attempt to identify beach compatible sand for beach nourishment projects in the vicinity of Ocean Isle Beach. These investigations include:

- Ocean Isle 1994 Borings – Shallotte Inlet and area between 1 and 3 miles offshore of Ocean Isle Beach investigated. 46 vibracore borings performed by the USACE vessel SNELL. Designated OI-1-94 through OI-46-94.
- Ocean Isle Offshore 1994 (200 Series) Borings – Sub-area of the area between 1 and 3 miles offshore investigated earlier that year. 27 additional vibracore borings performed by the USACE vessel SNELL. Designated OI-200-94 through OI-226-94.

- Tubbs Inlet 1994 Borings – 17 splitspoon borings taken in Tubbs Inlet throat and feeder channels behind Ocean Isle Beach. Designated TI-1-94 through TI-17-94
- 1994 C&C Offshore Geophysical Survey – Performed offshore Ocean Isle and Holden Beach in an area 19 miles long and 2 miles wide. Utilized Odom Echotrac Bathymetric Sustem, O.R.E 3.5 kHz Subbottom Profiler and a GeoPulse "Boomer" Profiler. Trackline spacing varied from 2,000 to 3,750.
- Shallotte Inlet 1998 Borings – 13 vibracore borings performed in the vicinity of Shallotte Inlet. Designated SHI – 1 through SHI – 16.
- Shallotte Inlet 2005 Borings – 10 vibracore borings performed in the vicinity of Shallotte Inlet. Designated OI-05-03 through OI-05-13.
- Shallotte Inlet 2009 Borings – 17 vibracore borings performed in the vicinity of Shallotte Inlet. Designated SHI-V-09-01 through SHI-V-09-17.

Sand resources previously considered for the Town include Shallotte Inlet to the east, Tubbs Inlet to the west, and portions of the inner continental shelf in the vicinity of Ocean Isle Beach. The cost of a beach nourishment project is in large part driven by the proximity of the sand resource to the project area. Although other sand sources are known to exist regionally, those sources should only be considered if an insufficient quantity of beach quality sand exists within the adjacent inlets and directly offshore of the project location.

4.1 Shallotte Inlet

Thus far the borrow area developed by the USACE in Shallotte Inlet has supplied sufficient sand for the initial construction of the project in 2001, and each of the subsequent maintenance events. This is in large part due to the ability of the borrow area to "re-charge" or re-fill due to natural sediment transport processes that occur between maintenance events. Historic surveys of Shallotte Inlet were used to determine the amount of material available for beach nourishment. As previously mentioned, the initial construction of the project in 2001 involved the placement of 1,866,000 cubic yards of material obtained from Shallotte Inlet. Figure 2 shows a map of Shallotte inlet with the approved USACE borrow area delineated (Black), along with the approximate boundary of dredging that occurred during the 2001 initial construction (Red).

Since the initial construction, Ocean Isle Beach has been nourished three times. The first periodic nourishment which included the placement of 449,400 cy of sand by the USACE and an additional 155,000 cy by the Town of Ocean Isle Beach, occurred between December 2006 and January 2007. The second periodic nourishments, which placed 509,600 cy of sand on the beach, occurred between April and May 2010. Figure 2 shows the approximate boundaries of the 2006/2007 and 2010 maintenance dredging in Shallotte Inlet. The third periodic nourishment was completed in April 2014, with the placement of approximately 800,000 cubic yards of material.

As part of the process of designing and developing environmental documents for the Ocean Isle Beach terminal groin project, a borrow area within Shallotte Inlet was proposed for use to provide sand to fill the fillet of the terminal groin. The borrow area proposed for that project was designed to be confined to the footprint of both the federally authorized borrow area and the portion of the borrow area dredged during the initial construction of the project in 2001. The maximum dredge depth of the proposed borrow area was limited to -15 ft. MLW (-17.97

NAVD88). An evaluation of vibracores collected in Shallotte Inlet in 1994, 1998, 2005, and 2009 showed that material is compatible and meet all required state criteria as established by rule 15A NCAC 07H.0312. Specifically the material contained in the proposed borrow area has a mean grain size of 0.36 mm and a percent by weight of fine-grained (less than 0.0625 millimeters) material of 1.95% (CPE-NC, 2014). Sediments recovered within the vertical boundaries of the proposed borrow area were described by the USACE as having a tan and or gray color (USACE, 1997c; Catlin, 2009).

Remaining volume left in the proposed borrow area designed for the terminal groin project was computed based on comparing the post-construction surveys for the three maintenance events to the borrow area design. Following the placement of approximately 604,000 cy of sand from Shallotte Inlet between December 2006 and January 2007, approximately 780,000 cy of sand remained in the proposed borrow area. Following the placement of approximately 550,000 cy of sand from Shallotte Inlet in 2010, approximately 591,000 cy of sand remained in the proposed borrow area. Following the placement of approximately 800,000 cy of sand from Shallotte Inlet in 2014, approximately 916,000 cy of sand remained in the proposed borrow area. The variability of these numbers reflects both the dynamic nature of the inlet and the fact that dredging by the USACE has not been completely confined to the proposed borrow area.

4.2 Tubbs Inlet

In 1994, the USACE collected 17 split spoon cores from within the inlet and back bay area of Tubbs Inlet (Figure 13). Borings TI-5-94, TI-7-94, TI-8-94, TI-11-94, TI-13-94 and TI-16-94 are located in the back bay area, approximately 500 ft. to 1500 ft. east of Tubbs Inlet. Based on comparing imagery from 1994 through 2014, sediment and vegetation have accumulated in these areas. Permitting of such sand sources could be difficult due to environmental concerns; therefore, a thorough evaluation of these borings was not conducted.

The remaining cores within the inlet contain potentially compatible material, based on the available sediment data. Borings TI-1-94, TI-2-94, TI-3-94, TI-4-94, TI-6-94, TI-9-94, TI-10-94, TI-12-94, TI-14-94, TI-15-94 and TI-17-94 (located within the green line boundary in Figure 14 have thicknesses that range from 20 ft. to 21 ft. The composite mean grain sizes for these borings range from 0.18 mm to 0.30 mm, with a majority of the borings ranging from 0.20 mm to 0.23 mm.

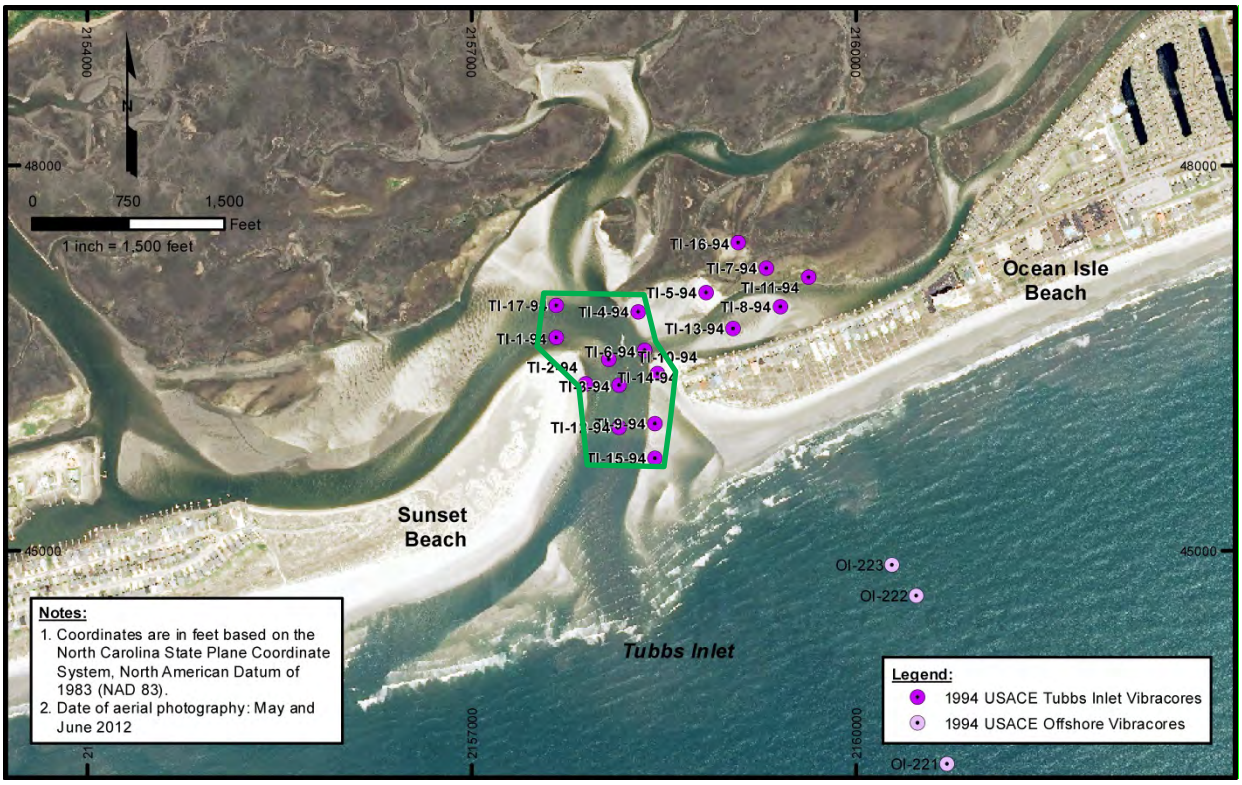

Figure 14. Tubbs Inlet boring locations.

4.3 Offshore Ocean Isle Beach

Over the course of 2 separate operations, the USACE collected approximately sixty-three borings from about 7,000 ft. to 17,000 ft. offshore Ocean Isle Beach in 1994 (Figure 15). Core logs were provided by the USACE, which were used to evaluate offshore sand resources. Three of these borings, OI-221, OI-222 and OI-223 were collected just outside of Tubbs Inlet, about 1,500 ft. to 3,000 ft. southeast of the inlet. Based on written descriptions of the cores, these borings may contain between 3 ft. to 14 ft. of compatible material. In order to verify specific sediment characteristics, additional borings would be required.

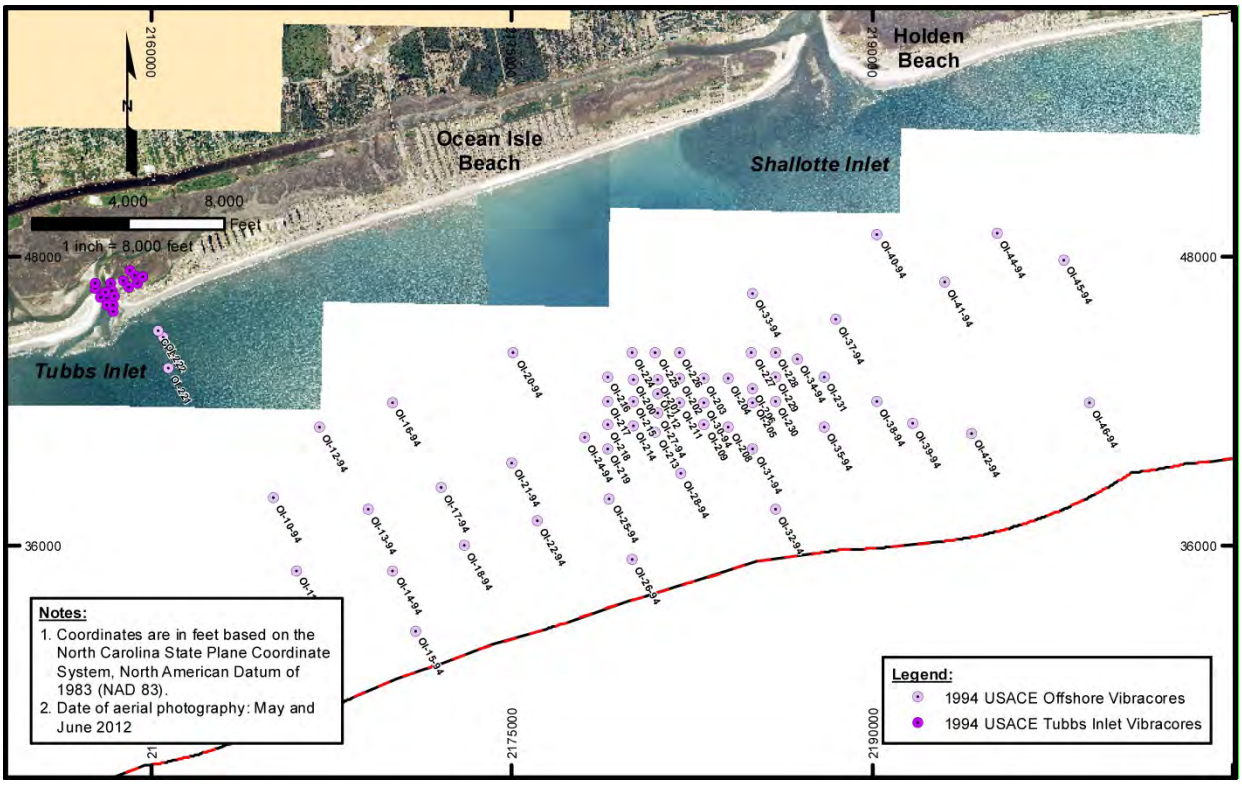

Figure 15. Ocean Isle Beach offshore boring locations.

Core logs for the remaining offshore borings were reviewed. Cores were color coded (green and red) based on an interpretation of the quality of the material. Green indicated potentially beach compatible material in sufficient thicknesses to be dredged and red indicated non-compatible material or thin deposits of compatible material not easily dredgeable (Figure 16). The offshore borings show minimal promise for potential sand resources offshore Ocean Isle Beach. The majority of the borings (red) contained materials that were a majority of clay, silt, gravel, rock, and mixtures of these components, with thin surficial sand layers, if any. The extent of this non-compatible material could be mapped seismically to determine the continuity of this material that should be avoided during future investigations.

Those borings that show some promise (green) had sand layers that ranged in thickness from 4.5 ft. to 13.0 ft. Vibracore logs describe the material as gray to dark gray in color, fine to medium to coarse sand. Some description include slightly silty or trace silt as well as traces of shell fragments. Borings OI-30-94, OI-38-94, OI-200, OI-202, and OI-227 are isolated and appear to be surrounded by borings containing incompatible material (Figure 16). Given their proximity to non-compatible material, these areas do not demonstrate a high degree of potential for borrow area development; however, the potential that they are indicative of a channel deposit containing beach compatible material exists. Although a sub-bottom profile and boomer survey were conducted by the USACE in the 1990's, records were not available from the USACE at the time this analysis was conducted. If these records exist, they may be able to provide some insight into the nature of the sand deposits.

Borings OI-27-94, OI-213 and OI-214 form a small cluster together, and are located approximately 800 ft. to 1,100 ft. apart (Figure 16). They have sand thicknesses of 5.8', 11.5' and 4.5' respectively. Vibracore logs describe the material as light gray to gray in color, fine to medium to coarse grained, poorly graded sand. Some description include silty or slightly silty as well as an indication of the presence of shells and shell fragments. Approximately 400,000 cy of sand may be available in the vicinity of these three borings. This was determined by estimating a volume for the individual borings, using an estimated sand thickness (with a two foot buffer applied above non-compatible material or the bottom of the boring), and estimated area of influence around each boring. Further detailed investigations would be needed to confirm these potential sand volumes.

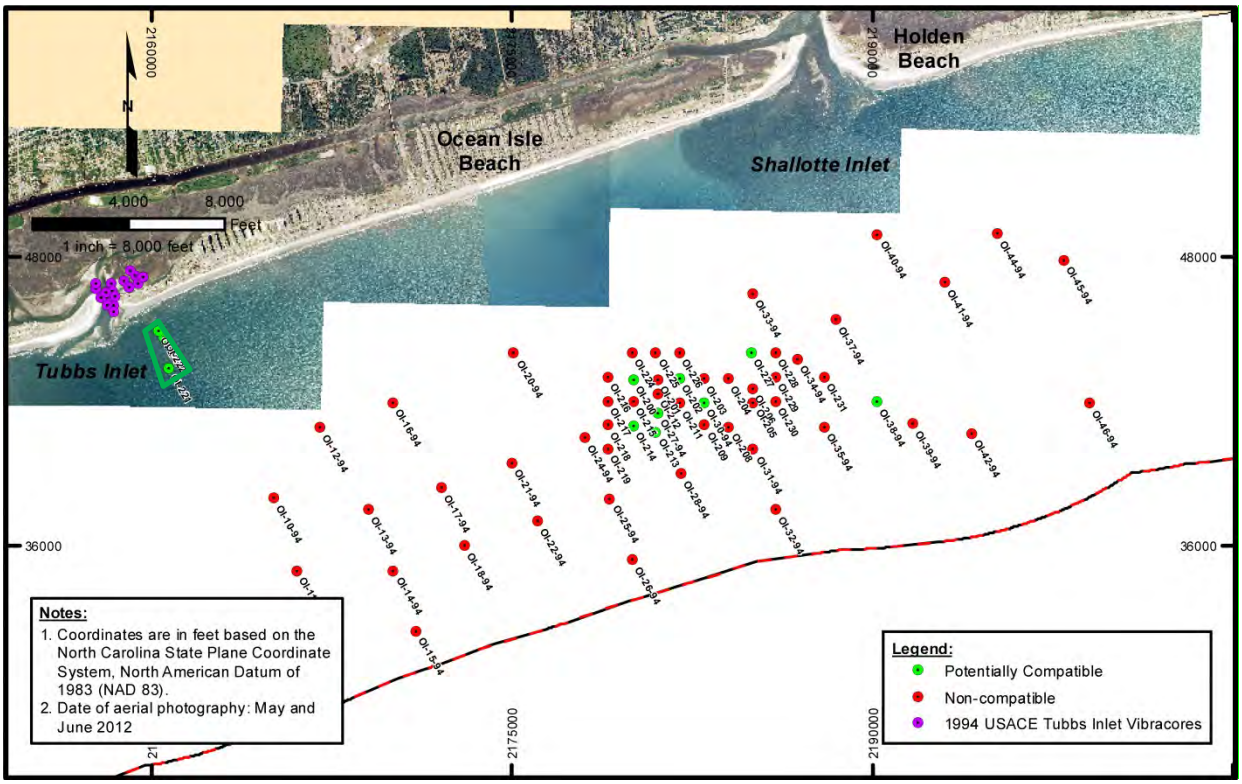

Figure 16. Ocean Isle Beach offshore boring locations color coded to indicate beach compatibility.

4.4 Cost Comparisons for Utilizing Alternate Borrow Areas

The cost estimate presented above for the west end project was based on using the Shallotte Inlet borrow area and constructing the project during the same time periodic nourishment is performed for the federal storm damage reduction project. This scenario has several advantages. First, the Shallotte Inlet borrow has already been approved for use with the federal project and will likely be approved as a borrow source for the east end project. Second, by coordinating the construction of the west end project with the periodic nourishment of the federal project, a separate mobilization and demobilization costs for the dredge would not be needed; however, some mobilization and demobilization cost would be incurred for installation and removal of the dredge pipe from the west end of the nourished portion of the federal project to the end of the west end project located near baseline station 250+00. This notwithstanding, the cost for using a potential borrow area in Tubbs Inlet as well as an offshore area were explored as possible cost-

saving measures for the construction and periodic nourishment of a project along the west end of Ocean Isle Beach.

4.4.1 Tubbs Inlet Potential Borrow Area

The area identified in the Tubbs Inlet complex shown on Figure 13 is situated between 4,000 feet and 11,500 feet from the west and east ends of the west end project, respectively. These distances are considerably shorter than the distance from the Shallotte Inlet borrow and therefore would appear to provide a more cost effective borrow area. However, the use of a Tubbs Inlet borrow area would require the dredge to move from Shallotte Inlet to Tubbs Inlet once the dredge had completed work on the federal project. While the distance is relatively short, moving the dredge would entail some cost. Also, a new pipeline would have to be installed from the Tubbs Inlet borrow area to the project shoreline. Assuming the Town would be able to negotiate a contract with the USACE contractor, most of the mobilization and demobilization cost for the dredge and ancillary equipment would be absorbed in the federal project and the Town would presumably only be responsible for the added cost for moving the dredge from Shallotte Inlet to Tubbs Inlet and the installation of the pipeline along the west end of the island.

The additional mobilization cost for moving the dredge from Shallotte Inlet to Tubbs Inlet and mobilization and demobilization of the pipeline on the west end of the island is estimated to be $663,000. The unit cost for dredging material from Tubbs Inlet with deposition along the west end of the island would be about $7.25/cubic yard or about 0.75/cubic yard less than the Shallotte Inlet borrow area. Based on these estimated unit costs, the cost for placing 410,000 cubic yards along the west end of Ocean Isle Beach from Tubbs Inlet, including the cost for engineering and design and construction observations, would be $4,429,000. This is slightly greater than the estimated cost for the Shallotte Inlet borrow area but the difference is not considered to be significant given the variability and uncertainty of dredging costs.

Permitting a borrow area in Tubbs Inlet would require additional geotechnical investigations in order to meet the requirements stipulated in 15A NCAC 07H.0312. The additional investigations would include vibracores, seismic surveys, sidescan surveys, and archeological investigations to supplement information presently available.

4.4.2 Offshore Potential Borrow Areas

Two relatively small potential borrow areas were identified above based on a review of the geotechnical data collected by the USACE, one area is located relatively close to shore just southeast of Tubbs Inlet (Figure 15) while the other is located 10,000 to 12,000 feet directly offshore of baseline station 120+00 (Figure 15).

Both of these potential borrow sources appear to have limited volumes of sediment and would probably not be able to sustain a project along the west end of Ocean Isle Beach for the assumed 30-year life of the project. While both areas would need additional geotechnical investigations in order to be permitted, there are other overriding issues that would tend to eliminate these two sources, at least at the present time.

With regard to the near shore area just southeast of Tubbs Inlet, the material in this area may be residual material associated with previous ebb tide delta configurations of Tubbs Inlet. While this would not necessarily be a deterrent for its eventual use, experience with permitting a similar area off New Topsail Inlet for the Town of Topsail Beach would seem to indicate approval by the various state and federal resource agencies would be contingent on the results of detailed numerical model investigations that would be needed to identify potential positive and negative impacts associated with the removal of material from this area. The type of model investigations needed to obtain approval for use of the area could range from $250,000 to over $500,000. Again, the model investigations would be in addition to the geotechnical investigations needed for approval.

For the area offshore of baseline station 120+00, the preliminary estimate of the volume of material potentially available is only 400,000 cubic yards which is less than the volume needed to initially construct the west end project. Perhaps more detailed geotechnical investigations could identify a potentially larger volume, however, finding enough material to sustain the west end project for 30 years seems unlikely. As a best case, if this offshore area was permitted for use as a source of beach fill material, it could be held in reserve and only used in the event of a catastrophic storm event. Even then, the offshore area would only be used in the absence of other readily available sources.

Since the Shallotte Inlet borrow area appears to provide an economical, reliable, and essentially renewable source of material for nourishment of the entire Ocean Isle Beach shoreline, the Town of Ocean Isle Beach it is recommended that the Town withhold efforts to permit a borrow area in Tubbs Inlet or an offshore borrow area at this time. If conditions with respect to Shallotte Inlet change in the future, the need to permit additional borrow sources could be revisited.

5.0 Environmental Documentation and Permitting Assessment

One of the fundamental aspects of the Town's 30-Year Beach Management Plan is to determine the most efficient permitting procedure that would allow the Town to effectively manage the various nourishment needs along the oceanfront shoreline. Typically, beach nourishment projects require the following individual state and federal approvals:

- National Environmental Policy Act (NEPA) Compliance
- Coastal Area Management Act (CAMA) Major Authorization
- NCDWR 401Certification
- USACE Section 10/404 Permit
- U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO)
- National Marine Fisheries Service (NMFS) Concurrence
- NC State Historic Preservation Office (SHPO) Concurrence

Federal approvals, including the NEPA Compliance, a BO from USFWS, and the NMFS approval, are obtained as part of the overall federal approval process. This process is typically coordinated through the United States Army Corps of Engineers (USACE). State approvals include the CAMA authorization, Water Quality Certification and SHPO approvals. This process is typically coordinated through the North Carolina Division of Coastal Management (NCDCM).

This section explores the permitting options for sand placement activities for Ocean Isle Beach; the construction of the terminal groin project will be permitted separately and is therefore not considered in the permitting options below. However, the sand volumes required for construction of the filet associated with the terminal groin project will be taken into consideration, as this will affect the amount of beach-quality material available in the Shallotte Inlet borrow area for the remainder of the island. The various permitting approaches for the 30-year Management Plan reviewed in this document include:

- **Option 1: Manage the Town's shoreline protection for the entire oceanfront shoreline under one federal and one state permit for a 30-year period**.

- **Option 2**: **Same as Option 1, with the addition of simultaneously obtaining a General Permit 291 which would allow for the Town to rapidly obtain permits to manage the portion of the oceanfront shoreline currently managed by the Federal project.**

For each proposed approach we provide a detailed assessment of the various environmental documents required for submittal to federal and state environmental resource agencies in support of permit applications. In addition, a timeline for each approach and a cost-estimate that considers any biological monitoring requirements that may be associated with each approach is provided.

5.1 Option 1: One Federal and One State Permit

5.1.1 Permitting Overview

The basis for Option 1 is an approach which would result in the issuance of one set of federal and state permits allowing for nourishment along the entire oceanfront shoreline of Ocean Isle Beach (from station 00+00 to 250+00) over a 30-year period. Although the federal project has already been authorized, this approach will still require the Town to obtain its own USACE Individual Permit (IP). Receipt of a USACE IP will put the Town in a position to provide nourishment along the entire oceanfront shoreline in the event federal funding short-falls occur.

The shoreline would be managed on a threshold basis, in which nourishment needs will be managed according to thresholds tied to the beach fill design established along sections of the beach. In essence, an area will be deemed in need of nourishment once the shoreline has eroded to the point that the design is no longer in place signaling that an adequate level of storm damage reduction is no longer provided.

5.1.2 Environmental Documentation Required

Individual Permits (IP) issued by the USACE are generally reserved for projects with potential for environmental impacts; therefore, the environmental documentation associated with an Individual Permit would include an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). In the case of the Ocean Isle Beach 30-Year Beach Management Plan, an EA would likely suffice with the resultant "Finding of No Significant Impacts" (FONSI). An

interagency meeting with representatives from federal and state resource agencies would be held in the early stages of the permitting process to ensure buy-in on the EA approach. As described in Section 1508.9 of the Council's National Environmental Policy Act (NEPA) regulations, an EA generally includes brief discussions of the following: the need for the proposal; alternatives (when there is an unresolved conflict concerning alternative uses of available resources); the environmental impacts of the proposed action and alternatives; and a listing of agencies and persons consulted. The NEPA process requires a thorough, objective, and scientifically valid definition of existing (baseline) conditions in the areas that could be affected by a beach nourishment project. The EA would be largely developed with information from existing environmental documentation the USACE has issued in support of the existing federal project and the terminal groin project. However, additional baseline information may be needed to fully describe the environmental setting and current baseline conditions. In addition to the EA, it is likely that supplementing environmental documents will need to be drafted. These include an Essential Fish Habitat Report (EFH) and Biological Assessment (BA). Once issued, the IP would allow for the initial nourishment event as well as future maintenance events along the entire oceanfront shoreline of Ocean Isle Beach over the span of the 30-year permit.

Along with the USACE IP, the Town would also need to obtain a CAMA Major Permit through the State of North Carolina. A CAMA Major Permit application requires much of the same information required for the USACE IP application. Although the CAMA Major Permit is typically valid for three to four years, the permit can be extended indefinitely through a permit modification process. The Town would also need to obtain the various other federal and state approvals listed above.

5.1.3 Available Sand Sources

Option 1 would likely utilize the Shallotte Inlet borrow area, which is the same authorized sand source used by the USACE for the federal project on Ocean Isle Beach. As discussed above in Section 4.0, geotechnical analyses of Shallotte Inlet indicate an adequate amount of compatible material exists within the currently authorized borrow area to supply the volumetric needs for the initial construction as well as future maintenance nourishment events for the entire Ocean Isle Beach shoreline.

5.1.4 Anticipated Timeline

The development of an EA in support of the USACE IP, the CAMA Major Permit application for NCDCM, and actual issuance of the permits will require approximately 12 to 16 months (Figure 17). This timeline depends, in part, on the level of environmental information pertaining to the project that is readily available. Much of the environmental information required within the EA and the CAMA Major Permit Application will overlap, thereby reducing the total amount of effort required for environmental documentation.

An interagency meeting involving NCDCM, the USACE, Ocean Isle Beach and other state and federal agencies will be convened early in the permitting process. The state allows up to six weeks for the scheduling of this meeting from initial time of request. During this time, Ocean Isle Beach will coordinate with the USACE regarding the appropriate permitting approach. Assuming that an IP would be recommended as the appropriate permitting vehicle, draft

environmental documents (i.e., EA, BA, and EFH) will be prepared over the course of approximately 180 days. Simultaneously, the CAMA Major Permit application will be prepared. A Public Hearing and Public Notice will be issued, and a commenting period ranging between 75 and 150 days will be provided to federal and state agencies, as well as the public. Upon receipt of public comments for the draft documents, revisions will be made within approximately 45 days, and final documents will be released. A Public Notice of Availability (NOA) of final documents will be published in the Federal Register, allowing for another 30 day commenting period. The revised and finalized CAMA Major Permit application and EA will then result in the issuance of the state 401 Water Quality Certificate, CAMA Major Permit, and the USACE IP approximately 45 days thereafter.

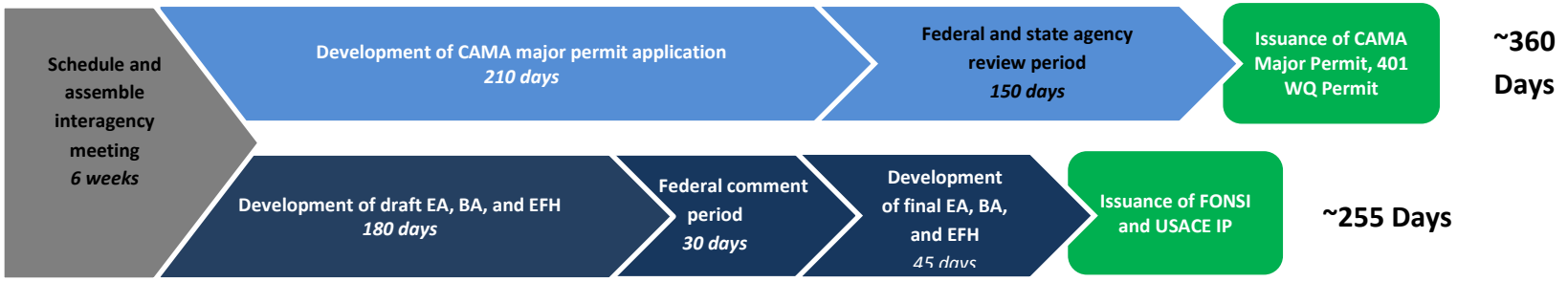

Figure 17. Timeline of events associated with Option 1. The pathway for pursuing the CAMA permit is represented in light blue, and the USACE IP pathway is in dark blue.

5.1.5 Anticipated Cost Estimate

Total cost of Option 1: **$40,000 - $60,000**

5.2 Option 2: Obtain an additional General Permit 291 for the federal project.

5.2.1 Permitting Overview

Under Option 2, the Town would pursue one set of permits to manage the entire oceanfront shoreline as outlined under Option 1. However, in addition, the Town could simultaneously pursue a USACE General Permit 291 (GP 291) that would allow construction of the federal project separately with a different "Purpose and Need" than the island-wide set of permits. The benefit of this option is that the GP 291 permitting process is relatively quicker, and could be obtained before the island-wide IP is issued. In essence, obtaining a GP 291 would serve as an "insurance policy" such that the TOWN would have the option to construct the federal project should the need arise prior to the issuance of the island-wide IP is obtained. Considering the historical performance of the federal project and the fact that it was most recently maintained this past year, it is unlikely that the Town would need to implement this option, however, due to unforeseen circumstances including damaging storms, this option and it's relatively low cost (see below) may be of interest.

5.2.2 Environmental Documentation

Unlike IPs, which entail extensive formal review by the USACE, the use of a GP 291 transfers the majority of review responsibilities from the USACE to the state. Under this arrangement, the USACE coordinates federal agency review of the project and conducts a cursory review itself. The state's decision to issue or deny a CAMA permit is based on application of the appropriate CAMA use standards. Federal authorization pursuant to Section 404, granted under GP 291, occurs only when a CAMA permit has been issued by the state. New Hanover County successfully used this process to obtain local permits for the Carolina Beach Federal beach nourishment project.

Because the majority of review responsibilities would be given the state, the environmental documentation specifically developed in support of the GP 291 would be minimal and entail a brief description of the project and predicted impacts. The state, however, would require the submittal of a CAMA Major Permit application which would involve detailed information regarding the environmental setting and baseline conditions. The GP 291 application would be developed concurrently with the IP described in Option 1, therefore much of the information being developed for the CAMA Major Permit for the island-wide permit could be used in the CAMA Major Permit for the federal project. As with Option 1, a BA and EFH would be required as well.

5.2.3 Available Sand Sources

The sand sources for Option 2 would be the same as described for Option 1.

5.2.4 Anticipated Timeline

The development of the CAMA Major Permit application for DCM and submittal of the General Permit 291 application leading to the eventual issuance of permits will require approximately six to eight months, depending on the level of environmental information readily available by the USACE pertaining to the existing projects (Figure 18). As previously stated, development of the GP 291 and CAMA Major Permit for the federal project would be concurrent with the island-wide IP and CAMA Major Permit. As such, Option 2 would not extend the overall timeline of 12 to 16months suggested under Option 1. Rather, it would increase the amount of effort and overall costs required in that time period. The GP 291 expires after one year, however renewal would not be necessary as the island-wide permit would be obtained by the time the GP 291 expired.

5.2.5 Anticipated Cost Estimate

Total cost of Option 1 + GP 291= **$45,000 - $65,000**

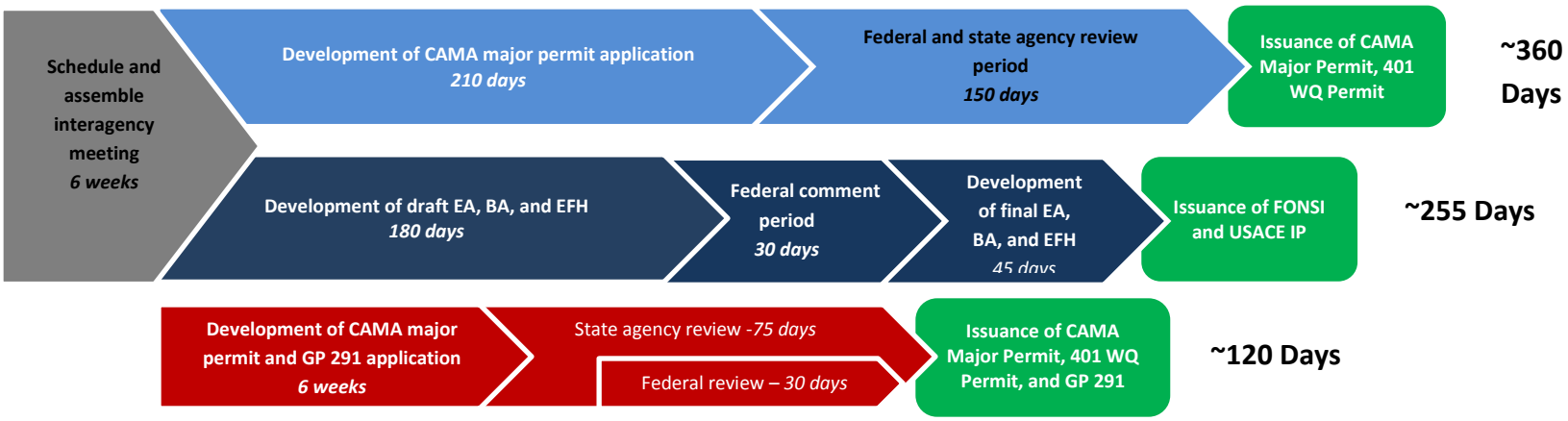

Figure 18. Timeline of events associated with Option 2 in comparison to Option 1. The pathway for pursuing the CAMA permit is represented in light blue, and the USACE IP pathway is in dark blue. The additional pathway for pursuing the USACEGP 291 (Option 2) is shown in red. Note- these timelines are the most aggressive estimates.

5.3 Monitoring Requirements

There are a number of biological and physical monitoring efforts already in effect on Ocean Isle Beach, in association with the federal project and the terminal groin project.

- **Bird Monitoring**
  The North Carolina Wildlife Resource Commission and partners have performed breeding surveys for colonial nesting waterbirds in Ocean Isle Beach on a regular basis since 1977. Specifically, surveys have been conducted along the eastern and western portion of the island in proximity to Tubbs Inlet and Shallotte Inlet. Surveys for breeding piping plovers have been conducted since 1989 at the same locations. Surveys for non-breeding piping plovers have been conducted in more recent years. These surveys include data from breeding and non-breeding seasons for several listed bird species as well as other shorebirds and waterbirds. This monitoring is expected to continue for the foreseeable future.

- **Seabeach Amaranth (*Amaranthus pumilus*)**
  Ocean Isle Beach has been surveyed by the USACE for seabeach amaranth, as part of a larger effort to survey the species along North Carolina Beaches subject to or approved for federal activity. This monitoring will likely continue in the forseeable future.

- **Sea Turtles**
  The Ocean Isle Beach Sea Turtle Patrol has been actively monitoring sea turtle nests along the town's beach since 1984. Currently, the Ocean Isle Beach Sea Turtle Protection Organization provides monitoring along the island. This monitoring is anticipated to continue for the foreseeable future.

- **Biotic Community Delineations**
  The implementation of the terminal groin project may impact biological habitats found within the Shallotte Inlet complex. To determine the size and scale of these impacts, habitat mapping will be implemented to determine a baseline condition of various biological habitats and document any changes that occur post-construction. To do so, pre-construction photographic interpretation of biotic communities utilizing high resolution aerial photography acquired in 2012, and ground-truth investigations within the proposed habitat mapping area, were completed in March 2014. The acquisition of high resolution aerial photographs, ground-truth investigations, and identification of biotic communities will be conducted within the Shallotte Inlet Habitat Mapping Area between 1 September and 30 November in the three (3) years following construction of the proposed project. All surveys will be compared to the pre-construction conditions observed from the 2012 aerial photography.

- **Escarpments**
  For the terminal groin project, visual surveys of escarpments will be made along the beach fill area immediately after construction completion. Escarpments along the newly placed beach fill that exceed 18 inches or greater than 100 ft shall be graded to match adjacent grades on the beach. The decision for escarpment removal will be determined

upon consultation with USACE and NCDCM. Removal of any escarpments during the sea turtle hatching season (May 1 through November 15) shall be coordinated with the North Carolina Wildlife Resources Commission (NCWRC), USFWS, and the USACE – Wilmington District.

In addition to the monitoring efforts discussed above, the Services may require additional monitoring in association with the island-wide permit, including:

- Biotic community delineations at the west end of the island
- Sand compatibility monitoring

It is possible that new environmental regulations and restrictions have increased since the formulation of the federal project, and, as a result, monitoring requirements for future beach projects may also increase. When developing specific permit conditions regarding biological monitoring, the USACE Wilmington District coordinates with other Federal agencies, including the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). Typically, the USACE Wilmington District and the EPA are concerned with water quality related impacts and impacts to the salt marsh community. The NMFS typically considers impacts to essential fish habitat while the USFWS is mostly concerned with impacts to threatened and endangered species. Additionally, the NCDCM coordinates with other state divisions when developing permit conditions. These divisions include the Division of Marine Fisheries (DMF), Division of Water Quality (DWQ), and the Wildlife Resource Commission (WRC), among others.

5.4 Permitting Recommendations

Based on this assessment of feasible permitting options, the Town of Ocean Isle Beach may benefit from pursuing Option 2. This pathway would achieve obtaining an IP that would allow the Town to manage the entire oceanfront shoreline for 30-years, as well as obtaining a GP 291 that would allow for nourishment of the federal project prior to the issuance of the island-wide permits, should it be needed. Essentially, the GP 291 could be obtained within six months, while the island-wide permit could take a year or more. Additionally, this extra permitting pathway would not require a substantial increase in effort or cost to the overall bottom line. Considering that the east end terminal groin project is slated for construction in 2015/2016, should the Town obtain the GP 291 for the federal project area, both beach fills could occur using the same mobilization.

6.0 FEMA Monitoring and Maintenance Plan Outline

If a locally constructed beach nourishment project is impacted by a presidentially declared disaster or emergency, federal aid is available through the Public Assistance (PA) program administered by Federal Emergency Management Administration (FEMA). Evidence that a maintenance plan has been implemented must be provided to receive federal aid. This stipulation is mandated by 44 CFR 206.226(j)(2), which states:

Work on an improved beach may be eligible under the following conditions:

(i) The beach was constructed by the placement of sand (of proper grain size) to a designed elevation, width, and slope; and,
(ii) A maintenance program involving periodic renourishment of sand must have been established and adhered to by the applicant.

The amount of sand replacement eligible for FEMA funding is limited to the material volume lost as a result of the declared disaster or emergency. Typically, beach profile surveys collected during an annual monitoring are used to determine the pre-storm condition. Following a storm, a post-storm survey should be performed to determine the volume of sand lost.

Using the outline provided below, the Town should develop a maintenance plan that can be implemented upon completion of a locally constructed project as required by 44 CFR 206.226(j)(2) to be eligible for FEMA public assistance.

6.1 FEMA Maintenance Plan Outline

1. Introduction – Describes the Town's overall shoreline management program and the purpose of the maintenance plan.
2. Project Description – Provides a detailed description of each aspect of the non-federal program. Also provides details on the most recent construction events where portions of the project were constructed or maintained.
3. Cost and Volume Requirements – Provides the most up to date information on volume required to construct future projects and costs associated with construction of future projects. This section would also provide information on availability of sand required to maintain the project.
4. Monitoring Protocol – Describes the monitoring protocol employed by the Town to measure project performance and track the amount of sand remaining in the project area.
5. Conclusions – Any conclusive information learned during recent construction or monitoring events. This section could also include any recommended modifications in the program based on monitoring data.

Regardless of whether or not the Town might take on full responsibility of future maintenance of the federal project, it is unknown at this time whether FEMA would provide reimbursement for repairs to portions of the federal project. P.L. 84-99 authorizes the federal government to respond before, during, and after disasters. This includes repair of damaged federally-authorized and constructed coastal storm damage reduction projects. CPE-NC will investigate the eligibility of the federal project to receive funding through FEMA vs. P.L. 84-99 and provide the Town with guidance on planning accordingly in the future.

7.0 Literature Cited

Catlin Engineers and Scientists, 2009. Soil Testing, Compatibility Analysis and Geotechnical Report Ocean Isle Beach Renourishment Project. Letter Report submitted to the USACE Wilmington District for work completed under CATLIN Project No. 209-031

CPE-NC, 2014. Geotechnical Investigation of Ocean Isle Beach & Shallotte Inlet Borrow Area, Ocean Isle Beach Shoreline Management Project. Prepared for the Town of Ocean Isle Beach, NC. 19 pg.

CPE-NC, 2015. Draft Environmental Impact Statement for the Town of Ocean Isle Beach Shoreline Protection Project. Prepared for the US Army Corps of Engineers.

Ivey, Daisy. 2012. Town of Ocean Isle Beach. Town Administrator. Personal communication regarding town property value.

USACE, 1997c Draft General Reevaluation Report and Environmental Assessment for Beach Erosion Control and Hurricane Wave Protection – Brunswick county Beaches, North Carolina, Ocean Isle Beach Portion. *Appendix B Geotechnical Investigation and Sand Compatibility Analysis.* Wilmington Corps District, Wilmington, North Carolina.

Coastal Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

CRC-16-30

June 29, 2016

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski

SUBJECT: Proposed Amendments to 7H .0308 Temporary Erosion Control Structures

The Commission has been considering amendments to your rules governing the use of sandbags as temporary erosion control structures (15A NCAC 7H .0308; 7H .1704 and 7H .1705) based on the legislative directive in S.L. 2015-241 as well as discussion of the CRC and CRAC. The proposed amendments address the time limits for permitted sandbag structures, provisions for removal when no longer necessary, and the allowance for structures to remain beyond permitted time limits when "covered and vegetated."

The Commission has also been discussing the provision that an imminently threatened structure be permitted to utilized a temporary erosion control structure only once [7H .0308(2)(M)] unless it is located in a community that is actively pursuing a remedy to their erosion issue. At your May meeting, questions were raised as to how many properties would be in areas that would not be considered pursuing a remedy for their erosion issues. Staff have reviewed the sandbag permit data and determined there are 14 properties (located in Currituck County, Southern Shores, Rodanthe, Kure Beach and Ocean Isle) that would not be considered pursuing some mitigative activity. While the Commission approved amendments that include the one-time per structure provision, Staff was directed to remove this provision for further consideration at the July meeting.

Given the CRAC recommendation to allow an eight-year time limit for all structures and the CRC direction to remove the one-time per property provision, there is no longer a relevant distinction to be made between properties that are located in communities that are pursuing mitigative activities such as beach nourishment, and properties that are not located in such communities. Staff has therefore removed the portions of the rules associated with a community's mitigative activities.

It should be noted that HB 593 Amend Environmental and Other Laws currently being considered by the Legislature includes:

COASTAL RESOURCES COMMISSION RULES ON TEMPORARY EROSION CONTROL STRUCTURES

SECTION 5.(a) Sections 14.6(p) and 14.6(q) of S.L. 2015-241 are repealed.
SECTION 5.(b) The Coastal Resources Commission shall adopt temporary rules for the use of temporary erosion control structures consistent with the amendments to the temporary erosion control structure rules adopted by the Commission as agenda item CRC-16-23 on May 11, 35 2016, with any further modifications in the Commission's discretion. The Commission shall also adopt permanent rules to implement this section.

Should HB 593 be enacted into law by your July 12-13, 2016 meeting, the CRC will be able to initiate the temporary rulemaking process. Unlike the previous legislative directive, the Commission's authority to adopt the temporary rules will not expire.

The attached draft rule language includes the legislative provisions discussed at the last two CRC meetings (highlighted) as well as the additional amendments discussed by the CRAC (**bold**). Also attached is a "clean" version of the rule for easier reading. The new draft amendments would be intended to:

- Remove the distinction between structures greater or less than 5,000 square feet, setting the time limit at eight years for all structures;
- Remove the "vegetated" requirement for sandbag structures to remain beyond their permitted time when covered by sand;
- Require that only sandbags exposed above grade be removed at the expiration of the permit;
- Modify the "no longer necessary" provisions to require the removal of sandbags that are exposed above grade upon completion of a beach nourishment or inlet relocation/stabilization project.
- Deletes the provisions for properties located in communities with a planned beach nourishment or inlet relocation/stabilization project.
- Clarifies that structures determined by the Division of Coastal Management to be imminently threatened upon the expiration date of permitted temporary erosion control structures may be permitted to remain in place for an additional eight years.

In summary, the revised language manages sandbags in the following manner:

Sandbags Permitted
- On properties with an imminently threatened structure or accelerated erosion.
- On properties with no imminently threatened structure, but adjacent to a property with an existing sandbag structure that is in compliance with the Commission's rules.

Time Limits
- Sandbag permits will be valid for eight years for all structures.
- Sandbags may be permitted for an additional eight-year period if the property qualifies (imminently threatened).
- Sandbag structures placed incrementally will have time limits corresponding to the latest installation.
- Sandbag structures may remain if they are being litigated in court.

Removal

- If the structure is demolished or relocated, all sandbags must be removed.
- Upon completion of beach fill/inlet relocation or stabilization project, sandbags exposed above grade must be removed.
- Upon expiration of the eight-year permit, sandbags exposed above grade must be removed.
- Sandbags covered by sand do not need to be removed.

We look forward to discussing these proposed amendments and further guidance at your upcoming meeting in Beaufort.

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

(a) Ocean Shoreline Erosion Control Activities:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(iv) the structure shall not ~~adversely impact~~ have significant adverse impacts on fisheries or other public trust resources; and

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

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

replacement of a permanent erosion control structure that was permitted by the Commission pursuant to a variance granted by the Commission prior to 1 July 1995 if the Commission finds that:

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

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

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

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

(2) Temporary Erosion Control Structures:

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

(B) Temporary erosion control structures as defined in Part (2)(A) of this Subparagraph ~~shall~~ may be used to protect ~~only~~ imminently threatened roads and associated right of ways, and buildings and their associated septic systems. A structure is considered imminently threatened if its foundation, septic system, or right-of-way in the case of roads, is less than 20 feet away from the erosion scarp. Buildings and roads located more than 20 feet from the erosion scarp or in areas where there is no obvious erosion scarp may also be found to be imminently threatened when site conditions, such as a flat beach profile or accelerated erosion, increase the risk of imminent damage to the structure. Temporary erosion control structures may be used to protect properties that are experiencing erosion when there are no imminently threatened structures on the property if an adjacent property has an existing temporary erosion control structure that is in compliance with the Commission's rules. Temporary erosion control structures used to protect property without imminently threatened structures shall be sited to align with and shall be no further waterward than the most landward adjacent temporary erosion control structure.

(C) ~~Temporary~~ Nothwithstanding Part (2)(B) of this Subparagraph, temporary erosion control structures shall be used to protect only the principal structure-and its associated septic system, but not appurtenances such as pools, gazebos, decks or any amenity that is allowed as an exception to the erosion setback requirement.

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

(E) ~~Temporary erosion control structures shall not extend more than 20 feet past the sides of the structure to be protected.~~ The landward side of such temporary erosion control structures shall not be located more than 20 feet ~~seaward~~ waterward of the structure to be protected or the right-of-way in the case of roads. If a building or road is found to be imminently threatened and at an increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet ~~seaward~~ waterward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or ~~their~~ the Director's designee in accordance with Part (2)(A) of this Subparagraph.

(F) Temporary erosion control structures may remain in place for up ~~to two years after the date of approval if they are protecting a building with a total floor area of 5000 sq. ft. or less and its associated septic system, or, for up to five~~ **eight** years for a building ~~with a total floor area of more than 5000 sq. ft.~~ and its associated septic system, ~~system. Temporary erosion control structures may remain in place for up to five years if they are protecting~~ a bridge or a road. The termination date of all contiguous temporary erosion control structures on the same property shall be the same and shall be the latest termination date of any of the permitted temporary erosion control structures. The property owner shall be responsible for removal of any portion of the temporary erosion control structure exposed above grade the temporary structure within 30 days of the end of the allowable time period. Owners of structures determined by the Division of Coastal Management to be imminently threatened upon the expiration date of permitted

temporary erosion control structures issued pursuant to this Section, may be eligible for a permit to remain in place for an additional eight years.

(G) Temporary sandbag erosion control structures may remain in place for up to eight years from the date of approval if they are located in a community that is actively pursuing a beach nourishment project, or if they are located in an Inlet Hazard Area adjacent to an inlet for which a community is actively pursuing an inlet relocation or stabilization project in accordance with G.S. 113A-115.1 For purposes of this Rule, a community is considered to be actively pursuing a beach nourishment, nourishment or an inlet relocation or stabilization project in accordance with G.S. 113A-115.1 if it has:

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

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

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

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

~~If beach nourishment, nourishment or inlet relocation or stabilization is rejected by the sponsoring agency or community, or ceases to be actively planned for a section of shoreline, the time extension is void for that section of beach or community and existing sandbags are subject to all applicable time limits set forth in Part (F) of this Subparagraph. The termination date of all permits for contiguous temporary erosion control structures on the same property shall be the same and shall be the latest termination date of any of the permits.~~

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

~~(I)~~**(H)** Removal of temporary erosion control structures is not required if they are covered by ~~dunes~~ **sand** ~~with stable and natural vegetation~~.

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

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

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

(M) An imminently threatened structure may be protected only once, regardless of ownership, unless the threatened structure is located in a community that is actively pursuing a beach nourishment project, or in an Inlet Hazard Area and in a community that is actively pursuing an inlet relocation or stabilization project in accordance with Part (G)(H) of this Subparagraph. Existing temporary erosion control structures located in Inlet Hazard Areas may be eligible for an additional eight year eight-year permit extension provided that the structure being protected is still imminently threatened, the temporary erosion control structure is in compliance with requirements of this Subchapter Subchapter, and the community in which it is located is actively pursuing a beach

nourishment, nourishment or an inlet relocation or stabilization project in accordance with Part (G) of this Subparagraph. In the case of a building, a temporary erosion control structure may be extended, or new segments constructed, if additional areas of the building become imminently threatened. Where temporary structures are installed or extended incrementally, the time period for removal under Part (F) or (G) of this Subparagraph shall begin at the time the initial most recent erosion control structure is installed. For the purpose of this Rule:

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

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

(N) Existing sandbag structures may be repaired or replaced within their originally permitted dimensions during the time period allowed under Part (F) or (G) of this Subparagraph. Existing sandbag structures that were legally placed pursuant to permits that have since expired may be replaced, repaired, or modified within their permit dimensions if the status of the permit is being litigated by the property owner in state, federal or administrative court.

15A NCAC 07H .1704 GENERAL CONDITIONS

(a) Work permitted by means of an emergency general permit shall be subject to the following limitations:

(1) No work shall begin until an onsite meeting is held with the applicant and a Division of Coastal Management representative so that the proposed emergency work can be delineated. Written authorization to proceed with the proposed development may be issued during this visit.

(2) No work shall be permitted other than that which is necessary to reasonably protect against or reduce the imminent danger caused by the emergency, to restore the damaged property to its condition immediately before the emergency, or to re-establish necessary public facilities or transportation corridors.

(3) Any permitted erosion control projects shall be located no more than 20 feet waterward of the imminently threatened structure or the right-of way in the case of ~~roads.~~ roads, except as provided under 15A NCAC 07H .0308. If a building or road is found to be imminently threatened and at increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet ~~seaward~~ waterward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or the Director's designee.

(4) Fill materials used in conjunction with emergency work for storm or erosion control shall be obtained from an upland source. Excavation below MHW in the Ocean Hazard AEC may be allowed to obtain material to fill sandbags used for emergency protection.

(5) Structural work shall meet sound engineering practices.

(6) This permit allows the use of oceanfront erosion control measures for all oceanfront properties without regard to the size of the existing structure on the property or the date of construction.

(b) Individuals shall allow authorized representatives of the Department of ~~**Environment and Natural Resources**~~ **Environmental Quality** to make inspections at any time deemed necessary to be sure that the activity being performed under authority of this general permit is in accordance with the terms and conditions in these Rules.

(c) Development shall not jeopardize the use of the waters for navigation or for other public trust rights in public trust areas including estuarine waters.

(d) This permit shall not be applicable to proposed construction where the Department has determined, based on an initial review of the application, that notice and review pursuant to G.S. 113A-119 is necessary because there are unresolved questions concerning the proposed activity's impact on adjoining properties or on water quality, air quality, coastal wetlands, cultural or historic sites, wildlife, fisheries resources, or public trust rights.

(e) This permit does not eliminate the need to obtain any other state, local, or federal authorization.

(f) Development carried out under this permit must be consistent with all local requirements, CAMA rules, and local land use plans, storm hazard mitigation, and post-disaster recovery plans current at the time of authorization.

History Note: *Authority G.S. 113-229(cl); 113A-107(a),(b); 113A-113(b); 113A-118.1;*
Eff. November 1, 1985;
Amended Eff. December 1, 1991; May 1, 1990;
RRC Objection due to ambiguity Eff. May 19, 1994;
Amended Eff. May 1, 2010; August 1, 1998; July 1, 1994;

15A NCAC 07H .1705 SPECIFIC CONDITIONS

(a) Temporary Erosion Control Structures in the Ocean Hazard AEC.

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

(2) Temporary erosion control structures as defined in Subparagraph (1) of this Paragraph ~~shall~~ may be used to protect ~~only~~ imminently threatened roads and associated right of ways, and buildings and their associated septic systems. A structure is considered imminently threatened if its foundation, septic system, ~~or,~~ or right-of-way in the case of ~~roads,~~ roads is less than 20 feet away from the erosion scarp. Buildings and roads located more than 20 feet from the erosion scarp or in areas where there is no obvious erosion scarp may also be found to be imminently threatened when the Division determines that site conditions, such as a flat beach profile or accelerated erosion, increase the risk of imminent damage to the structure. Temporary erosion control structures may be used to protect properties that are experiencing erosion when there are no imminently threatened structures on the property if an adjacent property has an existing temporary erosion control structure that is in compliance with the Commission's rules. Temporary erosion control structures used to protect property without imminently threatened structures shall be sited to align with and shall be no farther waterward than the most landward adjacent temporary erosion control structure.

(3) ~~Temporary~~ Notwithstanding Part (a)(2) of this Subparagraph, temporary erosion control structures shall be used to protect only the principal structure and its associated septic system, but not appurtenances such as pools, gazebos, decks or any amenity that is allowed as an exception to the erosion setback requirement.

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

(5) ~~Temporary erosion control structures shall not extend more than 20 feet past the sides of the structure to be protected.~~ The landward side of such temporary erosion control structures shall not be located more than 20 feet ~~seaward~~ waterward of the structure to be protected or the right-of-way in the case of roads. If a building or road is found to be imminently threatened and at increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet ~~seaward~~ waterward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or the Director's designee in accordance with Subparagraph (1) of this Paragraph.

(6) Temporary erosion control structures may remain in place for up to ~~two years after the date of approval if they are protecting a building with a total floor area of 5,000 square feet or less and its associated septic system, or for up to five~~ **eight** years for a building ~~with a total floor area of more than 5,000 square feet~~ and its associated septic ~~system.~~ **system, ~~Temporary erosion control structures may remain in place for up to five eight years if they are protecting~~** a bridge or a road. The termination date of all permits for contiguous temporary erosion control structures on the same property shall be the same and shall be the latest termination date of any of the permits. The property owner shall be responsible for removal of **any portion of the temporary erosion control structure exposed above grade** ~~the temporary structure~~ within 30 days of the end of the allowable time period. **Owners of structures determined by the Division of Coastal Management to be imminently threatened upon the expiration of permitted temporary erosion control structures issued pursuant to this Section, may be eligible for a permit to remain in place for an additional eight years.**

~~(7) Temporary sandbag erosion control structures may remain in place for up to eight years from the date of approval if they are located in a community that is actively pursuing a beach nourishment project, or if they are located in an Inlet Hazard Area adjacent to an inlet for which a community is actively pursuing an inlet relocation or stabilization project in accordance with G.S. 113A-115.1. For purposes of this Rule, a community is considered to be actively pursuing a beach nourishment, nourishment or an inlet relocation or stabilization project if it has:~~

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

~~(B) been identified by a U.S. Army Corps of Engineers' Beach Nourishment Reconnaissance Study, General Reevaluation Report, Coastal Storm Damage Reduction Study, or an~~

~~ongoing feasibility study by the U.S. Army Corps of Engineers and a commitment of local or federal money, when necessary; or~~

~~(C) received a favorable economic evaluation report on a federal project; or~~

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

~~If beach nourishment, inlet relocation or stabilization is rejected by the sponsoring agency or community, or ceases to be actively planned for a section of shoreline, the time extension is void for that section of beach or community and existing sandbags are subject to all applicable time limits set forth in Subparagraph (6) of this Paragraph. The termination date of all permits for contiguous temporary erosion control structures on the same property shall be the same and shall be the latest termination date of any of the permits.~~

~~(8)~~(7) Once the temporary erosion control structure is determined by the Division of Coastal Management to be unnecessary due to relocation or removal of the threatened structure, **it shall be removed by the property owner within 30 days of official notification from the Division of Coastal Management regardless of the time limit placed on the temporary erosion control structure. If the temporary erosion control structure is determined by the Division of Coastal Management to be unnecessary due to the completion of** a storm protection project constructed by the U.S. Army Corps of Engineers, a large scale beach nourishment project, or an inlet relocation or stabilization project, **any portion of the temporary erosion control structure exposed above grade** ~~it~~ shall be removed by the permittee within 30 days of official notification by the Division of Coastal Management, regardless of the time limit placed on the temporary erosion control structure.

~~(9)~~(8) Removal of temporary erosion control structures is not required if they are covered by ~~dunes~~ **sand** ~~with stable and natural vegetation~~.

~~(10)~~(9) The property owner shall be responsible for the removal of remnants of all portions of any damaged temporary erosion control structure.

~~(11)~~(10) Sandbags used to construct temporary erosion control structures shall be tan in color and 3 to 5 feet wide and 7 to 15 feet long when measured flat. Base width of the structure shall not exceed 20 feet, and the height shall not exceed 6 feet.

~~(12)~~(11) Soldier pilings and other types of devices to anchor sandbags shall not be allowed.

~~(13)~~(12) Excavation below mean high water in the Ocean Hazard AEC may be allowed to obtain material to fill sandbags used for emergency protection.

~~(14)~~(13) ~~An imminently threatened structure may be protected only once regardless of ownership, unless the threatened structure is located in a community that is actively pursuing a beach nourishment project, or in an Inlet Hazard Area and in a community that is actively pursuing an inlet relocation or stabilization project in accordance with Subparagraph (7). Existing temporary erosion control structures may be eligible for an additional eight year permit extension provided that the structure being protected is still imminently threatened, the temporary erosion control structure is in compliance with requirements of this Subparagraph Subparagraph, and the community in which it is located is actively pursuing a beach nourishment, nourishment or an inlet relocation or stabilization project in accordance with Subparagraph (7) of this Paragraph.~~ In the case of a building, a temporary erosion control structure may be extended, or new segments constructed, if additional areas of the building become imminently threatened. Where temporary structures are installed or extended incrementally, the time period for removal under Subparagraph (6) or (7) shall begin at the time the ~~initial~~ most recent erosion control structure is installed. For the purpose of this Rule:

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

(B) a road or highway shall be allowed to be incrementally protected as sections become imminently threatened. The time period for removal of each contiguous section of sandbags shall begin at the time that the most recent section is installed in accordance with Subparagraph (6) or (7) of this Rule.

~~(15)~~(14) Existing sandbag structures may be repaired or replaced within their originally permitted dimensions during the time period allowed under Subparagraph (6) or (7) of this Rule. Existing sandbag structures that were legally placed pursuant to permits that have since expired may be replaced, repaired, or

modified within their permit dimensions if the status of the permit is being litigated by the property owner in state, federal or administrative court.

(b) Erosion Control Structures in the Estuarine Shoreline, Estuarine Waters, and Public Trust AECs. Work permitted by this general permit shall be subject to the following limitations:

(1) No work shall be permitted other than that which is necessary to reasonably protect against or reduce the imminent danger caused by the emergency or to restore the damaged property to its condition immediately before the emergency;

(2) The erosion control structure shall be located no more than 20 feet waterward of the imminently threatened structure. If a building or road is found to be imminently threatened and at increased risk of imminent damage due to site conditions such as a flat shore profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet ~~seaward~~ waterward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or the Director's designee. Temporary erosion control structures may be used to protect properties that are experiencing erosion when there are no imminently threatened structures on the property if an adjacent property has an existing temporary erosion control structure that is in compliance with the Commission's rules. Temporary erosion control structures used to protect property without imminently threatened structures shall be sited to align with and be no further waterward than the most landward adjacent temporary erosion control structure.

(3) Fill material used in conjunction with emergency work for storm or erosion control in the Estuarine Shoreline, Estuarine Waters and Public Trust AECs shall be obtained from an upland source.

(c) Protection, Rehabilitation, or Temporary Relocation of Public Facilities or Transportation Corridors.

(1) Work permitted by this general permit shall be subject to the following limitations:

(A) no work shall be permitted other than that which is necessary to protect against or reduce the imminent danger caused by the emergency or to restore the damaged property to its condition immediately before the emergency;

(B) the erosion control structure shall be located no more than 20 feet waterward of the imminently threatened structure or the right-of-way in the case of roads. If a public facility or transportation corridor is found to be imminently threatened and at increased risk of imminent damage due to site conditions such as a flat shore profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet ~~seaward~~ waterward of the facility or corridor being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or the Director's designee in accordance with Subparagraph (a)(1) of this Rule. Temporary erosion control structures may be used to protect properties that are experiencing erosion when there are no imminently threatened structures on the property if an adjacent property has an existing temporary erosion control structure that is in compliance with the Commission's rules. Temporary erosion control structures used to protect property without imminently threatened structures shall be sited to align with and be no further waterward than the most landward adjacent temporary erosion control structure;

(C) any fill materials used in conjunction with emergency work for storm or erosion control shall be obtained from an upland source except that dredging for fill material to protect public facilities or transportation corridors shall be considered in accordance with standards in 15A NCAC ~~7H .0208;~~ 7H .0208; and

(D) all fill materials or structures associated with temporary relocations which are located within Coastal Wetlands, Estuarine Water, or Public Trust AECs shall be removed after the emergency event has ended and the area restored to pre-disturbed conditions.

(2) This permit authorizes only the immediate protection or temporary rehabilitation or relocation of existing public facilities. Long-term stabilization or relocation of public facilities shall be consistent with local governments' post-disaster recovery plans and policies which are part of their Land Use Plans.

History Note: Authority G.S. 113-229(cl); 113A-107(a),(b); 113A-113(b); 113A-115.1; 113A-118.1;
Eff. November 1, 1985;
Amended Eff. April 1, 1999; February 1, 1996; June 1, 1995;
Temporary Amendment Eff. July 3, 2000; May 22, 2000;
Amended Eff. May 1, 2013; May 1, 2010; August 1, 2002.Temporary Amendment Eff. July 3, 2000; May 22, 2000;

VARIANCE REQUEST

Petitioner – Kay Picha

149 Ocean Isle West Blvd., Ocean Isle Beach, NC 28469, Brunswick County

Presentation prepared and presented by: Sean Farrell

Date: July 12, 2016

Petitioner – Kay Picha - Variance Request
July 12, 2016

Department of Environmental Quality

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Department of Environmental Quality

Petitioner – Kay Picha - Variance Request

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 09/2007 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 10/06/2007 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner – Kay Picha - Variance Request

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Petitioner – Kay Picha - Variance Request

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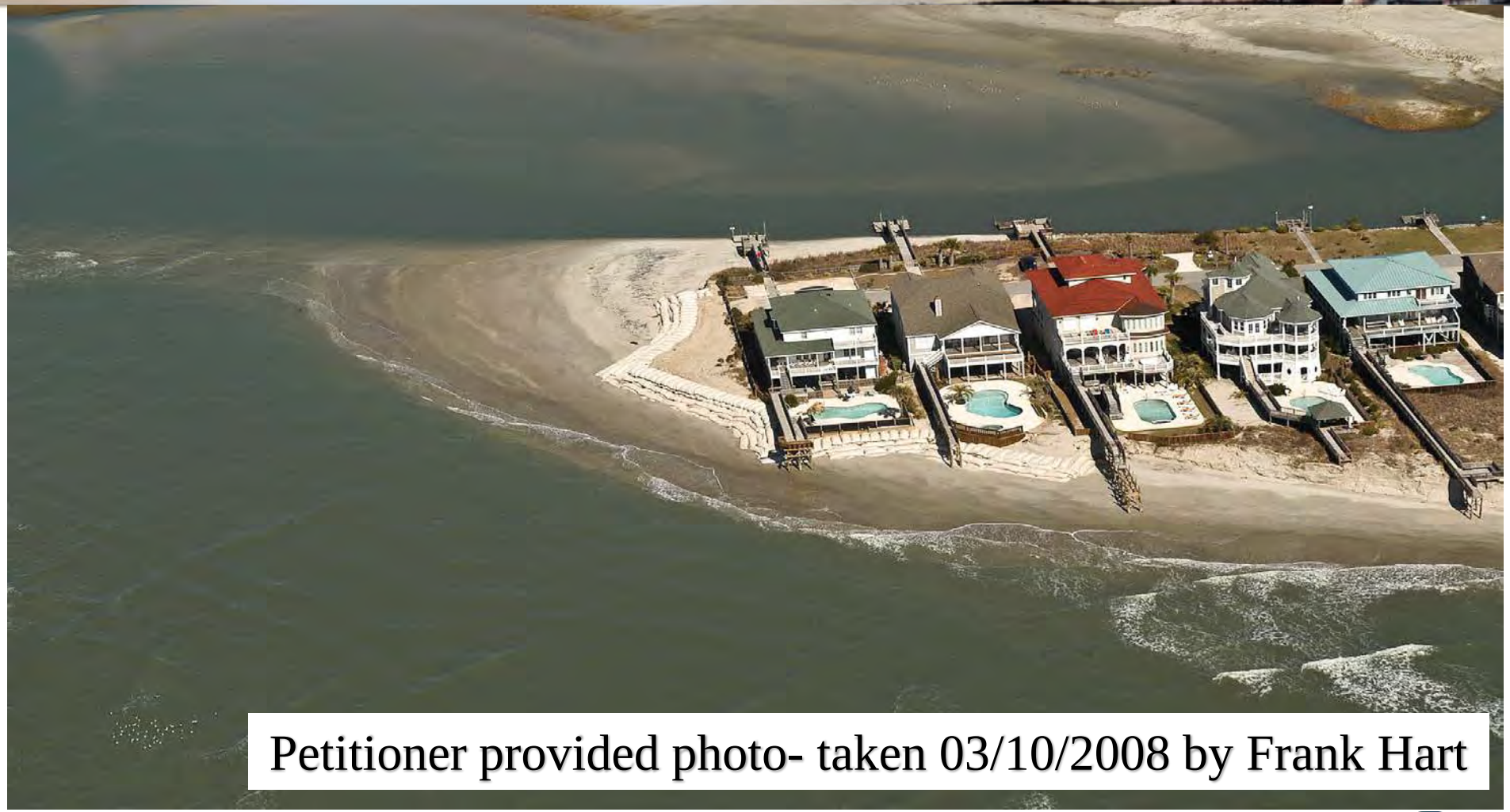

Petitioner provided photo- taken 03/10/2008 by Frank Hart

Petitioner – Kay Picha - Variance Request

Department of Environmental Quality

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 07/21/2009 by Yogi Harper

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 01/09/2012 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken by 10/04/2013 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 03/11/2014 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner – Kay Picha - Variance Request

Photo taken 11/6/2014 by DCM staff

Petitioner – Kay Picha - Variance Request

Photo taken 10/08/2015 by DCM staff

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 11/25/2015 by Dave Picha

Petitioner – Kay Picha - Variance Request

Photo taken 1/29/2016 by DCM staff

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 02/11/2016 by Yogi Harper

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 02/11/2016 by Yogi Harper

Petitioner – Kay Picha - Variance Request

Photo taken 4/15/2016 by DCM staff

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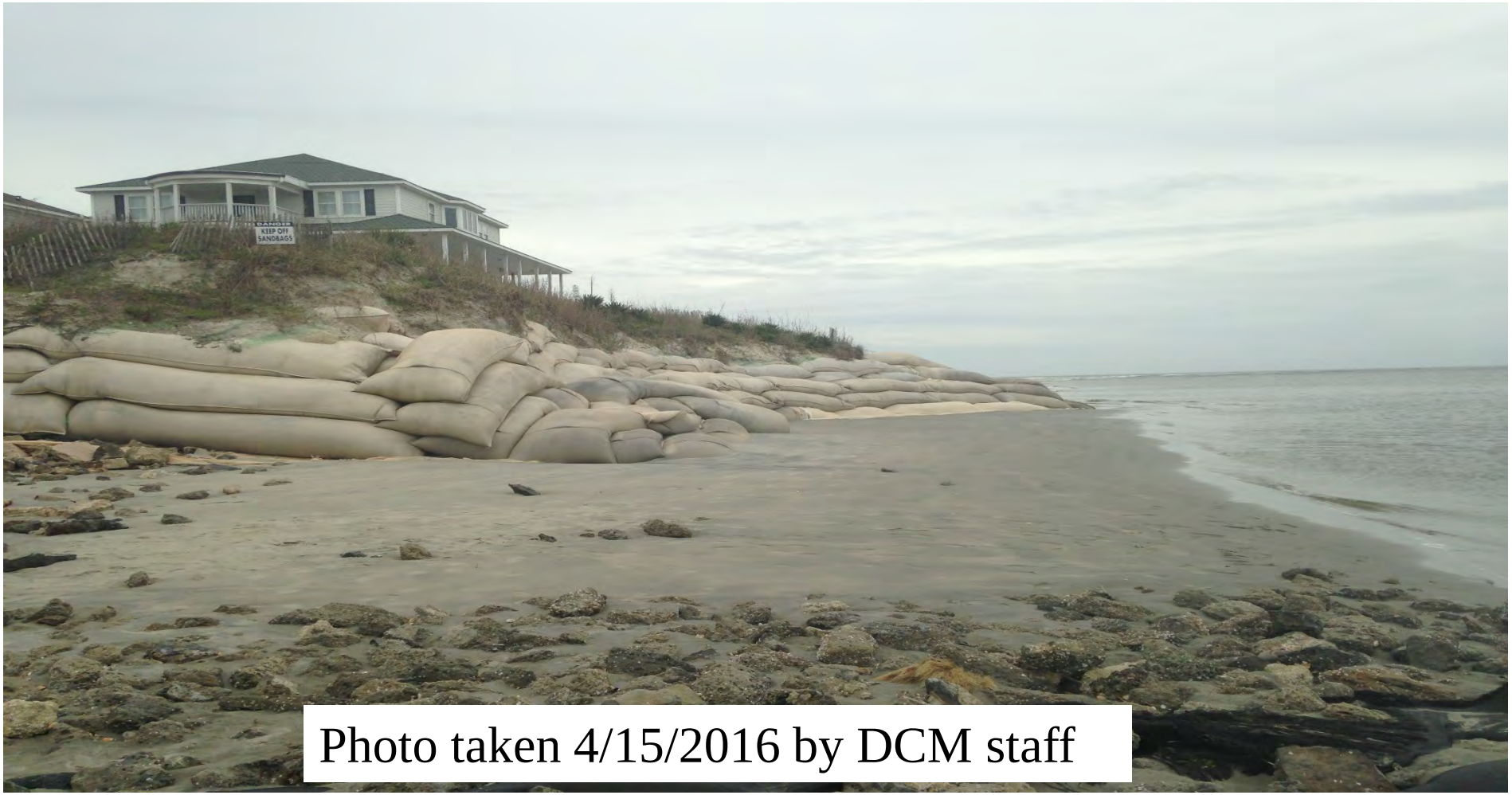

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Petitioner – Kay Picha - Variance Request

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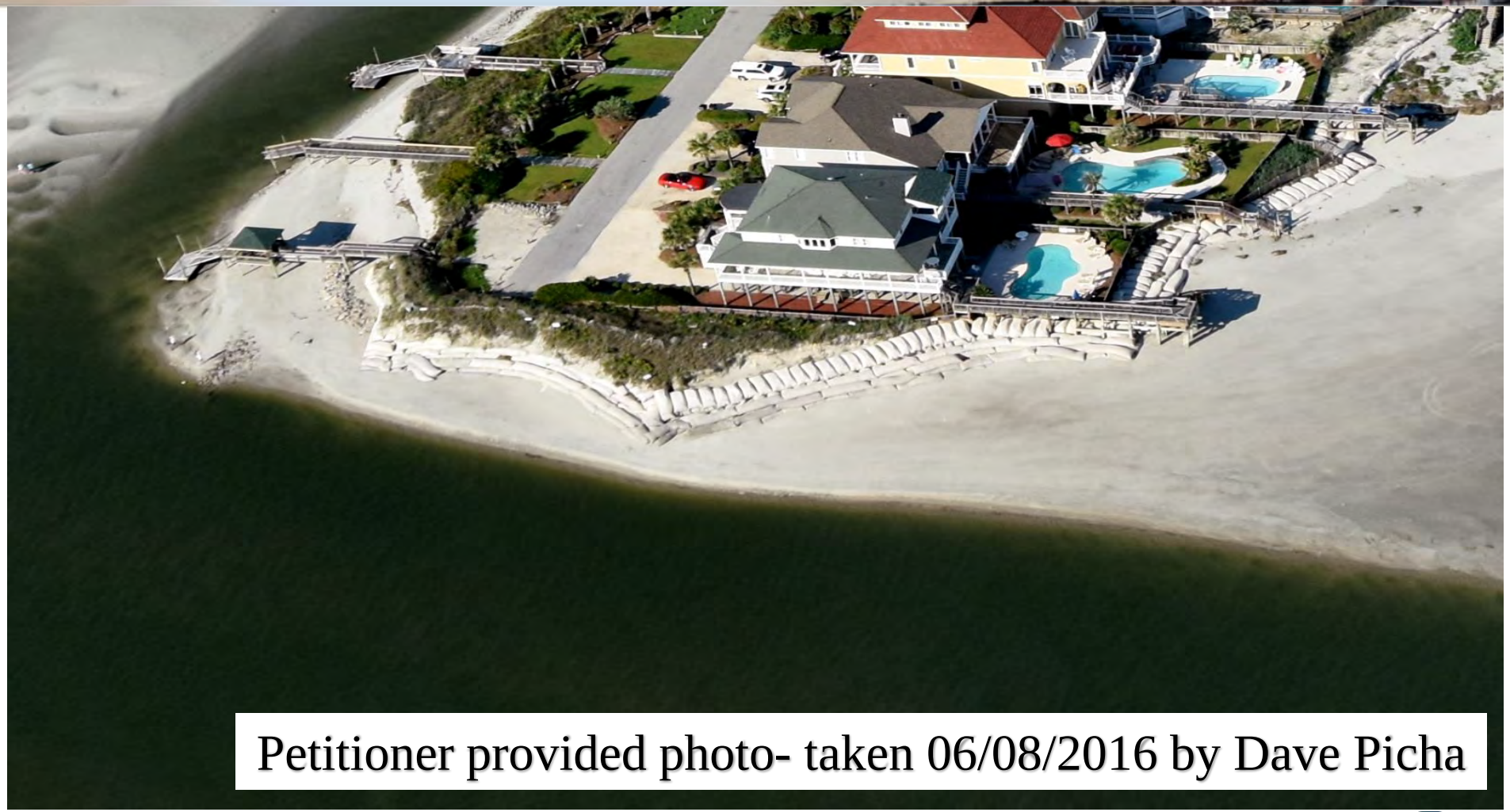
Petitioner – Kay Picha - Variance Request



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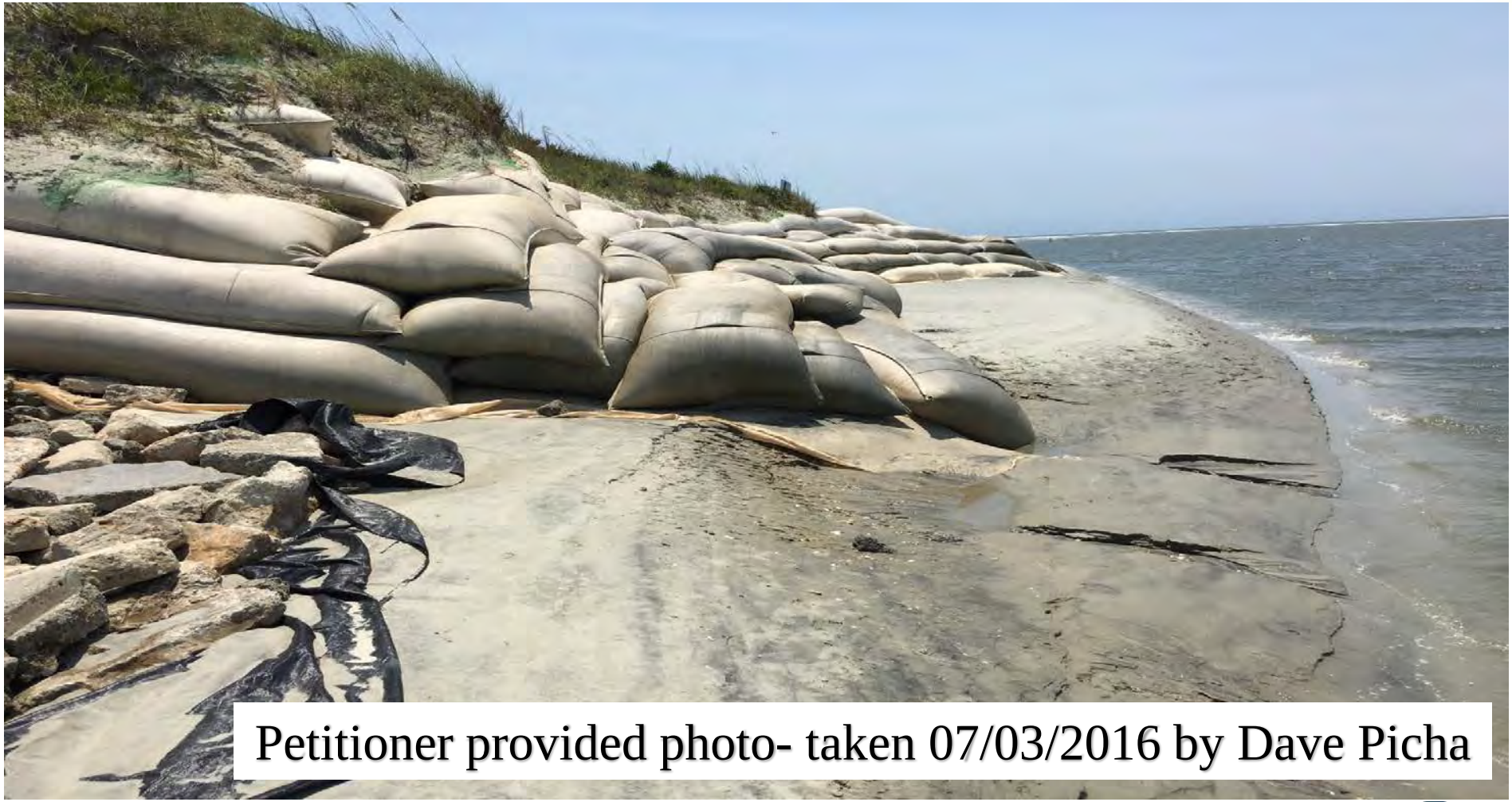
Petitioner – Kay Picha - Variance Request



Petitioner provided photo- taken 07/03/2016 by Dave Picha

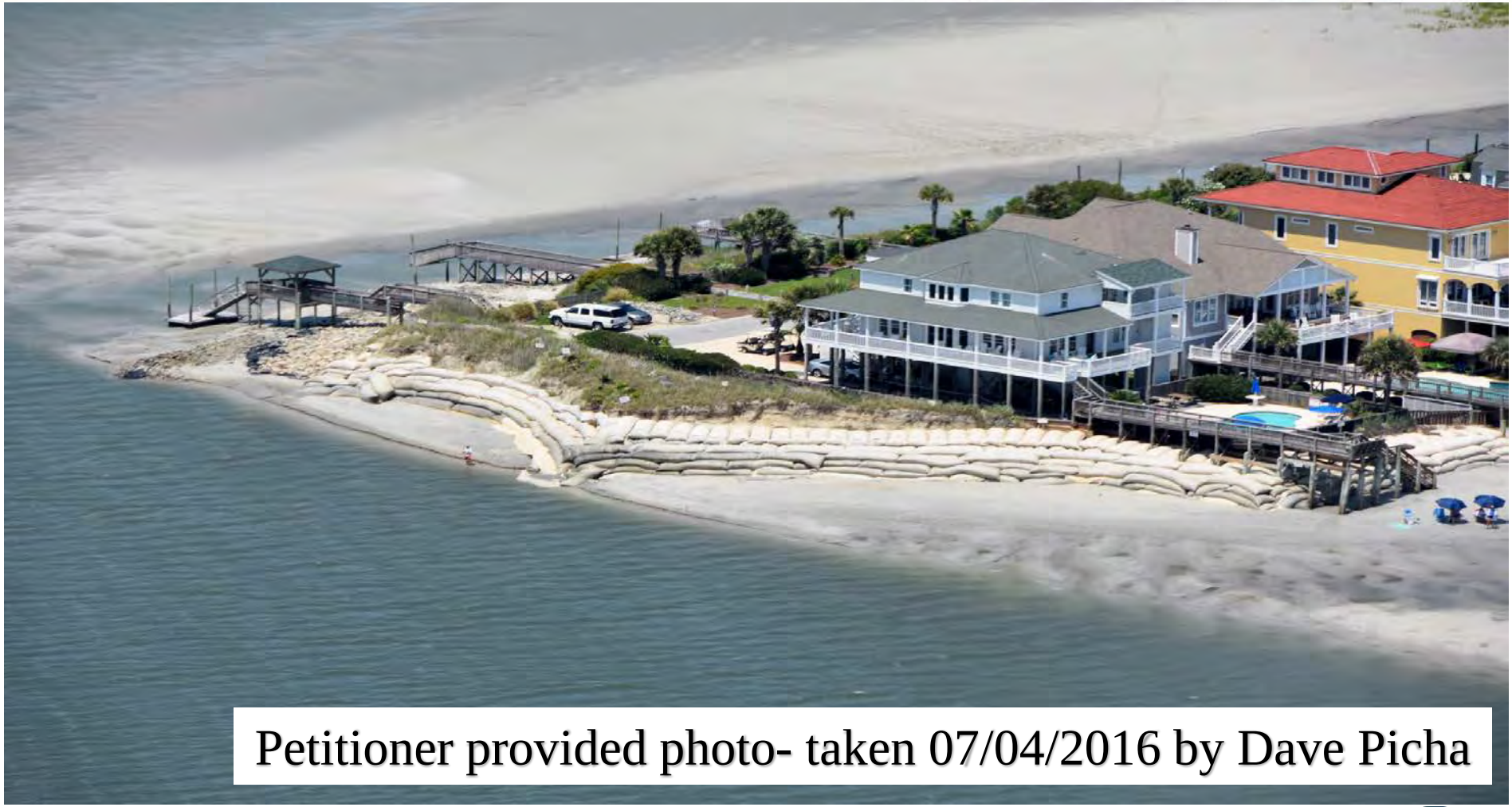
Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 07/03/2016 by Dave Picha

Petitioner – Kay Picha - Variance Request

Petitioner provided photo- taken 07/03/2016 by Dave Picha

Petitioner – Kay Picha - Variance Request



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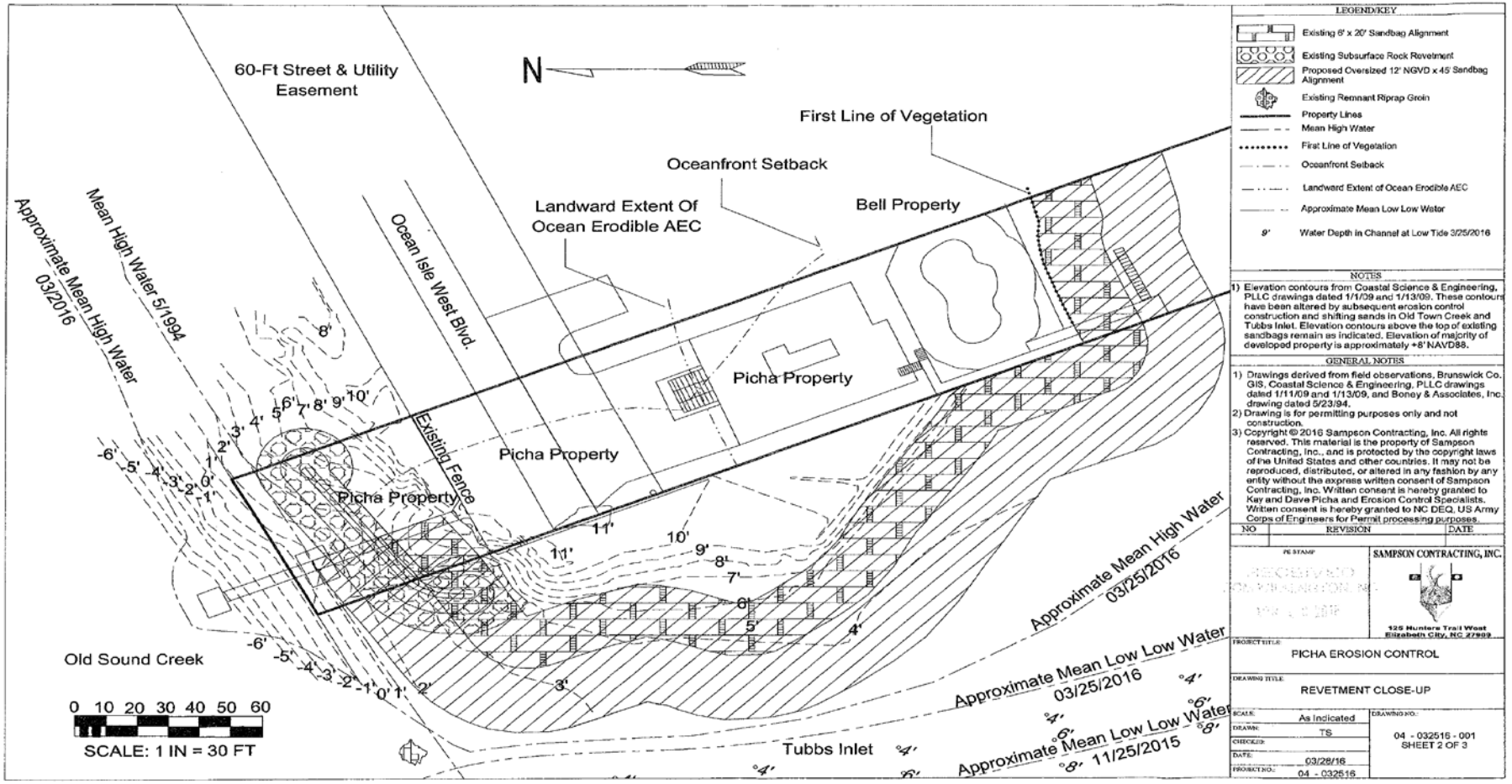
Petitioner – Kay Picha - Variance Request



Department of Environmental Quality

Petitioner – Kay Picha - Variance Request

Division of
Coastal Management

VARIANCE CRITERIA

15A NCAC 07J.0703(f)
To grant a variance, the Commission must affirmatively find each of the four factors listed in G.S. 113A-120.1(a).

(1) that unnecessary hardships would result from strict application of the development rules, standards, or orders issued by the Commission;
(2) that such hardships result from conditions peculiar to the petitioner's property such as location, size, or topography;
(3) that such hardships did not result from actions taken by the petitioner; and
(4) that the requested variance is consistent with the spirit, purpose and intent of the Commission's rules, standards or orders; will secure the public safety and welfare; and will preserve substantial justice.