ENVIRONMENTAL APPEALS BOARD

APPEAL 2020-03

CHRONOLOGY

Environmental Appeals Board

APPEAL 2020-03

INDEX

DATE	EVENT	EXHIBIT
April 16, 2019	Delmarsh Survey	1
June 28, 2019	Delmarsh Wetlands Map Change Cover Letter and Application	2
June 28, 2019	Watershed Eco Wetlands Waters Delineation Report	3
August & September 2019	DelMarsh LLC On Site Investigation Summary	4
January 30, 2020	Map Change Denial Letter	5

EXHIBIT 1



T.M. #8-0|-||5.|3-0|-0|00, 0200 ∉ 0300



VICINITY MAP SCALE | "= | MILE

> SM-0|-||5.|3-0|-0300 OWNER: DELMARSH, LLC LOT #: 22, 23, 24, 25 SM-01-115.13-01-0200 OWNER: DELMARSH, LLC LOT #: 32 SM-01-115.13-01-0100 OWNER: CHARLES & MARGARET SHORE LOT #: 26 JEFFEREY LIBERTO 74 CADDIE COURT MAGNOLIA, DE 19962 DEED BOOKS 7579-106, 8850-210 DELAWARE STATE PLANE SYSTEM RESIDENTIAL FRONT: 20' SIDE : IO' REAR: 20' 5 LOTS 4.24 ACRES 0.19 ACRE 0% COVERAGE 0.85 LOTS PER ACRE O MON FD O MON SET TOWN OF BOWERS TOWN OF BOWERS RESIDENTAL RESDENTIAL

TOPOGRAPHIC SURVEY FOR DELMARSH LLC N. FLACK AVE

"SHORE" SUBDIV. BOWERS BEACH KENT COUNTY STATE OF DELAWARE



	HUNDRED	COUNTY
	SOUTH MURDERKILL	KENT
	STATE	DRAWN BY
	DELAWARE	D.K. MILLER
APRIL 16, 2019	REF. PB 2-26	FILE NO. LIBERTO 8-01- 115.13-0300

AGENT & ADDRESS:

PLAN DATA:

TAX PARCEL NUMBER:

SOURCE OF TITLE: BEARING REFERENCE SYSTEM: ZONING:

SETBACK REQUIRIMENTS:

TOTAL LOTS AFFECTED:

ACREAGE PRIOR TO ADJUSTMENT: 4.24 ACRES

ACREAGE AFTER ADJUSTMENT:

STREET AREA:

DENSITY:

MONUMENTS FOUND:

MONUMENTS SET:

WATER SUPPLY:

SEWERAGE:

CURRENT USE:

PROPOSED USE:

ACREAGE WITHIN AREA AFFECTED: 4.24 ACRES

IMPERVIOUS COVERAGE:

EXHIBIT 2

ABBOTT LAW FIRM LLC

RICHARD L. ABBOTT, ESQ. 302.489.ALAW RICH@RICHABBOTTLAWFIRM.COM

June 28, 2019

Wetlands and Subaqueous Lands Section DNREC 89 Kings Highway Dover DE 19901



Re: Application for Removal of Wetlands Map Designation Lots 22-25, 32 & 2 Acre Undesignated Parcel in Bowers Beach

Ladies & Gentlemen:

Enclosed please find an Application and associated documents for an amendment to the State Wetlands Map regarding the above properties. The primary basis of the Application is that none of the land has any tidal connection. But there are other areas of the lands that are not properly designated "Wetlands" based upon the definition of that term contained in 7 *Del. C.* § 6603(h) and the Wetlands Regulations.

I understand that there may be a charge involved in advertising the Application and/or any decision or recommendation based thereon. Please advise at your earliest opportunity what amount is needed in order to promptly complete the Map amendment process.

Very truly yours, 1 Milliona

Richard L. Abbott

RLA:cth Enclosures File No.: 604.01

cc: Mr. Jeffrey Liberto (w/enclosures) – Via Email Only



WETLANDS AND SUBAQUEOUS LANDS SECTION JURISDICTIONAL DETERMINATION AND MAP CHANGE REQUEST FORM

Phone: (302) 739-9943 Fax: (302) 739-6304

Clear form

Requested Action

Basic Information

Please select the type of determination(s) you would like performed and complete the corresponding section indicated: (check all which apply)

Tidal Wetlands (jurisdictional determinations (JD), map changes or both) - Complete Section A

Subaqueous Lands (ordinary water lines and stream/ditch JD) -

Mean High Water Lines-

Complete Section B

Complete Section C

Property Owner/Applicant	Consultant	
Name: Delmarsh, LLC Address: 74 Caddie Court City/Town: Magnolia Zip: 19962 Phone: 302-698-1522	Name: Richard L. Abbott, Esquire Address: 724 Yorklyn Road, Suite 240 City/Town: Hockessin Zip: 19707 Phone: 302-489-2529	JUL. 1 2019
Subject Property		By
Address: N. Flack Avenue & N. Bayshore Drive		
Tax Parcel #: 8-01-11513-01-0300-00001 & 8-01-1151	3-01-0200-00001	
County: New Castle	Kent 🗸 Sussex	
Detailed Directions to site:		State of the state of the
Bowers Beach Road from Route 113 into Town of	Bowers, continue on Main Street, left on Flack Aven	ue to end of street
prop	erty is on right or east side	
Please attach a road map with site boundar	es indicated)	

I hereby certify that the information on this application form and any supporting documents is true and accurate to the best of my knowledge. I grant permission to authorized Department representative(s) to enter upon the premises during working hours for the purpose of undertaking the requested action.

Owner/Applicant Signature:	Date:
Applicant (if other than owner):	1 /1. [Date:
Consultant/Agent Signature:	alahit Date: VUNE272019
RICHARD L. ABBO	TI, ESQUIRE
ALLORNEY FOR DE	LMARSH, LLC
I request to be present during the site inspection	

I request to be present during the site inspection Ves No

APPLICATION FOR JURISDICTIONAL DETERMINATIONS MEAN HIGH WATER DETERMINATIONS WETLAND MAP CHANGES Page 2

SECTION A: Tidal Wetlands

3

3

Please	e describe the proposed activity on the parcel (s):
Cons	struction of residential homes
	The following Information is Required
1.	State of Delaware wetland regulatory map # DNR 183 (for map change only)
2.	Survey and Deed of subject property enclosed
3.	Previous JDs (State or federal) if on record
4.	Conceptual plans of intended project n/a
5.	Current Wetland designation partial
6.	Total area of proposed impact/ wetland designation change 📲 🦳 sq ft
	The following information, if provided, will help expedite the review process
	The joint my information, if provided, which expense the review process
1.	USGS topographic map with site boundaries shown Included 🖌 Not Included
2.	Stake/flag the State Wetland jurisdictional line in the field prior to site visit? Yes Ves
3.	Site photos? 🗸 Included Not Included
4.	For map change requests, explain why you think the mapped area is non-jurisdictional.
See e	enclosed report from environmental consultant, which confirms the land is not subject to tidal
action	and much of the land does not meet the elevation criteria to qualify as "Wetlands" under 7 Del.
C.§6	603(h) and Section 5.0 of the Wetlands Regulations.
	2014년 2019년 1월 2019년 1월 2019년 2월 2019년 1월 2019년 1월 2019년 1월 2
	DECELVED
	1 JUL 1 2019
	EN X

SECTION B: Subaqueous Lands (ordinary water line and stream jurisdictional determinations)

	Ine Fo	noming	injormation is	кецине	[일다][[일: 2]] (1)] (1)] (1)] (1)] (1)] (1)] (1)] (1
1.	USGS Topographic map with the	e site bound	aries clearly shown	and the sub	ject steams/ditches indicated on
2.	Name of the waterbody(s). If un	named, nan	ie of nearest name	d waterbody.	Delaware Bay
3.	Survey and Deed of subject prop	erty		1	
4.	Previous JDs (state or federal) (I	f any on rec	ord for the proper	ty)	
5.	Road Map indicating site locatio	n			
				150 87	
1.	The following information	on, if pro	vided, will hel	p expedite	e the review process
<u>1.</u> 2.	The following information Soil survey map of the site Photos of the site (dated)	n, if pro	v <i>ided, will hel</i> Included Included	p expedite	e the review process Not Included Not Included
1. 2. 3.	The following information Soil survey map of the site Photos of the site (dated) Historic Maps	n, if pro	v <i>ided, will hel</i> Included Included Included	p expedito	e the review process Not Included Not Included Not Included
1. 2. 3. 4.	The following information Soil survey map of the site Photos of the site (dated) Historic Maps Aerial Photos	n, if pro	v <i>ided, will hel</i> , Included Included Included Included	p expedite	e the review process Not Included Not Included Not Included Not Included

SECTION C: Mean High Water Line Determinations (MHWL)

	The Following Information is Required
1.	Road Map indicating site location
2.	Deed and property survey
3.	Name of waterbody
Applic	ant's Name: N/A The following information, if provided, will help expedite the review process
1.	Reason for requesting MHWL determination?
Corre	ct mapping error
2.	Photos of shoreline 🖌 Included 🔄 Not Included
3.	Proposed conceptual plans for proposed development/construction project Included 🖌 Not Included

NOTE: Once the MHWL is staked in the field by a WSLS scientist, it must be surveyed with a copy provided to the WSLS. A written JD will be provided upon receipt of the survey confirming the MHWL.

Please return this form along with all supporting documents to the: Wetlands and Subaqueous Lands Section DNREC 89 Kings Highway Dover, DE 19901

> Phone: (302) 739-9943 Fax: (302) 739-6304

661 U 2019



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KENT COUNTY, DELAWARE

555 Bay Road, Dover, Delaware 19901-3615 (302) 744-2300 -- FAX (302) 736-2279

"Serving Kent County With Pride"

PROPERTY INFORMATION

Planning and Building Permits Information

Reference #		SM SOUTH N	URDERKILL	HUNDRED	Card # 1 of 1	
Location ID	41853			Map Number	8-01-11513-01-0300	0-00001
Tax ID	41853			Deed BVP	D 7579 0106 P 0046	6 0164
Parcel ID	13636			Deed BVP2		
Property Code	P - PROPERTY	r				
Current Owne	er		Property Loca	tion		
DELMARSH,	LLC,		N FLACK AVE	Ξ		
74 CADDIE C	Г		FREDERICA,	DE 19946		
MAGNOLIA, I	DE 19962		Zoning NA		Acre	s 3.00

Additional Owner

Sub-Division SHORE SUBDIVISION

Sales His	tory				Liv.Sq.Ft	.0000	
Date	Price	Assessment		Total Rooms		100	
4/07/15	7,700 I	Land		7,700	Bedrooms		
0/00/00	0 8	Buildings			Full Bath	1	
][Total		7,700	Half Bath		
Base Tax Due	158.15	Last Billing D	etail	Histor	v Farm Info		
Tax Penalty	13.67]					
Total Tax Bal.	171.82]					
Sewer Balance	37.74	Sewer Accourt	nt #	3921			
Neighborhood #	00800	Coordinates			0504430 E 0	387664 N	
Land Use		Lot Dimensio	ns		0000002.83]	
Living Units		School Distric	:t	22	LAKE FORE	EST	
Class	Residen	Fire District		40	NORTH BO	WERS	
Plat Book Pg	002 00026	Sewer District	t	10	BOWERS		
Topography	Level	Ambulance D	istrict	40	NORTH BO	WERS	
Street or Road	Paved	Trash District					
Fronting	Residen	Light District					
Improvement	VACANT	Commissioner	r Dist	00			
		Tax Ditches		NONE			
IMI	PROVEMENT	KEY					b.
MANUF HM Man	ufactured Home						
MANUECC Manufactured Home Class C Assessme			ment				
MNFHMRT Manufactured Home Retired Title							

 \mathbb{V} E G JUL 1 2019

Accepted for Filing Th: Kent County Doct 272672 Dn: Apr 07,2015 at 10:29A

TAX PARCEL #: SM-01-115.13-01-03.00-000 PREPARED BY & RETURN TO: Young Malmberg, P.A. 30 The Green Dover, DE 19901

NO NEW TITLE SEARCH OR SURVEY REQUESTED OR PERFORMED.

THIS DEED, made this <u>IN</u> day of <u>pul</u>, 2015, - BETWEEN -

DEL-HOMES, INC., a Delaware corporation, Grantor

- AND -

DELMARSH. LLC, a Delaware limited liability company, Grantee

WITNESSETH: That the said Grantor, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America, the receipt whereof is hereby acknowledged, Grantor hereby grant and convey unto the Grantee, and their heirs and assigns, in fee simple, the following described lands, situate, lying and being in Kent County, State of Delaware:

See Attached Exhibit A

BEING the same lands and premises which were conveyed unto Del-Homes, Inc., a Delaware corporation, by deed of Donald Bruce Noble and Rosemarie E. Noble dated May 8, 1989, and recorded in the Office of the Recorder of Deeds in and for Kent County, DELAWARE, in Deed Book P, Volume 46, Page 164.

TOGETHER with all the rights, title and interest of the Grantor in and all street roads and public places, opened or proposed, adjoining the said Land, and all easements and rights of way, public or private, now or hereafter used in connection with said Land.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Kent County, Delaware.

IN WITNESS WHEREOF, Grantor hereunto set their hands and seals the day and year first above written.

Signed, Sealed and Delivered in the presence of:

DEL-HOMES, INC.

mor.

(SEAL) John T. Beiser, President

STATE OF DELAWARE, COUNTY OF KENT: to-wit

BE IT REMEMBERED, that on April <u>M</u>, 2015, personally came before me, the subscriber, John T. Beiser, Grantor to this Indenture, known to me personally to be such, and acknowledged this Indenture to be their act and deed.

GIVEN under my Hand and Seal of Office the day and year aforesaid.



Constantine F. Malanberg, III Attorney at Law

Member of the Delaware State Bar



PARCEL NO. 1: ALL those certain lots, pieces and parcals of land situate, lying and being in the Town of Bowers, Kent County, and State of Delaware, lying on the north side of Main Street, but not adjacent thereto, being Lots Nos. 20. 21. 22. 23. 24 and 25, lying on the west side of Bay Road leading from Main Street to St. Jones River, each of said Lots having a frontage on Bay Road of 50 feet and extending back therefrom between parallel lines a distance of 200 feet, and <u>Parcel D</u> containing 2.1 acres lying on the east side of Bay Road leading from Main Street to St. Jones River, being bounded on the West by said Bay Road, on the North by St. Jones River, on the East by the Delaware Bay, and on the South by Lot No. 32, as laid out on a plot of lots in a development of Charles and Margaret Shore, Sowers Beach, Delaware, in accordance with survey made by Charles C. Brown, Surveyor, October, 1950, said plot being of record in the Office of the Recorder of Deeds, in and for Kent County, Delaware, in Plot Book 2, Page 26.

1 2019



KENT COUNTY, DELAWARE 555 Bay Road, Dover, Delaware 19901-3615

(302) 744-2300 -- FAX (302) 736-2279

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PROPERTY INFORMATION

Planning and Building Permits Information

	SM SOUTH MURDERKILL HUNDRED	Card # 1 of 1
41854	Map Number	г 8-01-11513-01-0200-00001
41854	Deed BVP	D 8850 0210 P 0046 0164
2044	Deed BVP2	
P - PROPERTY		
er	Property Location	
LLC,	N BAYSHORE DR	
Γ	FREDERICA, DE 19946	
	41854 41854 2044 P - PROPERTY er LLC, T	SM SOUTH MURDERKILL HUNDRED 41854 Map Number 41854 Deed BVP 2044 Deed BVP2 P - PROPERTY er Property Location LLC, N BAYSHORE DR T FREDERICA, DE 19946

Zoning NA

MAGNOLIA, DE 19962

Additional Owner

Sub-Division SHORE SUBDIVISION

MNFHMRT Manufactured Home Retired Title

Sales Hi	story			1	Liv.Sq.Ft	.0000
Date	Price	Assessment		Total Rooms		
10/24/17	4,100	Land		7,600	Bedrooms	
0/00/00	0	Buildings			Full Bath	
		Total		7,600	Half Bath	
Base Tax Due	156.	09 Last Billing D	Det <u>ail</u>	History	Farm Info	
Tax Penalty	13.	51				
Total Tax Bal.	169.	60		8		
Sewer Balance		00 Sewer Accou	nt#][][
Neighborhood #	00800	Coordinates	_]	0504730 E 03	87820 N
Land Use		Lot Dimensio	ns	1	0000050.00 0	000420.00
Living Units		School Distrie	et	22	LAKE FORE	ST
Class	Residen	Fire District		40	NORTH BOY	VERS
Plat Book Pg	002 0003	7 Sewer Distric	t	10	BOWERS	
Topography	Level	Ambulance D	istrict	40	NORTH BOY	VERS
Street or Road	Paved	Trash Distric	t	1		
Fronting	Residen	Light District				
mprovement	VACAN	T Commissione	r Dist	4TH		
		Tax Ditches	- - / - 	NONE	· · · · · · · · · · · · · · · · · · ·	
IMI	PROVEMEN	Г КЕҮ				
MANUF HM Mar	nufactured Hor	ne		Y.		
MANUFCC Mar	ufactured Hor	ne Class C Assess	ment			



Acres .47

2011 - 0 - 144 - 149 2014 - 322517 194 - 1442017 - 11 147

TAX PARCEL #: SM-01-115.13-01-02.00-000 PREPARED BY & RETURN TO: The Malmberg Firm, LLC One Clubhouse Drive Wyoming, DE 19934 File No. 17RE8215/CFM

THIS DEED, made this of October, 2017,

- BETWEEN -



DEL-HOMES, INC., a Delaware corporation, of P.O. Box 8, Magnolia, DE 19962, Grantor

- AND -

DELMARSH, LLC, a Delaware limited liability company, of 74 Caddie Court, Magnolia, DE 19962, Grantee.

WITNESSETH: That the said Grantor, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America, and other good and valuable consideration, the receipt whereof is hereby acknowledged, Grantor hereby grants and conveys unto the Grantee, and its heirs and assigns, in fee simple, the following described lands, situate, lying and being in Kent County, State of Delaware:

See Attached Exhibit A

BEING the same lands and premises which were conveyed unto Del-Homes, Inc., a Delaware corporation, by deed of Donald Bruce Noble and Rosemarie E. Noble, his wife, dated May 8, 1989 and recorded in the Office of the Recorder of Deeds in and for Kent County, Delaware, on May 12, 1989 in Deed Book P46, Page 164.

TOGETHER with all the rights, title and interest of the Grantor in and all street roads and public places, opened or proposed, adjoining the said Property, and all easements and rights of way, public or private, now or hereafter used in connection with said Property.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Frederica, Kent County, Delaware.

IN WITNESS WHEREOF, the said Del-Homes, Inc. has caused its name to be hereunto set, and its common and corporate seal to be hereunto affixed, duly attested, the day and year first above written.

DEL-HOMES, INC.

By: (SEAL) John T. Beiser, Owner

Witness

STATE OF DELAWARE, COUNTY OF KENT: to-wit

BE IT REMEMBERED, that on this day of October, A.D. 2017, personally appeared before me, the Subscriber, a Notary Public in and for the State and County aforesaid, John T. Beiser, Owner of Del-Homes, Inc., party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his act and deed and the act and deed of said corporation; that the signature of the Owner is in his own proper handwriting and the seal affixed is the common and corporate seal of said corporation; and that his act of signing, sealing, acknowledging and delivering said Indenture was first duly authorized by a resolution of the Board of Directors of said corporation.

GIVEN under my Hand and Seal of Office the day and year aforesaid.

No My Commission Expires: AUNTRALIA.

ALL that certain lot, piece and parcel of land situate, lying and being in the Town of Bowers, Kent County, not adjacent thereto, being Lot No. 32 lying on the east side of Bay Road leading from Main Street to St. Jones River, said lot having a frontage on said Bay Road of 50 feet, the southerly line thereof measuring approximately 437 feet, and the northerly line thereof measuring approximately 445 feet, as the same is more particularly laid out on a plot of lots in a development of Charles and Margaret Shore, Bowers Beach, Delaware, in accordance with a survey made by Charles C. Brown, Surveyor, October, 1950, said plot being of record in the Office of the Recorder of Deeds, in and for Kent County, Delaware, in Plot Book 2, Page 26.





$\mathsf{Arc}\mathbf{GIS}$











EXHIBIT 3

Wetlands/Waters Delineation for: Lewis Shore Subdivision, Lots 22-25,32 and Undesignated Lot

Bowers Beach, Delaware Completed: June 28, 2019

Prepared by: Watershed Eco LLC James C. McCulley IV, PWS #000471

114 Merrimac Avenue Middletown, Delaware 19709 www.WatershedEco.com

A. Site Description, Landscape Setting

This site lies east of Flack Avenue and south of the confluence of the Saint Jones River

and the Delaware Bay at approximate Latitude and Longitude: 39-03-52.36, -75-24-02.49.

The site is a part of the Lewis Shore Subdivision (Lots 22-25,32 and Undesignated Lot) for which previous jurisdictional determinations have been issued. The site consists of a beach, dirt road and disturbed areas previously dominated by Phragmites (periodically mowed). There are roadside swales adjacent to Flack Avenue and Bayshore Road, both of which have adjacent spoils piles that were previously determined to be non-wetlands.

Figure 1: USGS with NWI

B. Site Alterations, Current and Past Land Use

Aerial photographs are available back to 1961 and provide a good history of the site and the surrounding area.

Figure 2: 1961 Aerial

In 1961, a dirt road goes all the way to the beach area to the east and there was some fill visible south of the dirt road.

Figure 3: 1992 Aerial

By 1992, Bayshore Road has been constructed and it appears that that there are sidecast materials along the southwest side of Bayshore Avenue. The dirt road portion between Bayshore and the beach appears to have been converted to a driveway and several homes have been constructed on the eastern side of Bayshore Avenue.

Figure 4: 2002 Aerial

By 2002, a series of dirt roads are visible on the subject property. Two new homes are constructed north of the subject property and a few additional homes have been constructed east of Bayshore Avenue. New fill is visible interior to Flack and Bayshore south of the subject property.

Figure 5: 2007 Aerial

By 2007, additional homes have been constructed or are under construction south and southeast of the site, including the parcel directly south of the subject property. The subject property has mowing lines visible and appears to have new sand deposited on the back side of the beach.

Site visits in 2009, 2010, 2011 and 2012 have revealed that several new homes have been constructed or are under construction south of the subject property. Additionally, several storms have washed additional sand over the beach and into the Phragmites area west of the existing beach (see photos below).

Tidal studies, topography, State Tidal Wetland Map changes and additional wetland flagging has been conducted on the site and is described in this report.

B.1 Mapped Soils and Wetlands -

The mapped soils are shown below (see details in attached soil report).

Figure 6: Soils Map

Kent County, Delaware (DE001)						
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI			
AbC	Acquango-Beaches complex, 0 to 10 percent slopes	0.4	24.1%			
SuA	Sunken mucky silt loam, 0 to 2 percent slopes, occasionally flooded, tidal	0.1	4.5%			
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	1.2	68.9%			
w	Water	0.0	2.6%			
Totals for Area of Interes	st	1.8	100.0%			

The majority of the site is underlain by poorly drained soils. Soils found on the site are a variety of disturbed and filled native soils, overlain with sand that has washed in from the adjacent dunes.

The National Wetland Inventory (NWI) Map shows the beach area as an Estuarine Unvegetated Wetland Area and the area west of Flack Avenue (offsite) as an Estaurine Emergent Wetland area. The remainder of the subject site is depicted as non-wetland along with the remainder of the building lots to the south.

Figure 7: National Wetland Inventory Map

The 1992 State of Delaware Wetland Mapping Project (SWWMP) Maps depict wetlands in a similar configuration to the NWI Map, with the majority of the site being mapped as non-wetlands.

Figure 8: SWMP Map

The State Tidal Wetlands Map (Panel DNR183) depicts Marsh on the site, with the dirt road and the upper beach area excluded. The map also denotes that there has been a map change. Review of correspondence indicates that the map was adjusted several times, once to exclude the area interior to Flack, Bayshore and the dirt road and to exclude a portion of the upper beach as additional sand washed in. Since these map changes, additional sand has washed in and is depicted in the attached survey and photographs.

Figure 9: DNR 183

B.2 Hydrology, No Tidal Connection and No MHT Elevation –

The site hydrology as well as the hydrology in the entire area has been significantly modified by the activities of man. The construction of Flack Avenue, Bayshore Road, the dirt road, various filling activities and the placement of beach sand which has washed up onto the old marsh several times, have all modified the hydrology of the subject property and surrounding area.

A drainage study recently conducted by KCI Technologies has identified numerous drainage problems in the area, including: buried pipes, crushed pipes, flat ditches, inadequate storage and lack of outfall to tidal waters in the general area.

Ditches are present on the subject property along the dirt road as well as Flack and Bayshore and side-cast material exists adjacent to these ditches.

Although portions of the area are mapped as tidal wetlands by the State of Delaware, there is no area on the site with a connection to tidal waters and the general elevation of the site is above the mean high tide elevation as detailed in a study by JCM Environmental and recent topographic surveys.

The State of Delaware (2017) has determined that Mean High Tide (MHT) is at elevation 2.3 feet and that the average site elevation is around 3.5 feet (see attached).

Miller and Lewis performed a topographic survey in 2019 and determined the MHT at 2.5 feet and Mean Low Water (MLW) at 0 feet. Numerous spot elevations throughout the site depict that none of the site behind the dunes is below the MHT elevation.

There is no connection of the area behind the dunes to any tidal waters. Vegetation -

The site consisted of the following vegetation communities:

Beach – This area occupies the area between the Delaware Bay and the vegetated herbaceous area of the site. This area extends from the low tide elevation along the bay and the Phragmites dominated area. The portion of the beach that would be regulated as Waters of the U.S. occupies the area to the mean high tide line and this area is mostly devoid of vegetation. Above the high tide line, the beach is dominated by Yucca, Prickly Pear Cactus, Xanthium and Sand Bur.

Herbaceous – The remainder of the site was previously dominated by Phragmites, with the exception of the old filled areas and the spoils piles.

Figure 10: Beach Area in Tidal Zone

Figure 11: New Sand that has Washed In

Figure 12: New Sand that has Washed In

Figure 13: Sand Washed In

Figure 14: Erosion After Storm

Figure 15: Phragmites

Figure 16: Dirt Road

Figure 17: Spoils Adjacent to Roadside Ditch

C. Results and Conclusions

The upper beach area, dirt road and sidecast and old filled areas were delineated as upland areas and the remaining portion of the site was mapped as non-tidal wetlands per this study. Although mapped as tidal wetlands, the majority of the wetlands on the site are above the high tide elevation and isolated from a direct connection to tidal waters. <u>There is no</u> <u>connection to tidal waters as evidenced by numerous site visits by Watershed Eco as well</u> as drainage studies completed by McCrone Engineering and recent topographic surveys.

Figure 18: 2012 Wetlands Survey by PELSA

Figure 19: Previous Topographic Survey

Based on the above, it is the opinion of Watershed Eco, LLC and James C. McCulley IV, PWS #000471 that the attached plans accurately depict the wetlands or other Waters of the United States exist on the site. With the exception of the area in front of the dunes, there are no tidal wetlands on the site and all of the wetlands mapped are non-tidal.

This report was prepared to provide background information necessary to secure a Jurisdictional Determination from the U.S. Army Corps of Engineers and/or the State of Delaware.

D. Disclaimer Statement

This report documents the investigation, best professional judgment, and conclusions of the investigators. It should be used at your own risk until it has been approved in writing by the U.S. Army Corps of Engineers and the State of Delaware.

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United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Kent County, Delaware

August 6, 2012

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app? agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/ state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	7
Soil Map	8
Legend	9
Map Unit Legend	10
Map Unit Descriptions	10
Kent County, Delaware	12
AbC—Acquango-Beaches complex, 0 to 10 percent slopes	12
SuA—Sunken mucky silt loam, 0 to 2 percent slopes, occasionally	
flooded, tidal	13
TP—Transquaking and Mispillion soils, very frequently flooded, tidal	14
W—Water	16
References	17

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no waydiminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soillandscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

I

Custom Soil Resource Report Soil Map

	MAP LEGEND			MAP INFORMATION	
Area of Int	Area of Interest (AOI)		Very Stony Spot	Map Scale: 1:1,040 if printed on A size (8.5" × 11") sheet.	
Soils	Area of Interest (AOI)	¥	Wet Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.	
	Soil Map Units	^	Other		
Special	Special Point Features		Gully	Warning: Soil Map may not be valid at this scale.	
•	Blowout	~	Short Steen Slope	Enlargement of maps beyond the scale of mapping can cause	
\boxtimes	Borrow Pit		Other	misunderstanding of the detail of mapping and accuracy of soil line	
*	Clay Spot	Califical F		soils that could have been shown at a more detailed scale.	
•	Closed Depression		Cities		
×	Gravel Pit	Water Fea	tures	Please rely on the bar scale on each map sheet for accurate map	
	Gravelly Spot	~	Streams and Canals	measurements.	
Ø	Landfill	Transportation		Source of Map: Natural Resources Conservation Service	
٨	Lava Flow	+++	Rails	Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov	
ے ۔ علد	Marsh or swamp	~	Interstate Highways	Coordinate System. OTM Zone Ton NAD65	
~	Mine or Quarry	\sim	US Routes	This product is generated from the USDA-NRCS certified data as of	
0	Miscellaneous Water	~~	Major Roads	the version date(s) listed below.	
	Perennial Water	\sim	Local Roads	Soil Survey Area: Kent County, Delaware	
~	Rock Outcrop			Survey Area Data: Version 6, Oct 17, 2006	
+	Saline Spot			Date(s) aerial images were photographed: 7/17/2006	
	Sandy Spot			-	
=	Severely Eroded Spot			I he orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background	
0	Sinkhole			imagery displayed on these maps. As a result, some minor shifting	
5	Slide or Slip			of map unit boundaries may be evident.	
3× ø	Sodic Spot				
-	Spoil Area				
<u> </u>	Stony Spot				
Ť	J -1				

Map Unit Legend

Kent County, Delaware (DE001)							
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI				
AbC	Acquango-Beaches complex, 0 to 10 percent slopes	0.4	24.1%				
SuA	Sunken mucky silt loam, 0 to 2 percent slopes, occasionally flooded, tidal	0.1	4.5%				
ТР	Transquaking and Mispillion soils, very frequently flooded, tidal	1.2	68.9%				
W	Water	0.0	2.6%				
Totals for Area of Intere	st	1.8	100.0%				

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Kent County, Delaware

AbC—Acquango-Beaches complex, 0 to 10 percent slopes

Map Unit Setting

Elevation: 0 to 80 feet *Mean annual precipitation:* 42 to 48 inches *Mean annual air temperature:* 52 to 58 degrees F *Frost-free period:* 180 to 220 days

Map Unit Composition

Acquango and similar soils: 50 percent Beaches: 45 percent Minor components: 5 percent

Description of Acquango

Setting

Landform: Backshores, dunes Landform position (three-dimensional): Talf, rise Down-slope shape: Concave, convex Across-slope shape: Linear Parent material: Sandy eolian deposits and/or sandy marine deposits

Properties and qualities

Slope: 0 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Nonsaline to slightly saline (0.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water capacity: Very low (about 3.0 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Typical profile

0 to 3 inches: Sand 3 to 20 inches: Sand 20 to 26 inches: Fine sand 26 to 72 inches: Sand

Description of Beaches

Setting

Landform: Beaches Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Linear Parent material: Beach sand

Properties and qualities

Slope: 0 to 5 percent

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 99.90 in/hr)

Depth to water table: About 0 to 10 inches

Frequency of flooding: Very frequent

Maximum salinity: Very slightly saline to strongly saline (4.0 to 22.0 mmhos/cm) *Available water capacity:* Very low (about 3.0 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 80 inches: Sand

Minor Components

Brockatonorton

Percent of map unit: 3 percent Landform: Back-barrier beaches

Transquaking

Percent of map unit: 2 percent Landform: Tidal marshes

SuA—Sunken mucky silt loam, 0 to 2 percent slopes, occasionally flooded, tidal

Map Unit Setting

Elevation: 0 feet *Mean annual precipitation:* 42 to 48 inches *Mean annual air temperature:* 52 to 58 degrees F *Frost-free period:* 180 to 220 days

Map Unit Composition

Sunken and similar soils: 80 percent Minor components: 20 percent

Description of Sunken

Setting

Landform: Flats, submerged upland tidal marshes Down-slope shape: Linear Across-slope shape: Linear Parent material: Silty eolian deposits over fluviomarine sediments

Properties and qualities

Slope: 0 to 2 percent *Depth to restrictive feature:* More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: About 0 to 10 inches

Frequency of flooding: Occasional

Frequency of ponding: Occasional

Maximum salinity: Very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm) *Sodium adsorption ratio, maximum:* 25.0

Available water capacity: High (about 11.8 inches)

Interpretive groups

Land capability (nonirrigated): 5w

Typical profile

0 to 4 inches: Slightly decomposed plant material 4 to 6 inches: Silt Ioam 6 to 18 inches: Silt Ioam 18 to 38 inches: Silty clay Ioam 38 to 65 inches: Very fine sandy Ioam 65 to 80 inches: Fine sand

Minor Components

Othello

Percent of map unit: 10 percent Landform: Flats

Honga

Percent of map unit: 5 percent Landform: Submerged upland tidal marshes

Crosiadore

Percent of map unit: 5 percent Landform: Flats Landform position (three-dimensional): Rise

TP—Transquaking and Mispillion soils, very frequently flooded, tidal

Map Unit Setting

Elevation: 0 feet *Mean annual precipitation:* 42 to 48 inches *Mean annual air temperature:* 52 to 58 degrees F *Frost-free period:* 180 to 220 days

Map Unit Composition

Mispillion and similar soils: 40 percent Transquaking and similar soils: 40 percent Minor components: 20 percent

Description of Transquaking

Setting

Landform: Tidal marshes Down-slope shape: Linear Across-slope shape: Linear

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 0 to 5 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Maximum salinity: Strongly saline (25.0 to 40.0 mmhos/cm)
Sodium adsorption ratio, maximum: 32.0
Available water capacity: Very high (about 26.2 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 46 inches: Mucky peat 46 to 65 inches: Muck 65 to 80 inches: Silty clay loam

Description of Mispillion

Setting

Landform: Tidal marshes Down-slope shape: Linear Across-slope shape: Linear Parent material: Herbaceous organic material over silty estuarine sediments

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 0 to 5 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Maximum salinity: Moderately saline to strongly saline (15.0 to 50.0 mmhos/cm)
Sodium adsorption ratio, maximum: 35.0
Available water capacity: Very high (about 21.6 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 24 inches: Mucky peat 24 to 40 inches: Muck 40 to 54 inches: Mucky silt loam 54 to 80 inches: Silt loam

Minor Components

Sunken

Percent of map unit: 10 percent Landform: Flats, submerged upland tidal marshes

Othello

Percent of map unit: 5 percent Landform: Flats Landform position (three-dimensional): Rise

Honga

Percent of map unit: 5 percent Landform: Submerged upland tidal marshes

W-Water

Map Unit Setting

Mean annual precipitation: 42 to 48 inches Mean annual air temperature: 52 to 58 degrees F Frost-free period: 180 to 220 days

Map Unit Composition

Water: 100 percent

Description of Water

Interpretive groups

Land capability (nonirrigated): 8

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75°24'0"W

Data on map are based on Delaware framework

the Delaware Geological Survey (DGS) and served via the Delaware Department of Technology and Information (DTI) internet.

00.0005.01 0.02

0 50 100 200 Feet DataMIL Mini Map

75°24'0"W

75°24'0"W

Data on map are based on Delaware framework data layers. The Delaware DataMIL is maintained by the Delaware Geological Survey (DGS) and served via the Delaware Department of Technology and Information (DTI) internet.

00.0005.01 0.02 Kilometers 0 50 100 200 Feet

Scale 1:1,870

DataMIL Mini Map

75°24'0"W

75°24'0"W

Data on map are based on Delaware framework data layers. The Delaware DataMIL is maintained by the Delaware Geological Survey (DGS) and served via the Delaware Department of Technology and Information (DTI) internet.

00.0005.01 0.02 Kilometers 0 50 100 200 Feet

Scale 1:1,870

DataMIL Mini Map

75°24'0"W

Data on map are based on Delaware framework

the Delaware Geological Survey (DGS) and served via the Delaware Department of Technology and Information (DTI) internet.

Scale 1:1,870

00.0005.01 0.02

0 50 100 200 Feet DataMIL Mini Map

EXHIBIT 4

Delmarsh LLC On-Site Investigation Summary

Two on-site investigations were conducted by DNREC Wetlands and Subaqueous Lands (WSLS) staff members George Geatz and Tyler Brown on 8/13/19 and 9/18/19. These investigations were conducted to characterize the nature of the site with regards to whether the site met the definition of a "Wetlands" as defined in 7 *Del. C.* § 6603(h) and the Wetlands Regulations.

Upon visually looking over the site it was apparent that anthropogenically-induced changes were present across the entire area. Specifically, herbicide applications and the mowing of vegetation had taken place which made it difficult to discern exact species of vegetation which would be naturally present. However, it was apparent from standing stems at the site that vegetation contained extensive aerenchyma tissue which is an adaptation characteristic of plants which have evolved to exist in wetland environments where water is near, at, or above the soil surface on a frequent basis. Adjacent areas which had not been mowed or sprayed, on the adjacent parcel, and fell in a similar landscape setting appeared to have lush stands of *Spartina alterniflora* which are found in wetland environments and are listed as one of the species which may grow or is capable of growing in wetlands according to the definition found in 7 *Del. C.* § 6603(h) and the Wetlands Regulations. The standing stems drew a very similar resemblance to *Spartina alterniflora* stems and phragmites.

An elevation survey was provided to WSLS from the applicant which depicted the mean highwater line. According to the survey, there is no area on any of the parcels in question which have elevations 2 feet above local mean high water except for the dune areas. These dune areas are not mapped as state-regulated wetlands, which was confirmed by walking the site using a GPS unit loaded with the wetland maps. These areas were either never mapped as state-regulated wetlands or had already undergone map changes to correct the mapping errors. Thus, the elevation standard set in the definition of a "Wetlands" as defined in 7 *Del. C.* § 6603(h) and the Wetlands Regulations shows that what is currently mapped falls in line with a Wetlands.

Aerial photography from 1926 shows a clear channel coming from the St. Jones River and running along what is now Flack Avenue into the sites in question. According to a Department of Justice interpretation of the definition of the "Wetlands" definition in 7 *Del. C.* § 6603(h) and the Wetlands Regulations, we consider the criterion of wetlands which states "…areas which are now or in this century have been connected to tidal waters…" to be satisfied by any land which was connected to tidal waters within the 20th century. Thus, with the St. Jones River being tidal in this area and having a clear tidal connection from the St. Jones River to the sites in question in 1926, WSLS considers this criterion of a wetland to be fulfilled. Additionally, a culvert located on the northern end of the property appears to connect the site with the vast area of tidal *Spartina* marsh found on the opposite end of Flack Avenue.

While no soils-related language is included in the "Wetlands" definition in 7 *Del. C.* § 6603(h) and the Wetlands Regulations, several soil cores were taken to determine the nature of the substrate at the site. This was done to provide additional information on the condition of the site which could help in the map change determination. The soils in the area are mapped primarily as Transquaking and Mispillion soils by the USDA, and these are the soils which were observed onsite. These represent organic soils with

drainage classes of "very poorly drained" and with official soil series descriptions which note that they are found in geographic settings along "tidally influenced" areas. Organic soils are the hydric soils, which according to the National Technical Committee of Hydric Soils are "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." This is the definition used to administer Section 404 of the Clean Water Act by the EPA and the U.S. Army Corps of Engineers.

EXHIBIT 5

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF WATER Richardson & Robbins Building 89 Kings Highway Dover, Delaware 19901

SUBAQUEOUS LANDS

WETLANDS &

January 30, 2020

Delmarsh, LLC c/o: Jeffrey Liberto 74 Caddie Court Magnolia, DE 19962

Wetlands Map Change ID: MC-267/19 RE: State Regulated Wetlands Map Change DNR-183 near the northern terminus of N. Flack Avenue and N. Bayshore Drive, Bowers Beach, Kent County, DE Tax Parcel #s: 8-01-11513-01-0300-00001 & 8-01-11513-01-0200-00001

Dear Mr. Liberto,

This letter is in response to a request for a mapping change to the State of Delaware Wetland Map DNR-183. The request was submitted to the Wetlands and Subaqueous Lands Section ("WSLS") of the Delaware Natural Resources and Environmental Control ("Department") by Richard L. Abbott, Esquire on July 1, 2019 with subsequent information received on August 12, 2019. The proposed map change is located near the mouth of the Delaware Bay and the Saint Jones River near the terminus of N. Flack Avenue and N. Bayshore Drive, Bowers, Kent County, Delaware. The applicant requested that the property associated with the above referenced tax parcels ("Property") be removed from the wetlands map designation.

State Wetland Regulatory Authority

State wetlands are regulated in accordance with The Wetlands Act, (7 *Del. C.*, ch. 66) and the Department's Wetlands Regulations (7 *Del. Admin. C* § 7502). Pertinent portions of these documents are as follows:

State regulated wetlands are defined in the Act (§6603(h)) and Regulations (§5.0) as:

[T]hose lands above the mean low water elevation including any bank, marsh, swamp, meadow, flat or other low land subject to tidal action in the State along the Delaware Bay and Delaware River, Indian River Bay, Rehoboth Bay, Little and Big Assawoman Bays, the coastal inland waterways, or along any inlet, estuary or tributary waterway or any portion thereof, including those areas which are now or in this century have been connected to tidal waters, whose surface is at or below an elevation of 2 feet above local mean high water, and upon which may grow or is capable of growing any but not necessarily all of the following plants.

PHONE (302) 739-9943 In accordance with State law, the State regulated wetlands have been identified, inventoried, and demarcated on the Delaware Wetlands maps. The Property was designated as wetlands and included on the Delaware Wetlands maps in 1988.

Section 6607(e) of the State Wetlands Act and § 17.1 of the Wetlands Regulations address errors in the adopted State of Delaware Wetlands maps:

If an on-site evaluation by the Department establishes that an error exists in a wetlands map that has been adopted by the Department, in accordance with 7 Del.C. §§6607(b) and (c) the wetlands map containing the error may be corrected by the Department after the Department documents, in writing, the results of the on-site evaluation, and the Department gives public notice of any proposed correction.

This procedure is the only mechanism for removing a wetlands designation.

Conclusion

The WSLS evaluated the proposed map change in accordance with the Wetlands Act and the Wetlands Regulations. The WSLS evaluated the site and reviewed the supporting documentation submitted with the map change request.

Upon reviewing the supporting documentation and conducting an on-site evaluation of the properties located at tax parcels 8-01-11513-01-0300-00001 & 8-01-11513-01-0200-00001 it has been determined that no error exists in the State of Delaware Wetland Map DNR-183. This property has been found to meet the definition of a "Wetlands" as defined in 7 *Del. C.* § 6603(h) and the Wetlands Regulations. Therefore, the area will remain as State-regulated wetlands.

Pursuant to 7 *Del. C.* § 6610, "Any person whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board within 20 days after the Secretary has announced the decision."

Sincerely,

Fyler Brown

Section Manager DNREC Wetlands and Subaqueous Lands Section

CC: George Geatz, Environmental Scientist, DNREC Wetlands and Subaqueous Lands Section Richard L Abbott, Esquire