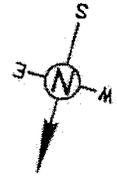


ADDITIONAL INFO  
REVISION

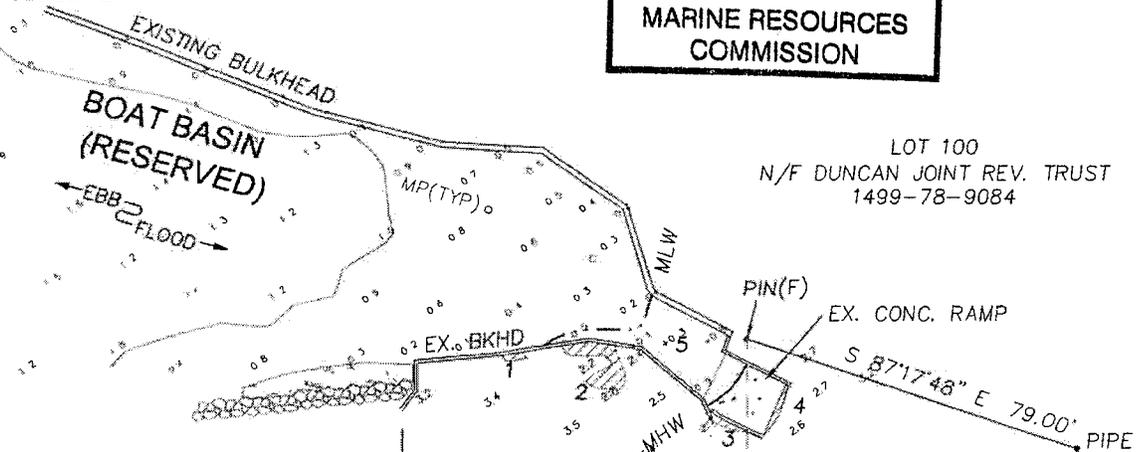
**RECEIVED**  
**MAR 01 2016**  
**MARINE RESOURCES  
COMMISSION**



MLW: 0.0  
MHW: 1.4'  
ULWB: 2.1'

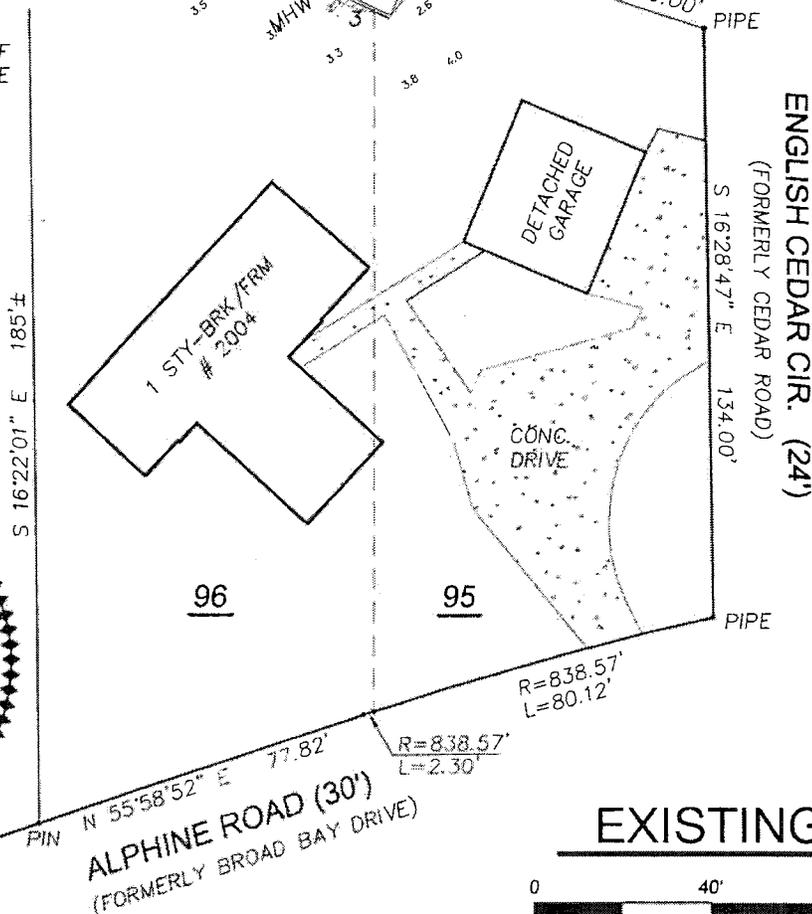
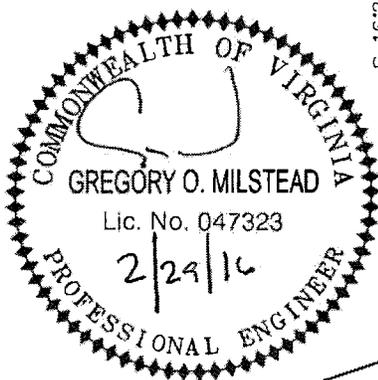
LOT 100  
N/F DUNCAN JOINT REV. TRUST  
1499-78-9084

**BOAT BASIN  
(RESERVED)**

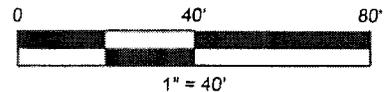


HATCHED AREAS ARE 376 SF OF  
JURISDICTIONAL WETLANDS TO BE  
IMPACTED  
AREA 1: 8 SF NVW  
AREA 2: 74 SF VW  
AREA 3: 11 SF VW  
AREA 4: 12 SF VW  
AREA 5: 243 SF NVW DREDGE

LOT 97  
N/F KHALID KASSIR  
1499-88-1206



**EXISTING**



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**PURPOSE: MAINTENANCE**  
**DATUM: MLW 0.0**  
**A.P.O.**  
1. KHALID A. KASSIR  
2. DUNCAN JOINT REV. TRUST  
3.  
4.  
**REV: 02/24/2016**



**WATERFRONT  
CONSULTING, INC.**

2589 QUALITY COURT, STE. 323  
VIRGINIA BEACH, VA 23454  
PH/FAX: (757) 425-8244, CELL: (757) 619-7302

**ENGINEERING SERVICES PROVIDED BY:**  
**CHESAPEAKE BAY SITE SOLUTIONS, INC.**  
3913 CROMWELL PARK DRIVE

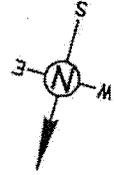
**PROP: BULKHEAD, LIFTS, DREDGE**  
**IN: MAN-MADE BOAT BASIN**  
**TRIBUTARY TO BROAD BAY**  
**AT: 2004 ENGLISH CEDAR CIR.**  
**VIRGINIA BEACH, VA 23451**  
**APPLICATION BY:**  
**GEORGE N. KARAVOLOS, RLT**  
**SHEET 1 OF 11**  
**DATE: JAN. 8. 2016**

ADDITIONAL INFO  
REVISION

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MAR 01 2016

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COMMISSION



MLW: 0.0  
MHW: 1.4'  
ULWB: 2.1'

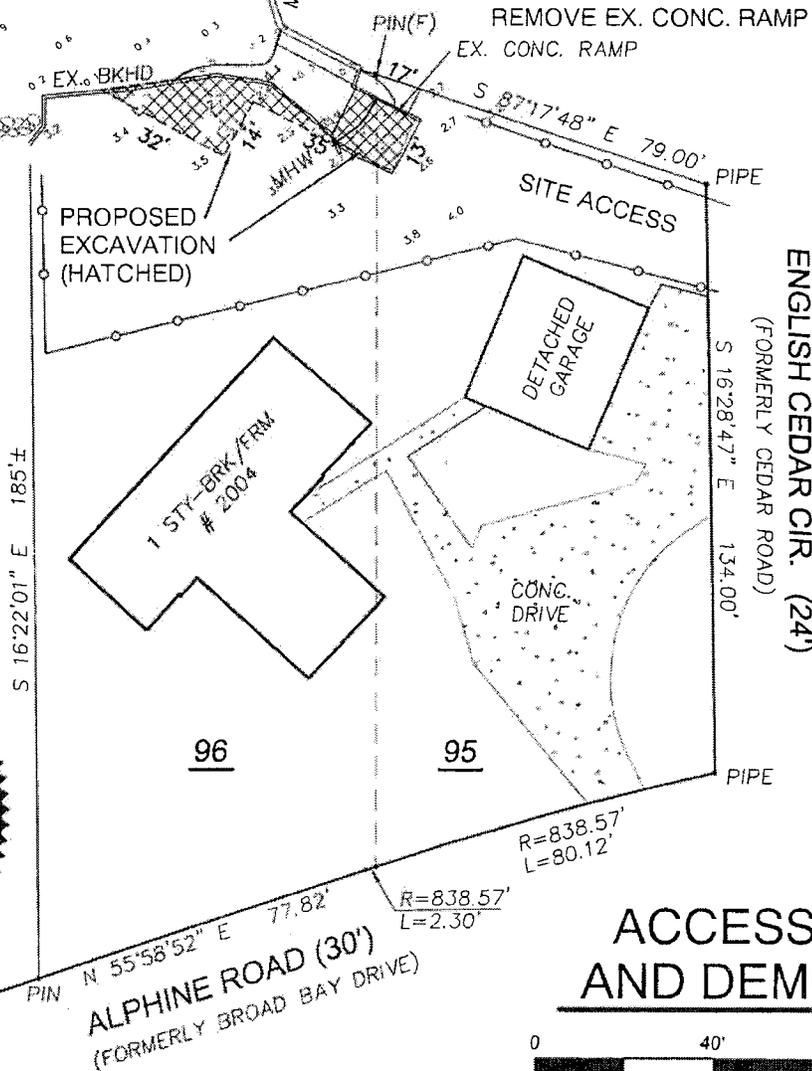
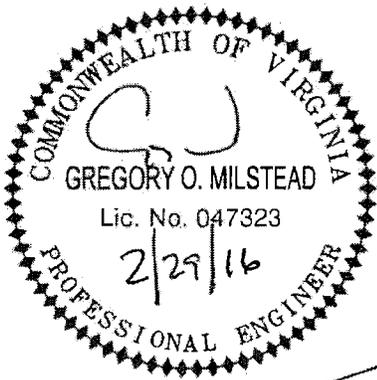
LOT 100  
N/F DUNCAN JOINT REV. TRUST  
1499-78-9084

EXISTING BULKHEAD  
BOAT BASIN  
(RESERVED)

NOTES:  
EXCAVATE AREA BEHIND  
BULKHEAD POINTS B-E AND  
UNDER BOAT RAMP TO  
CREATE 2 BOAT SLIPS AND  
INSTALL 2 VERTICAL BOAT  
LIFTS.

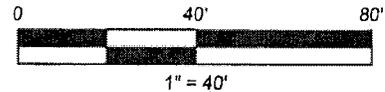
UPLAND EXCAVATED  
AREA: 575 SF  
VOLUME: 100 C.Y.

LOT 97  
N/F KHALID KASSIR  
1499-88-1206



ENGLISH CEDAR CIR. (24')  
(FORMERLY CEDAR ROAD)

ACCESS  
AND DEMO



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DATUM: MLW 0.0  
A.P.O.  
1. KHALID A. KASSIR  
2. DUNCAN JOINT REV. TRUST  
3.  
4.

REV: 02/24/2016



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ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE

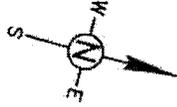
PROP: BULKHEAD, LIFTS, DREDGE  
IN: MAN-MADE BOAT BASIN  
TRIBUTARY TO BROAD BAY  
AT: 2004 ENGLISH CEDAR CIR.  
VIRGINIA BEACH, VA 23451  
APPLICATION BY:  
GEORGE N. KARAVOLOS, RL  
SHEET 2 OF 11  
DATE: JAN. 8. 2016

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MARINE RESOURCES  
COMMISSION



ENGLISH CEDAR CI  
(FORMERLY CEDAR  
S 16°28'47" E

PLAN VIEW



TABLE OF CONTROLS

POINT	REF1	REF2
A	77	115
B	69	103
C	43	72
D	54	71
E	45	39
F	59	42
G	62	56

PROPOSED DREDGED ACCESS  
CHANNEL AND BASIN LINE (TYP)

PROPOSED DREDGE  
AREA: 4863 SQ. FT.  
VOLUME: 220 C.Y.

MLW: 0.0  
MHW: 1.4'  
ULWB: 2.1'

EXISTING BULKHEAD

BOAT BASIN  
(RESERVED)

PROPOSED BULKHEAD  
POINTS A-G

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ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE  
VIRGINIA BEACH, VA 23456

PROP: BULKHEAD, LIFTS, DREDGE

IN: BROAD BAY

AT: 2004 ENGLISH CEDAR CIR.

VIRGINIA BEACH, VA 23451

APPLICATION BY:

GEORGE N. KARAVOLOS, RL

SHEET 3 OF 11

DATE: JAN. 8, 2016

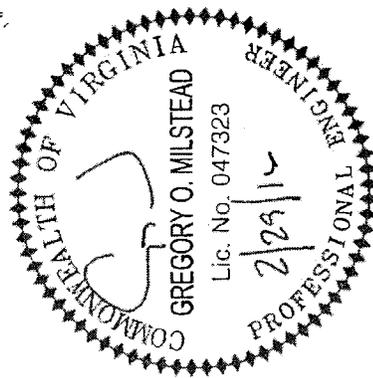
PURPOSE: MAINTENANCE

DATUM: MLW 0.0

A.P.O.

1. KHALID A. KASSIR
2. DUNCAN JOINT REV. TRUST
- 3.
- 4.

REV: 02/24/2016



**SITE DATA**

LEGAL DESCRIPTION: LOTS 95 & 96, BROAD BAY COLONY  
REF: MAP BOOK 29, PAGE 48, ON FILE AT THE CLERK'S OFFICE, VIRGINIA BEACH, VA  
SITE SURVEY BY: ALTON M. BUTLER DATE: JUNE 30, 1986  
GPIN: 1499-78-9270  
ZONING: R-10 RESIDENTIAL

**SEQUENCE OF CONSTRUCTION**

1. OBTAIN ALL REQUIRED PERMITS.
2. HOLD A PRE-CONSTRUCTION MEETING ON-SITE WITH THE COASTAL ZONE ADMINISTRATOR.
3. INSTALL ALL EROSION CONTROLS AND TREE PROTECTION AS SHOWN ON PLAN.
4. CONSTRUCT SITE IMPROVEMENTS.
5. STABILIZE ALL DISTURBED AREAS AND RESTORE SITE ACCESS TO PRE-CONSTRUCTION VEGETATION OR WITH ACCEPTABLE LANDSCAPING AND GROUND COVER.
6. INSTALL STORM-WATER BMP'S IF REQUIRED.
7. REMOVE ALL TEMPORARY EROSION CONTROLS WHEN THE SITE HAS BEEN STABILIZED.

**CONSTRUCTION NOTES**

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND AS REQUIRED BY THE CITY'S INSPECTORS.
2. ANY AND ALL MATERIAL OR DEBRIS TRACKED ONTO A PUBLIC OR PRIVATE ROAD SURFACE WILL BE REMOVED AT THE END OF EACH DAY. SEDIMENT WILL BE TRANSPORTED TO A SEDIMENT-CONTROLLED DISPOSAL AREA.
3. ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A LAWFUL MANNER.
4. THESE PLANS ARE FOR PERMIT PURPOSES ONLY. NO GEOTECHNICAL OR STRUCTURAL BORINGS HAVE TAKEN PLACE AT THIS SITE. THE CONTRACTOR/OWNER SHALL VERIFY BOTTOM CONDITIONS.
5. IT SHALL BE THE OWNER/CONTRACTOR'S RESPONSIBILITY TO HAVE ALL UNDERGROUND UTILITIES AND SPRINKLER SYSTEMS LOCATED AND MARKED. THE NUMBER FOR "MISS UTILITY" IS (800) 552-7001 OR 811.

**RE-VEGETATION / SEEDING SCHEDULE**

**TABLE 3.32-E (REVISE JUNE 2003)  
PERMANENT SEEDING SPECIFICATIONS FOR COASTAL PLAIN AREA**

<u>Minimum Care Lawn (Commercial or Residential)</u>	
Tall Fescue	175-200 lbs./acre
Bermuda Grass	75 lbs./acre
<u>High Maintenance Lawn</u>	
Tall Fescue	200-250 lbs./acre
Bermuda Grass (seed)	40 lbs. (un-hulled)/acre
Bermuda Grass (by other vegetative establishment method, see std. & spec. 3.34)	30 lbs. (hulled)/acre



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**PURPOSE: MAINTENANCE**  
**DATUM: MLW 0.0**  
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 1. KHALID A. KASSIR  
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 3.  
 4.



**WATERFRONT  
CONSULTING, INC.**

2589 QUALITY COURT, STE. 323  
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PH/FAX: (757) 425-8244, CELL: (757) 619-7302

ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE

**PROP: BULKHEAD, LIFTS, DREDGE**  
**IN: MAN-MADE BOAT BASIN**  
**TRIBUTARY TO BROAD BAY**  
**AT: 2004 ENGLISH CEDAR CIR.**  
**VIRGINIA BEACH, VA 23451**  
**APPLICATION BY:**  
**GEORGE N. KARAVOLOS, RLT**  
**SHEET 4 OF 11**  
**DATE: JAN. 8. 2016**

REV: 02/24/2016

ADDITIONAL INFO  
KASSIR

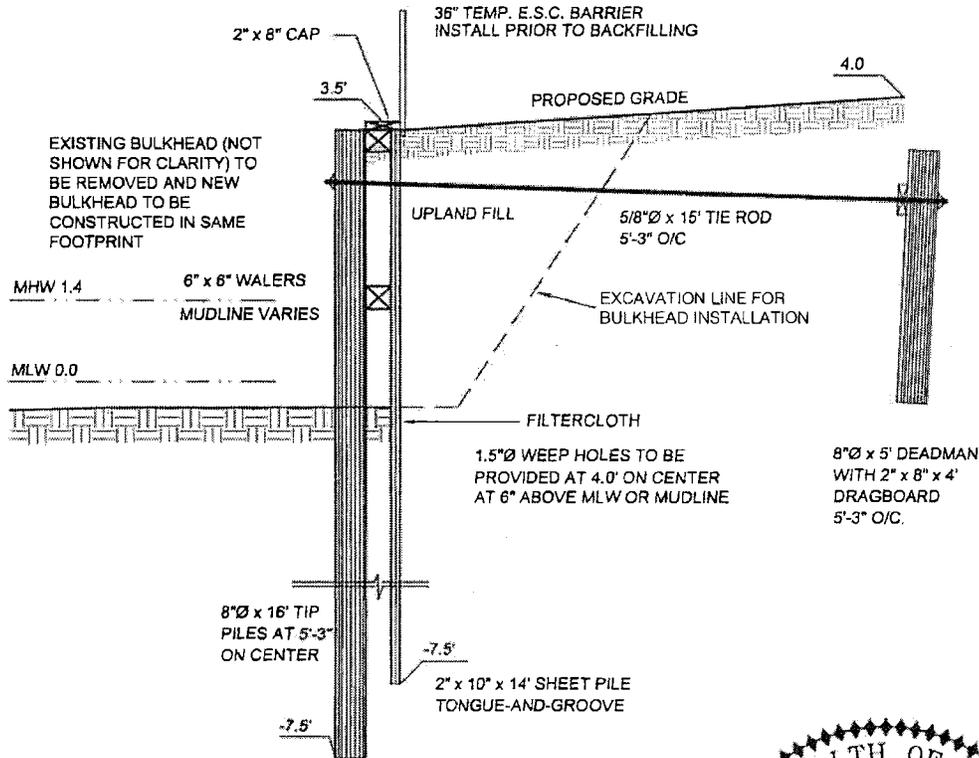
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MARINE RESOURCES  
COMMISSION

# CROSS SECTION PROPOSED BULKHEAD & FILL POINTS A-B

SCALE 1" = 3.0'



**MATERIALS SPECIFICATIONS:**  
 CAP BOARD CCA 0.4 PCF  
 ALL OTHER TIMBER CCA 2.5 PCF  
 ALL WOOD GRADE 2 OR BETTER  
 ALL HARDWARE H.D. GALVANIZED

BULKHEAD DESIGN IS BASED ON STANDARD DESIGN PRACTICES. ATYPICAL SITE CONDITIONS NOT VISIBLY APPARENT HAVE NOT BEEN TAKEN INTO ACCOUNT. DIMENSIONS SHOWN ARE MINIMUMS TO BE ALLOWED. CONTRACTOR SHALL FIELD VERIFY BOTTOM CONDITIONS TO ASSURE THAT FIRM MATERIAL IS IN PLACE. THE ENGINEER IS TO BE NOTIFIED OF ANY ABNORMAL SOIL CONDITIONS FOR EITHER SHEET PILE OR DEADMAN FIELD.



PURPOSE: MAINTENANCE  
 DATUM: MLW 0.0  
 A.P.O.

1. KHALID A. KASSIR
2. DUNCAN JOINT REV. TRUST
- 3.
- 4.

REV: 02/24/2016



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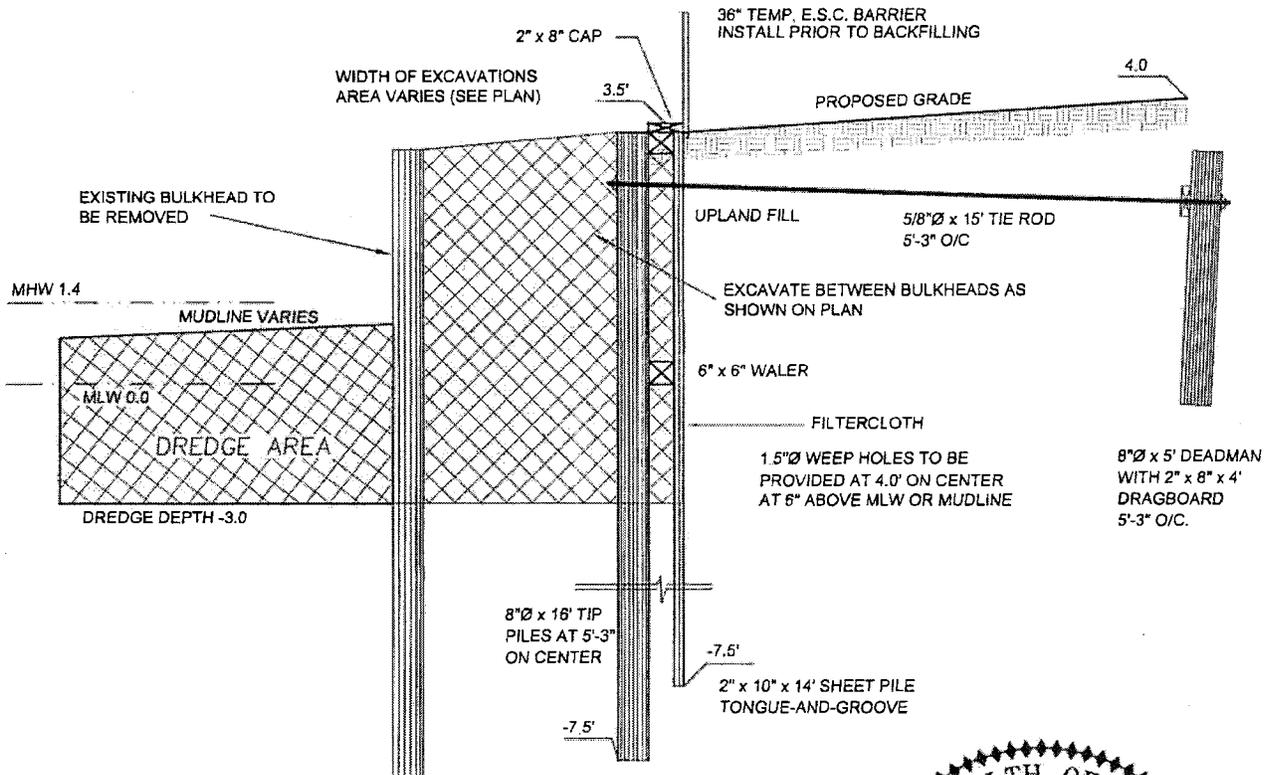
PROP: BULKHEAD, LIFTS, DREDGE  
 IN: MAN-MADE BOAT BASIN  
 TRIBUTARY TO BROAD BAY  
 AT: 2004 ENGLISH CEDAR CIR.  
 VIRGINIA BEACH, VA 23451

APPLICATION BY:  
 GEORGE N. KARAVOLOS, RLT  
 SHEET 5 OF 11  
 DATE: JAN. 8, 2016

RECEIVED  
MAR 31 2016  
MARINE RESOURCES  
COMMISSION

CROSS SECTION  
PROPOSED BULKHEAD & FILL  
POINTS B-E

SCALE 1" = 3.0'



MATERIALS SPECIFICATIONS:  
CAP BOARD CCA 0.4 PCF  
ALL OTHER TIMBER CCA 2.5 PCF  
ALL WOOD GRADE 2 OR BETTER  
ALL HARDWARE H.D. GALVANIZED

BULKHEAD DESIGN IS BASED ON STANDARD DESIGN PRACTICES. ATYPICAL SITE CONDITIONS NOT VISIBLY APPARENT HAVE NOT BEEN TAKEN INTO ACCOUNT. DIMENSIONS SHOWN ARE MINIMUMS TO BE ALLOWED. CONTRACTOR SHALL FIELD VERIFY BOTTOM CONDITIONS TO ASSURE THAT FIRM MATERIAL IS IN PLACE. THE ENGINEER IS TO BE NOTIFIED OF ANY ABNORMAL SOIL CONDITIONS FOR EITHER SHEET PILE OR DEADMAN FIELD.



PURPOSE: MAINTENANCE  
DATUM: MLW 0.0  
A.P.O.

1. KHALID A. KASSIR
2. DUNCAN JOINT REV. TRUST
- 3.
- 4.

REV: 02/24/2016



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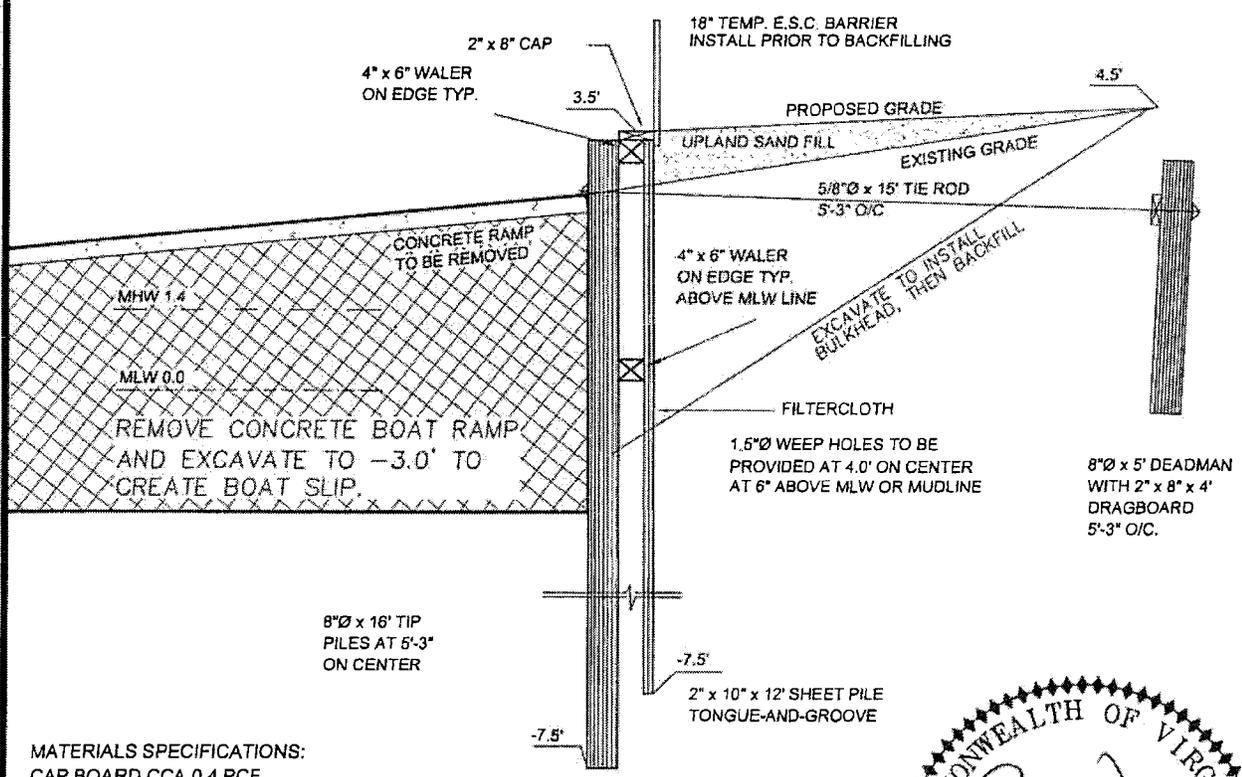
2589 QUALITY COURT, STE. 323  
VIRGINIA BEACH, VA 23454  
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ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE

PROP: BULKHEAD, LIFTS, DREDGE  
IN: MAN-MADE BOAT BASIN  
TRIBUTARY TO BROAD BAY  
AT: 2004 ENGLISH CEDAR CIR.  
VIRGINIA BEACH, VA 23451  
APPLICATION BY:  
GEORGE N. KARAVOLOS, RLT  
SHEET 6 OF 11  
DATE: JAN. 8, 2016

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MARINE RESOURCES  
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**CROSS SECTION  
PROPOSED BULKHEAD & FILL  
POINTS E-F**  
SCALE 1" = 3.0'



**MATERIALS SPECIFICATIONS:**  
CAP BOARD CCA 0.4 PCF  
ALL OTHER TIMBER CCA 2.5 PCF  
ALL WOOD GRADE 2 OR BETTER  
ALL HARDWARE H.D. GALVANIZED

BULKHEAD DESIGN IS BASED ON STANDARD DESIGN PRACTICES. ATYPICAL SITE CONDITIONS NOT VISIBLY APPARENT HAVE NOT BEEN TAKEN INTO ACCOUNT. DIMENSIONS SHOWN ARE MINIMUMS TO BE ALLOWED. CONTRACTOR SHALL FIELD VERIFY BOTTOM CONDITIONS TO ASSURE THAT FIRM MATERIAL IS IN PLACE. THE ENGINEER IS TO BE NOTIFIED OF ANY ABNORMAL SOIL CONDITIONS FOR EITHER SHEET PILE OR DEADMAN FIELD.

COMMONWEALTH OF VIRGINIA  
GREGORY O. MILSTEAD  
Lic. No. 047323  
2/29/14  
PROFESSIONAL ENGINEER

PURPOSE: MAINTENANCE  
DATUM: MLW 0.0  
A.P.O.  
1. KHALID A. KASSIR  
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REV: 02/24/2016

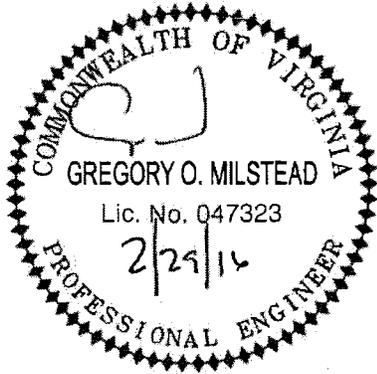
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2589 QUALITY COURT, STE. 323  
VIRGINIA BEACH, VA 23454  
PH/FAX: (757) 425-8244, CELL: (757) 619-7302  
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VIRGINIA BEACH, VA 23451  
APPLICATION BY:  
GEORGE N. KARAVOLOS, RLT  
SHEET 7 OF 11  
DATE: JAN. 8, 2016

MAR 01 2016

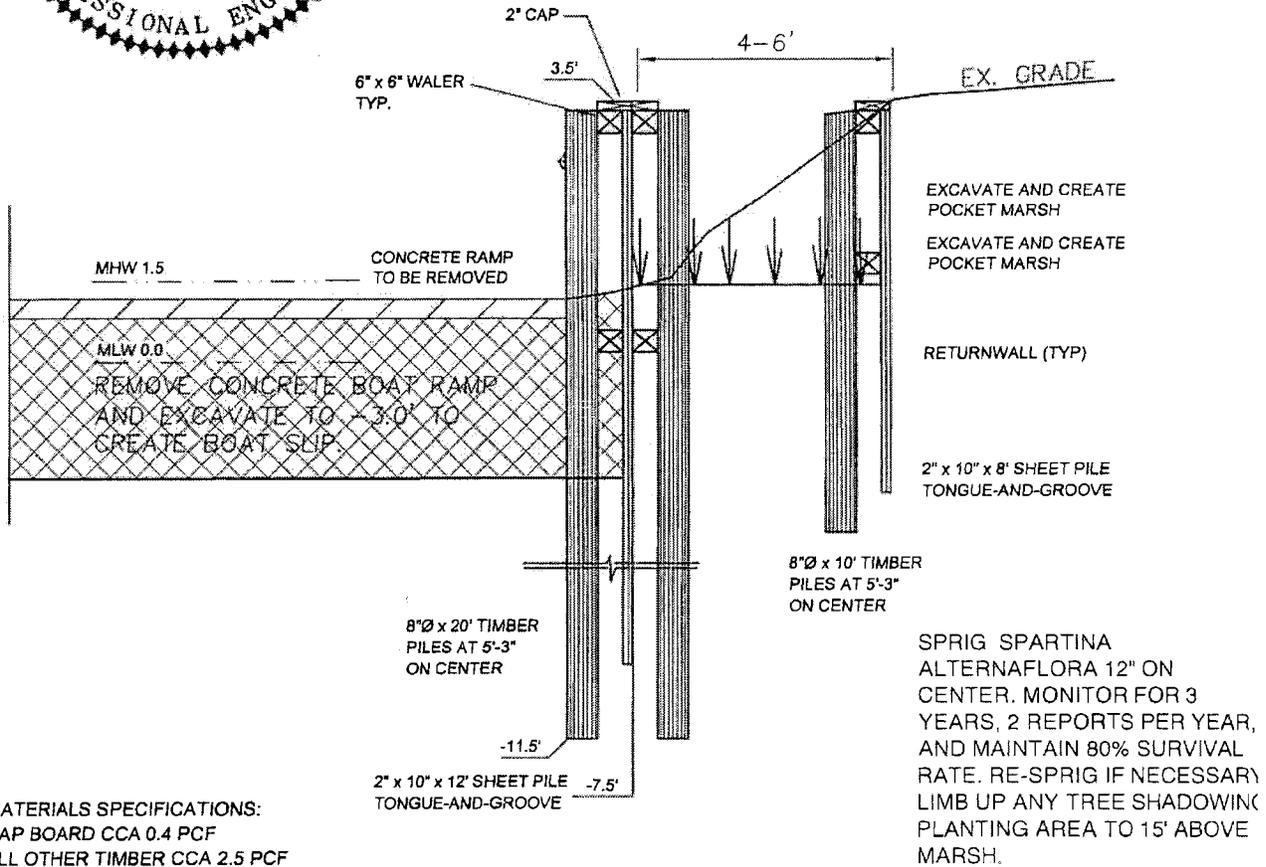
MARINE RESOURCES  
COMMISSION

ADDITIONAL INFO  
REVISION



### CROSS SECTION PROPOSED GROIN POINTS F-G

SCALE 3/8" = 1.0'



**MATERIALS SPECIFICATIONS:**  
CAP BOARD CCA 0.4 PCF  
ALL OTHER TIMBER CCA 2.5 PCF  
ALL WOOD GRADE 2 OR BETTER  
ALL HARDWARE H.D. GALVANIZED

BULKHEAD DESIGN IS BASED ON STANDARD DESIGN PRACTICES. ATYPICAL SITE CONDITIONS NOT VISIBLY APPARENT HAVE NOT BEEN TAKEN INTO ACCOUNT. DIMENSIONS SHOWN ARE MINIMUMS TO BE ALLOWED. CONTRACTOR SHALL FIELD VERIFY BOTTOM CONDITIONS TO ASSURE THAT FIRM MATERIAL IS IN PLACE. THE ENGINEER IS TO BE NOTIFIED OF ANY ABNORMAL SOIL CONDITIONS FOR EITHER SHEET PILE OR DEADMAN FIELD.

- PURPOSE: MAINTENANCE**  
DATUM: MLW 0.0  
A.P.O.  
1. KHALID A. KASSIR  
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3.  
4.

REV: 02/24/2016



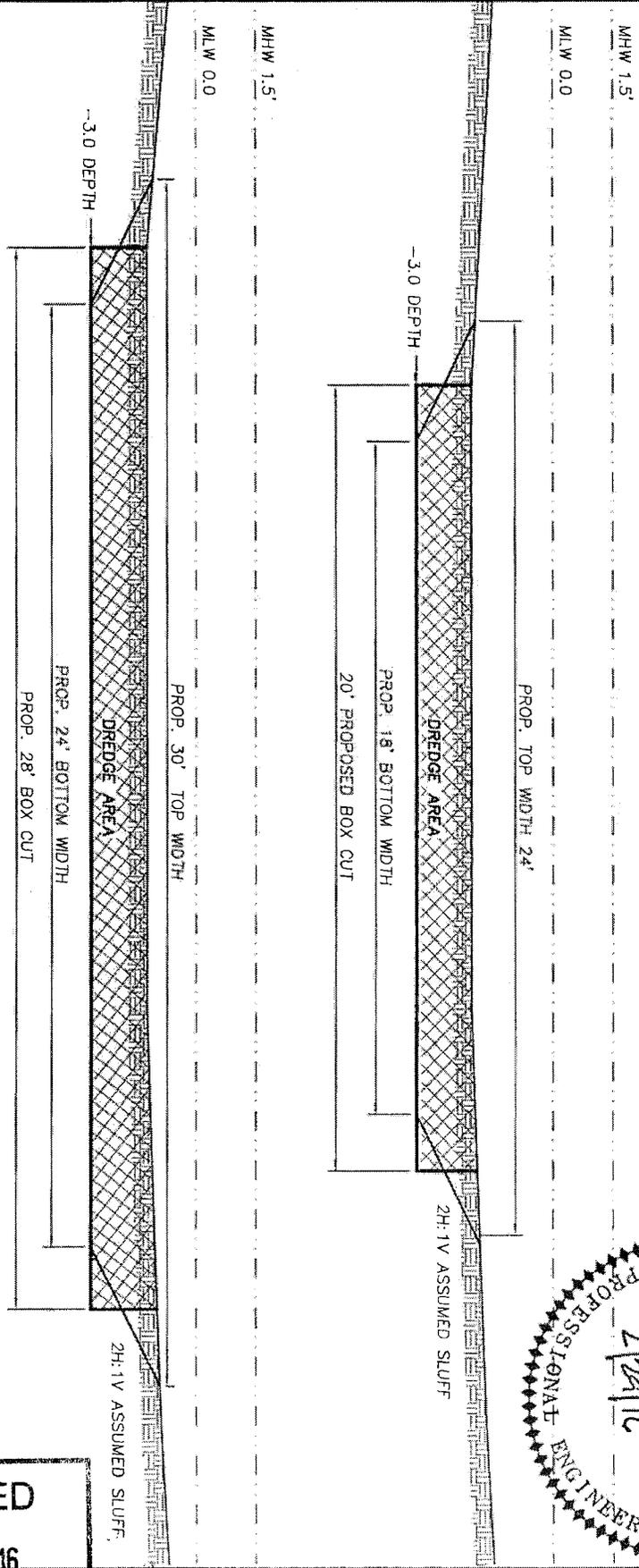
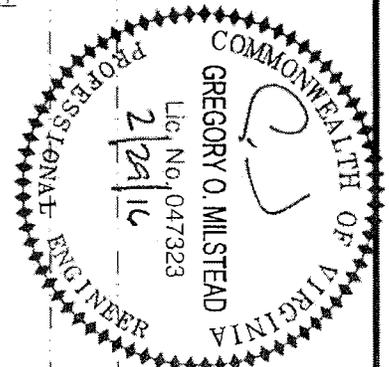
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**TRIBUTARY TO BROAD BAY**  
**AT: 2004 ENGLISH CEDAR CIR.**  
**VIRGINIA BEACH, VA 23451**  
**APPLICATION BY:**  
**GEORGE N. KARAVOLOS, RLT**  
**SHEET 8 OF 11**  
**DATE: JAN. 8. 2016**

**CROSS SECTIONS  
PROPOSED DREDGING**  
SCALE: 1" = 4.0'



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**PURPOSE: MAINTENANCE**  
**DATUM: MLW 0.0**  
 A.P.O.  
 1. KHALID A. KASSIR  
 2. DUNCAN JOINT REV. TRUST  
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 VIRGINIA BEACH, VA 23454  
 PH/FAX: (757) 425-8244, CELL: (757) 619-7302  
 ENGINEERING SERVICES PROVIDED BY:  
 CHESAPEAKE BAY SITE SOLUTIONS, INC.  
 3913 CROMWELL PARK DRIVE  
 VIRGINIA BEACH, VA 23455

PROP: BULKHEAD, LIFTS, DREDGE  
 IN: BROAD BAY  
 AT: 2004 ENGLISH CEDAR CIR.  
 VIRGINIA BEACH, VA 23451  
 APPLICATION BY:  
 GEORGE N. KARAVOLOU, RLTT  
 SHEET 9 OF 11  
 DATE: JAN. 8, 2016



**PLAN VIEW**

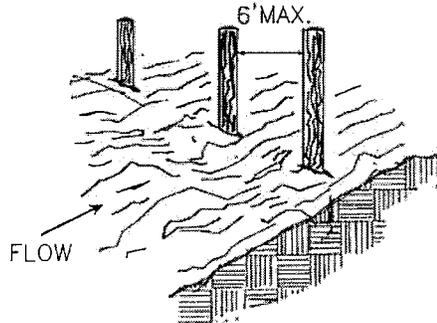
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**MAR 01 2016**  
**MARINE RESOURCES COMMISSION**

ADDITIONAL INFO  
 REVISION

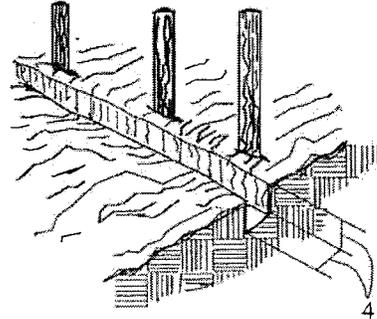
USACE received March 1, 2016

# CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

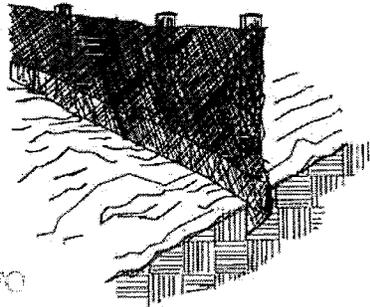
1. SET THE STAKES.



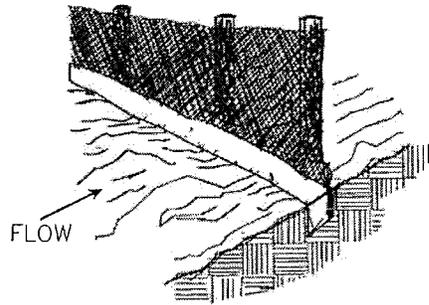
2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.



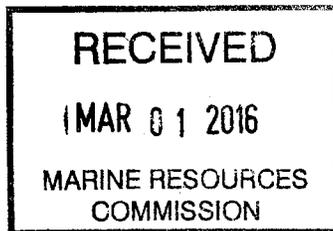
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



ADDITIONAL INFO  
REVISION



A 36" EROSION AND SEDIMENT CONTROL BARRIER SHALL BE INSTALLED AND MAINTAINED SEAWARD OF ALL CONSTRUCTION ACTIVITIES AT THE CONCLUSION OF EACH WORK DAY.

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PURPOSE: MAINTENANCE

DATUM: MLW 0.0

A.P.O.

1. KHALID A. KASSIR

2. DUNCAN JOINT REV. TRUST

3.

4.

REV: 02/24/2016



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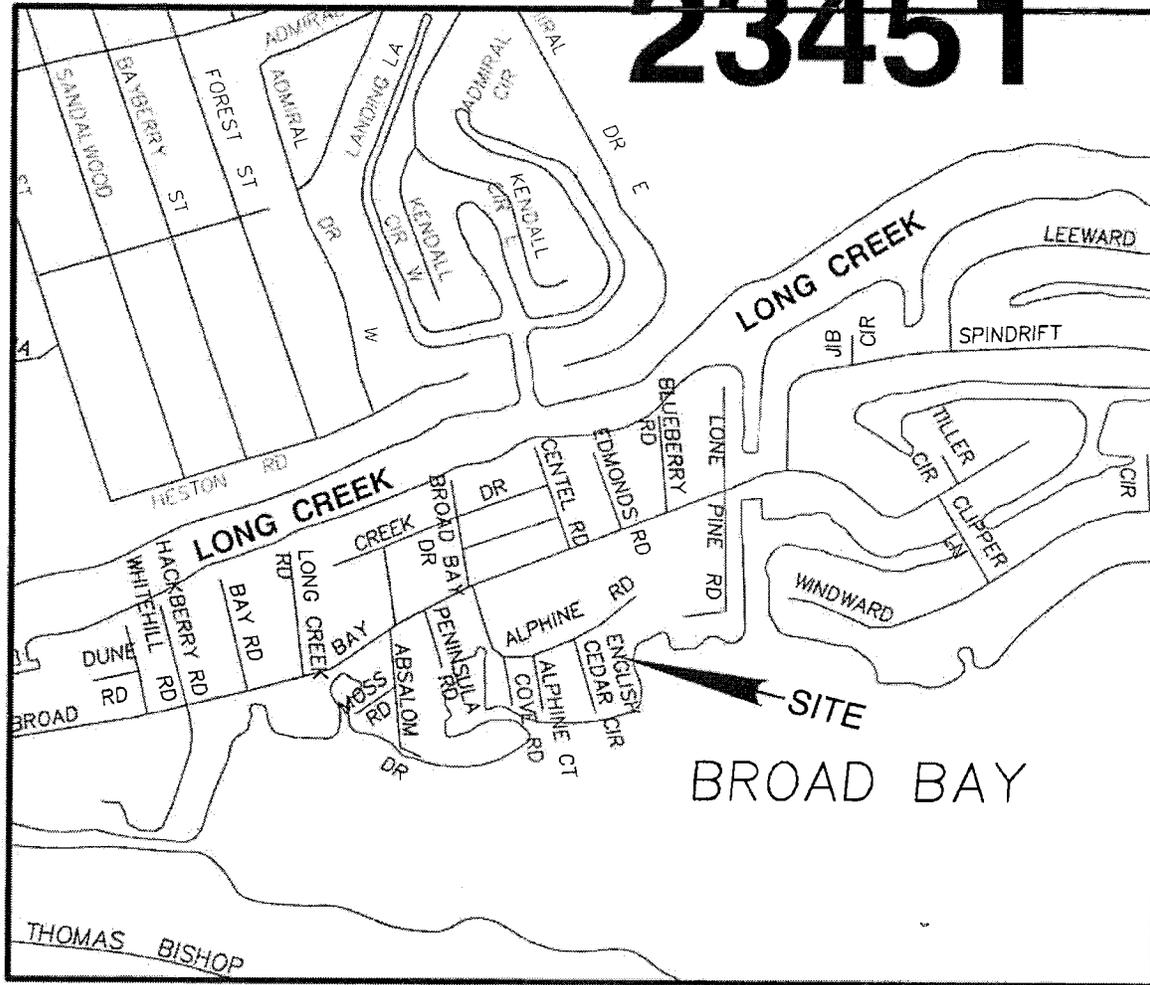
2589 QUALITY COURT, STE. 323  
VIRGINIA BEACH, VA 23454  
PH/FAX: (757) 425-8244, CELL: (757) 619-7302

ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE

PROP: BULKHEAD, LIFTS, DREDGE  
IN: MAN-MADE BOAT BASIN  
TRIBUTARY TO BROAD BAY  
AT: 2004 ENGLISH CEDAR CIR.  
VIRGINIA BEACH, VA 23451

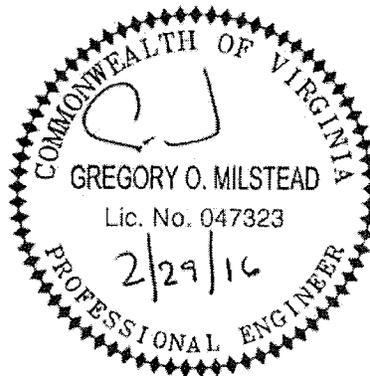
APPLICATION BY:  
GEORGE N. KARAVOLOS, RLT  
SHEET 10 OF 11  
DATE: JAN. 8. 2016

# 23451



ADDITIONAL INFO  
REVISION

**RECEIVED**  
**MAR 01 2016**  
MARINE RESOURCES  
COMMISSION



## LOCATION MAP

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PURPOSE: MAINTENANCE  
DATUM: MLW 0.0  
A.P.O.

1. KHALID A. KASSIR
2. DUNCAN JOINT REV. TRUST
- 3.
- 4.

REV: 02/24/2016



WATERFRONT  
CONSULTING, INC.

2589 QUALITY COURT, STE. 323  
VIRGINIA BEACH, VA 23454  
PH/FAX: (757) 425-8244, CELL: (757) 619-7302

ENGINEERING SERVICES PROVIDED BY:  
CHESAPEAKE BAY SITE SOLUTIONS, INC.  
3913 CROMWELL PARK DRIVE

PROP: BULKHEAD, LIFTS, DREDGE  
IN: MAN-MADE BOAT BASIN  
TRIBUTARY TO BROAD BAY  
AT: 2004 ENGLISH CEDAR CIR.  
VIRGINIA BEACH, VA 23451  
APPLICATION BY:  
GEORGE N. KARAVOLOS, RLT  
SHEET 11 OF 11  
DATE: JAN. 8. 2016