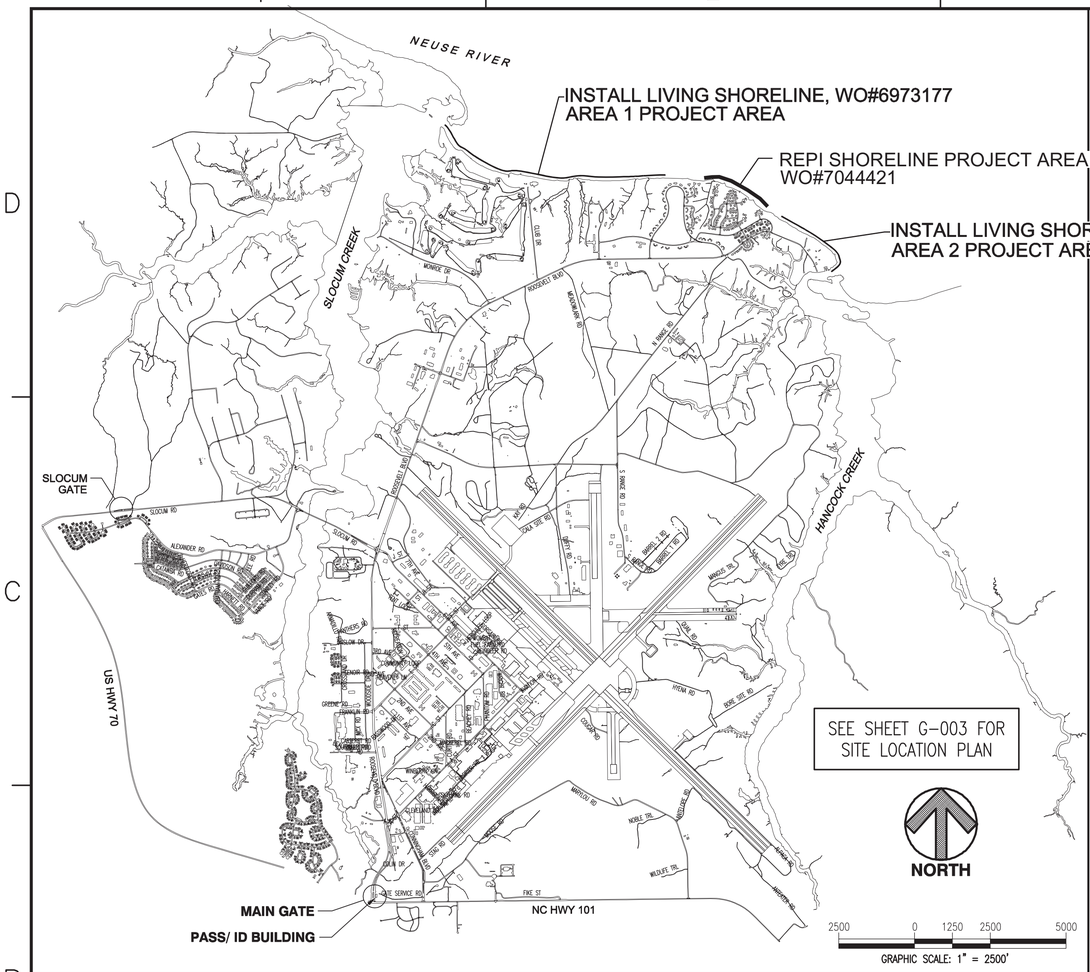

MCAS CHERRY POINT - STATION MAP

SCALE: 1"=2500'

VERTICAL DATUM DIAGRAM

MHW = ELEV +0.26

0.26'

0.37'

MSL = ELEV +0.00

0.11'

MLW = ELEV −0.11

TIDAL STATION USED:
8655151 – CEDAR ISLAND, NC

TIDAL DATA AND RELATIONSHIPS TO NAVD88 VERTICAL DATUM OBTAINED FROM NOAA ONLINE:
HTTPS://TIDESANDCURRENTS.NOAA.GOV

LEGEND
MHW = MEAN HIGH WATER
MSL = MEAN SEA LEVEL
MLW = MEAN LOW WATER

INSTALL LIVING SHORELINE
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
WO #6973177

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12766757	36 OF 37	CS501	DETAILS
12766758	37 OF 37	CG501	DETAILS

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
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NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
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Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
COVER SHEET

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO.: 6973177
NAVFAC DRAWING NO. 12766730
SHEET 01 OF 37
G-001

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: G-001 PLOTTED: Tuesday, November 02, 2021 – 10:13am
UNCLASSIFIED//FOR OFFICIAL USE ONLY

SPECIAL MARINE CONSTRUCTION NOTES:

1. NATIONAL MARINE FISHERIES HAS ESTABLISHED GENERAL GUIDELINES FOR PIER, DOCK, BULKHEAD AND OTHER MARINE CONSTRUCTION THAT INVOLVE THE GENERATION OF NOISE. THE CONTRACTOR SHALL POST OBSERVERS IN THE WORK AREA WHERE MARINE CONSTRUCTION IS OCCURRING. IF A MARINE MAMMAL (A BOTTLENOSE DOLPHIN OR A MANATEE) IS OBSERVED WITHIN 100 METERS OF THE PROJECT SITE WHILE WORKING, THE ACTIVITY SHALL STOP UNTIL THE ANIMAL HAS LEFT THE AREA. IF NO IN-WATER CONSTRUCTION NOISE IS BEING GENERATED BY THE CONSTRUCTION ACTIVITIES, THEN THE 100 METER RULE SHALL NOT APPLY.
2. THE CONTRACTOR SHALL MANAGE AND CONTROL ACTIVITIES TO MINIMIZE INTERFERENCE WITH AND DAMAGE TO FISH AND WILDLIFE. THE CONTRACTOR'S OPERATION SHALL NOT DISTURB FISH AND WILDLIFE BEYOND THE LIMITS OF CONSTRUCTION.
3. THE PROJECT AREAS ARE LOCATED WITHIN AREAS OF ENVIRONMENTAL CONCERN. SIGNIFICANT NATURAL RESOURCES EXIST AT AND ADJACENT TO THE AREAS OF WORK. DISTURBANCE WITHIN THESE AREAS ARE CONTROLLED BY VARIOUS REGULATORY AGENCIES. DISTURBANCE WITHIN THESE AREAS SHALL BE LIMITED TO THOSE AREAS REQUIRED TO ADEQUATELY COMPLETE THE WORK.
4. WETLAND AND RIPARIAN BUFFER AREAS EXIST ON THE ADJACENT SHORELINE AREAS. THESE AREAS SHALL NOT BE DISTURBED IN ANY MANNER, UNLESS CONSTRUCTION IS DESIGNATED TO OCCUR WITHIN THESE AREAS.

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCTION OPERATIONS SHALL BE COMPLETED IN COMPLIANCE WITH ALL STATE AND FEDERAL REGULATIONS AND AS SPECIFIED.
2. THE PLANS DEPICT THE GENERAL INTENT OF CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES OUTSIDE THE LIMITS OF CONSTRUCTION. ANY ITEM DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR REPLACED WITH NEW.
3. ADJACENT STRUCTURES AND UTILITIES MUST REMAIN IN OPERATION DURING CONSTRUCTION ACTIVITIES. EXISTING ROADS SHALL REMAIN OPEN AND ACCESSIBLE BY VEHICULAR AND PEDESTRIAN TRAFFIC. IF ROADWAY CLOSURE IS REQUIRED, APPROVAL SHALL BE SECURED FROM THE CONTRACTING OFFICER. THE CONTRACTOR SHALL PROVIDE BARRICADES, LIGHTS, SIGNAGE AND OTHER PROTECTIVE DEVICES IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. THE CONTRACTOR SHALL PROVIDE FENCING, BARRICADES OR OTHER PROTECTIVE DEVICES TO MAINTAIN A SECURED WORK AREA AT ALL TIMES.
5. PRIOR TO STARTING CONSTRUCTION ON ANY STRUCTURES OR UTILITIES, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS OF ANY STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL DEVELOP A PLAN OF CONSTRUCTION THAT ENSURES ALL ACTIVITIES ARE COMPLETED IN A SAFE MANNER. PROVIDE ANY TEMPORARY SHORING, SHEETING OR SUPPORT REQUIRED TO COMPLETE WORK IN A SAFE MANNER.
6. COMPLETELY REMOVE ALL STRUCTURE AND UTILITIES INDICATED, BOTH ABOVE GROUND AND BELOW GROUND.
7. ALL EXCAVATIONS CREATED BY CONSTRUCTION ACTIVITIES SHALL BE BACKFILLED WITH COMMON FILL, UNLESS OTHERWISE NOTED, SHALL BE GRADED TO CREATE POSITIVE DRAINAGE, AND SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. GRAVEL AND PAVED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
8. ALL EROSION CONTROL FEATURES SHOWN SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES STARTING.
9. ANY FILL MATERIAL REQUIRED TO ESTABLISH THE FINISH GRADES SHOWN SHALL BE OBTAINED FROM A PROPERLY PERMITTED BORROW PIT. ANY EXCESS SOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF OFF OF THE GOVERNMENT PROPERTY.
10. IF DURING CONSTRUCTION, ANY SOILS ARE ENCOUNTERED THAT ARE SUSPECTED OF BEING CONTAMINATED, WORK SHALL CEASE AND THE CONTRACTING OFFICER SHALL BE CONTACTED FOR RESOLUTION.

UTILITY CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL SECURE THE SERVICES OF A PROFESSIONAL UTILITY LOCATE CONTRACTOR TO MARK ALL EXISTING UTILITIES IN THE AREA OF WORK. UTILITY MARKINGS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES.
2. ALL UTILITY LINES TO REMAIN SHALL REMAIN ACTIVE AND SHALL BE PROTECTED DURING CONSTRUCTION ACTIVITIES.
3. EXISTING UTILITIES SHALL NOT BE INTERRUPTED WITHOUT THE APPROVAL OF THE CONTRACTING OFFICER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE, TO ORIGINAL CONDITION, ANY UTILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES FROM THE CONTRACTOR'S OPERATIONS.
5. ALL COSTS ASSOCIATED WITH LOCATING, DISCONNECTING ABANDONING AND CAPPING OF UTILITY LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

I, JOSEPH C. AVOLIS, PE, PLS, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

- CLASS OF SURVEY: CLASS A
- POSITIONAL ACCURACY: HORIZONTAL: 0.017'
- VERTICAL: 0.027'
- TYPE OF GPS FIELD PROCEDURE: NC CORS NETWORK VRS
- DATE(S) OF SURVEY: FEBRUARY 26, 2020
- DATUM/EPOCH: NAD83 & NAVD88
- PUBLISHED/FIXED-CONTROL USE: NC CORS VRS
- GEOID MODEL: GEOID 2012B
- COMBINED GRID FACTOR(S): 0.99989233
- UNITS: US SURVEY FEET

PROFESSIONAL LAND SURVEYOR

L-5308
LICENSE NUMBER

NORTH CAROLINA PROFESSIONAL SEAL L-5308 LAND SURVEYOR JOSEPH C. AVOLIS 5.2.20

NOTE:
1. ALL FILL MATERIAL NEEDED TO EXECUTE THIS PROJECT MUST BE OBTAINED FROM AN NCDEQ DEMLR-PERMITTED BORROW PIT.

CIVIL LEGEND

EXISTING	DESCRIPTION	NEW
D	STORM DRAIN DROP INLET/MANHOLE	
FM	SEWER FORCE MAIN	
D	STORM SEWER	
UGE	UNDERGROUND ELECTRIC	
	CONCRETE	
	ASPHALT	
	GRAVEL	
	SURVEY CONTROL POINT	
	RIP-RAP DETACHED SILL	
	TURBIDITY CURTAIN	
× 5.00	SPOT ELEVATION	+25.7
28	TOPOGRAPHIC CONTOUR	28
	REFLECTIVE MARKER AND POST	

ABBREVIATIONS

BLDG	BUILDING
EX.	EXISTING
LBS	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
O.C.	ON CENTER
TYP	TYPICAL
&	AND
±	PLUS OR MINUS
%	PERCENT
℄	CENTERLINE
AEC	AREA OF ENVIRONMENTAL CONCERN
CAMA	COASTAL AREA MANAGEMENT ACT

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ENGINEERING
LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS 5.2.20
SEAL

NRW ENGINEERING
Structural Consultants
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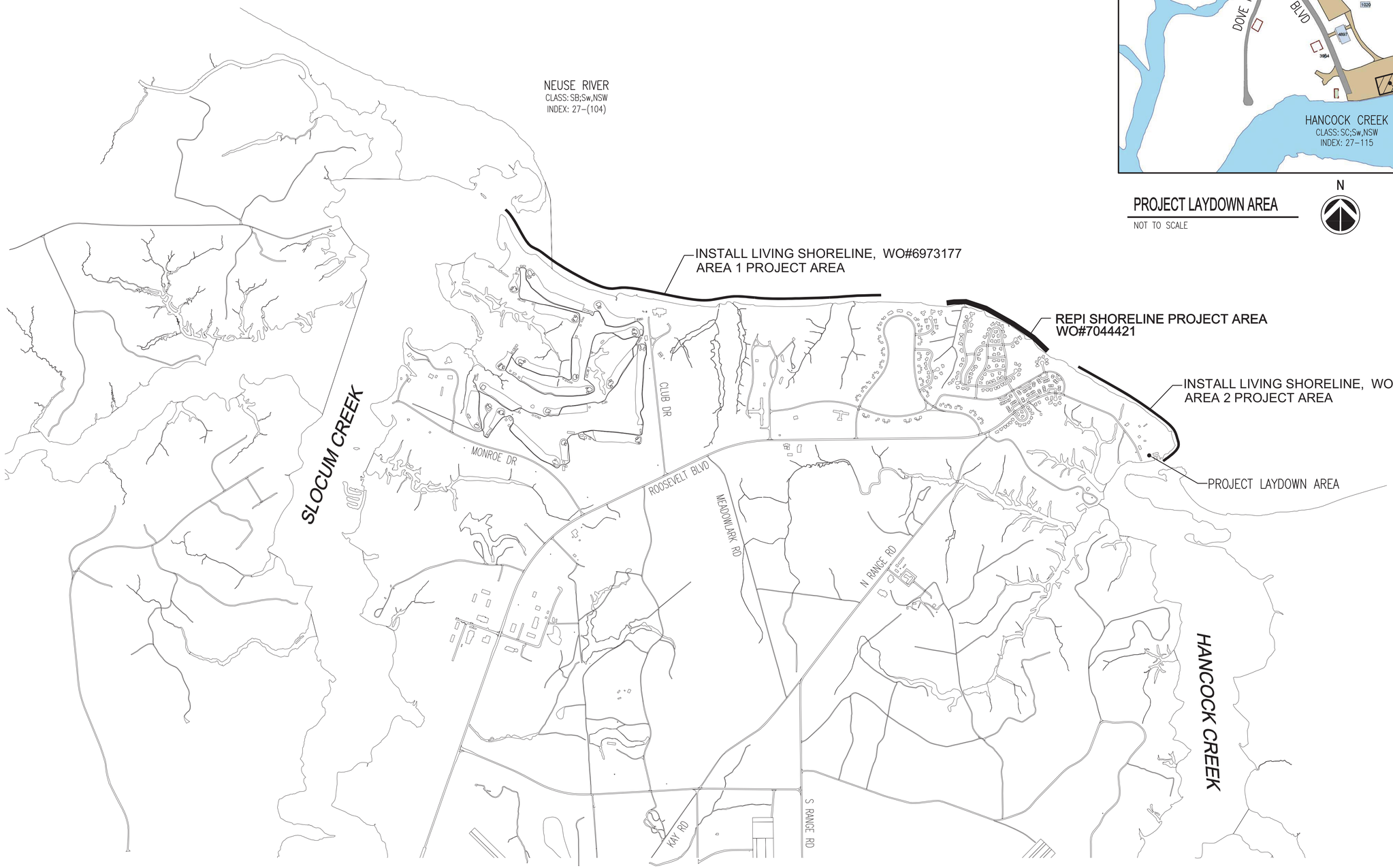
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
LEGEND, ABBREVIATIONS & NOTES

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766731
SHEET 02 OF 37
G-002
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\JKA_Projects\19028-P2_Install LivIng Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: G-002 PLOTTED: Tuesday, November 02, 2021 - 10:13am



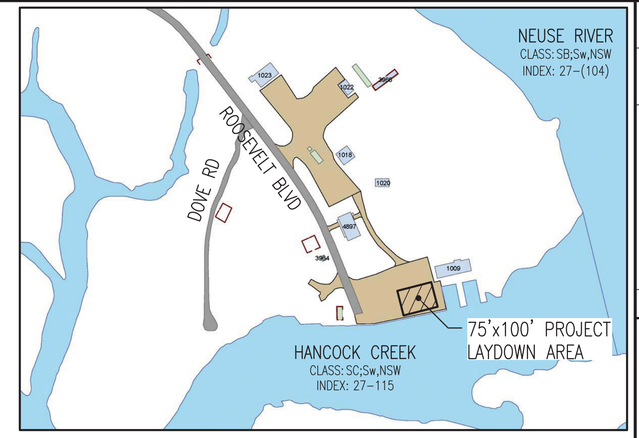
SITE LOCATION PLAN

SCALE: 1" = 1000'

N

1000 0 500 1000 2000

GRAPHIC SCALE: 1" = 1000'



PROJECT LAYDOWN AREA

NOT TO SCALE

N

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTURE
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
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Phone 757-474-0612
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A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

SITE LOCATION PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

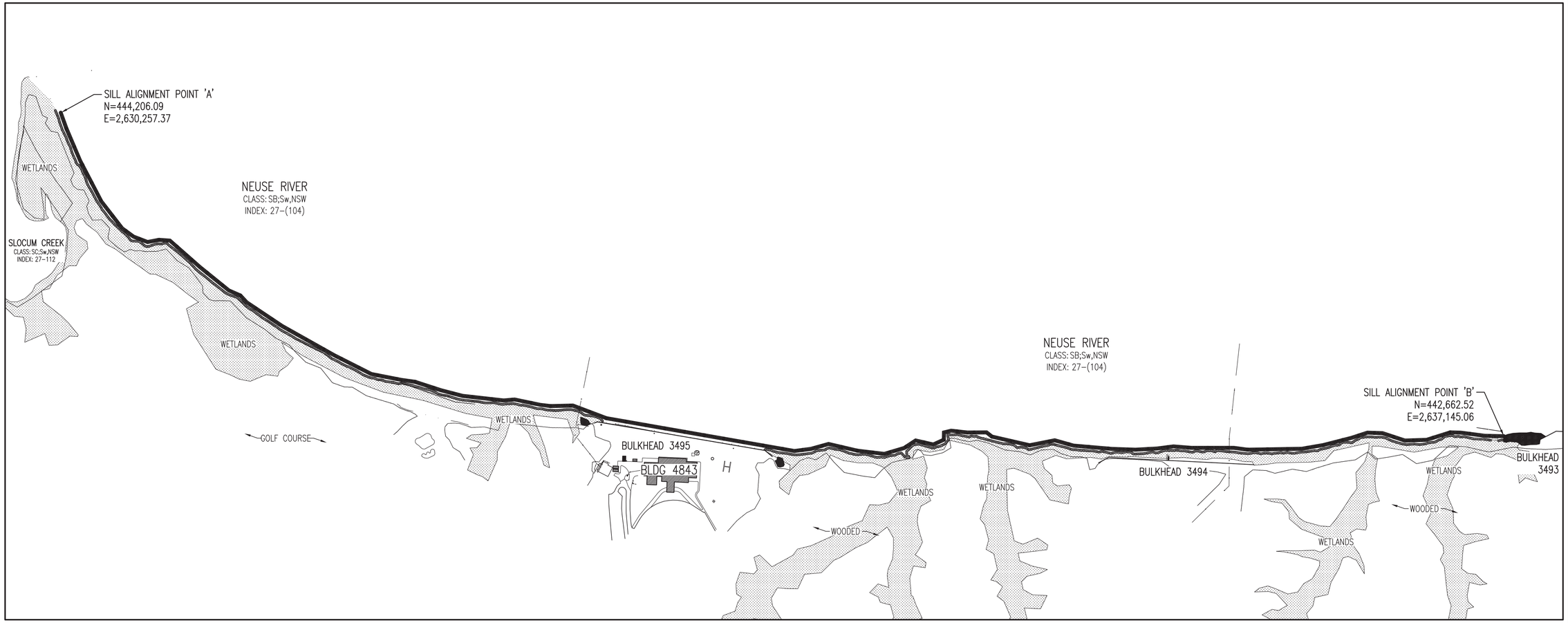
NAVFAC DRAWING NO. 12766732

SHEET 03 OF 37

G-003

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: G-003 PLOTTED: Tuesday, November 02, 2021 - 10:13am



AREA 1 - OVERALL SITE PLAN

SCALE: 1" = 250'

N

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L1	S19°33'25"E	79.31
L2	S23°10'40"E	95.00
L3	S23°10'40"E	72.98
L4	S27°26'07"E	22.06
L5	S27°26'07"E	95.00
L6	S27°26'07"E	95.00
L7	S27°26'07"E	6.77
L8	S37°49'27"E	88.34
L9	S37°49'27"E	74.61
L10	S53°57'47"E	21.04
L11	S53°57'47"E	45.70
L12	S68°55'29"E	30.06
L13	S68°55'29"E	41.67
L14	N79°28'25"E	55.20
L15	S86°40'29"E	52.46
L16	S48°32'10"E	45.15
L17	S48°32'10"E	95.00
L18	S48°32'10"E	51.33
L19	S51°05'19"E	43.69
L20	S51°05'19"E	95.00
L21	S51°05'19"E	38.14
L22	S65°49'40"E	60.45
L23	S43°23'53"E	44.17

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L24	S56°08'41"E	51.41
L25	S56°08'41"E	95.00
L26	S56°08'41"E	56.11
L27	S60°43'55"E	38.96
L28	S60°43'55"E	95.00
L29	S60°43'55"E	95.00
L30	S60°43'55"E	56.55
L31	S63°07'05"E	38.47
L32	S63°07'05"E	95.00
L33	S63°07'05"E	65.67
L34	S79°03'21"E	30.12
L35	S79°03'21"E	95.00
L36	S79°03'21"E	19.66
L37	S81°53'52"E	66.92
L38	S71°54'19"E	95.00
L39	S71°54'19"E	36.06
L40	S75°31'57"E	58.99
L41	S75°31'57"E	46.07
L42	S83°32'17"E	49.16
L43	S83°32'17"E	92.06
L44	S83°32'17"E	56.50
L45	N84°58'02"E	38.96
L46	N84°58'02"E	14.08

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L47	S78°12'32"E	81.44
L48	S78°12'32"E	42.57
L49	S83°14'25"E	50.19
L50	N88°48'58"E	95.00
L51	N88°48'58"E	11.33
L52	S69°25'21"E	84.39
L53	S69°25'21"E	86.55
L54	S80°07'03"E	94.84
L55	S80°07'03"E	95.00
L56	S80°07'03"E	95.00
L57	S80°07'03"E	95.00
L58	S80°07'03"E	95.00
L59	S80°07'03"E	95.00
L60	S80°07'03"E	95.00
L61	S80°07'03"E	95.00
L62	S80°07'03"E	95.00
L63	S80°07'03"E	56.09
L64	N82°59'40"E	39.92
L65	N82°59'40"E	39.65
L66	N74°18'45"E	55.62
L67	N74°18'45"E	31.74
L68	S76°57'48"E	65.93
L69	S76°57'48"E	75.37

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L70	S83°10'17"E	74.26
L71	S83°10'17"E	55.25
L72	N73°31'36"E	30.00
L73	N73°31'36"E	69.26
L74	N56°14'33"E	9.96
L75	N56°14'33"E	54.94
L76	S77°12'34"E	43.45
L77	S77°12'34"E	43.44
L78	N65°29'25"E	54.90
L79	N01°40'40"E	34.65
L80	N76°02'41"E	35.23
L81	S83°17'11"E	28.66
L82	S83°17'11"E	49.26
L83	N89°27'23"E	32.91
L84	N89°27'23"E	58.38
L85	S52°11'18"E	32.44
L86	S76°57'36"E	95.00
L87	S76°57'36"E	90.07
L88	N78°46'23"E	95.00
L89	N78°46'23"E	27.04
L90	S74°20'58"E	70.10
L91	S74°20'58"E	23.01
L92	S85°06'13"E	72.29

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L93	S85°06'13"E	95.00
L94	S85°06'13"E	16.46
L95	S87°58'51"E	78.56
L96	S87°58'51"E	34.27
L97	N86°47'48"E	60.82
L98	N86°47'48"E	42.96
L99	N82°43'02"E	52.10
L100	N82°43'02"E	26.22
L101	S85°11'35"E	69.20
L102	S85°11'35"E	16.31
L103	N89°49'47"E	78.74
L104	N89°49'47"E	95.00
L105	N89°49'47"E	28.94
L106	S82°23'12"E	66.56
L107	N89°06'48"E	95.00
L108	N89°06'48"E	95.00
L109	N89°06'48"E	69.25
L110	N80°05'28"E	25.98
L111	N80°05'28"E	77.35
L112	N75°33'47"E	95.00
L113	N75°33'47"E	44.36
L114	N72°17'36"E	35.68
L115	N72°17'36"E	44.13

RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)		
LINE	BEARING	DISTANCE
L116	S87°57'47"E	32.99
L117	S87°57'47"E	38.56
L118	S71°50'07"E	57.35
L119	S71°50'07"E	55.15
L120	N87°58'05"E	41.31
L121	N87°58'05"E	62.51
L122	N72°32'47"E	33.27
L123	N72°32'47"E	84.62
L124	S88°53'52"E	50.28
L125	S82°30'04"E	44.87
L126	S82°30'04"E	71.53
L127	S88°51'42"E	23.58
L128	S88°51'42"E	67.11

250 0 125 250 500

GRAPHIC SCALE: 1" = 250'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 19028-P2

Digitally signed by John K

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Structural Consultants
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Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
1ST MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - OVERALL SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

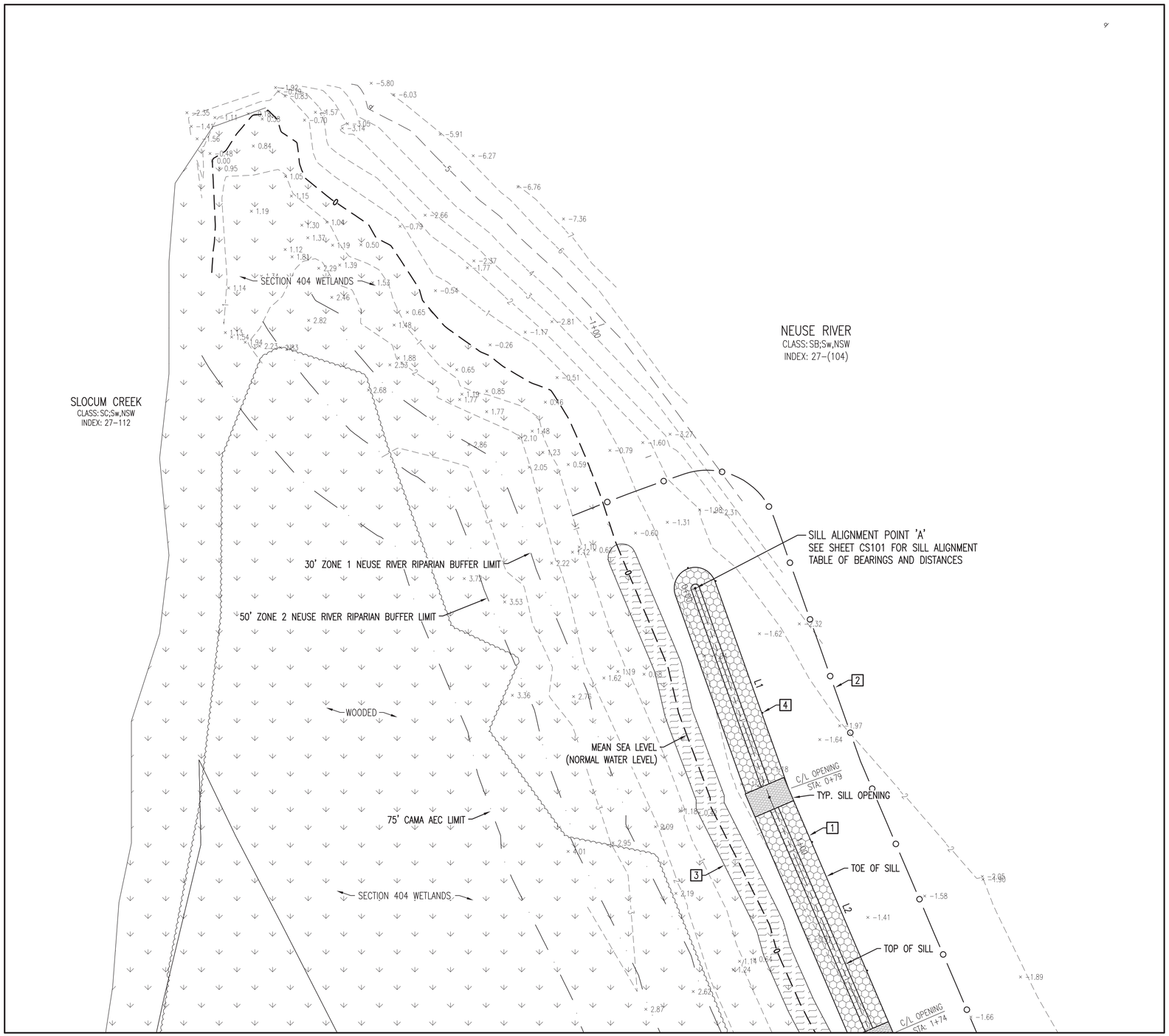
NAVFAC DRAWING NO. 12766733

SHEET 04 OF 37

CS101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\JOL_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS101 PLOTTED: Tuesday, November 02, 2021 - 10:13am
UNCLASSIFIED//FOR OFFICIAL USE ONLY



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

20 0 10 20 40
GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

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NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
IPT MARINE CORPS NAVAL STATION ~ NORFOLK, VA
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766734
SHEET 05 OF 37
CS102
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS102 PLOTTED: Tuesday, November 02, 2021 - 10:14am

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CC501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CC501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
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NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

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Structural Consultants
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Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

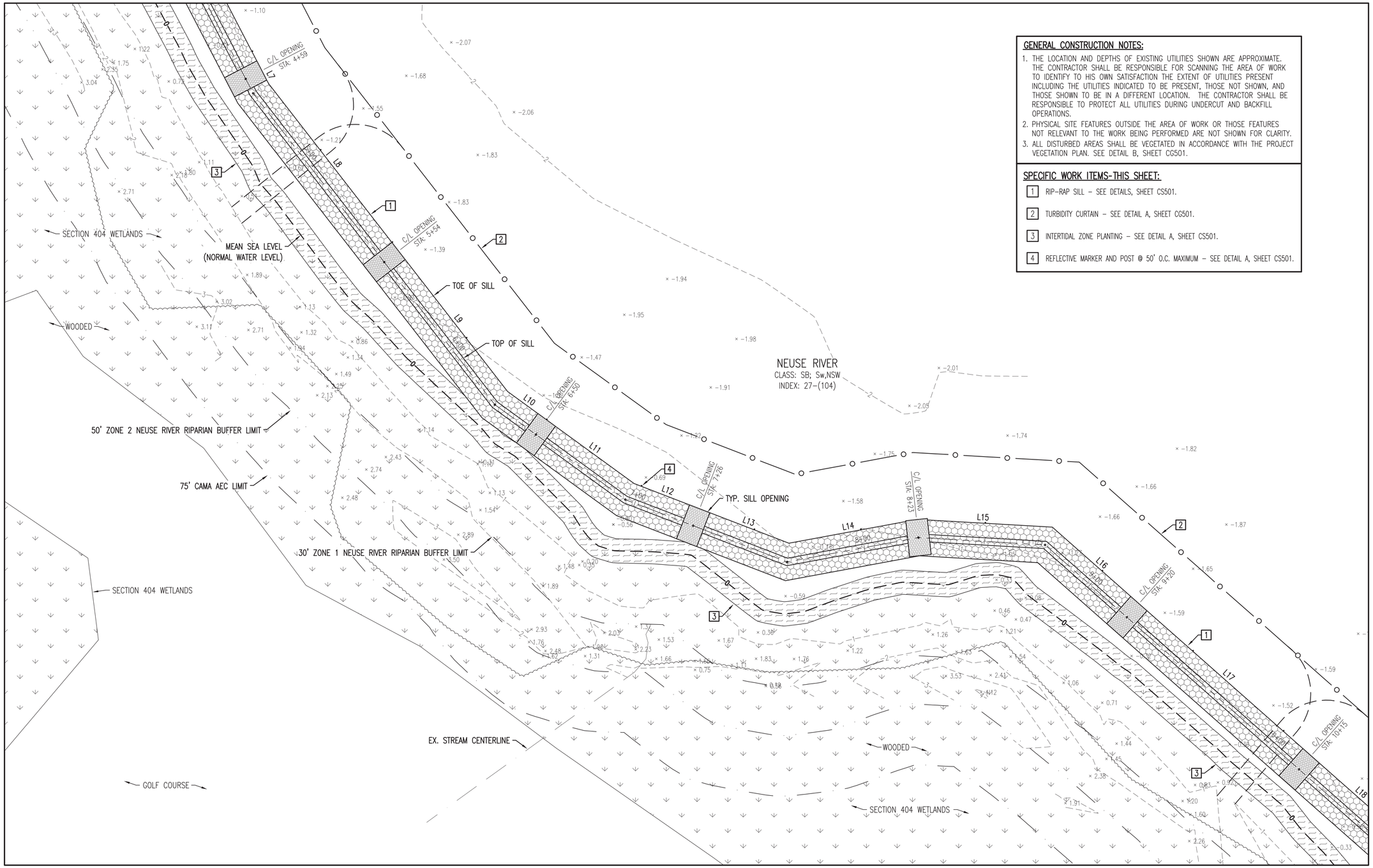
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766735
SHEET 06 OF 37

CS103

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS103 PLOTTED: Tuesday, November 02, 2021 – 10:14am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
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NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

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SEAL

NRW ENGINEERING
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748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/OM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
EFT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

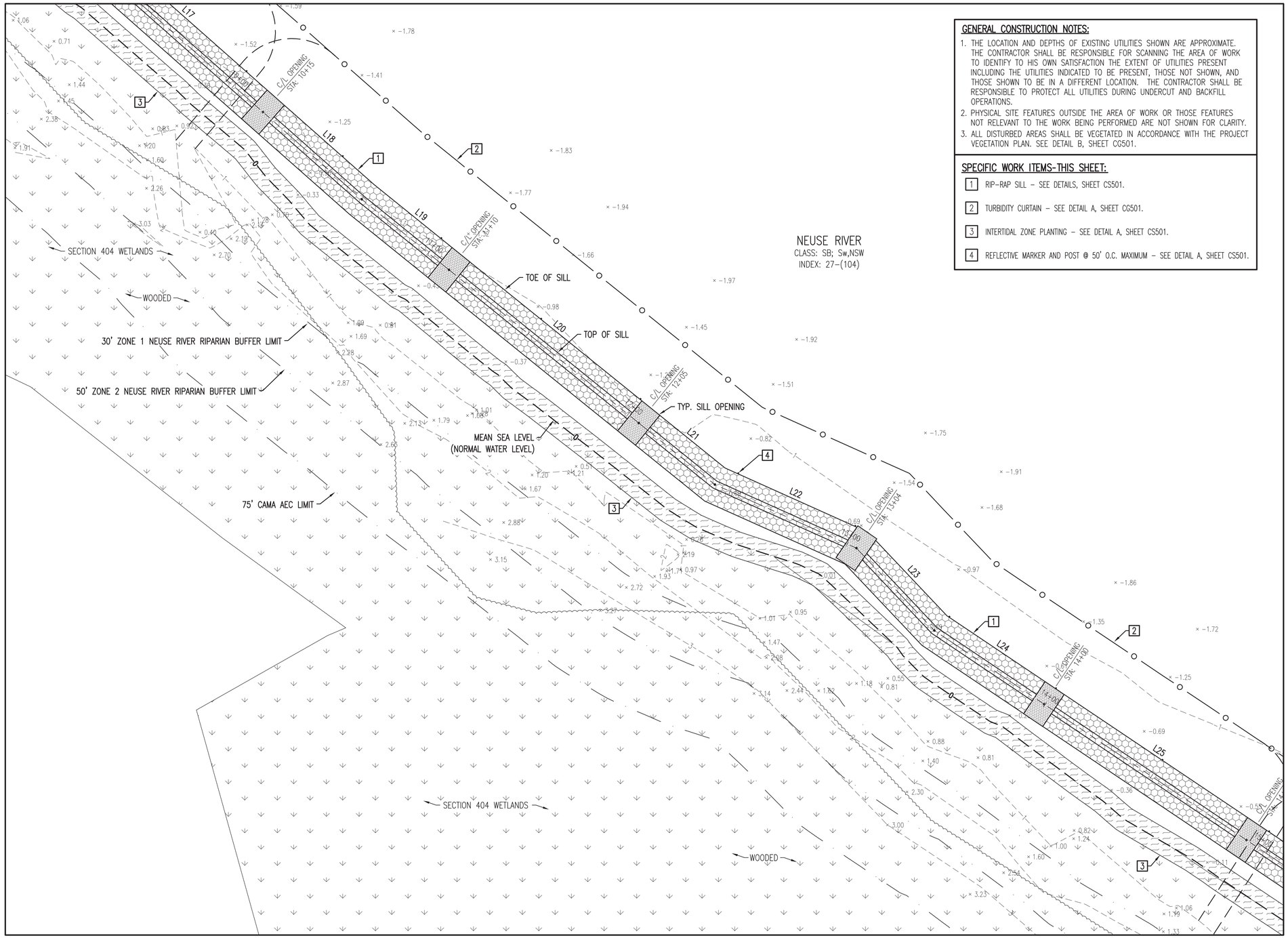
NAVFAC DRAWING NO. 12766736

SHEET 07 OF 37

CS104

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: Z:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS104 PLOTTED: Tuesday, November 02, 2021 – 10:14am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
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SEAL

NRW ENGINEERING
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Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

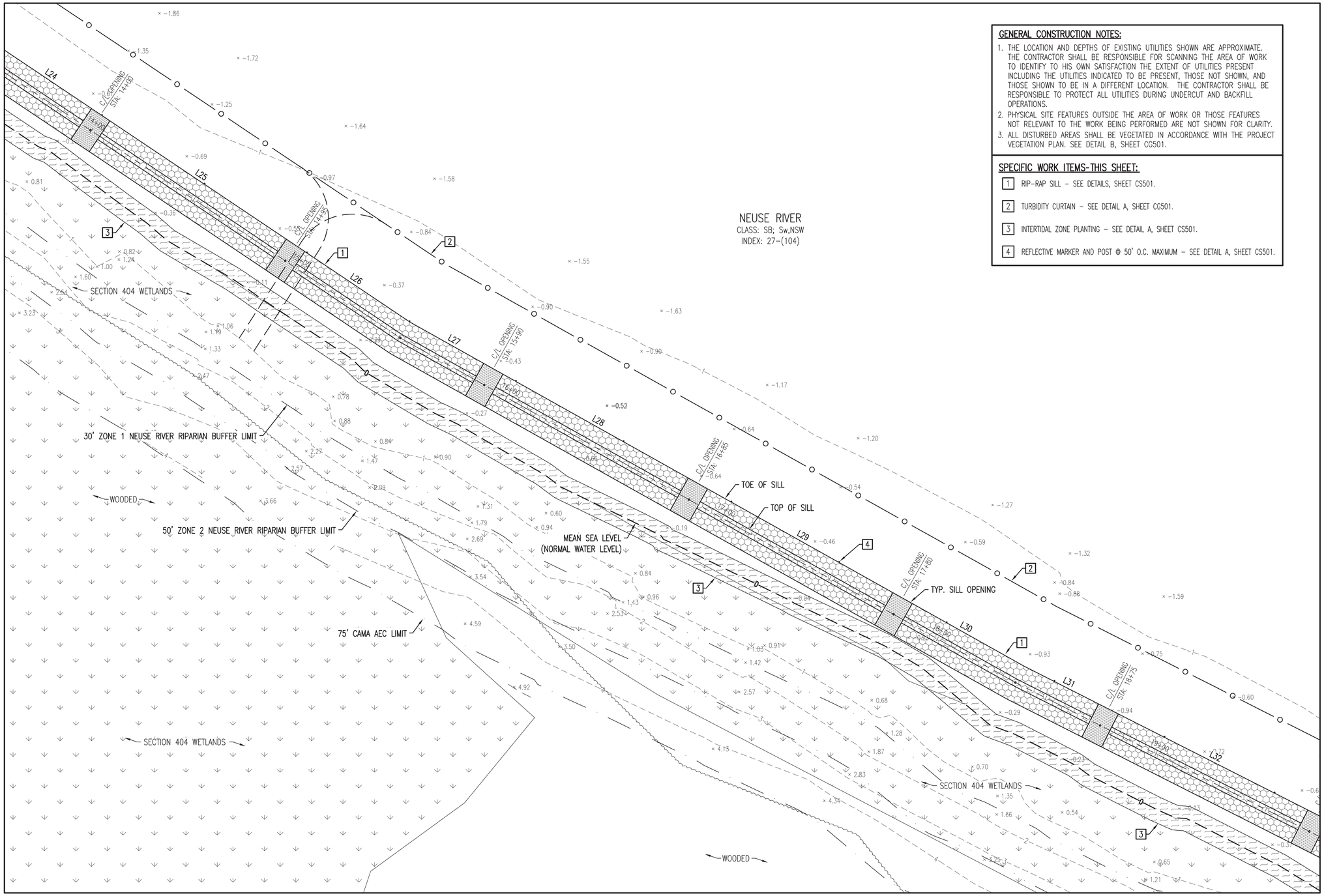
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
PT. MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: -
MAXIMO WORK ORDER NO.: 6973177
NAVFAC DRAWING NO.: 12766737
SHEET 08 OF 37
CS105

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OD_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS105 PLOTTED: Tuesday, November 02, 2021 - 10:14am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

20 0 10 20 40
GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

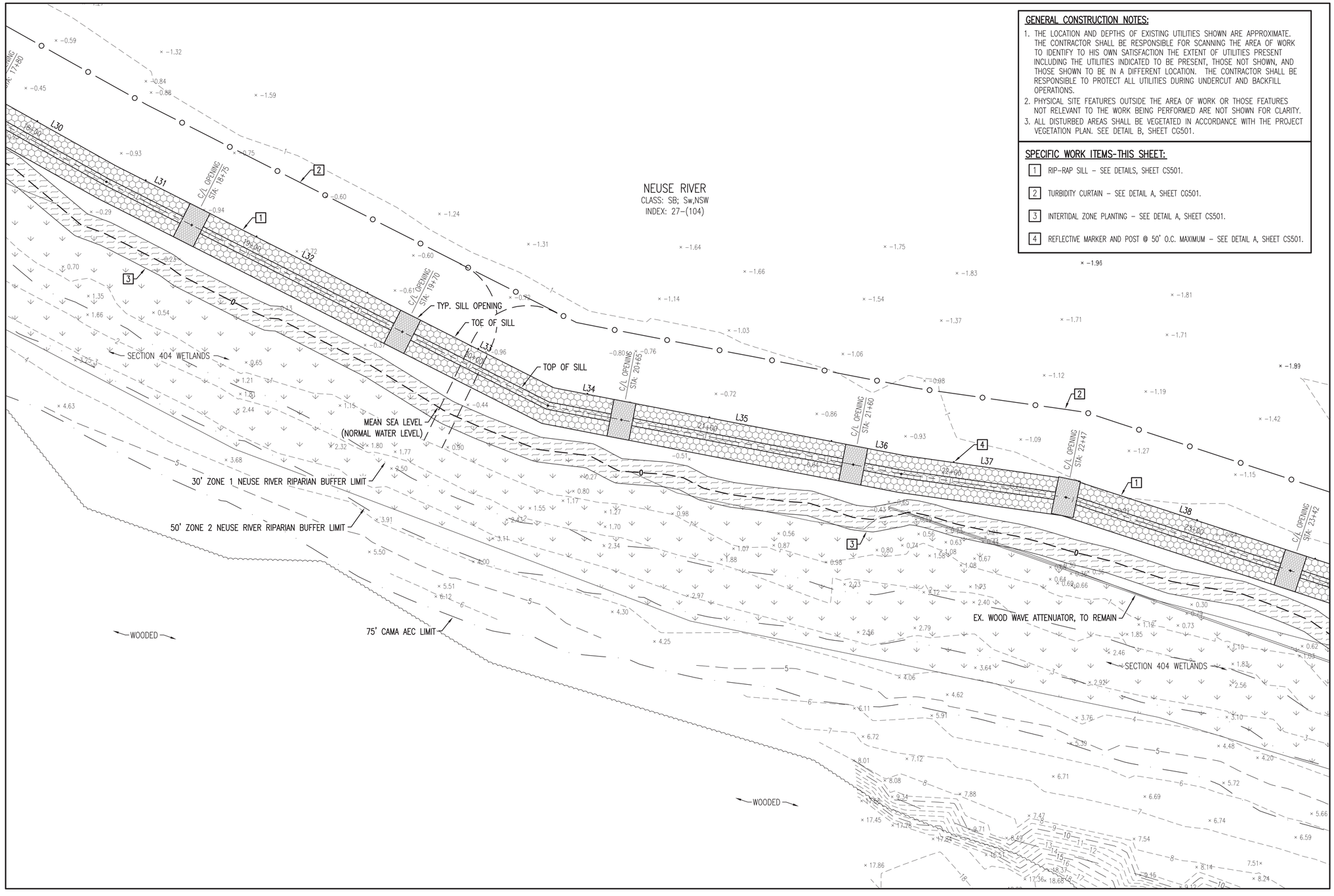
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766738
SHEET 09 OF 37

CS106

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS106 PLOTTED: Tuesday, November 02, 2021 – 10:14am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K

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SEAL

NRW ENGINEERING
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748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766739
SHEET 10 OF 37

CS107

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS107 PLOTTED: Tuesday, November 02, 2021 - 10:15am

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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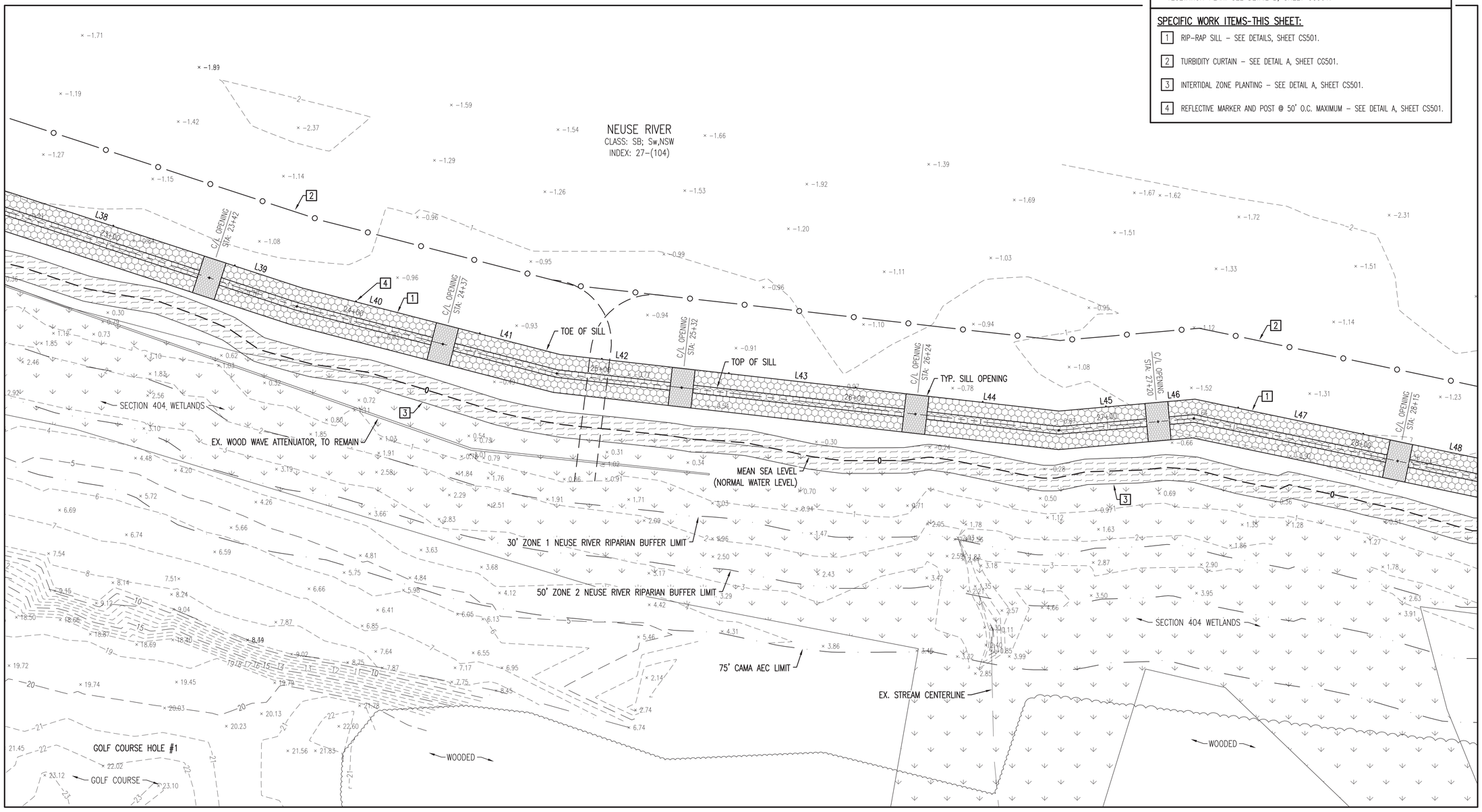
SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
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PH.(252) 633-0068

PROJECT: 19028-P2

Digitally signed by John K

NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS

SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

NAVFAC DRAWING NO. 12766740

SHEET 11 OF 37

CS108

DRAWFORM REVISION: 10 MARCH 2009

UNCLASSIFIED//FOR OFFICIAL USE ONLY

UNCLASSIFIED//FOR OFFICIAL USE ONLY

FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS108 PLOTTED: Tuesday, November 02, 2021 - 10:15am

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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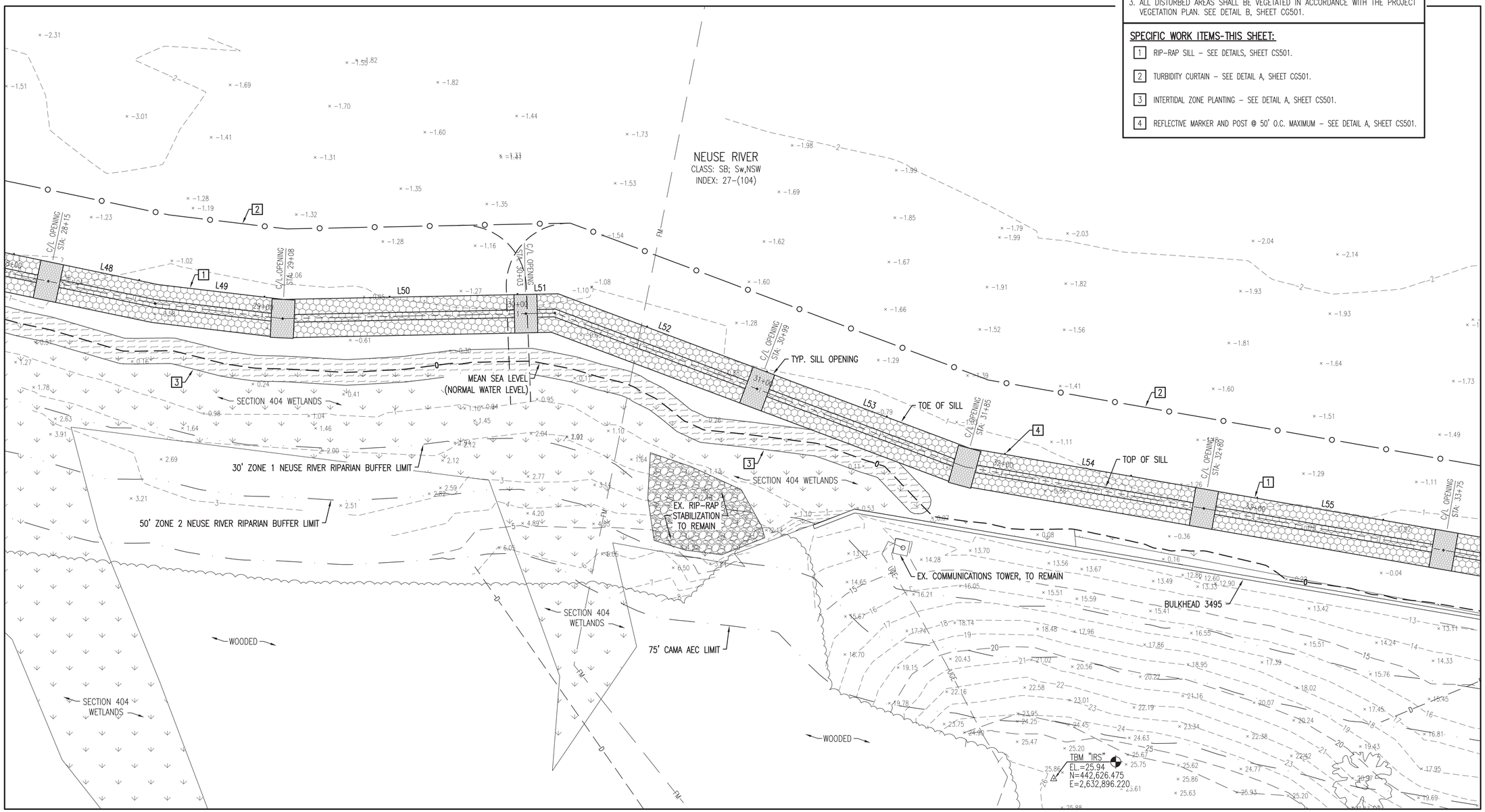
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTURE
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 19028-P2

Digitally signed by John K
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SEAL

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Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES. JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766741
SHEET 12 OF 37

CS109

DRAWFORM REVISION: 10 MARCH 2009

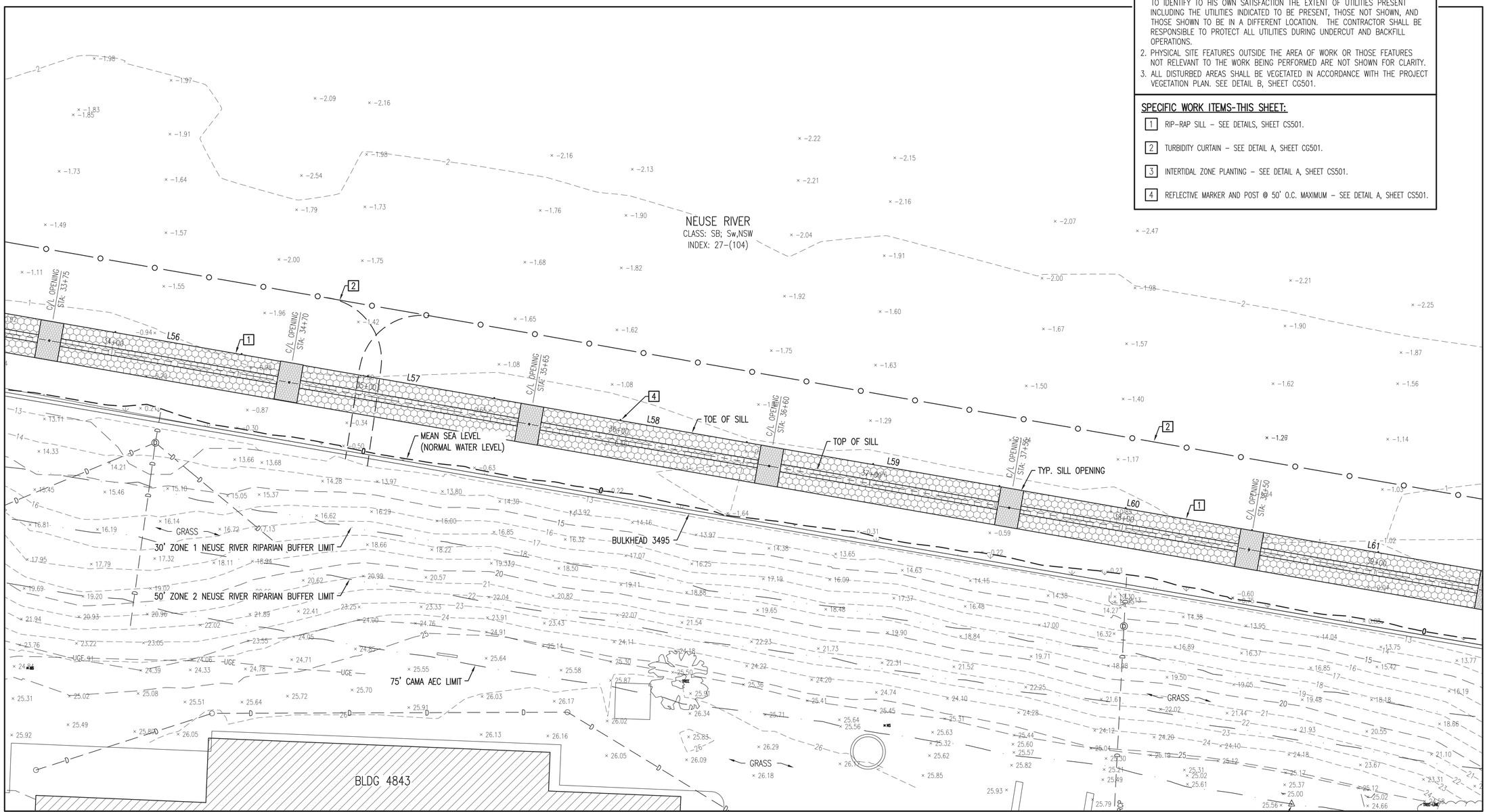
FILE NAME: I:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS109 PLOTTED: Tuesday, November 02, 2021 – 10:15am

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766742
SHEET 13 OF 37
CS110
DRAWFORM REVISION: 10 MARCH 2009

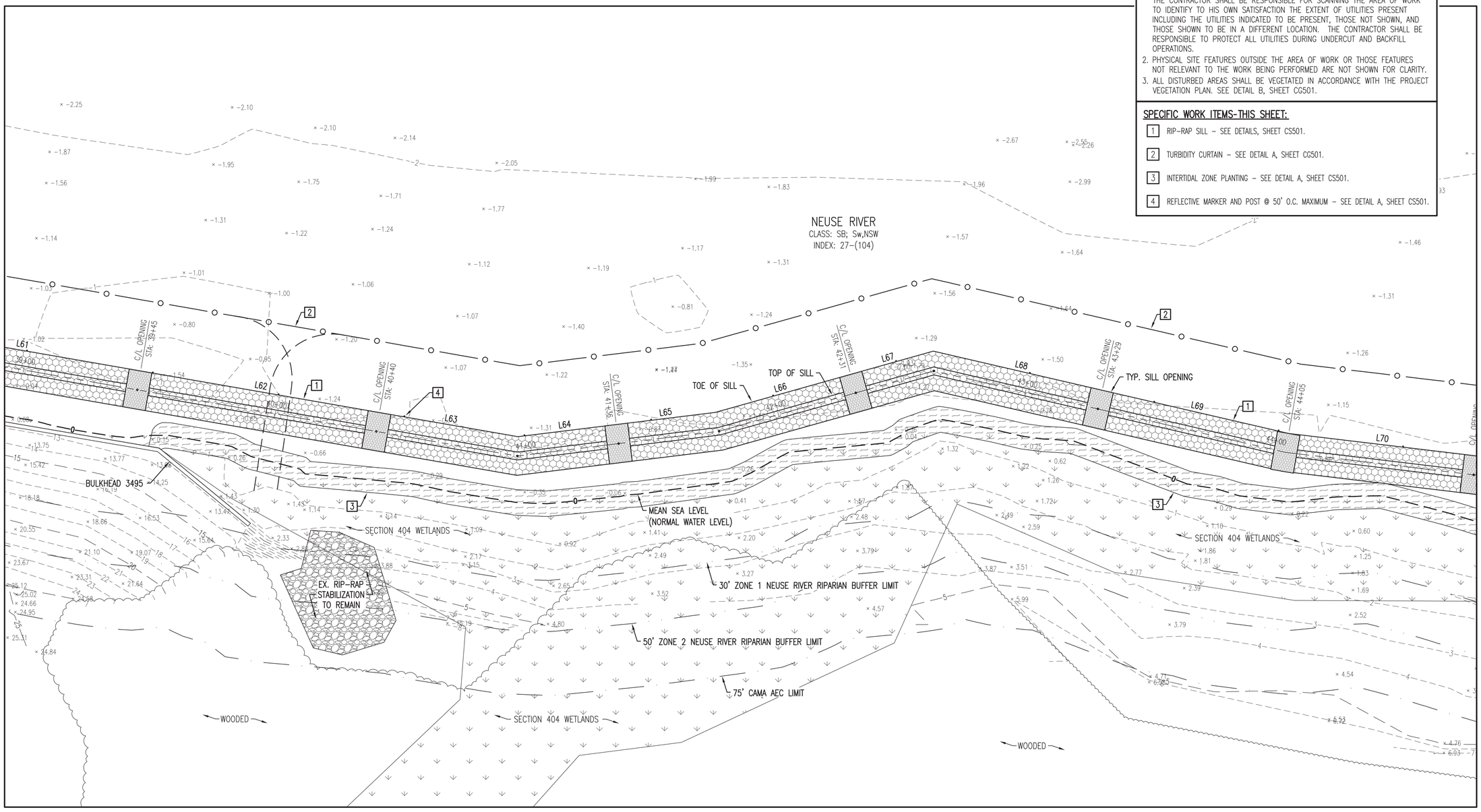
FILE NAME: D:\XO_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS110 PLOTTED: Tuesday, November 02, 2021 - 10:15am

GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

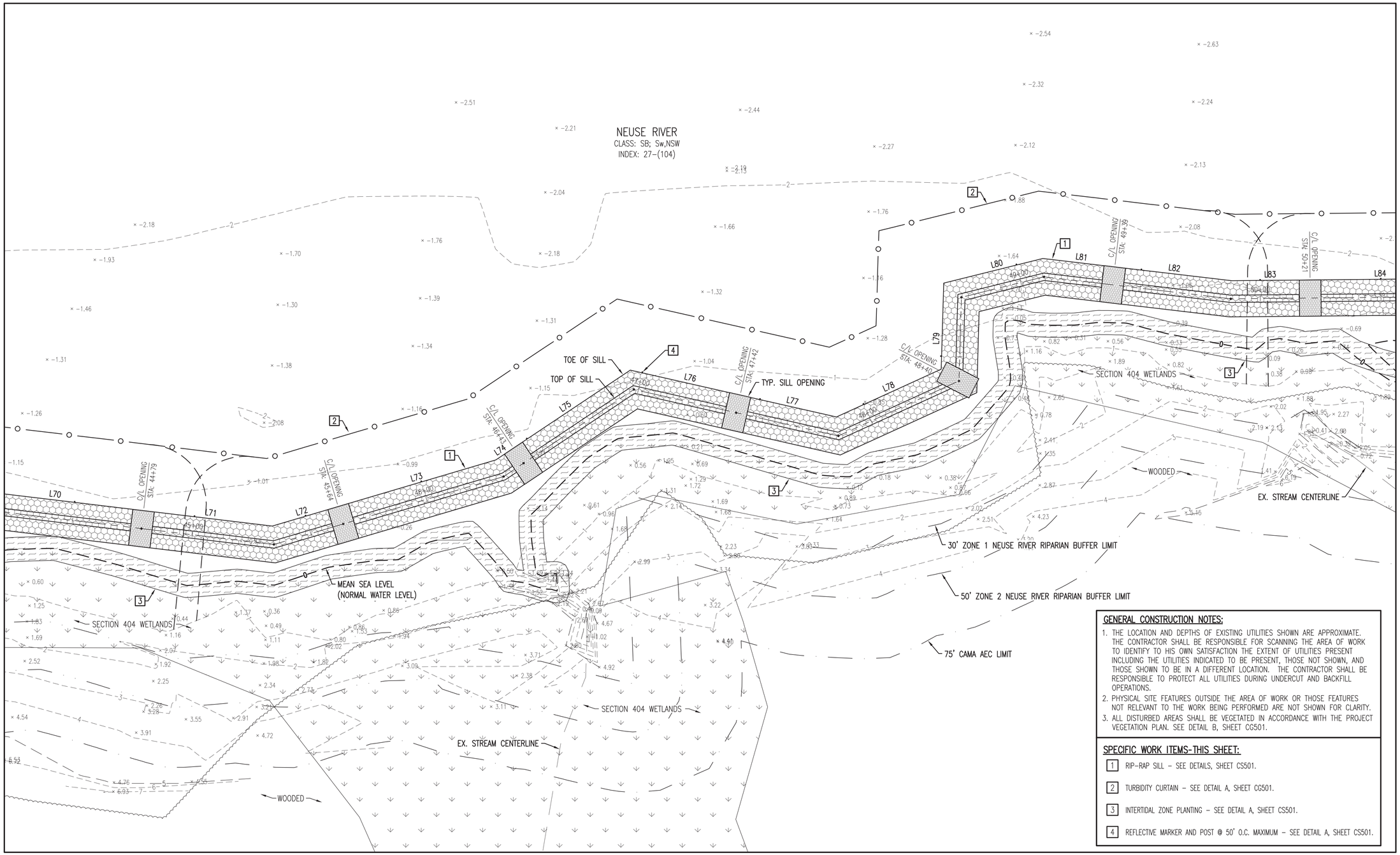
PT. MARINE CORPS
NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO. –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766743
SHEET 14 OF 37
CS111
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS111 PLOTTED: Tuesday, November 02, 2021 – 10:19am



GENERAL CONSTRUCTION NOTES:

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SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766744
SHEET 15 OF 37
CS112
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS112 PLOTTED: Tuesday, November 02, 2021 - 10:16am
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GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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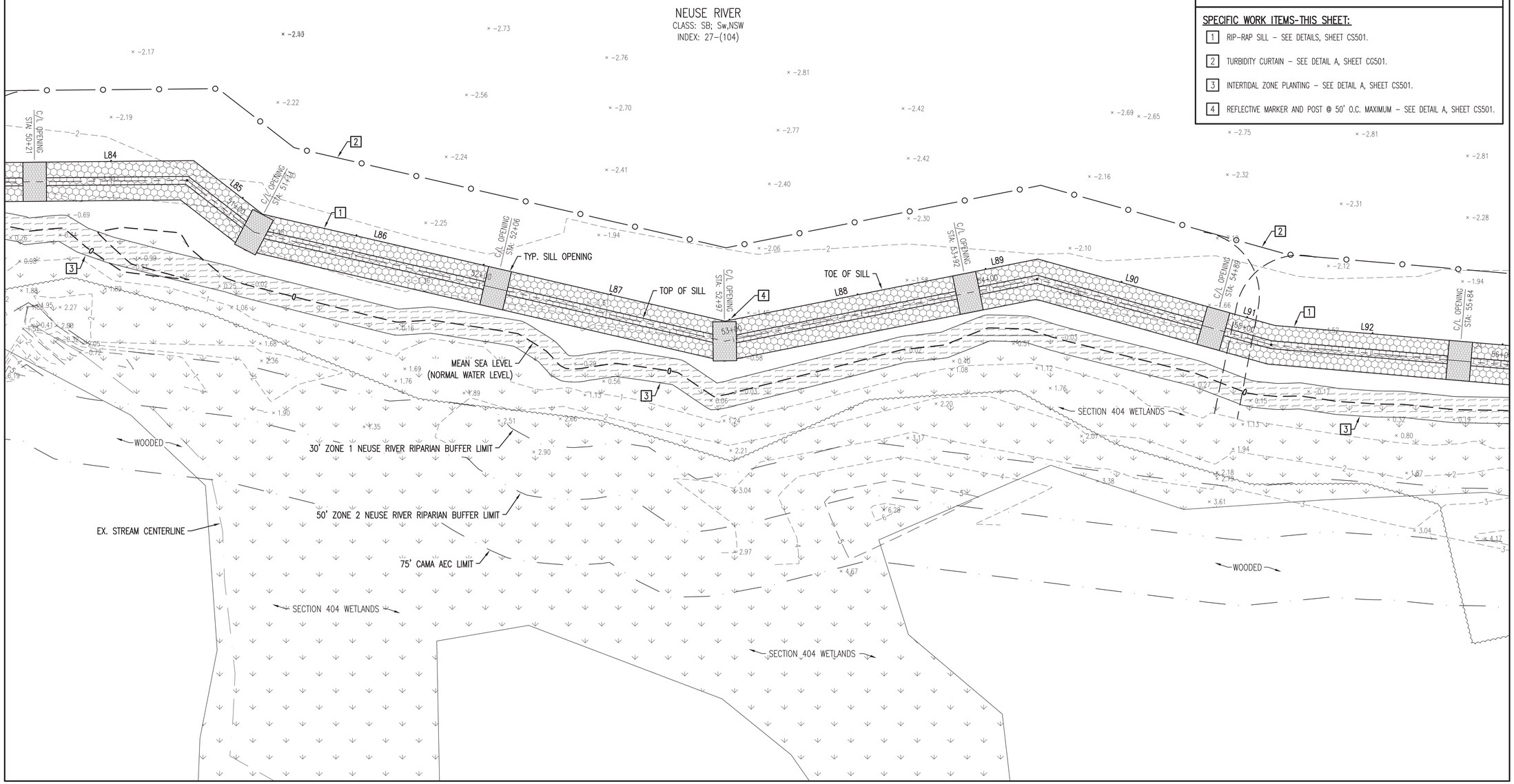
SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

NAVFAC DRAWING NO. 12766745

SHEET 16 OF 37

CS113

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS113 PLOTTED: Tuesday, November 02, 2021 - 10:16am
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GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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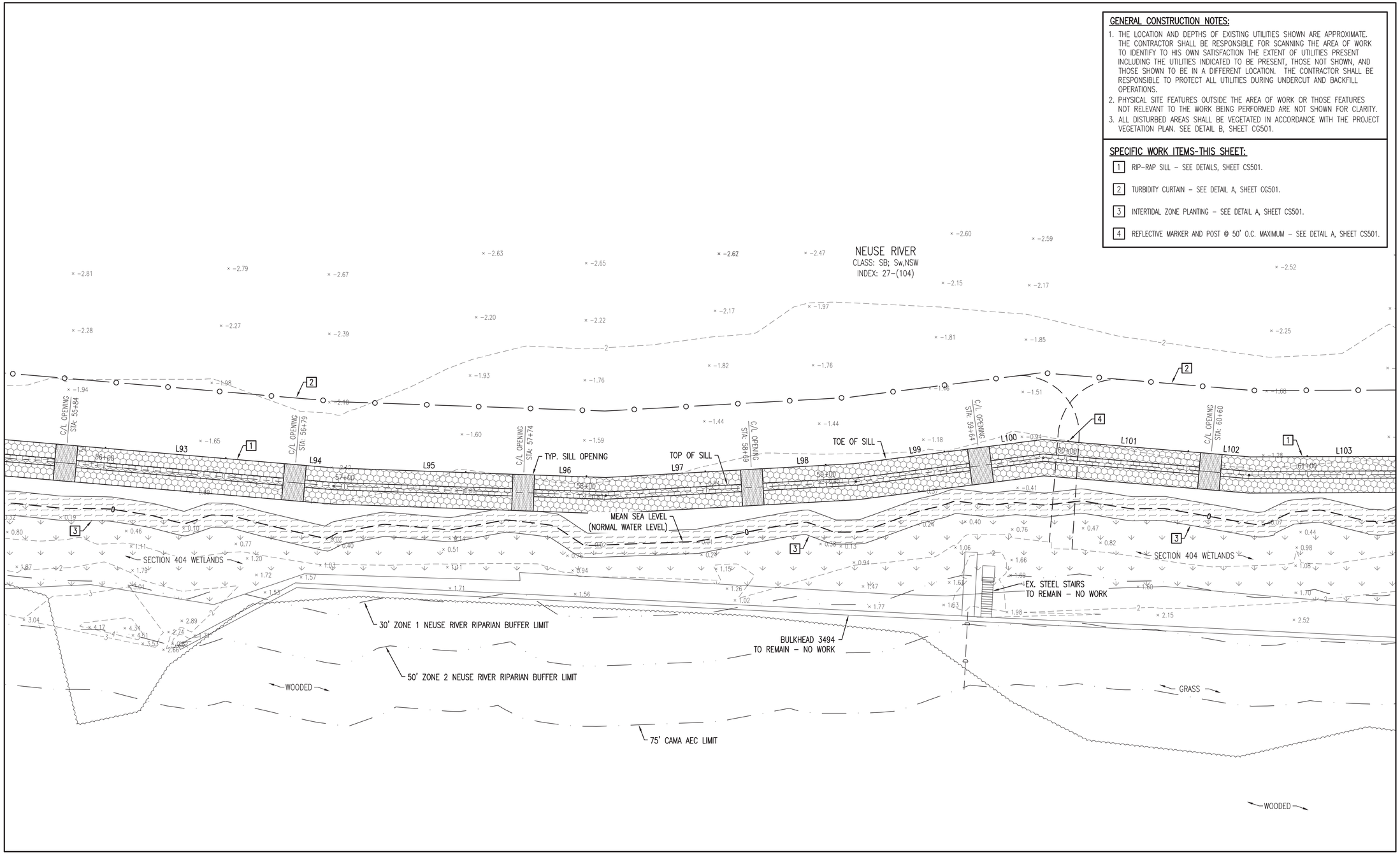
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766746
SHEET 17 OF 37
CS114
DRAWFORM REVISION: 10 MARCH 2009

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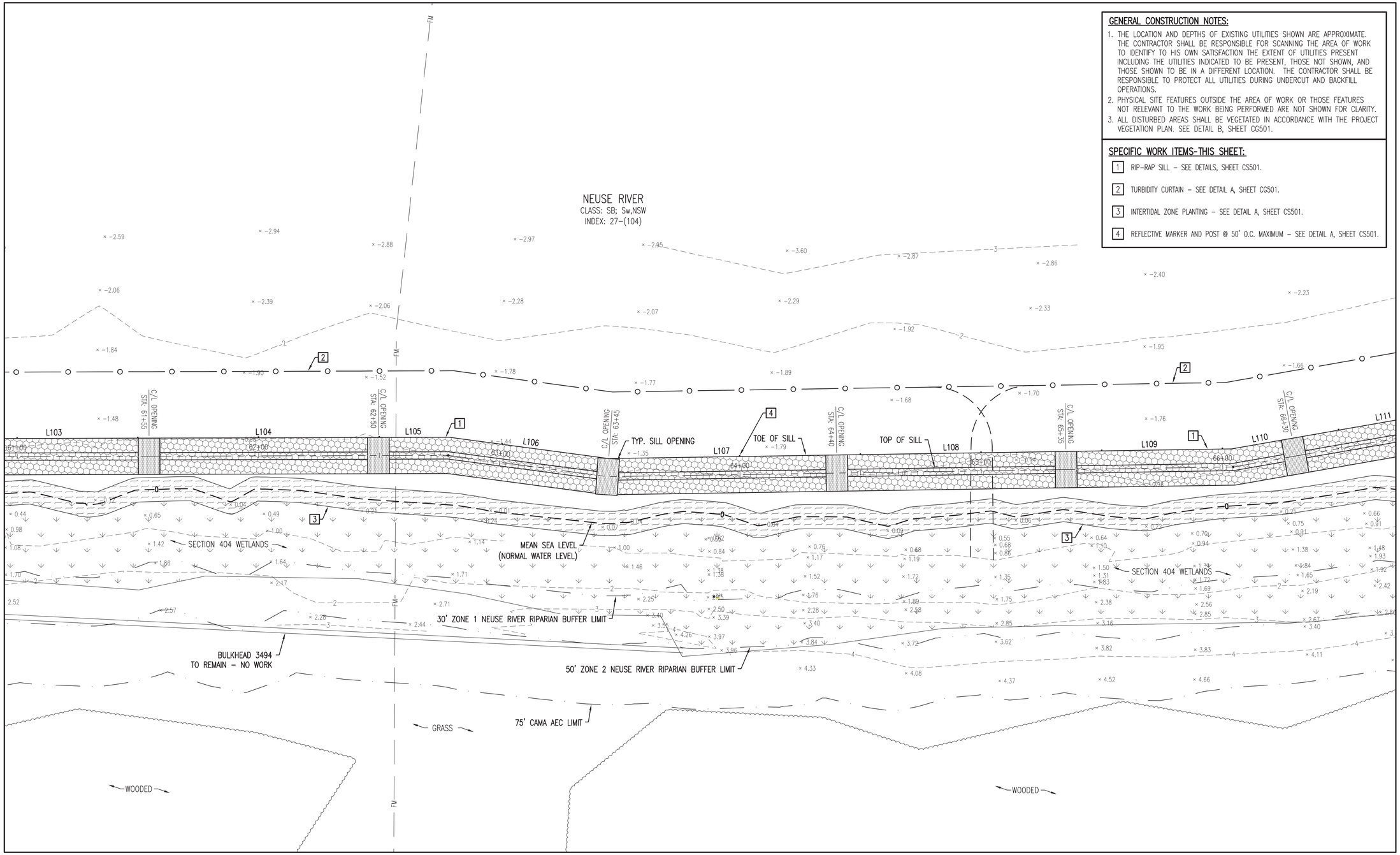
UNCLASSIFIED//FOR OFFICIAL USE ONLY
FILE NAME: D:\OD_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS114 PLOTTED: Tuesday, November 02, 2021 - 10:15am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

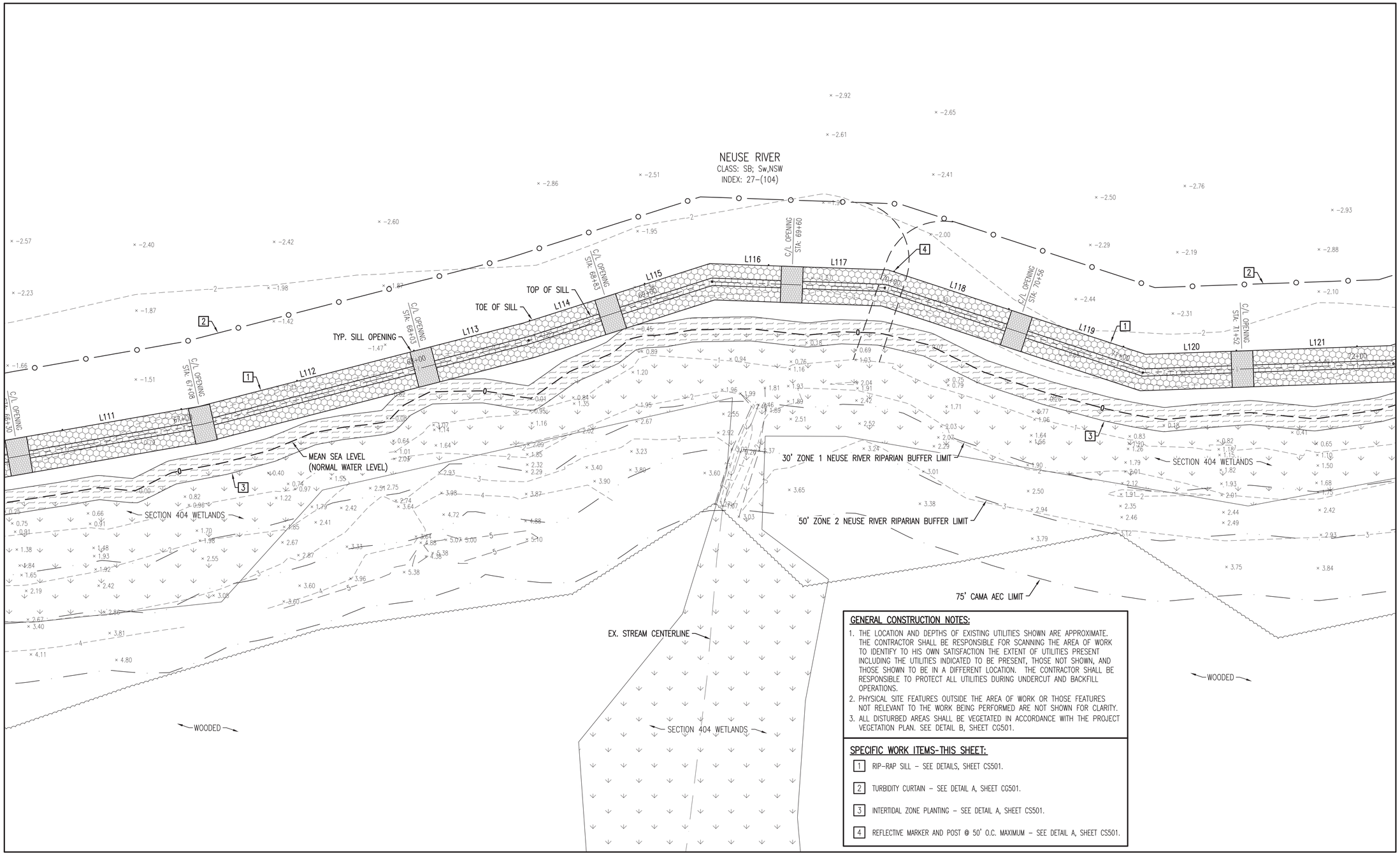
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION - NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766747
SHEET 18 OF 37
CS115

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS115 PLOTTED: Tuesday, November 02, 2021 - 10:16am



GENERAL CONSTRUCTION NOTES:

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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

20 0 10 20 40
GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTURE
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/OM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
IFT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766748
SHEET 19 OF 37
CS116

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OCL_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS116 PLOTTED: Tuesday, November 02, 2021 - 10:17am

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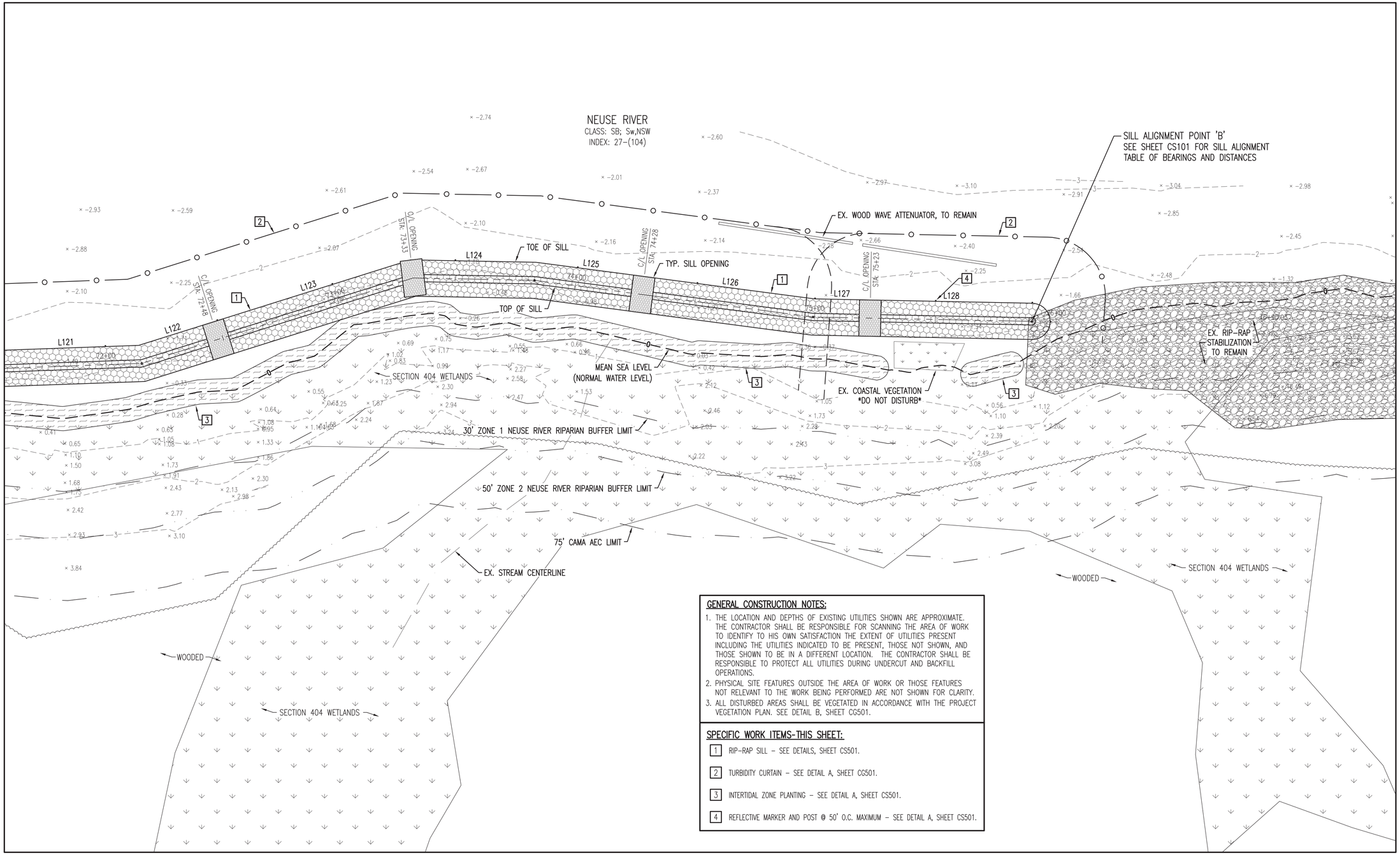
UNCLASSIFIED//FOR OFFICIAL USE ONLY

UNCLASSIFIED//FOR OFFICIAL USE ONLY



GENERAL CONSTRUCTION NOTES:

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SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K

NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS

SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION - NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 6973177

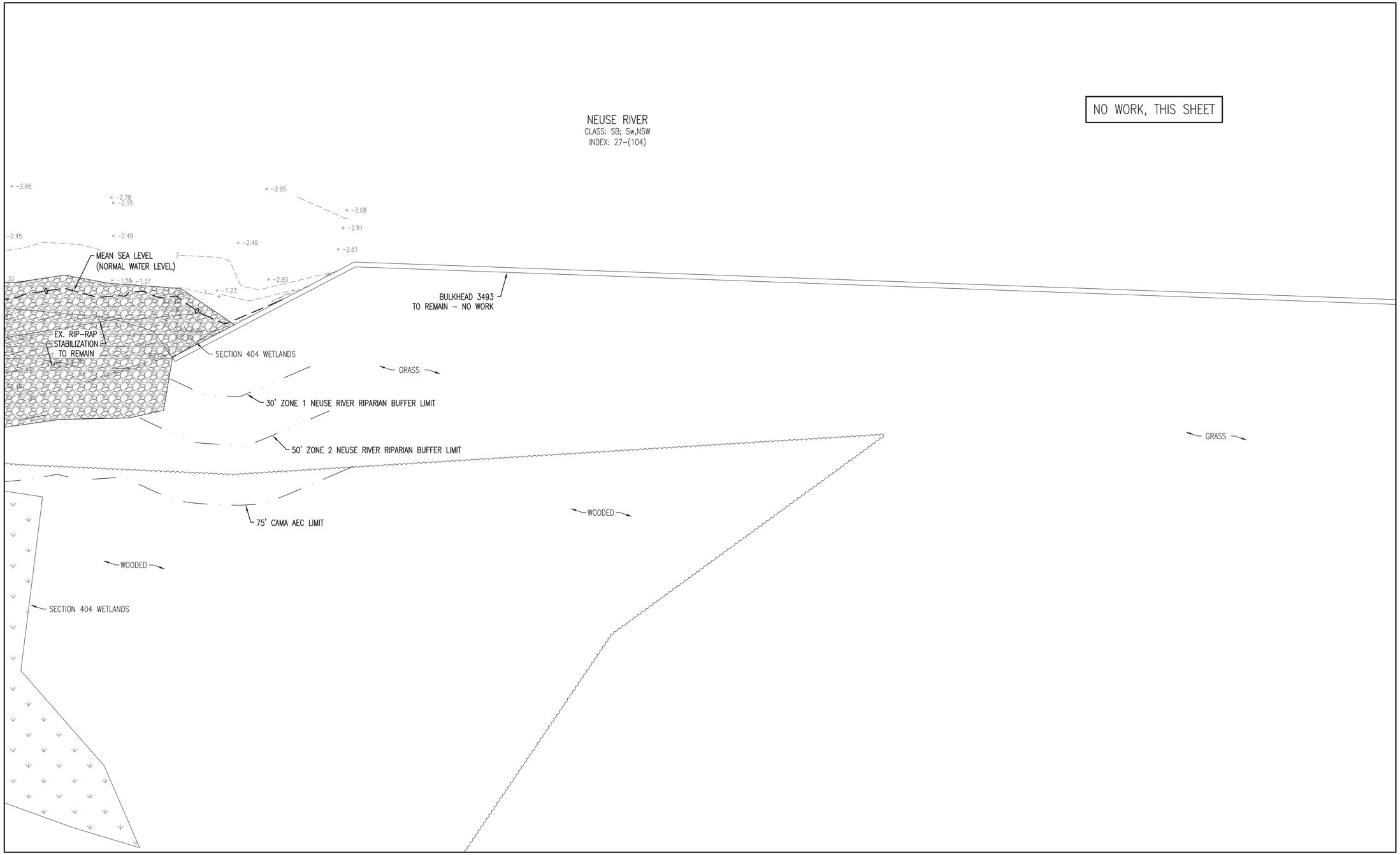
NAVFAC DRAWING NO. 12766749

SHEET 20 OF 37

CS117

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS117 PLOTTED: Tuesday, November 02, 2021 - 10:17am



AREA 1 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

20 0 10 20 40

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTS P.A.
LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 19028-P2

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Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/OM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
EFT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO.
6973177

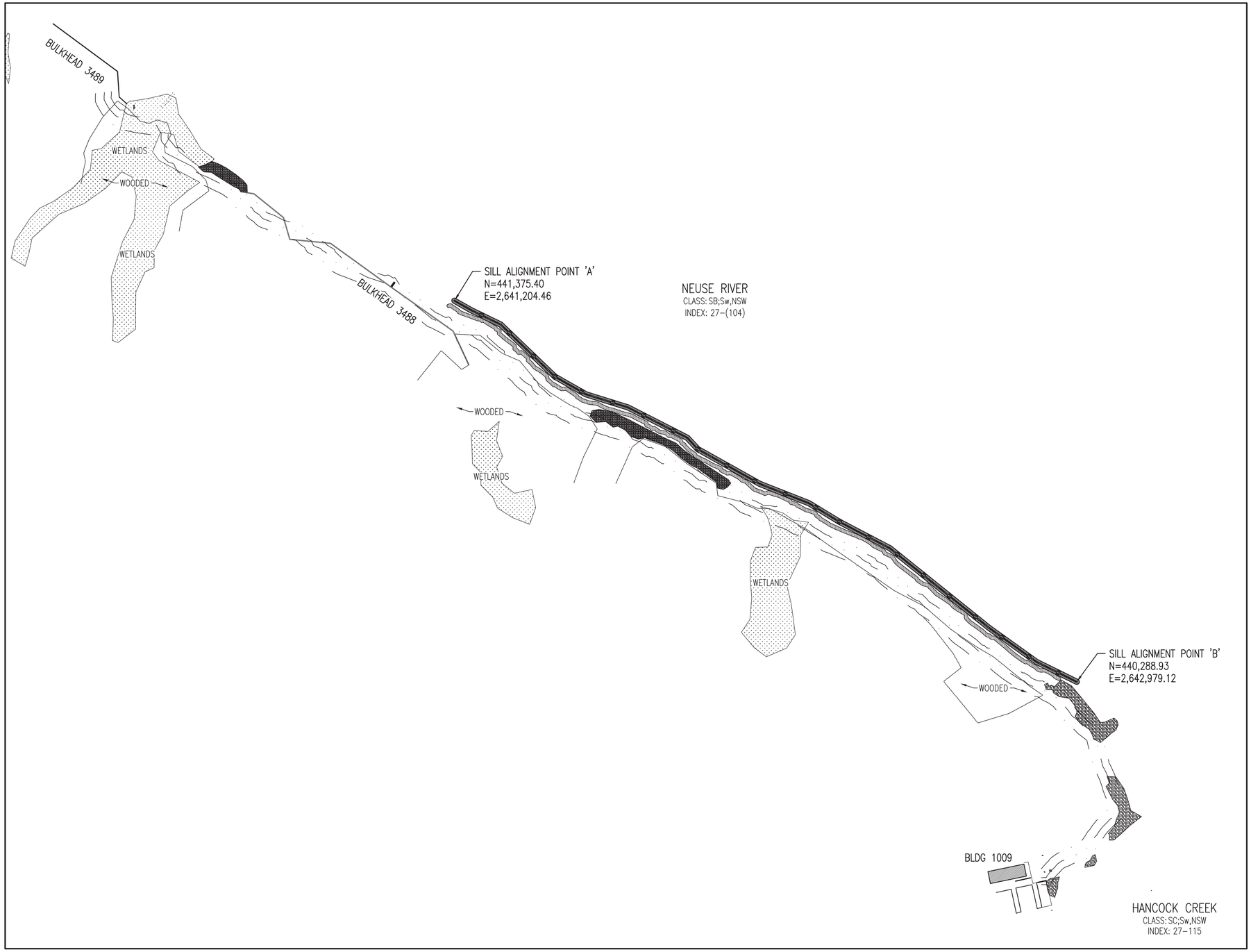
NAVFAC DRAWING NO.
12766750

SHEET 21 OF 37

CS118

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS118 PLOTTED: Tuesday, November 02, 2021 - 10:17am



AREA 2 - OVERALL SITE PLAN

SCALE: 1" = 150'

N

RIP-RAP SILL ALIGNMENT (A-B)		
L129	S60°34'23"E	56.40
L130	S64°08'15"E	30.80
L131	S64°08'15"E	61.26
L132	S46°09'05"E	34.83
L133	S46°09'05"E	95.00
L134	S46°09'05"E	84.70
L135	S60°22'22"E	86.75
L136	S60°22'22"E	14.77
L137	S72°40'56"E	80.51
L138	S72°40'56"E	45.56
L139	S62°50'21"E	49.79
L140	S62°50'21"E	95.00
L141	S62°50'21"E	45.27
L142	S42°43'02"E	43.77
L143	S60°47'21"E	95.00
L144	S60°47'21"E	90.76
L145	S60°47'21"E	17.91
L146	S68°29'23"E	77.22
L147	S68°29'23"E	72.00
L148	S58°47'34"E	23.25
L149	S58°47'34"E	78.60
L150	S62°16'44"E	95.00
L151	S62°16'44"E	67.93
L152	S51°14'57"E	27.43
L153	S51°14'57"E	95.00
L154	S51°14'57"E	95.00
L155	S51°14'57"E	95.00
L156	S51°14'57"E	50.80
L157	S54°21'18"E	44.23
L158	S54°21'18"E	95.00
L159	S54°21'18"E	26.15
L160	S63°39'12"E	69.10
L161	S63°39'12"E	59.19

150 0 75 150 300

GRAPHIC SCALE: 1" = 150'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K

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SEAL

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Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 2 - OVERALL SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO.
6973177

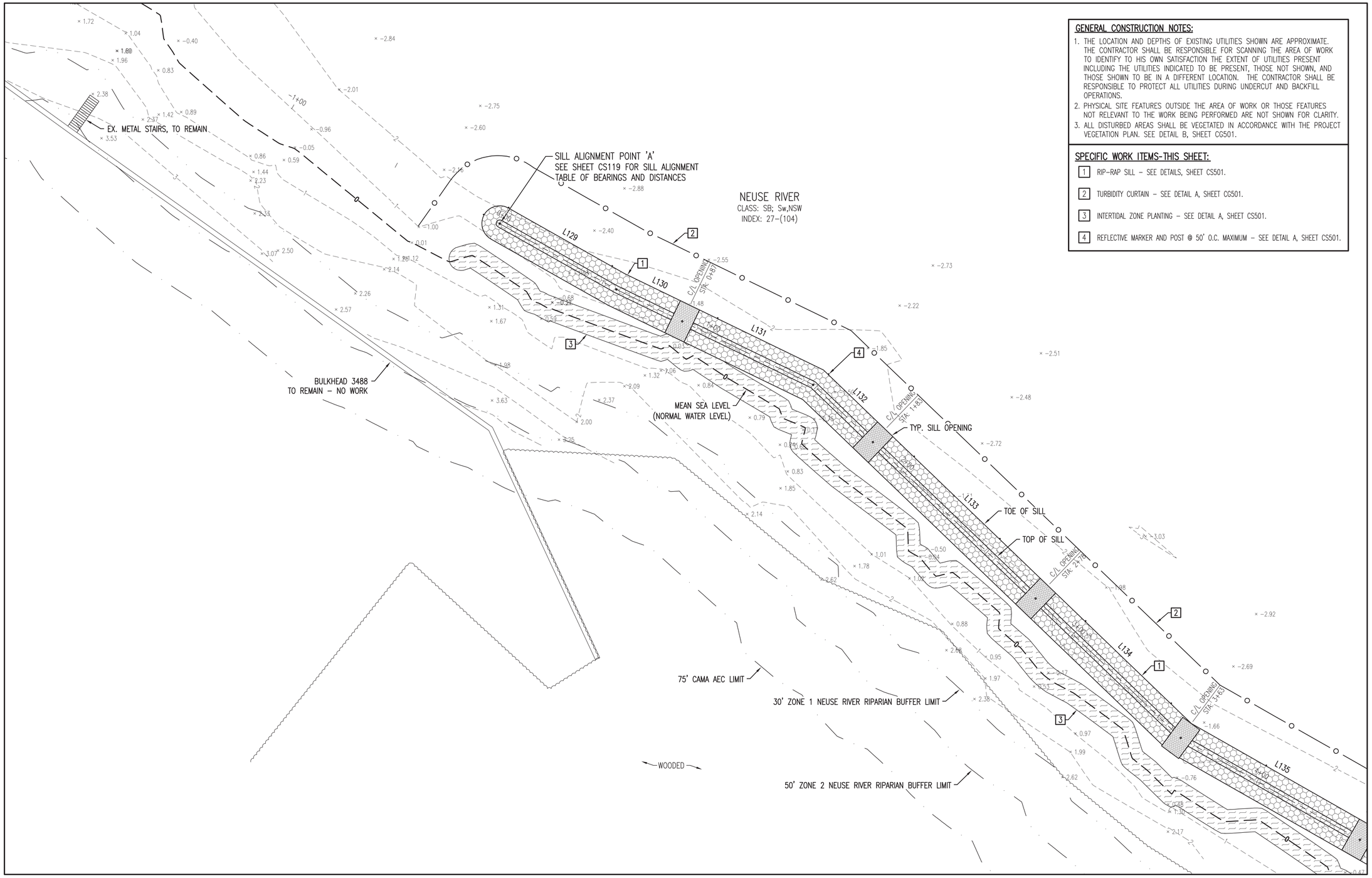
NAVFAC DRAWING NO.
12766751

SHEET 22 OF 37

CS119

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS119 PLOTTED: Tuesday, November 02, 2021 - 10:17am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CC501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CC501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 2 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTS & ENGINEERS
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

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NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

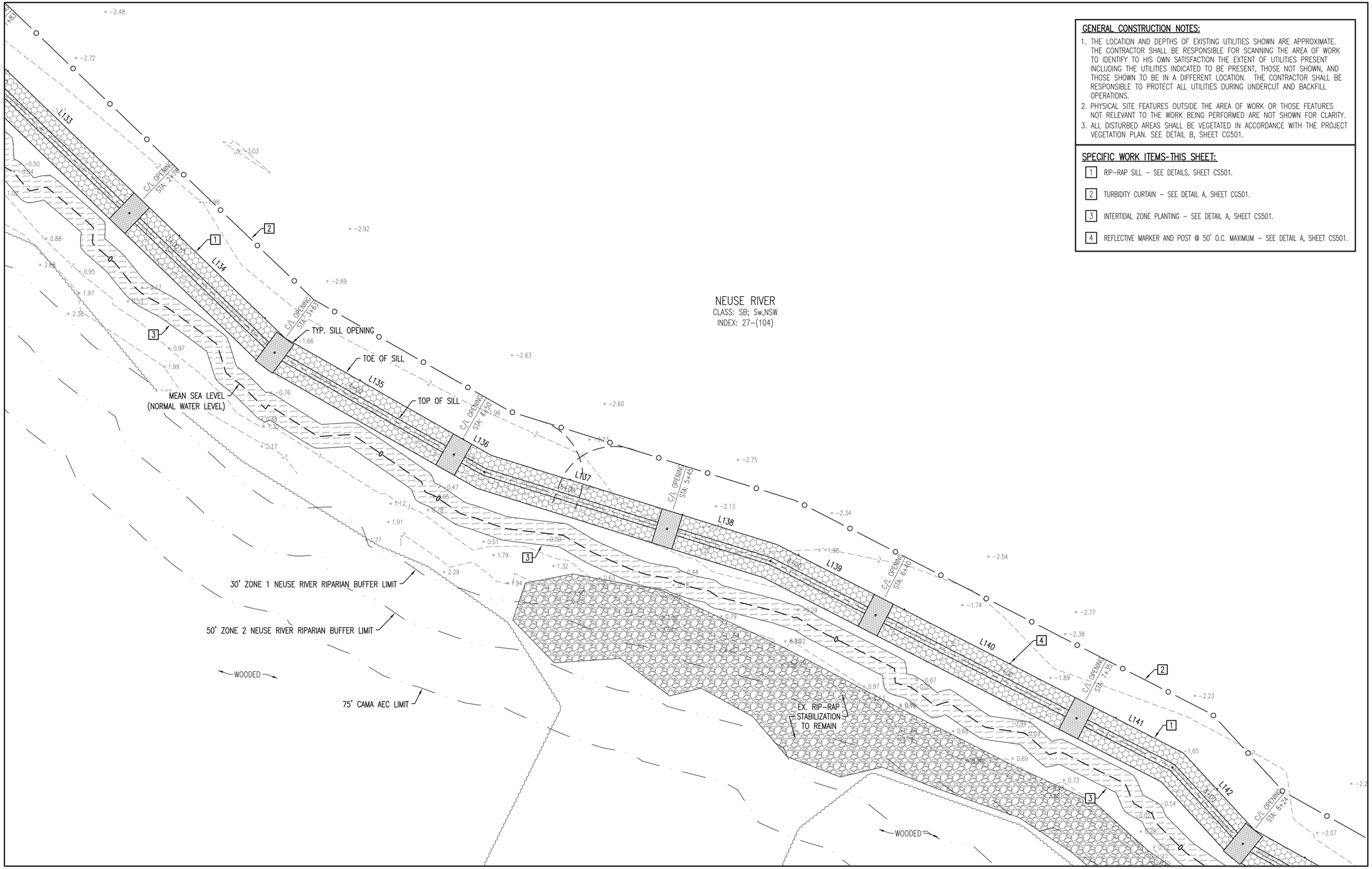
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766752
SHEET 23 OF 37
CS120
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS120 PLOTTED: Tuesday, November 02, 2021 – 10:18am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

AREA 2 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
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SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

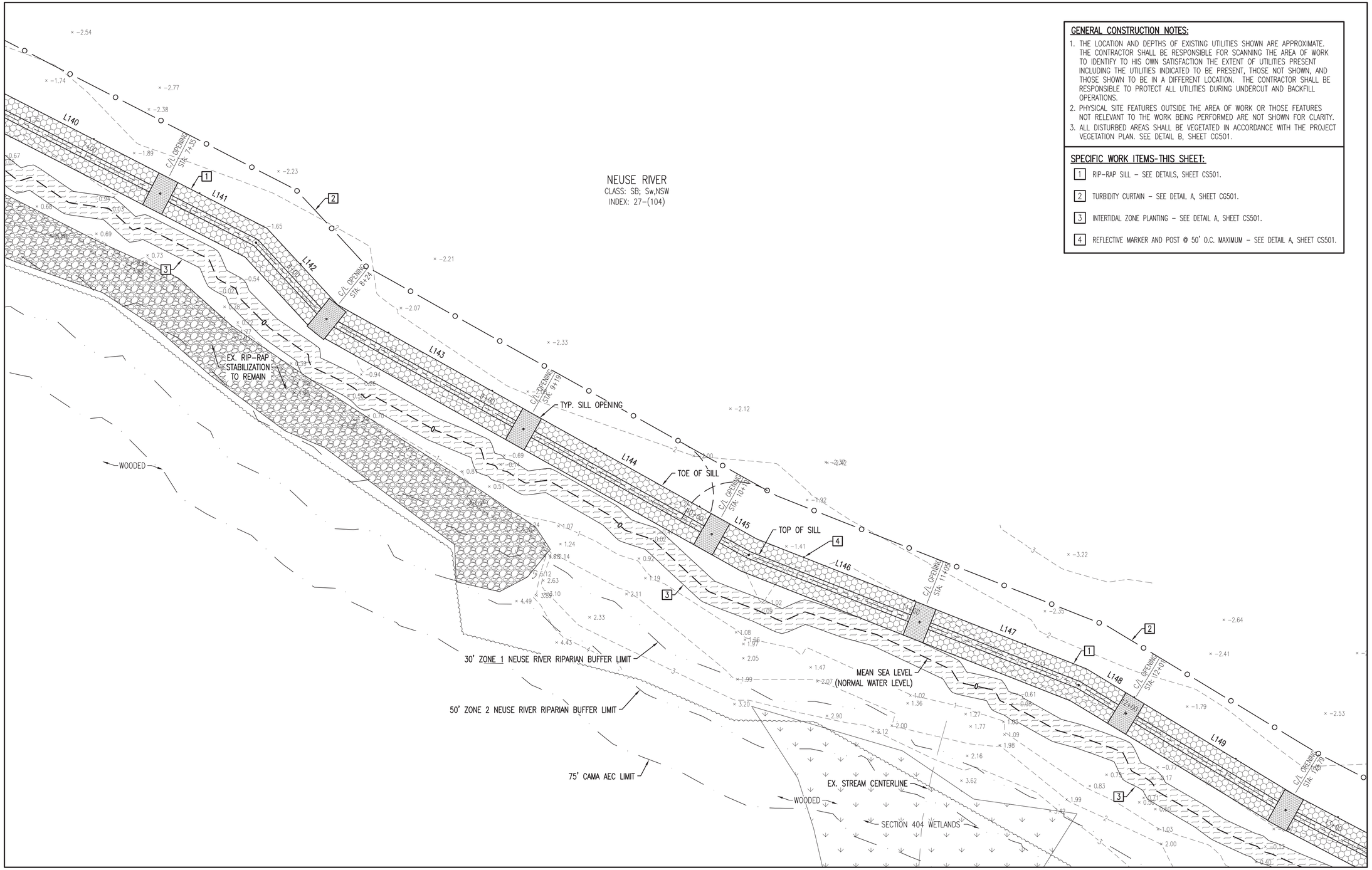
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: -
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766753
SHEET 24 OF 37
CS121
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: I:\XO_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS121 PLOTTED: Tuesday, November 02, 2021 - 10:18am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 2 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

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SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES. JKA DRW. MSP CHK. JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

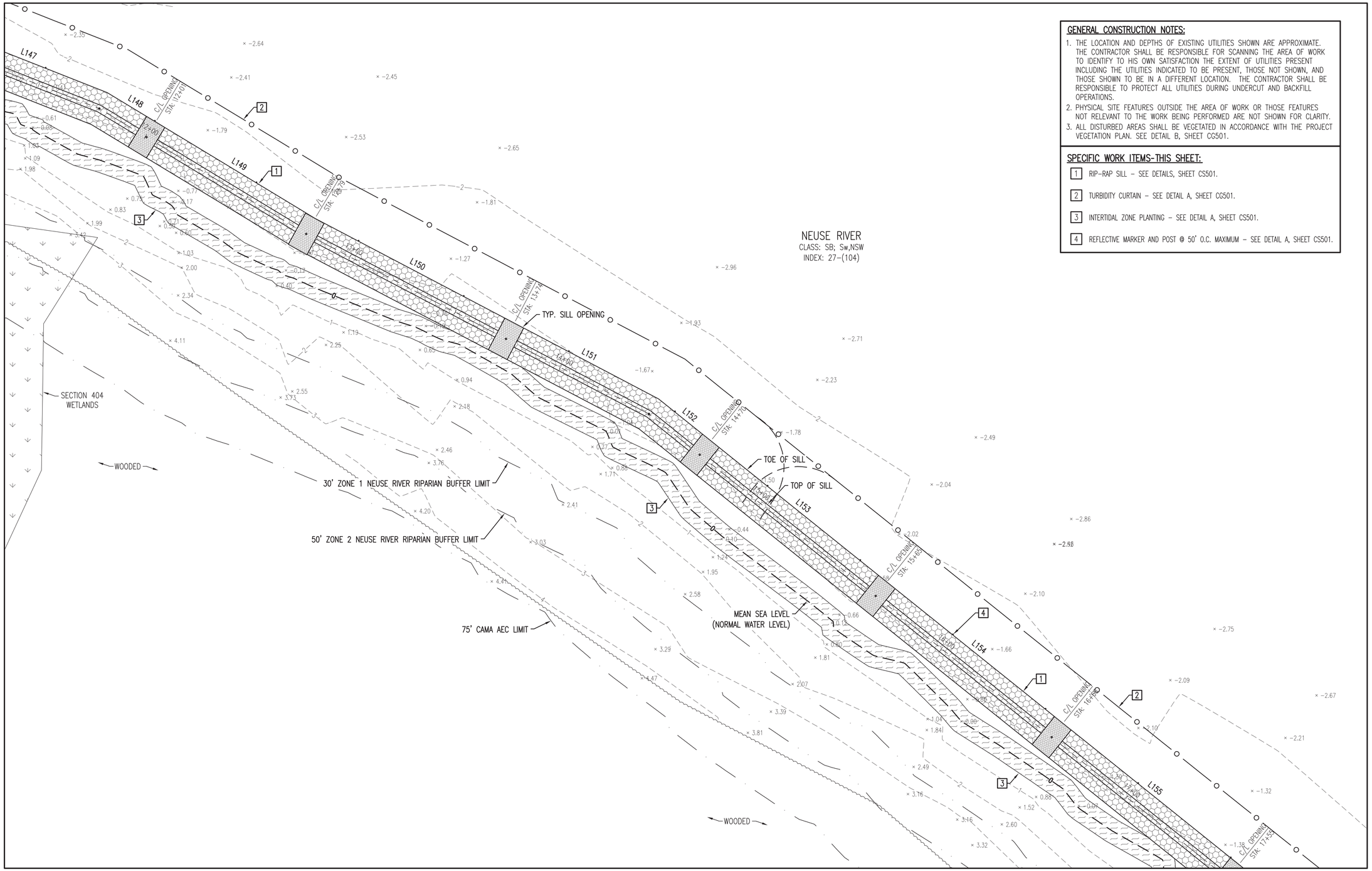
AREA 2 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766754
SHEET 25 OF 37

CS122

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: I:\XO_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS122 PLOTTED: Tuesday, November 02, 2021 – 10:18am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

AREA 2 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
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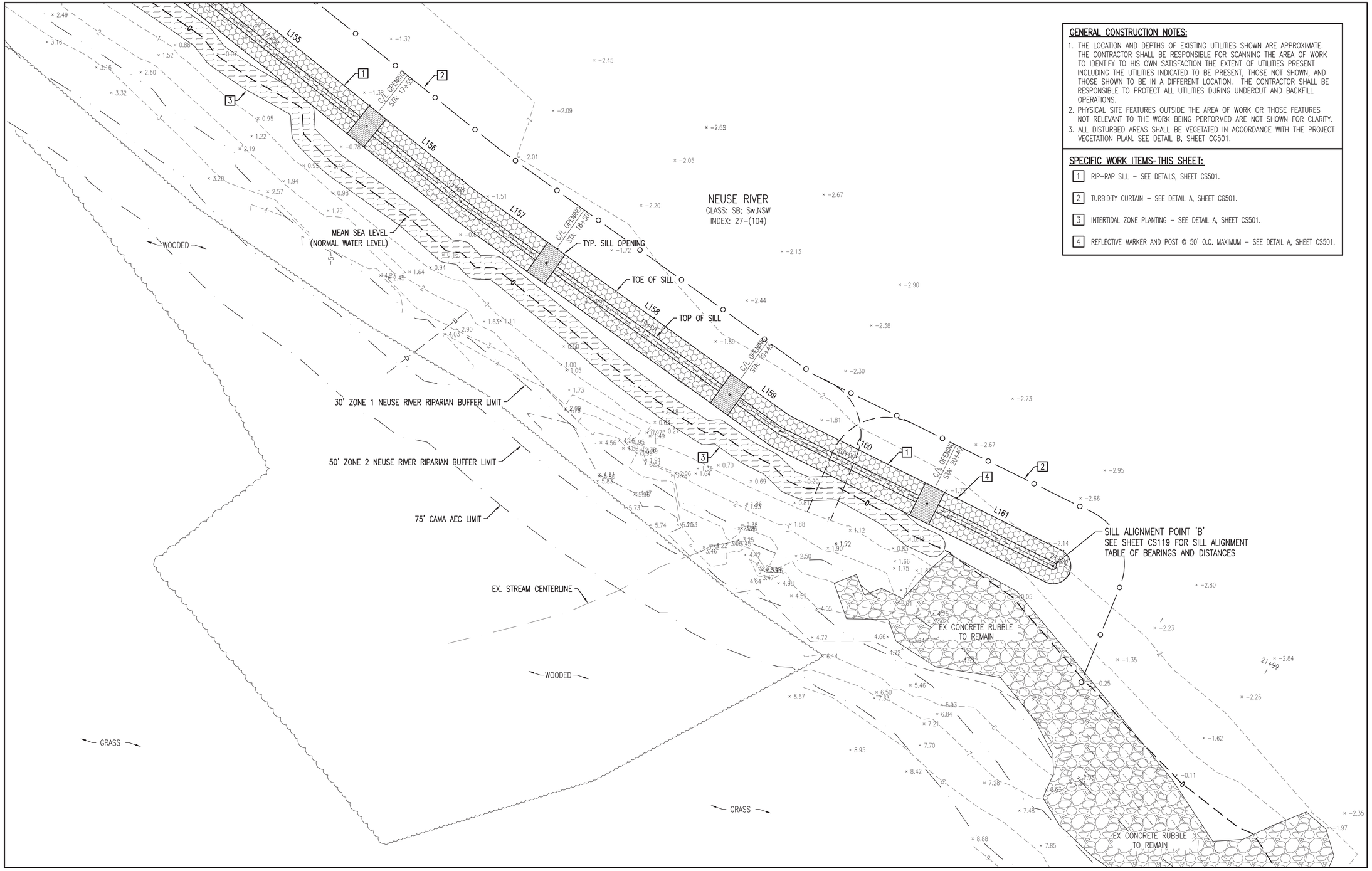
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/OM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
EFT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766755
SHEET 26 OF 37
CS123
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS123 PLOTTED: Tuesday, November 02, 2021 - 10:18am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
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3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL - SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN - SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING - SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM - SEE DETAIL A, SHEET CS501.

AREA 2 - ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
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Phone 757-474-0612
Fax 757-474-0919
A/E INFO

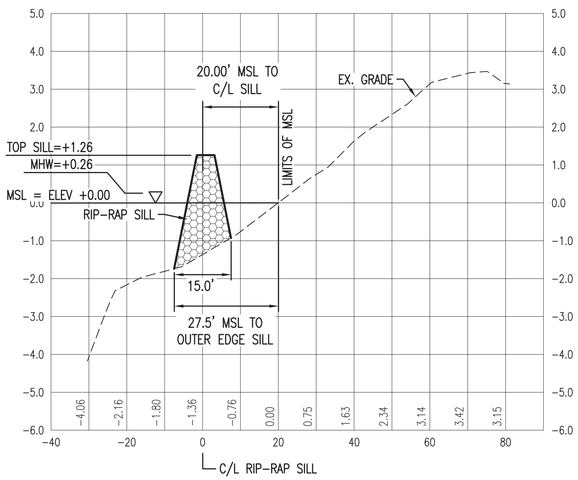
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - ENLARGED SITE PLAN

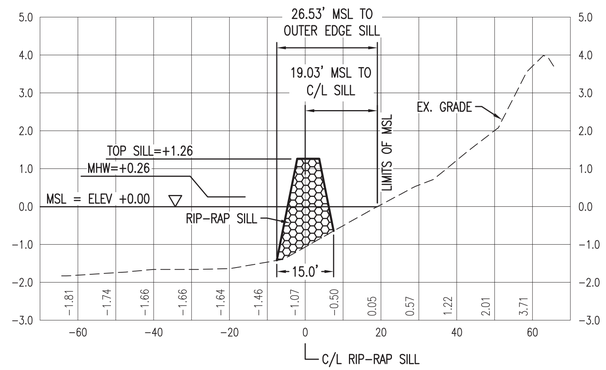
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756
SHEET 27 OF 37
CS124
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS124 PLOTTED: Tuesday, November 02, 2021 - 10:18am

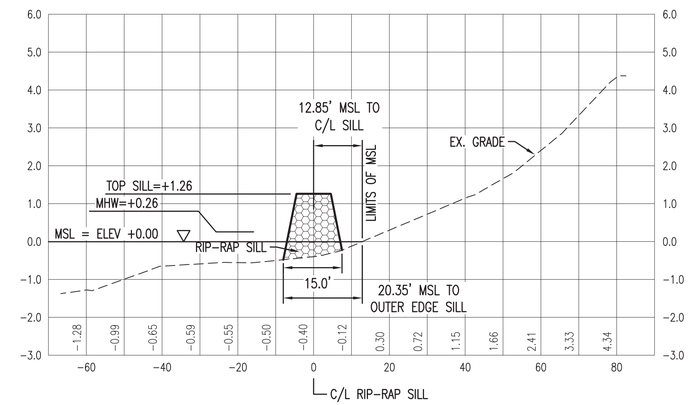
SILL ALIGNMENT POINT 'A'
STATION 0+00



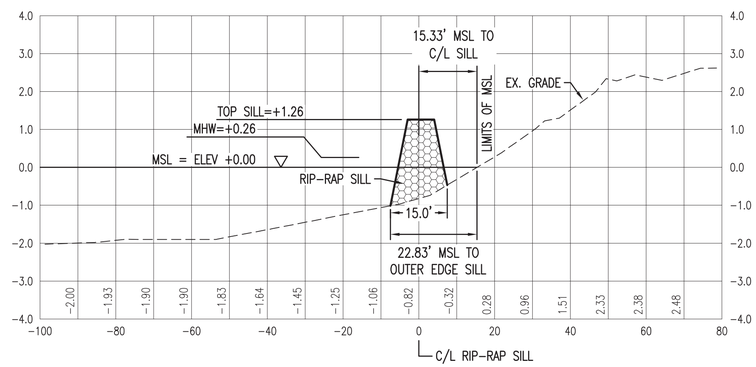
STATION 9+00



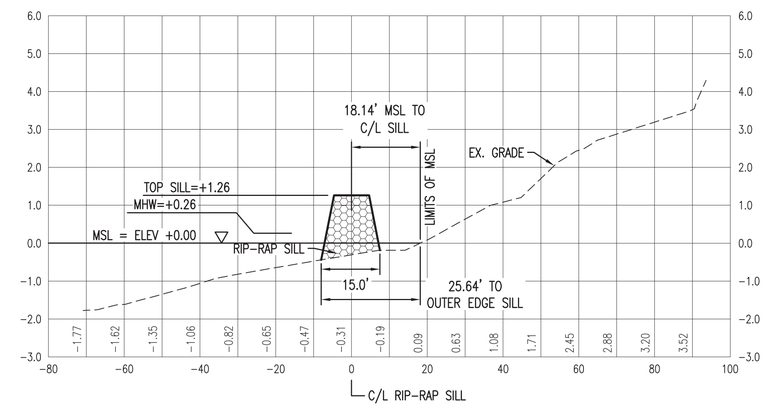
STATION 18+00



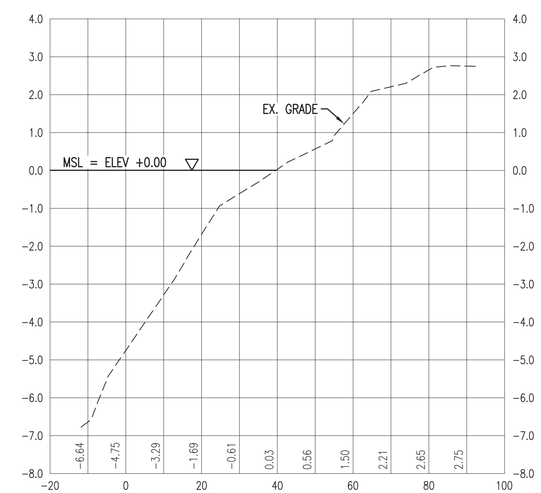
STATION 6+00



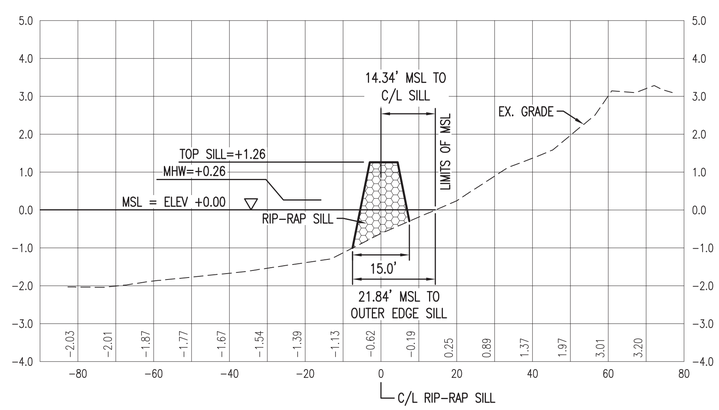
STATION 15+00



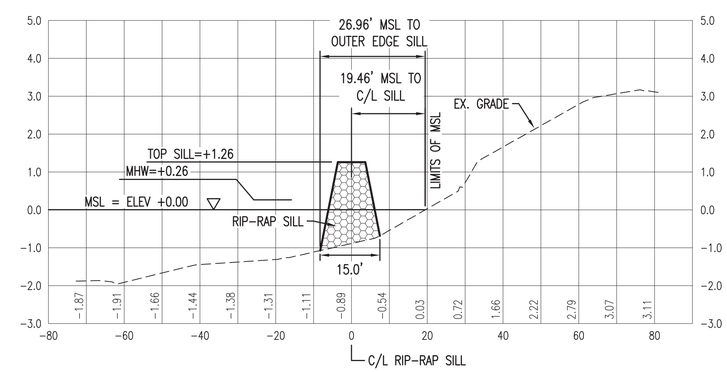
STATION -1+00



STATION 3+00



STATION 12+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - CROSS SECTIONS

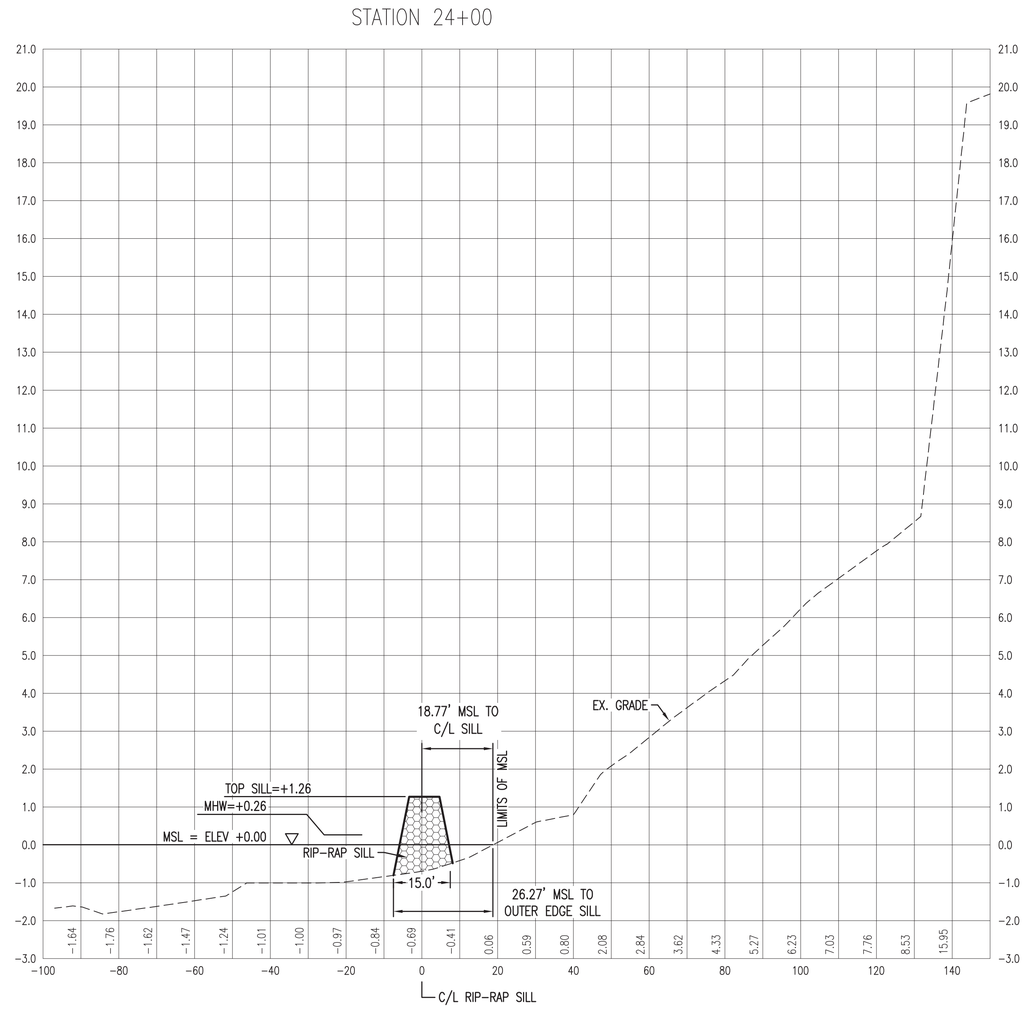
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO.: 6973177
NAVFAC DRAWING NO. 12766756A
SHEET 28 OF 37

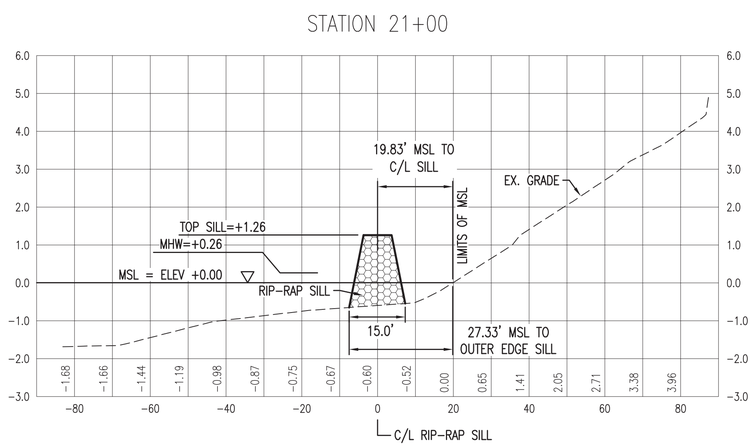
CS301

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS301 PLOTTER: Tuesday, November 02, 2021 - 10:19am

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS302 PLOTTED: Tuesday, November 02, 2021 - 10:19am





CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES. JKA DRW MSP CHK. JCA
PM/OM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

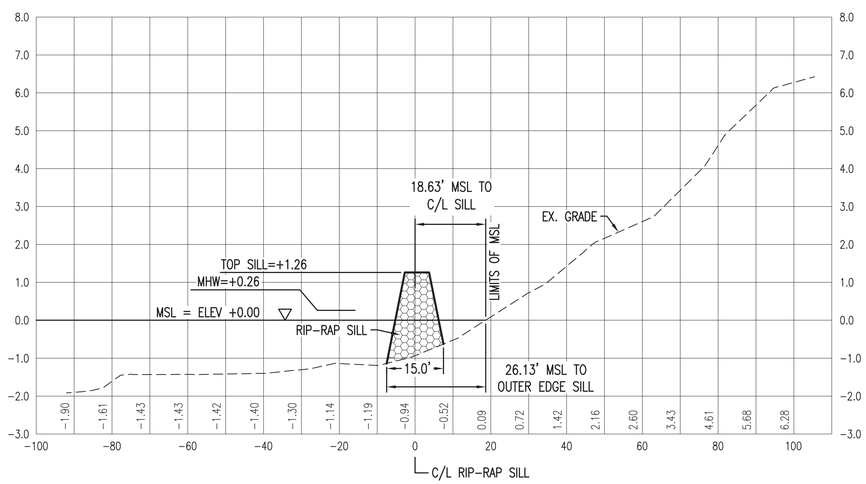
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
EFT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

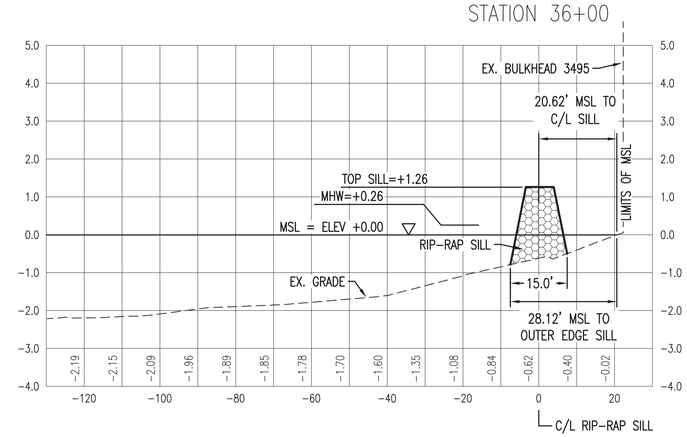
AREA 1 - CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756B
SHEET 29 OF 37
CS302
DRAWFORM REVISION: 10 MARCH 2009

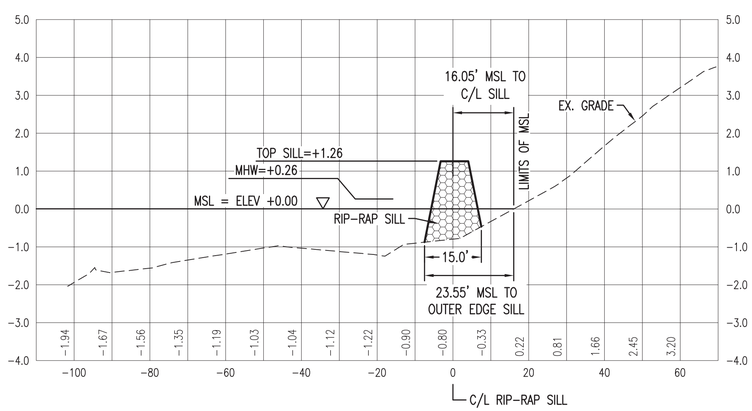
STATION 30+00



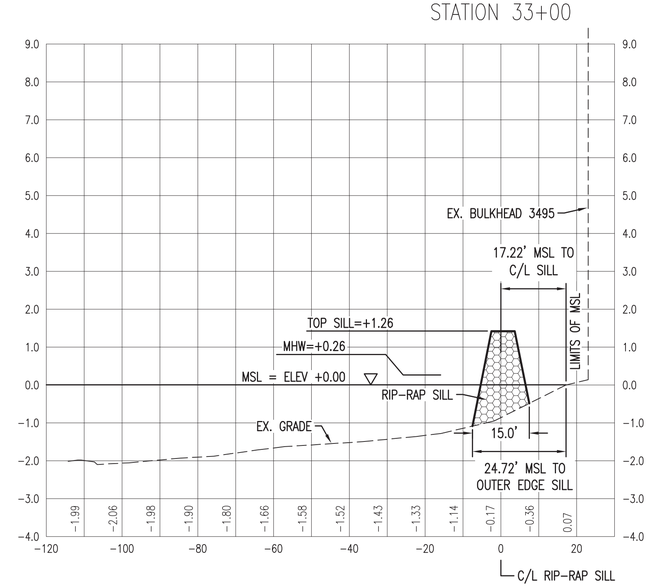
STATION 36+00



STATION 27+00



STATION 33+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A-E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/OM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

INSTALL LIVING SHORELINE

AREA 1 - CROSS SECTIONS

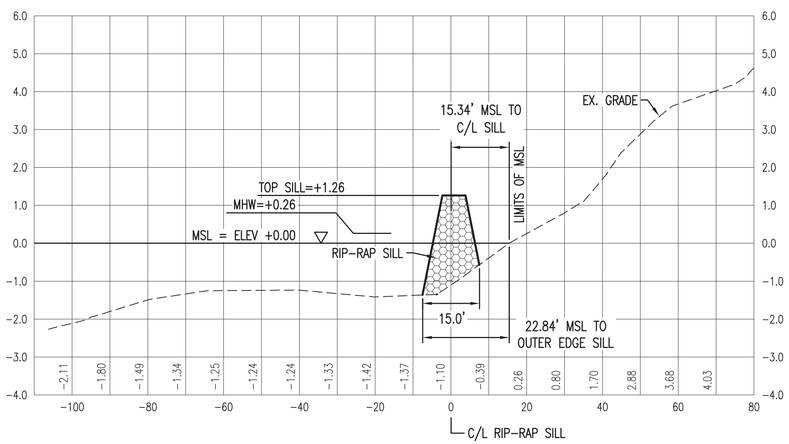
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756C
SHEET 30 OF 37

CS303

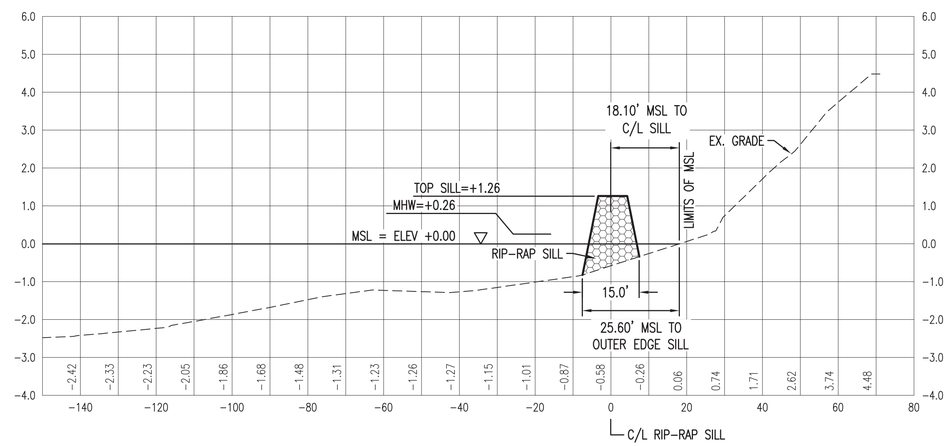
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS303 PLOTTED: Tuesday, November 02, 2021 - 10:19am

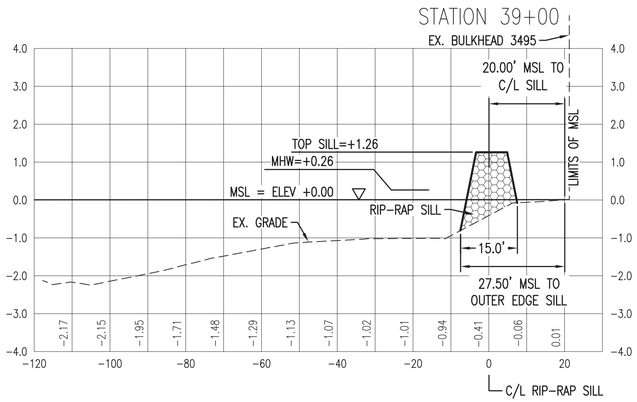
STATION 42+00



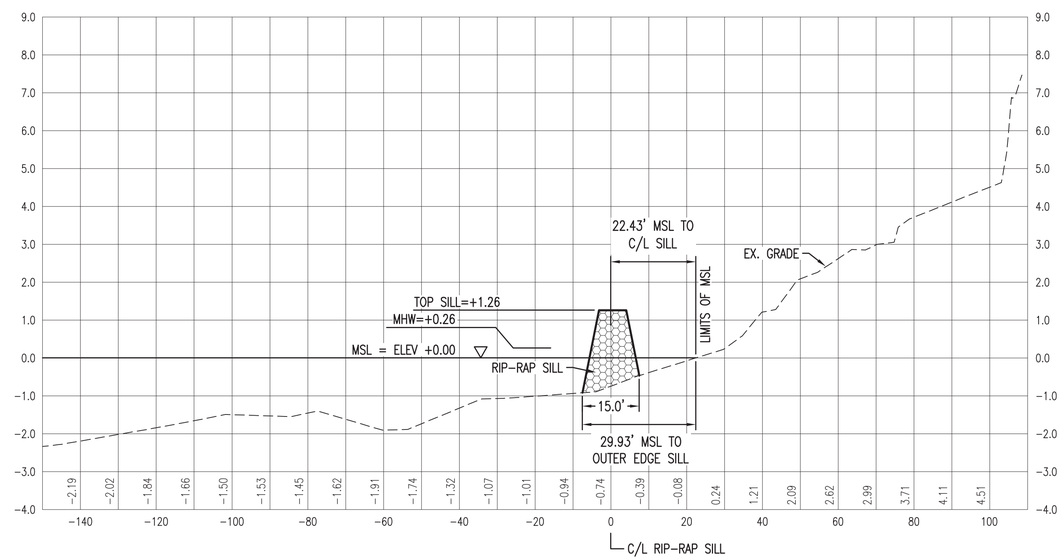
STATION 48+00



STATION 39+00



STATION 45+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
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SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES. JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
1ST MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

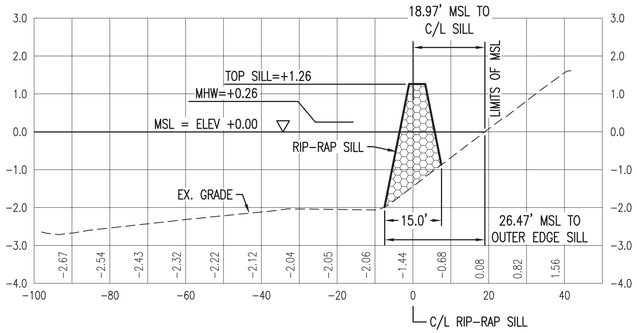
INSTALL LIVING SHORELINE

AREA 1 - CROSS SECTIONS

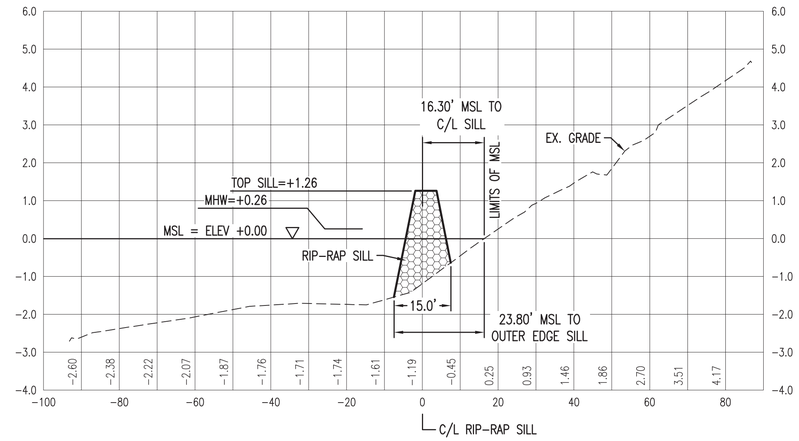
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756D
SHEET 31 OF 37
CS304
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS304 PLOTTED: Tuesday, November 02, 2021 - 10:19am

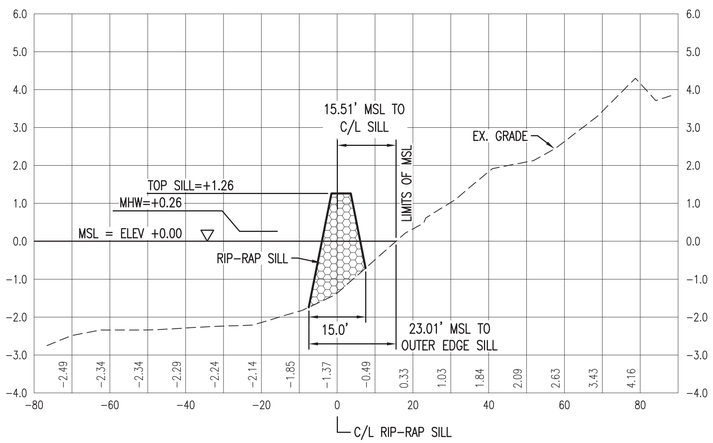
STATION 57+00



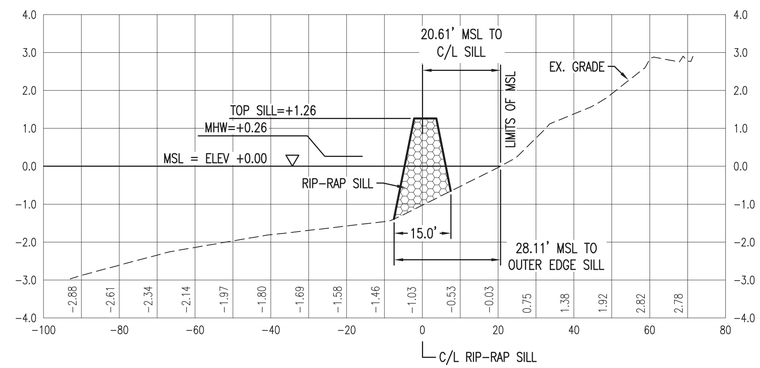
STATION 66+00



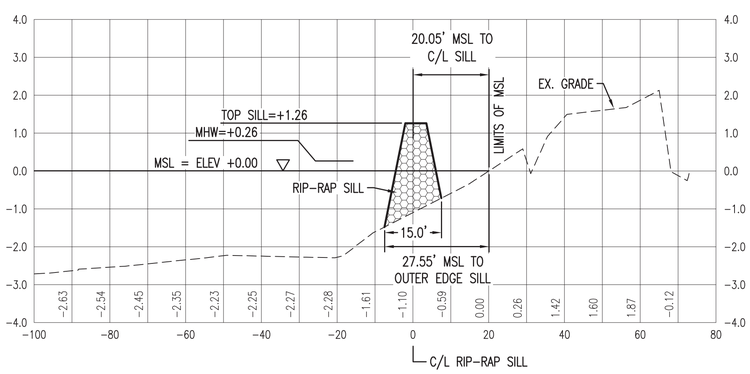
STATION 54+00



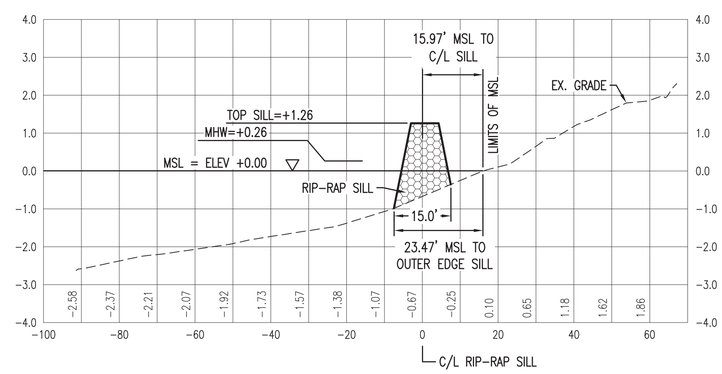
STATION 63+00



STATION 51+00



STATION 60+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

DES JKA | DRW MSP | CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT: MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

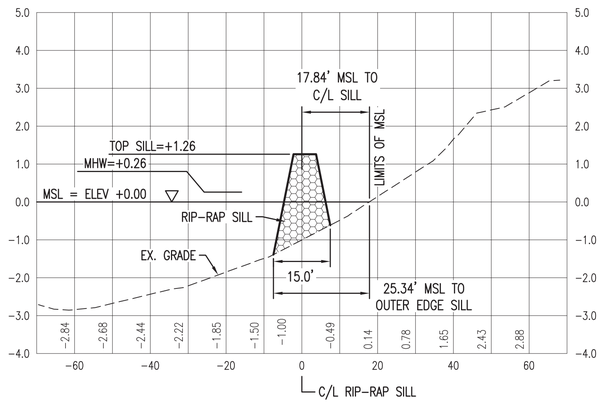
INSTALL LIVING SHORELINE

AREA 1 - CROSS SECTIONS

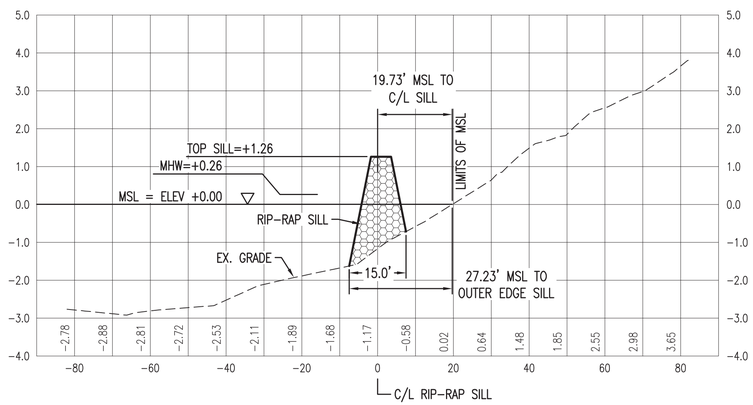
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756E
SHEET 32 OF 37
CS305
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS305 PLOTTED: Tuesday, November 02, 2021 - 10:20am

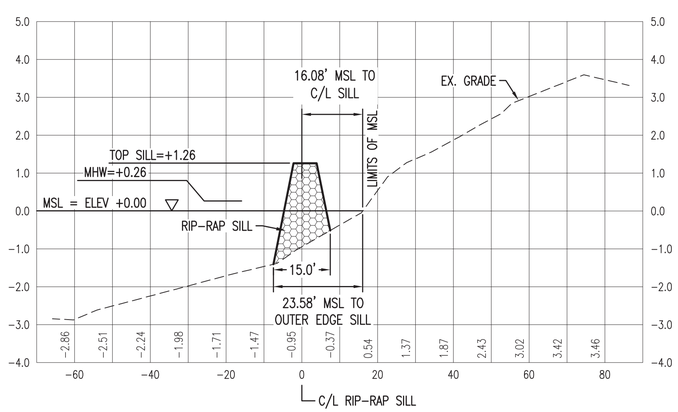
STATION 75+00



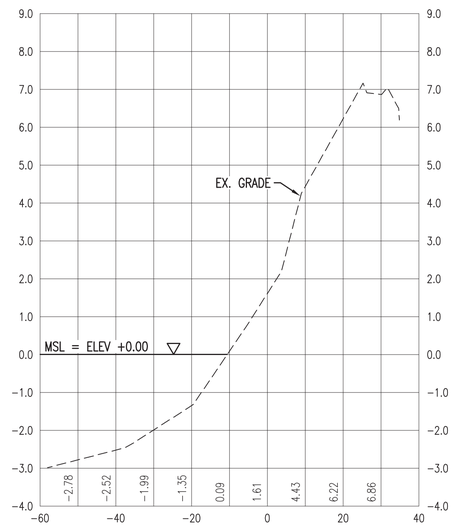
STATION 72+00



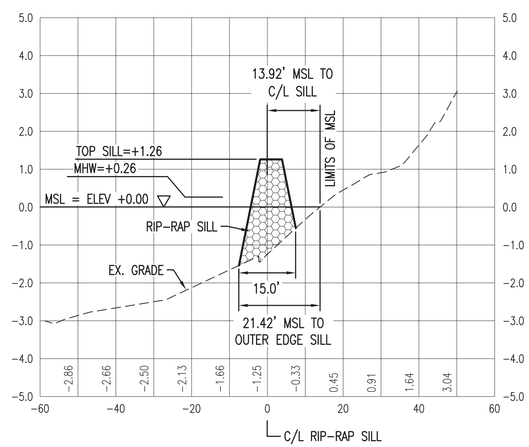
STATION 69+00



STATION 76+90.03



SILL ALIGNMENT POINT 'B'
STATION 75+90.03



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ARCHITECTURE
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 19028-P2

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

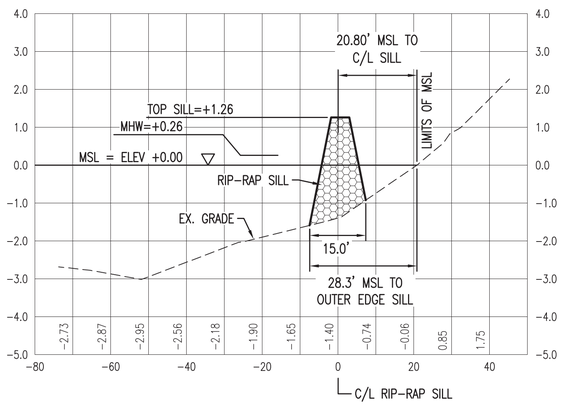
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 1 - CROSS SECTIONS

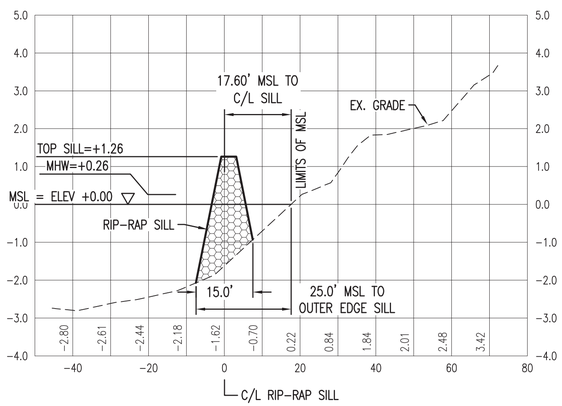
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO.
6973177
NAVFAC DRAWING NO.
12766756F
SHEET 33 OF 37
CS306
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS306 PLOTTED: Tuesday, November 02, 2021 - 10:20am

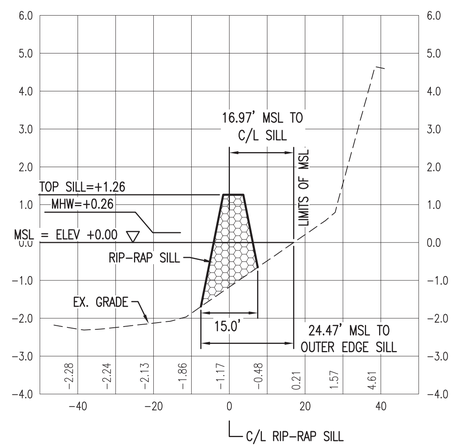
3+00



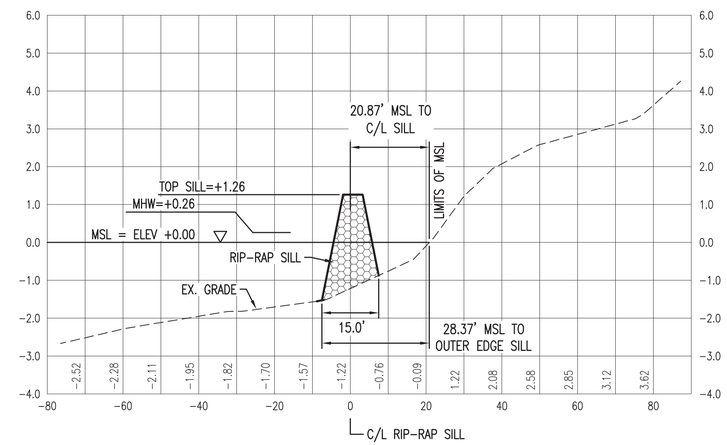
SILL ALIGNMENT POINT 'A'
0+00



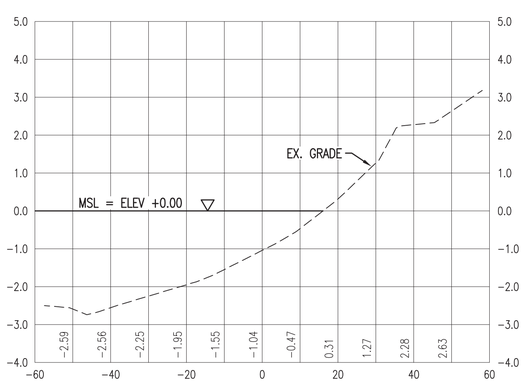
9+00



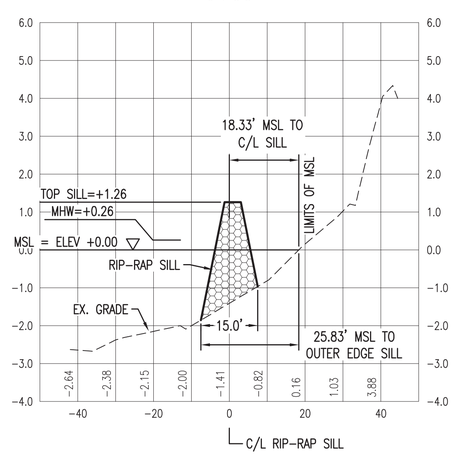
15+00



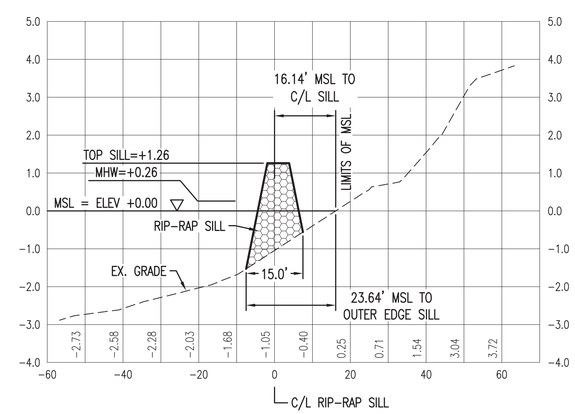
-1+00



6+00



12+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

A·E ENGINEERING
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PH.(252) 633-0068
PROJECT: 19028-P2

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A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

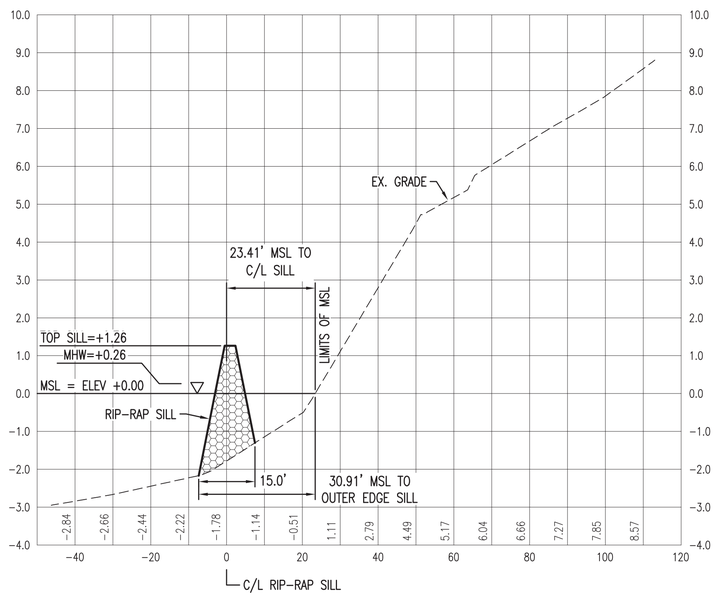
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO.: 6973177
NAVFAC DRAWING NO.: 12766756G
SHEET 34 OF 37
CS307

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS307 PLOTTED: Tuesday, November 02, 2021 - 10:20am

SILL ALIGNMENT POINT 'B' 20+99



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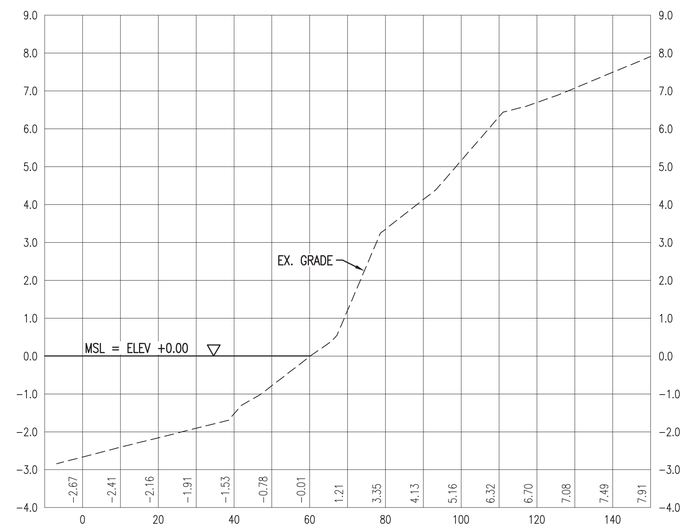

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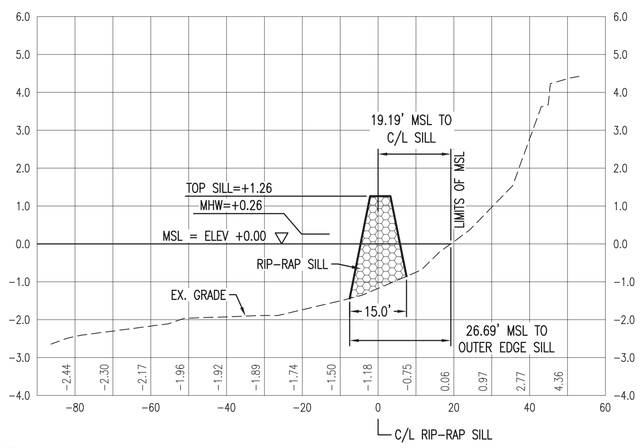

CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

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PROJECT: 19028-P2

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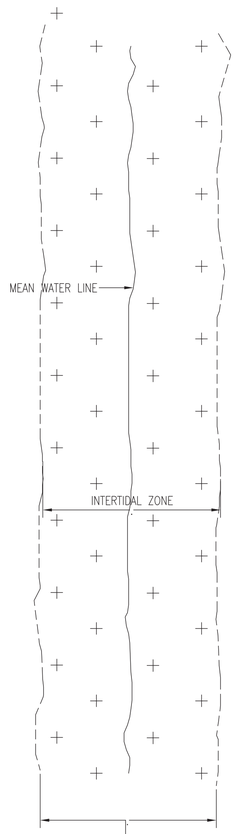
A/E INFO

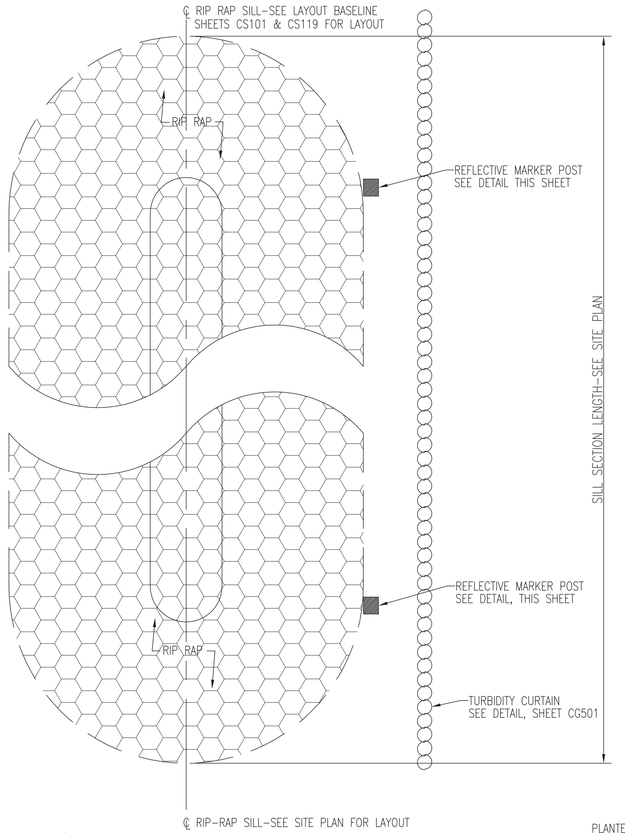
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS' AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
AREA 2 - CROSS SECTIONS

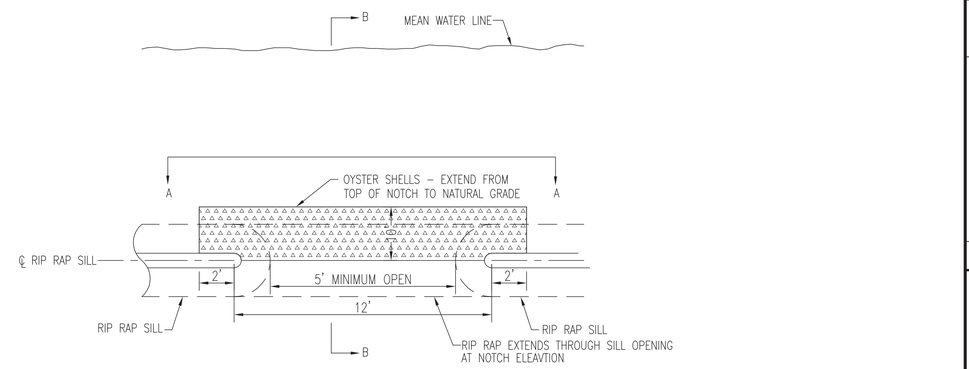
SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766756H
SHEET 35 OF 37
CS308
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-26-21).dwg LAYOUT NAME: CS308 PLOTTED: Tuesday, November 02, 2021 - 10:20am

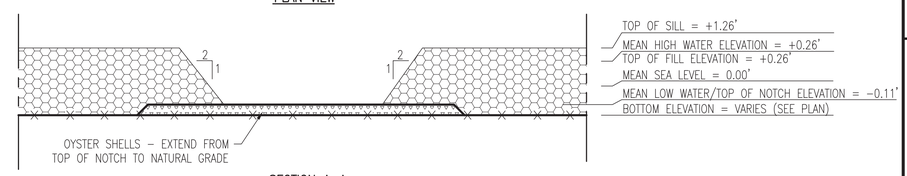




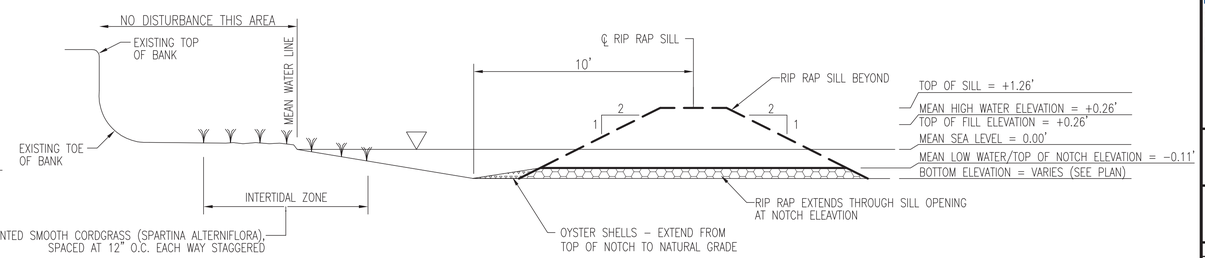
PLAN VIEW



PLAN VIEW

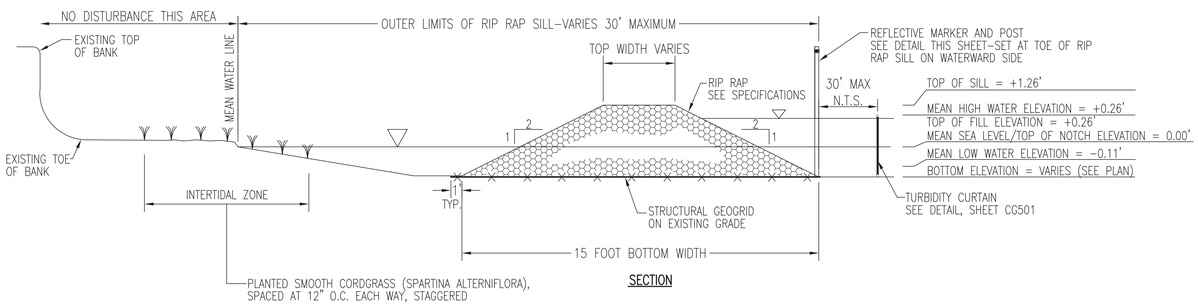


SECTION A–A

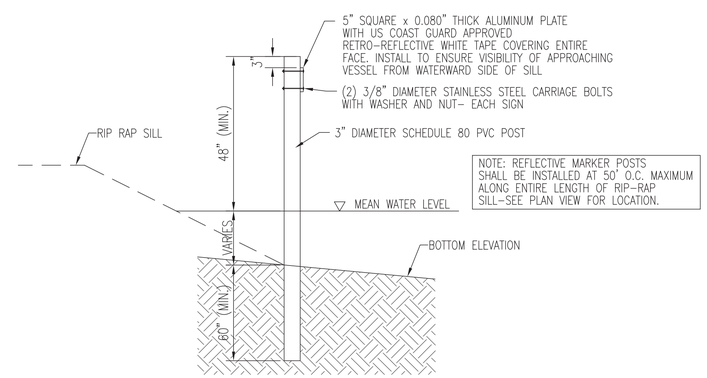


SECTION B–B

RIP–RAP SILL OPENING



SECTION



NOTE: REFLECTIVE MARKER POSTS SHALL BE INSTALLED AT 50' O.C. MAXIMUM ALONG ENTIRE LENGTH OF RIP–RAP SILL–SEE PLAN VIEW FOR LOCATION.

REFLECTIVE MARKER AND POST

NOTES:
1. ALL PLANTS SHALL BE SOURCED FROM A NORTH CAROLINA NURSERY EXPERIENCED IN PRODUCING WETLAND PLANTS. PLANTS SHALL BE DELIVERED LIVING AND HEALTHY.
2. ALL PLANTS SHALL BE 1.6"x5" PLUGS. PLANTS SHALL BE DELIVERED INDIVIDUALLY BAGGED.

(A) RIP-RAP SILL
NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

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PH.(252) 633-0068
PROJECT: 19028-P2

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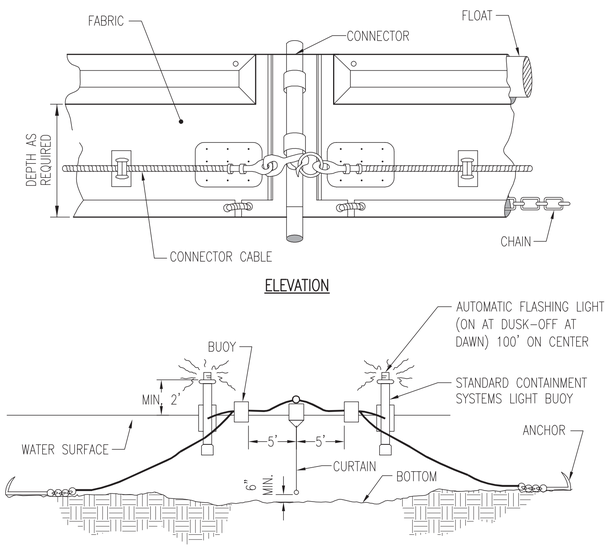
A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
DETAILS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766757
SHEET 28 OF 37
CS501
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\19028-P2_Install Living Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CS501 PLOTTED: Tuesday, November 02, 2021 – 10:20am



NOTES:
1. TURBIDITY CURTAIN SHALL BE HEAVY DUTY, TYPE III BARRIER – SUITABLE FOR EXPOSURE TO MODERATE WIND, WAVES, AND MOVING WATER.
2. THE CONTRACTOR SHALL PROVIDE A TURBIDITY CURTAIN TO COMPLETELY ENCLOSE THE SECTION OF SILL ON WHICH WORK IS BEING COMPLETED. THE TURBIDITY CURTAIN SHALL EXTEND THE ENTIRE LENGTH OF THE WORK AREA AND SHALL EXTEND TO AND BE ANCHORED TO UPLAND SHORELINE AREA ON EACH END OF THE WORK AREA. FOR ILLUSTRATIVE PURPOSES, THE TURBIDITY CURTAIN IS SHOWN IN 500'± SEGMENTS ON THE SITE PLAN. THE CONTRACTOR SHALL ESTABLISH THE TURBIDITY CURTAIN LENGTH TO MEET HIS OWN WORK PLAN.
3. THE TURBIDITY CURTAIN SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF CONSTRUCTION ON ANY SILL SEGMENT. THE TURBIDITY CURTAIN SHALL NOT BE REMOVED OR RELOCATED TO THE NEXT SILL WORK AREA UNTIL APPROVED BY THE CONTRACTING OFFICER.

A TURBIDITY CURTAIN
NOT TO SCALE

TEMPORARY VEGETATIVE SEEDING
(PRIOR TO ESTABLISHING PERMANENT VEGETATION)

AFTER COMPLETION OF GRADING ACTIVITIES AND THE CONSTRUCTION OF SWALES, ALL EXPOSED AREAS MUST BE SEEDED TO THE FOLLOWING SPECIFICATIONS:

SEED BED

LIME	1-1/2 TON PER ACRE
FERTILIZER	1/2-TON PER ACRE

SEED

RYE GRAIN	50 LBS PER ACRE
TALL FESCUE	100 LBS PER ACRE

SUPPLEMENTAL SEED

MAY THROUGH AUGUST:

CENTIPEDE	5 LBS PER ACRE

PROCEDURE

STRAW MULCH MUST BE APPLIED AT A RATE WHICH WILL INSURE APPROXIMATELY 75% COVERAGE OF THE SEEDED AREA. THE STRAW AND SOWN SEED WILL BE LIGHTLY DISCED INTO THE BED TO GIVE IT FURTHER RESISTANCE TO BLOWING AND WASHING. THE CONTRACTOR MUST GUARANTEE A FULL STAND OF GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF GRASS IS AT LEAST FOUR INCHES HIGH AND HAS ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

PERMANENT VEGETATION

ALL DISTURBED AREAS NOT COVERED WITH BUILDINGS, PAVEMENTS, OR OTHER IMPERMEABLE SURFACES MUST BE SODDED WITH CENTIPEDE SOLID SOD AS THE FINAL/PERMANENT VEGETATION.

SPECIAL SEEDING NOTE:

ALL DENUDED AREAS WILL, WITHIN 7 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING OR CEASING OF GRADING ACTIVITIES, BE PLANTED AND PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

ALL DENUDED AREAS WILL, WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION, BE PROVIDED PERMANENT GROUND COVER.

APPLICATION NOTE:

THIS VEGETATION PLAN APPLIES ONLY TO UPLAND AREAS DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES.
THIS VEGETATION PLAN IS NOT APPLICABLE TO WETLANDS, COASTAL MARSH, OR OPEN WATER AREAS.
THE CONTRACTOR MUST NOT INSTALL SEED, MULCH OR SOD IN ANY WETLAND, COASTAL MARSH, OR OPEN WATER AREAS.

B VEGETATION PLAN
NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR
2	CORPS COMMENTS/REVISIONS	9/8/21	JKA
1	REVISED SILL LOCATION	5/4/21	JKA

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PROJECT: 19028-P2

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A/E INFO

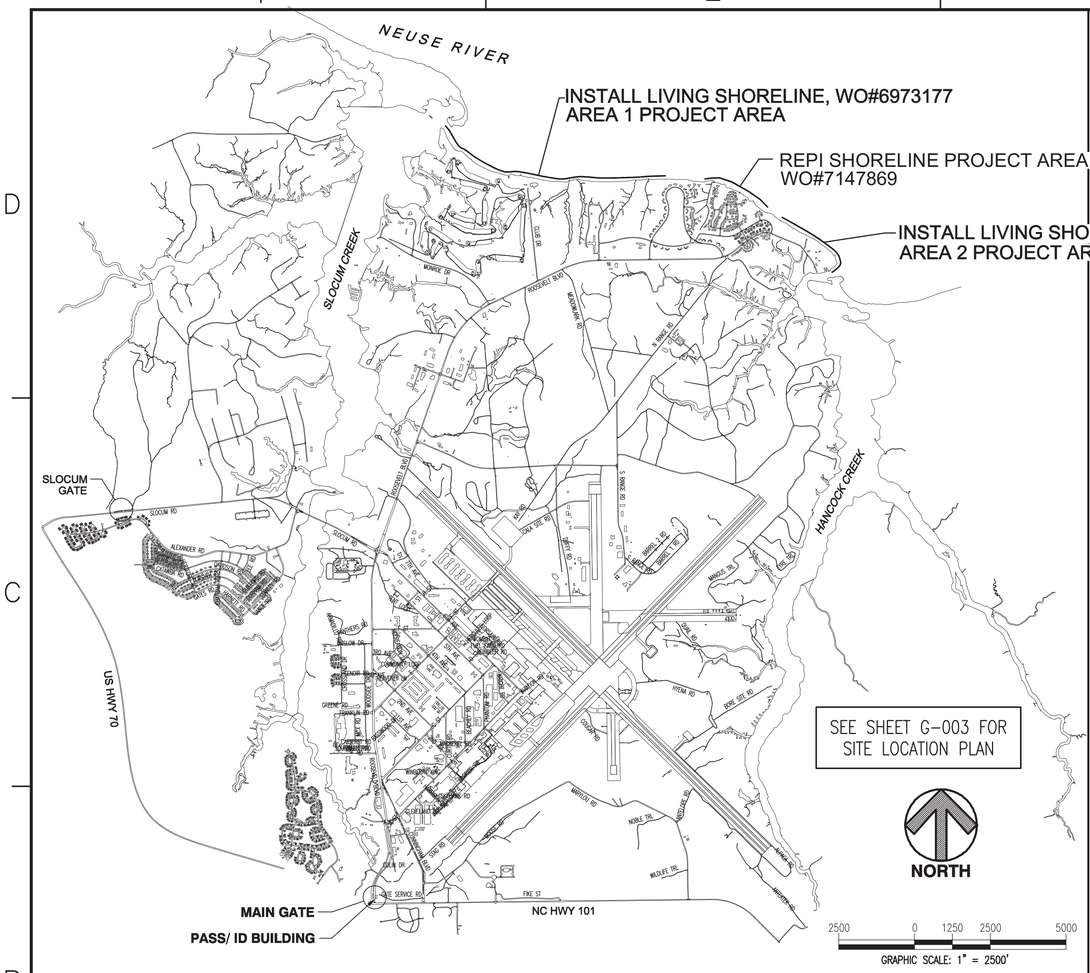
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
INSTALL LIVING SHORELINE
DETAILS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 6973177
NAVFAC DRAWING NO. 12766758
SHEET 29 OF 37
CG501

DRAWFORM REVISION: 10 MARCH 2009

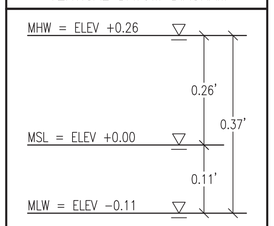
FILE NAME: D:\00_Projects\19028-P2_Install LIVing Shoreline\dwg\19028-P2_Base REV (10-28-21).dwg LAYOUT NAME: CG501 PLOTTED: Tuesday, November 02, 2021 - 10:20am



MCAS CHERRY POINT - STATION MAP

SCALE: 1"=2500'

VERTICAL DATUM DIAGRAM



TIDAL STATION USED:
8655151 – CEDAR ISLAND, NC

TIDAL DATA AND RELATIONSHIPS TO NAVD88 VERTICAL DATUM OBTAINED FROM NOAA ONLINE:
HTTPS://TIDESANDCURRENTS.NOAA.GOV

LEGEND
MHW = MEAN HIGH WATER
MSL = MEAN SEA LEVEL
MLW = MEAN LOW WATER

REPI SHORELINE PROJECT

MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
WO #7147869

INDEX OF DRAWINGS

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12846181	2 OF 14	G-002	LEGEND, ABBREVIATIONS & NOTES
12846182	3 OF 14	G-003	SITE LOCATION PLAN
12846183	4 OF 14	CS101	OVERALL SITE PLAN
12846184	5 OF 14	CS102	ENLARGED SITE PLAN
12846185	6 OF 14	CS103	ENLARGED SITE PLAN
12846186	7 OF 14	CS104	ENLARGED SITE PLAN
12846187	8 OF 14	CS105	ENLARGED SITE PLAN
12846188	9 OF 14	CS301	CROSS SECTIONS
12846189	10 OF 14	CS302	CROSS SECTIONS
12846190	11 OF 14	CS303	CROSS SECTIONS
12846191	12 OF 14	CS304	CROSS SECTIONS
12846192	13 OF 14	CS501	DETAILS
12846193	14 OF 14	CG501	DETAILS

SYM	DESCRIPTION	DATE	APPR

A·E
LICENSE NO. C-0706
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PROJECT: 21011

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11-02-21
SEAL

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ACTIVITY
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DES JKA | DRW MSP | CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
COVER SHEET

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846180
SHEET 01 OF 14
G-001

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: G-001 PLOTTED: Tuesday, November 02, 2021 - 11:26am

SPECIAL MARINE CONSTRUCTION NOTES:

1. NATIONAL MARINE FISHERIES HAS ESTABLISHED GENERAL GUIDELINES FOR PIER, DOCK, BULKHEAD AND OTHER MARINE CONSTRUCTION THAT INVOLVE THE GENERATION OF NOISE. THE CONTRACTOR SHALL POST OBSERVERS IN THE WORK AREA WHERE MARINE CONSTRUCTION IS OCCURRING. IF A MARINE MAMMAL (A BOTTLENOSE DOLPHIN OR A MANATEE) IS OBSERVED WITHIN 100 METERS OF THE PROJECT SITE WHILE WORKING, THE ACTIVITY SHALL STOP UNTIL THE ANIMAL HAS LEFT THE AREA. IF NO IN-WATER CONSTRUCTION NOISE IS BEING GENERATED BY THE CONSTRUCTION ACTIVITIES, THEN THE 100 METER RULE SHALL NOT APPLY.
2. THE CONTRACTOR SHALL MANAGE AND CONTROL ACTIVITIES TO MINIMIZE INTERFERENCE WITH AND DAMAGE TO FISH AND WILDLIFE. THE CONTRACTOR'S OPERATION SHALL NOT DISTURB FISH AND WILDLIFE BEYOND THE LIMITS OF CONSTRUCTION.
3. THE PROJECT AREAS ARE LOCATED WITHIN AREAS OF ENVIRONMENTAL CONCERN. SIGNIFICANT NATURAL RESOURCES EXIST AT AND ADJACENT TO THE AREAS OF WORK. DISTURBANCE WITHIN THESE AREAS ARE CONTROLLED BY VARIOUS REGULATORY AGENCIES. DISTURBANCE WITHIN THESE AREAS SHALL BE LIMITED TO THOSE AREAS REQUIRED TO ADEQUATELY COMPLETE THE WORK.
4. WETLAND AND RIPARIAN BUFFER AREAS EXIST ON THE ADJACENT SHORELINE AREAS. THESE AREAS SHALL NOT BE DISTURBED IN ANY MANNER, UNLESS CONSTRUCTION IS DESIGNATED TO OCCUR WITHIN THESE AREAS.

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCTION OPERATIONS SHALL BE COMPLETED IN COMPLIANCE WITH ALL STATE AND FEDERAL REGULATIONS AND AS SPECIFIED.
2. THE PLANS DEPICT THE GENERAL INTENT OF CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES OUTSIDE THE LIMITS OF CONSTRUCTION. ANY ITEM DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR REPLACED WITH NEW.
3. ADJACENT STRUCTURES AND UTILITIES MUST REMAIN IN OPERATION DURING CONSTRUCTION ACTIVITIES. EXISTING ROADS SHALL REMAIN OPEN AND ACCESSIBLE BY VEHICULAR AND PEDESTRIAN TRAFFIC. IF ROADWAY CLOSURE IS REQUIRED, APPROVAL SHALL BE SECURED FROM THE CONTRACTING OFFICER. THE CONTRACTOR SHALL PROVIDE BARRICADES, LIGHTS, SIGNAGE AND OTHER PROTECTIVE DEVICES IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. THE CONTRACTOR SHALL PROVIDE FENCING, BARRICADES OR OTHER PROTECTIVE DEVICES TO MAINTAIN A SECURED WORK AREA AT ALL TIMES.
5. PRIOR TO STARTING CONSTRUCTION ON ANY STRUCTURES OR UTILITIES, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS OF ANY STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL DEVELOP A PLAN OF CONSTRUCTION THAT ENSURES ALL ACTIVITIES ARE COMPLETED IN A SAFE MANNER. PROVIDE ANY TEMPORARY SHORING, SHEETING OR SUPPORT REQUIRED TO COMPLETE WORK IN A SAFE MANNER.
6. COMPLETELY REMOVE ALL STRUCTURE AND UTILITIES INDICATED, BOTH ABOVE GROUND AND BELOW GROUND.
7. ALL EXCAVATIONS CREATED BY CONSTRUCTION ACTIVITIES SHALL BE BACKFILLED WITH COMMON FILL, UNLESS OTHERWISE NOTED, SHALL BE GRADED TO CREATE POSITIVE DRAINAGE, AND SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. GRAVEL AND PAVED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
8. ALL EROSION CONTROL FEATURES SHOWN SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES STARTING.
9. ANY FILL MATERIAL REQUIRED TO ESTABLISH THE FINISH GRADES SHOWN SHALL BE OBTAINED FROM A PROPERLY PERMITTED BORROW PIT. ANY EXCESS SOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF OFF OF THE GOVERNMENT PROPERTY.
10. IF DURING CONSTRUCTION, ANY SOILS ARE ENCOUNTERED THAT ARE SUSPECTED OF BEING CONTAMINATED, WORK SHALL CEASE AND THE CONTRACTING OFFICER SHALL BE CONTACTED FOR RESOLUTION.

UTILITY CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL SECURE THE SERVICES OF A PROFESSIONAL UTILITY LOCATE CONTRACTOR TO MARK ALL EXISTING UTILITIES IN THE AREA OF WORK. UTILITY MARKINGS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES.
2. ALL UTILITY LINES TO REMAIN SHALL REMAIN ACTIVE AND SHALL BE PROTECTED DURING CONSTRUCTION ACTIVITIES.
3. EXISTING UTILITIES SHALL NOT BE INTERRUPTED WITHOUT THE APPROVAL OF THE CONTRACTING OFFICER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE, TO ORIGINAL CONDITION, ANY UTILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES FROM THE CONTRACTOR'S OPERATIONS.
5. ALL COSTS ASSOCIATED WITH LOCATING, DISCONNECTING ABANDONING AND CAPPING OF UTILITY LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

NOTE:
1. ALL FILL MATERIAL NEEDED TO EXECUTE THIS PROJECT MUST BE OBTAINED FROM AN NCDEQ DEMLR-PERMITTED BORROW PIT.

CIVIL LEGEND

EXISTING	DESCRIPTION	NEW
□ Ⓓ	STORM DRAIN DROP INLET/MANHOLE	
—— FM ——	SEWER FORCE MAIN	
—— D ——	STORM SEWER	
—— UGE ——	UNDERGROUND ELECTRIC	
	CONCRETE	
	ASPHALT	
	GRAVEL	
△	SURVEY CONTROL POINT	⊕ △
	RIP-RAP DETACHED SILL	
	TURBIDITY CURTAIN	—— o ——
× 5.00	SPOT ELEVATION	+25.7
—— 28 ——	TOPOGRAPHIC CONTOUR	—— 28 ——
	REFLECTIVE MARKER AND POST	■

ABBREVIATIONS

BLDG	BUILDING
EX.	EXISTING
LBS	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
O.C.	ON CENTER
TYP	TYPICAL
&	AND
±	PLUS OR MINUS
%	PERCENT
℄	CENTERLINE
AEC	AREA OF ENVIRONMENTAL CONCERN
CAMA	COASTAL AREA MANAGEMENT ACT

SYM	DESCRIPTION	DATE	APPR

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11.02.21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

DES: JKA | DRW: MSP | CHK: JCA

PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
LEGEND, ABBREVIATIONS & NOTES

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846181
SHEET 02 OF 14
G-002

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\KKL_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: G-002 PLOTTED: Tuesday, November 02, 2021 - 11:27am

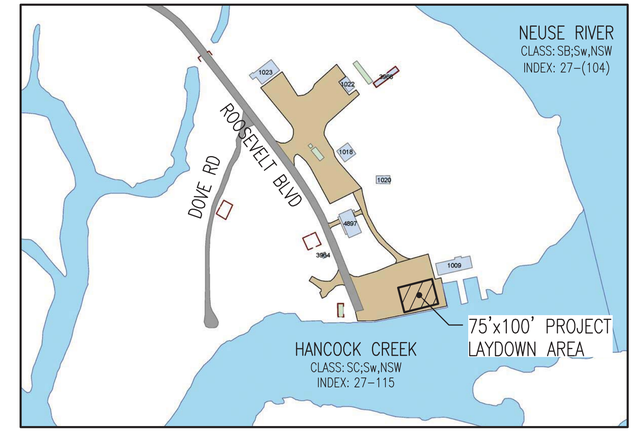
SITE LOCATION PLAN

SCALE: 1" = 1000'

N

1000 0 500 1000 2000

GRAPHIC SCALE: 1" = 1000'



PROJECT LAYDOWN AREA

NOT TO SCALE

N

SYM	DESCRIPTION	DATE	APPR

A·E ARCHITECTS ENGINEERS
LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11.02.21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
EPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

SITE LOCATION PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO.
7147869

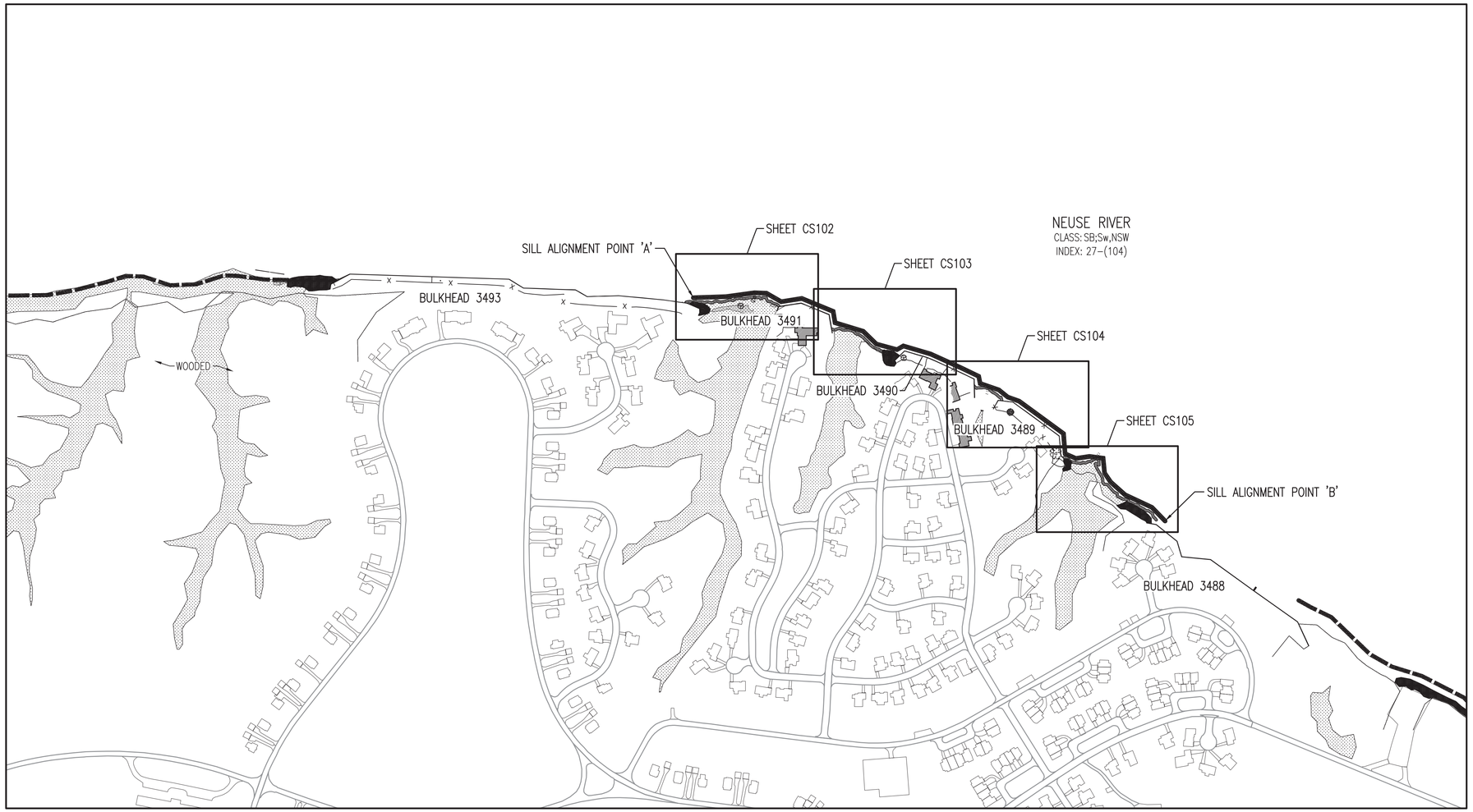
NAVFAC DRAWING NO.
12846182

SHEET 03 OF 14

G-003

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: I:\VO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: G-003 PLOTTED: Tuesday, November 02, 2021 - 11:27am



RIP-RAP SILL CENTERLINE ALIGNMENT (A-B)

LINE	BEARING	DISTANCE
L1	N88°00'02"E	131.79
L2	N82°21'06"E	115.15
L3	S87°52'13"E	47.74
L4	S60°12'28"E	68.50
L5	N81°00'42"E	83.30
L6	S67°34'35"E	136.66
L7	S09°33'13"E	45.89
L8	S72°53'02"E	118.29
L9	S45°56'24"E	73.22
L10	S74°49'31"E	85.92
L11	N59°56'52"E	29.58
L12	S73°32'01"E	113.75
L13	S65°37'57"E	134.22
L14	S64°08'03"E	79.00
L15	S12°13'16"E	29.61
L16	S71°10'35"E	79.20
L17	S51°10'34"E	46.00
L18	S70°07'59"E	48.42
L19	S53°47'24"E	220.56
L20	S04°51'54"E	81.28
L21	S66°31'40"E	47.51
L22	N81°43'54"E	54.69
L23	S82°52'05"E	55.03
L24	S05°55'40"E	60.08
L25	S33°37'54"E	43.74
L26	S48°31'54"E	77.54
L27	S65°07'20"E	118.94
L28	S43°55'13"E	76.19

AREA 1 - OVERALL SITE PLAN

SCALE: 1" = 250'

N

250 0 125 250 500

GRAPHIC SCALE: 1" = 250'

SYM	DESCRIPTION	DATE	APPR

A·E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES. JKA DRW. MSP CHK. JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
NAVAL STATION - NORFOLK, VA
DPT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

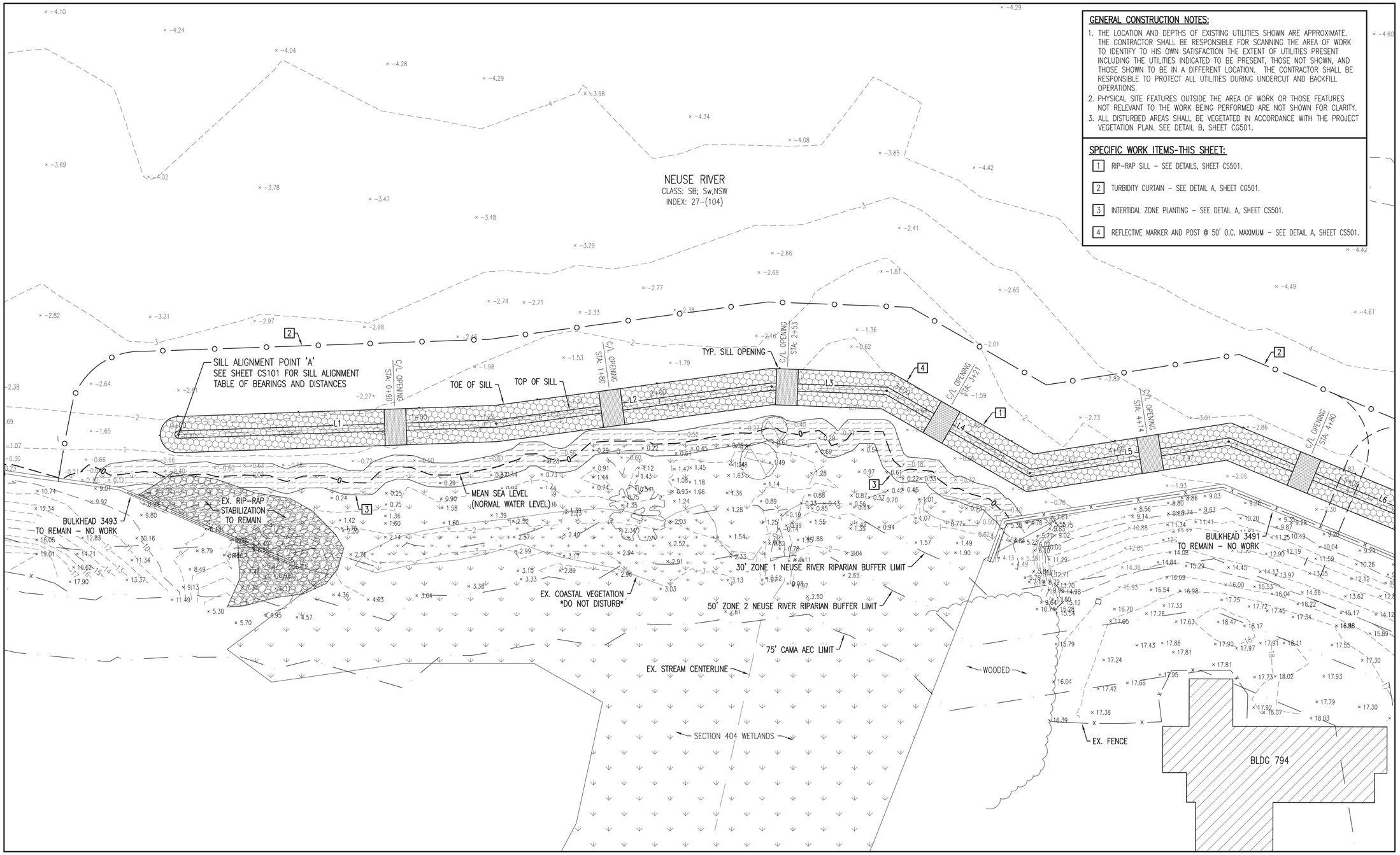
OVERALL SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846183
SHEET 04 OF 14

CS101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS101 PLOTTED: Tuesday, November 02, 2021 - 11:27am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11.02.21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

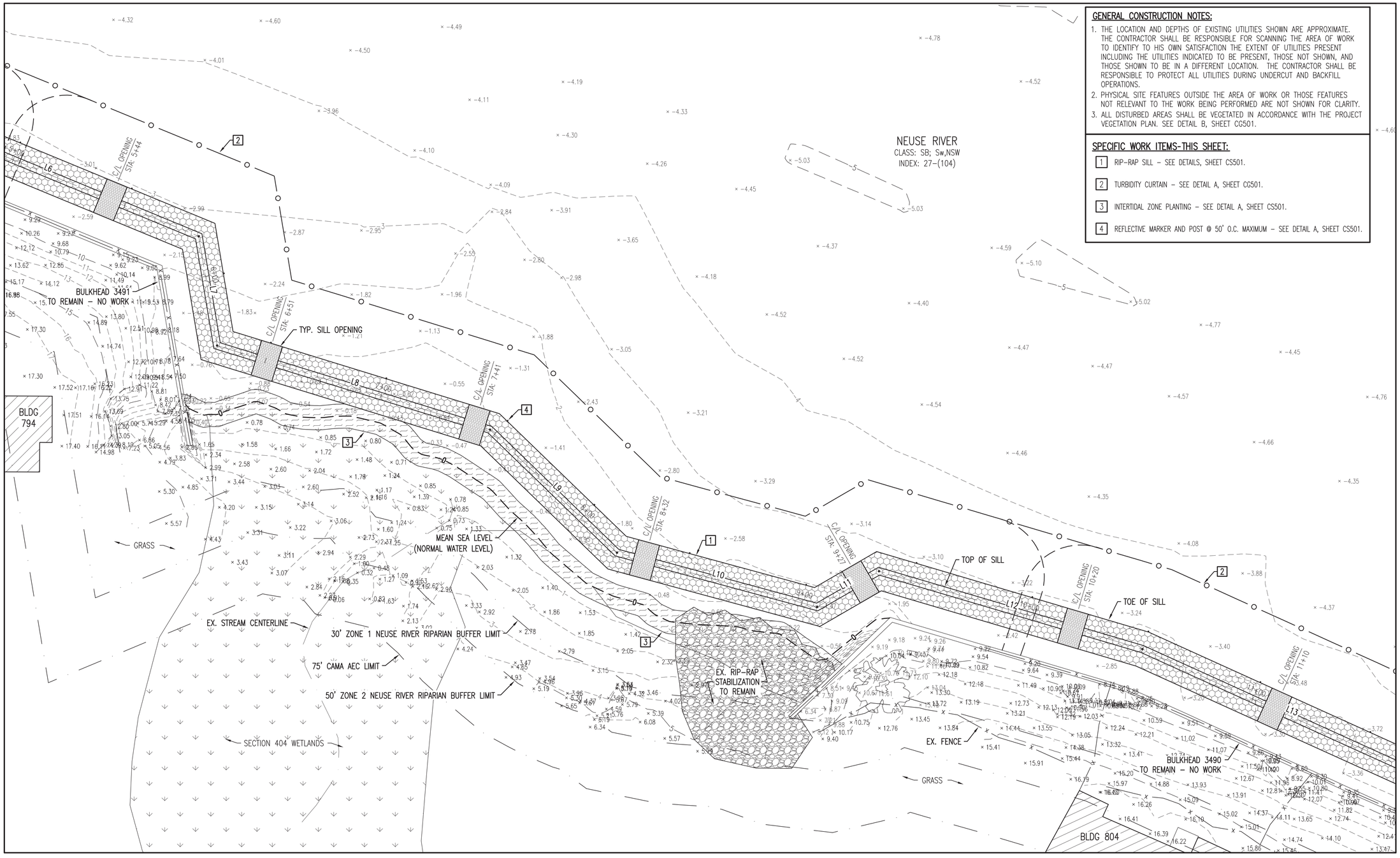
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

IPT: MARINE CORPS
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO.
7147869
NAVFAC DRAWING NO.
12846184
SHEET 05 OF 14
CS102

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XA_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS102 PLOTTED: Tuesday, November 02, 2021 – 11:20am
UNCLASSIFIED//FOR OFFICIAL USE ONLY



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

A-E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11/02/21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA.
PT. MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO.: 7147869

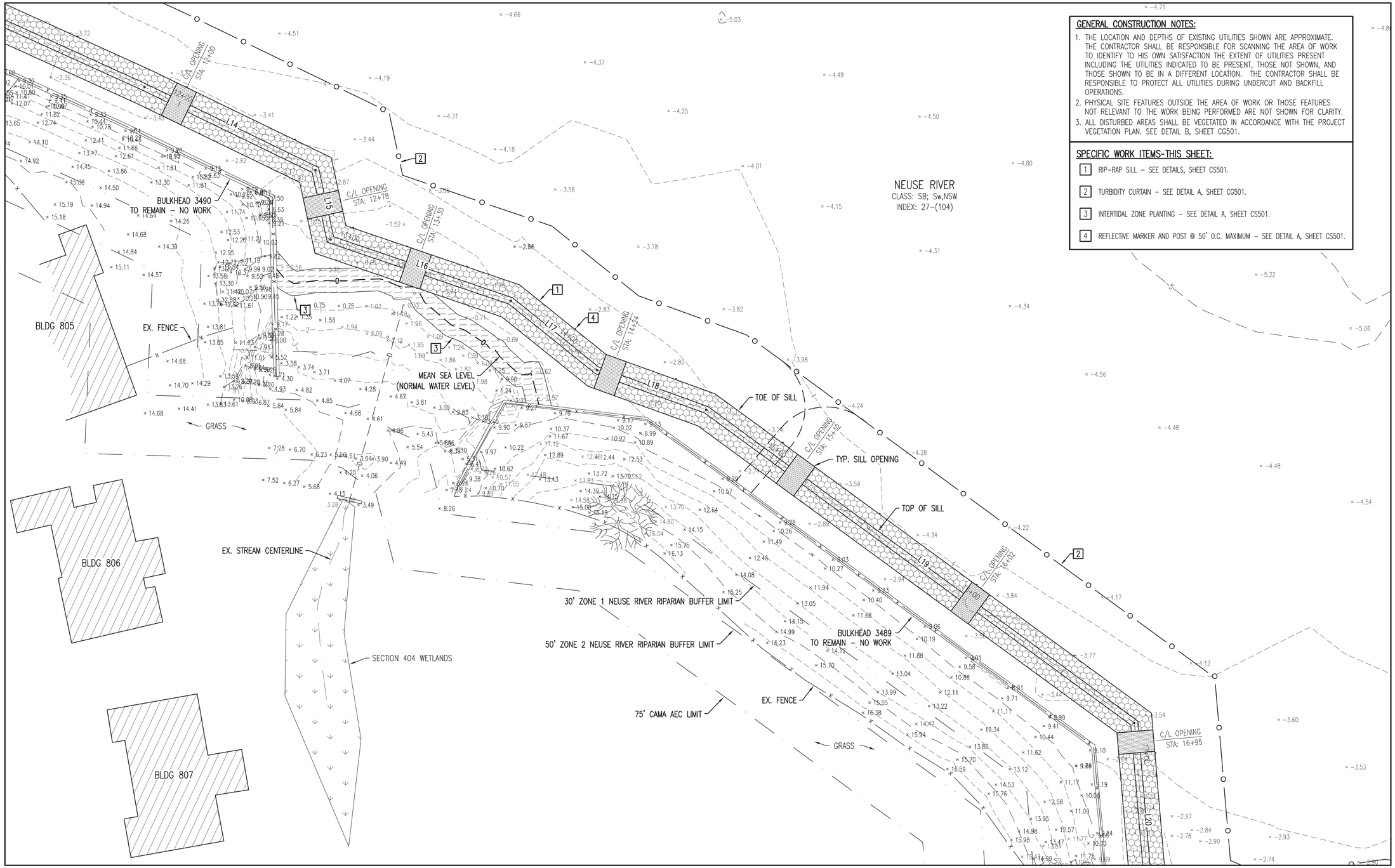
NAVFAC DRAWING NO.: 12846185

SHEET 06 OF 14

CS103

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\AO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS103 PLOTTED: Tuesday, November 02, 2021 – 11:28am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.

ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11.02.21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES. JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

BY MARINE CORPS
U.S. MARINE CORPS' AIR STATION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA

CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

ENLARGED SITE PLAN

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 7147869

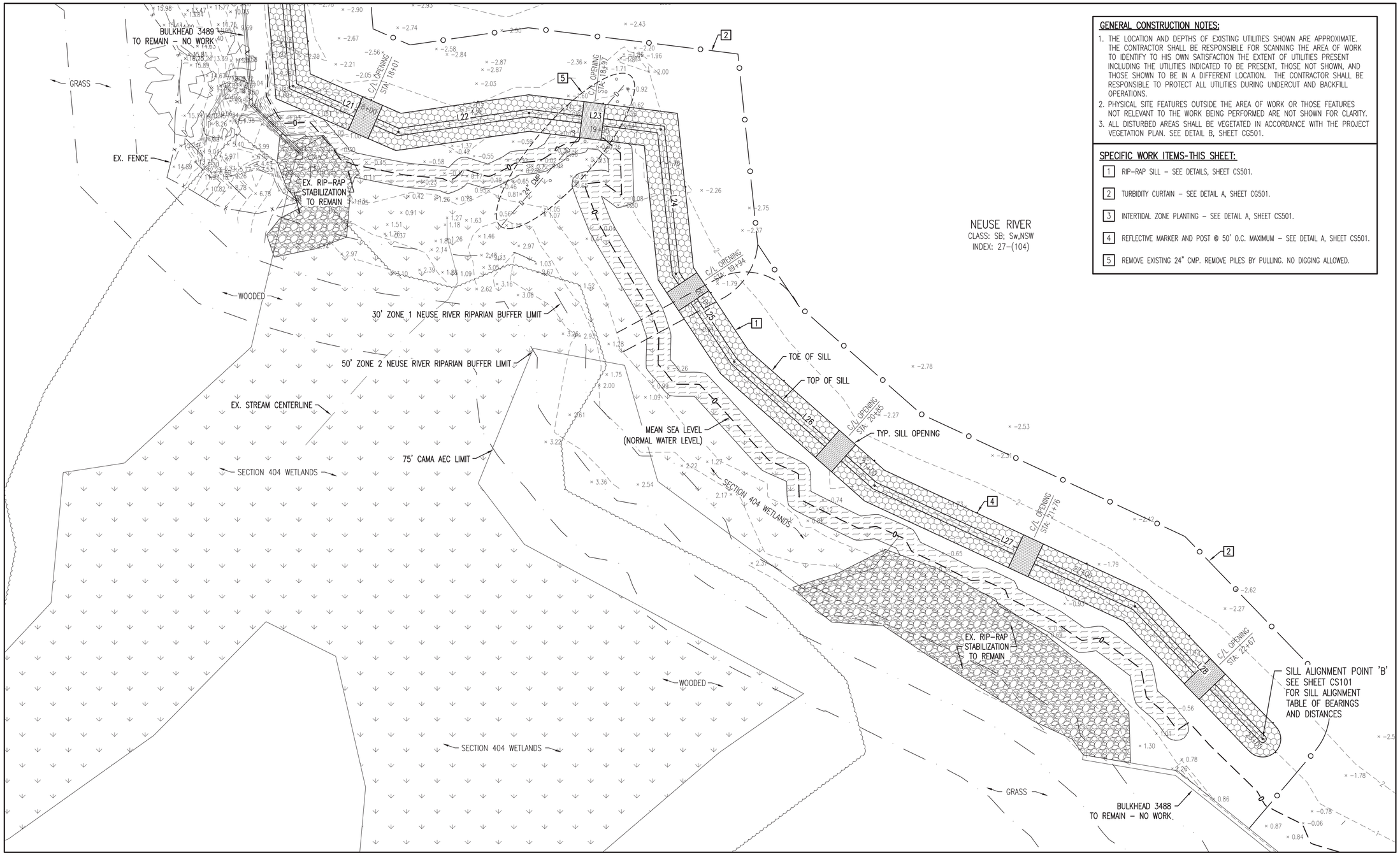
NAVFAC DRAWING NO. 12846186

SHEET 07 OF 14

CS104

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\00_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS104 PLOTTED: Tuesday, November 02, 2021 – 11:28am



GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES DURING UNDERCUT AND BACKFILL OPERATIONS.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN. SEE DETAIL B, SHEET CG501.

SPECIFIC WORK ITEMS-THIS SHEET:

1. RIP-RAP SILL – SEE DETAILS, SHEET CS501.
2. TURBIDITY CURTAIN – SEE DETAIL A, SHEET CG501.
3. INTERTIDAL ZONE PLANTING – SEE DETAIL A, SHEET CS501.
4. REFLECTIVE MARKER AND POST @ 50' O.C. MAXIMUM – SEE DETAIL A, SHEET CS501.
5. REMOVE EXISTING 24" CMP. REMOVE PILES BY PULLING. NO DIGGING ALLOWED.

ENLARGED SITE PLAN

SCALE: 1" = 20'

N

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

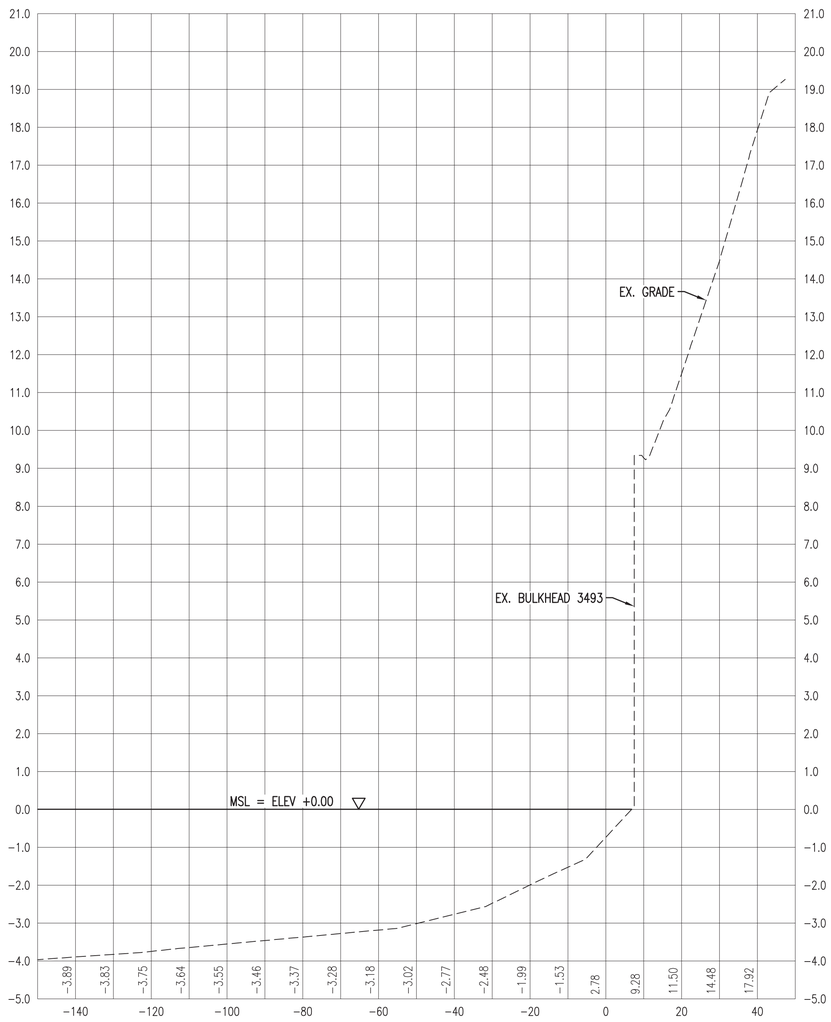
NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IFT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
ENLARGED SITE PLAN

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846187
SHEET 08 OF 14
CS105

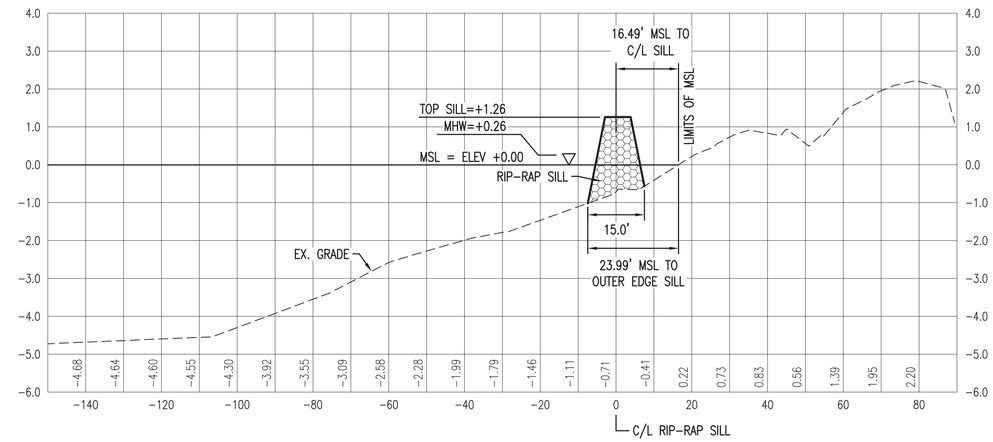
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\KO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS105 PLOTTED: Tuesday, November 02, 2021 – 11:28am

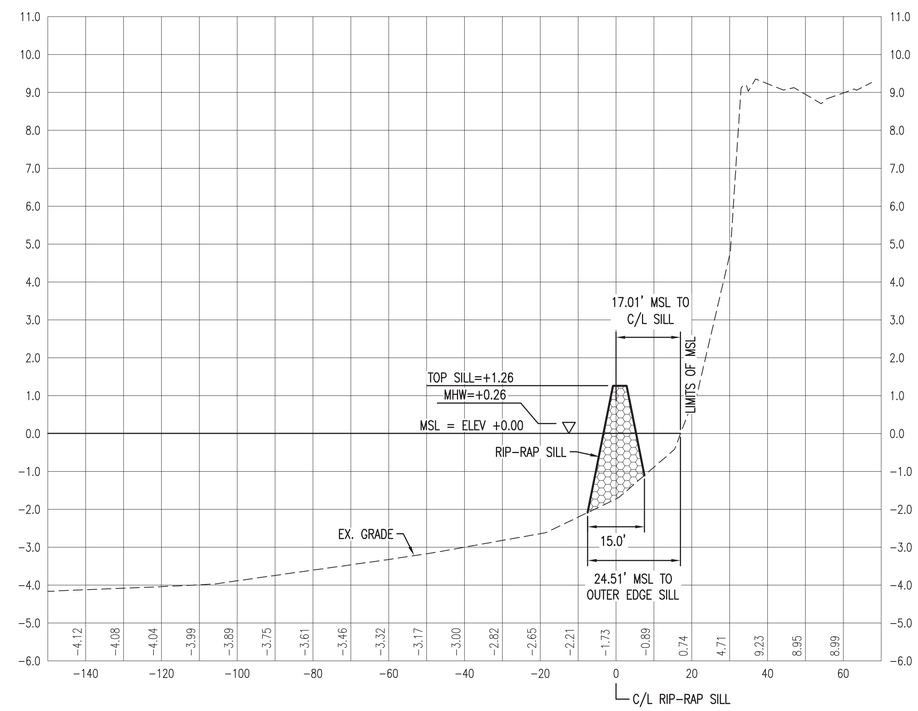
STATION −1+00



STATION 3+00



SILL ALIGNMENT POINT 'A'
STATION 0+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

A-E ENGINEERING
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

DES JKA | DRW MSP | CHK JCA

PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

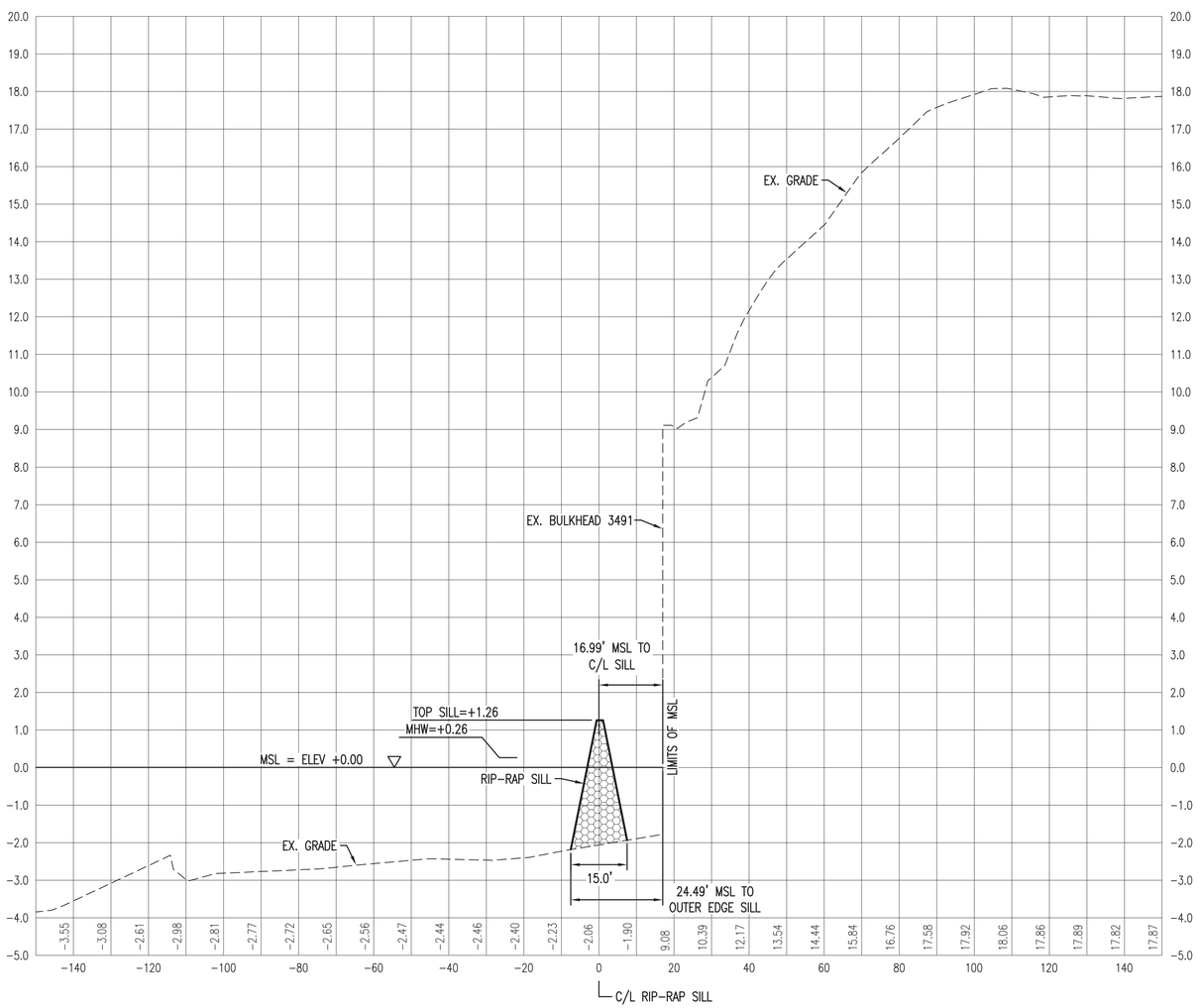
IPT, MARINE CORPS
NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION – NORFOLK, VA
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846188
SHEET 09 OF 14
CS301

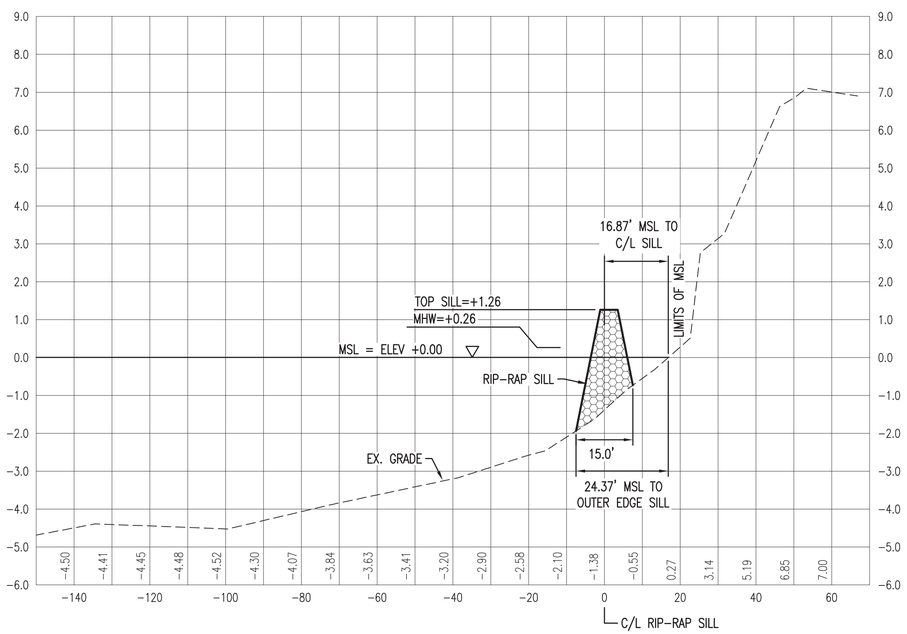
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS301 PLOTTED: Tuesday, November 02, 2021 – 11:29am

STATION 6+00



STATION 9+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

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Structural Consultants
748 Lord Dunmore Drive, Suite 101
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Phone 757-474-0612
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A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES JKA DRW MSP CHK JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

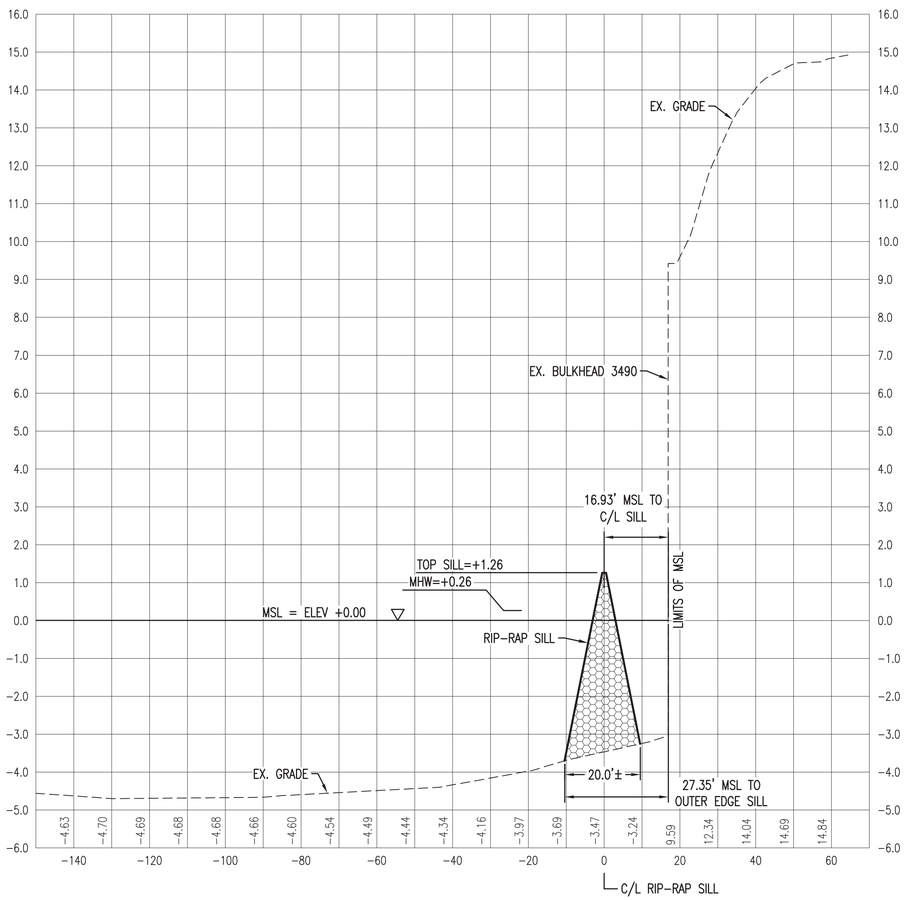
NAVAL FACILITIES ENGINEERING COMMAND - MIDLANTIC
NAVAL STATION - NORFOLK, VA.
PT MARINE CORPS
U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO. -
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846189
SHEET 10 OF 14
CS302

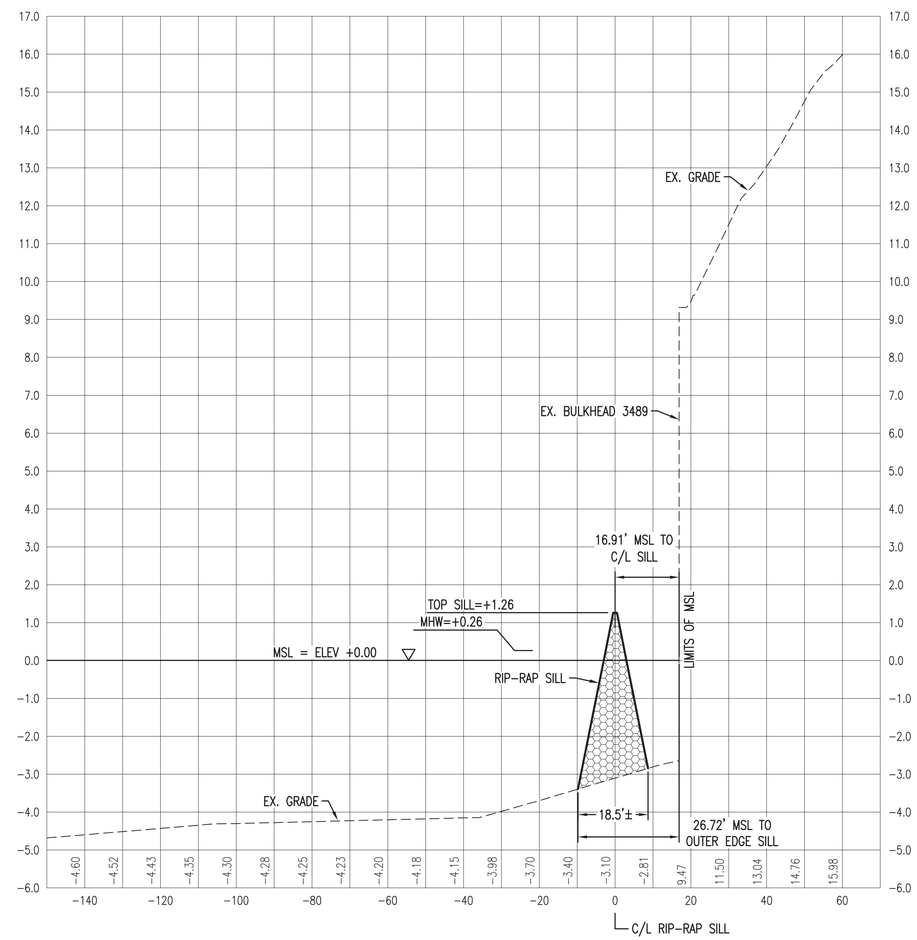
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS302 PLOTTED: Tuesday, November 02, 2021 - 11:29am

STATION 12+00



STATION 15+00



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068

PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE

DES JKA | DRW MSP | CHK JCA

PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA
PT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

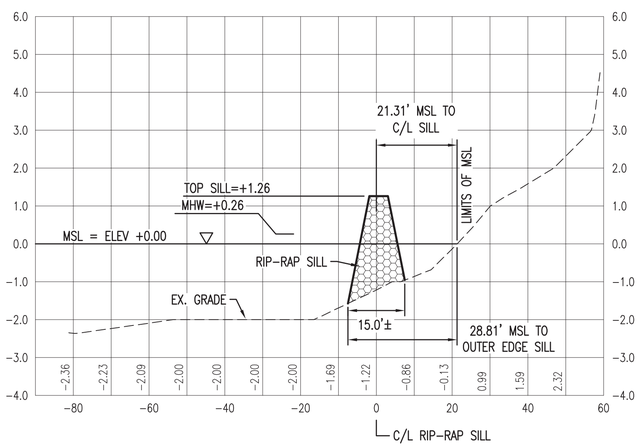
CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846190
SHEET 11 OF 14
CS303

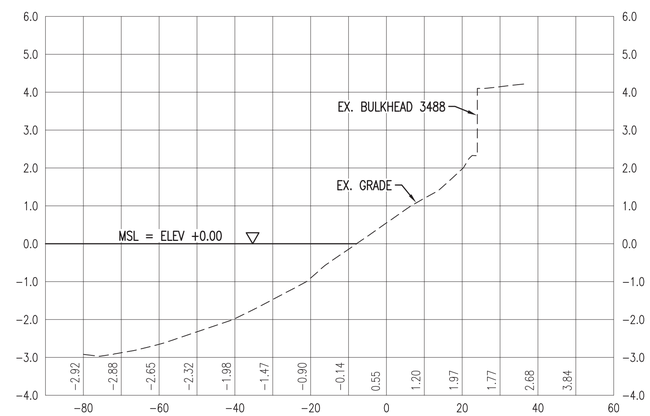
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS303 PLOTTED: Tuesday, November 02, 2021 - 11:29am

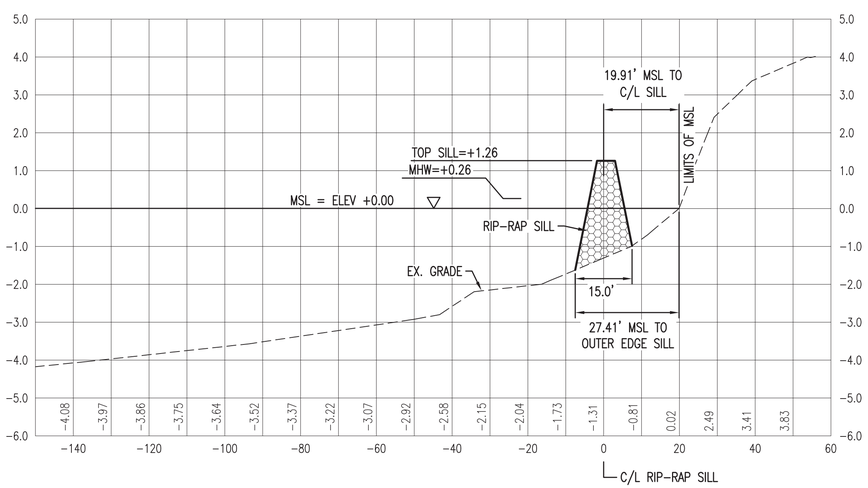
STATION 21+00



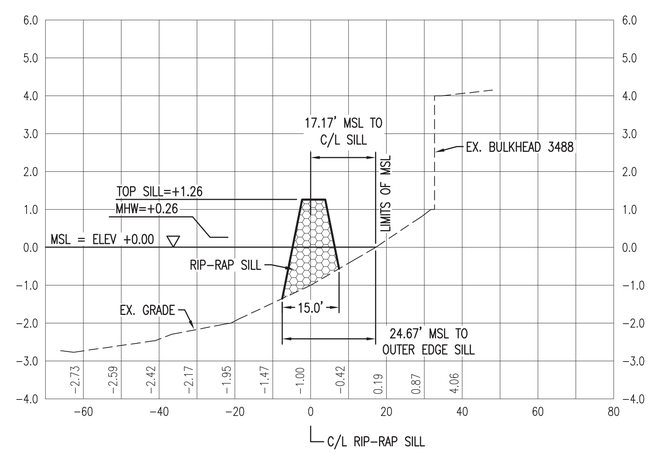
STATION 24+00



STATION 18+00



SILL ALIGNMENT POINT 'B'
STATION 23+01.82



CROSS SECTIONS

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 2'

GRAPHIC SCALE: 1" = 20'

SYM	DESCRIPTION	DATE	APPR

LICENSE NO. C-0706

AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

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SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JKA DRW MSP CHK JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND ~ MIDATLANTIC
NAVAL STATION ~ NORFOLK, VA.
PT MARINE CORPS
U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

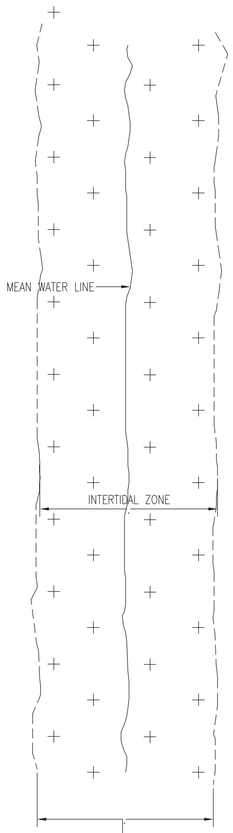
REPI SHORELINE PROJECT

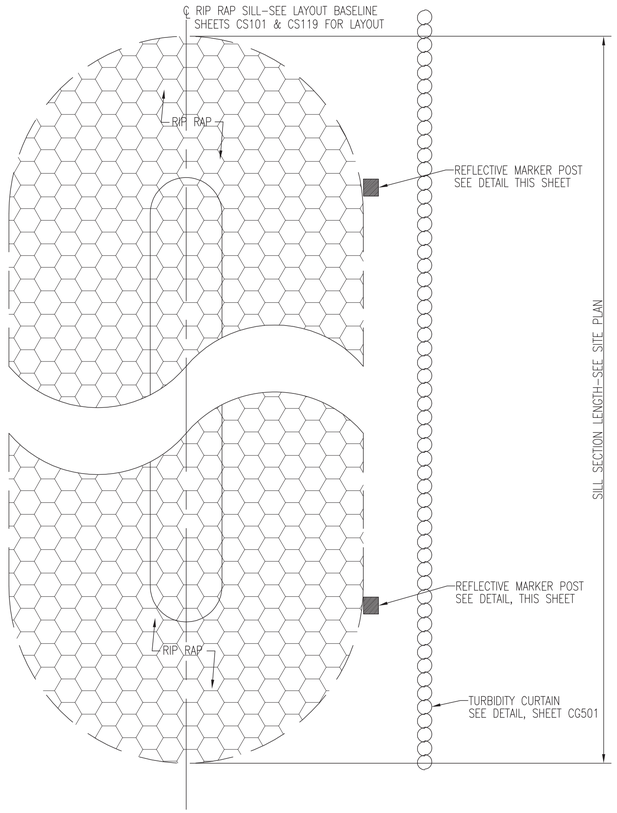
CROSS SECTIONS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846191
SHEET 12 OF 14
CS304

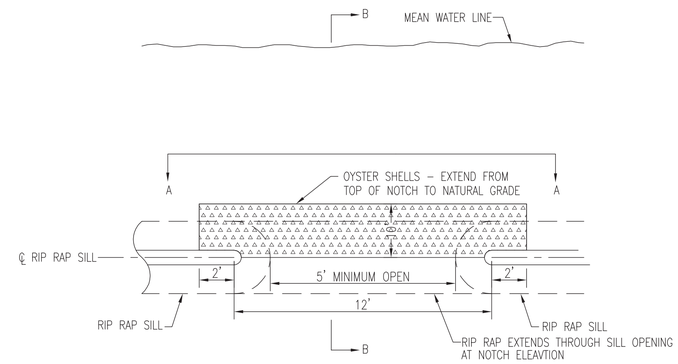
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\OG_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS304 PLOTTED: Tuesday, November 02, 2021 - 11:30am
UNCLASSIFIED//FOR OFFICIAL USE ONLY

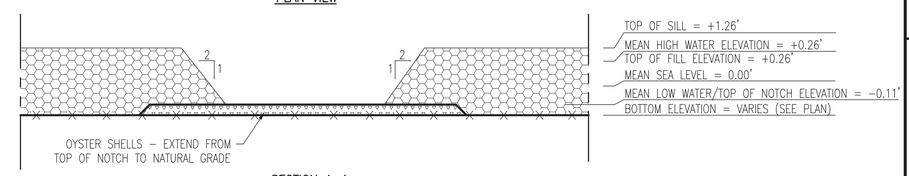




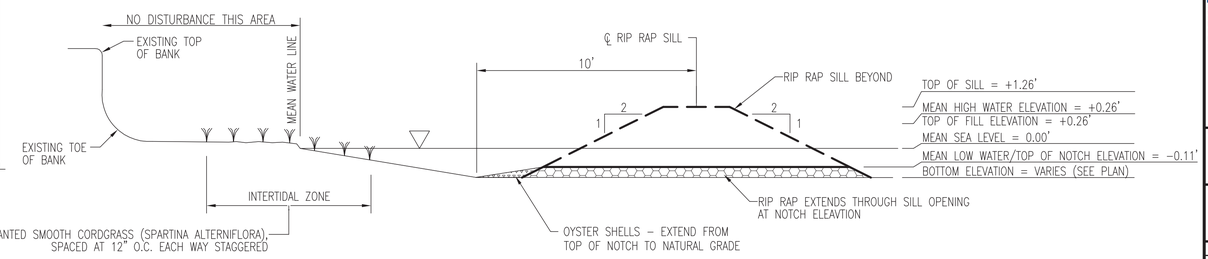
PLAN VIEW



PLAN VIEW

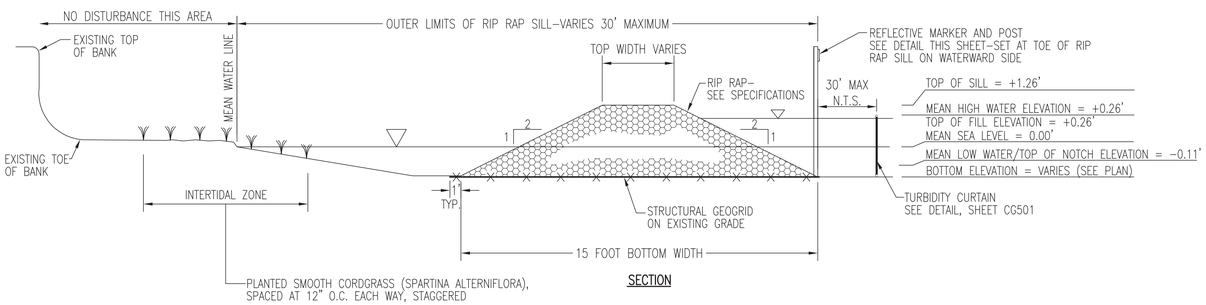


SECTION A–A

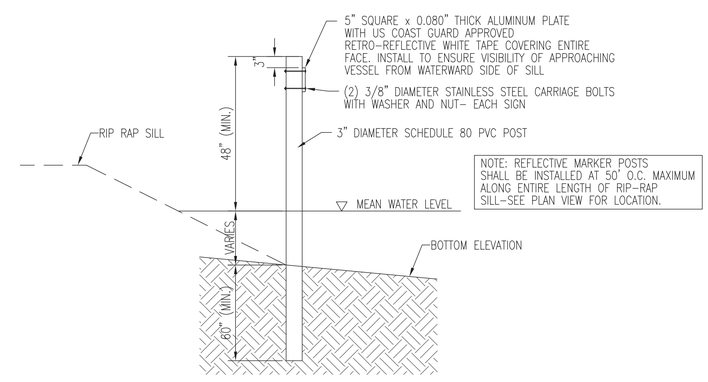


SECTION B–B

RIP–RAP SILL OPENING



SECTION



REFLECTIVE MARKER AND POST

NOTES:

1. ALL PLANTS SHALL BE SOURCED FROM A NORTH CAROLINA NURSERY EXPERIENCED IN PRODUCING WETLAND PLANTS. PLANTS SHALL BE DELIVERED LIVING AND HEALTHY.
2. ALL PLANTS SHALL BE 1.6"x5" PLUGS. PLANTS SHALL BE DELIVERED INDIVIDUALLY BAGGED.

(A) RIP-RAP SILL

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR

A·E ARCHITECTS & ENGINEERS
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 ENGINEER JOHN K. AVOLIS
11-02-21
SEAL

NRW ENGINEERING
Structural Consultants
748 Lord Dunmore Drive, Suite 101
Virginia Beach, VA 23464
Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
IPT MARINE CORPS
U.S. MARINE CORPS' AIR STATION CHERRY POINT, NORTH CAROLINA

REPI SHORELINE PROJECT

DETAILS

SCALE: AS NOTED

EPROJECT NO.: –

MAXIMO WORK ORDER NO. 7147869

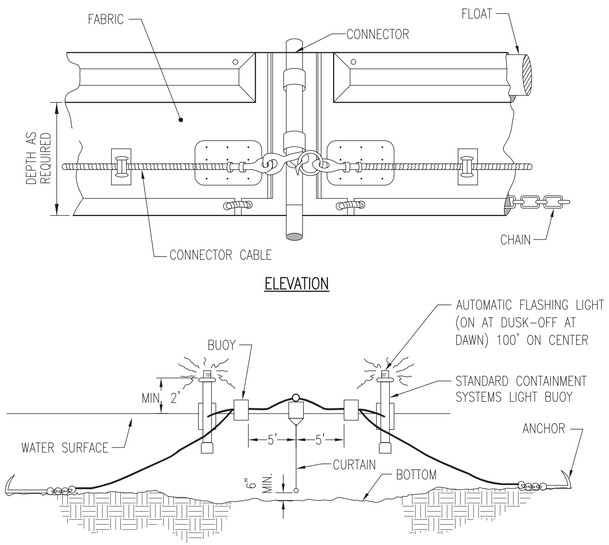
NAVFAC DRAWING NO. 12846192

SHEET 13 OF 14

CS501

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\XO_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CS501 PLOTTED: Tuesday, November 02, 2021 – 11:30am



NOTES:

1. TURBIDITY CURTAIN SHALL BE HEAVY DUTY, TYPE III BARRIER – SUITABLE FOR EXPOSURE TO MODERATE WIND, WAVES, AND MOVING WATER.
2. THE CONTRACTOR SHALL PROVIDE A TURBIDITY CURTAIN TO COMPLETELY ENCLOSE THE SECTION OF SILL ON WHICH WORK IS BEING COMPLETED. THE TURBIDITY CURTAIN SHALL EXTEND THE ENTIRE LENGTH OF THE WORK AREA AND SHALL EXTEND TO AND BE ANCHORED TO UPLAND SHORELINE AREA ON EACH END OF THE WORK AREA. FOR ILLUSTRATIVE PURPOSES, THE TURBIDITY CURTAIN IS SHOWN IN 500'± SEGMENTS ON THE SITE PLAN. THE CONTRACTOR SHALL ESTABLISH THE TURBIDITY CURTAIN LENGTH TO MEET HIS OWN WORK PLAN.
3. THE TURBIDITY CURTAIN SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF CONSTRUCTION ON ANY SILL SEGMENT. THE TURBIDITY CURTAIN SHALL NOT BE REMOVED OR RELOCATED TO THE NEXT SILL WORK AREA UNTIL APPROVED BY THE CONTRACTING OFFICER.

A TURBIDITY CURTAIN

NOT TO SCALE

TEMPORARY VEGETATIVE SEEDING
(PRIOR TO ESTABLISHING PERMANENT VEGETATION)

AFTER COMPLETION OF GRADING ACTIVITIES AND THE CONSTRUCTION OF SWALES, ALL EXPOSED AREAS MUST BE SEEDED TO THE FOLLOWING SPECIFICATIONS:

SEED BED

LIME	1-1/2 TON PER ACRE
FERTILIZER	1/2-TON PER ACRE

SEED

RYE GRAIN	50 LBS PER ACRE
TALL FESCUE	100 LBS PER ACRE

SUPPLEMENTAL SEED

MAY THROUGH AUGUST:

CENTIPEDE	5 LBS PER ACRE

PROCEDURE

STRAW MULCH MUST BE APPLIED AT A RATE WHICH WILL INSURE APPROXIMATELY 75% COVERAGE OF THE SEEDED AREA. THE STRAW AND SOWN SEED WILL BE LIGHTLY DISCED INTO THE BED TO GIVE IT FURTHER RESISTANCE TO BLOWING AND WASHING. THE CONTRACTOR MUST GUARANTEE A FULL STAND OF GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF GRASS IS AT LEAST FOUR INCHES HIGH AND HAS ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

PERMANENT VEGETATION

ALL DISTURBED AREAS NOT COVERED WITH BUILDINGS, PAVEMENTS, OR OTHER IMPERMEABLE SURFACES MUST BE SODDED WITH CENTIPEDE SOLID SOD AS THE FINAL/PERMANENT VEGETATION.

SPECIAL SEEDING NOTE:

ALL DENUDED AREAS WILL, WITHIN 7 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING OR CEASING OF GRADING ACTIVITIES, BE PLANTED AND PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

ALL DENUDED AREAS WILL, WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION, BE PROVIDED PERMANENT GROUND COVER.

B VEGETATION PLAN

NOT TO SCALE

APPLICATION NOTE:

THIS VEGETATION PLAN APPLIES ONLY TO UPLAND AREAS DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES.
THIS VEGETATION PLAN IS NOT APPLICABLE TO WETLANDS, COASTAL MARSH, OR OPEN WATER AREAS.
THE CONTRACTOR MUST NOT INSTALL SEED, MULCH OR SOD IN ANY WETLAND, COASTAL MARSH, OR OPEN WATER AREAS.

SYM	DESCRIPTION	DATE	APPR

A·E
LICENSE NO. C-0706
AVOLIS ENGINEERING, P.A.
P.O. BOX 15564
NEW BERN, NC 28561
PH.(252) 633-0068
PROJECT: 21011

Digitally signed by John K
NORTH CAROLINA PROFESSIONAL SEAL 15738 11/02/21 ENGINEER JOHN K. AVOLIS
SEAL

NRW ENGINEERING
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748 Lord Dunmore Drive, Suite 101
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Phone 757-474-0612
Fax 757-474-0919

A/E INFO

APPROVED
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ACTIVITY
SATISFACTORY TO DATE

DES: JKA DRW: MSP CHK: JCA
PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

IPT MARINE CORPS
U.S. MARINE CORPS AIR STATION
NAVAL FACILITIES ENGINEERING COMMAND – MIDATLANTIC
NAVAL STATION – NORFOLK, VA
CHERRY POINT, NORTH CAROLINA
REPI SHORELINE PROJECT
DETAILS

SCALE: AS NOTED
EPROJECT NO.: –
MAXIMO WORK ORDER NO. 7147869
NAVFAC DRAWING NO. 12846193
SHEET 14 OF 14
CG501
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: D:\KKL_Projects\21011_REPI Shoreline Project (NRW)\dwg\21011_Base (11-2-21).dwg LAYOUT NAME: CG501 PLOTTED: Tuesday, November 02, 2021 – 11:30am