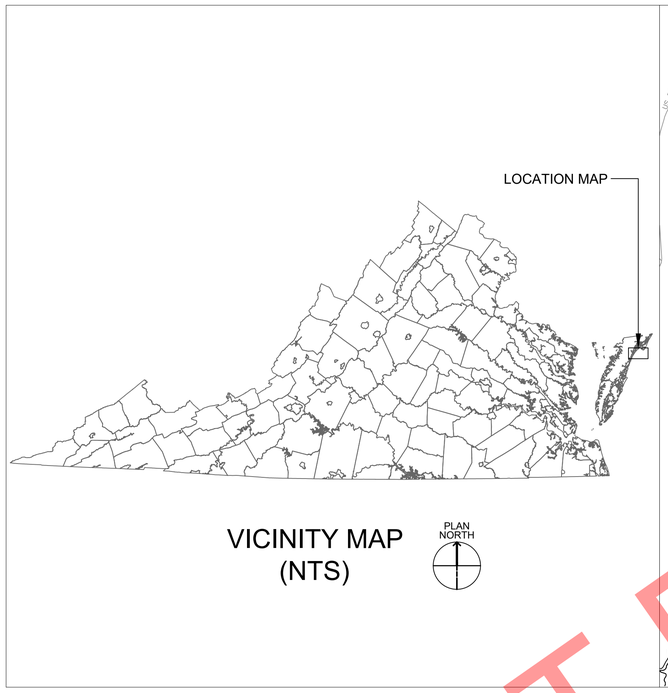
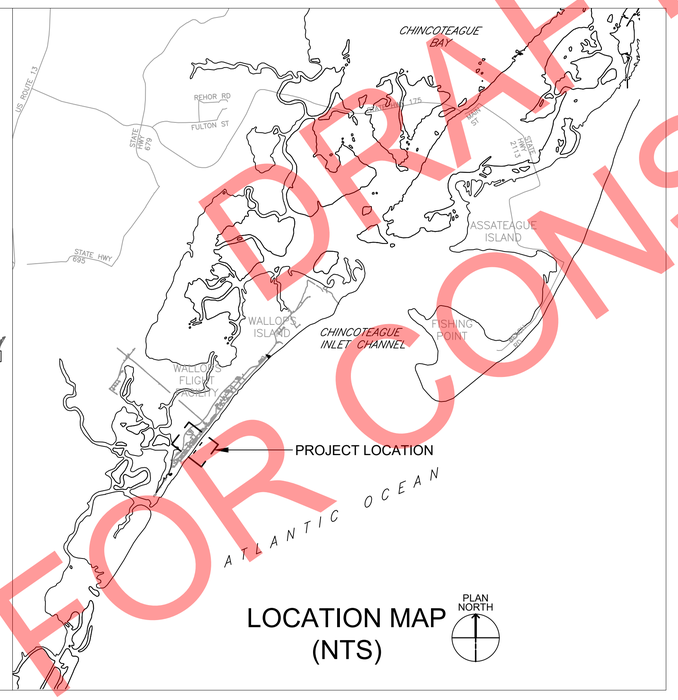
US Army Corps of Engineers®
NORFOLK DISTRICT

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION





SOLICITATION NO.:
CONTRACT NO.:
ISSUE DATE: JAN 2025

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RECOMMENDED

DESIGN BRANCH LEAD

APPROVED

CHIEF, DESIGN BRANCH

APPROVED

CHIEF, ENGINEERING DIVISION

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US Army Corps of Engineers®

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ISSUE DATE: JAN 2025
SOLICITATION NO.:
CONTRACT NO.:
NAO FILE NO.: 1196

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

COVER SHEET

SHEET ID
G-001

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ABBREVIATIONS

L	ANGLE
A/C	AIR CONDITIONING
A/C UNIT	AIR CONDITIONING UNIT
AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ACC	ACCESSIBLE
ACI	AMERICAN CONCRETE INSTITUTE
ACR	ACRYLIC PLASTIC
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACSR	ALUMINUM CABLE STEEL REINFORCED
ACST	ACOUSTIC
ACT	ACOUSTICAL CEILING TILE
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJACENT, ADJOINING, ADJUSTABLE
ADO	AUTOMATIC DOOR OPERATOR
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPERE INTERRUPTING CAPACITY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.L.	ACTIVE LEAF
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMPER	AMPERE
ANOD	ANODIZE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECT
ARI	AMERICAN REFRIGERATION INSTITUTE
ASB	ASBESTOS
ASC	ABOVE SUSPENDED CEILING
ASPH	ASPHALT
ATC	ACOUSTICAL TILE CEILING
AUTO	AUTOMATIC
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWT	ACOUSTICAL WALL TREATMENT
BB	BULLETIN BOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BEJ	BRICK EXPANSION JOINT
BEV	BEVEL
BITUM	BITUMINOUS
BJT	BED JOINT
BL	BUILDING LINE
BLDG	BUILDING
BLW	BELOW
BM	BENCHMARK
BO	BOTTOM OF
BOT	BOTTOM
BP	BACK PLASTER(ED)
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRG PL	BEARING PLATE
BRK	BRICK
BRKT	BRACKET
BRZ	BRONZE
BS	BOTH SIDES
BSMT	BASEMENT
Btu	BRITISH THERMAL UNIT
BtuH	BTU PER HOUR
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
CAB	CABINET
CAP	CAPACITY
CB	CATCH BASIN
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CE	COVER ELEVATION
CEM	CEMENT
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CFI	CONDUCTIVE FLOORING
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CG	CORNER GUARD
CH BD	CHALKBOARD
CHFR	CHAMFER
CHIM	CHIMNEY
CHK	CHECK
CHR PL	CHROME PLATED
CI	CAST IRON
CI	CURB INLET
CIP	CAST-IN-PLACE
CIRC	CIRCULAR
CJ	CONTROL JOINT
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CL	CENTER LINE
CLG	CEILING
CLG HT	CEILING HEIGHT
CLGL	CLEAR GLASS
CLL	CONTRACT LIMIT LINE
CLO	CLOSET
CLOS	CLOSURE
CLR	CLEAR(ANCE)
CLWG	CLEAR WIRED GLASS
cm	CENTIMETER(S)
CMP	CORRUGATED METAL PIPE
CMPST	COMPOSITE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CNL	CONDUCTIVE NEOPRENE LATEX
CNR	CORNER
CNTR	COUNTER
CO	CLEANOUT
CO2	CARBON DIOXIDE
COL	COLUMN
COM	COMMON
COMB	COMBUSTION
COMPT	COMPARTMENT
CONC	CONCRETE
CONN	CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE
CONTR	CONTRACTOR
CORR	CORRIDOR
COV	COVER
CPRS	COMPRESSIBLE
CPT	CARPET
CRCMF	CIRCUMFERENCE
CRES	CORROSIVE RESISTANT STEEL
CRG	CROSS GRAIN
CRS	COURSE(S)

CS	CAST STONE
CSK	COUNTERSUNK
CSMT	CASEMENT
CT	CERAMIC TILE
CT	CURRENT TRANSFORMER
C TO C	CENTER TO CENTER
CTR	CENTER
CU	CONDENSING UNIT
Cu	COPPER
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CU YD	CUBIC YARDS
CV	CEILING VENT
CVH	CONDUCTIVE VINYL HOMOGENEOUS (SHEET
TYPE)	
CW	COLD WATER
CYL	CYLINDER
d	PENNY (AS IN NAIL - 10D)
DAT	DATUM
DB	DRY BULB
DBL	DOUBLE
DBL ACT DR	DOUBLE ACTING DOOR
DCJ	DOWELED CONTROL JOINT
DCJT	DUMMY CONTROL JOINT
DEG	DEGREE
DEMO	DEMOLITION
DEPR	DEPRESSION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DH	DUCT HEATER
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISC	DISCONNECT
DISP	DISPENSER
DISTR PNL	DISTRIBUTION PANEL
DIV	DIVISION
DL	DEAD LOAD
DMPF	DAMPPROOFING
DMPR	DAMPER
DMT	DEMOUNTABLE
DN	DOWN
DR	DOOR
DR	DRAIN
DRB	DRAINBOARD
DR CL	DOOR CLOSER
DS	DOUBLE STRENGTH (GLASS)
DS	DOWNSPOUT
DT	DRAIN TILE
DVTL	DOVETAIL
DWG	DRAWING
DWLS	DOWELS
DWR	DRAWER
DWTR	DUMBWAITER
DX	DIRECT EXPANSION
E	EAST
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION - GRADE OR BUILDING
ELEC	ELECTRIC
EM	EXPANDED METAL
EMD	ESTIMATED MAXIMUM DEMAND
EMER	EMERGENCY
ENCL	ENCLOSURE)
ENTR	ENTRANCE, ENTERING
EP	ELECTRICAL PANELBOARD
EPRF	EXPLOSION PROOF
EPY	EPOXY COATING
EQ	EQUAL
EQUIP	EQUIPMENT
ESCAL	ESCALATOR
EST	ESTIMATE(D)
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXC	EXCAVATE
EXH	EXHAUST
EXH A	EXHAUST AIR
EXST	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXP BT	EXPANSION BOLT
EXT	EXTERIOR
F	FAHRENHEIT
FA	FIRE ALARM
FA	FRESH AIR
FAC	FIRE APPARATUS CLOSET
FAI	FRESH AIR INTAKE
F BRK	FIRE BRICK
FC	FOOT CANDLE
FC BRK	FACE BRICK
FCG	FACING
FCJ	FLOOR CONSTRUCTION JOINT
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH
FGL	FIBERGLASS
FH	FIRE HYDRANT
FH	FLAT HEAD
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHR	FIRE HOSE RACK
FHS	FIRE HOSE STATION
FHWS	FLAT HEAD WOOD SCREW
FIG	FIGURE
FIN	FINISH
FIN FLR	FINISH FLOOR
FIXT	FIXTURE
FJT	FLUSH JOINT
FLASH	FLASHING
FLR	FLOOR
FLEX	FLEXIBLE
FLG	FLOORING
FLR PL	FLOOR PLATE
FLUOR	FLUORESCENT
FN	FENCE
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIRE PARTITION
FP	FIREPROOF
FPM	FEET PER MINUTE
FR	FIRE RESISTANT
FR	FRAME

FRG	FORGED
FRMG	FRAMING
FRT	FIRE-RETARDANT
FS	FULL SIZE
FSTNR	FASTEN(ER)
FT	FEET
FTG	FOOTING
FURG	FURRING
FUT	FUTURE
FW	FIRE WATER
FWC	FABRIC WALL COVERING
G	NATURAL GAS
GA	GAGE
GAL	GALLON(S)
GALV	GALVANIZED
GALV STL	GALVANIZED STEEL
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GF	GROUND FACE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFE	GOVERNMENT-FURNISHED EQUIPMENT
GFE/CI	GOVERNMENT-FURNISHED EQUIPMENT
CONTRACTOR INSTALLED	
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GKT	GASKET(ED)
GL	GLASS
GL BLK	GLASS BLOCK
GLF	GLASS FIBER
GLZ	GLAZING
GLZ CMU	GLAZED CONCRETE MASONRY UNITS
G	GROUND
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GPT	GYPSUM TILE
GRAN	GRANITE
GR LN	GRADE LINE
GRTG	GRATING
GST	GLAZED STRUCTURAL TILE
GSU	GLAZED STRUCTURAL UNITS
GT	GROUT
GWT	GLAZED WALL TILE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
HB	HOSE BIBB
HC	HOLLOW CORE
HCD	HALON CONTAINMENT DAMPER
HCP	HANDICAPPED
HD	HEAD
HD	HEAVY DUTY
HDBD	HARDBOARD
HD JT	HEAD JOINT
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HES	HIGH EARLY-STRENGTH CEMENT
HEX	HEXAGON
HH	HANDHOLE
HK	HOOK(S)
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HP	HORSEPOWER
HPT	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HSGYP	HIGH-STRENGTH GYPSUM PLASTER
HSKPG	HOUSEKEEPING
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HYDR	HYDRAULIC
Hz	HERTZ
IC	INTERCOM
ID	INSIDE DIAMETER
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH
AMERICA	
ILK	INTERLOCK
IN	INCH
INCIN	INCINERATOR
INCL	INCLUDED
INSF	INSULATING FILL
INSUL	INSULATION
INT	INTERIOR
INTM	INTERMEDIATE
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE
I.P.S.	INSIDE PIPE SIZE
JAN CLO	JANITOR'S CLOSET
J-BOX	JUNCTION BOX
JCT	JUNCTION
JST	JOIST
JT	JOINT
KIP	KILOPOUND (1000 POUNDS)
KIT	KITCHEN
KOP	KNOCKOUT PANEL
KPL	KICKPLATE
kV	KILOVOLTS
kVA	KILOVOLT AMPERES
kVAR	KILOVOLT AMPERES REACTIVE
kW	KILOWATT
KWY	KEYWAY
LAB	LABORATORY
LAD	LADDER
LAM	LAMINATE
LAT	LEAVING AIR TEMPERATURE
LAU	LAUNDRY
LAV	LAVATORY
LB	LAG BOLT
LB	POUND
LBL	LABEL
LBR	LUMBER
LC	LIGHT CONTROL
LD	LOAD
LDG	LOADING
LG	LENGTH
LH	LEFT HAND(ED)
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LLD	LEAD-LINED DOOR
LM	LUMEN
LMST	LIMESTONE
LNTL	LINTEL
LONG	LONGITUDINAL
LP	LIGHTPROOF
LPD	LIGHTPROOF DOOR
LPL	LIGHTPROOF LOUVER
LPT	LOW POINT

LR	LIVING ROOM
LS	LAWN SPRINKLER
LT	LIGHT
LT WT	LIGHTWEIGHT
LTG	LIGHTING
LTNG	LIGHTNING
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
LWT	LEAVING WATER TEMPERATURE
m	METER(S)
M&B	MATCHED AND BEADED
MACH	MACHINE
MAS	MASONRY
MATL	MATERIAL(S)
MAX	MAXIMUM
MB	MACHINE BOLTS
MBR	MEMBER
MC	MEDICINE CABINET
MCJ	MASONRY CONTROL JOINT
MCO	METAL-CASED OPENING
MDS	METAL DIVIDER STRIP
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MED	MEDIUM
MEMB	MEMBRANE
MES	METAL EDGE STRIP
MFD	METAL FLOOR DECKING
MFG	MANUFACTURING
MFR	MANUFACTURER
MG	MOTOR GENERATOR
MGT	MATTE-GLAZED TILE
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MIRR	MIRROR
MISC	MISCELLANEOUS
ML	METAL LATH
ML	MONOLITHIC
MLDG	MOULDING
MLWK	MILLWORK
mm	MILLIMETER(S)
MNIC	MATERIAL NOT IN CONTRACT (INSTALLATION BY
CONTRACTOR)	
MO	MASONRY OPENING
MOD	MODULAR
MOD.	MODIFIED
MOT	MOTOR
MP	MOVABLE PARTITION
MR	MOP RECEPTOR
MRB	MARBLE BASE
MRD	METAL ROOF DECKING
MS	MACHINE SCREWS
MT	METAL THRESHOLD
MT	MOUNT
MTD	MOUNTED
MTFR	METAL FURRING
MTL	METAL
MVBL	MOVABLE
MULL	MULLION
N	NORTH
NAT	NATURAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS
ASSOCIATION	
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
Ni	NICKEL
NIC	NOT IN CONTRACT
NL	NAILABLE
N.L.	NEOPRENE LATEX
NM	NONMETALLIC
NO	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION
NRC	NOISE REDUCTION COEFFICIENT
N"REQD	NOT REQUIRED
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBSC	OBSCURE
OBW	OBSERVATION WINDOW
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
OFC	OFFICE
OGL	OBSCURE GLASS
OH	OVERHEAD
OHMS	OVALHEAD MACHINE SCREW
OHWS	OVALHEAD WOOD SCREW
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OPS	OPERATIONS
OS & Y	OUTSIDE SCREW AND YOKE
OWGL	OBSCURE WIRED GLASS
P	POLE
PA	PUBLIC ADDRESS
PAR	PARALLEL
PB	PANIC BAR
PBD	PARTICLE BOARD
PBS	PUSH BUTTON STATION
PC	PIECE
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCP	CEMENT PLASTER (PORTLAND)
PD	PAVEMENT DRAIN
PED	PEDESTAL
PERF	PERFORATE(D)
PERIM	PERIMETER
PH	PHASE
PHAR	PHARMACY
PI	POINT OF INTERSECTION
PIPU	PREFAB ISOLATION POWER UNIT
PIV	POST INDICATING VALVE
PL	PLATE
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLG	PILING
PL GL	PLATE GLASS
PLYWD	PLYWOOD
PNL	PANEL
PT	PAINT(ED)
POL	POLISHED
PORC	PORCELAIN
PORT	PORTABLE
PPGL	POLISHED PLATE GLASS
PPM	PARTS PER MILLION
PR	PAIR
PREFAB	PREFABRICATE(D)

PREFIN	PREFINISHED
PREFMD	PREFORMED
PRKG	PARKING
PROJ	PROJECT
PRV	PRESSURE-REGULATING VALVE
PS	PIPE SPACE
P.S.	PRESSED STEEL
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PNEUMATIC TUBE
PT.	POINT
PT CONC	POST-TENSIONED CONCRETE
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PV	PAVED
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PW	PASS WINDOW
QT	QUARRY TILE
QT.	QUART
QTR	QUARTER
1/4 RND	QUARTER ROUND
QTY	QUANTITY
R	RADIUS
R	RANGE
R	RISER
RA	RETURN AIR
RAB	RABBETED
RA GR	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RB	RUBBER BASE, RESILIENT BASE
RBL	RUBBLE STONE
RBR	RUBBER
RC	REMOTE CONTROL
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	ROOF DRAIN
RDG INS	RIGID INSULATION
REC	RECEPTACLE
REC ROOM	RECREATION ROOM
RECT	RECTIFIER
REF	REFERENCE
REFL	REFLECT
REFR	REFRIGERATION
REG	REGISTER
REG	REGLET
REINF	REINFORCE
REM	REMOVE(ABLE)
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
REV	REVISION
RFG	ROOFING
RH	RELATIVE HUMIDITY
RH	RIGHT HAND
RH	ROOF HATCH
RK	RACK
RLG	RAILING
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RP	RETRACTABLE PARTITION
RPM	REVOLUTIONS PER MINUTE
RPRT	RAISED PATTERN RUBBER TILE
RTF	RUBBER TILE FLOOR
RVS	REVERSE
RVT	RIVET
RWC	RAINWATER CONDUCTOR
S	SOUTH
SA	SUPPLY AIR
SB	SPLASH BLOCK
S.B.	SECURITY BARS
SC	SOLID CORE
SCHED	SCHEDULE
SCRN	SCREEN
SCT	STRUCTURAL CLAY TILE
SD	STORM DRAIN
SDI	STEEL DOOR INSTITUTE
SECT	SECTION
SEQ	SEQUENCE
SFGL	SAFETY GLASS
SFTU	STRUCTURAL FACING TILE UNIT
SFU	STRUCTURAL FACING UNIT
SG	SHEET GLASS
SHLDR	SHOULDER
SHT	SHEET
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SKLT	SKYLIGHT
SLNT	SEALANT
SLV	SLEEVE
SM	SHEET METAL
SMS	SHEET METAL SCREWS
SOV	SHUT OFF VALVE
SPC	SPACER
SPCL	SPECIAL
SPD	SOUNDPROOF DOOR
SPEC	SPECIFICATION
SPF	SOUNDPROOF
SP FIN	SPECIAL FINISH
SPH	SPACE HEATER
SPKR	SPEAKER
SQ	SQUARE
SQHD	SQUARE HEAD
S&R	SHELF AND ROD
SS	SERVICE SINK
SS	STANDING SEAM (ROOF)
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STG	SEATING
STL	STEEL
STOR	STORAGE
ST PR	STATIC PRESSURE
STR	STRINGER
STRUCT	STRUCTURAL
STWY	STAIRWAY
SUB FL	SUBFLOOR
SUSP	SUSPENDED
SV	SHEET VINYL
SW	SWITCH
SWBD	SWITCHBOARD
SYMM	SYMMETRICAL
SYNTH	SYNTHETIC
SYS	SYSTEM
T	TREAD
TAN	TANGENT
TB	TOWEL BAR
TC	TERRA COTTA

TEL	TELEPHONE
TEMP	TEMPERATURE
TEMP	TEMPORARY
TER	TERRAZZO
TERM	TERMINAL
T&G	TONGUE AND GROOVE
TGL	TOGGLE
TH	TRUSS HEAD
THK	THICK(NESS)
THRES	THRESHOLD
TK BD	TACKBOARD
TKS	TACKSTRIP
TO	TOP OF
TOL	TOLERANCE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TPTN	TOILET PARTITION
TRANS	TRANSOM
TRANS	TRANSVERSE
TSTAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
UC	UNIT COOLER
UGND	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UPS	UNINTERRUPTABLE POWER SUPPLY
UR	URINAL
UTIL	UTILITY
UV	UNIT VENTILATOR
V	VOLT
VAR	VARNISH
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VCT	VITRIFIED CLAY TILE
VD	VAULT DOOR
VENT	VENTILATOR(TION)
VERT	VERTICAL
VEST	VESTIBULE
VF	VINYL FABRIC
VG	VERTICAL GRAIN
VH	VINYL HOMOGENEOUS
VJ	V-JOINT(ED)
VNR	VENEER
VOL	VOLUME
VR	VAPOR RETARDER
VRM	VERMICULITE
VS	VENT STACK
V.T.	VOLTAGE TRANSFORMER
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
WB	WET BULB
WBL	WOOD BLOCKING
WC	WATER CLOSET
W/C	WHEELCHAIR
WCO	WOOD-CASED OPENING
WD	WOOD
WD	WOOD DOOR
WDSP	WASTE DISPOSER
WDW	WINDOW
WF	WIDE FLANGE
WGL	WIRED GLASS
WH	WALL HUNG
WH	WATER HEATER
WHB	WHEEL BUMPER
WHM	WATT-HOUR METER
WI	WROUGHT IRON
WKSH	WORK SHOP
WM	WIRE MESH
W/O	WITHOUT
WP	WATERPROOF(ING)
WP	WEATHERPROOF
WP	WORKING POINT
WR	WASTE RECEPTACLE
WRB	WARDROBE
WS	WATERSTOP
W.S.	WASTE STACK
WSCT	WAINSCOT
WT	WEIGHT
WTH	WIDTH
W/W	WALL TO WALL
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWR	WELDED WIRE REINFORCEMENT
XFMR	TRANSFORMER
YD	YARD
YD	YARD DRAIN

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: JAN 2025	
SOLICITATION NO.: +AEC_MAN SOLICNUM	
CONTRACT NO.: +AEC_MAN_CONTRNUM	
NAO FILE NO.: 11196	
SIZE: ANSI D	

DESIGNED BY: N. INGOLD
DRAWN BY: N. INGOLD
CHECKED BY: K. THEVERAPPERUMA
SUBMITTED BY: N. INGOLD

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

ABBREVIATIONS

SHEET ID
G-002

S:\WALLOPS_ISLAND\11196_BEACH_AND_BREAKWATERS_2023\2_DESIGN\CIVIL_3D\11196_WALLOPS_BREAKWATERS_G SHEETS.DWG
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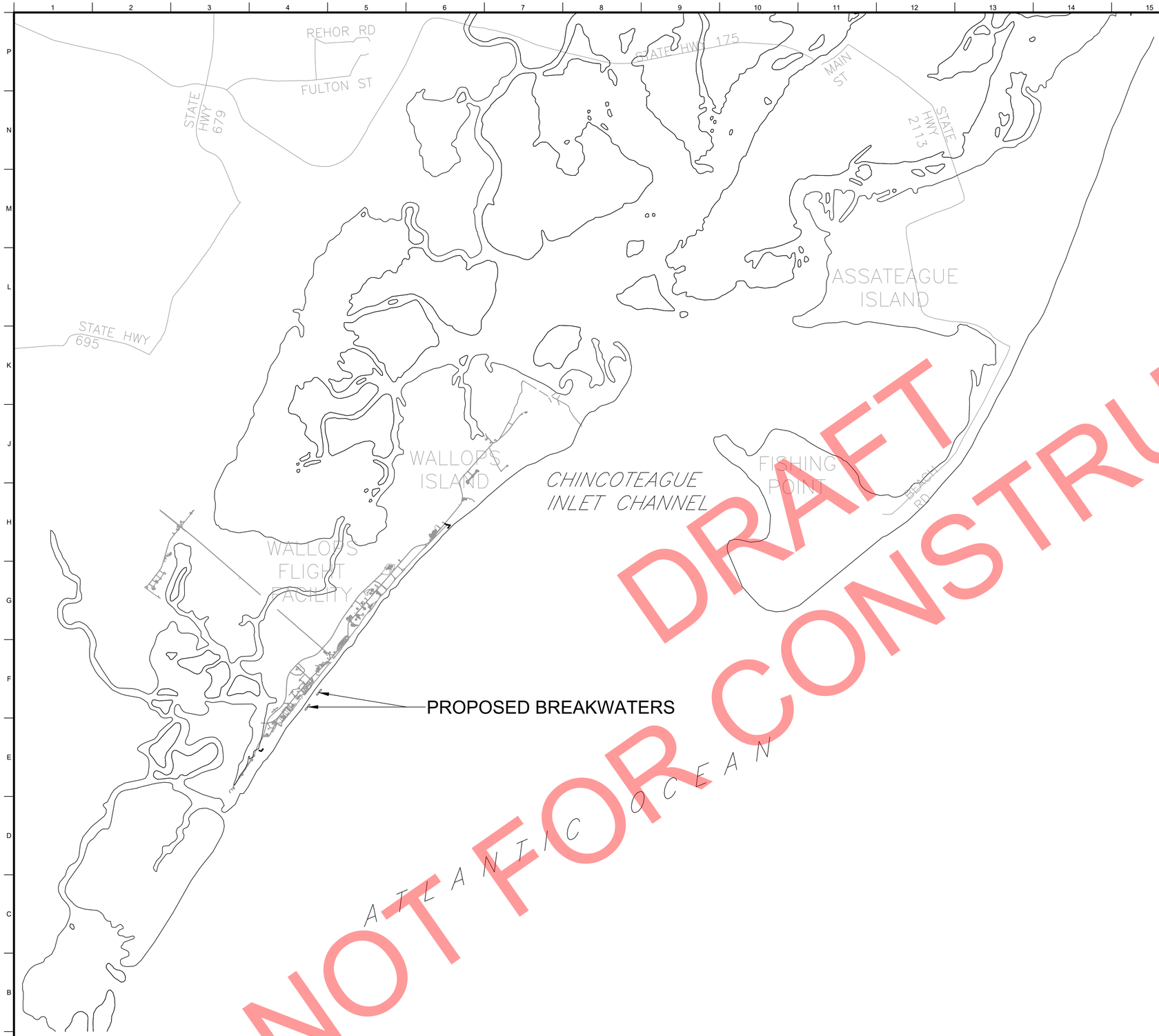
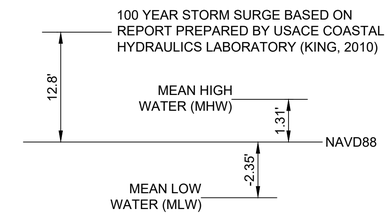


A7 SITE PLAN
1" = 3,000'

PLAN NORTH

GENERAL NOTES:

1. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
2. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND STRUCTURES. ANY DAMAGE TO THEM SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. TIDAL DATUM BASED ON USACE PROJECT *NASA-WALLOPS ISLAND BREAKWATER AND BEACHFILL PROJECT, 2018*
4. PUBLISHED MEAN TIDAL RANGE IS 3.66 FEET.
5. HORIZONTAL CONTROL: NORTH ATLANTIC DATUM OF 1983 (NAD83), VIRGINIA STATE PLANE, SOUTH
6. VERTICAL CONTROL: NORTH ATLANTIC VERTICAL DATUM OF 1988 (NAVD88)
7. PROPERTY LINES SHOWN ARE APPROXIMATE ONLY. THIS PLAN IS NOT INTENDED TO BE A PROPERTY LINE SURVEY.
8. DISTURBED AREAS WILL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN FOUND. THIS INCLUDES THE TEMPORARY STAGING AREAS.
9. A LOW PROBABILITY EXISTS THAT MUNITIONS AND EXPLOSIVES OF CONCERN (MEC) COULD BE ENCOUNTERED AND AWARENESS TRAINING (PERFORMED BY NASA) IS REQUIRED PRIOR TO GRADING ACTIVITIES. IF ANY MEC IS ENCOUNTERED, STOP WORK, CLEAR THE AREA, AND CONTACT WALLOPS FLIGHT FACILITY PROTECTION SERVICES DIVISION AT 757-824-1333. SEE SPECIFICATIONS FOR DETAILS.



1983-2001 NTDE

TIDAL DATUM DIAGRAM

DATE: 06/12/2024
SCALE: NTS

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SIZE: ANSI D	

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BREAKWATER CONSTRUCTION

GENERAL NOTES

SHEET ID
G-003

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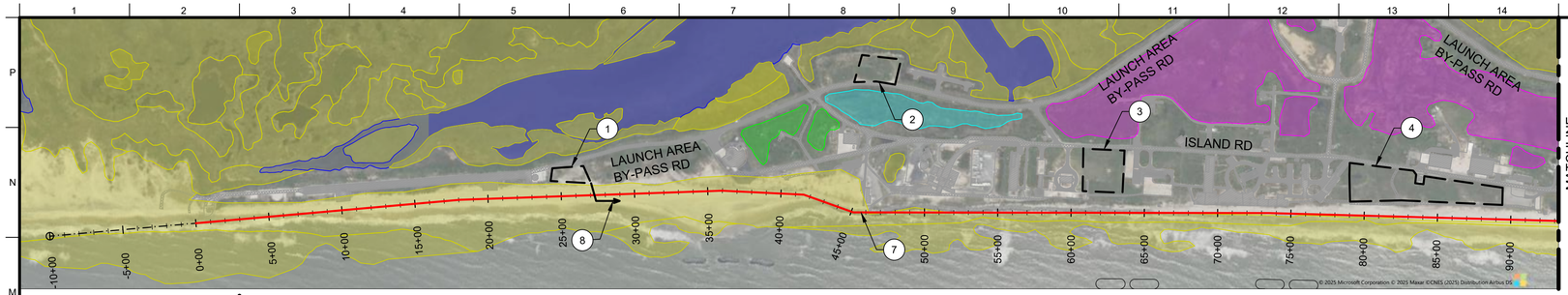
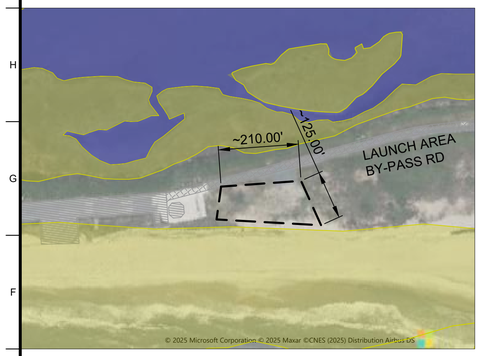


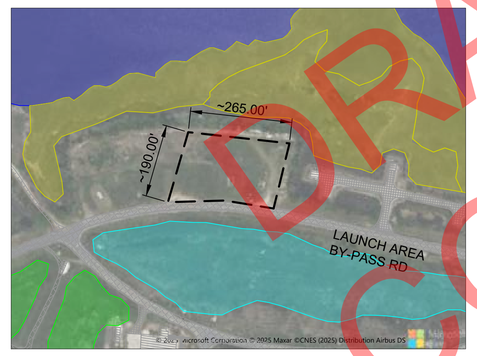
L6 LAYDOWN AND STAGING AREA OVERVIEW
1" = 800'

PLAN NORTH



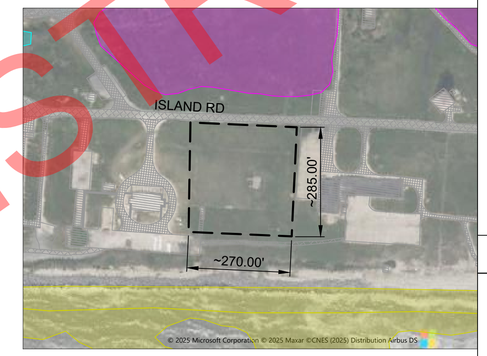
E1 LAYDOWN AREA 1
1" = 200'-0"

PLAN NORTH



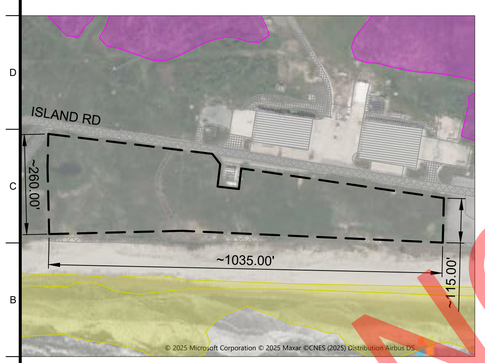
E7 LAYDOWN AREA 2
1" = 200'-0"

PLAN NORTH



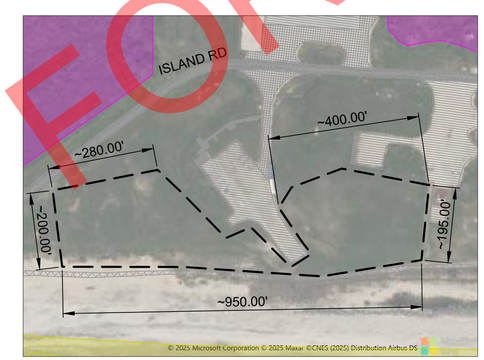
E13 LAYDOWN AREA 3
1" = 200'-0"

PLAN NORTH



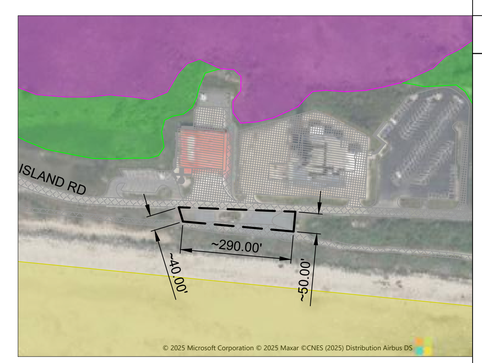
A1 LAYDOWN AREA 4
1" = 200'-0"

PLAN NORTH



A7 LAYDOWN AREA 5
1" = 200'-0"

PLAN NORTH



A13 LAYDOWN AREA 6
1" = 200'-0"

PLAN NORTH

GENERAL NOTES:

1. AREAS SHOWN ARE POTENTIAL LAYDOWN AND STAGING AREAS FOR THE CONTRACTOR TO USE. AREAS WILL BE DETERMINED AFTER CONTRACT AWARD AND APPROVED BY THE COR.
2. ALL AREA BOUNDARIES ARE APPROXIMATE.
3. LAYDOWN AND STAGING AREAS SHALL NOT IMPACT ANY WETLANDS.
4. OTHER NON-OCCUPIED UPLAND AREAS NOT IDENTIFIED ON THE PLANS MAY BE REQUESTED FOR LAYDOWN OR STAGING BY THE CONTRACTOR AND MUST BE APPROVED BY THE COR.
5. NO ADDITIONAL CLEARING OR EARTHWORK IS PERMITTED IN LAYDOWN OR STAGING AREAS.
6. LAYDOWN AND STAGING AREAS ARE TO HAVE THE APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES, PER THE LATEST EDITION OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK.
7. LAYDOWN AND STAGING AREAS MUST BE RESTORED TO ORIGINAL CONDITION PRIOR TO COMPLETION OF CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY AND SECURITY OF THEIR EQUIPMENT AND MATERIALS.
9. ALL EQUIPMENT AND MATERIALS MAY BE LEFT IN LAYDOWN AND STAGING AREAS DURING PRE-LAUNCH AND LAUNCH ACTIVITIES.
10. NASA HAZARDOUS OPERATIONS (HAZ OPS) MAY IMPACT ACCESS TO ALL LAYDOWN AREAS. DURING HAZ OPS, PORTIONS OF OR ENTIRE LAYDOWN AREAS MAY BE IMPACTED. DURING HAZ OPS, ALL MATERIALS AND EQUIPMENT MAY REMAIN IN AN AREA, HOWEVER PERSONNEL WILL BE REQUIRED TO LEAVE. LAYDOWN AREAS 1, 3, AND 4 WILL BE IMPACTED AT A HIGHER RATE THAN OTHER LAYDOWN AREAS.
11. SITE ACCESS TO THE PROJECT SITE IS SHOWN. OTHER ACCESS POINTS MAY OCCUR BETWEEN STA 0+00 AND STA 150+00 WITH APPROVAL FROM THE COR AND OWNER.
12. WETLAND AREAS SHOWN WERE OBTAINED FROM THE NATIONAL WETLAND INVENTORY ON NOVEMBER 2025.
13. SEE V-SHEETS FOR DETAILS OF EXISTING CONDITIONS AND SITE FEATURES.

KEYNOTES:

1. LAYDOWN AREA 1
2. LAYDOWN AREA 2
3. LAYDOWN AREA 3
4. LAYDOWN AREA 4
5. LAYDOWN AREA 5
6. LAYDOWN AREA 6
7. POTENTIAL SITE ACCESS BETWEEN STA 0+00 TO STA 150+00
8. SITE ACCESS POINTS

LEGEND

- ESTUARINE AND MARINE DEEPWATER
- ESTUARINE AND MARINE WETLAND
- FRESHWATER AND EMERGENT WETLAND
- FRESHWATER FORESTED AND SHRUB WETLAND
- FRESHWATER POND
- OTHER
- PROJECT ALIGNMENT BETWEEN STA 0+00 TO STA 150+00

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SIZE: ANSI D	

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

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ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

LAYDOWN AND STAGING AREAS

SHEET ID
G-004

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B7 EXISTING CONDITIONS
SCALE: 1"=300'-0"

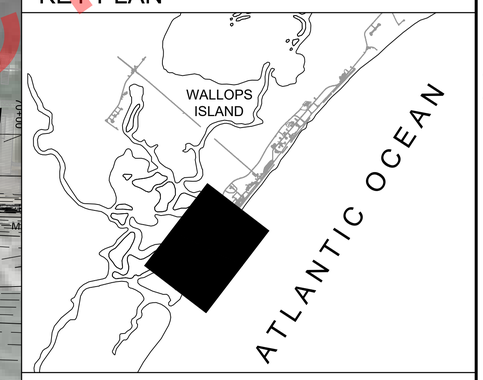
PLAN NORTH

300 0 300 600
SCALE IN FEET

GENERAL NOTES:

1. SURVEY NOTES:
   - 1.1. SURVEY PERFORMED BY GEODYNAMICS ON SEPTEMBER 9 TO 12, 2024 VIA SINGLEBEAM BATHYMETRIC AND TOPOGRAPHIC.
   - 1.2. HORIZONTAL DATUM: VIRGINIA STATE PLANE (SOUTH ZONE), NORTH AMERICAN DATUM OF 1983 (NAD 83), US FEET
   - 1.3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), US FEET
   - 1.4. ADDITIONAL SURVEY WAS CONDUCTED BY NORFOLK DISTRICT IDENTIFY EXISTING SITE FEATURES AND EXISTING BREAKWATER ELEVATIONS. RTK TS SURVEY PERFORMED JUNE 2 TO 10, 2025 AND PROCESSED ON JUNE 26, 2025. CONTROL MONUMENT: WFF-09.

KEY PLAN



LEGEND:

- 5 — EXISTING CONTOUR (MAJOR)
- 1 — EXISTING CONTOUR (MINOR)
- MHW — MEAN HIGH WATER (MHW) ELEVATION
- MLW — MEAN LOW WATER (MLW) ELEVATION

US Army Corps of Engineers®

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SUBMITTED BY: N. INGOLD	NAO FILE NO.: 1196
SIZE:	ANSI D

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WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

EXISTING CONDITIONS

SHEET ID
V-101

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B7 EXISTING CONDITIONS
SCALE: 1"=300'-0"

PLAN NORTH

300 0 300 600
SCALE IN FEET

GENERAL NOTES:

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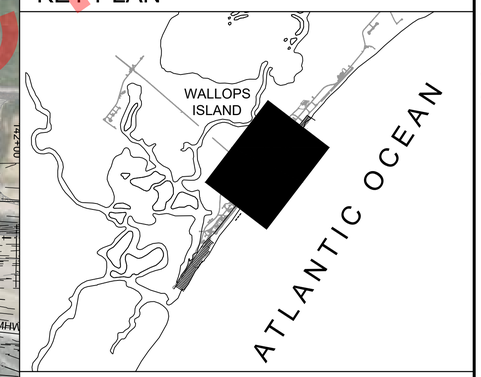
KEY PLAN



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ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

EXISTING CONDITIONS

SHEET ID
V-102

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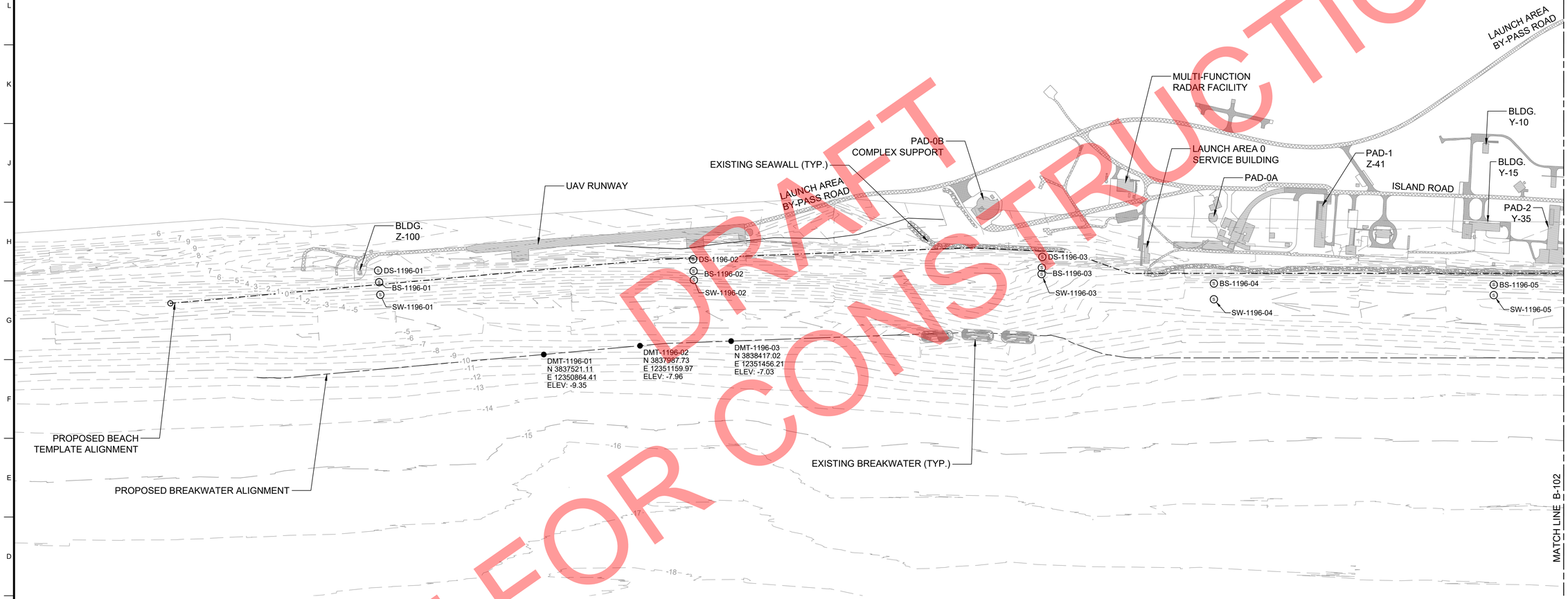
COORDINATES

Name	DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
156319	BS-1196-01	3,837,026.86	12,349,963.26	N037° 49' 22.99"	W075° 29' 51.92"	3.11
156321	BS-1196-02	3,838,490.52	12,351,008.20	N037° 49' 37.12"	W075° 29' 38.32"	4.62
156325	BS-1196-03	3,840,081.42	12,352,205.99	N037° 49' 52.47"	W075° 29' 22.76"	3.84
156342	BS-1196-04	3,840,806.22	12,352,876.87	N037° 49' 59.42"	W075° 29' 14.12"	-3.37
156343	BS-1196-05	3,842,070.62	12,353,857.34	N037° 50' 11.60"	W075° 29' 01.40"	-2.74
156346	DMT-1196-01	3,837,521.11	12,350,864.41	N037° 49' 27.59"	W075° 29' 40.49"	-9.35
156345	DMT-1196-02	3,837,987.73	12,351,159.97	N037° 49' 32.11"	W075° 29' 36.63"	-7.96
156344	DMT-1196-03	3,838,417.02	12,351,456.21	N037° 49' 36.26"	W075° 29' 32.77"	-7.03

COORDINATES

Name	DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
156317	DS-1196-01	3,837,062.76	12,349,906.64	N037° 49' 23.36"	W075° 29' 52.61"	6.74
156318	DS-1196-02	3,838,529.80	12,350,953.04	N037° 49' 37.53"	W075° 29' 38.99"	7.78
156323	DS-1196-03	3,840,121.27	12,352,158.88	N037° 49' 52.88"	W075° 29' 23.33"	8.39
156320	SW-1196-01	3,836,988.10	12,350,024.38	N037° 49' 22.59"	W075° 29' 51.17"	-1.08
156322	SW-1196-02	3,838,461.07	12,351,049.55	N037° 49' 36.82"	W075° 29' 37.81"	1.15
156324	SW-1196-03	3,840,057.82	12,352,233.90	N037° 49' 52.23"	W075° 29' 22.43"	2.72
156326	SW-1196-04	3,840,751.13	12,352,948.55	N037° 49' 58.85"	W075° 29' 13.25"	-4.45
156327	SW-1196-05	3,842,034.27	12,353,904.65	N037° 50' 11.23"	W075° 29' 00.82"	-5.51



C9 SITE PLAN
1" = 300'
0 300' 600'

PLAN NORTH

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US Army Corps of Engineers®

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GEOTECHNICAL EXPLORATIONS

SHEET ID
B-101

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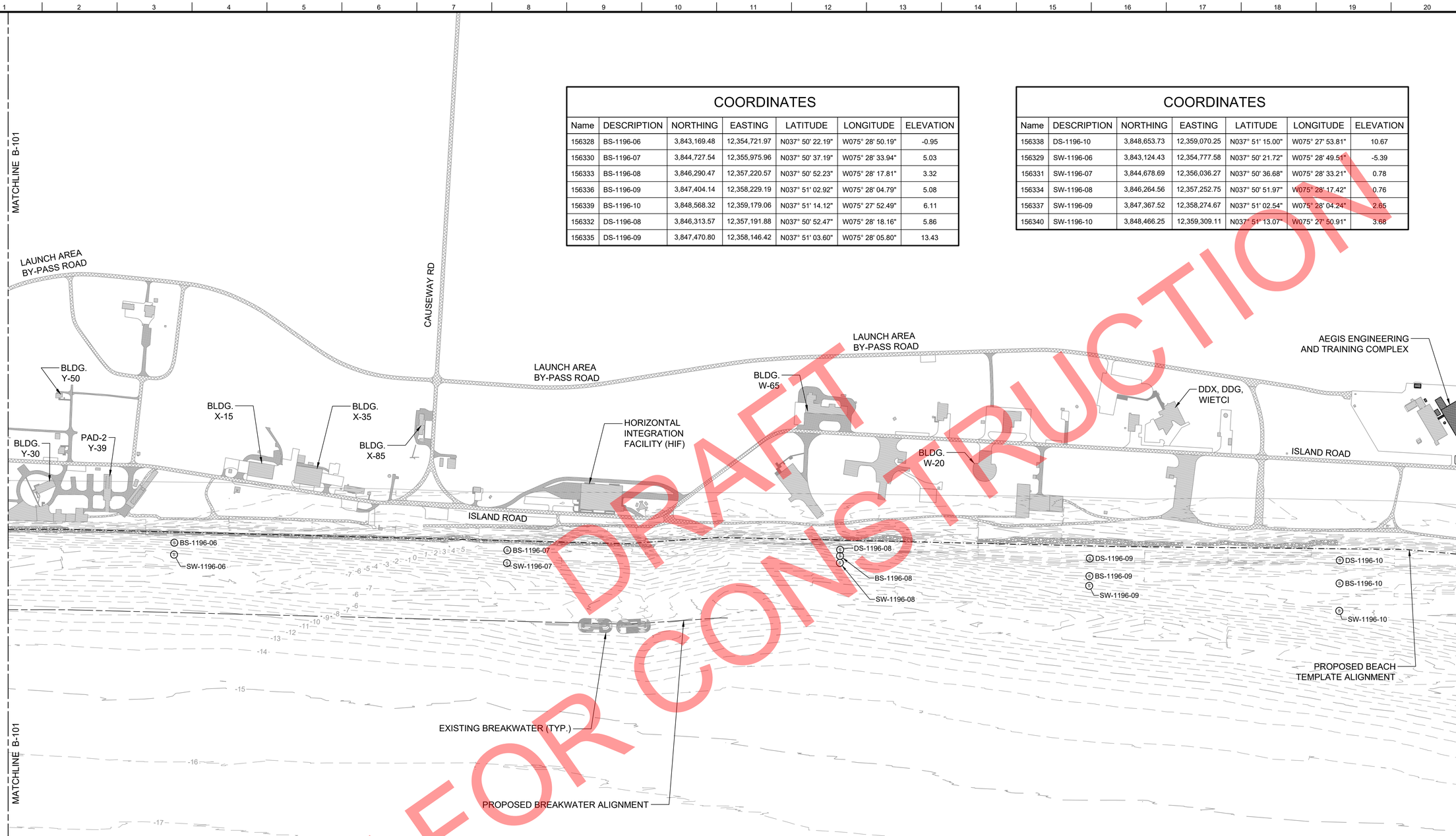
COORDINATES

Name	DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
156328	BS-1196-06	3,843,169.48	12,354,721.97	N037° 50' 22.19"	W075° 28' 50.19"	-0.95
156330	BS-1196-07	3,844,727.54	12,355,975.96	N037° 50' 37.19"	W075° 28' 33.94"	5.03
156333	BS-1196-08	3,846,290.47	12,357,220.57	N037° 50' 52.23"	W075° 28' 17.81"	3.32
156336	BS-1196-09	3,847,404.14	12,358,229.19	N037° 51' 02.92"	W075° 28' 04.79"	5.08
156339	BS-1196-10	3,848,568.32	12,359,179.06	N037° 51' 14.12"	W075° 27' 52.49"	6.11
156332	DS-1196-08	3,846,313.57	12,357,191.88	N037° 50' 52.47"	W075° 28' 18.16"	5.86
156335	DS-1196-09	3,847,470.80	12,358,146.42	N037° 51' 03.60"	W075° 28' 05.80"	13.43

COORDINATES

Name	DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
156338	DS-1196-10	3,848,653.73	12,359,070.25	N037° 51' 15.00"	W075° 27' 53.81"	10.67
156329	SW-1196-06	3,843,124.43	12,354,777.58	N037° 50' 21.72"	W075° 28' 49.51"	-5.39
156331	SW-1196-07	3,844,678.69	12,356,036.27	N037° 50' 36.68"	W075° 28' 33.21"	0.78
156334	SW-1196-08	3,846,264.56	12,357,252.75	N037° 50' 51.97"	W075° 28' 17.42"	0.76
156337	SW-1196-09	3,847,367.52	12,358,274.67	N037° 51' 02.54"	W075° 28' 04.24"	2.65
156340	SW-1196-10	3,848,466.25	12,359,309.11	N037° 51' 13.07"	W075° 27' 50.91"	3.68



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GEOTECHNICAL EXPLORATIONS

SHEET ID
B-102

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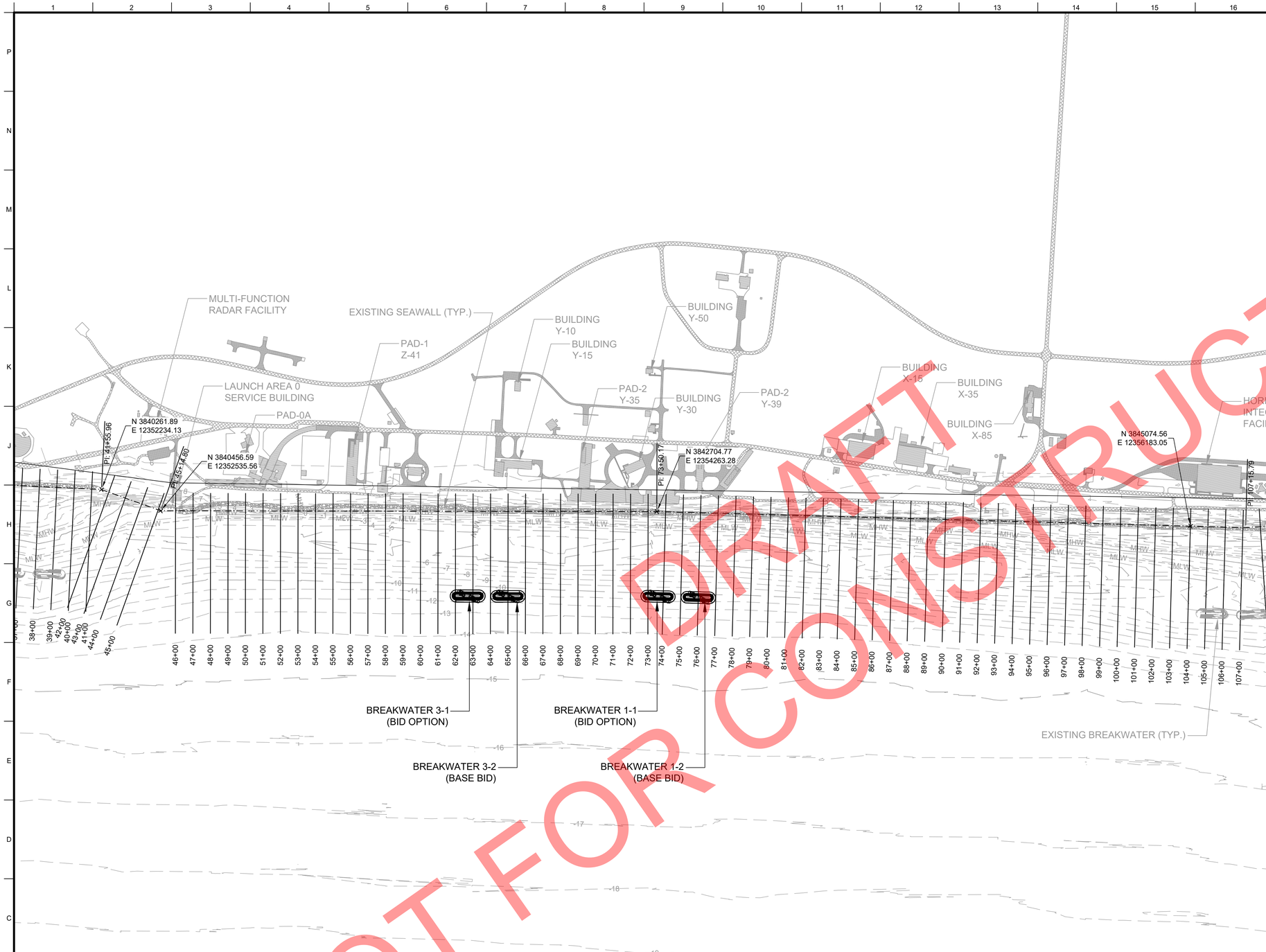


B7 SHORE PROTECTION PROPOSED BREAKWATERS
SCALE: 1"=300'-0"

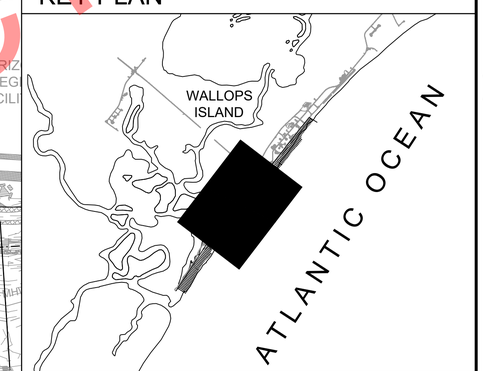
PLAN NORTH

300 0 300 600
SCALE IN FEET

GENERAL NOTES:

1. BREAKWATERS TO BE CONSTRUCTED APPROXIMATELY 200 FEET FROM FINAL MHW.
2. BEACH FILL PROJECT NOT IN CONTRACT.
3. BREAKWATERS TO BE CONSTRUCTED ON MARINE MATTRESS. SEE SHEET C-502 FOR MARINE MATTRESS DETAILS.
4. CORE STONE SHALL CONSIST OF VDOT CLASS III STONE.
5. ARMOR STONE SHALL CONSIST OF VDOT TYPE III RIPRAP.
6. BREAKWATER SPACING REFERENCED FROM CENTERLINE OF CREST.
7. BREAKWATERS TO BE CONSTRUCTED FROM EXISTING GRADE TO CREST ELEVATION 7' NAVD88. OVERALL BREAKWATER HEIGHT VARIES.
8. BREAKWATER TOE SHALL BE CONSTRUCTED AROUND ENTIRE STRUCTURE.
9. ACCESS TO CONSTRUCT BREAKWATERS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SEE SPECIFICATION 35 31 19.40 FOR DETAILS AND SHEET G-004 FOR LAYDOWN AND BEACH ACCESS DETAILS.
10. SEE SHEET C-501 FOR BREAKWATER DETAILS.
11. SEE SHEET C-601 FOR BREAKWATER QUANTITIES.

KEY PLAN



LEGEND:

5	EXISTING CONTOUR (MAJOR)
1	EXISTING CONTOUR (MINOR)
5	PROPOSED CONTOUR (MAJOR)
1	PROPOSED CONTOUR (MINOR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: N. INGOLD
DRAWN BY: N. INGOLD
CHECKED BY: R. WILLIAMS
SUBMITTED BY: N. INGOLD
SIZE: ANSI D
ISSUE DATE: JAN 2025
SOLICITATION NO.: +AEC_MAN_SOLICNUM
CONTRACT NO.: +AEC_MAN_CONTRNUM
NAO FILE NO.: 11196

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT ST STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

SHORE PROTECTION BREAKWATERS

SHEET ID
CH101

DRAFT
NOT FOR CONSTRUCTION

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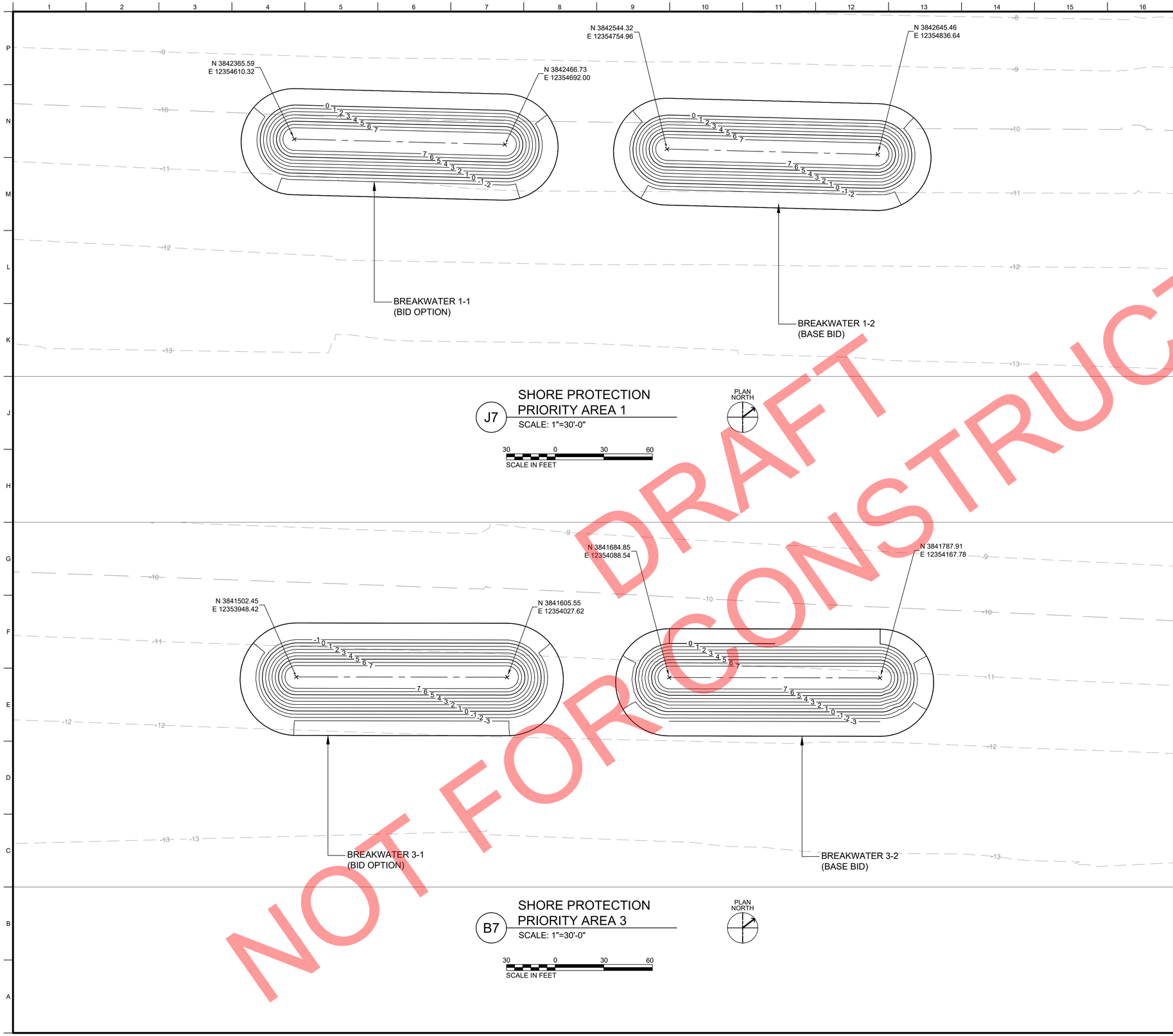

DRAFT
NOT FOR CONSTRUCTION

GENERAL NOTES:

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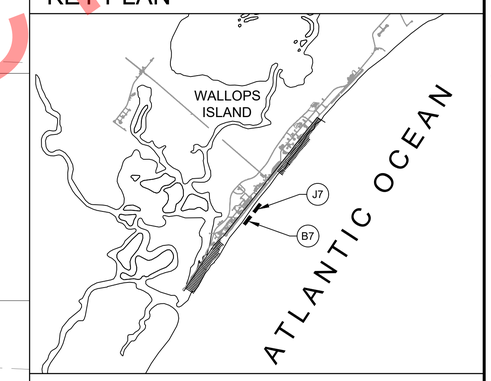
KEY PLAN



LEGEND:

5	EXISTING CONTOUR (MAJOR)
1	EXISTING CONTOUR (MINOR)
5	PROPOSED CONTOUR (MAJOR)
1	PROPOSED CONTOUR (MINOR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: N. INGOLD	ISSUE DATE: JAN 2025
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CHECKED BY: R. WILLIAMS	CONTRACT NO.: +AEC_MAN_CONTRNUM
SUBMITTED BY: N. INGOLD	NAO FILE NO.: 1196
SIZE: ANSI D	

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT ST STREET
NORFOLK, VA 23510

100% SUBMITTAL
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ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

SHORE PROTECTION
BREAKWATERS

SHEET ID
CH102

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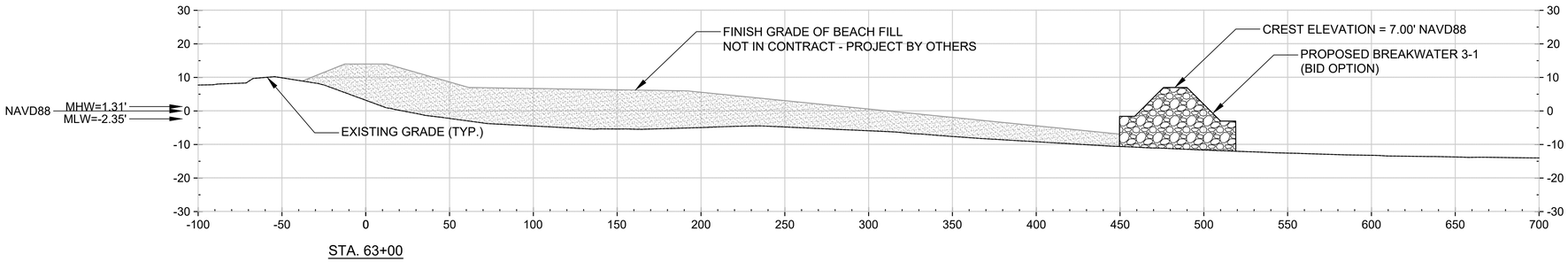
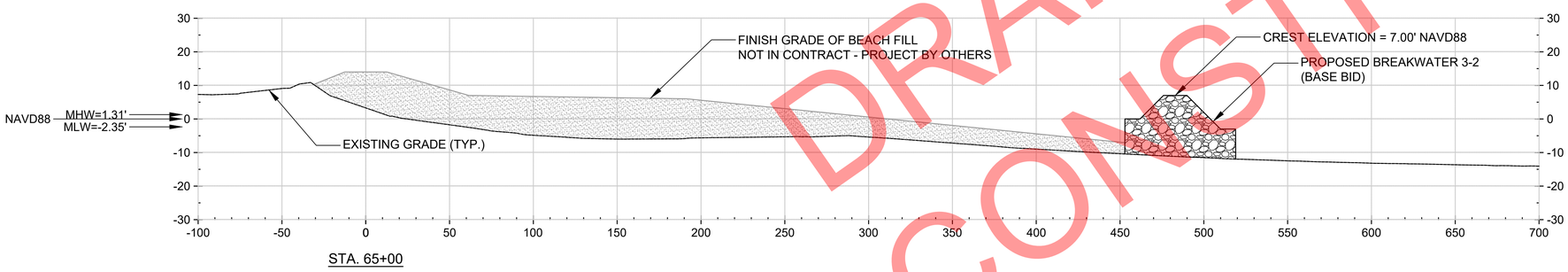


L3 BREAKWATER 3-1
STA 63+00



E3 BREAKWATER 3-2
STA 65+00

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U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

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ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

CROSS SECTIONS
BREAKWATER 3-1 (STA 63+00)
BREAKWATER 3-2 (STA 65+00)

SHEET ID
C-301

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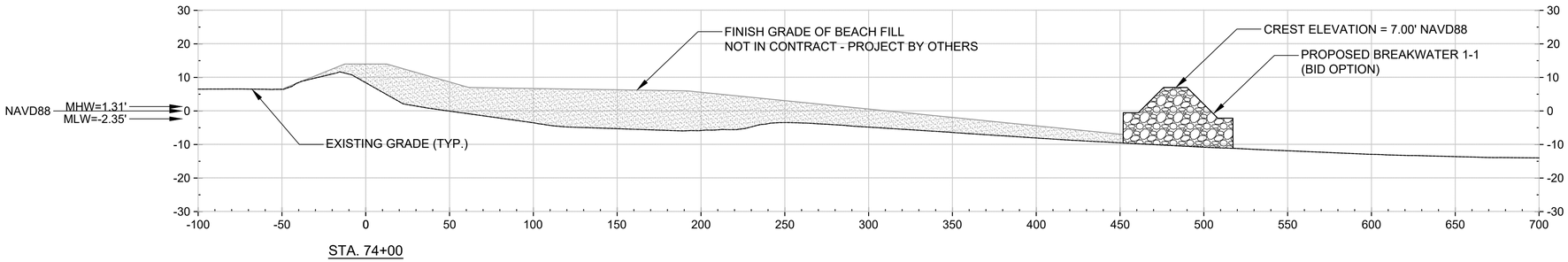
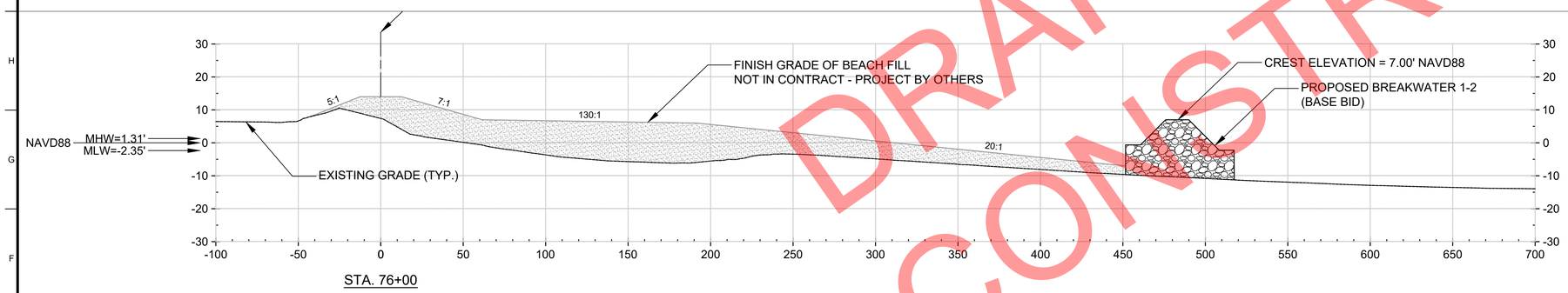


L3 BREAKWATER 1-1
STA 74+00



E3 BREAKWATER 1-2
STA 76+00

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SIZE: ANSI D
ISSUE DATE: JAN 2025
SOLICITATION NO.: +AEC_MAN_SOLICNUM
CONTRACT NO.: +AEC_MAN_CONTRNUM
NAO FILE NO.: 1196

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

CROSS SECTIONS
BREAKWATER 1-1 (STA 74+00)
BREAKWATER 1-2 (STA 76+00)

SHEET ID
C-302

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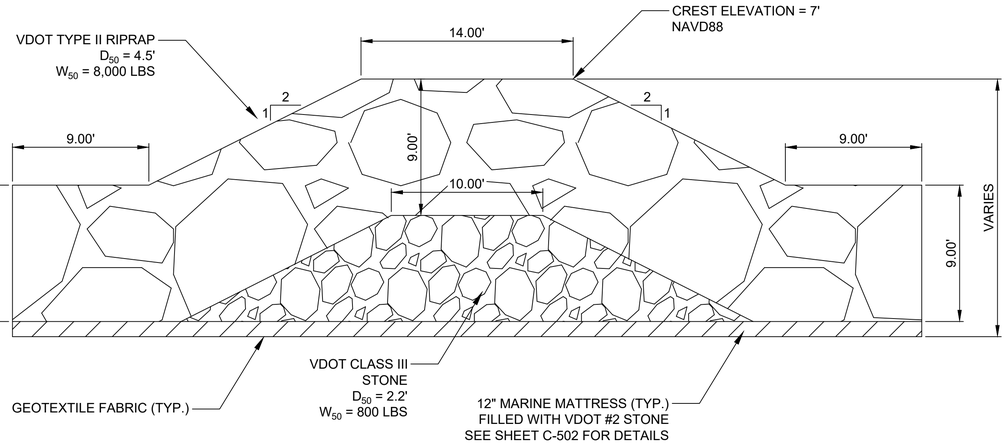
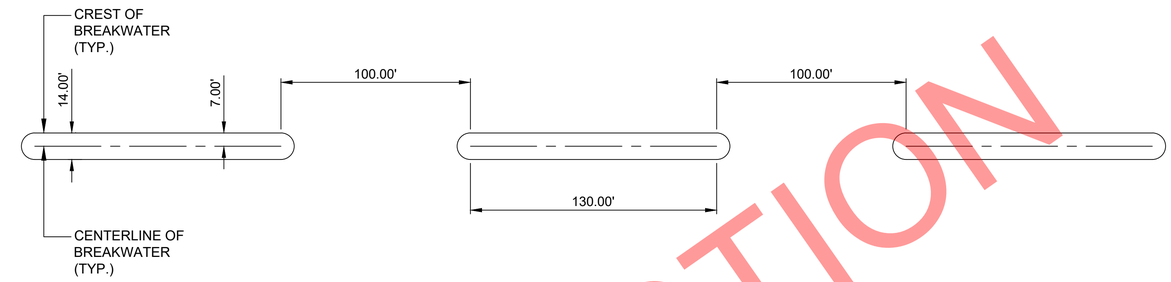


K3 TYPICAL BREAKWATER SECTION

1" = 5'-0"

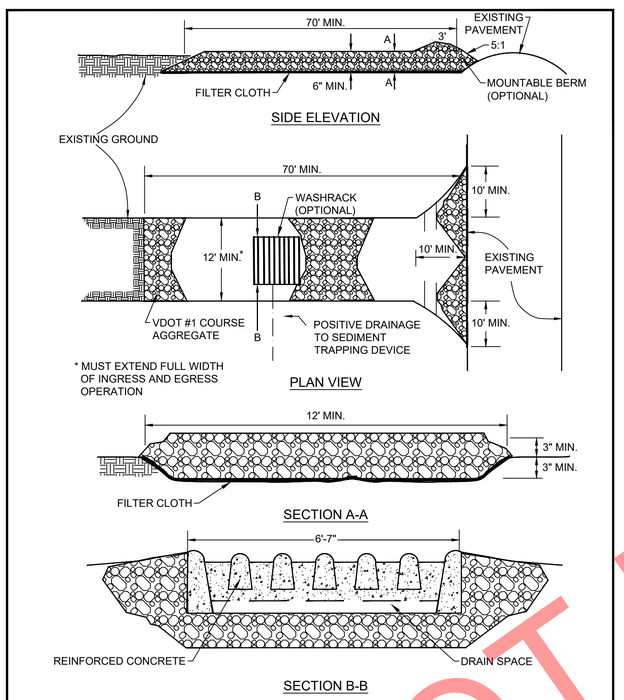
0 5' 10'



K13 TYPICAL BREAKWATER LAYOUT

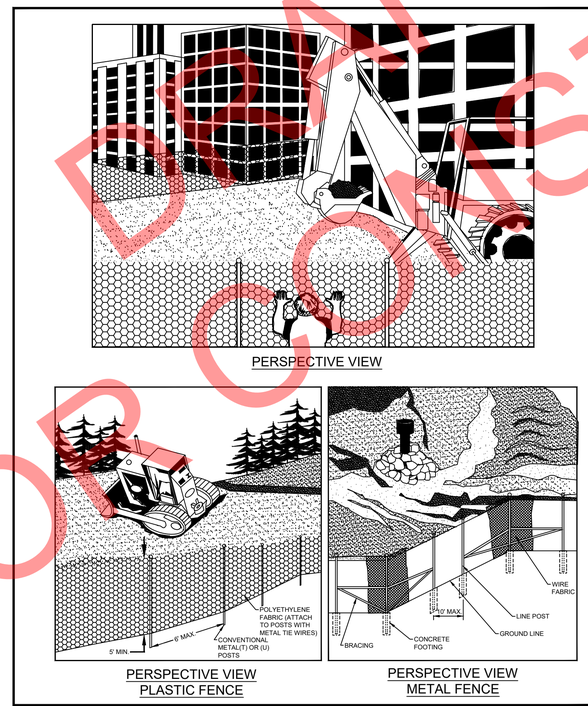
1" = 40'-0"

0 40' 80'



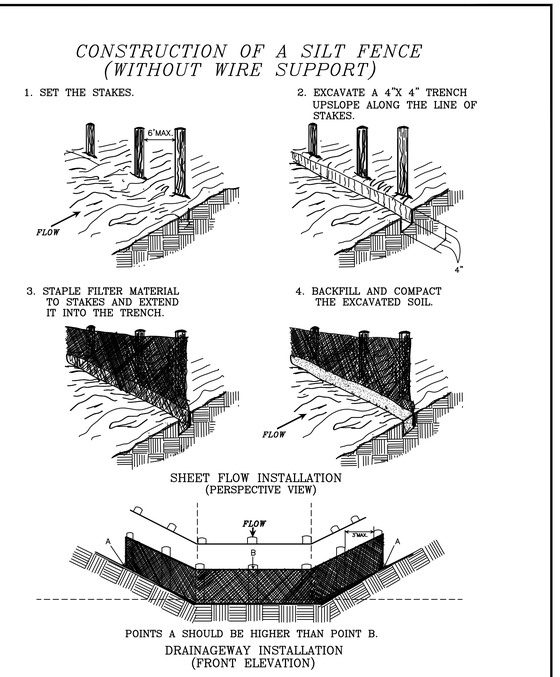
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | STONE CONSTRUCTION ENTRANCE | v1.1 | SOURCE: VA. DSWC, MD ESC STDS | C-SCM-03-1

A2 CONSTRUCTION ENTRANCE



DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | SAFETY FENCE | v1.1 | SOURCE: VDOT STDS., VA DSWC, CONWED PLASTICS | C-PCM-01-1

A9 SAFETY FENCE



DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | SILT FENCE | v1.1 | SOURCE: VA. DSWC, MD ESC STDS | C-PCM-04

A17 SILT FENCE

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: JAN 2025
SOLICITATION NO.: +AEC_MAN_SOLICNUM
CONTRACT NO.: +AEC_MAN_CONTRNUM
NAO FILE NO.: 11196

DESIGNED BY: N. INGOLD
DRAWN BY: N. INGOLD
CHECKED BY: K. THEVERAPPERUMA
SUBMITTED BY: N. INGOLD
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

DETAILS
BREAKWATER CROSS SECTION & LAYOUT
EROSION AND SEDIMENT CONTROL

SHEET ID
C-501

S:\WALLOPS_ISLAND\1196_BEACH_AND_BREAKWATERS_2023\2_DESIGN\CIVIL_3D\1196_WALLOPS_BREAKWATERS_C-5XX_C-6XX SHEETS.DWG
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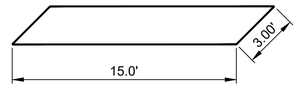
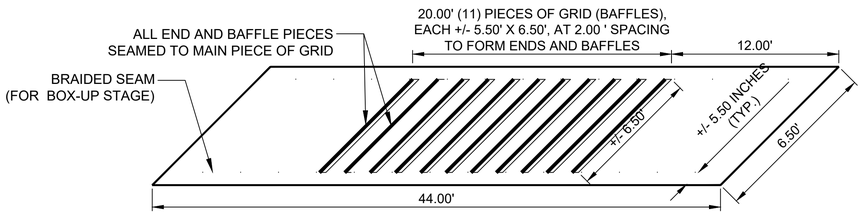
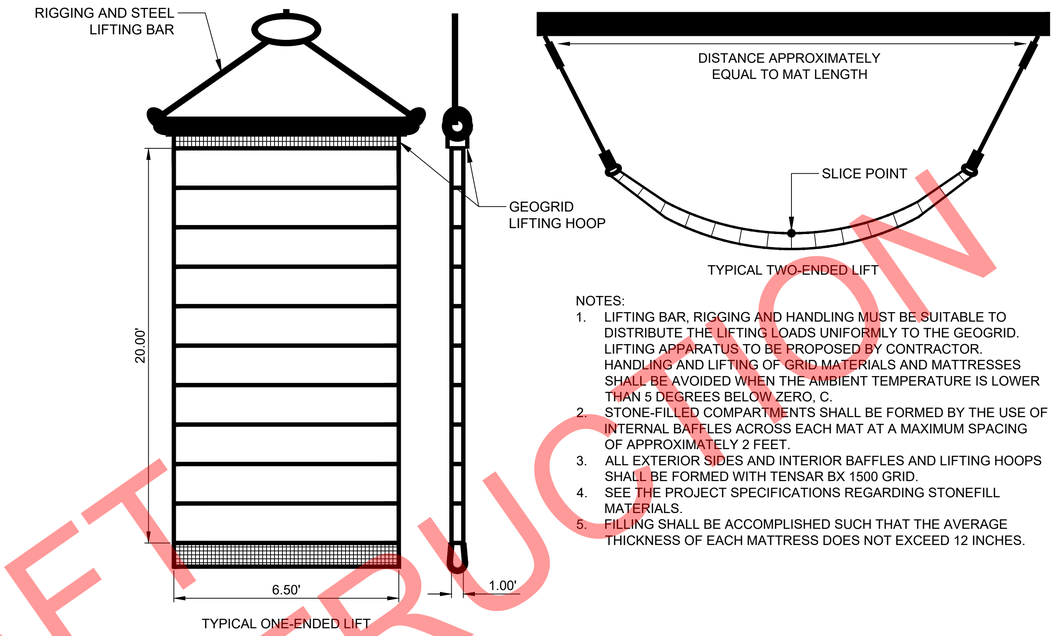


TYPICAL PRE-CUT GEOTEXTILE STRIP FOR
END AND INTERIOR COMPARTMENTS



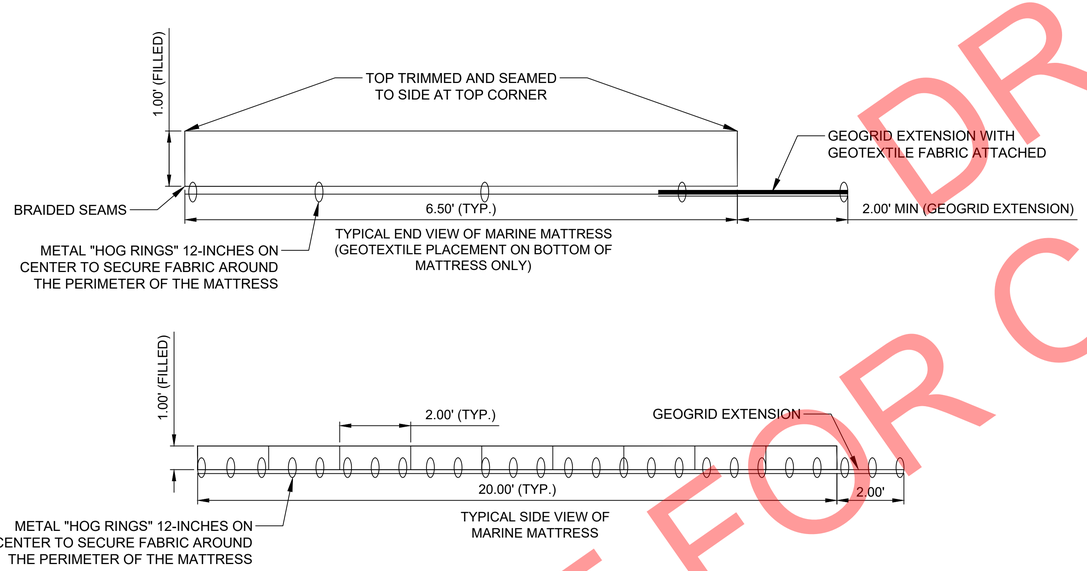
NOTE:
1. SIZE AND LOCATION OF GEOTEXTILE SECTIONS VARY.
2. ENDS, SIDES AND BAFFLES ARE SIZED SLIGHTLY LESS THAN THE 12-INCH NOMINAL THICKNESS OF THE FILLED MATTRESS, IN ORDER TO ALLOW THE TOP TO BE SEEAMED DOWN MORE TAUT AGAINST THE STONE FILL.

J3 TYPICAL MARINE MATTRESS UNIT
NTS



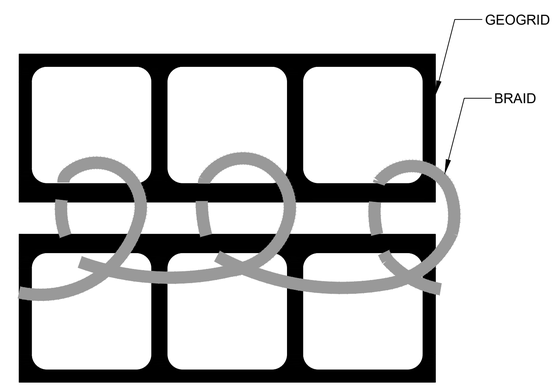
NOTES:
1. LIFTING BAR, RIGGING AND HANDLING MUST BE SUITABLE TO DISTRIBUTE THE LIFTING LOADS UNIFORMLY TO THE GEOGRID. LIFTING APPARATUS TO BE PROPOSED BY CONTRACTOR. HANDLING AND LIFTING OF GRID MATERIALS AND MATTRESSES SHALL BE AVOIDED WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 5 DEGREES BELOW ZERO, C.
2. STONE-FILLED COMPARTMENTS SHALL BE FORMED BY THE USE OF INTERNAL BAFFLES ACROSS EACH MAT AT A MAXIMUM SPACING OF APPROXIMATELY 2 FEET.
3. ALL EXTERIOR SIDES AND INTERIOR BAFFLES AND LIFTING HOOPS SHALL BE FORMED WITH TENSAR BX 1500 GRID.
4. SEE THE PROJECT SPECIFICATIONS REGARDING STONEFILL MATERIALS.
5. FILLING SHALL BE ACCOMPLISHED SUCH THAT THE AVERAGE THICKNESS OF EACH MATTRESS DOES NOT EXCEED 12 INCHES.

H14 MARINE MATTRESS LIFTING
NTS



NOTES:
1. GEOTEXTILE STRIPS WILL BE PRE-CUT, POSITIONED, AND SECURED TO THE BOTTOM OF THE MATTRESSES IN THE INITIAL FABRICATION STAGE.
2. INCREASING THICKNESS / WEIGHT TYPICALLY DECREASES ALLOWABLE LENGTH DUE TO LIFTING LIMITATIONS.
3. INCREASING THE MAT SIZE IS NOT TYPICALLY NEEDED, BUT MAY BE ACCOMPLISHED BY SPLICING THE GRID BY AN APPROVED METHOD.
4. THE TOP AND BOTTOM OF THE MATS SHALL BE FORMED BY A SINGLE PIECE OF GRID SPLICED AT THE TOP MIDPOINT OF THE MAT BY ONE OF THE SEAMING METHODS SHOWN IN "CORNERS AND SEAMS FOR TRITON SYSTEMS MADE WITH TENSAR BIAXIAL GRID."
5. FILLED UNITS MUST BE LIFED SUCH THAT THE GEOGRID IS LOADED UNIFORMLY. REFER TO THE FABRICATION, FILLING AND LIFTING GUIDELINES FOR MORE INFORMATION.

A3 TYPICAL MARINE MATTRESS FOR SHALLOW WATER AREAS
NTS



NOTES:
1. ALL CUT ENDS OF BRAID MATERIAL SHALL BE KNOTTED WITHIN 1/2" TO 2" OF THE END TO PREVENT RAVELING OF BRAID.
2. AT ALL ENDS OF ALL BRAIDED SEAMS THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID.
3. AT ALL ENDS OF ALL PIECES OF BRAID MATERIAL USED, THE BRAID SHALL BE KNOTTED TO SPLICE IT TO THE NEXT PIECE OF BRAID, OR TO SECURE IT TO THE GEOGRID. EACH BRAIDED SEAM SHALL BE CONTINUOUS, WITH SECURELY KNOTTED SPLICES ALLOWED. THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID AT A SPACING NOT TO EXCEED 6 FT ALONG ANY SEAM.
4. THE BRAID SHALL BE STITCHED THROUGH EACH PAIR OF APERTURES ALONG THE SEAM AT LEAST ONCE, AND THE MINIMUM NUMBER OF STITCHES PER FOOT ALONG THE SEAM SHALL BE SIX (6). THE SPACING OF STITCHES ALONG EACH SEAM SHALL BE REASONABLY UNIFORM. ALL KNOTS SHALL BE TIED IN A MANNER TO PREVENT SLIPPING AND CINCHING.
5. THE WRAPS ALONG THE SEAM SHALL BE SUFFICIENTLY TIGHT TO CLOSE THE GAP BETWEEN THE ADJACENT PIECES OF GEOGRID, BUT SHALL NOT BE OVER-TIGHTENED SUCH THAT THE GEOGRID BINDS ALONG THE SEAM.

A15 TYPICAL STITCHED SEAM
NTS

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DESIGNED BY: N. INGOLD
DRAWN BY: N. INGOLD
CHECKED BY: K. THEVERAPPERUMA
SUBMITTED BY: N. INGOLD
SIZE: ANSI D
ISSUE DATE: JAN 2025
SOLICITATION NO.: +AEC_MAN_SOLICNUM
CONTRACT NO.: +AEC_MAN_CONTRNUM
NAO FILE NO.: 1196

U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

100% SUBMITTAL
(NOT FOR CONSTRUCTION)

ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

DETAILS
MARINE MATTRESS

SHEET ID
C-502

S:\WALLOPS_ISLAND\1196_BEACH_AND_BREAKWATERS_2023\2_DESIGN\CIVIL_3D\1196_WALLOPS_BREAKWATERS_C-5XX_C-6XX SHEETS.DWG
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STRUCTURE NAME	CORE STONE VDOT CLASS III (TON)	ARMOR STONE VDOT TYPE II (TON)	MARINE MATTRESS (SQFT)	GEOTEXTILE FABRIC (SQFT)	MARINE MATTRESS STONE VDOT #2 (TON)
BREAKWATER 1–1	3,250	6,500	16,770	16,770	1,120
BREAKWATER 1–2	3,265	6,525	16,855	16,855	1,125
BREAKWATER 3–1	3,600	7,200	17,870	17,870	1,200
BREAKWATER 3–2	3,460	6,920	17,245	17,245	1,150

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US Army Corps of Engineers®

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U.S. ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
803 FRONT STREET
NORFOLK, VA 23510

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ACCOMACK COUNTY, VA
WALLOPS ISLAND
SHORELINE PROTECTION PROJECT
BREAKWATER CONSTRUCTION

MATERIAL SCHEDULE

SHEET ID
C-601

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AEC_B&W.STB
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