

09/08/99

TIP PROJECT: M-0540A

CONTRACT: _____

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLANS FOR NC-24 RESILIENCY AND LIVING SHORELINES
ONSLOW COUNTY

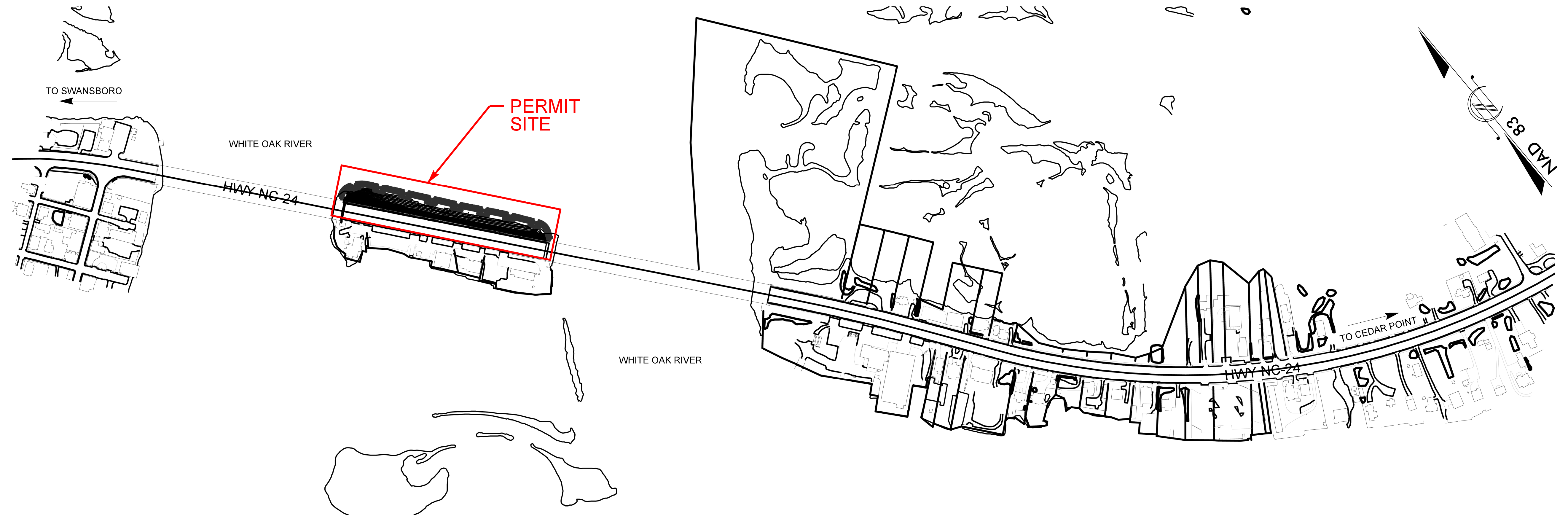
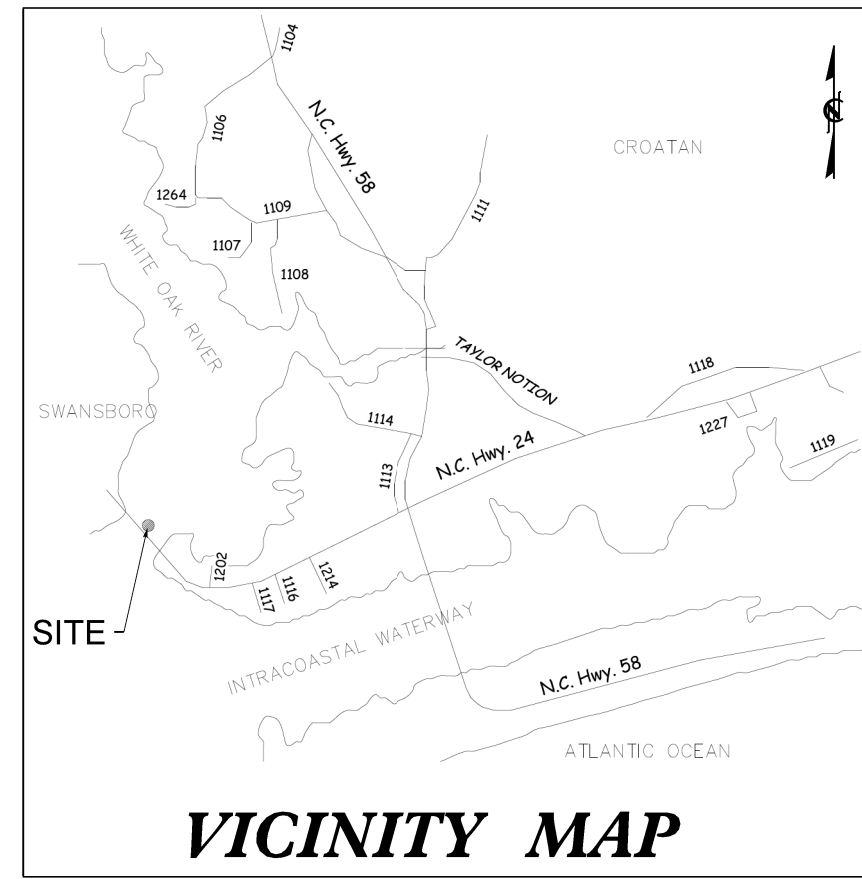
LOCATION: NC-24 CAUSEWAY BETWEEN THE SWANSBORO BRIDGES
AND CEDAR POINT

TYPE OF WORK: SHORELINE STABILIZATION, ENVIRONMENTAL RESILIENCY

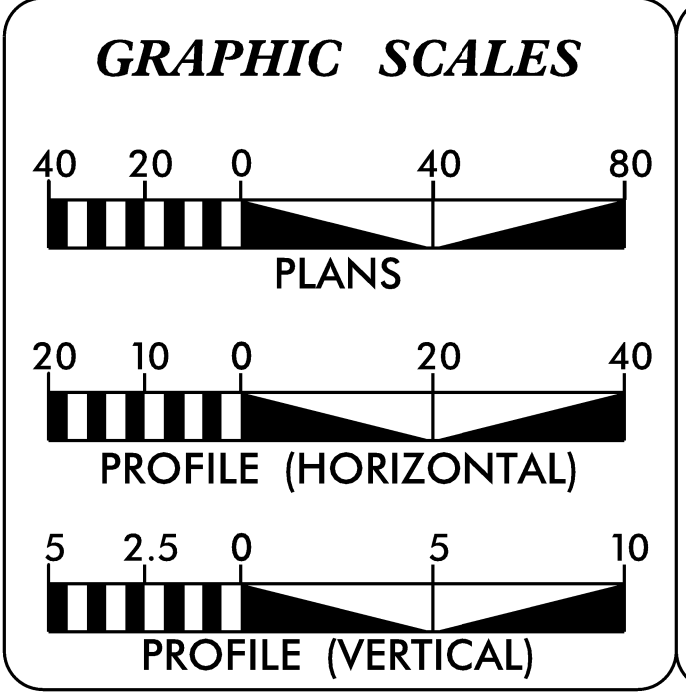
WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0540A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

PERMIT DRAWING
SHEET 1 OF 10



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

PROJECT LENGTH
CAUSEWAY SITE ± 830 LF

Prepared in the Office of:
SWCA
ENVIRONMENTAL CONSULTANTS
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

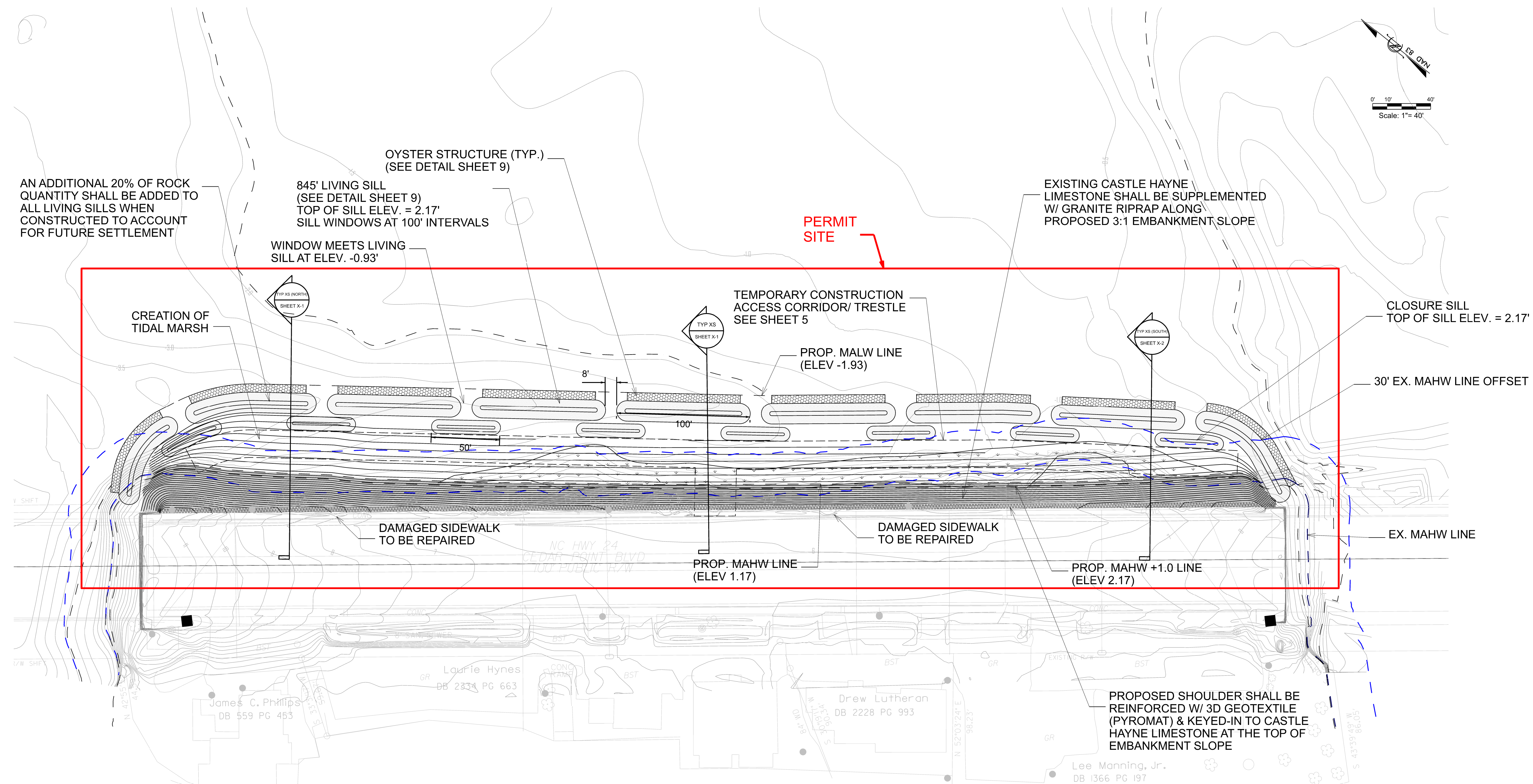
LETTING DATE:
XXXXXXX

PROJECT ENGINEER

SIGNATURE: _____ P.E.

Prepared for:

**PERMIT DRAWING
SHEET 2 OF 10**



5/14/99

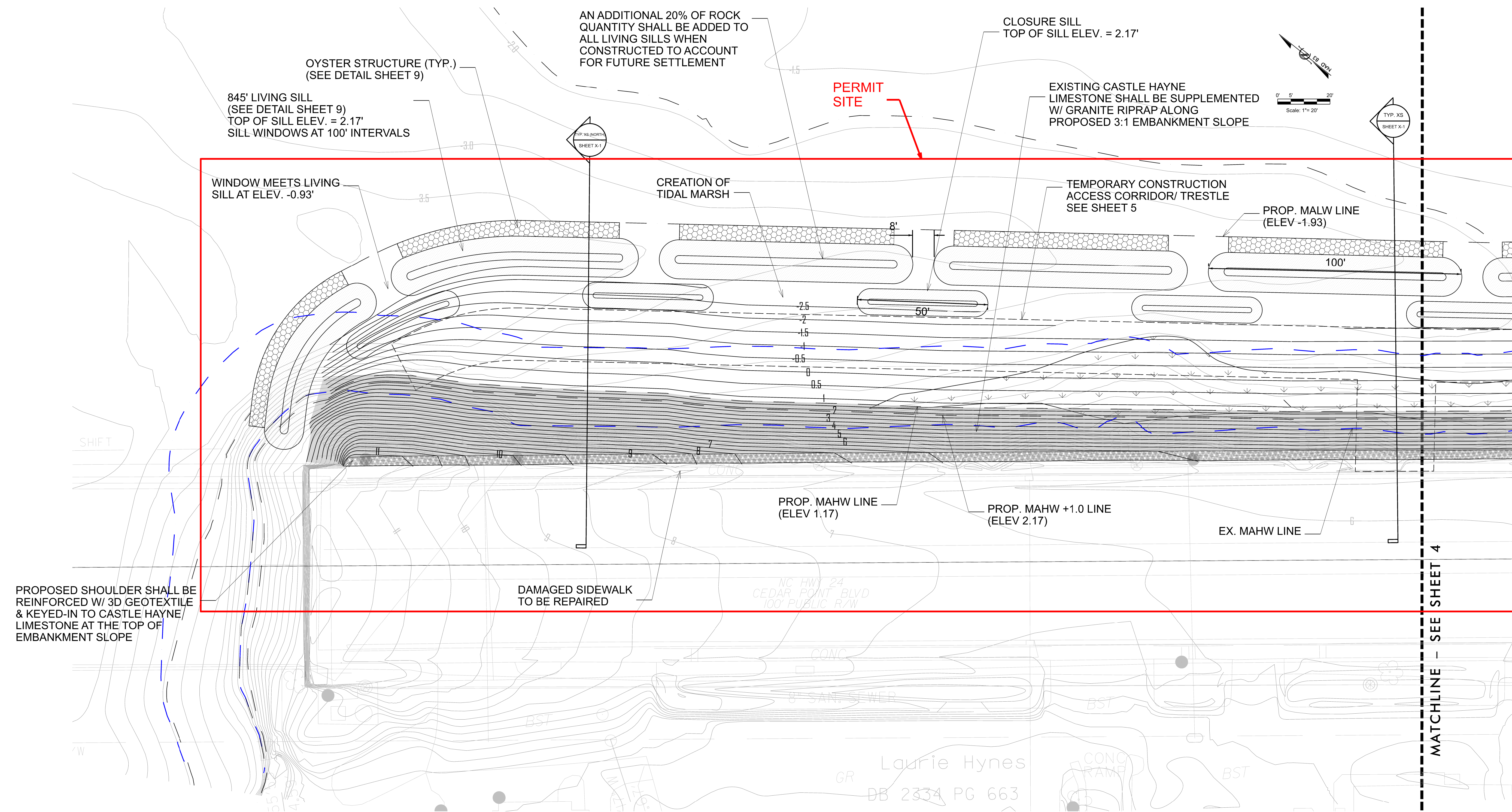
SWCA
ENVIRONMENTAL CONSULTANTS
SWCA Environmental Consulting & Engineering, Inc.
8319 Robert D. Snyder Rd, Suite 436
Charlotte, NC 28223
(p) 919 292 2200
www.swca.com

SITE PLAN - NORTH

PROJECT REFERENCE NO.		SHEET NO.
M-0540A		5
PROJECT ENGINEER		APPROVED
		DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING
SHEET 3 OF 10

- LEGEND
- PROPOSED SILL
- PROPOSED OYSTER STRUCTURE
- PROPOSED RIPRAP
- PROPOSED GEOTEXTILE
- EXISTING MARSH



1/4/2022
D:\Documents\Current Drawings\Permit\Site 3\W540A-HYD_PSH-2.dgn
User:Kellie

5/14/99

1/4/2022
D:\Documents\Current Drawings\Permit\Site 3\W540A-HYD_PSH-2.dgn
User: kelli.cullitt

LEGEND

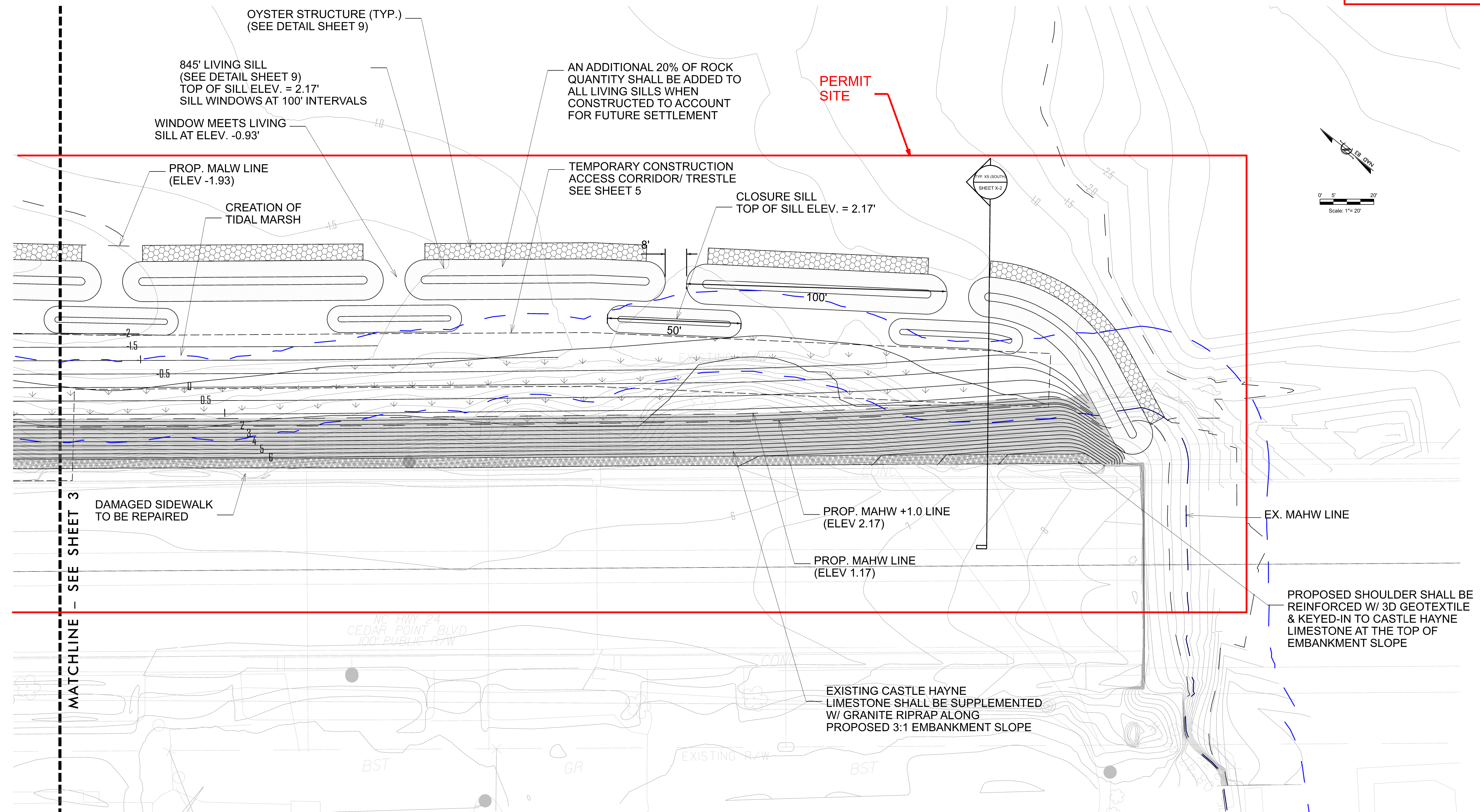
- PROPOSED SILL
- PROPOSED OYSTER STRUCTURE
- PROPOSED RIPRAP
- PROPOSED GEOTEXTILE
- EXISTING MARSH

SWCA
ENVIRONMENTAL CONSULTANTS
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9319 Robert D. Snyder Rd, Suite 436
Charlotte, NC 28223
(p) 919.292.2200
www.swca.com

SITE PLAN - SOUTH

PROJECT REFERENCE NO.		SHEET NO.
M-0540A		6
PROJECT ENGINEER		
		APPROVED
		DATE
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PERMIT DRAWING
SHEET 4 OF 10



SWCA
ENVIRONMENTAL CONSULTANTS
SWCA Environmental Consultants
201 Chatham Street, Suite 3
Sanford, NC 27330
(p) 919.292.2200
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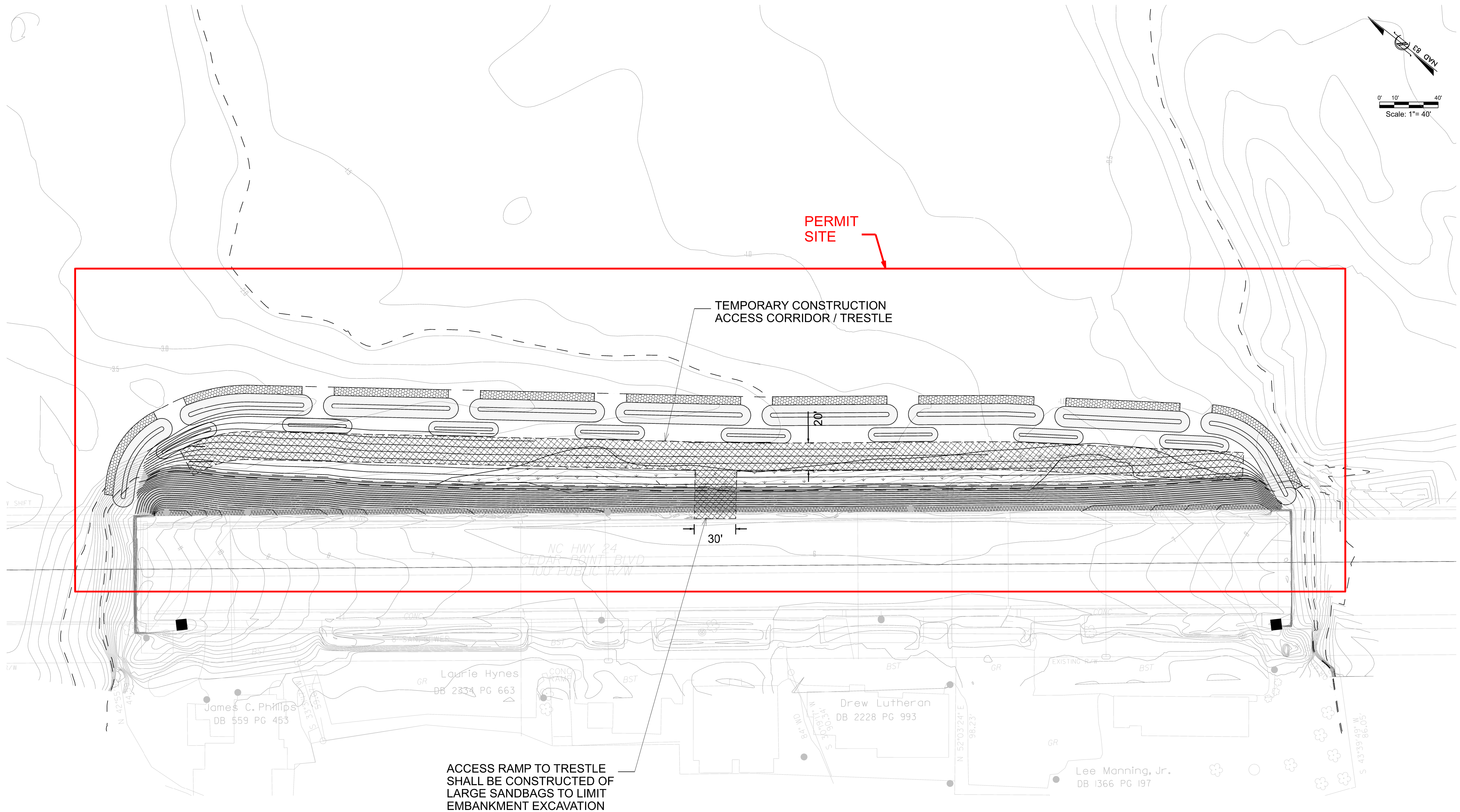
*CONSTRUCTION
ACCESS PLAN*

PROJECT REFERENCE NO.		SHEET NO.
M-0540A		5
PROJECT ENGINEER		
		APPROVED
		DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

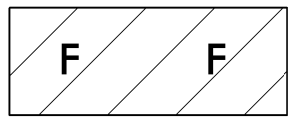
PERMIT DRAWING
SHEET 5 OF 10

LEGEND

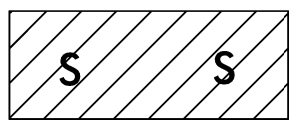
- PROPOSED SILL
- PROPOSED OYSTER STRUCTURE
- PROPOSED RIPRAP
- PROPOSED GEOTEXTILE
- EXISTING MARSH
- TEMPORARY CONSTRUCTION ACCESS CORRIDOR



LEGEND



DENOTES FILL IN
WETLAND



DENOTES IMPACTS IN
SURFACE WATER

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ENVIRONMENTAL CONSULTANTS

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SITE IMPACTS PLAN

PROJECT REFERENCE NO.

M-0540A

SHEET NO.

5

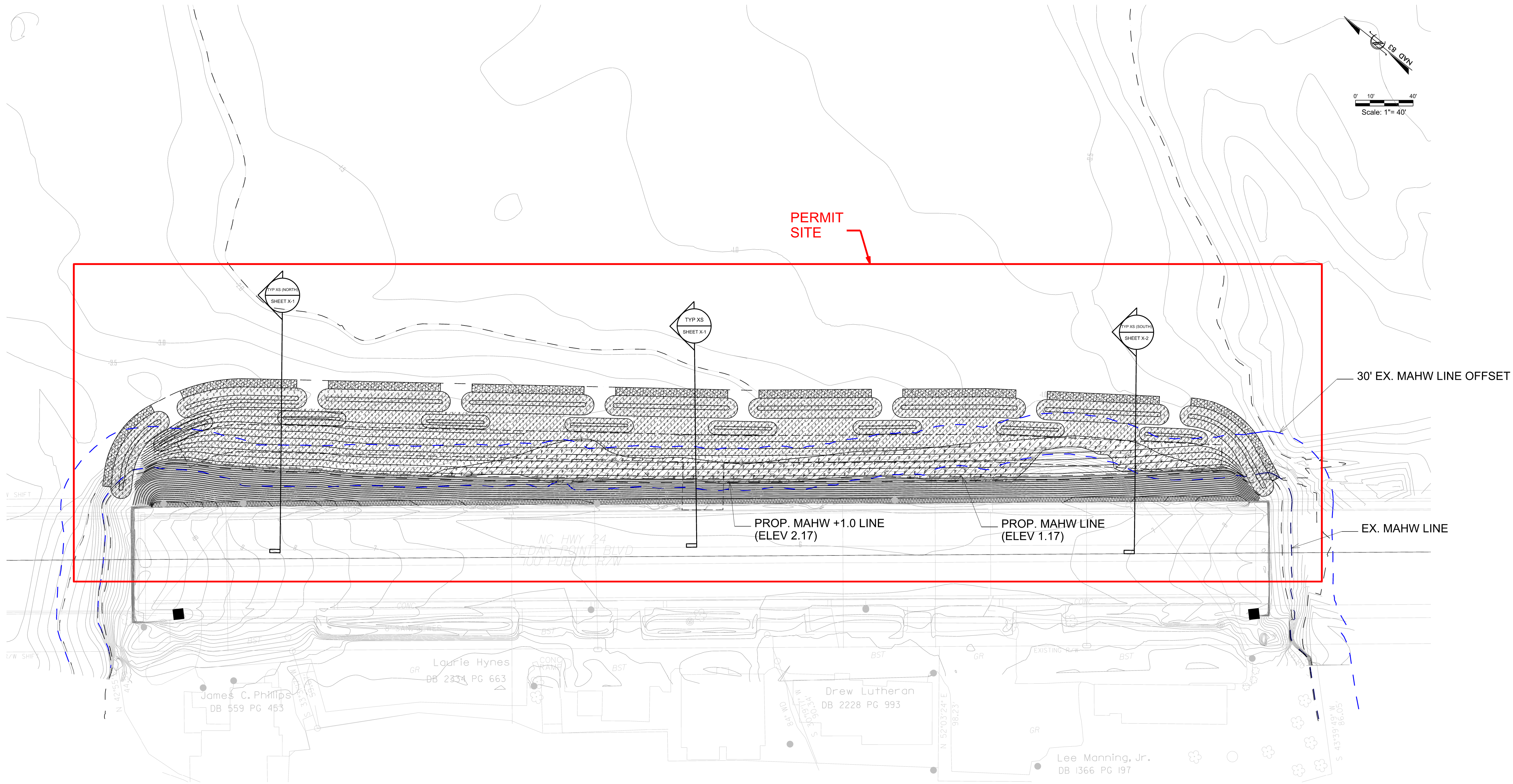
PROJECT ENGINEER

APPROVED

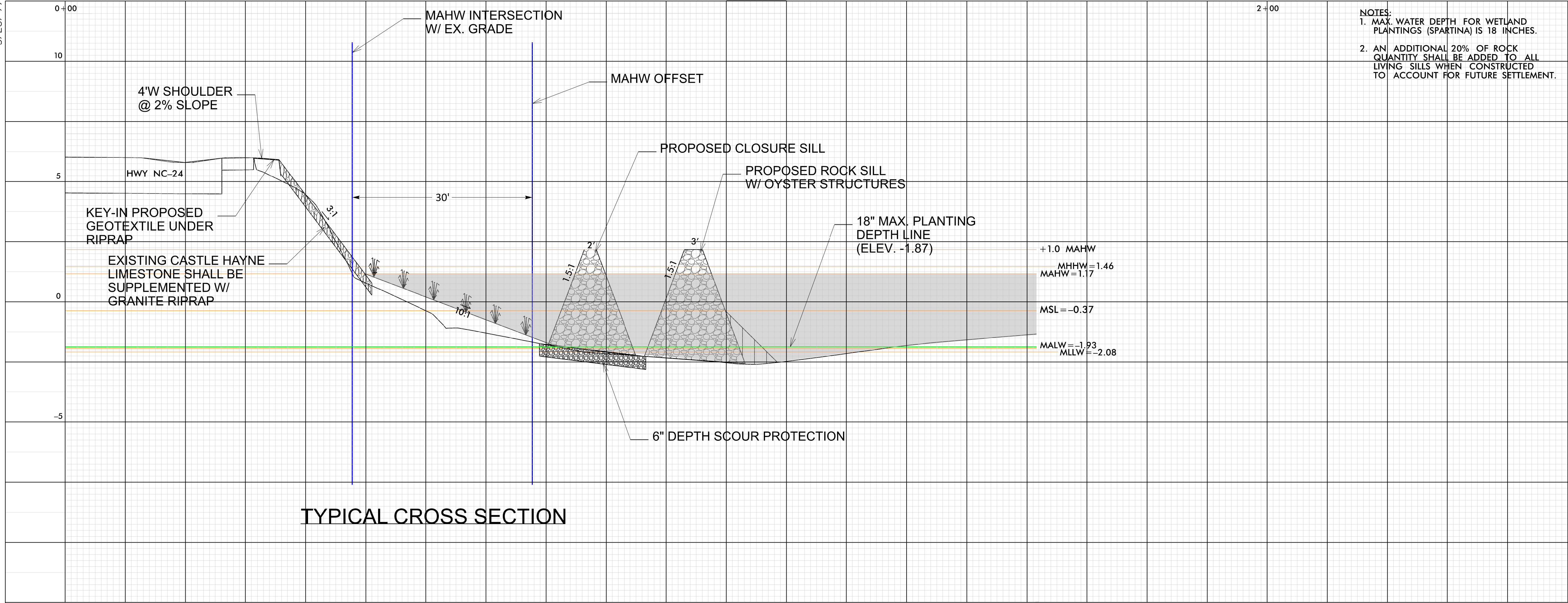
DATE

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**PERMIT DRAWING
SHEET 6 OF 10**



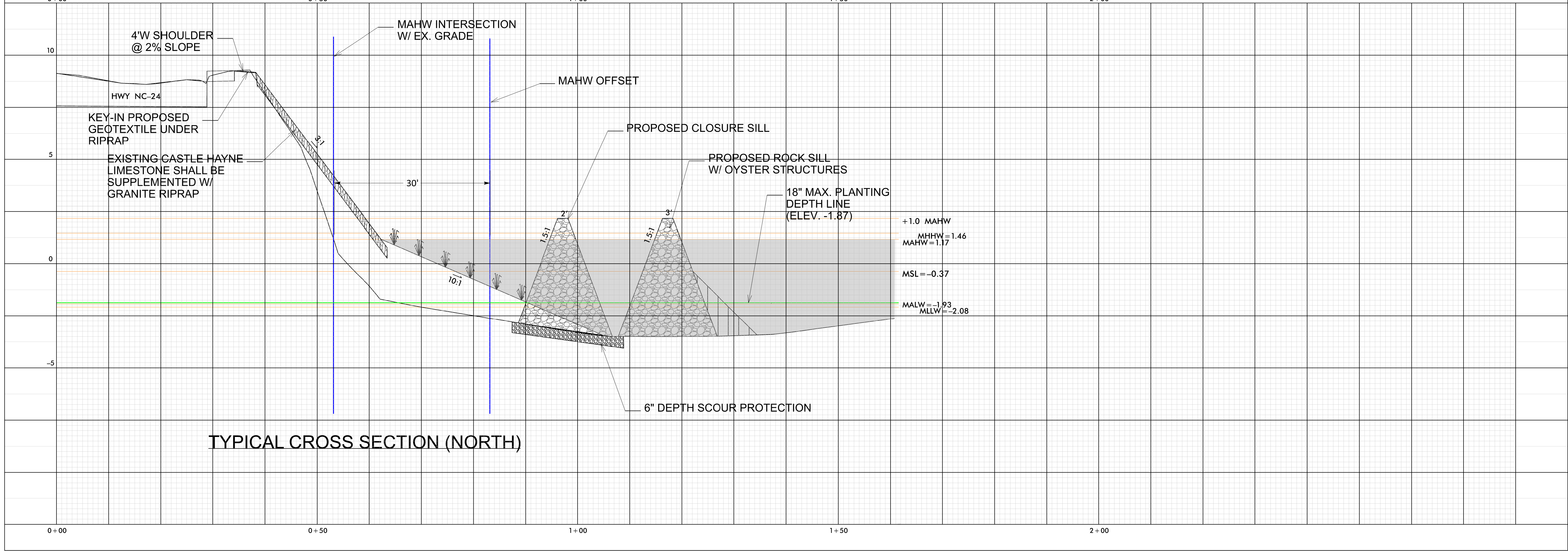
5/28/99

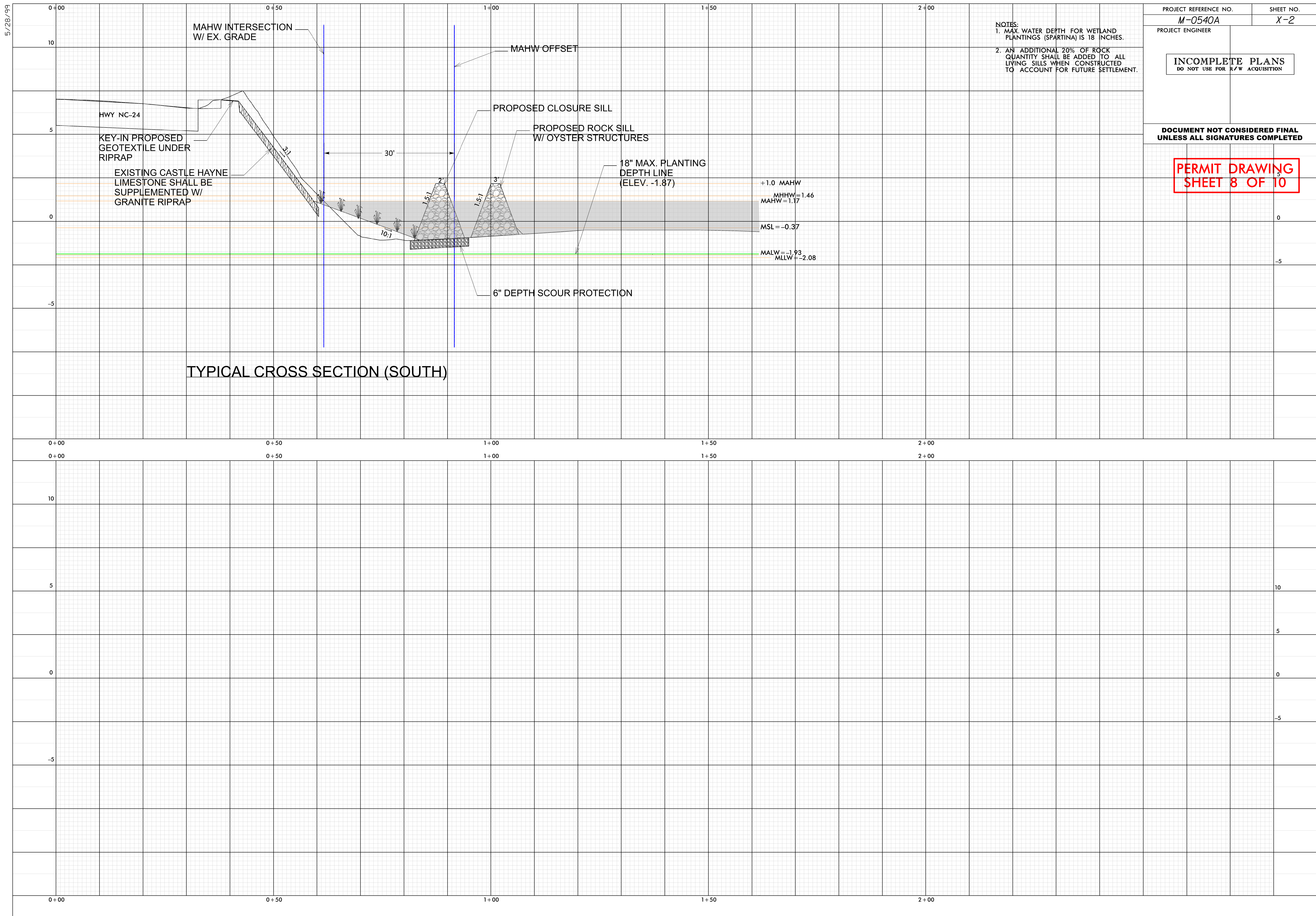


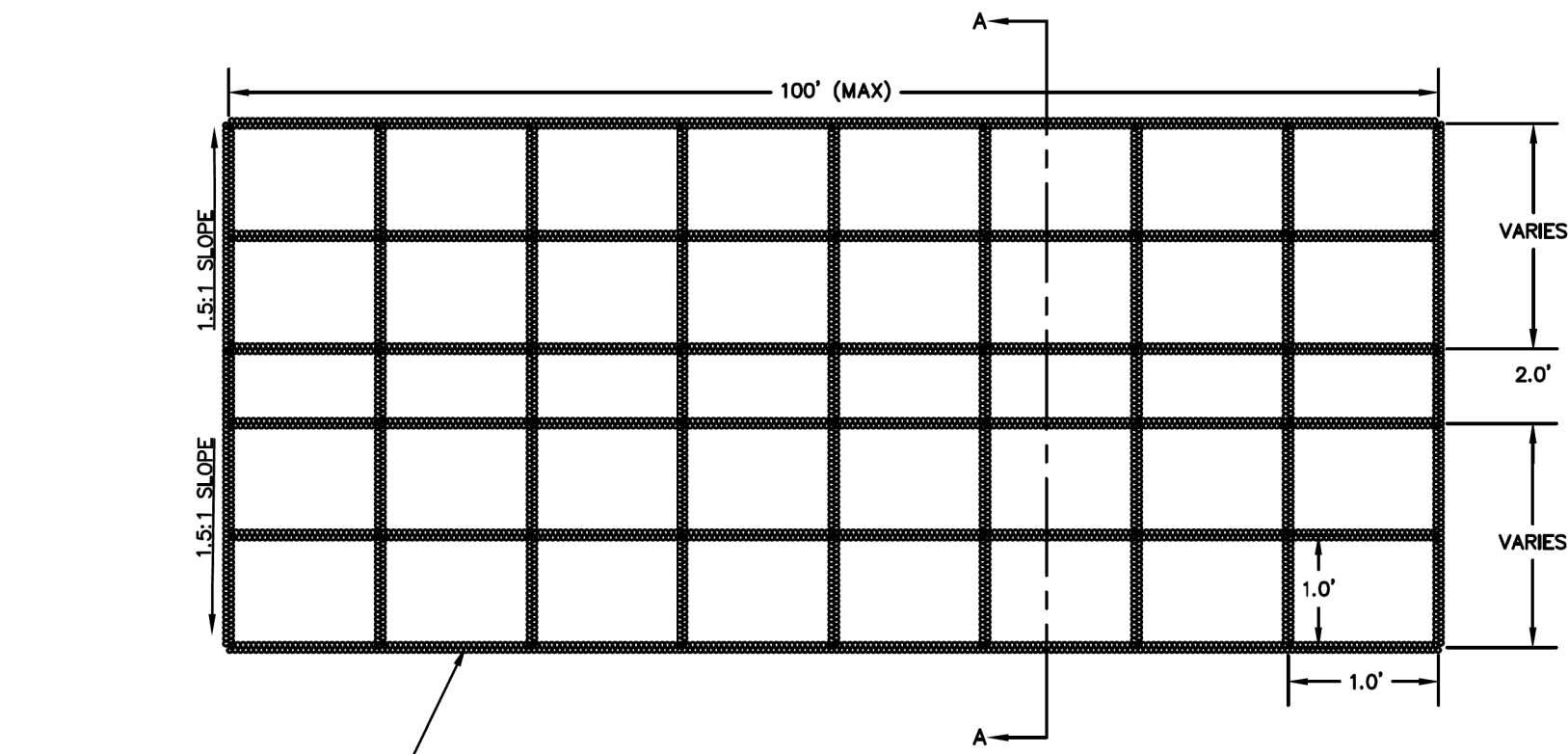
NOTES:
1. MAX WATER DEPTH FOR WETLAND PLANTINGS (SPARTINA) IS 18 INCHES.
2. AN ADDITIONAL 20% OF ROCK QUANTITY SHALL BE ADDED TO ALL LIVING SILLS WHEN CONSTRUCTED TO ACCOUNT FOR FUTURE SETTLEMENT.

PROJECT REFERENCE NO.	SHEET NO.
M-0540A	X-1
PROJECT ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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PERMIT DRAWING
SHEET 7 OF 10

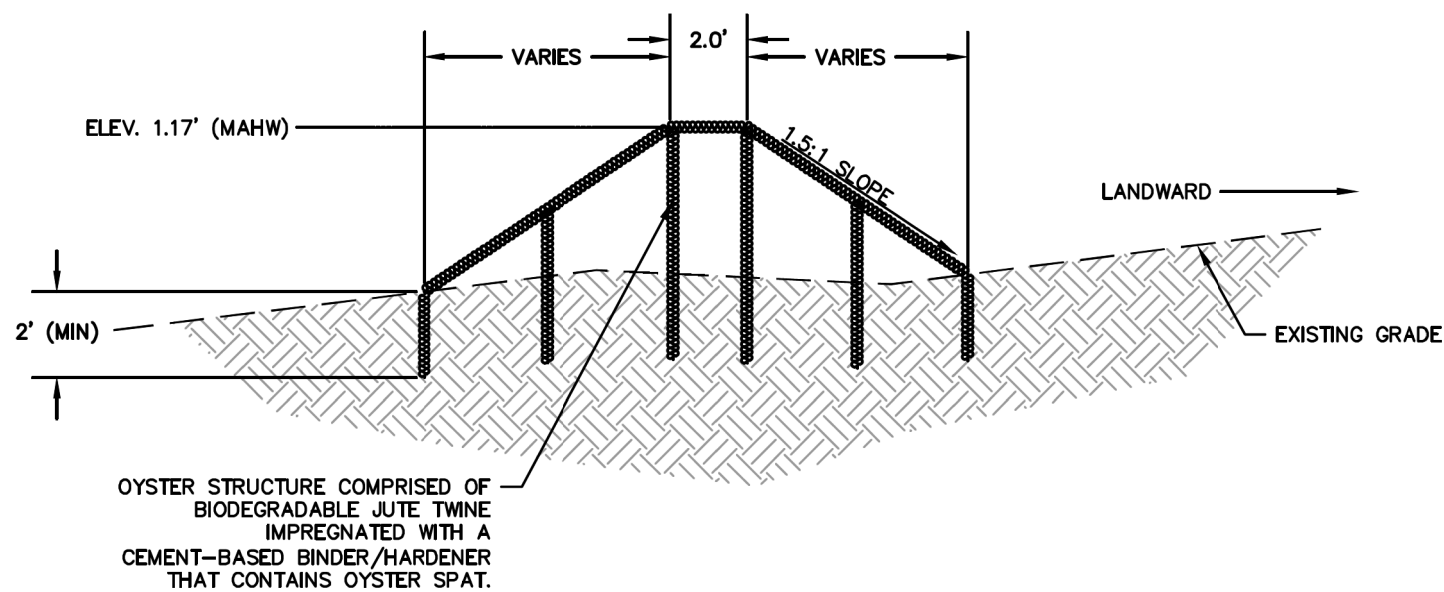






OYSTER STRUCTURE COMPRISED OF BIODEGRADABLE JUTE TWINE IMPREGNATED WITH A CEMENT-BASED BINDER/HARDENER THAT CONTAINS OYSTER SPAT.

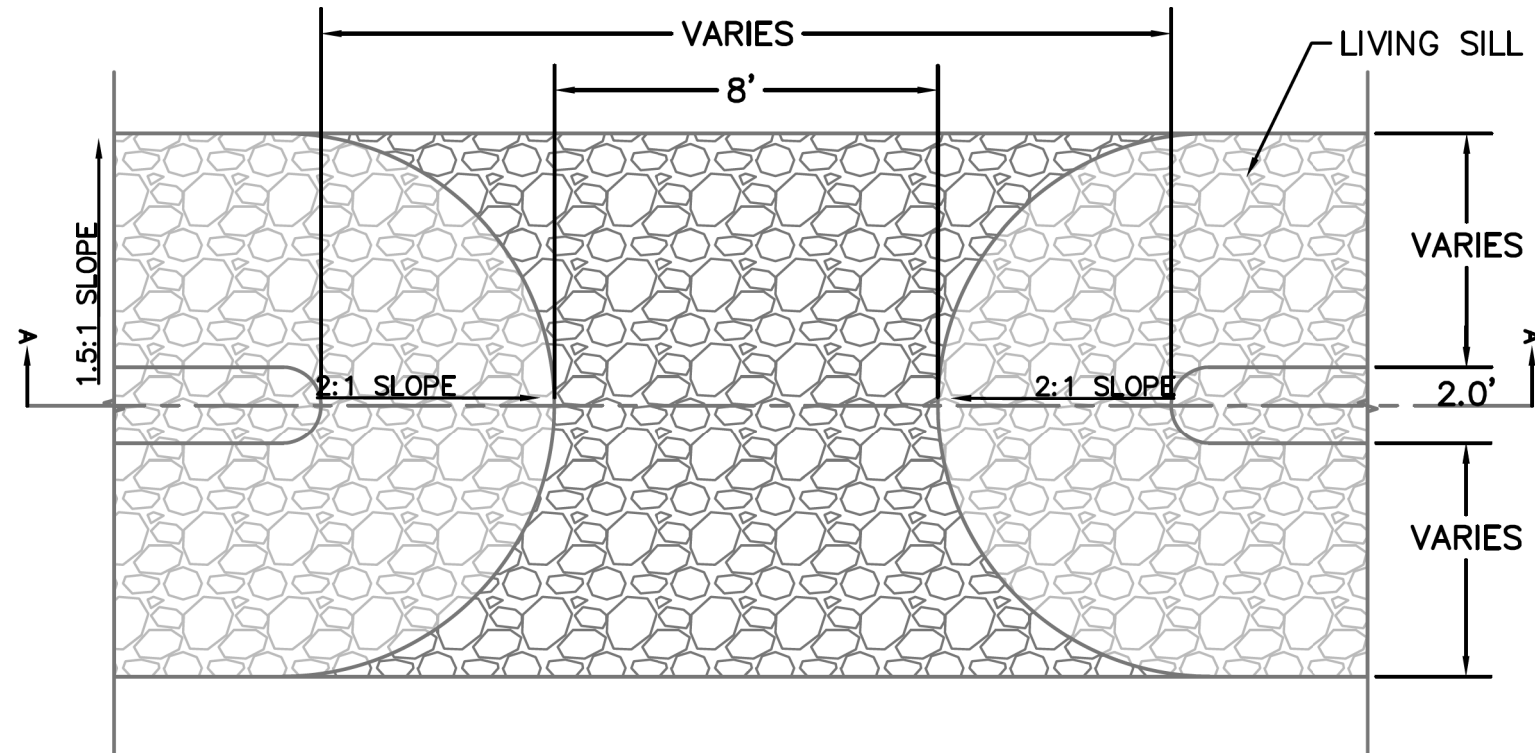
PLAN VIEW



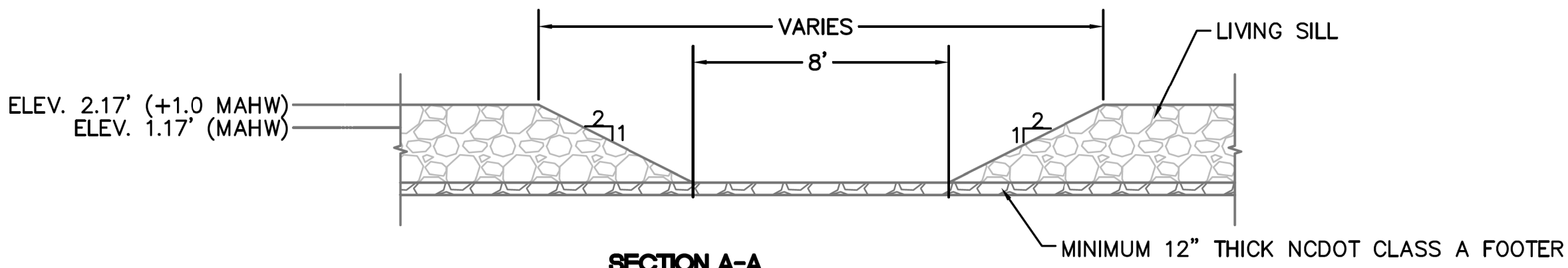
SECTION A-A

NOTE: ALTERNATIVE OYSTER STRUCTURE MAY BE USED WITH ENGINEER'S APPROVAL.

1 OYSTER STRUCTURE
Not to Scale



PLAN VIEW

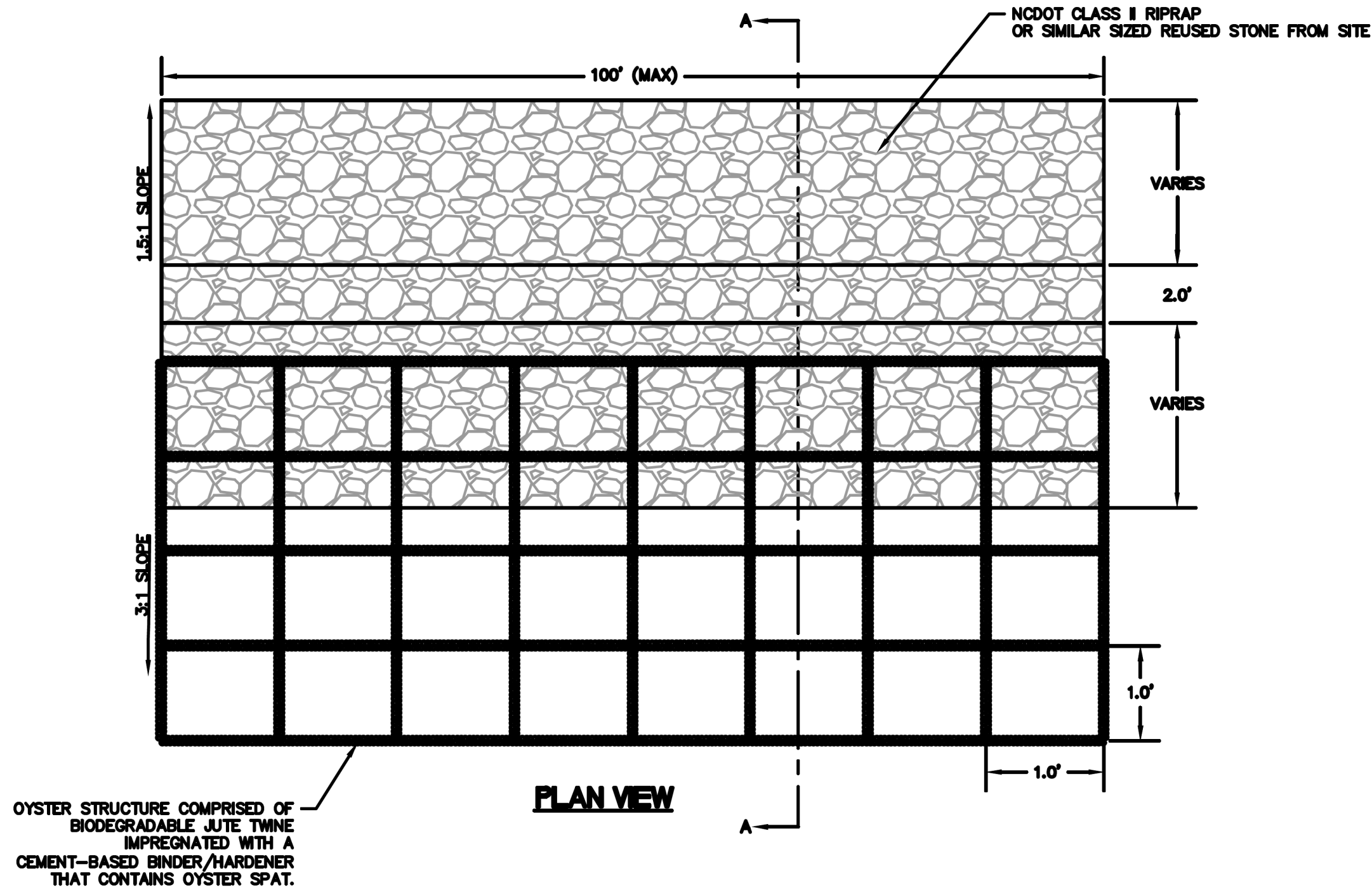


SECTION A-A

NOTES:

- LIVING SILL WINDOWS SHALL BE PLACED AT A MINIMUM EVERY 100 LINEAR FEET ALONG THE LIVING SILL.
- THE INTENT OF THIS DETAIL IS TO SHOW THE GENERAL REQUIREMENTS OF FOR CONSTRUCTING THE LIVING SILL. THE OVERALL DIMENSIONS OF THE SILL WILL VARY DEPENDING ON THE UNDERLYING SOIL CONDITIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR BORING INFORMATION.

3 LIVING SILL WINDOW
Not to Scale

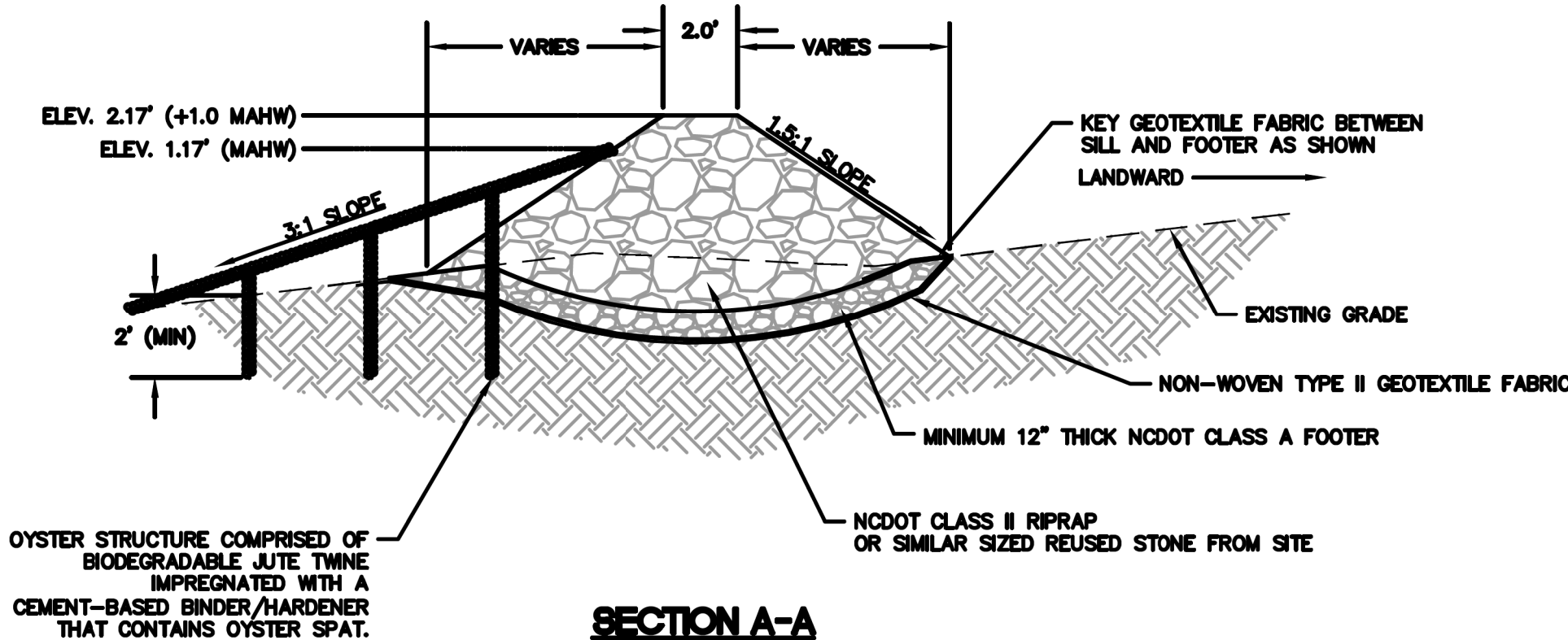


OYSTER STRUCTURE COMPRISED OF BIODEGRADABLE JUTE TWINE IMPREGNATED WITH A CEMENT-BASED BINDER/HARDENER THAT CONTAINS OYSTER SPAT.

PLAN VIEW

NOTES:

- TOP LAYER OF STONE ON SILL (MINIMUM 24") SHALL BE NCDOT CLASS II RIPRAP AND NOT REUSED STONE FROM SITE.
- THE INTENT OF THIS DETAIL IS TO SHOW THE GENERAL REQUIREMENTS OF FOR CONSTRUCTING THE LIVING SILL. THE OVERALL DIMENSIONS OF THE SILL WILL VARY DEPENDING ON THE UNDERLYING SOIL CONDITIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR BORING INFORMATION.



SECTION A-A

2 LIVING SILL
Not to Scale