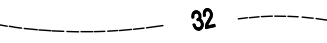
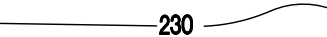
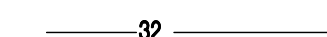
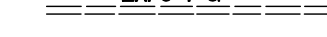
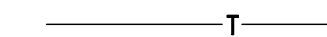


LEGEND

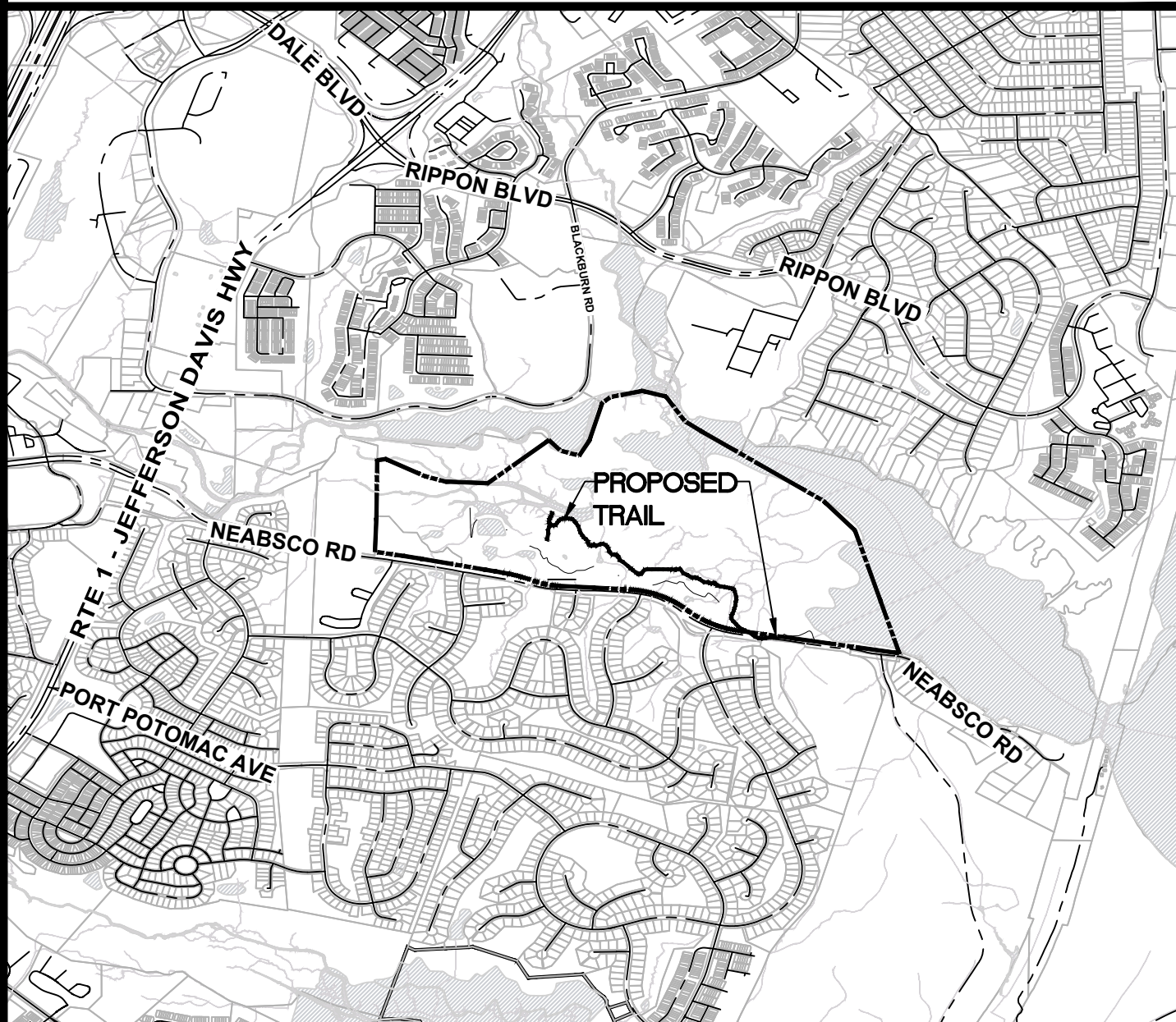
- | | | |
|--------------------------------|---|--|
| EXISTING INTERMEDIATE CONTOUR |  | FLOW LINE |
| EXISTING INDEX CONTOUR |  | FENCE LINE |
| PROPOSED CONTOUR |  | EXISTING UTILITY POLE |
| EXISTING EDGE OF PAVEMENT |  | PROPOSED UTILITY POLE |
| PROPOSED EDGE OF PAVEMENT |  | EXISTING WATERLINE W/ TEE |
| EXISTING CURB AND GUTTER |  | PROPOSED WATERLINE W/ TEE |
| PROPOSED CURB AND GUTTER |  | EXISTING FIRE HYDRANT |
| TRANSITION FROM CG-6 TO CG-6R |  | PROPOSED FIRE HYDRANT |
| EXISTING TELEPHONE LINE |  | EXISTING WATER VALVE |
| PROPOSED TELEPHONE LINE |  | PROPOSED WATER VALVE |
| EXISTING STORM SEWER |  | PROPOSED WATER METER |
| PROPOSED STORM SEWER |  | EXISTING REDUCER |
| EXISTING SANITARY SEWER |  | PROPOSED REDUCER |
| PROPOSED SANITARY SEWER |  | STOP SIGN |
| EXISTING ELECTRIC SERVICE |  | HANDICAP RAMP (CG-120)
DENOTES LOCATION OF STD. MOOT
CG-12 AND/OR JURISDICTIONAL
STANDARD RAMP CONSTRUCTION |
| PROPOSED ELECTRIC SERVICE |  | PARKING INDICATOR
INDICATES THE NUMBER OF TYPICAL PARKING SPACES |
| EXISTING GAS LINE |  | TEST PIT LOCATION |
| PROPOSED GAS LINE |  | CRITICAL SLOPE
SLOPES TO BE RESEED, MULCHED + TACKED
PERMANENT TO SECTION 10000, PRINCE WILLIAM
COUNTY DESIGN + CONSTRUCTION STANDARDS MANUAL |
| PROPERTY LINE |  | VEHICLES PER DAY COUNT |
| EASEMENT LINE |  | PROPOSED BUILDING ENTRANCE |
| CENTERLINE |  | EXISTING STREET LIGHT |
| LIMITS OF CLEARING AND GRADING |  | PROPOSED STREET LIGHT |
| EXISTING SPOT ELEVATION |  | PROPOSED STREET NAME SIGN |
| PROPOSED SPOT ELEVATION |  | PROPOSED SANITARY LATERAL CLEANOUT |
| EXISTING TREE DRIP LINE |  | SANITARY MANHOLE IDENTIFIER |
| EXISTING TREE |  | STORM DRAIN STRUCTURE IDENTIFIER |
| PROPOSED TREE |  | |

1. Horizontal and vertical control surveys were performed by PENNONI ASSOCIATES in AUG. 2018.
2. All elevations must be referenced to the National Geodetic Vertical Datum of 1988 (NGVD 88).
3. Source of topographic mapping is FIELD RUN SURVEY dated AUGUST 7, 2018.
4. Boundary survey was performed by OTHERS dated N/A.
5. The application of the professional's seal and signature as required by Section 1.14 of the STATE BOARD OF ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS and CERTIFIED LANDSCAPE ARCHITECTS RULES AND REGULATIONS shall be evidence that the board's date is correct to the best of the land surveyor's knowledge, and complies with the minimum standards and procedures of the said Board; the topographic information is accurate to within one-half of the contour interval, as shown. Application of the seal and signature indicates acceptance of responsibility for the work shown herein.

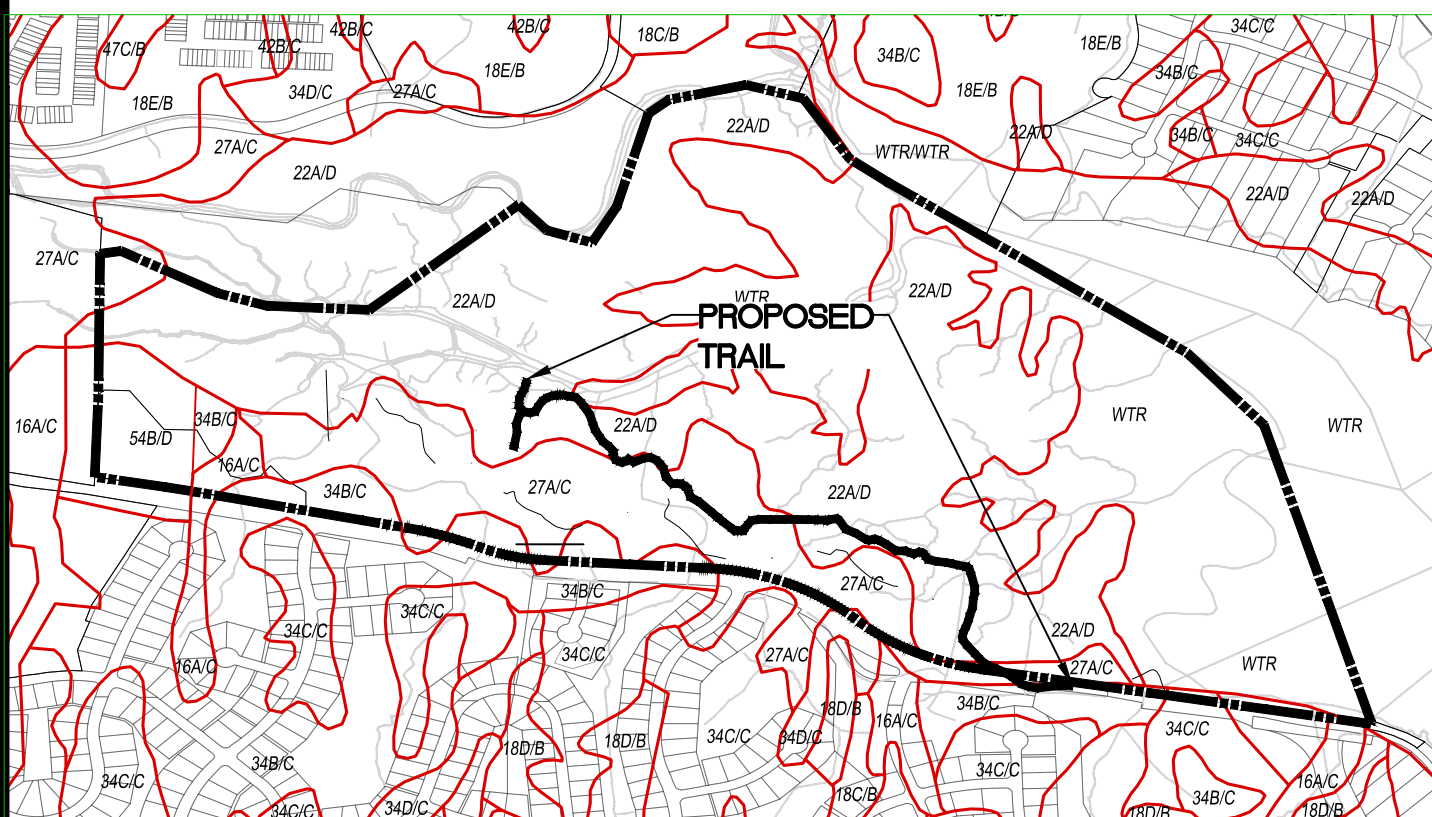
1ST SUBMISSION REVIEWED AND RECOMMENDED FOR SUBMISSION

2ND SUBMISSION REVIEWED AND RECOMMENDED FOR SUBMISSION

ITEM	COUNTY BOND	VDOT BOND
TOTAL CONSTRUCTION COST		
ADMINISTRATIVE COST (10%)		
INFLATION COST (3%)	N/A	N/A
TOTAL PERFORMANCE BOND AMOUNT		
SILTATION AND EROSION CONTROL ESCROW	\$4,015.00	

$$1'' = 2000'$$


NOTE: DUE TO THE SEVERE ERODIBILITY AND PROBLEM SOILS PRESENT ON THIS SITE, A GEOTECHNICAL ENGINEER SHALL EXAMINE THE SITE AND PROVIDE RECOMMENDATIONS FOR THE PROPOSED CONSTRUCTION.



SOILS INFORMATION WAS OBTAINED FROM THE "SOIL SURVEY OF PRINCE WILLIAM COUNTY VIRGINIA" ISSUED AUGUST 1989.

SCALE 1"=1000'

SOIL NAME	MAP SYMBOL	SLOPE	HSG	K	SOIL CATEGORY
WATER	WTR	N/A	N/A	N/A	N/A
DELANCO	16A/C	0-5%	A	A	III
FEATHERSTONE	22A/D	0-5%	A	A	III
HALBORO-CODORUS Cx	27A/C	0-5%	A	A	III
LUNT	34B/C	0-5%	C	C	III
URBAN LAND / UDORIENTHS	54B/D	0-5%	B	B	II*

NOTE: PER THE SOIL SURVEY OF PRINCE WILLIAM COUNTY, VIRGINIA, CATEGORY II SOILS ARE CONSIDERED POTENTIAL PROBLEM SOILS, AND MAY CONTAIN HIGH GROUNDWATER TABLE (SEASONAL OR PERCHED), SHALLOW ROCK, OR NATURAL ASBESTOS FORMATIONS.

★ WHEN THESE SOILS ARE LOCATED IN THE WESTERN AND EASTERN COASTAL PLAINS, THEY WILL BE CONSIDERED AS CATEGORY II AND III SOILS, RESPECTIVELY.



PROFESSIONAL SEAL & SIGNATURE

THESE PLANS ARE IN CONFORMANCE WITH PRINCE WILLIAM COUNTY STANDARDS AND ORDINANCES. ANY DEVIATION OR CHANGE IN THESE PLANS SHALL BE APPROVED BY THE DIRECTOR OF PLANNING PRIOR TO CONSTRUCTION.

This plan has been reviewed and has been found to be in general conformance with the requirements of Prince William County. The developer is hereby authorized to obtain all necessary land development permits, subject to all designs, procedures, materials and workmanship being in compliance with lawful requirements. If not bonded or permitted (if applicable) within five (5) years of the authorized date or lawfully extended, this authorization will expire. A valid agreement and bond with Prince William County must be maintained to assure plan and permit validity.

SHEET INDEX	SHEET NUMBER	SHEET NAME
CS0001	1	COVER SHEET
CS0002	2	CIVIL-SITE NOTES & LEGEND
CS0003	3	STRUCTURAL NOTES
CS0004	4	STRUCTURAL NOTES
CS0101	5	PWCSA COVER SHEET
CS0102	6	PWCSA INSPECTOR WATER & SANITARY SEWER LOGS
CS0103	7	SUMMARY OF QUANTITIES
CS1001	8	OVERALL PLAN
CS1002	9	SITE PLAN
CS1003	10	SITE PLAN
CS1004	11	SITE PLAN
CS1005	12	SITE PLAN
CS8004	13	BOARDWALK DETAILS 1
CS8501	14	BOARDWALK DETAILS 2
CS8502	15	BOARDWALK DETAILS 3
CS8502	16	BOARDWALK RADIUS DETAIL
CS8502	17	BOARDWALK RADIUS DETAIL
CS8001	18	EROSION AND SEDIMENT CONTROL PLAN
CS8001	19	EROSION AND SEDIMENT CONTROL PLAN
CS8001	20	EROSION AND SEDIMENT CONTROL PLAN
CS8001	21	EROSION AND SEDIMENT CONTROL PLAN
CS8501	22	EROSION AND SEDIMENT CONTROL NARRATIVE
CS8502	23	EROSION AND SEDIMENT CONTROL DETAILS
CS9001	24	APPROVED JD INFORMATION SHEET
CS9002	25	WATERSHED DELINEATION INFORMATION SHEET
CS9003	26	WATERSHED DELINEATION INFORMATION SHEET

[illegible]

PROJECT NAME: JULIE METZ WETLAND BOARDWALK		PROJECT NUMBER:	
SUBDIVISION or SITE PLAN NAME: JULIE METZ WETLAND BOARDWALK		MARKET NAME:	PLAN NUMBER:
			PLAN TYPE:
MAGISTERIAL DISTRICT: WOODBRI		PRESENT ZONING & USE: AGRICULTURAL; RECREATION	DATE OF PLAN: (MM/DD/YYYY) 02 / 24 / 2020
OWNER: PWC BOARD OF COUNTY SUPERVISORS	OWNER ADDRESS: 1 COUNTY COMPLEX CT, WOODBRIDGE, VA 22192	OWNER PHONE#: (703) 792-6000	OWNER FAX#:
DEVELOPER: PRINCE WILLIAM CO. DEPT. OF PARKS AND RECREATION	DEVELOPER ADDRESS: 14420 BRISTOW ROAD, MANASSAS VA 20112	DEVELOPER PHONE#: (703) 792-7060	DEVELOPER FAX#:
NAME, ADDRESS, & TELEPHONE NO. of ENGINEER: PENNONI ASSOC., INC. 13880 DULLES CORNER LANE, STE. 100 HERNDON, VA 20171 (703) 840-4800			
ARCHITECT or SURVEYOR CERTIFYING PLAN:			
PARCEL IDENTIFICATION NUMBERS: 8390-36-3481			
TOTAL AREA: 211.6916	PROJECT AREA: 1.39 ACRES	DISTURBED AREA: 1.39 ACRES	IMPERVIOUS AREA: 0.00 ACRES
RELATED PLANS TRACKING NUMBERS (Including Rez. & S.U.P.):			

GENERAL STRUCTURAL AND CONSTRUCTION NOTES

1.0 GENERAL

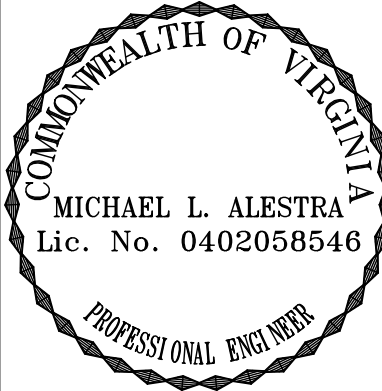
1. ALL WORK SHALL CONFORM TO THE "2016 INTERNATIONAL BUILDING CODE" AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
3. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
4. JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. NO DEWATERING ALLOWED PER NATION-WIDE PERMIT (NWP#18). REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. ALL COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. FAILURE TO NOTIFY OWNER'S REPRESENTATIVE OF UNSATISFACTORY CONDITIONS CONSTITUTES ACCEPTANCE OF UNSATISFACTORY CONDITIONS.
8. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING, AND SHORING, ETC. IMPOSED CONSTRUCTION LOADS IN EXCESS OF THE STATED DESIGN LOADS MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO THE IMPOSITION OF SUCH LOADS.
10. CONTRACTOR TO PROVIDE SHEETING, BRACING, AND UNDERPINNING AS NECESSARY TO PREVENT ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS, AND ANY EXISTING UTILITY LINES.
11. IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL OR THE ALUMINUM SHEET PILE RETAINING WALL. IF IT IS NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-0" TO THE WALL.
12. NO BLASTING SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL.
13. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS TO BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS.
14. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
16. SHOP DRAWINGS SUBMITTED FOR STRUCTURAL REVIEW SHALL CONSIST OF TWO (2) SETS OF PRINTS AND ONE (1) SET OF REPRODUCIBLES. ONLY ONE (1) MARKED UP SET OF REPRODUCIBLE WITH THE STRUCTURAL ENGINEER'S COMMENTS WILL BE RETURNED TO THE CONTRACTOR.
16. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
17. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON PENNONI CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF PENNONI ARE INVALID.
18. INSPECTION IS REQUIRED OF ALL CONSTRUCTION DELINEATED ON THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS. THE CONTRACTOR SHALL EMPLOY A TESTING/INSPECTION AGENCY WHICH SHALL PROVIDE PERSONNEL WITH THE FOLLOWING MINIMUM QUALIFICATIONS:
 - A. CERTIFIED BY INSTITUTE OF CERTIFIED ENGINEERING TECHNICIANS, OR OTHER RECOGNIZED COMPARABLE ORGANIZATION, AND,
 - FOR INSPECTION, SAMPLING, TESTING CONCRETE AND MASONRY: ACI CERTIFIED CONCRETE FIELD-TESTING TECHNICIAN, GRADE I; AND CONSTRUCTION INSPECTOR, LEVEL II.
 - STRUCTURAL STEEL INSPECTION: AWS CERTIFIED WELDING INSPECTOR.
19. SUBMIT PERIODIC REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO OWNER'S REPRESENTATIVE AND THE CONSTRUCTION CODE OFFICIAL DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK. CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
20. THE CONTRACTOR SHALL ENGAGE A TESTING AGENCY TO PROVIDE ANY TESTING SERVICES INDICATED IN THESE GENERAL NOTES.
21. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.

2.0 STRUCTURAL WOOD

1. DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL CONFORM WITH THE FOLLOWING CODES AND STANDARDS.
 - A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION", 2005 EDITION. (WITH SUPPLEMENT), AMERICAN FOREST AND PAPER ASSOCIATION.
 - B. "TIMBER CONSTRUCTION MANUAL", FOURTH EDITION, AS ADOPTED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, INCLUDING THE "CODE OF STANDARD PRACTICE", AITC 106.
 - C. ANSI/TPI 1-1995 "DESIGN SPECIFICATIONS FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION AND COMMENTARY", TRUSS PLATE INSTITUTE.
 - D. BUILDING COMPONENT SAFETY INFORMATION BCSI 1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES," WOOD TRUSS COUNCIL OF AMERICA AND TRUSS PLATE INSTITUTE.
 - E. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6th ADDITION, 2013.
 - F. AASHTO LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES 2nd ADDITION, 2007.
2. DESIGN LOADING
 - A. FIVE THOUSAND POUND VEHICLE OR PEDESTRIAN LOADING OF 60 PSF
 - B. WIND LOAD OF 48 PSF
 - C. SNOW LOAD OF 20 PSF
 - D. BUOYANCY FORCE OF 1800 POUNDS PER PIER
3. MATERIALS
 - A. BASE DESIGN VALUES FOR FLOOR, DECKING, BLOCKING AND 10, 12 AND 14 FT. STRUCTURAL WOOD STRINGERS, PIER CAPS AND PIER POSTS: SOUTHERN YELLOW PINE GRADE NO. 1 OR BETTER (FB = 1000 PSI, FV = 175 PSI, E = 1,600,000 PSI) MINIMUM.
 - B. HANGER CONNECTIONS FOR JOISTS, BEAMS, TRUSSES, AND MANUFACTURED WOOD FRAMING SHALL BE STRONG-TIE CONNECTORS BY SIMPSON (TRUS JOIST MACMILLAN).
 - C. ALL PARALLAM BEAM ENDS WHICH FRAME INTO BEAMS SHALL BE HUNG WITH HANGERS AS MANUFACTURED BY KANT-SAG OR WITH APPROVED SUBSTITUTES WITH WORKING LOAD CAPACITIES EQUIVALENT TO THE "THD" OR "DHO" SERIES HANGERS.
 - D. PROVIDE END-COAT SEALING TO END AND CROSS CUTS AFTER CUTTING TO FINAL LENGTH FOR ALL PARALLAM BEAMS.
 - E. PROVIDE NAILING PATTERN IN COMPLIANCE WITH IBC RECOMMENDED FASTENING SCHEDULE WHEN JOINING TWO OR MORE FRAMING MEMBERS.
 - F. SEE INTERNATIONAL BUILDING CODE FOR MINIMUM BRACING AND FASTENING REQUIREMENTS.
 - G. MEMBERS SHALL BE SET WITH CROWN UP AND HAVE A MINIMUM OF 3" BEARING.
 - H. ALL FASTENERS INCLUDING NAILS, SCREWS, LAG BOLTS, ANCHOR BOLTS, AND BOLTS SHALL BE STAINLESS STEEL (A316) AND FITTED WITH STAINLESS STEEL PLATE WASHERS WHERE INDICATED ON THE PLANS.
 - I. ALL WOOD SHALL BE PRESSURE TREATED (PT) WITH ALKALINE COPPER QUATERNARY (ACQ) STANDARD U1 FOR GROUND CONTACT USE CATEGORY 4B OR 4C ACQ.

(CONTINUED ON SHEET CS0004)

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORK



**100%
SUBMISSION**

JULIE METZ WETLAND BOARDWALK

15875 NEABSCO ROAD
WOODBIDGE, VIRGINIA 22191

STRUCTURAL NOTES

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

[illegible]

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PROJECT OF THE USER SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT PWMCO18002

DATE 2020-02-24

DRAWING SCALE NONE

DRAWN BY	CJK
APPROVED BY	DWJ

CS0003

- | | |
|--------------------------------|---|
| <u>THRUST RESTRAINT</u> | |
| MINIMUM DESIGN PARAMETERS: | |
| PIPE MATERIAL: | _____ |
| SOIL TYPE: | _____ |
| SAFETY FACTOR: | _____ (MIN. 1.5 TO 1) |
| TRENCH TYPE: | _____ (MIN. 3) |
| TEST PRESSURE: | _____ (100 PSI PLUS THE MAX STATIC PRESSURE OR 150 PSI,
WHICH EVER IS GREATER) |
| BURIED DEPTH: | AS SHOWN IN THE PROFILES |

*THE RESTRAINING LENGTH FOR EACH FITTING, REDUCER & DEAD
END IS SHOWN AND SPECIFIED IN THE PROFILE SHEETS.

LOCAL FACILITIES CHARGE

THE PROPERTIES BEING DEVELOPED IN CONJUNCTION WITH THIS PROJECT ☐ ARE ☒ ARE NOT SUBJECT TO A LOCAL FACILITIES CHARGE. LFC Area: _____

MASTER PLAN UTILITY ADJUSTMENT

A MASTER PLAN UTILITY ADJUSTMENT AGREEMENT ☐ DOES
☒ DOES NOT EXIST BETWEEN THE SERVICE AUTHORITY AND THE
DEVELOPER FOR DEFINED BETTERMENTS.

*DESIGN OR CONSTRUCTION CHANGES MUST CARRY THE CONSENT
OF PWCSA ENGINEERING.

*THE DEVELOPER SHOULD REQUEST REIMBURSEMENT PER THE
AGREEMENT AFTER BETTERMENTS ARE INSTALLED AND TESTED.

	Original Qty. (Project Total)	Rev 1 Qty. (Project Total)	Rev 2 Qty. (Project Total)	Net Increase				
WATER MAIN	\$0.00				(L.F.) x	\$3.50	=	\$0.00
SEWER MAIN	\$0.00				(L.F.) x	\$5.45	=	\$0.00
TV SEWER MAIN	\$0.00				(L.F.) x	\$2.45	=	\$0.00
						TOTAL	=	\$0.00

PWCSA AS BUILT FEES

NOTE: Minimum fee of \$1000 is required for all plans connecting to utilities or installing main. Fees shall be computed on a linear footage base for plan revisions that propose additional main as part of an actively developing project for which PWCSA has not yet executed its as-built.

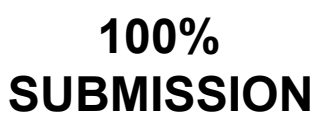
NAME: **MARK LIBERATI**
(TYPE OR PRINT)

TITLE: **PROJECT MANAGER**

FIRM: **PENNONI ASSOCIATES**

SIGNATURE: _____

DATE: **12/17/2018**



PLAN TITLE: **JULIE METZ WETLAND BOARDWALK**
PWC PLAN NO.: _____
ENGINEER: _____
MAP NO.: _____

PROJECTED POPULATION: _____

SEWER MAIN SIZE AND LENGTH: 8" - _____
(Note: lines larger than 24" must 10" - _____
be submitted to VDH for approval) 12" - _____

	<u>WATER</u>	
PIPE SIZES:	4" —	
(Note: lines larger than 18" must	6" —	
be submitted to VDH for approval)	8" —	
	12" —	
	16" —	
	18" —	
* CONNECTIONS		
NUMBER OF WATER METERS:		
RESIDENTIAL METER SIZE:		
NUMBER OF FIRE HYDRANTS:		

A HYDRAULIC ANALYSIS IS REQUIRED OF ANY PROJECT EXTENDING WATER MAINS. A HYDRANT FLOW TEST CAN BE USED IN PLACE OF AN ANALYSIS TO CALCULATE AVAILABLE FIRE FLOW WHEN NO NEW WATER MAIN IS PROPOSED OR ONLY A FIRE HYDRANT IS SET.

a) Minimum Pressure: _____
b) Maximum Pressure: _____
c) Fire Flow: _____

a) Static Pressure: _____
b) Residual Pressure: _____
c) Flow: _____
d) Available Fire Flow at 20 psi: _____

[illegible][illegible]

Building Identifier	Building Address	Building Use	If applicable number of dwelling units	Meter Size	Peak demand in gpm	If applicable continuous demand in gpm	Account Type			
							Water & Sewer	Sub-Meter Account	Water Only Account	Sewer Only Account
							☐	☐	☐	☐
							☐	☐	☐	☐
							☐	☐	☐	☐
							☐	☐	☐	☐

NOTE: A fixture unit list and meter sizing calculations in accordance to AWWA M22 2nd edition is to be inserted in the plan set supporting the information in this table.

Qty.	Valve Size	Manufacturer (PWCSA use)
	4 – inch	
	6 – inch	
	8 – inch	
	10 – inch	
	12 – inch	
	14 – inch	
	16 – inch	
	18 – inch	
	24 – inch	



Service Authority
Prince William County

SHEET 5 OF 26

Project Summary & Analysis

PLAN TITLE: JULIE METZ WETLAND BOARDWALK

PWC PLAN NO.:

PWCSA Inspector:

Contractor(s):

Type of project (Check all that apply):

☐ Residential SFD

☐ Residential Townhouses

☐ Residential Multi-family

☐ Public Improvement Plan

☐ Road Plans

☐ Off Site Utilities

☒ Non-Residential 1 pad site

☐ Non-Residential 2-4 pad sites

☐ Non-Residential 5+ pad sites

Date Project Started:

Date All Water & Sanitary Sewer Mains Completed & Tested:

Date Full Beneficial Use Assigned:

Date Released from Bond:

Number of lots or pad sites:

Quantity of water main:

Number of meter taps to the main:

Quantity of sewer main:

Number of manholes:

Number of lateral connects to the main:

Description of major factors that added significant inspection time (rock, bores, night work, restrictions in right-of-way, temporary services, pump arounds, etc.)

Project Proficiency:

(Rate project on a scale of 1 to 5 with 1 being the most proficient.)

Estimated Total Office/Mis. Time:

Estimated Total Field Time:

Number of Beneficial Use Inspections and Estimated Time:

Number of Bond Release Inspections and Estimated Time:

Estimated Total Time:

Date:

Total Field Time Spent For Day:

Stations:

Pipe Size:

Footage:

Comments:

Date:

Total Field Time Spent For Day:

Stations:

Pipe Size & Material:

% of Grade:

Footage:

Comments:

100% SUBMISSION

COMMONWEALTH OF VIRGINIA

MARK D. LIBERATTA

Lic. No. 21211

PROFESSIONAL ENGINEER

SHEET REVISED AS OF MARCH, 2013

SA

Service Authority

Prince William County

PWCSA INSPECTOR WATER & SANITARY SEWER LOG SHEET

SHEET 6 OF 26

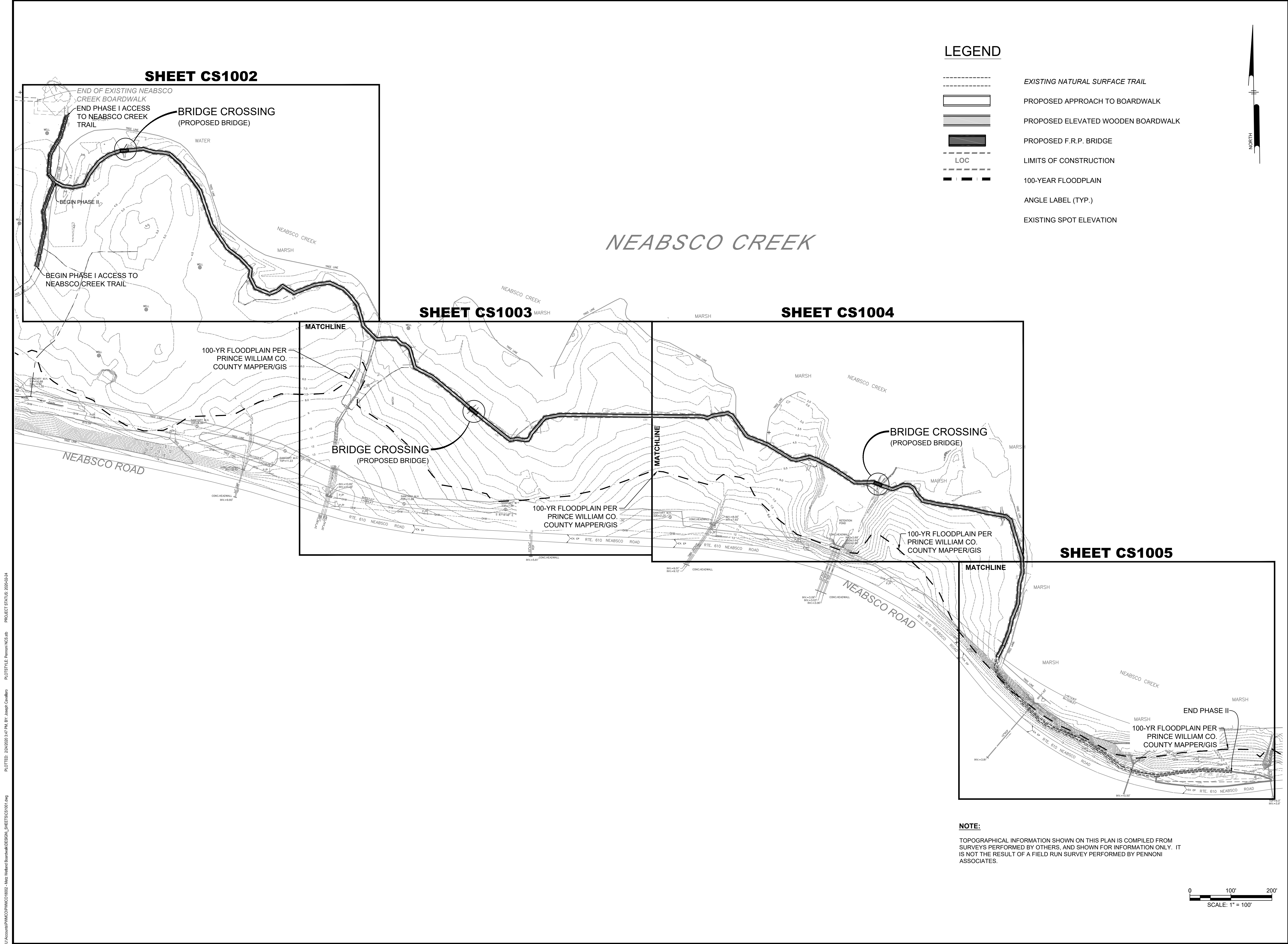
U:\accounts\PM\DC\PM\DC019002 - Metz Wetland Boardwalk\DESIGN_SHEET\SCS0102.dwg PLOTTED: 2/24/2023 3:44 PM BY: Joseph Cavallaro PLOT STYLE: Pwconr NCS.dwg PROJECT STATUS: 2020-02-24

PRINCE WILLIAM COUNTY Department of Development Services - Land Development Division UNIT PRICE LIST (Performance Bonds, Landscape Escrows, Siltation & Erosion Control Escrows, and Floodplain Item Escrows) Effective: March 15, 2017				
Project Name: JULIE METZ WETLAND BOARDWALK				
PWC File #:		Date Prepared: 12/17/2018		
NOTE: This form is to be used to estimate Performance Bond, Landscape Escrow, Siltation Erosion Escrow and Floodplain Item Escrow prices posted with Prince William County. These prices do not include items that are to be bonded separately with the Virginia Department of Transportation.				
1. MOBILIZATION/DEMobilIZATION OF CONSTRUCTION EQUIPMENT				
Quantity	Item	Price	Cost	
0	Mobilization/Demobilization	@ Lump Sum \$15,000 min.	\$	-
2. STORM DRAINAGE				
A. Structures				
Quantity	Item	Price	Cost	
	DI-1	@ \$3,970 EA	\$	-
	DI-3	@ \$4,500 EA	\$	-
	DI-4	@ \$5,500 EA	\$	-
	MH-1	@ \$3,000 EA	\$	-
	MH-2	@ \$3,500 EA	\$	-
	JB-1	@ \$6,000 EA	\$	-
	DI-7	@ \$4,000 EA	\$	-
	DI-12	@ \$4,000 EA	\$	-
	Subtotal for Structures:		\$	-
B. Concrete Pipe				
Quantity	Item	Price	Cost	
	12"	@ \$40 LF	\$	-
	15"	@ \$45 LF	\$	-
	18"	@ \$50 LF	\$	-
	21"	@ \$55 LF	\$	-
	24"	@ \$60 LF	\$	-
	27"	@ \$65 LF	\$	-
	30"	@ \$75 LF	\$	-
	33"	@ \$110 LF	\$	-
	36"	@ \$120 LF	\$	-
	42"	@ \$140 LF	\$	-
	48"	@ \$150 LF	\$	-
	54"	@ \$200 LF	\$	-
	60"	@ \$240 LF	\$	-
	66"	@ \$300 LF	\$	-
	72"	@ \$350 LF	\$	-
	Subtotal for Concrete Pipe:		\$	-
Subtotal for this page: \$ -				
C. End Walls				
Quantity	Item	Price	Cost	
	12"	@ \$900 EA	\$	-
	15"	@ \$1,100 EA	\$	-
	18"	@ \$1,300 EA	\$	-
	21"	@ \$1,500 EA	\$	-
	24"	@ \$1,700 EA	\$	-
	27"	@ \$1,900 EA	\$	-
	30"	@ \$2,100 EA	\$	-
	33"	@ \$2,300 EA	\$	-
	36"	@ \$2,800 EA	\$	-
	42"	@ \$4,000 EA	\$	-
	48"	@ \$4,200 EA	\$	-
	54"	@ \$5,000 EA	\$	-
	60"	@ \$5,500 EA	\$	-
	66"	@ \$6,000 EA	\$	-
	72"	@ \$7,500 EA	\$	-
	Subtotal for End Walls:		\$	-
D. End Sections (ES-1)				
Quantity	Item	Price	Cost	
	12"	@ \$350 EA	\$	-
	15"	@ \$380 EA	\$	-
	18"	@ \$700 EA	\$	-
	21"	@ \$875 EA	\$	-
	24"	@ \$900 EA	\$	-
	27"	@ \$1,200 EA	\$	-
	30"	@ \$1,150 EA	\$	-
	33"	@ \$1,500 EA	\$	-
	36"	@ \$1,900 EA	\$	-
	Subtotal for End Section ES-1:		\$	-
E. Corrugated Metal Pipe				
Quantity	Item	Price	Cost	
	12"	@ \$30 LF	\$	-
	15"	@ \$35 LF	\$	-
	18"	@ \$45 LF	\$	-
	21"	@ \$55 LF	\$	-
	24"	@ \$65 LF	\$	-
	30"	@ \$90 LF	\$	-
	42"	@ \$100 LF	\$	-
	48"	@ \$115 LF	\$	-
	54"	@ \$130 LF	\$	-
	60"	@ \$150 LF	\$	-
	Subtotal for CM Pipe:		\$	-
Subtotal for this page: \$ -				
F. End Section (ES-2)				
Quantity	Item	Price	Cost	
	15"	@ \$400 EA	\$	-
	18"	@ \$420 EA	\$	-
	24"	@ \$480 EA	\$	-
	30"	@ \$650 EA	\$	-
	36"	@ \$1,100 EA	\$	-
	42"	@ \$1,400 EA	\$	-
	48"	@ \$1,800 EA	\$	-
	Subtotal for End Sections (ES-2):		\$	-
G. AD N-12 (HDPE)				
Quantity	Item	Price	Cost	
	12"	@ \$35 LF	\$	-
	15"	@ \$45 LF	\$	-
	18"	@ \$65 LF	\$	-
	24"	@ \$75 LF	\$	-
	30"	@ \$85 LF	\$	-
	36"	@ \$95 LF	\$	-
	42"	@ \$105 LF	\$	-
	48"	@ \$125 LF	\$	-
	60"	@ \$165 LF	\$	-
	Subtotal for AD N-12 (HDPE):		\$	-
Subtotal for this page: \$ -				

I. Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Treated (See Note 3)				
Quantity	Item	Price	Cost	
Non-Proprietary BMP(Engineer Estimate for all SWM)				
	Dry Retention Pond	By itemized cost		
	Dry Extended Detention Pond	By itemized cost		
	Wet Pond/Wetlands	By itemized cost		
	Bioswale	By itemized cost		
	Vegetated Grass Channel	By itemized cost		
	Micro-Bio-Retention (Raingarden)	By itemized cost		
	Infiltration Practices without Sand	By itemized cost		
	Infiltration Practices with Sand	By itemized cost		
	Filtering Practices with Sand Below Ground	By itemized cost		
	Filtering Practices with Sand Above Ground	By itemized cost		
	Permeable Pavement Level 2 Design	By itemized cost		
	Vegetated Roof Level 1 Design	By itemized cost		
	Vegetated Roof Level 2 Design	By itemized cost		
	Soil Compost Amendment	By itemized cost		
	Rooftop Impervious Surface Disconnection	By itemized cost		
	Sheet Flow to a Vegetated Filter Strip	By itemized cost		
Proprietary/Manufactured BMP-manufacturer's Certified Cost Plus Construction Cost				
	Aqua-Swirl® Stormwater Treatment System	By itemized cost		
	Bay Separator™	By itemized cost		
	Continuous Deflective Separator® (CDS)	By itemized cost		
	Downstream Defender®	By itemized cost		
	Hydroguard	By itemized cost		
	Stormceptor® MAX	By itemized cost		
	Stormceptor® OSR	By itemized cost		
	Stormceptor® STC	By itemized cost		
	StormPro	By itemized cost		
	Storm Water Quality Unit	By itemized cost		
	V2BI	By itemized cost		
	The Vortechs® System	By itemized cost		
	Aqua-Filter Stormwater™ Filtration System	By itemized cost		
	Storm Tech® Isolator Row™	By itemized cost		
	Up-Flow Filter® with CPZ Media	By itemized cost		
	The Stormwater Management StormFilter® with ZPG Media	By itemized cost		
	Bay Filter™ Stormwater Cartridge System	By itemized cost		
	Filterena BioRetention Systems	By itemized cost		
	Jellyfish® Filter	By itemized cost		
	Modular Wetland System Linear (MWS-Linear)	By itemized cost		
	Perk Filter	By itemized cost		
	The Stormwater Management StormFilter® with Phosphosorb Media	By itemized cost		
Subtotal for Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Treated:			\$	-
Subtotal for this page:			\$	-
J. Miscellaneous Stormwater Management				
Quantity	Item	Price	Cost	
	Seed, Fertilizer & Mulch (\$200 Min.)	@ \$150 SY	\$	-
	Sod	@ \$6.00 SY	\$	-
	Hydraulic Cem. Conc. - 4" depth	@ \$6.00 SF	\$	-
	Bituminous Concrete - 1" depth	@ \$5.00 SY	\$	-
	Rip-Rap	@ \$7.00 SF	\$	-
	Grouted Rip-Rap	@ \$9.00 SF	\$	-
	Erosion Control Stone (EC-1)	@ \$113 TON	\$	-
	#57 - Coarse Aggregate	@ \$26 TON	\$	-
	4" High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$19 LF	\$	-
	6" High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$37 LF	\$	-
	SWM Sign (WATER RISES RAPIDLY) (Minimum 3 signs per facility)	@ \$390 EA	\$	-
	Access Road	By Itemized Cost	\$	-
Subtotal for Miscellaneous Stormwater Management:			\$	-
K. Miscellaneous Drainage Items				
Quantity	Item	Price	Cost	
	Box Culvert	@ \$ 727 CY of conc.	\$	-
	Energy Dissipater	@ \$1,953 EA	\$	-
	Wing Walls	@ \$860 CY of conc.	\$	-
Ditches:				
	Roadside Standard Ditches (Seed, Fertilize & Mulch)	@ \$7.00 LF	\$	-
	Sod Ditches	@ \$9.00 LF	\$	-
	Paved Ditches	@ \$8.00 SF	\$	-
	Filter Cloth Fabric & Gabion Stone	@ \$14 SF	\$	-
	Rip-Rap	@ \$7.00 SF	\$	-
	Grouted Rip-Rap	@ \$9.00 SF	\$	-
	Paved Flume	@ \$10 SF	\$	-
	Flush the Drainage System	\$250/Hr. (Min 8 @ Hrs.)	\$	-
Subtotal for Miscellaneous Drainage Items:			\$	-
Subtotal for this page:			\$	-
L. CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR PRIVATE INGRESS/EGRESS EASEMENTS				
A. Site Work				
Quantity	Item	Price	Cost	
	Clear & Grub	@ \$11,860	\$	-
	Excavation	@ \$26 CY	\$	-
	Embankment** (cut and fill)	@ \$10 CY	\$	-
	Embankment (haul off)	@ \$36 CY	\$	-
	Final Grading	@ \$5,000 AC	\$	-
	Rock Excavation	@ \$64 CY	\$	-
	Slope Stabilization - Hydrosceding (3:1 or flatter) \$1,000 Min.	@ \$1.00 SY	\$	-
	Slope Stab. - Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min.	@ \$6.00 SY	\$	-
	Slope Stab. - Sod (Between 2:1 to 3:1) \$200 Min.	@ \$8.00 SY	\$	-
	Slope Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)	@ \$17 SY	\$	-
Subtotal for Site Work:			\$	-
B. Subgrade, Subbase, and Base Course Items				
Quantity	Item	Price	Cost	
	Subgrade preparation (Subbase and base course)	@ \$3.00 SY	\$	-
	Aggregate (21A/21B)	@ \$3.50 SY per Inch Depth	\$	-
	Bituminous Concrete	@ \$5.50 SY per Inch Depth	\$	-
	Reinforced Concrete Pavement	@ \$15.50 SY per Inch Depth	\$	-
	Gravel Shoulders (4" Depth)	@ \$8.50 SY (4" Depth)	\$	-
	Soil Cement Stabilization (4%)	@ \$20.50 SY (6" Depth)	\$	-
	Line Stabilization (10%)	@ \$15 SY (6" Depth)	\$	-
	Cement Treated Aggregate	@ \$5.00 per Inch Depth	\$	-
Underdrains:				
	UD-1	@ \$16 LF	\$	-
	UD-2	@ \$18 LF	\$	-
	UD-3	@ \$19 LF	\$	-
	UD-4	@ \$21 LF	\$	-
Subtotal for Subgrade, Subbase, Base Course Items & Underdrains (Public):			\$	-
Subtotal for this page:			\$	-

Entrances and Pipe Stems				
Quality	Item	Price	Cost	
	DE-1	@ \$1,800 EA	\$	-
	DE-2	@ \$1,950 EA	\$	-
	DE-3	@ \$2,000 EA	\$	-
	DE-4	@ \$2,000 EA	\$	-
	PP-1 (1 Lot)	@ \$1,800 EA	\$	-
	PP-1 (2-5 Lots)	@ \$2,000 EA	\$	-
	PP-2 (1 Lot)	@ \$1,200 EA	\$	-
	PP-2 (2-5 Lots)	@ \$1,500 EA	\$	-
	CG-9D or equal: 30" Width	@ \$5,000 EA	\$	-
	CG-9D or equal: 40" Width	@ \$6,500 EA	\$	-
	CG-10A or equal: 30" Width	@ \$4,120 EA	\$	-
	CG-10A or equal: 40" Width	@ \$5,300 EA	\$	-
	CG-11 Concrete Entrance	@ \$3,000 EA	\$	-
	Valley Gutter	@ \$55 SY	\$	-
	Pipestem Driveway - 10" (1 Lot)	@ \$55 LF	\$	-
	Pipestem Driveway - 18" (2-5 Lots)	@ \$70 LF	\$	-
Subtotal for Entrance and Pipe Stems:			\$	-
Subtotal for this page:			\$	-
D. Miscellaneous Construction Items				
Quantity	Item	Price	Cost	
	Sidewalk (5' Width)	@ \$34 LF	\$	-
	Header Curb (CG-2/CG-3)	@ \$20 LF	\$	-
	Curb & Gutter	@ \$25 LF	\$	-
	CG-12 (Truncated Dome)	@ \$2,000 EA	\$	-
	Bicycle Trail/Walkway	@ \$9.00 SF	\$	-
	Raised Concrete Median (MS-1A)	@ \$70 SY	\$	-
	Trail (Wood Chip)	@ \$19 SY	\$	-
	Trail (Stone Dust)	@ \$19 SY	\$	-
Retaining Walls:				
	Timber	@ \$29 SF	\$	-
	Crib	@ \$38 SF	\$	-
	MSE/Geogrid	@ \$43 SF	\$	-
	Gravity Wall	@ \$62 SY	\$	-
	Excavation for tiebacks in walls in cut areas	@ \$25 CY	\$	-
	Anti-Graffiti Paint (Concrete Retaining Walls only-treatment/sealant)	@ \$15 SF (Min. \$2,500)	\$	-
	Guardrail	@ \$39 LF	\$	-
	GR-7 NCHRP 350	@ \$2,686 EA	\$	-
	GR-9	@ \$3,640 EA	\$	-
	Address Sign (Entrance to Pipestems)	@ \$398 EA	\$	-
	Street Name Sign	@ \$410	\$	-
	Traffic Control Sign	@ \$392	\$	-
	Bus Stop Sign	@ \$342	\$	-
	Bus Shelter	@ \$17,284	\$	-
	Traffic Signal	@ (Lump Sum)	\$	-
	HC Parking Space Sign	@ \$649	\$	-
	Dia. Rack	@ \$305 EA	\$	-
	Roadside Delineators (ED-1)	@ \$64 EA	\$	-
	Hand Rail (HR-1)	@ \$102 LF	\$	-
	Pavement Marking (Paint)	@ \$2.00 SF	\$	-
	Pavement Marking (Thermoplastic)	@ \$6.00 SF	\$	-
	Traffic Barricade (TB-1)	@ \$1,500 EA	\$	-
	Street Lighting	@ \$5,500 EA	\$	-
	Utilities Relocation	(Min. \$40,000) (Lump Sum or provide estimate from utility co.)	\$	-
	VDOT Street Acceptance Package	@ \$5,000	\$	-
	P.E. Certified "As-Built" Plans	Lump Sum (Min. \$12,000)	\$	-
Subtotal for Miscellaneous Construction Items:			\$	-
Subtotal for this page:			\$	-
4. SANITARY SEWER & WATER LINE CONSTRUCTION				
Quantity	Item	Price	Cost	
	Fire Hydrant Assembly	@ \$8,000 EA	\$	-
	Central Sewer Lift/Pump Station Construction	@ (Lump Sum)	\$	-
Water Main (Exclusive of Fire Hydrants)				
Quantity	Item	Price	Cost	
	4"0 DIP	@ \$50 LF	\$	-
	6"0 DIP	@ \$65 LF	\$	-
	8"0 DIP	@ \$78 LF	\$	-
	12"0 DIP	@ \$108 LF	\$	-
	16"0 DIP	@ \$140 LF	\$	-
	18"0 DIP	@ \$160 LF	\$	-
	4"0 or 6"0 RW Valve (with accessories)	@ \$1,000 EA	\$	-
	8"0 or 12"0 RW Valve (with accessories)	@ \$2,500 EA	\$	-
	16"0 or 24"0 RW Valve (with accessories)	@ \$6,000 EA	\$	-
	Standard Meter Crock & Appurtenances (Angle valve, backflow preventer, yoke, frame & cover, and service line)	@ \$2,000 EA	\$	-
	Meter Vault & Appurtenances (3 meters & larger)	@ \$10,500 EA	\$	-
	Water Main Blow-off Assembly	@ \$2,500 EA	\$	-
	Air Release Assembly	@ \$3,500 EA	\$	-
	Dead End Anchor System	@ \$7,500 EA	\$	-
Subtotal for Water Main:			\$	-
Subtotal for this page:			\$	-
Sanitary Sewer Pipe Line (Exclusive of Manhole Structures)				
Quantity	Item	Price	Cost	
	15"0 thru 4"0 LPFM (Low Pressure Force Main System)	@ \$30 LF	\$	-
	8"0 PVC	@ \$70 LF	\$	-
	8"0 DIP	@ \$80 LF	\$	-
	10"0 PVC	@ \$85 LF	\$	-
	10"0 DIP	@ \$90 LF	\$	-
	12"0 PVC	@ \$145 LF	\$	-
	12"0 DIP	@ \$150 LF	\$	-
	15"0 PVC	@ \$190 LF	\$	-
	4" Dia. Sanitary Sewer Manhole	@ \$10,000 EA	\$	-
	5" Dia. Sanitary Sewer Manhole	@ \$10,000 EA	\$	-
	Street Manhole Frame & Cover Assembly (including air bowl & chimney seal)	@ \$1,000 EA	\$	-
	Basement Manhole Frame & Cover Assembly (including chimney seal)	@ \$1,000 EA	\$	-
	Abandonment of Manhole	@ \$250 VF	\$	-
	4"0 PVC Lateral (including clean-out stack)	@ \$40 LF	\$	-
	4"0 DIP Lateral (including clean-out stack)	@ \$50 LF	\$	-
	6"0 PVC Lateral (including clean-out stack)	@ \$60 LF	\$	-
	6"0 DIP Lateral (including clean-out stack)	@ \$65 LF	\$	-
	LPFM Flushing Station	@ \$2,500 EA	\$	-
	Sewerage Air Release/Vacuum Breaker Assembly	@ \$3,500 EA	\$	-
	Steel Casing	@ \$500 LF	\$	-
	Ceasing Trap (500 gal. minimum)	@ \$4,500 EA	\$	-
		@	\$	-
		@	\$	-
		@	\$	-
Subtotal for Sanitary Sewer Pipe:			\$	-
Note: For sizes larger than 15"0, add \$4.00 per inch increase in diameter.				
Subtotal for this page:			\$	-

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LEGEND

- EXISTING NATURAL SURFACE TRAIL
- PROPOSED APPROACH TO BOARDWALK
- PROPOSED ELEVATED WOODEN BOARDWALK
- PROPOSED F.R.P. BRIDGE
- LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
- EXISTING SPOT ELEVATION

PENNONI ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

100% SUBMISSION

JULIE METZ WETLAND BOARDWALK
15875 NEABSCO ROAD
WOODBIDGE, VIRGINIA 22191

OVERALL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

DATE	NO.	REVISIONS	BY

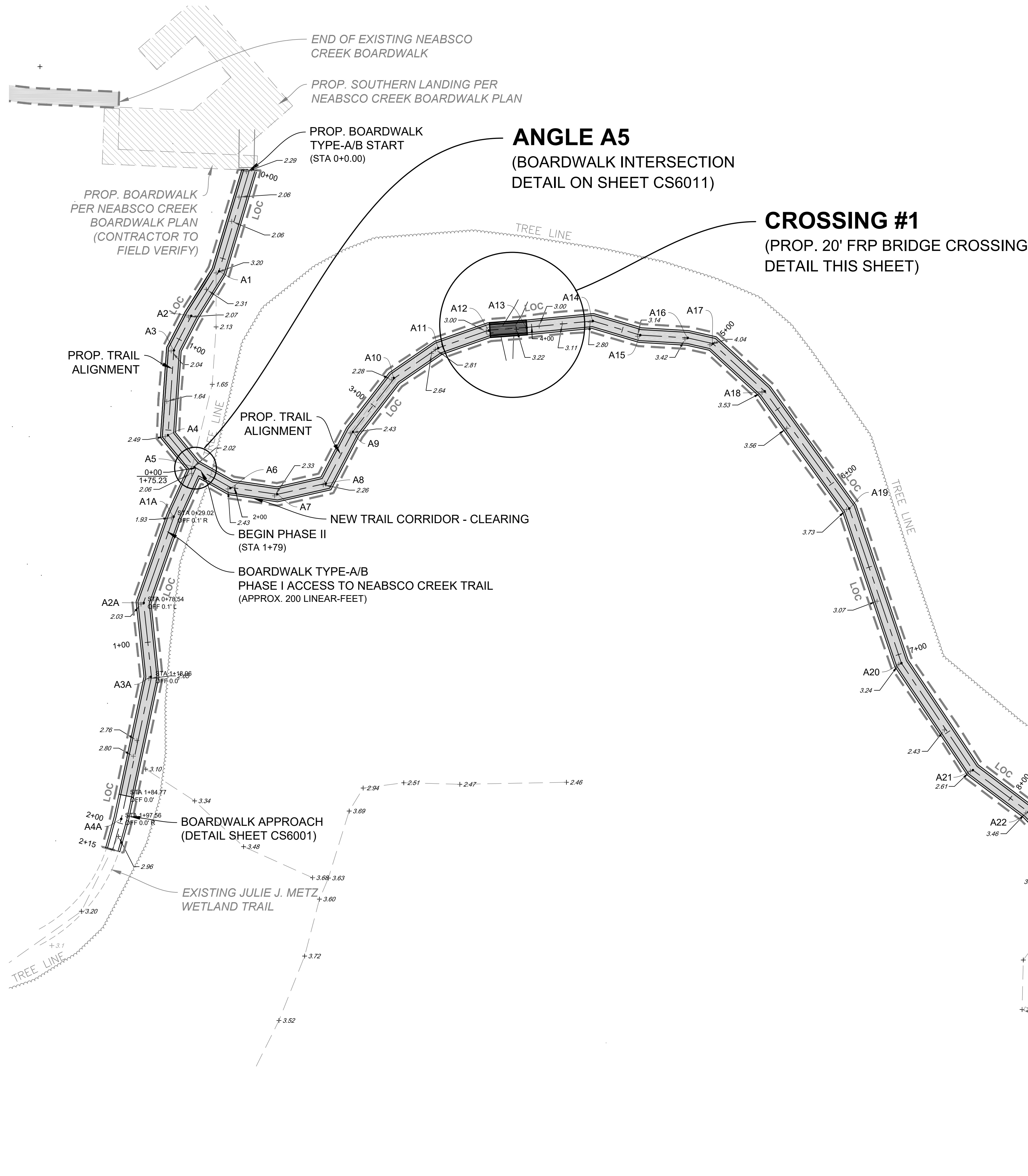
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DATE	2020-02-24
DRAWING SCALE	1" = 100'
DRAWN BY	JMA
APPROVED BY	DWJ

CS1001

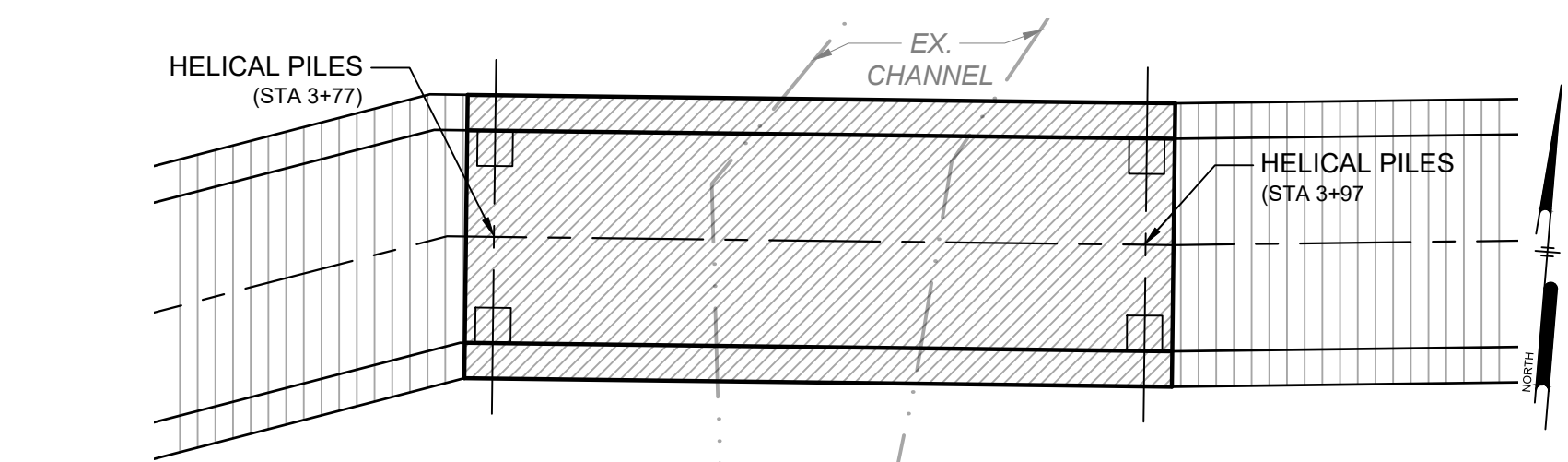
SHEET 8 OF 26

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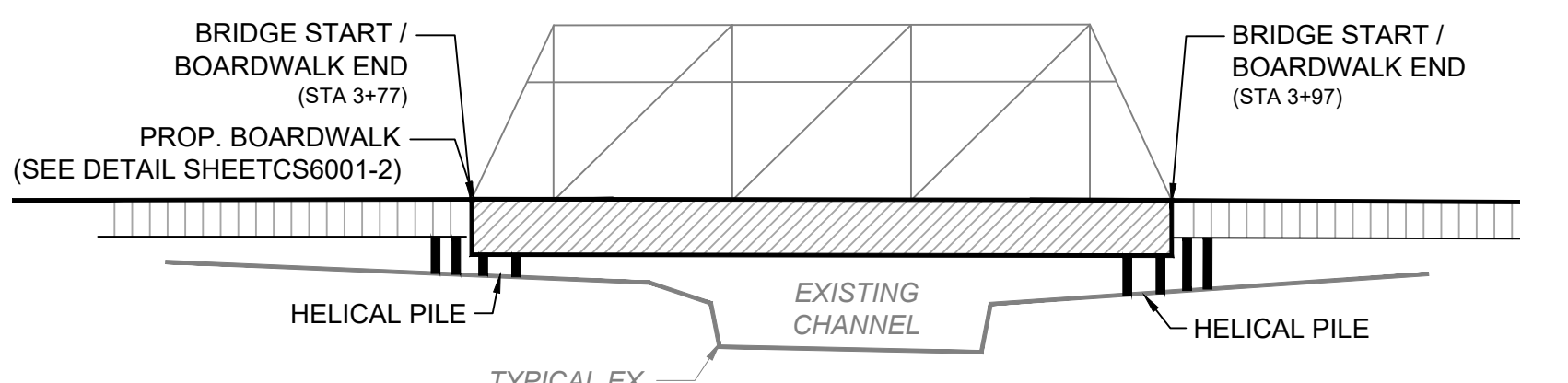


LEGEND

- EXISTING NATURAL SURFACE TRAIL
- PROPOSED APPROACH TO BOARDWALK
- PROPOSED ELEVATED WOODEN BOARDWALK
- PROPOSED F.R.P. BRIDGE
- LOC
- LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
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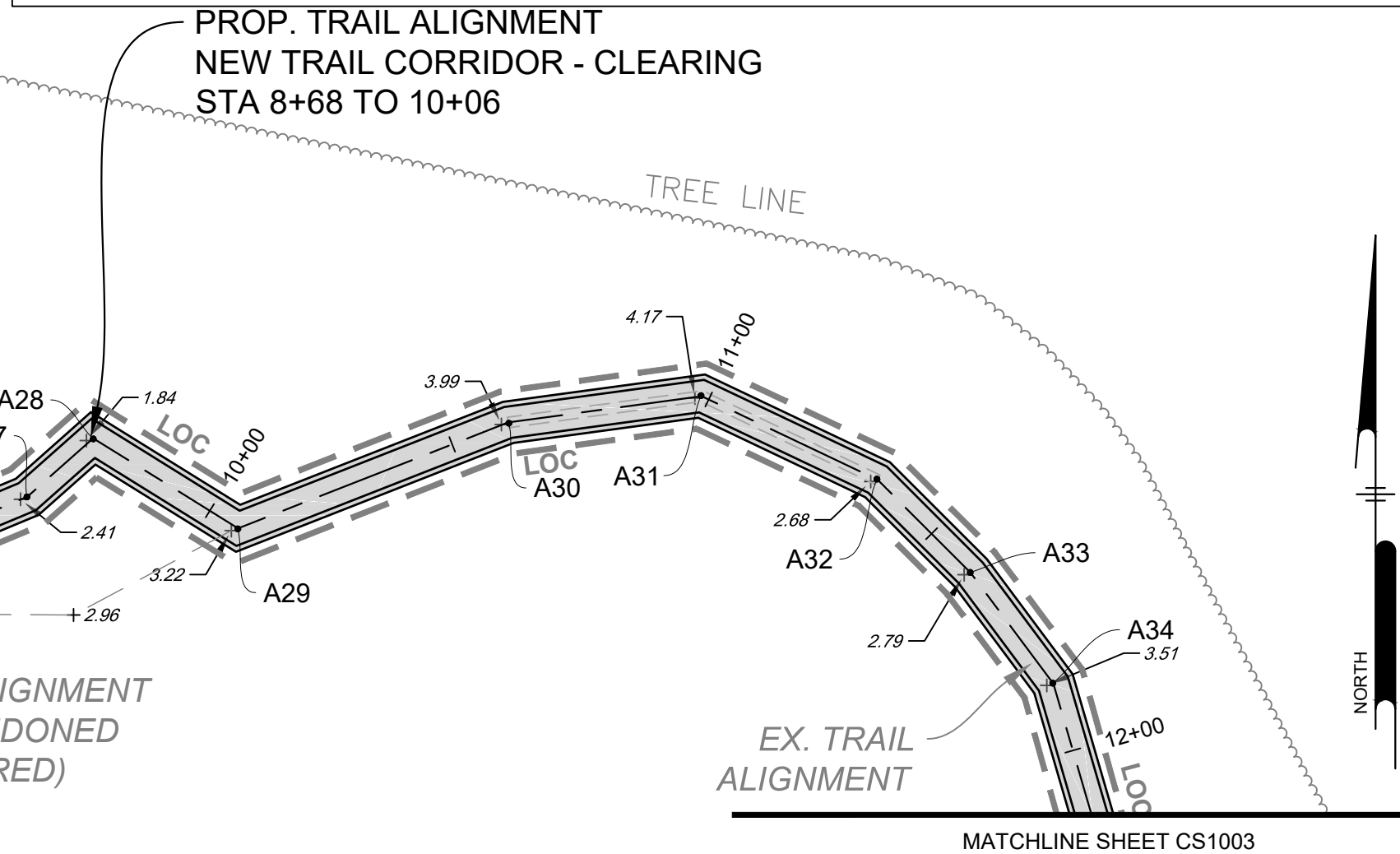


CROSSING #1 - 20' BRIDGE
PLAN
SCALE 1" = 5'



CROSSING #1 - 20' BRIDGE
PROFILE
SCALE 1" = 5'

SEGMENT	DESCRIPTION	LENGTH
STA 0+00 TO STA 3+77	TYPE-A/B BOARDWALK	377-Feet
CROSSING #1	F.R.P. BRIDGE	20-Feet
STA 3+97 TO STA 15+89	TYPE-A/B BOARDWALK	1,192-Feet
PHASE I ACCESS	TYPE-A/B BOARDWALK	184-Feet



NOTE: FOR A LIST OF CONSTRUCTED ANGLES ALONG THE PROPOSED BOARDWALK ALIGNMENT, SEE SHEET CS1005



Pennoni

PENNONI ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

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COMMONWEALTH OF VIRGINIA
MARK D. LIBERATI
Lic. No. 21211
PROFESSIONAL ENGINEER

100% SUBMISSION

JULIE METZ WETLAND BOARDWALK
15875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

SITE PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO.	DATE	REVISIONS	BY

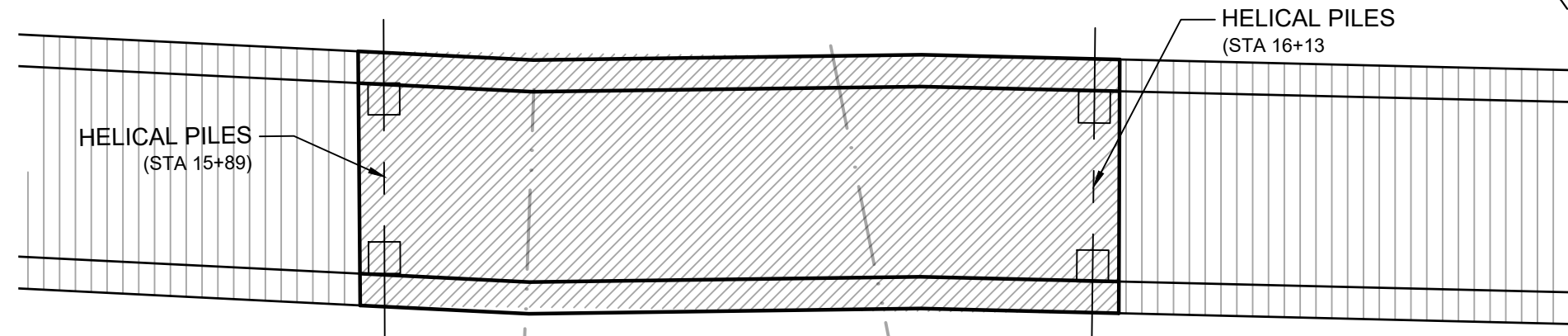
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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JMA
APPROVED BY	DWJ

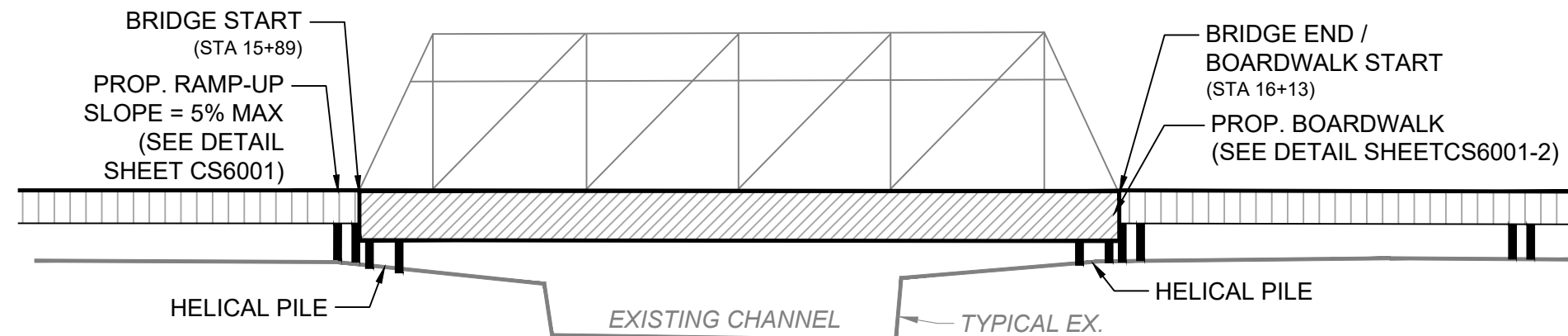
SEGMENT	DESCRIPTION	LENGTH
STA 3+97 TO STA 15+89	TYPE-A/B BOARDWALK	1,192- FEET
CROSSING #2	24' FRP BRIDGE	24-FEET
STA 16+13 TO STA 26+93	TYPE-A/B BOARDWALK	1,080- FEET

LEGEND

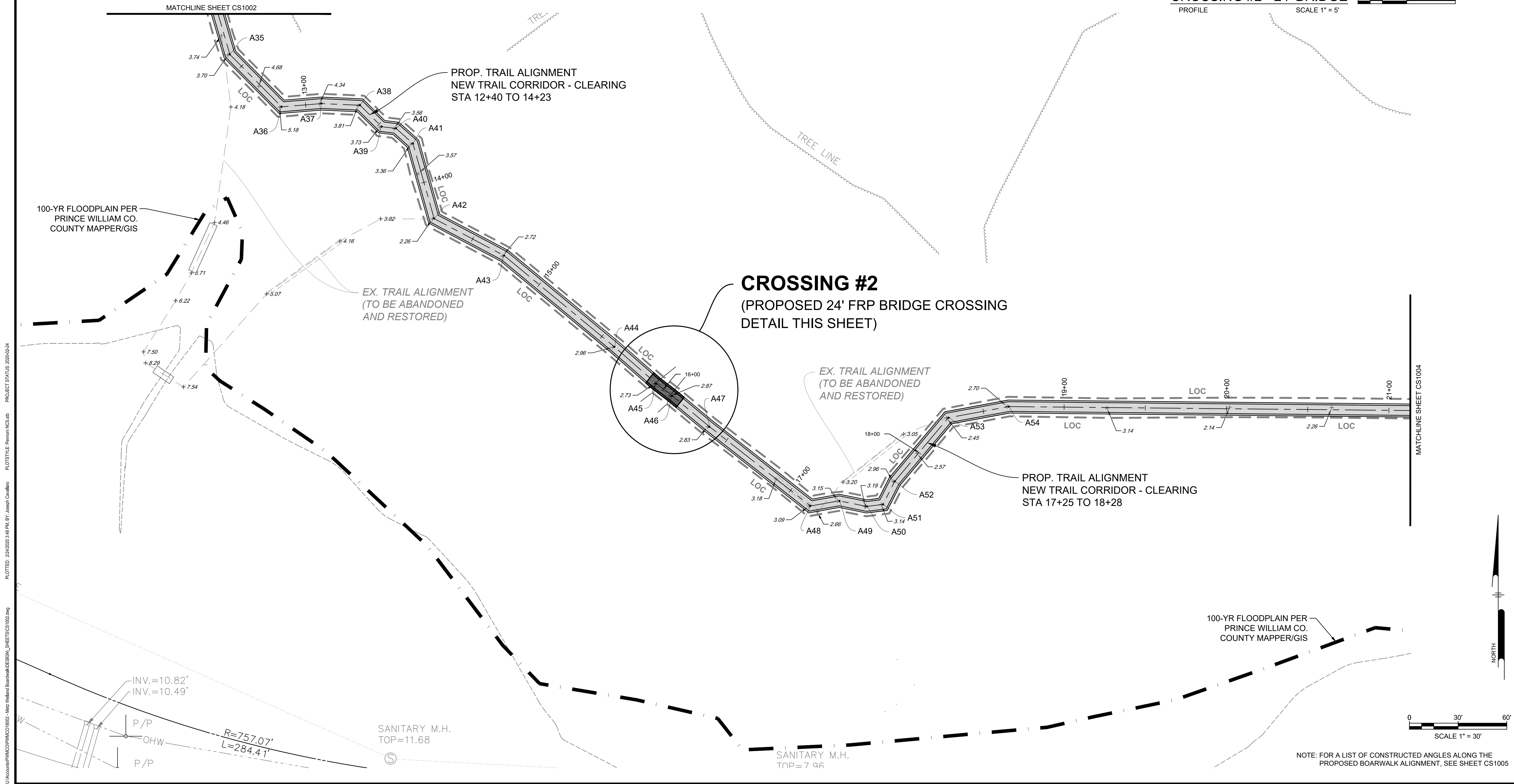
- EXISTING NATURAL SURFACE TRAIL
- PROPOSED APPROACH TO BOARDWALK
- PROPOSED ELEVATED WOODEN BOARDWALK
- PROPOSED F.R.P. BRIDGE
- LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
- EXISTING SPOT ELEVATION



CROSSING #2 - 24' BRIDGE
PLAN
SCALE 1" = 5'



CROSSING #2 - 24' BRIDGE
PROFILE
SCALE 1" = 5'



PENNONI ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

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AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORK

**100%
SUBMISSION**

JULIE METZ WETLAND BOARDWALK
15875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

SITE PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO.	DATE	REVISIONS	BY

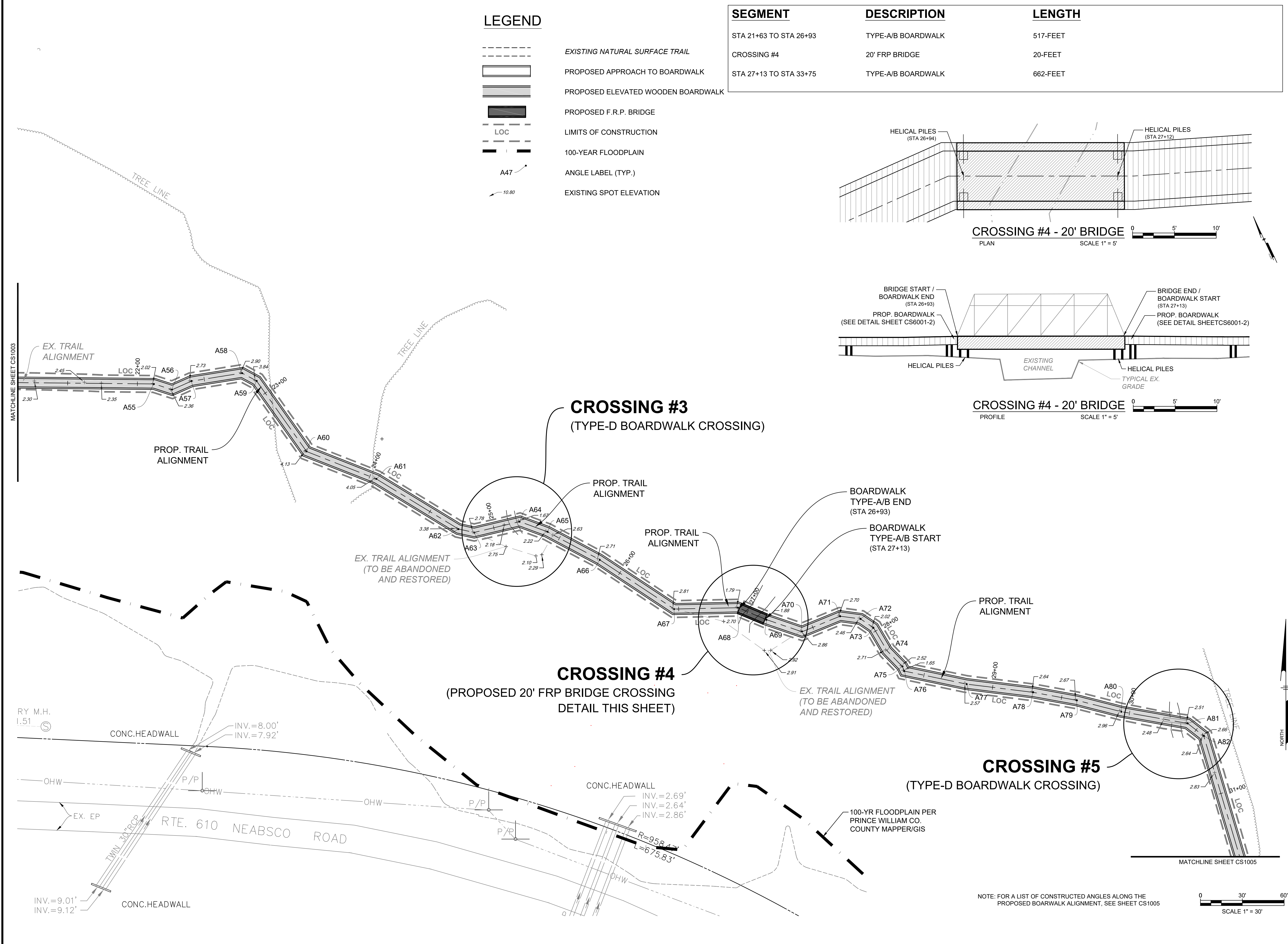
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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JMA
APPROVED BY	DWJ

CS1003

SHEET 10 OF 26

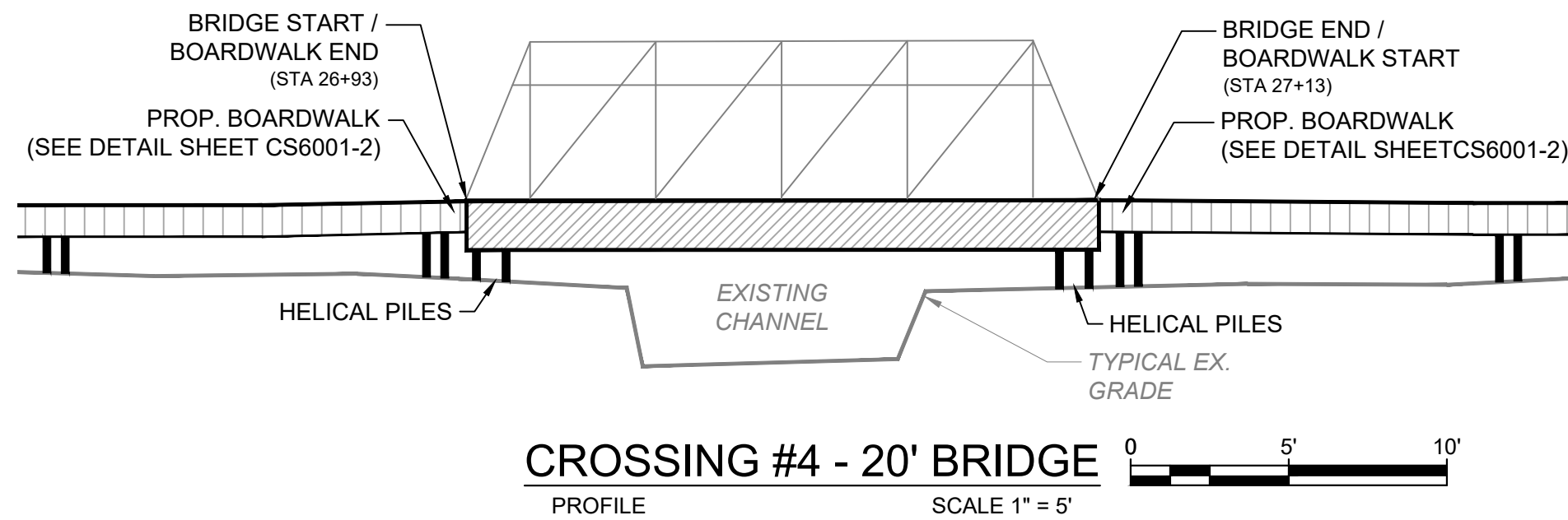
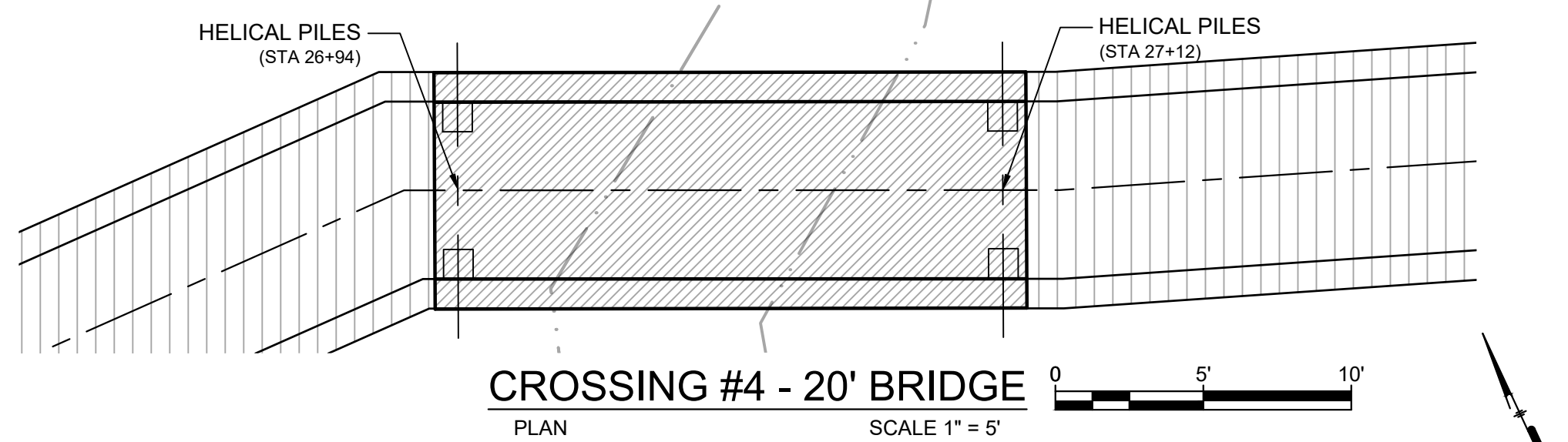
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LEGEND

- EXISTING NATURAL SURFACE TRAIL
- PROPOSED APPROACH TO BOARDWALK
- PROPOSED ELEVATED WOODEN BOARDWALK
- PROPOSED F.R.P. BRIDGE
- LOC
- LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
- EXISTING SPOT ELEVATION

SEGMENT	DESCRIPTION	LENGTH
STA 21+63 TO STA 26+93	TYPE-A/B BOARDWALK	517-FEET
CROSSING #4	20' FRP BRIDGE	20-FEET
STA 27+13 TO STA 33+75	TYPE-A/B BOARDWALK	662-FEET



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SITE PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO.	DATE	REVISIONS	BY

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PROJECT

PWMC018002

DATE

2020-02-24

DRAWING SCALE

1" = 30'

DRAWN BY

JMA

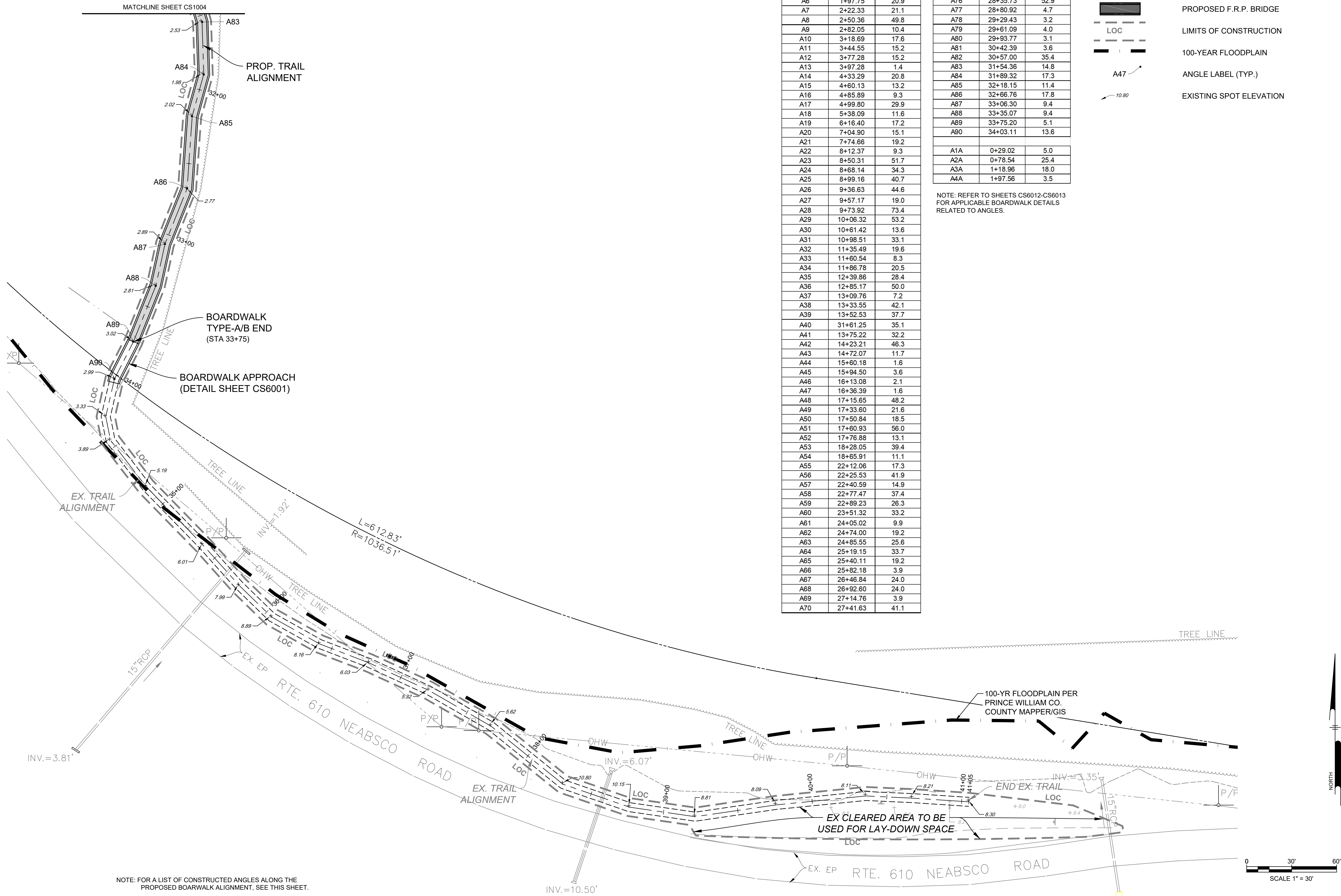
APPROVED BY

DWJ

CS1004

SHEET 11 OF 26

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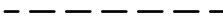
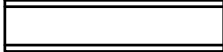
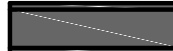
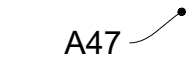
NOTE: FOR A LIST OF CONSTRUCTED ANGLES ALONG THE PROPOSED BOARDWALK ALIGNMENT, SEE THIS SHEET.

SEGMENT	DESCRIPTION	LENGTH
STA 27+13 TO STA 33+75	TYPE-A/B BOARDWALK	662-FEET (LENGTH EXCLUDES 14-FOOT "CROSSING #5")

ANGLE	STATION	DEG.
A1	0+57.29	15.2
A2	0+85.40	4.5
A3	1+06.16	23.4
A4	1+52.69	43.4
A5	1+75.21	21.2
A6	1+97.75	20.9
A7	2+22.33	21.1
A8	2+50.36	49.8
A9	2+82.05	10.4
A10	3+18.69	17.6
A11	3+44.55	15.2
A12	3+77.28	15.2
A13	3+97.28	1.4
A14	4+33.29	20.8
A15	4+60.13	13.2
A16	4+85.89	9.3
A17	4+99.80	29.9
A18	5+38.09	11.6
A19	6+16.40	17.2
A20	7+04.90	15.1
A21	7+74.66	19.2
A22	8+12.37	9.3
A23	8+50.31	51.7
A24	8+68.14	34.3
A25	8+99.16	40.7
A26	9+36.63	44.6
A27	9+57.17	19.0
A28	9+73.92	73.4
A29	10+06.32	53.2
A30	10+61.42	13.6
A31	10+98.51	33.1
A32	11+35.49	19.6
A33	11+60.54	8.3
A34	11+86.78	20.5
A35	12+39.86	28.4
A36	12+85.17	50.0
A37	13+09.76	7.2
A38	13+33.55	42.1
A39	13+52.53	37.7
A40	31+61.25	35.1
A41	13+75.22	32.2
A42	14+23.21	46.3
A43	14+72.07	11.7
A44	15+60.18	1.6
A45	15+94.50	3.6
A46	16+13.08	2.1
A47	16+36.39	1.6
A48	17+15.65	48.2
A49	17+33.60	21.6
A50	17+50.84	18.5
A51	17+60.93	56.0
A52	17+76.88	13.1
A53	18+28.05	39.4
A54	18+65.91	11.1
A55	22+12.06	17.3
A56	22+25.53	41.9
A57	22+40.59	14.9
A58	22+77.47	37.4
A59	22+89.23	26.3
A60	23+51.32	33.2
A61	24+05.02	9.9
A62	24+74.00	19.2
A63	24+85.55	25.6
A64	25+19.15	33.7
A65	25+40.11	19.2
A66	25+82.18	3.9
A67	26+46.84	24.0
A68	26+92.60	24.0
A69	27+14.76	3.9
A70	27+41.63	41.1

ANGLE	STATION	DEG.
A71	27+71.17	30.0
A72	27+85.95	27.0
A73	27+97.14	25.4
A74	28+16.25	13.7
A75	28+32.07	18.8
A76	28+35.73	52.9
A77	28+80.92	4.7
A78	29+29.43	3.2
A79	29+61.09	4.0
A80	29+93.77	3.1
A81	30+42.39	3.6
A82	30+57.00	35.4
A83	31+54.36	14.8
A84	31+89.32	17.3
A85	32+18.15	11.4
A86	32+66.76	17.8
A87	33+06.30	9.4
A88	33+35.07	9.4
A89	33+75.20	5.1
A90	34+03.11	13.6
A1A	0+29.02	5.0
A2A	0+76.54	25.4
A3A	1+18.96	18.0
A4A	1+97.56	3.5

NOTE: REFER TO SHEETS CS6012-CS6013 FOR APPLICABLE BOARDWALK DETAILS RELATED TO ANGLES.

LEGEND	
	EXISTING NATURAL SURFACE TRAIL
	PROPOSED APPROACH TO BOARDWALK
	PROPOSED ELEVATED WOODEN BOARDWALK
	PROPOSED F.R.P. BRIDGE
	LIMITS OF CONSTRUCTION
	100-YEAR FLOODPLAIN
	ANGLE LABEL (TYP.)
	EXISTING SPOT ELEVATION

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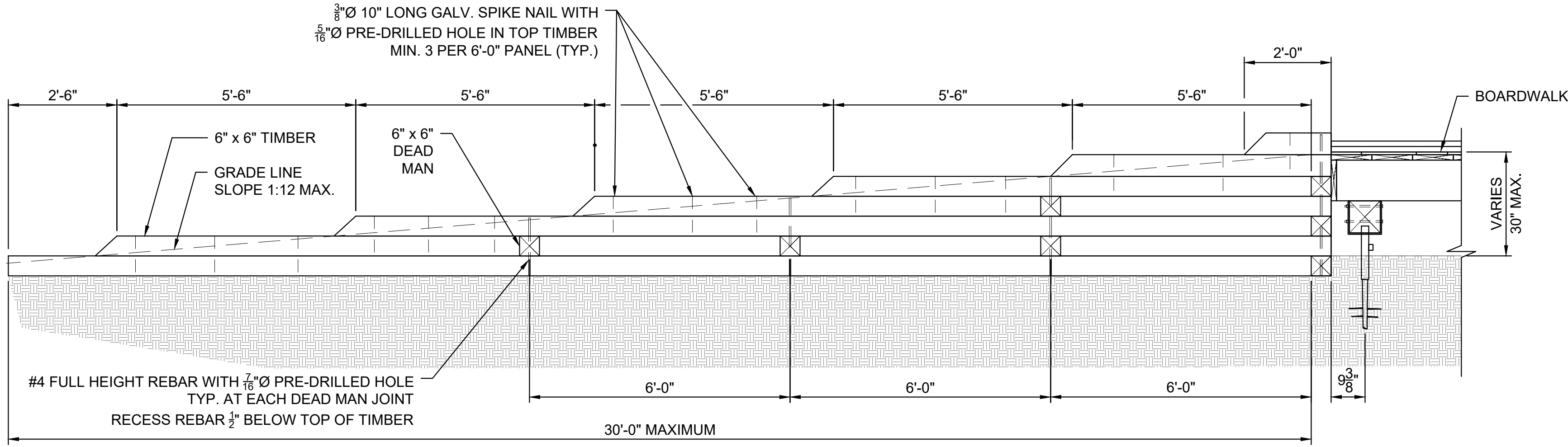
SITE PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

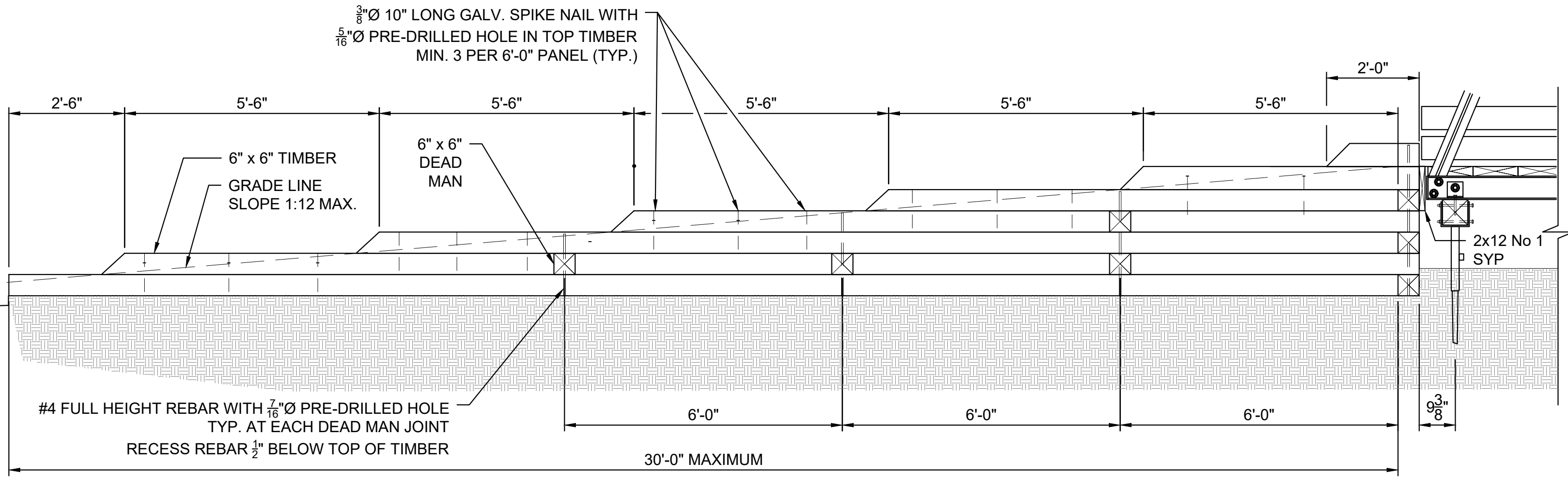
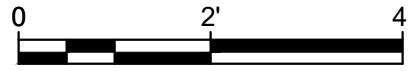
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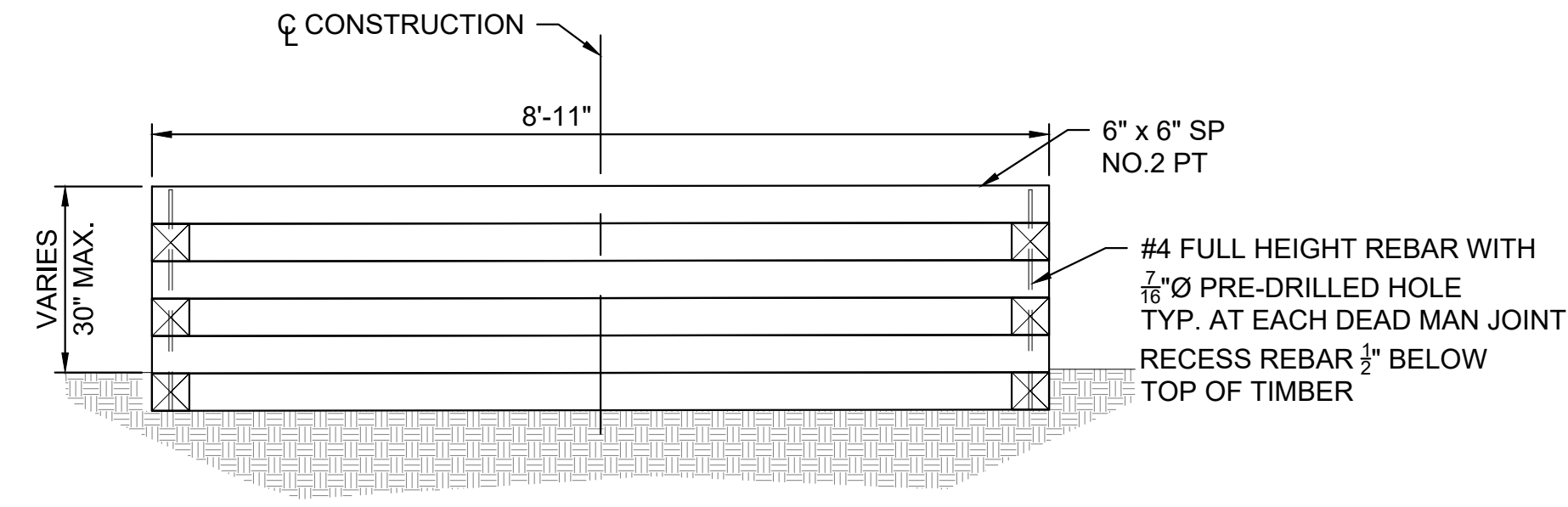
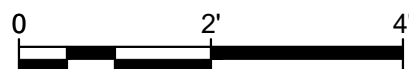
PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JMA
APPROVED BY	DWJ



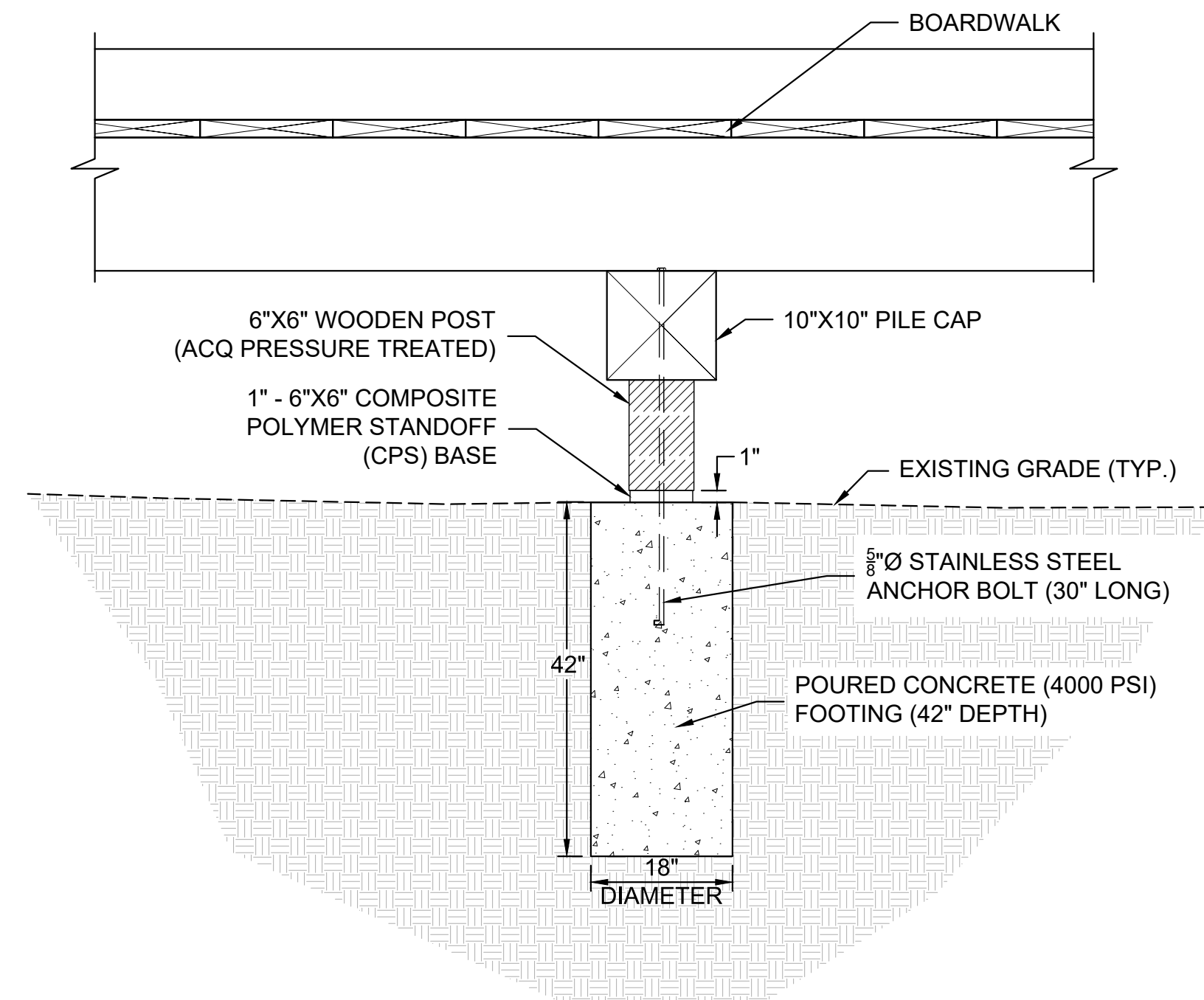
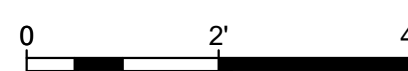
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6001 **APPROACH TO BOARDWALK ELEVATION**
SCALE: 1"=2'



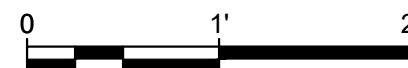
2
6001 **APPROACH TO PEDESTRIAN BRIDGE ELEVATION**
SCALE: 1"=2'



3
6001 **APPROACH SECTION AT BACK WALL**
SCALE: 1"=2'



4
6001 **ALTERNATIVE BOARDWALK POST AND FOOTING DETAIL**
SCALE: 1"=1'



NOTE:
DETAIL PRESENTED AS AN ALTERNATE
TO HELICAL PILE FOUNDATION

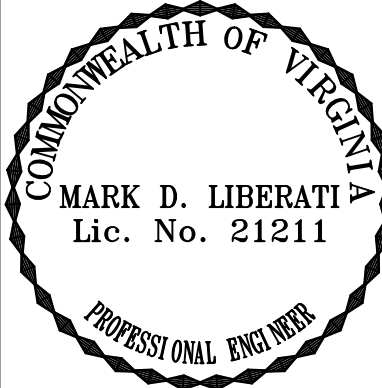
NOTES

1. FILL FOR TIMBER CRIBBING SHALL BE COMPACTED CRUSHED STONE VA DOT ITEM 21A.
2. TIMBER CRIBBING SHALL BE NO. 1 SOUTHERN YELLOW PINE OR BETTER.
3. SEE CS0003, SECTION 2.0 STRUCTURAL WOOD FOR PRESERVATIVE TREATMENT.



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WOODBIDGE, VIRGINIA 22191

BOARDWALK DETAILS 1

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

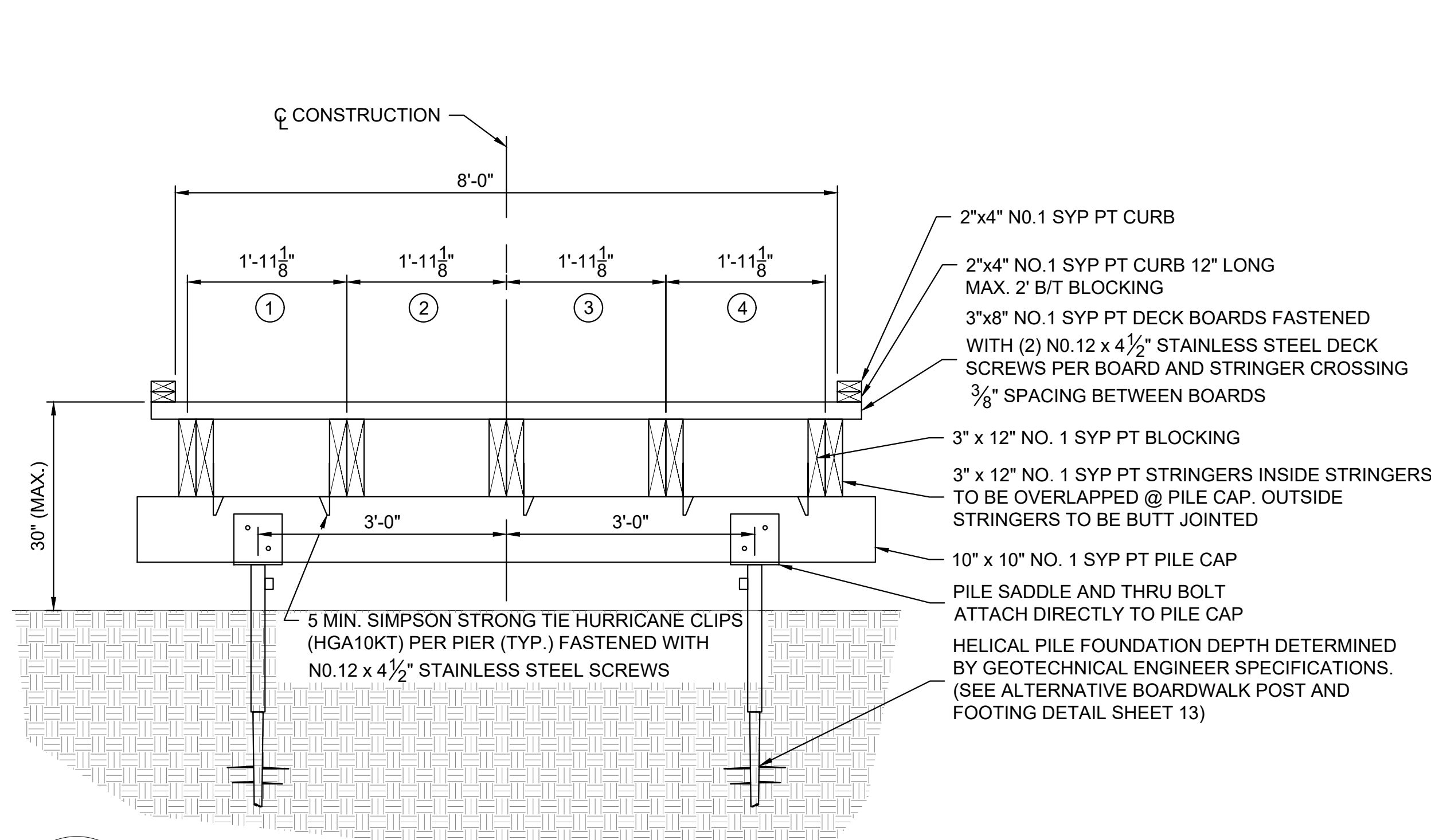
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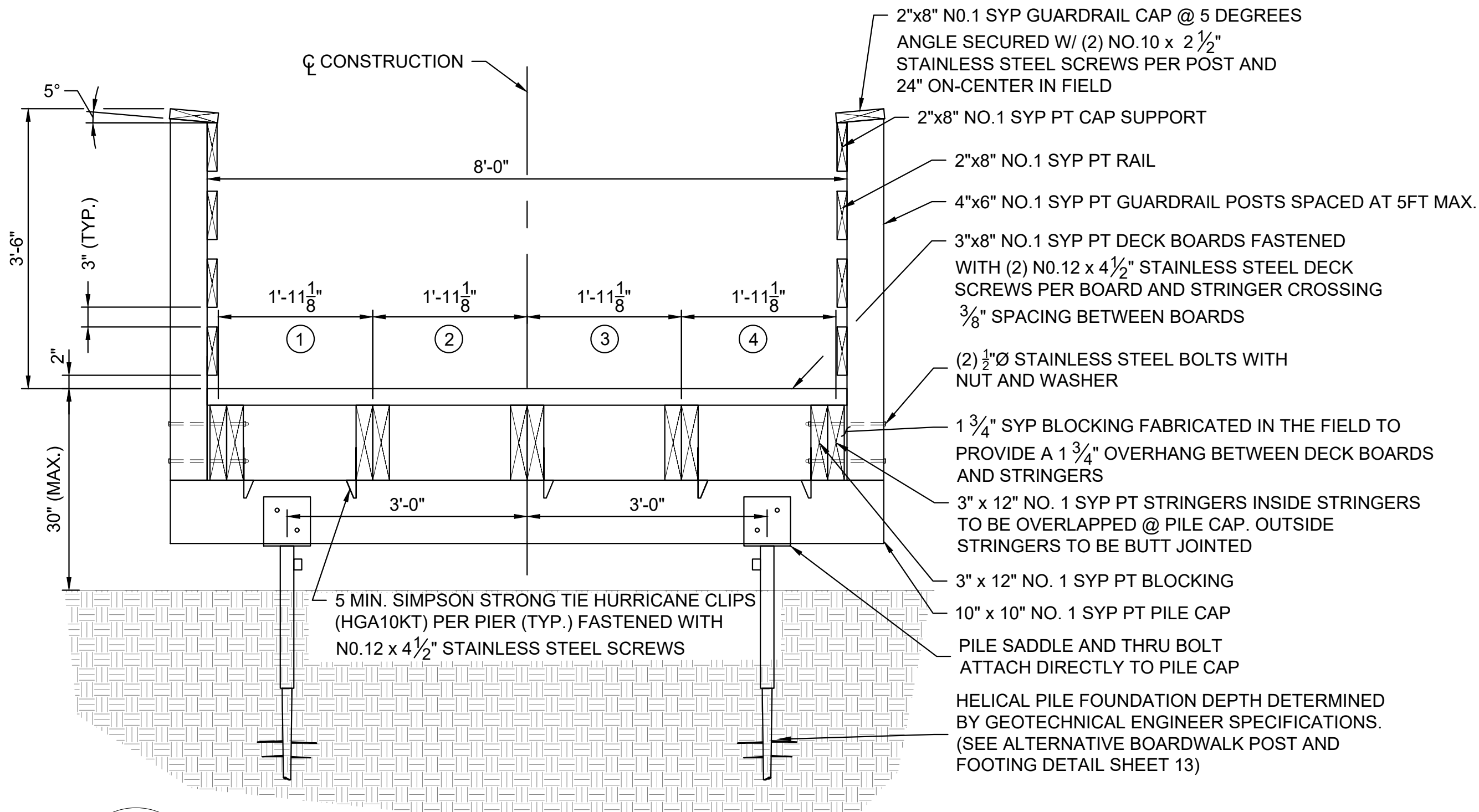
PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	AS NOTED
DRAWN BY	CJK
APPROVED BY	DWJ

CS6001

SHEET 13 OF 26

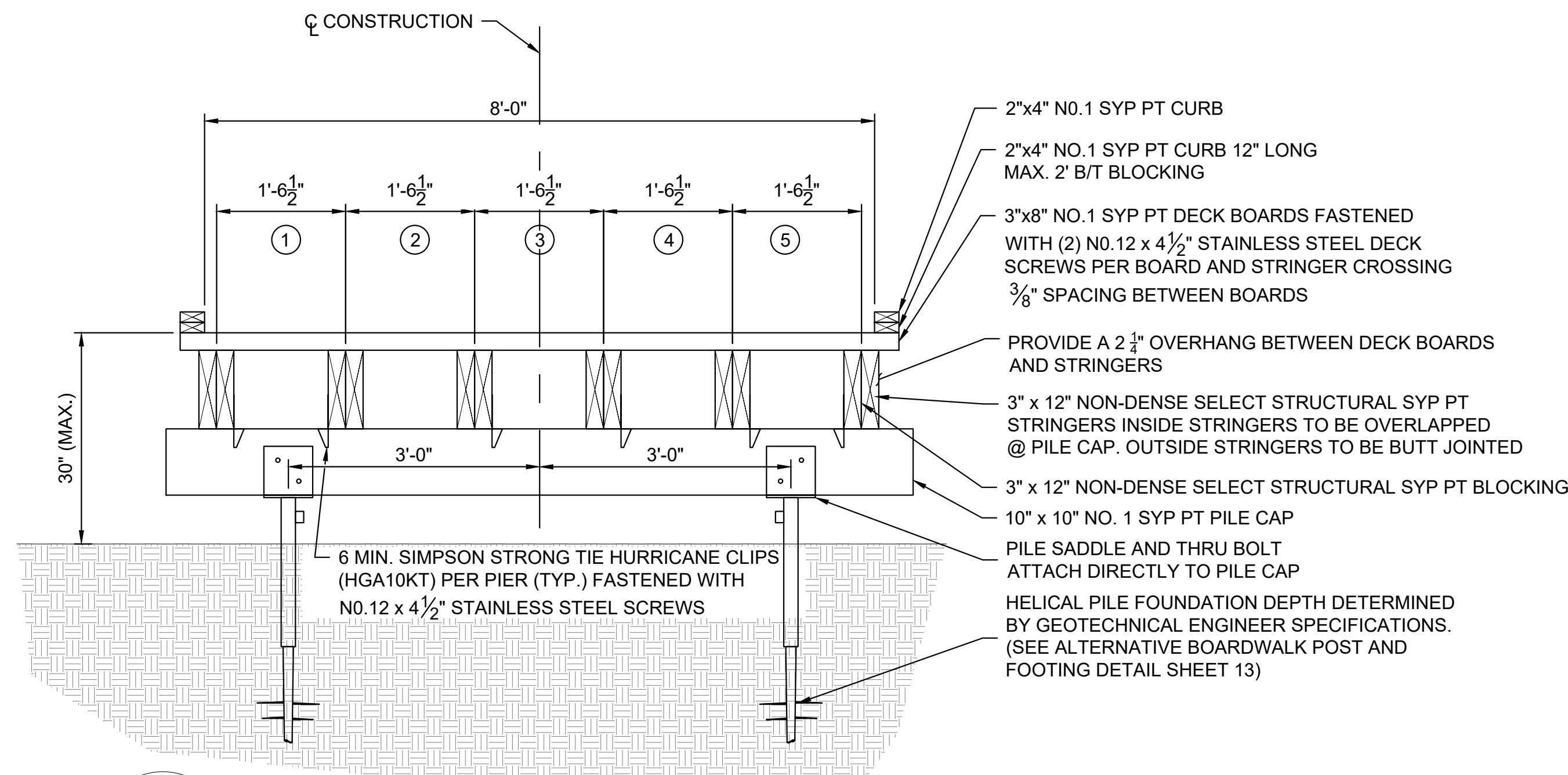


1
6002 **TYPE A BOARDWALK (10 FT. SPAN & 12 FT. SPAN)**
SCALE: 3/4" = 1"-0"

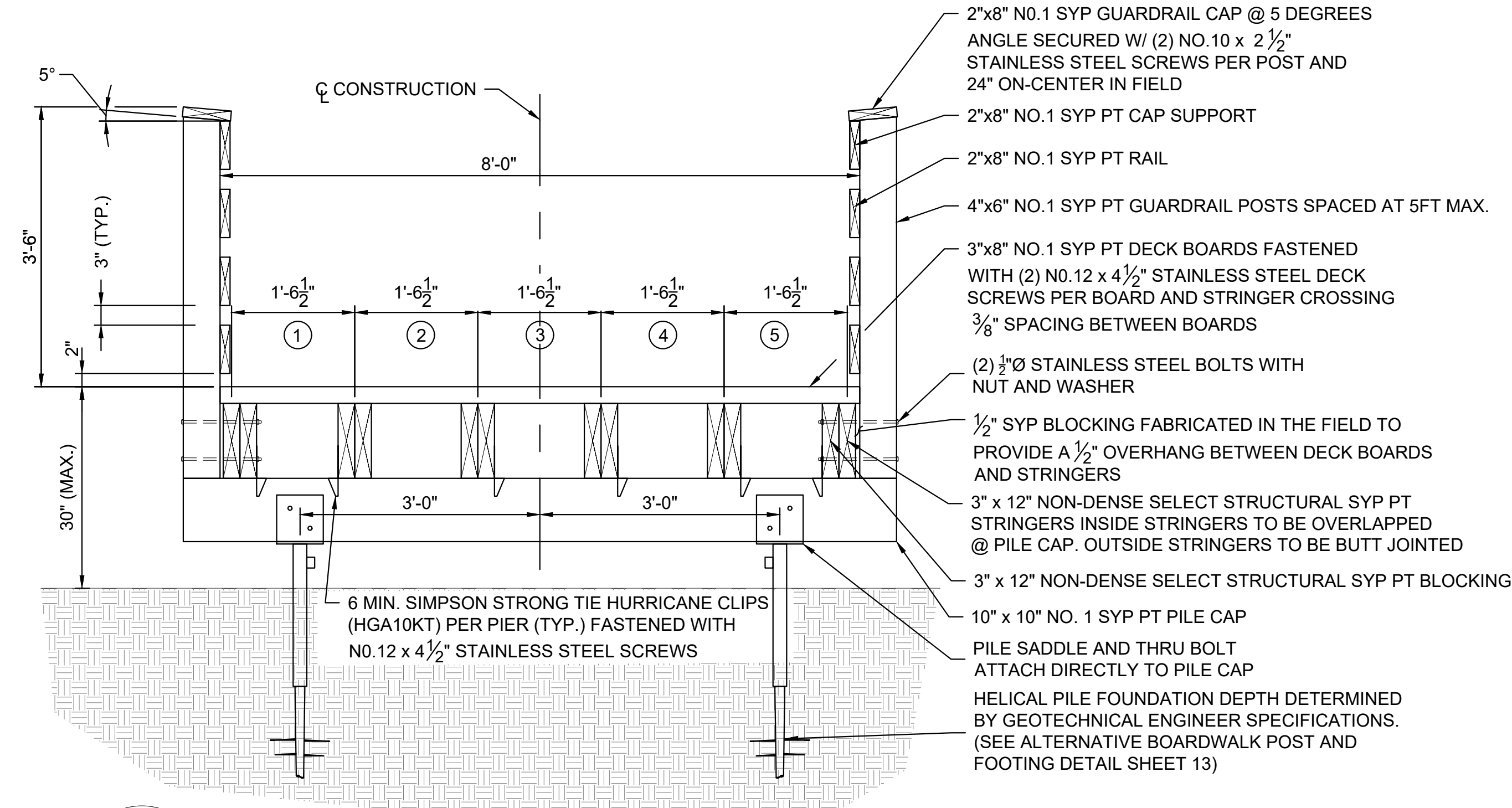


3
6002 **TYPE C BOARDWALK (10 FT. SPAN & 12 FT. SPAN OVER WATER)**
SCALE: 3/4" = 1"-0"

NOTE: PLAN DOES NOT PROPOSE THIS CONDITION. THIS DETAIL IS PROVIDED IF NEEDED AS DETERMINED DURING CONSTRUCTION TO MEET EXISTING FIELD CONDITIONS.



2
6002 **TYPE B BOARDWALK (14 FT. SPAN)**
SCALE: 3/4" = 1"-0"



4
6002 **TYPE D BOARDWALK (14 FT. SPAN OVER WATER)**
SCALE: 3/4" = 1"-0"

NOTE: SEE CROSSING #3 & #5 ON SHEET CS1004.

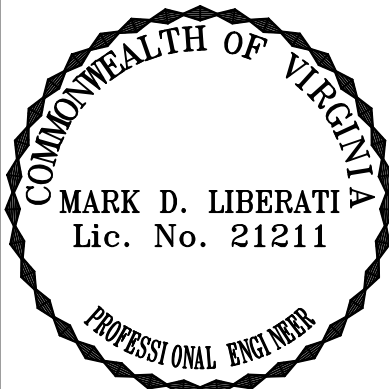
BOARDWALK CONSTRUCTION NARRATIVE

THE TRAIL ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD BASED ON EXISTING CONDITIONS TO MINIMIZE DISTURBANCE TO EXISTING TREES AND THE LIKE. CONTRACTOR SHALL SELECT 10, 12 OR 14-FOOT-LONG SECTIONS AND RADIUS DETAILS TO ADDRESS ANGLES IN THE TRAIL ALIGNMENT BASED ON FIELD CONDITIONS.



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BOARDWALK DETAILS 2

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

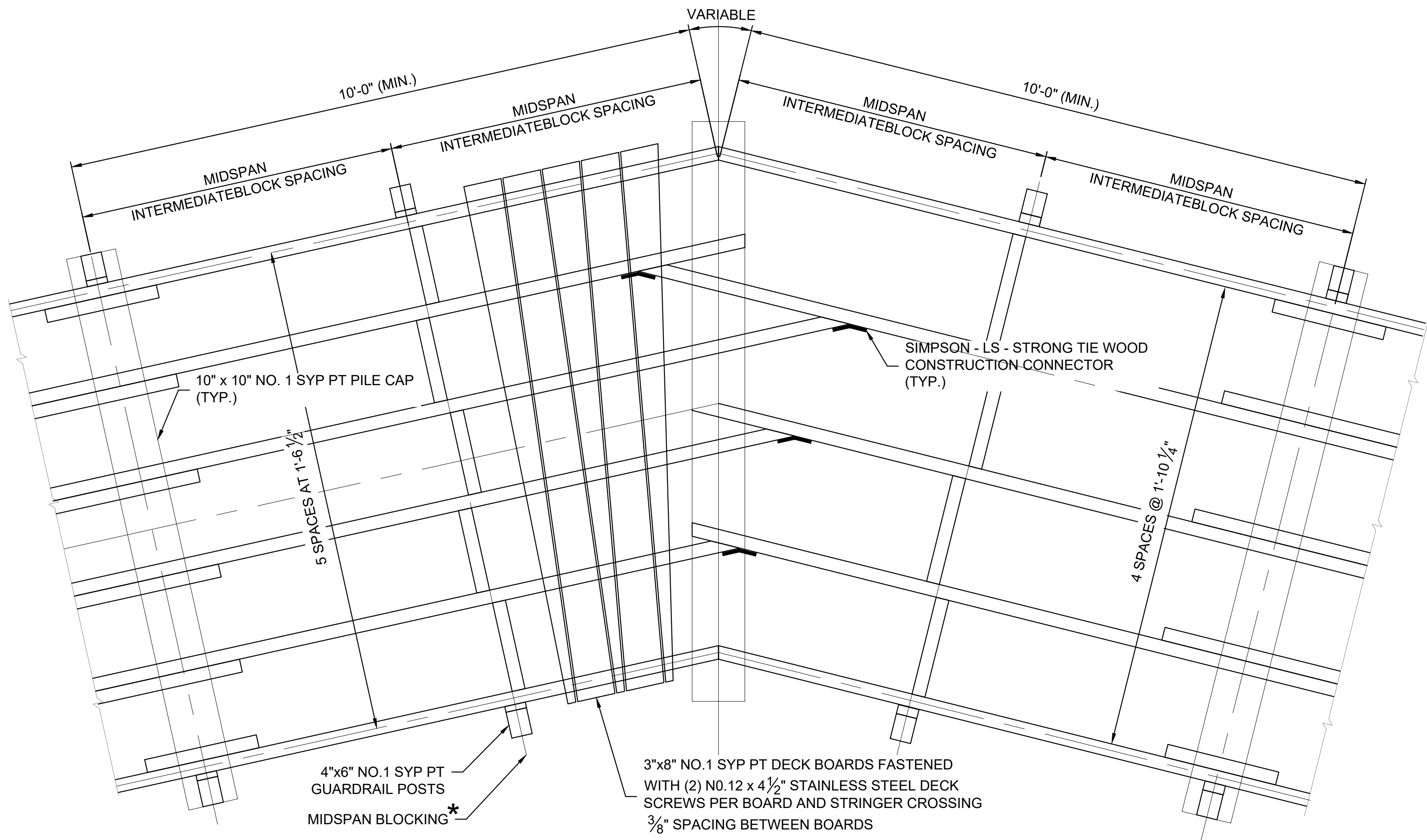
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

DATE	NO	REVISIONS	BY

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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	AS NOTED
DRAWN BY	CJK
APPROVED BY	DWJ

CS6002
SHEET 14 OF 26

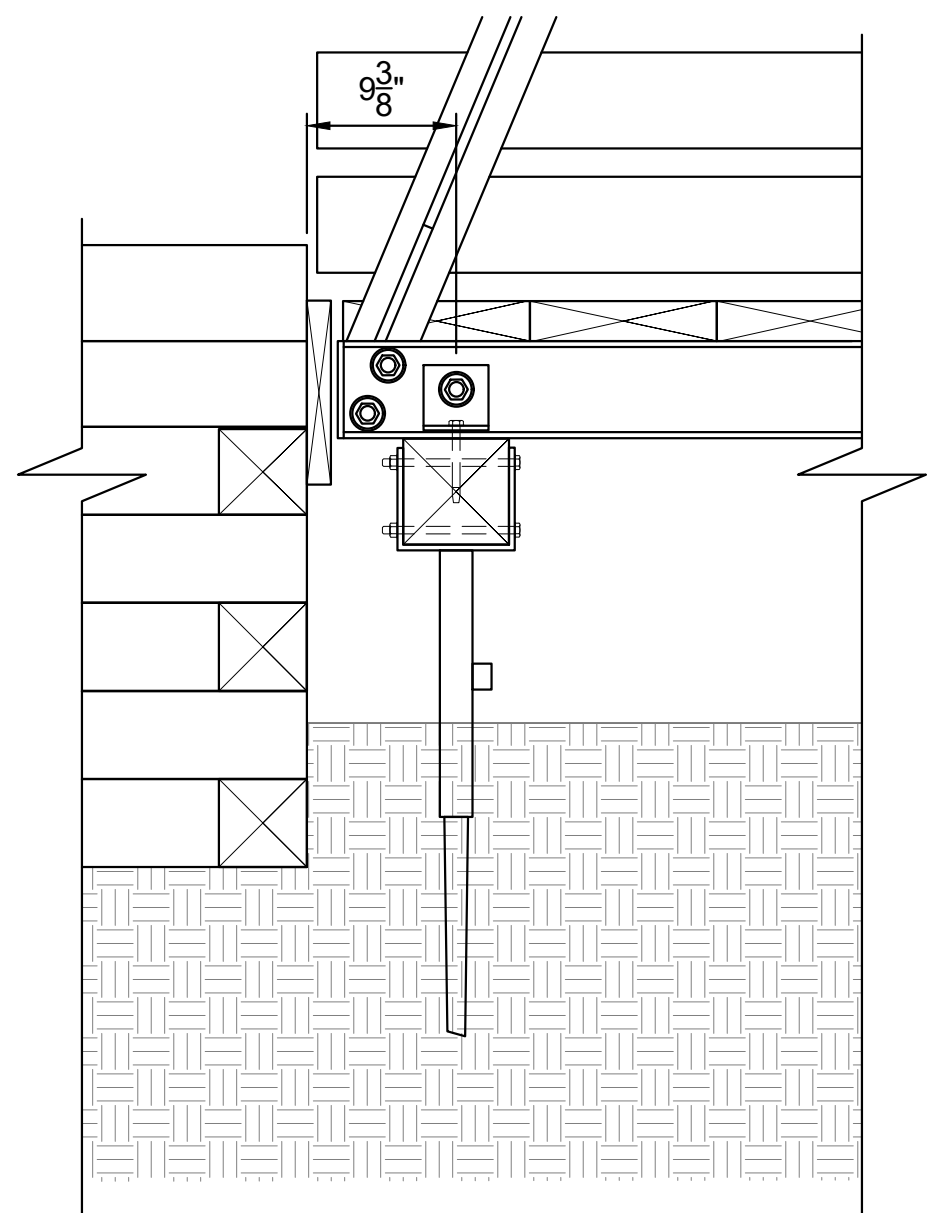


* ALTERNATE 3"x12" BLOCKING ALONG MIDSPAN CENTERLINE AS SPACE ALLOWS. BLOCKING IS ONLY REQUIRED IN ADJACENT SPANS TO THE ANGLE POINT.

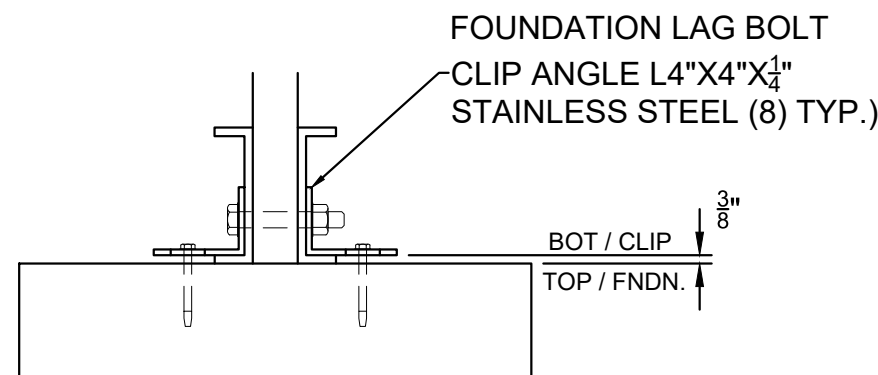
1 TYPICAL VARIABLE CURVE BOARDWALK PLAN
6011 SCALE: 3/4" = 1'-0"

BOARDWALK CONSTRUCTION NARRATIVE

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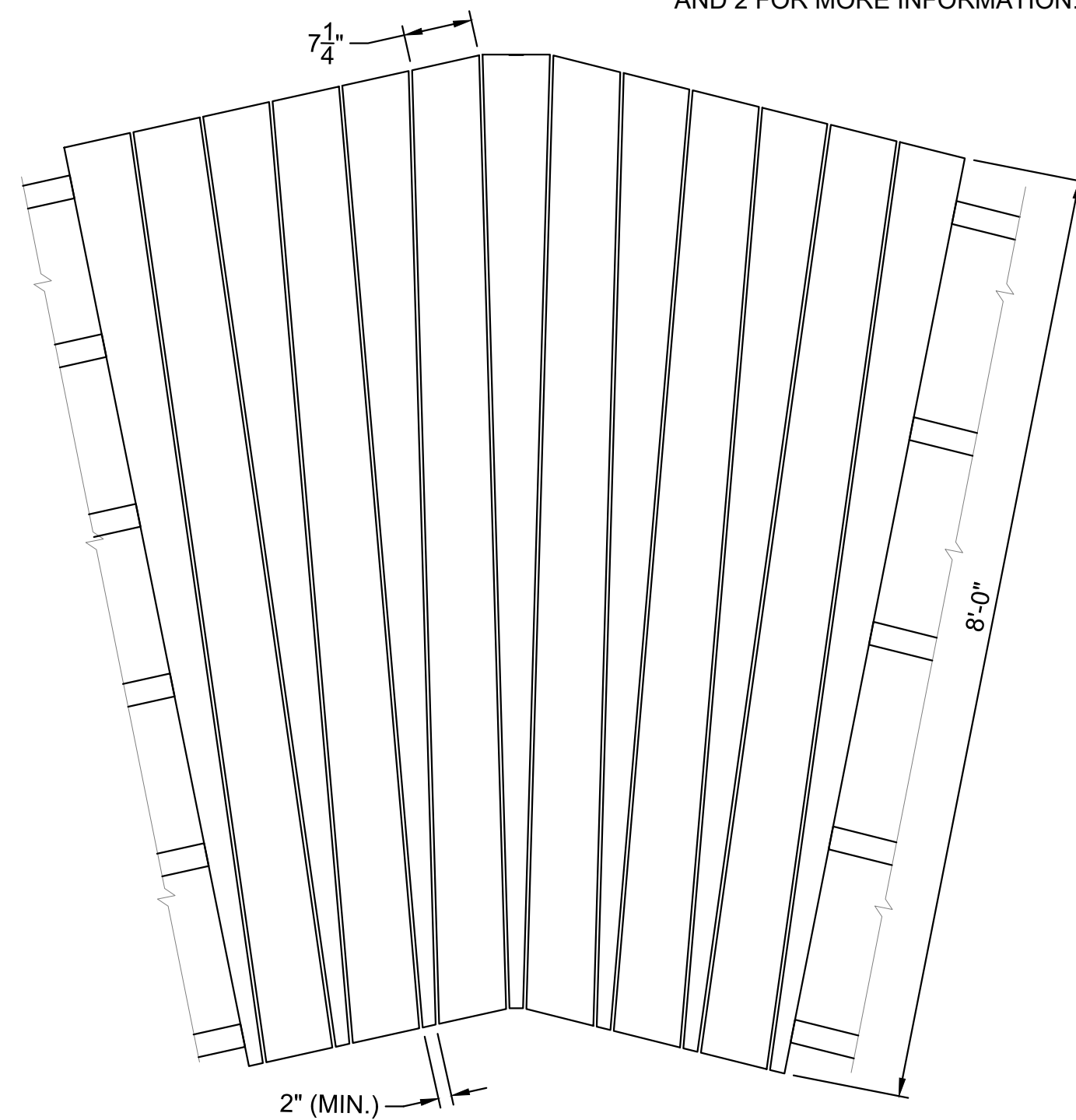


3 HELICAL PILE BRIDGE DETAIL
6011 SCALE: 1" = 1'

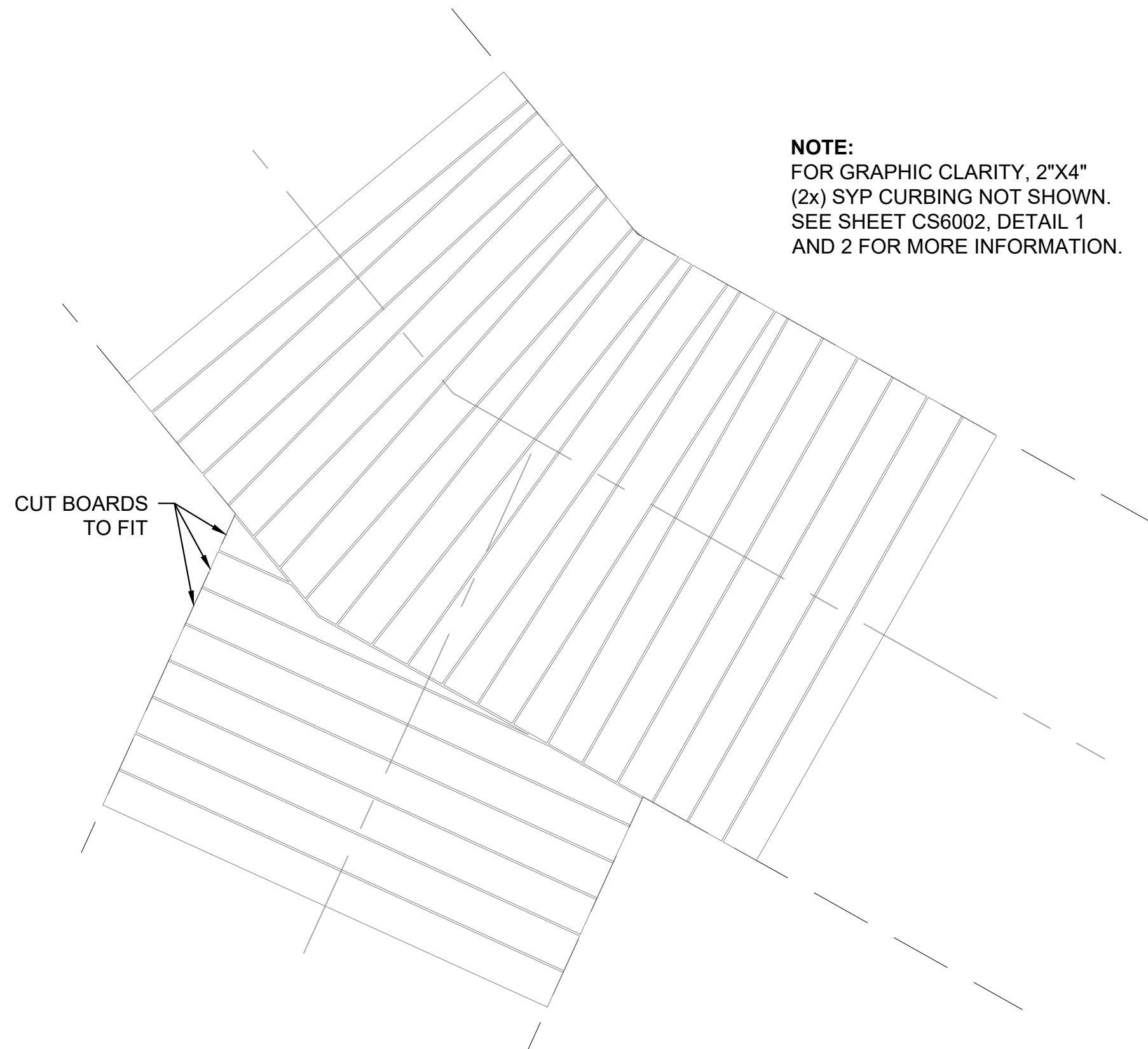


4 TYPICAL LAG BOLT PROJECTION
6011 SCALE: 1" = 1'

- FIELD NOTES:
1. PLACE FRP SHIM BETWEEN BOTTOM OF CLIP AND WOOD SILL AFTER INSTALLATION
 2. 1/2" DIA. LAG BOLT REQUIRED (TYP.)



2 ANGULAR DECK BOARD DETAIL
6011 SCALE: 3/4" = 1'-0"



5 BOARDWALK ANGLE A5 DECKING DETAIL
6011 SCALE: 1" = 2'

NOTE: FOR DECKING LAYOUT, FOLLOW ANGULAR DECK BOARD DETAIL (THIS SHEET)

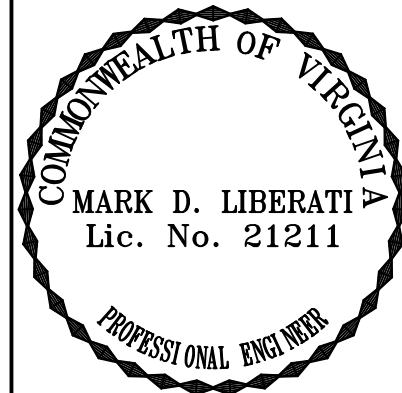
NOTE:
FOR GRAPHIC CLARITY, 2"x4"
(2x) SYP CURBING NOT SHOWN.
SEE SHEET CS6002, DETAIL 1
AND 2 FOR MORE INFORMATION.

NOTE:
FOR GRAPHIC CLARITY, 2"x4"
(2x) SYP CURBING NOT SHOWN.
SEE SHEET CS6002, DETAIL 1
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BOARDWALK DETAILS 3

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
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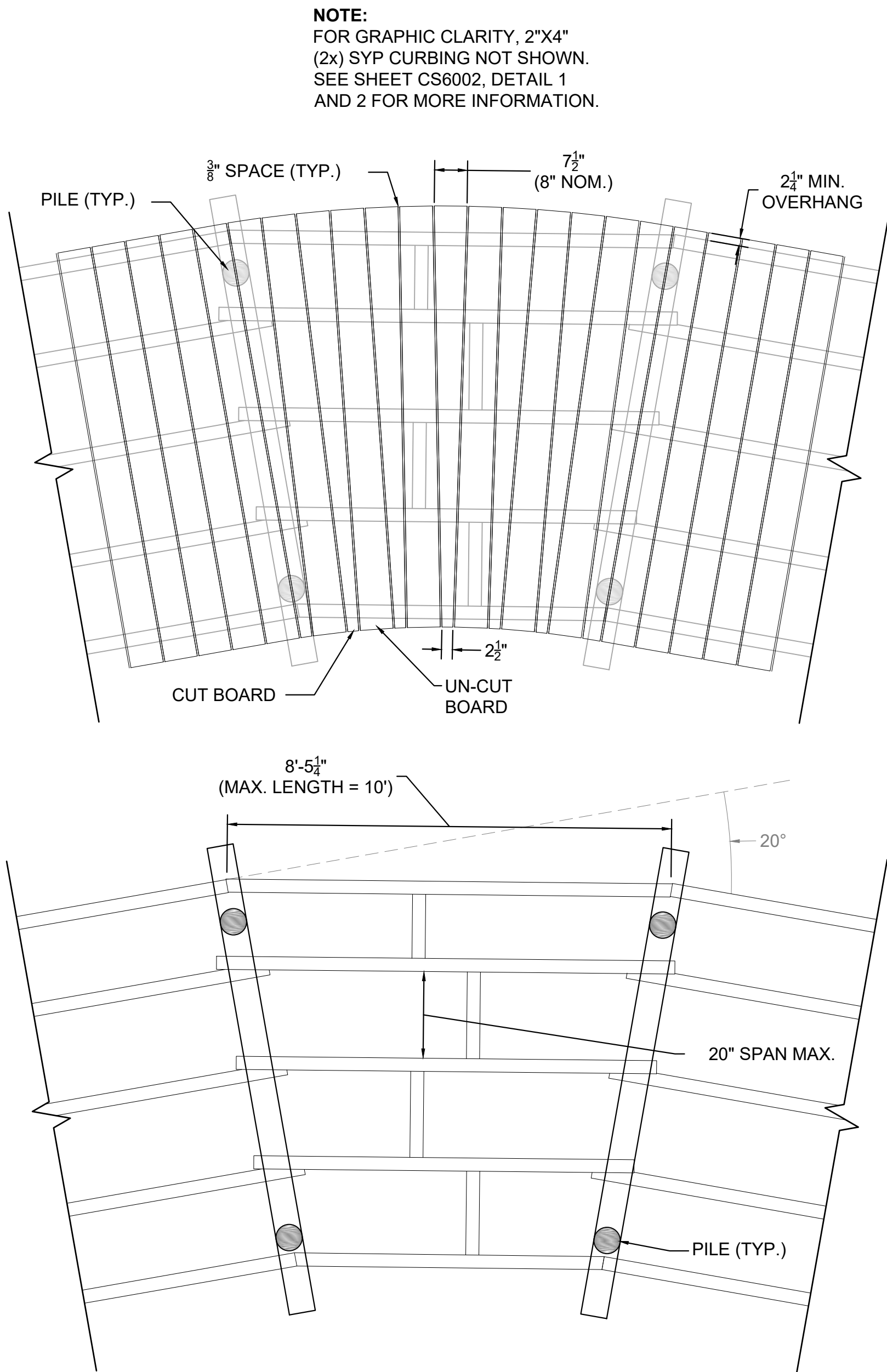
NO	DATE	REVISIONS	BY

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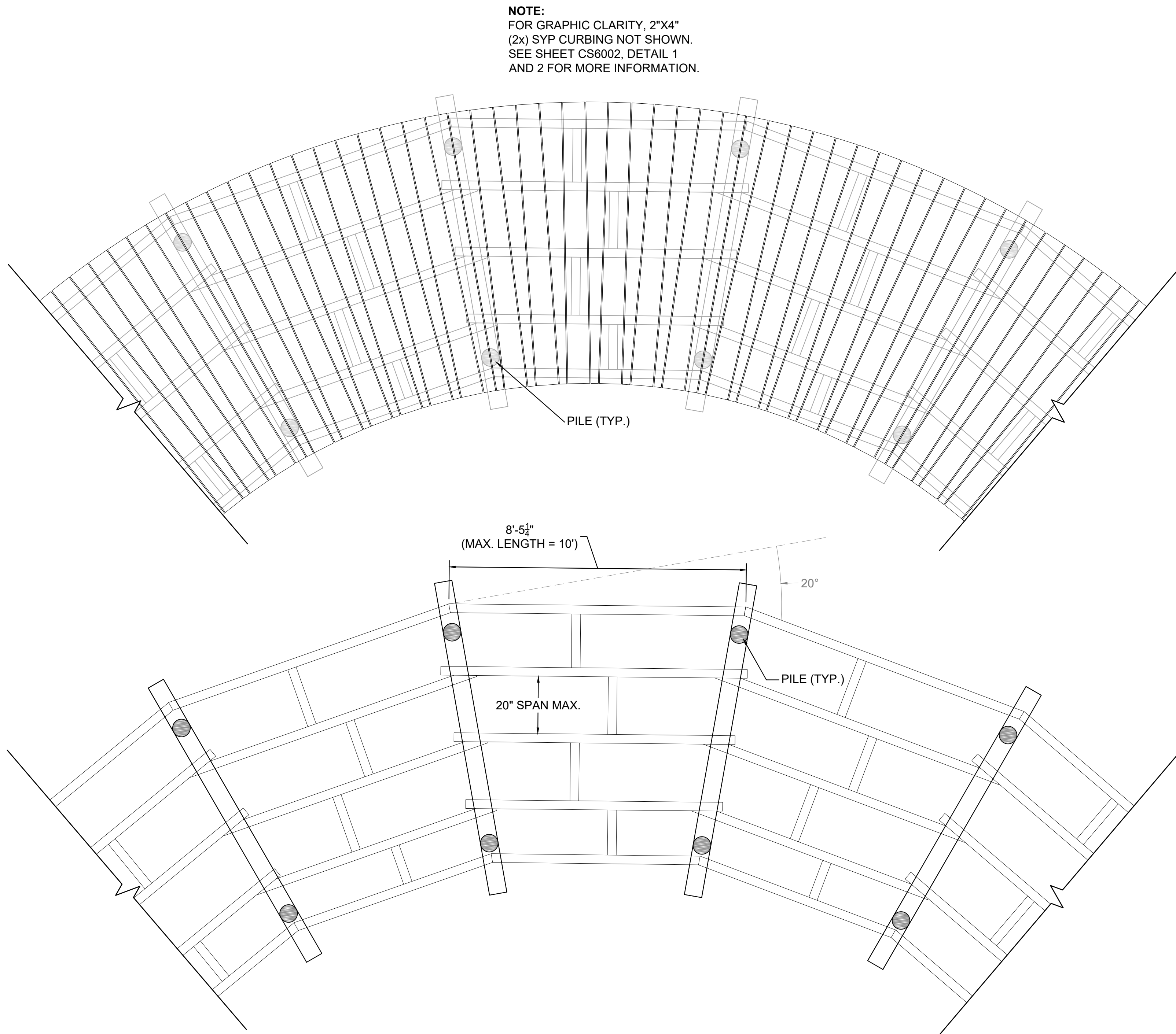
PROJECT	PWMC018002
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DRAWING SCALE	AS NOTED
DRAWN BY	CJK
APPROVED BY	DWJ

CS6011
SHEET 15 OF 26

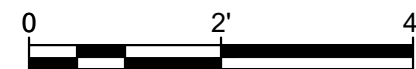
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PROJECT STATUS: 2020-02-24
PLOT DATE: 10/22/2019 2:58 PM BY: Joseph Cavallaro
PLOT STYLE: Pennoni VCS.dwt



1
6012
STANDARD LARGE RADIUS (20° OR LESS)
SCALE 1"=2'
ALTERNATE ANGLED AND STRAIGHT DECKING BOARDS ALONG SECTIONS OF LARGE RADIUS
SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD
MAX. CHORD LENGTH = 4' - 5"



2
6012
STANDARD LARGE RADIUS (20° OR GREATER)
SCALE 1"=2'
STANDARD LARGE ANGLE SEGMENTS JOINED END TO END TO ACHIEVE ANGLES GREATER THAN 20°
ALTERNATE ANGLED AND STRAIGHT DECKING BOARDS ALONG SECTIONS OF LARGE RADIUS
SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD (PER CHORD)
MAX CHORD LENGTH = 4' - 5"



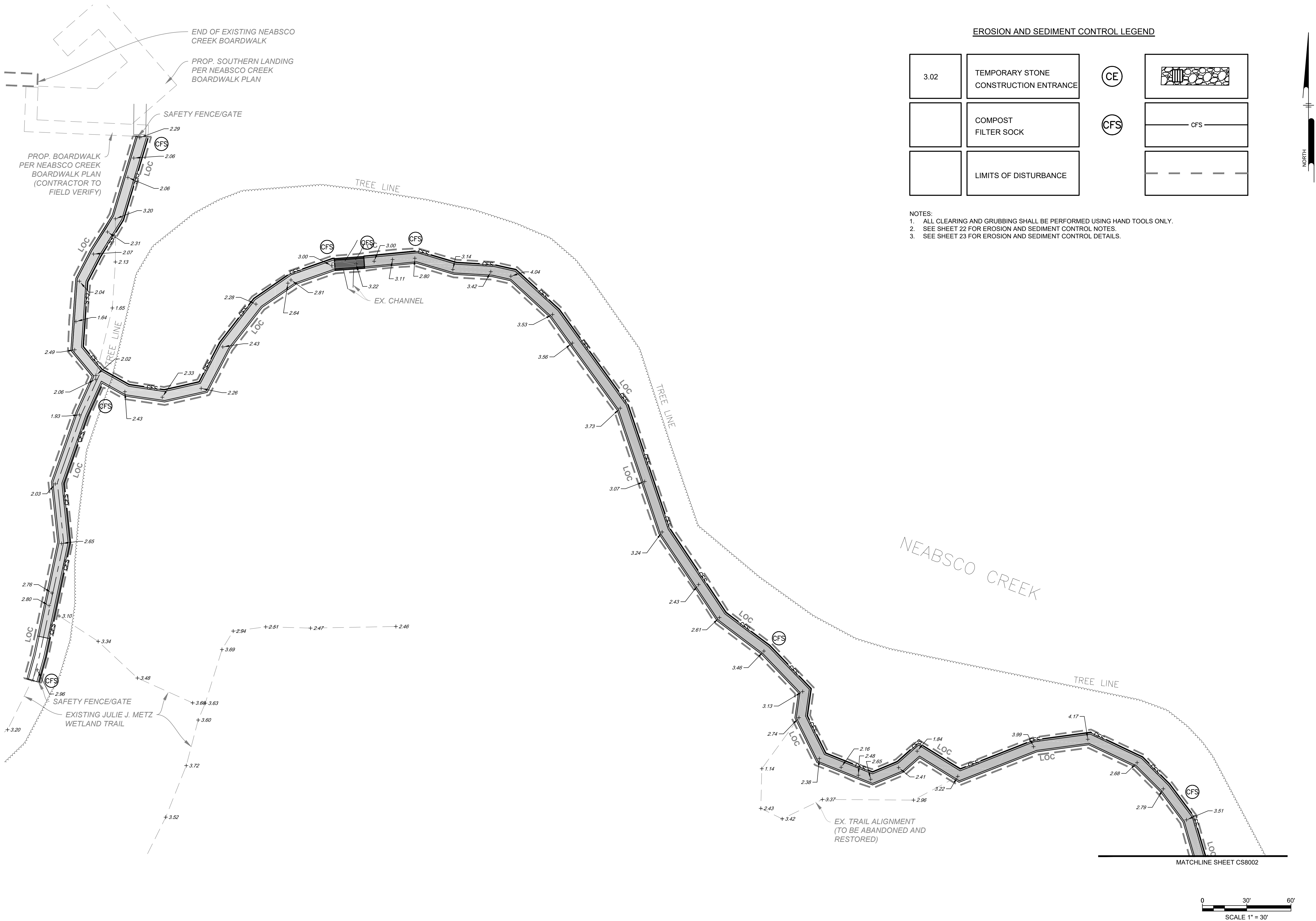
BOARDWALK CONSTRUCTION NARRATIVE

THE TRAIL ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD BASED ON EXISTING CONDITIONS TO MINIMIZE DISTURBANCE TO EXISTING TREES AND THE LIKE. CONTRACTOR SHALL SELECT 10, 12 OR 14-FOOT-LONG SECTIONS AND RADIUS DETAILS TO ADDRESS ANGLES IN THE TRAIL ALIGNMENT BASED ON FIELD CONDITIONS.

#	#	#	#	#	#	#	#	#	DATE	NO.	REVISIONS	BY

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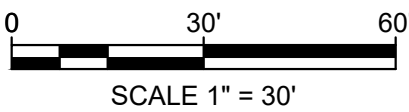
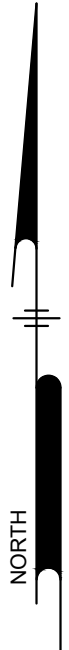
PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	AS NOTED
DRAWN BY	JMA
APPROVED BY	DWJ



EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
	COMPOST FILTER SOCK	CFS	
	LIMITS OF DISTURBANCE		

- NOTES:
- ALL CLEARING AND CRUBBING SHALL BE PERFORMED USING HAND TOOLS ONLY.
 - SEE SHEET 22 FOR EROSION AND SEDIMENT CONTROL NOTES.
 - SEE SHEET 23 FOR EROSION AND SEDIMENT CONTROL DETAILS.



THIS SHEET FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY.



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DISCREPANCIES BEFORE PROCEEDING WITH WORK



100% SUBMISSION

JULIE METZ WETLAND BOARDWALK

15875 NEABSCO ROAD
WOODBIDGE, VIRGINIA 22191

EROSION & SEDIMENT CONTROL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO	DATE	REVISIONS	BY

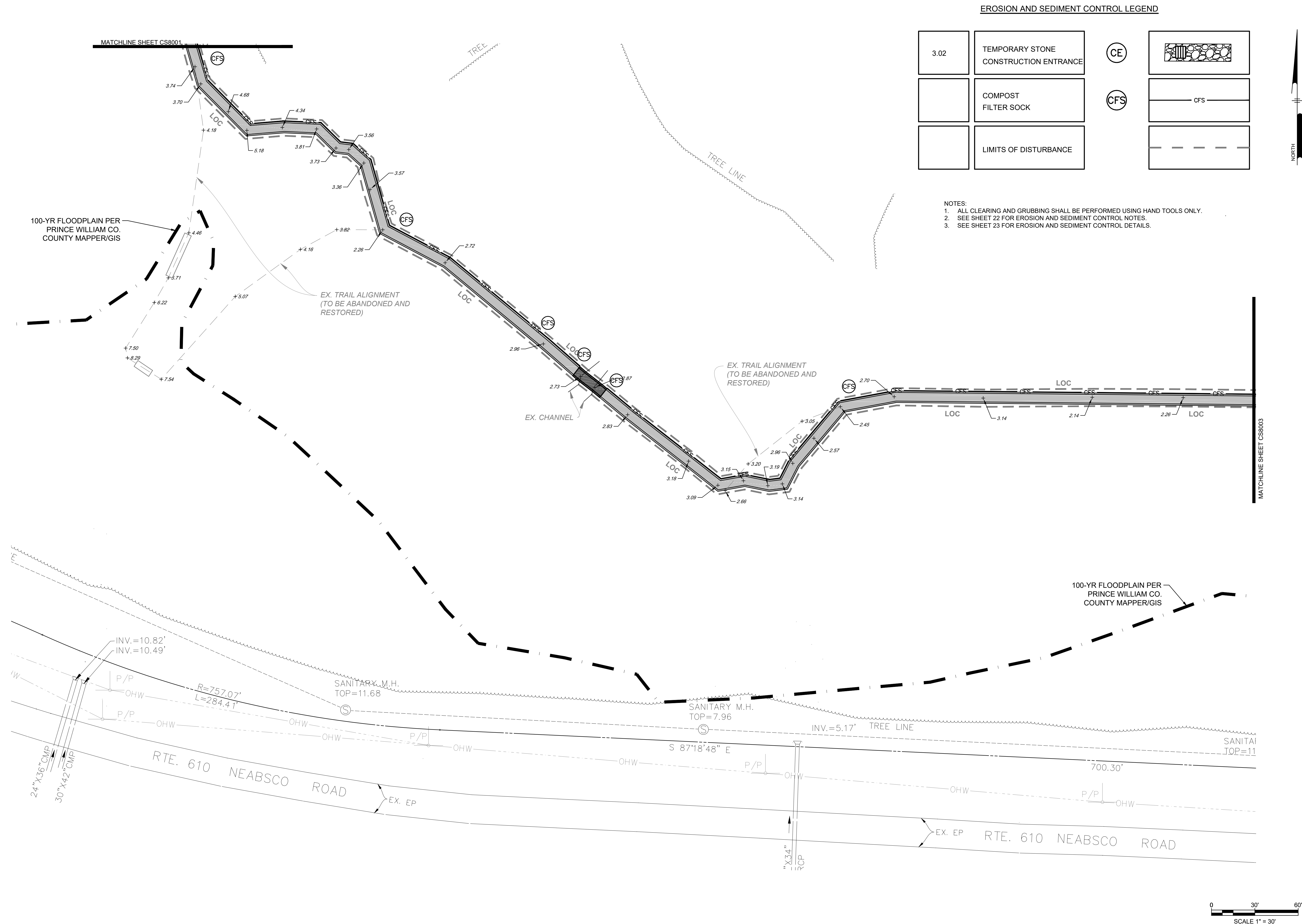
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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JAG
APPROVED BY	MDL

CS8001

SHEET 18 OF 26

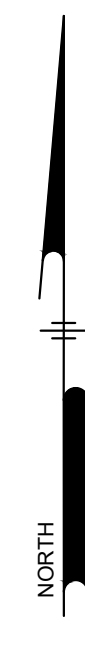
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PLOTTED: 2/24/2025 3:15 PM BY: Joseph Cavallaro PROJECT STATUS: 2025-02-24



EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
	COMPOST FILTER SOCK	CFS	
	LIMITS OF DISTURBANCE		

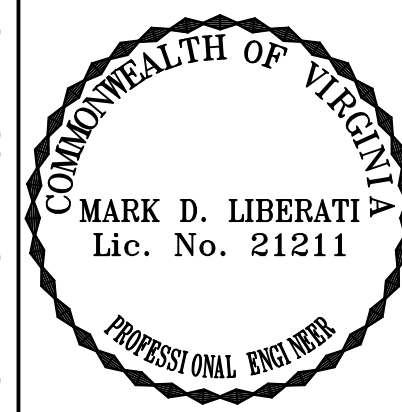
- NOTES:
1. ALL CLEARING AND GRUBBING SHALL BE PERFORMED USING HAND TOOLS ONLY.
 2. SEE SHEET 22 FOR EROSION AND SEDIMENT CONTROL NOTES.
 3. SEE SHEET 23 FOR EROSION AND SEDIMENT CONTROL DETAILS.



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JULIE METZ WETLAND BOARDWALK

15875 NEABSCO ROAD
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EROSION & SEDIMENT CONTROL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO.	DATE	REVISIONS	BY

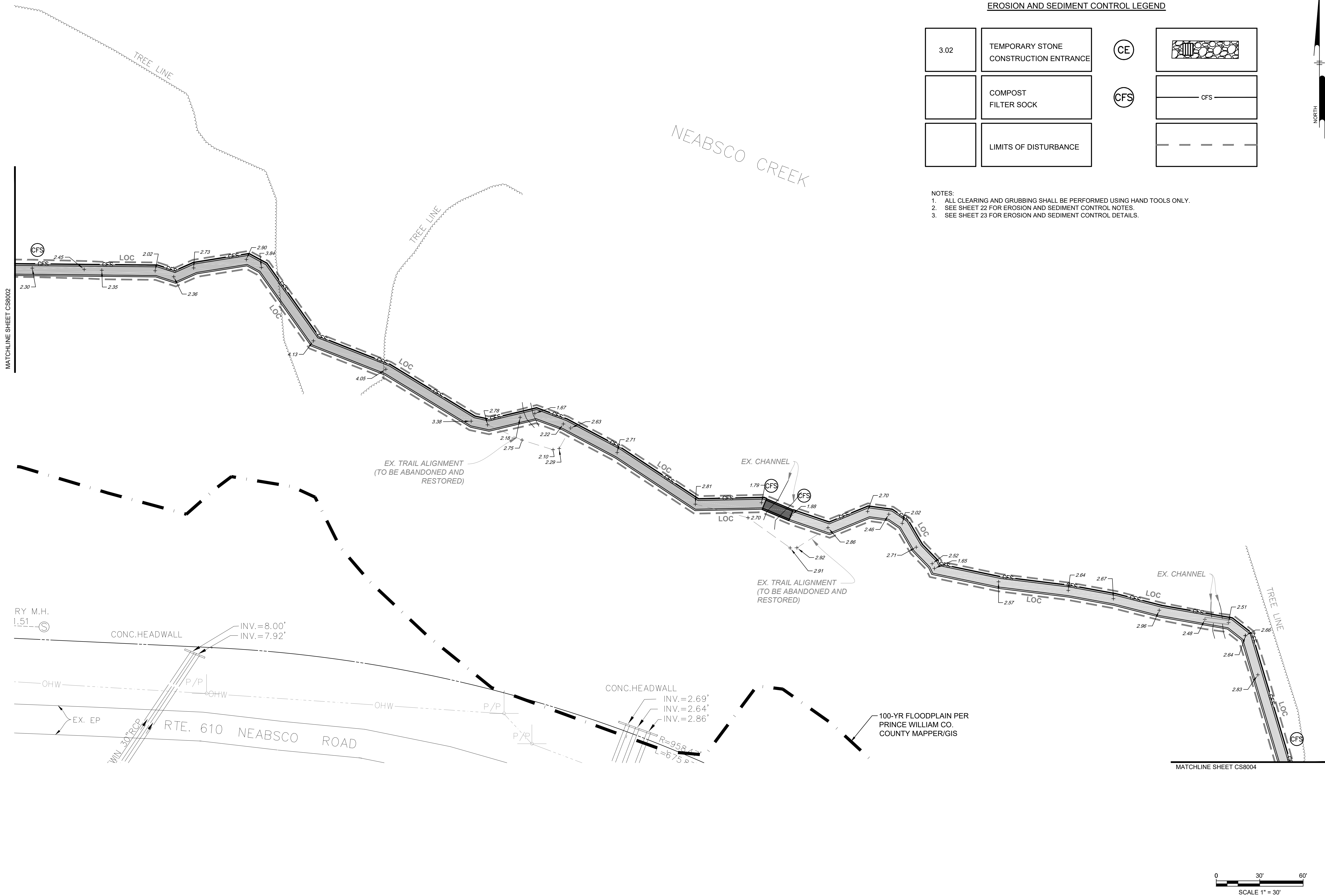
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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JAG
APPROVED BY	MDL

CS8002

SHEET 19 OF 26

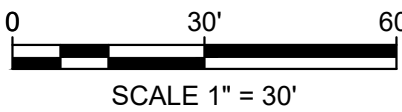
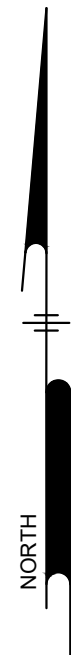
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PROJECT STATUS: 2020-02-24



EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
	COMPOST FILTER SOCK	CFS	
	LIMITS OF DISTURBANCE		

- NOTES:
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 2. SEE SHEET 22 FOR EROSION AND SEDIMENT CONTROL NOTES.
 3. SEE SHEET 23 FOR EROSION AND SEDIMENT CONTROL DETAILS.

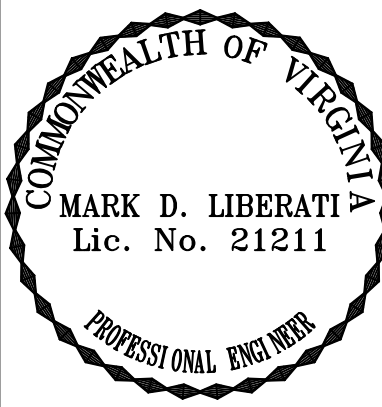


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SUBMISSION**

JULIE METZ WETLAND BOARDWALK
15875 NEABSCO ROAD
WOODBIDGE, VIRGINIA 22191

EROSION & SEDIMENT CONTROL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

NO	DATE	REVISIONS	BY

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SHALL INDEMNIFY AND HOLD HARMLESS PENNONI
ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND
EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	1" = 30'
DRAWN BY	JAG
APPROVED BY	MDL

CS8003

SHEET 20 OF 26

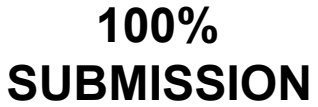


NOTES:

1. ALL CLEARING AND GRUBBING SHALL BE PERFORMED USING HAND TOOLS ONLY.
2. SEE SHEET 22 FOR EROSION AND SEDIMENT CONTROL NOTES.
3. SEE SHEET 23 FOR EROSION AND SEDIMENT CONTROL DETAILS.

NORTH

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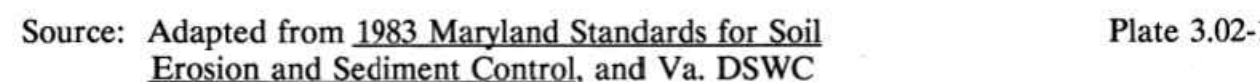
CS8004

AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RESEDED AS SOON AS SUCH AREAS ARE IDENTIFIED

5. CAUTION: PUBLIC AND PRIVATE UTILITIES ARE KNOWN TO EXIST ON AND/OR NEAR TO THIS SITE. FIELD LOCATION, BY TEST PITTING, IS REQUIRED AS SHOWN ON THE PLAN.

- PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

SHEET 22 OF 26



GENERAL

- ## INSTALLATION

- ## MAINTENANCE

- ## REMOVAL

- | | |
|--|-----------------|
| Compost Filter Sock Brand Information: | Represented By: |
|  DIAMOND SOCK 888-578-0777
www.DiamondSock.com | |

Represented By

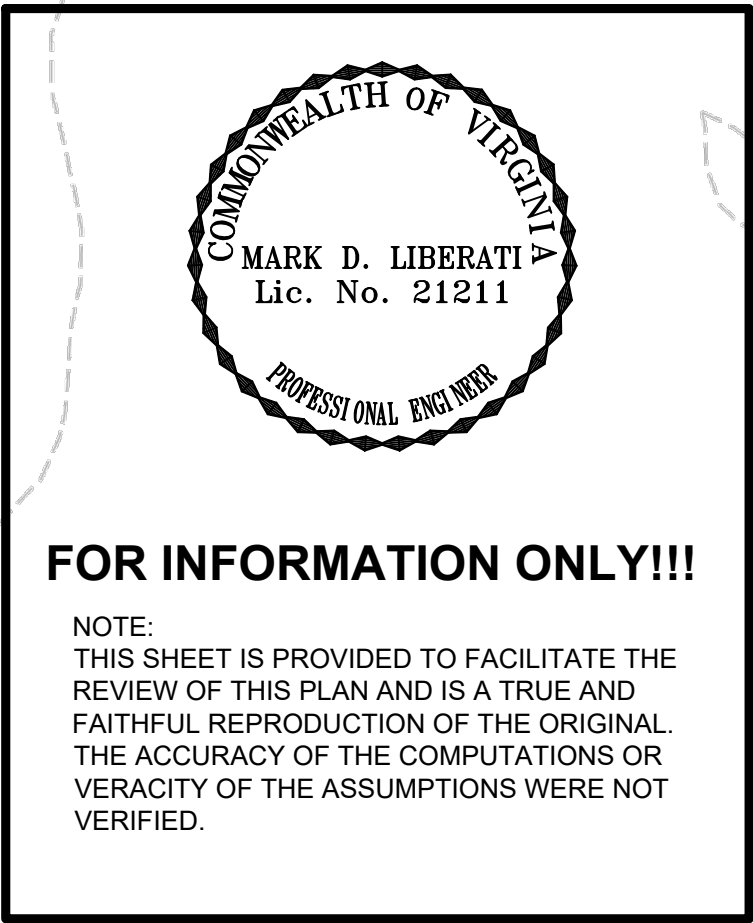
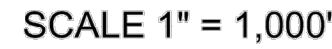
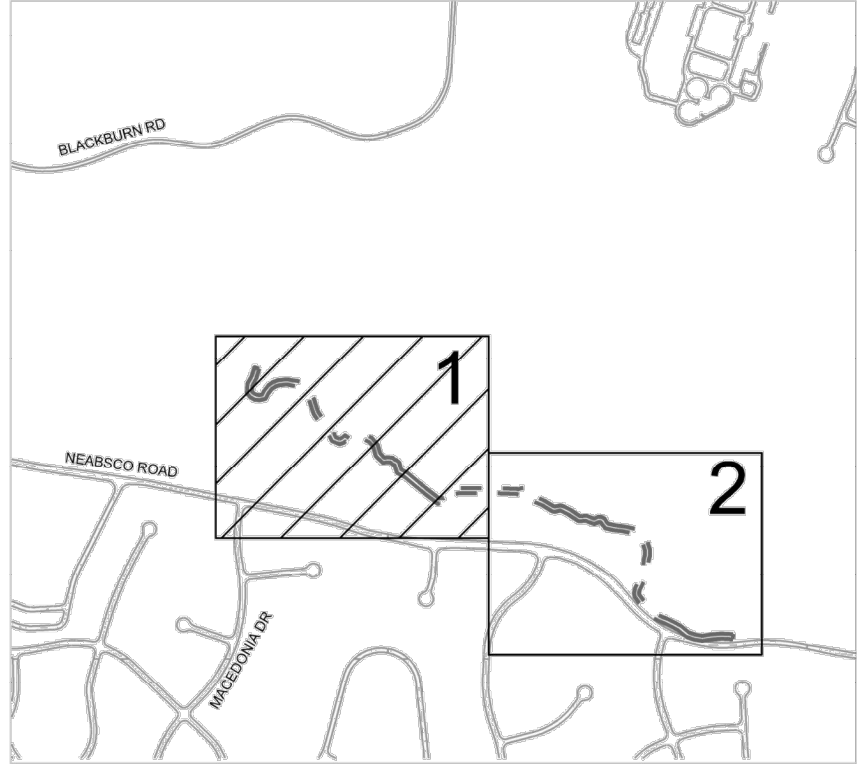
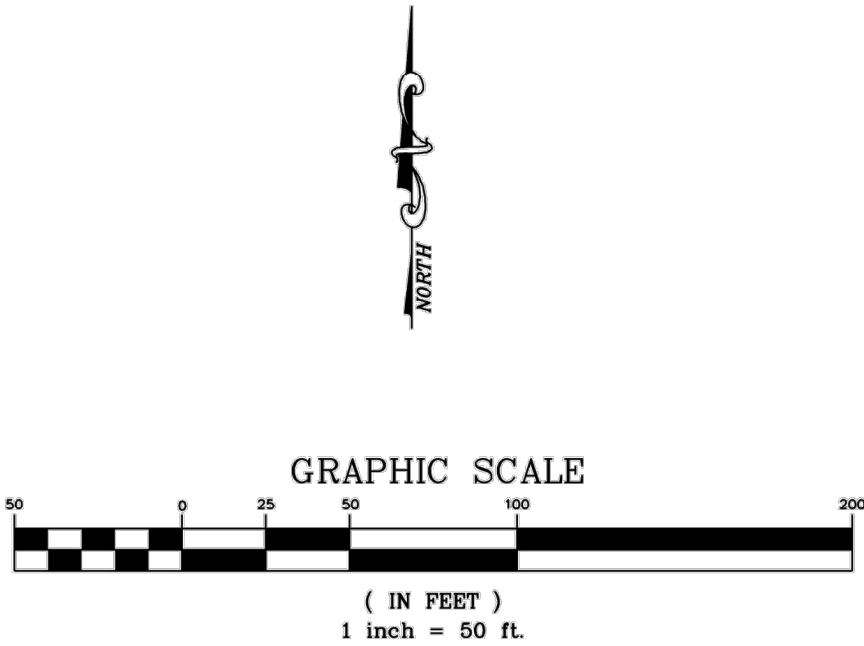
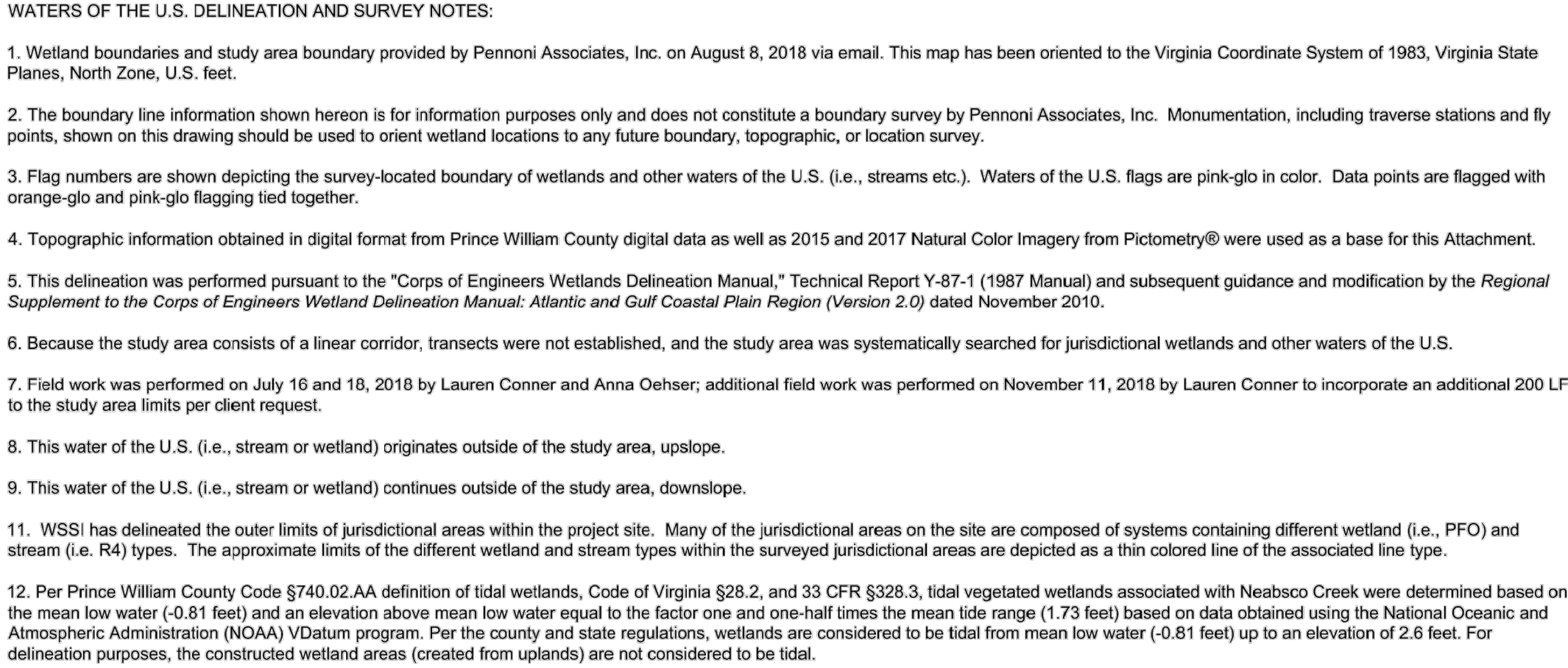
 **DIAMOND SOCK** 888-578-0777
www.DiamondSock.com

Represented By

PROJECT	PWMCO18002		
DATE	2020-02-24		
DRAWING SCALE	NONE		
DRAWN BY	JAG		
APPROVED BY	DWJ		
CS8502			
SHEET	23	OF	26

18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

* OR APPROVED EQUAL



MATCHLINE SHEET 2

REVISIONS			
No.	Date	Description	Rev. By
	12/13/16	Revised per 1-10-2018 ID plan well and drier request	AO BNR
	2/22/2018	Revised per 1-22-2018 COE request	AW BNR

Horizontal Datum: VCS NAD 83

Vertical Datum: NAVD 88

Boundary and Topo Source:
 Prince William County digital data
 and Petrom Associates, Inc.

Design	Draft	Approved
AAO	AAO	BNR

Sheet #
1 of 2

Computer File Name:
 c:\msdcs\bnr\0016832\0016832.dwg
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DATE: September 2018 SCALE: 1" = 30' C.I. 2'

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PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	NONE
DRAWN BY	JAG
APPROVED BY	DWJ

CS9002
SHEET 25 OF 26

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WOODBRIDGE, VIRGINIA 22191

WATERSHED DELINEATION INFORMATION SHEET

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112



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Received by USACE NAO
BND 28 December 2018

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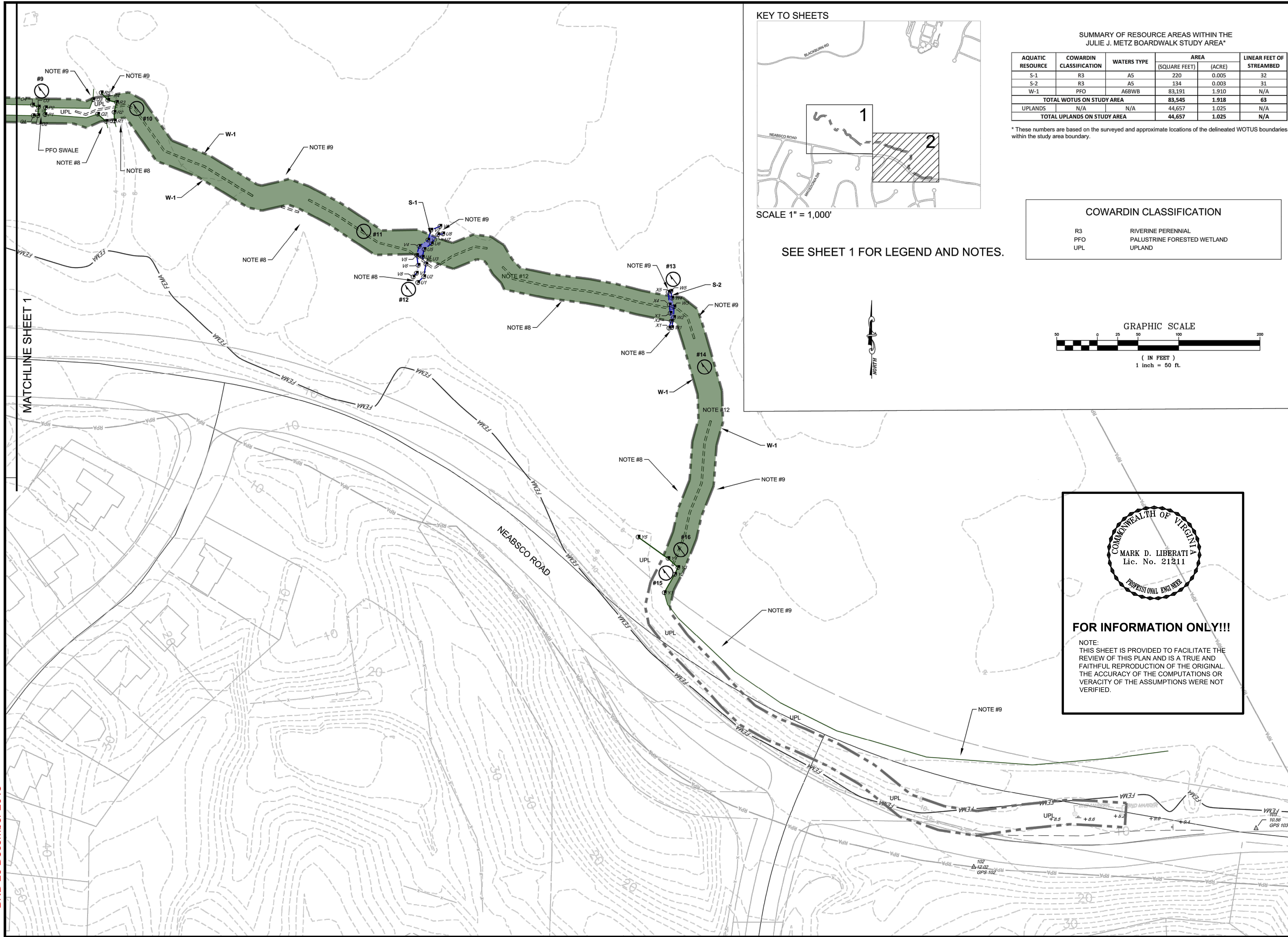
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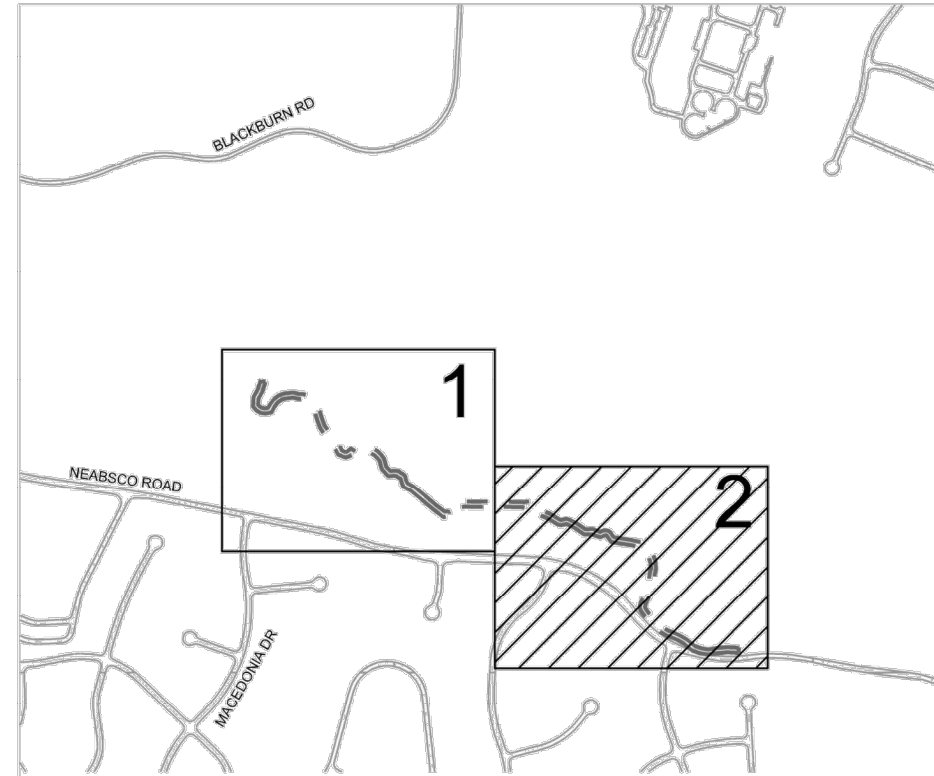
PROJECT STATUS: 2020-02-24

DRAWING NOT TO-SCALE

Received by USACE NAO
BND 28 December 2018



KEY TO SHEETS



SCALE 1" = 1,000'

SEE SHEET 1 FOR LEGEND AND NOTES.

SUMMARY OF RESOURCE AREAS WITHIN THE
JULIE J. METZ BOARDWALK STUDY AREA*

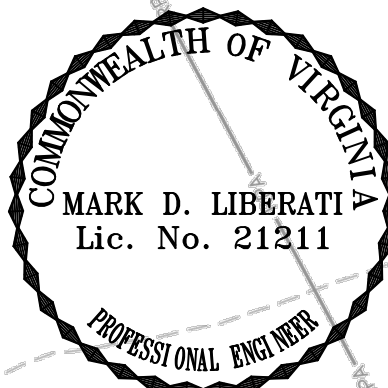
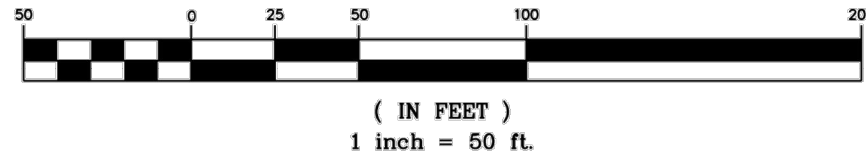
AQUATIC RESOURCE	COWARDIN CLASSIFICATION	WATERS TYPE	AREA (SQUARE FEET)	(ACRE)	LINEAR FEET OF STREAMBED
S-1	R3	A5	220	0.005	32
S-2	R3	A5	134	0.003	31
W-1	PFO	A6BWB	83,191	1.910	N/A
TOTAL WOTUS ON STUDY AREA			83,545	1.918	63
UPLANDS			N/A	1.025	N/A
TOTAL UPLANDS ON STUDY AREA			44,657	1.025	N/A

* These numbers are based on the surveyed and approximate locations of the delineated WOTUS boundaries within the study area boundary.

COWARDIN CLASSIFICATION

R3 RIVERINE PERENNIAL
PFO PALUSTRINE FORESTED WETLAND
UPL UPLAND

GRAPHIC SCALE



FOR INFORMATION ONLY!!!

NOTE:
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REVIEW OF THIS PLAN AND IS A TRUE AND
FAITHFUL REPRODUCTION OF THE ORIGINAL.
THE ACCURACY OF THE COMPUTATIONS OR
VERACITY OF THE ASSUMPTIONS WERE NOT
VERIFIED.

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Studies and Solutions, Inc.
a DARY company
5300 Wellington Branch Drive • Suite 100
Gainesville, Virginia 20155
Phone: 703-679-5400 Fax: 703-679-5401
www.wetlandstudies.com

ATTACHMENT I:
WATERS OF THE U.S. (INCLUDING WETLANDS)
DELINEATION MAP
Prepared For: Pennoni Associates, Inc.
Julie J. Metz Trail
Prince William County Virginia

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REVISIONS		Rev.	By	App.
No.	Date	Description	AO	BNR
1	12/13/18	Revised per 11-08-2018 JD site visit and client request	AW	BNR
2	12/28/18	Revised per 12-27-2018 COE request	AW	BNR

Horizontal Datum: VCS NAD 83	
Vertical Datum: NAVD 88	
Boundary and Topo Source: Prince William County digital data and Pennoni Associates, Inc.	
Design	Draft
AAO	AAO
AAO	BNR
Sheet #	
2 of 2	
Computer File Name: L:\08\CS9003\CS9003.dwg	

DRAWING NOT TO-SCALE



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WATERSHED DELINEATION INFORMATION SHEET

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
MANASSAS, VIRGINIA 20112

DATE	NO	REVISIONS	BY

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PROJECT	PWMC018002
DATE	2020-02-24
DRAWING SCALE	NONE
DRAWN BY	JAG
APPROVED BY	DWJ

CS9003

SHEET 26 OF 26