CITY OF MENTOR MENTOR MARSH PUBLIC ACCESS PROJECT PHASE 1 & 2 8365 HARBOR DRIVE, MENTOR, OHIO 44060 LAKE COUNTY, OHIO MAY 2022

CITY OF MENTOR OFFICIALS

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PLANS PREPARED BY:

SMOLEN ENGINEERING, LTD. 1876 STATE ROUTE 46 NORTH JEFFERSON, OHIO 44047





Mentor Marsh Map SCALE: Not To Scale

JOHN W. SMOLEN P.E.

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STRUCTURAL NOTES AND SPECIFICATIONS:

GENERAL

GOVERNING CODE:

- 1. OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS 2. CURRENT OHIO BUILDING CODE (OBC)
- 3. CURRENT AMERICAN CONCRETE INSTITUTE (ACI)
- 4. CURRENT NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS)
- 5. CURRENT AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 6. CURRENT OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS)
- 7. AMERICAN WELDING SOCIETY (AWS)
- 8. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- 9. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, GOVERNING CODE, OR EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.

THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE SAFETY CODES, BUILDING CODES, AND GOVERNING REGULATIONS WITH JURISDICTION OVER THE SITE DURING ALL PHASES OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT ALL SITE CONDITIONS, DIMENSIONS, AND MATERIALS DELIVERED TO THE SITE CORRESPOND THE INFORMATION DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS. IMMEDIATELY NOTIFY THE ENGINEER OF ANY VARIANCES FROM THE DRAWINGS OR SPECIFICATION WHICH ARE ENCOUNTERED AT THE JOB SITE.

ALL WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

PERFORM THE WORK, INCLUDING FABRICATION, PILING/POLE INSTALLATION AND OTHER CONSTRUCTION SO THAT THE ENTIRE STRUCTURE AND ALL ITS COMPONENT PARTS WILL FUNCTION AS DESIGNED.

SHOP DRAWINGS

PROVIDE SHOP DRAWINGS DETAILING STEEL ASSEMBLIES, ADA COMPLIANT PIPE HAND RAILING WIRE MESH PANELS, HAND RAILING, SIGN SUPPORTS, AND FABRICATED STRUCTURAL PARTS FOR APPROVAL BY THE ENGINEER, ALLOW ONE WEEK FOR REVIEW.

DESIGN LOADINGS

FOUNDATION DESIGNED FOR THE FOLLOWING LOADS:

- DEAD LOAD BASED ON 45 LBS. PER CUBIC FOOT FOR LUMBER.
- 2. LIVE LOAD 90 LBS. PER SQUARE FOOT.
- 3. SNOW LOAD 30 LBS. PER SQUARE FOOT GROUND SNOW LOAD. 4. COMBINED LOAD - 75% OF LIVE LOAD PLUS 75% OF GROUND SNOW LOAD = 86 LBS. PER SQUARE FOOT.

FOUNDATION

FOUNDATION SHALL BE DESIGNED BASED ON OBC TABLE 1804.2 ALLOWABLE FOUNDATION PLUS LATERAL PRESSURE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

EXISTING UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THEIR ACCURACY OR COMPLETENESS IS NOT GUARANTEED.

CONTRACTORS SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE EXISTING GAS, WATER, ELECTRIC, CABLE, TELEPHONE, OR OTHER UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF ANY PROPOSED IMPROVEMENT INDICATED ON THE PLANS.

WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK. THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONJUNCTION WITH THE UTILITY COMPANY'S SCHEDULE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDERGROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF CABLE, TELEPHONE, AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTIES, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE" AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE OWNER, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE OWNER, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

ENVIRONMENTAL NOTE

IN THE EVENT OF CONSTRUCTION OR REPAIR THAT WILL RESULT IN SOIL GRUBBING, CLEARING OR GRADING OVER MORE THAN 1/2 ACRE, OR CONSTRUCTION PERFORMED IN ECOLOGICALLY SENSITIVE AREAS, PROPER BEST MANAGEMENT PRACTICES (BMP) SHALL BE USED TO PREVENT STORM WATER RUNOFF AND SEDIMENTATION. REFER TO ODOT SUPPLEMENTAL SPECIFICATION 832 FOR A COMPLETE LIST OF BMP'S AND THEIR PROPER APPLICATIONS.

TREE PROTECTION

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO TREES AND THEIR ROOT SYSTEM. THE OPERATION OF ALL EQUIPMENT, PARTICULARLY WHEN EMPLOYING BOOMS, THE STORAGE OF MATERIALS, AND THE DISPOSITION OF EXCAVATED MATERIALS SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES OR THEIR ROOTS UNLESS SUCH TREES ARE DESIGNATED BY THE ENGINEER FOR REMOVAL.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

PRE-CONSTRUCTION VIDEO

PRIOR TO MOBILIZATION AT THE SITE, THE CONTRACTOR SHALL FURNISH TO THE ENGINEER A VIDEO CASSETTE RECORDING OF ALL PLANNED CONSTRUCTION AREAS, MATERIAL STORAGE AREAS, AREAS ADJACENT TO THESE AREAS, INCLUDING BUT NOT LIMITED TO, STREETS, DRIVEWAYS, SIDEWALKS, CURBS, DITCHES, FENCING, RAILING, VISIBLE UTILITIES, RETAINING STRUCTURES AND ADJACENT BUILDING STRUCTURES. THE PURPOSE OF THE VIDEO TAPING IS TO DOCUMENT EXISTING CONDITIONS AND TO PROVIDE A FAIR MEASURE OF REQUIRED RESTORATION. CARE SHOULD BE TAKEN TO RECORD ALL EXISTING CONDITIONS WHICH EXHIBIT DETERIORATION. IMPERFECTIONS, STRUCTURAL FAILURES OR SITUATIONS THAT WOULD BE CONSIDERED SUBSTANDARD.

THE TAPES SHALL BE HIGH QUALITY, COLOR AND IN THE VHS OR DIGITAL FORMAT. TEMPORARY LIGHTING SHALL BE PROVIDED AS NECESSARY TO PROPERLY TAPE AREAS WHERE NATURAL LIGHTING IS INSUFFICIENT (INDOORS, SHADOWS, ETC.). THE TAPES SHALL INCLUDE AN AUDIO SOUNDTRACK TO PROVIDE THE FOLLOWING INFORMATION:

PERMITS, LICENSES, AND TAXES

THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES AND TAXES, AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS OF WORK TO BE PERFORMED IN THIS CONTRACT. NO SEPERATE PAYMENT WILL BE MADE.

PROPERTY PINS

SPECIAL CARE SHALL BE TAKEN TO AVOID DISTURBANCE ON ANY PROPERTY IRON PINS THAT MAY BE IN CLOSE PROXIMITY TO THE CONSTRUCTION AREA. IF ANY PROPERTY IRON PIN SHOULD HAPPEN TO BE ACCIDENTALLY DISTURBED, THE CONTRACTOR SHALL HAVE THE PIN RESET BY A REGISTERED SURVEYOR AT HIS OWN EXPENSE. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER WRITTEN DOCUMENTATION THAT THE PROPERTY PINS WERE RESET BY A REGISTERED SURVEYOR. ALL PINS NEEDING, RESETTING MUST BE RESET PRIOR TO THE "FINAL WALK-THRU" FOR THE PROJECT.

SAFETY COORDINATOR

THE CONTRACTOR SHALL DESIGNATE ONE RESPONSIBLE INDIVIDUAL FROM HIS FORCES TO BE THE SAFETY COORDINATOR FOR THE PROJECT SITE. THIS INDIVIDUAL SHALL BE RESPONSIBLE FOR THE SAFETY OF THE GENERAL PUBLIC, AS WELL AS THE SUB-CONTRACTORS AND CONTRACTOR'S PERSONNEL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT THIS INDIVIDUAL'S NAME, ADDRESS, WORK AND HOME PHONE NUMBERS TO THE OWNER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY REQUIREMENTS OF ALL GOVERNING AGENCIES.

PAYMENT FOR THE PERFORMANCE OF THIS WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS OF WORK TO BE PERFORMED IN THIS CONTRACT. NO SEPARATE PAYMENT WILL BE MADE.

UNSUITABLE FOUNDATION SOILS

IF UNSUITABLE SOILS ARE ENCOUNTERED IN THE AREA OF THE PROPOSED DECK AND BOARDWALK FOUNDATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE GEOTECHNICAL ENGINEER WILL BE SUMMONED TO THE SITE FOR HIS OBSERVATION AND RECOMMENDATIONS. THE COST FOR THE GEOTECHNICAL ENGINEER WILL BE BORNE BY THE OWNER.

WETLAND AVOIDANCE

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT ANY WETLANDS INDICATED ON THE PLAN. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN THESE WETLAND AREAS.

CONSTRUCTION SUGGESTED SEQUENCE

- 1. INSTALL EROSION CONTROL MEASURES.
- 3. INSTALL FOUNDATIONS ALLOW 5 DAY CURE TIME FOR CONCRETE.
- INSTALL TIMBER DECK AND BOARDWALK STRUCTURE.
- 7. CLEAN UP SITE.
- 8. PLACE SEED AS NEEDED TO RESTORE SITE. 9. REMOVE EROSION CONTROL MEASURES.

LIMITATIONS OF CONSTRUCTION EQUIPMENT

DUE TO THE ENVIRONMENTALLY PRISTINE NATURE OF THE PROJECT SITE, THE CONTRACTOR SHALL UTILIZE ONLY LIGHT WEIGHT CONSTRUCTION EQUIPMENT (I.E. TIRE BACKHOE, MINI TRACK HOES, ATV, POWER WHEEL BARROW, ETC.). A LIST OF EQUIPMENT TO BE UTILIZED BY THE CONTRACTOR SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. ALL REFUELING OF THIS EQUIPMENT SHALL TAKE PLACE EITHER OFF SITE OR IN THE DESIGNATED STAGING AREA. IMPERVIOUS LINERS SHALL BE PLACED UNDER THE EQUIPMENT IN ORDER TO CONTAIN ANY POSSIBLE FUEL SPILLAGE ON SITE. NO EQUIPMENT WILL BE PERMITTED ON SITE WHICH IS LEAKING FUEL, TRANSMISSION OIL, OR OTHER HYDRAULIC FLUID.

 DETAILED DESCRIPTION OF LOCATION BEING VIEWED REFERENCED TO CONTRACT DRAWINGS (I.E., WELL LOCATION., BUILDING DESIGNATION, PIPELINE ROUTE ETC.) DIRECTION (N, S, E, W, LOOKING UP, LOOKING DOWN, ETC.) OF CAMERA VIEW DATE, TIME, TEMPERATURE, ENVIRONMENTAL CONDITIONS AT TIME OF TAPING.

THE CONTRACTOR IS REQUIRED TO CONSTRUCT THE PROJECT IN THE FOLLOWING ORDER:

2. CLEAR PROPOSED DECK AND BOARDWALK SITE AS SHOWN ON PLANS. ALL VEGETATION AND BRUSH SHALL BE CUT DOWN TO GROUND LEVEL. THE ROOT SYSTEMS SHALL REMAIN. ALL CUT VEGETATION AND BRUSH SHALL BE REMOVED FROM THE SITE.

4. FIELD CUT POST WITH POST IN PROPER ALIGNMENT TO OBTAIN FINAL ELEVATION.

6. PLACE BARRICADES AND WARNING SIGNS ACROSS THE ENDS OF THE STRUCTURE TO PREVENT ANYONE FROM USING THE DECK UNTIL CONSTRUCTION IS COMPLETED.

LUMBER MATERIALS

ALL STRUCTURAL LUMBER 2-INCH NOMINAL SIZE AND LARGER SHALL BE DOUGLAS FIR OR SOUTHERN YELLOW PINE GRADED UNDER INSPECTION BUREAU RULES. ALL SUPPORT POSTS, JOISTS, GUARD RAIL & CRIBBING SHALL BE S4S (SURFACED FOUR SIDES), NO. 1 GRADE, AND SHALL HAVE THE APPROPRIATE GRADE STAMP. KILN DRIED AFTER TREATMENT TO A 19% OR LES MOISTURE CONTENT. DECKING WILL BE COMPOSITE BOARDS.

STRUCTURAL STEEL: ASSEMBLIES AND FABRICATED PARTS

ALL STRUCTURAL STEEL ITEMS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123/A153. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36/A709 FY 36,000.

STRUCTURAL TIMBER AND LUMBER

ALL STRUCTURAL TIMBER, LUMBER SHALL CONFORM WITH ODOT 711.26 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. DIMENSIONS SHOWN ON THE PLANS ARE NOMINAL FOR POS BEAMS, JOISTS, GUARDS. ALL OTHER WOOD PRODUCT DIMENSIONS ARE ACTUAL FINISHED SIZE

ACTUAL SIZES: 2"x4" NOMINAL SIZES: 2x4

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF THE MATERIALS AFTER ARRIV AT DESTINATION BY TRUCKS, OR ANY MODE OF TRANSPORTATION.

CAREFULLY UNLOAD AND HANDLE THE LUMBER AT JOBSITE TO PREVENT SURFACE MARRING AN DAMAGE. IF WOOD IS TO BE STORED BEFORE ERECTION, PLACE IT ON BLOCKS WELL OFF THE GROUND WITH INDIVIDUAL MEMBERS SEPARATED BY STRIPS SO THAT AIR MAY CIRCULATE. COVER THE TOP AND SIDES OF STORAGE PILES WITH MOISTURE-RESISTANT COVERING. (DO NO USE CLEAR POLYETHYLENE FILMS.) WHEN HOISTING MEMBERS INTO PLACE USE PADDED OR NON-MARRING SLINGS, AND PROTECT CORNERS WITH WOOD BLOCKING. ADEQUATELY BRAC MEMBERS AS THEY ARE ERECTED TO HOLD THEM IN A SAFE POSITION UNTIL FULL STABILITY IS PROVIDED.

PRESERVATIVE TREATMENT

ALL LUMBER, TIMBER, AND PILES SHALL BE PRESSURE TREATED WITH MICRONIZED COPPER AZOL (MCA), OR ALKALINE COPPER QUATERNARY (ACQ) TYPE C IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) STANDARD UC4C. ALL LUMBER AND TIMBERS SHALL BE PRESSURE IMPREGNATED UNDER APWA STANDARDS C1, C2, C14, AND C18 WHERE APPLICABLE. WHERE PRACTICAL, LUMBER AND TIMBERS SHALL BE KILN DRIED AFTER TREATMENT TO A 19% OR LESS MOISTURE CONTENT.

ALL COPPER QUATERNARY OR MCA PRESERVATIVE-TREATED WOOD MEMBERS SHALL BEAR AN END TAG OR PERMANENT IN STAMP OR CERTIFICATE INDICATING THE FOLLOWING:

- 1. NAME OF WOOD TREATING COMPANY.
- 2. TREATMENT PLANT, CITY AND STATE.
- 3. SYMBOL FOR ALKALINE COPPER QUATERNARY (ACQ), OR MCA.
- 4. PRESERVATIVE RETENTION LEVEL. 5. APPROVED USE.
- 6. CODE REPORT NUMBER.

THE CONTRACTOR SHALL USE TERMIN-8 WOOD PRESERVATIVE TO TREAT FIELD CUT OR DRILLED LUMBER. A SECOND APPLICATION OF TERMIN-8 SHALL BE BRUSHED ONTO ALL EXPOSED OPEN GRAIN WOOD WHICH IS CUT OFF FOR CONSTRUCTION OF THE DECK OR BOARDWALK. APPLICATION RATES SHALL ADHERE TO THE MANUFACTURER'S REQUIREMENTS. ALL EXCESS PIEC OF LUMBER SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM SITE AT THE END OF CONSTRUCTION.

WORKING WITH TREATED LUMBER

THE CONTRACTOR IS REQUIRED TO ADHERE TO THE MATERIAL DATA SAFETY SHEET FOR SPECIFIC HANDLING AND DISPOSAL RECOMMENDATIONS.

RESTRICTION ON FIELD CUTTING TREATED LUMBER

FIELD CUTTING/DRILLING SHALL BE HELD TO A MINIMUM. THE CONTRACTOR SHALL PROVIDE TH MEANS TO ENCAPSULATE THE SAWDUST AND REMOVE THIS SAWDUST FROM THE ENVIRONMENTALLY SENSITIVE SITE. ALL/ANY SAWDUST SHALL BE REMOVED OFF SITE.

THE CONTRACTOR SHALL SUBMIT HIS MEANS OF ENCAPSULATION PRIOR TO THE START OF ANY CONSTRUCTION.

THE COST TO PERFORM THIS WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS OF WORK. NO SEPARATE PAYMENT WILL BE MADE.

BOLTS AND LAG SCREWS

BOLTS AND LAG SCREWS SHALL CONFORM TO ASTM A307 AND ANSI B18.2.1. FOR 5/8" DIA. LAG SCREWS, USE A 5/8" DIA. DRILL BIT FOR THE UNTHREADED SHANK AND 5/16" DIA. DRILL BIT FOR THE THREADED PORTION. FOR 1/2" DIA. LAG SCREWS, THE UNTHREADED PORTION USE 1/2" DIA. DRILL BIT AND 3/8" DIA. BIT FOR THE THREADED PORTION. WASHERS BEARING AGAINST WOOD SHALL BE 1-3/4" FOR 5/8" BOLTS AND 1-1/2" FOR 1/2" BOLTS.

HOT-DIPPED GALVANIZED

FASTENERS, HARDWARE, AND METAL PRODUCTS SHALL BE HOT-DIPPED GALVANIZED AND SHAL CONFORM TO ASTM-A153 (FOR HOT-DIPPED FASTENER PRODUCTS) AND ASTM-A653 (COATING DESIGNATION G-185 FOR HOT-DIP CONNECTOR AND SHEET PRODUCTS).

DECKING

DECKING SHALL BE COMPOSITE 1x6 EDGE GROOVED BOARDS. DECKING BOARDS SHALL BE ATTACHED TO THE JOISTS WITH CONCEALED CLIPS POSITIONED BETWEEN THE BOARDS. WHERE BOARDS NEED TO BE SURFACE FASTENED, USE COLOR COORDINATED #10x3-1/2 INCH. GALVANIZED SCREWS RECESSED TO A DEPTH OF 1/8 INCH BELOW THE FINISHED DECK SURFACE

COMPOSITE DECK BOARDS SHALL BE AS FOLLOWS: TREX TRANSCEND ULTRADECK INSPIRE TIMBERTECH PROLEGACY OR APPROVED EQUAL

SEEDING AND MULCHING

THE WORK SHALL CONSIST OF FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR GRADED AREA TO MATCH EXISTING SURROUNDINGS, FERTILIZING, WATERING, SEEDING A MULCHING OF AREAS DISTURBED BY CONSTRUCTION OPERATIONS. ALL WORK SHALL BE IN ACCORDANCE WITH ODOT ITEM 659 EXCEPT AS SPECIFIED.

	CONTRACTOR SHALL SUBMIT INVOICES AND MANUFACTURER'S SPECIFICATIONS TO GUARANTEE QUANTITY AND QUALITY OF ALL MATERIALS USED IN THIS SECTION.			n] ⊊	
	DELIVER SEED IN ACCEPTED CONDITION IN ORIGINAL, UNOPENED CONTAINERS AND SEED DURING RECOMMENDED PLANTING SEASONS OR AS APPROVED BY THE ENGINEER.		Ŕ		OH 440	
SS	SCIENTIFIC AND COMMON NAMES FOR SEEDS ARE IN GENERAL CONFORMITY WITH APPROVED NAMES PUBLISHED BY THE AMERICAN JOINT COMMITTEE OF HORTICULTURE NOMENCLATURE.		Z		Jefferson, (0505
	PRODUCTS: FERTILIZER SHALL BE 12-12-12 OR APPROVED EQUAL.		LE	Ň	46 North,	ch I
N STS, ES.	SEED MIXTURES: TYPE 3A SEED MIXTURE 25% KENTUCKY BLUEGRASS 25% CREEPING RED FESCUES 20% CHATHAM PERENNIAL RYEGRASS 20% SHERWOOD PERENNIAL RYEGRASS 10% GETTYSBURG PERENNIAL RYEGRASS		BMD	UN L	1876 State Route	
	SEEDING RATES SHALL BE AS RECOMMENDED BY THE MANUFACTURER.					
/AL	THE ENGINEER RESERVES THE RIGHT TO TEST, REJECT, OR APPROVE ALL SEED AFTER DELIVERY TO THE PROJECT.					
ND	THE MULCH SHALL BE DRY, CLEAN WHEAT OR OATS STRAW, FREE FROM NOXIOUS WEED SEED, FOREIGN MATERIAL AND OTHER HARMFUL ELEMENTS AS SPECIFIED IN ODOT CMS SECTION 659.14.					
DT						
CE	PRIOR TO PLACING CONCRETE, THE SUBGRADE SHOULD BE COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT SHALL NOT BE BELOW THE OPTIMUM AND SHALL NOT BE GREATER THAN 3% ABOVE THE OPTIMUM.	EVISION				
	REINFORCED CONCRETE	R E				
E	PERFORM ALL WORK IN ACCORDANCE WITH THE FOLLOWING:					
	 ACI 318-02, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 315-99, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT ACI 301-05, SPECIFICATIONS FOR STRUCTURAL CONCRETE. 					
1	CONCRETE 28 DAY COMPRESSIVE STRENGTH: FOOTING/WALL/SLABS: 4000 PSI (CLASS III)					
	REINFORCING BARS: ASTM A615, GRADE 60, DEFORMED BARS. INSTALL SUPPORTS AS REQURED TO MAINTAIN PROPER ALIGNMENT OF THE REINFORCEMENT DURING CONCRETING. FASTEN BARS TOGETHER TO PREVENT DISPLACEMENT.	DATE				
	MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS: CONC. CAST DIRECTLY AGAINST EARTH: 3" CONC. EXPOSED TO EARTH OR WEATHER: 2" CONC. NOT EXPOSED TO EARTH OR WEATHER: 1-1/2"	Öz				
	ANCHOR BOLTS	ÖZ	2	1/28/22	NZ	JWS
CES THE	ANCHOR BOLT GRADE SHALL MEET ASTM F1554-36	ROJECT	SEL1977	¬ :	 z z	
	ALL ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED THE ENTIRE BOLT LENGTH.	PRO	ALE	TE:	SIGI SAWI	TEOK
С	PAINTING OF THE BARRIER RAILING	Ĺ	0	, q 		Ċ
ΗE	THE CONTRACTOR SHALL PREPAINT THE BARRIER RAILING POSTS AND HORIZONTAL 2X4 SUPPORTS. THE LUMBER SHALL BE DRIED TO A MOISTURE CONTENT LESS THEN 18% ON THE DAY OF APPLICATION. THE LUMBER SHALL BE FREE OF DIRT, DUST, GRASS, MILDEW, LOOSE WOOD FIBERS AND MILL GLAZE. APPLY THE STAIN WHEN THE AIR TEMPERATURE IS BETWEEN 40° F AND 90° F. TO PREVENT LAP MARKS, AVOID STAINING IN DIRECT SUNLIGHT AND MAINTAIN A WET EDGE FOR CONTINUOUS LENGTHS. APPLY WITH ROLLER ON BRUSH.		7			
	TWO COATS OF SOLID STAIN SHALL BE APPLIED. THE FIRST COAT SHALL BE A PRIMER SUCH AS BENJAMIN-MOORE, ALKYD PRIMER ARBOR COAT #0366. THE SECOND COAT SHALL BE A FINAL COAT OF BENJAMIN-MOORE, ALKYD LATEX #0640 OR APPROVED EQUAL. THE COLOR WILL BE CHOSEN BY THE CITY.		L D			
	SPECIAL 530: INSTALLATION OF TIMBER POSTS					
	THIS ITEM INCLUDES DRILLING HOLES TO SPECIFIED DIAMETER AND DEPTH, POURING CONCRETE FOUNDATIONS, PLACING, ALIGNING, BACKFILLING, TRIMMING POSTS TO GRADE AND FIELD TREATING THE CUT END WITH COPPER NAPHTHENATE PRESERVATIVE.) () () () () () () () () () () () () () (0	Г П С	
	SPECIAL 530: INSTALLATION OF FLOOR BEAMS			E	0	
	BOARDWALK - THIS ITEM INCLUDES ATTACHING JOIST HANGERS TO THE FLOOR BEAMS, END TRIMMING IF NECESSARY AND TREATMENT WITH PRESERVATIVE AND ATTACHMENT TO BOARDWALK POSTS.		DRA	OR, O	AL N	
LL G	DECK - THIS ITEM INCLUDES CONSTRUCTING FLOOR BEAMS BY CONSTRUCTING FLOOR BEAMS BY LAMINATING 2X8 PLANKS, PRESERVATIVE TREATMENT OF CUT ENDS AND ATTACHMENT TO PILING.		ר ש ב	Ĕ Z Ш	ЦШК	
	SPECIAL 530: INSTALLATION OF JOISTS			Ш Z	Ш	
	BOARDWALK - THIS ITEM INCLUDES TRIMMING AND MITERING JOISTS TO FIT INTO JOISTS HANGERS, NAILING AS NECESSARY AND PRESERVATIVE TREATMENT OF CUT ENDS.				Ċ	
E.	DECK - ATTACH JOISTS TO FLOOR BEAMS WITH 2-16D NAILS AND MITEK RT15 BRACKETS, RIM BOARD ATTACHMENT AND BRIDGING INCLUDED.					
	SPECIAL 530: INSTALLATION OF BARRIER RAILING PANELS	NENTO	- 7 -			
	THE PANELS SHALL BE 36" GALVANIZED STEEL 2"x2" MESH FABRICATED WITH #8 WIRE, PANELS SHALL BE ATTACHED WITH 1-1/2" GALVANIZED STAPLES. PANEL SHALL BE PVC COATED. COLOR TO BE SELECTED BY THE ENGINEER. SHOP DRAWINGS REQUIRED.		1 2			
	SPECIAL 530: HAND RAILING					
) .ND	HAND RAILING IS REQUIRED ON BARRIER RAIL WHERE THE WALKING SURFACE IS NOT LEVEL.		<u></u>			\neg
			<u>SHE</u>	<u> </u>		<u>/.</u>

ODOT ITEM	QUANTITY (PHASE I)	QUANTITY (PHASE II)	UNIT	
201	1	1	LUMP SUM	CLE
203	4	4	CU. YD.	EXC
203	22	22	CU. YD.	EMB
204	28	28	SQ. YD.	SUB
304	4.6	4.6	CU. YD.	AG
452	24	24	SQ. YD.	NON
659	163	314	SQ. YD.	SEED
659	16	31	SQ. YD.	REP
659	40	80	POUNDS	COI
659	0.11	0.22	TONS	MUL
601	9.3		CU. YD.	DUN
611	30	15	LINEAR FEET	12" (
507	30		EACH	INST
507	30		EACH	INST
SPECIAL 530	460	670	LINEAR FEET	INST
SPECIAL 530	50	75	POUNDS	HAR
SPECIAL 530	334	316	LINEAR FEET	INST
SPECIAL 530	2064	1531	LINEAR FEET	INST
SPECIAL 530	2104	1936	SQ. FT.	INST
SPECIAL 530	142	219	LINEAR FEET	INST
SPECIAL 530	426	557	SQ. FT.	INST
SPECIAL 530	363	311	LINEAR FEET	INST
SPECIAL 530		557	LINEAR FEET	INST
SPECIAL 530	4	4	EACH	SIG
SPECIAL 530	1	1	LUMP SUM	SITE
SPECIAL 530	2		EACH	100
SPECIAL 530	100		LINEAR FEET	INST
511	1.33	1.33	CU. YD.	CLA
509	156	156	POUNDS	REIN
514	640	986	SQ. FT.	PAIN
513	1879	1477	POUNDS	INST
623	1	1	LUMP SUM	100
832	1	1	LUMP SUM	STO
832	271	267	LINEAR FEET	SILT

GENERAL ESTIMATED QUANTITIES

DESCRIPTION (MATERIALS PROVIDED BY MENTOR CI

EARING AND GRUBBING

CAVATION AND STRIPPING TOP SOIL FOR CONCRETE RAMPS

BANKMENT FOR CONCRETE RAMPS

BGRADE COMPACTION FOR CONCRETE RAMPS

GREGATE BASE FOR CONCRETE RAMPS

N-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT FOR CONCRETE

EDING AND MULCHING (ODOT SLOPE MIXTURE CLASS 3A)

PAIR SEEDING MULCHING

DMMERCIAL FERTILIZER

JLCHING (STRAW ONLY)

MPED ROCK FILL, TYPE D W/FILTER

CONDUIT - STORM SEWER TYPE B

TALLATION OF PRE-BORED HOLES

TALLATION OF TIMBER PILINGS (PILINGS PROVIDED BY MENTOR CITY)

TALLATION OF TIMBER POSTS (POSTS PROVIDED BY MENTOR CITY)

RDWARE (NAILS AND SCREWS)

TALLATION OF FLOOR BEAMS (FLOOR BEAMS AND JOIST HANGERS PROVIDED

TALLATION OF JOISTS (JOISTS PROVIDED BY MENTOR CITY)

TALLATION OF COMPOSITE DECKING (COMPOSITE DECKING AND CONCEAL

TALLATION OF BARRIER RAILING (LUMBER ONLY, PROVIDED BY MENTOR CITY)

TALLATION OF BARRIER RAILING PANELS

TALLATION OF PIPE RAILING AND CURB

TALLATION OF HAND RAILING

SN SUPPORTS (SIGN BOARDS BY MENTOR CITY)

PRECONSTRUCTION VIDEO

ONSTRUCT BENCHES (LUMBER PROVIDED BY MENTOR CITY)

TALL PILE BRACING (LUMBER PROVIDED BY MENTOR CITY)

ASS QC1-CONCRETE-4.0 KSI

NFORCING STEEL

INTING MISC. STAINING OF TIMBER RAILING

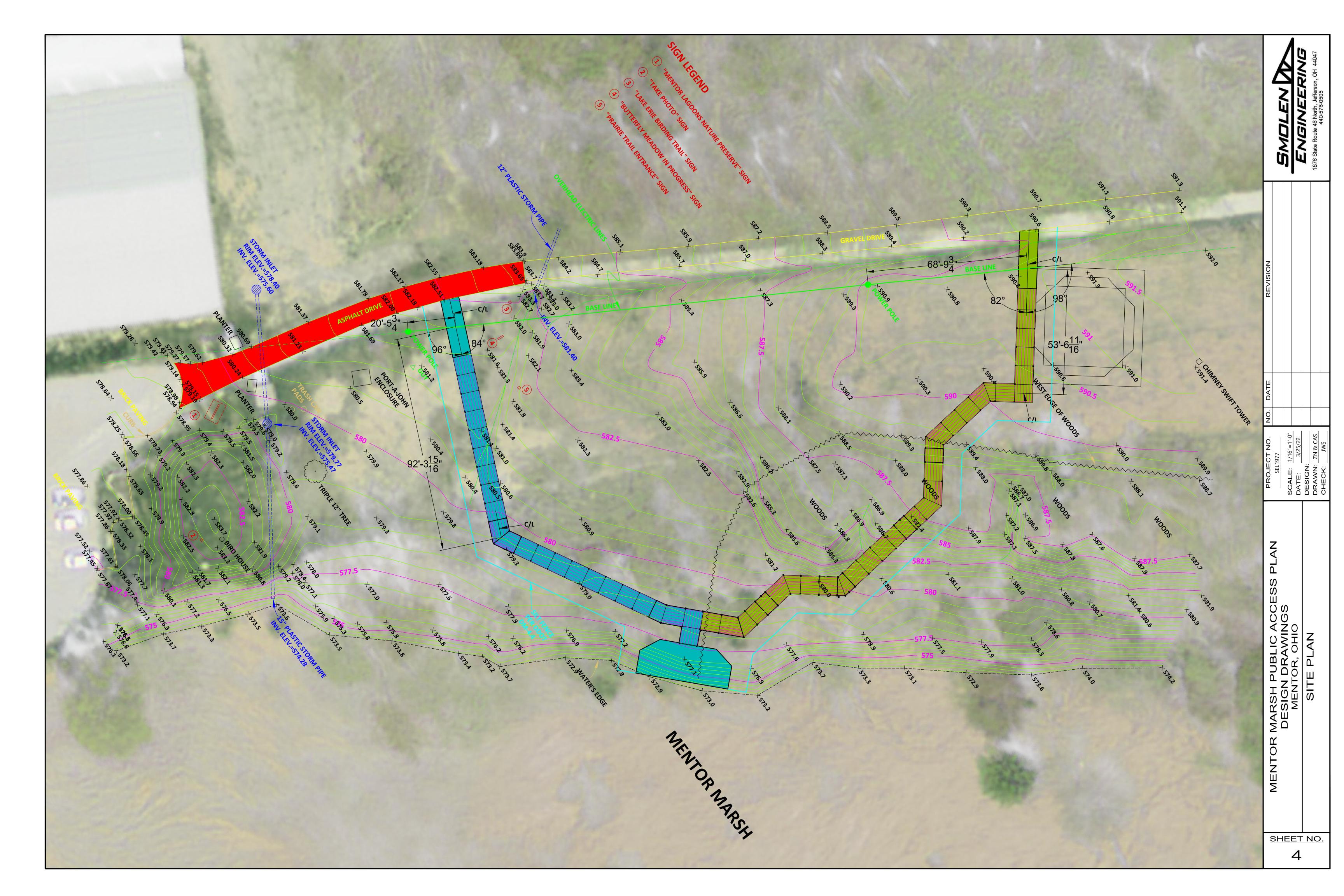
TALL STRUCTURAL STEEL: PLATES, ANGLES AND ASSEMBLIES (PROVIDED BY MEN

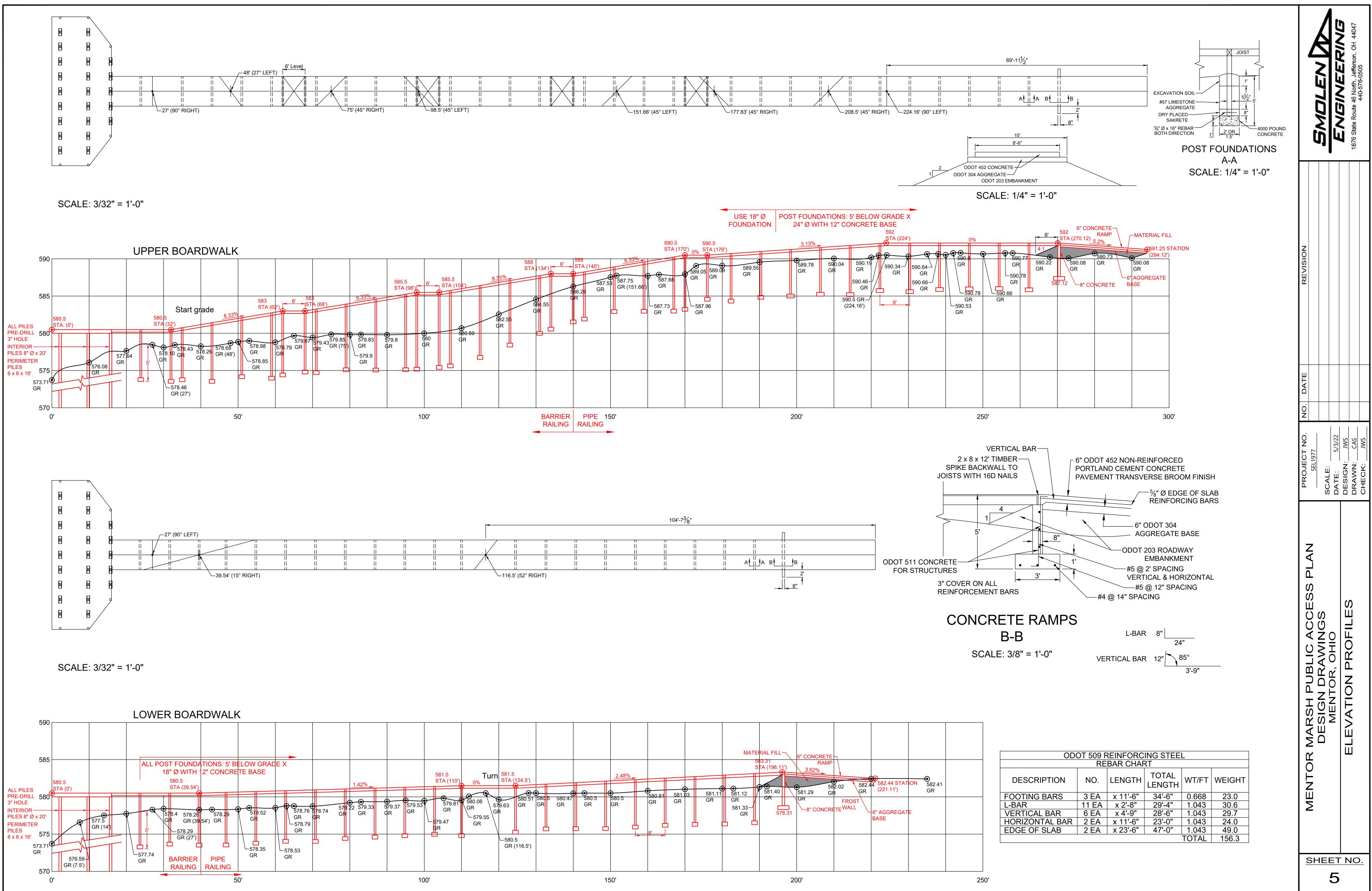
ONSTRUCTION LAYOUT STAKES BY OHIO LICENSED SURVEYOR

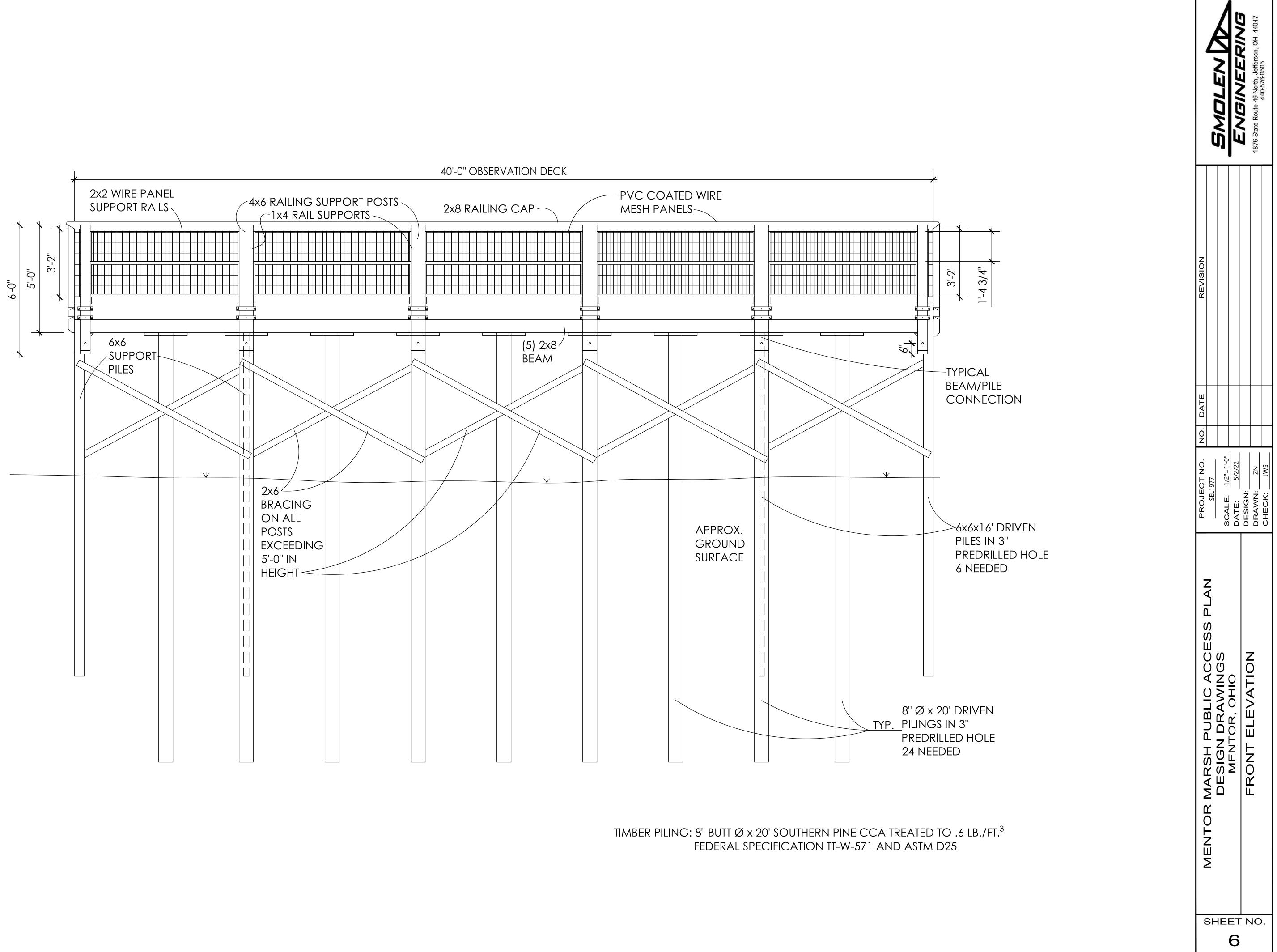
ORM WATER POLLUTION PREVENTION PLAN

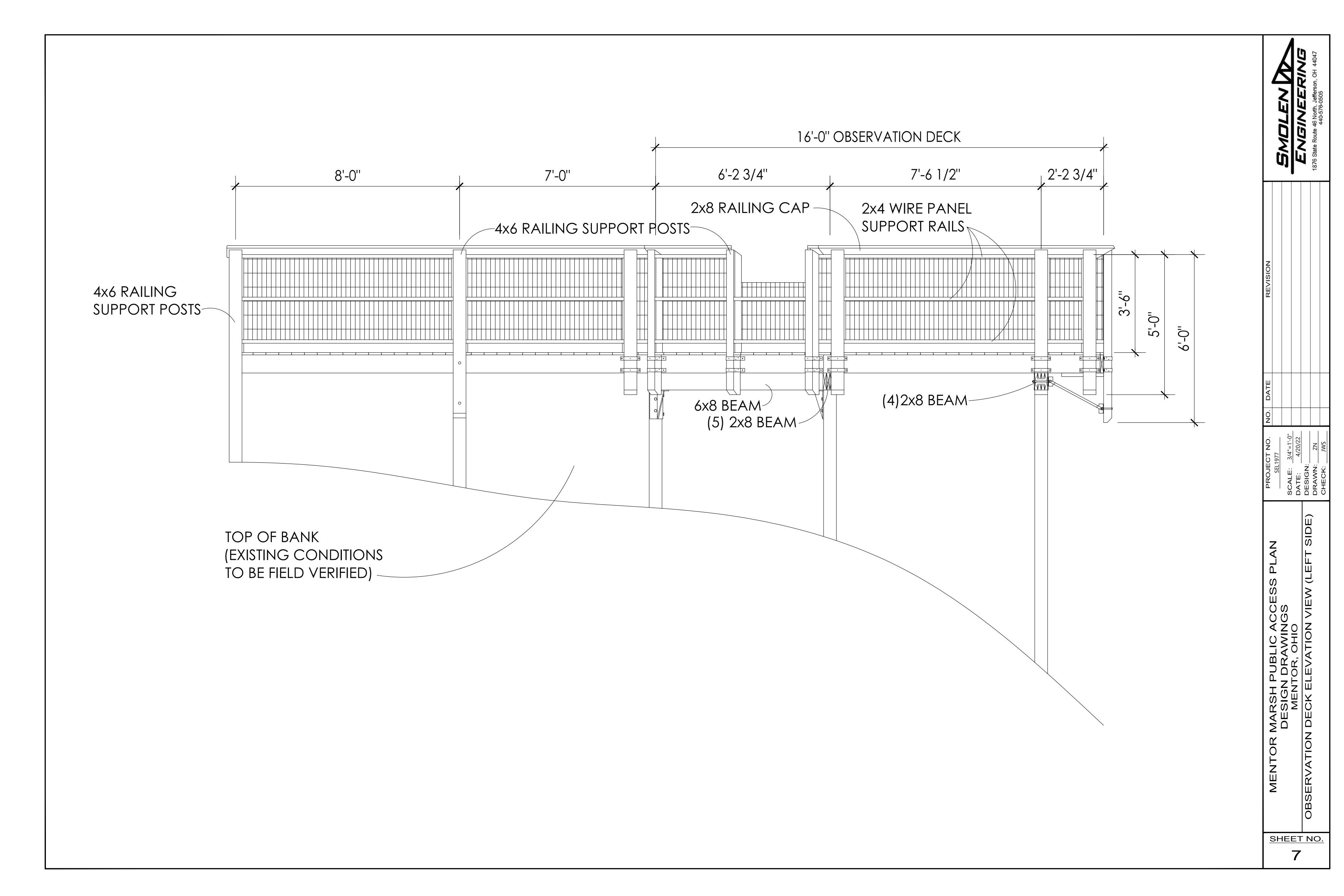
FENCE

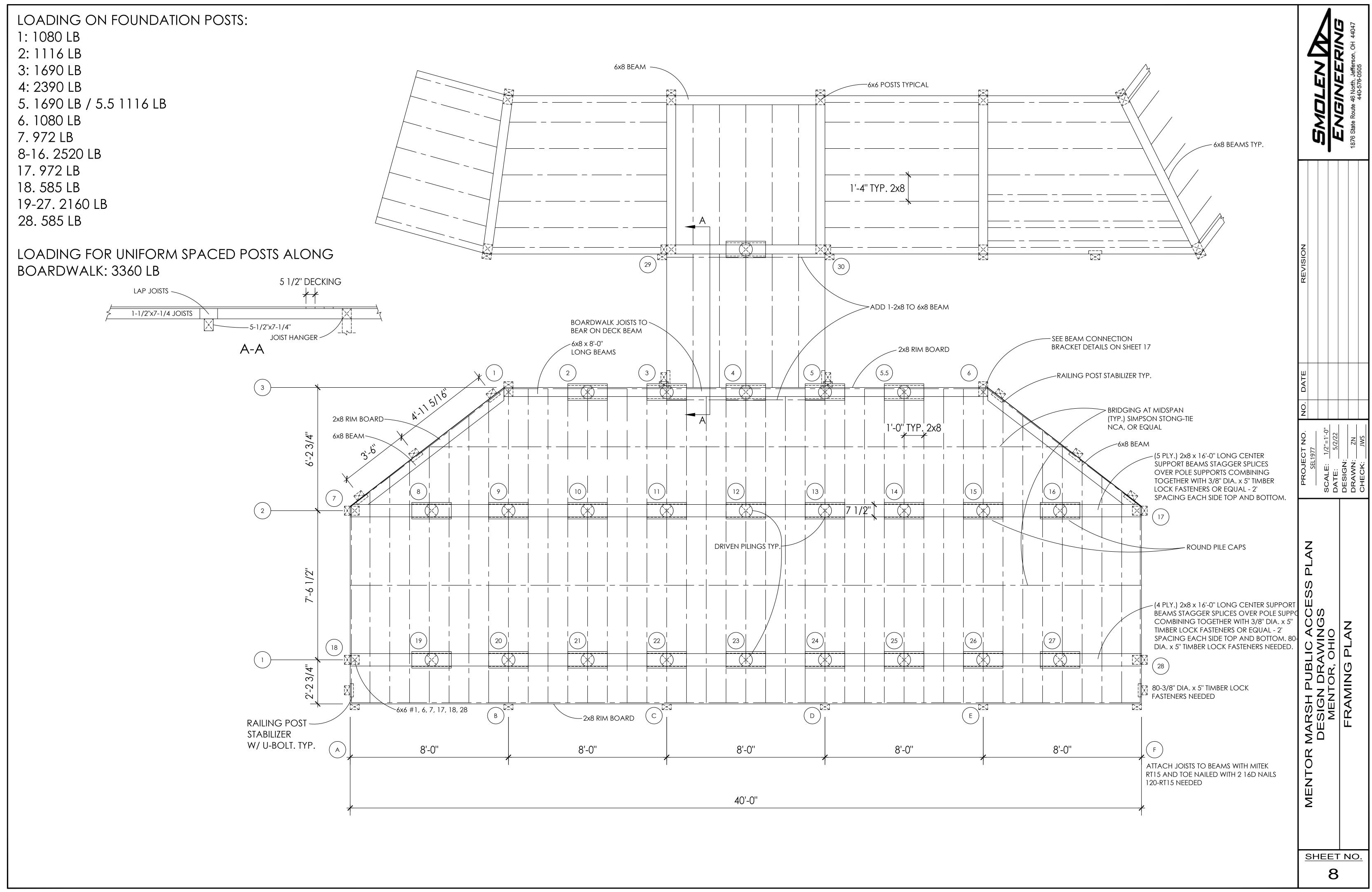
ITY WHERE NOTED)	BADLEN PS ENGINEERING 1876 State Route 46 North, Jefferson, OH 44047 440-576-0505
RAMPS	REVISION
D BY MENTOR CITY)	PROJECT NO. NO. DATE SEL1977 SCALE: 5/11/22 DATE: 5/11/22 DATE: 5/11/22 DESIGN: MS
ED FASTENERS PROVIDED BY MENTOR CITY)	UBLIC ACCESS PLAN DRAWINGS DR, OHIO R, OHIO CUANTITIES
NTOR CITY)	MENTOR MARSH PL DESIGN D BESIGN D BRENTO SHEET NO. 3

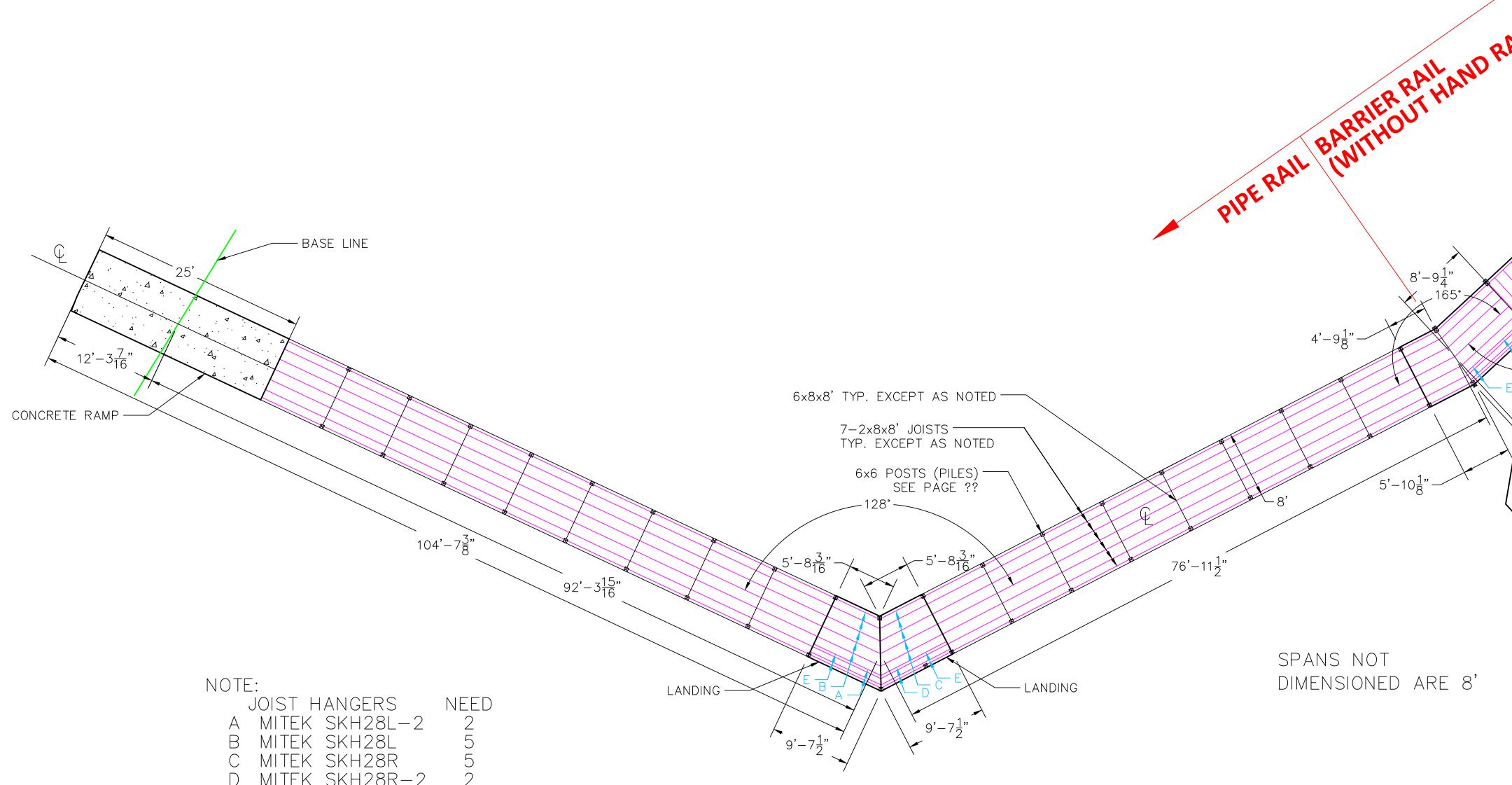






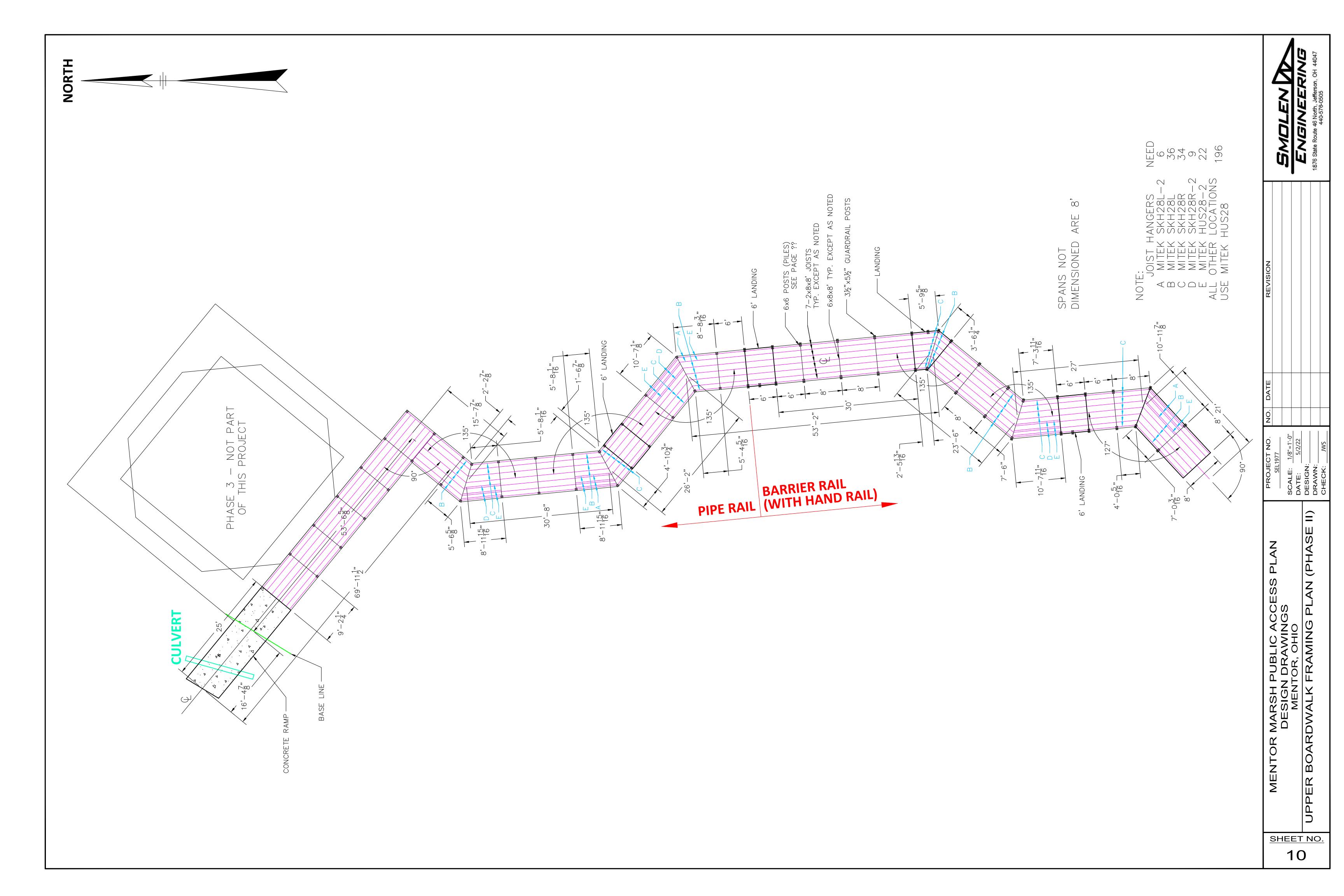


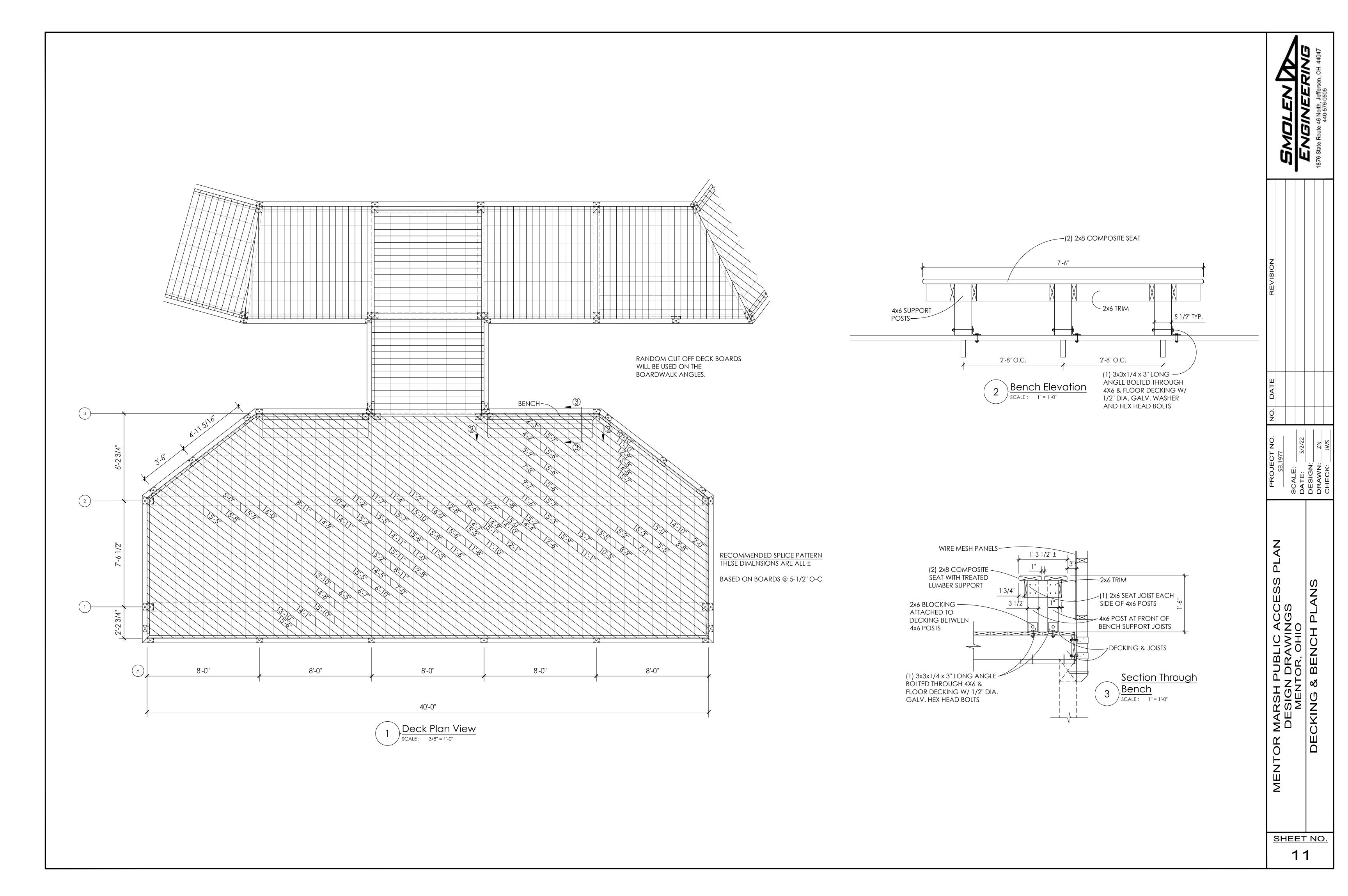


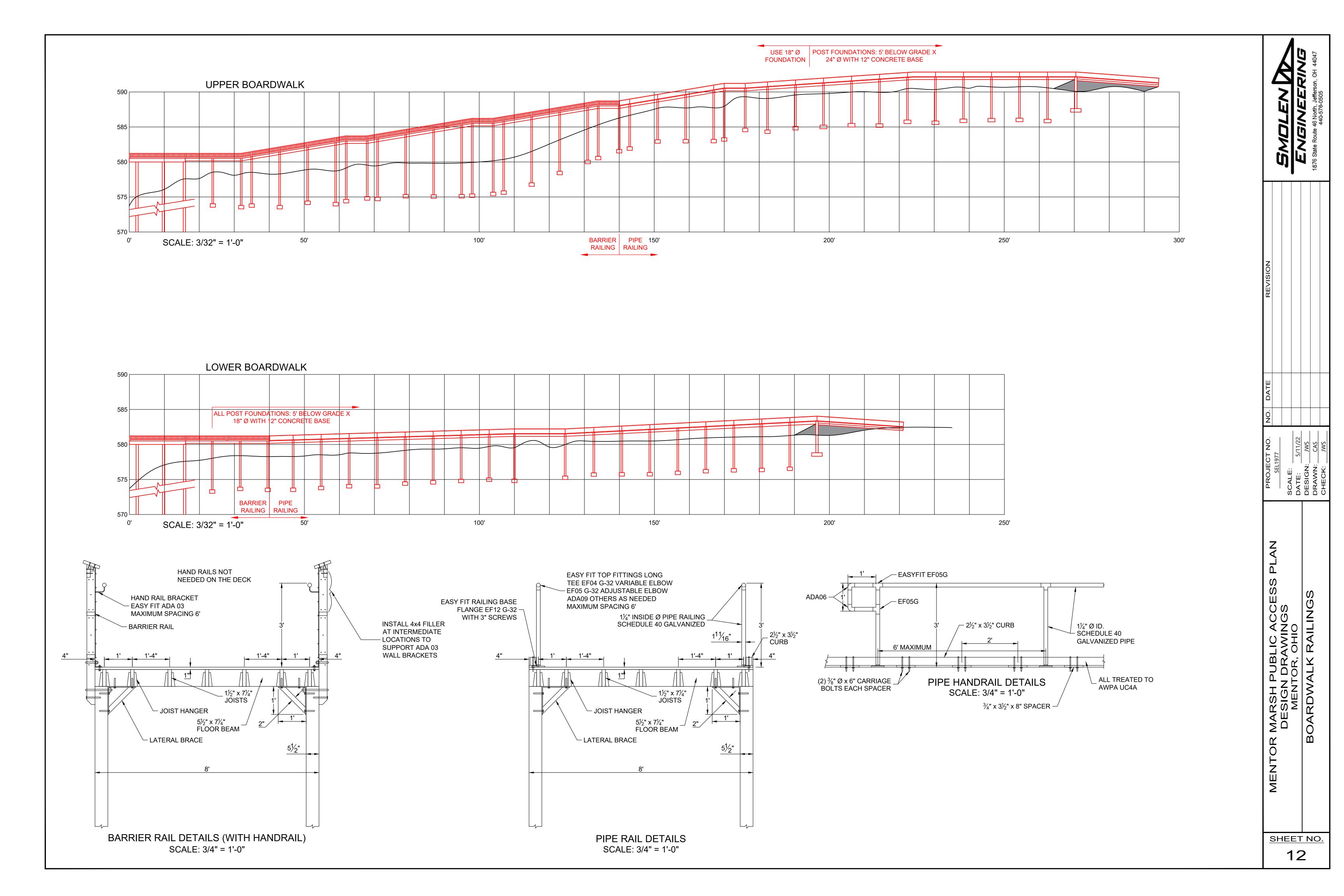


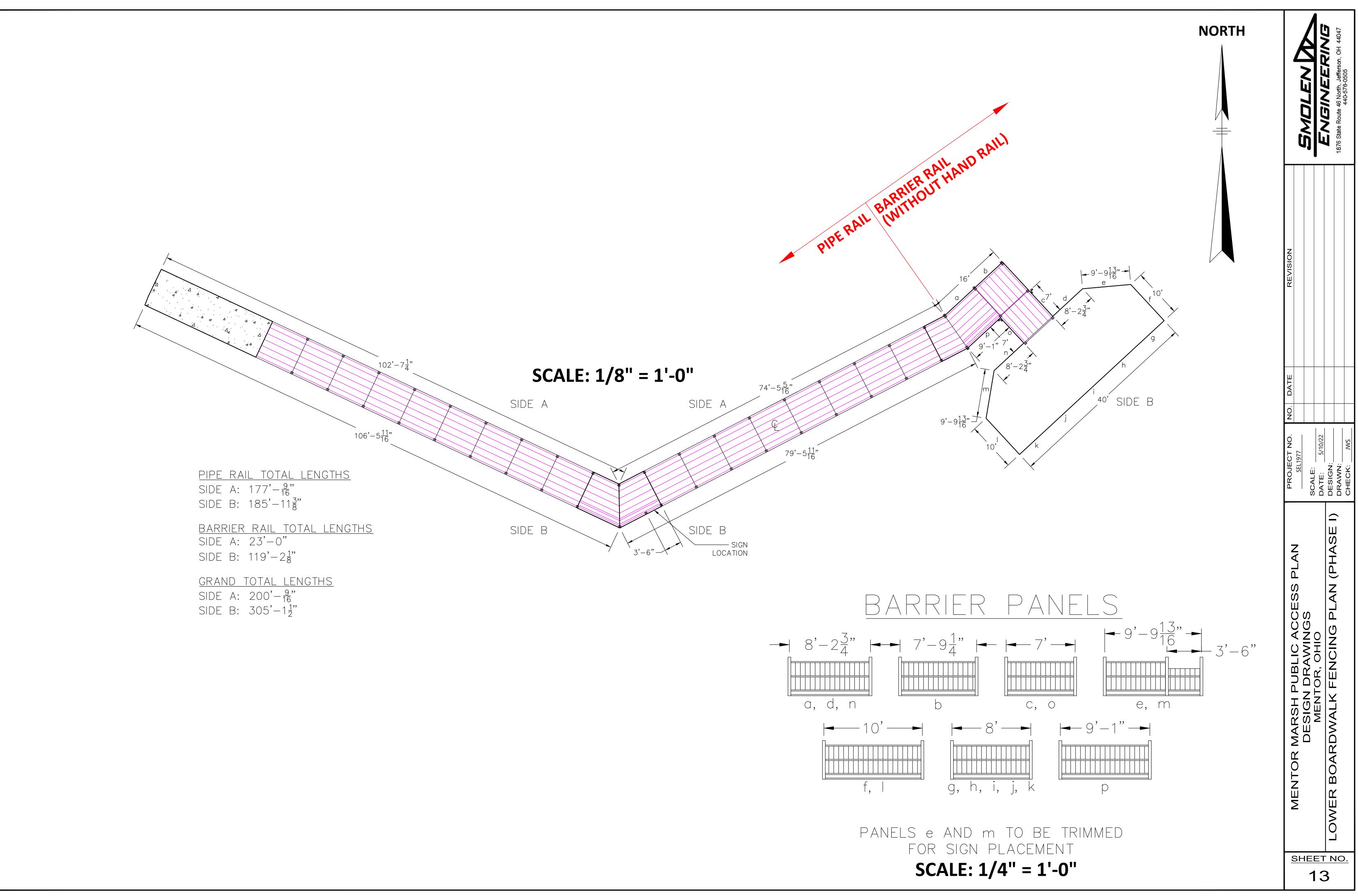
NOTE:	
JOIST HANGERS	NEED
a mitek skh28l-2	2
B MITEK SKH28L	5
C MITEK SKH28R	5
D MITEK SKH28R-2	2
e mitek hus28-2	8
ALL OTHER LOCATIONS	294
USE MITEK HUS28	Z34

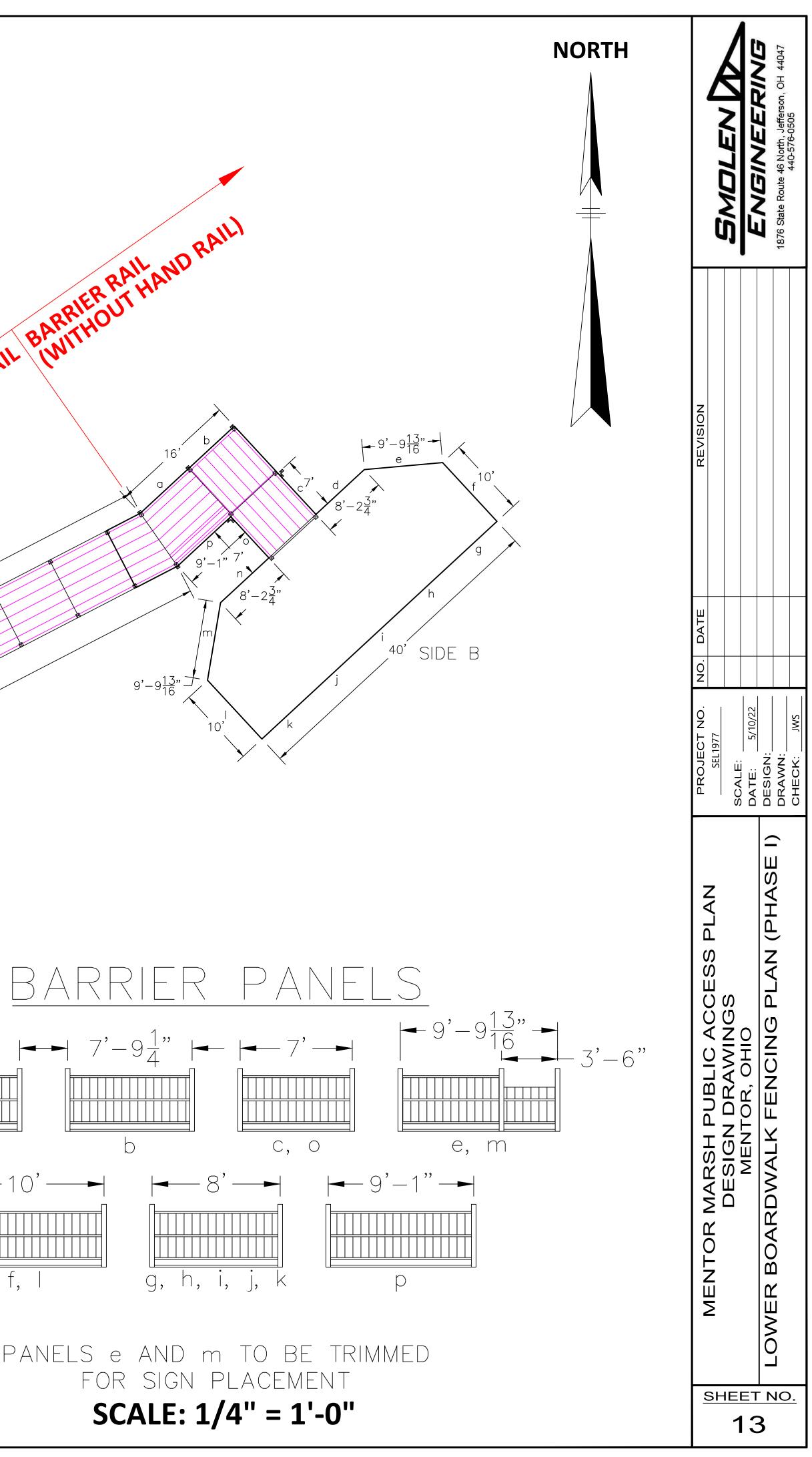
	NORTH	BMDLEN BY ENGINEERING 1876 State Route 46 North, Jefferson, OH 44047 440-576-0505
AILAND RAILA		REVISION
$8'-9\frac{1}{4}''$ 165'' 90''''''''''''''''''''''''''''''''''''		PROJECT NO.NO.DATESEL1977NO.DATESCALE:1/8"=1'-0"SCALE:5/10/22DATE:5/10/22DESIGN:DRAWN:CHECK:JMS
ARE 8'		MENTOR MARSH PUBLIC ACCESS PLAN DESIGN DRAWINGS MENTOR, OHIO LOWER BOARDWALK FRAMING PLAN (PHASE I)
		<u>SHEET NO.</u> 9

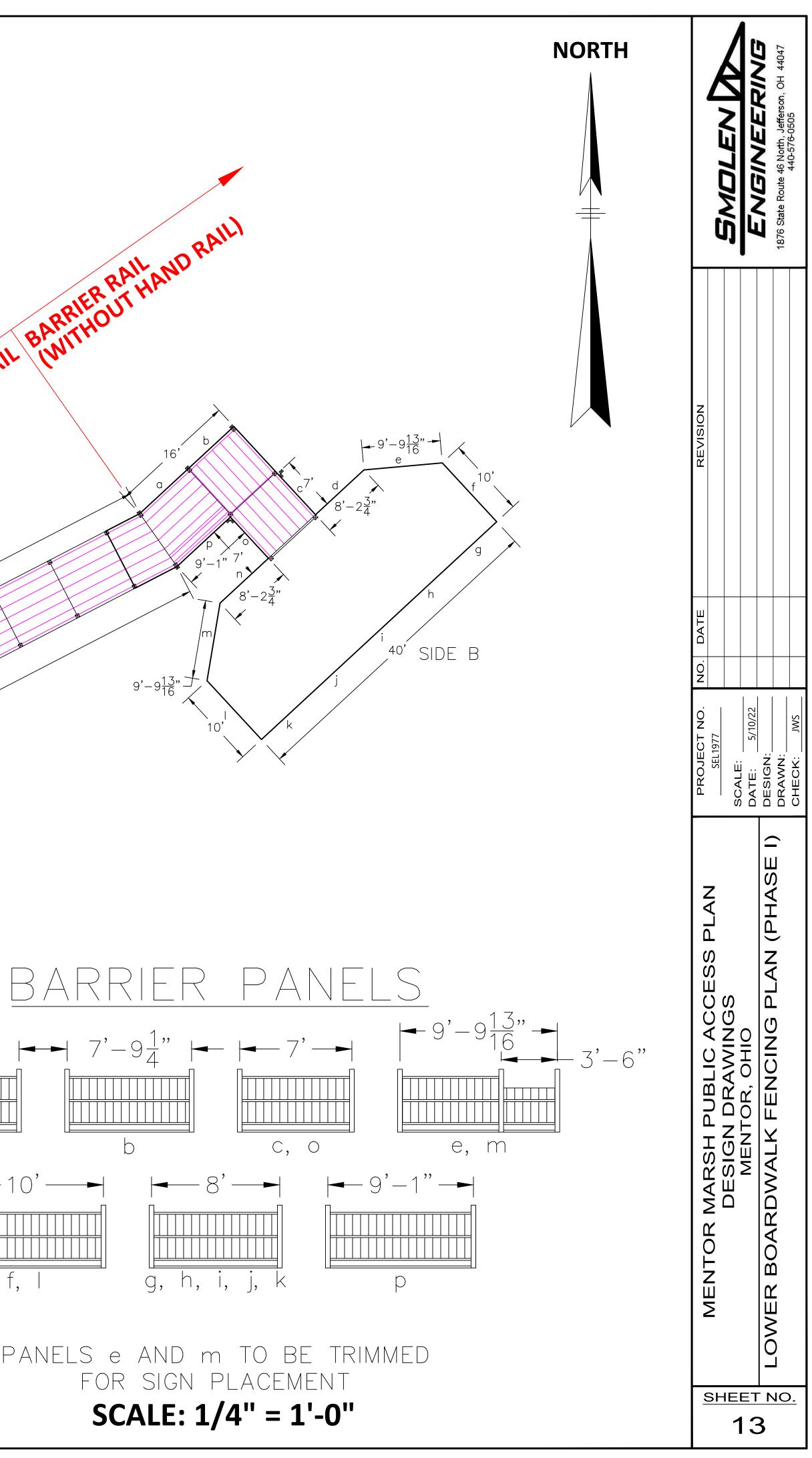


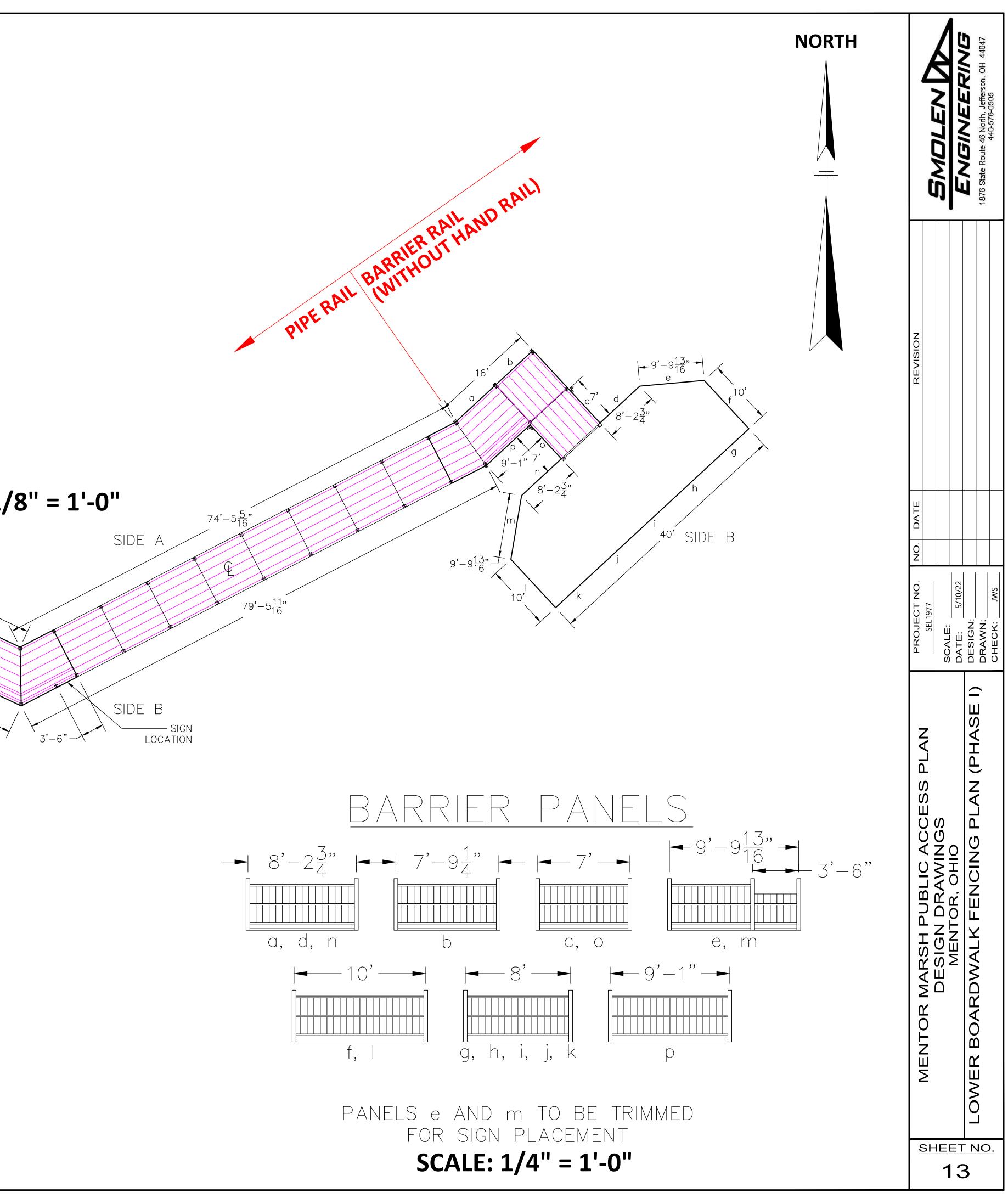


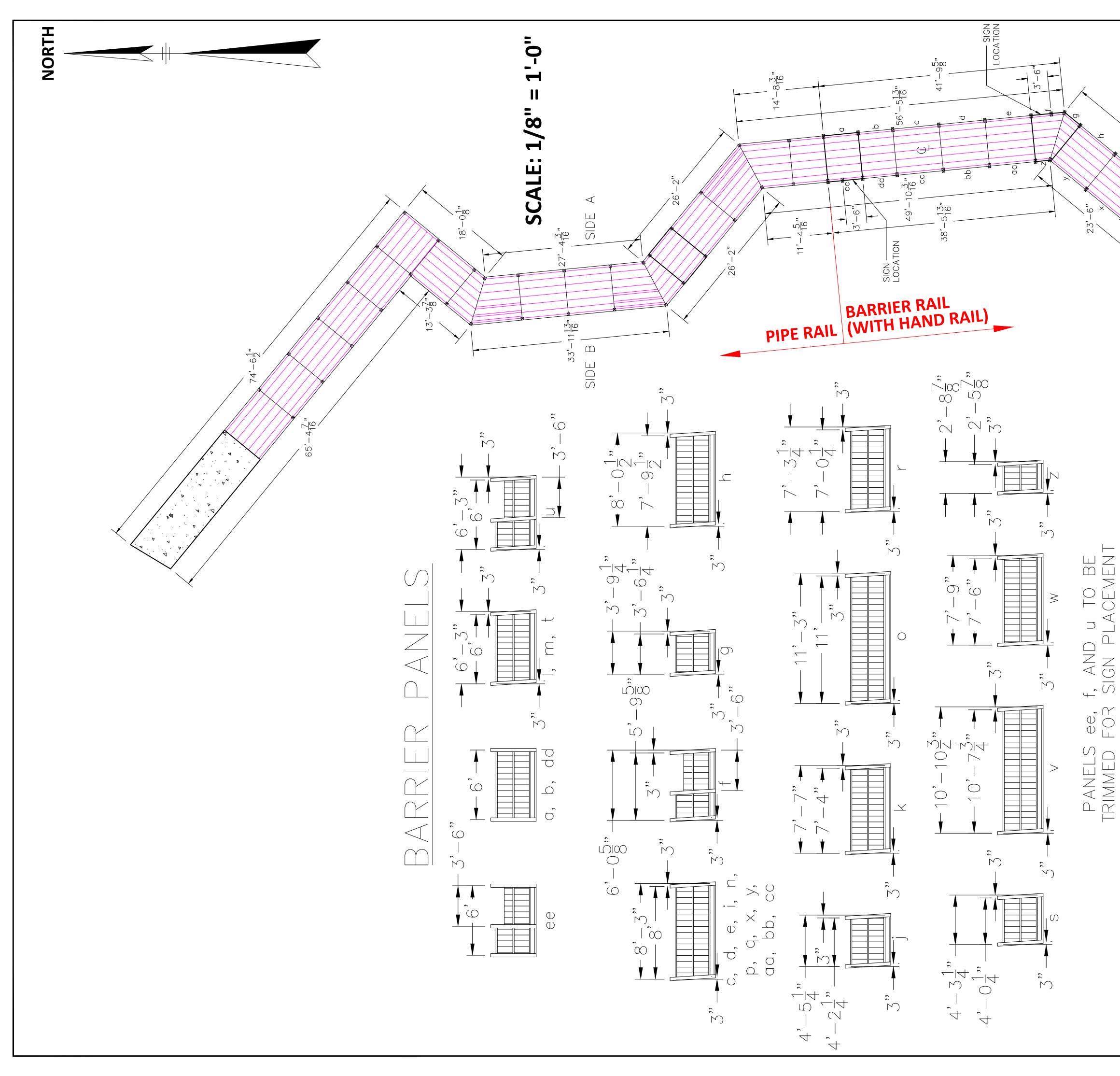




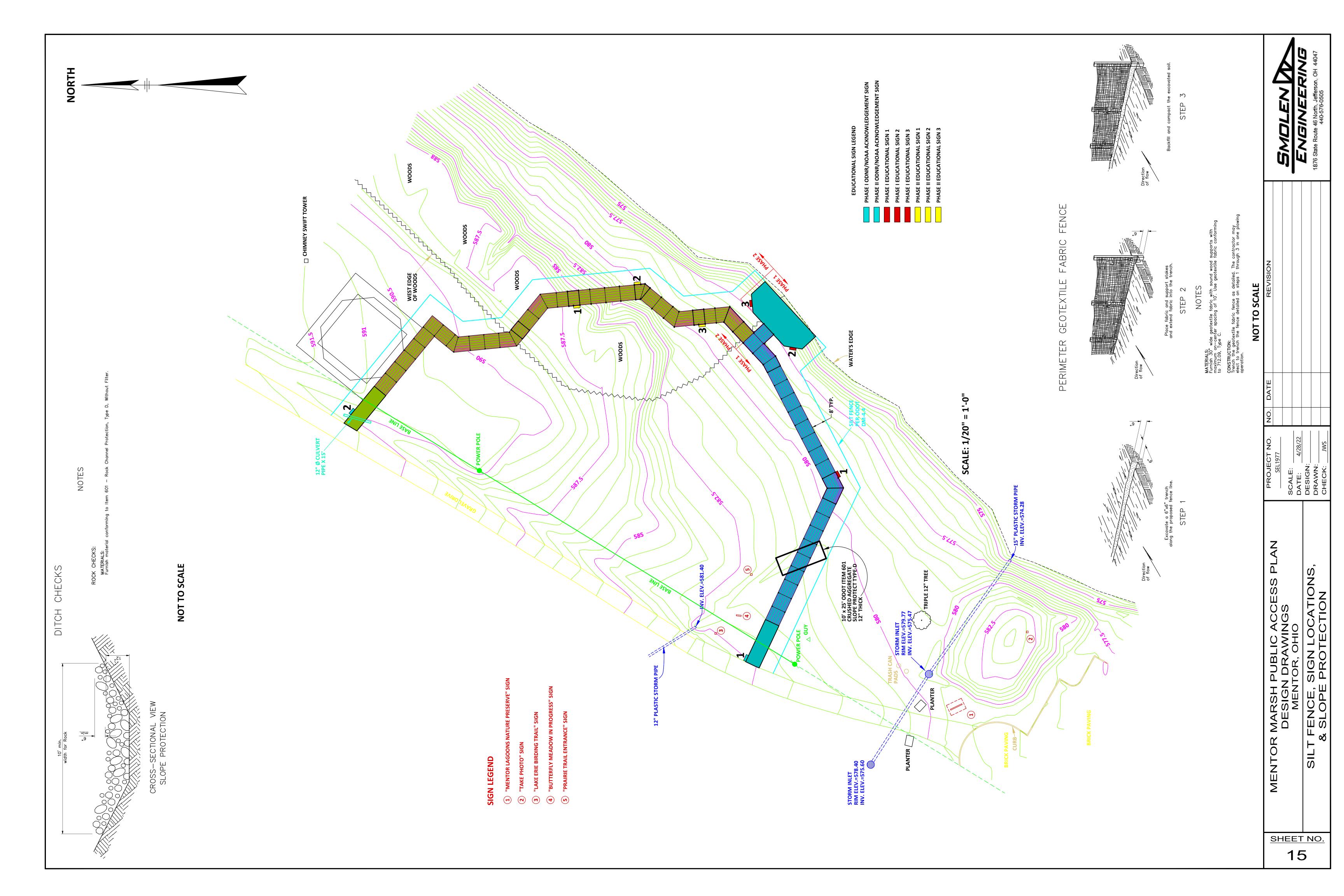


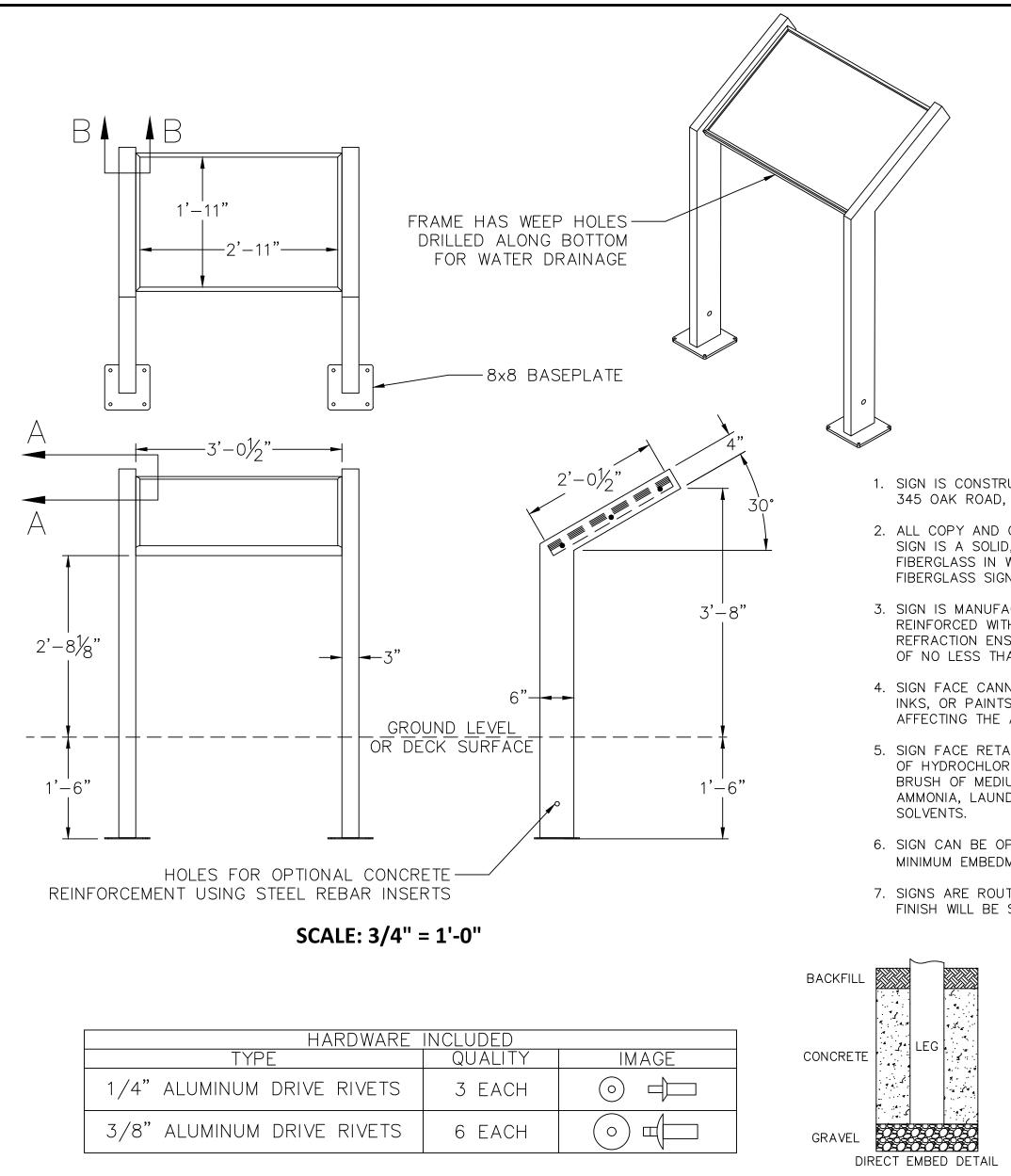


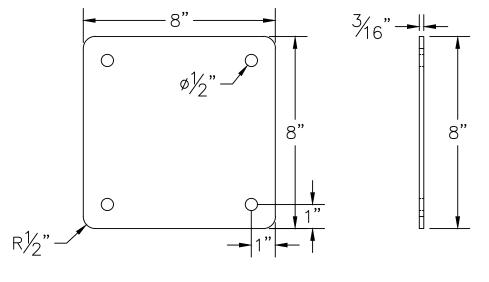




23'-6" 23'-6" 23'-6"	BMDLEN PS BMDLEN PS FNGINEERING 1876 State Route 46 North, Jefferson, OH 44047 440-576-0505
GTHS SIDE B SIDE B SIDE B SIDE B SICH SICH SICH SICH SICH SICH SICH SICH	REVISION
PIPE RAIL TOTAL LEN SIDE A: 160'-9" SIDE B: 150'-2 $\frac{1}{2}$ " BARRIER RAIL TOTAL SIDE A: 111'-7 $\frac{3}{8}$ " SIDE A: 111'-7 $\frac{3}{8}$ " SIDE A: 111'-7 $\frac{3}{16}$ " SIDE A: 272'-4 $\frac{7}{16}$ " SIDE A: 272'-4 $\frac{7}{16}$ " SIDE A: 253'-10 $\frac{1}{2}$ "	PROJECT NO. NO. DATE SEL1977 NO. DATE SEL1977 NO. DATE SCALE: 5/2/22 NO DATE: 5/2/22 NO DATE: 5/2/22 NO DESIGN: NO NO DESIGN: NO NO DRAWN: NO NO
SCALE: 1/4" = 1'-0"	MENTOR MARSH PUBLIC ACCESS PLAN DESIGN DRAWINGS MENTOR, OHIO UPPER BOARDWALK FENCING PLAN (PHASE II)







8x8 BASEPLATE PANNIER SCALE: 3" = 1'-0"

1. SIGN IS CONSTRUCTED USING FIBERGLASS EMBEDMENT AS PRODUCED BY PANNIER CORPORATION, 345 OAK ROAD, GIBSONIA, PA 15044. OR COMPATIBLE PRODUCT.

2. ALL COPY AND GRAPHICS ARE PERMANENTLY EMBEDDED IN THE FIBERGLASS PANEL. THE RESULTING SIGN IS A SOLID, ONE-PIECE PANEL WITH ALL GRAPHIC ELEMENTS INSEPARABLE FROM THE FIBERGLASS IN WHICH THEY ARE EMBEDDED. ARTWORK BECOMES A PERMANENT PART OF THE FIBERGLASS SIGN, SO IT WILL NOT DELAMINATE.

3. SIGN IS MANUFACTURED OF CLEAR, UV STABILIZED, ACRYLIC-MODIFIED POLYESTER RESIN REINFORCED WITH HIGH SOLUBILITY, CHOPPED STRAND FIBERGLASS MAT SO THAT THE INDEX OF REFRACTION ENSURES CLARITY OF ALL COLOR, COPY, AND GRAPHICS. SIGN HAS A GLASS CONTENT OF NO LESS THAN 28% OF THE TOTAL SIGN WEIGHT.

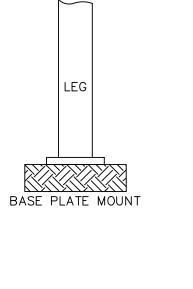
4. SIGN FACE CANNOT BE PERMANENTLY DEFACED BY STEAM, MILD ACIDS, AROMATICS, SCRATCHING, INKS, OR PAINTS AND CAN BE READILY WIPED CLEAN WITH CLEANING SOLUTIONS WITHOUT AFFECTING THE APPEARANCE OR LEGIBILITY OF THE SIGN FINISH OR GRAPHICS.

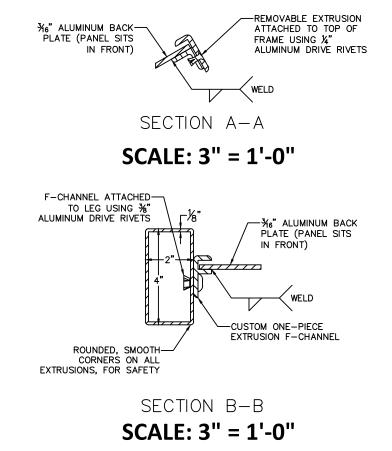
5. SIGN FACE RETAINS LEGIBILITY AND FINISHED APPEARANCE WHEN SPRAYED WITH A 10% SOLUTION OF HYDROCHLORIC, NITRIC, OR SULFURIC ACID FOR ONE-HALF HOUR OR WHEN SCRUBBED BY A BRUSH OF MEDIUM HARDNESS USING COMMON COMMERCIAL CLEANING COMPOUNDS SUCH AS AMMONIA, LAUNDRY SOAPS, DETERGENTS, CARBON TETRACHLORIDE, OR PETROLEUM BASED

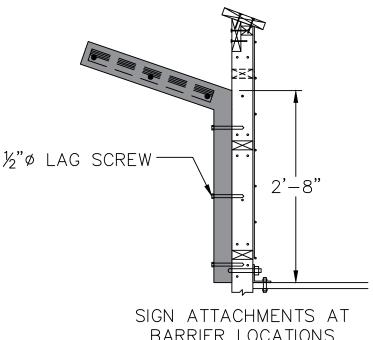
6. SIGN CAN BE OPAQUE OR TRANSLUCENT WITH A CLEAR OR MATTE FINISH, AS INDICATED, WITH A MINIMUM EMBEDMENT OF ALL GRAPHIC ELEMENTS OF .03125 INCHES (1/32").

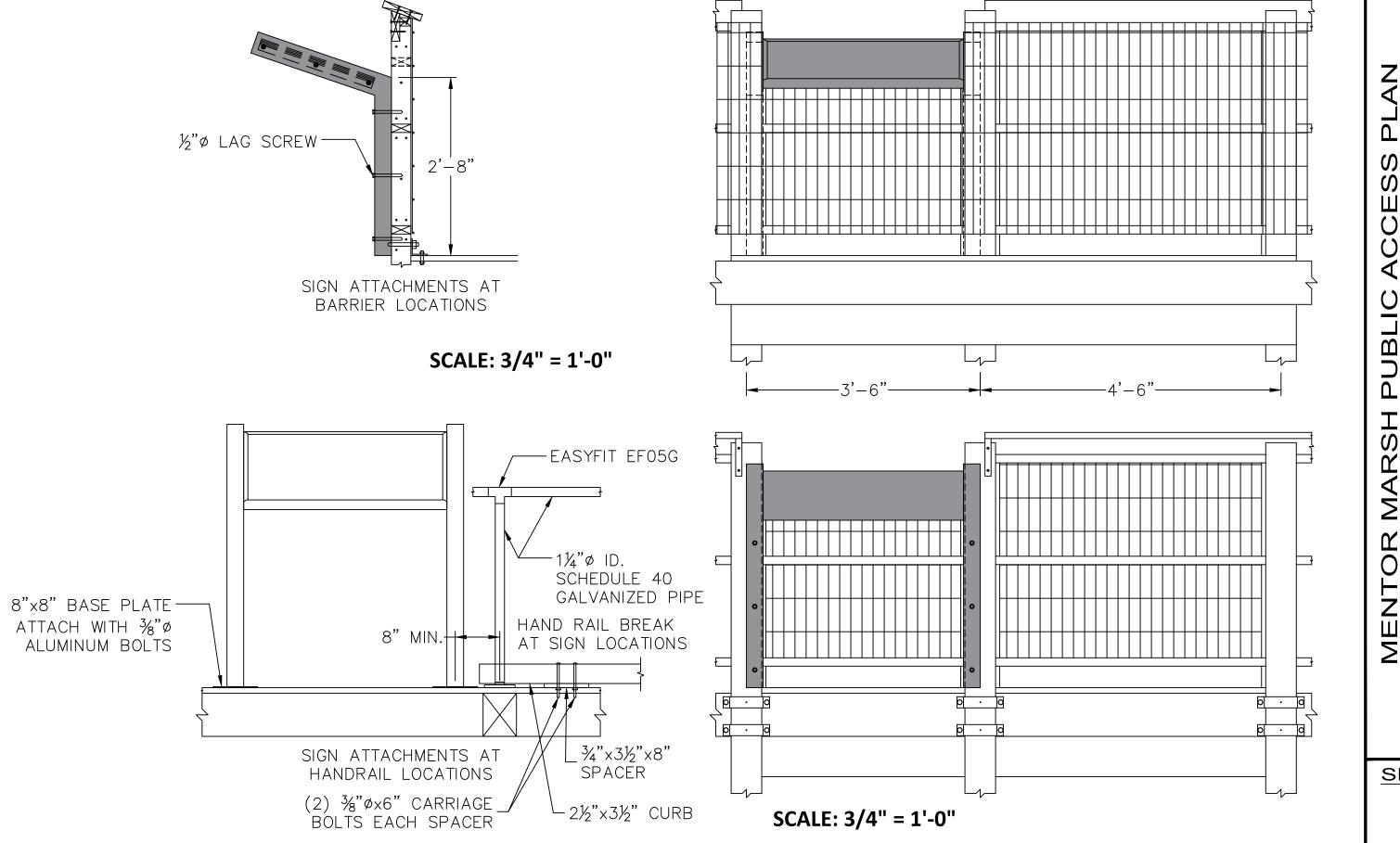
7. SIGNS ARE ROUTER CUT, AND THE SIGN EDGES WILL NOT BE CRAZED OR CRACKED. THE EDGE FINISH WILL BE SMOOTH, CLEAN, AND NEAT. THE FINISHED SIGN IS FLAT.

MINIMUM AND MAXIMUM SIZE	1"H X 1"W TO 70"H X 180"W
MINIMUM AND MAXIMUM THICKNESS*	.040"D TO .250"D*
WEIGHT	1 FT 2 /.125"D = 1 LB.*
FINISH DIFFUSION REFLECTIVITY	OPAQUE OR TRANSLUCENT GLOSSY OR MATTE
AMBIENT TEMPERATURE RANGE*	-25°F TO +150°F
	* NOMINAL
ALL TESTING IS BASE	ED ON .125" THICKNESS PANEL

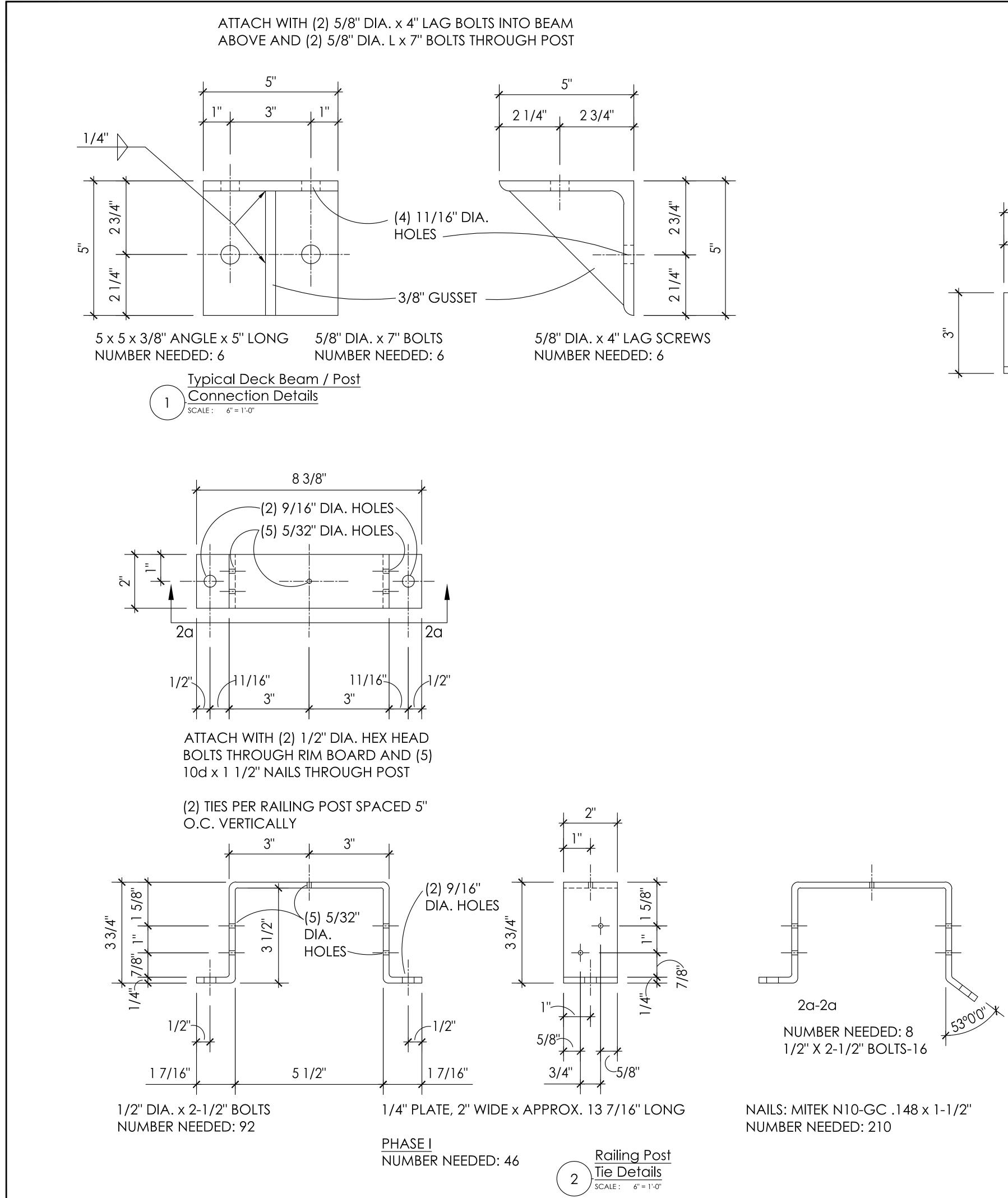


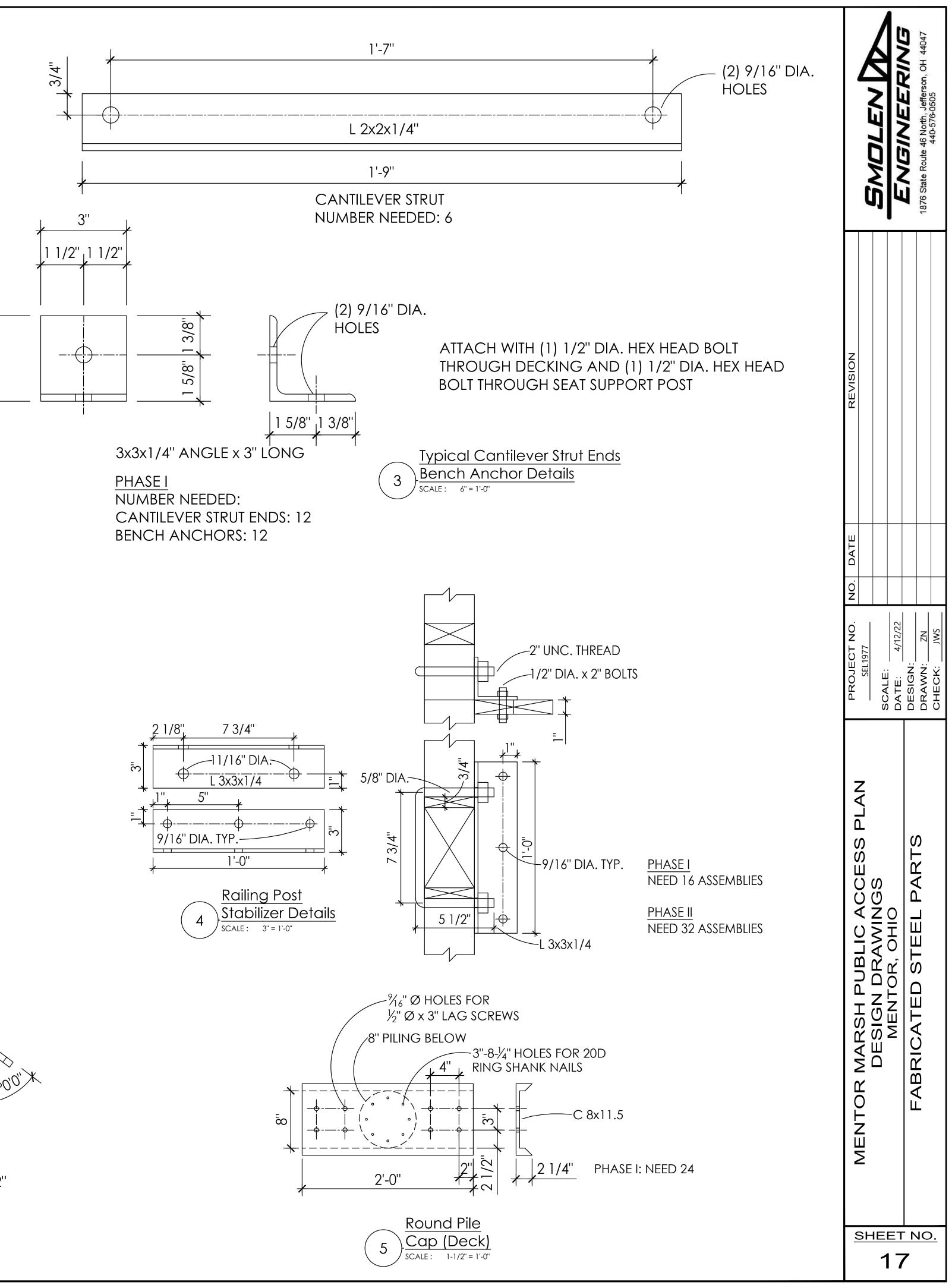


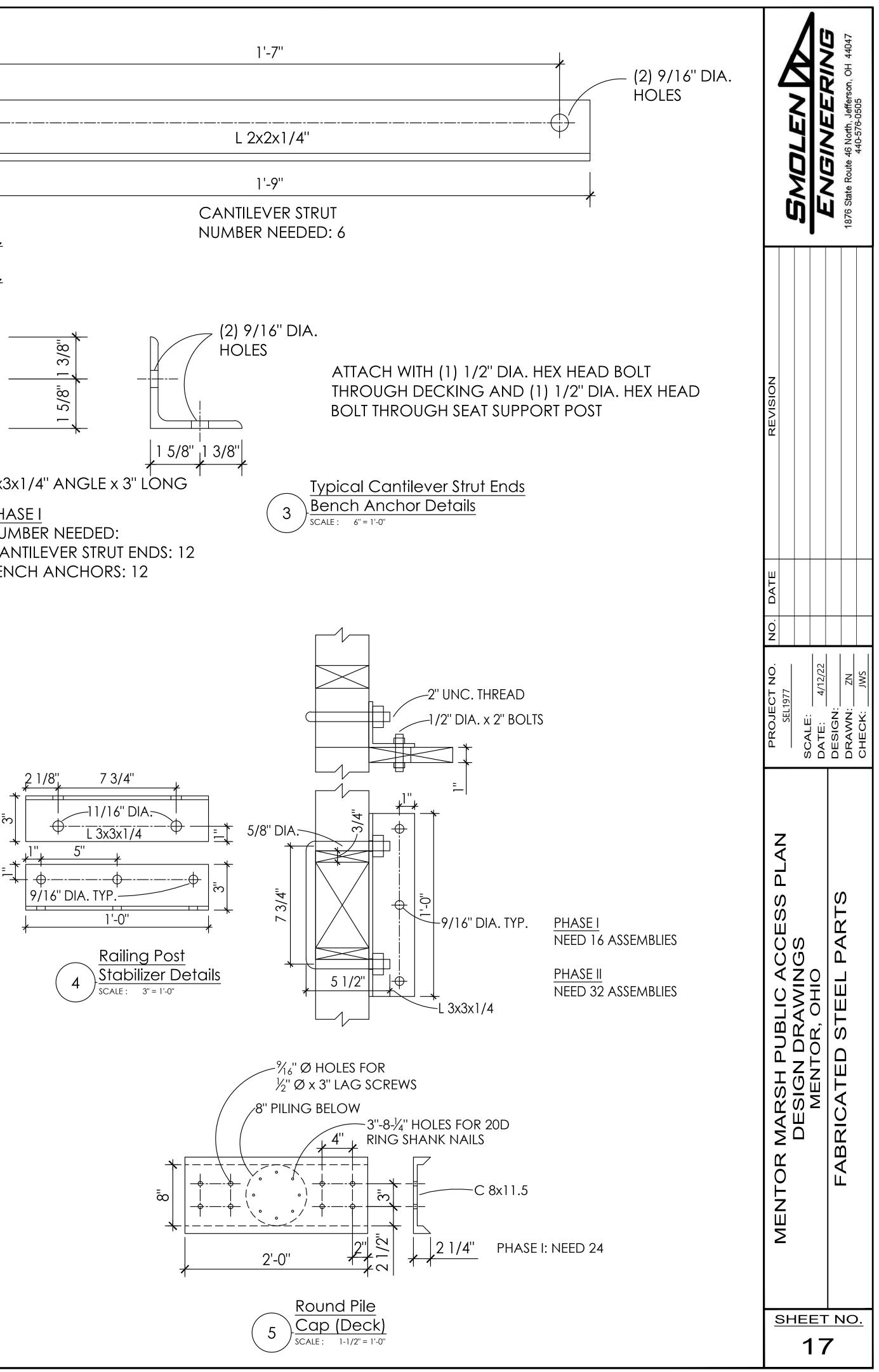


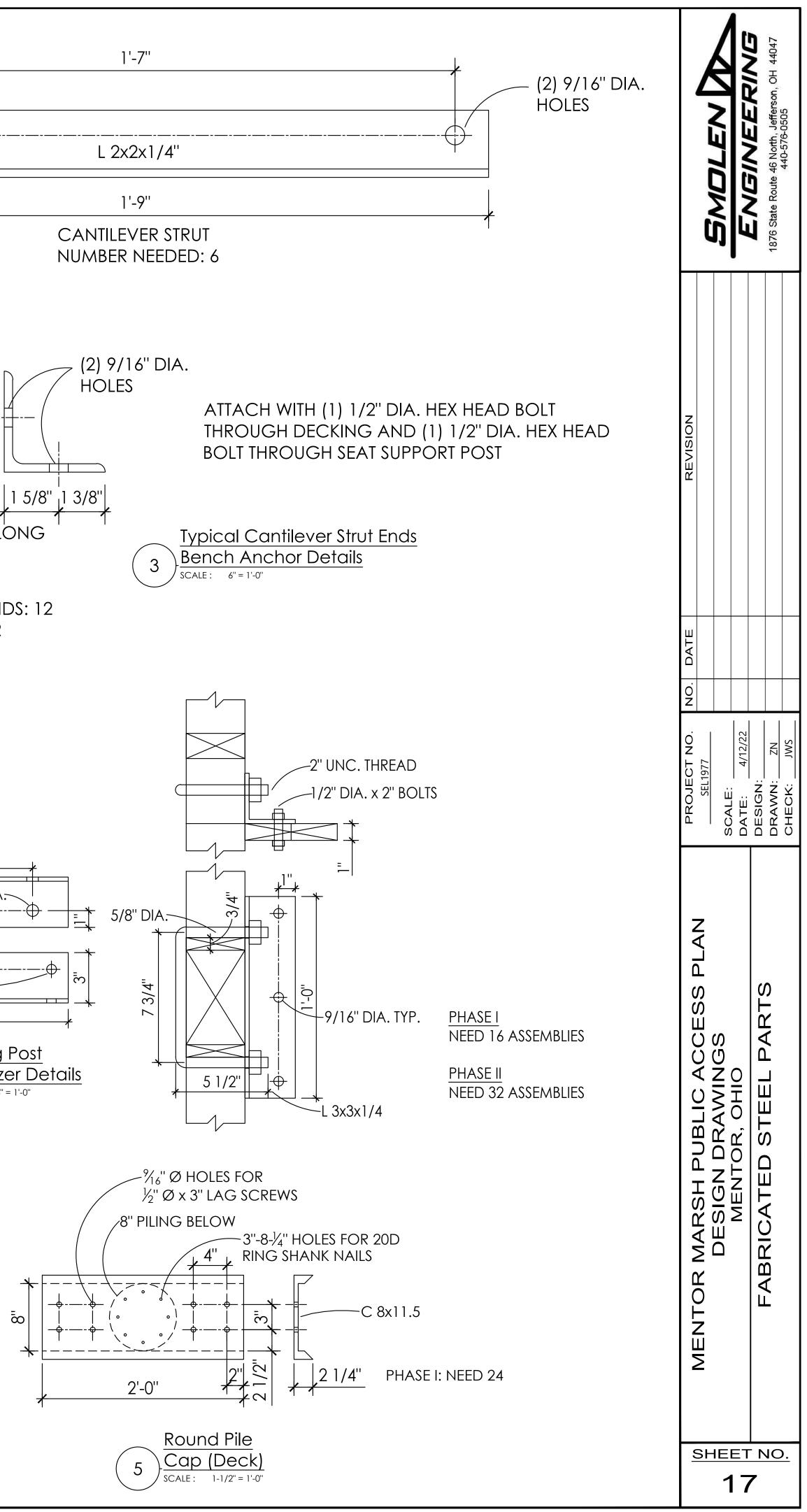


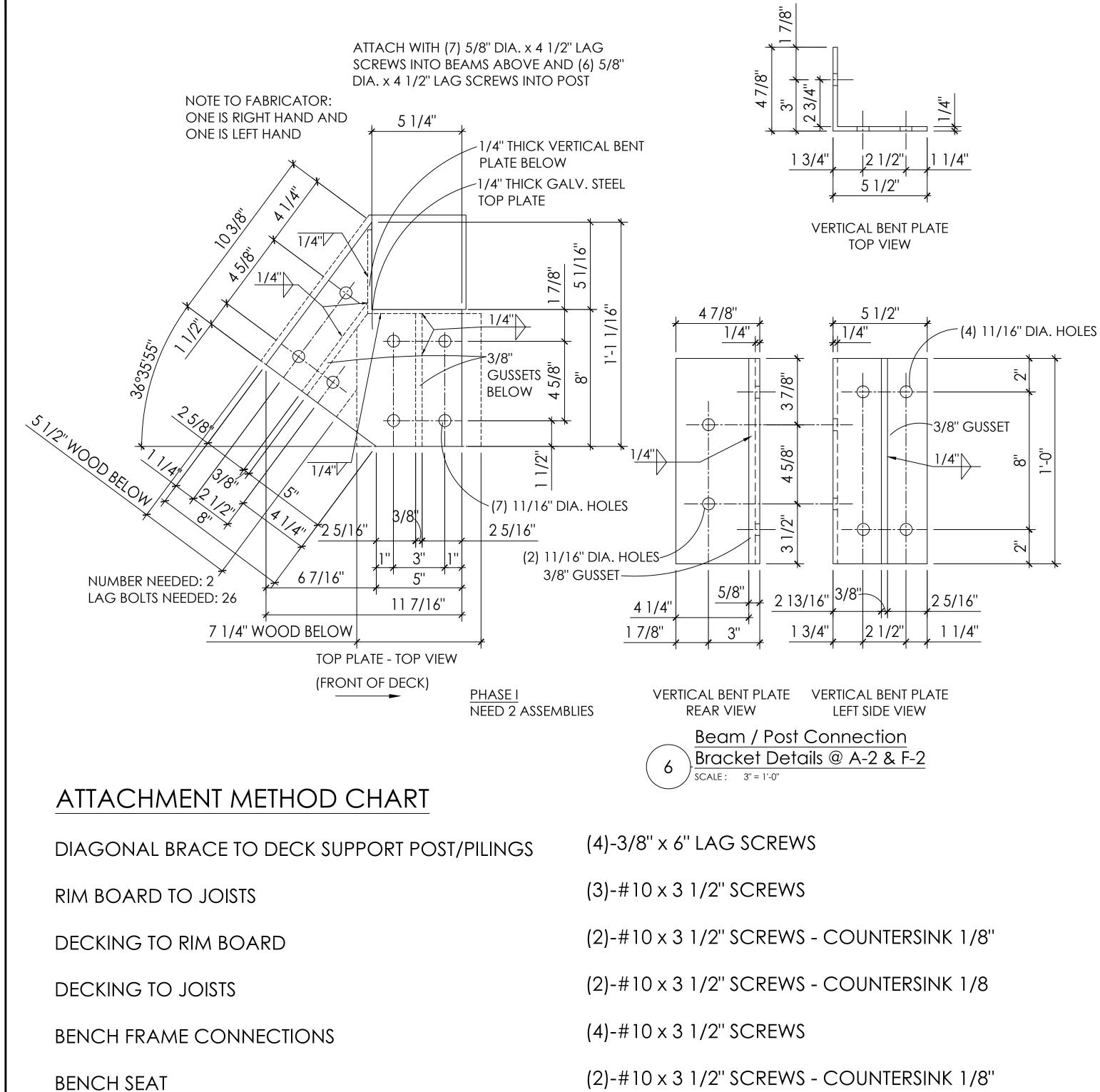
MENTOR MARSH PUBLIC ACCESS PLAN DESIGN DRAWINGS PROJECT NO. NO. DATE REVISION DESIGN DRAWINGS MENTOR, OHIO SCALE: 5/1/22 P P P SIGN DETAILS DESIGN: D P P P						1876 State Route 46 North, Jefferson, OH 44047	440-50/G-01-64
IARSH PUBLIC ACCESS PLAN PROJECT NO. DESIGN DRAWINGS SEL197 DESIGN DRAWINGS SCALE: MENTOR, OHIO DATE: SIGN DETAILS DESIGN: DRAWN: DESIGN:	REVISION						
IARSH PUBLIC ACCESS PLAN DESIGN DRAWINGS MENTOR, OHIO SIGN DETAILS	NO. DATE						
MENTOR MARSH PUBLIC ACCESS PLAN DESIGN DRAWINGS MENTOR, OHIO SIGN DETAILS	PROJECT NO.	SEL1977	SCALE.	:	DESIGN:	DRAWN:	CHECK: JWS
I	MENTOR MARSH PLIRI IC ACCESS PLAN		DESIGN DRAWINGS	MENTOR, OHIO			









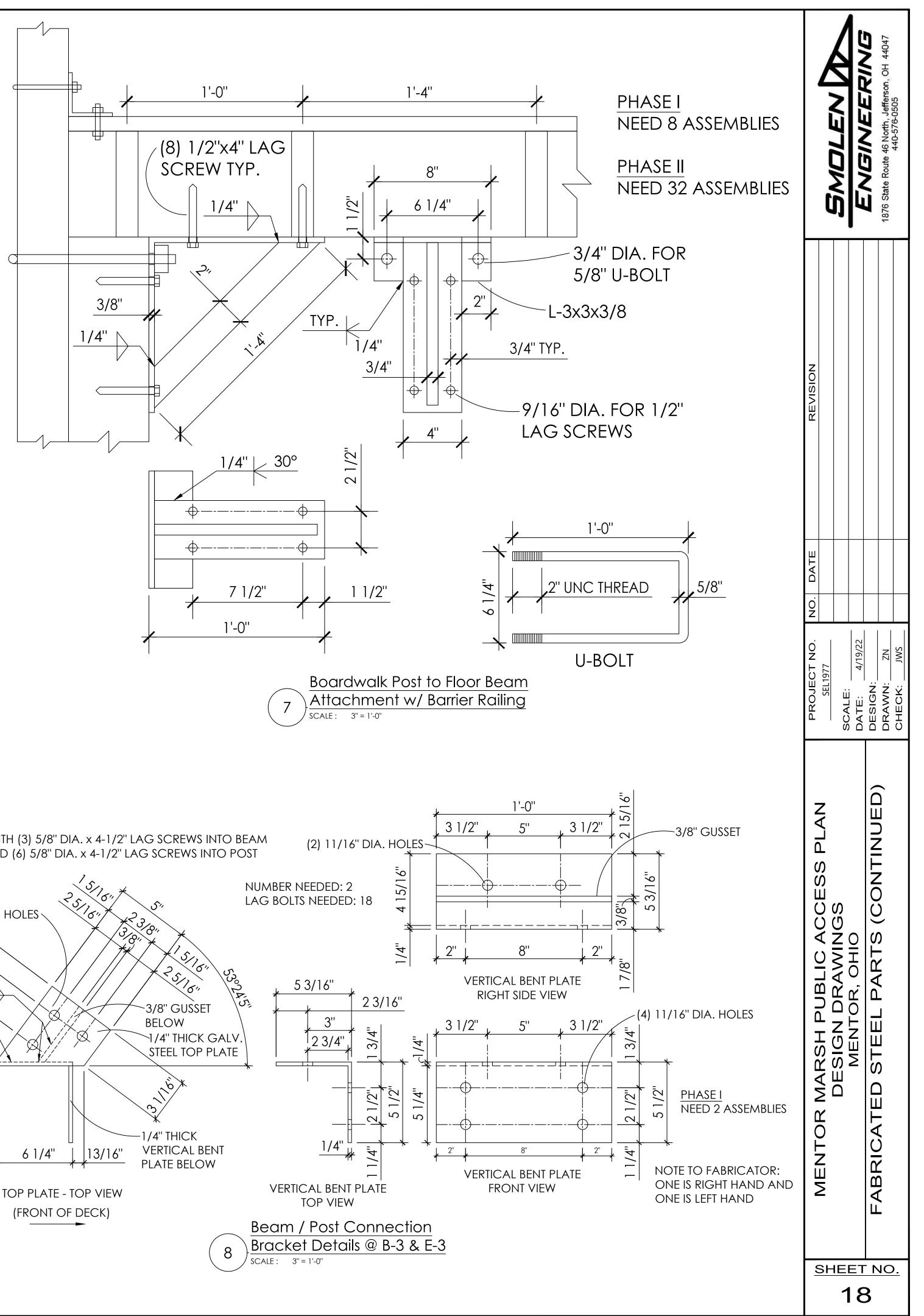


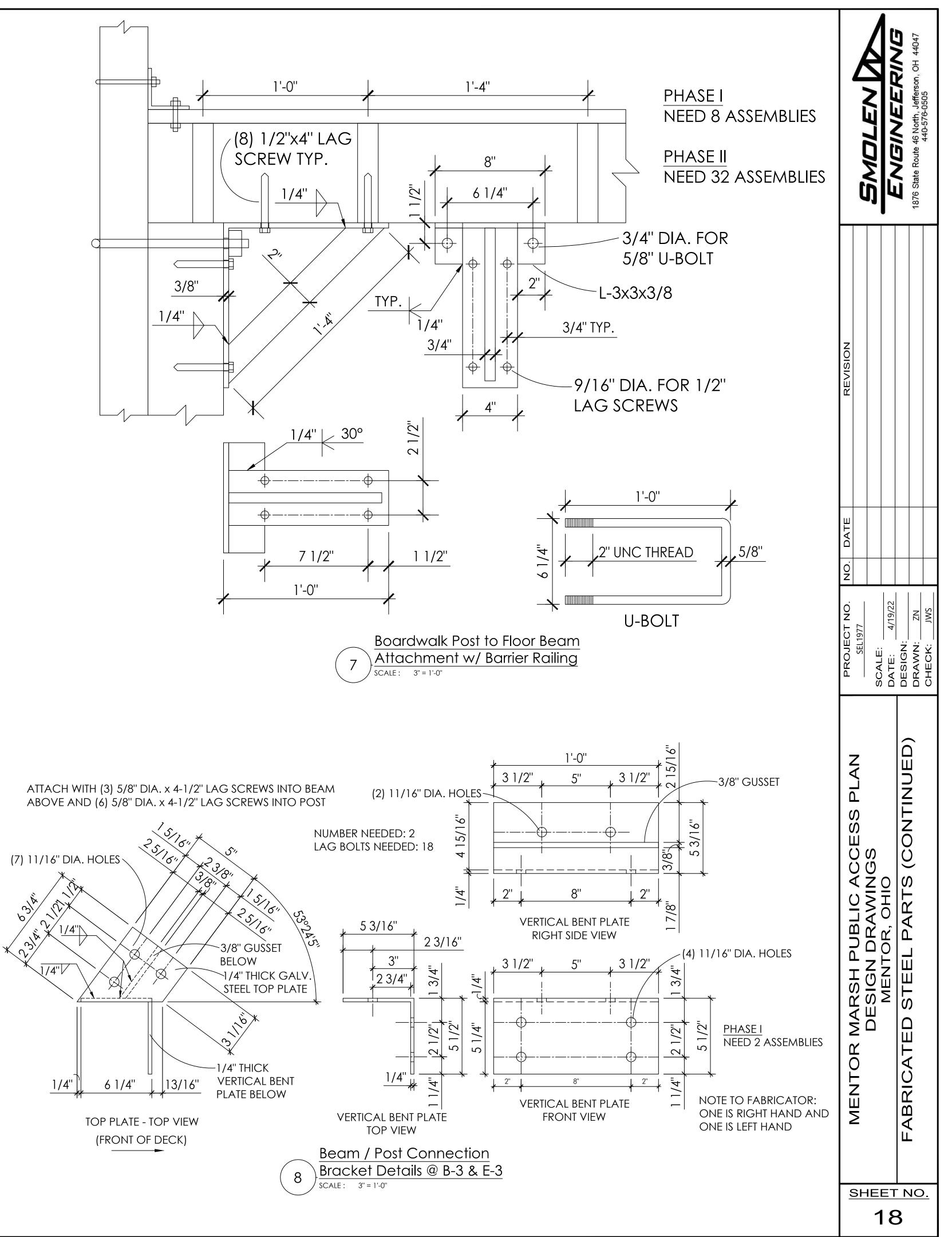
BENCH SEAT TO TRIM

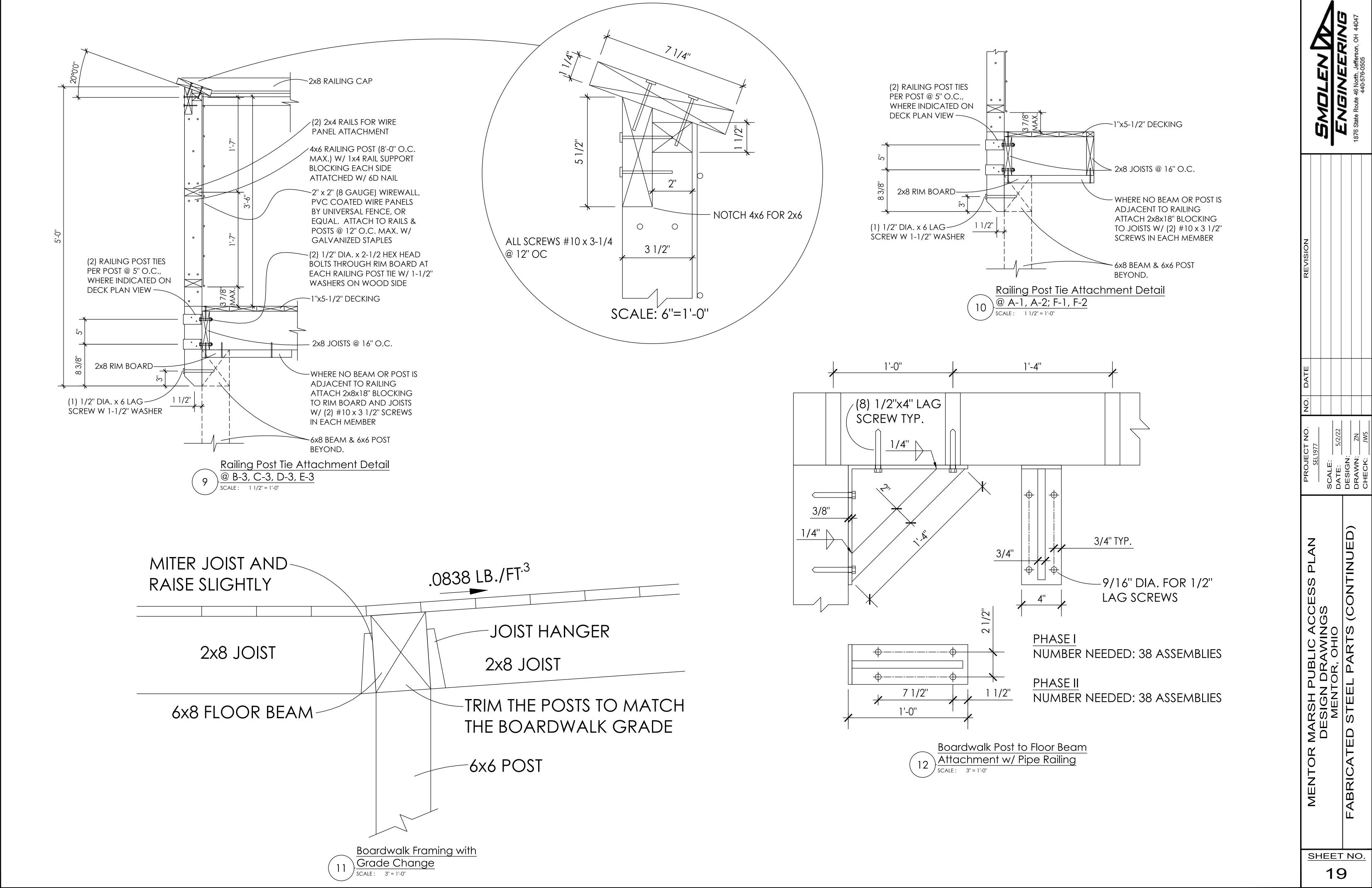
BENCH TRIM TO FRAME

#10 x 3 1/2" SCREWS @ 12" O.C. - COUNTERSINK 1/8"

(2)-#10 x 3 1/2" SCREWS @ 12" O.C. - COUNTERSINK 1/8"









STORAGE BUILDING



LEGEND

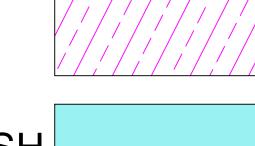
PHASE 1

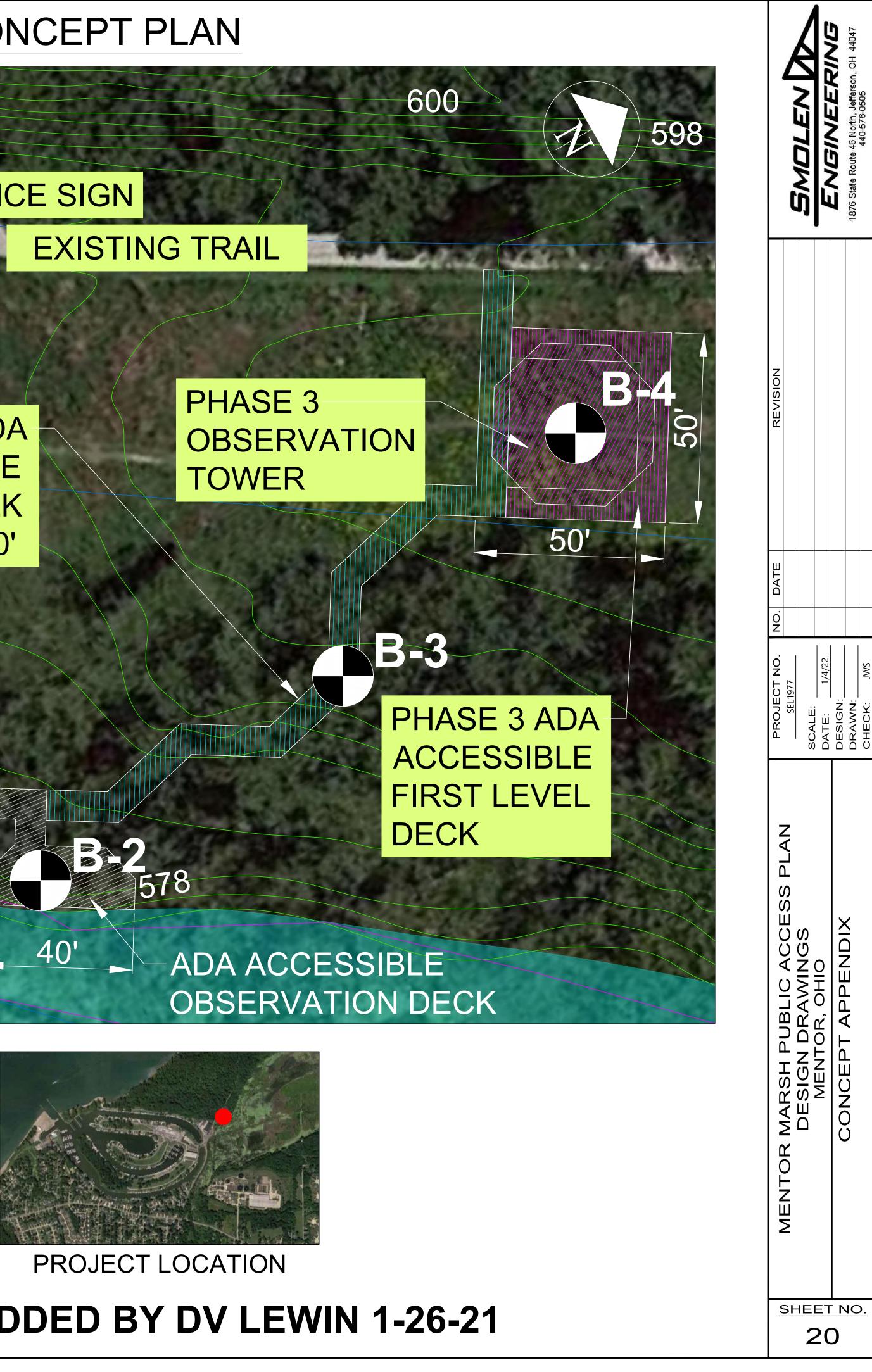


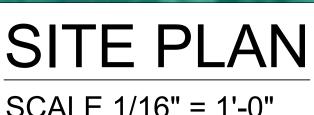
PHASE 3

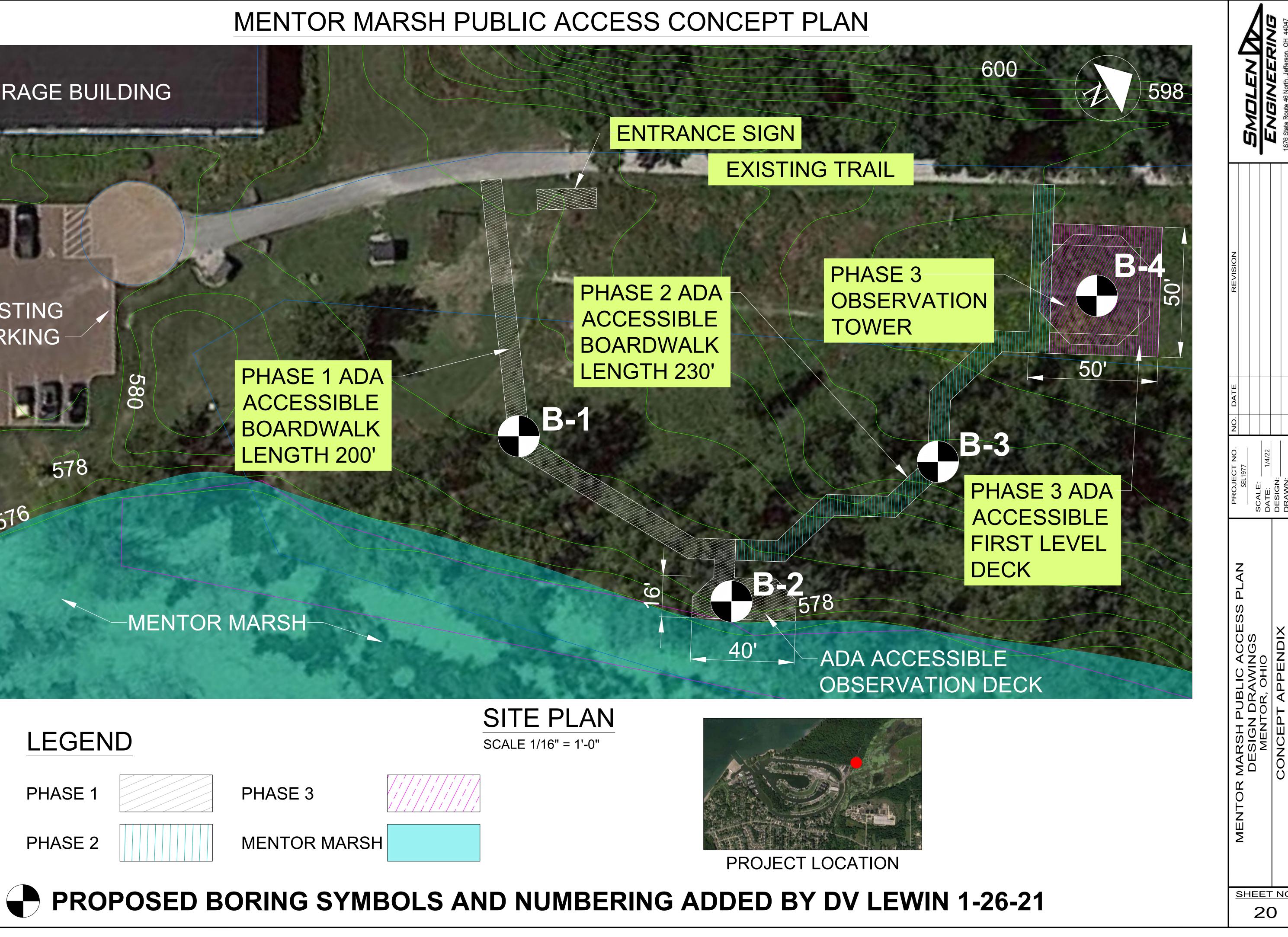
MENTOR MARSH











MENTOR MARSH PUBLIC ACCESS CONCEPT PLAN