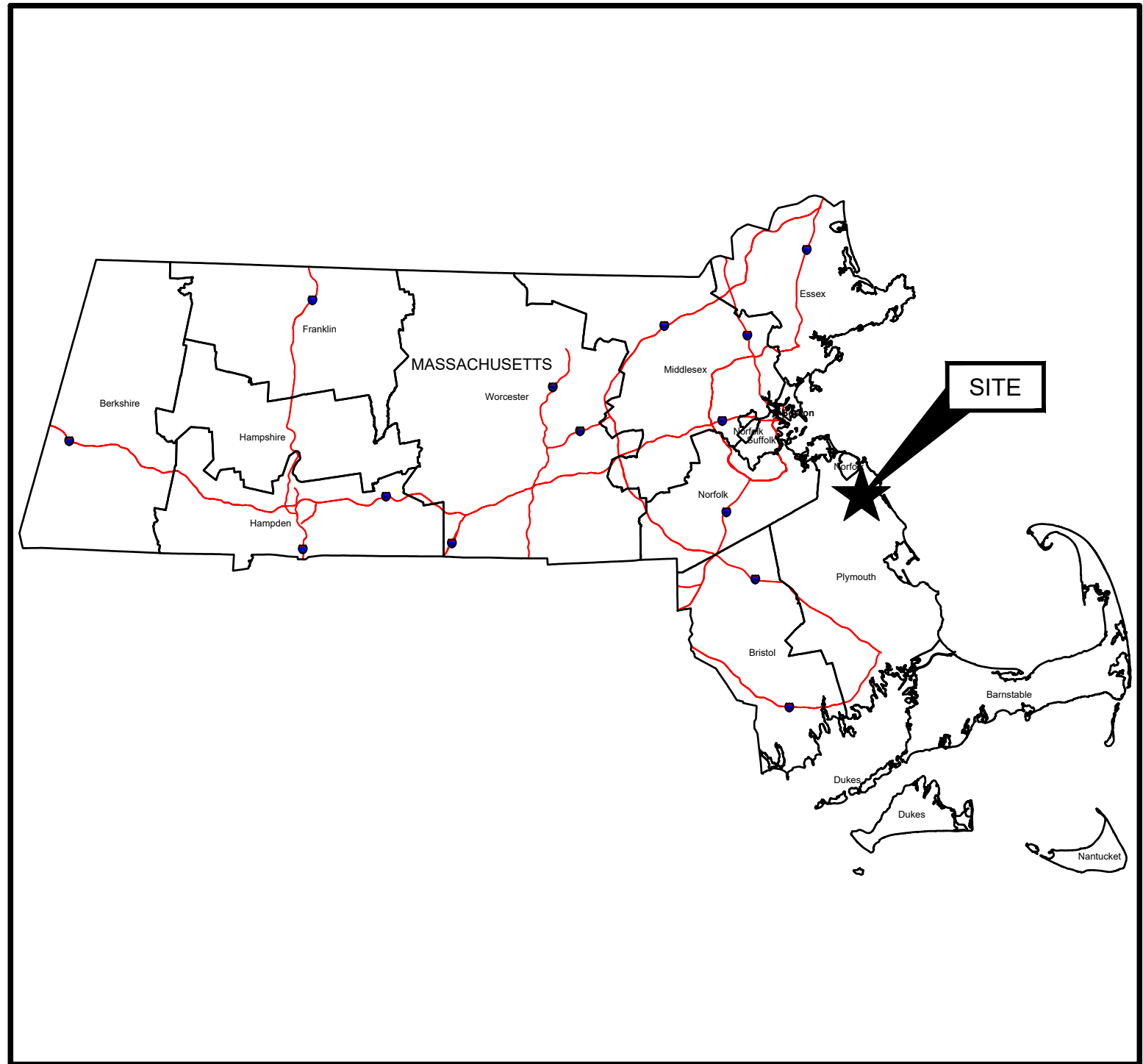
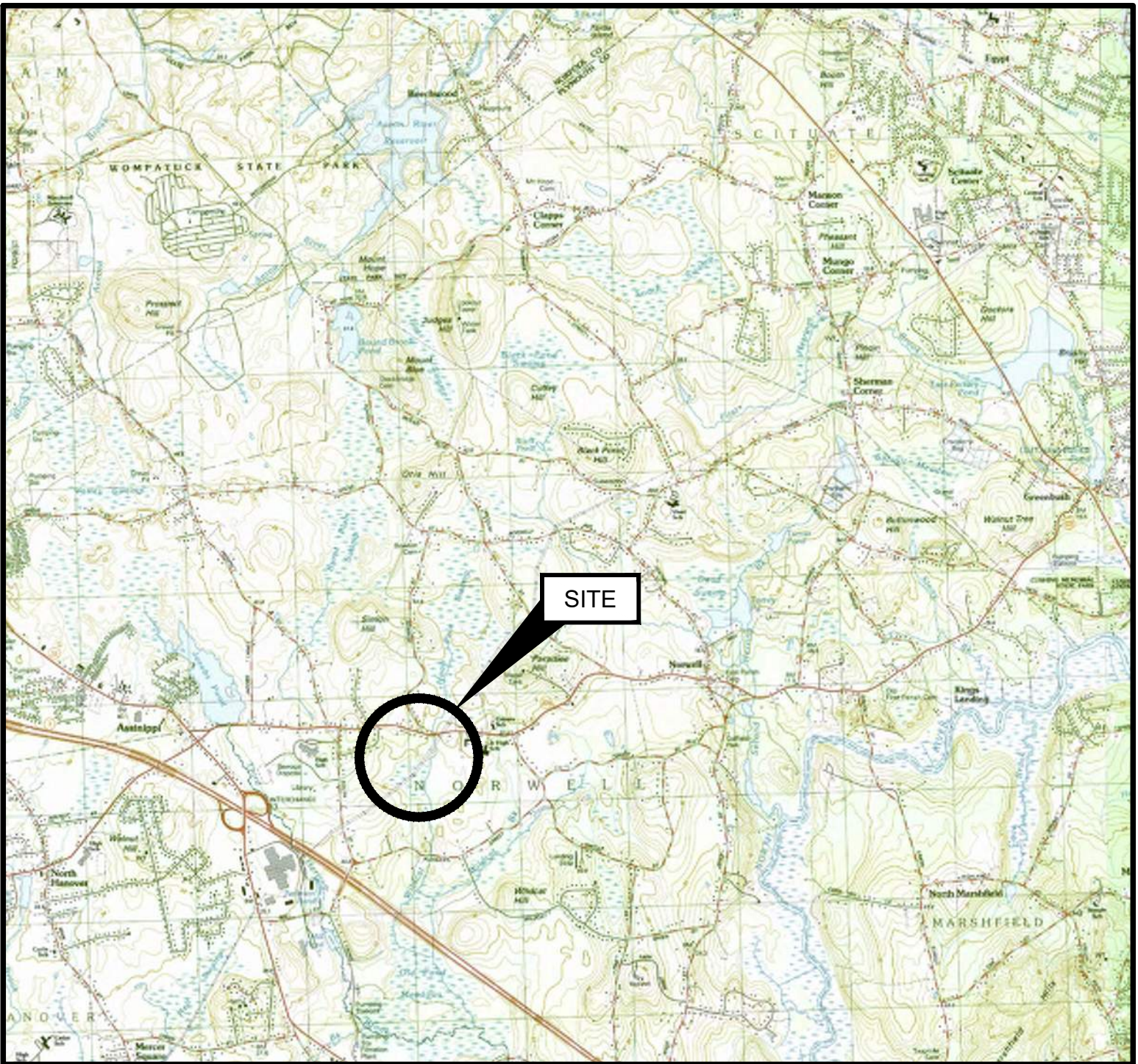


NORWELL BOARDWALK RECONSTRUCTION

NORWELL BOARDWALK
310 MAIN STREET
NORWELL, MA 02061
APRIL 2025



STATE or COUNTY MAP
(NOT TO SCALE)



SITE LOCATION MAP
(NOT TO SCALE)

SHEET INDEX		
SHEET NO.	DRAWING NO.	TITLE
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES
3	G-003	SPECIFICATIONS
4	G-101	OVERALL SITE PLAN & STAGING LOCATIONS
5	V-101	BOARDWALK A EXISTING CONDITIONS PLAN
6	V-102	BOARDWALK B EXISTING CONDITIONS PLAN
7	V-103	BOARDWALK C EXISTING CONDITIONS PLAN
8	V-501	EXISTING BOARDWALK DETAILS
9	CD-101	DEMOLITION PLAN
10	CD-501	DEMOLITION DETAILS
11	C-101	BOARDWALK A RECONSTRUCTION PLAN
12	C-102	BOARDWALK B RECONSTRUCTION PLAN
13	C-103	BOARDWALK C RECONSTRUCTION PLAN
14	C-301	BOARDWALK RECONSTRUCTION SECTIONS
15	C-501	BOARDWALK DETAILS SHEET 1 OF 2
16	C-502	BOARDWALK DETAILS SHEET 2 OF 2
17	C-503	GUARDRAIL & CURB DETAILS

PREPARED FOR:

TOWN OF NORWELL
310 MAIN STREET
NORWELL, MA 02061
(781)659-8042


PREPARED BY:

GEI CONSULTANTS, INC.
124 GROVE STREET, SUITE 300
FRANKLIN, MA 02038
(774)277-6001



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GEI PROJECT NO. 2408167

						DWG. NO. G-001
						SHEET NO. 1 OF 17
0	4/8/2025	FOR BID		ADP		
NO.	DATE	ISSUE/REVISION		APP		

OSHA REQUIREMENTS:

1. PURSUANT TO M.G.L. c.30, §39S, ANY PERSON SIGNING A CONTRACT TO WORK ON A PUBLIC BUILDING OR PUBLIC WORKS PROJECT ESTIMATED TO COST MORE THAN \$10,000, MUST CERTIFY UNDER THE PAINS AND PENALTIES OF PERJURY THAT ALL EMPLOYEES EMPLOYED ON THE WORKSITE, OR IN WORK SUBJECT TO THE BID, HAVE SUCCESSFULLY COMPLETED AT LEAST TEN HOURS OF OSHA APPROVED TRAINING. PROOF OF OSHA CERTIFICATION OF ALL WORKERS ONSITE WILL BE REQUIRED BY TOWN OF NORWELL PRIOR TO THE START OF WORK.

SURVEY CONTROL AND BASELINES:

1. ELEVATIONS SHOWN ARE IN FEET AND TENTHS AND ARE BASED ON A PROJECT SPECIFIC REFERENCE DATUM.
2. NO CONTROL POINTS HAVE BEEN ESTABLISHED. CONTRACTOR SHALL USE EXISTING SITE FEATURES WHICH ARE TO BE REUSED AS PART OF THE RECONSTRUCTION (ABUTMENTS AND HELICAL PILES).

CODES:

1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
2. AMERICAN WELDING SOCIETY (AWS D1.4-2011)
3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC360-10)
4. AMERICAN CONCRETE INSTITUTE (ACI318-14)
5. AMERICAN WOOD COUNCIL (ANSI/AWC NDS-2015)
6. MASSACHUSETTS STATE BUILDING CODE (CMR 780 9TH EDITION)
7. INTERNATIONAL BUILDING CODE (IBC 2015)

SITE ACCESS:

1. THREE ACCESS POINTS ARE AVAILABLE TO THE CONTRACTOR
- 1.1. (1) CUSHING HILL ROAD
- 1.2. (2) NATIONAL GRID EASEMENT FROM MAIN STREET (RT-123)
- 1.3. (3) THE NORWELL DEPARTMENT OF PUBLIC WORKS

SITE PREPARATION:

1. THE CONTRACTOR SHALL COMPLY WITH MA GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
2. THE CONTRACTOR SHALL COMPLY WITH MA GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
3. CONTRACTOR SHALL INSTALL ALL SIGNAGE PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES INCLUDING DEP FILE NUMBER, FEDERAL, AND STATE MANDATED WORK PLACE SIGNAGE.
4. THE CONTRACTOR SHALL PROVIDE TRASH, SANITARY FACILITIES, ANY ADDITIONAL NECESSARY FACILITIES FOR THE WORK PLACE.
5. EXISTING STRUCTURES AND AMENITIES WITHIN THE PROXIMITY OF THE WORK SHALL BE PROTECTED TO PREVENT ACCIDENTAL DAMAGE BY CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL PROVIDE A PHOTOGRAPHIC AND VIDEO RECORD OF EXISTING SITE CONDITIONS OF THE WORK AREA, BUILDINGS AND AREAS DIRECTLY ADJACENT TO WORK AREAS WITHIN 100 FEET OF LIMIT OF CONSTRUCTION PRIOR TO COMMENCING ANY WORK.
7. DISCOVERY OF INCONSISTENT SITE INFORMATION OR CONDITIONS SHALL BE IMMEDIATELY CONVEYED TO THE RESIDENT ENGINEER PRIOR TO COMMENCING OR CONTINUING CONSTRUCTION.
8. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF UTILITIES AND EXISTING STRUCTURES AS MAY BE REQUIRED.
9. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES OCCURRING AS A RESULT OF THE CONTRACTOR'S FAILURE TO LOCATE AND PROTECT UNDERGROUND UTILITIES AND STRUCTURES. ALL REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL SUPPLY ALL NECESSARY TEMPORARY UTILITIES FOR CONSTRUCTION INCLUDING WATER, POWER, LIGHTING, DATA AND TELEPHONE.
11. CONTRACTOR SHALL READ AND UNDERSTAND ALL REGULATORY CONDITIONS ASSOCIATED WITH THE PROJECT AND SHALL COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS AND PERMIT CONDITIONS.
12. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND SHALL PROVIDE SIGNAGE, TEMPORARY BARRIERS, FENCING, OR EQUIVALENT TO PREVENT UNAUTHORIZED ACCESS INTO WORK AREAS AT ALL TIMES.
13. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL AND STATE REGULATIONS.
14. CONTRACTOR IS RESPONSIBLE FOR SURVEY OF ALL HELICAL SHAFTS. SURVEY SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL OF ADA COMPLIANCE AS WELL AS HELICALS REQUIRING MODIFICATION.

EXISTING SITE CONDITIONS:

1. EXISTING BOARDWALK LAYOUT AND CONSTRUCTION BASED ON FIELD OBSERVATIONS AND MEASUREMENTS PERFORMED BY GEI CONSULTANTS, INC ON NOVEMBER 11, AND NOVEMBER 13, 2024. LAYOUT OF FRAMING MEMBERS SHOULD BE CONSIDERED SCHEMATIC (I.E. EXACT LOCATIONS OF HELICAL PILES AND BENT SPACING VARY). CONTRACTOR SHALL PERFORM FIELD VERIFICATION AS REQUIRED PRIOR TO DEMOLITION AND ORDERING MATERIALS.
2. THE TOWN HAS DEMOLISHED THE TIMBER STRUCTURE AND ONLY THE ABUTMENT AND HELICAL PILES REMAIN.
3. AERIAL IMAGERY FROM NEARMAP.COM DOWNLOADED ON NOVEMBER 14, 2024. AERIAL IMAGERY TAKEN ON APRIL 10, 2024.
4. FLOODPLAIN INFORMATION WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY

PANEL NO. 25023C0114K DATED JUNE 6, 2021. THE SITE IS LOCATED IN ZONE A (BASE FLOOD ELEVATIONS NOT DETERMINED).

STRUCTURAL STEEL AND MISCELLANEOUS METALS:

1. SEE SPECIFICATIONS; SHEET G-003.

CONCRETE:

1. GROUT SHALL BE A FREE-FLOWING, CEMENTITIOUS, HIGH STRENGTH, NON-SHRINK GROUT SUCH AS SIKA GROUT-350, OR APPROVED EQUAL.
2. EPOXY FOR ANCHORS SHALL BE A TWO-PART INJECTABLE EPOXY SUITABLE FOR USE IN CRACKED CONCRETE SUCH AS HIT-RE 500 V3, OR APPROVED EQUAL.

TIMBER:

1. SEE SPECIFICATIONS; SHEET G-003.

DESIGN CRITERIA		
UNIFORM DISTRIBUTED LIVE LOAD	100 PSF	
CONCENTRATED LOADS	N.A.	
UTILITY VEHICLE AS FOLLOWS:		
GROSS VEHICLE WEIGHT RATING	3,500 LB	
FRONT AXLE: REAR AXLE LOAD DISTRIBUTION	25:75	
WHEEL CONTACT FOOTPRINT (REAR WHEEL)	6"LX11"W	
WHEEL BASE	84.5"	
TREAD CENTERS	FRONT: 52.8"	
	REAR: 49.6"	
DEFLECTION CRITERIA		
LIVE LOAD + DEAD LOAD	L/240	
LIVE LOAD	L/360	
GROUND SNOW LOAD	35 PSF	
BASIC WIND SPEED	133 MPH	

ABBREVIATION	ITEM
(TYP)	TYPICAL
APPROX.	APPROXIMATE
CF	CUBIC FOOT
CL	CENTER LINE
CONC.	CONCRETE
DBL.	DOUBLE
DIA.	DIAMETER
DTL.	DETAIL
DWG.	DRAWING
EA.	EACH
EL.	ELEVATION
EMB.	EMBEDMENT
ES	EQUALLY SPACED
EX.	EXISTING
FIN.	FINISHED
HDG.	HOT DIP GALVANIZED
HDWE	HARDWARE
HORIZ.	HORIZONTAL
ID	INSIDE DIAMETER
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
MAX.	MAXIMUM
MIN.	MINIMUM
NIC	NOT IN CONTRACT
NOM.	NOMINALLY
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PVMT.	PAVEMENT
R	RADIUS
REQ'D	REQUIRED
REV	REVISION
RGH.	ROUGH
SCH.	SCHEDULE
SF	SQUARE FEET
SLV	SLEEVE
SS	STAINLESS STEEL
SYM.	SYMMETRIC
SYP	SOUTHERN YELLOW PINE
T&B	TOP & BOTTOM
THK.	THICK
THRD	THREADED
TO	TOP OF
TOL	TOLERANCE
TRAN.	TRANSVERSE
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
LG	LONG

LEGEND:

BENT ID

BATTERED HELICAL PILE

EXISTING HEIGHT (BOARDWALK TO GRADE) × 26"

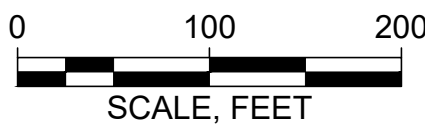
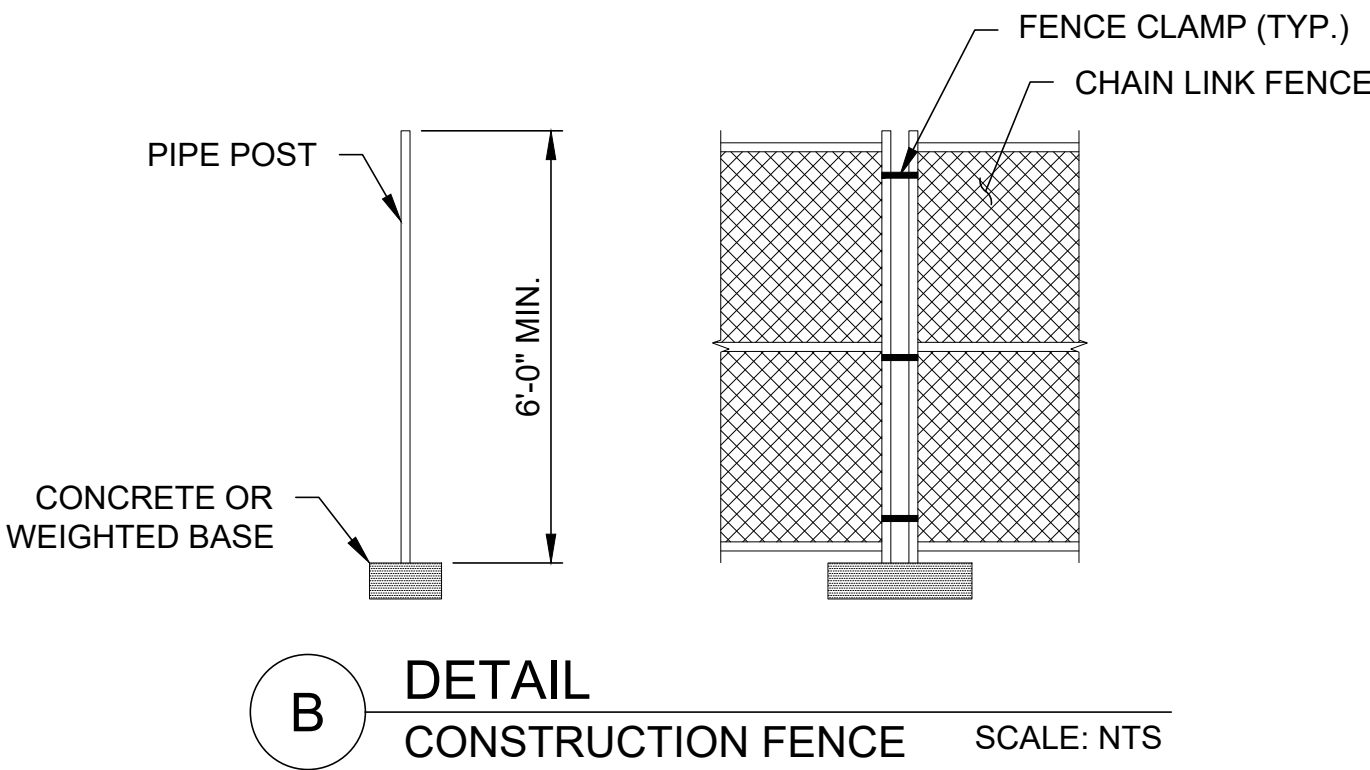
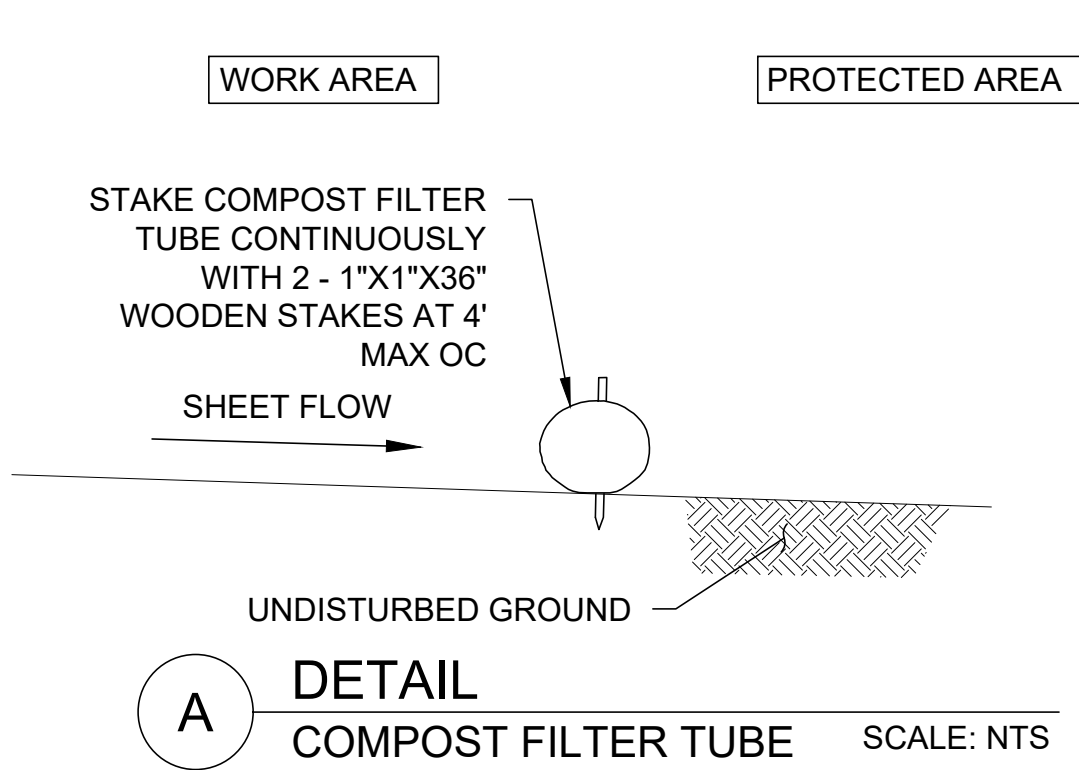
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FOR BID

<p>Attention:</p> <p>0 1"</p> <p>If this scale bar does not measure 1" then drawing is not original scale.</p>		Designed: A/JG		TOWN OF NORWELL 345 MAIN STREET NORWELL, MA 02061	NORWELL BOARDWALK RECONSTRUCTION 310 MAIN STREET NORWELL, MA 02061					SHEET NAME GENERAL NOTES	SHEET NO. G-002
		Drawn: A/JG									
		Checked: ADP									
		Approved: ADP									
		P.E. No: 51177									
		GEI Project 2408167									
						0	4/8/2025	FOR BID	ADP		
						NO	DATE	ISSUE/REVISION	APP		

05 50 00 METAL FABRICATIONS 1. PART 1 GENERAL 1.1. QUALITY ASSURANCE. 1.1.1. EXCEPT AS NOTED ELSEWHERE, WORK SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS: 1.1.1.1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), LATEST EDITION. 1.1.1.2. AMERICAN WELDING SOCIETY (AWS) 1.1.1.3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST EDITION. 1.2. SUBMITTALS 1.2.1. SUBMIT FOR APPROVAL PRIOR TO FABRICATION ALL INFORMATION NECESSARY FOR THE FABRICATION OF THE COMPONENT PARTS. INDICATE SIZE AND WEIGHT OF MEMBERS, TYPE AND LOCATION OF SHOP AND FIELD CONNECTIONS, AND THE TYPE, SIZE, AND EXTENT OF ALL WELDS, AND WELDING SEQUENCES. USE AMERICAN WELDING SOCIETY WELDING SYMBOLS. APPROVAL OF SHOP DRAWINGS WILL BE FOR SIZE AND ARRANGEMENT OF PRINCIPAL AND AUXILIARY MEMBERS AND STRENGTH OF CONNECTIONS. ANY ERRORS IN DIMENSIONS SHOWN ON SHOP DRAWING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. 1.2.2. THE CONTRACTOR SHALL USE ONLY CERTIFIED WELDERS AND THE SHIELDED ARC PROCESS FOR ALL WELDING PERFORMED IN CONNECTION WITH THE WORK OF THIS SECTION. EACH WELDER SHALL BE CERTIFIED FOR THE PARTICULAR WORK, PRIOR TO COMMENCING THE WORK WHICH MUST BE ACCOMPLISHED. 1.2.3. UPON COMPLETION OF THIS PORTION OF THE WORK, AND AS A CONDITION OF ITS ACCEPTANCE, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER A LETTER SIGNED BY AN OFFICIAL OF THE METAL FABRICATING FIRM OR FIRMS CERTIFYING THAT ALL FABRICATED METAL HAS BEEN FABRICATED IN COMPLETE ACCORDANCE WITH THIS SECTION OF THESE SPECIFICATIONS. 1.2.4. PART 2 PRODUCTS 1.1. MATERIALS 1.1.1. ALL STRUCTURAL STEEL, INCLUDING ANGLES AND PLATES SHALL CONFORM TO ASTM A36 GR. 36 UNLESS OTHERWISE NOTED. 1.1.2. ALL STRUCTURAL STEEL PIPING SHALL CONFORM TO ASTM A252, GRADE 3 UNLESS OTHERWISE NOTED. 1.1.3. ALL HOLLOW STRUCTURAL TUBE SECTIONS SHALL CONFORM TO ASTM A-500 GRADE B, UNLESS OTHERWISE NOTED. 1.1.4. ALL STEEL ITEMS UNDER THIS SECTION SHALL BE GALVANIZED UNLESS NOTED OTHERWISE ON THE CONTRACT DRAWINGS. GALVANIZING SHALL BE BY THE HOT DIP METHOD ACCORDING TO ASTM SPECIFICATIONS A-123 AND A-153.A. 1.1.5. WELD CONSUMABLES SHALL CONFORM TO AWS E70XX GRADE. 2. PART 3 EXECUTION 2.1. FABRICATION 2.1.1. FABRICATE PRODUCTS IN A FULLY-EQUIPPED FACILITY CAPABLE OF PRODUCING A HIGH GRADE OF METAL FABRICATION WORK. ALL WORK SHALL BE STRAIGHT AND TRUE, AND FREE FROM WARPAGE AND OTHER DEFECTS. JOINTS, COVERS, COPEs, AND MITERS SHALL BE ACCURATELY AND NEATLY CUT, MACHINED, FIELD, AND FITTED. 2.1.2. CARRY OUT BOLTING AND WELDING IN ACCORDANCE WITH LATEST APPROVED METHODS, WITH DUE CONSIDERATION FOR STRENGTH AND APPEARANCE OF FINISHED PRODUCT. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. 2.1.3. ALL STEEL WILL BE FREE FROM IMPERFECTIONS, DIRT, LOOSE SCALE, PAINT, OIL, OR OTHER FOREIGN SUBSTANCES. 2.1.4. ALL MATERIAL SHALL BE FABRICATED TO WITHIN + OR - 1/8 INCH OF THEIR THEORETICAL DIMENSIONS AS SHOWN ON THE DRAWINGS. 2.1.5. HOLES FOR BOLTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AND SHALL BE DRILLED 1/8" IN DIAMETER LARGER THAN THE GALVANIZED BOLT. 2.1.6. ALL FABRICATION UNDER THIS SECTION SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM SPECIFICATIONS A-123 AND A-153, UNLESS NOTED OTHERWISE ON THE CONTRACT DOCUMENTS 2.1.7. PRIOR TO FABRICATING ANY STRUCTURAL STEEL MEMBERS, CONTRACTOR SHALL CONFIRM THE EXACT FIELD MEASUREMENTS OF EACH UNIT TO ACCOUNT FOR THE SBTLE CHANGES OF INDIVIDUAL UNIT'S FIELD CONDITION. 2.2. INSTALLATION 2.2.1. STORE MATERIALS ON SKIDS, NOT ON GROUND, IN SUCH A FASHION AS TO PREVENT BENDING, TWISTING, OR SIMILAR DAMAGE. DO NOT DUMP STEEL OFF TRUCK. 2.2.2. CLEAN INSTALLED WORK FROM WELD SPATTER, DIRT AND OTHER FOREIGN MATERIALS. PROTECT INSTALLED WORK AS REQUIRED FROM DAMAGE BY SUBSEQUENT BUILDING OPERATIONS. 2.2.3. JOINTS ARE TO BE SQUARE, TIGHT, AND WELL-FASTENED WITH ALL MEMBERS ASSEMBLED IN ACCORDANCE WITH THE CONTRACT DRAWINGS. 2.3. DEFECTIVE WORK 2.3.1. ANY PARTS DAMAGED OR IMPROPERLY FABRICATED SHALL BE REMOVED AND REPLACED OR CORRECTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.	1.2.4. THE CONTRACTOR SHALL USE ONLY CERTIFIED WELDERS AND THE SHIELDED ARC PROCESS FOR ALL WELDING PERFORMED IN CONNECTION WITH THE WORK OF THIS SECTION. EACH WELDER SHALL BE CERTIFIED FOR THE PARTICULAR WORK, PRIOR TO COMMENCING THE WORK WHICH MUST BE ACCOMPLISHED. 1.2.5. UPON COMPLETION OF THIS PORTION OF THE WORK, AND AS A CONDITION OF ITS ACCEPTANCE, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER A LETTER SIGNED BY AN OFFICIAL OF THE METAL FABRICATING FIRM OR FIRMS CERTIFYING THAT ALL FABRICATED METAL HAS BEEN FABRICATED IN COMPLETE ACCORDANCE WITH THIS SECTION OF THESE SPECIFICATIONS. 1.2.6. LIST OF ALL OTHER HARDWARE WITH QUANTITIES AND MATERIAL SPECIFICATIONS. 1.3. PRODUCT HANDLING 1.3.1. ALL MATERIALS SHALL BE DELIVERED, STORED, AND HANDLED WITH CARE TO PREVENT DAMAGE TO ANY MATERIAL OR MATERIAL COATING. MATERIAL DAMAGED OR WITH DAMAGED COATING WILL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.	06 13 00 HEAVY TIMBER CONSTRUCTION: 1. PART 1 GENERAL 1.1. QUALITY ASSURANCE 1.1.1. EXCEPT AS NOTED ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING CODES, SPECIFICATIONS AND STANDARDS: SOUTHERN PINE INSPECTION BUREAU (SPIB) WEST COAST LUMBER INSPECTION BUREAU (WCLIB) WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) NATIONAL FOREST PRODUCTS ASSOCIATION (NFFA) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) 1.2. SUBMITTALS 1.2.1. CERTIFICATION OF TIMBER SPECIES 1.2.2. CERTIFICATION OF TIMBER TREATMENT 1.3. PRODUCT DELIVERY, STORAGE, AND HANDLING 1.3.1. ALL TIMBER SHALL BE STORED IN STACKS SUCH THAT THERE IS AN AIR SPACE BENEATH THE MATERIAL, AND SITUATED TO PREVENT THE TIMBER FROM BEING EXPOSED TO STANDING WATER. 1.3.2. THE MATERIAL SHALL BE STORED ON SITE IN AN AREA WHICH WILL BE DESIGNATED BY THE OWNER. 1.3.3. TIMBER SHALL BE HANDLED IN AN APPROVED MANNER SUCH THAT THE MATERIAL WILL NOT BE DAMAGED. 1.3.4. ALL TIMBER SHALL BE COVERED TO MAINTAIN CONSISTENT COLORING AND FADING BETWEEN PIECES. 2. PART 2 PRODUCTS 2.0.1. UNLESS OTHERWISE SPECIFIED ON THE CONTRACT DRAWINGS, ALL TIMBER TO BE USED SHALL BE NO 1 SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NFPA NATIONAL DESIGN SPECIFICATION OR THE EQUIVALENT FOR DOUGLAS FIR AS GRADED BY WCLIB AND WWPA. 2.0.2. ALL DECKING SHALL BE TROPICAL HARDWOOD IPE. 2.0.3. SHIMS, IF USED, SHALL BE COMPOSITE. 2.0.4. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED. 2.0.5. ALL TIMBER FASTENERS SHALL MEET ASTM A-307 AND IN CONFORMANCE WITH MISCELLANEOUS METALS, SECTION 05 50 13 2.0.6. ALL TIMBER SHALL BE TREATED IN CONFORMANCE WITH TIMBER TREATMENT, SECTION 06 14 00. 3. PART 3 EXECUTION 3.1. PREPARATION 3.1.1. PRIOR TO INSTALLATION ALL DEMOLITION AFFECTING THE NEW WORK SHALL BE COMPLETED. 3.2. INSTALLATION 3.2.1. JOINTS ARE TO BE SQUARE, TIGHT AND WELL-FASTENED WITH ALL MEMBERS ASSEMBLED IN ACCORDANCE WITH THE CONTRACT DRAWINGS. 3.2.2. TIMBER TO TIMBER CONNECTIONS SHALL BE SEPARATED BY TAR PAPER OR APPROVED EQUIVALENT AND HAVE A MINIMUM 3" OVERHANG ON EITHER SIDE OF THE CONNECTED MEMBER. 3.2.3. HOLES FOR BOLTS AND DRIFT PINS SHALL BE DRILLED THE SAME SIZE AS THE BOLT BEFORE GALVANIZING. HOLES SHALL BE SWABBED WITH 2 COATS OF SEALING COMPOUND AS SPECIFIED HEREIN BEFORE INSTALLING THE BOLTS. 3.2.4. ALL FASTENERS INSTALLED INTO TROPICAL HARDWOOD LUMBER SHALL BE PREDRILLED. 3.2.5. BOLTS SHALL BE TIGHTENED TO PROVIDE A SOLID CONNECTION. NO MORE THAN 1 WASHER SHALL BE INSTALLED UNDER THE BOLT HEAD OR NUT. BOLT THREADS SHALL PROJECT NO MORE THAN ONE BOLT DIAMETER BEYOND THE NUT. ALL BOLTS (HEX, LAG, THREADED ANCHOR ROD, OR OTHERWISE) SHALL BE FITTED WITH FLAT WASHERS AT THE TIMBER AND STEEL INTERFACES. USE OVERSIZED DOCK WASHERS WHERE SHOWN ON THE DRAWINGS. 3.2.6. ALL FASTENERS WHICH THE GENERAL PUBLIC WILL BE EXPOSED TO SHALL BE COUNTERSUNK. 3.2.7. ALL TIMBER SHALL BE CUT AND FIT IN SUCH A MANNER AS TO HAVE FULL BEARING OVER THE ENTIRE CONTACT SURFACE. 3.2.8. ALL CUT FACES OF TIMBER SHALL BE COATED IN ACCORDANCE WITH SECTION 06 14 00 TIMBER TREATMENT. 3.2.9. TAR PAPER SHALL BE INSTALLED AT ANY LOCATION WHERE TWO (2) TIMBER MEMBERS BARE ON EACH OTHER.	05 50 13 MISCELLANEOUS METALS 1. PART 1 GENERAL 1.1. QUALITY ASSURANCE 1.1.1. EXCEPT AS NOTED ELSEWHERE, WORK SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS: 1.1.1.1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), LATEST EDITION. 1.1.1.2. 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MANUFACTURER'S LITERATURE, SPECIFICATIONS, AND CERTIFICATION OF COMPLIANCE WITH APPLICABLE ASTM SPECIFICATIONS FOR ALL FASTENERS, WIRE ROPE, CHAINS, SHACKLES, EXPANSION BOLTS, AND OTHER CONNECTION ITEMS IDENTIFIED WITHIN THE CONTRACT DRAWINGS.	1.2.4. THE CONTRACTOR SHALL USE ONLY CERTIFIED WELDERS AND THE SHIELDED ARC PROCESS FOR ALL WELDING PERFORMED IN CONNECTION WITH THE WORK OF THIS SECTION. EACH WELDER SHALL BE CERTIFIED FOR THE PARTICULAR WORK, PRIOR TO COMMENCING THE WORK WHICH MUST BE ACCOMPLISHED. 1.2.5. UPON COMPLETION OF THIS PORTION OF THE WORK, AND AS A CONDITION OF ITS ACCEPTANCE, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER A LETTER SIGNED BY AN OFFICIAL OF THE METAL FABRICATING FIRM OR FIRMS CERTIFYING THAT ALL FABRICATED METAL HAS BEEN FABRICATED IN COMPLETE ACCORDANCE WITH THIS SECTION OF THESE SPECIFICATIONS. 1.2.6. LIST OF ALL OTHER HARDWARE WITH QUANTITIES AND MATERIAL SPECIFICATIONS. 1.3. PRODUCT HANDLING 1.3.1. ALL MATERIALS SHALL BE DELIVERED, STORED, AND HANDLED WITH CARE TO PREVENT DAMAGE TO ANY MATERIAL OR MATERIAL COATING. MATERIAL DAMAGED OR WITH DAMAGED COATING WILL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.	06 13 00 HEAVY TIMBER CONSTRUCTION: 1. PART 1 GENERAL 1.1. QUALITY ASSURANCE 1.1.1. EXCEPT AS NOTED ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING CODES, SPECIFICATIONS AND STANDARDS: SOUTHERN PINE INSPECTION BUREAU (SPIB) WEST COAST LUMBER INSPECTION BUREAU (WCLIB) WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) NATIONAL FOREST PRODUCTS ASSOCIATION (NFFA) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) 1.2. SUBMITTALS 1.2.1. CERTIFICATION OF TIMBER SPECIES 1.2.2. CERTIFICATION OF TIMBER TREATMENT 1.3. PRODUCT DELIVERY, STORAGE, AND HANDLING 1.3.1. ALL TIMBER SHALL BE STORED IN STACKS SUCH THAT THERE IS AN AIR SPACE BENEATH THE MATERIAL, AND SITUATED TO PREVENT THE TIMBER FROM BEING EXPOSED TO STANDING WATER. 1.3.2. THE MATERIAL SHALL BE STORED ON SITE IN AN AREA WHICH WILL BE DESIGNATED BY THE OWNER. 1.3.3. TIMBER SHALL BE HANDLED IN AN APPROVED MANNER SUCH THAT THE MATERIAL WILL NOT BE DAMAGED. 1.3.4. ALL TIMBER SHALL BE COVERED TO MAINTAIN CONSISTENT COLORING AND FADING BETWEEN PIECES. 2. PART 2 PRODUCTS 2.0.1. UNLESS OTHERWISE SPECIFIED ON THE CONTRACT DRAWINGS, ALL TIMBER TO BE USED SHALL BE NO 1 SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NFPA NATIONAL DESIGN SPECIFICATION OR THE EQUIVALENT FOR DOUGLAS FIR AS GRADED BY WCLIB AND WWPA. 2.0.2. ALL DECKING SHALL BE TROPICAL HARDWOOD IPE. 2.0.3. SHIMS, IF USED, SHALL BE COMPOSITE. 2.0.4. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED. 2.0.5. ALL TIMBER FASTENERS SHALL MEET ASTM A-307 AND IN CONFORMANCE WITH MISCELLANEOUS METALS, SECTION 05 50 13 2.0.6. ALL TIMBER SHALL BE TREATED IN CONFORMANCE WITH TIMBER TREATMENT, SECTION 06 14 00. 3. PART 3 EXECUTION 3.1. PREPARATION 3.1.1. PRIOR TO INSTALLATION ALL DEMOLITION AFFECTING THE NEW WORK SHALL BE COMPLETED. 3.2. INSTALLATION
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Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



Designed:	AJG
Drawn:	AJG
Checked:	ADP
Approved:	ADP
P.E. No:	51177
GEI Project	2408167



TOWN OF NORWELL
345 MAIN STREET
NORWELL, MA
02061

**NORWELL
BOARDWALK
RECONSTRUCTION**

310 MAIN STREET
NORWELL, MA
02061

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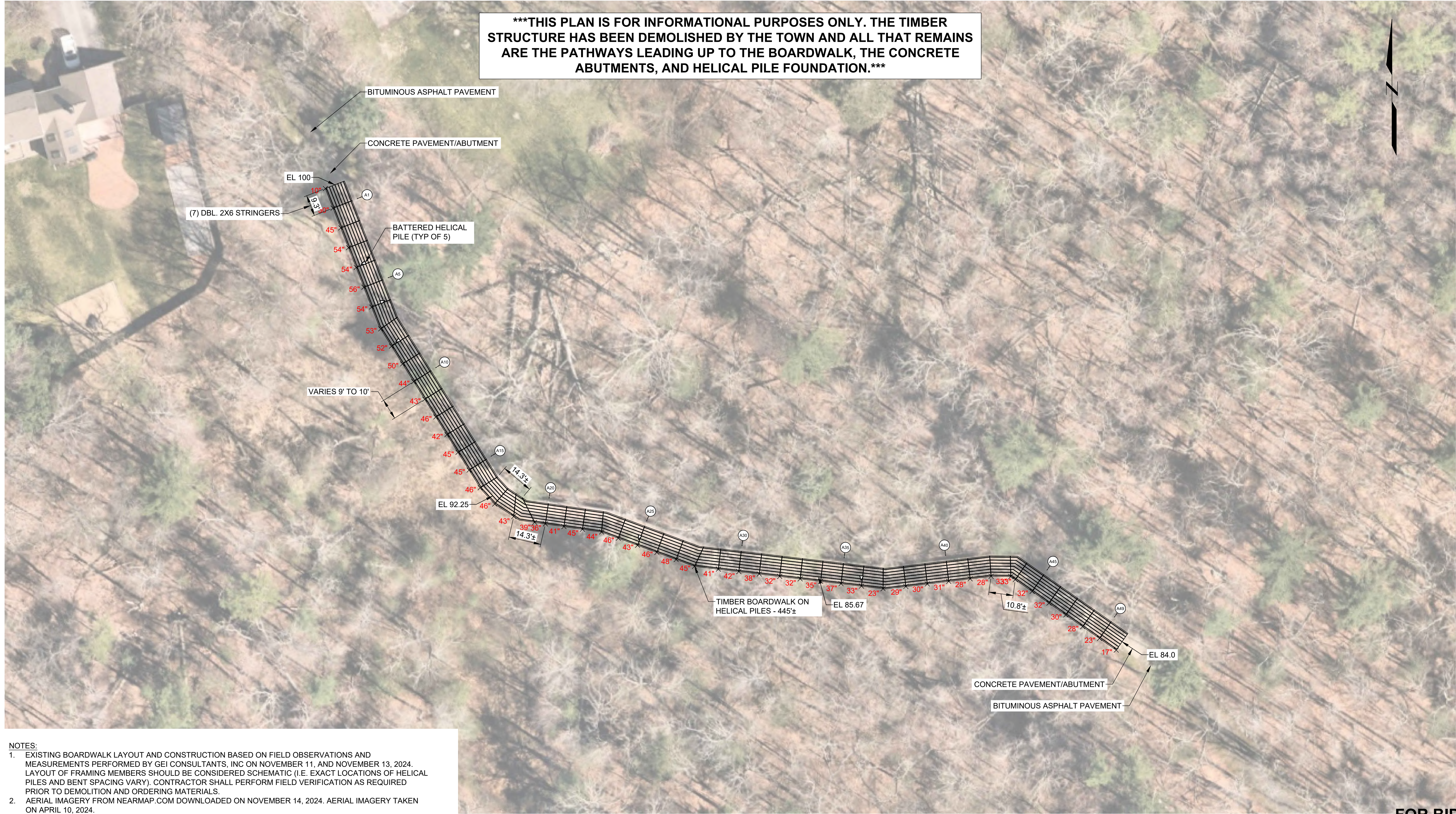
SHEET NAME

**OVERALL SITE PLAN &
STAGING LOCATIONS**

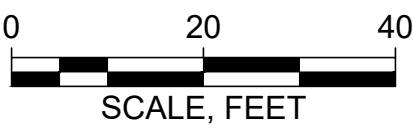
FOR BID

SHEET NO.

G-101



- NOTES:
- EXISTING BOARDWALK LAYOUT AND CONSTRUCTION BASED ON FIELD OBSERVATIONS AND MEASUREMENTS PERFORMED BY GEI CONSULTANTS, INC ON NOVEMBER 11, AND NOVEMBER 13, 2024. LAYOUT OF FRAMING MEMBERS SHOULD BE CONSIDERED SCHEMATIC (I.E. EXACT LOCATIONS OF HELICAL PILES AND BENT SPACING VARY). CONTRACTOR SHALL PERFORM FIELD VERIFICATION AS REQUIRED PRIOR TO DEMOLITION AND ORDERING MATERIALS.
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RECONSTRUCTION

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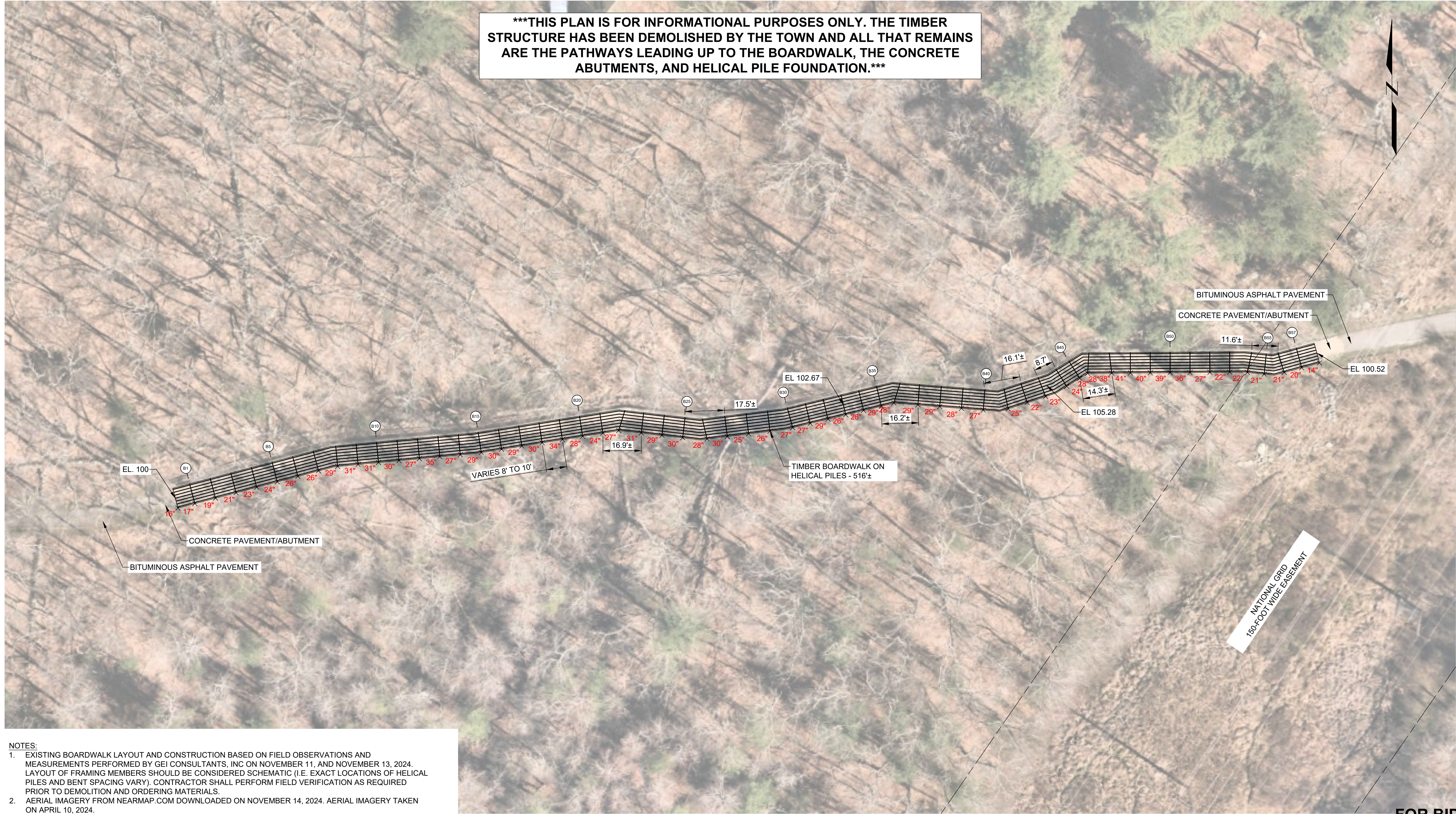
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BOARDWALK A EXISTING
CONDITIONS PLAN

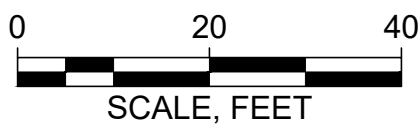
SHEET NO.

V-101

FOR BID



- NOTES:
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BOARDWALK
RECONSTRUCTION

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SHEET NAME

BOARDWALK B EXISTING
CONDITIONS PLAN

SHEET NO.

V-102

FOR BID



- NOTES:
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Attention:

0 1"

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Approved:	ADP
P.E. No:	51177
GEI Project	2408167



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NORWELL
BOARDWALK
RECONSTRUCTION

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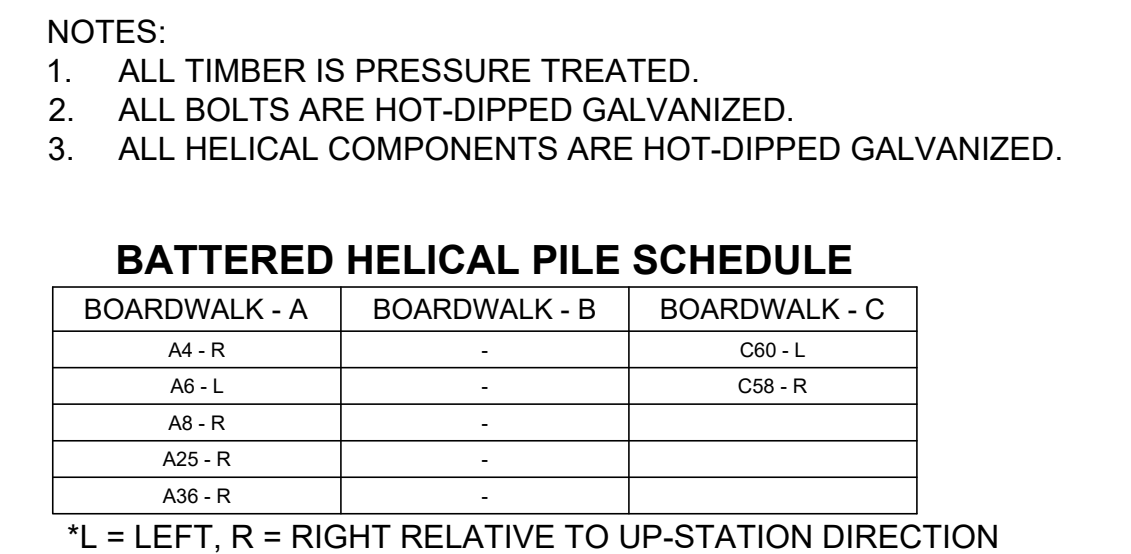
SHEET NAME

BOARDWALK C EXISTING
CONDITIONS PLAN

SHEET NO.

V-103


FOR BID



*****THIS PLAN IS FOR INFORMATIONAL PURPOSES ONLY. THE TIMBER STRUCTURE HAS BEEN DEMOLISHED BY THE TOWN AND ALL THAT REMAINS ARE THE PATHWAYS LEADING UP TO THE BOARDWALK, THE CONCRETE ABUTMENTS, AND HELICAL PILE FOUNDATION.*****

SHEET NAME	SHEET NO.
EXISTING BOARDWALK DETAILS	V-501

Attention:



If this scale bar does not measure 1" then drawing is not original scale.



<i>Designed:</i>	AJG
<i>Drawn:</i>	AJG
<i>Checked:</i>	ADP
<i>Approved:</i>	ADP
<i>P.E. No:</i>	51177
<i>GEI Project</i>	2408167

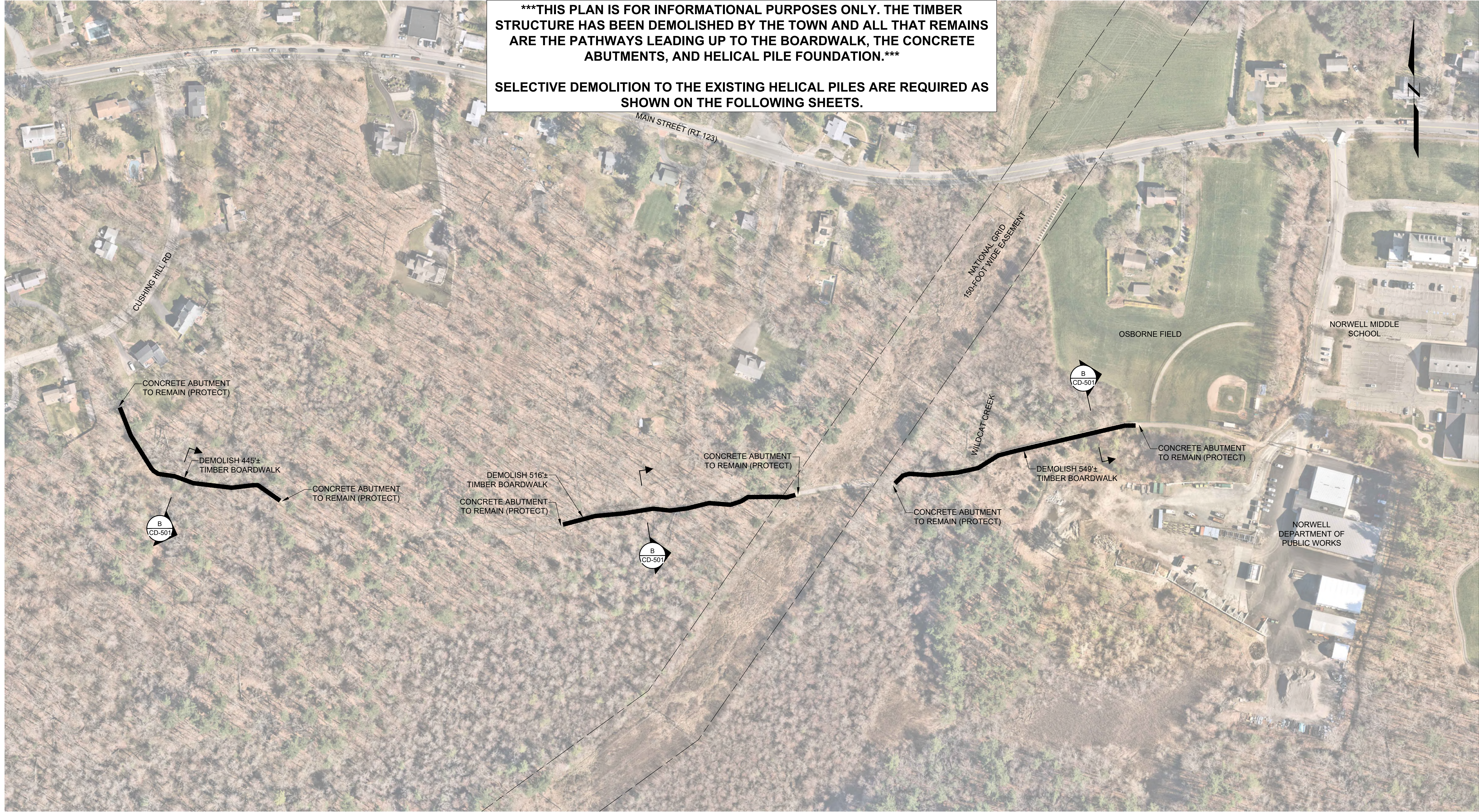


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NORWELL
BOARDWALK
RECONSTRUCTION

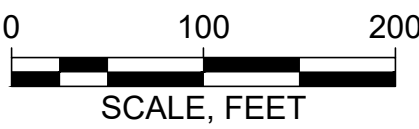
310 MAIN STREET
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SELECTIVE DEMOLITION TO THE EXISTING HELICAL PILES ARE REQUIRED AS SHOWN ON THE FOLLOWING SHEETS.



Attention:
0 1" SCALE, FEET
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Approved:	ADP
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GEI Project	2408167



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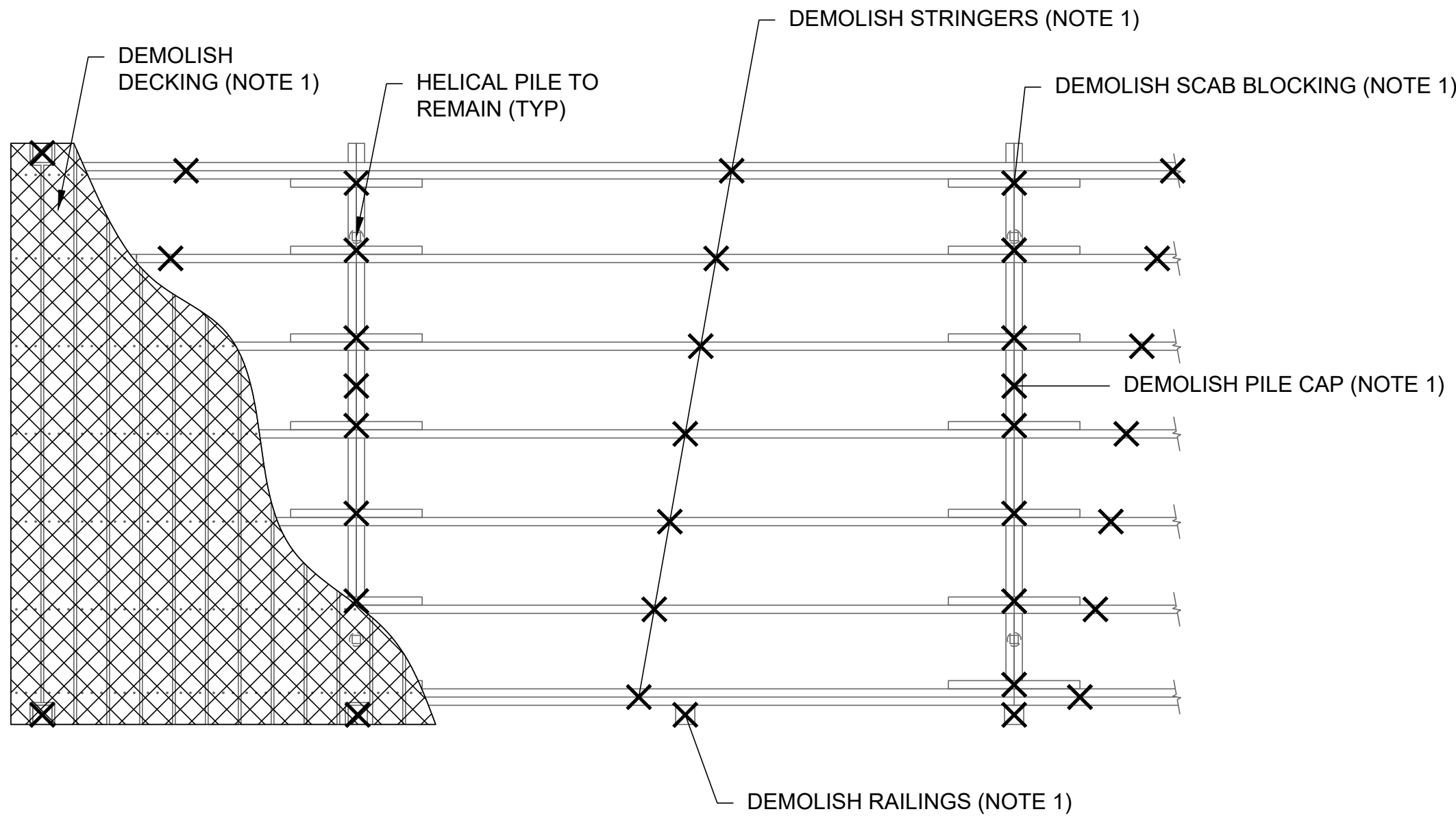
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DEMOLITION PLAN

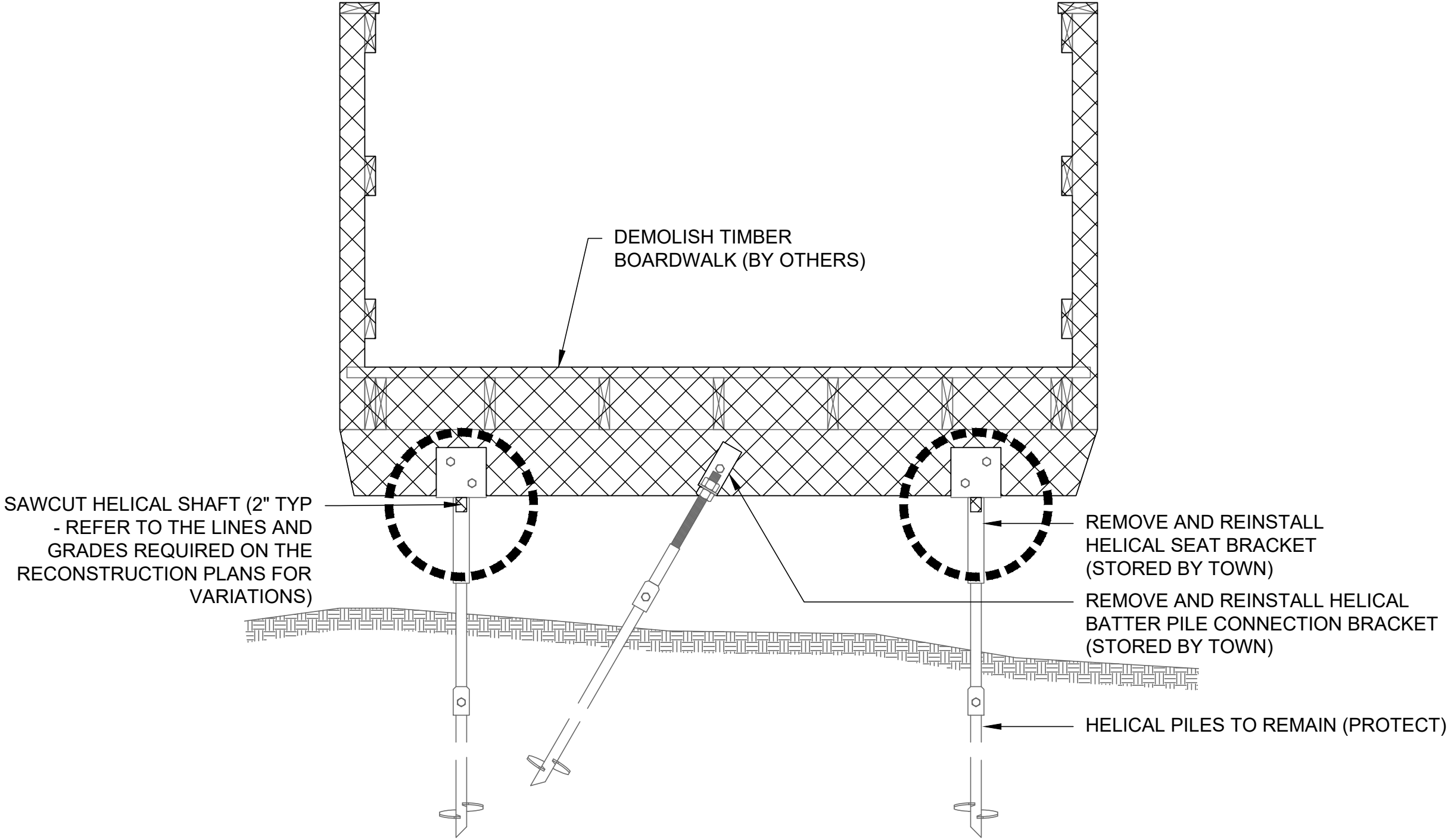
SHEET NO.

CD-101

FOR BID



A PLAN BOARDWALK SCALE: 3/4" = 1'-0"



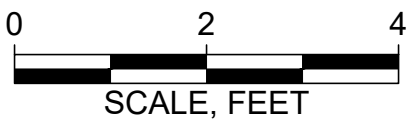
B SECTION BOARDWALK SCALE: 3/4" = 1'-0"

LEGEND:

- DEMOLITION (BY OTHERS) X
- DEMOLITION (BY OTHERS) [Cross-hatched box]
- DEMOLITION (BY CONTRACTOR) [Dashed circle]

NOTES:

1. DEMOLITION OF THE TIMBER STRUCTURE HAS BEEN PERFORMED BY OTHERS (THE TOWN). THE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR MODIFYING THE CUT-OFF ELEVATION OF THE HELICAL PILE SHAFTS.
2. THE TOWN HAS SAVED ALL HARDWARE AND HELICAL PILE BRACKETS WHICH ARE TO BE REUSED AS PART OF THE RECONSTRUCTION.



Attention:
0 1"
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GEI Project	2408167



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NORWELL
BOARDWALK
RECONSTRUCTION
310 MAIN STREET
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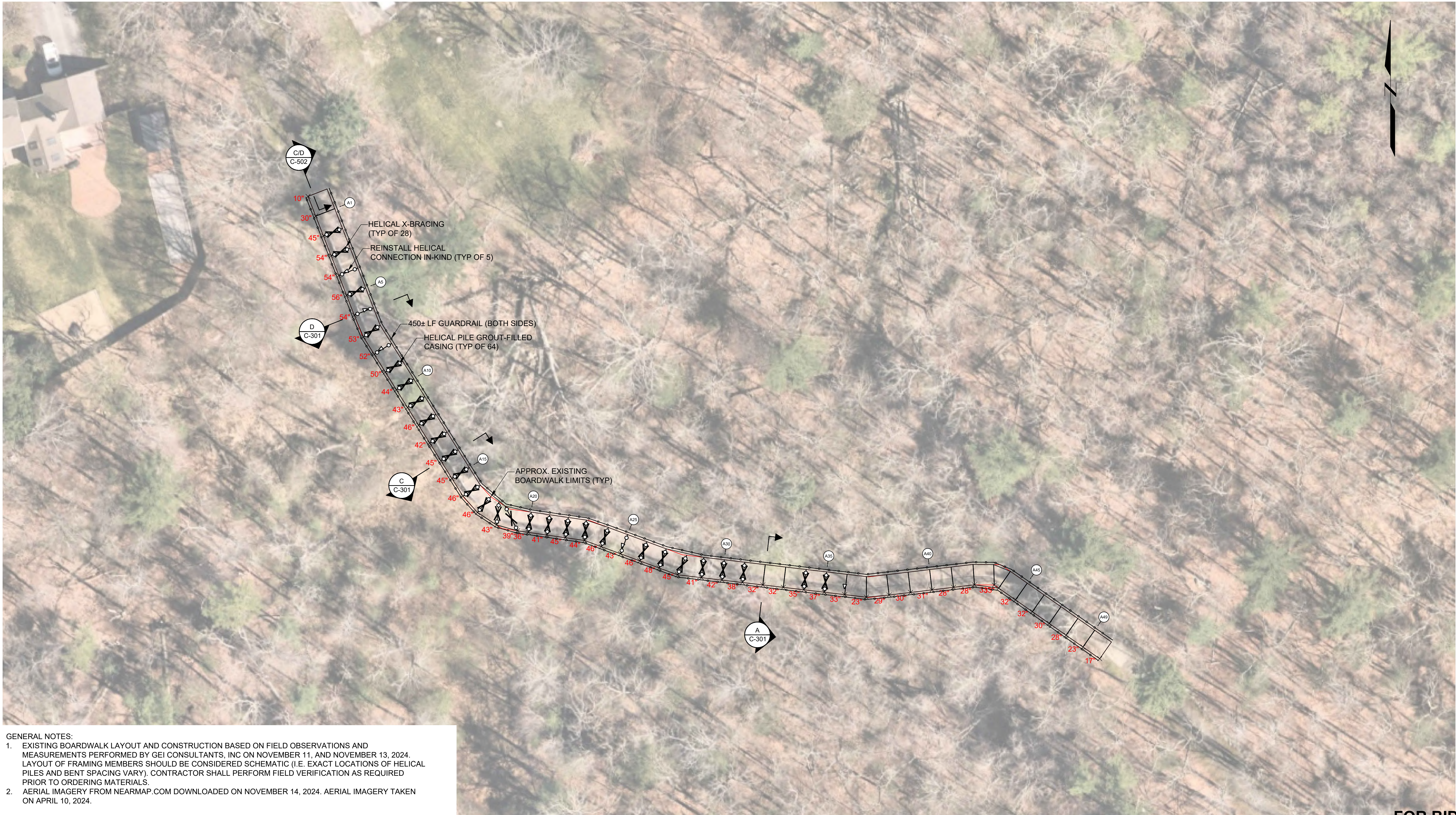
SHEET NAME

DEMOLITION DETAILS

FOR BID

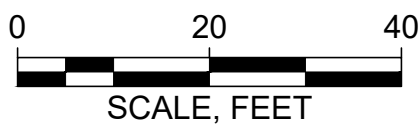
SHEET NO.

CD-501



- GENERAL NOTES:
- EXISTING BOARDWALK LAYOUT AND CONSTRUCTION BASED ON FIELD OBSERVATIONS AND MEASUREMENTS PERFORMED BY GEI CONSULTANTS, INC ON NOVEMBER 11, AND NOVEMBER 13, 2024. LAYOUT OF FRAMING MEMBERS SHOULD BE CONSIDERED SCHEMATIC (I.E. EXACT LOCATIONS OF HELICAL PILES AND BENT SPACING VARY). CONTRACTOR SHALL PERFORM FIELD VERIFICATION AS REQUIRED PRIOR TO ORDERING MATERIALS.
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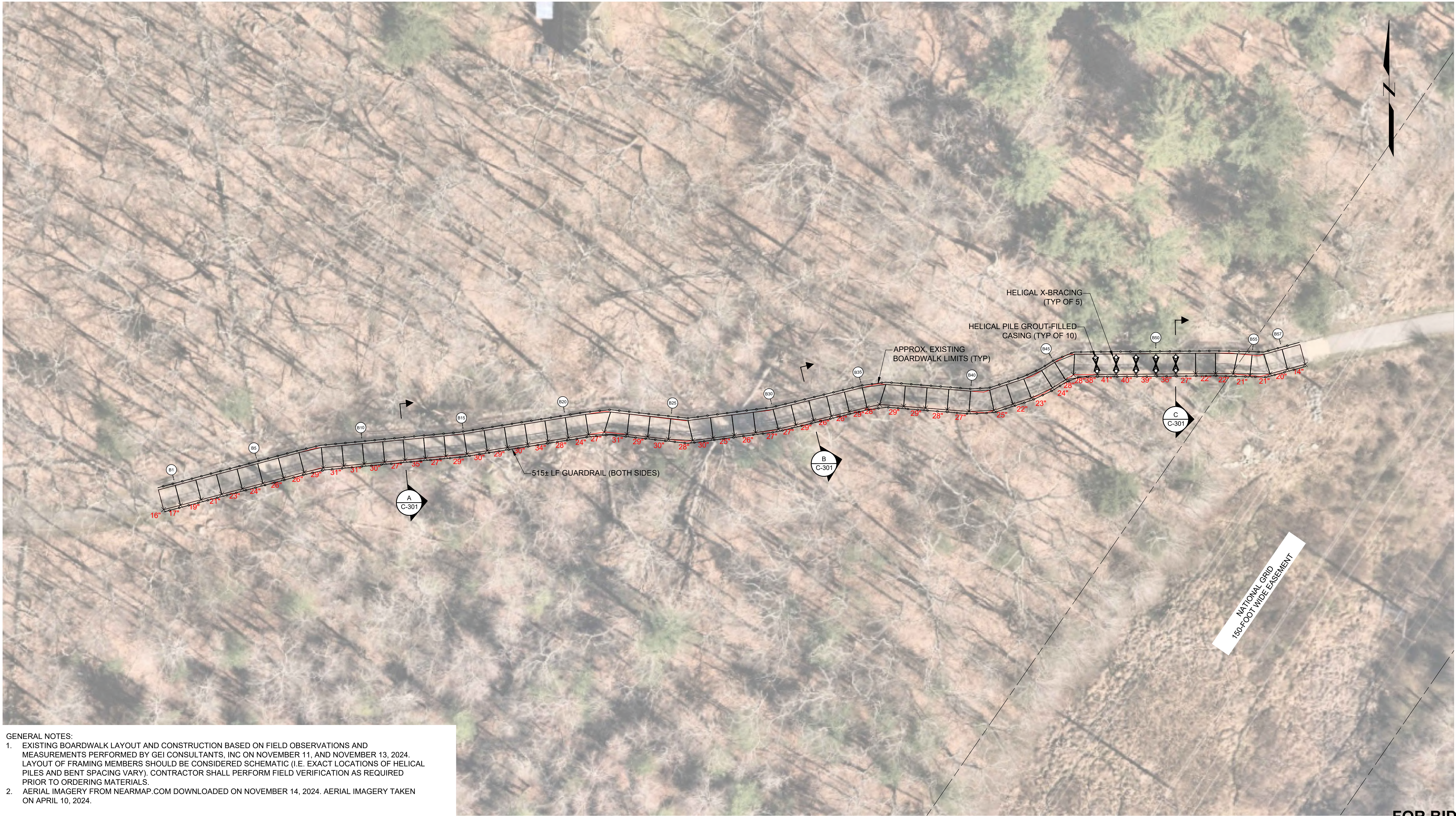
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SHEET NAME

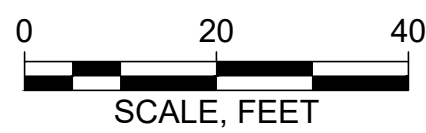
BOARDWALK A
RECONSTRUCTION PLAN

SHEET NO.

C-101



- GENERAL NOTES:
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GEI Project 2408167



TOWN OF NORWELL
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NORWELL
BOARDWALK
RECONSTRUCTION
310 MAIN STREET
NORWELL, MA
02061

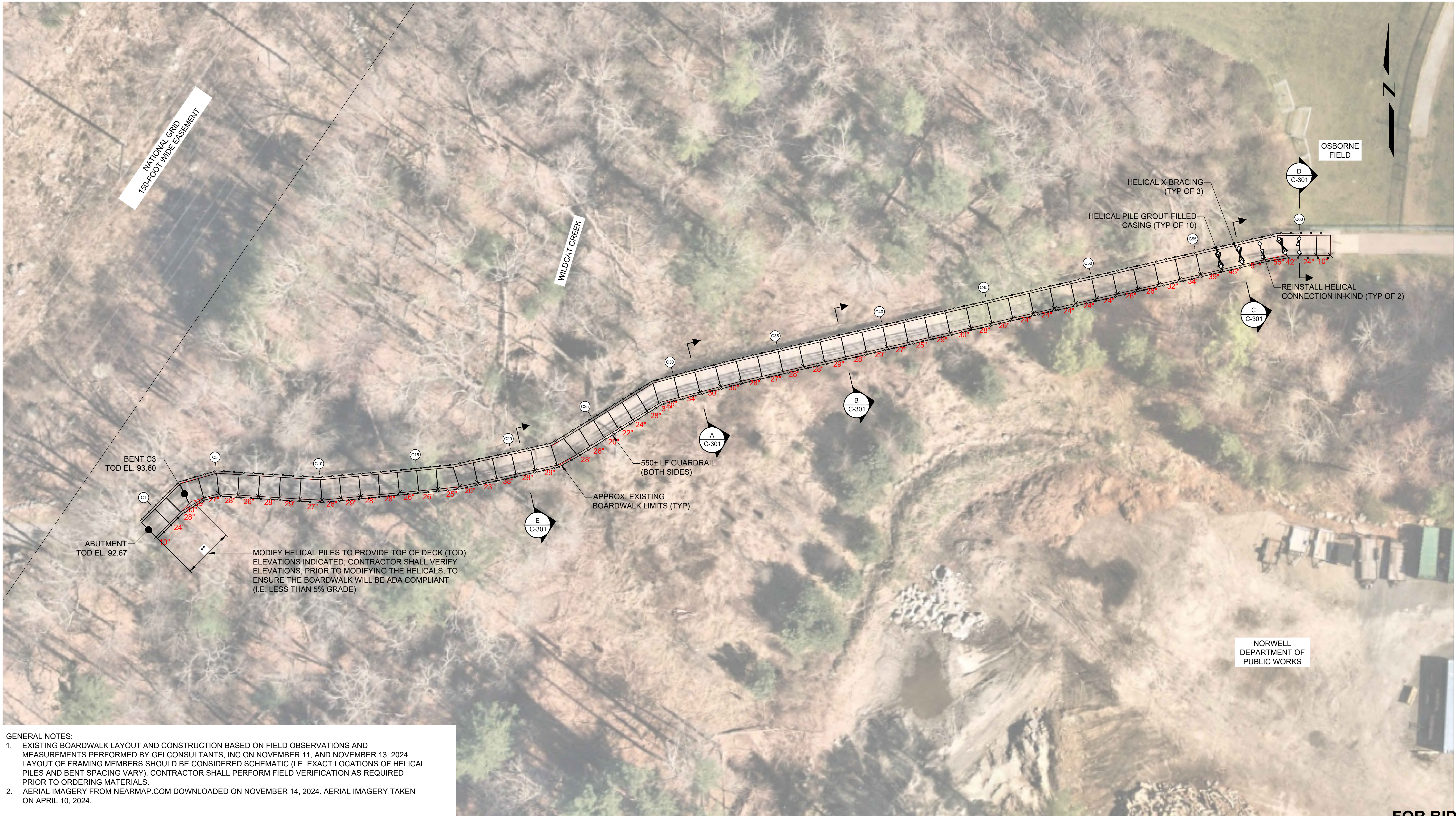
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SHEET NAME
BOARDWALK B
RECONSTRUCTION PLAN

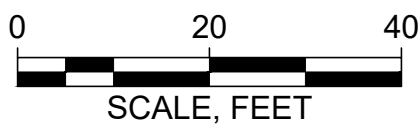
SHEET NO.

C-102

FOR BID



- GENERAL NOTES:
- EXISTING BOARDWALK LAYOUT AND CONSTRUCTION BASED ON FIELD OBSERVATIONS AND MEASUREMENTS PERFORMED BY GEI CONSULTANTS, INC ON NOVEMBER 11, AND NOVEMBER 13, 2024. LAYOUT OF FRAMING MEMBERS SHOULD BE CONSIDERED SCHEMATIC (I.E. EXACT LOCATIONS OF HELICAL PILES AND BENT SPACING VARY). CONTRACTOR SHALL PERFORM FIELD VERIFICATION AS REQUIRED PRIOR TO ORDERING MATERIALS.
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NORWELL
BOARDWALK
RECONSTRUCTION

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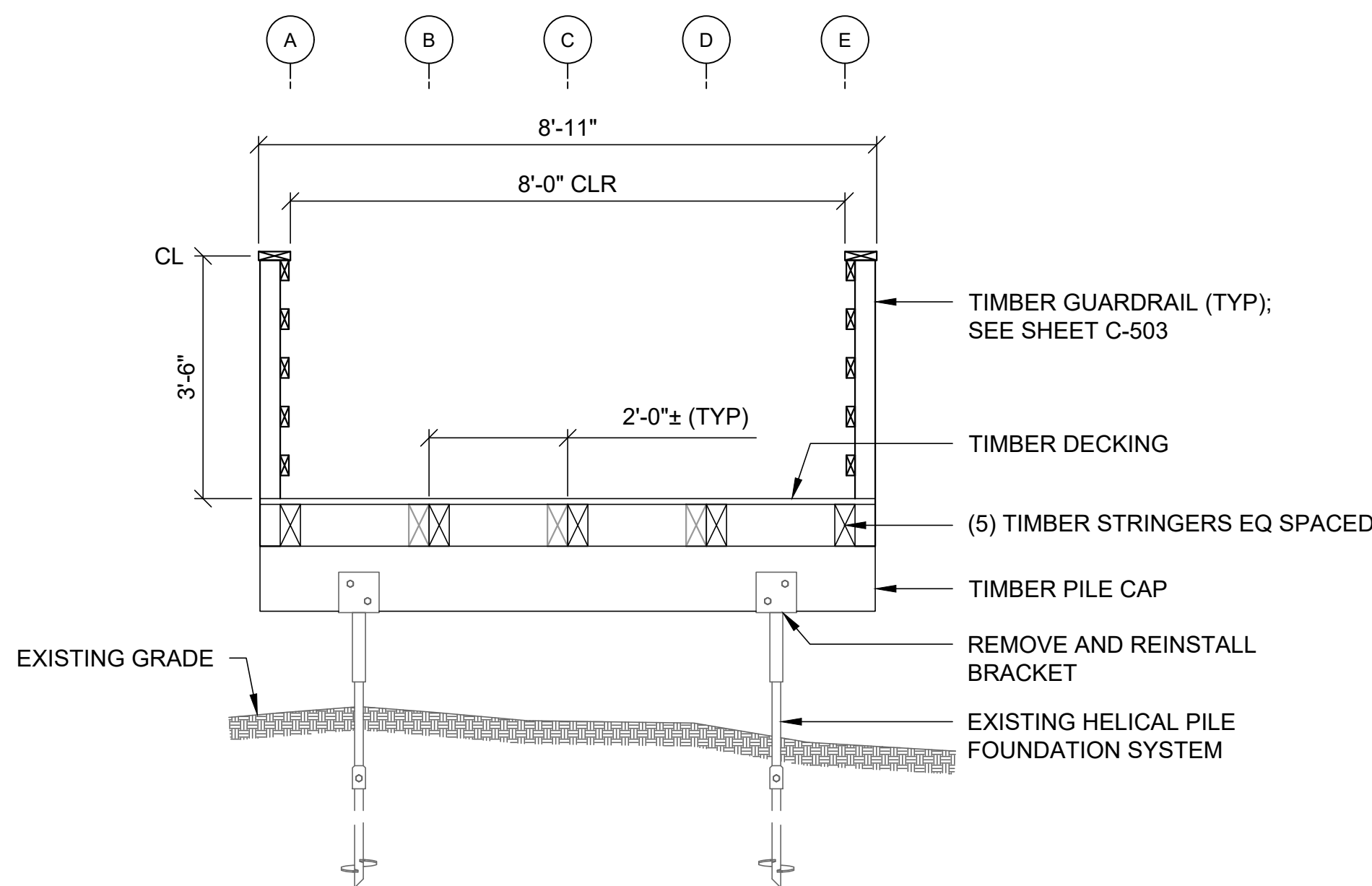
SHEET NAME

BOARDWALK C
RECONSTRUCTION PLAN

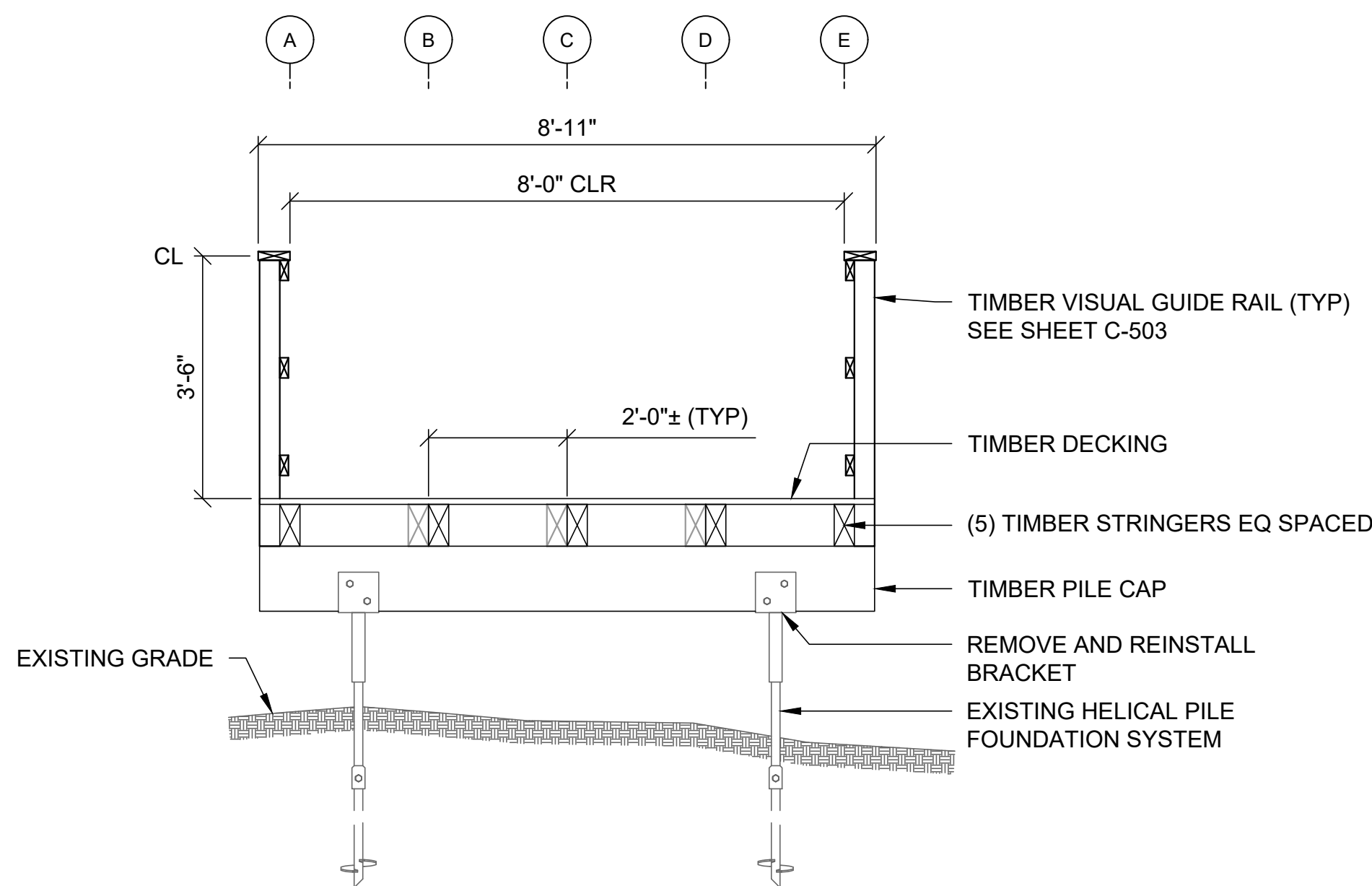
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C-103

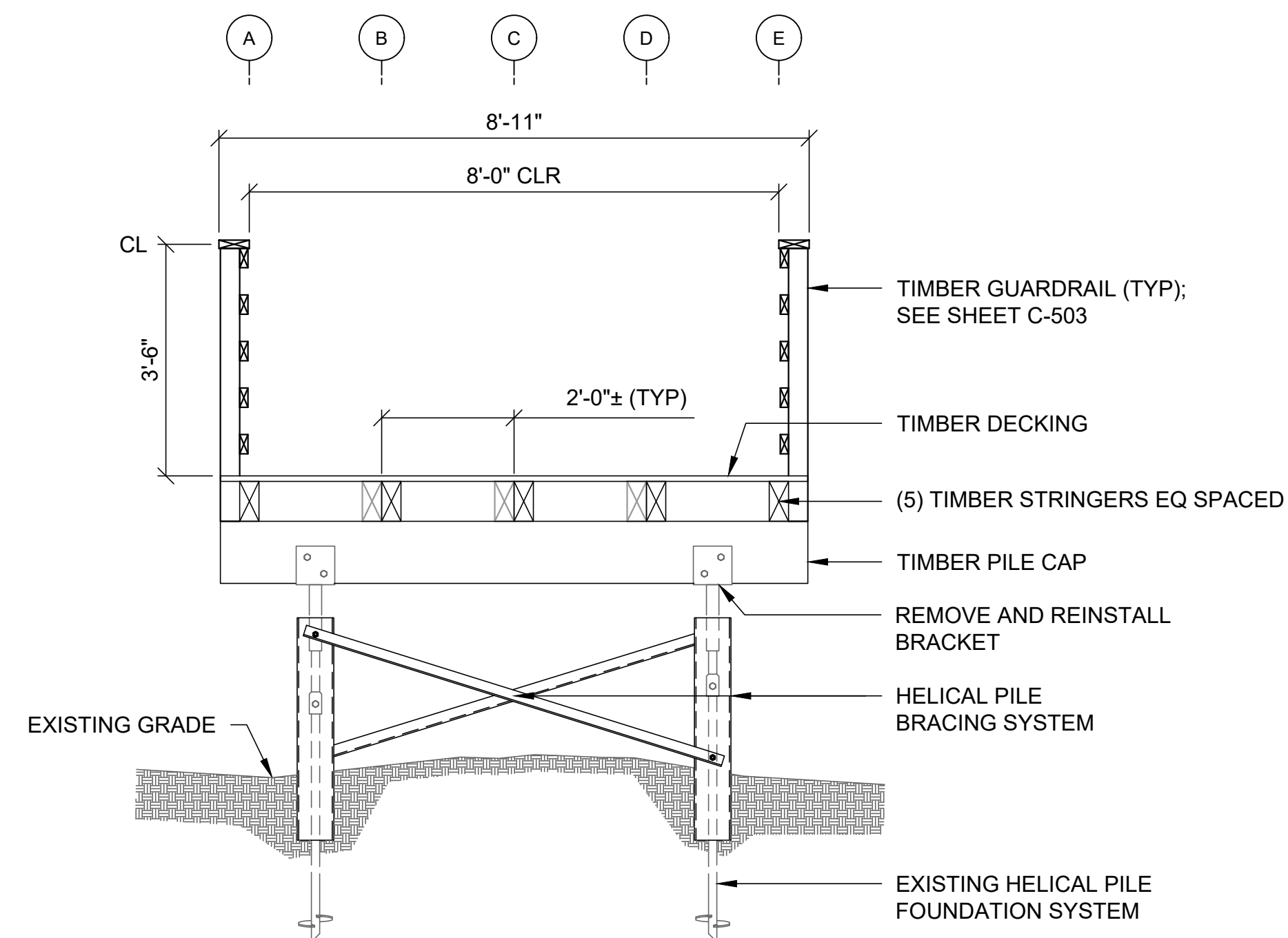
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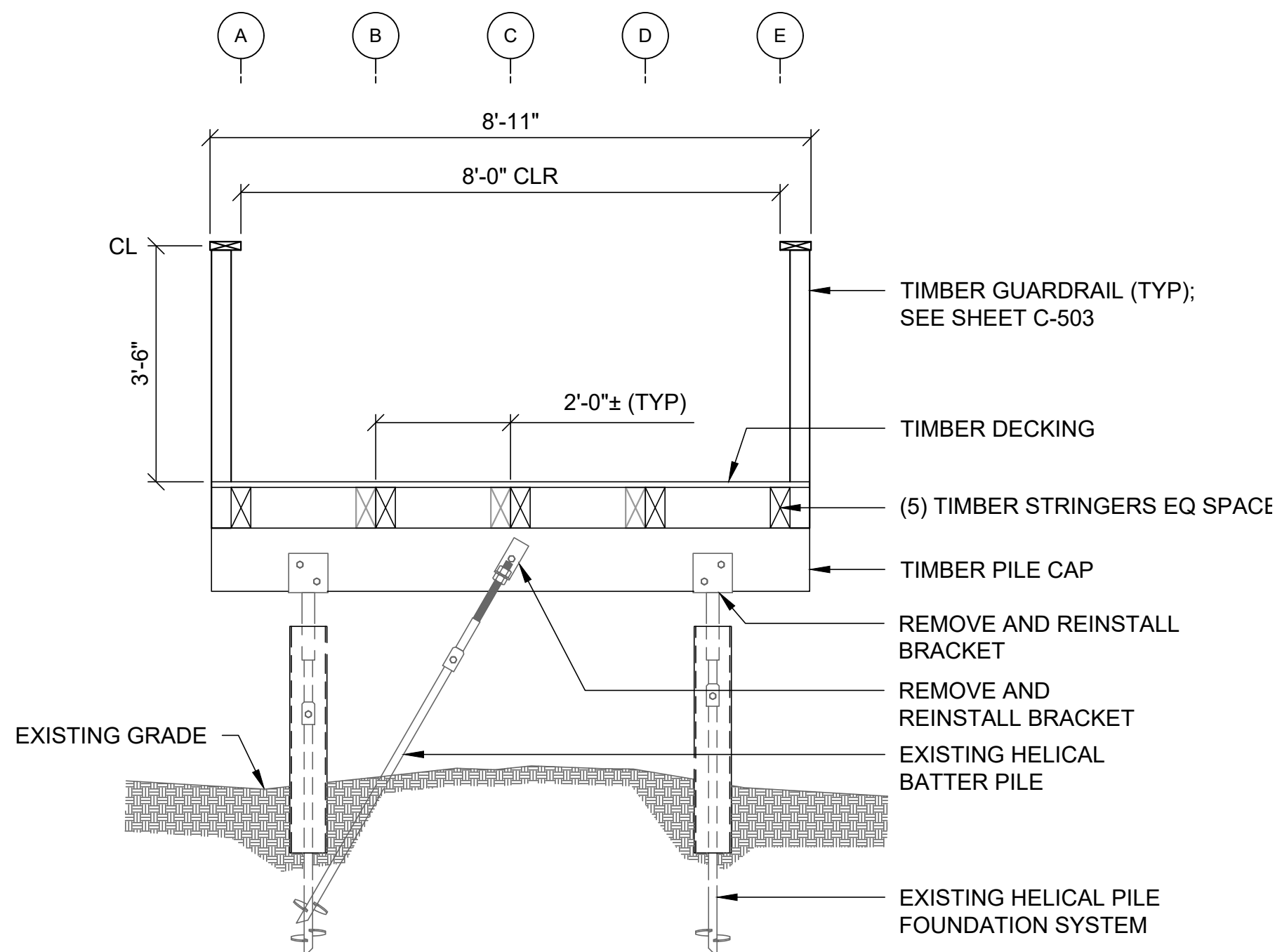
A SECTION
C-101 BOARDWALK WITH GUARDRAIL (TYP) SCALE: 1/2" = 1'-0"
C-102
C-103



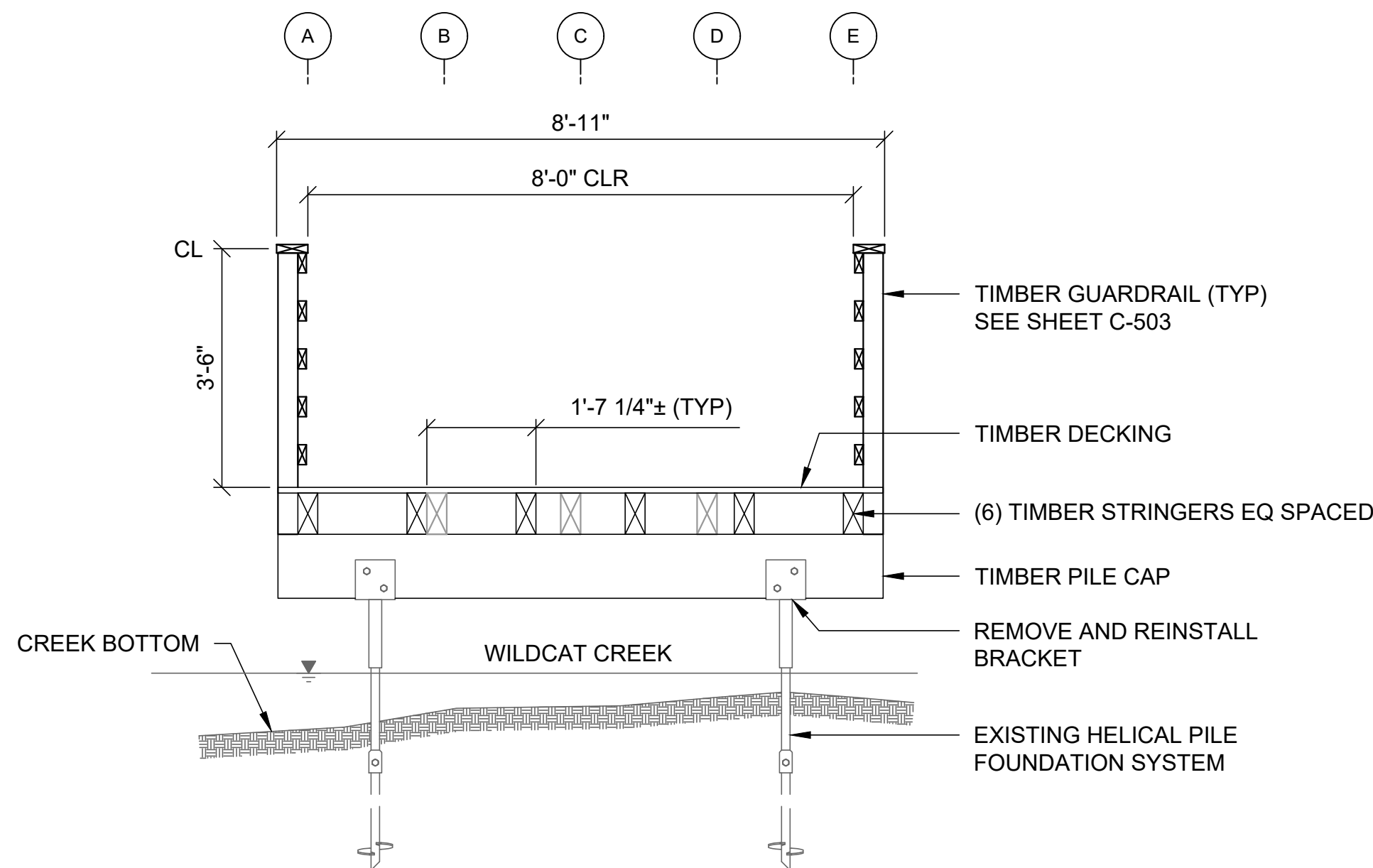
B SECTION
C-102 BOARDWALK WITH VISUAL GUIDE RAIL (TYP) SCALE: 1/2" = 1'-0"
C-103



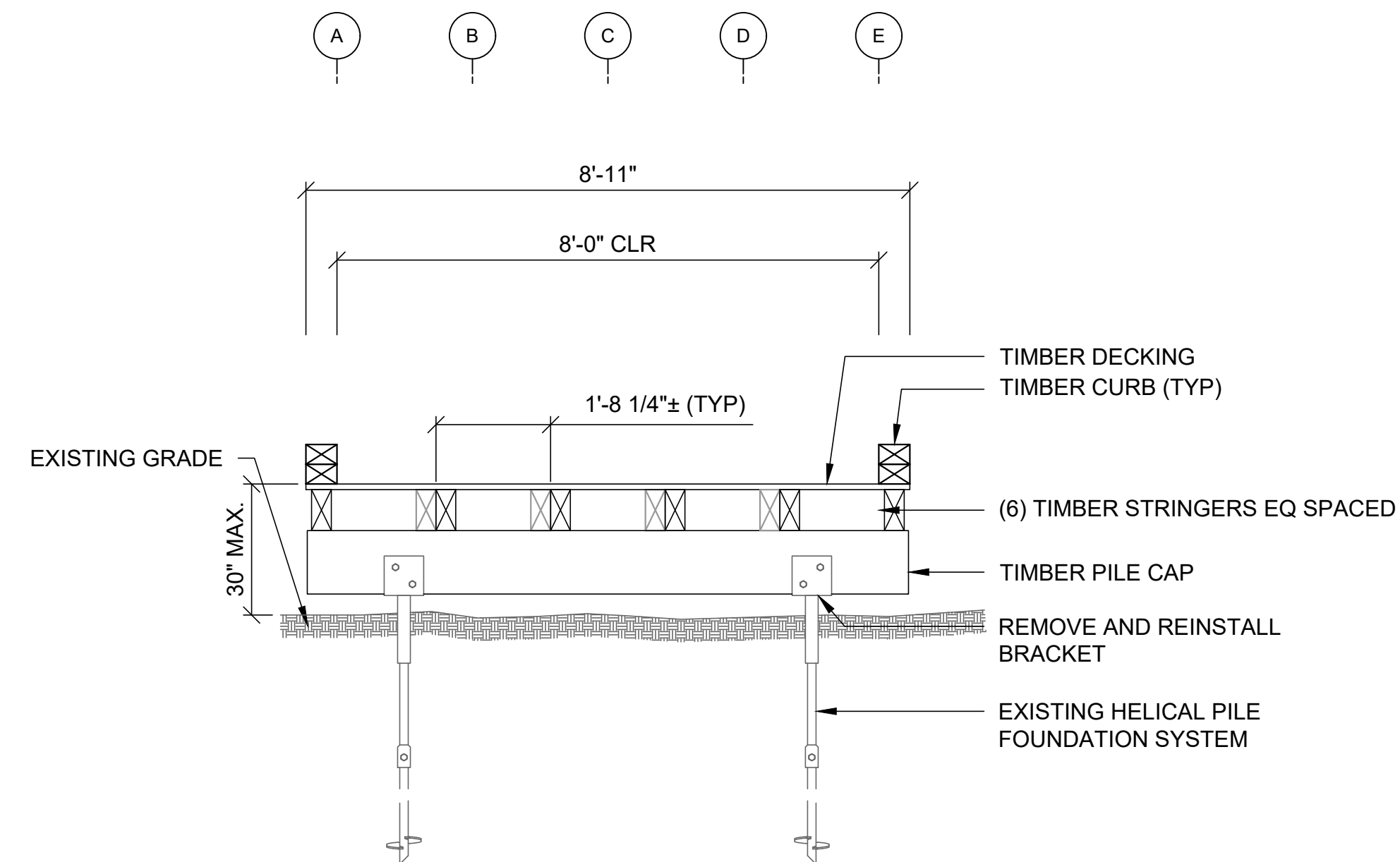
C SECTION
C-101 BOARDWALK - HELICAL BRACING SCALE: 1/2" = 1'-0"
C-102
C-103



D SECTION
C-101 BOARDWALK AT EXISTING BATTER PILE SCALE: 1/2" = 1'-0"
C-103



E SECTION
C-103 BOARDWALK OVER WILDCAT CREEK BENTS C20 TO C21 SCALE: 1/2" = 1'-0"



SECTION
C-101 BOARDWALK WITH CURB (TYP) SCALE: 1/2" = 1'-0"
C-102
C-103

1/2" = 1'-0"
0 2 4
SCALE, FEET

Attention:
0 1"
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GEI Project 2408167



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BOARDWALK
RECONSTRUCTION**
310 MAIN STREET
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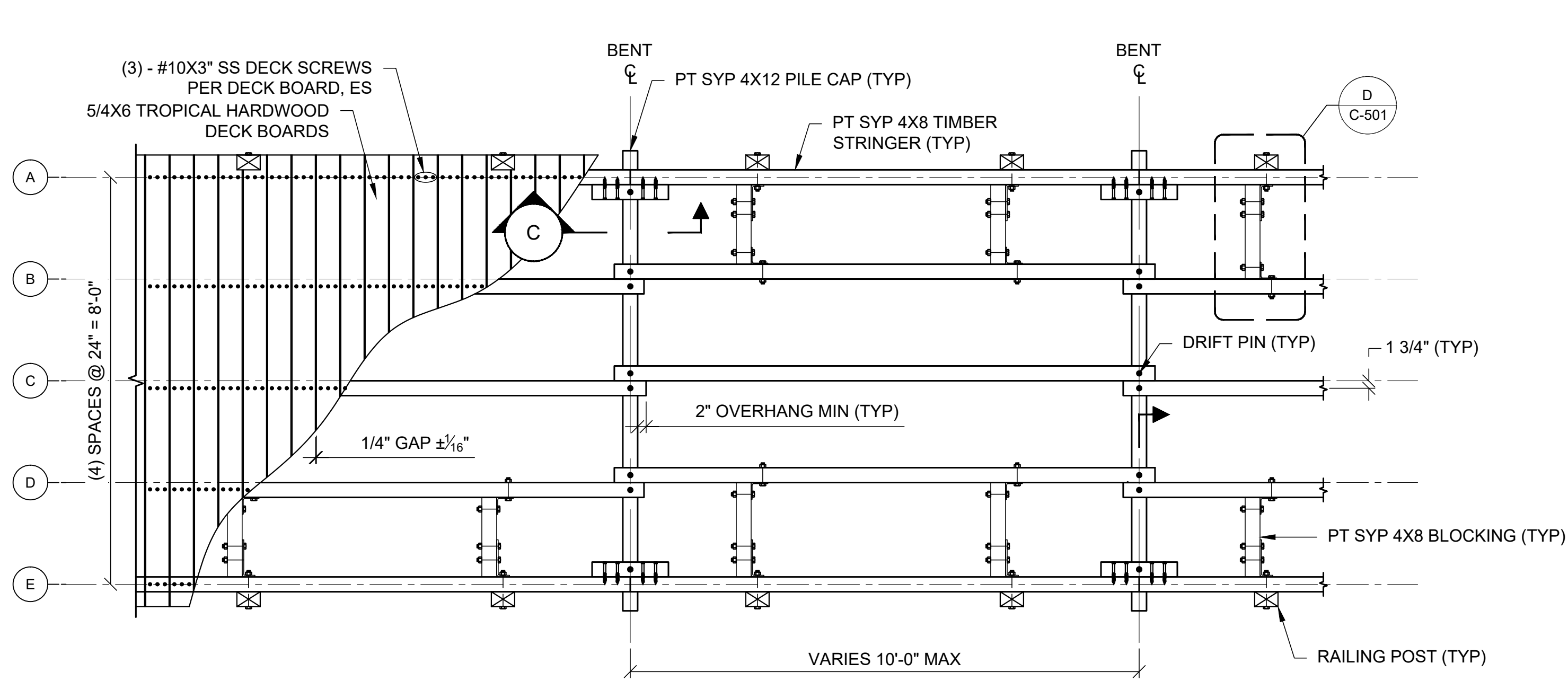
0	4/8/2025	FOR BID	ADP
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SHEET NAME
**BOARDWALK
RECONSTRUCTION
SECTIONS**

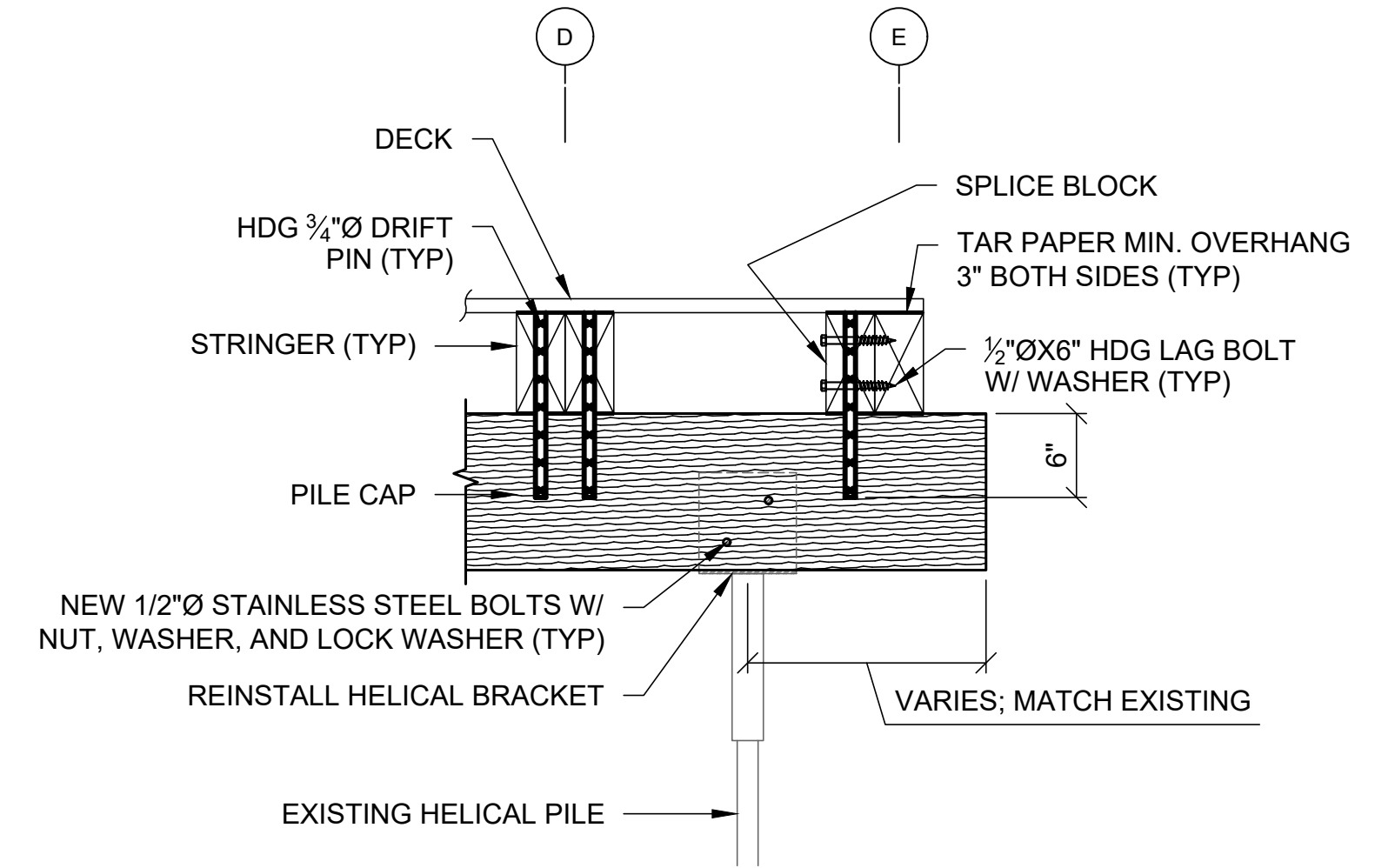
SHEET NO.

C-301

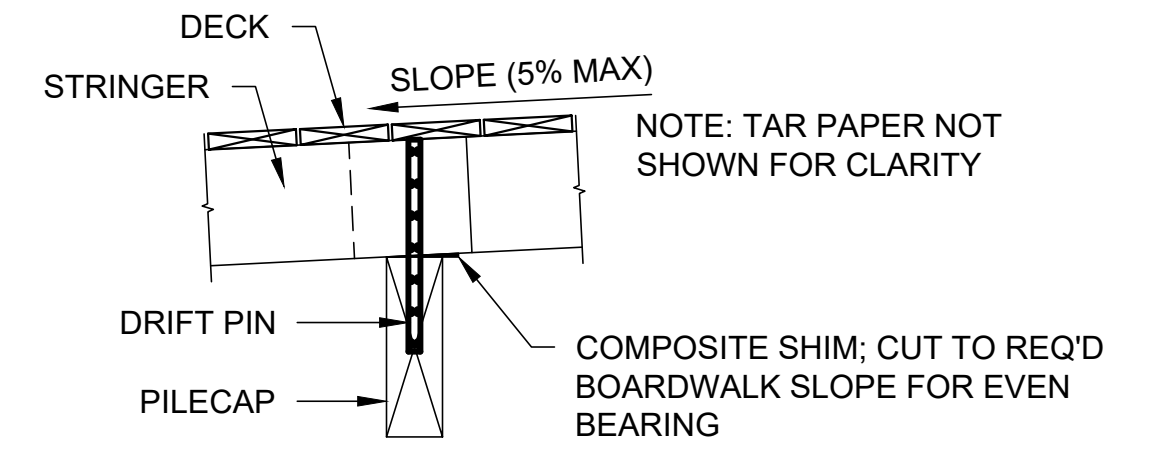
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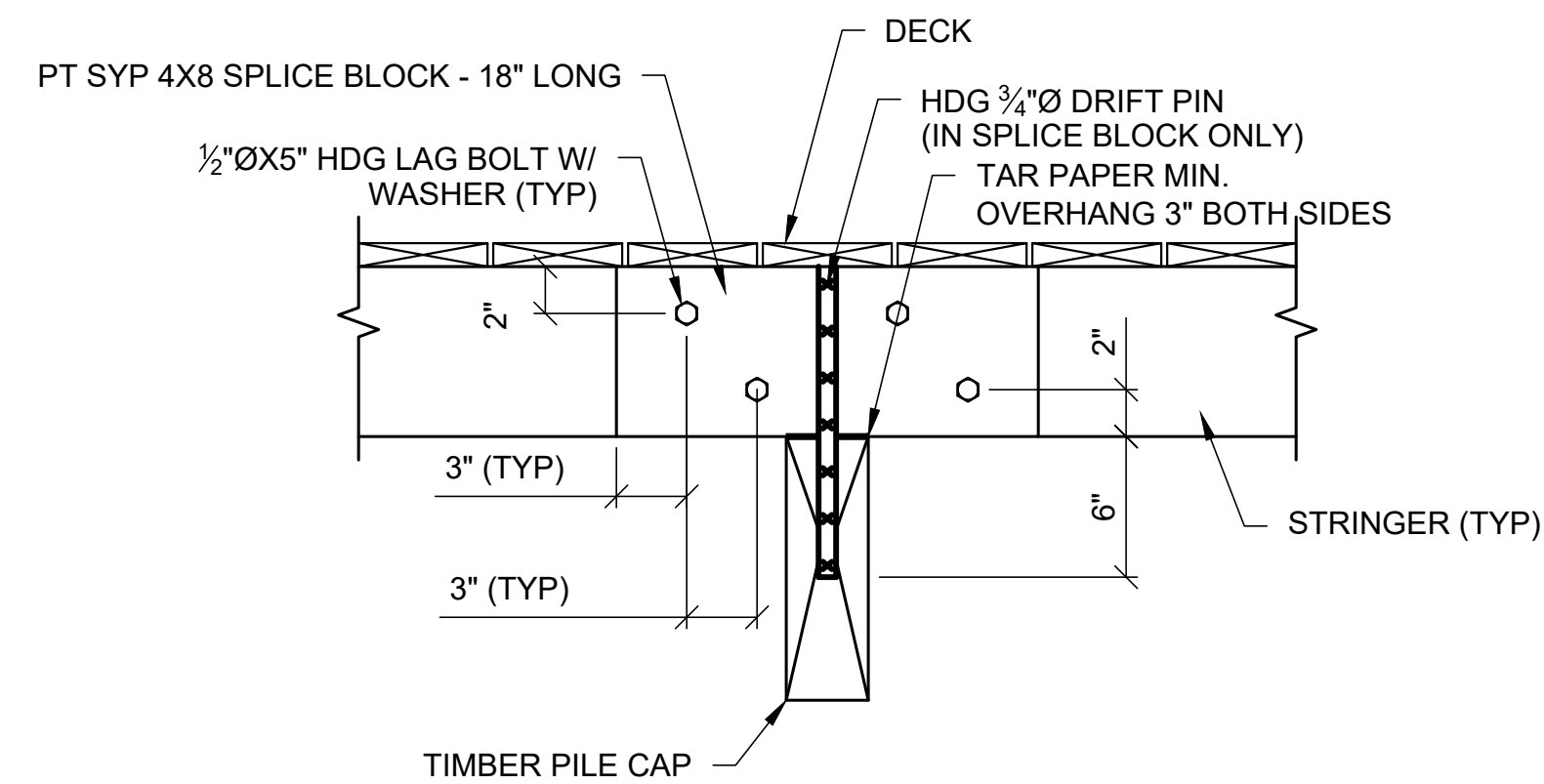
FRAMING PLAN
TYPICAL BOARDWALK
SCALE: 1/2" = 1'-0"



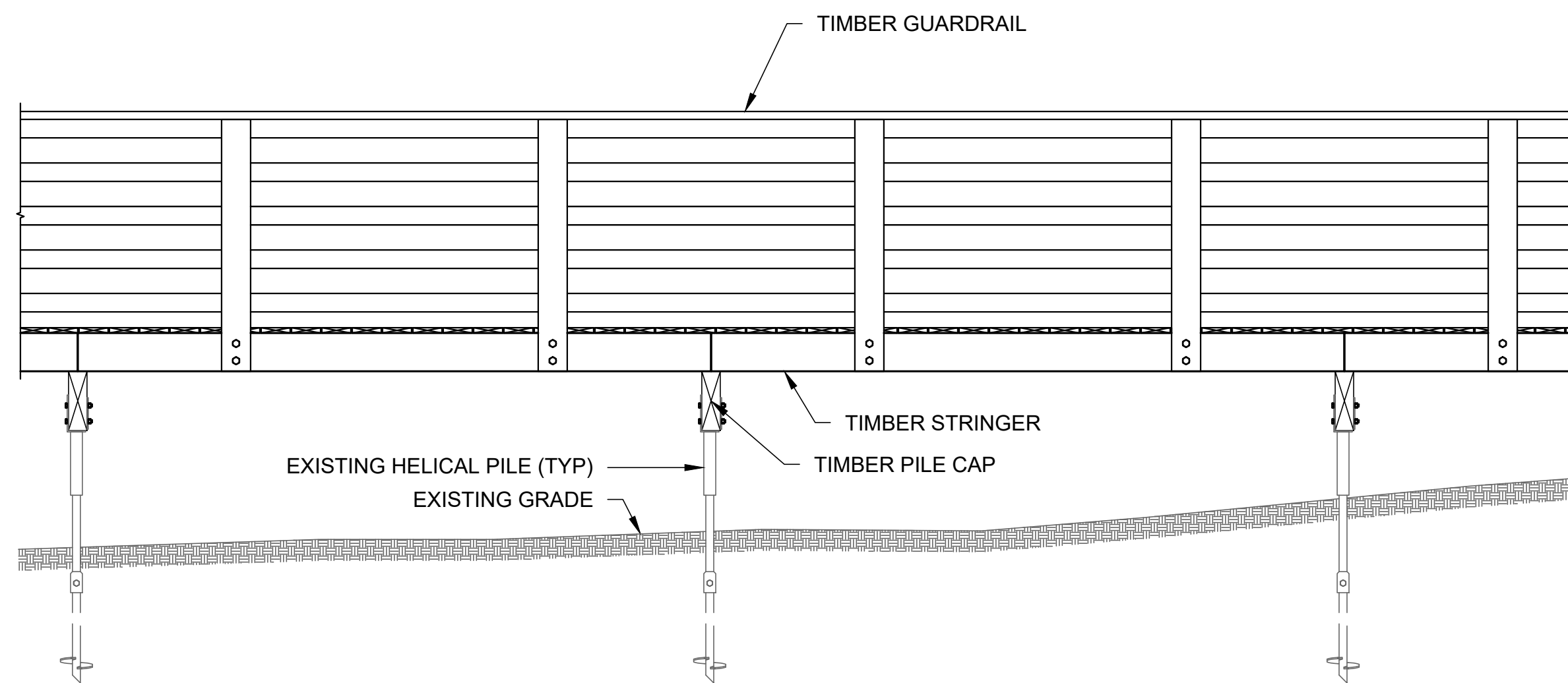
SECTION B
TIMBER BENT CONNECTION DETAILS
SCALE: 1" = 1'-0"



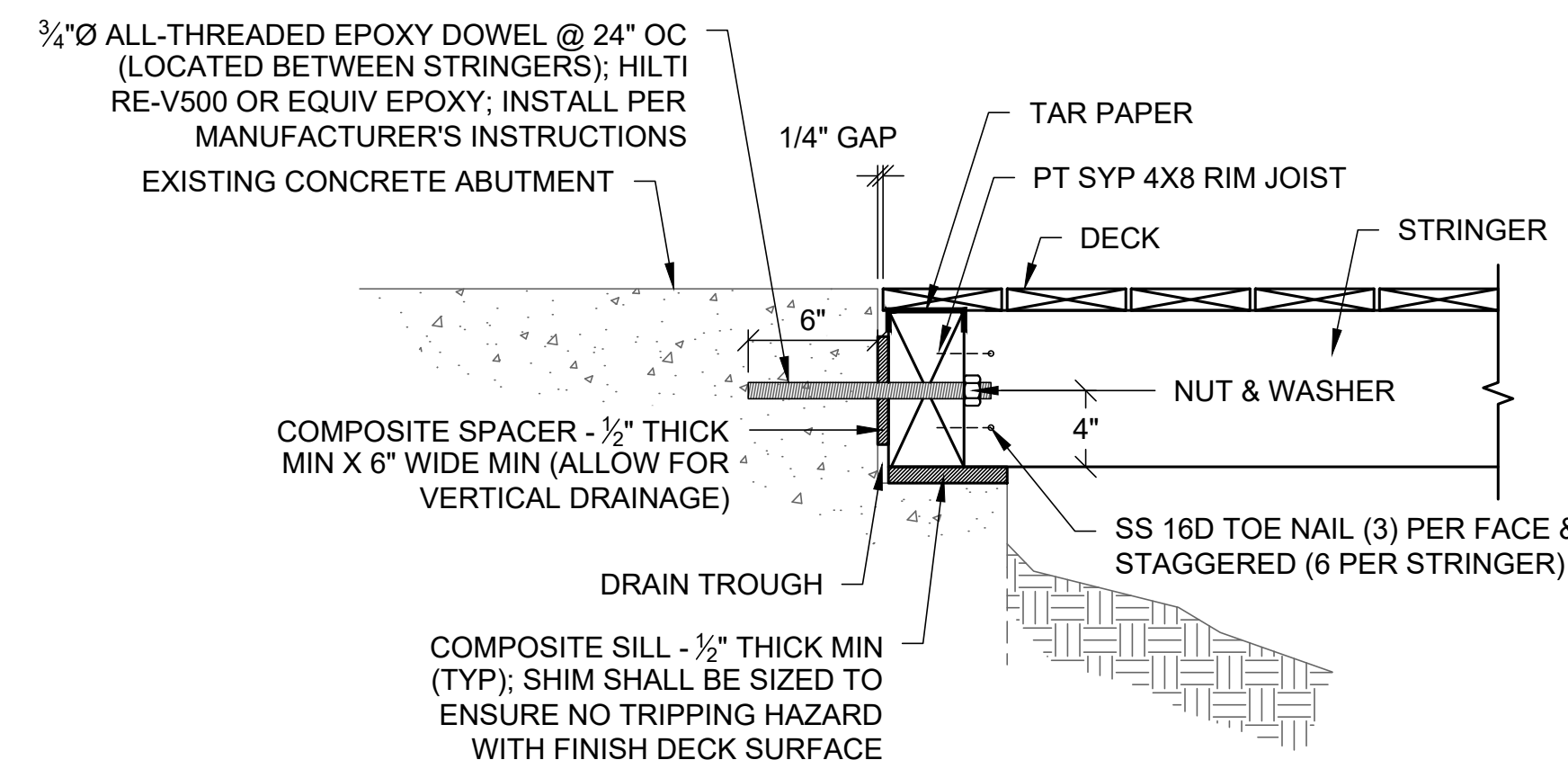
SECTION
SLOPED BOARDWALK -
STRINGER TO PILE CAP CONNECTION (TYP)
SCALE: 1" = 1'-0"



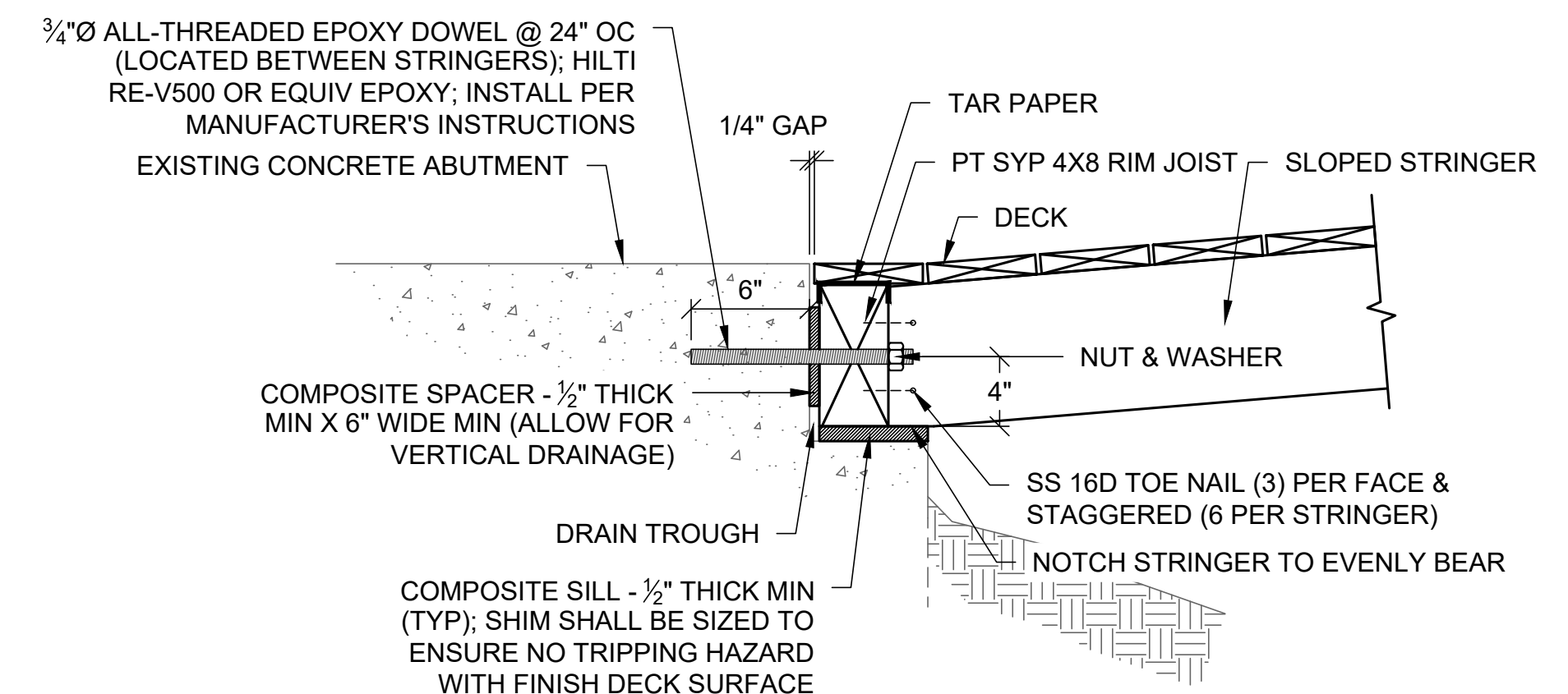
SECTION C
EXTERIOR STRINGER SPLICE
SCALE: 1-1/2" = 1'-0"



SECTION B
ELEVATION
TYPICAL BOARDWALK
SCALE: 1/2" = 1'-0"



SECTION
ABUTMENT CONNECTION DETAILS (TYP)
SCALE: 1-1/2" = 1'-0"



SECTION
SLOPED TRANSITION
SCALE: 1-1/2" = 1'-0"

1/2" = 1'-0"
0 2 4
SCALE, FEET

1-1/2" = 1'-0"
0 1 2
SCALE, FEET

Attention:
0 1"
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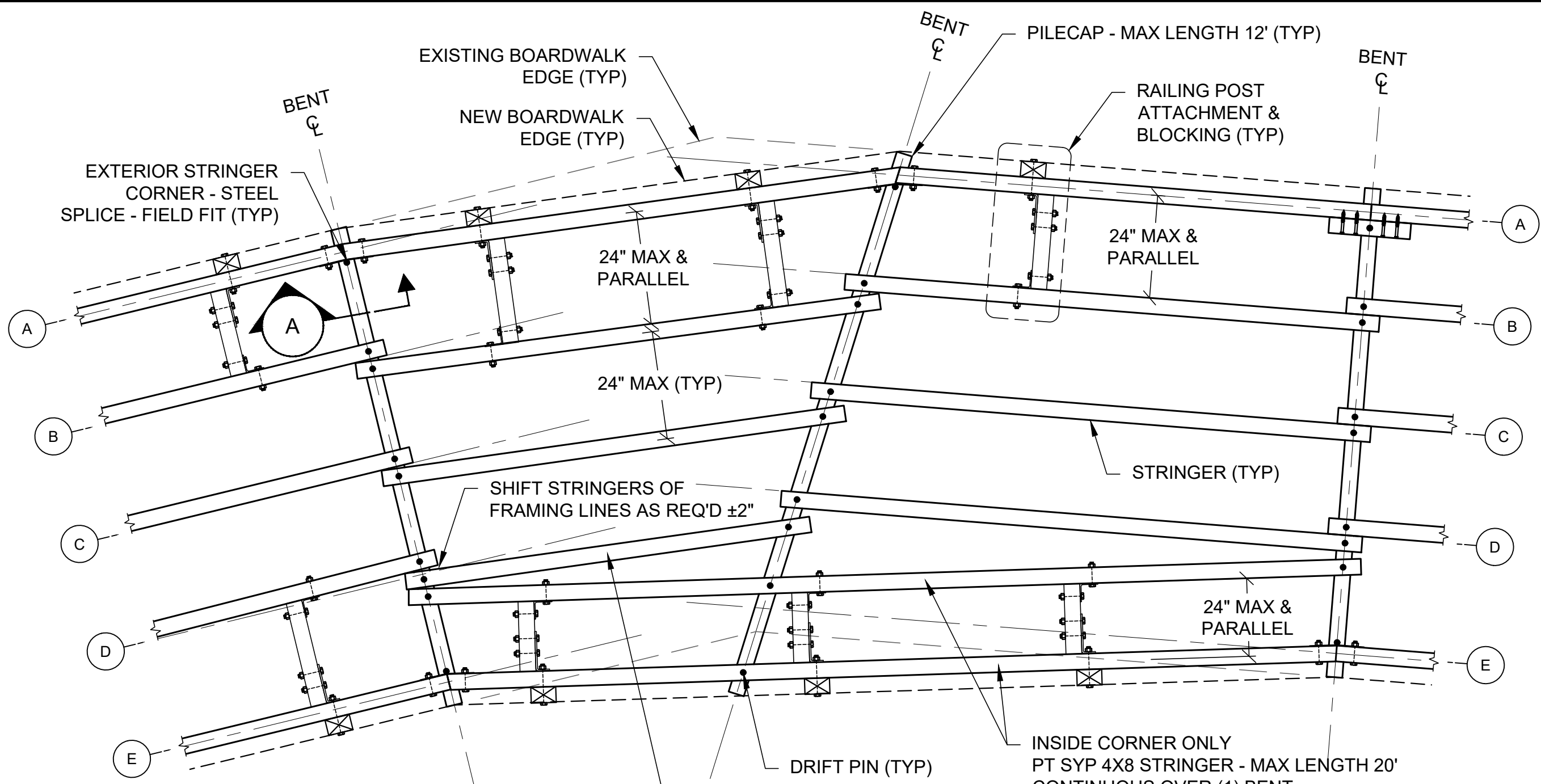
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SHEET NAME
**BOARDWALK DETAILS
SHEET 1 OF 2**

FOR BID

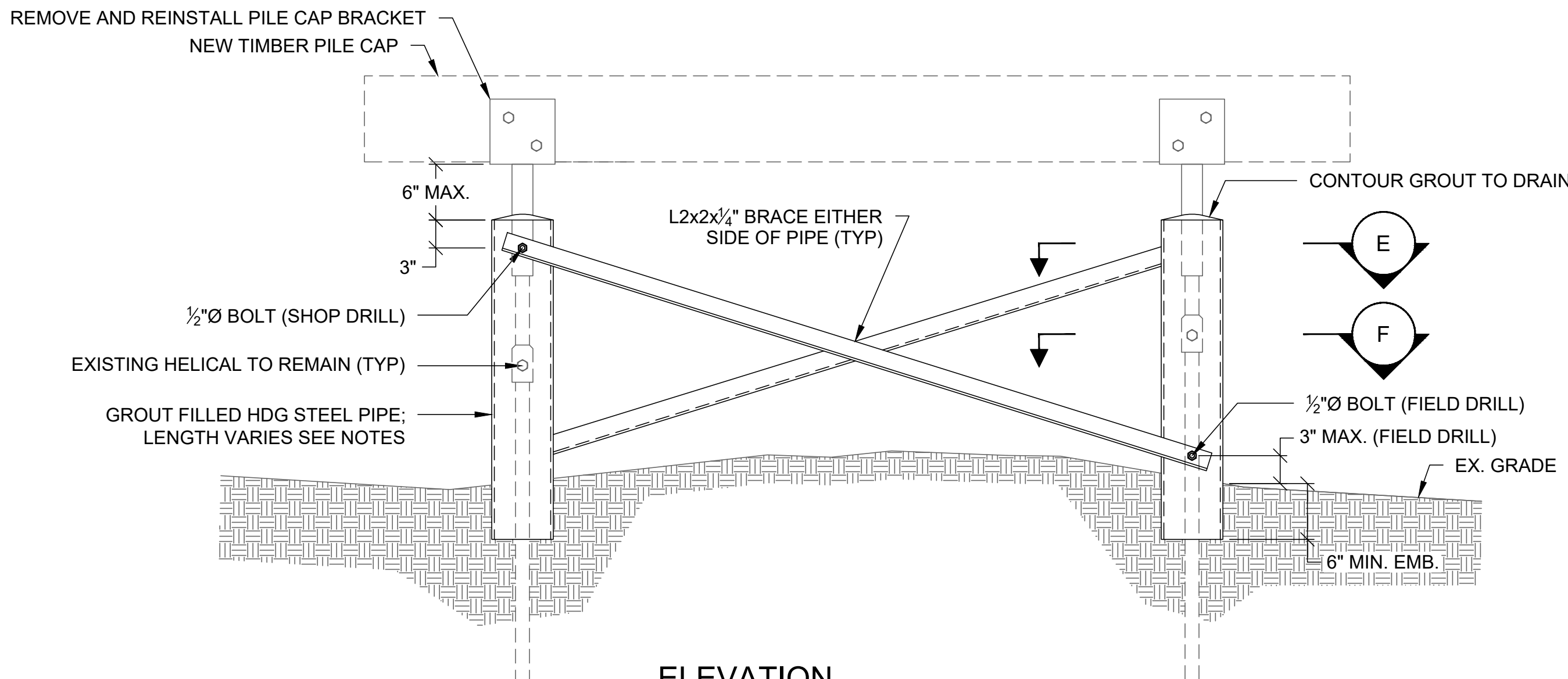
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C-501

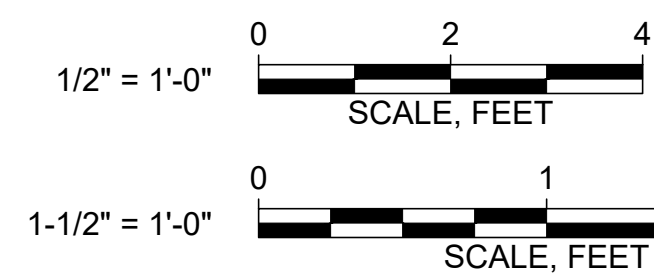


- NOTES:
1. THE FRAMING PLAN SHOWN IS CONCEPTUAL AND SHOULD BE USED AS A GUIDE FOR FRAMING BOARDWALK CORNERS. THE CONCEPTS AND RULES PROVIDE ON THIS PLAN SHALL BE IMPLEMENTED AT THE CORNERS IDENTIFIED ON THE PLANS. NOTE, NOT ALL CORNERS WILL REQUIRE SUPPLEMENTARY AND CONTINUOUS STRINGERS.
 2. THE CONTRACTOR SHALL CONSIDER THE INTENT OF THIS DETAIL AND IMPLEMENT IT INTO THE WORK, WHICH IS TO "SOFTEN" THE CORNERS AND PROVIDE BETTER ACCESS (TURNING RADII) FOR THE TOWN OF NORWELL MAINTENANCE VEHICLES.
 3. STEEL SPLICES SHALL BE USED FOR ALL EXTERIOR STRINGER SPLICES AT CORNERS OF THE BOARDWALK.
 4. LENGTHS PROVIDED FOR THE STRINGERS AND PILE CAPS ARE MAXIMUM REASONABLY EXPECTED MATERIAL ORDER LENGTHS. INSTALLED LENGTHS WILL VARY SIGNIFICANTLY.
 5. FOR DETAILS NOT SHOWN, REFER TO THE TYPICAL FRAMING PLANS.
 6. COORDINATE THE FINAL CORNER LAYOUT WITH THE TOWN'S REPRESENTATIVE.
 7. IF CONFLICTS ARE ENCOUNTERED, SUCH AS TREES WITHIN THE NEW BOARDWALK FOOTPRINT, NOTIFY THE TOWN'S ENGINEER FOR DIRECTION.
 8. DECKING SHALL BE RIPPED AT A TAPER ALONG ITS LENGTH TO TURN THE CORNER. THE DECK BOARD WIDTH AT ANY POINT SHALL NOT BE LESS THAN 2-INCHES.

DETAIL
BOARDWALK CORNER FRAMING PLAN
SCALE: 1/2" = 1'-0"



ELEVATION
HELICAL PILE BRACING
SCALE: 1" = 1'-0"



Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



Designed: AJG
Drawn: AJG
Checked: ADP
Approved: ADP
P.E. No: 51177
GEI Project 2408167



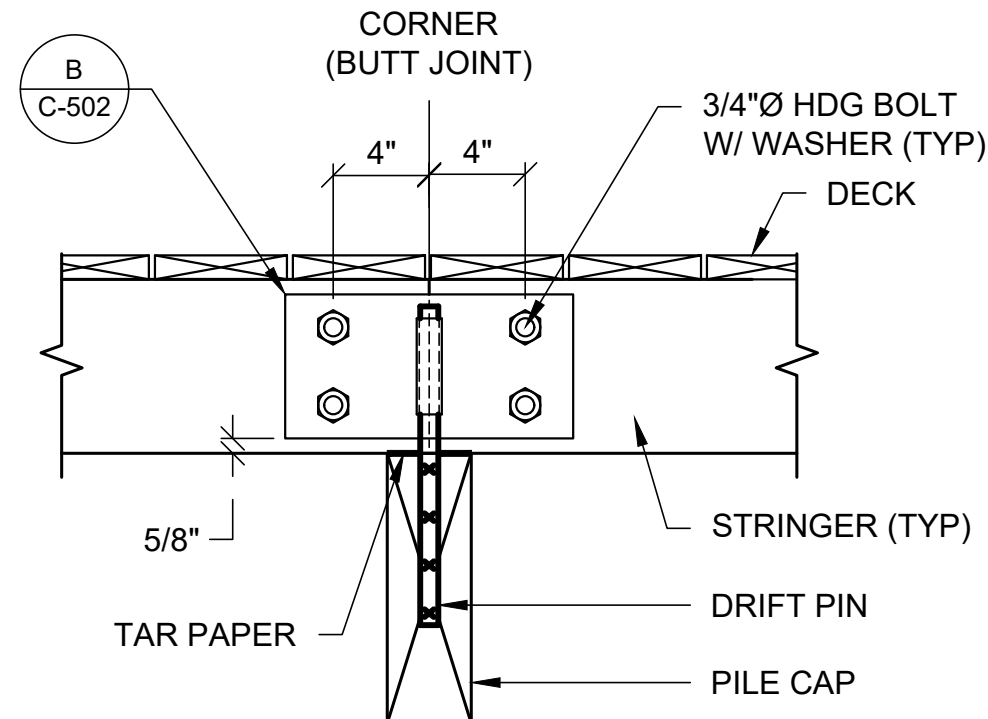
TOWN OF NORWELL
345 MAIN STREET
NORWELL, MA
02061

NORWELL
BOARDWALK
RECONSTRUCTION
310 MAIN STREET
NORWELL, MA
02061

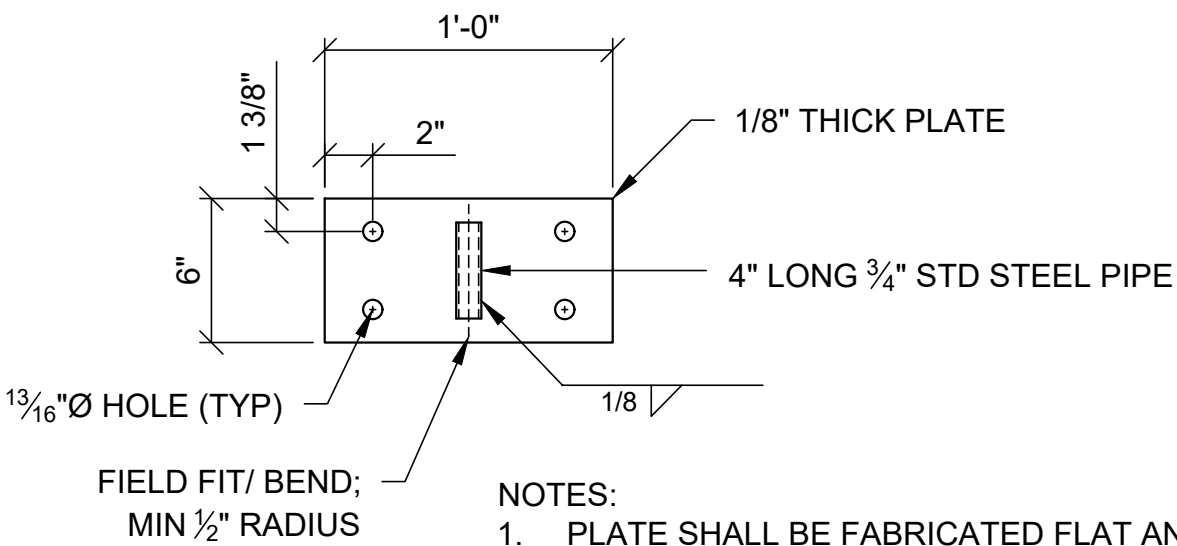
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NO	DATE	ISSUE/REVISION	APP

SHEET NAME
BOARDWALK DETAILS
SHEET 2 OF 2

FOR BID
SHEET NO.
C-502

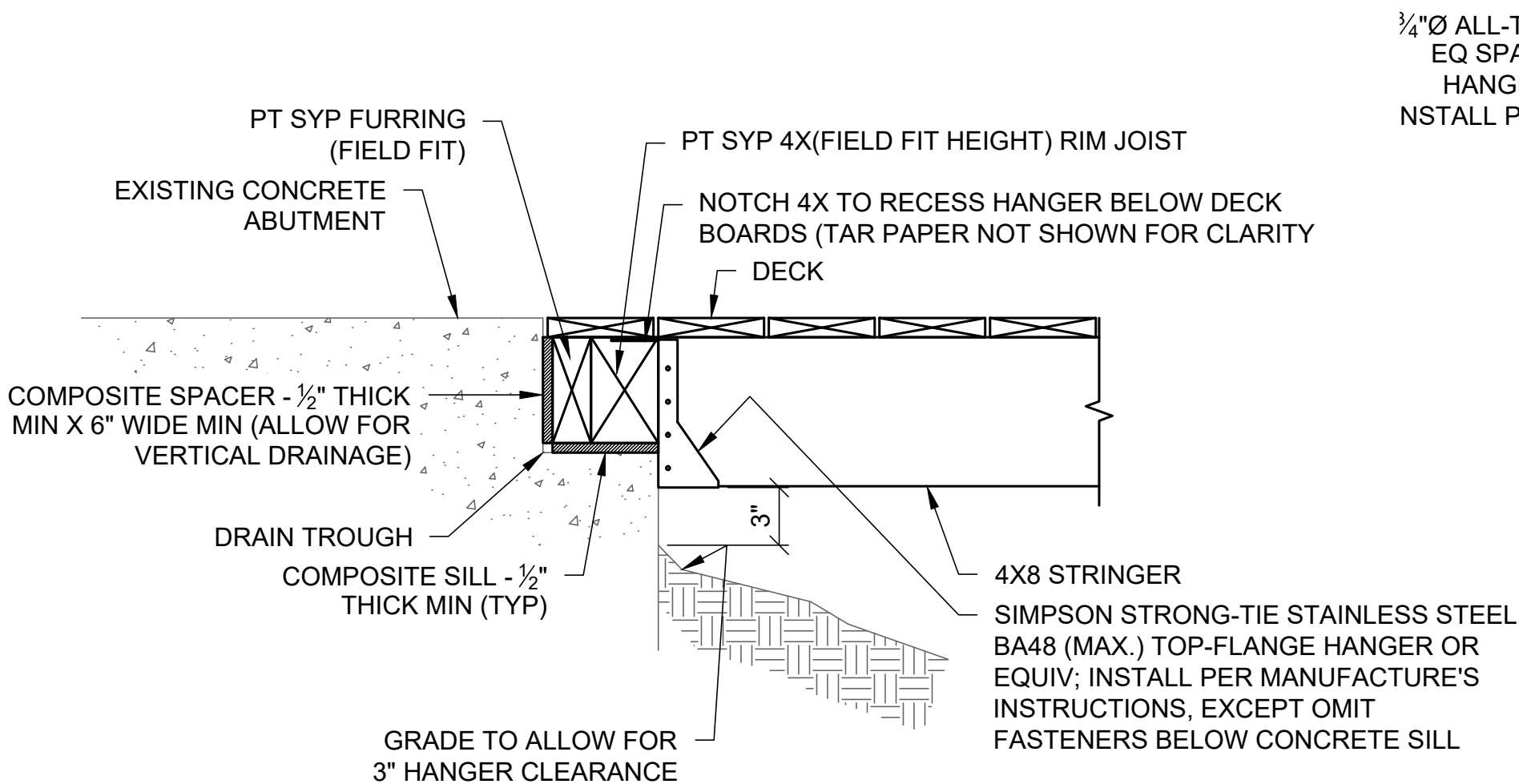


SECTION
EXTERIOR STRINGER - CORNER SPLICE
SCALE: 1-1/2" = 1'-0"

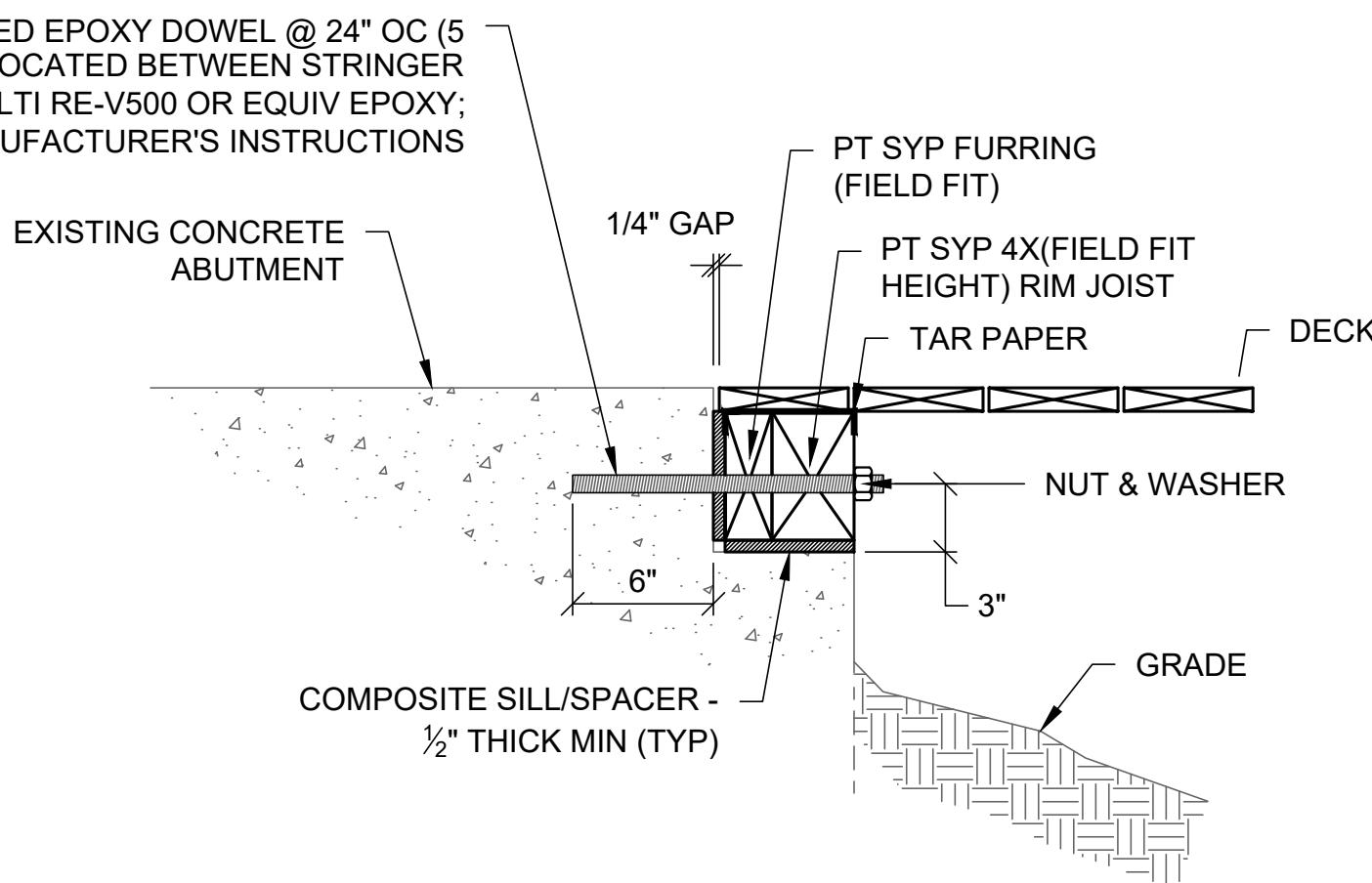


- NOTES:
1. PLATE SHALL BE FABRICATED FLAT AND FIELD BENT TO REQUIRED CORNER ANGLE.
 2. ASSEMBLY SHALL BE HOT-DIPPED GALVANIZED.
 3. REPAIR COATING WITHIN 1" OF THE BEND RADII WITH A HIGH ZINC COLD-GALVANIZATION COMPOUND AND ANY OTHER AREAS DAMAGED BY FIELD BENDING.
 4. CONTRACTOR SHALL USED A CONTROLLED METHOD TO BEND THE PLATE IN THE FIELD, SUCH AS A SHEET METAL BREAK PRESS.

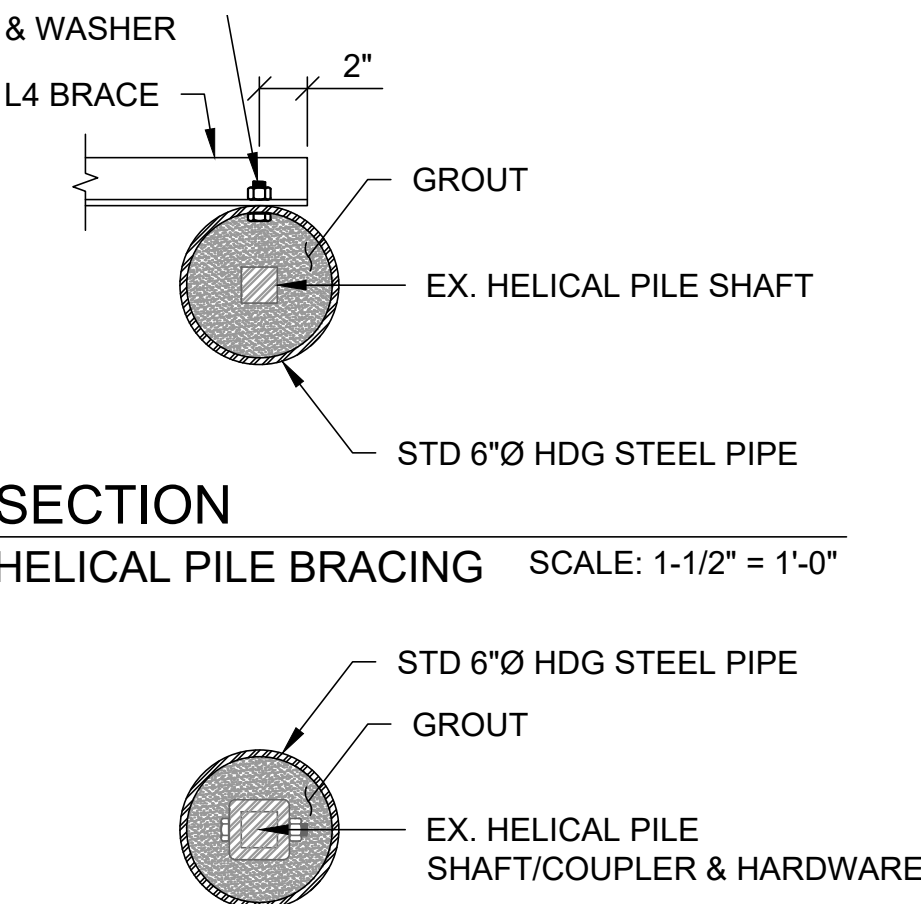
DETAIL
EXTERIOR STRINGER - STEEL SPLICE
SCALE: 1-1/2" = 1'-0"



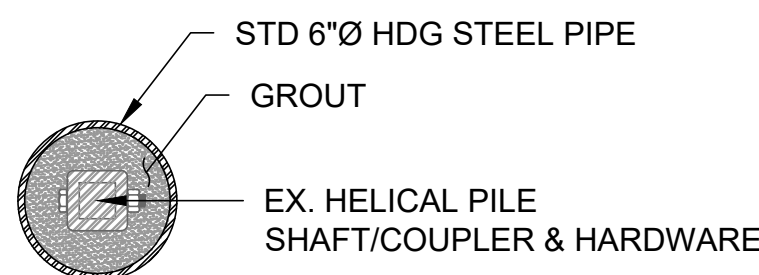
SECTION
C-101 WEST ABUTMENT CONNECTION - AT STRINGER
SCALE: 1-1/2" = 1'-0"



SECTION
D-101 WEST ABUTMENT CONNECTION
SCALE: 1-1/2" = 1'-0"

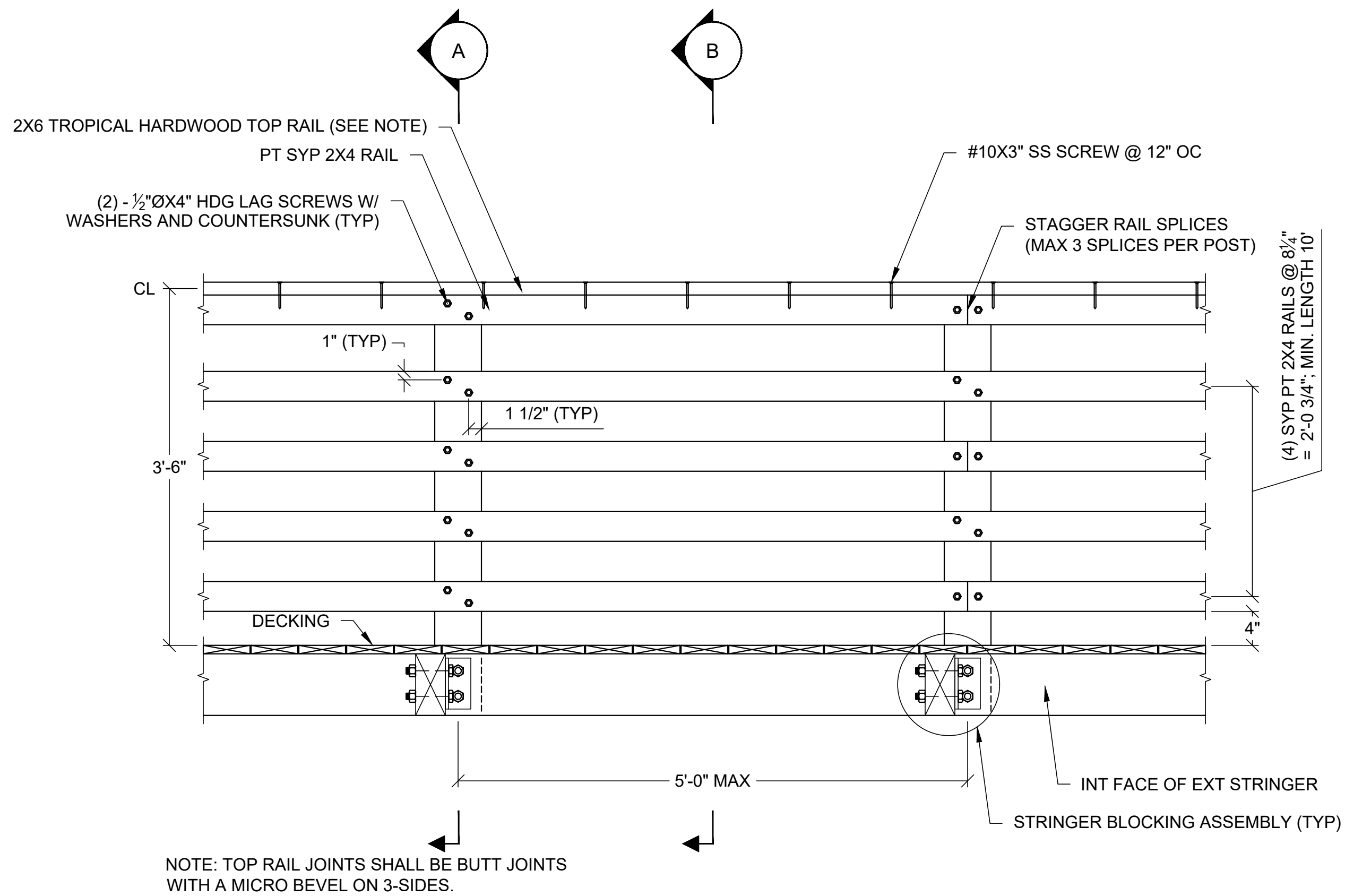


SECTION
HELICAL PILE BRACING
SCALE: 1-1/2" = 1'-0"

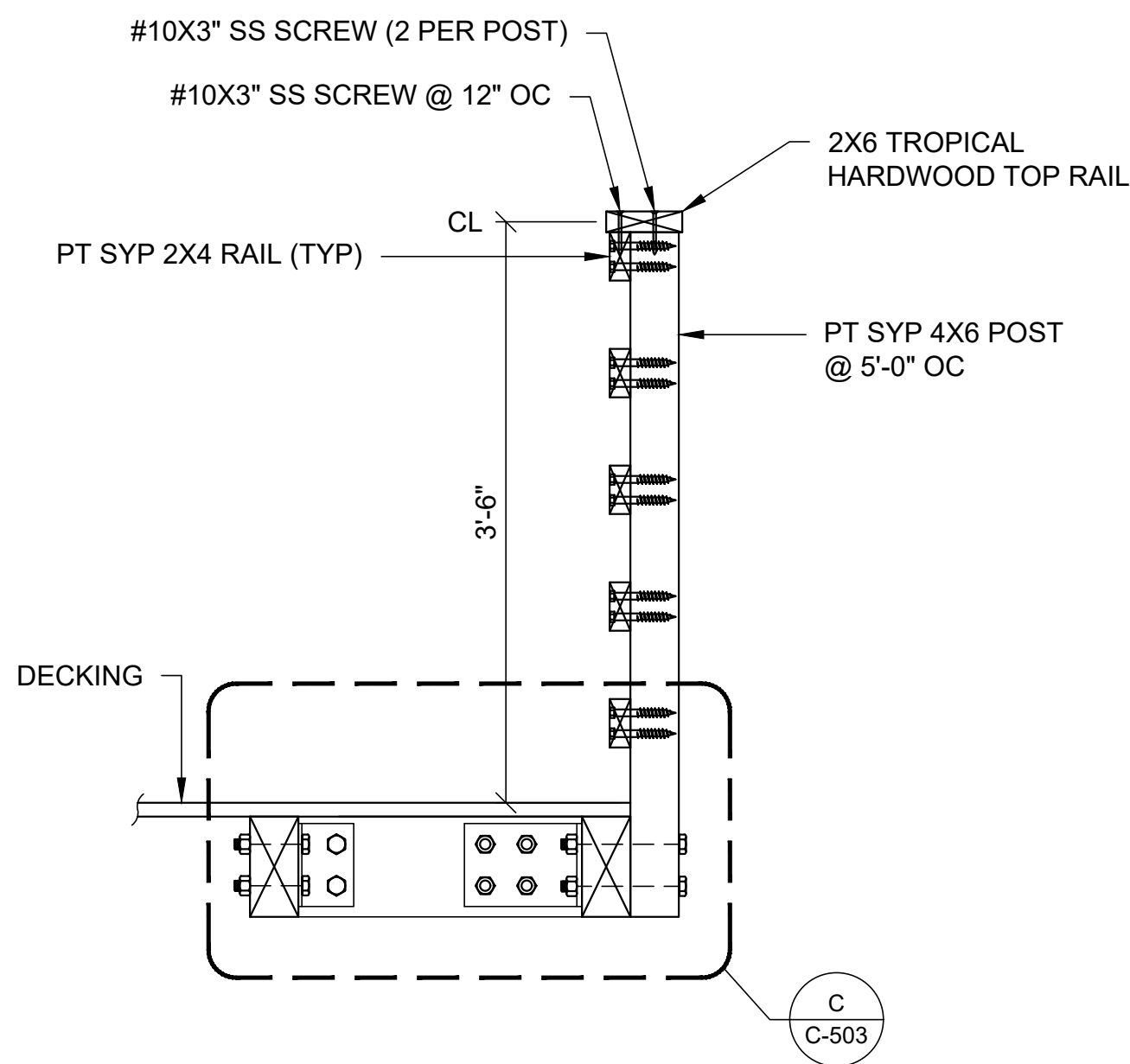


SECTION
HELICAL PILE BRACING
SCALE: 1-1/2" = 1'-0"

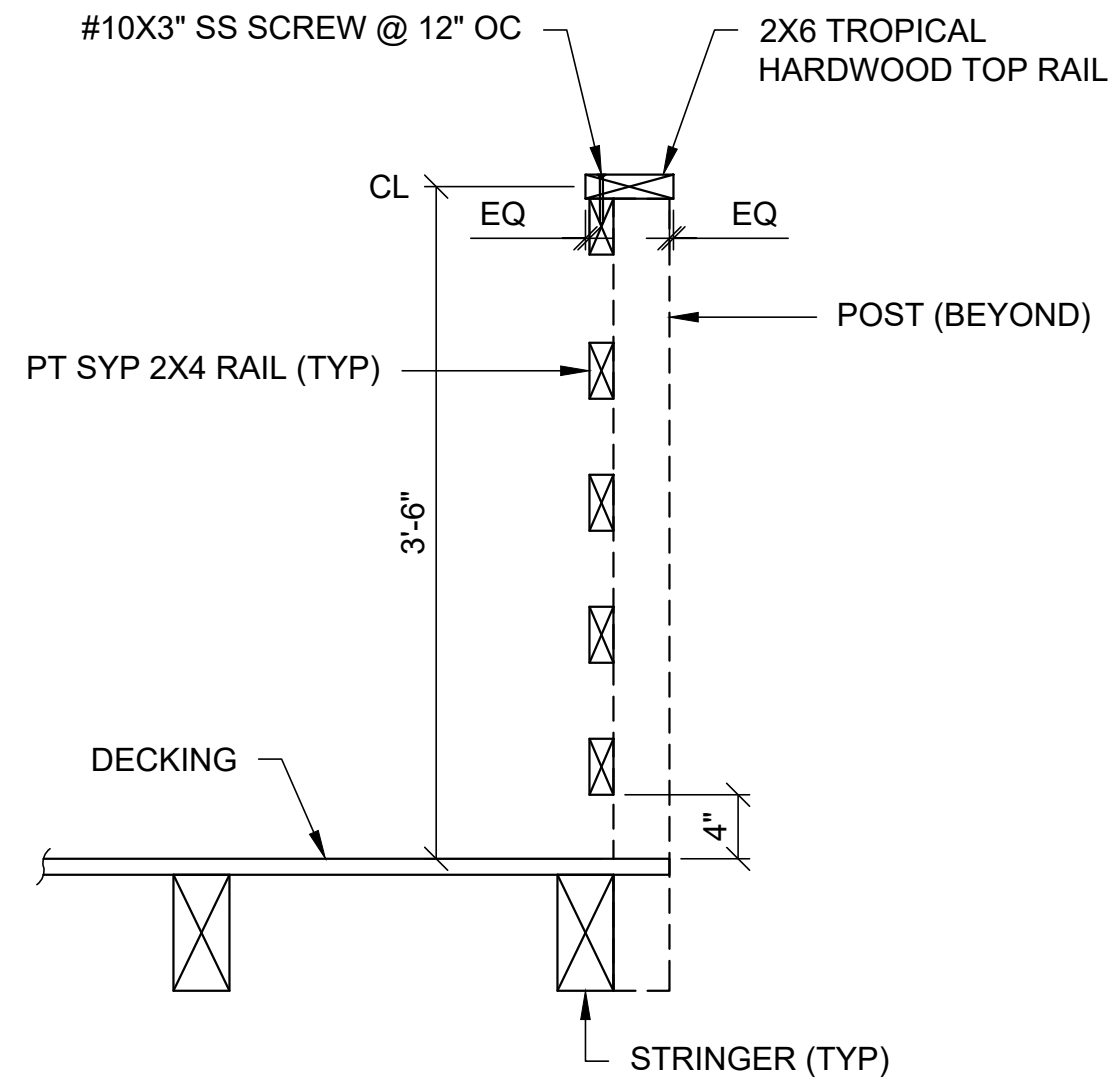
- HELICAL PILE BRACING NOTES:
1. ALL STEEL SECTIONS AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
 2. REPAIR LENGTHS WILL VARY. IT SHALL BE THE CONTRACTOR'S OPTION TO MAKE FIELD CUTS/HOLES AS FOLLOWS:
 - 2.1. LENGTH OF PIPE MAY BE CUT TO LENGTH IN THE FIELD. FIELD CUT END SHALL BE EMBEDDED IN THE GROUND.
 - 2.2. UPPER BOLT HOLES FOR BRACING SHALL BE SHOP DRILLED. LOWER BOLT HOLE MAY BE FIELD DRILLED.
 - 2.3. BRACING ANGLES MAY BE FIELD CUT. ONE END SHALL HAVE A SHOP DRILLED HOLE FOR BOLTING. POSITION CUT END AT TOP OF PIPE.
 3. ALL CUT ENDS AND DRILLED HOLES SHALL BE TOUCHED UP WITH TWO COATS OF ZINC RICH, MINIMUM 95% ZINC BY WEIGHT, COLD-GALVANIZING COMPOUND. PREPARE SURFACE AND APPLY PER MANUFACTURER'S INSTRUCTIONS.
 4. BRACING REQUIRED WHERE FINISHED BOARDWALK ELEVATION IS GREATER THAN 36" ABOVE THE GROUND SURFACE (UNDERSIDE OF HELICAL BRACKET TO GRADE IS ~18"). BRACING MAY BE OMITTED IF A HELICAL BATTER PILE IS PRESENT (REINSTALL BRACKET).



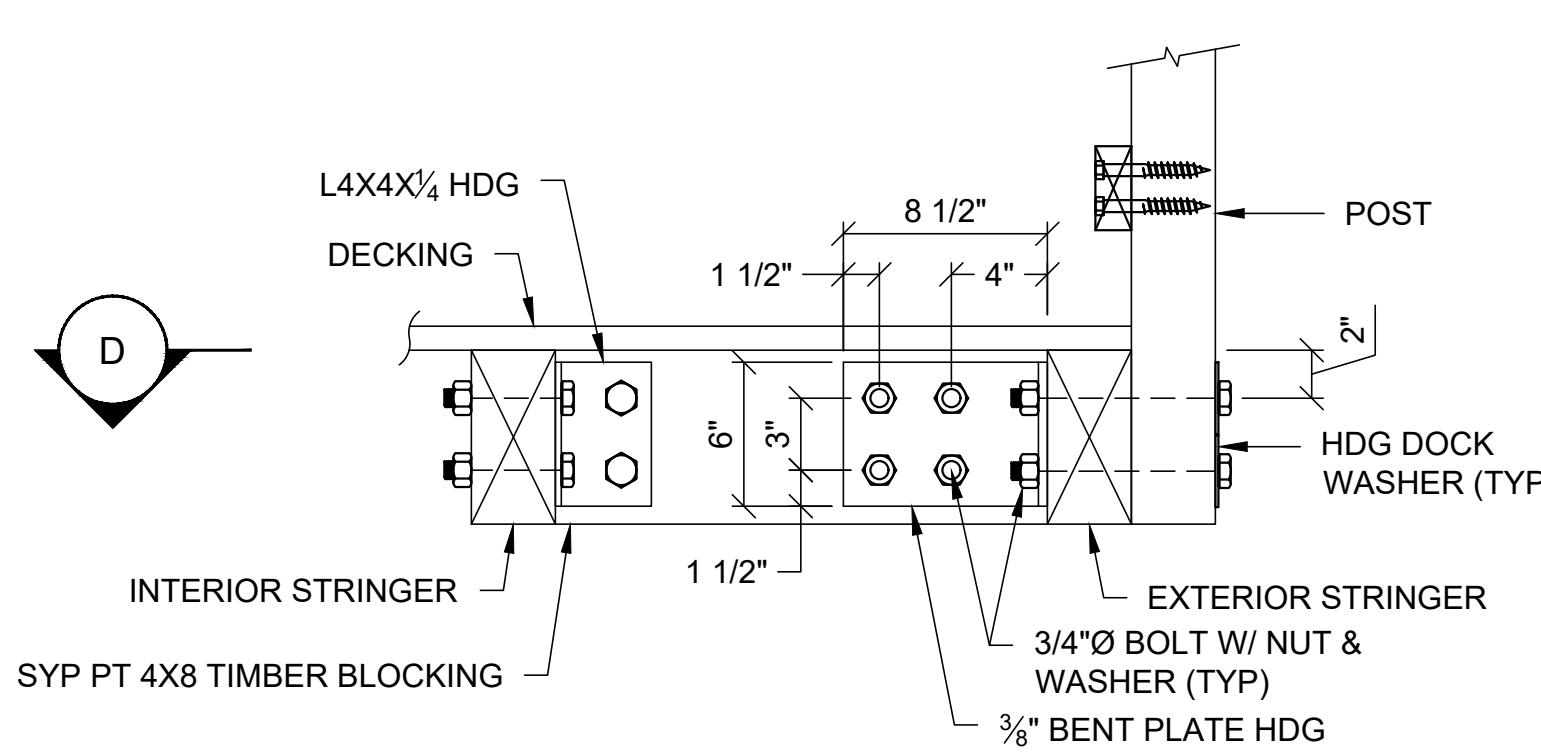
ELEVATION
GUARDRAIL INBOARD FACE SCALE: 1" = 1'-0"



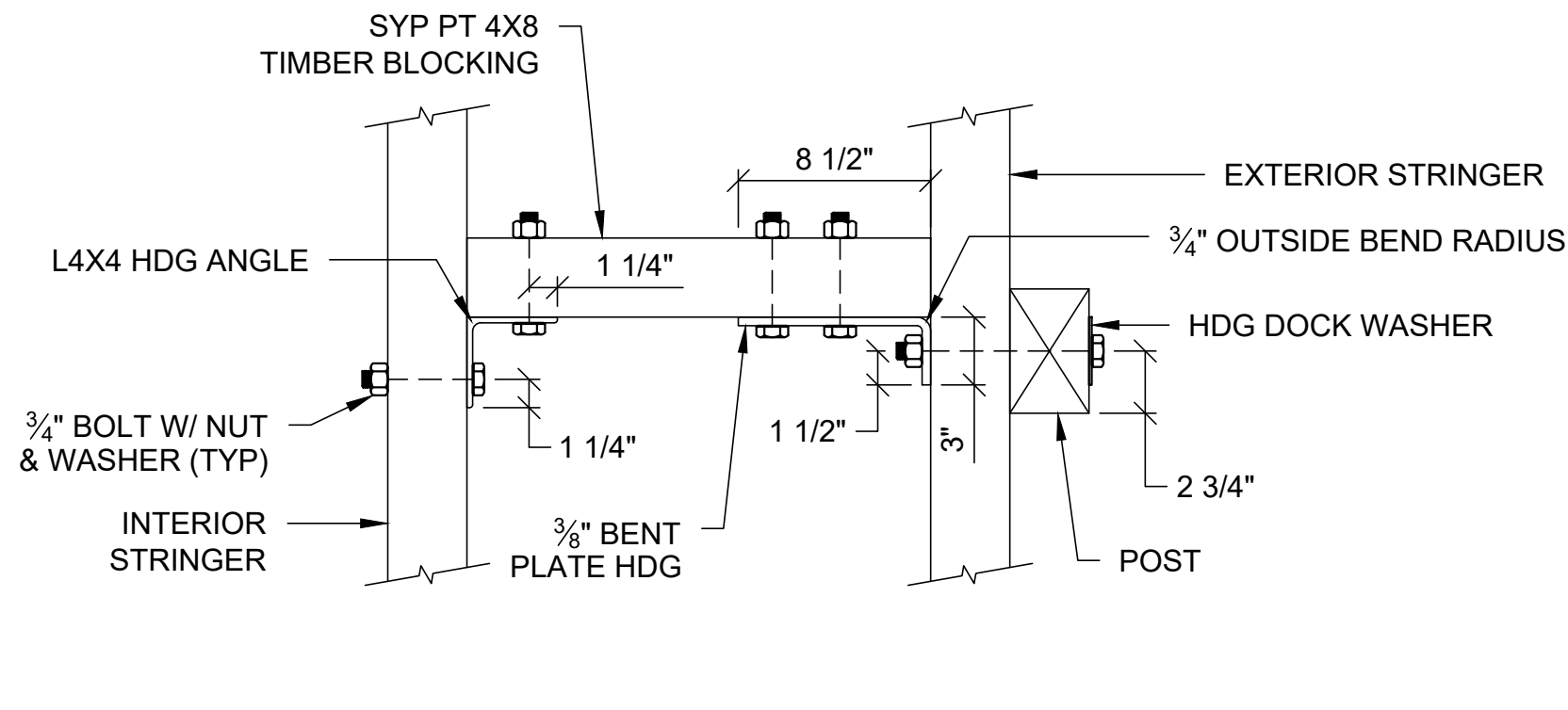
A SECTION
GUARDRAIL AT POST SCALE: 1" = 1'-0"



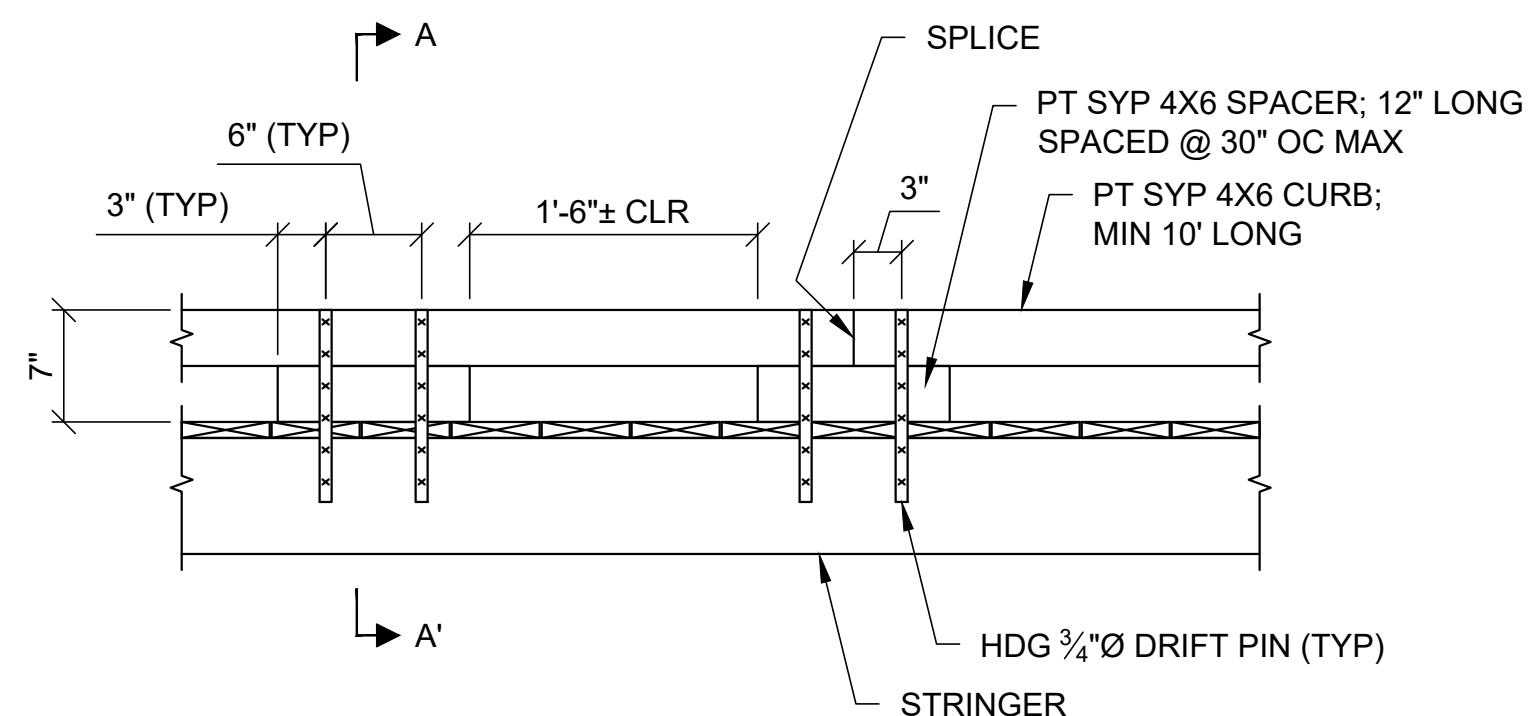
B SECTION
GUARDRAIL BETWEEN POSTS SCALE: 1" = 1'-0"



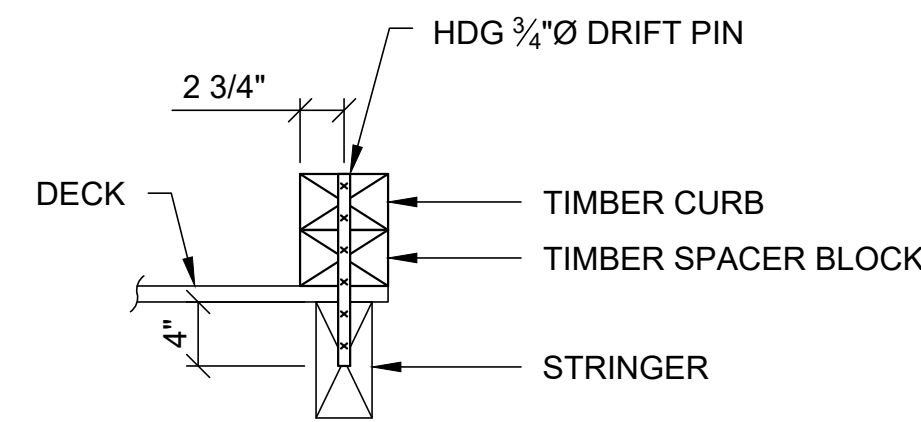
C DETAIL
POST CONNECTION SCALE: 1-1/2" = 1'-0"



C-501 DETAIL
POST CONNECTION PLAN SCALE: 1-1/2" = 1'-0"

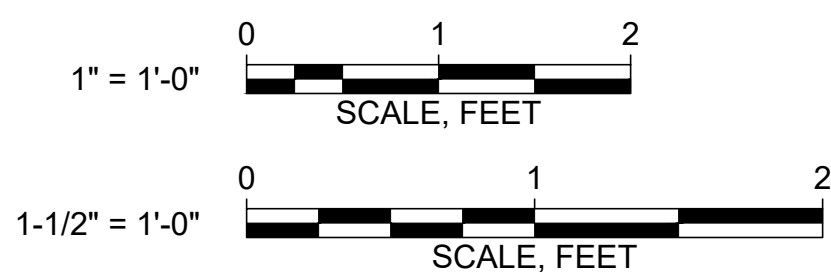


FOR FUTURE CONSIDERATIONS ONLY - NOT USED
DETAIL
TIMBER CURB SCALE: 1" = 1'-0"



SECTION A-A'

FOR BID



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BOARDWALK
RECONSTRUCTION**
310 MAIN STREET
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0	4/8/2025	FOR BID	ADP
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
**GUARDRAIL & CURB
DETAILS**

SHEET NO.

C-503