



State of Delaware
Department of Natural Resources and Environmental Control
Delaware Division of Parks and Recreation
89 Kings Highway
Dover, Delaware 19901

ADDENDUM No. TWO

Project Name: Holts Landing Boardwalk & Trail Improvements
 Holts Landing State Park

Project No.: HL-10C

Date of Issue: February 20, 2019

Notice No. 2: Attach this addendum to the Project Manual for this project. It modifies and becomes part of the Bidding Documents. Work or material not specifically mentioned herein is to be as described in the main body of the specification and as shown on the drawings.

Bids Due: Wednesday, February 27, 2019 at 2:00 PM
 DNREC Division of Parks and Recreation
 Richardson and Robbins Building, **Auditorium**
 89 Kings Highway
 Dover, DE 19901

Drawings

1. Plan Sheet C301: Added Project Notes and Legend
2. Plan Sheet C308: Note revision to the Pultruded Fiberglass Decking

Specifications

1. New Section 0041131 – Revised Sub-contractor List Form

Questions

1. Can section 015000 Temporary Facilities and Controls be modified as to not needing a field office? Maybe maintenance building could be used for meetings with Parks staff.
A: Yes, a field office is not required for this project.

2. Can a 8" dia. silt Sox as per sheet SSMP502 detail # DE-ESC-3.1.7 be used instead of the 18" dia. as per sheet # C301, Item legend note #4?

A: Yes, an 8 inch diameter Compost Filter Log is allowed instead of the 18 inch Compost Filter Log.

3. Please clarify as to the LF of trails that are in the base bid. Plan sheet C301 Project Note # 1. , 1.3 has 629' of trail along southern edge of existing parking lot. Note # 2 (addendum #1) the base bid shall include an additional 1200' trail. Now is this 1200' trail in addition to the 629' trail?

A: Yes, the 1200 L.F. of gravel trail noted in Addendum #1 is in addition to the 629 L.F. of trail already identified on the Contract Plans.

4. List of unit prices, Project Manual, sheet # 012200-2, Unit Price #3 - Additional Gravel Trail. Description: Install 1200LF of 4' wide trail adjacent to the existing parking lot. Now is this the 3rd trail at the parking lot, but 4' wide? Right now it looks like we have a 629'x5', a 1200' x 5' and a additional 1200'x4' all at the southern side of existing parking lot. Please clarify.

A: All gravel trails are to be constructed 5 feet wide.

5. We are all metals fabricators and have applied as MBE/WBE application with state already waiting for approval..we are interested to work for above project as subcontractors with the companies who are bidding for this project. So we are requesting for the list of Companies who holds the plans for this project.

A: The list of attendees at the Pre-Bid Meeting is posted on the State web site. A list of contractors holding plans is not typically provided.

6. The plans should provide locations of **Traverses (with coordinates) and Benchmarks** for construction stakeout/cut sheet preparations.

A: All alignments are based on the State Plane Coordinate System and are coordinately correct. The edge of the existing parking lot at Alignment #5 shall serve as control for the boardwalk.

7. The plans should provide **elevation profiles** along proposed alignments 1,2,3,4 & 5.

A: Alignments 1, 2, and 3 are to be constructed per detail A on Sheet C301, following existing grade. Alignments 4 and 5 are to be constructed using the elevation shown on Sheet C307, using the Parking Lot as a starting elevation for Alignment 5 and using an 18 foot long 12:1 slope from existing grade to reach the starting elevation of the boardwalk.

8. Will design engineer release the **CAD file** for this project?

A: Yes, AutoCAD files will be released to the successful bidder after award of the contract.

9. Walt I got a call from one of the contractors asking if a revised bid form with the sub contractors list will be issued.

A: The Subcontractors List is included with this Addendum.

10. Spec Section 015000 Note 0, Fence Enclosure. Will this be required?

A: The contractor is responsible for providing a physical barrier around any excavation to prevent the public from accessing the construction.

11. Spec Section 015000 Security Enclosures. Will this be required?

A: See answer to Question #10.

12. Drawing C306 shows Split Rail Fence for Alternate No. 1. The Bid Form saying Alternate No. 1 is Helical Load Testing. Need confirmation.

A: Refer to the Bid Form for correct numbering of all Alternates.

13. Drawing C305 references 7 on C307, there is no detail 7 on C307. Please advise.

A: Refer to Detail 4 on Sheet C308.

14. Drawing C308 states to use grey or brown grating. Will grey be acceptable? There is an upcharge for brown.

A: Strike "brown" from the plans and specifications. All pultruded decking shall be grey in color.

15. Looking for bidders list for the above project. Possibly from the sign in sheet for the pre-bid meeting

A: Please refer to Question #5.

End of Addendum No. Two



HOLTS LANDING BOARDWALK & TRAIL IMPROVEMENTS
HOLTS LANDING STATE PARK
DIVISION OF PARKS AND RECREATION CONTRACT No. 2018-HL-200

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.**

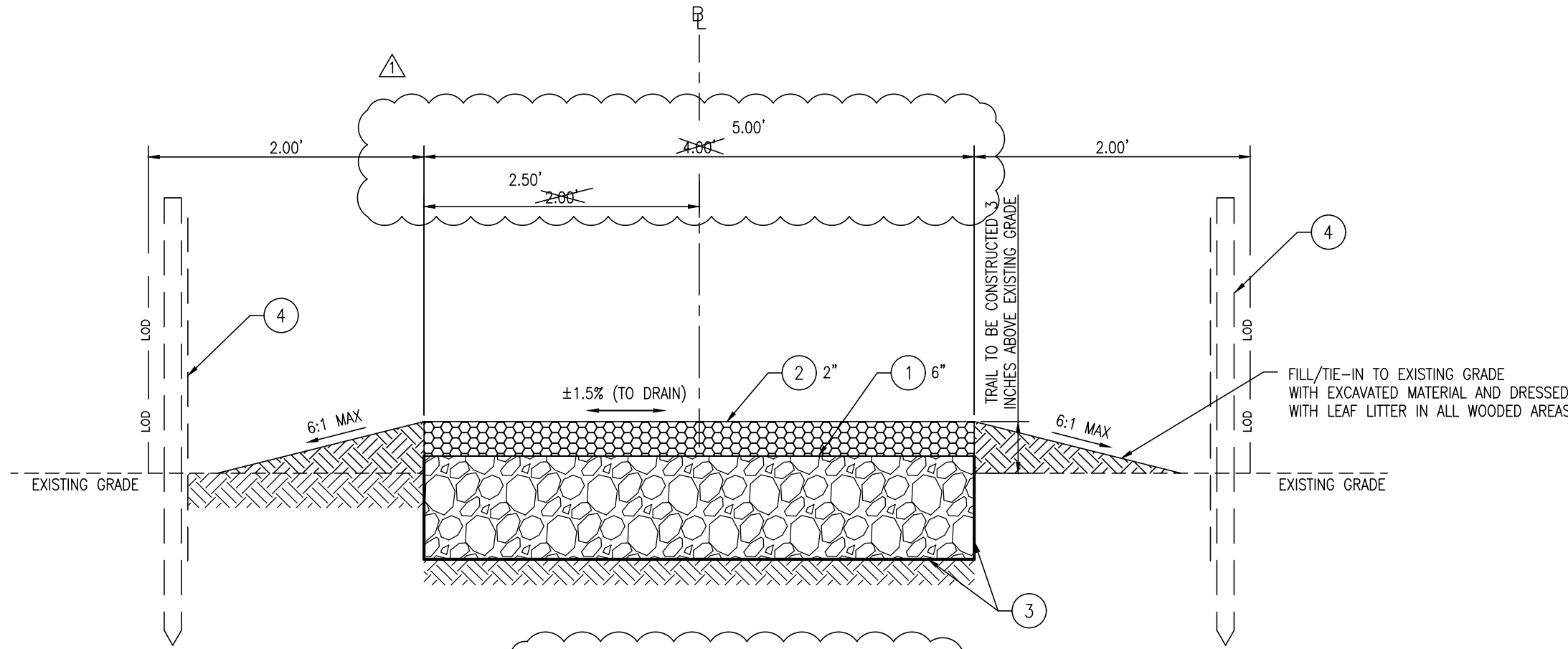
Subcontractor Category	Subcontractor	Address (City & State)	Subcontractors tax payer ID # or Delaware Business license #
1. Site Work	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
2. Carpentry	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
3. Helical Piles	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
4.	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
5.	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
6.	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
7.	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
8.	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>

PROJECT NOTES

- THE INTENT OF THIS PROJECT IS TO PROVIDE THE FOLLOWING IMPROVEMENTS AT THE HOLTS LANDING STATE PARK:
 - CONSTRUCTION OF 4,416 L.F. OF GRAVEL TRAIL IN PLACE OF THE EXISTING SEA HAWK TRAIL ALIGNMENT.
 - CONSTRUCTION OF 1,304 L.F. OF NEW GRAVEL TRAIL TO RELOCATE PORTIONS OF THE EXISTING SEA HAWK TRAIL.
 - CONSTRUCTION OF 629 L.F. OF NEW GRAVEL TRAIL ALONG THE SOUTHERN EDGE OF THE EXISTING PARKING LOT.
 - CONSTRUCTION OF ONE (1) 600' LONG BOARDWALK.
 - CONSTRUCTION OF ONE (1) 60' LONG BOARDWALK.
- THE BASE BID SHALL INCLUDE AN ADDITIONAL 1200 LINEAR FEET OF 5.0 FOOT WIDE GRAVEL TRAIL, AS SHOWN IN DETAIL C, THIS SHEET, TO BE CONSTRUCTED ADJACENT TO THE PARKING LOT AND LOCATED BY THE OWNER IN THE FIELD. THE OWNER SHALL BE RESPONSIBLE FOR ALL ADDITIONAL PERMITTING REQUIRED FOR THIS WORK. IN ADDITION THE CONTRACTOR SHALL PROVIDE A UNIT COST FOR THE ADDITIONAL 1200 LINEAR FEET OF GRAVEL TRAIL FOR INFORMATIONAL PURPOSES ONLY.
- THESE PLANS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE CURRENT EDITION OF THE "ACCESSIBILITY STANDARDS FOR FEDERAL OUTDOOR DEVELOPED AREAS".
- PARCEL AND BOUNDARY LINES REFERENCED FROM GIS INFORMATION. NO BOUNDARY SURVEY WAS REQUESTED OR PERFORMED FOR THIS PROJECT.
- THESE PLANS UTILIZE 2-FOOT LIDAR TOPOGRAPHY REFERENCED FROM THE STATE OF DELAWARE. CONVENTIONAL FIELD SURVEY WAS PROVIDED BY CENTURY ENGINEERING USING THE STATE PLANE COORDINATE SYSTEM FOR THE AREA OF THE PROPOSED 600' BOARDWALK ON THE NORTH END OF THE SITE LABELED AS NEW TRAIL ALIGNMENT #5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL ADDITIONAL PHYSICAL CONTROL AS REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
- EXISTING UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME THIS PLAN WAS DEVELOPED. COMPLETENESS OR CORRECTNESS OF THE UTILITIES SHOWN THEREOF IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AN UNDERGROUND UTILITY LOCATOR TO LOCATE AND MARK EXISTING UTILITIES WITHIN THE LIMIT OF DISTURBANCE PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL STAKE OUT THE ALIGNMENT FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. MINOR ADJUSTMENT IN THE ALIGNMENT AND/OR PROFILE MAY BE REQUIRED BY THE ENGINEER IN THE FIELD TO AVOID EXISTING FEATURES TO REMAIN, INCLUDING TREES, OR TO PROVIDE OPTIMUM ALIGNMENT. INDIVIDUAL TREES WERE NOT SURVEY LOCATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY RELOCATION OR SUPPORT OF ANY ELECTRICAL AND/OR COMMUNICATION LINES, AND ELECTRICAL/COMMUNICATION PEDESTALS THAT INTERFERE WITH THE PROPOSED WORK AT NO ADDITIONAL COST TO THE PROJECT, AS DIRECTED BY THE ENGINEER. WORK SHALL INCLUDE, BUT IS NOT LIMITED TO, EXCAVATION/TRENCHING, MATERIALS, AND ALL LABOR.
- PORTIONS OF THIS CONTRACT ARE TO BE CONSTRUCTED IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) DATED AUGUST 2016 INCLUDING ALL REVISIONS UP TO ADVERTISEMENT OF THIS PROJECT, UNLESS NOTED OTHERWISE IN THESE PLANS OR THE SPECIFICATIONS. ITEMS INCLUDING, BUT NOT LIMITED TO, ASPHALT PAVEMENT, AND EXCAVATION AND EMBANKMENT, ARE TO REFER TO THE "STANDARD SPECIFICATIONS" FOR MATERIALS AND METHOD OF CONSTRUCTION.
- LEAF LITTER SHALL BE PULLED BACK AND STOCKPILED AT THE EDGE OF THE LOD TO BE USED TO STABILIZE AND DRESS-UP EDGES/SHOULDERS FOLLOWING GRADING OF SHOULDERS.
- TOPSOIL SHALL BE STRIPPED, STOCKPILED, AND STABILIZED FOR FUTURE USE ON THIS PROJECT IN ACCORDANCE WITH THE DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK, CURRENT EDITION. STOCKPILE AREAS TO BE WITHIN HOLTS LANDING CREEK STATE PARK AT LOCATIONS SHOWN ON THESE PLANS, OR AT AREAS DETERMINED BY THE ENGINEER IN THE FIELD.
- EXCAVATED TOPSOIL SHALL BE USED AS SHOULDER MATERIAL ALONG ENTIRE LENGTH OF TRAIL. ADDITIONALLY, EXCAVATED MATERIAL AT NEW TRAIL CONSTRUCTION SHALL BE SPREAD ON PORTIONS OF THE EXISTING TRAIL(S) TO BE ABANDONED, EXCEPT IN LOCATIONS WHERE THE EXISTING TRAIL IS LOCATED WITHIN WETLANDS. EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF SITE.
- CLEARING AND GRUBBING IS ASSUMED TO EXTEND A MINIMUM OF EIGHTEEN (18) INCHES BELOW EXISTING GRADE FOR FOR ALL NEW PAVED AREAS. CLEARING AND GRUBBING WITHIN THE LIMITS OF DISTURBANCE (LOD) SHALL CONSIST OF CLEARING, GRUBBING, REMOVING AND DISPOSING OF ALL TREES, ROOTS, VEGETATION AND DEBRIS OFF SITE, UNLESS OTHERWISE INDICATED AND/OR EXCEPT SUCH OBJECT(S) THAT ARE DESIGNATED TO REMAIN.
- ALL TREE REMOVAL AND TREE TRIMMING WITHIN THE LIMITS OF DISTURBANCE, REGARDLESS OF SIZE, SHALL BE INCIDENTAL TO THE CONTRACT. INDIVIDUAL TREES ARE NOT SHOWN ON THE DRAWINGS BUT MAY BE REMOVED BY THE CONTRACTOR AS NECESSARY AND WITH APPROVAL OF THE ENGINEER WITHIN THE LIMITS OF DISTURBANCE. TREES GREATER THAN 6" IN DIAMETER SHALL BE FLAGGED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO REMOVAL. THE ENGINEER WILL NOT ACCEPT REMOVAL OF TREES INTENDED TO BE PROTECTED.
- TREES NOT DESIGNATED TO BE REMOVED SHALL BE PROTECTED FROM CONSTRUCTION EQUIPMENT AND COMPACTION OF SOIL WITHIN THE DRIP LINE BY MEANS OF 3'-0" HIGH SENSITIVE AREA PROTECTION (SAP) FENCE, AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.
- CROSS SLOPE OF ALL NEW WALKWAYS AND TRAILS SHALL NOT EXCEED A SLOPE OF 1:50. LONGITUDINAL SLOPES OF ALL NEW WALKWAYS AND TRAILS SHALL NOT EXCEED 1:20, UNLESS AS SHOWN ON THE CONTRACT PLANS.
- THE CONTRACTOR MAY STORE AND/OR STOCKPILE EQUIPMENT AND MATERIALS WITHIN THE PROJECT SITE LIMIT OF DISTURBANCE (LOD) SHOWN ON PLAN.
- THE CONTRACTOR IS ADVISED THAT CONTRACTOR EMPLOYEE PARKING SHALL BE LIMITED TO THE EXISTING PAVED PARK PARKING AREAS, UNLESS APPROVED BY THE ENGINEER. VEHICLE PARKING SHALL NOT BE ALLOWED ON UNPAVED AREAS.
- FEATURES NOT SPECIFICALLY DESIGNATED FOR DEMOLITION OR REMOVAL THAT ARE DAMAGED BY THE CONTRACTOR OR THE CONTRACTOR'S SUBCONTRACTORS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE. THE COST FOR REPAIRS OR REPLACEMENT SHALL BE ESTABLISHED BY THE STATE INSURANCE PROVIDER.
- NO CONSTRUCTION, EQUIPMENT, WORK, OR TEMPORARY FILLS SHALL BE ALLOWED WITHIN THE WETLANDS EXCEPT WITHIN THE LOD.
- TEMPORARY CONSTRUCTION MATING SHALL BE USED FOR ALL EQUIPMENT AND WORKER ACCESS WITHIN THE WETLANDS.
- THE LOC SHALL BE NO WIDER THAN 18'-0" WITHIN THE WETLANDS. THIS INCLUDES: THE PROPOSED 8' WIDE BOARDWALK, A 2' GAP, AND 8' WIDE TEMPORARY CONSTRUCTION MATING.
- ALL WORK WITHIN THE WETLANDS SHALL BE PERFORMED FROM MATING WITHIN THE LOD.
- WETLANDS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO MATCH ADJACENT AREA. WETLAND PLANTS SHALL BE PLANTED AS NOTED ON THE EROSION & SEDIMENT CONTROL PLANS.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY BARRICADES ON TRAILS AND AROUND EQUIPMENT TO DISCOURAGE ACCESS BY PARK PATRONS TO WORK AREAS. ADVANCE WARNING SIGNS SHALL BE PLACED AT TRAIL HEADS TO WARN PEDESTRIANS OF ANY TRAIL CLOSURES.
- SEGMENTS OF THE TRAIL ARE LOCATED WITHIN THE PREHISTORIC ARCHAEOLOGICAL SENSITIVITY-AREA AND SHALL BE MONITORED BY DNREC PERSONNEL DURING THE EXCAVATION AT THOSE LOCATIONS FOR THE PURPOSE OF COLLECTING DISPLACED ARTIFACTS AND TO LOOK FOR SUBSURFACE FEATURES, SO THAT THEY MAY BE EVALUATED AND DOCUMENTED AS APPROPRIATE. POTENTIAL FOR WORK STOPPAGE, IN THE EVENT THAT THE CONTRACTOR UNCOVERS ANYTHING REQUIRING FURTHER REVIEW FOR PRESERVATION, MAY OCCUR.
- TEMPORARY LAYDOWN, TURNAROUND AREAS, AND HAUL ROADS ARE TO BE VERIFIED IN FIELD BY DNREC PARKS STAFFS.

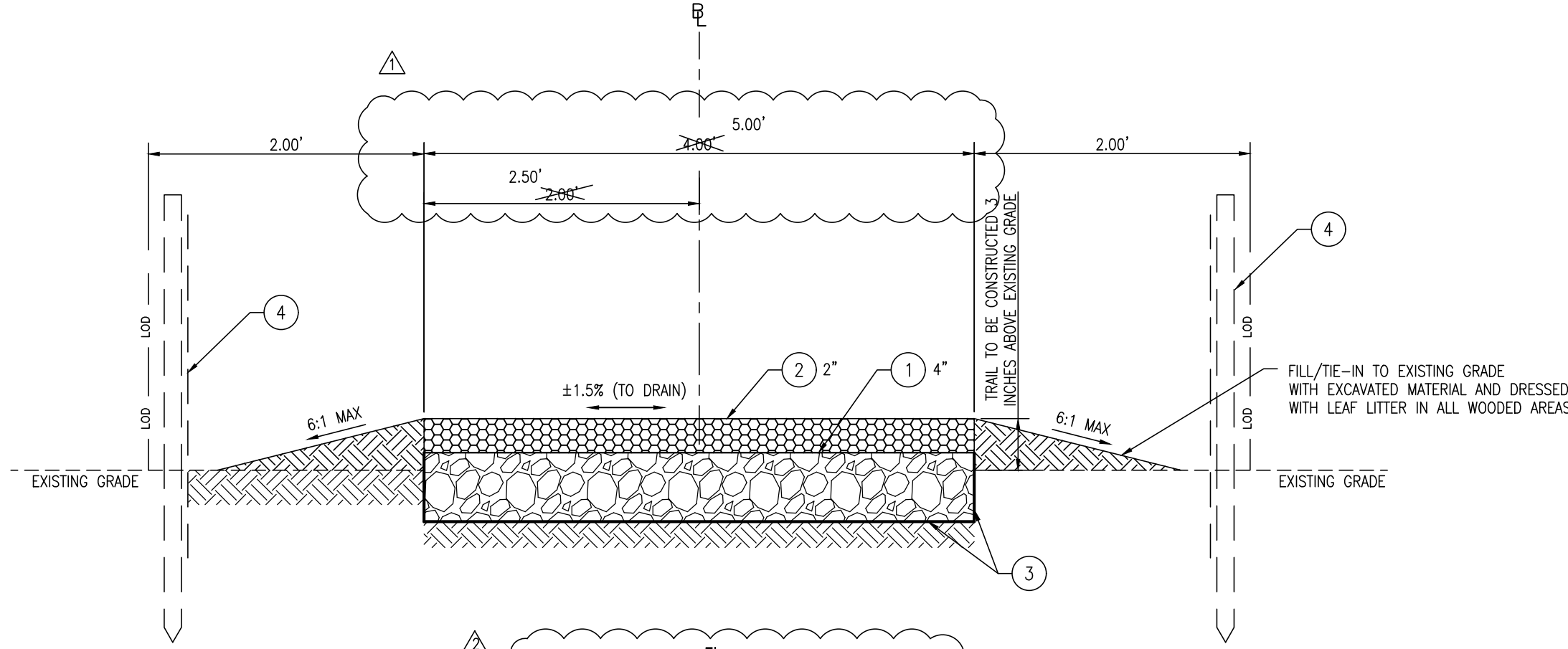
GENERAL NOTES

- THE TERM "ENGINEER," "STATE," AND/OR "ARCHITECT" NOTED THROUGHOUT THE CONTRACT PLANS AND SPECIFICATIONS SHALL REFER TO DNREC / STATE PARKS, OR THEIR APPOINTED REPRESENTATIVE. THE TERM "SITE" AND "PARK" MAY BE USED INTERCHANGEABLY THROUGHOUT THESE DOCUMENTS AS A MEANS OF IDENTIFYING HOLTS LANDING STATE PARK.
- THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION SHOWN HEREON AS SHOWN ON THESE PLANS AND SPECIFICATIONS, TO A CONDITION COMPARABLE TO THAT EXISTING PRIOR TO CONSTRUCTION, AND TO THE SATISFACTION OF DNREC.
- THE CONTRACTOR SHALL PROVIDE NECESSARY FACILITIES, INCLUDING BUT NOT LIMITED TO RESTROOMS, DURING CONSTRUCTION. PARK FACILITIES SHALL NOT BE USED.
- THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING ALL DIMENSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING ANY DIMENSIONAL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
- BEFORE EXCAVATION IS STARTED, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES. ALL EXISTING UTILITIES SHALL BE PROTECTED AND TEMPORARILY SUPPORTED OR RELOCATED AS NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PERTINENT OWNER/UTILITY COMPANY REQUIREMENTS. ANY UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE PROMPTLY AND FULLY RESTORED TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL DESIGNATE A PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLANS, A PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE TRAFFIC CONTROL, AND A PERSON WHO SHALL BE RESPONSIBLE FOR WORKER SAFETY. THE PERSON RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLANS SHALL BE CERTIFIED BY DNREC FOR EROSION AND SEDIMENT CONTROL RESPONSIBILITY (CERTIFIED CONSTRUCTION REVIEWER).
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE AREA WITHIN THE LIMITS OF CONSTRUCTION TO PROHIBIT PUBLIC ACCESS UNTIL COMPLETION OF THE PROJECT. THE CONTRACTOR'S PROCEDURE/METHOD FOR LIMITING ACCESS SHALL BE REVIEWED BY, AND COORDINATED WITH DNREC PRIOR TO THE START OF WORK. THE COST TO INSTALL, RELOCATE, AND MAINTAIN SITE SECURITY SHALL BE INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING OFF-SITE SPOIL AREAS FOR LEGAL DISPOSAL OF EXCESS MATERIAL, NOT ACCEPTED BY THE PARK AND/OR UNSUITABLE MATERIALS AS NECESSARY IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. ALL COST FOR RECYCLING, TRANSPORTING TO, AND PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE CONTRACT.
- IN CASE OF CONFLICT BETWEEN THE "MANUFACTURER'S RECOMMENDATIONS" FOR AN APPROVED MATERIAL AND THE GOVERNING "CONTRACT SPECIFICATIONS" FOR THE MATERIAL, THE MORE RESTRICTIVE OF THE TWO SHALL PREVAIL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONSTRUCTION PLANS PRESENT A CONCEPT OF THE RELATIONSHIP BETWEEN TRAFFIC CONTROL, EROSION CONTROL, ETC. ANY REVISION TO THE DETAILS OR SEQUENCE SHOWN ON THE CONSTRUCTION PLANS SHALL BE PREPARED BY THE CONTRACTOR ON STANDARD DNREC PLAN SHEETS AND SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER. THE PLANS SHALL BE PREPARED IN ACCORDANCE WITH CURRENT DELDOT AND DNREC STANDARDS FOR TRAFFIC CONTROL, EROSION AND SEDIMENT CONTROL (PREPARED BY A CERTIFIED CONSTRUCTION REVIEWER), STORM WATER MANAGEMENT, ETC. AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE. ALL REQUIRED CALCULATIONS, REPORTS, ETC. SHALL ALSO ACCOMPANY THE SUBMISSION. THE NUMBER OF COPIES REQUIRED TO BE SUBMITTED FOR REVIEW SHALL BE DETERMINED BY DNREC, DEPENDING ON THE NATURE OF THE PROPOSED REVISION. THE CONTRACTOR SHALL NOTE THAT THE REVISIONS TO THE CONSTRUCTION PLANS, AS WELL AS REVIEW TIME BY DNREC, WILL NOT JUSTIFY A DELAY IN THE CONSTRUCTION SCHEDULE. REVISIONS INVOLVING UTILITIES WILL REQUIRE THE COMPLETION OF A UTILITY STATEMENT APPROVED BY THE RESPECTIVE UTILITIES AS PART OF THE PLAN DOCUMENTS. ALL COSTS INVOLVED IN PREPARING THE PLAN REVISIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY ELEMENTS OF CONSTRUCTION SAFETY. ALL CONSTRUCTION, INCLUDING EXCAVATION, MUST BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, CFR §1926.652(b)(2), AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL WORK SITE SAFETY.
- NO DEBRIS SHALL BE BURIED OR BURNED ON THE SITE UNLESS SPECIFICALLY NOTED WITHIN THESE PLANS OR SPECIFICATIONS.
- THE CONTRACTOR SHALL CONTACT MISS UTILITY TWO (2) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, OR AS REQUIRED BY LAW, AT 1-800-282-8555.



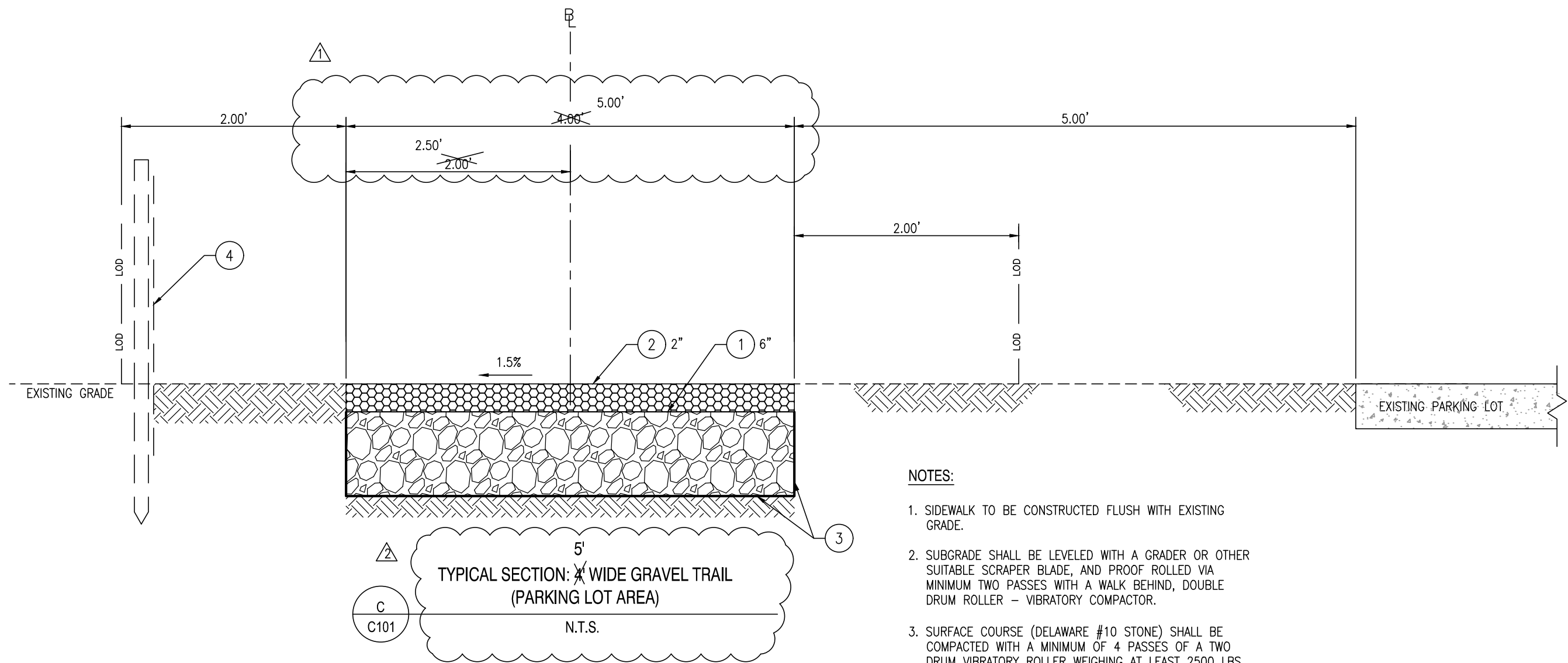
NOTES:

- CLEAR AND GRUB TREES & VEGETATION WITHIN TRAIL LOD (8 FT WIDE)
 - DNREC TO MARK TREES TO REMAIN PRIOR TO DEMOLITION.
 - TREES TO BE REMOVED OUTSIDE OF THE TRAIL SHOULDERS SHALL BE CUT FLUSH WITH EXISTING GRADE WITHOUT THE REMOVAL OF STUMPS.
- SUBGRADE SHALL BE LEVELED WITH A GRADER OR OTHER SUITABLE SCRAPER BLADE, AND PROOF ROLLED VIA MINIMUM TWO PASSES WITH A WALK BEHIND, DOUBLE DRUM ROLLER - VIBRATORY COMPACTOR.
- SURFACE COURSE (DELAWARE #10 STONE) SHALL BE COMPACTED WITH A MINIMUM OF 4 PASSES OF A TWO DRUM VIBRATORY ROLLER WEIGHING AT LEAST 2500 LBS.



NOTES:

- CLEAR AND GRUB TREES & VEGETATION WITHIN TRAIL LOD (8 FT WIDE)
 - DNREC TO MARK TREES TO REMAIN PRIOR TO DEMOLITION.
 - TREES TO BE REMOVED OUTSIDE OF THE TRAIL SHOULDERS SHALL BE CUT FLUSH WITH EXISTING GRADE WITHOUT THE REMOVAL OF STUMPS.
- SUBGRADE SHALL BE LEVELED WITH A GRADER OR OTHER SUITABLE SCRAPER BLADE, AND PROOF ROLLED VIA MINIMUM TWO PASSES WITH A WALK BEHIND, DOUBLE DRUM ROLLER - VIBRATORY COMPACTOR.
- SURFACE COURSE (DELAWARE #10 STONE) SHALL BE COMPACTED WITH A MINIMUM OF 4 PASSES OF A TWO DRUM VIBRATORY ROLLER WEIGHING AT LEAST 2500 LBS.

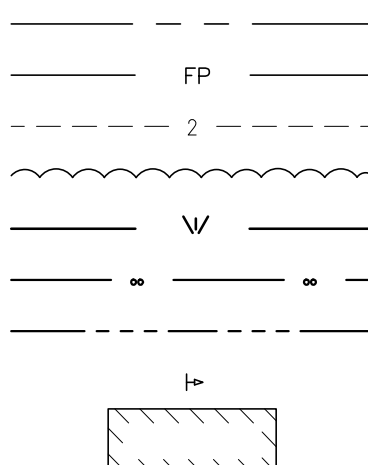


NOTES:

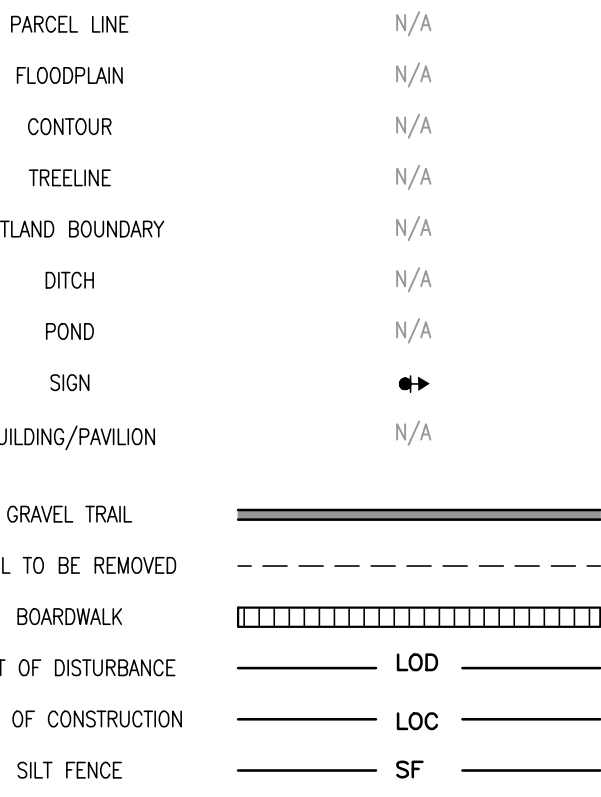
- SIDEWALK TO BE CONSTRUCTED FLUSH WITH EXISTING GRADE.
- SUBGRADE SHALL BE LEVELED WITH A GRADER OR OTHER SUITABLE SCRAPER BLADE, AND PROOF ROLLED VIA MINIMUM TWO PASSES WITH A WALK BEHIND, DOUBLE DRUM ROLLER - VIBRATORY COMPACTOR.
- SURFACE COURSE (DELAWARE #10 STONE) SHALL BE COMPACTED WITH A MINIMUM OF 4 PASSES OF A TWO DRUM VIBRATORY ROLLER WEIGHING AT LEAST 2500 LBS.

LEGEND

EXISTING



PROPOSED



DATA COLUMN

- COUNTY TAX MAP: 134-3.00-6.00
134-4.00-1.00
- DNREC PROJECT NUMBER: _____
- ADDRESS OF SITE: HOLTS LANDING STATE PARK, HOLTS LANDING ROAD
DAGSBORO, DE 19939
- SITE COORDINATES AT CENTER OF PROJECT SITE: LATITUDE: 38.5899 N
LONGITUDE: -75.1302 W
- ZONING: EXISTING: ST
PROPOSED: ST
- LOT AREA: TAX PARCEL NO. 134-3.00-6.00
134-4.00-1.00
EXISTING 111.86 AC
59.44 AC
PROPOSED 111.86 AC
59.44 AC
- SOURCE OF TITLE: TAX PARCEL NO. 134-3.00-6.00
134-4.00-1.00
DEED RECORD/INSTRUMENT NUMBER

- EXISTING USE: STATE PARK
- PROPOSED USE: STATE PARK
- DATUM: EXISTING VERTICAL - NAVD 88
HORIZONTAL - NAD 83
- SITE CONDITIONS WITHIN LIMITS OF DISTURBANCE (ACRES)

EXISTING CONDITIONS	PROPOSED CONDITIONS
TRAIL 0.41 ACRES	TRAIL 0.59 ACRES
FOREST 0.57 ACRES	FOREST 0.44 ACRES
OPEN SPACE 0.20 ACRES	OPEN SPACE 0.15 ACRES
TOTAL 1.18 ACRES	TOTAL 1.18 ACRES

IMPERVIOUS CONDITIONS
EXISTING 35%
PROPOSED 50%
- FLOOD PLAIN MAP
PER FIRM MAP NUMBER 10005C0484K, DATED MARCH 16, 2015, THIS SITE LIES WITHIN ZONE AE.
A 100 YEAR FLOODPLAIN HAS BEEN CALCULATED AND THE BASE FLOOD ELEVATION (BFE) VARIES FROM 6 TO 8.
- WATER RESOURCE PROTECTION
- TOTAL LAND DISTURBANCE
THE TOTAL LAND DISTURBANCE PROPOSED BY THIS PLAN IS 1.18± ACRES (50,792± S.F.)
- LIMITS OF CONSTRUCTION
THE TOTAL LIMITS OF CONSTRUCTION FOR THE SITE IS 1.32± ACRES (57,392± S.F.)
- LENGTH OF PROPOSED TRAIL: 6,349 FT. (1.20 MILES).
- LENGTH OF PROPOSED BOARDWALK: 660 FT. (0.125 MILES)
- WETLANDS
THE TOTAL WETLANDS EXISTING WITHIN THE LIMITS OF DISTURBANCE IS 0± ACRES (0± S.F.)
- OWNER/DEVELOPER: STATE OF DELAWARE
DNREC, DIVISION OF PARKS & RECREATION
89 KINGS HIGHWAY, DOVER, DE 19901
PHONE: 302-739-9210
FAX: 302-739-3817
- CIVIL ENGINEER: CENTURY ENGINEERING, INC.
4134 NORTH DUPONT HIGHWAY, DOVER, DE 19901
WALTER J. HOEY III, P.E.
PHONE: (302) 734-9188
FAX: (302) 734-4589

ITEMS LEGEND

- ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
DEPTH: 4" - EXISTING TRAILS,
6" - RELOCATED/NEW TRAILS
- ITEM 302004 - DELAWARE NO. 10 STONE
- ITEM 708002 - SEPARATION GEOTEXTILE [TO BE NON-WOVEN SEPARATION FABRIC (ASHTO M 288, CLASS 2 - Mirafi 140n, OR EQUIVALENT) BETWEEN PREPARED SUBGRADE AND AGGREGATE BASE COURSE]
- ITEM 905001 - SILT FENCE OR COMPOST FILTER LOG/MIN. 4x10 [REFER TO SHEET SSMP500 FOR INSTALLATION REQUIREMENTS AND ADDITIONAL EROSION AND SEDIMENT CONTROL NOTES]

ITEM NUMBERS UTILIZE THE CURRENT 2016 DELDOT STANDARD SPECIFICATIONS. ITEM NUMBERS THAT HAVE A "0" FOR THE FOURTH DIGIT, REFER TO DELDOT "STANDARD SPECIFICATIONS". IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE DELDOT STANDARD SPECIFICATIONS EITHER ONLINE OR HARD COPY FROM DELDOT TO REFERENCE THESE ITEMS.

REVISIONS:

DATE: 2/12/2019
DESCRIPTION: ADDED PROJECT NOTES 2 AND 22.

HOLTS LANDING BOARDWALK & TRAIL IMPROVEMENTS

PROJECT NOTES & LEGEND

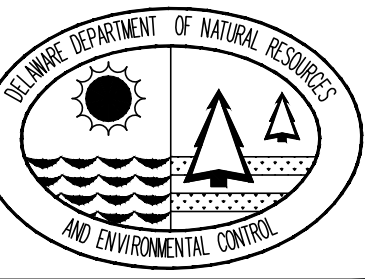
SEAL:



CIVIL ENGINEER:

CENTURY
ENGINEERING
CONSULTING ENGINEERS, SURVEYORS
4134 N. DUPONT HWY.
DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.25



DESIGNED BY:

WJH

DRAWN BY:

DFS

CHECKED BY:

AES

DATE:

SEPTEMBER 2018

SCALE:

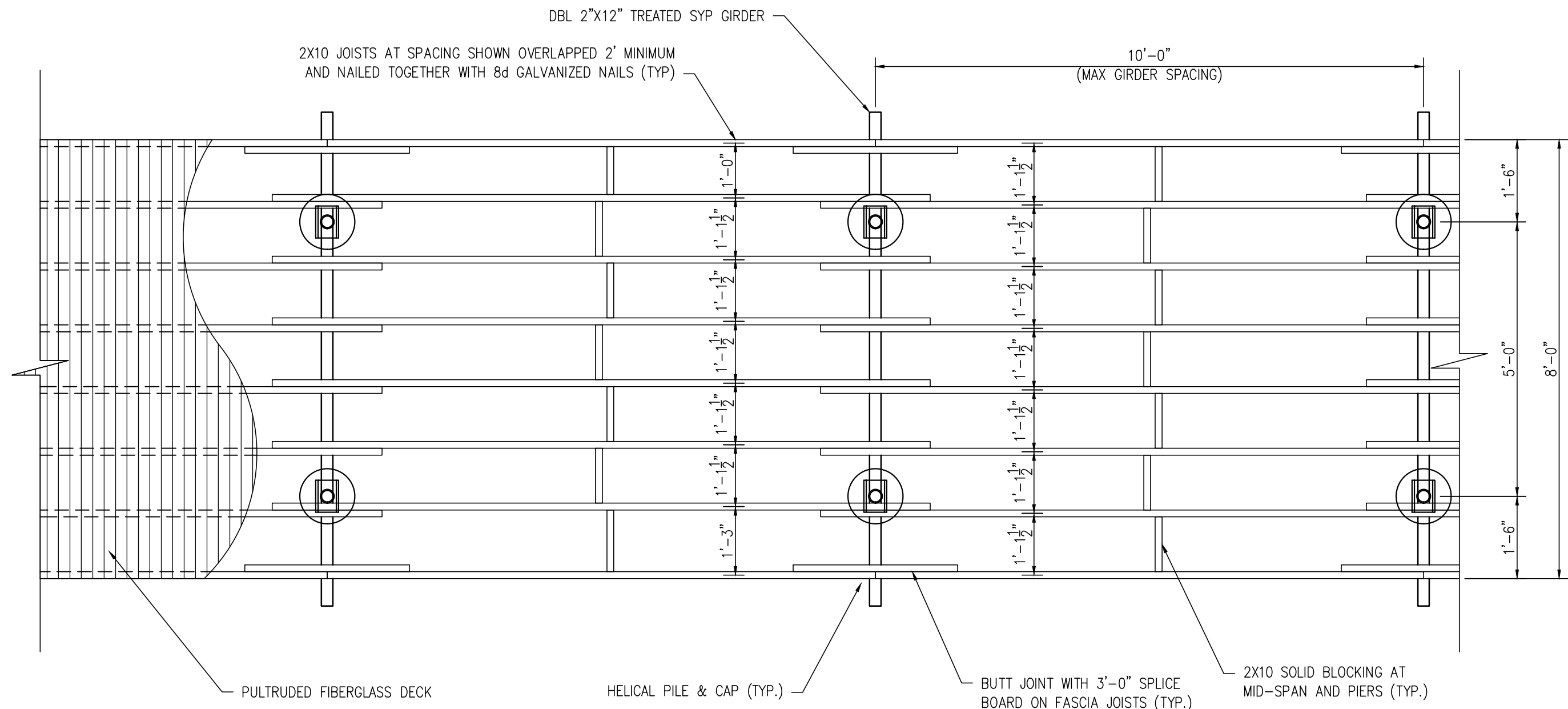
NONE

SHEET NO.:

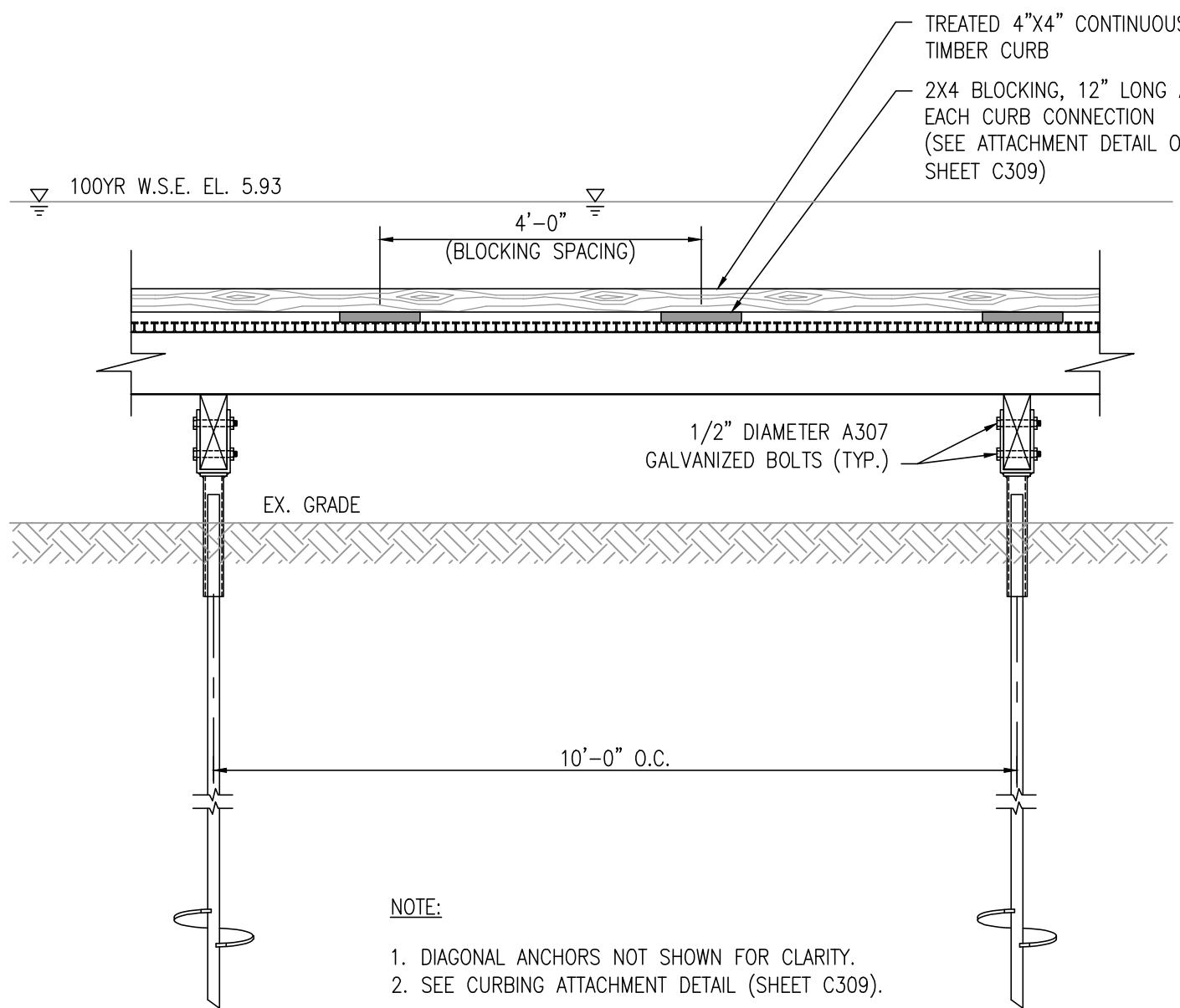
C301

CONTRACT NO.:

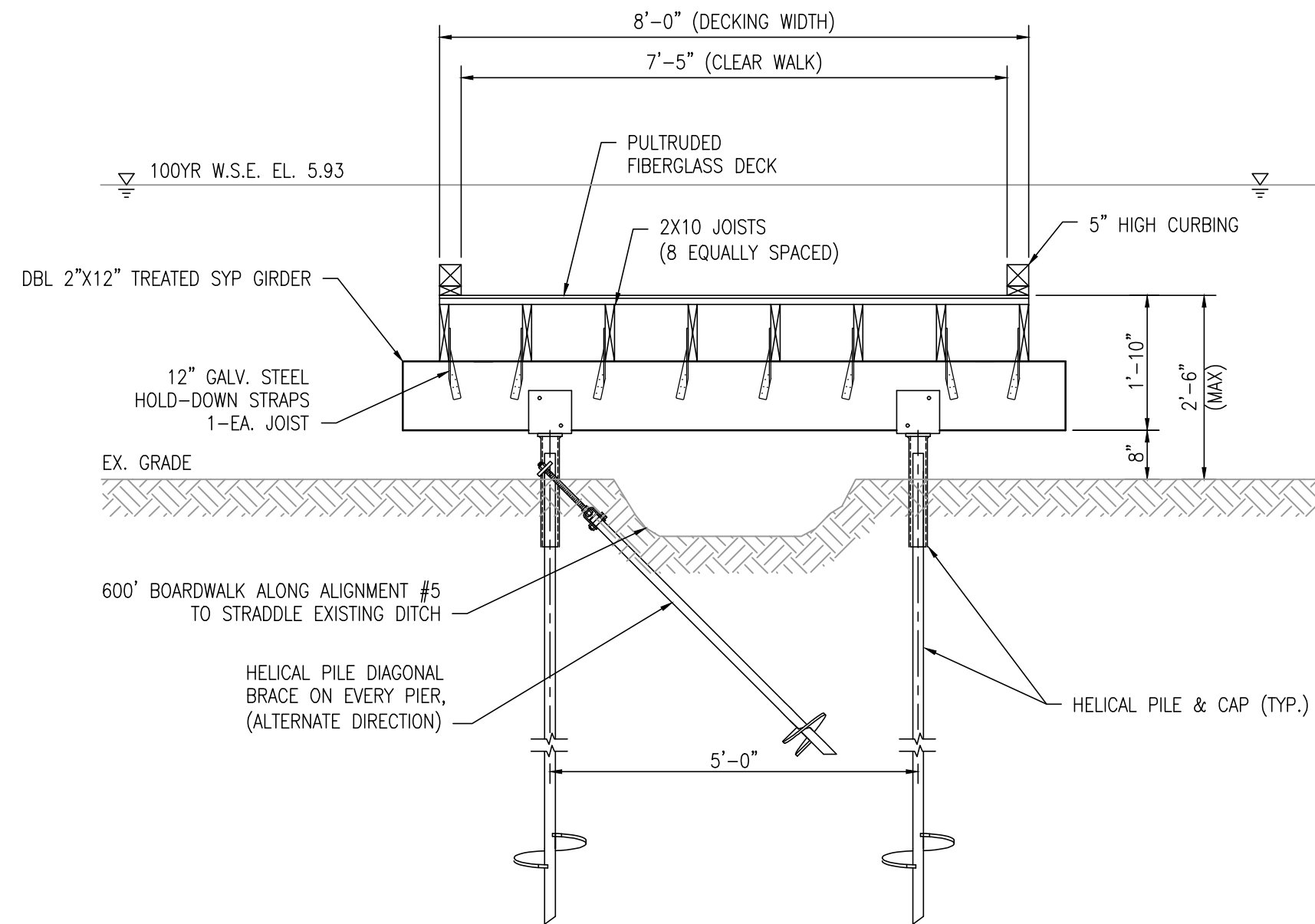
2018-HL-200



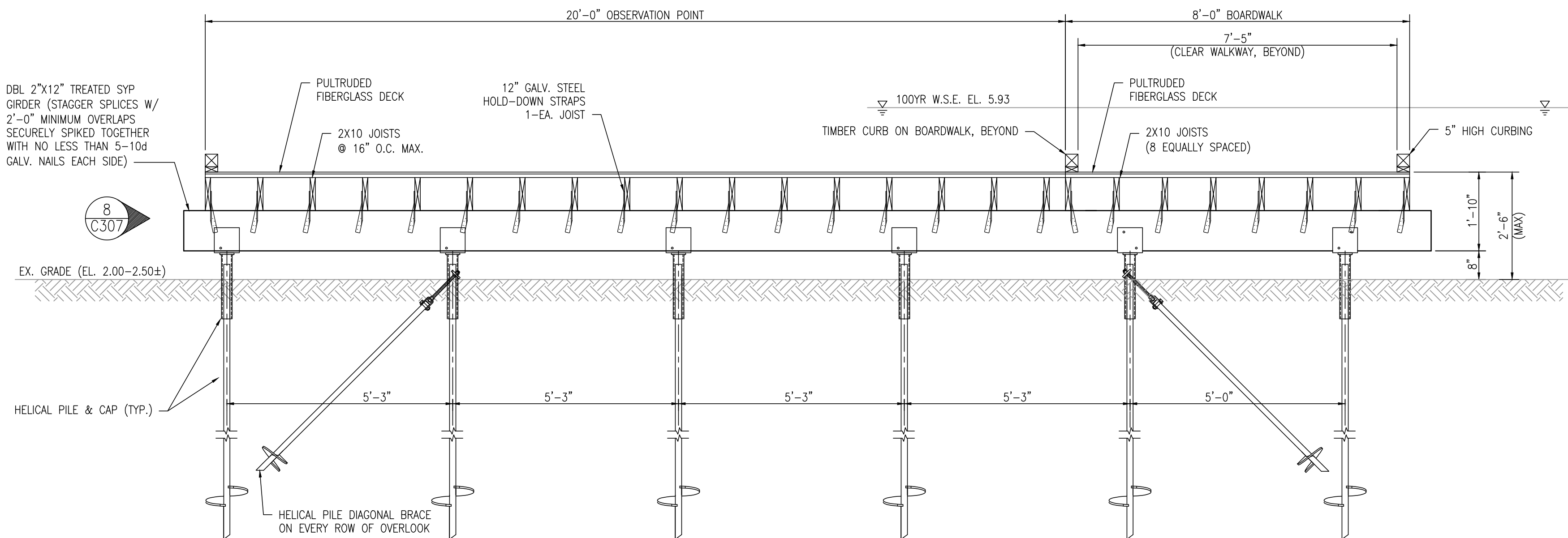
1
C308
BOARDWALK FRAMING PLAN
SCALE: 1/2" = 1'-0"



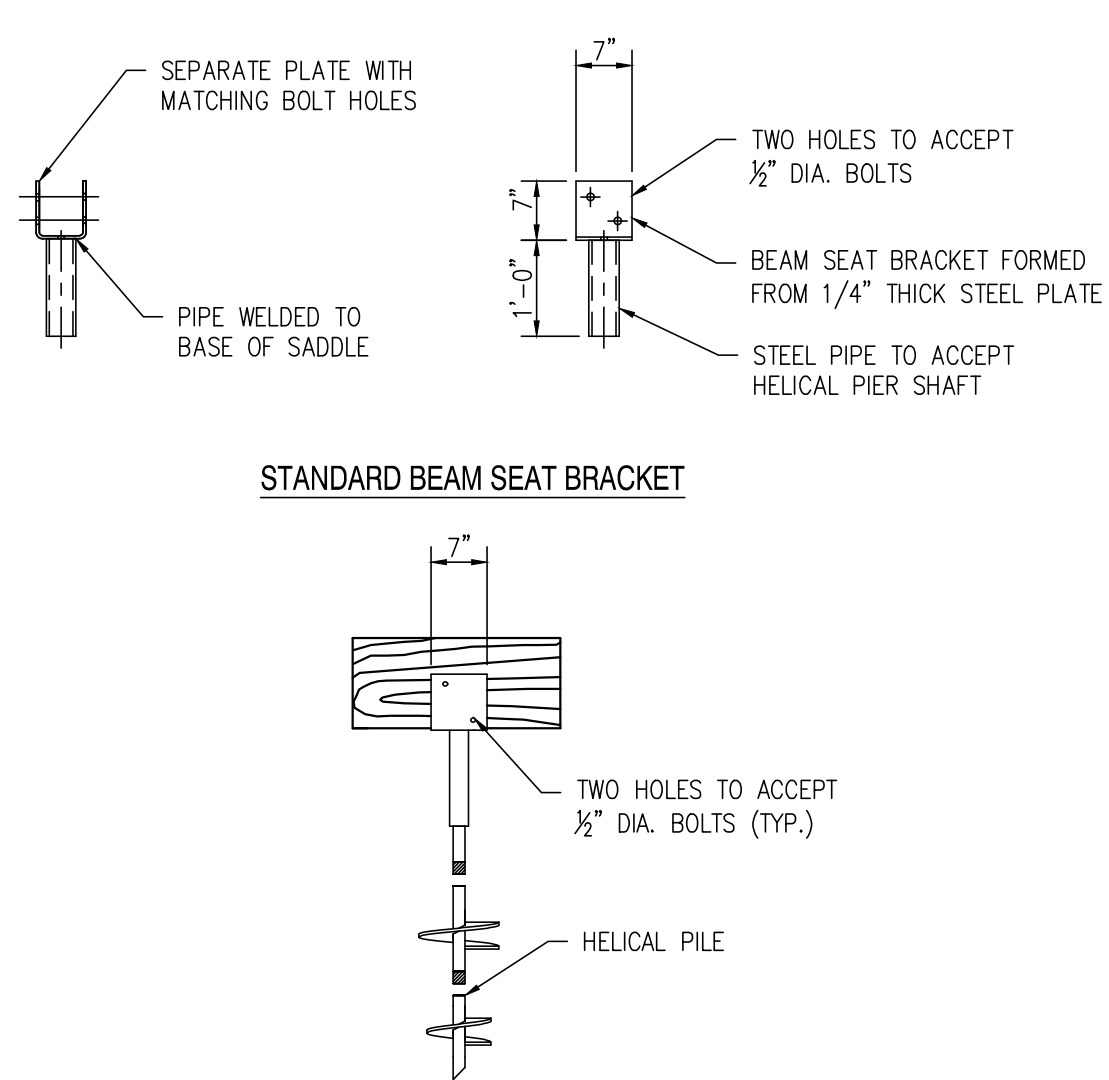
2
C308
BOARDWALK ELEVATION W/CURBING
SCALE: 1/2" = 1'-0"



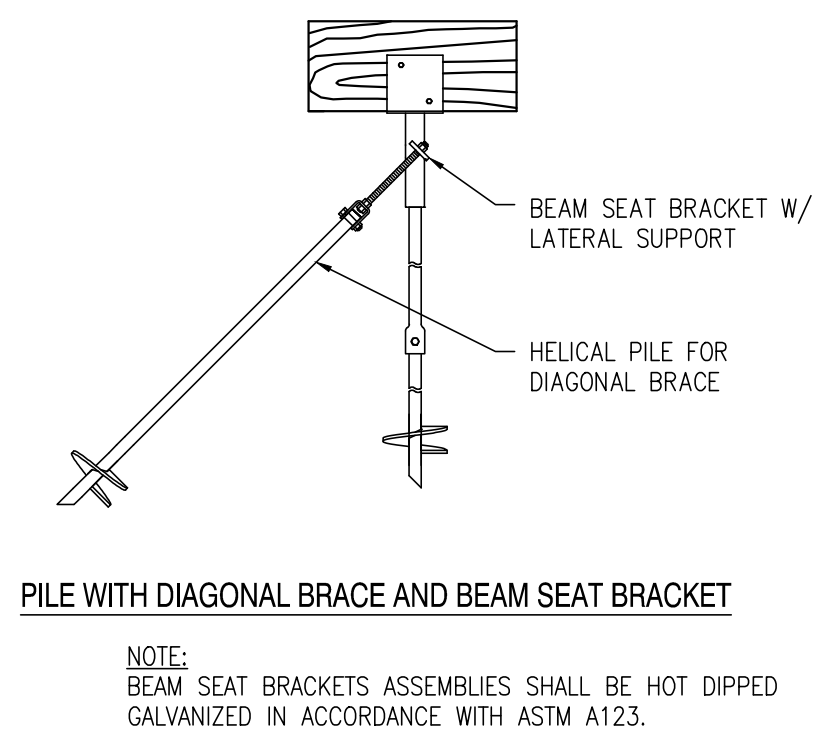
3
C308
BOARDWALK SECTION W/CURBING
SCALE: 1/2" = 1'-0"



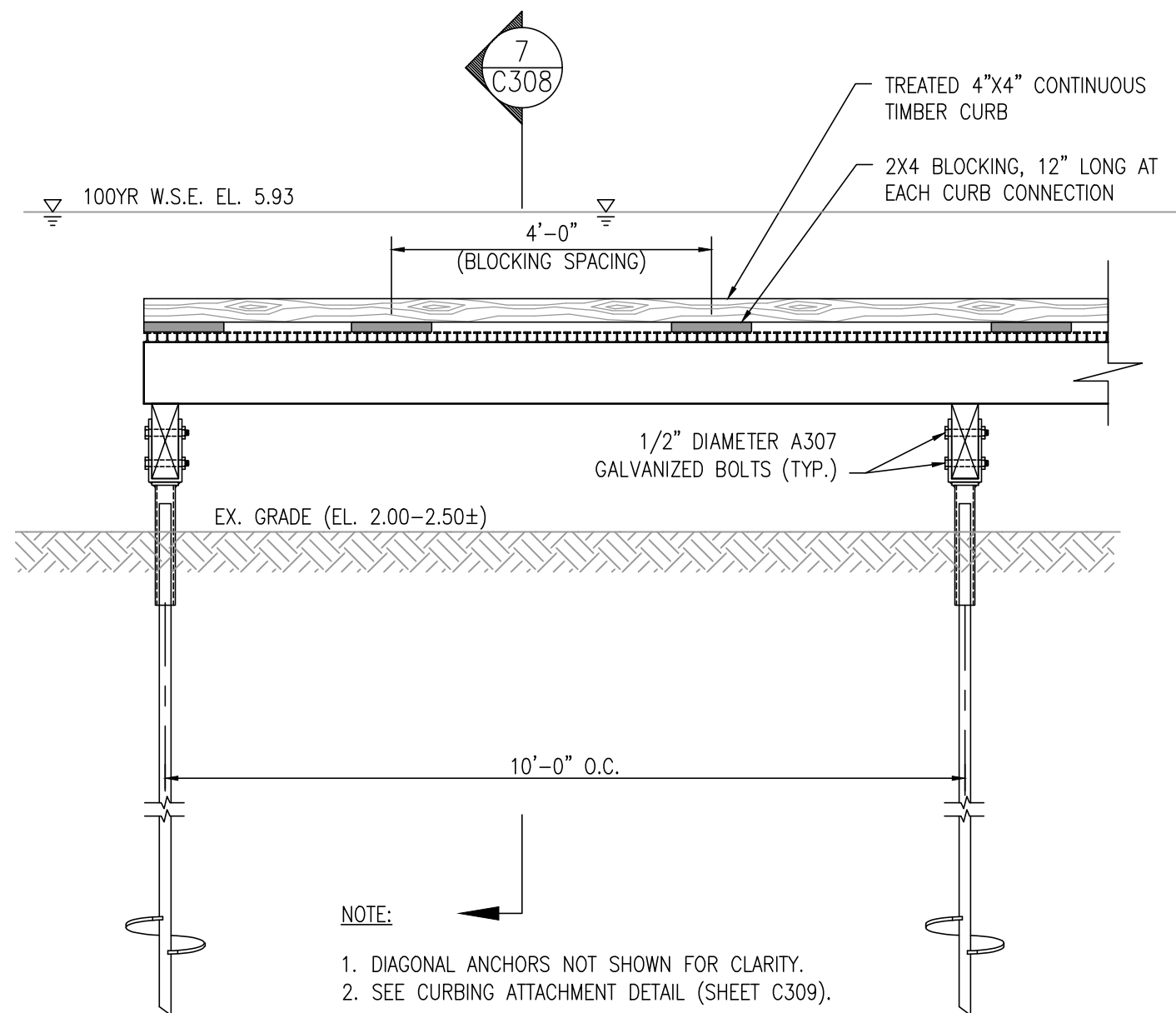
4
C308
SECTION AT OBSERVATION POINT
SCALE: 1" = 1'-0"



6
C308
CONNECTION BRACKET DETAILS
SCALE: 1/2" = 1'-0"



7
C308
TYPICAL PILE AND BEAM SEAT BRACKET
SCALE: 1/2" = 1'-0"



5
C308
SIDE ELEVATION AT OBSERVATION POINT
SCALE: 1" = 1'-0"

BOARDWALK NOTES:

DESIGN:
ALLOWABLE STRESS DESIGN.

LOADS:
LIVE LOAD - IN ACCORDANCE WITH 2009 AASHTO GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES. DESIGN LIVE LOADS ARE IN AN 80 PSF PEDESTRIAN LOAD.

FOUNDATION PILES:

HELICAL ANCHORS SHALL BE BY A.B. CHANCE, OR APPROVED EQUAL. HELICAL ANCHORS SHALL BE INSTALLED TO OBTAIN A MINIMUM ULTIMATE BEARING CAPACITY OF 10 KIPS WITH A FACTOR OF SAFETY OF 2.0.
ALLOWABLE BEARING CAPACITY = 5 KIPS.

HELICAL ANCHORS SHALL BE INSTALLED TO A MINIMUM ULTIMATE CAPACITY OF 10 KIPS, AS DETERMINED BY TORQUE VALUE READINGS DURING INSTALLATION. TORQUE VALUE READINGS SHALL BE USED IN CONJUNCTION WITH APPLICABLE TABLES AND/OR CHARTS PROVIDED BY CHANCE ANCHOR AND SHALL TAKE INTO ACCOUNT THE SOIL TYPE AND CONDITIONS.

BEARING ANCHORS SHALL BE INSTALLED A MINIMUM OF 4'-0" AS MEASURED FROM THE UPPER MOST HELIX AND THE FINAL GRADE. DIAGONAL ANCHORS SHALL BE THE SAME LENGTH AND CONFIGURATION AS BEARING ANCHORS AND SHALL BE INSTALLED A MINIMUM DEPTH OF 4'-0" AS MEASURED FROM THE UPPERMOST HELIX AND THE FINAL GRADE.

INSTALL TS12 TWIST STRAPS AS MANUFACTURED BY SIMPSON STRONG TIE OR APPROVED EQUAL AT EACH JOIST AS SHOWN ON PLANS. TWIST STRAPS SHALL BE HOT DIPPED GALVANIZED. TWIST STRAPS SHALL BE INSTALLED PER MANUFACTURES REQUIREMENTS.

FASTENERS:

ALL PULTRUDED DECKING CLAMPS AND SCREWS SHALL BE TYPE 316L STAINLESS STEEL. INSTALL 2 CLIPS AT EACH SUPPORT WITH A MINIMUM OF 4 CLIPS PER PANEL, INSTALLED IN ACCORDANCE WITH THE DECK MANUFACTURES REQUIREMENTS.

TIMBER FASTENERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A - 153.

PULTRUDED FIBERGLASS DECKING:

INDIVIDUAL DECKING PANELS SHALL BE ORIENTED WITH MAIN BARS TRANSVERSE TO THE JOISTS, AND SPAN THE FULL WIDTH OF THE BOARDWALK WITH NO JOISTS. DECKING MATERIAL SHALL CONSIST OF PULTRUDED HIGH LOAD CAPACITY FIBERGLASS GRATING AS MANUFACTURED BY STRONGWELL CORPORATION, NATIONAL GRATING, FIBERGRATE COMPOSITE STRUCTURES, OR APPROVED EQUAL, WITH THE FOLLOWING CHARACTERISTICS:

- LIVE LOAD DEFLECTION:
 - < 0.033 INCHES WITH A 7,500 LB/FT LINE LOAD.
 - < 0.033 INCHES WITH A 11,400 LB/SQ.FT UNIFORM LOAD OVER 12 INCH SPAN.
- RATE OF BURN - ASTM D 635.
- FLAME SPREAD RATING OF 25 OR LESS IN ACCORDANCE WITH ASTM E-84.
- VISUAL QUALITY - ASTM D4385.
- MANUFACTURE - ISO-9001:2008 CERTIFIED.
- SURFACE WEAR INDEX - LESS THAN 1.0 PER ASTM D4060
- MODULUS OF ELASTICITY (E) - 3,790,000 PSI, MINIMUM.
- RESIN SHALL BE ULTRA VIOLET INHIBITED AND THE COMPOSITE SHALL INCLUDE A VEIL ON ALL EXPOSED SURFACES.
- THICKNESS - 1 1/2" MINIMUM.
- SPACING BETWEEN GRATING - 1/2" MAXIMUM.
- COLOR - GREY OR BROWN.

[THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL 24 LINEAR FEET OF 5 FOOT WIDE PULTRUDED FIBERGLASS DECK MATERIAL TO THE OWNER FOR FUTURE MAINTENANCE NEEDS.]

REVISIONS:

DATE: 2/12/2019
DESCRIPTION: REVISED PULTRUDED DECKING REQUIREMENTS

HOLTS LANDING BOARDWALK & TRAIL IMPROVEMENTS

STRUCTURAL DETAILS

SEAL:



CIVIL ENGINEER:

CENTURY
ENGINEERING
CONSULTING ENGINEERS, SURVEYORS
4134 N. DUPONT HWY.
DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.25



DESIGNED BY:

WJH

DRAWN BY:

DFS

CHECKED BY:

AES

DATE:

SEPTEMBER 2018

SCALE:

AS SHOWN

SHEET NO.:

C308

CONTRACT NO.:

2018-HL-200