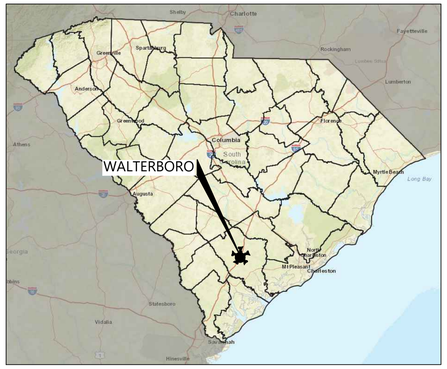

VICINITY MAP
NOT TO SCALE

BOARDWALK RECONSTRUCTION PHASE IIA

WALTERBORO WILDLIFE SANCTUARY

WALTERBORO, COLLETON COUNTY, SOUTH CAROLINA

South 811 Carolina

BEFORE YOU DIG
CALL 1-888-721-7877
S.C. ONE CALL CENTER
ITS THE LAW!

PROJECT NAME:
WALTERBORO WILDLIFE SANCTUARY
BOARDWALK RECONSTRUCTION

PROJECT START LOCATIONS:
IVANHOE ROAD AT S. JEFFRIES BLVD.
APPROX. LAT/LONG: 32.890824, -80.684637

IVANHOE ROAD AT S. JEFFRIES BLVD.
APPROX. LAT/LONG: 32.890824, -80.684637

MAXIMUM AREA OF DISTURBANCE:
80,752 SF (1.85 AC)

OVERALL PROJECT MAP
AERIAL IMAGERY COURTESY OF MICROSOFT CORPORATION, 2024
SCALE: 1"=200'

PROPERTY OWNER:
CITY OF WALTERBORO

ADDRESS:
242 HAMPTON STREET
WALTERBORO, SC 29488
PH. (843) 782-1000

CONTACT:
RYAN MCLEOD
ASSIST. CITY MGR.
EMAIL: RMCLEOD@WALTERBOROSC.ORG

DESIGN PROFESSIONAL:
WSP ENVIRONMENT & INFRASTRUCTURE INC.
1308 PATTON AVENUE, SUITE C
ASHEVILLE,NC 28806

CONTACT:
TONY HAUSER, PLA, PE
PH. (828) 337-5173
TONY.HAUSER@WSP.COM

SHEET TITLE	SHEET NUMBER	
COVER SHEET	C-001	•
GENERAL NOTES	C-002	•
EXISTING CONDITIONS SURVEY OVERALL	C-100	•
~~EXISTING CONDITIONS SURVEY SHEET 1~~	~~C-101~~	
~~EXISTING CONDITIONS SURVEY SHEET 2~~	~~C-102~~	
~~EXISTING CONDITIONS SURVEY SHEET 3~~	~~C-103~~	
~~EXISTING CONDITIONS SURVEY SHEET 4~~	~~C-104~~	
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EXISTING CONDITIONS SURVEY SHEET 6	C-106	•
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REMOVAL PLAN SHEET 2	C-152	•
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~~REMOVAL PLAN SHEET 4~~	~~C-154~~	
COVERED BRIDGE PLAN & PROFILE (P&P)	C-201	•
EAST DETRIVILLE BRIDGE P&P	C-202	•
WEST DETRIVILLE BRIDGE P&P	C-203	•
BEACH HILL BRIDGE 1 P&P	C-204	•
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~~NORTH BEACH HILL LOOP TRAIL P&P 1 OF 3~~	~~C-206~~	
~~NORTH BEACH HILL LOOP TRAIL P&P 2 OF 3~~	~~C-207~~	
~~NORTH BEACH HILL LOOP TRAIL P&P 3 OF 3~~	~~C-208~~	
~~SOUTH BEACH HILL LOOP TRAIL P&P~~	~~C-209~~	
~~BEACH HILL BRIDGE 7 P&P~~	~~C-210~~	
~~BEACH HILL BRIDGES 5 AND 6 P&P~~	~~C-211~~	
~~BEACH HILL BRIDGE 4 P&P~~	~~C-212~~	
~~BEACH HILL BRIDGE 3 P&P~~	~~C-213~~	
~~BEACH HILL OBSERVATION DECK P&P~~	~~C-214~~	
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BEACH HILL BRIDGE 1 E&SC	C-254	•
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~~NORTH BEACH HILL LOOP TRAIL E&SC 2 OF 3~~	~~C-257~~	
~~NORTH BEACH HILL LOOP TRAIL E&SC 3 OF 3~~	~~C-258~~	
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~~BEACH HILL BRIDGE 7 E&SC~~	~~C-260~~	
~~BEACH HILL BRIDGES 5 AND 6 E&SC~~	~~C-261~~	
~~BEACH HILL BRIDGE 4 E&SC~~	~~C-262~~	
~~BEACH HILL BRIDGE 3 E&SC~~	~~C-263~~	
~~BEACH HILL OBSERVATION DECK E&SC~~	~~C-264~~	
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CIVIL DETAILS 3 OF 4	C-303	•
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PERMATRAK BOARDWALK PLAN	PT-01A	•
PERMATRAK DETAILS 1 OF 2	PT-02	•
PERMATRAK DETAILS 2 OF 2	PT-03	•
PERMATRAK HELICAL PIER/ANCHOR NOTES	PT-04	•
PERMATRAK PRECAST SPECIFICATIONS	PT-05	•

• SHEET INCLUDED WITH THIS SUBMISSION

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA — WSP USA INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 38472 — 6/13/25 — ANTHONY L. HAUSER

ENGINEER:
WSP USA INC.
1308 PATTON AVENUE, SUITE C
ASHEVILLE, NC 28806
TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

CLIENT:
Walterboro — The Front Porch of the Lowcountry
CITY OF WALTERBORO
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:200
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: COVER SHEET

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-001

Plotted By: Koltai, Benjamin Sheet Set: Walterboro Boardwalks Phase II Layout: C-001 May 27, 2025 04:35:48pm C:\Users\USBK132970\OneDrive - WSP 0365\Desktop\PROJECT CAD\Walterboro BW Ph2\01_Production Sheets\1_Plansheets\C-001 COVER.dwg

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PROJECT DESCRIPTION AND CONSTRUCTION SEQUENCE: (APPLICABLE TO ALL SHEETS)

1. PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJECT IS TO REPLACE THE EXISTING BOARDWALKS AND BRIDGES IN VARIOUS AREAS OF THE WALTERBORO WILDLIFE SANCTUARY. THE SEGMENTS TO BE REPLACED ARE LOCATED IN THE AREAS NOW OR FORMERLY KNOWN AS THE COVERED BRIDGE TRAIL, THE DETRIVILLE TRAIL, AND THE BEACH HILL TRAIL.
2. SITE DESCRIPTION: THE SITE IS LOCATED NORTHWEST OF ALT. 17 (S. JEFFRIES BLVD) ALONG BOTH SIDES OF IVANHOE ROAD IN THE AREA KNOWN AS THE WALTERBORO WILDLIFE SANCTUARY. THE SITE IS LOCATED PREDOMINANTLY IN THE 100-YEAR FLOODWAY AND TO A LESSER EXTENT IN THE 100-YEAR FLOODPLAIN OF IRELAND CREEK. THE ENTIRE SITE IS CLASSIFIED AS WETLAND ACCORDING TO THE UNITED STATES FISH AND WILDLIFE SERVICES (USFWS) NATIONAL WETLAND INVENTORY.
3. ADJACENT PROPERTY: THE PROPERTY IS LOCATED ENTIRELY WITHIN THE WALTERBORO WILDLIFE SANCTUARY AND BISECTED BY IVANHOE ROAD. NO ADJACENT PROPERTIES ARE CLOSE BY.
4. SOILS: REFER TO THE GEOTECHNICAL REPORT.

CONSTRUCTION SEQUENCE:

PREPARATION/DEMOLITION:

1. INSTALL APPROPRIATE MEASURES TO PREVENT DAMAGE THAT COULD BE CAUSED BY CONSTRUCTION VEHICLES TRAVERSING SOFT OR YIELDING GROUND.
2. INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES AS NEEDED.
3. DEMOLISH EXISTING PRESSURE TREATED BOARDWALK AND DISPOSE OF WASTE PROPERLY.
4. INITIATE CLEARING OF DEBRIS OR OTHER MATERIAL THAT MAY BE LOCATED IN THE PROPOSED ALIGNMENT OF THE BOARDWALK.
5. VERIFY THE LAYOUT AND ELEVATIONS OF THE IMPROVEMENTS PRIOR TO COMMENCEMENT OF THE WORK.

BOARDWALKS:

6. INSTALL PILES PER PLANS.
7. OBTAIN AS-BUILT SURVEY OF PILE LOCATIONS AND PROVIDE SURVEY TO PERMATRAK FOR FINAL DESIGN CONFIRMATION.
8. OBTAIN PERMATRAK COMPONENTS AND INSTALL TOP-DOWN IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

BRIDGES:

9. INSTALL BRIDGE ABUTMENTS PER PLANS AND DETAILS.
10. INSTALL BRIDGES PER MANUFACTURER'S SPECIFICATIONS.

COMPLETION:

11. AFTER CONSTRUCTION AND ALL DISTURBED AREAS ARE STABILIZED, CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
12. REQUEST FINAL APPROVAL FROM ENGINEER AND JURISDICTION HAVING AUTHORITY.

DEMOLITION NOTES: (APPLICABLE TO ALL SHEETS)

1. DEMOLITION (DEMO) SHALL REFER TO THE COMPLETE REMOVAL OF THE SPECIFIED ITEM AND ALL COMPONENTS APPURTENANT TO IT (E.G. FOOTERS, REBAR, TIE-BACKS, CONDUIT, WIRING, AND SO FORTH).
2. IT IS THE INTENT THAT ALL EXISTING WORK INTERFERING WITH THE INSTALLATION OF THE PROPOSED WORK BE REMOVED AS REQUIRED.
3. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL SALVAGEABLE ITEMS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES TO SAFEGUARD AGAINST INTERRUPTION OF SERVICES TO THE OWNER OR TENANTS.
5. UTILITIES AND/OR MECHANICAL DEVICES THAT REQUIRE TEMPORARY SHUT-DOWN AND RELOCATION DURING DEMOLITION SHALL BE DE-ENERGIZED AND LOCKED OUT, CAPPED, DISCONNECTED, AND CAREFULLY REMOVED TO A PROTECTED LOCATION OR CONDITION. WHERE REMOVAL OF UTILITIES AND/OR MECHANICAL DEVICES MAY AFFECT OCCUPIED FACILITIES, CONTRACTOR SHALL COORDINATE THE SHUT-DOWN WITH THE OWNER AT LEAST 72 HOURS IN ADVANCE OF THE WORK.
6. UTILITIES AND/OR MECHANICAL DEVICES THAT REQUIRE PERMANENT SHUT-DOWN SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE PANEL (ELECTRICAL) OR MAIN (WATER & SEWER).
7. CONTRACTOR SHALL TAKE APPROPRIATE ACTIONS TO MINIMIZE DUST, NOISE, AND VIBRATION THAT MAY BE CAUSED BY DEMOLITION.
8. TO THE EXTENT POSSIBLE, DEMOLISHED MATERIALS SHALL BE RECYCLED.
9. DEMOLITION WASTE (I.E. MATERIALS THAT CANNOT BE RECYCLED) SHALL BE PROPERLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
10. CARE SHALL BE EXERCISED DURING THE DEMOLITION PROCESS TO PREVENT THE RELEASE OF TOXIC SUBSTANCES (E.G. ASBESTOS, FUEL OIL, ETC.). SHOULD SUCH SUBSTANCES BE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED. UPON AUTHORIZATION, THE DISPOSAL OF THE SUBJECT MATERIAL(S) SHALL CONFORM TO ALL GOVERNING CODES AND REGULATIONS. DISPOSAL SHALL BE MADE ONLY BY CONTRACTORS LICENSED TO PERFORM THIS WORK.
11. EXISTING ELEMENTS NOT CALLED TO BE DEMOLISHED BY THE PLAN SHALL BE PROTECTED FROM DAMAGE DURING THE DEMOLITION PROCESS. DAMAGE TO EXISTING ELEMENTS AND/OR NEW CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
12. EXTREME CARE SHALL BE TAKEN TO PREVENT VIBRATION, EXCESSIVE LOADING, OR OTHER CONDITIONS THAT MAY CAUSE STRUCTURAL FAILURE TO EXISTING SITE FEATURES.

GENERAL NOTES: (APPLICABLE TO ALL SHEETS)

1. TOPOGRAPHIC SURVEY PROVIDED BY OWNER FROM ATLAS SURVEYING, INC. DATED 11-13-2024.
2. CONTOUR ELEVATIONS BASED ON FIELD VERIFIED SURVEY DATA.
3. PROJECT PHASING IS UNDETERMINED AT THE TIME THESE PLANS WERE PREPARED.
4. ALL IMPROVEMENTS, MATERIALS, AND METHODS SHALL CONFORM TO THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE PLANS OR SUPERSEDED BY ANOTHER JURISDICTION HAVING AUTHORITY (JHA).
5. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT HIS EXPENSE.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO: A.) PREVENT ANY DAMAGE TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHRUBS, ETC. B.) PROTECT ALL UNDERGROUND UTILITIES. C.) NOTIFY ALL UTILITY COMPANIES AND FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION. NOTIFY OWNER OF ANY POTENTIAL CONFLICTS WHICH MAY EXIST BETWEEN THE EXISTING UTILITIES AND CONSTRUCTION PLANS.
7. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE SCDOT STANDARD SPECIFICATIONS AND DRAWINGS. PEDESTRIAN AND VEHICULAR TRAFFIC FLOW SHALL BE MAINTAINED DURING ALL PHASES OF THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON PROJECT.
8. CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION. PONDING OF WATER IN STREETS, DRIVES, TRUCK COURTS, TRENCHES, ETC. WILL NOT BE ACCEPTABLE.
9. ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRASSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.
10. WHERE PRESENT, CONTRACTOR SHALL MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICE AT ALL TIMES DURING CONSTRUCTION.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH UTILITY COMPANIES AND ADJUSTMENT OF EXISTING SANITARY SEWER CLEANOUTS, WATER METERS AND ANY OTHER APPURTENANCES TO NEW GRADE AS REQUIRED.
12. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL STORM WATER POLLUTION PREVENTION LAWS AND ORDINANCES.
13. PAVEMENT REMOVAL AND REPAIR SHALL CONFORM TO SCDOT REQUIREMENTS. ALL SAWCUTS SHALL BE FULL DEPTH CUTS. CONTRACTOR SHALL MAKE EFFORTS TO PROTECT CONCRETE EDGES. ANY LARGE SPALLED OR BROKEN EDGES SHALL BE REMOVED BY SAWCUTTING PAVEMENT PRIOR TO REPLACEMENT.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES THROUGH THE COMPLETION OF THE PROJECT AND THROUGH THE ESTABLISHMENT OF VEGETATION SUFFICIENT TO PROVIDE EROSION PROTECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES PRIOR TO PROJECT CLOSE-OUT.
15. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FROM ALL REGULATORY AUTHORITIES.
16. ALL DISTURBED AREAS ARE TO BE STABILIZED AND SEEDED WITHIN 14 DAYS OF DISTURBANCE UNLESS OTHERWISE NOTED.
17. CONCRETE TRUCKS SHALL ONLY BE WASHED OUT WHERE A CONCRETE TRUCK WASHOUT HAS BEEN PROVIDED IN ACCORDANCE WITH THE SCDES BMP FIELD MANUAL PAGE 6-4.

EROSION CONTROL NOTES: (APPLICABLE TO ALL SHEETS)

1. STRAW MULCH AND TALL FESCUE SHOULD NOT BE USED IN RIPARIAN AREAS.
2. IF CONCRETE IS USED (EG. HEADWALLS), A DRY WORK AREA MUST BE MAINTAINED TO PREVENT DIRECT CONTACT BETWEEN CURING CONCRETE AND STREAM WATER. WATER THAT INADVERTENTLY CONTACTS LIVE CONCRETE MUST NOT BE DISCHARGED TO SURFACE WATERS DUE TO THE POTENTIAL FOR WATER CHEMISTRY CHANGE AND FISH KILLS.
3. ROCK, SAND OR OTHER MATERIALS MUST NOT BE EXCAVATED FROM THE STREAM CHANNELS. THE NATURAL DIMENSION, PATTERN, AND PROFILE OF THE CHANNEL UPSTREAM AND DOWNSTREAM OF THE BOARDWALK MUST NOT BE MODIFIED.
4. SANDBAGS, FLEXIBLE PIPE, OR OTHER DIVERSION STRUCTURES SHOULD BE USED TO AVOID EXCAVATING IN FLOWING WATER. MATERIALS USED FOR FLOW DIVERSION SHOULD BE REMOVED FROM THE STREAM BED AFTER COMPLETING THE CONSTRUCTION WORK. ANY DIVERSION CHANNELS MUST BE LINED WITH FILTER FABRIC AND/OR ROCK.
5. ROCK AND OTHER MATERIALS PLACED TEMPORARILY IN STREAMS FOR FORDS MUST BE REMOVED AND THE STREAM CHANNELS RESTORED TO EXISTING CONDITIONS AFTER THE FORDS ARE NO LONGER NEEDED.
6. RIPARIAN VEGETATION ESPECIALLY TREES AND SHRUBS, SHOULD BE PRESERVED AS MUCH AS POSSIBLE.
7. ALL MECHANIZED EQUIPMENT OPERATED NEAR SURFACE WATERS SHOULD BE INSPECTED AND MAINTAINED REGULARLY TO PREVENT CONTAMINATION OF STREAM WATERS FROM FUELS, LUBRICANTS, HYDRAULIC FLUIDS OF OTHER TOXIC MATERIALS.
8. DISCHARGING HYDROSEED MIXTURES AND WASHING OUT HYDROSEEDERS AND OTHER EQUIPMENT IN OR ADJACENT TO SURFACE WATERS IS PROHIBITED.
9. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND AFTER ANY RAINFALL. DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY. A DAILY RECORD SHALL BE MAINTAINED ON THE SITE BY THE CONTRACTOR.
10. PROJECT SITE CONDITIONS MAY REQUIRE INSTALLATION OF ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
11. EROSION CONTROL MEASURES AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE SOUTH CAROLINA DHEC BMP MANUAL.

EROSION CONTROL SCHEDULE: (APPLICABLE TO ALL SHEETS)

1. MAINTENANCE – MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES SHALL INCLUDE INSPECTIONS PERFORMED ON A WEEKLY BASIS AND AFTER EVERY RAINFALL EVENT. MAINTENANCE CLEANING AND REPAIRS SHALL BE MADE IMMEDIATELY. CONTRACTOR SHALL MAKE INSPECTIONS AND REPAIRS AS NEEDED DURING PERIODS OF EXTENDED RAINFALL.
2. CONSTRUCTION ACCESS – APPLICABLE TO CONSTRUCTION ACCESS, CONSTRUCTION ROUTES, AND EQUIPMENT PARKING AREAS. INSTALL STABILIZED CONSTRUCTION ENTRANCE, ACCESS ROUTES AND PARKING AREAS. MUDDY AND RUTTED PATHS ARE NOT ACCEPTABLE. STABILIZE BARE AREAS IMMEDIATELY WITH GRAVEL, MULCH, AND TEMPORARY VEGETATION AS CONSTRUCTION TAKES PLACE.
3. SEDIMENT TRAPS AND BARRIERS – APPLICABLE TO BASIN TRAPS, SEDIMENT FENCES, AND OUTLET PROTECTION. INSTALL PRINCIPAL BASINS AND SILT FENCE IMMEDIATELY AFTER CONSTRUCTION ACCESS. INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.
4. RUNOFF CONTROL – APPLICABLE TO DIVERSIONS, PERIMETER DIKES, WATER BARS, AND OUTLET PROTECTION. INSTALL KEY PRACTICES AFTER SEDIMENT TRAPS AND BARRIERS AND PRIOR TO GRADING. INSTALL ADDITIONAL RUNOFF CONTROL MEASURES AS NEEDED DURING GRADING.
5. RUNOFF CONVEYANCE SYSTEM – APPLICABLE TO STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, AND SLOPE DRAINS. INSTALL PRINCIPAL RUNOFF CONVEYANCE SYSTEM CONCURRENTLY WITH RUNOFF CONTROL MEASURES. WHERE APPLICABLE, STABILIZE STREAM BANKS PRIOR TO GRADING. OBTAIN PROPER PERMITS FOR ALL WORK IN STREAMS, SPRINGS, AND OTHER JURISDICTIONAL AREAS.
6. LAND CLEARING AND GRADING – APPLICABLE TO SITE PREPARATION, CUTTING, FILLING, AND SURFACE ROUGHENING. MARK TREE AND BUFFER AREAS AND INSTALL APPROPRIATE PROTECTION PRIOR TO CLEARING AND GRADING. BEGIN MAJOR CLEARING AND GRADING AFTER PRINCIPAL SEDIMENT AND KEY RUNOFF CONTROL MEASURES ARE INSTALLED. CLEAR BORROW AND DISPOSAL AREAS ONLY AS NEEDED. INSTALL ADDITIONAL CONTROL MEASURES AS GRADING PROGRESSES.
7. SURFACE STABILIZATION – APPLICABLE TO TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, AND RIPRAP. APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETE.
8. BUILDING AND SITE CONSTRUCTION – APPLICABLE TO BUILDINGS, STRUCTURES, UTILITIES AND PAVING. MODIFY AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES AS CONSTRUCTION PROGRESSES. INSTALL ADDITIONAL MEASURES AS NEEDED TO RESPOND TO CHANGES IN SITE CONDITIONS.
9. LANDSCAPING AND FINAL STABILIZATION – APPLICABLE TO TOPSOILING, TREE AND SHRUB PLANTING, PERMANENT SEEDING, MULCHING, SODDING, AND RIPRAP. STABILIZE ALL OPEN AREAS, INCLUDING BORROW AND SPOIL AREAS. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES, INCLUDING SILT FENCE AND STAKES. STABILIZE ALL TEMPORARY CONTROL AREAS. OBTAIN FINAL APPROVAL BY ENGINEER AND AUTHORITY HAVING JURISDICTION.
10. SILT FENCE OUTLETS SHALL BE PLACED AT THE LOW POINT OF SILT FENCE LINE TO PREVENT IMPOUNDING WATER BEHIND THE FENCE.

SWPPP NOTES: (APPLICABLE TO ALL SHEETS)

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
   - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY, OR INCORRECTLY, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
11. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE;
15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
   - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
   - WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   - SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

South 811 Carolina

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IT'S THE LAW!

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA — WSP USA INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 38472 — ANTHONY L. HAUSER — 6/3/25

ENGINEER:
WSP USA INC.
1308 PATTON AVENUE, SUITE C
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TEL: (828) 252-8130
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CLIENT:
Walterboro® The Front Porch of the Lowcountry
CITY OF WALTERBORO
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: GENERAL NOTES

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-002

Plotted By: Koltai, Benjamin Sheet Set: Walterboro Boardwalks Phase II Layout: C-002 May 27, 2025 04:26:36pm C:\Users\USBK132970\OneDrive - WSP 0365\Desktop\PROJECT CAD\Walterboro BW Ph2\01_Production Sheets\1_Plansheets\C-001 COVER.dwg

NORTH
SC GRID (NAD 83)
(2011)

SHEET 7

SHEET 5

SHEET 6

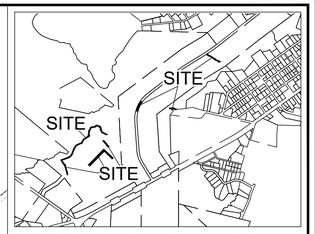
SHEET 4

SHEET 2

SHEET 3

SHEET 1

200 100 0 200 400
GRAPHIC SCALE



VICINITY MAP NOT TO SCALE

LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

NOTES

1. THESE PARCELS APPEAR TO LIE IN MULTIPLE FLOOD ZONES, X, X(0.2% CHANCE), AE(ELEV. 32'), FLOODWAY AREA IN ZONE AE(ELEV. 32'), COMMUNITY 450058, MAP NUMBER 45029C0318G & AN UNKNOWN FLOOD MAP (UNABLE TO DETERMINE ALL FLOOD ZONES DUE TO FEMA FLOOD MAP PORTAL BEING OFFLINE BECAUSE OF HURRICANE HELENE.)
2. CONTOURS ARE IN ONE FOOT INTERVALS. TREE SIZES SHOWN ARE IN INCHES OF DIAMETER.
3. VERTICAL DATUM IS NAVD 88.
4. HORIZONTAL DATUM IS SOUTH CAROLINA STATE PLANE GRID (NAD 83).
5. RAILINGS ARE 3.5' ABOVE BOARDWALK ELEVATIONS.
6. BOUNDARY SURVEY NOT PERFORMED AT THE TIME OF FIELDWORK. PROPERTY LINES SHOWN ARE FOR REFERENCE INFORMATION ONLY.

REFERENCES

1. PB: 703 PG: 6
2. DB: 996 PG: 211
3. DB: 1123 PG: 274

PREPARED FOR:
THE CITY OF WALTERBORO

A PARTIAL AS-BUILT/TREE AND TOPOGRAPHIC SURVEY OF

PORTIONS OF
BEACH LOOP TRAIL, BEACH HILL TRAIL, IVANHOE ROAD, DETRIVILLE TRAIL, BEACH HILL OBSERVATORY, & A COVERED BRIDGE OFF OF IVANHOE ROAD

TAX PARCEL Nos. 163-00-00-032.000, 163-00-00-002.000, 163-00-00-013.000, 163-00-00-018.000, & 179-00-00-080.000

WALTERBORO
COLLETON COUNTY, SOUTH CAROLINA

FIELD WORK: TMH
FIELD CHECK: JWR
DRAWN BY: DTJ
FIELD DATE: 10-03-2024
DATE: 05-27-2025
SCALE: 1"=200'
FILE: C-100 SURVEY.DWG
PROJECT No.: BFT-22275

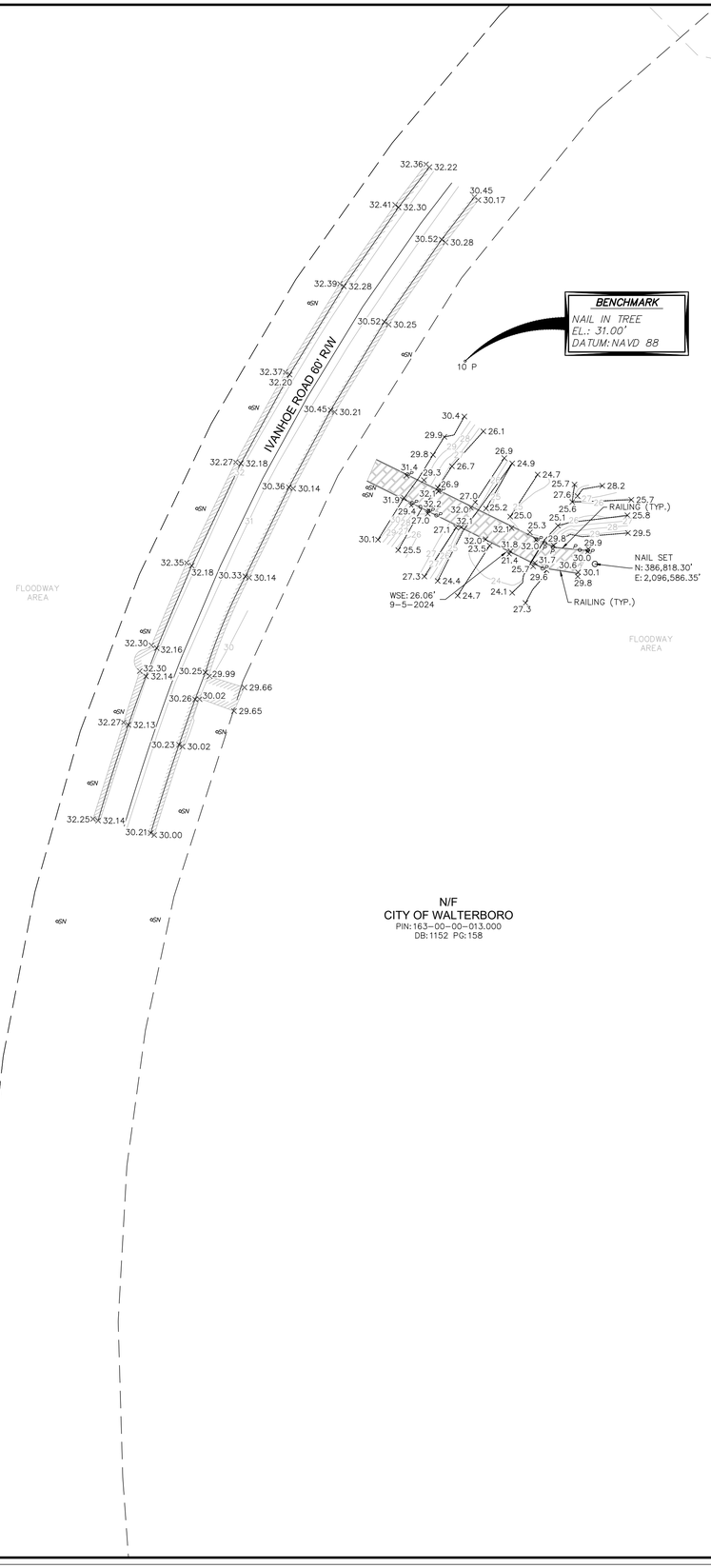
COVER SHEET

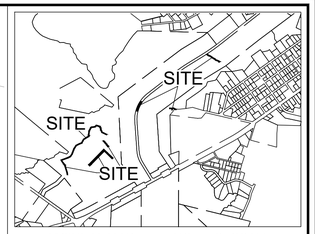
ATLAS
SURVEYING, INC.
168 BOARDWALK DRIVE, SUITE A.
RIDGELAND, SC 29936.
PHONE: (843) 645-9277
WEBSITE: WWW.ATLASSURVEYING.COM

wsp

PROJECT: BOARDWALK RECONSTRUCTION PHASE II CITY OF WALTERBORO, SC	PROJECT NO.: G692.6214
	REVISION NO.
	DATE: 5/27/2025
SHEET TITLE: EXISTING CONDITIONS SURVEY OVERALL	SHEET NO. C-100

NORTH
SC GRID (NAD 83)
(2011)





VICINITY MAP NOT TO SCALE

LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

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PREPARED FOR:
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TAX PARCEL Nos. 163-00-00-032.000, 163-00-00-002.000, 163-00-00-013.000, 163-00-00-018.000, & 179-00-00-080.000

WALTERBORO
COLLETON COUNTY, SOUTH CAROLINA

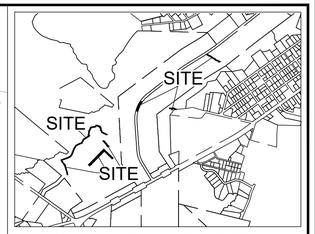
FIELD WORK:	TMH
FIELD CHECK:	JMR
DRAWN BY:	DTJ
FIELD DATE:	10-03-2024
DATE:	05-27-2025
SCALE:	1"=200'
FILE:	C-100 SURVEY.DWG
PROJECT No.:	BFT-22275

COVER SHEET

ATLAS SURVEYING, INC.
168 BOARDWALK DRIVE, SUITE A.
RIDGELAND, SC 29936.
PHONE: (843) 645-9277
WEBSITE: WWW.ATLASSURVEYING.COM

wsp

PROJECT: BOARDWALK RECONSTRUCTION PHASE II CITY OF WALTERBORO, SC	PROJECT NO.: G692.6214
	REVISION NO.
	DATE: 5/27/2025
SHEET TITLE: EXISTING CONDITIONS SURVEY SHEET 5	SHEET NO. C-105



VICINITY MAP NOT TO SCALE

LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
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	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

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2. DB: 996 PG: 211
3. DB: 1123 PG: 274

PREPARED FOR:
THE CITY OF WALTERBORO

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TAX PARCEL Nos. 163-00-00-032.000, 163-00-00-002.000, 163-00-00-013.000, 163-00-00-018.000, & 179-00-00-080.000

WALTERBORO
COLLETON COUNTY, SOUTH CAROLINA

FIELD WORK: TNH
FIELD CHECK: JWR
DRAWN BY: DTJ
FIELD DATE: 10-03-2024
DATE: 05-27-2025
SCALE: 1"=200'
FILE: C-100 SURVEY.DWG
PROJECT No.: BFT-22275

COVER SHEET

ATLAS SURVEYING, INC.
168 BOARDWALK DRIVE, SUITE A.
RIDGELAND, SC 29936.
PHONE: (843) 645-9277
WEBSITE: WWW.ATLASSURVEYING.COM

wsp

PROJECT: BOARDWALK RECONSTRUCTION PHASE II CITY OF WALTERBORO, SC	PROJECT NO.: G692.6214
	REVISION NO.
	DATE: 5/27/2025
SHEET TITLE: EXISTING CONDITIONS SURVEY SHEET 6	SHEET NO. C-106

NORTH
SC GRID (NAD 83)
(2011)

N/F
CITY OF WALTERBORO
PIN: 163-00-00-002.000
DB: 1136 PG: 167

N/F
CITY OF WALTERBORO
PIN: 163-00-00-013.000
DB: 1152 PG: 158

IVANHOE ROAD 60' R/W

BENCHMARK
NAIL IN TREE
EL.: 33.06'
DATUM: NAVD 88

SSMH
RIM: 31.86'
IE: 24.19'

WSE: 25.80'
9-10-2024

WSE: 25.74'
9-9-2024

±396LF
8" PVC @ 0.04%

±389LF
8" PVC @ 0.04%

±379LF
8" PVC @ 0.01%

OVERHANG

SSMH
RIM: 31.65'
IE(NE): 23.00'
IE(SW): 22.84
IE(NW): 23.42'

SSMH
RIM: 32.58'
IE(SW): 23.14'

SSMH
RIM: 31.01'
IE(NE): 22.88'

PK NAIL SET
N: 388,001.15'
E: 2,098,586.13'

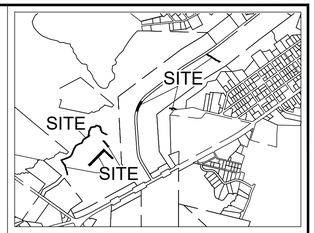
APPROXIMATE LOCATION
OF FEMA FLOOD LINE

FLOODWAY AREA

FLOOD ZONE AE(ELEV. 32')

ELEV. 32

200 100 0 200 400
GRAPHIC SCALE



VICINITY MAP NOT TO SCALE

LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
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	BOTTOM OF BANK
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	GRAVEL
	BOARDWALK

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REFERENCES

1. PB: 703 PG: 6
2. DB: 996 PG: 211
3. DB: 1123 PG: 274

PREPARED FOR:
THE CITY OF WALTERBORO

A PARTIAL AS-BUILT/TREE AND TOPOGRAPHIC SURVEY OF

PORTIONS OF BEACH LOOP TRAIL, BEACH HILL TRAIL, IVANHOE ROAD, DETRIVILLE TRAIL, BEACH HILL OBSERVATORY, & A COVERED BRIDGE OFF OF IVANHOE ROAD

TAX PARCEL Nos. 163-00-00-032.000, 163-00-00-002.000, 163-00-00-013.000, 163-00-00-018.000, & 179-00-00-080.000

WALTERBORO
COLLETON COUNTY, SOUTH CAROLINA

FIELD WORK: TNH
FIELD CHECK: JWR
DRAWN BY: DTJ
FIELD DATE: 10-03-2024
DATE: 05-27-2025
SCALE: 1"=200'
FILE: C-100 SURVEY.DWG
PROJECT No.: BFT-22275

COVER SHEET

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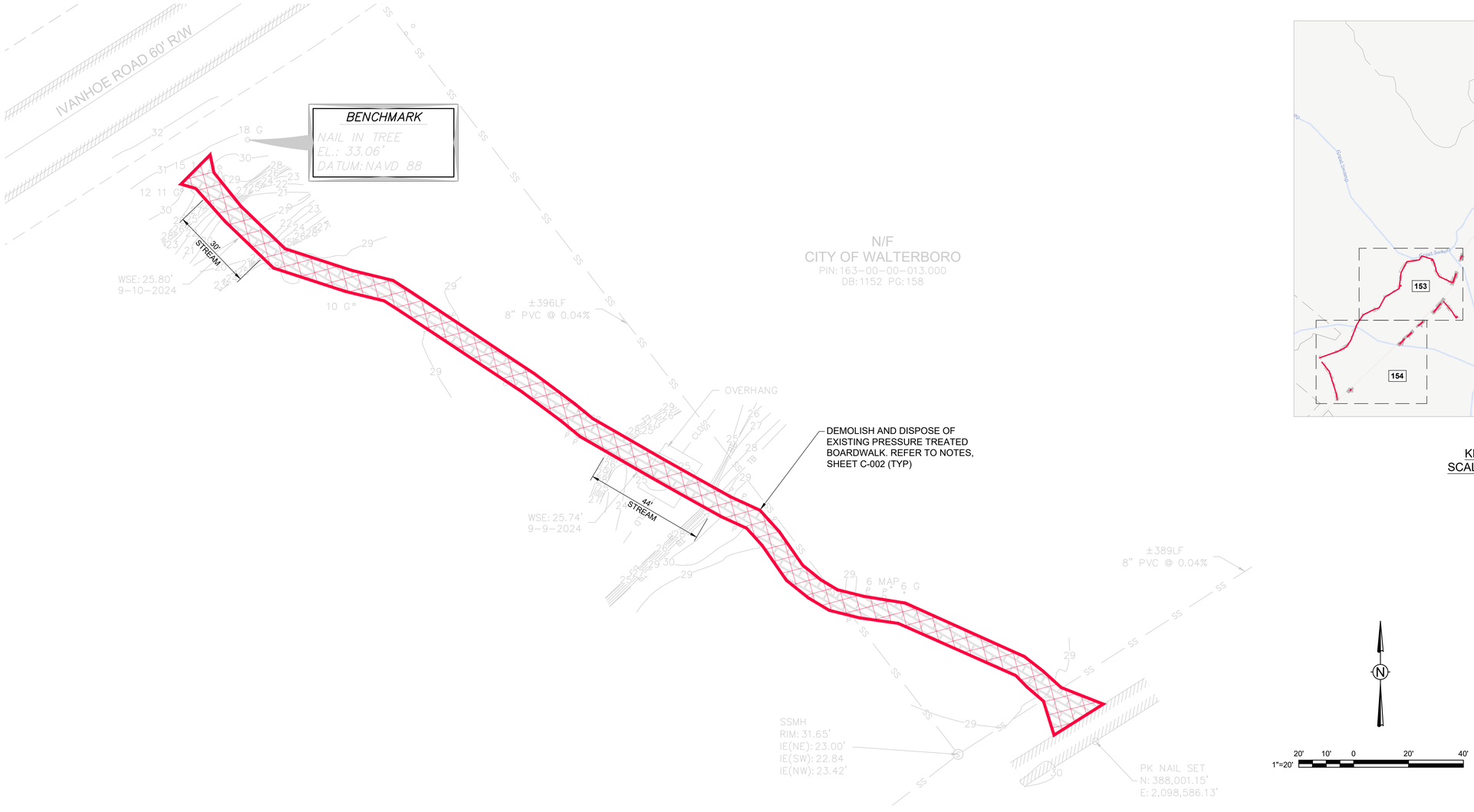
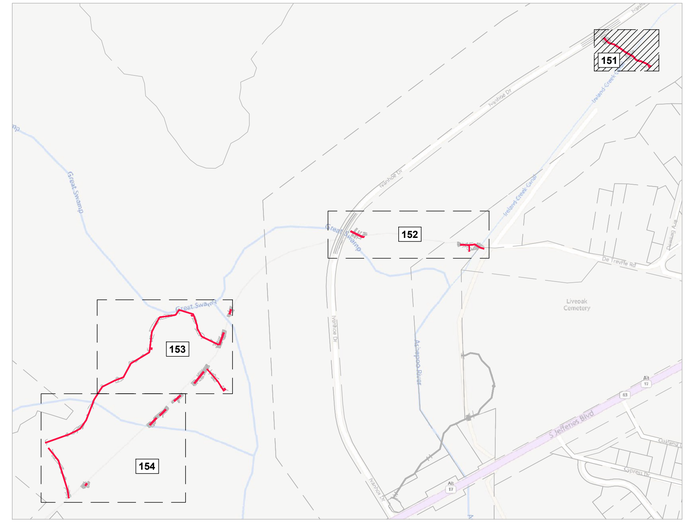
168 BOARDWALK DRIVE, SUITE A.
RIDGELAND, SC 29936.
PHONE: (843) 645-9277
WEBSITE: WWW.ATLASSURVEYING.COM

wsp

PROJECT: BOARDWALK RECONSTRUCTION PHASE II CITY OF WALTERBORO, SC	PROJECT NO.: G692.6214
	REVISION NO.
	DATE: 5/27/2025
SHEET TITLE: EXISTING CONDITIONS SURVEY SHEET 7	SHEET NO. C-107





KEY MAP
SCALE 1" = 500'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
sign	SIGN
S	SANITARY SEWER MANHOLE
wP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
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MAP	RED MAPLE
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T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

REMOVALS LEGEND

DEMOLITION

South 811 Carolina

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S.C. ONE CALL CENTER
ITS THE LAW!

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA — WSP USA INC. NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 38472 — ANTHONY L. HAUSER — 6/3/25

ENGINEER:
WSP USA INC.
1308 PATTON AVENUE, SUITE C
ASHEVILLE, NC 28806
TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

CLIENT:
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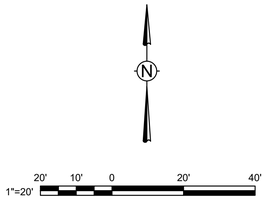
CITY OF WALTERBORO
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

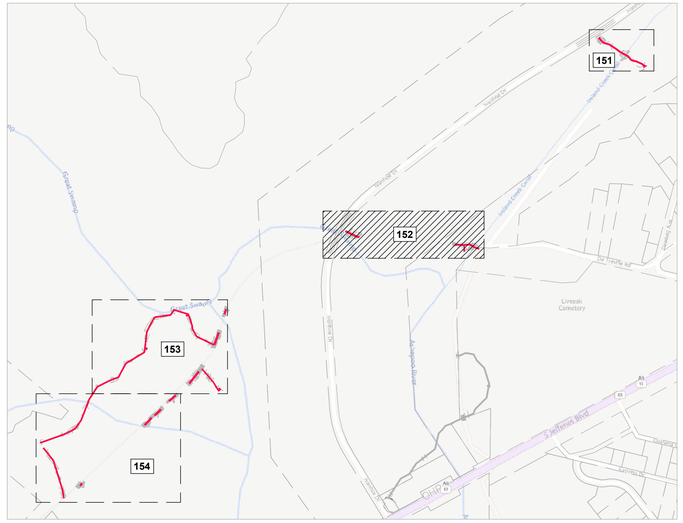
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

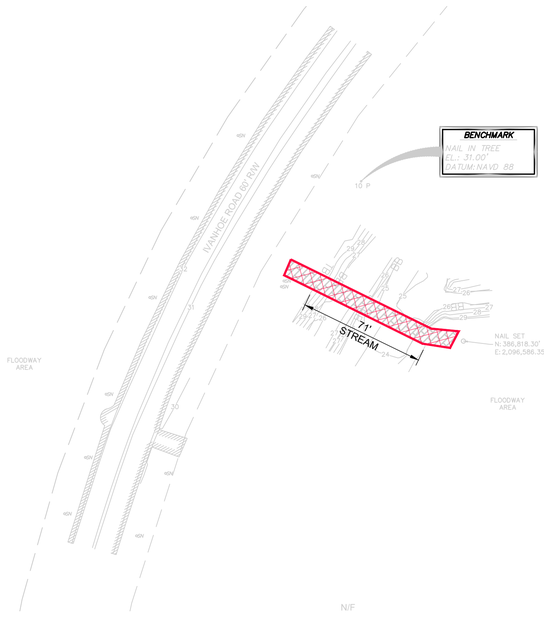
SHEET TITLE: REMOVAL PLAN SHEET 1

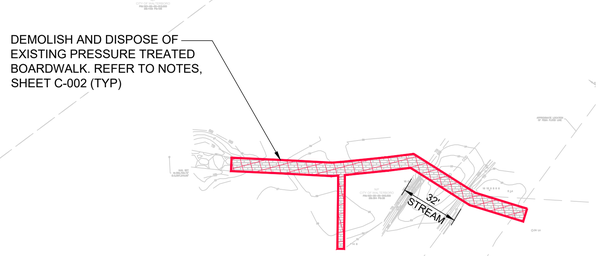
PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-151





KEY MAP
SCALE 1" = 500'





EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
⊲SN	SIGN
Ⓢ	SANITARY SEWER MANHOLE
⊲SP	WOOD POST
IE	INVERT ELEVATION
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PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLIA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

REMOVALS LEGEND

DEMOLITION

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA INC. NO. C00892

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 38472 ANTHONY L. HAUSER 6/3/25

ENGINEER:
WSP USA INC.
1308 PATTON AVENUE, SUITE C
ASHEVILLE, NC 28806
TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

CLIENT:
Walterboro® The Front Porch of the Lowcountry
CITY OF WALTERBORO
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:40
SCALE VERTICAL:	

PROJECT:
BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE:
REMOVAL PLAN SHEET 2

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-152

NOT IN CONTRACT

DEMOLISH AND DISPOSE OF EXISTING PRESSURE TREATED BOARDWALK. REFER TO NOTES, SHEET C-002 (TYP)

DEMOLISH AND DISPOSE OF EXISTING PRESSURE TREATED BOARDWALK. REFER TO NOTES, SHEET C-002 (TYP)

NAIL SET
N: 386,316.56'
E:2,095,652.81'

34' STREAM

45' STREAM

FLOODWAY AREA

NAIL SET
N: 386,083.16'
E:2,095,570.22'

N/F
CITY OF WALTERBORO
PIN:163--00--00--032.000
DB: 2003 PG: 2

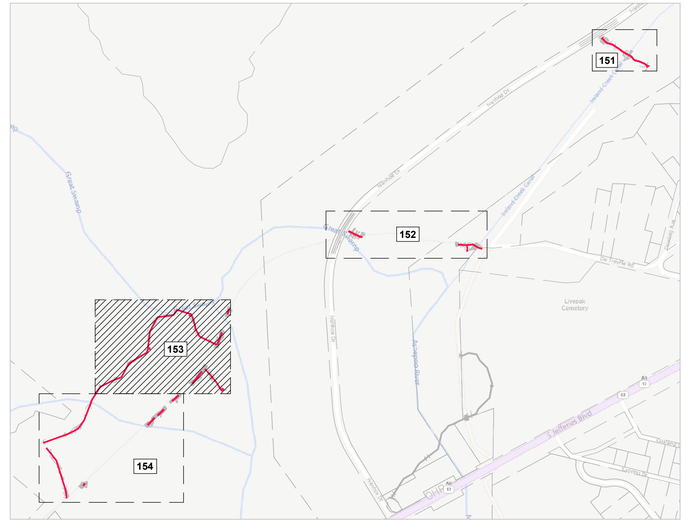
SHEET 2
SHEET 3

NOT IN CONTRACT

NAIL SET
N: 385,907.64'
E:2,095,479.87'

84' STREAM

NAIL SET
N: 385,712.37'
E:2,095,300.74'



KEY MAP
SCALE 1" = 500'

1"=40'
40' 20' 0 40' 80'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

REMOVALS LEGEND

DEMOLITION

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SEAL: SOUTH CAROLINA — WSP USA INC. NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA — Professional Engineer — No. 38472 — ANTHONY L. HAUSER

ENGINEER:
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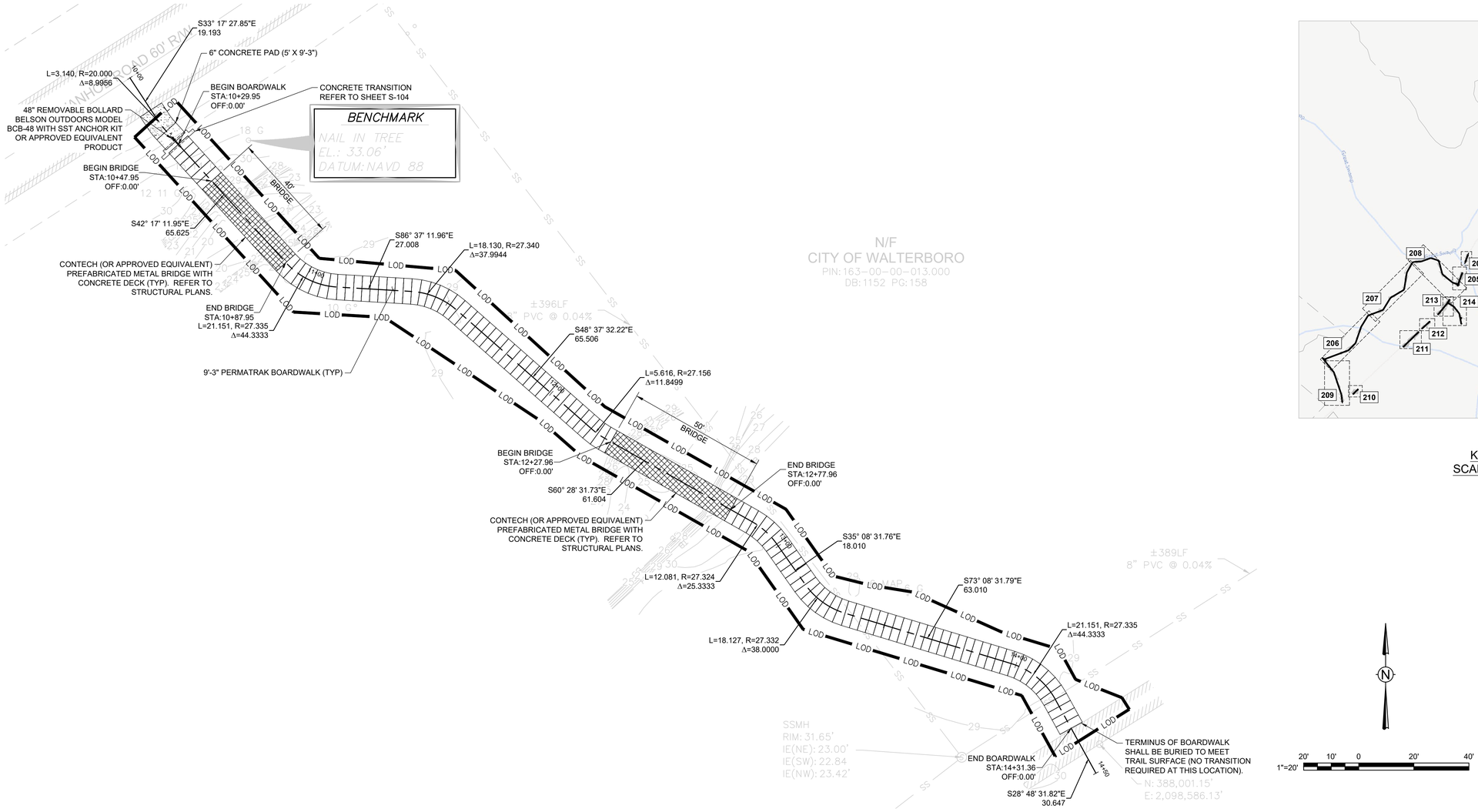
WALTERBORO, SC 29488
TEL: (843) 782-1000

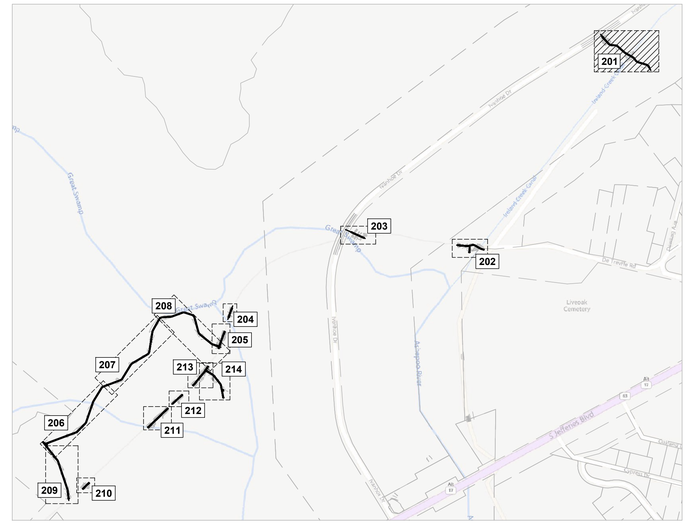
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:40
SCALE VERTICAL:	

PROJECT:
BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

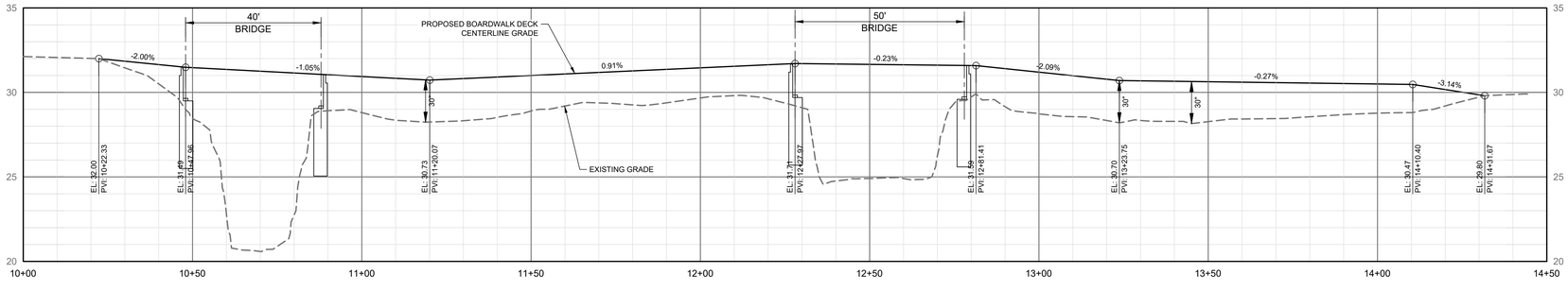
SHEET TITLE:
REMOVAL PLAN SHEET 3

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-153





KEY MAP
SCALE 1" = 500'



COVERED BRIDGE PROFILE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
⌀SN	SIGN
Ⓢ	SANITARY SEWER MANHOLE
⌀P	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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SEAL: SOUTH CAROLINA — WSP USA INC. NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 38472 — ANTHONY L. HAUSER — 6/3/25

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TEL: (843) 782-1000

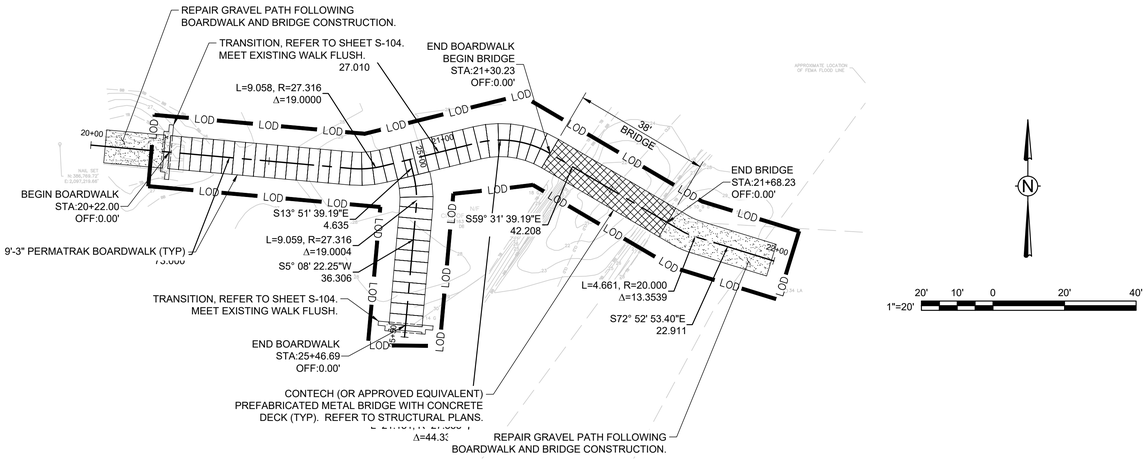
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	1:4

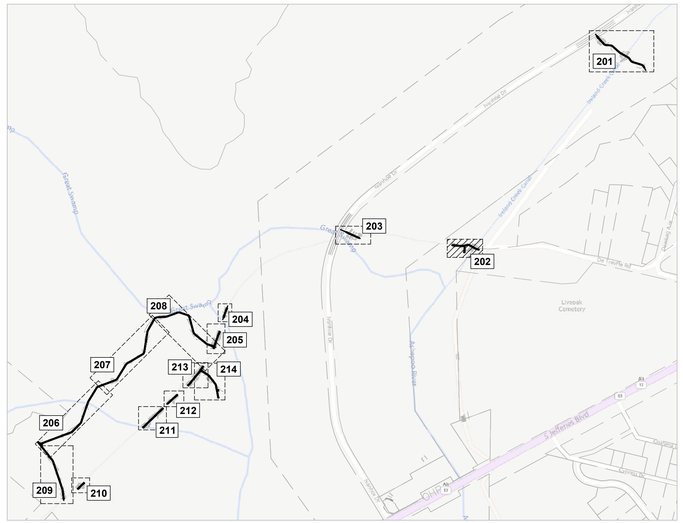
PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: COVERED BRIDGE
PROPOSED PLAN & PROFILE

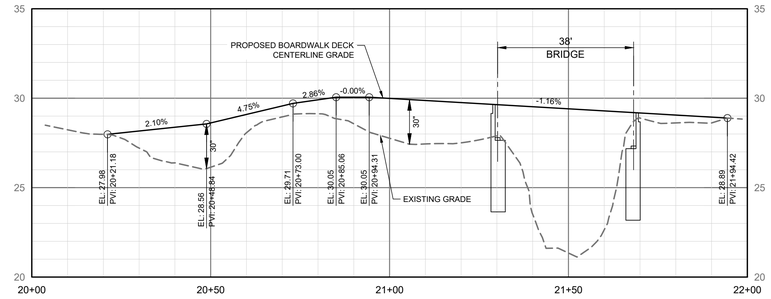
PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-201

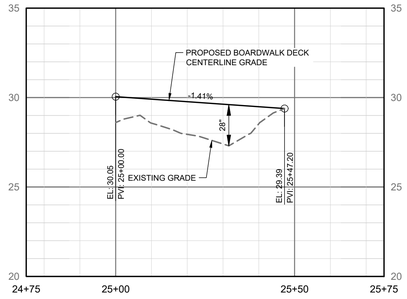
C:\USERS\USBK132970\ONEDRIVE - WSP O365\DESKTOP\PROJECT CAD\WALTERBORO BW PH2\01_PRODUCTION SHEETS\1_PLANSHEETS\C-200 P&P.DWG ----- 5/27/2025





KEY MAP
SCALE 1" = 500'





DETRIVILLE BRIDGE EAST PROFILES
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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SEAL: SOUTH CAROLINA — WSP USA INC. NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA — LICENSED PROFESSIONAL ENGINEER — No. 38472 — ANTHONY L HAUSER — 6/3/25

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LICENSURE: SC ENG: C00892

CLIENT:
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242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

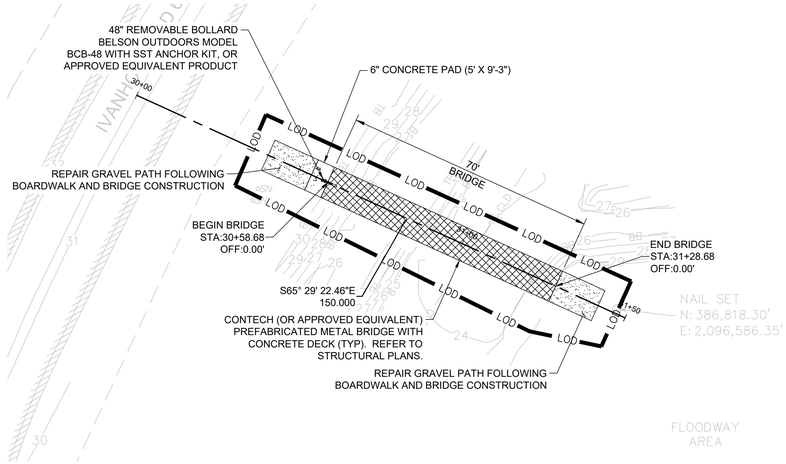
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	1:4

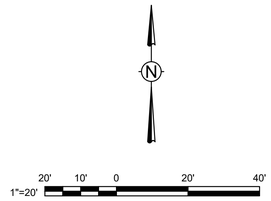
PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

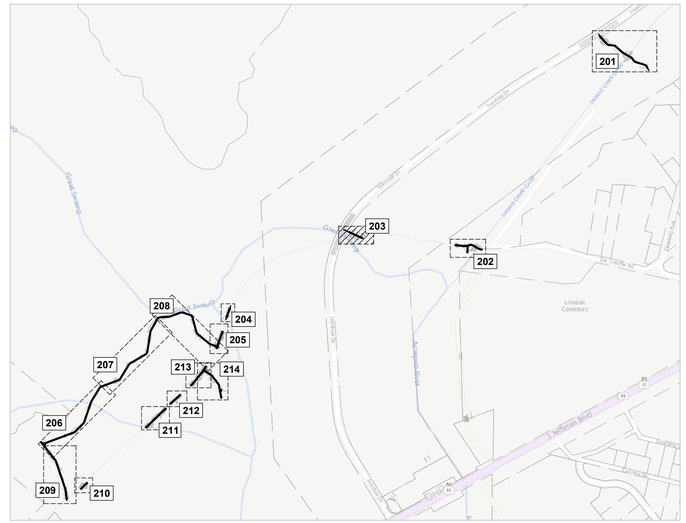
SHEET TITLE: EAST DETRIVILLE BRIDGE
PROPOSED PLAN & PROFILE

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-202

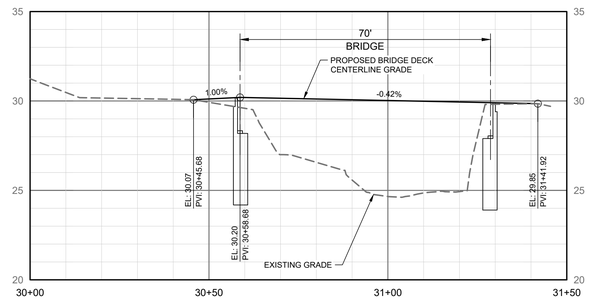
C:\USERS\USBK132970\ONEDRIVE - WSP O365\DESKTOP\PROJECT CAD\WALTERBORO BW PH2\01_PRODUCTION SHEETS\1_PLANSHEETS\C-200 P&P.DWG ----- 5/27/2025







KEY MAP
SCALE 1" = 500'



DETRIVILLE BRIDGE WEST PROFILE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
45N	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

	BOARDWALK
	BRIDGE
	PATH
LOD	LIMIT OF DISTURBANCE

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SEAL: SOUTH CAROLINA — WSP USA INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 38472 — 6/3/25 — ANTHONY L. HAUSER

ENGINEER:
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1308 PATTON AVENUE, SUITE C
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TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

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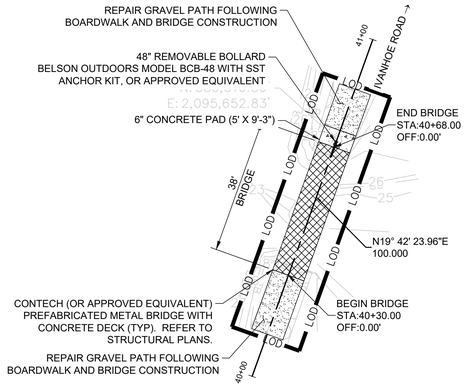
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

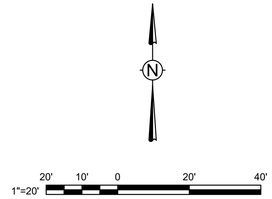
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	1:4

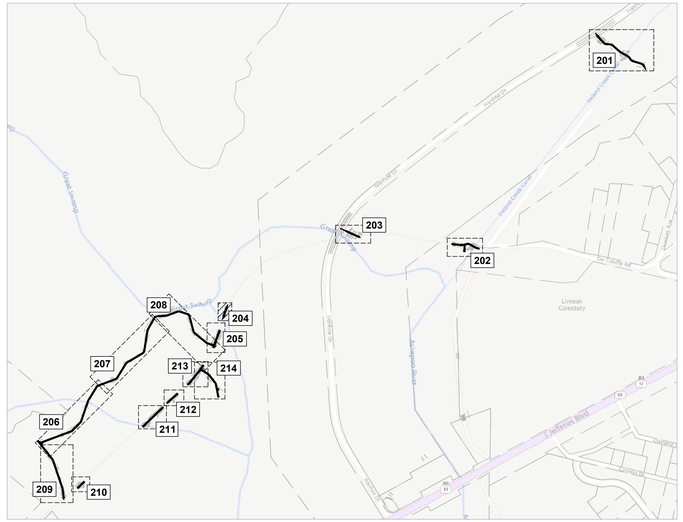
PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: WEST DETRIVILLE BRIDGE
PROPOSED PLAN & PROFILE

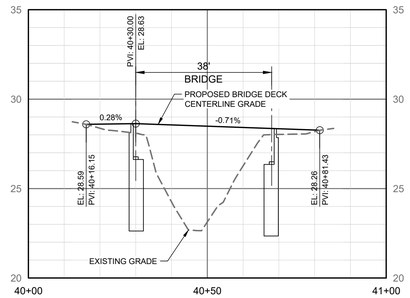
PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-203







KEY MAP
SCALE 1" = 500'



BEACH HILL BRIDGE 1 PROFILE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
46W	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	1:4

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: BEACH HILL BRIDGE 1
PROPOSED PLAN & PROFILE

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-204

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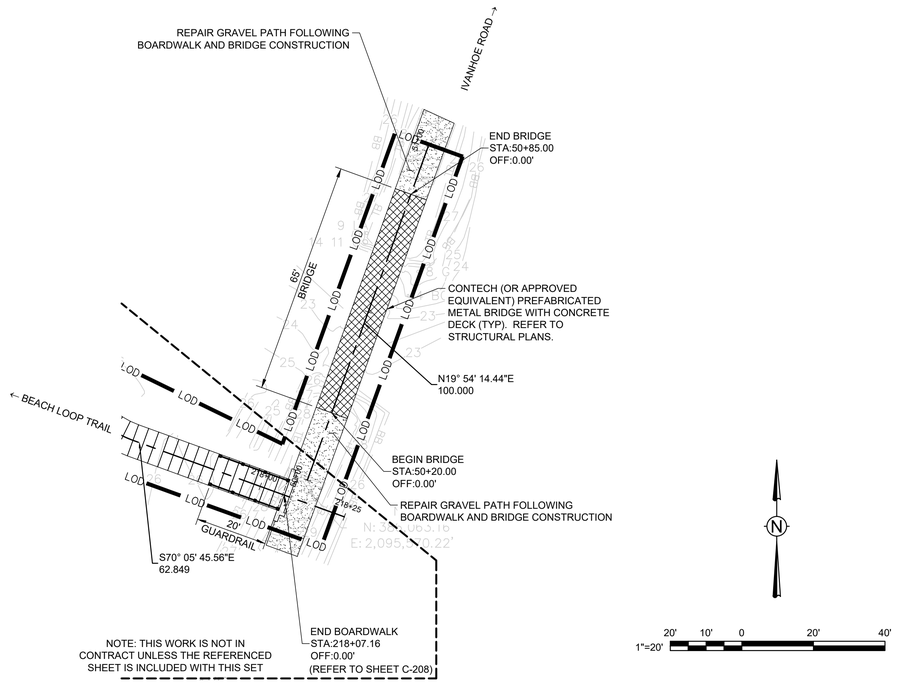
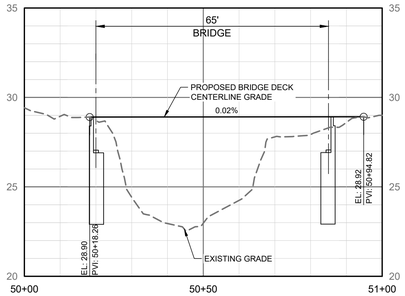
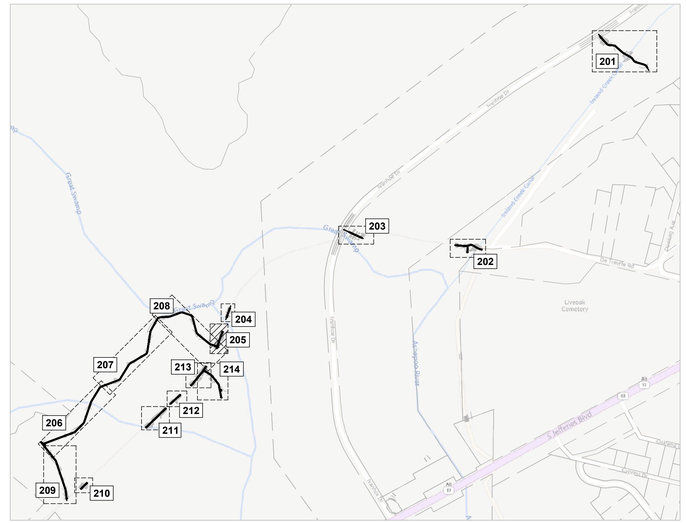




BEACH HILL BRIDGE 2 PROFILE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'



KEY MAP
SCALE 1" = 500'

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLIA
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T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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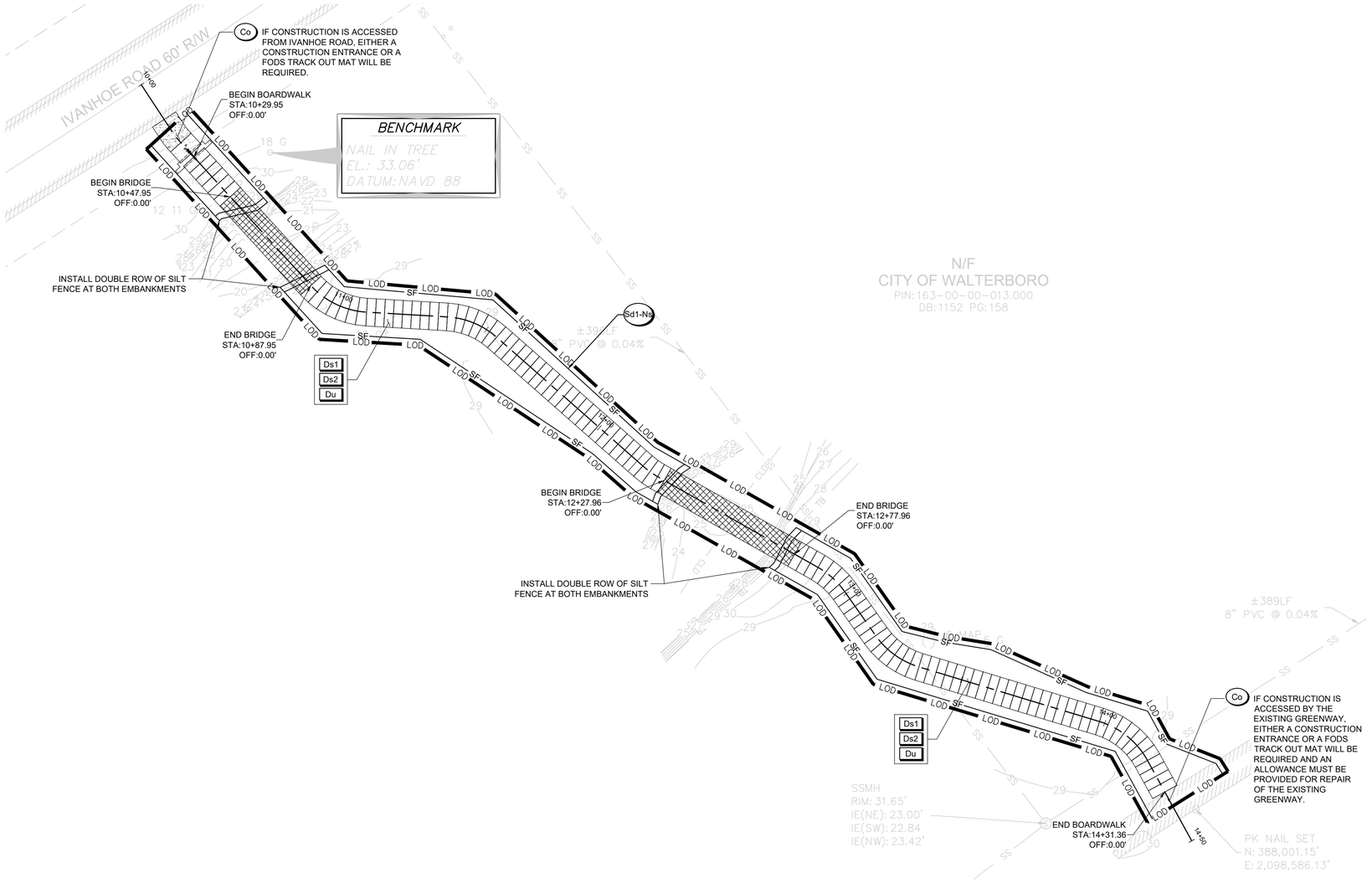
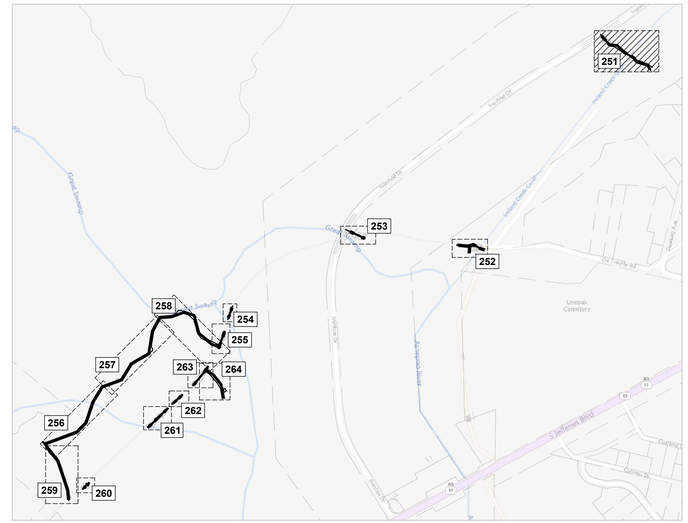
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	1:4

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: BEACH HILL BRIDGE 2
PROPOSED PLAN & PROFILE

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-205





KEY MAP
SCALE 1" = 500'

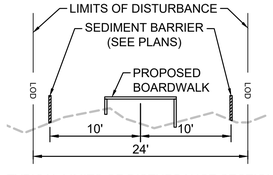
CODE	PRACTICE	MAP SYMBOL	DESCRIPTION	SCDES BMP REFERENCE
Co	CONSTRUCTION ENTRANCE	Co	A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM TIRES THEREBY PROTECTING PUBLIC STREETS. A REUSABLE CONSTRUCTION ENTRANCE INSTALLED IN ACCORDANCE WITH THE MANUFACTRER'S SPECIFICATIONS IS AN ACCEPTABLE ALTERNATIVE. (E.G. FODS TRACKOUT MAT OR EQUIVALENT PRODUCT)	FIELD MANUAL PAGE 2-20 STD. DETAIL SC-06
Sd1-Ns	SEDIMENT BARRIER	SF	BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE COIR LOGS, COMPOST SOCKS, OR SILT FENCE. THIS PRACTICE MUST BE REMOVED AFTER CONSTRUCTION AND WHEN THE GROUND IS FULLY STABILIZED. FILTREXX COMPOST FILTER SOCK OR APPROVED EQUIVALENT PRODUCT WITH BIODEGRADABLE NETTING AND CONTENTS MAY BE CUT OPEN AND SPREAD IN PLACE AT THE END OF CONSTRUCTION AND WHEN THE SITE IS FULLY STABILIZED.	FIELD MANUAL PAGE 2-7 STD. DETAIL SC-03, SC-05, SC-14
Ds1	DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1	ESTABLISHING TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEEDLINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDING COVER.	FIELD MANUAL PAGE 1-12
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)	Ds2	ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDLINGS ON DISTURBED AREAS.	FIELD MANUAL PAGE 1-7
Du	DUST CONTROL ON DISTURBED AREAS	Du	CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION ROADWAYS AND SIMILAR SITES.	FIELD MANUAL PAGE 1-43
Mb	EROSION CONTROL MATTING AND BLANKETS	Mb	THE INSTALLATION OF A PROTECTIVE COVERING (BLANKET) OR SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL, OR SHORELINE.	FIELD MANUAL PAGE 1-15

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
sign	SIGN
S	SANITARY SEWER MANHOLE
wp	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLIA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

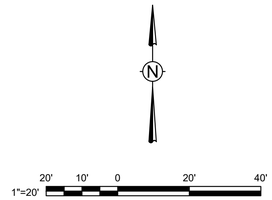
PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE



TYPICAL LIMITS OF DISTURBANCE SECTION
N.T.S.

MAXIMUM AREA OF DISTURBANCE:
80,752 SF (1.85 AC)



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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA — WSP USA INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 38472 — 6/3/25 — ANTHONY L HAUSER

ENGINEER:
WSP USA INC.
1308 PATTON AVENUE, SUITE C
ASHEVILLE, NC 28806
TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

CLIENT:
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CITY OF WALTERBORO
SOUTH CAROLINA
242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY: BNK
REVIEWED BY: ALH
APPROVED BY: ALH
SCALE HORIZONTAL: 1:20
SCALE VERTICAL:

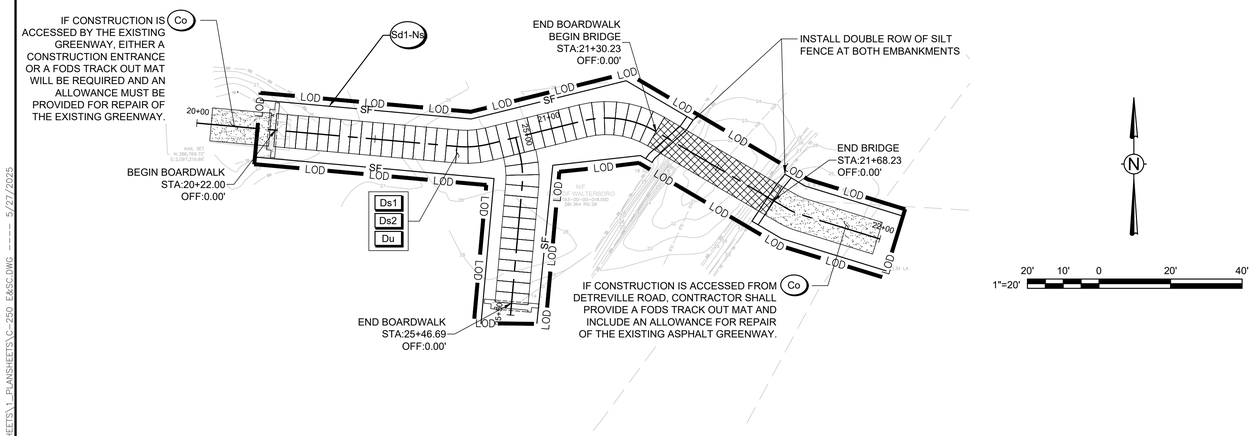
PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

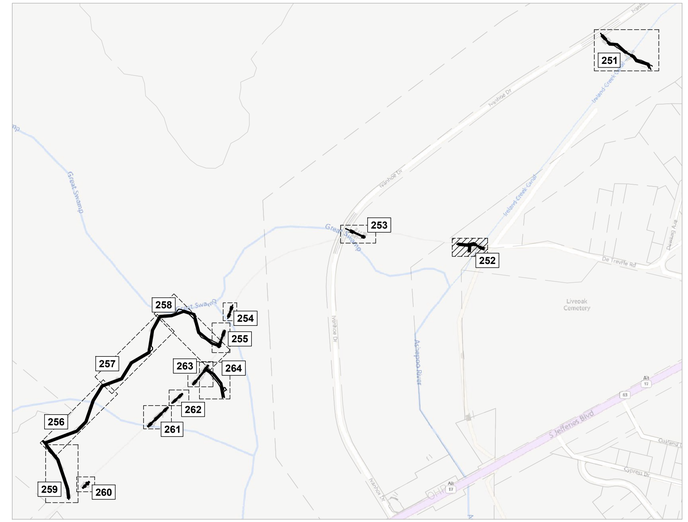
PROJECT NO.: G692.6214
REVISION NO.
DATE: 5/27/2025

SHEET TITLE: COVERED BRIDGE EROSION & SEDIMENT CONTROL PLAN

SHEET NO. C-251

C:\USERS\USBK132970\ONEDRIVE - WSP 0365\DESKTOP\PROJECT CAD\WALTERBORO BW PH2\01_PRODUCTION SHEETS\1_PLANSHEETS\C-250 E&SC.DWG ----- 5/27/2025





KEY MAP
SCALE 1" = 500'

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Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)	Ds2	ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDLINGS ON DISTURBED AREAS.	FIELD MANUAL PAGE 1-7
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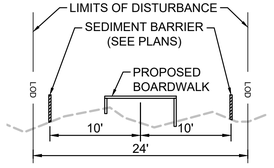

TYPICAL LIMITS OF DISTURBANCE SECTION
N.T.S.

EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA INC. NO. C00892

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 38472 ANTHONY L. HAUSER 6/3/25

ENGINEER:
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LICENSURE: SC ENG: C00892

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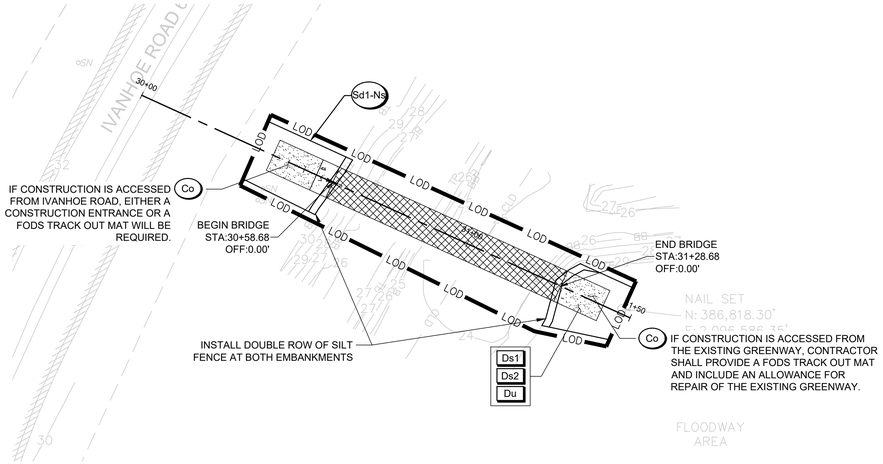
TEL: (843) 782-1000

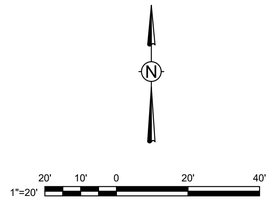
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	

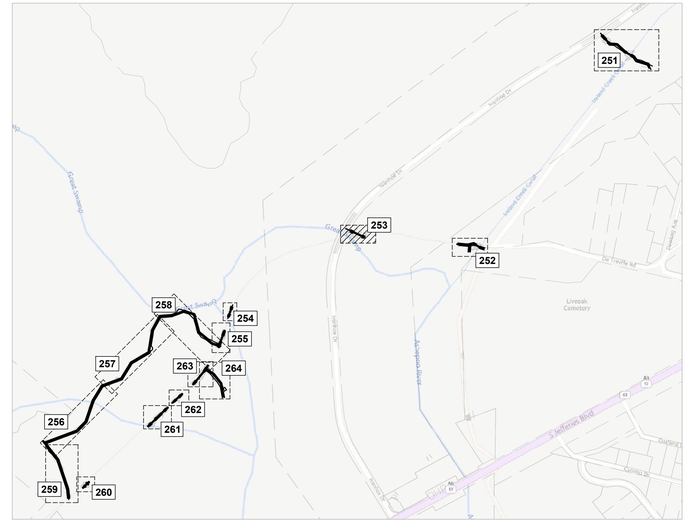
PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: EAST DETRIVLLE BRIDGE EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-252







KEY MAP
SCALE 1" = 500'

CODE	PRACTICE	MAP SYMBOL	DESCRIPTION	SCDES BMP REFERENCE
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EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
45N	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
LF	LINEAR FEET
PD	PIPE DIRECTION
PVC	POLYVINYL CHLORIDE PIPE
BG	BLACK GUM
CED	CEDAR
G	SWEET GUM
HO	HOLLY
LA	LAUREL OAK
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MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA INC. NO. C00892

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER ANTHONY L. HAUSER No. 38472 6/3/25

ENGINEER:
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1308 PATTON AVENUE, SUITE C
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TEL: (828) 252-8130
LICENSURE: SC ENG: C00892

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242 HAMPTON STREET
WALTERBORO, SC 29488
TEL: (843) 782-1000

DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: WEST DETRIVILLE BRIDGE EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-253

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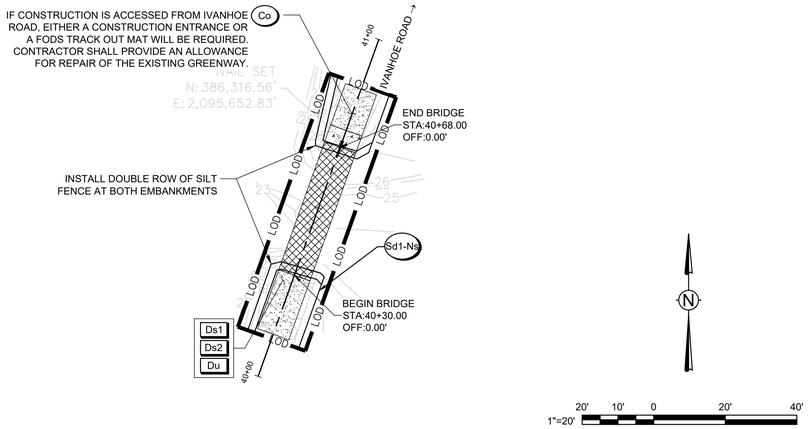

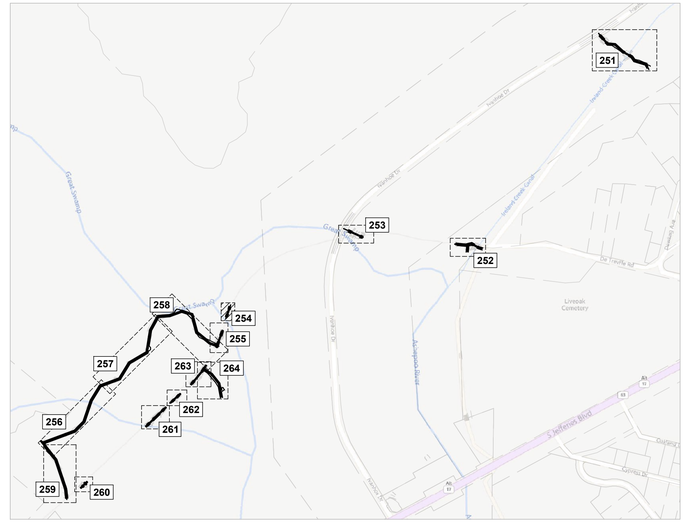

KEY MAP
SCALE 1" = 500'

CODE	PRACTICE	MAP SYMBOL	DESCRIPTION	SCDES BMP REFERENCE
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Ds1	DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1	ESTABLISHING TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEEDLINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDING COVER.	FIELD MANUAL PAGE 1-12
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EXISTING CONDITIONS LEGEND

×12.9	SPOT ELEVATION
SIGN	SIGN
S	SANITARY SEWER MANHOLE
WP	WOOD POST
IE	INVERT ELEVATION
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PVC	POLYVINYL CHLORIDE PIPE
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	CENTERLINE OF DITCH
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	UNDERGROUND SEWER LINE
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	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
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SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 38478 — ANTHONY L. HAUSER — 6/3/25

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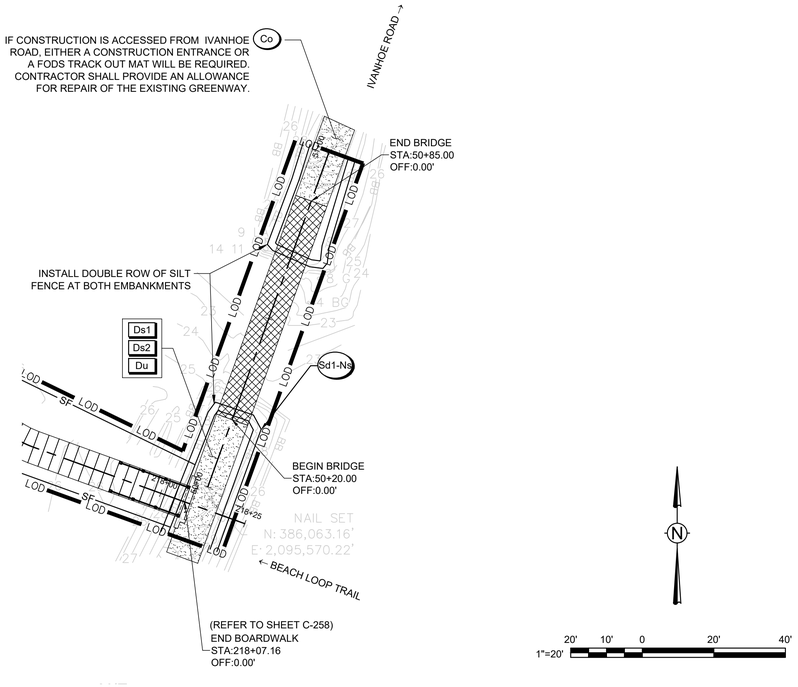
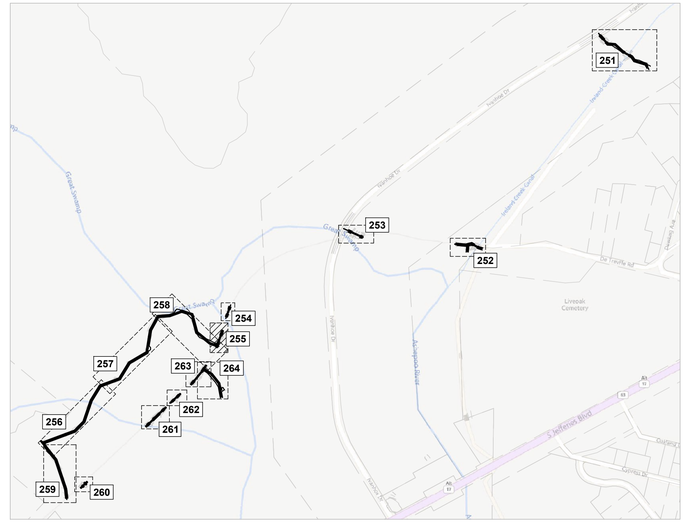
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: BEACH HILL BRIDGE 1 EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-254





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SCALE 1" = 500'

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○P	WOOD POST
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LA	LAUREL OAK
MAP	RED MAPLE
MAG	MAGNOLA
P	PINE
SCO	SWAMP CHESTNUT OAK
T	TALLOW
	BOTTOM OF BANK
8	CONTOUR LINE
	CENTERLINE OF DITCH
	FORCEMAIN
	UNDERGROUND SEWER LINE
	EDGE OF PAVEMENT
	GRAVEL
	BOARDWALK

PROPOSED CONDITIONS LEGEND

- BOARDWALK
- BRIDGE
- PATH
- LOD — LIMIT OF DISTURBANCE

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA INC. NO. C00892

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER ANTHONY L. HAUSER No. 38472 6/3/25

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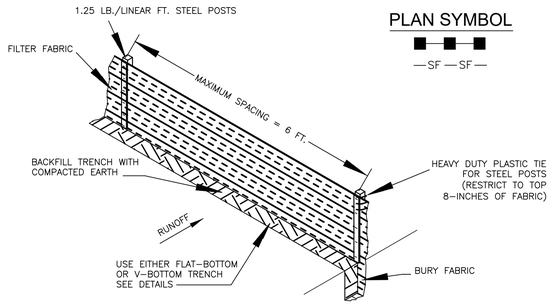
DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	1:20
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: BEACH HILL BRIDGE 2 EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-255

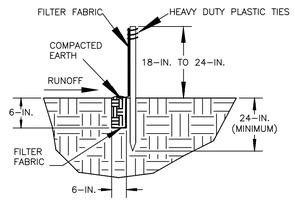
SILT FENCE INSTALLATION



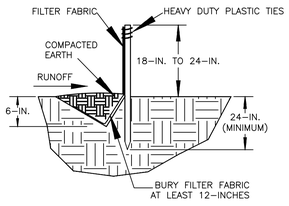
PLAN SYMBOL

—SF—SF—

FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



SILT FENCE – GENERAL NOTES

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100–feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
   - Wrap each fabric together at a support post with both ends fastened to the post, with a 1–foot minimum overlap;
   - Overlap silt fence by installing 3–feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy–duty plastic ties; or,
   - Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy–duty plastic ties that are evenly spaced within the top 8–inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie–Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

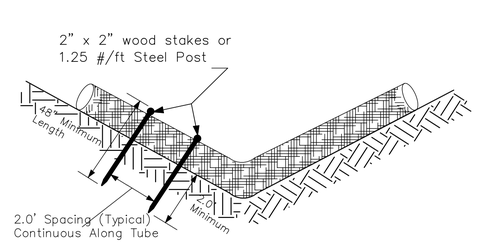
South Carolina Department of Health and Environmental Control

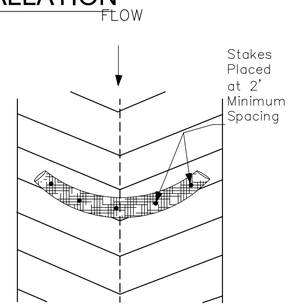
SILT FENCE

STANDARD DRAWING NO. SC–03 Page 1 of 2

NOT TO SCALE — FEBRUARY 2014 (DATE)

SEDIMENT TUBE INSTALLATION





SEDIMENT TUBE SPACING

SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

PLAN SYMBOL

South Carolina Department of Health and Environmental Control

SEDIMENT TUBES

STANDARD DRAWING NO. SC–05 PAGE 1 of 2

NOT TO SCALE — FEBRUARY 2014 (DATE)

1A | SCDES FIELD MANUAL STANDARD DETAIL SC-03 (1/2)

1B | SCDES FIELD MANUAL STANDARD DETAIL SC-03 (2/2)

SILT FENCE – POST REQUIREMENTS

1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
   - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
   - Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
   - Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17–square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24–inches. A minimum height of 1– to 2–inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6–feet on center.

SILT FENCE – FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
   - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
   - Free of any treatment or coating which might adversely alter its physical properties after installation;
   - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
   - Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

SILT FENCE – INSPECTION & MAINTENANCE

1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie–backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

South Carolina Department of Health and Environmental Control

SILT FENCE

STANDARD DRAWING NO. SC–03 PAGE 2 of 2

GENERAL NOTES — FEBRUARY 2014 (DATE)

SEDIMENT TUBES – GENERAL NOTES

1. Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off–site discharge of sediment–laden stormwater runoff.
2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch–filled sediment tubes are not permitted.
3. The outer netting of the sediment tube should consist of seamless, high–density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high–density polyethylene non–degradable material.
4. Sediment tubes, when used as checks within channels, should range between 18–inches and 24–inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.
5. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
6. Sediment tubes should be staked using wooden stakes (2–inch X 2–inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48–inches in length placed on 2–foot centers.
7. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before installation.
8. The ends of adjacent sediment tubes should be overlapped 6–inches to prevent flow and sediment from passing through the field joint.
9. Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
10. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
11. Sediment tubes should continue up the side slopes a minimum of 1–foot above the design flow depth of the channel.
12. Install stakes at a diagonal facing incoming runoff.

SEDIMENT TUBES – INSPECTION & MAINTENANCE

1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

South Carolina Department of Health and Environmental Control

SEDIMENT TUBES

STANDARD DRAWING NO. SC–05 PAGE 2 of 2

GENERAL NOTES — FEBRUARY 2014 (DATE)

2A | SCDES FIELD MANUAL STANDARD DETAIL SC-05 (1/2)

2B | SCDES FIELD MANUAL STANDARD DETAIL SC-05 (2/2)

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SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION — WSP USA INC. — NO. C00892

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER — NO. 38472 — 6/3/25 — ANTHONY L. HAUSER

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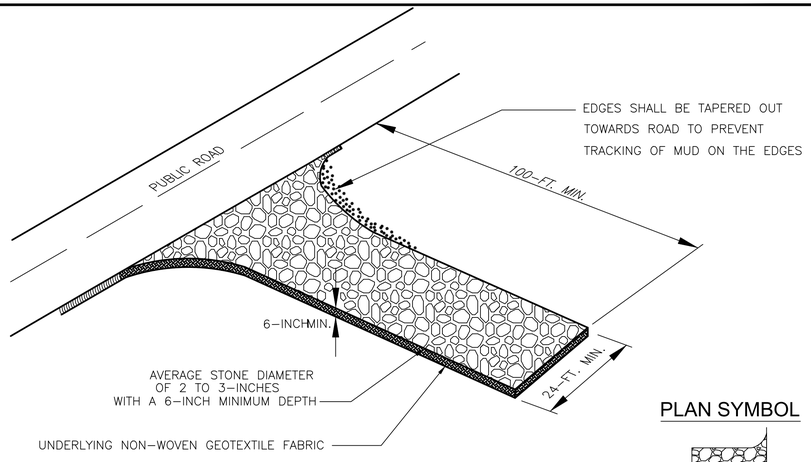
DRAWN BY: BNK
REVIEWED BY: ALH
APPROVED BY: ALH
SCALE HORIZONTAL:
SCALE VERTICAL:

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: CIVIL DETAILS 1 OF 4

PROJECT NO.: G692.6214
REVISION NO.
DATE: 5/27/2025
SHEET NO.: C-301



PLAN SYMBOL

SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	24 FEET
ROCK PAD LENGTH	100 FEET
ROCK PAD STONE SIZE	D = 2-3 INCHES

South Carolina Department of Health and Environmental Control

CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

3A SCDES FIELD MANUAL STANDARD DETAIL SC-06 (1/2)

CONSTRUCTION ENTRANCE – GENERAL NOTES

1. Stabilized construction entrances should be used at all points where traffic will egress/ingress a construction site onto a public road or any impervious surfaces, such as parking lots.
2. Install a non-woven geotextile fabric prior to placing any stone.
3. Install a culvert pipe across the entrance when needed to provide positive drainage.
4. The entrance shall consist of 2-inch to 3-inch D50 stone placed at a minimum depth of 6-inches.
5. Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.
6. The edges of the entrance shall be tapered out towards the road to prevent tracking at the edge of the entrance.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping structure.
8. Limestone may not be used for the stone pad.

CONSTR. ENTRANCE – INSPECTION & MAINTENANCE

1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of construction entrances shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
4. Reshape the stone pad as necessary for drainage and runoff control.
5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce the amount of mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone pad.
6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
7. During maintenance activities, any broken pavement should be repaired immediately.
8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post-construction.

South Carolina Department of Health and Environmental Control

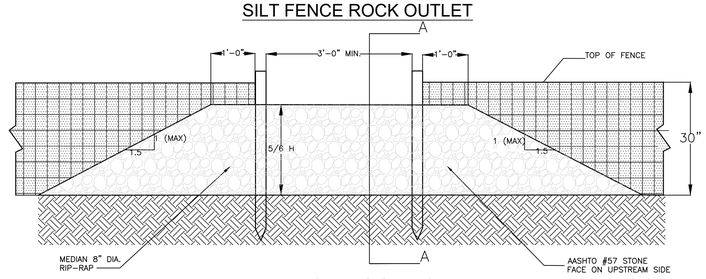
CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 PAGE 2 of 2

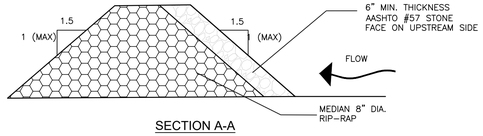
GENERAL NOTES FEBRUARY 2014 DATE

3B SCDES FIELD MANUAL STANDARD DETAIL SC-06 (2/2)

SILT FENCE ROCK OUTLET



ELEVATION - UP-SLOPE FACE



SECTION A-A

PLAN SYMBOL

NOTES:

1. WASHED STONE (#57) TO BE REMOVED AND REPLACED ONCE IT BECOMES CLOGGED WITH SEDIMENT.
2. SEDIMENT TO BE REMOVED WHEN ACCUMULATIONS REACH 1/3 HEIGHT OF SILT FENCE
3. THE KEY TO FUNCTIONAL ROCK OUTLETS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

South Carolina Department of Health and Environmental Control

SILT FENCE ROCK OUTLET

STANDARD DRAWING NO. SC-14 PAGE 1 of 1

NOT TO SCALE FEBRUARY 2014 DATE

4 SCDES FIELD MANUAL STANDARD DETAIL SC-14

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DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: CIVIL DETAILS 2 OF 4

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-302

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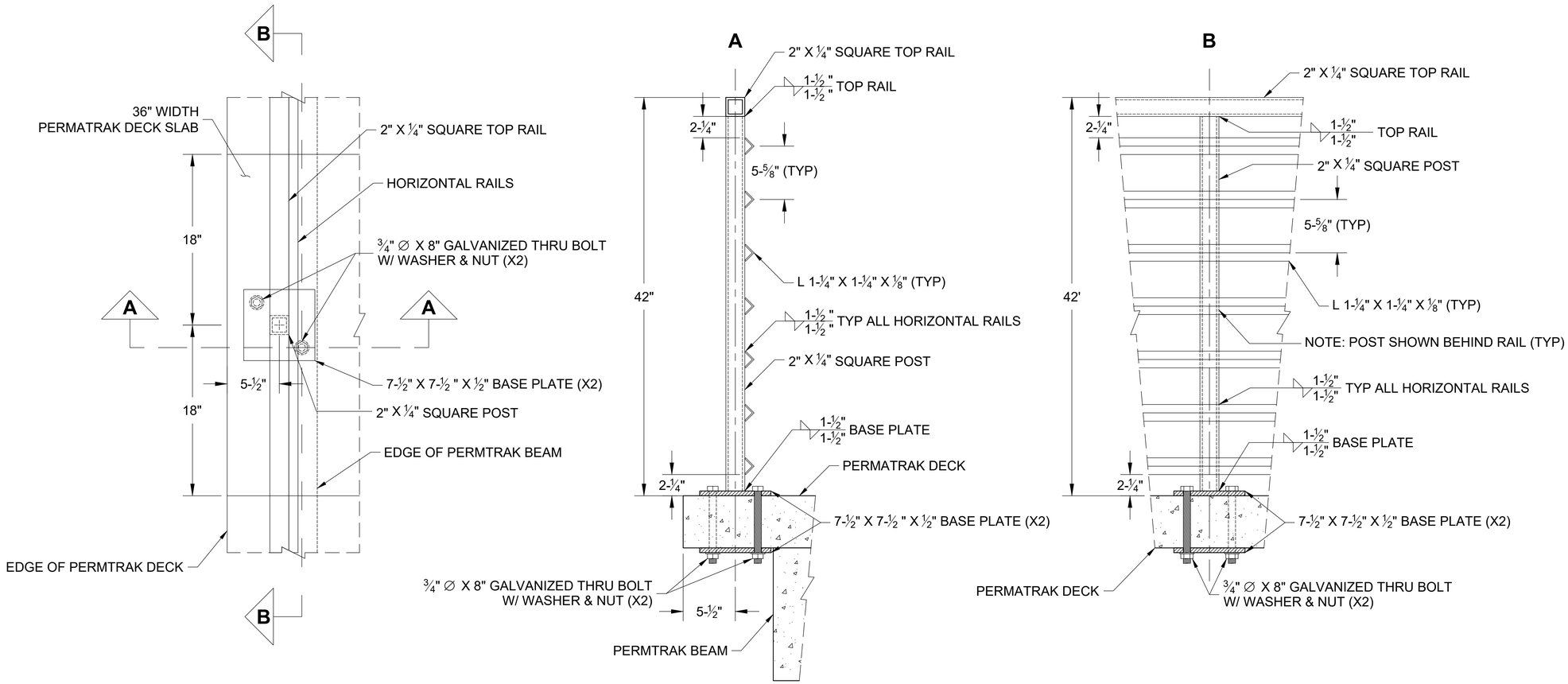

7 GUARDRAIL DETAIL (SCALE: 1" = 6")

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SCALE HORIZONTAL:	
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: CIVIL DETAILS 4 OF 4

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	C-304

A. GENERAL

1. THE BRIDGE MUST BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. MATERIALS AND REQUIREMENTS FOR ANY CONSTRUCTION REQUIREMENTS NOT SPECIFIED IN THE CONTRACT DOCUMENTS, FOLLOW SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION 2025 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK. NOTIFY THE PROJECT ENGINEER IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE CONTRACT DOCUMENTS.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.
4. COORDINATE STRUCTURAL CONTRACT DOCUMENTS WITH CIVIL CONTRACT DOCUMENTS. NOTIFY THE PROJECT ENGINEER OF ANY CONFLICT AND/OR OMISSION.
5. SUBMIT SHOP DRAWINGS AND OTHER SUBMITTALS FOR CONSTRUCTION OF ALL APPLICABLE ITEMS INDICATED HEREIN. APPROVED SHOP DRAWINGS SHALL BE AVAILABLE AT THE JOB SITE AT ALL TIMES.
6. REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS BY THE PROJECT ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE PROJECT ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
7. CONTRACTOR SHALL TAKE MEASURES TO PROTECT BOARDWALK DECK FROM DAMAGE DURING CONSTRUCTION.

B. DESIGN LOADS

1. PEDESTRIAN BRIDGES SHALL BE DESIGNED IN ACCORDANCE WITH "AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES" 2ND EDITION, WITH 2015 INTERIM REVISIONS (AASHTO PED.)
2. GRAVITY LOADS:
   a. DEAD LOADING (DL) = SELF WEIGHT OF STRUCTURE
   b. PEDESTRIAN BRIDGE LIVE LOAD (PL) - SEE SECTION G. PRE-FABRICATED BRIDGE
   c. BOARDWALK LIVE LOAD (LL) = 90 PSF
   d. BOARDWALK VEHICULAR LOAD = H5 TRUCK (RANGER CREW XP 1000 NORTHSTAR)
3. WIND LOAD
   WIND PRESSURE SHALL BE CALCULATED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD 2020, 9TH EDITION.
4. SEISMIC LOAD
   DETAILED SEISMIC ANALYSIS NOT REQUIRED FOR SINGLE SPAN BRIDGES IN ACCORDANCE WITH THE 2008 SCDOT "SEISMIC DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES" VERSION 2.0. SEISMIC DESIGN IS IN ACCORDANCE WITH AASHTO LRFD, 9TH EDITION, 2020.
5. LATERAL STREAM FORCE
   LATERAL STREAM FORCE SHALL BE DESIGNED IN ACCORDANCE WITH "AASHTO LRFD" 9TH EDITION, 2020 AS APPLICABLE.
   a. STREAM VELOCITY = 6 FPS
   b. 100-YEAR BASE FLOOD ELEVATION = 32

C. FOUNDATIONS

1. THE DESIGN OF FOUNDATIONS AND RETAINING WALLS IS BASED ON THE CRITERIA ESTABLISHED IN THE GEOTECHNICAL REPORTS BY WSP USA ENVIRONMENT & INFRASTRUCTURE INC. HELICAL SCREW PILE FOUNDATION SHALL BE USED AS RECOMMENDED IN THE GEOTECHNICAL REPORT. ACTUAL DEPTH OF FOUNDATION SHALL BE VERIFIED IN THE FIELD BY A GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF SOUTH CAROLINA, AT THE TIME OF PILE INSTALLATION.
2. THE EVALUATION OF THE CONDITION AND/OR ADEQUACY OF ALL SUBGRADES, FILLS AND BACKFILLS SHALL BE PERFORMED UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. ALL SUBGRADE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORTS BEFORE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS, WALLS, FILLS, BACKFILLS, ETC.
3. GROUND WATER SHALL BE KEPT AT LEAST 3 FEET BELOW THE DEEPEST FOUNDATION BEARING ELEVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY REPONSIBLE FOR ALL DEWATERING MEASURES.
4. AFTER STRIPPING ALL PAVEMENTS, VEGETATION, ROOTMAT, TOPSOIL, AND ANY OTHER SOFT OR UNSUITABLE MATERIAL FROM THE CONSTRUCTION AREA, AND PRIOR TO FILL PLACEMENT, THE STRIPPED SURFACE SHALL BE EVALUATED UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA.
5. ALL FILL OPERATIONS SHALL BE OBSERVED, ON A FULL-TIME BASIS BY A QUALIFIED SOIL TECHNICIAN TO DETERMINE THAT MINIMUM COMPACTION REQUIREMENTS ARE BEING MET.
6. FILL MATERIALS SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES LOOSE THICKNESS AND MOISTURE CONDITIONED TO WITHIN ±3% OF THE OPTIMUM MOISTURE CONTENT TO FACILITATE PROPER COMPACTION. CONTROLLED FILL SOILS SHALL BE COMPACTED TO MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY OBTAINED IN ACCORDANCE WITH ASTM D698, STANDARD PROCTOR METHOD.

D. HELICAL SCREW PILE

1. PIERS SHALL BE INSTALLED BY AN AUTHORIZED INSTALLING CONTRACTOR WHO HAS SATISFIED THE CERTIFICATION REQUIREMENTS RELATING TO THE TECHNICAL ASPECTS OF THE PRODUCT AND THE ASCRIBED INSTALLATION TECHNIQUES. PROOF OF CURRENT CERTIFICATION BY THE MANUFACTURER MUST BE PROVIDED.
2. ALL WORK AS DESCRIBED HEREN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SAFETY CODES IN EFFECT AT THE TIME OF INSTALLATION.
3. HELICAL PIERS AS SPECIFIED SHALL CONFORM TO THE SBCCI-STANDARD BUILDING CODE. AN OFFICIAL EVALUATION REPORT WITH ASSIGNED NUMBER SHALL BE UPON REQUEST TO THE OWNER AND/OR THEIR REPRESENTATIVE. SBCCI-9504B.
4. THE HELICAL LEAD SECTIONS AND EXTENSION SECTIONS SHALL BE SOLID STEEL, ROUND CORNERED SQUARE SHAFT, OR ROUND STEEL PIPE SHAFT, OR COMPOSITE STEEL AND GROUT SHAFT CONFIGURED WITH ONE OR MORE HELICAL BEARING PLATES WELDED TO THE SHAFT.
5. ALL PIERS MUST BE CORROSION PROTECTED BY HOT DIP GALVANIZATION.
6. INSTALLATION UNITS SHALL CONSIST OF A ROTARY TYPE TORQUE MOTOR WITH FORWARD AND REVERSE CAPABILITIES. THESE UNITS ARE TYPICALLY POWERED.
7. INSTALLATION UNITS SHALL BE CAPABLE OF DEVELOPING THE MINIMUM TORQUE AS REQUIRED.
8. INSTALLATION UNITS SHALL BE CAPABLE OF POSITIONING THE HELICAL PIER AT THE PROPER INSTALLATION ANGLE. THIS ANGLE MAY VARY BETWEEN VERTICAL AND 5 DEGREES DEPENDING UPON APPLICATION AND TYPE OF LOAD TRANSFER DEVICE SPECIFIED OR REQUIRED.
9. INSTALLATION TORQUE SHALL BE MONITORED THROUGHOUT THE INSTALLATION PROCESS.
10. HELICAL PIERS SHALL BE INSTALLED TO THE MINIMUM TORQUE VALUE REQUIRED TO PROVIDE THE LOAD CAPACITIES SHOWN ON THE PLANS.
11. THE APPROPRIATE STEEL NEW CONSTRUCTION LOAD TRANSFER DEVICE SHALL BE USED.
12. APPROPRIATE HELICAL PIER SELECTION WILL CONSIDER DESIGN LOAD PLUS SAFETY FACTOR, SOIL PARAMETERS AND THE INSTALLATION TORQUE VS CAPACITY EQUATION AS PER THE MANUFACTURERS RECOMMENDATIONS.
13. DESIGN OF HELICAL SCREW PILES AND ANCHORS SHALL BE PERFORMED BY AN ENTITY AS REQUIRED IN ACCORDANCE WITH EXISTING LOCAL CODE REQUIREMENTS OR ESTABLISHED LOCAL PRACTICES. THIS DESIGN WORK MAY BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER OR DESIGNER DEPENDING ON LOCAL REQUIREMENTS OR PRACTICES. THE PROJECT ENGINEER SHALL REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO CONSTRUCTION.

E. REINFORCED CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE" OR AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020, AS APPLICABLE.
2. ALL REINFORCING LAP SPLICES IN CONCRETE SHALL CONFORM TO ACI 318-19(22). PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES WHERE POSSIBLE; USE TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES (CLASS "B") UNLESS NOTED OTHERWISE.
3. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM 28 DAY STRENGTHS:

ABUTMENTS	3000 PSI (AIR-ENTRAINED, AASHTO CLASS A(AE))
GROUT	5000 PSI (AIR-ENTRAINED, AASHTO CLASS A(AE))

4. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING LABORATORY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S.
5. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
6. HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE PROJECT ENGINEER. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED BY MECHANICAL MEANS, AND CLEANED.
7. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.
8. TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.
9. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTE OTHERWISE: (NON-PRESTRESSED CONCRETE)
   a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
   b. CONCRETE EXPOSED TO EARTH, LIQUID, WEATHER, OR CAST AGAINST A CONCRETE WORK MAT:
      SLABS AND JOINTS . . . . . 2"
      PRIMARY REINFORCEMENT. . . . . 2"
10. DO NOT WELD OR TACK WELD REINFORCING BARS.
11. ALL REINFORCING STEEL PLACEMENT SHALL BE REVIEWED IN ACCORDANCE WITH ACI 318 SECTION 1.3 BY A REGISTERED STRUCTURAL ENGINEER, OR BY A REPRESENTATIVE RESPONSIBLE TO HIM/HER.
12. CHAMFER OR ROUND ALL EXPOSED CORNERS MINIMUM 3/4", UNLESS NOTED OTHERWISE.
13. DETAIL ALL CONCRETE FOUNDATIONS ON THE SHOP DRAWINGS IN ELEVATION, UNLESS SPECIFICALLY APPROVED OTHERWISE.

F. STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED ACCORDING TO AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" OR AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020, AS APPLICABLE.
2. SUBMIT SHOP DRAWINGS PREPARED IN ACCORDANCE WITH AISC MANUAL "DETAILING FOR STEEL CONSTRUCTION", 3RD EDITION, 2009. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND REVIEWED.
3. STRUCTURAL STEEL FOR BRIDGE STRUCTURES SHALL BE AS INDICATED IN SECTION G. FABRICATED BRIDGE NOTES.
4. ANCHOR RODS SHALL CONFORM TO ASTM F1554 Grade 105, UNLESS NOTED OTHERWISE.
5. USE PREQUALIFIED WELDED JOINTS AS PER ANSI/AWS D1.1 "STRUCTURAL WELDING CODE- STEEL". USE ONLY CERTIFIED WELDERS, MINIMUM E70XX ELECTRODES UNLESS NOTED OTHERWISE.
6. DO NOT USE GAS CUTTING TORCHES FOR CORRECTING FABRICATION ERRORS IN THE STRUCTURAL FRAMING.
7. BOLTED CONNECTIONS SHALL BE ASSEMBLED AND INSPECTED ACCORDING TO "SPECIFICATIONS FOR STRUCTURAL JOINTS" USING ASTM F3125 TYPE A325 BOLTS.
8. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE HPS 50W, UNLESS OTHERWISE NOTED.
9. STEEL COVER PLATE FOR BRIDGE STRUCTURES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR.	CK.	APPR.

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA, INC. NO. C00892

SEAL: SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 43594 Digitally signed by: ALEXANDER M. D'AIUTO 6/4/2025

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REVIEWED BY:	AMD
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SCALE HORIZONTAL:	AS NOTED
SCALE VERTICAL:	AS NOTED

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: STRUCTURAL NOTES (1 OF 2)

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	02/14/25
SHEET NO.	S-001

G. PRE-FABRICATED BRIDGE

1. THESE SPECIFICATIONS ARE FOR A FULLY ENGINEERED CLEAR SPAN BRIDGE OF WELDED STEEL CONSTRUCTION “EXPRESS” BRIDGE TYPE AS MANUFACTURED BY CONTECH ENGINEERED SOLUTIONS, 9100 CENTRE POINTE DRIVE, WEST CHESTER, OH 45069 OR APPROVED EQUAL.

2. DIMENSIONS: FOR BRIDGE DIMENSIONS SEE SHEETS S-101, S-102 & S-103.
   a. WIDTH: INSIDE CLEAR WIDTH OF BRIDGE SHALL BE 8'-0".
   b. BRIDGE SHALL BE CAMBERED 1% OF THE TOTAL SPAN LENGTH FOR ALL SPANS

3. DESIGN
   a. OPEN TRUSS BRIDGES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER EXPERIENCED IN PONY TRUSS BRIDGE DESIGN AND TOP CHORD STABILITY CRITERIA ELASTIC UTILIZING LATERAL RESTRAINTS.
   b. IN ADDITION TO NORMAL DEAD LOADS, THE BRIDGE SHALL BE DESIGNED FOR THE FOLLOWING:
      - UNIFORM LIVE LOAD: PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR AN EVENLY DISTRIBUTED LIVE LOAD OF 90 POUNDS PER SQUARE FOOT IN ACCORDANCE WITH THE AASHTO PED.
      - VEHICLE LOAD: BRIDGES SHALL ALSO BE DESIGNED TO WITHSTAND A MOVING VEHICLE LOAD AS SPECIFIED IN ASHTO PED, H5 DESIGN VEHICLE. THIS CONCENTRATED LOAD IS IN ADDITION TO A 20 POUNDS PER SQUARE FOOT EVENLY DISTRIBUTED LIVE LOAD.
      - WIND LOAD: WIND PRESSURE SHALL BE CALCULATED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD 2020, 9TH EDITION.
   c. DESIGN CRITERIA: PEDESTRIAN BRIDGES SHALL BE DESIGNED IN ACCORDANCE WITH THE "AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES", 2ND EDITION, WITH 2015 INTERIM REVISIONS (AASHTO PED.).
   d. SEISMIC: BRIDGE SHALL BE DESIGNED FOR SEISMIC LOADS AS IDENTIFIED HEREIN.
   e. TEMPERATURE: BRIDGE SHALL BE DESIGNED TO ACCOMMODATE A TEMPERATURE DIFFERENTIAL OF 120 DEGREES FAHRENHEIT. SLIP PADS OF UHMW POLYETHYLENE SHALL BE PLACED BETWEEN THE SMOOTH SURFACE OF THE SETTING PLATE AND THE SMOOTH BEARING PLATE OF THE BRIDGE. AT LEAST 1" CLEARANCE SHALL BE PROVIDED BETWEEN THE BRIDGE AND CONCRETE ABUTMENTS.
   f. DEFLECTION: THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO PEDESTRIAN LIVE LOAD SHALL NOT EXCEED 1/400 OF THE SPAN LENGTH. THE MAXIMUM DEFLECTION DUE TO VEHICULAR LOADS SHALL NOT EXCEED 1/800 OF THE SPAN LENGTH. FOR PEDESTRIAN COMFORT, THE LOAD USED FOR THE DEFLECTION CHECK BE A MINIMUM OF 500 POUNDS PER LINEAL FOOT OF BRIDGE OR THE UNIFORM LOAD USED IN SECTION 3.2, WHICHEVER IS GREATER. THE HORIZONTAL DEFLECTION DUE TO LATERAL WIND LOAD SHALL NOT EXCEED 1/500 OF THE SPAN LENGTH.

4. COMPLETE DESIGN CALCULATIONS AND DRAWINGS INCLUDED STEEL DETAILING, BEARING PADS AND ERECTION SEQUENCE, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO FABRICATION.

5. MATERIALS
   a. ALL STRUCTURAL MEMBERS SHALL HAVE A MINIMUM THICKNESS OF MATERIAL OF AT LEAST 3/16".
   b. STRUCTURAL STEEL:
      i. HSS SECTIONS: ASTM A847 WEATHERING STEEL
      ii: SHAPES AND PLATES: ASTM A588 WEATHERING STEEL
      iii: ROLL FORM: A606 WEATHERING STEEL

      STRUCTURAL BOLTS: ASTM F3125 GRADE A325 U.N.O. TYPE 3 (WEATHERING) WITH MATCHING DH3 A563 NUTS & F436 WASHERS.
   c. SUBMITTED SHOP DRAWINGS SHALL INCLUDE DETAILS FOR 6" MAX. REINFORCED CONCRETE DECK DESIGN. NO ADDITIONAL PAYMENT FOR ALL COSTS ASSOCIATED WITH ITS CONSTRUCTION.
   d. FIELD SPLICES SHALL BE BOLTED WITH HIGH STRENGTH ASTM A325 BOLTS; TYPE 3 BOLTS SHALL BE USED FOR PAINTED STEEL BRIDGES.
   e. WELDING MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS)STRUCTURAL WELDING CODE, D1.1 FILLER METAL AS SPECIFIED IN 4.1 SHALL BE USED FOR THE PARTICULAR WELDING PROCESS REQUIRED. WELDERS WILL BE CERTIFIED IN ACCORDANCE WITH AWS D1.1.

6. FABRICATION AND QUALITY CONTROL
   a. BRIDGE FABRICATOR SHALL BE CERTIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION TO HAVE THE PERSONNEL, ORGANIZATION, EXPERIENCE, CAPABILITY, AND COMMITMENT TO PRODUCE FABRICATED STRUCTURAL STEEL FOR MAJOR STEEL BRIDGE STRUCTURES WITH FRACTURE CRITICAL AND SOPHISTICATED PAINT ENDORSEMENTS AS SET FORTH IN THE AISC CERTIFICATION PROGRAM.
   b. THE CONNECTION OF BRIDGE END POST TO TOP CHORD SHOULD BE A MITERED JOINT WITH THE EXPOSED WELDS GROUND SMOOTH. THE CONNECTION OF THE FLOOR BEAM IN A PONY TRUSS SYSTEM SHALL NOT BE SOLELY INTO THE SIDE OF A TUBULAR BOTTOM CHORD WITHOUT THE USE OF ADDITIONAL STIFFENERS TO PREVENT CHORD OVALIZATION.
   c. ALL STRUCTURAL ELEMENTS USED IN THE BRIDGE SHALL BE IDENTIFIED BY HEAT NUMBER OF THE STEEL MEMBER USED. SPECIFIC MILL TEST REPORTS AND INDIVIDUAL WELDER CERTIFICATES SHALL BE TRACKED AND KEPT ON FILE TO BE PROVIDED AT THE REQUEST OF THE OWNER OR PROJECT ENGINEER.
   d. TO ENSURE QUALITY CONTROL DURING BRIDGE FABRICATION, THE BRIDGE SUPPLIER SHALL BE THE DESIGNER AND FABRICATOR OF THE BRIDGE AND SHALL NOT ASSIGN, SUBLET, OR SUBCONTRACT ANY PART OF THE BRIDGE FABRICATION INCLUDING PAINTING.
   e. THE BRIDGE DESIGN PROFESSIONAL ENGINEER SHALL INSPECT THE BRIDGE STRUCTURE AFTER FABRICATION AND FURNISH A SIGNED AND SEALED CONFORMANCE REPORT AND AFFIDAVIT VERIFYING THAT THE BRIDGE HAS BEEN INSPECTED BY THE ENGINEER AND FABRICATED IN ACCORDANCE WITH THE ENGINEER'S DESIGN CALCULATIONS AND APPROVED SHOP DRAWINGS. THIS INSPECTION AND REPORT SHALL NOT BE DELEGATED TO ANY OTHER ENGINEER OR PERSON. FOR PAINTED STEEL BRIDGES, THE REPORT SHALL INCLUDE A SUMMARY OF COMPUTATIONS OF THE CORROSION INDEX (PER ASTM G101) FOR EVERY HEAT NUMBER OF STRUCTURAL STEEL USED IN THE BRIDGE TO VERIFY THAT THE STEEL IS OF A WEATHERING GRADE.
   f. EACH BRIDGE SHALL BE INSPECTED BY A CERTIFIED WELDING INSPECTOR (CWI) THAT IS QUALIFIED UNDER THE AWS QC-1 PROGRAM. THIS INSPECTION SHALL INCLUDE AS A MINIMUM REQUIREMENT THE FOLLOWING: REVIEW OF SHOP DRAWINGS, WELD PROCEDURES, WELDER QUALIFICATIONS, AND WELD TESTING REPORTS, VISUAL INSPECTION OF WELDS AND VERIFICATION OF OVERALL DIMENSIONS AND GEOMETRY OF THE BRIDGE. A REPORT SHALL BE PRODUCED INDICATING THE ABOVE ITEMS WERE REVIEWED AND SHALL BE SIGNED AND SEALED BY THE CWI SIGNIFYING COMPLIANCE WITH AWS D1.1 CODES.

7. RAILINGS & ACCESSORIES
   a. THE BRIDGE SHALL BE PROVIDED WITH A CONTINUOUS PEDESTRIAN/BICYCLE RAILING ON EACH SIDE OF THE BRIDGE WITH A MINIMUM HEIGHT OF 48". DESIGN THE VERTICAL AND/OR HORIZONTAL MEMBERS OF THIS RAILING TO MEET ALL GEOMETRIC AND LOADING REQUIREMENTS FOR PEDESTRIAN AND BICYCLE BRIDGE RAILS, AS OUTLINED IN SECTION 13.10 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. IN ADDITION, THE OPENINGS BETWEEN MEMBERS OF A PEDESTRIAN RAILING SHALL NOT ALLOW A 4 INCH SPHERE TO PASS THROUGH THE LOWER 27 INCHES OF THE RAILING AND A 6 INCH SPHERE SHOULD NOT PASS THROUGH ANY OPENINGS ABOVE 27 INCHES.

   AS A MINIMUM, THREE RAILS SHALL BE PROVIDED:
   - A TOP RAIL AT A MINIMUM HEIGHT OF 48 INCHES ABOVE THE TOP OF DECK
   - A BOTTOM RAIL MOUNTED AT A HEIGHT ADEQUATE TO PROVIDE A 2" GAP BETWEEN THE BOTTOM OF THE RAIL AND THE TOP OF THE DECK.
   - A RAIL AT MID-HEIGHT BETWEEN THE TOP AND BOTTOM RAILS.

   THE BRIDGE SHALL BE PROVIDED WITH CONTINUOUS HANDRAILS ON EACH SIDE OF THE BRIDGE.
   HANDRAILS SHALL BE PROVIDED WITH A MINIMUM 1½" KNUCKLE SPACE BETWEEN THE RAILING AND THE TRUSS VERTICALS AND DIAGONALS, FENCING, OR OTHER PORTIONS OF THE RAIL ASSEMBLY. THE RAILS SHALL BE LOCATED 36" ABOVE THE DECK SURFACE. THE HANDRAILS SHALL BE SECURE AND SHALL NOT ROTATE IN THEIR FITTINGS. THE MOUNTING OF THE HANDRAILS SHALL BE SUCH THAT THE COMPLETED HANDRAIL AND SUPPORTS ARE CAPABLE OF WITHSTANDING STANDARD AASHTO LOADINGS. THE HANDRAIL SHALL DEFLECT NO MORE THAN 1/4" UNDER THIS LOADING. THE END OF THE RAILING SHALL BE CAPPED WITH A FLUSH END CAP.
   HANDRAIL ATTACHMENT BRACKETS SHALL BE OF STEEL, MATCHING THE BRIDGE SUPERSTRUCTURE.

8. FINISH: ALL EXPOSED SURFACES OF WEATHERING STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 7, SSPC-SP7 BRUSH-OFF BLAST CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE OF THE STRUCTURE. FLOOR BEAMS, BRACE DIAGONALS AND INSIDE OF SIDE DAM WILL NOT BE BLAST CLEANED.

9. DELIVERY AND ERECTION
   a. BRIDGE SHALL BE DELIVERED BY TRUCK TO A LOCATION NEAREST TO THE SITE ACCESSIBLE BY ROADS. HAULING PERMITS AND FREIGHT CHARGES ARE THE RESPONSIBILITY OF THE MANUFACTURER.
   b. THE MANUFACTURER SHALL NOTIFY THE OWNER IN ADVANCE OF THE EXPECTED ARRIVAL INFORMATION REGARDING DELAYS AFTER THE TRUCKS DEPART THE PLANT SUCH AS WEATHER, DELAYS IN PERMITS, RE-ROUTING BY PUBLIC AGENCIES OR OTHER CIRCUMSTANCES.
   c. THE MANUFACTURER SHALL ADVISE THE OWNER OF THE ACTUAL LIFTING WEIGHTS, ATTACHMENT POINTS AND ALL NECESSARY INFORMATION TO INSTALL THE BRIDGE. UNLOADING, SPLICING, BOLTING, AND PROPER LIFTING EQUIPMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

10. WARRANTY

    THE BRIDGE MANUFACTURER SHALL WARRANT THEIR STEEL STRUCTURES TO BE FREE OF DESIGN, MATERIAL AND WORKMANSHIP DEFECT FOR A PERIOD OF TEN (10) YEARS FROM THE DATE OF DELIVERY. THIS GUARANTEE IS NOT A CONDITION OF THE CONTRACT PERFORMANCE BOND.
    THIS WARRANTY SHALL NOT COVER DEFECTS IN THE BRIDGE CAUSED BY ABUSE, MISUSE, OVERLOADING, ACCIDENT, IMPROPER MAINTENANCE, ALTERATION, OR ANY OTHER CAUSE NOT THE RESULT OF DEFECTIVE MATERIALS OR WORKMANSHIP.
    THIS WARRANTY SHALL BE VOID UNLESS OWNER'S MAINTENANCE RECORDS CAN BE SUPPLIED. SUCH RECORDS SHALL INDICATE COMPLIANCE WITH MINIMUM GUIDELINES SPECIFIED IN THE INSPECTION AND MAINTENANCE PROCEDURES.
    REPAIR OR REPLACEMENT SHALL BE THE EXCLUSIVE REMEDY FOR DEFECTS UNDER THIS WARRANTY. THE BRIDGE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ON THEIR STRUCTURES.

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR.	CK.	APPR.

SEAL: SOUTH CAROLINA — WSP USA, INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

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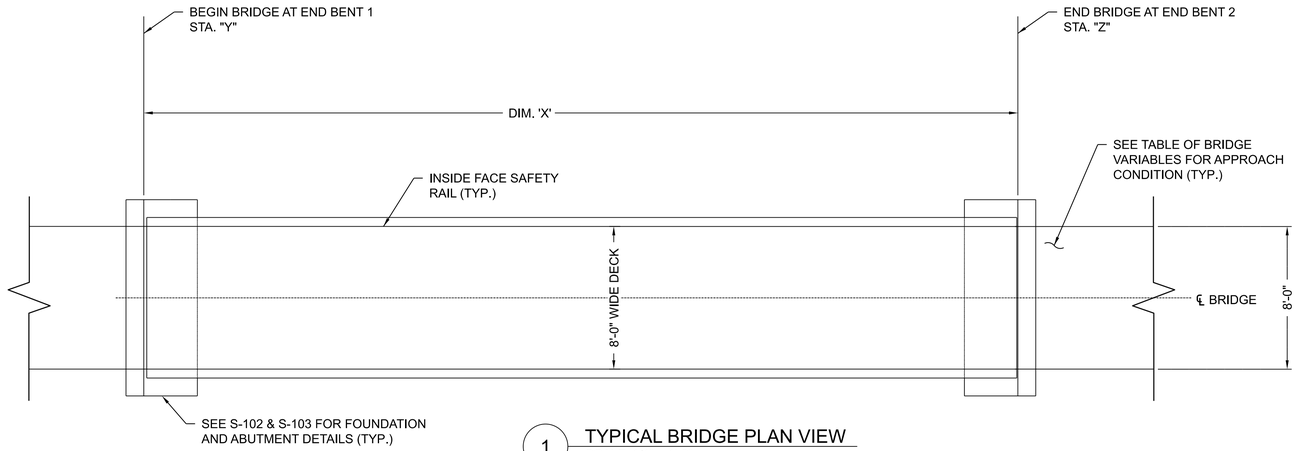
DRAWN BY:	JLH
REVIEWED BY:	AMD
APPROVED BY:	AMD
SCALE HORIZONTAL:	AS NOTED
SCALE VERTICAL:	AS NOTED

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

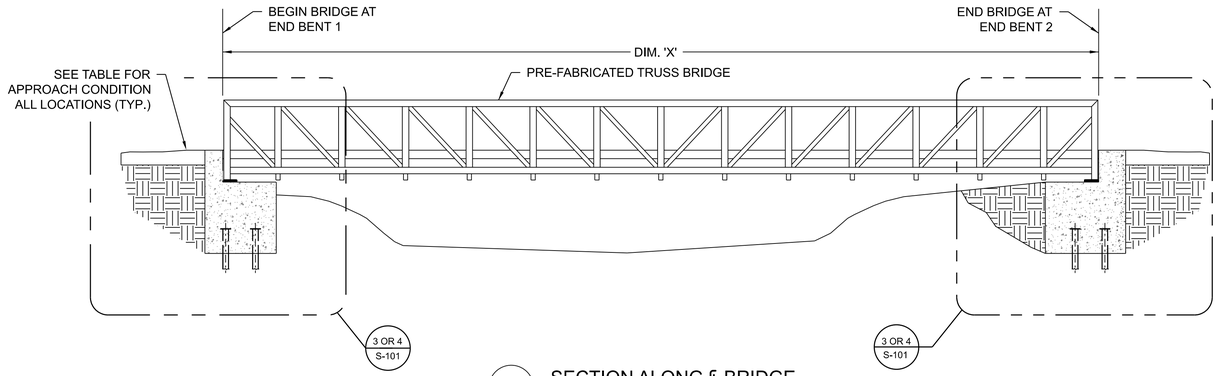
SHEET TITLE: STRUCTURAL NOTES (2 OF 2)

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	02/14/25
SHEET NO.	S-002

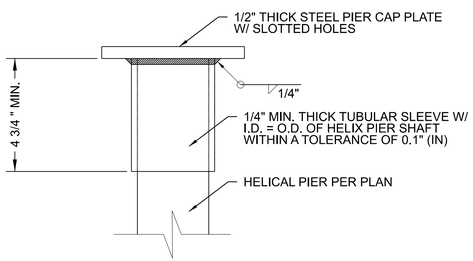


1 TYPICAL BRIDGE PLAN VIEW
SCALE: 1/4" = 1'-0"

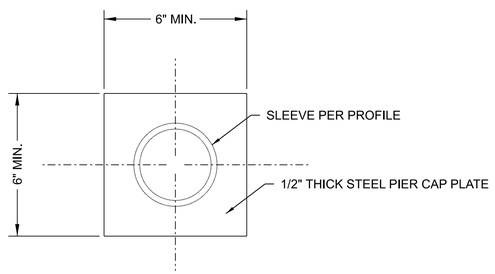
NOTES:
1. FOR BRIDGE LOCATION AND TRAIL WIDTH SEE TABLE OF BRIDGE VARIABLES.
2. CONTRACTOR SHALL VERIFY LOCATION OF ABUTMENTS PRIOR TO CONSTRUCTION TO ENSURE PROPER BRIDGE FIT.
3. FOR PRE-ENGINEERED BRIDGE REACTIONS TABLES, SEE SHEET S-103.
4. A MAXIMUM OF 1/2" EXPANSION JOINT SHALL BE USED AT THE BOARDWALK AND BRIDGE INTERFACE.
5. A MAXIMUM OF 1/2" EXPANSION JOINT SHALL BE USED AT THE PRE-FABRICATED BRIDGE AND ABUTMENT INTERFACE.



2 SECTION ALONG ℄ BRIDGE
SCALE: 1/4" = 1'-0"

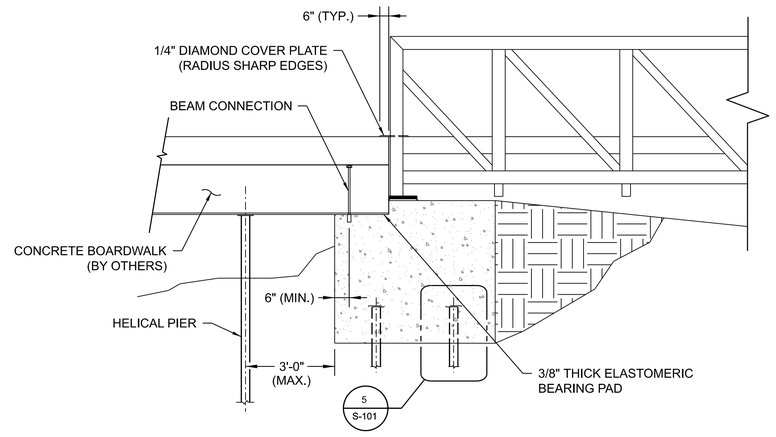


5 PIER CAP DETAIL
SCALE: N.T.S



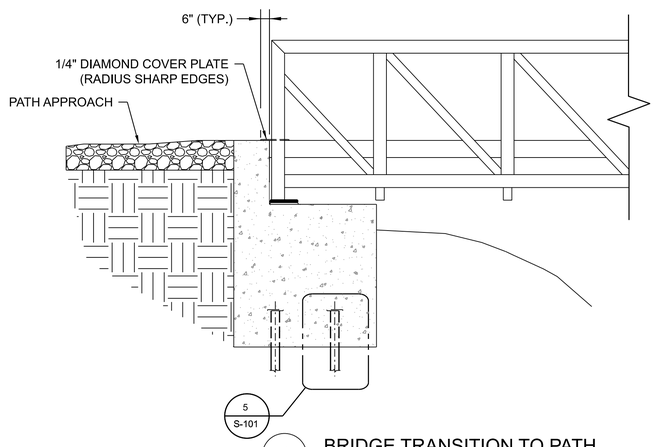
6 PIER CAP DETAIL
SCALE: N.T.S

TABLE OF BRIDGE VARIABLES						
BRIDGE NUMBER	SHEET REFERENCE	LENGTH 'X' (FT)	BEGIN BRIDGE STA. ("Y")	END BRIDGE STA. ("Z")	APPROACH CONDITION - BEGIN BRIDGE	APPROACH CONDITION - END BRIDGE
1	C-201	40	10+47.95	10+87.95	BOARDWALK	BOARDWALK
2	C-201	50	12+27.96	12+77.96	BOARDWALK	BOARDWALK
3	C-202	38	21+30.23	21+68.23	BOARDWALK	PATH
4	C-203	70	30+58.68	31+28.68	PATH	PATH
5	C-204	38	40+30.00	40+68.00	PATH	PATH
6	C-205	65	50+20.00	50+85.00	PATH	PATH
7	C-210	24	90+13.00	90+37.00	PATH	PATH
8	C-211	40	80+15.00	80+55.00	PATH	PATH
9	C-211	30	81+10.31	81+40.31	PATH	PATH
10	C-212	31	70+35.00	70+66.00	PATH	PATH
11	C-213	85	60+30.00	61+15.00	PATH	PATH



NOTE:
CURB NOT SHOWN FOR CLARITY.

3 BRIDGE TRANSITION TO BOARDWALK
SCALE: 3/4" = 1'-0"



4 BRIDGE TRANSITION TO PATH
SCALE: 3/4" = 1'-0"

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR.	CK.	APPR.

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DRAWN BY:	JLH
REVIEWED BY:	AMD
APPROVED BY:	AMD
SCALE HORIZONTAL:	AS NOTED
SCALE VERTICAL:	AS NOTED

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: BRIDGE PLAN AND ELEVATION

PROJECT NO.:	G692.6214
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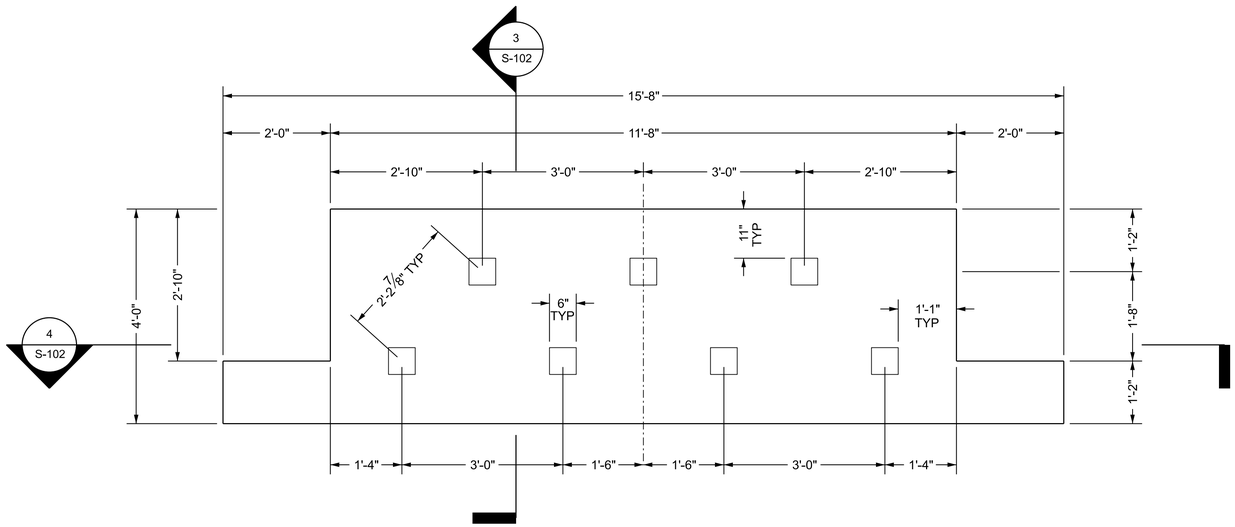
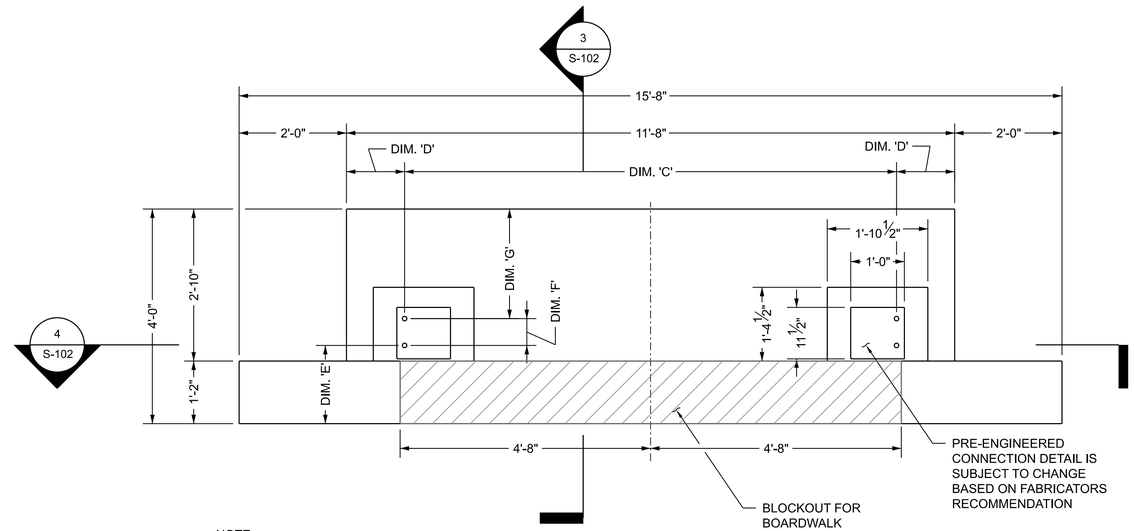
DATE:	02/14/25
SHEET NO.	S-101



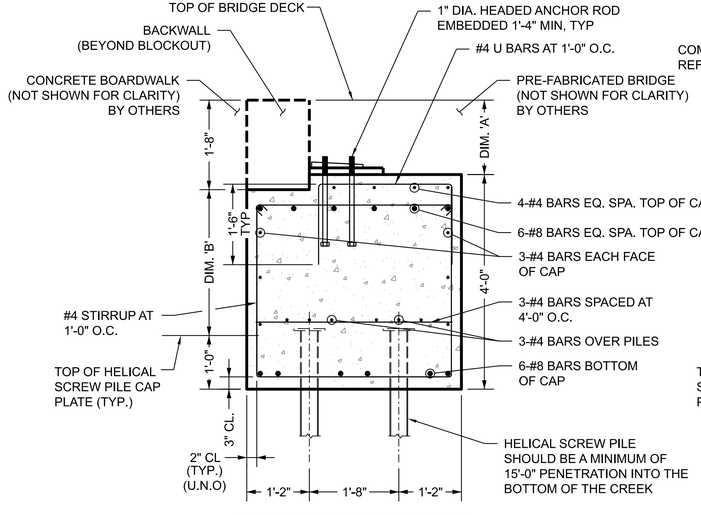
NOTE:
1. FOR HELICAL SCREW PILE LOADS SEE, HELICAL SCREW PILE DATA TABLE ON SHEET S-103

1 FOUNDATION PLAN AT PRE-FABRICATED BRIDGE
SCALE: 3/4" = 1'-0"



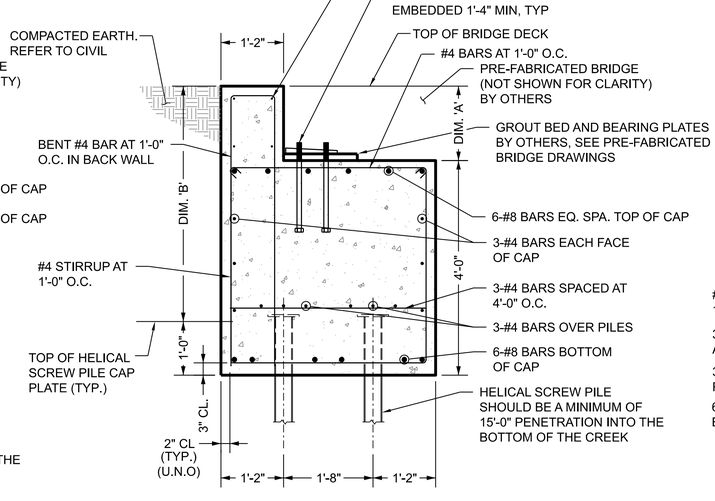
NOTE:
BACK WALL TO MATCH ELEVATION OF BOARDWALK LANDING IF APPLICABLE.

2 ABUTMENT PLAN AT PRE-FABRICATED BRIDGE
SCALE: 3/4" = 1'-0"



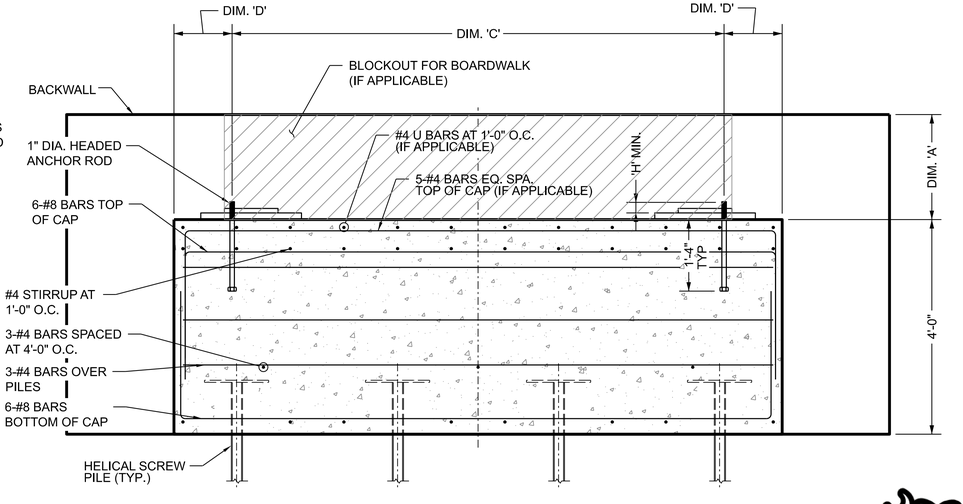
(BOARDWALK APPROACH CONDITION)

(SEE PATH APPROACH CONDITION FOR BACKWALL REINFORCEMENT BEYOND BOARDWALK BLOCKOUT)



(PATH APPROACH CONDITION)

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



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

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR.	CK.	APPR.

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA, INC. NO. C00892

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DRAWN BY:	JLH
REVIEWED BY:	AMD
APPROVED BY:	AMD
SCALE HORIZONTAL:	AS NOTED
SCALE VERTICAL:	AS NOTED

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: ABUTMENT DETAILS (1 OF 2)

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	02/14/25
SHEET NO.	S-102

TABLE OF ABUTMENT VARIABLES									
BRIDGE NUMBER	SHEET REFERENCE	ABUTMENT LOCATION	ABUTMENT VARIABLES						
			'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'
1	C-201	BEGIN BRIDGE	1'-2¾"	2'-6¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	2'-6¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
2	C-201	BEGIN BRIDGE	1'-4¼"	2'-8¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
		END BRIDGE	1'-4¼"	2'-8¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
3	C-202	BEGIN BRIDGE	1'-2¾"	2'-6¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
4	C-203	BEGIN BRIDGE	1'-4¼"	4'-4¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
		END BRIDGE	1'-4¼"	4'-4¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
5	C-204	BEGIN BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
6	C-205	BEGIN BRIDGE	1'-4¼"	4'-4¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
		END BRIDGE	1'-4¼"	4'-4¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	5"
7	C-210	BEGIN BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
8	C-211	BEGIN BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
9	C-211	BEGIN BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
10	C-212	BEGIN BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
		END BRIDGE	1'-2¾"	4'-2¾"	9'-2"	1'-3"	1'-5½"	6"	2'-0½"	4½"
11	C-213	BEGIN BRIDGE	1'-7¼"	4'-7¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	6"
		END BRIDGE	1'-7¼"	4'-7¼"	9'-6"	1'-1"	1'-5½"	6"	2'-0½"	6"

NOTE:
1. DIMENSIONS SUBJECT TO CHANGE BASED ON FABRICATOR DESGIN.

HELICAL SCREW PILE DATA TABLE				
BRIDGE NUMBER	FACTORED DESIGN LOAD - VERTICAL (KIPS)	FACTORED DESIGN LOAD - LATERAL (KIPS)	SERVICE DESIGN LOAD - VERTICAL (KIPS)	SERVICE DESIGN LOAD - LATERAL (KIPS)
1	13.5	2.1	9.9	0.8
2	15.3	2.6	11.2	0.8
3	13.1	1.9	9.7	0.8
4	18.6	3.5	13.4	0.7
5	13.1	1.9	9.7	0.8
6	17.8	3.3	12.9	0.7
7	11.0	1.2	8.2	0.5
8	13.5	2.1	9.9	0.8
9	11.8	1.5	8.0	0.6
10	12.0	1.6	9.0	0.6
11	21.3	4.7	15.4	1.0

NOTE:
1. LOADS SHOWN ARE LOCATED AT THE TOP OF EACH HELICAL SCREW PILE LOCATION.

ASSUMED PRE-FABRICATED TRUSS DESIGN LOADS

BRIDGE SPAN 1 & 8 (40'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	6700			
LIVE (PL) (90 psf)	7200			
VEHICLE (LL) (H5)	4700			
WIND (WS) (150 mph)	+/-2200	7200		
OVERTURNING (WS_{VW}) (20 psf)	-2400			
OVERTURNING (WS_{VL}) (20 psf)	-900			
THERMAL (TU) (35% OF DL)			2400	

BRIDGE SPAN 2 (50'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	8800			
LIVE (PL) (90 psf)	9000			
VEHICLE (LL) (H5)	4800			
WIND (WS) (150 mph)	+/-3000	9400		
OVERTURNING (WS_{VW}) (20 psf)	-3000			
OVERTURNING (WS_{VL}) (20 psf)	-1100			
THERMAL (TU) (35% OF DL)			2300	

BRIDGE SPAN 3 & 5 (38'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	6300			
LIVE (PL) (90 psf)	6900			
VEHICLE (LL) (H5)	4700			
WIND (WS) (150 mph)	+/-2100	6700		
OVERTURNING (WS_{VW}) (20 psf)	-2300			
OVERTURNING (WS_{VL}) (20 psf)	-900			
THERMAL (TU) (35% OF DL)			2300	

BRIDGE SPAN 4 (70'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	12200			
LIVE (PL) (90 psf)	12600			
VEHICLE (LL) (H5)	4800			
WIND (WS) (150 mph)	+/-4300	13200		
OVERTURNING (WS_{VW}) (20 psf)	-4100			
OVERTURNING (WS_{VL}) (20 psf)	-1600			
THERMAL (TU) (35% OF DL)			1900	

BRIDGE SPAN 6 (65'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	11400			
LIVE (PL) (90 psf)	11700			
VEHICLE (LL) (H5)	4800			
WIND (WS) (150 mph)	+/-3900	12300		
OVERTURNING (WS_{VW}) (20 psf)	-3800			
OVERTURNING (WS_{VL}) (20 psf)	-1400			
THERMAL (TU) (35% OF DL)			1800	

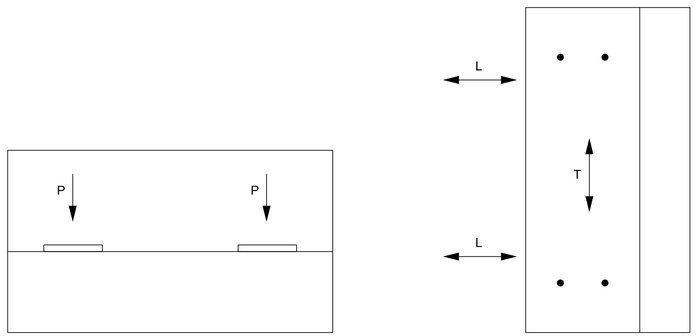
BRIDGE SPAN 7 (24'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	4100			
LIVE (PL) (90 psf)	4400			
VEHICLE (LL) (H5)	4500			
WIND (WS) (150 mph)	+/-1300	4300		
OVERTURNING (WS_{VW}) (20 psf)	-1500			
OVERTURNING (WS_{VL}) (20 psf)	-600			
THERMAL (TU) (35% OF DL)			1500	

BRIDGE SPAN 9 (30'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	5100			
LIVE (PL) (90 psf)	5400			
VEHICLE (LL) (H5)	4600			
WIND (WS) (150 mph)	+/-1700	5400		
OVERTURNING (WS_{VW}) (20 psf)	-1800			
OVERTURNING (WS_{VL}) (20 psf)	-700			
THERMAL (TU) (35% OF DL)			1800	

BRIDGE SPAN 10 (31'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	5200			
LIVE (PL) (90 psf)	5600			
VEHICLE (LL) (H5)	4600			
WIND (WS) (150 mph)	+/-1700	5600		
OVERTURNING (WS_{VW}) (20 psf)	-1900			
OVERTURNING (WS_{VL}) (20 psf)	-700			
THERMAL (TU) (35% OF DL)			1900	

BRIDGE SPAN 11 (85'-0" SPAN - H5)				
BEARING REACTIONS	P (lb)	T (lb)	L_T (lb)	L_S (lb)
DEAD (DC)	15400			
LIVE (PL) (90 psf)	15300			
VEHICLE (LL) (H5)	4900			
WIND (WS) (150 mph)	+/-8300	19200		
OVERTURNING (WS_{VW}) (20 psf)	-5000			
OVERTURNING (WS_{VL}) (20 psf)	-1900			
THERMAL (TU) (35% OF DL)			2200	

P - VERTICAL LOAD EACH BASE
T - TRANSVERSE LOAD EACH ABUTMENT
L_T - LONGITUDINAL THERMAL LOAD EACH BEARING
L_S - LONGITUDINAL SEISMIC LOAD EACH FIXED BEARING



1 BEARING REACTIONS
SCALE: NOT TO SCALE

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR.	CK.	APPR.

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION WSP USA, INC. NO. C00892

SEAL: SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 43594 Digitally signed by ALEXANDER M. D'ANDRO 6/4/2025

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TEL: (843) 782-1000

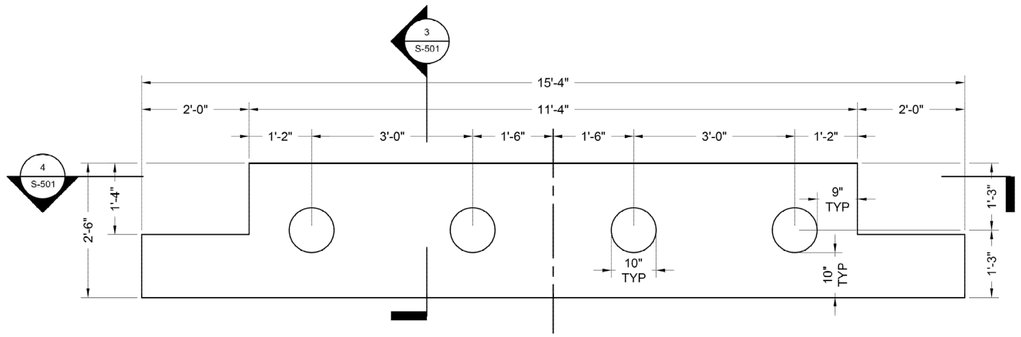
DRAWN BY: JLH
REVIEWED BY: AMD
APPROVED BY: AMD
SCALE HORIZONTAL: AS NOTED
SCALE VERTICAL: AS NOTED

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

PROJECT NO.: G692.6214
REVISION NO.
DATE: 02/14/25

SHEET TITLE: ABUTMENT DETAILS (2 OF 2)

SHEET NO. S-103

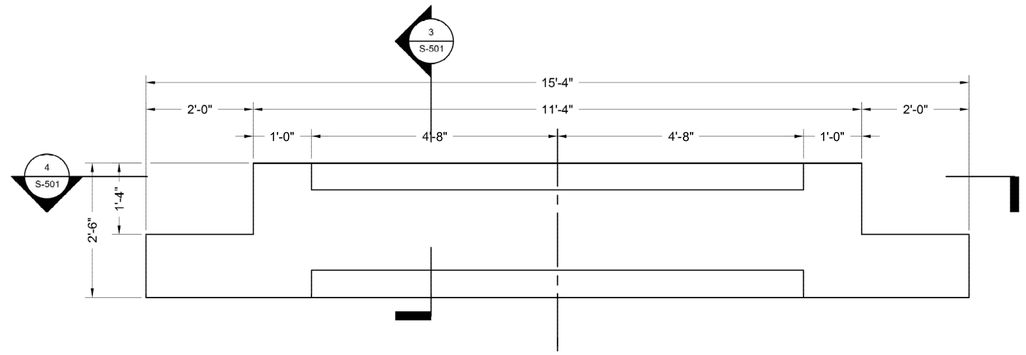


4-10" DIA. TIMBER PILES
AVG PILE REACTION: UNFACTORED (SERVICE) = 4,000 LBS
LRFD FACTORED = 5,000 LBS

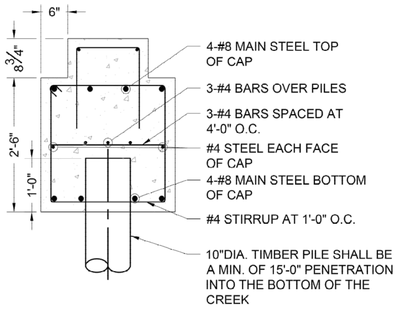
AVG LATERAL LOAD: UNFACTORED (SERVICE) = 500 LBS
LRFD FACTORED = 1,400 LBS

NOTE:
HELICAL PILES OR APPROVED EQUIVALENT MAY BE USED IN LIEU OF WOOD PILES.

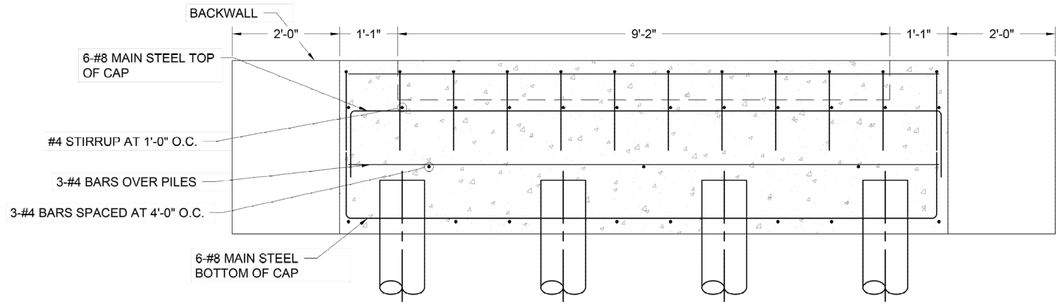
1 FOUNDATION PLAN AT BOARDWALK BEARING (BASE BID)
SCALE: 3/4" = 1'-0"



2 FOUNDATION PLAN AT BOARDWALK BEARING (BASE BID)
SCALE: 3/4" = 1'-0"



3 SECTION - FOUNDATION (BASE BID)
SCALE: 3/4" = 1'-0"



4 SECTION - FOUNDATION (BASE BID)
SCALE: 3/4" = 1'-0"

SHEET NOTES:

1. VERIFY DIMENSIONS TO ENSURE APPROACH SLAB AND BOARDWALK FINISHED FLOOR MATCH.
2. BOARDWALK FRAMING NOT SHOWN FOR CLARITY. ALL JOIST SHALL BE ATTACHED TO FOUNDATION APPROACH SLAB WITH SIMPSON FJAHDG FOUNDATION JOIST ANCHORS.
3. HELICAL PILES OR APPROVED EQUIVALENT MAY BE USED IN SUBSTITUTE FOR TIMBER PILES. PILE CAP CONNECTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND MANUFACTURER.

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REV	D	M	Y	ISSUE/REVISION DESCRIPTION	DR	CK	APPR

SEAL: SOUTH CAROLINA — WSP USA INC. — NO. C00892 — CERTIFICATE OF AUTHORIZATION

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DRAWN BY:	BNK
REVIEWED BY:	ALH
APPROVED BY:	ALH
SCALE HORIZONTAL:	
SCALE VERTICAL:	

PROJECT: BOARDWALK RECONSTRUCTION PHASE II
CITY OF WALTERBORO, SC

SHEET TITLE: STRUCTURAL DETAILS

PROJECT NO.:	G692.6214
REVISION NO.	
DATE:	5/27/2025
SHEET NO.	S-104

WALTERBORO WILDLIFE SANCTUARY PH. II
BOARDWALK RECONSTRUCTION

GENERAL NOTES

GENERAL

1. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROJECT ARCHITECTS PLAN LAYOUT AND GUIDELINES. SUITABILITY FOR ACCESS AND INTENDED USAGE SHALL BE THE RESPONSIBILITY OF THE ARCHITECT.

2. VEHICULAR ACCESS LARGER THAN THE DESIGN LIVE LOAD SHALL BE LIMITED BY PERMANENT PHYSICAL MEANS.

3. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS THROUGH THE PROJECT ARCHITECT. PRIOR TO CONSTRUCTION, ALL FOUNDATION LOCATIONS SHALL BE STAKED BY THE SURVEYOR PER THE APPROVED DRAWINGS MARKED 'FOR CONSTRUCTION'.

4. ONLY PERMATRAK NORTH AMERICA MAY PROVIDE THE PRECAST STRUCTURE SHOWN ON THESE PLANS.

5. INSTALLER SHALL NOT CUT OR MODIFY ANY PERMATRAK COMPONENTS WITHOUT PERMATRAK'S APPROVAL.

6. THE INSTALLER IS RESPONSIBLE FOR THE APPROPRIATE MEANS AND METHODS FOR THIS PROJECT, INCLUDING ENSURING PROPER CONSTRUCTIBILITY OF ALL COMPONENTS SHOWN ON THESE PLANS. NO EQUIPMENT MAY BE OPERATED ON THE STRUCTURE, UNLESS NOTED OTHERWISE IN THE DESIGN DATA ON THIS SHEET.

7. A MATERIAL CHANGE TO THE BOARDWALK SYSTEM IS NOT ALLOWED AND NOT CONSIDERED AN EQUAL.

8. PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES, BUILDING LOCATIONS, EXISTING FOUNDATIONS AND TREE ROOTS (AS APPLICABLE) SHALL BE LOCATED TO VERIFY NO CONFLICTS EXIST WITH THE STRUCTURES SHOWN ON THESE PLANS.

DESIGN DATA

1. BOARDWALK SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES.

2. DESIGN LIVE LOAD: PEDESTRIAN LOADING - 90 PSF UNIFORM
VEHICULAR LOADING - H-5 (10,000 LBS. DESIGN VEHICLE)

ASSUMED CONSTRUCTION EQUIPMENT LOADING -
CAT 306 CR EXCAVATOR WEIGHING 16,000 LBS.

FOUNDATIONS SHALL BE INSTALLED FROM THE GROUND (NOT FROM THE TOP OF THE BOARDWALK), AND SHALL BE DESIGNED FOR THE FOLLOWING LOADS.

APPLIED PIER/PILE LOADS:
COMPRESSION: 19.0 KIPS (SERVICE)
LATERAL: 1.0 KIP (SERVICE)

3. A HYDRAULIC ANALYSIS, INCLUDING SCOUR EVALUATION, HAS NOT BEEN PERFORMED BY PERMATRAK. THIS SCOPE IS THE RESPONSIBILITY OF THE DESIGN CONSULTANT.

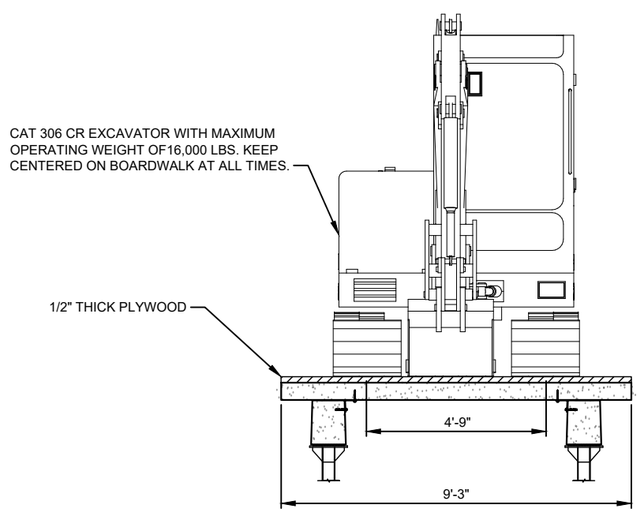
4. THE RAILING SUPPLIER IS RESPONSIBLE FOR THE ENGINEERING OF THE DETAILED RAILING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

5. HELICAL PIERS SHOWN ON THESE PLANS SHALL BE DESIGNED BY THE HELICAL PIER SUPPLIER.

MATERIAL

1. FASTENERS, BOLTS AND HARDWARE SHALL BE GALVANIZED, FIBER REINFORCED POLYMER (FRP) OR GRADE 316 STAINLESS STEEL.

2. ALL REINFORCING SHALL BE UNCOATED GRADE 60 CONFORMING TO ASTM A615.



TOP DOWN DETAIL
SCALE: 1/2" = 1'-0"

PROJECT COMPONENTS

SUPPLIED BY PERMATRAK
PRECAST CONCRETE TREADS
PRECAST CONCRETE BEAMS
3/4" Ø BARS WITH NUTS AND WASHERS (BEAM TO PIER/ABUTMENT CONNECTION)
ELASTOMERIC BEARING PADS
RUBBER SPACER PADS (BETWEEN TREADS)
RUBBER LEVELING PADS
CLIP ANGLE KITS
SIKAFLEX SELF LEVELING SEALANT
SHIMS (LEVELING FOR PRECAST COMPONENTS)
PRECAST CONCRETE CURBS
PATCHING MATERIAL
3/4" DIAMETER x 10" LONG COILED RODS WITH NUTS AND OVERSIZED WASHERS (CURB TO TREAD CONNECTION)
SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE
SIKAFLEX-11 FC EXPANSIVE FILLER MATERIAL (CURB TO TREAD CONNECTION)

SUPPLIED BY CONTRACTOR
CAST-IN-PLACE CONCRETE
RAILING AND CONNECTION HARDWARE
HELICAL PIERS, FLAT PLATES AND CONNECTION HARDWARE
EXPANSION JOINT MATERIAL
OPTIONAL STEEL COVER PLATE (PERMATRAK TO PEDESTRIAN BRIDGE TRANSITION)

NOTES FOR CONSTRUCTION EQUIPMENT LOADING:

PERMATRAK HAS DESIGNED THE BOARDWALK FOR THE ASSUMED EQUIPMENT (NOTED IN NOTE #2) TO BE USED TO CONSTRUCT THE PRECAST BOARDWALK VIA TOP-DOWN METHODS. THE CONTRACTOR SHALL ABIDE BY THE FOLLOWING NOTES AND SHALL CONTACT PERMATRAK PRIOR TO SHOP DRAWING CREATION FOR ANALYSIS OF EQUIPMENT TO BE USED.

A. EQUIPMENT MAY CARRY A MAXIMUM (4,000 LB. MAX PICK) (1) ONE TREAD OR BEAM AT A TIME WHILE OPERATING ON THE STRUCTURE.

B. EQUIPMENT SHALL RUN PARALLEL TO THE BEAMS AND REMAIN TOWARDS THE BOARDWALK CENTERLINE DURING CONSTRUCTION.

C. CONTRACTOR SHALL PROVIDE 1/2" THICK PLYWOOD UNDER VEHICLE, SPANNING THE LENGTH OF (3) TREADS OR 6'-0" MINIMUM.

D. THE CONTRACTOR SHALL NOT STOCKPILE PRECAST MATERIALS ON THE BOARDWALK.

E. BEAMS SHALL BE SECURED PER THE APPROVED INSTALLATION DRAWINGS PRIOR TO LOADING OF CONSTRUCTION EQUIPMENT.

F. TRAVEL WITH ARM FACING FORWARD AT ALL TIMES.

G. TRAVEL IN A SMOOTH AND HARMONIOUS MANNER WITH A EQUIPMENT SPEED NOT TO EXCEED 5 MPH.

H. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY ON THE JOB-SITE THROUGHOUT THE CONSTRUCTION PROCESS, AND SHALL ABIDE BY ALL RELEVANT GUIDELINES REGARDING THE HEALTH AND SAFETY OF ALL PARTIES PRESENT ON THE JOB SITE, ESPECIALLY IN REGARDS TO OPERATING ANY EQUIPMENT ON THE TOP OF THE STRUCTURE DURING INSTALLATION.

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

NO.	DATE	DESCRIPTION	BY:
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1			

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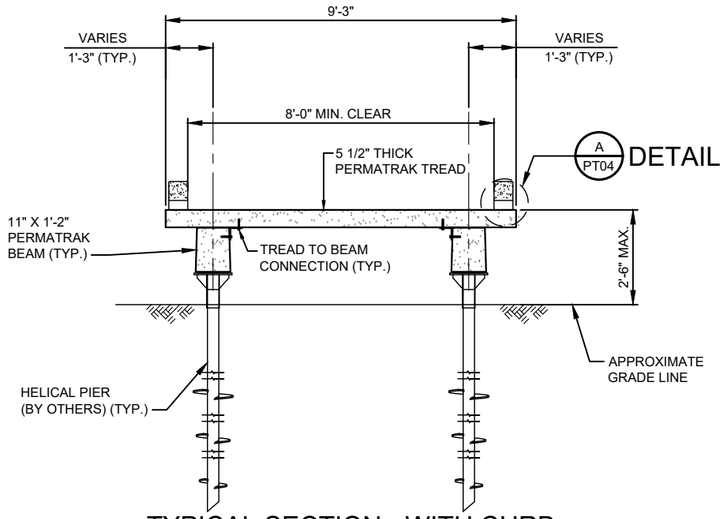
PermaTrak® The Concrete Boardwalk Company
www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS
FLORIDA
TEXAS
LOUISIANA
NORTH CAROLINA
OHIO

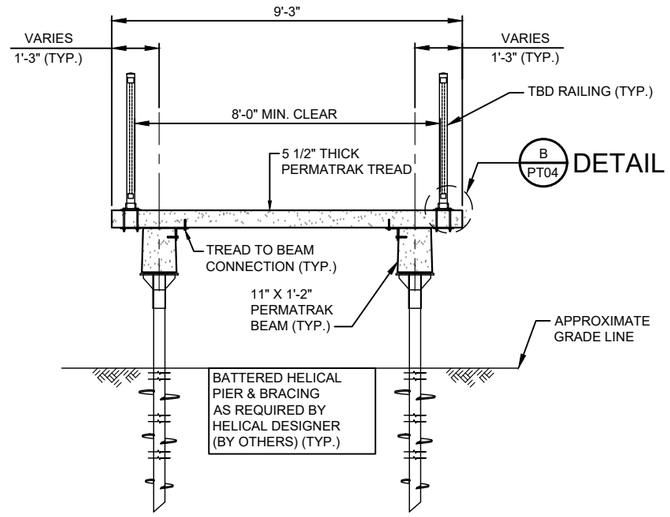
PROJECT TITLE:
WALTERBORO WILDLIFE SANCTUARY PH. II
BOARDWALK RECONSTRUCTION
WALTERBORO, SC

JOB NUMBER:	2024-2524
DATE:	01/27/2025
DESIGNED BY:	KAS
DRAWN BY:	KAS
CHECKED BY:	KAS
SHEET NO.	PT01



TYPICAL SECTION - WITH CURB

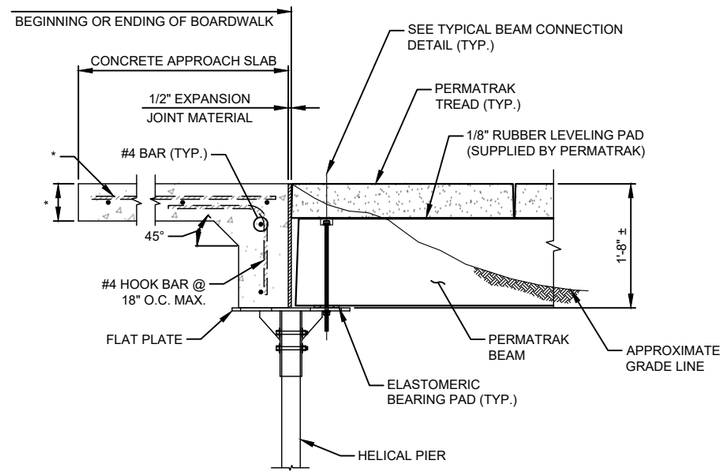
SCALE: 1/2" = 1'-0"



TYPICAL SECTION WITH RAILING

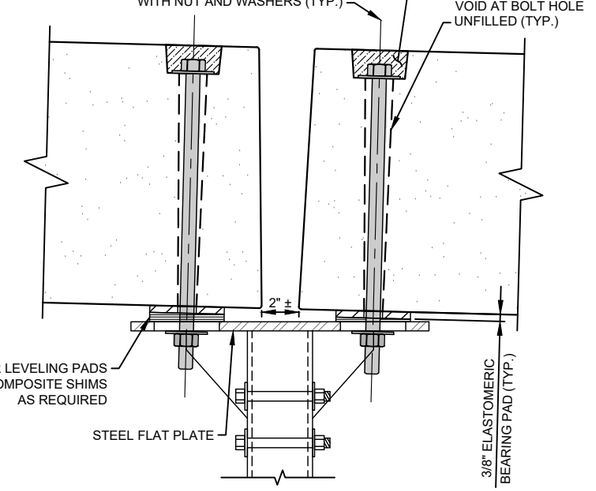
SCALE: 1/2" = 1'-0"

* SEE SITE DRAWINGS FOR DIMENSIONING, REINFORCEMENT, AND CONCRETE MATERIAL REQUIREMENTS OF APPROACH SLAB.



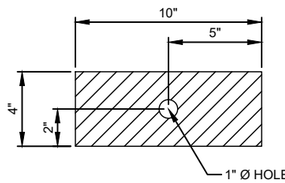
TYPICAL APPROACH DETAIL

SCALE: 1" = 1'-0"



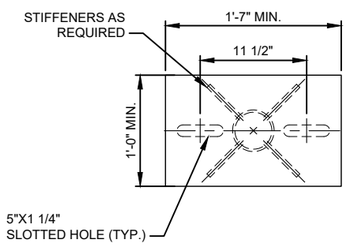
TYPICAL BEAM TO STEEL PLATE CONNECTION DETAIL

SCALE: NOT TO SCALE



ELASTOMERIC PAD PLAN

SCALE: 3" = 1'-0"

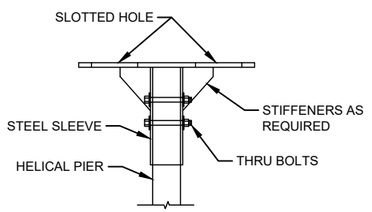


HELICAL PIER FLAT PLATE DETAIL

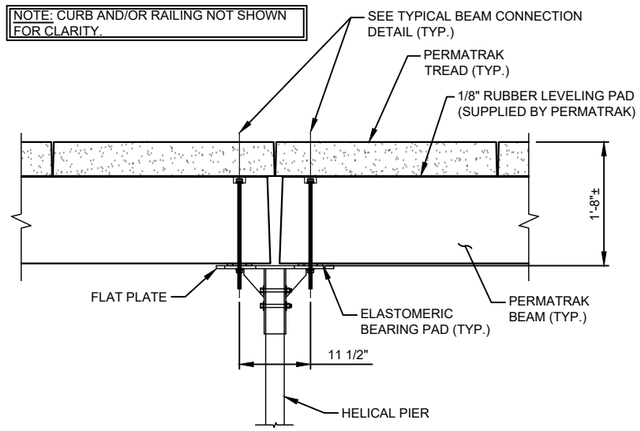
SCALE: NOT TO SCALE

HELICAL PIER NOTES:

1. DESIGN OF HELICAL PLATE ASSEMBLY IS BY OTHERS. (SEE PTO1 FOR LOADS). PLATE DIMENSIONS AND SLOTTED HOLES SHALL BE AS SHOWN.
2. HELICAL PIER, FLAT PLATE ASSEMBLY, STIFFENER PLATES, AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
3. DEPTH OF HELICAL PIER TO BE DESIGNED BY THE HELICAL PIER ENGINEER.
4. CROSS BRACING OF HELICAL PIERS MAY BE REQUIRED FOR STABILITY AND SHALL BE DETAILED BY HELICAL PIER ENGINEER.
5. IF STEEL SLEEVE EXCEEDS 4 1/2" O.D., CONTACT PERMATRAK FOR ADDITIONAL COORDINATION.



NOTE: CURB AND/OR RAILING NOT SHOWN FOR CLARITY.



TYPICAL PIER CONNECTION DETAIL

SCALE: 1" = 1'-0"

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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WALTERBORO, SC

JOB NUMBER:	2024-2524
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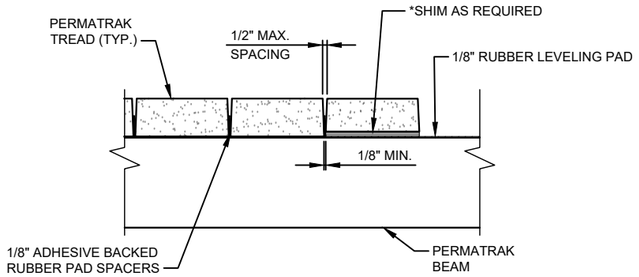
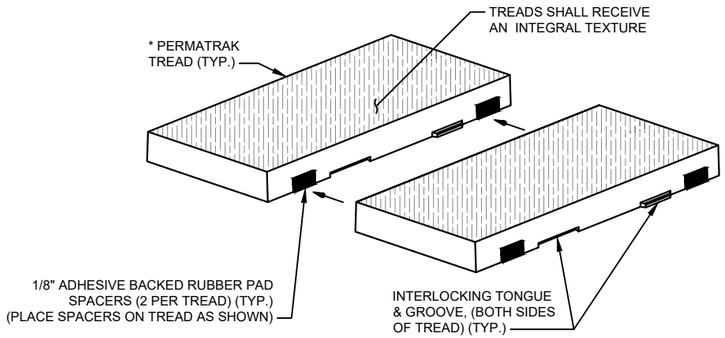
DRAWN BY:	KAS
CHECKED BY:	KAS
SHEET NO.	PT02



*NOTE:
DUE TO TOLERANCES AND VARIANCE IN PRECAST PRODUCTION AND INSTALLATION ACCURACY, SHIMS MAY BE REQUIRED. ADDITIONAL RUBBER LEVELING PADS MAY BE USED FOR SHIMMING.

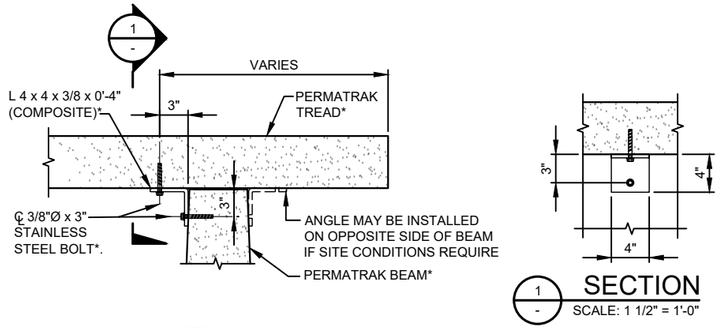
TYPICAL SHIM (UNDER TREAD) & TREAD SPACING DETAIL

SCALE: NOT TO SCALE



TYPICAL TREAD RUBBER SPACING DETAIL

SCALE: NOT TO SCALE

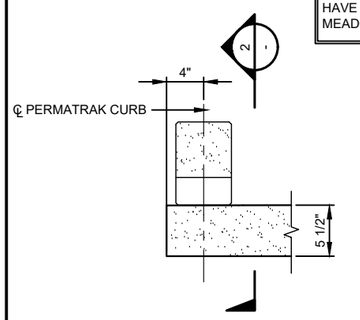


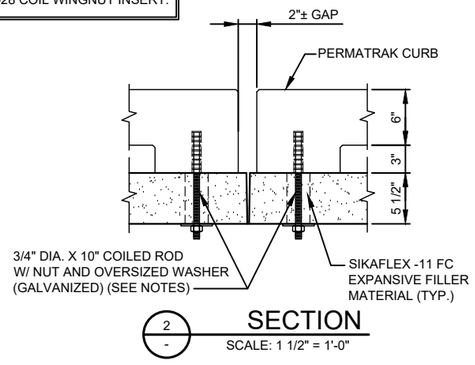
NOTES:
1. ALL HOLES IN PRECAST SHALL BE DRILLED BY CONTRACTOR.
2. DRILLED HOLES IN PRECAST SHALL BE 3/8"Ø AND INSTALLED PER MANUFACTURER INSTALLATION REQUIREMENTS.
3. * INDICATES SUPPLIED BY PERMATRAK.
4. ONE (1) CLIP ANGLE IS REQUIRED PER TREAD. LOCATION OF CLIP ANGLE ON TREAD SHALL BE CENTERED AND ALTERNATE SIDES FROM TREAD TO TREAD.

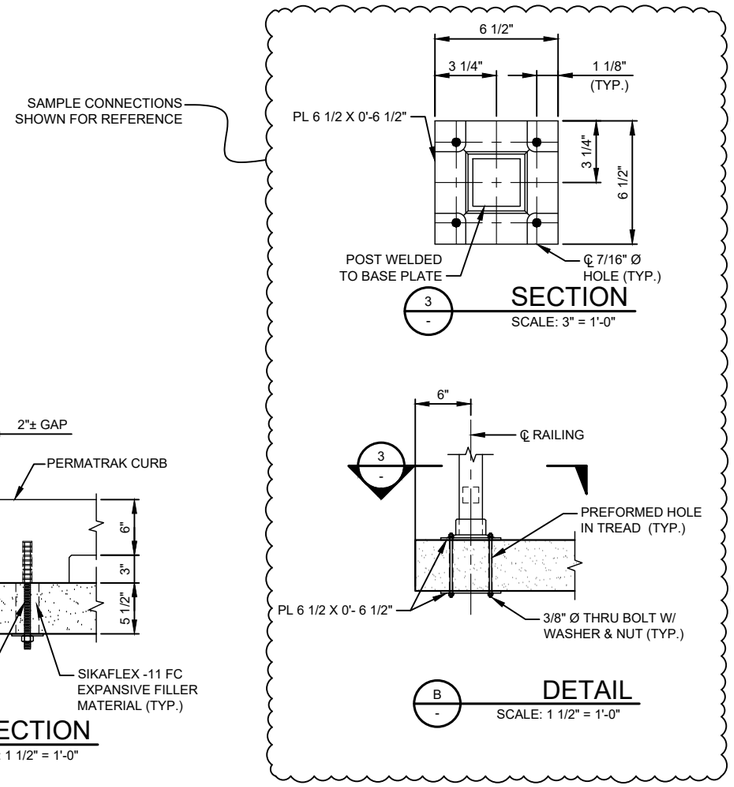
TREAD TO BEAM CONNECTION

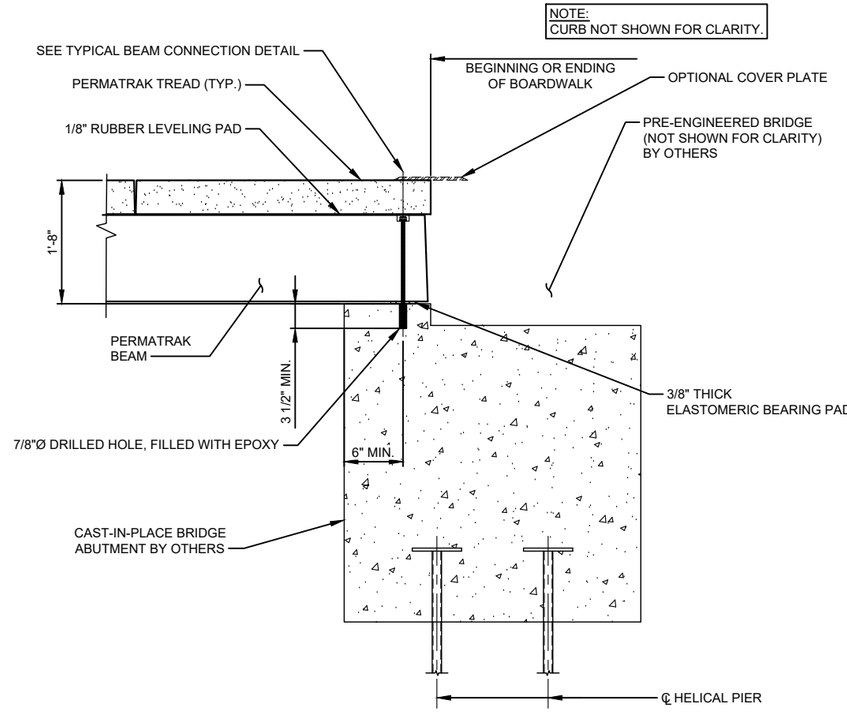
SCALE: N.T.S.

NOTES:
1. 2" DIAMETER PREFORMED HOLES SUPPLIED BY PERMATRAK.
2. CONNECTION HARDWARE SUPPLIED BY PERMATRAK.
3. FILL OVERSIZED DOWEL HOLES WITH SIKAFLEX-11 FC, SUPPLIED B Y PERMATRAK.
4. AFTER TIGHTENING NUT, DEFORM THREADS ON ROD TO PREVENT LOOSENING.
5. THREADED ROD SHALL BE GALVANIZED AND HAVE COARSE COILED THREADS TO FIT A MEADOW BURKE CX-28 COIL WINGNUT INSERT.









PERMATRAK TO PEDESTRIAN BRIDGE CONNECTION

SCALE: NOT TO SCALE

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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PROJECT TITLE:

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WALTERBORO, SC

JOB NUMBER:	2024-2524
DATE:	01/27/2025
DESIGNED BY:	KAS
DRAWN BY:	KAS
CHECKED BY:	KAS
SHEET NO.	PT03

HELICAL PIER/ANCHOR NOTES V2.4 LAST MODIFIED AUGUST 2021

1. DESIGN AND PERFORMANCE REQUIREMENTS

A. Helical piers shall be designed to support the nominal compression and lateral load(s) as shown on the project plans. The overall length, helix configuration and minimum effective torsional resistance of a helical pier shall be such that the required geotechnical capacity is developed by the helix plate(s) in an appropriate bearing stratum(s).
B. All steel structure pier components shall be designed within the limits provided by the American Institute of Steel Construction (AISC). Either Allowable Stress Design (ASD) or Load and Resistance Factor Design (LRFD) are acceptable methods of analysis.
C. Except where noted otherwise on the project plans, all piers shall be installed to provide a minimum factor of safety against ultimate compression resistance of 2.0, a maximum axial deflection at design compression load of 0.5 inches, and must satisfy the deflection criteria as stated on the plans or drawings.
D. Except where noted otherwise on the project plans, each pier shall be designed to meet a corrosion service life of 50 years.
E. The anchorage design shall take into account such pier spacing, soil stratification, corrosion and strain compatibility issues as are present for the project.

2. QUALIFICATIONS OF INSTALLING CONTRACTOR AND DESIGNER

The installing contractor and pier designer shall submit to the owner or owner's representative a proposal including the following documentation. Work shall not begin until all the submittals have been received and approved by the owner. All costs associated with incomplete or unacceptable submittals shall be the responsibility of the installing contractor.
A. Evidence of installing contractor's competency in installation of helical piers shall be provided to the owner's satisfaction and may include any or all of the following:
1. Pier manufacturer's certificate of competency in installation of helical piers, or
2. A list of at least three projects completed within the previous three years wherein the installing contractor installed helical piers similar to those shown in the project plans, such list to include names and phone numbers of those project owner's representatives who can verify the installing contractor's participation in those projects, or
3. A letter from the pier manufacturer, distributor or manufacturer's representative expressing ability and intent to provide on-site supervision of the pier installation.
B. A listing of all safety violations logged against the installing contractor within the previous three years and the current status or final resolutions thereof. Descriptions of safety improvements instituted within the previous three years may also be submitted, at the installing contractor's discretion.
C. Evidence of pier designer's competence in the design of helical piers shall be provided to the owner's satisfaction and shall include all of the following:
1. Registration as a professional engineer or recognition by the local jurisdictional authority.
2. A list of at least three projects completed within the previous three years wherein the pier designer designed helical piers similar to those shown in the project plans, such list to include names and phone numbers of those project owner's representatives who can verify the engineer's participation in those projects.
3. Recommendation from the pier manufacturer, distributor or manufacturer's representative.

3. PRE-CONSTRUCTION SUBMITTALS

A. Within two weeks of receiving the contract award, the installing contractor and/or pier designer shall submit the following helical pier design documentation:
1. Shop drawing submittal including at minimum, the helical plate and specific helical pier cut sheet, which shall be signed and sealed by a structural engineer.
2. Certification from the pier designer that the proposed piers meet the requirements stated herein.
3. Qualifications of pier installer per sections 2A and 2B
4. Qualifications of pier designer per section 2C
5. Product designations for helix and extension sections and all ancillary products to be supplied at each helical pier location
6. Individual anchorage nominal loads
7. Individual anchorage pre-tensioning requirements (if any)
8. Manufacturer's published allowable system capacities for the pier assemblies, including load transfer devices
9. Calculated theoretical geotechnical capacity of piers
10. Minimum effective torsional resistance criteria
11. Maximum allowable installation torque of pier
12. Minimum embedment lengths and other site-specific embedment depth requirements that may be appropriate for the site soil profiles
13. Inclination angle and location tolerance requirements
14. Copies of certified calibration reports for torque measuring equipment and load test measuring equipment to be used on the project. The calibrations shall have been performed within one year of the proposed starting date for helical pile installation or as recommended by the equipment manufacturer based on the proposed starting date.
15. Complete calculation submittal displaying structural and geotechnical capacity of the helical pier and connection plate. Calculation submittal shall be signed and sealed by a structural engineer.

4. PLACEMENT REQUIREMENTS

A. When helical pier placement is shown on the project plans, production piers shall be placed such that the anchor head is within 1 inch laterally and 1 inch longitudinally, and the pier shaft alignment is within 2 degrees of the inclination angle, shown on the project plans.
B. When pier placement is not shown on the project plans, the placements, alignments and their respective tolerances shall be included as part of the design submittal.

5. PIER INSTALLATION

A. Helical pier installation shall only begin after review and approval of the submitted testing data.
B. Before entering the construction site to begin work, the installing contractor shall provide proof of insurance coverage as stated in the general specifications and/or contract.
C. Installing contractor shall furnish and install all helical piers per the project plans and approved anchorage design documentation. In the event of conflict between the project plans and the approved anchorage design documentation, the installing contractor shall not begin construction on any affected items until such conflict has been resolved.
D. The installing contractor shall conduct his construction operations in a manner to ensure the safety of persons and property in the vicinity of the work. The installing contractor's personnel shall comply with safety procedures in accordance with OSHA standards and any established project safety plan.
E. The installing contractor shall request marking of underground utilities by an underground utility location service as required by law and shall avoid contact with all marked underground facilities.
F. The portion of the construction site occupied by the installing contractor, his equipment and his material stockpiles shall be kept reasonably clean and orderly.
G. Installation of helical piers may be observed by representatives of the owner for quality assurance purposes. The installing contractor shall give the owner's representative at least 24 hours prior notice of pier installation operations.
H. The helical pier installation technique shall be such that it is consistent with the geotechnical, logistical, environmental, and load carrying conditions of the project. The lead section shall be positioned at the location as shown on the pier design drawings. The helical pier sections shall be engaged and advanced into the soil in a smooth, continuous manner at a rate of rotation of 5 to 25 rpms. Sufficient down pressure (crowd) shall be applied to uniformly advance the helical pier sections a distance approximately equal to the pitch of the helix plate (typically 3 inches) per revolution. The rate of rotation and magnitude of down pressure shall be adjusted for different soil conditions and depths. Extension sections shall be provided to obtain the required minimum overall length and minimum effective torsional resistance as shown on the project plans.
I. Installation tolerances are as follows: Piers shall be driven with a variation of not more than 1/4" per foot from the vertical or from the batter line indicated. Upon completion of driving and released from leads, exposed piles shall not have a variation of more than 2 inches at the cut-off elevation from the position shown on the plans.

6. TERMINATION CRITERIA

The minimum overall length criteria and the minimum effective torsional resistance criteria as specified in the pre-construction submittals must be satisfied prior to terminating the pier installation. In the event any helical pier fails to meet these production quality control criteria, the following pre-qualified remedies are authorized:
A. If the installation fails to meet the minimum effective torsional resistance criterion at the minimum embedment length:
1. Continue the installation to greater depths until the torsional resistance criterion is met, provided that, if a maximum length constraint is applicable, continued installation does not exceed said maximum length constraint, or
2. Demonstrate acceptable pier performance through proof testing, or
3. Replace the pier with one having a different helix configuration. The replacement pier must not exceed any applicable maximum embedment length and either (a) be embedded to a length that places its last helix at least three times its own diameter beyond the position of the first helix of the replaced pier and meet the minimum effective torsional resistance criterion, or (b) pass proof testing.
B. If the torsional resistance during installation reaches the helical pier's maximum allowable torque rating prior to satisfaction of the minimum embedment length criterion:
1. Terminate the installation at the depth obtained if allowed by the owner's representative, or
2. Replace the pier with one having a shaft with a higher torsional strength rating. This replacement pier must be installed to satisfy the minimum embedment length criterion. It must also be embedded to a length that places its last helix at least three times its own diameter beyond the position of the helix of the replaced pier without exceeding any applicable maximum embedment length requirements and it must meet the minimum effective torsional resistance criterion, or
3. Replace the pier with one having a different helix configuration. This replacement pier must be installed to satisfy the minimum embedment length criterion. It must also be embedded to a length that places its last helix at least three times its own diameter beyond the position of the first helix of the replaced pier without exceeding any applicable maximum embedment length requirements, and it must meet the minimum effective torsional resistance criterion, or
4. If allowed by the pier location tolerance or approved by the owner's representative, remove and reinstall the pier at a position at least three times the diameter of the largest helix away from the initial location. Original embedment length and torsional resistance criteria must be met. This pier repositioning may require the installation of additional helical piers with nominal loads adjusted for these spacing changes.
C. If the installation reaches a specified maximum embedment length without achieving the minimum effective torsional resistance criterion:
1. If allowed by the pier location tolerance or approved by the owner's representative, remove and reinstall the pier at a position at least three times the diameter of the largest helix away from the initial location. Original embedment length and torsional resistance criteria must be met. This pier repositioning may require the installation of additional helical piers with nominal loads adjusted for these spacing changes, or
2. Demonstrate acceptable pier performance through proof testing, or
3. De-rate the load capacity of the helical pier and install additional piers, as necessary. The de-rated capacity and additional pier location shall be subject to the approval of the owner's representative, or
4. Replace the pier with one having a different helix configuration. This replacement pier must be installed to satisfy the minimum embedment length criterion and it must meet the minimum effective torsional resistance criterion.
D. If a helical pier fails to meet acceptance criteria in a performance or proof test:
1. Install the pier to a greater depth and installation torque and re-test provided that, if a maximum embedment length constraint is applicable, continued installation will not exceed said maximum length constraint, or
2. Replace the pier with one having more and/or larger helix plates. It must be embedded to a length that places its last helix at least three times its own diameter beyond the position of the first helix of the replaced pile without exceeding any applicable maximum embedment length requirements. This replacement pile must be re-tested, or
3. If approved by the owner's representative, de-rate the load capacity of the helical pier and install additional piers. Additional piers must be installed at positions that are at least three times the diameter of the largest helix away from any other pier locations and are approved by the owner's representative. Piers installed in cohesive soils shall not be spaced closer than four helix diameters.
E. Proof testing to qualify a pier under any of the foregoing remedial actions shall not be used to satisfy proof testing frequency requirements shown in the project plans or the design documentation. If a helical pier fails a production quality control criterion for any other reason, any proposed remedy must be approved by the owner's representative prior to initiating its implementation at the project site.

7. INSTALLATION RECORD SUBMITTALS

A. The installing contractor shall provide the owner, or his authorized representative, copies of individual helical pier installation records within 24 hours after each installation is completed. Formal copies shall be submitted (within 5 days). These installation records shall include, but are not limited to, the following information:
1. Date and time of installation
2. Location of helical pier
3. Actual helical pier type and configuration
4. Pier reveal
5. Total length of installed pier
6. Actual inclination of the pier
7. Actual effective torsional resistance
8. Calculated geotechnical capacity based on actual torsional resistance
9. Comments pertaining to interruptions, obstructions, or other relevant information

8. PIER TESTING

Two load tests shall be performed in accordance with the latest version of ASTM D1143 and the following criteria:
A. Load tests shall be performed on two (2) helical piers after installation in accordance with the plans. The static load capacity test shall be conducted one at a time and shall consist of the following. An initial axial setting force of 5,000 lbs shall be applied to the helical pier or helical pile. Load increments of 10 to 25% of the design allowable load shall be subsequently applied with a constant time interval between each increment, in accordance with ASTM D1143 quick load test method for individual piles, until the proof load specified on the plans is reached. After the final hold period, the maximum pile head displacement shall be recorded. The test shall be deemed successful provided helical pier and helical pile maximum pile head displacement is less than one half (1/2) inch of the design load. In the event of an unsatisfactory test, the helical pier or helical pile shall be installed to additional length and torque until a successful proof load capacity test has been completed. Axial load shall be applied to the helical pier and helical pile during the proof load capacity test utilizing the final bracket assembly configuration. Through the duration of installation and testing, the horizontal movement of the structure to which the helical piers are attached shall be limited as shown on the plans.
B. The installing contractor shall furnish all labor, equipment and pre-production helical piers necessary to accomplish the testing as shown in the approved pier design documentation. Installing contractor shall apply the specified loads for the specified durations and record the specified data, for the specified number of piers. No deviations from the test plan(s) will be allowed without explicit approval in writing from the owner's representative.
C. Installing contractor shall provide the owner, or owner's representative, copies of raw field test data or reports within 24 hours after completion of each load test. Formal test reports shall be submitted within (5 days) following test completion. Formal test reports shall include, but are not limited to, the following information:
1. Name of project and installing contractor
2. Name of installing contractor's supervisor during installation
3. Name of third party test agency, if any
4. Pre-production or production test
5. Date, time, and duration of test
6. Unique identifier and location of helical pier tested
7. Type of test (performance of proof)
8. Description of calibrated testing equipment and test set-up
9. Actual helical pier type and configuration
10. Steps and duration of each load increment
11. Cumulative pier head movement at each load step

9. CLEANUP

Within (2 weeks) of completion of the work, the installing contractor shall remove any and all material, equipment, tools, building materials, concrete forms, debris, or other items belonging to the installing contractor or used under the installing contractor's direction.

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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WALTERBORO, SC

JOB NUMBER:	2024-2524
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CHECKED BY:	KAS
SHEET NO.	PT04

ELEVATED PRECAST CONCRETE BOARDWALK PROJECT SPECIFICATIONS

V4.1 UPDATED SEPTEMBER 2023

PRECAST CONCRETE BOARDWALK SYSTEM

PART 1-GENERAL

1.1 SUMMARY

A. These specifications are for a precast concrete boardwalk and shall be regarded as minimum standards for this project. These specifications are based upon products designed and supplied by:

PermaTrak North America LLC
Ph: (956) 229-1848
Ph: 877-332-7862
www.permatrak.com
Contact: Ms. Carrie Parada
cparada@permatrak.com

This item shall also include the design, specification, and construction of a railing and foundation system that is attached to the proposed boardwalk system.

1.2 MINIMUM STANDARDS: The selected boardwalk shall have the following minimum characteristics:

A. The precast system shall be designed as a modular flexible system allowing a prescribed settlement at pier locations. Joints shall be designed for such movement to occur without damage to the structural integrity of the system.

B. Boardwalk system (beams, treads, and curbs if applicable) must be reinforced precast concrete. A material change, including cast-in-place concrete, is not considered an equal to the design shown on the bid documents.

C. Walking surface (treads) shall be made of reinforced precast concrete, and supported by reinforced precast concrete beams. Where applicable, edges of treads will receive precast concrete curbs.

D. Walking surface (finish) of top surface of treads shall have a formliner finish with one of PermaTrak's standard textures. Texture must be integral with the concrete and shall not be an applied post pour wearing surface.

E. Precast concrete treads shall be structural load bearing elements and shall interlock with one another via a “tongue and groove” connection.

F. All precast shall consist of integrally colored concrete in a color selected by the owner from one of PermaTrak's “standard colors”. All color pigment shall meet ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete.

G. DESIGN LOADS: See PT01 for pedestrian and vehicular design live loads.

H. Treads shall maintain a “boardwalk appearance”, specifically meaning each tread shall have a width: length ratio ranging from a minimum of 3:1 to a maximum of 14:1. Width is defined as the tread dimension perpendicular to the normal direction of travel. Length is defined as the tread dimension measured in the direction of travel.

I. Tread width shall be as noted on the contract drawings. Alignment should follow the horizontal and vertical alignment shown on the contract plans.

J. Connectors for curbs (if applicable) to treads shall not be visible to boardwalk users while viewed from the top of the walkway.

K. All tread-to-beam connectors shall be non-corrosive, and hidden from view. Metallic tread-to-beam connectors are not acceptable for this project.

L. Boardwalk supplier shall provide a field representative on site for a minimum of 2 days. Field representative shall be knowledgeable in the installation of precast concrete boardwalks.

1.3 QUALITY ASSURANCE

A. The contractor performing the installation of the pile foundations shall have installed piles of size and length similar to those shown on the plans for a minimum of three (3) years prior to the bid date for this project. The contractor shall submit a list containing at least three (3) projects completed in the last three (3) years on which the contractor has installed piles of a size and length similar to those shown on the plans. The list of projects shall contain names and phone numbers of owner's representatives who can verify the Contractor's participation on those projects.

B. Manufacturer Qualifications: Not less than 10 years experience in the actual production of precast products as described below.

1. Components shall be factory fabricated and engineered by single entity. This entity shall be registered to do business in the State of the project location.
2. Boardwalk supplier (Precaster) for the boardwalk shall have in-house color mixing facilities for color pigmentation.
3. Boardwalk supplier (Precaster) shall have either a minimum experience of 5 years or 50 boardwalk projects in design, production, and field consultation.
4. Boardwalk supplier (Precaster) must be certified by PCI or NPCA.
5. Precast components must be manufactured with the use of hot rolled steel skin in reinforced steel forms. Temporary (i.e., Timber) and/or single use forms are unacceptable unless approved in writing by the Boardwalk Engineer.

C. Acceptability Criteria for Treads and Curbs (if applicable): The finished visible (in the final installed position) surface shall have no obvious imperfections other than minimal color or texture variations from the approved samples or evidence of repairs when viewed in good typical daylight illumination with the unaided naked eye at a 20 ft. viewing distance. Appearance of the surface shall not be evaluated when light is illuminating the surface from an extreme angle as it tends to accentuate the minor surface irregularities. The following is a list of finish defects that shall be properly repaired, if obvious when viewed at a 20 ft. distance. Patching (by a trained skilled concrete repair person) is an acceptable repair method.

1. Ragged or irregular surfaces.
2. Excessive air voids (commonly called bug holes) larger than ¼ in. evident on the top surface of the tread or curbs (if applicable).
3. Adjacent flat and return surfaces with greater texture and/or color differences than the approved samples or mockups.
4. Casting and/or aggregate segregation lines evident from different concrete placement lifts and consolidation.
5. Visible mold joints or irregular surfaces.
6. Rust stains on exposed surfaces.
7. Units with excessive variation in texture and/or color from the approved samples, within the unit or compared with adjacent units.
8. Blocking stains evident on exposed surfaces.
9. Areas of backup concrete bleeding through the facing concrete.
10. Foreign material embedded in the surface.
11. Visible repairs at a 20 ft. viewing distance.
12. Reinforcement shadow lines.
13. Cracks visible at a 20 ft. viewings distance.

D. Installer Qualifications: Firm with 3 years experience in installation of systems similar in complexity to those required for this Project.

E. Mock-Up: Provide, if required by Architect/ Engineer, a mock-up for evaluation of the boardwalk showing the surface preparation techniques and application workmanship.

1. Finish areas designated by Architect / Engineer.
2. Do not proceed with remaining work until mock-up is accepted by Architect / Engineer.
3. Refinish mock-up area as required to produce acceptable work.

1.4 DESIGN

A. For applications requiring minimum disturbance due to tree roots or other existing objects specified by the Owner to be avoided during construction, the Boardwalk Manufacturer requires the Contractor or Engineer/Architect to provide a survey of the proposed boardwalk location identifying items of interest including tree roots that cannot be disturbed per the Owner.

B. The designer of the boardwalk, foundation and railing system shall be a qualified registered Professional Engineer licensed in the State of the project location and having a minimum of 20 years of experience in the design of concrete structures, foundation and railing systems.

C. The foundation design shown on the boardwalk drawings are based recommendations found in the geotechnical report entitled referenced on PT01 (if applicable).

A. DESIGN CRITERIA: The design of the boardwalk and railing system shall comply with the following guidelines:

1. AASHTO LRFD Guide Specifications for The Design of Pedestrian Bridges, 2nd Edition with 2015 Interim Revisions.
2. Latest Version of AASHTO LRFD Bridge Design Specifications for Highway Bridges.
3. Latest Version of American Concrete Institute - Building Code and Commentary.
4. In addition to the dead loads of the system, the structure shall be designed for the live loads defined in Section 1.2 G above.

1.5 SUBMISSIONS: Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include, but is not limited to, the following:

A. FOR APPROVAL SUBMISSIONS: Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include but not limited to the following:

1. DETAILED PLANS:
   a. PLAN VIEW: Full plan view of the boardwalk, foundation and railing system drawn to scale. The plan view must reflect the proposed horizontal alignment as shown on the design plans.
   b. PARTIAL ELEVATION VIEW (IF REQUESTED): Full elevation view of the boardwalk, railing and foundation system drawn to scale which reflect the actual vertical alignment. Elevation views shall indicate the elevation at the top and bottom of the boardwalk and foundation system components.
   c. DETAILS: Details of all boardwalk and railing system components and their connections such as the length, size and where changes occur; connections; etc.
   d. CODE REFERENCE: Design parameters used along with AASHTO references.
2. CONSTRUCTION SPECIFICATIONS:
   a. Construction methods specific to the boardwalk vendor chosen. Submittal requirements such as certification, quality and acceptance/rejection criteria shall be included. Details on connection of boardwalk units and foundation system such that assurance of uniform load transfer shall be checked.

B. FINAL SUBMISSION: Once a boardwalk, foundation and railing system design has been reviewed and accepted by the Owner, the Contractor shall submit the final plans. The designer of the boardwalk, foundation and railing system is responsible for the review of any drawings prepared for fabrication. One set of all approved shop drawings shall be submitted to the Engineer's permanent records.

C. SUBMITTALS: Product Data: Submit Manufacturer's technical product data for railing components and accessories.
Manufacturer to supply submittal drawings for approval to include the following:

1. Section-thru details.
2. Mounting methods.
3. Typical Elevations.
4. Key plan layout.

D. SHOP DRAWINGS: Shop drawings shall:

1. Be stamped by a licensed Professional Engineer in the State of the project location.
2. Show actual field conditions and true elevation and location supplied after field verification.
3. Clearly detail reinforcement in beams, treads and curbs including clear dimension from concrete edge, size and amount of rebar.
4. Clearly state concrete compressive strength, steel type and strength, and a listing of all component weights including lifting locations.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings:

1. Where field measurements cannot be made without delaying the railing fabrication and delivery, obtain guaranteed dimensions in writing by the Contractor and proceed with fabrication of products so as not to delay fabrication, delivery and installation.

C. Coordinate fabrication and delivery schedule of handrails with construction progress and sequence to avoid delay of railing installation.

1. Air entrained composed of Portland cement, fine and course aggregates, admixtures and water. The air-entraining feature may be obtained by the use of either an air entraining Portland cement or an air entraining admixture. The entrained air-content shall be not less than four percent or more than seven percent.

1.7 WARRANTY:

A. Contractor will be responsible for installation defects associated with the boardwalk and abutment components, foundation system, and railings for a period of 12 calendar months from the date of final acceptance by the Owner.

B. Boardwalk manufacturer shall warranty all precast concrete components against defects in material and workmanship for a period of 10 years.

C. Railing manufacturer shall warranty the railing against defects in materials and workmanship for a period of 12 months.

1.8 MEASUREMENT AND PAYMENT

A. Precast concrete boardwalk, railings, and foundations shall be paid for at the contract lump sum price as listed in the bid proposal for “Precast Concrete Boardwalk”. This price shall include all materials, equipment, labor and work necessary for and incidental to the design, construction, delivery, unloading, assembly, and placement of the boardwalk and foundation as shown in the contract plans including all railings on the superstructure.

PART 2-MATERIALS & TESTING

2.1 PRECAST CONCRETE: shall conform to the following:

A. The minimum compressive strength of the concrete shall be 4000 psi measured at 28 days.
B. All precast concrete shall contain structural steel reinforcement as designed by the Engineer of record.
C. All precast concrete components shall be air entrained composed of Portland cement, fine and course aggregates, admixtures and water. The air-entraining feature may be obtained by the use of either an air entraining Portland cement or an air entraining admixture. The entrained air-content shall be not less than four percent or more than seven percent.
D. All reinforcing steel shall be standard uncoated steel conforming to ASTM A615

PART 3 - EXECUTION

1.1 PRECAST CONCRETE BOARDWALK

A. Installation of the precast concrete boardwalk system and railings, if applicable, shall be performed in accordance to the approved plans and manufacturers installation instructions. Boardwalk manufacturer shall provide a field representative to review installation instructions with the Contractor and Engineer and to certify that the installation has been performed according to the approved drawings and manufacturer's instructions.

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

NO.	DATE	DESCRIPTION	BY:
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PREPARED FOR:

WSP

FOR BIDDING PURPOSES
NOT FOR CONSTRUCTION

PermaTrak® The Concrete Boardwalk Company

www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS
FLORIDA
TEXAS
LOUISIANA
NORTH CAROLINA
OHIO

PROJECT TITLE:

WALTERBORO WILDLIFE SANCTUARY PH. II BOARDWALK RECONSTRUCTION

WALTERBORO, SC

JOB NUMBER:	2024-2524
DATE:	01/27/2025
DESIGNED BY:	KAS
DRAWN BY:	KAS
CHECKED BY:	KAS
SHEET NO.	Precast Specs