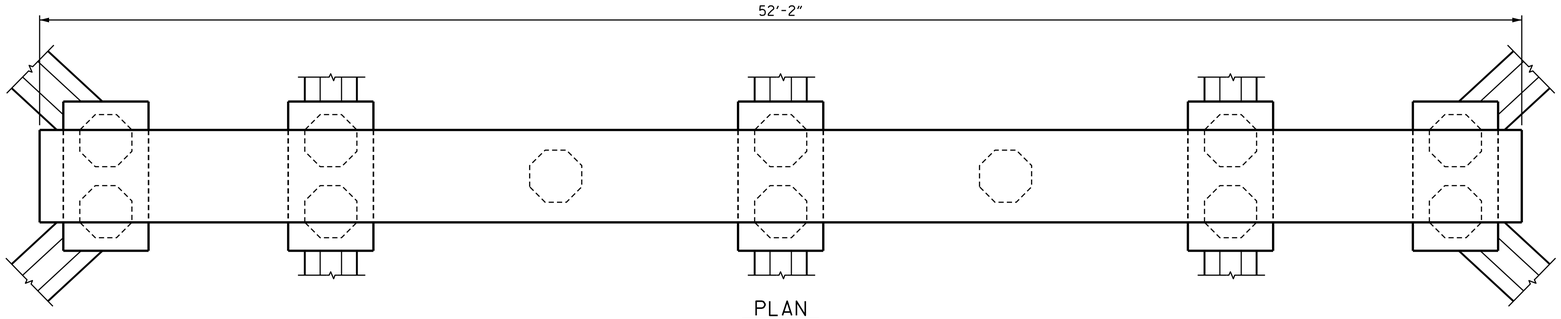
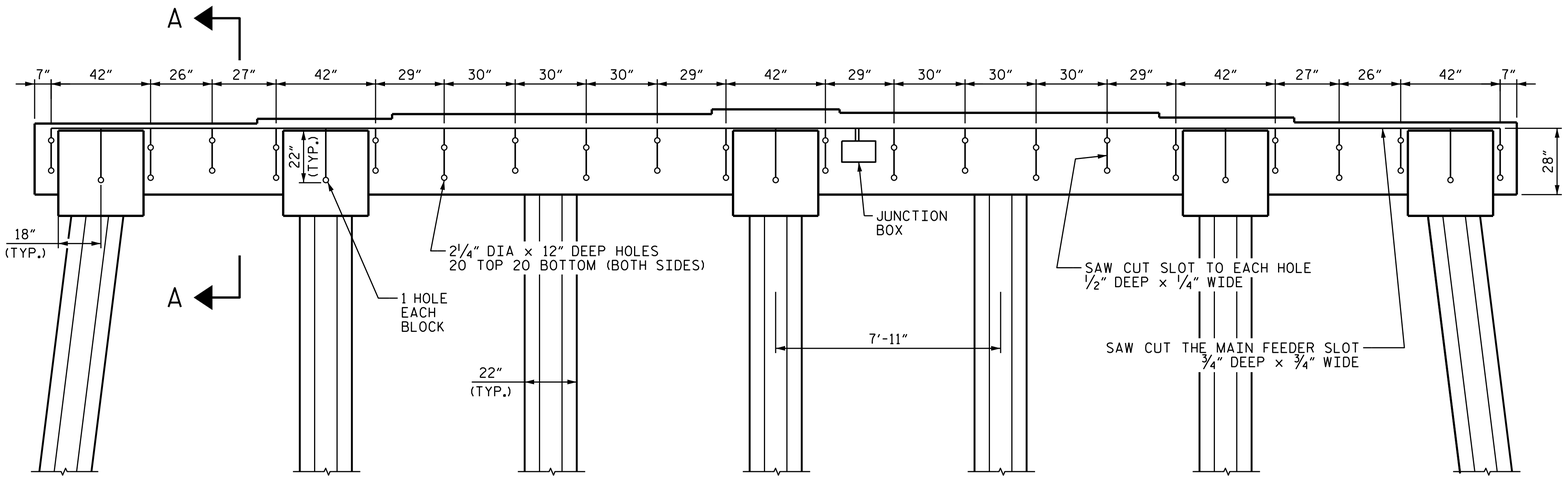
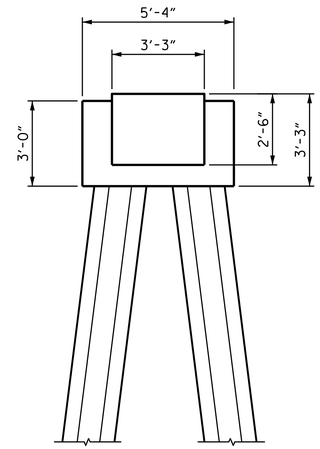
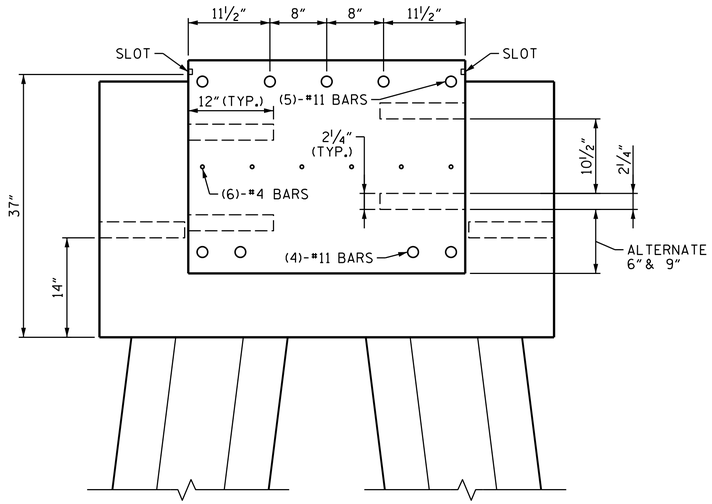


PLAN
NTS

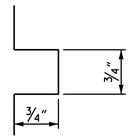




END VIEW
NTS



SECTION A-A
NTS



MAIN FEEDER SLOT DETAIL
NTS

NOTES

1. ONE REFERENCE CELL PER MONITORING CAP.
2. REFERENCE ELECTRODE WIRE IS TO BE ROUTED IN THE MAIN FEEDER SLOT TO THE JUNCTION BOX.
3. REFERENCE CELL (FOR MONITORING CAPS ONLY) AND STRUCTURE CONNECTION LOCATIONS TO BE SELECTED BY CATHODIC PROTECTION SPECIALIST IN THE FIELD. NOT SHOWN FOR CLARITY.
4. ANODE LOCATIONS MAY BE ADJUSTED ± 2″ TO AVOID EMBEDDED REINFORCEMENT.
5. MAKE THREE SYSTEM NEGATIVE CONNECTIONS PER FACE (ONE ON EACH END, ONE IN THE MIDDLE). ROUTE WIRES THROUGH MAIN FEEDER SLOT TO THE JUNCTION BOX. BACKFILL THE SLOTS WITH CEMENTITIOUS MORTAR.

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
NON EXP. JOINTS
BENTS 2, 3, 5, 6, 8, 11, & 12 DETAILS

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
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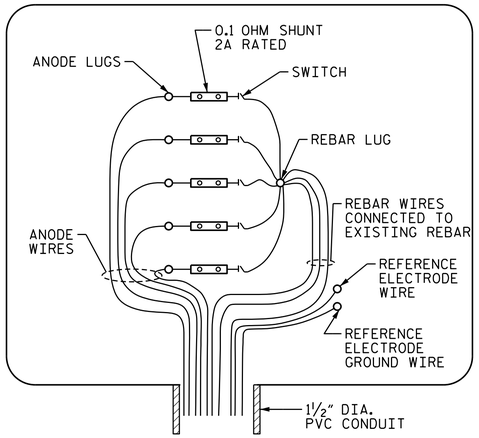
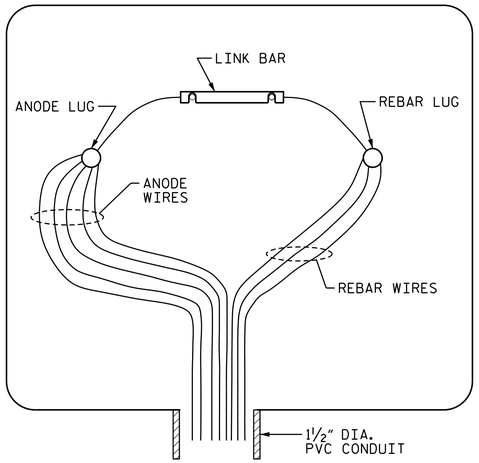
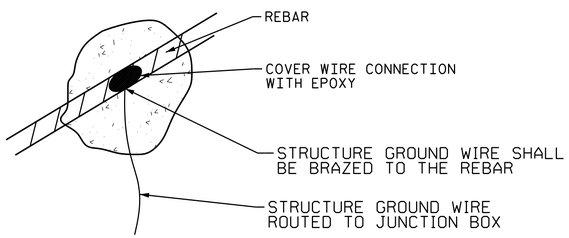


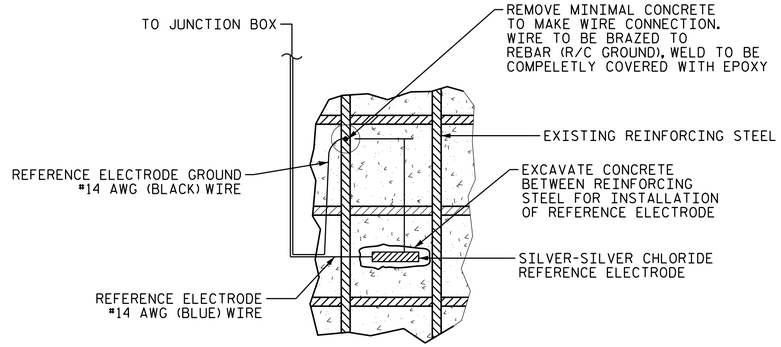
JUNCTION BOX DETAIL - MONITORING (CAPS ONLY)
NTS



JUNCTION BOX DETAIL - NON MONITORING CAPS
NTS



DETAIL A - GROUND CONNECTION DETAIL
NTS



REFERENCE ELECTRODE INSTALLATION DETAIL
NTS

REFERENCE ELECTRODE INSTALLATION NOTES

1. EXISTING REINFORCEMENT SHALL NOT BE EXPOSED, EXCEPT A SMALL AREA WHERE REFERENCE ELECTRODE GROUND WIRE CONNECTION IS MADE. SAWCUTS SHALL BE USED TO PLACE THE REFERENCE ELECTRODE WIRE AND REFERENCE ELECTRODE GROUND WIRE.
2. THE DEPTH OF EXCAVATION SHALL BE SUCH THAT THE REFERENCE ELECTRODE IS SITUATED AT THE SAME DEPTH AS THE REBAR.
3. SILVER-SILVER CHLORIDE REFERENCE ELECTRODES SHALL BE INSTALLED DURING THE CONCRETE REPAIR STAGE.
4. REFERENCE ELECTRODE EXCAVATIONS SHALL BE VISIBLY FREE OF DIRT, GREASE AND OTHER FOREIGN MATERIAL PRIOR TO PLACING THE REFERENCE ELECTRODE AND THE BACK FILL MATERIAL.
5. REFERENCE ELECTRODES SHALL BE IN LOCATIONS DETERMINED BY THE CATHODIC PROTECTION SPECIALIST.

MONITORING:
1 END BENT
1 EXP JOINT
1 NON EXPANSION JOINT
12 NON MONITORING

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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SUBSTRUCTURE
CATHODIC PROTECTION DETAILS

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CHECKED: SV
CHECKED: SM

CHECKED BY: C.J. HOWARD DATE : FEB 2018

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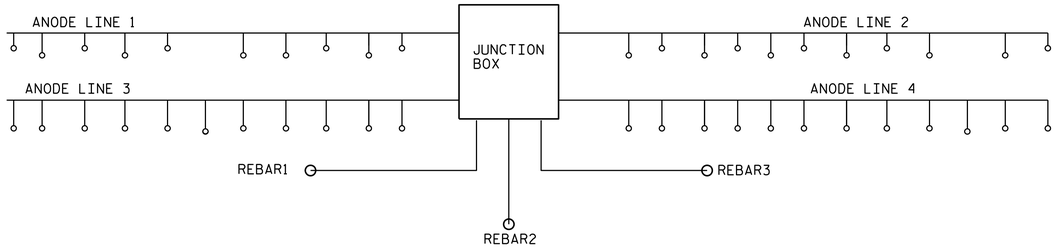
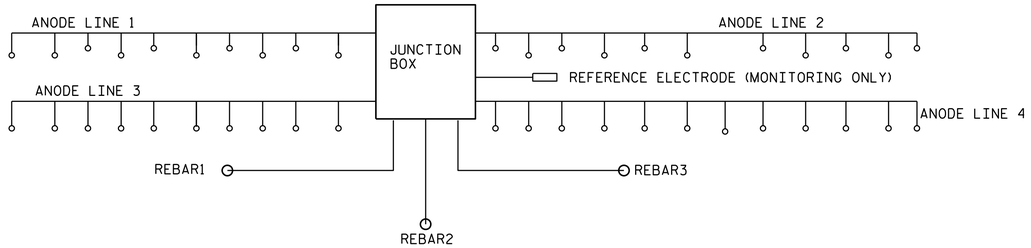
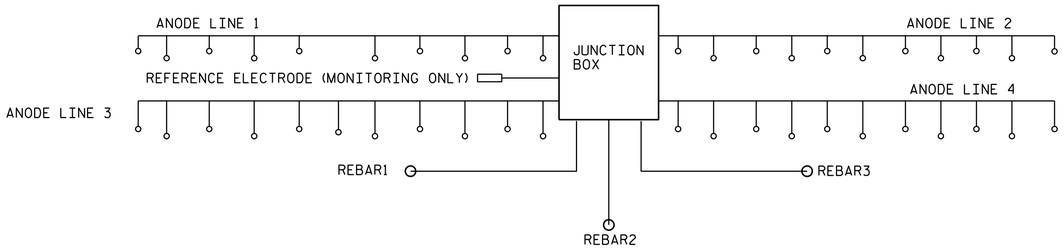


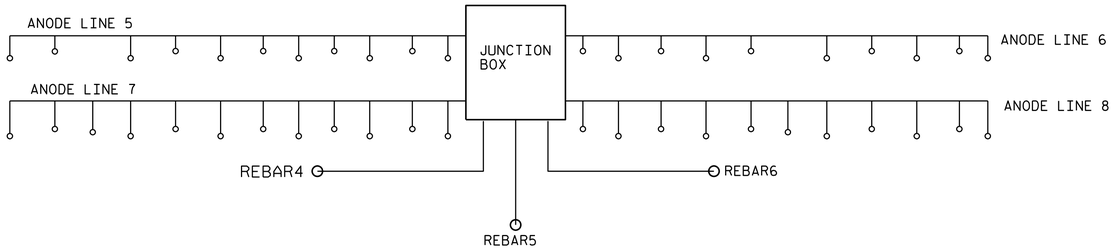
ANODE WIRING DIAGRAM END BENT 1
(JUNCTION BOX 1)



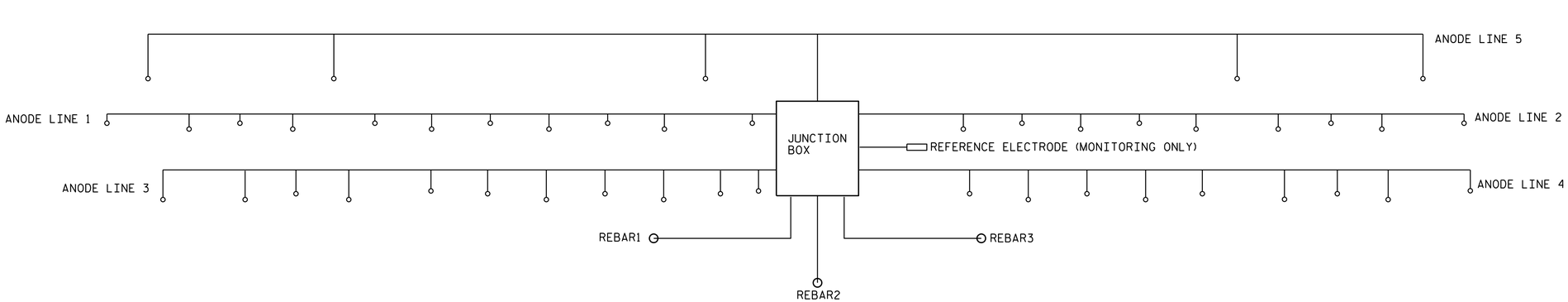
ANODE WIRING DIAGRAM END BENT 1
(JUNCTION BOX 2)



ANODE WIRING DIAGRAM END BENT 2
(JUNCTION BOX 1)

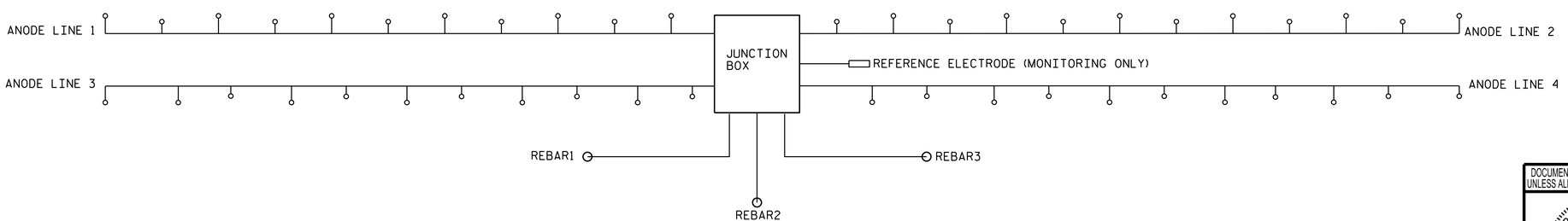


ANODE WIRING DIAGRAM END BENT 2
(JUNCTION BOX 2)



ANODE WIRING DIAGRAM BENTS 2,3,5,6,8,9,11,12 (EACH SIDE)

NOTE: ALL WIRES TO BE ROUTED THROUGH MAIN FEEDER SLOT TO JUNCTION BOX.



ANODE WIRING DIAGRAM BENTS 1,4,7,10,13 (EACH SIDE)

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021

STATE OF NORTH CAROLINA
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RALEIGH

SUBSTRUCTURE
SINGLE LINE DIAGRAM
DETAILS

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NORTH CAROLINA PROFESSIONAL SEAL 040208 ENGINEER CLAYTON J. HOWARD
10/19/2020

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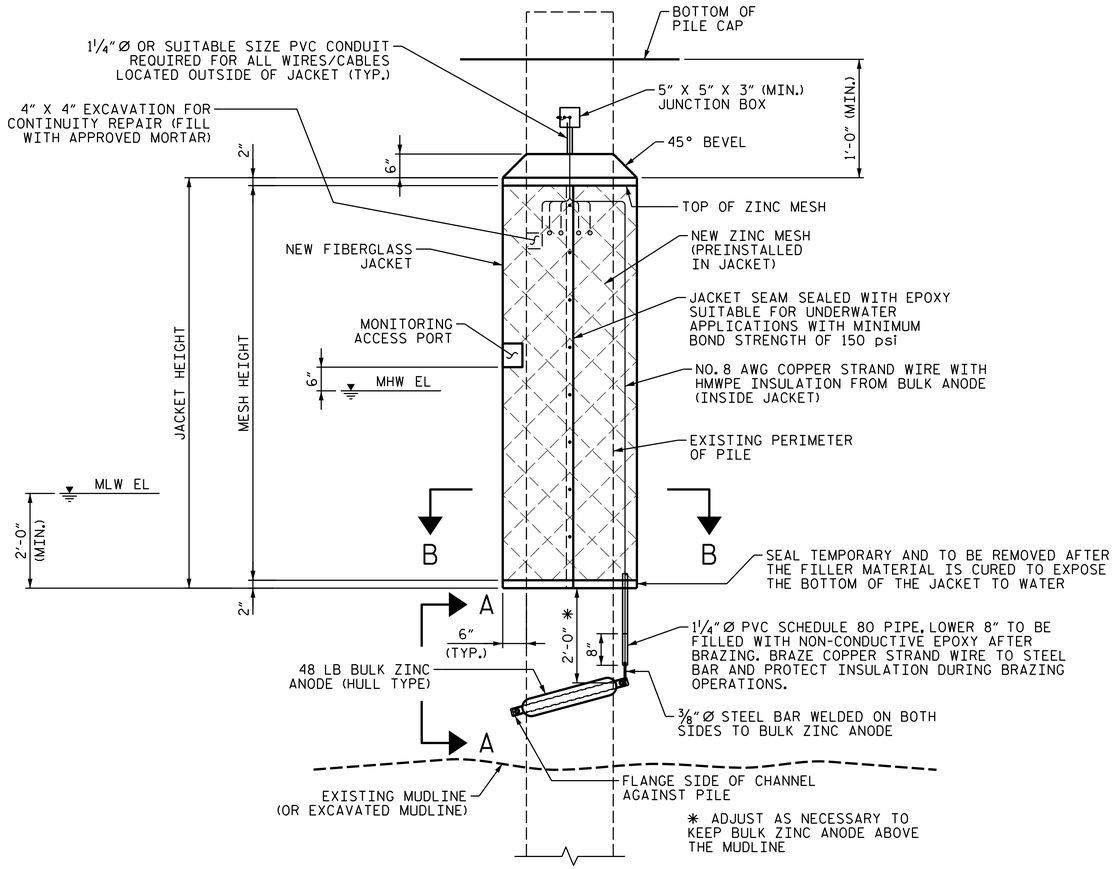
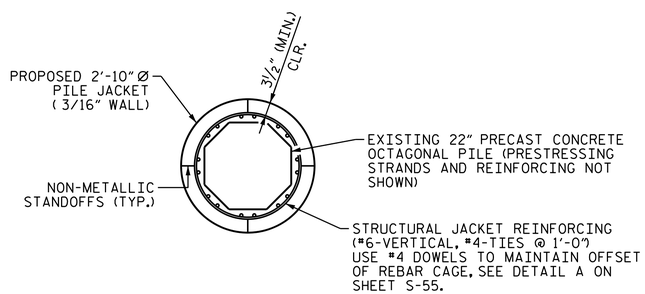
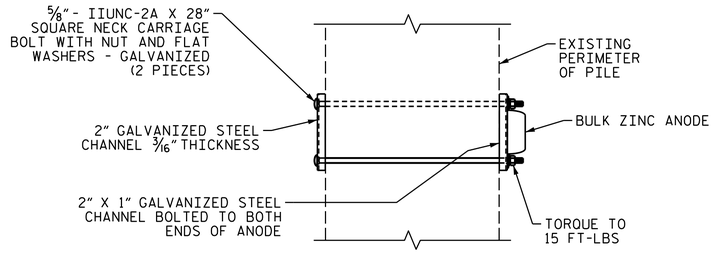


TYPICAL CATHODIC PILE JACKET
ELEVATION



SECTION B-B
TYPICAL STRUCTURAL JACKET, NON-STRUCTURAL SIMILAR



VIEW A-A

PILE JACKET NOTES

PROVIDE A PUMPING PORT WITHIN 4" OF THE PILE JACKET BOTTOM OR GROUND LINE TO APPLY FILLER. IF ADDITIONAL PUMPING PORTS ARE REQUIRED TO ENSURE PROPER FILLING, THEY SHALL BE LOCATED ABOVE THE BOTTOM PORT HOLE, STAGGERED ON ALTERNATE SIDES.

ALL CONDUIT, BULK ZINC ANODES, JUNCTION BOXES, AND CONNECTIONS SHALL BE PLACED ON THE EAST FACE PILES WEST OF BENT 7 AND THE WEST FACE EAST OF BENT 7.

PILE JACKET TABLE

LOCATION	PILE NUMBER	
	MONITORING	NON-MONITORING
BENT 2	2	5
BENT 3	8	2, 5
BENT 4		9
BENT 9	5	
BENT 10		8

THREE PILE JACKET LOCATIONS WERE CHOSEN FOR MONITORING IN THE CHART ABOVE. THE CATHODIC PROTECTION SPECIALIST IN THE FIELD WILL DETERMINE THE FINAL LOCATIONS AND NUMBER OF THE MONITORING AND NON-MONITORING PILE JACKETS.

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021
SHEET 1 OF 3

STATE OF NORTH CAROLINA
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PILE JACKET DETAILS

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SEQUENCE OF CONSTRUCTION FOR PILE JACKETS

THE CONTRACTOR SHALL SURVEY AND LOCATE THE MEAN HIGH AND MEAN LOW WATER ELEVATIONS AT EACH PILE WITH SUBSEQUENT APPROVAL OF THE ENGINEER PRIOR TO THE INSTALLATION OF ANY JACKET.

CLEAN PILES IN ACCORDANCE WITH SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A PLAN FOR CONTROL AND DISPOSAL OF DEBRIS TO THE ENGINEER FOR APPROVAL. ALL COST ASSOCIATED WITH DEBRIS REMOVAL SHALL BE INCIDENTAL TO JACKET COST.

PROVIDE CONTINUITY TEST FOR ALL PILES TO BE JACKETED IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.

PERFORM INITIAL ELECTRICAL WORK AND ATTACH THE BULK ZINC ANODE TO THE PILE AS SHOWN IN VIEW A-A ON PILE JACKET DETAILS (1 OF 3) AND IN ACCORDANCE WITH THE PROJECTS SPECIAL PROVISIONS.

POSITION SACRIFICIAL ZINC MESH /FIBERGLASS JACKET HALVES AROUND THE ENTIRE PILE PERIMETER FOR VERTICAL DISTANCE OF MESH HEIGHT AND SEAL HALVES TOGETHER IN PREPARATION FOR POUR AND ROUT THE COPPER WIRES COMING OUT OF THE JACKET IN CONDUIT. INSTALL TEMPORARY HARD BACK BRACING AND CLAMP SYSTEM TO HOLD THE JACKET HALVES STABLE AND IN PLACE DURING FILL OPERATION.

THE TYPE OF JACKET INSTALLED IS TO BE APPROVED BY THE ENGINEER AFTER THE REMOVAL OF UNSOUND CONCRETE AND PRIOR TO JACKET INSTALLATION. A STRUCTURAL JACKET IS REQUIRED WHEN EITHER OF THE TWO FOLLOWING IS PRESENT:

1) 2 OR MORE STRANDS ON ONE SIDE OF A PILE EXHIBIT MORE THAN 30% CROSS-SECTIONAL AREA LOSS.
2) THE TOTAL CROSS-SECTIONAL AREA OF STRANDS ON ONE SIDE OF BENT PILE EXHIBIT MORE THAN 10% SECTION LOSS.

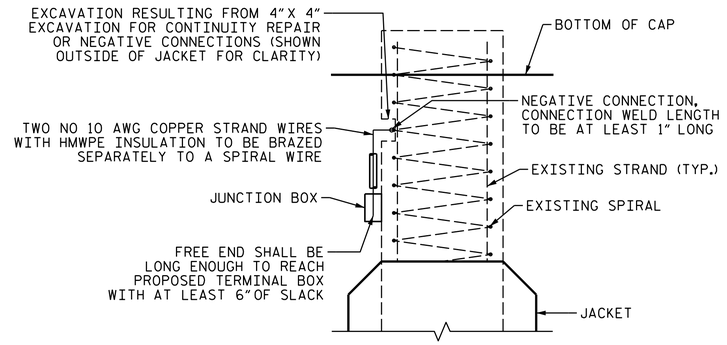
OTHERWISE, A NON-STRUCTURAL JACKET SHALL BE USED. AT THE ENGINEER'S DIRECTION, A #7 BAR MAY BE USED TO SUPPLEMENT AN INDIVIDUAL STRAND THAT HAS A SECTION LOSS OF MORE THAN 30% ON A PILE OTHERWISE SUITABLE FOR A NON-STRUCTURAL JACKET. THE NUMBER OF BARS SHALL BE LIMITED TO TWO PER PILE.

PLACE FILLER AS PER CONTRACT DOCUMENTS.

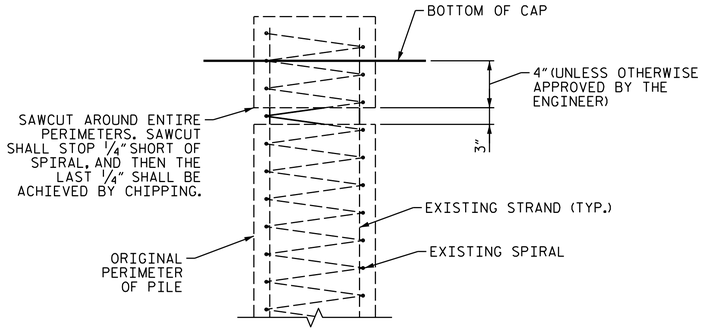
INSTALL JUNCTION BOX.

CONNECT THE FREE ENDS OF CABLES IN THE JUNCTION BOX TO THE ANODE OR CATHODE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.

PATCH AND FILL ANY REMAINING EXCAVATIONS WITH APPROVED MATERIAL.



ELEVATION
(SCHEME 1)



ELEVATION
(SCHEME 2)

SCHEME 1

EXCAVATE A 4" X 4" AREA AT EACH STRAND OF DISCONTINUITY SUCH THAT IT EXTENDS TO THE FIRST ADJACENT STRAND THAT IS CONTINUOUS. EXCAVATION AREA TO BE WITHIN THE TOP 2 FEET OF THE JACKET. EXCAVATION SHOWN OUTSIDE JACKET FOR CLARITY.

FOR ABOVE WATER INSTALLATION RESISTANCE WELD TWO MILD STEEL WIRES FROM ONE DISCONTINUOUS STRAND TO THE ADJACENT STRAND UNTIL A CONTINUOUS STRAND IS REACHED. COAT CONNECTION WITH NON-CONDUCTIVE EPOXY.

A MINIMUM OF TWO CONTINUITY CONNECTIONS SHALL BE MADE TO EACH DISCONTINUOUS STRAND.

SCHEME 2

MAKE UNIFORM DEPTH AND HEIGHT SAW CUTS AROUND ENTIRE PILE PERIMETER KEEPING CLEAR OF EXISTING STRANDS. AFTER SAWCUTTING, CHIP AS NECESSARY TO EXPOSE STRANDS AND SPIRALS. AREA TO BE LOCATED WITHIN THE TOP 2 FEET OF THE JACKET. CLEAN AND PREPARE SAWCUTTING/CHIPPED AREA.

RESISTANCE WELD TWO MILD STEEL WIRES FROM ONE DISCONTINUOUS STRANDS TO THE ADJACENT STRAND UNTIL A CONTINUOUS STRAND IS REACHED. COAT CONNECTION WITH NON-CONDUCTIVE EPOXY.

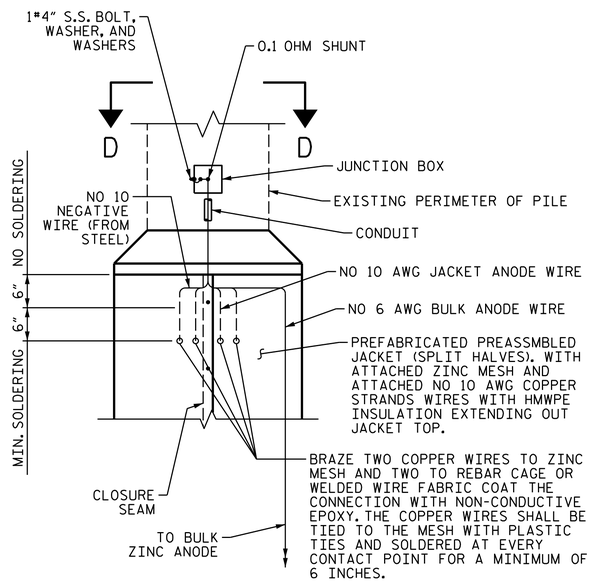
A MINIMUM OF TWO CONTINUITY CONNECTIONS SHALL BE MADE TO EACH DISCONTINUOUS STRAND.

EXERCISE EXTREME CAUTION WHILE CUTTING CONTINUITY TRENCH AND AVOID NICKING OR CUTTING ANY STRAND WIRES.

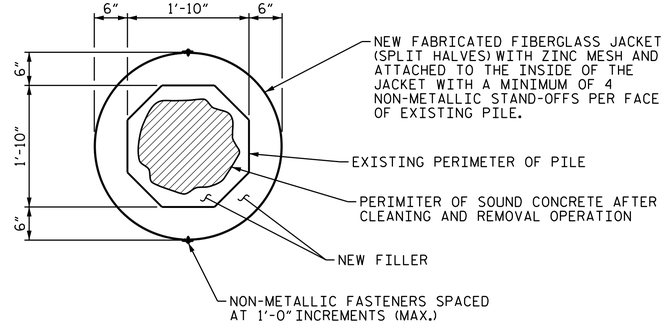
CONTINUITY CORRECTIONS

GENERAL

LOCATIONS OF EXCAVATIONS FOR CONTINUITY CORRECTIONS SHALL BE SELECTED BASED ON THE ALTERNATIVE RESULTING IN THE LEAST REMOVAL OF CONCRETE. IF POSSIBLE, ALL EXCAVATIONS TO EXPOSED REINFORCING STEEL SHALL BE MADE INSIDE THE JACKET LIMITS. CONTINUITY CORRECTION EXCAVATIONS SHALL BE SEALED PRIOR TO PLACEMENT OF THE JACKET.



JACKET DETAIL
(NON-STRUCTURAL SHOWN, STRUCTURAL SIMILAR)



VIEW D-D
PRESTESSING STRANDS AND REIFORCING STEEL NOT SHOWN FOR CLARITY

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021

SHEET 2 OF 3

STATE OF NORTH CAROLINA
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PILE JACKET DETAILS

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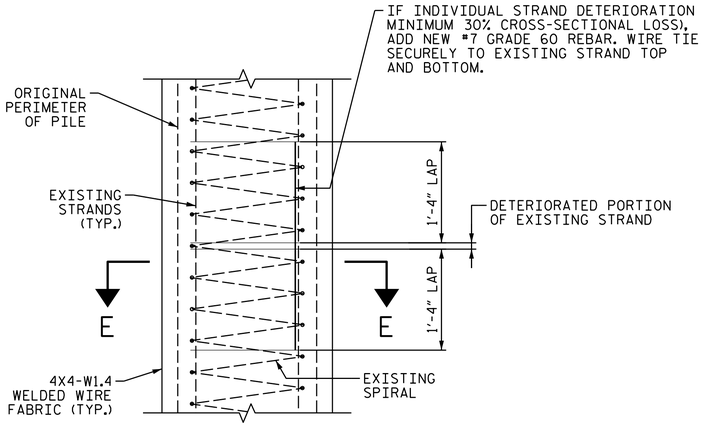
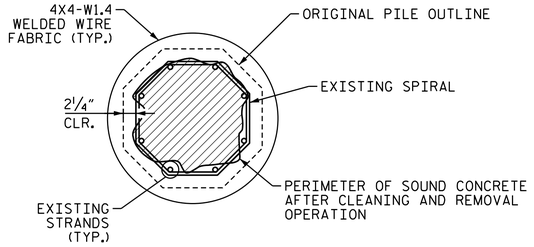


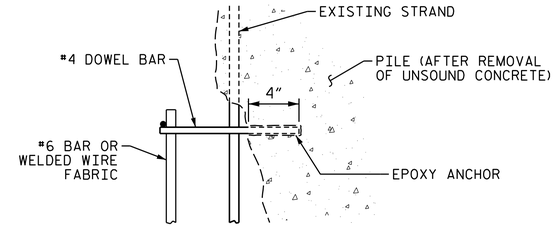
SCHEME 3

NON-STRUCTURAL CATHODIC PILE JACKET
(JACKET AND GROUT FILLER NOT SHOWN FOR CLARITY)

NOTE:
MINIMUM STEEL AREA REQUIREMENTS FOR NON-STRUCTURAL CASE 4X4-W1.4 WELDED WIRE FABRIC OR GREATER.



SECTION E-E



DETAIL A

SEQUENCE OF CONSTRUCTION FOR PILE JACKETS

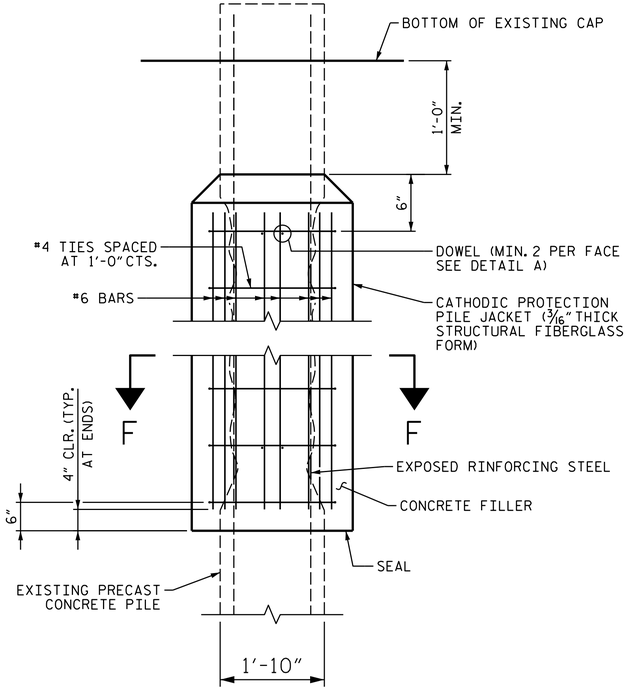
EMBED DOWEL WITH EPOXY AT A POINT WHERE STRAND IS INTACT AND CONTINUOUS WITH THE PILE LENGTH EXTENDING FROM THAT PARTICULAR END OF THE JACKET. MAINTAIN ELECTRICAL ISOLATION BETWEEN DOWEL AND EXISTING PILE REINFORCEMENT.

RESISTANCE WELD DOWEL AT #7 BAR ON WELDED WIRE FABRIC TO ESTABLISH CONDUCTIVITY CONNECTIONS. FOR BELOW WATER JACKET USE MECHANICAL CONNECTIONS. CONTRACTOR TO SUBMIT DETAIL TO ENGINEER FOR APPROVAL.

COAT ALL RESISTANCE WELD CONNECTIONS WITH TWO COATS OF 100% SOLID NON-CONDUCTIVE EPOXY.

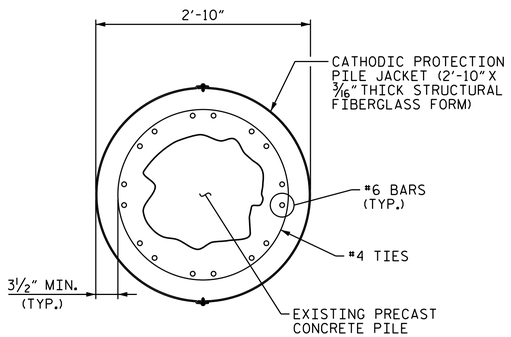
WIRE TIE ALL INTERSECTIONS OF REINFORCING CAGE.

FILLER FOR JACKETS SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS. REINFORCING FOR JACKETS SHALL BE AS DETAILED ON THIS SHEET.



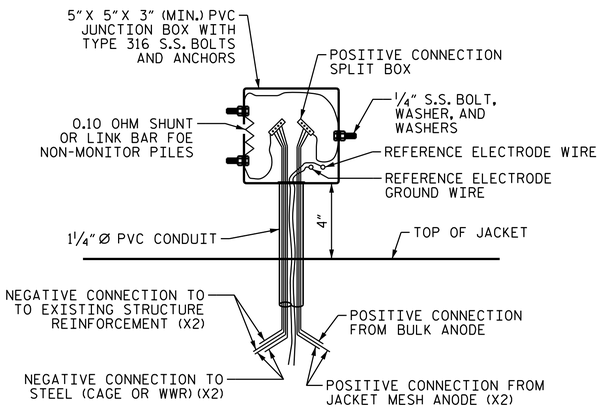
SCHEME 4

STRUCTURAL CATHODIC PILE JACKET
(CATHODIC COMPONENTS NOT SHOWN FOR CLARITY)



SECTION F-F

NOTE:
PROVIDE ELECTRICAL CONTINUITY BETWEEN THE NEW AND EXISTING STEEL AT THE CONNECTION JUNCTION BOX (SEE JUNCTION BOX DETAILS)



JUNCTION BOX DETAIL

PROJECT NO. 15BPR.19
NEW HANOVER COUNTY
BRIDGE NO. 640021

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE JACKET DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 046208 ENGINEER LACEY J. HOWARD
10/19/2020

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-55
1			3			TOTAL SHEETS
2			4			58

DRAWN BY: M.J. OSTRISHKO DATE : JUL 2018
CHECKED BY: C.J. HOWARD DATE : JUL 2018

10/18/2020
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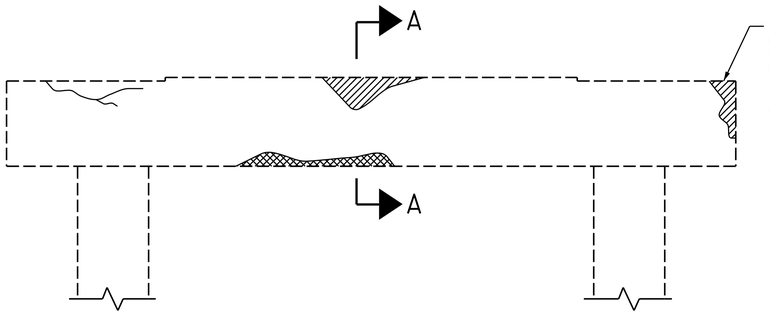
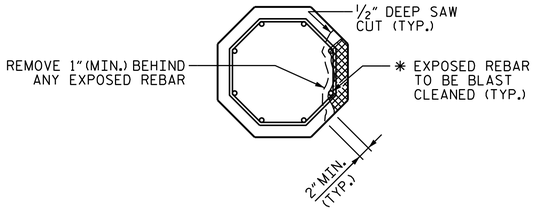


BENT CAP REPAIRS



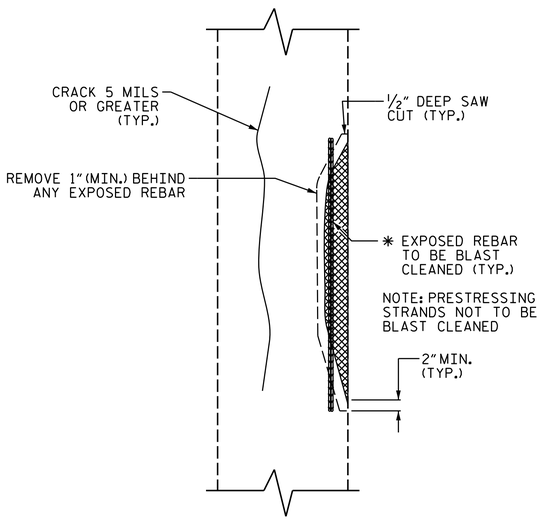
PLAN OF PILE

REPAIR KEY

CONCRETE REPAIR AREA (FORM AND POUR)

SHOTCRETE REPAIR AREA

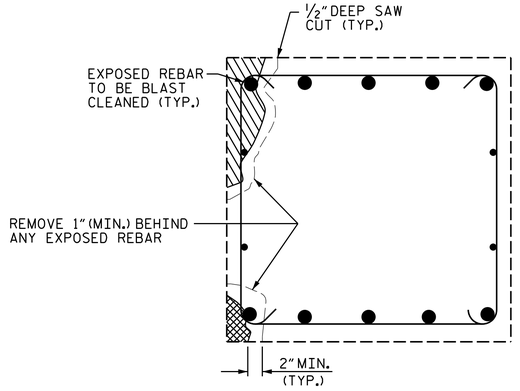
SPLICE LENGTH TABLE	
BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"



* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

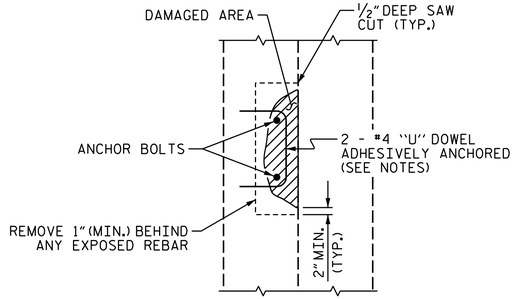
ELEVATION OF PILE

PILE REPAIR

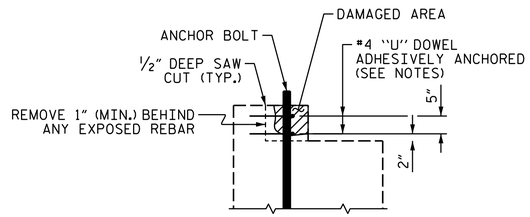


SECTION A-A

CAP REPAIR



PLAN



ELEVATION

PEDESTAL WALL REPAIR

NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR PILE CIRCUMFERENCE SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR PILE CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR PILE, BUT NO MORE THAN ⅓ OF THE CIRCUMFERENCE SHALL BE REMOVED AT ONE TIME. IF REMOVAL EXTENDS MORE THAN 1½" BEHIND THE MAIN REINFORCING, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

ON COLUMNS AND PILES, NO MORE THAN 10 VERTICAL FEET MAY BE EXPOSED AT ONE TIME BEFORE PLACEMENT OF REPAIR CONCRETE.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

CLEAN ALL EXPOSED REINFORCING BARS AND PRESTRESSED STRANDS IN ACCORDANCE WITH APPROPRIATE SPECIAL PROVISIONS. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY, OF ALL DAMAGE TO PRESTRESSED STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.

PROJECT NO. 15BPR.19

NEW HANOVER COUNTY

BRIDGE NO. 640021

DRAWN BY: M.J. OSTRISHKO DATE : OCT 2018

CHECKED BY: C.J. HOWARD DATE : NOV 2018

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NORTH CAROLINA PROFESSIONAL SEAL 040206 ENGINEER CHRISTOPHER J. HOWARD

10/19/2020

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
TYPICAL CAP AND PILE REPAIR DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-56
1			3			TOTAL SHEETS
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10/18/2020
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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS - - - - - - - - - - - - - - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD -	SEE PLANS
IMPACT ALLOWANCE - - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 - -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W - -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50 - -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60 - - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION - - - - - - - - - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS - - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER - - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH - - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5⁄16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1⁄16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95 EEM (c) RGW REV. 5-7-03 RWW (c) JTE REV. 10-1-11 MAA (c) GM
REV. 8-16-99 RWW (c) LES REV. 5-1-06 TLA (c) GM REV. 12-17 MAA (c) THC
10/18/2020
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USM004281