





**GENERAL NOTES:**

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2011, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- THE CONTRACTOR SHALL GIVE TWO (2) WEEKS NOTICE TO THE PROPERTY OWNER WHEN ANY FIXTURE, SHRUB OR OTHER OBJECT MUST BE REMOVED FROM THE RIGHT OF WAY OR EASEMENT AREA. IF THE OWNER HAS NOT ATTEMPTED SALVAGE THIS PROPERTY, THE CONTRACTOR SHALL REMOVE IT WITHOUT OBLIGATION. COMPENSATION SHALL BE INCIDENTAL TO THE CONTRACT.
- THE ENDS OF ALL CURBS SHALL BE DEPRESSED FLUSH WITH THE PAVEMENT AT A RATIO OF TWELVE TO ONE (12:1) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL PVC SLEEVES (4" INSIDE MINIMUM DIAMETER, 6" INSIDE MAXIMUM DIAMETER) IN PROPOSED CONCRETE SIDEWALKS, ISLANDS, AND MEDIANS FOR FUTURE TRAFFIC SIGN POSTS AS DIRECTED BY THE ENGINEER. THE LOWER END OF THE SLEEVE SHALL SIT ON THE TOP OF THE SUBBASE MATERIAL. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- STAGING AREAS - PROPER EROSION AND SEDIMENT CONTROL MEASURES AS DETERMINED BY THE ENGINEER SHALL BE INSTALLED IN ALL STAGING AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE CONTRACT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDED AND MULCHED IN ACCORDANCE WITH DELAWARE STANDARD SPECIFICATIONS 732, 734, AND 735, FOR TOPSOIL, SEEDING, AND MULCHING RESPECTIVELY, TO THE SATISFACTION OF THE ENGINEER. THE SEED SHALL ADHERE TO THE SPECIFICATIONS OF SECTION 734 FOR PERMANENT GRASS SEEDING - DRY GROUND. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH REESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SITE REVIEWER - AN EROSION CONTROL SITE REVIEWER SHALL BE A PERSON FROM THE CONTRACTOR'S STAFF ASSIGNED TO EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE AND SHALL BE REQUIRED ON SPECIFIC PROJECTS. THE NAME AND DNREC CERTIFICATION NUMBER OF EACH SITE REVIEWER SO REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE NAME OF THE DELAWARE REGISTERED PROFESSIONAL ENGINEER PROVIDING DIRECTION AND SUPERVISION OF THE SITE REVIEWER, AS REQUIRED IN SECTION 12.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, SHALL ALSO BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE SITE REVIEWER REQUIREMENTS IN EFFECT ON THIS PROJECT SHALL BE MARKED WITH AN "X" BELOW:

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
( X ) INSIGNIFICANT	NONE
( ) MINOR	CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
( ) MEDIUM	AT THE TIME OF BID OF THE CONTRACT, EITHER THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
( ) MAJOR	SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR AT THE TIME OF BID OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF THE CONTRACT.

- ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR INCLUDE:

( )	NONE
( )	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
( X )	RASTER FILES, IN .CAL FILE FORMAT, FOR ALL PLAN SHEETS.
( )	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( )	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( )	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS CONTRACT.
( X )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR.
( )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION, AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR.

- DISTURBED AREA: 0.2 ACRES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONSTRUCTION SITE POLLUTION PREVENTION SPECIFICATIONS AS DETAILED IN SECTION 3.6 OF THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK". ALL COSTS ASSOCIATED WITH ADHERING TO THE STANDARDS SHALL BE INCIDENTAL TO THE OVERALL CONTRACT COSTS.

**PROJECT NOTES:**

- ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ANY CONSTRUCTION ACTIVITY BY UTILITY COMPANIES, OR ADJACENT CONSTRUCTION CONTRACTS AS NECESSARY - SEE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE TO THE ENGINEER PRIOR TO BEGINNING ANY WORK. DELMARVA POWER WILL REQUIRE 24 CALENDAR DAYS ACCESS TO THE 1'-0" DIAMETER GAS LINE TO PERFORM ROUTINE MAINTENANCE. REFER TO UTILITY STATEMENT FOR DETAILED SCOPE AND TIMING OF UTILITY WORK.
- IN AREAS WHERE TREES OR SHRUBS WILL BE OVERHANGING THE PROPOSED SIDEWALK, PRUNING MAY BE NECESSARY TO ACHIEVE A VERTICAL CLEAR SPACE OF 10 FEET ABOVE THE PROPOSED SIDEWALK ELEVATION. THE CONTRACTOR SHALL PRUNE EXISTING TREE AND SHRUB BRANCHES, WHICH OVERHANG THE SIDEWALK, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST ADMINISTRATOR, EUGENE "CHIP" ROSAN, JR. (302) 760-2185 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.
- TEMPORARY TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE PLANS, THE DE MUTCD, AND THE REQUIREMENTS OF ITEM 763643 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.
- THE CONTRACTOR SHALL ESTABLISH PROPER CROSS SLOPE OF ROADWAY PRIOR TO PLACEMENT OF FINAL WMA SURFACE COURSE. COST SHALL BE INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.
- WHERE NEW CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, SAWCUT THE EXISTING SIDEWALK OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON PLANS OR DIRECTED BY THE ENGINEER, AND SHALL BE PAID FOR UNDER ITEM 762002 - SAW CUTTING, CONCRETE, FULL DEPTH.
- ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762001 - SAW CUTTING, HOT MIX.
- ALL PAVED AREAS (INCLUDING DRIVEWAYS) TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.
- CONSTRUCTION OF ANY PROPOSED DRAINAGE, TEMPORARY DRAINAGE, OR INSTALLATION OF EROSION CONTROL MEASURES SHALL START AT THE OUTFALL AND PROGRESS UPSTREAM FOR ALL CONSTRUCTION PHASES.
- ALL WATERING OF SEEDED, PLANTED, OR SODDED AREA WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO THE SEEDING, PLANTING, OR SODDING ITEMS TO WHICH IT PERTAINS.
- RIGHT-OF-WAY PLANS FOR RIGHT-OF-WAY OR EASEMENT STAKEOUT PURPOSES ARE AVAILABLE FROM DELDOT.
- AS DESIGNED, THIS PROJECT WILL NOT FILL/IMPACT ANY JURISDICTIONAL WETLANDS OR WATERS OR PERMANENTLY CHANGE ANY HYDRAULIC OPENINGS. AS SUCH, NO ENVIRONMENTAL PERMITS ARE REQUIRED (INCLUDING BUT NOT LIMITED TO COE, DNREC SUBAQUEOUS LANDS AND WETLANDS, NEW CASTLE COUNTY FLOODPLAIN) AND NO ENVIRONMENTAL COMPLIANCE SHEET WAS PREPARED. A U.S. COAST GUARD ADVANCED APPROVAL WILL BE NEEDED FOR ANY WORK THAT WILL CREATE A TEMPORARY RESTRICTION TO THE NAVIGATIONAL CHANNEL. THIS INCLUDES WATER AND AERIAL/CLEARANCE RESTRICTIONS. SEE "WATERWAYS" FOR FURTHER GUIDANCE. FURTHERMORE, THERE ARE NO IDENTIFIED ENVIRONMENTAL CONSTRUCTION RESTRICTIONS (E.G. MIGRATORY BIRDS).
- THE CONTRACTOR SHALL BE AWARE THAT PORTIONS OF THE PROJECT AND ANTICIPATED ACCESS AREAS WILL TAKE PLACE WITHIN THE BRANDYWINE PARK HISTORIC DISTRICT WHICH IS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES. AS SUCH, NO FURTHER WORK OR ALTERATION ON DESIGN PLANS SHALL BE PERFORMED BEYOND THE CONTRACT PLANS AND SPECIFICATIONS. IF CHANGES OR ADDITIONAL MEASURES ARE DEEMED ABSOLUTELY NECESSARY, WHICH MAY IMPACT THE APPEARANCE, STRUCTURAL INTEGRITY, FUNCTION, AESTHETICS, OR OPERATIONS OF THE BRIDGE, ROADWAY(S), OR ADJACENT STREAM BANK AND ROADSIDE SYSTEM, DELDOT'S ENVIRONMENTAL STUDIES SECTION (302-760-2131 - ATTENTION MIKE HAHN) SHALL BE CONTACTED PRIOR TO IMPLEMENTATION. NO ALTERATIONS SHALL BE GRANTED UNLESS THEY ARE COORDINATED AND APPROVED BY DELDOT.

ADDENDUMS / REVISIONS	

**BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER  
BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**GENERAL NOTES AND  
PROJECT NOTES - I**

SHEET NO.	3
TOTAL SHTS.	48

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PROJECT NOTES (CONTINUED):

42. CONTINGENT QUANTITIES

THESE CONTRACT DRAWINGS HAVE BEEN PREPARED BASED ON ORIGINAL CONTRACT PLANS, SHOP DRAWINGS, AND INSPECTION FIELD NOTES TAKEN FROM NOVEMBER 7, 2010 THROUGH NOVEMBER 11, 2010. ADDITIONAL REPAIRS HAVE BEEN ADDED BASED ON THE JULY 7, 2011 BIENNIAL BRIDGE INSPECTION REPORT (BY OTHERS). ACTUAL CONDITIONS MAY REQUIRE MODIFICATION IN CONSTRUCTION DETAILS AND WORK QUANTITIES. ALL DIMENSIONS AND DETAILS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING ANY MATERIALS. THE ESTIMATED QUANTITIES FOR THE FOLLOWING PAY ITEMS INCLUDE CONTINGENCY FACTORS TO ACCOUNT FOR THE ANTICIPATED VARIATIONS IN THE ACTUAL QUANTITY.

ITEM	DESCRIPTION	CONTINGENCY FACTOR
207000	EXCAVATION AND BACKFILL FOR STRUCTURES 50%	50%
302007	GRADED AGGREGATE BASE COURSE, TYPE B	25%
401804	WMA SUPERPAVE, TYPE C, 160 GYRATIONS, PG 70-22 (CARBONATE STONE)	25%
602001	PORTLAND CEMENT CONCRETE MASONRY, CLASS A	ENTIRE QUANTITY
602013	PORTLAND CEMENT CONCRETE MASONRY, CLASS D	100%
602574	DECK REPAIR, 1/4" TO 1"	ENTIRE QUANTITY
602575	DECK REPAIR, 1" TO 3"	ENTIRE QUANTITY
602576	DECK REPAIR, 3 IN. TO < FULL DEPTH	ENTIRE QUANTITY
602577	DECK REPAIR, FULL DEPTH	ENTIRE QUANTITY
602579	DRILLING HOLES AND INSTALLING DOWELS	ENTIRE QUANTITY
602580	PARTIAL REMOVAL OF P.C.C. MASONRY	100%
602586	REHABILITATION OF CONCRETE STRUCTURE	100%
602611	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	ENTIRE QUANTITY
603500	REPLACING BAR REINFORCEMENT	25%
605578	REPLACING STEEL RIVETS/BOLTS	50%
605584	STEEL STRUCTURE REPAIR	25%
605709	WELD REPAIRS	50%
610502	POINTING EXISTING STONE MASONRY	100%
611503	GRAFFITI REMOVAL	100%
705001	PORTLAND CEMENT CONCRETE SIDEWALK, 4"	25%
712005	RIPRAP, R-4	50%
727007	CHAIN-LINK FENCE, 8' HIGH	100%
727008	TERMINAL POSTS FOR 8' CHAIN-LINK FENCE	ENTIRE QUANTITY
732005	TOPSOIL	50%
734013	PERMANENT GRASS SEEDING, DRY GROUND	50%
735535	SOIL RETENTION BLANKET MULCH, TYPE 5	50%
746647	REPLACEMENT OF ALUMINUM HANDHOLE COVER AND FASTENERS	100%
746648	REPLACEMENT OF STEEL FASTENERS	100%
748530	REMOVAL OF PAVEMENT STRIPING	25%
758000	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	25%
760006	PAVEMENT-MILLING, HOT-MIX, 2" DEPTH	25%
762002	SAW CUTTING, CONCRETE, FULL DEPTH	25%

PROJECT NOTES (CONTINUED):

43. REFERENCES

- FOR NOTES RELATING TO THE FLOOR BEAM REPAIRS, SEE SHEET NOS. 9-11.
- FOR NOTES RELATING TO LATERAL STRUT U26, SEE SHEET NO. 12.
- FOR NOTES RELATED TO WIND LINK BEARING, SEE SHEET NOS. 13-16.
- FOR NOTES RELATED TO INSPECTION WALK LADDER REPAIRS, SEE SHEET NO. 17.
- FOR NOTES RELATED TO GUSSET PLATE STIFFENERS, SEE SHEET NO. 18.
- FOR NOTES RELATING TO THE PIN AND HANGER RETROFIT, SEE SHEET NOS. 19-23.
- FOR NOTES RELATED TO TROUGH AND JOINT REPLACEMENTS, SEE SHEET NOS. 24-32.
- FOR NOTES RELATED TO PPC OVERLAY, SEE SHEET NO. 33.
- FOR NOTES RELATING TO CONCRETE REPAIRS, SEE SHEET NO. 34.
- FOR NOTES RELATED TO CHAIN LINK FENCE REPLACEMENT, SEE SHEET NOS. 35-36.
- FOR NOTES RELATED GUARDRAIL REPLACEMENT, SEE SHEET NO. 37.
- FOR NOTE RELATING TO EMBANKMENT STABILIZATION, SEE SHEET NO. 38.
- FOR MAINTENANCE OF TRAFFIC, SEE SHEET NOS. 39-48.

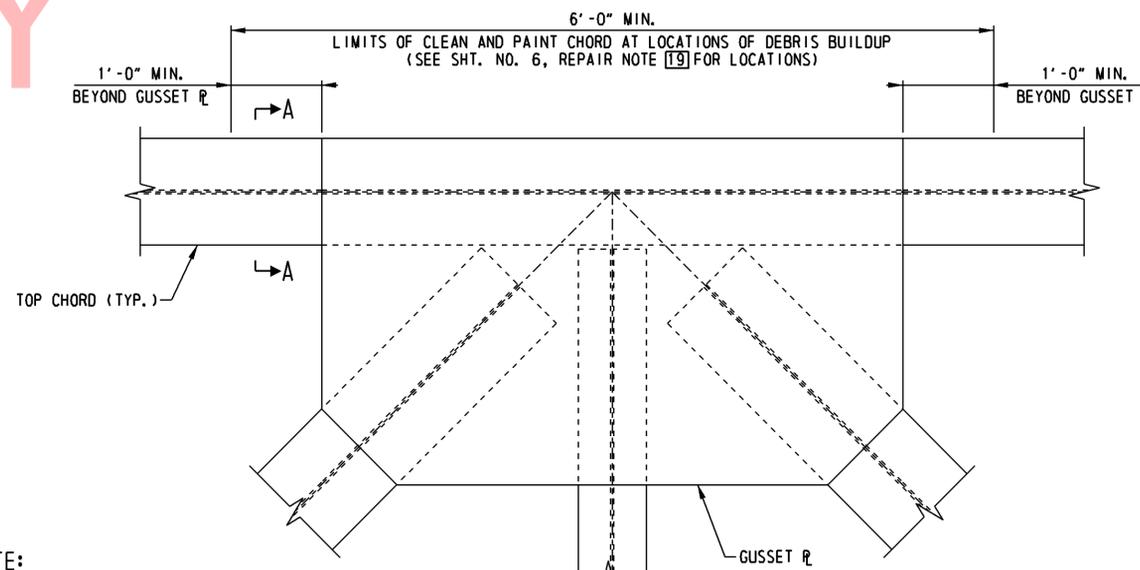
FABRICATION AND ERECTION NOTES:

- DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING OR FABRICATING MATERIALS.
- WHERE NEW MATERIAL IS TO BE CONNECTED TO EXISTING MATERIAL, THE EXISTING SURFACE AT THE FAYING SURFACE SHALL BE CLEANED BY VACUUM CONTAINED BLAST TO BARE METAL PRIOR TO THE INSTALLATION OF NEW MATERIAL.
- BOLT HOLES IN NEW MATERIAL THAT ARE REQUIRED TO MATCH EXISTING HOLES SHALL BE EITHER DRILLED FULL SIZE IN THE FIELD USING THE EXISTING HOLES AS A TEMPLATE OR DRILLED 1/4" SUB SIZE IN THE SHOP FROM A TEMPLATE MADE FROM FIELD MEASUREMENTS AND REAMED TO SIZE IN THE FIELD AFTER THE MEMBER HAS BEEN ALIGNED AND ALL PLYS ASSEMBLED.
- EXCEPT AS NOTED IN THESE PLANS, ALL NEW BOLTS SHALL BE 7/8" DIAMETER HIGH STRENGTH BOLTS WITH HEAVY HEX NUTS UNDER BOTH THE HEAD AND THE NUT WHERE BOLTS ARE USED FOR CONNECTIONS IN ANY OF THE FOLLOWING CONDITIONS:
  - a. REPLACEMENT OF EXISTING BOLTS.
  - b. CONNECTIONS WHICH ARE PREPARED BY DRILLING OR REAMING IN THE FIELD.
  - c. CONNECTIONS BETWEEN NEW AND EXISTING STEEL.
- SILICONE CAULKING MATERIAL IS INCIDENTAL TO ITEM 605584 - STEEL STRUCTURE REPAIR, AND SHALL BE PLACED AROUND THE ENTIRE PERIMETER OF EACH PROPOSED PLATE AFTER ALL PAINTING WORK HAS BEEN COMPLETED AND ACCEPTED.
- SILICONE CAULKING MATERIAL SHALL BE A CLEAR, ONE-PART, ACETOXY CURE SILICONE SEALANT AND SHALL CONFORM TO THE FOLLOWING CRITERIA WHEN TESTED AT 77 ± °F AND 50 PERCENT HUMIDITY:
 

SHORE A HARDNESS	27
TENSILE STRENGTH	350 PSI
MIN. ELONGATION	600%
TOOLING TIME	5-10 MINUTES
TACK-FREE TIME	15-20 MINUTES
- EXISTING STEEL SURFACE THAT IS TO BE COVERED BY NEW PLATES SHALL BE THOROUGHLY CLEANED TO AN SSPC SP3 FINISH. AREAS OF SECTION LOSS AND PITTING SHALL BE COATED WITH A METAL REINFORCED EPOXY FILLER JUST PRIOR TO INSTALLING NEW PLATES. EPOXY FILLER IS INCIDENTAL TO ITEM 605584 - STEEL STRUCTURE REPAIR.
- METAL REINFORCED EPOXY FILLER SHALL CONFORM TO THE FOLLOWING CRITERIA:
 

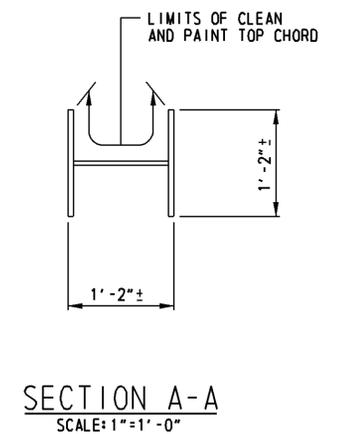
MIN. POT LIFE	20 MINUTES @ 75 °F
MIN. SPECIFIC GRAVITY	1.65
MIN. COMPRESSIVE STRENGTH	
ASTM D 695/7 DAYS	15 000 PSI
MIN. FLEXURAL STRENGTH	
ASTM D 790/7 DAYS	13 500 PSI
MIN. SHEAR STRENGTH (TENSILE STEEL TO STEEL)	
ASTM D 1002	2400 PSI
- IF EXISTING STEEL IS KNIFE-EDGED, GRIND EDGE TO MINIMUM 1/8" THICKNESS.
- THE MINIMUM ACCEPTABLE EDGE DISTANCE FOR ANY 7/8" DIAMETER BOLT SHALL BE 1 1/2", MEASURED TO THE CENTERLINE OF THE BOLT.
- THE MINIMUM ACCEPTABLE CENTER-TO-CENTER BOLT SPACING FOR 7/8" DIAMETER BOLTS SHALL BE 3". THE MAXIMUM ACCEPTABLE CENTER-TO-CENTER BOLT SPACING SHALL BE 6".  
AND ONE HARDENED WASHER UNDER THE PART TURNED EXCEPT THAT WASHERS SHALL BE USED

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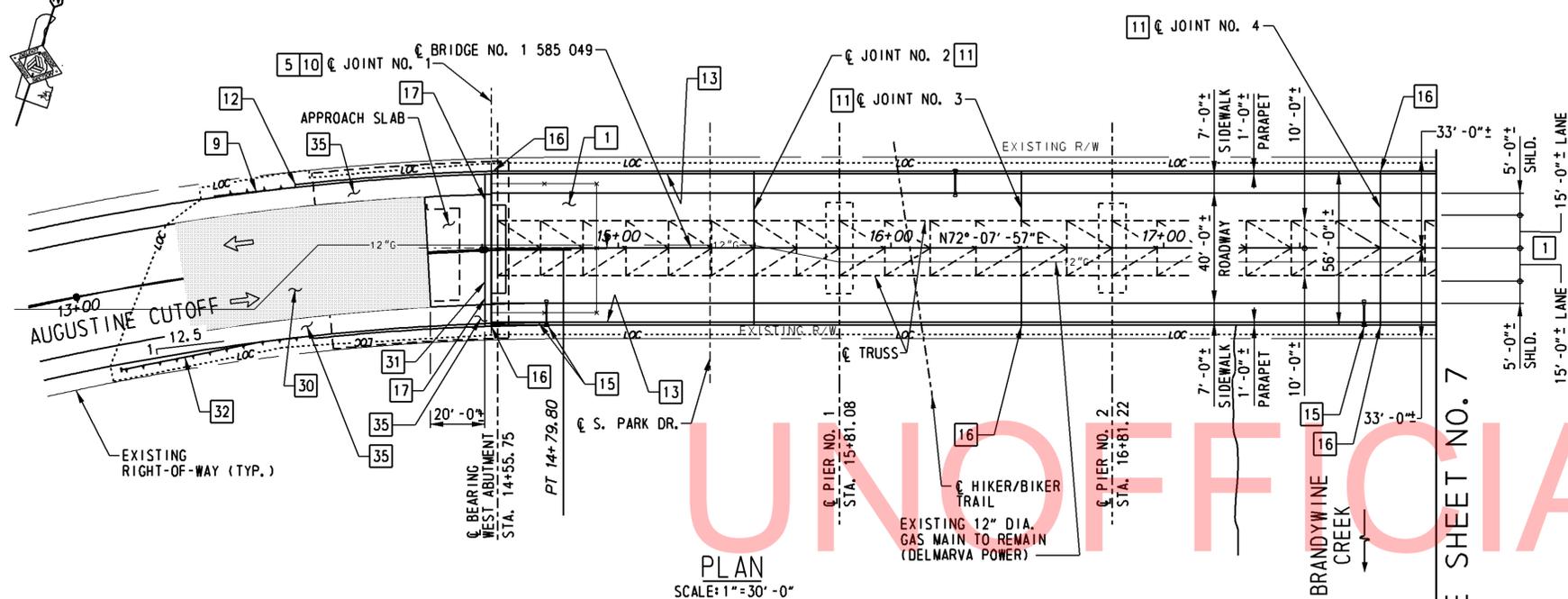
NOTE:  
ODD NUMBERED UPPER GUSSET PLATE SHOWN, DETAILS AT EVEN NUMBERED UPPER GUSSET PLATES SIMILAR.

CLEANING AND PAINTING DETAIL  
SCALE: 1"=1'-0"

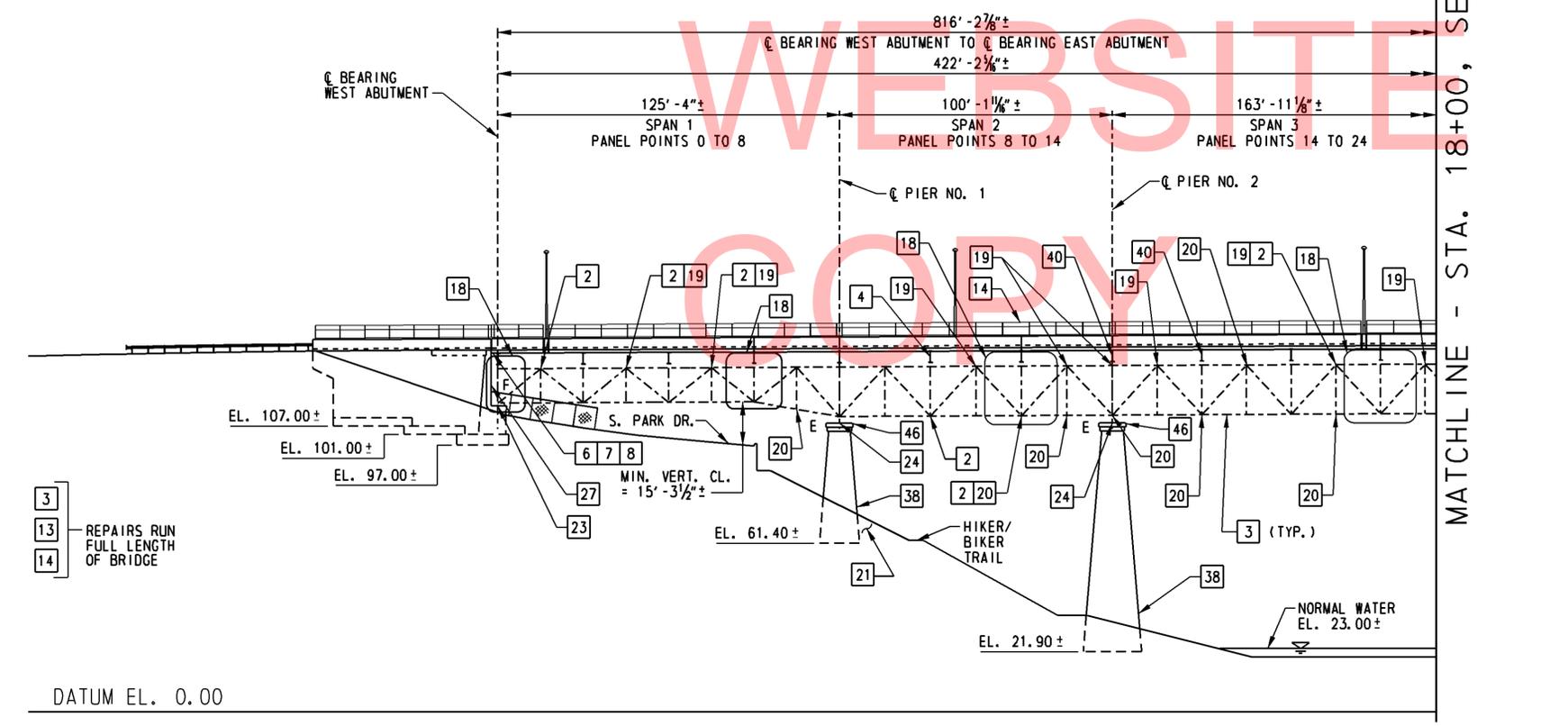


SECTION A-A  
SCALE: 1"=1'-0"

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PLAN  
SCALE: 1" = 30' - 0"



ELEVATION  
SCALE: 1" = 30' - 0"

NOTES:  
EXISTING ELEVATIONS TAKEN FROM EXISTING PLAN.

MATCHLINE - STA. 18+00, SEE SHEET NO. 7

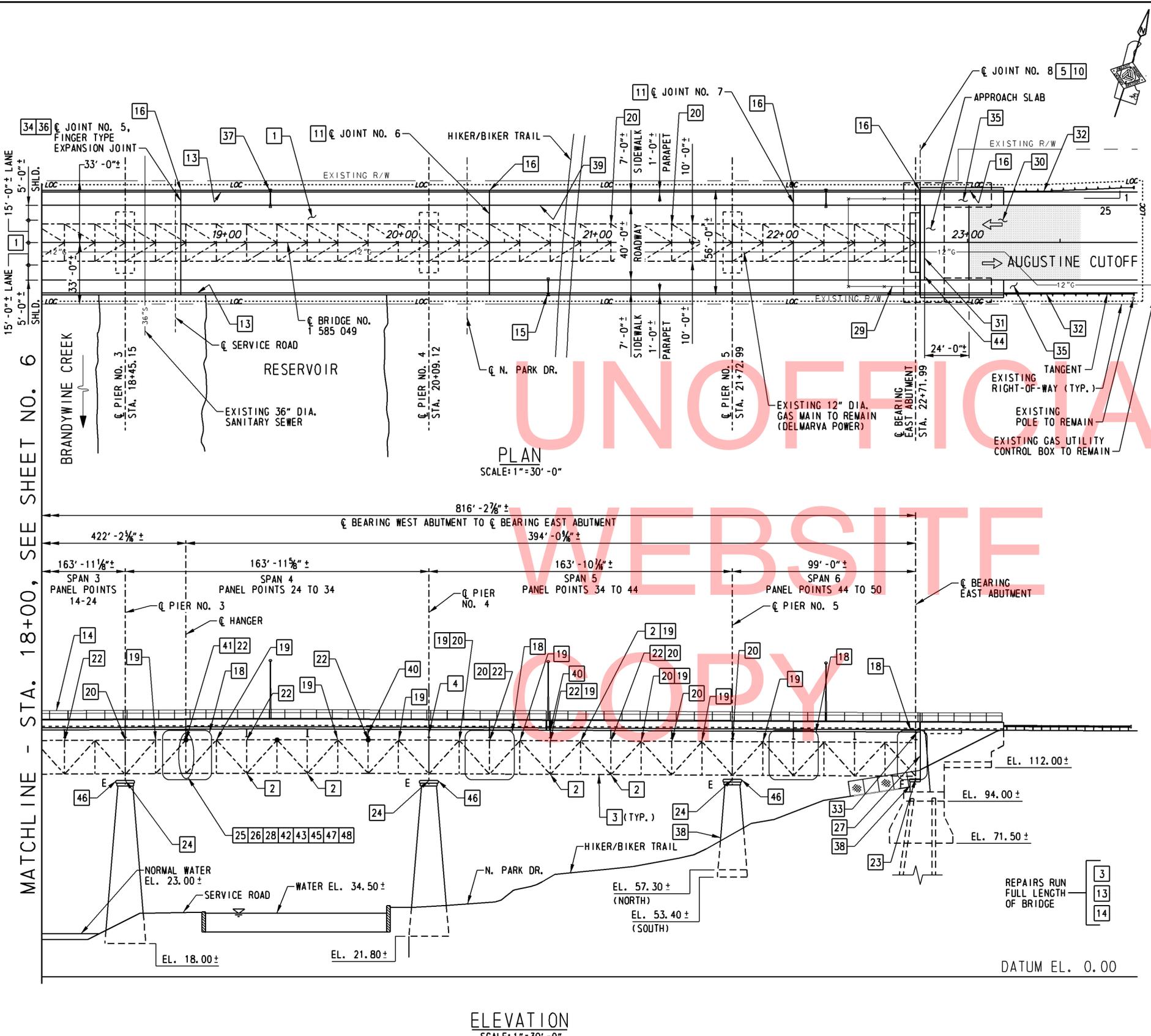
MISCELLANEOUS REPAIRS TABLE

REPAIR NO.	REPAIR DESCRIPTION	ITEM NO.
1	MILL 1 1/2" OF TOP SURFACE OF BRIDGE DECK AND PLACE NEW 1 1/2" THICK PPC OVERLAY. SEE DETAILS ON SHT. NOS. 8 AND 33. SEE SHEET NO. 47 FOR SIGNING AND STRIPING PLAN.	760001 602733
2	INSTALL GUSSET PLATE EDGE STIFFENERS AND DIAPHRAGMS AS SHOWN ON SHT. NO. 18.	605584
3	CLEAN AND PAINT THE ENTIRE LENGTH OF THE LOWER CHORD AND GUSSET PLATES OVER THE FULL LENGTH OF THE BRIDGE (ABUTMENT TO ABUTMENT NORTH AND SOUTH TRUSS). SEE SHEET NO. 8 FOR LIMITS.	605532 605522
4	REPLACE TWO (2) LOOSE BOLTS AT THE UTILITY HANGER ANGLE CONNECTIONS TO FLOORBEAM NOS. 10 AND 34 IN BAY NO. 6 WITH NEW 7/8" DIA. HIGH STRENGTH BOLTS. SEE SPECIAL PROVISIONS.	605578
5	INSTALL NEW DRAINAGE TROUGH AND DOWNSPOUTS AT EACH ABUTMENT. SEE DETAILS ON SHT. NO. 24.	605670 612503
6	REPAIR 8" LONG x 3'-0" WIDE x 5" DEEP SPALL IN THE SOFFIT AT THE W. ABUT. ADJACENT TO STRINGER NO. 2. SEE DETAIL ON SHT. NO. 34.	602586
7	REPAIR 6" LONG x 1'-0" WIDE x 3" DEEP SPALL IN THE SOFFIT AT THE W. ABUT. UNDER BAY NO. 1. SEE DETAIL ON SHT. NO. 34.	602586
8	REPAIR 6" LONG x 2'-0" WIDE x 6" DEEP SPALL IN THE SOFFIT AT THE W. ABUT. UNDER BAY NO. 4. SEE DETAIL ON SHT. NO. 34.	602586
9	REMOVE THE EXISTING NORTHWEST APPROACH GUARDRAIL AND INSTALL NEW W-BEAM APPROACH GUARDRAIL WITH GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE 31 AND END ANCHORAGE, TYPE 31. SEE DETAIL ON SHT. NO. 37 AND STANDARD NOS. B-5 AND B-4 FOR DETAILS.	211002 725001 726001
10	REMOVE AND REPLACE EXISTING STRIP SEAL EXPANSION JOINT SYSTEM WITH 3" PREFABRICATED STRIP SEAL EXPANSION JOINT SYSTEM AT THE WEST AND EAST ABUTMENTS. SEE DETAILS ON SHT. NOS. 30 THROUGH 32.	602580 602013 605511 603500
11	REMOVE AND REPLACE INTERMEDIATE DECK JOINT SEALS WITH 1" SILICONE JOINT SEAL AND RECONSTRUCT WEST HEADER AT JOINT NOS. 2, 3, 4, 6, AND 7. SEE DETAILS ON SHT. NOS. 28 THROUGH 30.	602580 602013 605693
12	STABILIZE THE EROSION AT THE NORTHWEST CONCRETE END POST AND APPROACH SIDEWALK. SEE DETAIL ON SHT. NO. 38.	732005 734013 735535
13	CLEAN AND SEAL CONCRETE PARAPETS AND END POSTS WITH SILICONE ACRYLIC CONCRETE SEALER OVER THE FULL LENGTH OF THE BRIDGE. SEE DETAIL ON SHT. NO. 34.	602646
14	REMOVE AND REPLACE PARAPET MOUNTED CHAIN-LINK FENCE ON BOTH THE NORTH AND SOUTH PARAPETS AND END POSTS OVER THE FULL LENGTH OF THE BRIDGE. SEE DETAILS ON SHT. NOS. 35 AND 36.	727547 727004 727006
15	REPLACE THE MISSING AND SHEARED FASTENERS ON EACH HAND HOLE COVER ON LUMINAIRE NOS. 1, 2, AND 3 ON SOUTH PARAPET (1 AT EACH LOCATION). REPLACE THE LOOSE AND MISSING FASTENERS (3 TOTAL) WITH NEW STAINLESS STEEL FASTENERS AT THE JUNCTION BOX NEAR LUMINAIR NO. 1 IN THE SOUTH PARAPET. SEE SPECIAL PROVISIONS.	746647 746648
16	REPAIR SPALLS UP TO 2'-8" HIGH x 1'-0" LONG x 6" DEEP IN CONCRETE PARAPET AT THE FOLLOWING JOINT LOCATIONS: NORTH PARAPET - JOINT NO. 1 BOTH SIDES, JOINT NO. 4 BOTH SIDES, JOINT NO. 5 WEST SIDE, JOINT NO. 6 WEST SIDE, JOINT NO. 7 WEST SIDE, JOINT NO. 8 BOTH SIDES; SOUTH PARAPET - JOINT NO. 1 BOTH SIDES, JOINT NO. 3 EAST SIDE, JOINT NO. 4 BOTH SIDES. REPAIR 7"x1'-6" Hx1'-0" SPALL BETWEEN HISTORICAL PLAQUES AT NORTHEAST END POINT. SEE DETAIL ON SHT. NO. 34.	602586
17	REPAIR TWO (2) SPALLS UP TO 1'-11" LONG x 2'-0" WIDE x 1" DEEP IN TOP OF CONCRETE BACKWALL AT WEST ABUTMENT EASTBOUND AND WESTBOUND SHOULDER LINES. SEE DETAIL ON SHT. NO. 34.	602586
18	CLEAN AND PAINT ALL STRUCTURAL STEEL INCLUDING STRINGERS, FLOOR BEAMS, TRUSS MEMBERS, AND CATWALK 10'-0" ON EACH SIDE OF DECK JOINTS. SEE SPECIAL PROVISIONS.	605532 605522
19	CLEAN AND PAINT THE UPPER CHORD CONNECTIONS WHERE DEBRIS HAS ACCUMULATED AND CORRODED THE STEEL AT THE FOLLOWING LOCATIONS: U3N, U5N, U11N, U13N, U14N, U15N, U19N, U21N, U25N, U27N, U31N, U35N, U37N, U39N, U41N, U45N, U21S, U25S, U33S, U38S, U39S, U43S, U45S SEE DETAIL ON SHT. NO. 5.	605532 605522
20	REPLACE 25 DEFECTIVE OR MISSING BOLTS AT GUSSET PLATE CONNECTIONS WITH 7/8" DIAMETER HIGH STRENGTH BOLTS AT THE FOLLOWING LOCATIONS: L7N PLATE OF L7N-L8N CONN. (1 LOOSE BOLT), L12N NORTH PLATE OF U11N-L12N CONN. (1 MISSING), L16N SOUTH PLATE OF L16N-U15N CONN. (1 MISSING), U35N PLATE OF L34N-U35N CONN. (1 TOO SHORT), U40N UPPER LATERAL BRACING CONN. ARM TO U39C (2 LOOSE), U42N UPPER LATERAL BRACING CONN. ARM TO U41C (2 LOOSE), L13S SOUTH PLATE (1 BOLT MISSING, HOLE NOT DRILLED IN VERTICAL MEMBER), L14S SOUTH PLATE OF L14S-L15S CONN. (2 LOOSE), L14S PLATE OF L14S-U14S CONN. (2 LOOSE), U17S SOUTH PLATE OF U17S-L16S CONN. (1 SHORT), L19S NORTH PLATE OF L19S-L20S CONN. (1 LOOSE), U24S GUSSET PLATE OF U24S-U25S CONN. (1 TOO SHORT), U35S NORTH PLATE OF U35S-L34S CONN. (1 SHEARED), U35N TOP CHORD DIAPHRAGM PLATE AT WEB CONN. (1 LOOSE), U36S NORTH PLATE (1 LOOSE), U40S PLATE OF U39-U40 CONN. (2 LOOSE), U41S NORTH PLATE U41S-U42S CONN. (2 LOOSE), U41S SOUTH PLATE U41S-L41S CONN. (1 LOOSE), U44S SOUTH PLATE (1 LOOSE). SEE SPECIAL PROVISIONS.	605578
21	PLACE 14" OF RIPRAP, R-4 AROUND BASE OF PIER NO. 1, SEE DETAILS ON SHT. NO. 38.	712005

FOR REPAIR NOS. 22 - 48, SEE SHT. NO. 7

No. 1585-013-CADD.dwg, 08/19/2015, 10:50:33 AM

<p><b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	SCALE: AS NOTED	<p><b>BR 1-585</b> <b>ON N049 AUGUSTINE CUTOFF OVER</b> <b>BRANDYWINE CREEK</b></p>	<p>CONTRACT T201007402</p> <p>COUNTY NEW CASTLE</p>	<p>BRIDGE NO. <b>1 585 049</b></p> <p>DESIGNED BY: J.P.D. / D.A.N.</p> <p>CHECKED BY: W.A.G.</p>	<p><b>GENERAL PLAN</b> <b>AND ELEVATION - I</b></p>	<p>SHEET NO. 6</p> <p>TOTAL SHTS. 48</p>

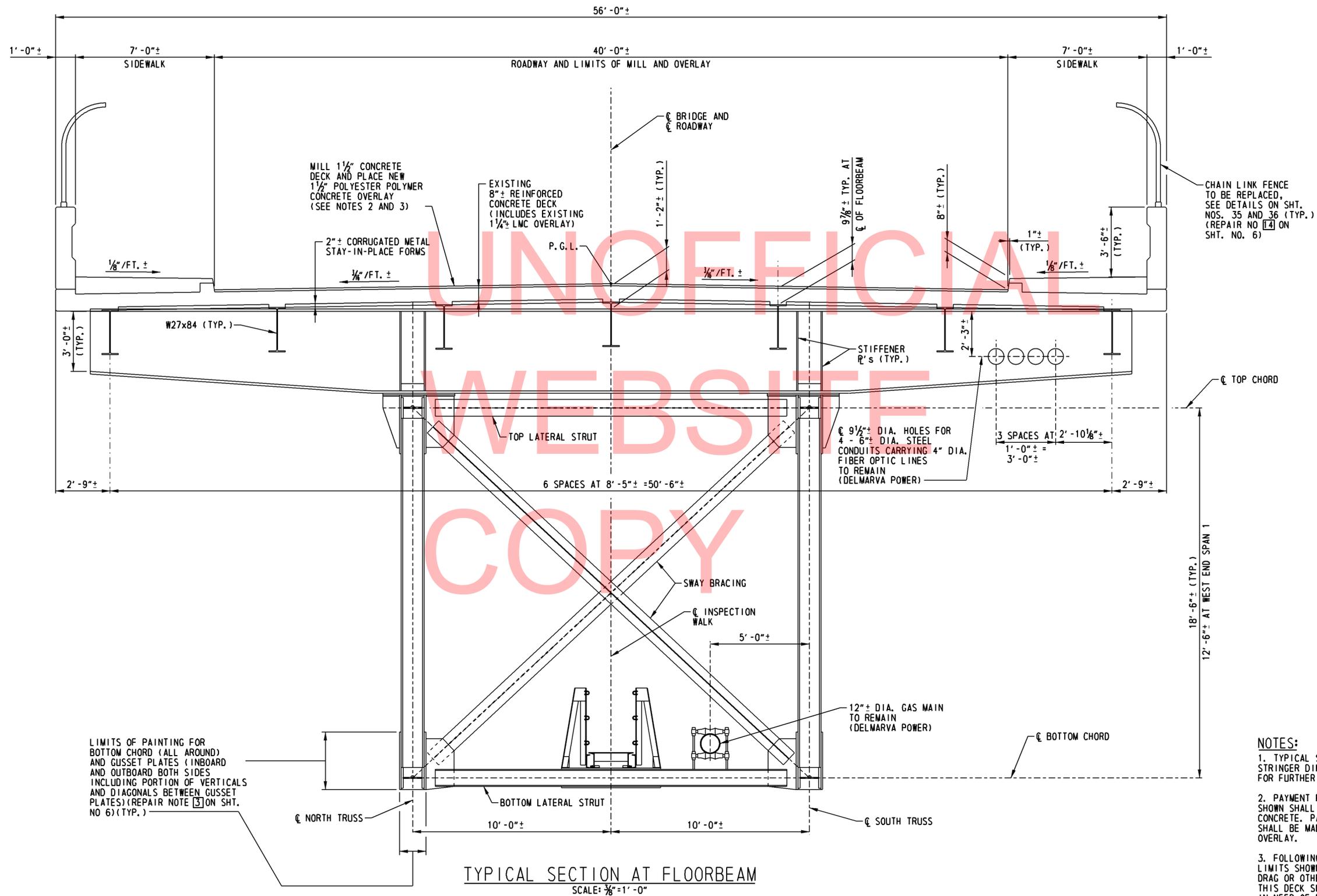


MISCELLANEOUS REPAIRS TABLE		
REPAIR NO.	REPAIR DESCRIPTION	ITEM NO.
22	GRIND OUT TWELVE (12) CRACKED TACK WELDS AT THE FOLLOWING LOCATIONS: STRINGER NO. 3 BOLSTER AT FLOORBEAM NO. 36 EAST SIDE (1 CRACK), U40N TRUSS TO FLOORBEAM CONNECTION ANGLE EAST AND WEST SIDE (2 CRACKS), U38N TRUSS TO FLOORBEAM CONNECTION ANGLE EAST SIDE (1 CRACK), U36S TRUSS TO FLOORBEAM CONNECTION ANGLE EAST SIDE (2 CRACKS), U32N TRUSS TO FLOORBEAM CONNECTION ANGLE EAST AND WEST SIDE (2 SIDES), U32S TRUSS TO FLOORBEAM CONNECTION ANGLE EAST SIDE (1 CRACK), AND U28S TRUSS TO FLOORBEAM CONNECTION ANGLE EAST SIDE (1 CRACK), U26N TRUSS TO FLOORBEAM CONNECTION ANGLE WEST SIDE (1 CRACK), U22S TRUSS TO FLOORBEAM CONNECTION ANGLE WEST SIDE (1 CRACK). EACH CRACKED TACK WELD IS APPROXIMATELY 2" LONG. SEE SPECIAL PROVISIONS.	605709
23	CLEAN AND PAINT FIXED BEARINGS AT EAST AND WEST ABUTMENTS. SEE SPECIAL PROVISIONS.	605532 605522
24	CLEAN AND PAINT EXPANSION BEARING DEVICES AT PIER NOS. 1, 2, 3, 4, AND 5. SEE SPECIAL PROVISIONS.	605532 605522
25	REPAIR CRACKED WELDS (16) ON LADDER THAT PROVIDES ACCESS TO TRANSVERSE INSPECTION WALK AT PANEL POINT NO. 26 AND REPLACE MISSING U-BOLT FOR THE PIPE RAIL AND POST CONNECTION NEAR THE BASE OF THE LADDER. SEE DETAIL ON SHT. NO. 17. REPLACE 2 MISSING CATWALK BOLTS, SEE DETAILS ON SHT. NO. 19.	605584 605578
26	REPLACE MISSING PIPE RAIL SECTIONS UNDER BAY NOS. 3 AND 4 AND MISSING U-BOLT FOR THE PIPE RAIL AND POST CONNECTION UNDER STRINGER NO. 4 OF TRANSVERSE INSPECTION WALK. SEE DETAILS ON SHT. NO. 19.	605584
27	RE-POINT STONE FACING AT BOTH EAST AND WEST ABUTMENTS. SEE SPECIAL PROVISIONS.	610502
28	INSTALL PIN & HANGER LOAD SHARING RETROFIT AT PANEL POINT 26. REPLACE MISSING U26 STIFFENER BOLTS (8 TOTAL). SEE DETAILS ON SHT. NOS. 19 THROUGH 23.	605733 605578
29	REPAIR/REPLACE 6 FT. LONG SECTION OF BROKEN CHAIN-LINK FENCE (9 FT. HIGH) UNDER THE BRIDGE AT SOUTH EAST CORNER OF THE ABUTMENT. SEE SPECIAL PROVISIONS.	727547 727007 727008
30	MILL AND REPAVE 90 FT. OF APPROACH ROADWAY AT WEST END OF BRIDGE AND 60 FT. AT EAST END (LIMITS MEASURED ALONG ROADWAY FROM END OF APPROACH SLAB). SEE SIGNING AND STRIPING PLAN ON SHT. NO. 47 FOR FINAL PAVEMENT MARKINGS.	401804 760006
31	REPLACE THE 1" SILICONE JOINT SEALS BETWEEN THE APPROACH SLABS AND ABUTMENT BACKWALLS AT BOTH ABUTMENTS. SEE DETAIL ON SHT. NO. 31.	605693
32	REMOVE THE EXISTING APPROACH GUARDRAIL AND INSTALL NEW W-BEAM APPROACH GUARDRAIL WITH GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31 AND GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1. SEE DETAIL ON SHT. NO. 37 AND STANDARD NOS. B-5 AND B-2 FOR DETAILS. ADJUST FLARE OF GUARDRAIL AS SHOWN.	211002 725002 720585
33	REPAIR 9" LONG x 2'-0" WIDE x 10" DEEP SPALL IN THE SOFFIT AT THE E. ABUT. NEAR THE NORTH TRUSS. SEE DETAIL ON SHT. NO. 34.	602586
34	REMOVE AND SALVAGE NORTH AND SOUTH SIDEWALK SLIDING PLATES AT THE FINGER EXPANSION JOINT. CLEAN, PAINT, LUBRICATE AND RESET SALVAGED PLATES. SEE NOTE 38 ON SHT. NO. 4 AND SHT. NO. 27 FOR DETAILS.	605584
35	REMOVE AND RECONSTRUCT HEAVED, SETTLED, UNDERMINED, AND CRACKED CONCRETE SIDEWALK WITH 4" OF GRADED AGGREGATE BASE COURSE, TYPE B (ITEM 302007) BENEATH P.C.C. SIDEWALK, 4" (ITEM 705001) AT THE FOLLOWING LOCATIONS: TEN (10) SETTLED PANELS AT THE NORTHWEST APPROACH, FOUR (4) SETTLED PANELS AT THE NORTHEAST APPROACH, ONE (1) HEAVED PANEL ADJACENT TO THE EXPANSION JOINT AT THE SOUTHWEST APPROACH, ONE (1) CRACKED AND SETTLED PANEL AT THE END OF THE SOUTHWEST END POST, AND FOUR (4) CRACKED AND SETTLED PANELS AT THE SOUTHEAST APPROACH.	302007 705001 758000 762002
36	CLEAN DEBRIS FROM FINGER JOINT AND REPLACE DRAINAGE TROUGH UNDER FINGER JOINT. MODIFY DRAIN HOPPER TO ACCOMMODATE NEW TROUGH. ALIGN NEW CATCH BASINS WITH EXISTING DRAIN HOPPERS AT THE ENDS OF DRAINAGE TROUGH. REMOVE AND REPLACE 6" DIA. PVC AND STEEL DOWNSPOUTS FROM FINGER JOINT TO PIER NO. 4 AND DOWN TO DISCHARGE AT GROUND LEVEL. SEE DETAILS ON SHT. NOS. 25 AND 26.	605670 612502
37	REPLACE THE MISSING ALUMINUM HAND HOLE COVER AND FASTENERS AT LUMINAIRE NO. 2 ON NORTH PARAPET. SEE SPECIAL PROVISIONS.	746647
38	REMOVE GRAFFITI FROM EAST ABUTMENT AND PIER NOS. 1, 2, AND 5. SEE SPECIAL PROVISIONS.	611503
39	REPAIR FAILED 1'-0" LONG x FULL HEIGHT PATCH IN NORTH CURB BETWEEN INTERMEDIATE DECK JOINT NOS. 6 AND 7. SEE DETAIL ON SHT. NO. 34.	602586
40	REPLACE SIX (6) LOOSE AND/OR DEFECTIVE BOLTS AT STRINGER TO FLOORBEAM CONNECTIONS WITH NEW 3/8" DIA. HS A 325 TYPE 3 BOLTS AT THE FOLLOWING LOCATIONS: STRINGER NO. 1 WEST SIDE OF FLOORBEAM NO. 14 (1 LOOSE), STRINGER NO. 1 WEST SIDE OF FLOORBEAM NO. 16 (1 LOOSE), STRINGER NO. 7 EAST SIDE OF FLOORBEAM NO. 32 (1 LOOSE, 2 MISSING NUTS), STRINGER NO. 7 EAST SIDE OF FLOORBEAM NO. 38 (1 LOOSE). SEE SPECIAL PROVISIONS.	605578
41	REPLACE DETERIORATED TOP LATERAL STRUT U26 (WT5x19.5) WITH WT5x27. SEE DETAIL ON SHT. NO. 12.	605584
42	INSTALL TEMPORARY WIND LINK BRACING AND REPLACE IN KIND WIND LINK BEARING BLOCK AND WIND LINK GUSSET PLATES, AND ALL ASSOCIATED HARDWARE. REMOVE TEMPORARY WIND LINK BRACING AFTER REPLACEMENT IS COMPLETE. SEE SHT. NOS. 13 THROUGH 16 AND CONTRACT NO. 79-071-02 PLANS FOR DETAILS.	605606 605584
43	CLEAN AND GREASE UPPER AND LOWER HANGER AND CHORD PINS AT U26N, U26S, L26N, L26S. SEE DETAILS ON SHT. NO. 19.	605733
44	REPAIR FOUR (4) SPALLS IN TOP OF CONCRETE BACKWALL AT EAST ABUTMENT AND TWO (2) SPALLS IN EASTBOUND LANE OF EAST APPROACH SLAB. SEE DETAIL ON SHT. NO. 34.	602586
45	REPLACE BROKEN 1/2" DIA. STEEL TAP BOLT AT L26S SOUTH FACE. SEE LOCATION AND NOTES ON SHT. NO. 19.	605732
46	REPOINT TOP COPING STONE (1'-6" HIGH) AT PIERS 1, 2, 3, 4, AND 5. SEE SPECIAL PROVISIONS.	610502
47	INSTALL PLATING REPAIRS ON FLOORBEAM 26. SEE DETAILS SHT. NOS. 9 THROUGH 11.	605584
48	REPLACE TWO (2) MISSING BOLTS AT GUSSET PLATE U26 STIFFENER ANGLES - FOUR LOCATIONS TOTAL, SEE SHT. NO. 19 FOR DETAILS.	605578

FOR REPAIR NOS. 1 - 21, SEE SHT. NO. 6

NOTES:  
EXISTING ELEVATIONS TAKEN FROM EXISTING PLANS.

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TYPICAL SECTION AT FLOORBEAM  
SCALE: 3/8" = 1'-0"

**NOTES:**

1. TYPICAL SECTION SHOWN FOR INFORMATION ONLY. FLOORBEAM AND STRINGER DIMENSIONS VARY ALONG STRUCTURE. SEE EXISTING PLANS FOR FURTHER INFORMATION.
2. PAYMENT FOR MILLING EXISTING CONCRETE DECK TO THE LIMITS SHOWN SHALL BE MADE UNDER ITEM 760001 - PAVEMENT - MILLING CONCRETE. PAYMENT FOR THE POLYESTER POLYMER CONCRETE OVERLAY SHALL BE MADE UNDER ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY.
3. FOLLOWING THE MILLING OF THE CONCRETE DECK TO THE DEPTH AND LIMITS SHOWN, THE CONTRACTOR SHALL PERFORM A DECK SURVEY (CHAIN DRAG OR OTHER APPROVED METHOD) IN THE PRESENCE OF THE ENGINEER. THIS DECK SURVEY SHALL DOCUMENT ALL AREAS OF THE DECK SURFACE IN NEED OF REPAIR AND SHALL BE INCIDENTAL TO ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY. REFERENCE ALL APPLICABLE SPECIAL PROVISIONS FOR THE PERTINENT DECK REPAIRS, ITEMS 602574 THROUGH 602577. THE LIMITS OF THE REPAIRS SHALL BE DEFINED AND DOCUMENTED BY THE ENGINEER.

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ADDENDUMS / REVISIONS	

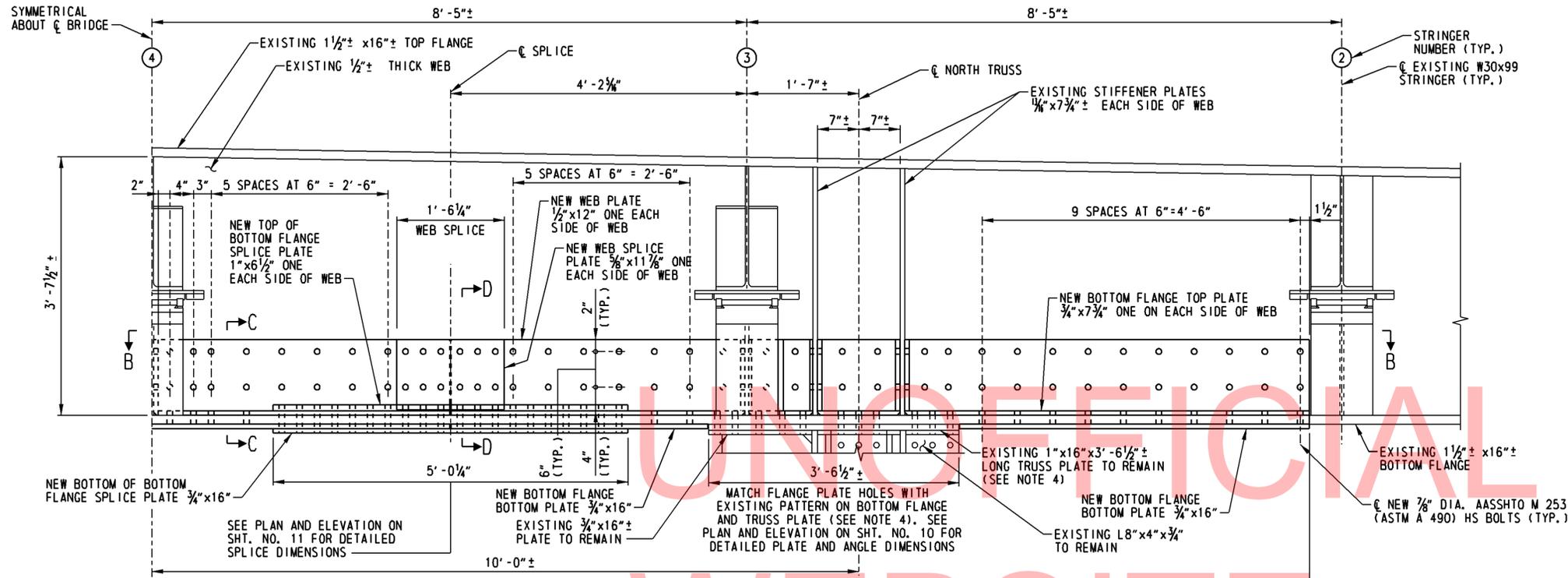
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

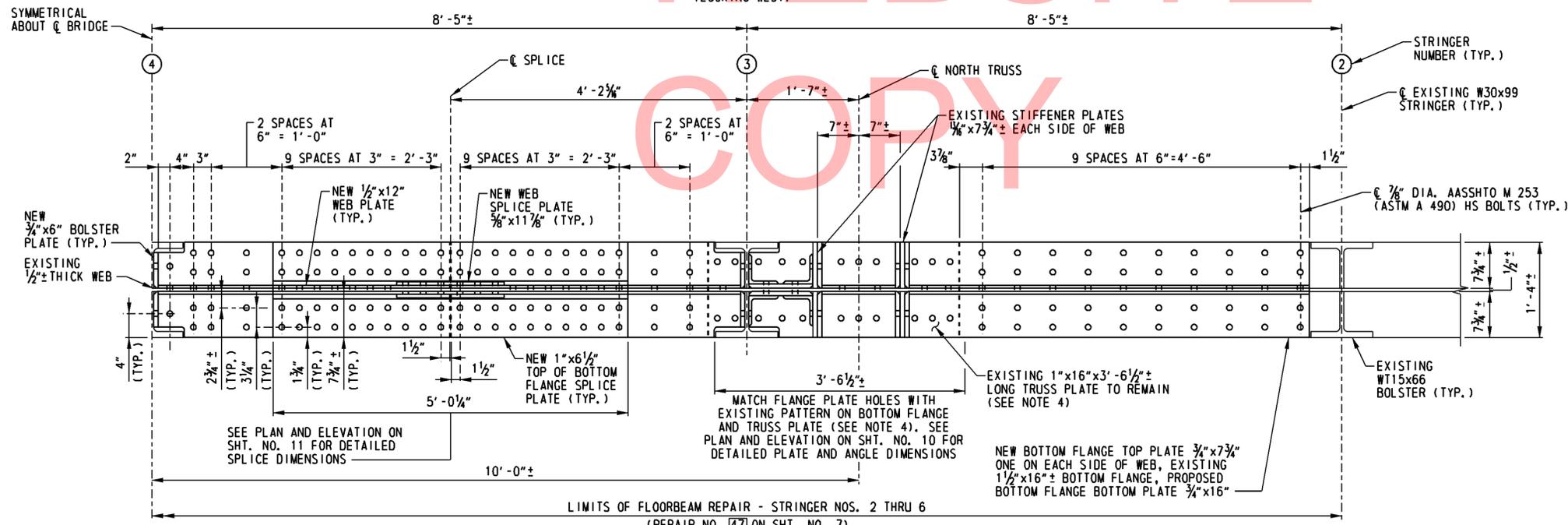
**TYPICAL SECTION**

SHEET NO.	8
TOTAL SHTS.	48



NOTE:  
NORTH HALF OF FLOORBEAM REPAIR SHOWN.  
REPAIRS SYMMETRICAL ABOUT CENTERLINE OF BRIDGE.

ELEVATION  
SCALE: 1" = 1'-0"  
(LOOKING WEST)



SECTION B-B  
SCALE: 1" = 1'-0"

NOTE:  
ALL BOLTS TO BE USED IN FLOORBEAM 26 PLATING REPAIRS SHALL BE AASHTO M253 (ASTM A 490) TYPE 3.

- FLOORBEAM REPAIR NOTES:
- FOR FABRICATION AND ERECTION NOTES, SEE SHT. NO. 5.
  - FOR NEW WEB AND FLANGE PLATE CHAMFERS AT EXISTING WEB AND STIFFENER WELDS, SEE DETAIL A ON SHT. NO. 10.
  - BOLTS NOT SHOWN FOR CLARITY. BOLT HEADS FOR FLANGE PLATES SHALL BE ON THE TOP OF THE BOTTOM FLANGE.
  - DURING PLATING BETWEEN AND ADJACENT TO THE FLOORBEAM STIFFENERS, EXISTING TRUSS PLATE BOLTS SHALL BE REMOVED AND REPLACED IN GROUPS OF THREE (3) OR A MAXIMUM OF THREE (3) EXISTING TRUSS PLATE BOLTS MAY BE REMOVED FROM THE TRUSS PLATE AND REPLACED AT ANY GIVEN TIME.
  - CONTRACTOR SHALL CALCULATE BOLT LENGTHS THAT SHALL ENSURE BOLT THREADS ARE EXCLUDED FROM THE SHEAR PLANE BETWEEN PLATES. BOLT LENGTHS SHALL BE INCLUDED ON SHOP DRAWING SUBMITTALS FOR REVIEW AND APPROVAL BY THE ENGINEER.
  - FOR SECTION C-C SEE SHT. NO. 10.
  - FOR SECTION D-D SEE SHT. NO. 11.

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ADDENDUMS / REVISIONS

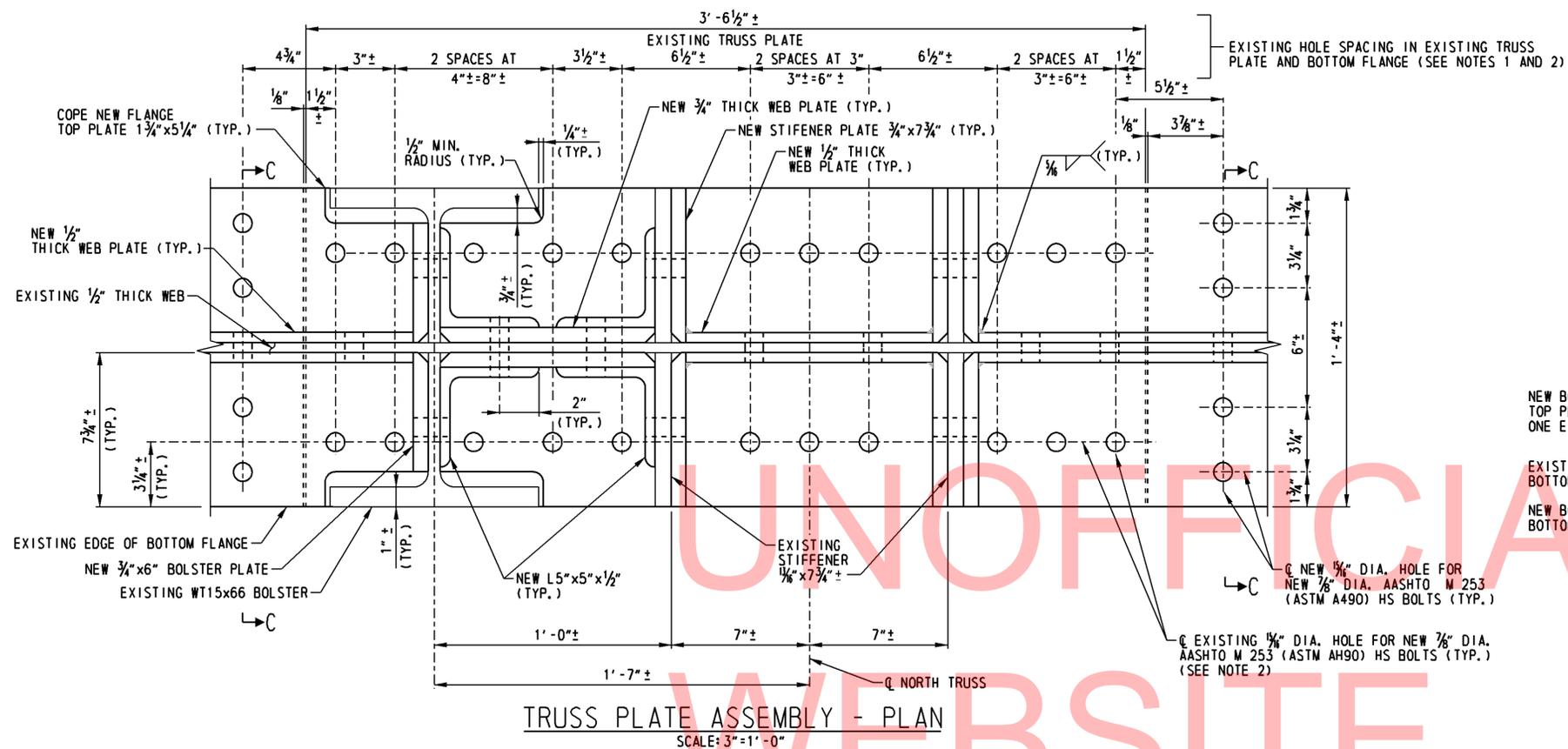
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BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER  
BRANDYWINE CREEK

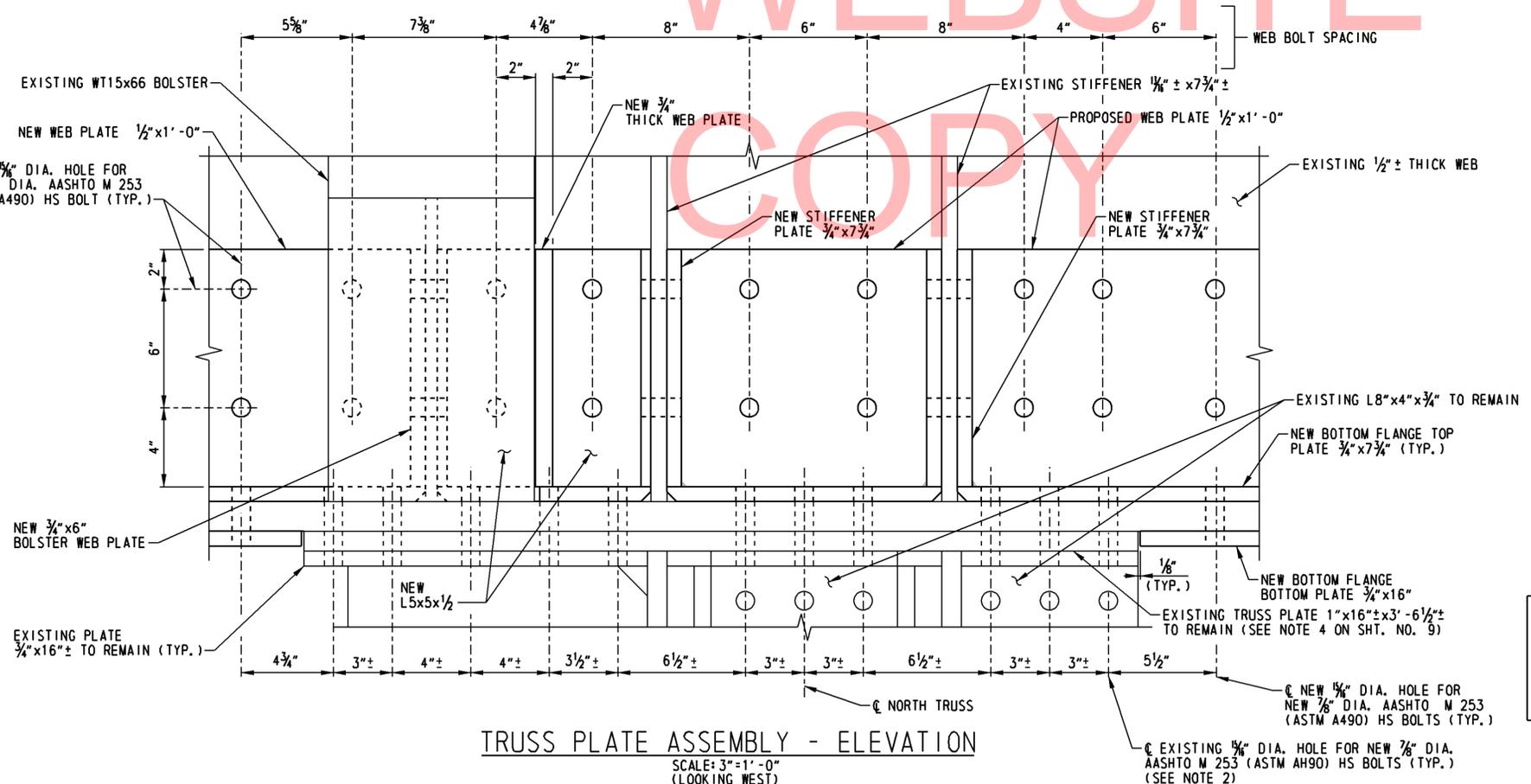
CONTRACT	BRIDGE NO.	1 585 049
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

FLOORBEAM 26  
REPAIR DETAILS - I

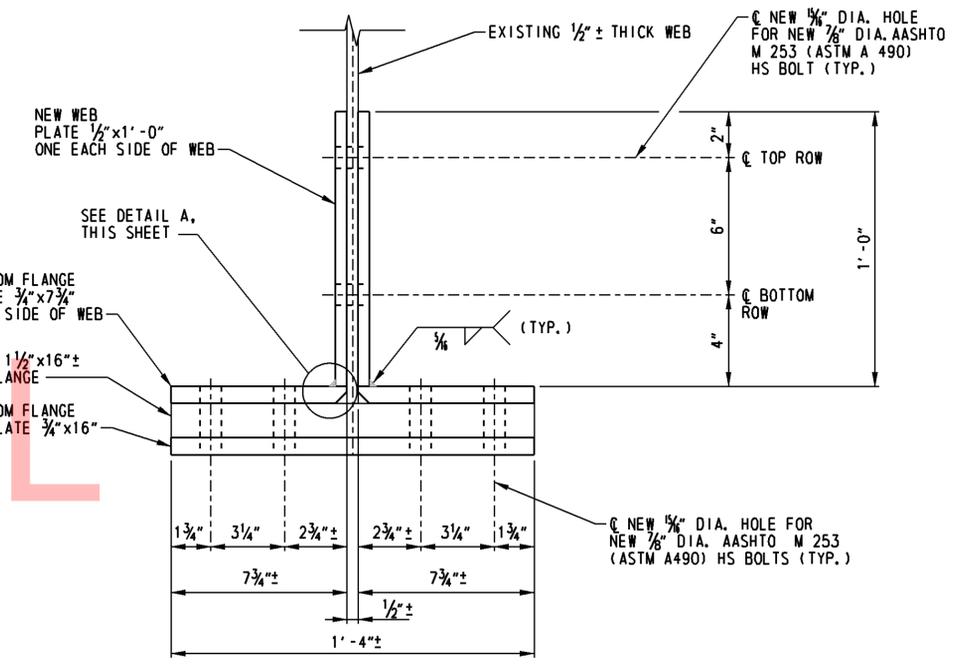
SHEET NO.	9
TOTAL SHTS.	48



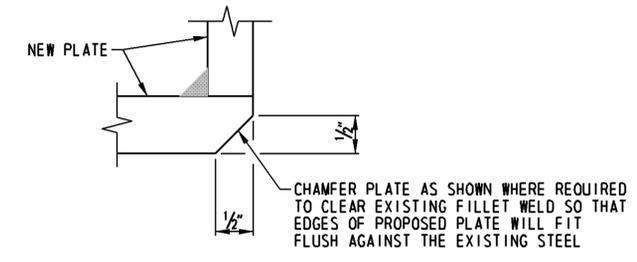
TRUSS PLATE ASSEMBLY - PLAN  
SCALE: 3"=1'-0"



TRUSS PLATE ASSEMBLY - ELEVATION  
SCALE: 3"=1'-0"  
(LOOKING WEST)



SECTION C-C  
SCALE: 3"=1'-0"



DETAIL A  
NOT TO SCALE

**NOTE:**  
ALL BOLTS TO BE USED IN FLOORBEAM 26 PLATING REPAIRS SHALL BE AASHTO M253 (ASTM A 490) TYPE 3.

- NOTES:**
- FOR FABRICATION AND ERECTION NOTES, SEE SH. NO. 5. FOR FLOORBEAM REPAIR NOTES, SEE SH. NO. 9.
  - MATCH NEW BOLT LOCATIONS ON BOTTOM FLANGE TO EXISTING BOLT HOLES AT TRUSS PLATE LOCATIONS.

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ADDENDUMS / REVISIONS

SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**FLOOR BEAM 26**  
**REPAIR DETAILS - II**

SHEET NO.	10
TOTAL SHTS.	48



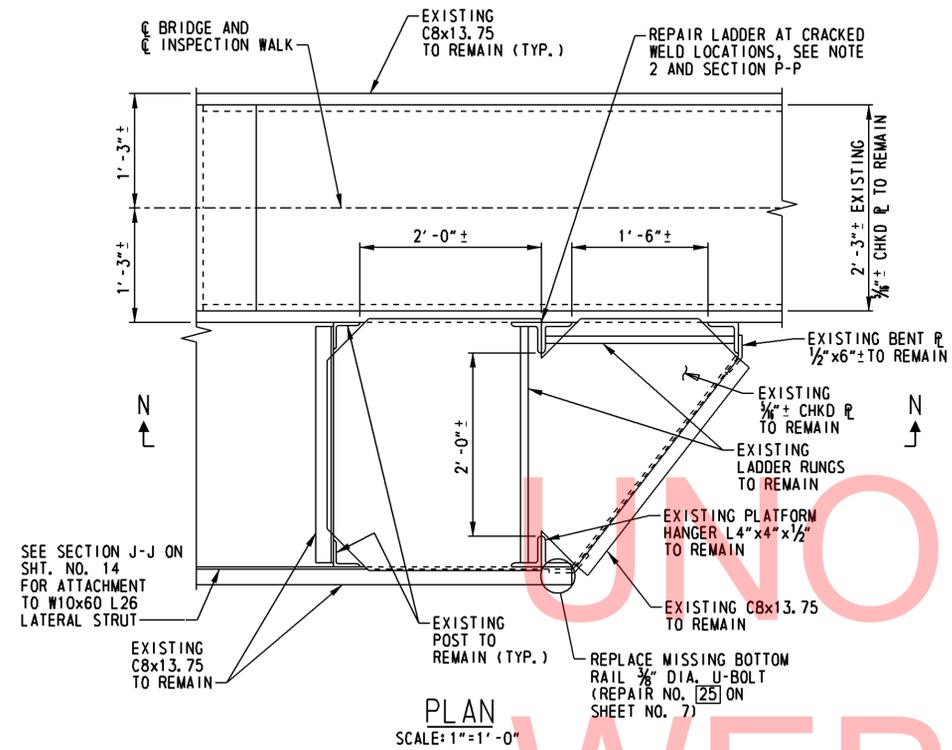




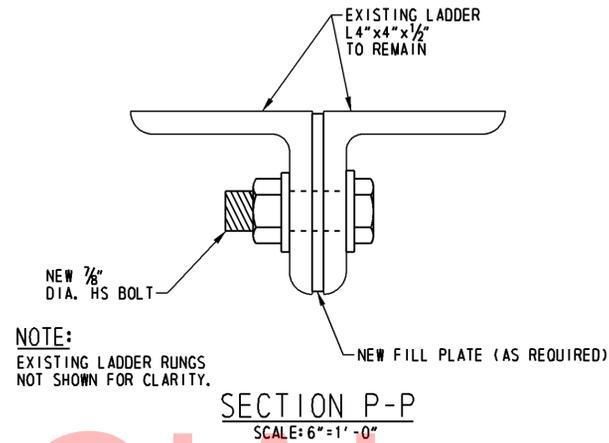








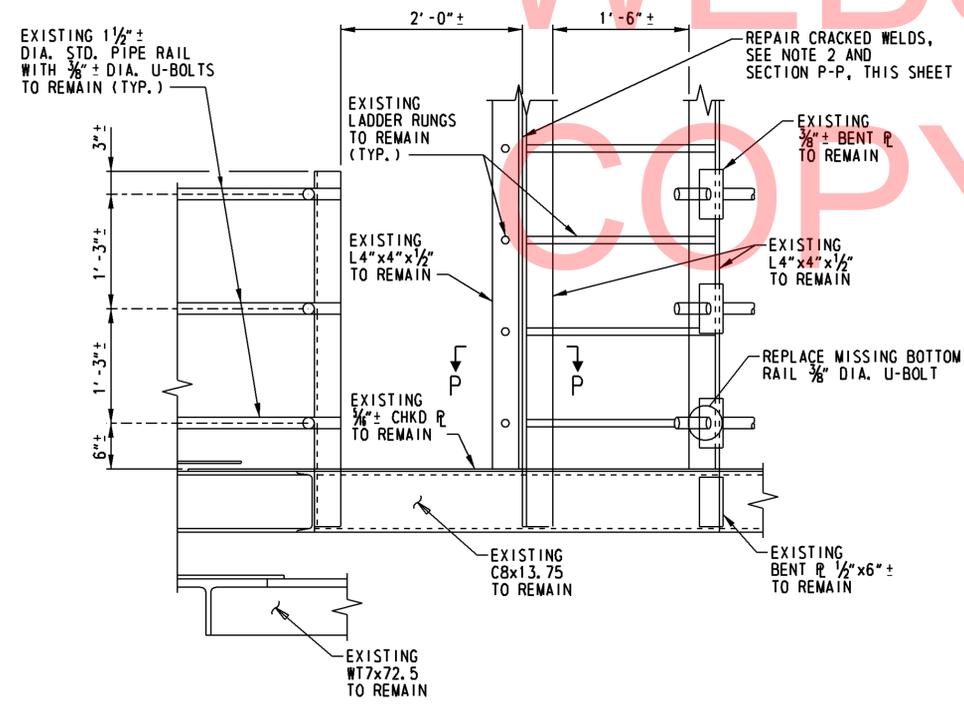
PLAN  
SCALE: 1"=1'-0"



NOTE:  
EXISTING LADDER RUNGS  
NOT SHOWN FOR CLARITY.

SECTION P-P  
SCALE: 6"=1'-0"

- NOTES:
1. FOR FABRICATION AND ERECTION NOTES, SEE SHT. NO. 5.
  2. PLACE NEW BOLTED CONNECTIONS AT EXISTING FAILED WELD LOCATIONS. SPACE TO AVOID LADDER RUNGS, AS REQUIRED.
  3. LADDER REPAIRS, INCLUDING BUT NOT LIMITED TO FILL PLATES, BOLTS, FIELD DRILLED HOLES, ETC. SHALL BE PAID UNDER ITEM 605584 - STEEL STRUCTURE REPAIR.



SECTION N-N  
SCALE: 1"=1'-0"

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ADDENDUMS / REVISIONS	

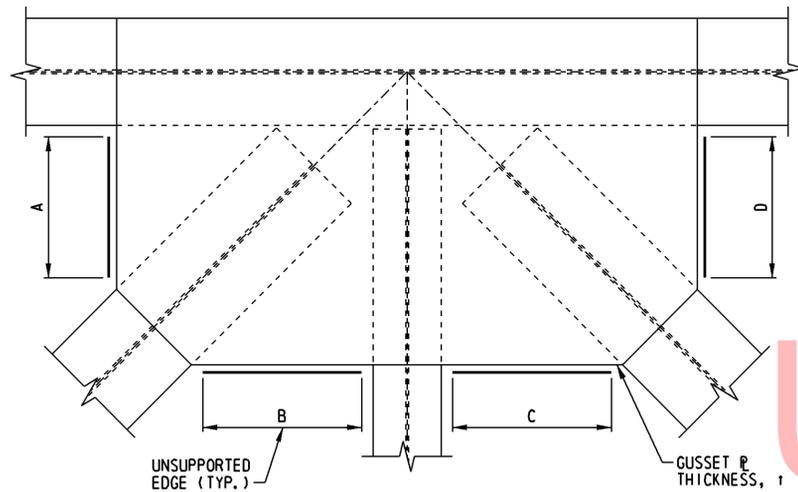
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**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

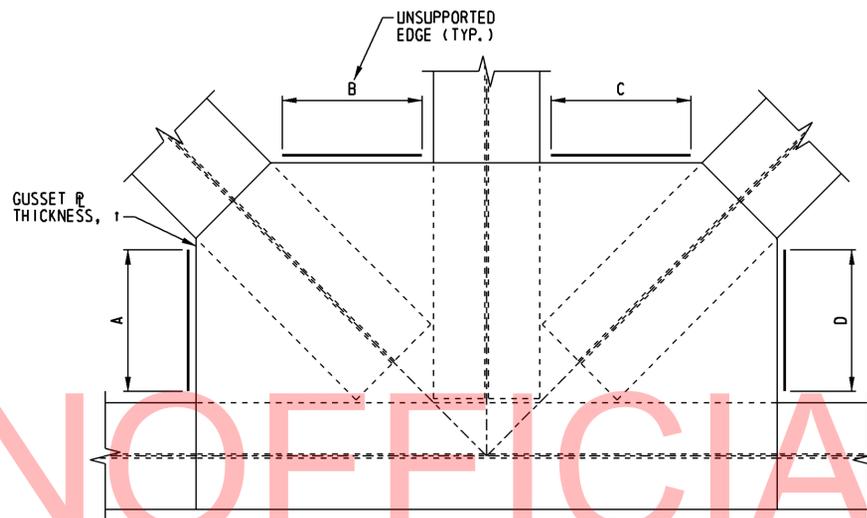
CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**INSPECTION WALK**  
**LADDER REPAIR DETAILS**

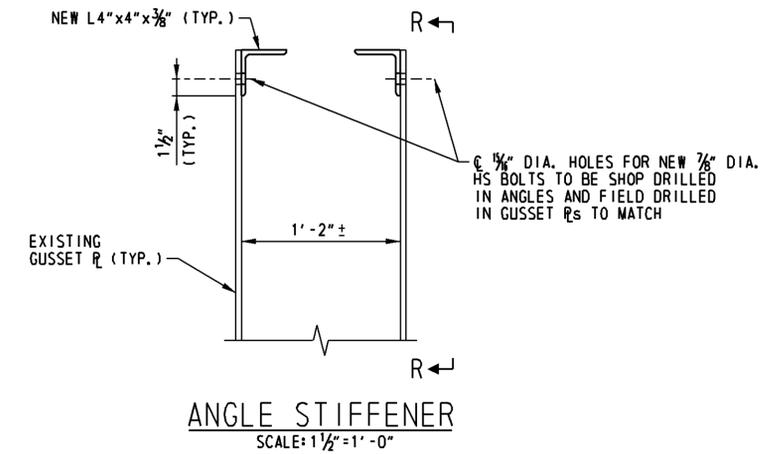
SHEET NO.	17
TOTAL SHTS.	48



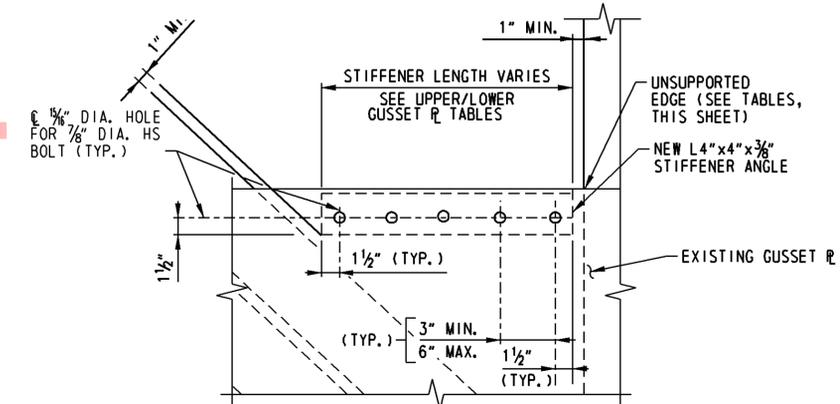
UPPER GUSSET PLATE STIFFENER DETAIL  
SCALE: 1"=1'-0"  
(LOOKING NORTH)



LOWER GUSSET PLATE STIFFENER DETAIL  
SCALE: 1"=1'-0"  
(LOOKING NORTH)



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



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

- NOTES:**
1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED STIFFENER AND DIAPHRAGM LENGTHS IN THE FIELD BEFORE ORDERING, FABRICATING MATERIALS, OR PERFORMING ANY CONSTRUCTION.
  2. USE SHIM PLATES, AS REQUIRED, ON DISTORTED GUSSET PLATES TO SECURELY FASTEN STIFFENER ANGLES.
  3. BOLT HOLE SPACING/EDGE DISTANCES NOTED ARE SIMILAR FOR DIAPHRAGM STIFFENER DETAIL.
  4. SHOP DRILL HOLES IN ANGLES AND FIELD DRILL HOLES IN EXISTING GUSSET P'S TO MATCH.
  5. FOR FABRICATION AND ERECTION NOTES, SEE SHT. NO. 5.
  6. STIFFENER ANGLES SHALL BE INSTALLED ON BOTH NORTH AND SOUTH TRUSSES AT LOCATIONS SHOWN IN TABLES. DIAPHRAGMS SHALL BE INSTALLED AT TRUSS LOCATIONS SHOWN IN THE TABLES.

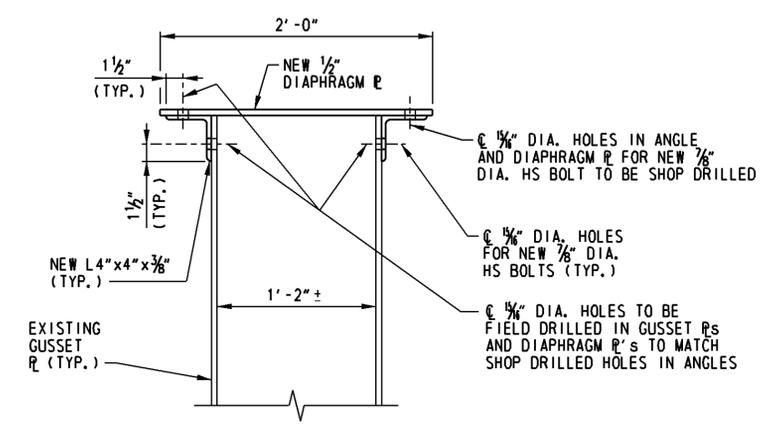
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UPPER GUSSET PLATE STIFFENERS				
GUSSET PLATE	UNSUPPORTED EDGE	STIFFENED LENGTH	STIFFENER *	GUSSET P THICKNESS, t
U1	B,C	2'-0"	ANGLE	5/8"
U3	B,C	1'-10"	ANGLE	5/8"
U5	B,C	2'-0"	ANGLE	5/8"
U19 NORTH TRUSS	B	1'-3"	DIAPHRAGM	1/2"
U39 NORTH TRUSS	B	1'-3"	DIAPHRAGM	1/2"

\* SEE APPLICABLE STIFFENER ANGLE AND DIAPHRAGM STIFFENER DETAILS ON THIS SHEET FOR MORE INFORMATION

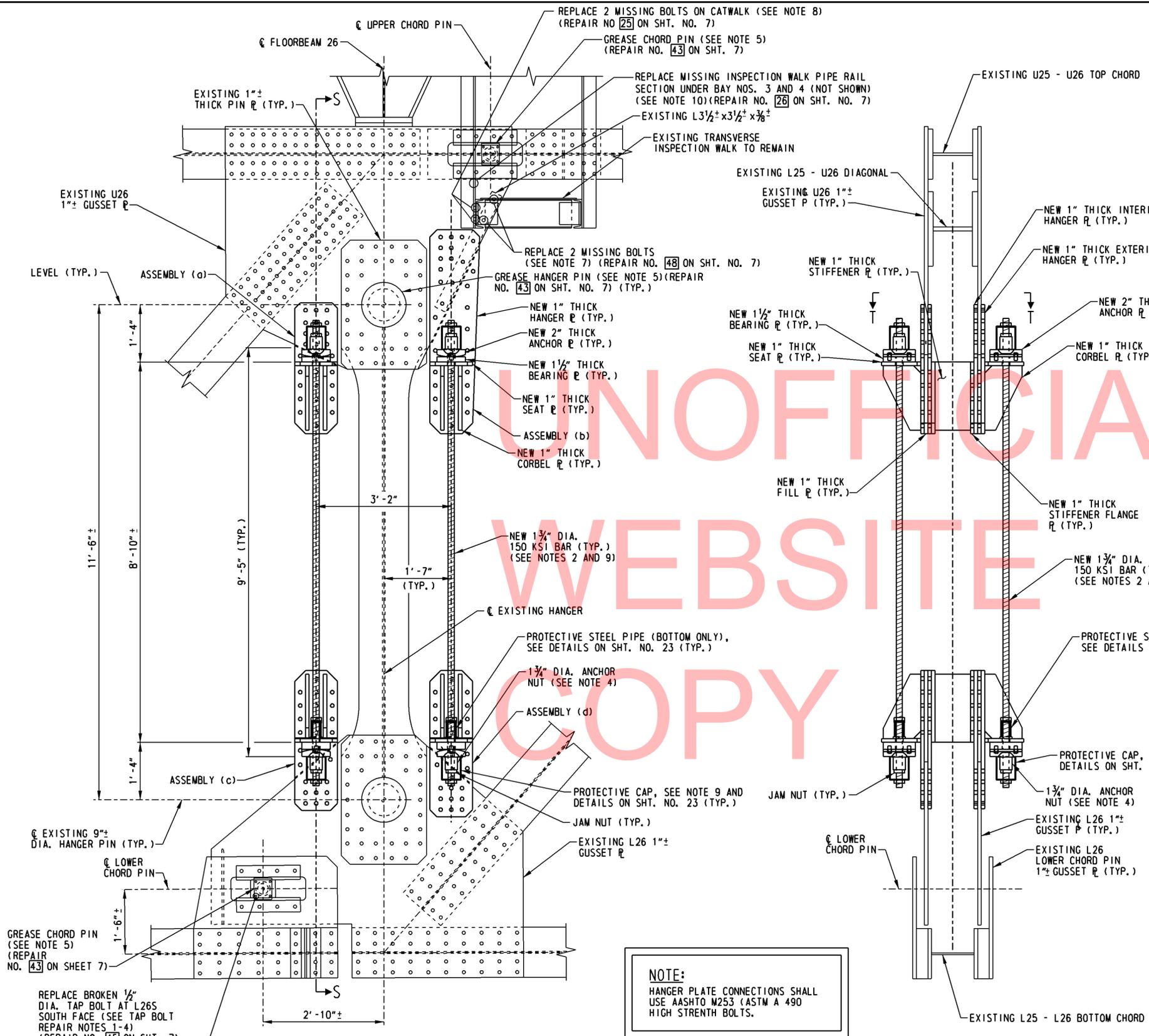
LOWER GUSSET PLATE STIFFENERS				
GUSSET PLATE	UNSUPPORTED EDGE	STIFFENED LENGTH	STIFFENER *	GUSSET P THICKNESS, t
L10	A,D	1'-6"	ANGLE	1/2"
L12	A,D	1'-6"	ANGLE	1/2"
L28	A,D	1'-4"	ANGLE	1/2"
L30	A,D	1'-4"	ANGLE	1/2"
L38	A	1'-6"	ANGLE	1/2"
L38 NORTH TRUSS	C	1'-3"	DIAPHRAGM	1/2"
L40	A,D	1'-4"	ANGLE	1/2"
L40 NORTH TRUSS	B	1'-3"	DIAPHRAGM	1/2"

\* SEE APPLICABLE STIFFENER ANGLE AND DIAPHRAGM STIFFENER DETAILS ON THIS SHEET FOR MORE INFORMATION

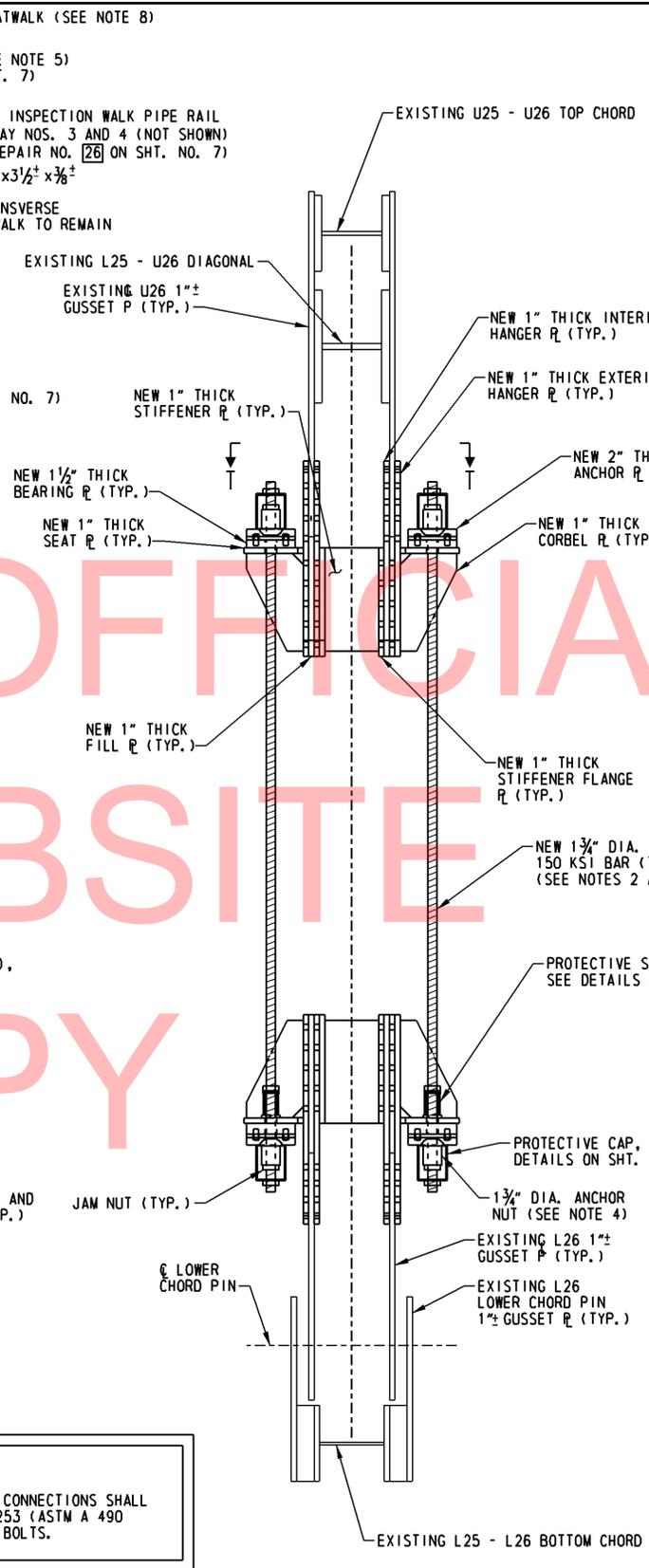


DIAPHRAGM STIFFENER  
SCALE: 1 1/2"=1'-0"

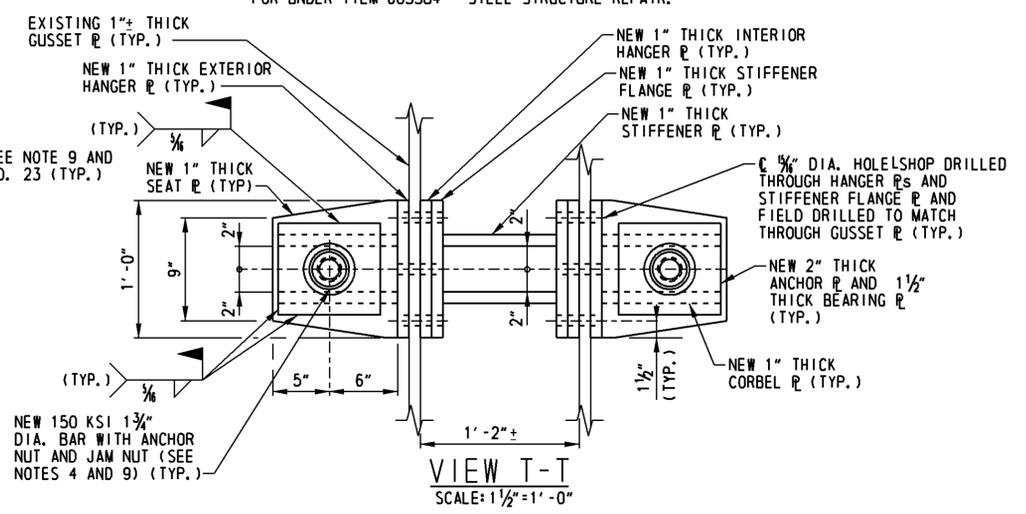
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ELEVATION - PIN AND HANGER RETROFIT  
SCALE: 3/4" = 1'-0"



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



VIEW T-T  
SCALE: 1 1/2" = 1'-0"

**NOTE:**  
HANGER PLATE CONNECTIONS SHALL USE AASHTO M253 (ASTM A 490) HIGH STRENGTH BOLTS.

**PIN AND HANGER RETROFIT NOTES:**

- FOR FABRICATION AND ERECTION NOTES, SEE SHT. NO. 5.
- FOR PIN AND HANGER RETROFIT MATERIAL AND CONSTRUCTION REQUIREMENTS, SEE SPECIAL PROVISIONS.
- FOR INDIVIDUAL ASSEMBLY AND PLATE DETAILS SEE SHT. NOS. 20 THROUGH 23.
- ANCHOR NUTS FOR 150 KSI BAR SHALL BE AS SUPPLIED BY THE BAR MANUFACTURER. NUT SHALL HAVE CURVED SURFACE TO INTERFACE WITH THE COUNTERSUNK OPENING IN THE ANCHOR PLATE.
- REMOVE HANGER PIN COVER AND GREASE EXPOSED HANGER PIN SURFACE AND CHORD PIN SURFACES WITH A LOW-VISCOSITY PENETRATING GREASE APPROVED BY THE DEPARTMENT. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 605733 - PIN AND HANGER RETROFIT.
- SUGGESTED SEQUENCE OF CONSTRUCTION FOR PIN AND HANGER RETROFIT:
  - FIELD DRILL HOLES IN EXISTING GUSSET PLATES L26N, L26S, U26N AND U26S.
  - CONNECT INTERIOR AND EXTERIOR HANGER PLATES TO EXISTING GUSSET PLATES USING AASHTO M 253 (ASTM A 490) HIGH STRENGTH BOLTS.
  - INSTALL FILL PLATES AND STIFFENER ASSEMBLY BETWEEN HANGER PLATE ASSEMBLIES USING AASHTO M 253 (ASTM A 490) HIGH STRENGTH BOLTS. MAY BE PERFORMED IN CONJUNCTION WITH PREVIOUS STEP.
  - INSTALL BEARING PLATES AND FIELD WELD TO SEAT PLATE AS SHOWN IN VIEW T-T.
  - INSTALL ANCHOR PLATES, 1 3/4" DIA. 150 KSI BARS, AND ANCHOR NUTS.
    - LOAD TRANSFER TO 150 KSI BARS SHALL BE 11.25 KIPS PER BAR (45 KIPS TOTAL FROM HANGER). BARS SHALL BE POST TENSIONED SIMULTANEOUSLY IN GROUPS OF FOUR (4) AT EACH HANGER. THE LOAD IN EACH BAR SHALL BE CONTINUOUSLY MONITORED AS THE POST TENSIONING LOAD IS APPLIED. JACKS SHALL BE IDENTICAL AND SHALL BE MANIFOLDED TOGETHER.
  - INSTALL JAM NUTS, AND NUTE PROTECTIVE CAP, ETC.
- REPLACE TWO (2) MISSING AASHTO M 164 (ASTM A 325) HIGH STRENGTH BOLTS AT EACH GUSSET PLATE STIFFENER ANGLE - FOUR (4) LOCATIONS TOTAL (U26N OUTBOARD, U26N INBOARD, U26S OUTBOARD, U26S INBOARD). REPLACEMENT OF MISSING BOLTS SHALL BE PAID FOR UNDER ITEM 605578 - REPLACING STEEL RIVETS AND BOLTS.
- REPLACE TWO (2) MISSING AASHTO M 164 (ASTM A 325) HIGH STRENGTH BOLTS AT CATWALK SUPPORT DIAPHRAGM ADJACENT TO U26N OUTBOARD AT CONNECTION TO WEST CATWALK SUPPORT CHANNEL - ONE (1) LOCATION TOTAL. REPLACEMENT OF MISSING BOLTS SHALL BE PAID FOR UNDER ITEM 605578 - REPLACING STEEL RIVETS AND BOLTS.
- ANCHOR NUT PROTECTIVE CAP SHALL BE INSTALLED PER MANUFACTURER'S DETAILS/SPECIFICATIONS. SEE DETAILS ON SHT. NO. 23.
- REPLACE MISSING PIPE RAIL SECTION UNDER BAY NOS. 3 AND 4 AND MISSING U-BOLT FOR THE PIPE RAIL AND POST CONNECTION UNDER STRINGER NO. 4 OF TRANSVERSE INSPECTION WALK. REPLACEMENT OF MISSING PIPE AND U-BOLTS SHALL BE PAID FOR UNDER ITEM 605584 - STEEL STRUCTURE REPAIR.

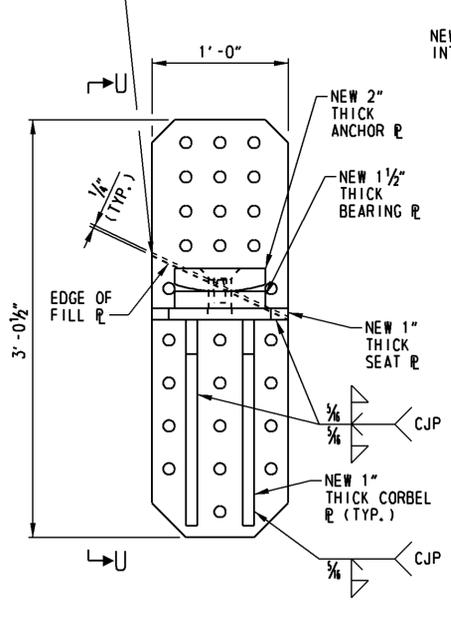
**TAP BOLT REPAIR NOTES:**

- CONTRACTOR SHALL REMOVE THE BROKEN TAP BOLT USING A BOLT EXTRACTOR. CONTRACTOR SHALL NOT BURN OUT BROKEN TAP BOLT.
- ONCE BROKEN TAP BOLT HAS BEEN REMOVED HOLE SHALL BE CLEANED AND RE-TAPPED.
- IF BROKEN TAP BOLT IS UNABLE TO BE REMOVED, CONTRACTOR SHALL DRILL IT OUT. AFTER DRILLING, NEW THREADS SHALL BE TAPPED. IF NEW HOLE IS LARGER THAN 1/2" DIAMETER, THE NEXT LARGER SIZE TAP BOLT SHALL BE USED.
- EXISTING TAP BOLT IS 1/2" DIA. x 1 1/2" LONG HEX HEAD GALVANIZED A 307 BOLT. CONTRACTOR SHALL FIELD VERIFY AND MATCH WITH REMAINING TAP BOLTS IN FIELD PRIOR TO ORDERING / REPLACING BROKEN TAP BOLTS. REPLACING BROKEN TAP BOLT SHALL BE PAID FOR UNDER ITEM 605732 - REPLACING STEEL TAP BOLT.

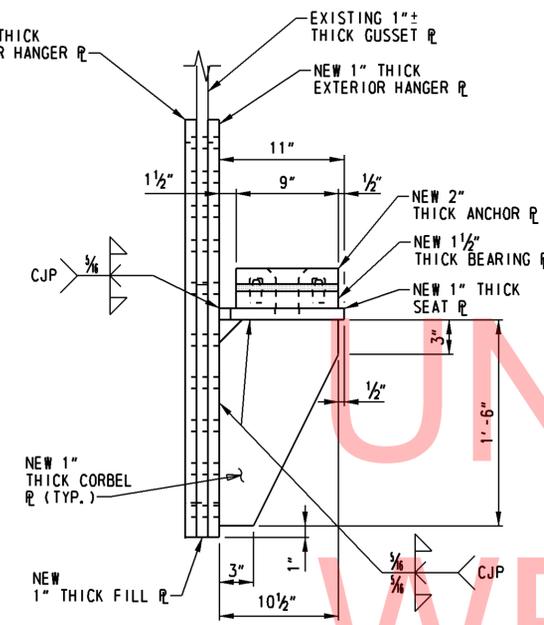
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	DELAWARE DEPARTMENT OF TRANSPORTATION		ADDENDUMS / REVISIONS	SCALE: AS NOTED	BR 1-585 ON N049 AUGUSTINE CUTOFF OVER BRANDYWINE CREEK	CONTRACT T201007402 COUNTY NEW CASTLE	BRIDGE NO. <b>1 585 049</b> DESIGNED BY: D.A.N. CHECKED BY: L.D.C.	SHEET NO. 19 TOTAL SHTS. 48
	PIN AND HANGER RETROFIT DETAILS - I							
	SCALE: AS NOTED							

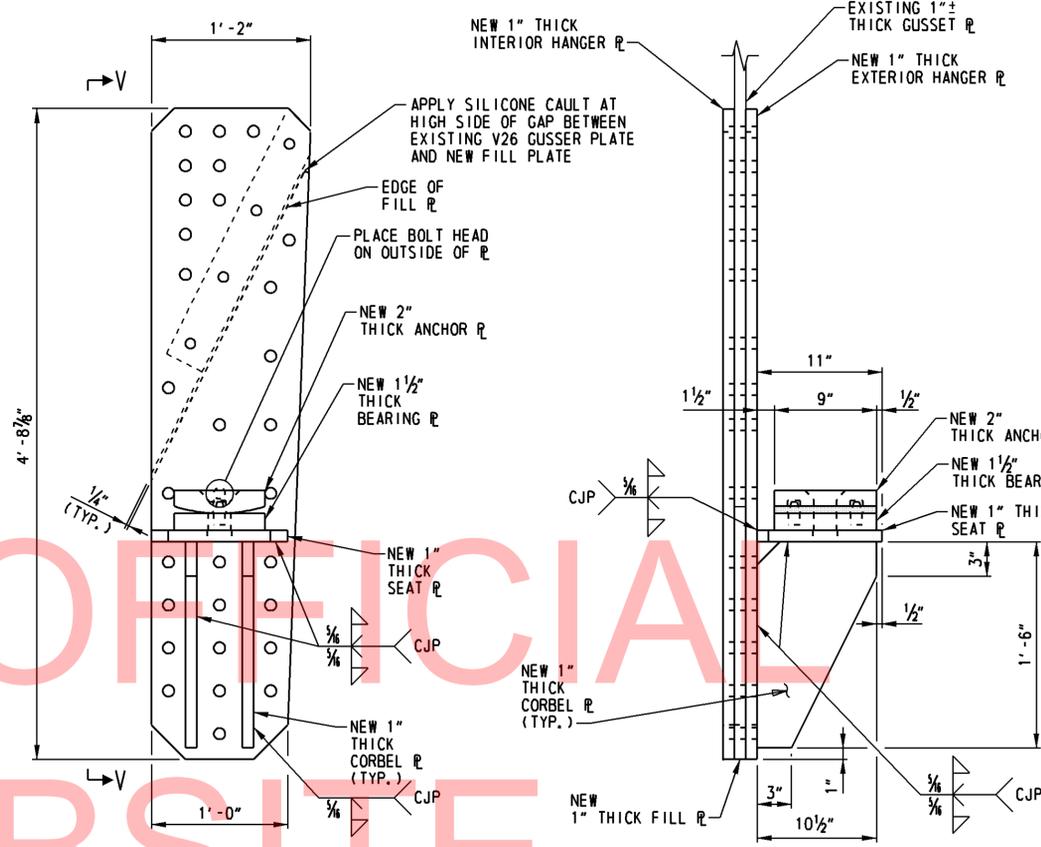
APPLY SILICONE CAULT AT HIGH SIDE OF GAP BETWEEN EXISTING V26 GUSSET PLATE AND NEW FILL PLATE



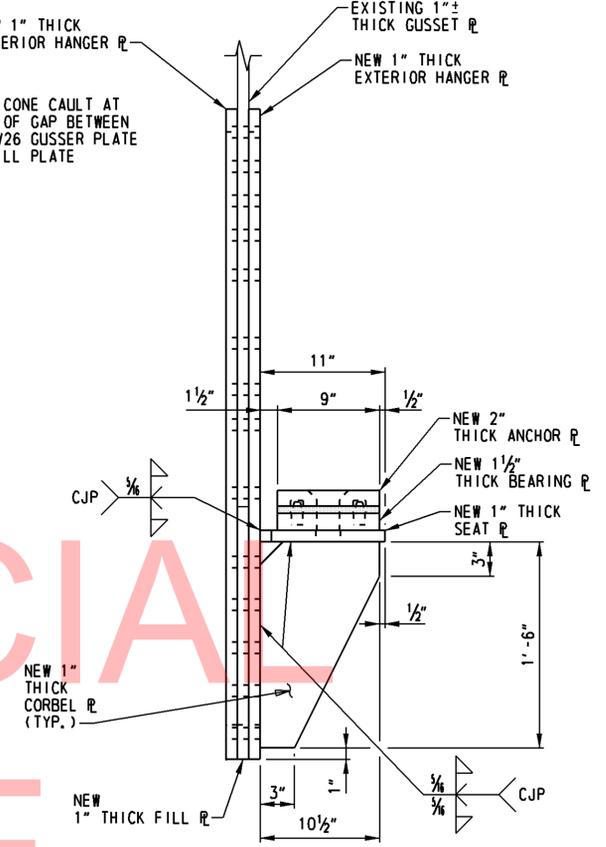
ASSEMBLY (a)  
SCALE: 1 1/2" = 1' - 0"



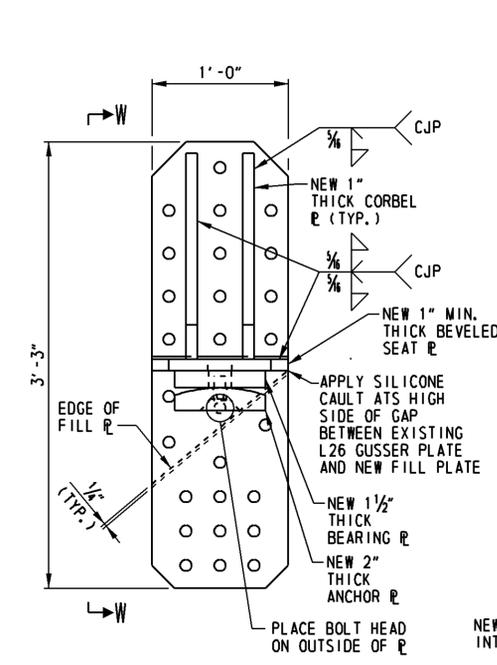
VIEW U-U  
SCALE: 1 1/2" = 1' - 0"



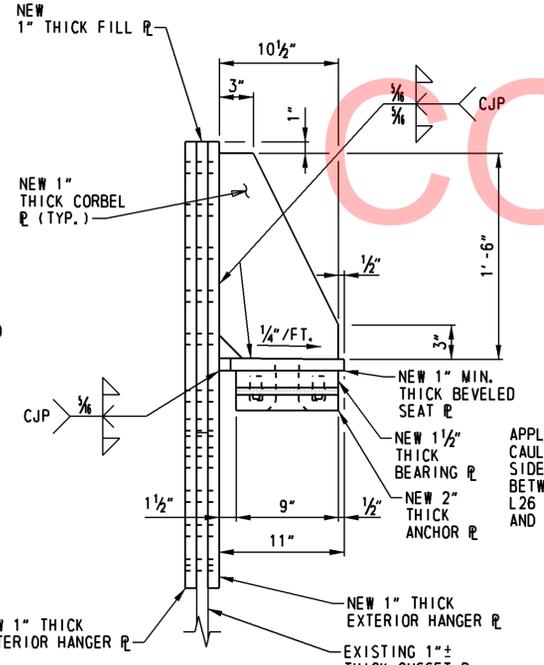
ASSEMBLY (b)  
SCALE: 1 1/2" = 1' - 0"



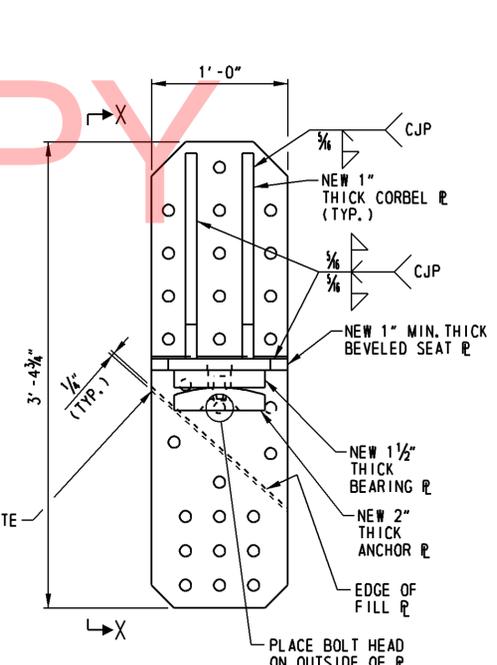
VIEW V-V  
SCALE: 1 1/2" = 1' - 0"



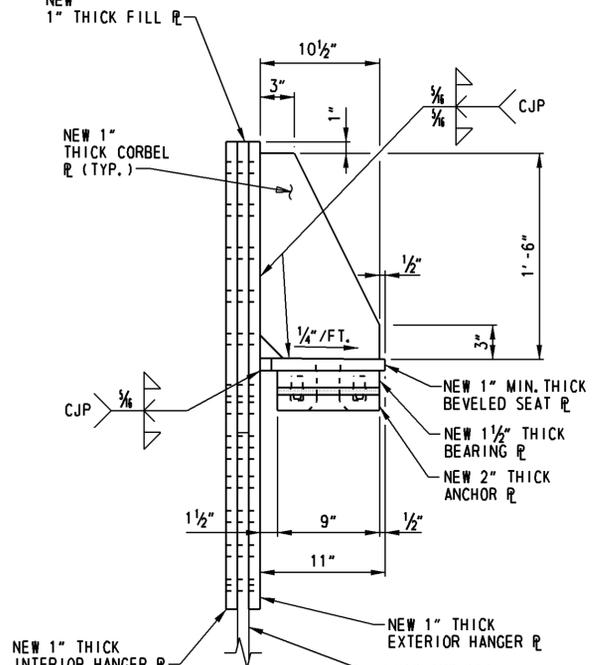
ASSEMBLY (c)  
SCALE: 1 1/2" = 1' - 0"



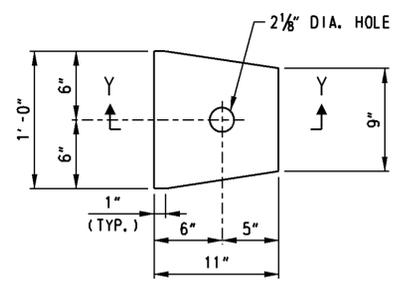
VIEW W-W  
SCALE: 1 1/2" = 1' - 0"



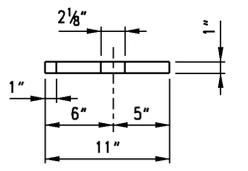
ASSEMBLY (d)  
SCALE: 1 1/2" = 1' - 0"



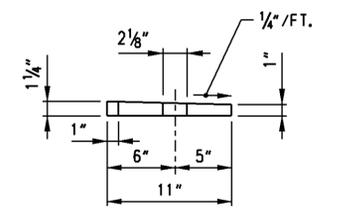
VIEW X-X  
SCALE: 1 1/2" = 1' - 0"



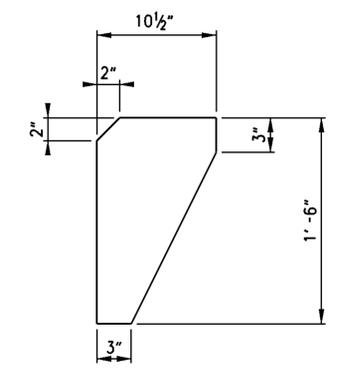
SEAT PLATE - PLAN  
SCALE: 1 1/2" = 1' - 0"



UPPER SEAT PLATE - SECTION Y-Y  
SCALE: 1 1/2" = 1' - 0"



LOWER SEAT PLATE - SECTION Y-Y  
SCALE: 1 1/2" = 1' - 0"



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

NOTE:  
1. ALL BOLT HOLES FOR HANGER PLATES SHALL BE 3/4" DIAMETER FOR 3/8" DIAMETER AASHTO M 253 (ASTM A 490) HS BOLTS.

NOTE:  
HANGER PLATE CONNECTIONS SHALL USE AASHTO M253 (ASTM A 490) HIGH STRENGTH BOLTS.

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ADDENDUMS / REVISIONS

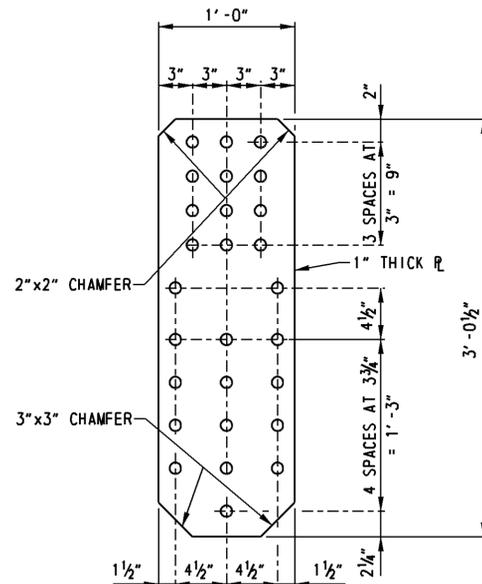
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

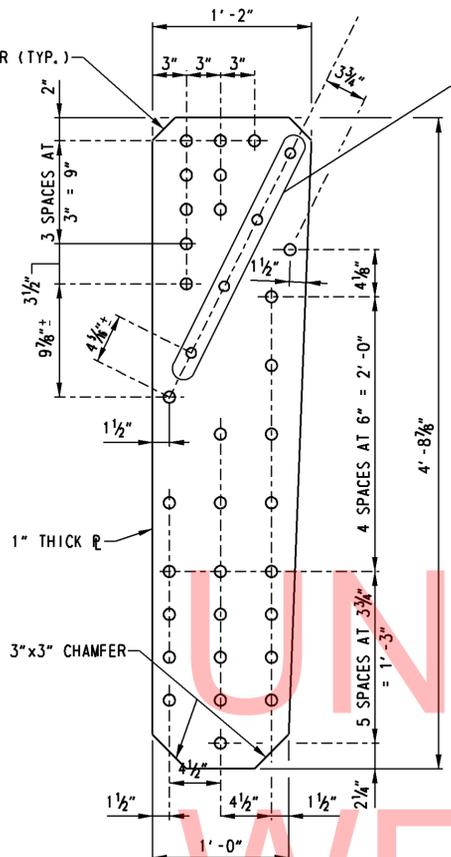
CONTRACT T201007402	BRIDGE NO. <b>1 585 049</b>
COUNTY NEW CASTLE	DESIGNED BY: J.P.D./D.A.N.
	CHECKED BY: L.D.C.

**PIN AND HANGER**  
**RETROFIT DETAILS - II**

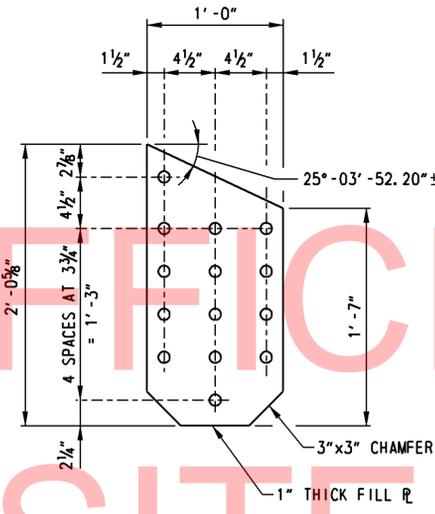
SHEET NO. 20
TOTAL SHTS. 48



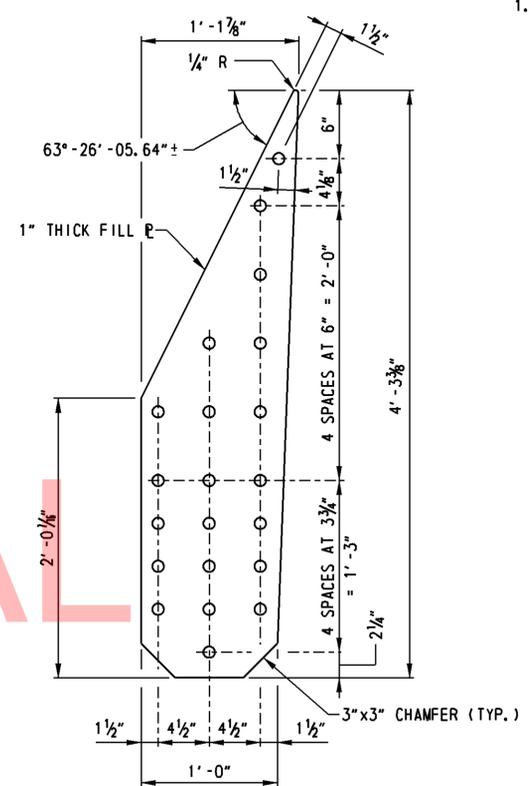
ASSEMBLY (a)  
INTERIOR HANGER PLATE  
SCALE: 1 1/2" = 1'-0"



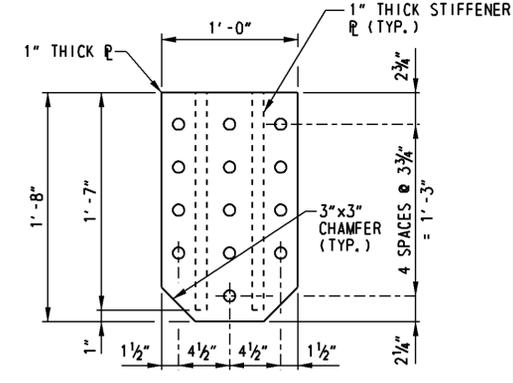
ASSEMBLY (b)  
INTERIOR HANGER PLATE  
SCALE: 1 1/2" = 1'-0"



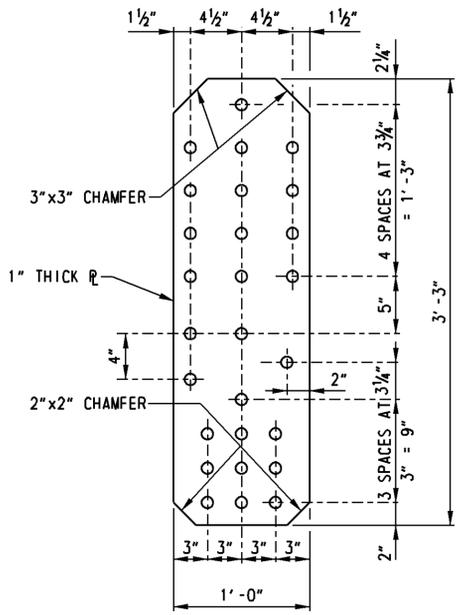
ASSEMBLY (d) FILL PLATE  
SCALE: 1 1/2" = 1'-0"



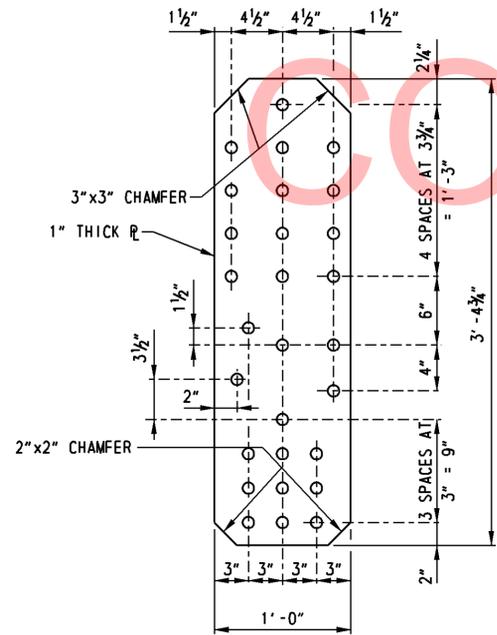
ASSEMBLY (b) FILL PLATE  
SCALE: 1 1/2" = 1'-0"



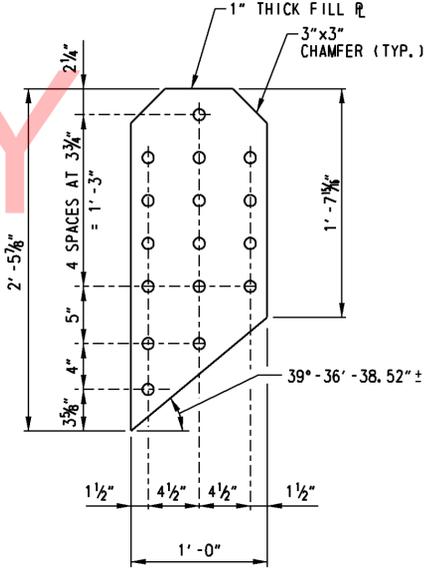
STIFFENER FLANGE PLATE  
SCALE: 1 1/2" = 1'-0"



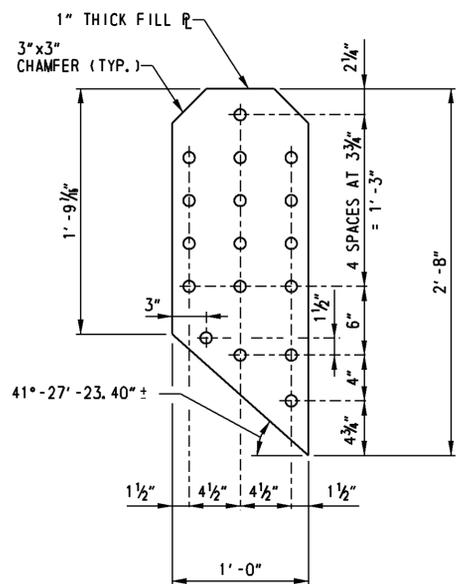
ASSEMBLY (c)  
INTERIOR HANGER PLATE  
SCALE: 1 1/2" = 1'-0"



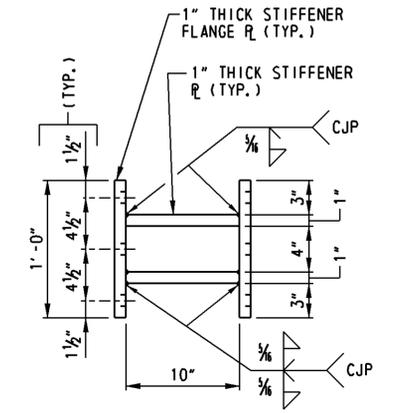
ASSEMBLY (d)  
INTERIOR HANGER PLATE  
SCALE: 1 1/2" = 1'-0"



ASSEMBLY (c) FILL PLATE  
SCALE: 1 1/2" = 1'-0"



ASSEMBLY (d) FILL PLATE  
SCALE: 1 1/2" = 1'-0"



PLAN - STIFFENER R ASSEMBLY  
SCALE: 1 1/2" = 1'-0"

NOTES:  
1. ALL BOLT HOLES FOR HANGER PLATES SHALL BE 1/4" DIAMETER FOR 3/8" DIAMETER AASHTO M 253 (ASTM A 490) HS BOLTS.

NOTE:  
HANGER PLATE CONNECTIONS SHALL USE AASHTO M253 (ASTM A 490) HIGH STRENGTH BOLTS.

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ADDENDUMS / REVISIONS

SCALE: AS NOTED

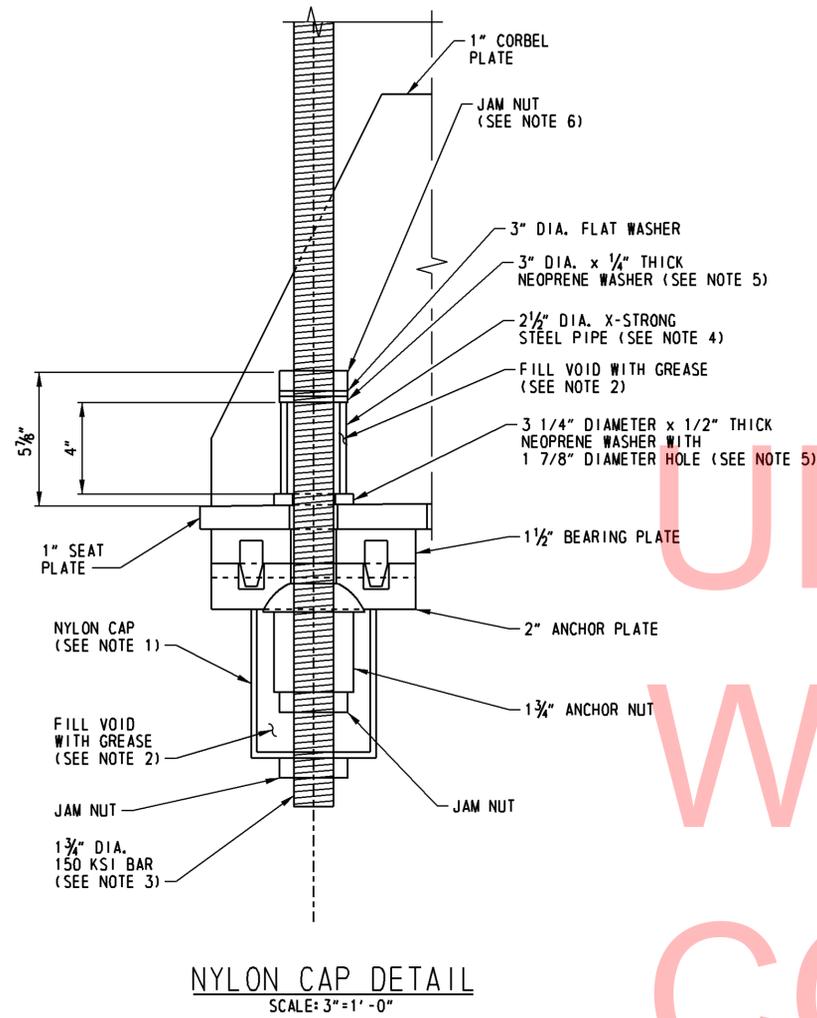
**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N
COUNTY	CHECKED BY:	L.D.C.
NEW CASTLE		

**PIN AND HANGER**  
**RETROFIT DETAILS - III**

SHEET NO.	21
TOTAL SHTS.	48





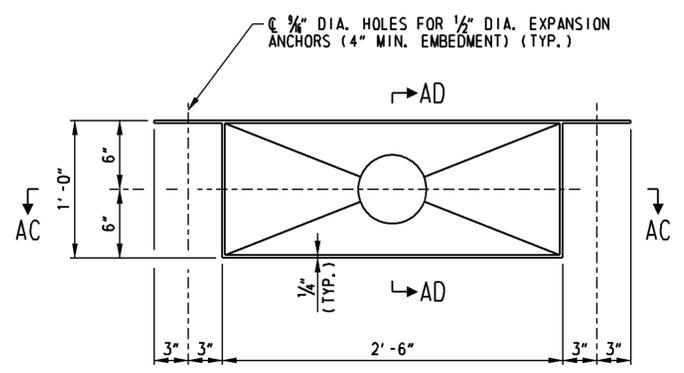
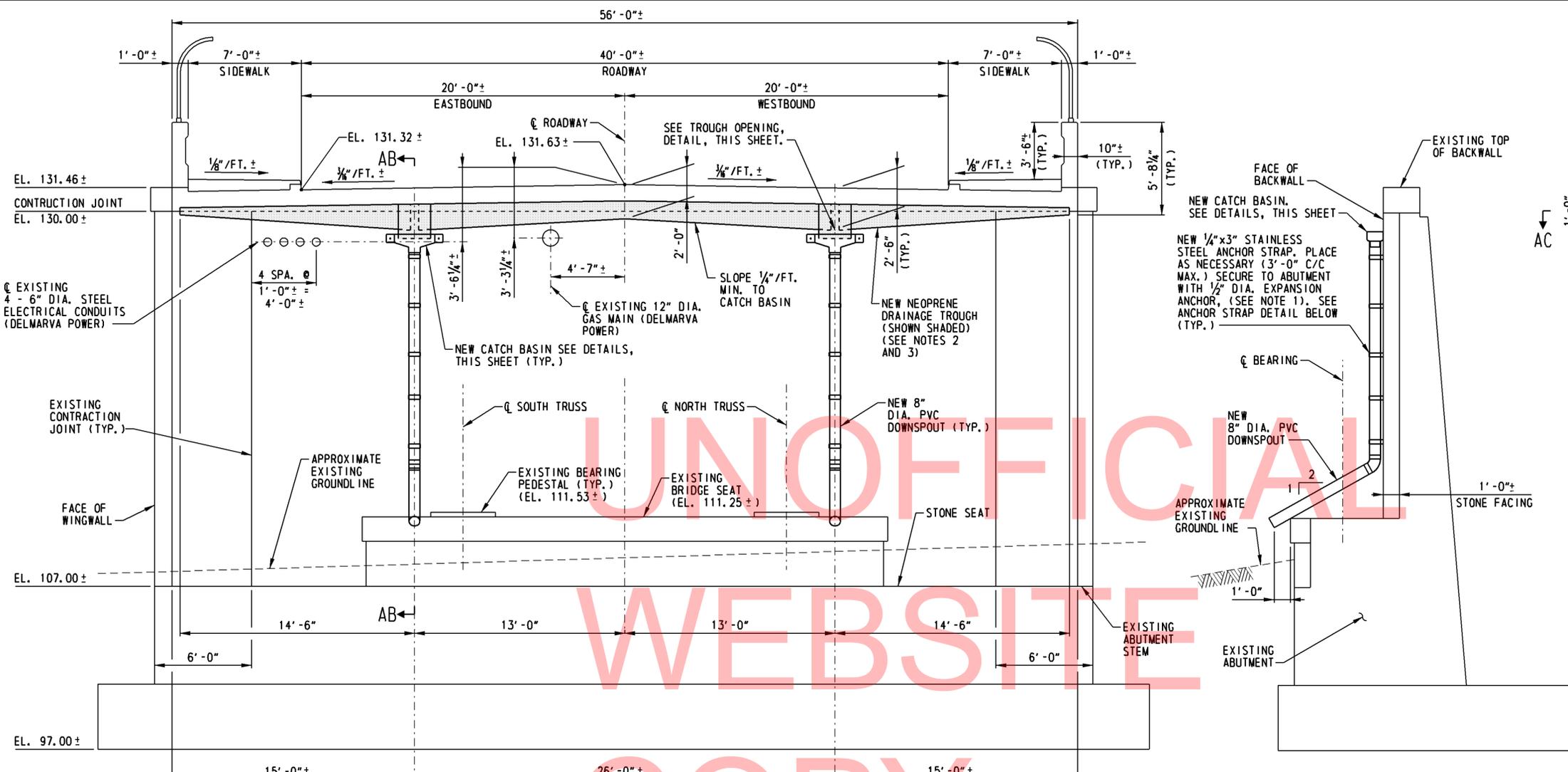
NYLON CAP DETAIL  
SCALE: 3"=1'-0"

UNOFFICIAL  
WEBSITE  
COPY

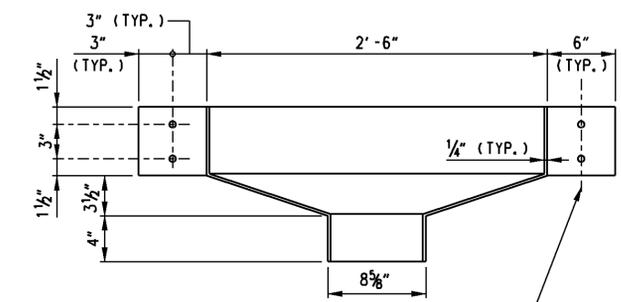
**NOTES:**

1. NYLON CAP SHALL BE COMPATIBLE WITH THE 150 KSI BARS AND SUPPLIED BY THE 150 KSI BAR MANUFACTURER.
2. GREASE FOR FILLING VOIDS IN NYLON CAP SHALL MEET THE FOLLOWING REQUIREMENTS:  
  
GREASE SHALL BE AN ORGANIC COMPOUND RECOMMENDED AND APPROVED BY BAR MANUFACTURER. GREASE SHALL PROVIDE THE APPROPRIATE POLAR MOISTURE DISPLACEMENT AND HAVE CORROSION INHIBITING ADDITIVES WITH SELF-HEALING PROPERTIES. APPLICATION SHALL BE MANUALLY OR BY PUMPING. GREASE SHALL STAY PERMANENTLY VISCOUS, CHEMICALLY STABLE, AND NON-REACTIVE WITH THE 150 KSI BARS. GREASE MUST MEET PTI STANDARDS FOR CORROSION INHIBITING COATING.
3. 1 3/4" DIA. 150 KSI BARS SHALL NOT BE PAINTED UNTIL AFTER BARS HAVE BEEN TENSIONED AND ANCHOR AND JAM NUTS HAVE BEEN INSTALLED.
4. PLACE 3/16" NYLON SPACERS/SHIMS IN STEEL PIPE IN ORDER TO KEEP BARS CENTERED IN PIPE.
5. NEOPRENE FOR NEOPRENE WASHERS SHALL HAVE A DUROMETER SHORE A HARDNESS OF 50 TO 70.
6. JAM NUT AT STEEL PIPE CORROSION PROTECTION SHALL NOT BE TIGHTEND UNTIL AFTER 150 KSI BARS ARE TENSIONED. JAM NUT SHALL BE TIGHTENED SNUG TIGHT AFTER VOID HAS BEEN FILLED WITH GREASE TO PREVENT MOISTURE INTRUSION AROUND BASE OF THE 150 KSI BARS.

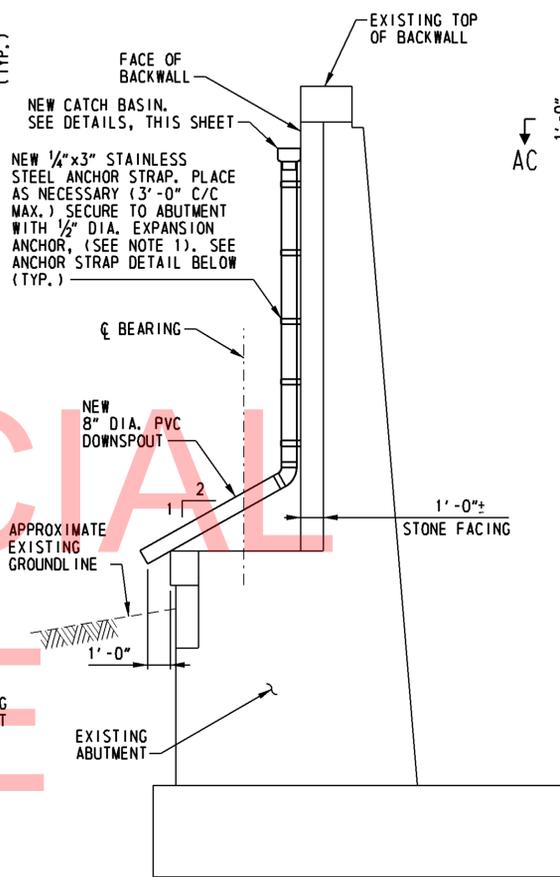
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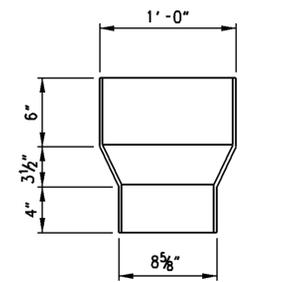
PLAN AT DRAINAGE TROUGH CATCH BASIN  
SCALE: 1 1/2" = 1'-0"



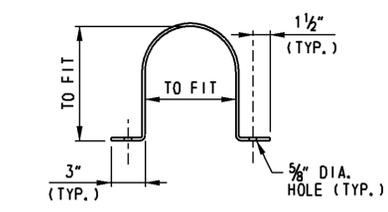
SECTION AC-AC  
SCALE: 1 1/2" = 1'-0"



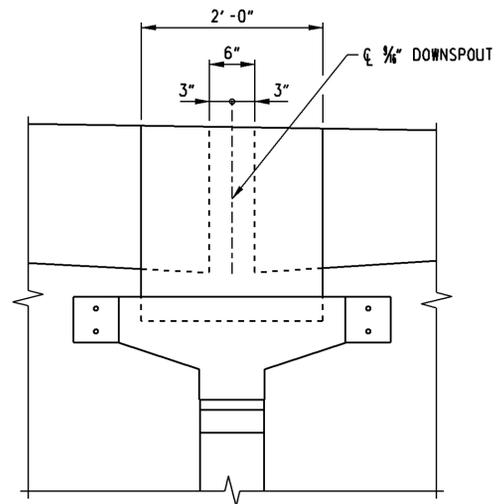
SECTION AB-AB  
SCALE: 1/4" = 1'-0"



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



ANCHOR STRAP DETAIL  
SCALE: 1 1/2" = 1'-0"



TROUGH OPENING DETAIL  
SCALE: 1" = 1'-0"

NOTE:  
WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR.  
TRUSS NOT SHOWN FOR CLARITY.

WEST ABUTMENT DRAINAGE TROUGH LAYOUT  
SCALE: 1/4" = 1'-0"

ABUTMENT TROUGH NOTES:

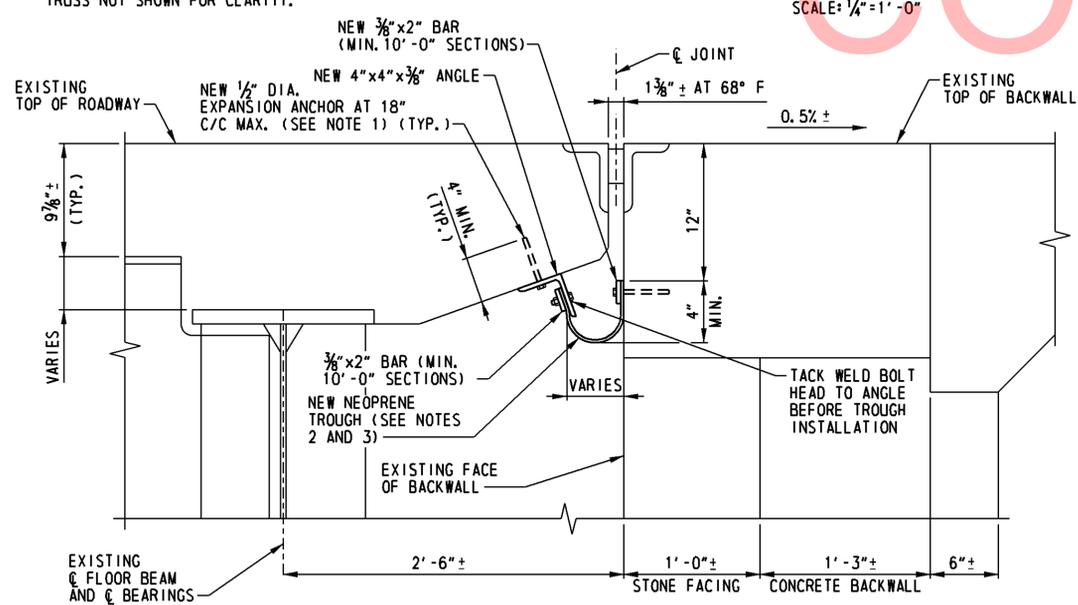
1. EXPANSION ANCHORS SHALL BE STAINLESS STEEL WITH A MINIMUM TENSILE CAPACITY OF 1975 LB AND A SHEAR CAPACITY OF 3010 LB WITH STAINLESS STEEL NUTS AND WASHERS. PAYMENT FOR FURNISHING AND INSTALLING EXPANSION ANCHORS, ANCHOR STRAPS, AND ANY ADDITIONAL NEW HARDWARE REQUIRED FOR THE INSTALLATION OF THE CATCH BASINS AND DOWNSPOUTS SHALL BE INCIDENTAL TO ITEM 612603 - PVC PIPE, 8".

- 2. TROUGH SHALL BE 1/2" NEOPRENE DRAINAGE MATERIAL IN ACCORDANCE WITH ITEM 605670-BRIDGE JOINT DRAIN TROUGH.
- 3. HOLES IN TROUGH MATERIAL SHALL BE DRILLED IN THE FIELD.
- 4. CATCH BASINS SHALL BE FIBERGLASS CONFORMING TO THE FOLLOWING:

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
DENSITY, G/CM, MIN	D 792	1.25
ABSORPTION, % MAX	D 570	1.0
TENSILE STRENGTH, AVERAGE OF FIVE SPECIMENS EACH DIRECTION*, PSI MIN	D 638	10 000
THICKNESS (UNLESS OTHERWISE SPECIFIED), IN	-	3/8
THICKNESS TOLERANCE, IN	-	± 1/16, -0
COLOR NO.	FED. STD. 595	26622

\*LONGITUDINAL AND TRANSVERSE DIRECTIONS.  
CONTRACTOR MAY SUBSTITUTE STAINLESS STEEL (10 GAUGE MIN.) OR GALVANIZED STEEL (10 GAUGE MIN.) CATCH BASINS IN LIEU OF FIBERGLASS, AT NO ADDITIONAL COST TO THE DEPARTMENT. PAYMENT FOR CATCH BASINS SHALL BE INCIDENTAL TO ITEM 612603 - PVC PIPE, 8".

- 5. STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM A 193, IDENTIFICATION SYMBOL B8, TYPE 304.
- 6. EXISTING ELEVATIONS TAKEN FROM EXISTING PLANS AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING OR FABRICATION OF ANY MATERIAL.
- 7. DRAINAGE TROUGH SHALL BE CLEANED AND CLEAR OF DIRT AND DEBRIS AT THE END OF THE JOB. THIS WORK SHALL BE INCIDENTAL TO ITEM 605670-BRIDGE JOINT DRAIN TROUGH.

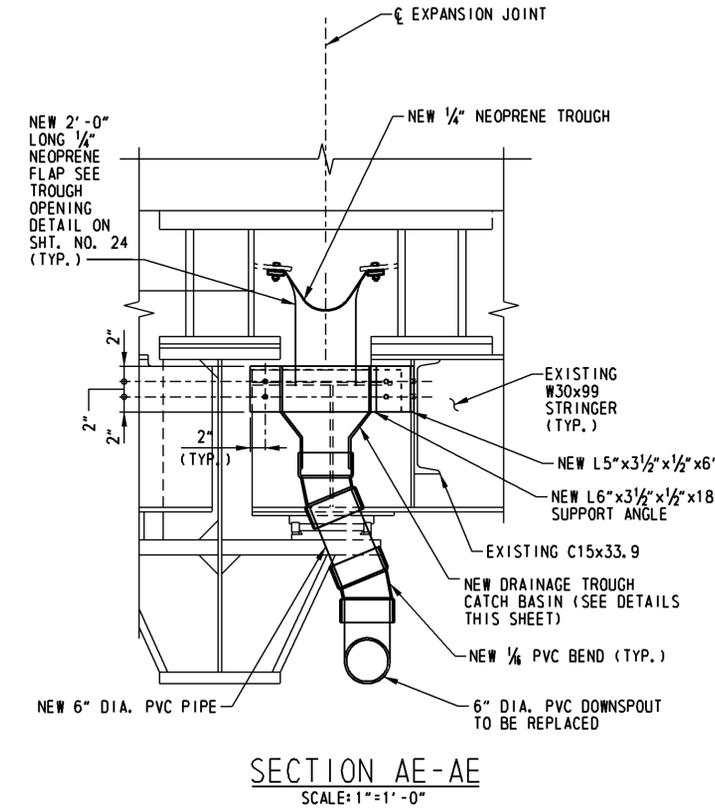
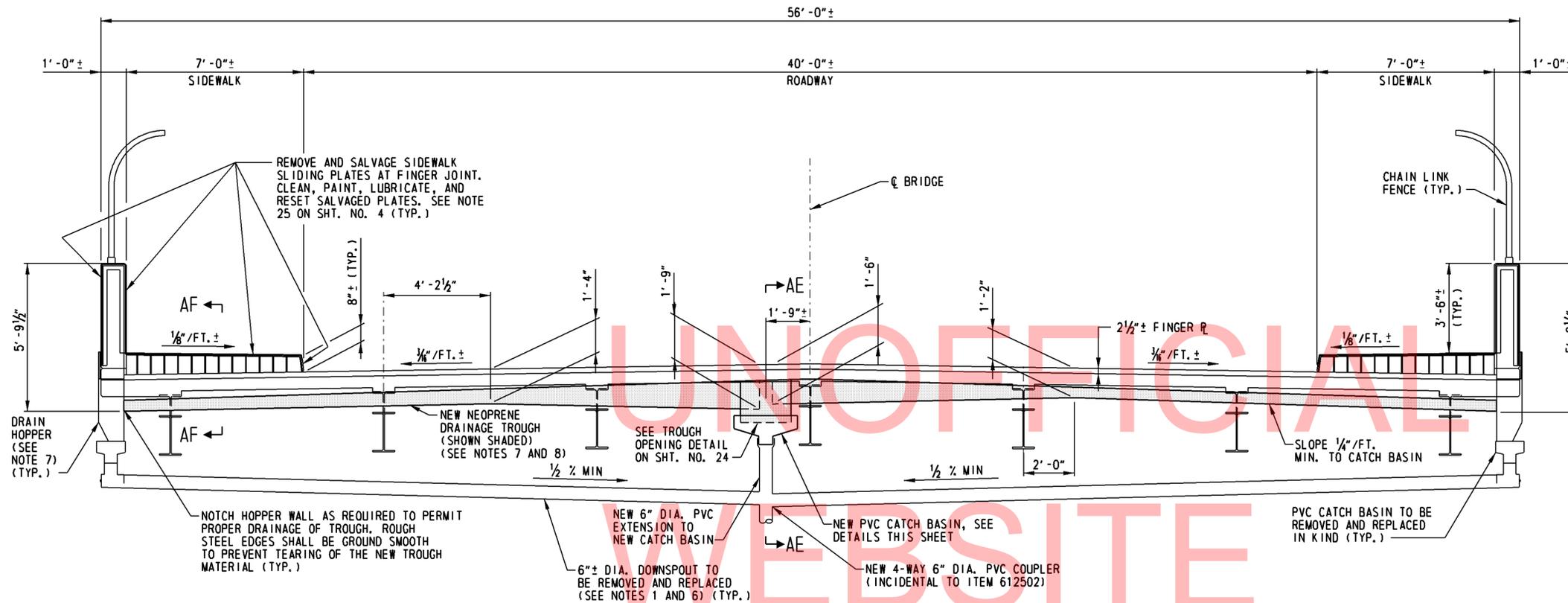


DRAINAGE TROUGH SECTION AT ABUTMENTS  
SCALE: 1 1/2" = 1'-0"

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ADDENDUMS / REVISIONS

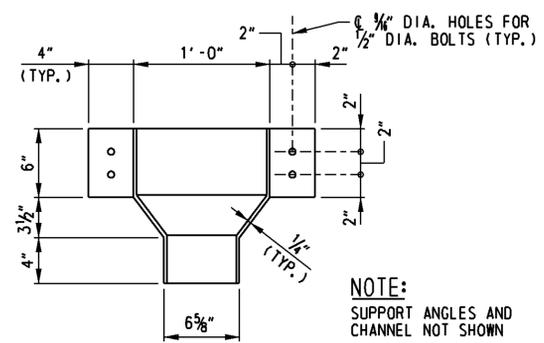
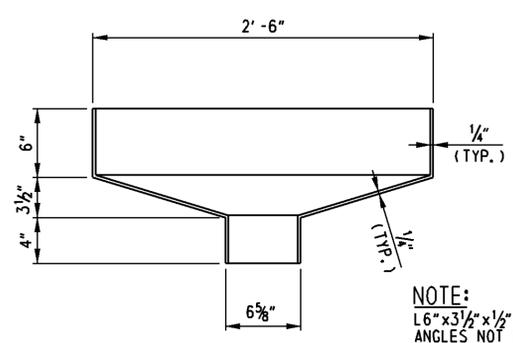
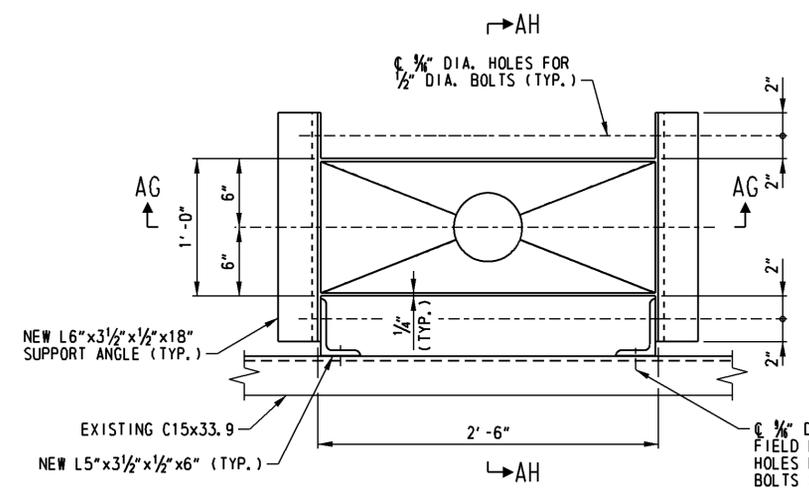
CONTRACT	T201007402	BRIDGE NO.	1 585 049
COUNTY	NEW CASTLE	DESIGNED BY:	J.P.D./D.A.N.
		CHECKED BY:	W.A.G.



FINGER EXPANSION JOINT DRAINAGE TROUGH LAYOUT  
SCALE: 3/8"=1'-0"  
(LOOKING WEST)

COPY

- NOTES:
- LIMITS OF 6" DIAMETER PVC DOWNSPOUT REPLACEMENT SHALL BE FROM AND INCLUDING THE CATCH BASIN AT THE DRAIN HOPPERS TO PIER NO. 3 WHERE THE DOWNSPOUT TRANSITIONS TO METAL DOWNSPOUT. 6" DIAMETER METAL DOWNSPOUT AT PIER NO. 3 SHALL BE REPLACED WITH NEW 6" DIAMETER PVC DOWNSPOUT IN ITS ENTIRETY. COST OF REMOVAL OF EXISTING 6" DIAMETER PVC DOWNSPOUT AND 6" DIAMETER METAL DOWNSPOUT SHALL BE INCIDENTAL TO ITEM 612502 - PVC PIPE, 6". THE CONTRACTOR HAS THE OPTION OF CLEANING OUT 6" DIAMETER PVC AND 6" DIAMETER METAL DOWNSPOUT IN LIEU OF REPLACEMENT AT NO ADDITIONAL COST TO THE DEPARTMENT.
  - REMOVAL OF EXISTING TROUGH SHALL BE INCIDENTAL TO ITEM 605670 - BRIDGE JOINT DRAIN TROUGH.
  - THE COST OF NEW PVC DOWNSPOUT CATCH BASINS SHALL BE INCIDENTAL TO ITEM 612502 - PVC PIPE, 6".
  - FOR SECTION AF-AF SEE SHT. NO. 27.
  - PVC DOWNSPOUT SUPPORT BRACKETS NOT SHOWN (SEE EXISTING PLANS, CONTRACT 79-071-02 FOR DETAILS). SUPPORT BRACKETS SHALL REMAIN AND BE RE-USED TO SUPPORT NEW DOWNSPOUT. REPLACEMENT OF 1/2" DIAMETER CONNECTION U-BOLTS SHALL BE INCIDENTAL TO ITEM 612502-PVC PIPE, 6".
  - CLEAN AND PAINT DRAIN HOPPER. PAYMENT INCIDENTAL TO ITEMS 605532 AND 605522.
  - TROUGH SHALL BE 1/4" NEOPRENE DRAINAGE MATERIAL IN ACCORDANCE WITH ITEM 605670 BRIDGE JOINT DRAIN TROUGH.
  - HOLES IN TROUGH MATERIAL SHALL BE DRILLED IN THE FIELD.
  - CATCH BASINS SHALL BE FIBER GLASS CONFORMING TO THE REQUIREMENTS OF NOTE 4 ON SHT. NO. 24.
  - DRAINAGE TROUGHS SHALL BE CLEANED AND CLEAR OF DIRT AND DEBRIS AT END OF THE JOB. THIS WORK SHALL BE INCIDENTAL TO ITEM 605670-BRIDGE JOINT DRAIN TROUGH.
  - THE COST OF NEW L5"x3 1/2"x1/2" AND L6"x3 1/2"x1/2" SUPPORT ANGLES AND ALL ADDITIONAL NEW HARDWARE REQUIRED FOR THE INSTALLATION OF THE CATCH BASIN AND DOWNSPOUTS SHALL BE INCIDENTAL TO ITEM 612502 - PVC PIPE, 6".



PLAN AT DRAINAGE TROUGH CATCH BASIN  
SCALE: 1 1/2"=1'-0"

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

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

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ADDENDUMS / REVISIONS	

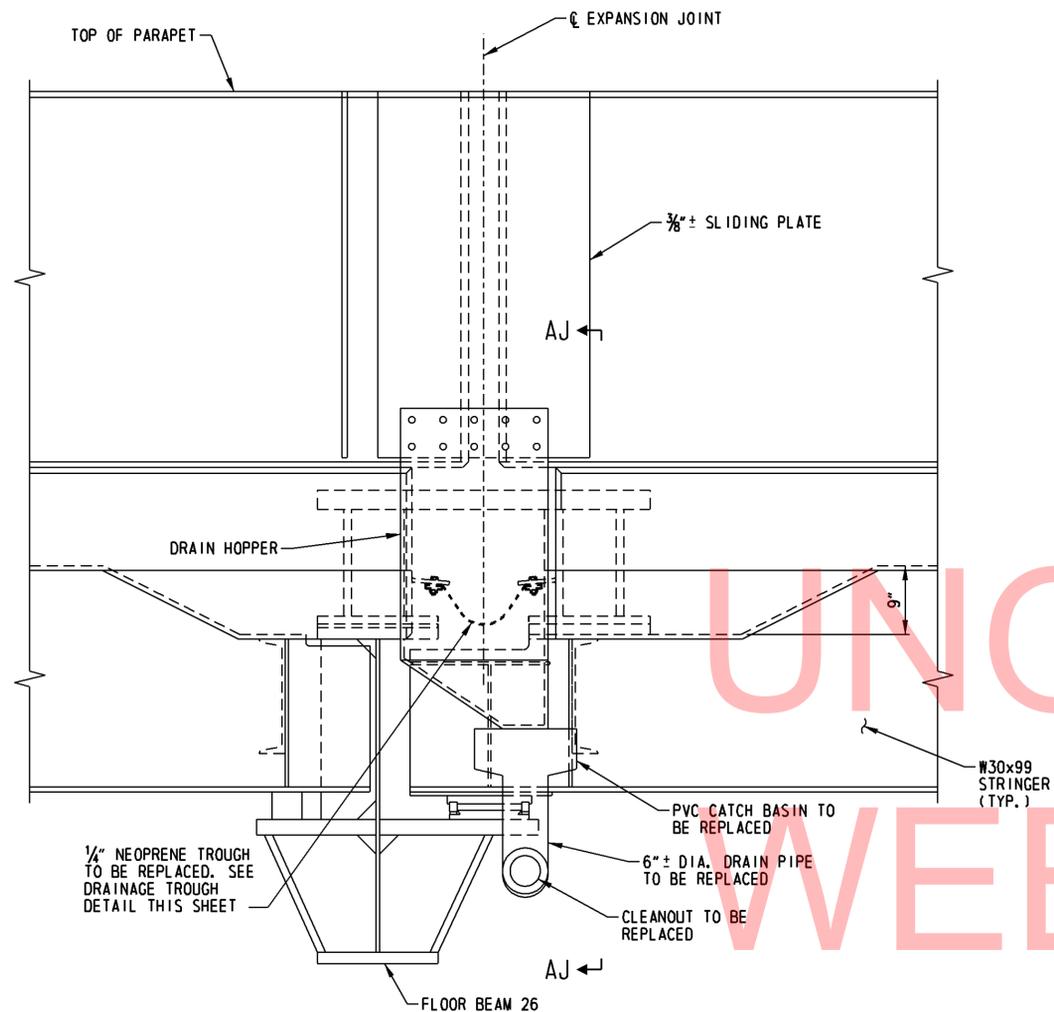
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

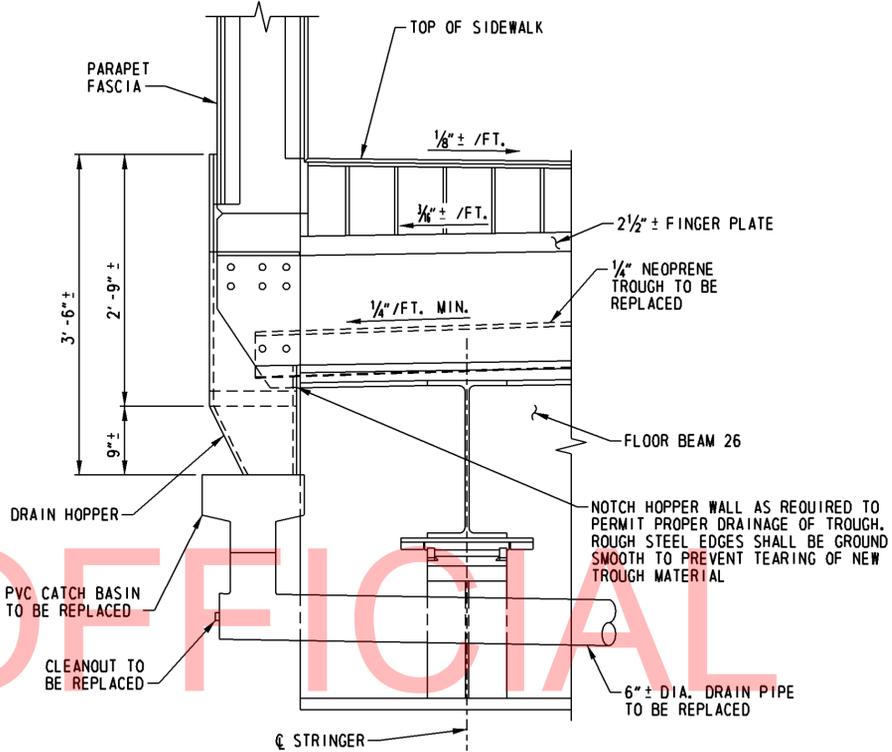
CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D. / D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**FINGER JOINT**  
**TROUGH DETAILS - I**

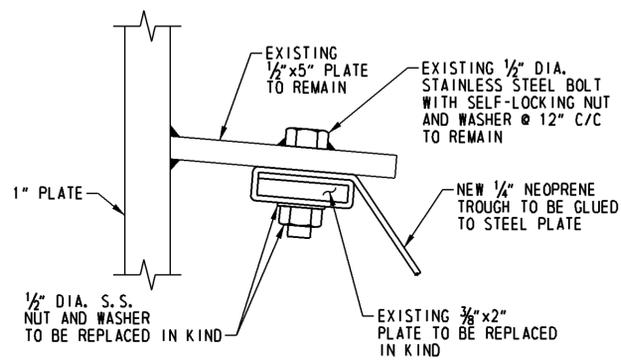
SHEET NO.	25
TOTAL SHTS.	48



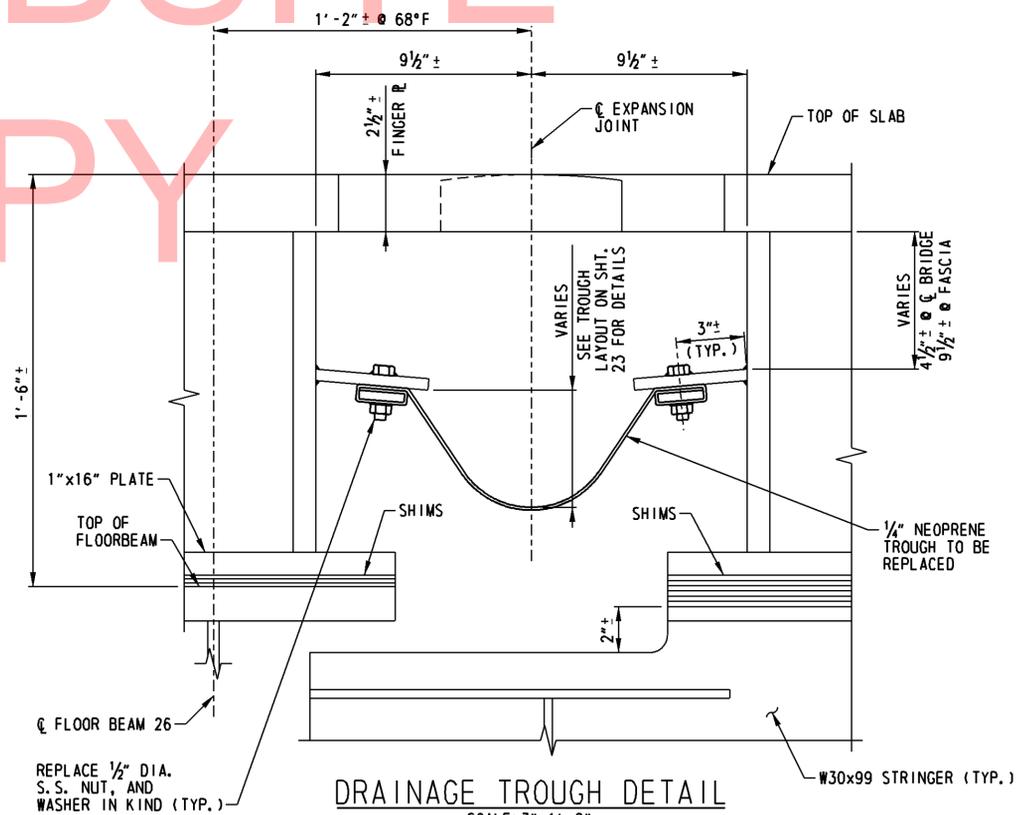
FASCIA ELEVATION AT DECK EXPANSION JOINT  
SCALE: 1"=1'-0"



SECTION AJ-AJ  
SCALE: 1"=1'-0"



DRAINAGE TROUGH CONNECTION DETAIL  
SCALE: 6"=1'-0"



DRAINAGE TROUGH DETAIL  
SCALE: 3"=1'-0"

NOTES:

1. TROUGH SHALL BE 1/4" NEOPRENE DRAINAGE MATERIAL IN ACCORDANCE WITH ITEM 605670-BRIDGE JOINT DRAIN TROUGH.
2. S. S. = STAINLESS STEEL.

No. 17599-013.CADD Bridge\DT03-31599-013.dgn  
 17/2012 10:50:21 AM

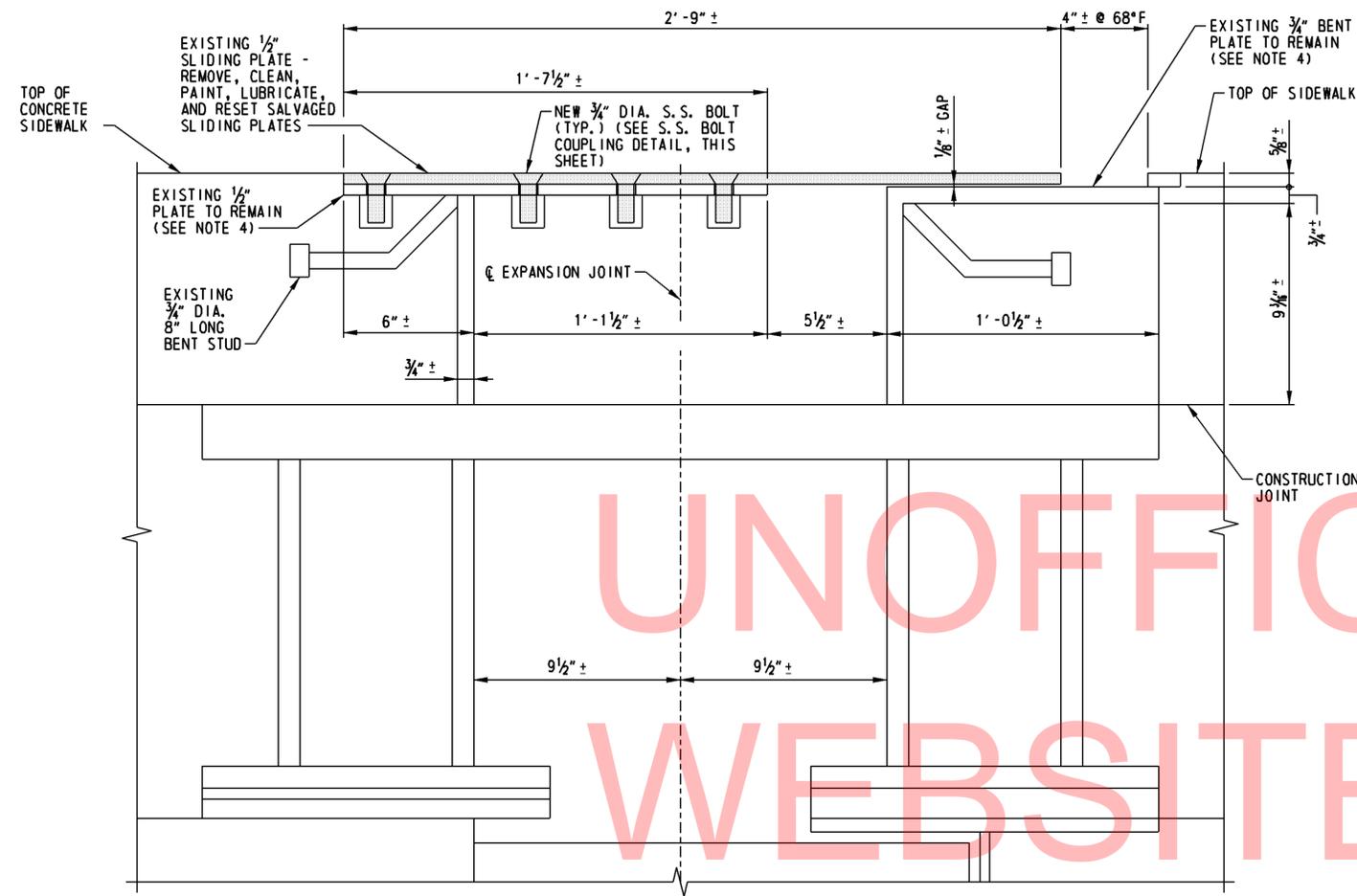
ADDENDUMS / REVISIONS	

SCALE: AS NOTED

CONTRACT	T201007402
COUNTY	NEW CASTLE

BRIDGE NO.	<b>1 585 049</b>
DESIGNED BY:	J.P.D. / D.A.N.
CHECKED BY:	W.A.G.

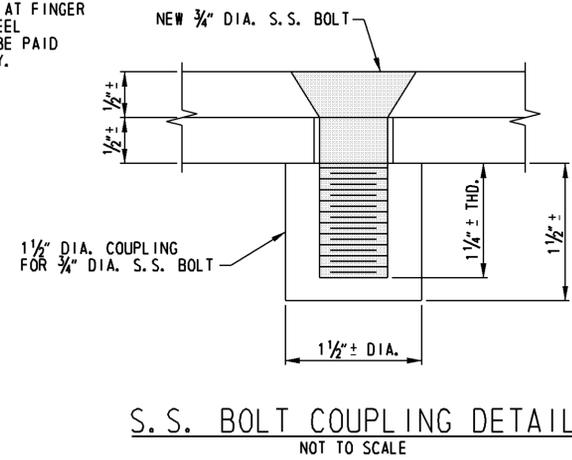
SHEET NO.	26
TOTAL SHTS.	48



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**NOTES:**

1. PARAPET NOT SHOWN FOR CLARITY.
2. S. S. = STAINLESS STEEL
3. SEE NOTE 38 ON SHT. NO. 4 AND REPAIR NOTE 34 ON SHT. NO. 7.
4. EXISTING 1/2" PLATE AND 3/4" BENT PLATE TO REMAIN SHALL BE CLEANED AND LUBRICATED PRIOR TO RESETTING SALVAGED SLIDING PLATES. PAYMENT SHALL BE INCIDENTAL TO ITEM 605584 - STEEL STRUCTURE REPAIR.
5. REMOVAL AND SLAVAGE OF SIDEWALK SLIDING PLATES AT FINGER JOINT SHALL BE PAID FOR UNDER ITEM 605584 - STEEL STRUCTURE REPAIR. CLEANING AND PAINTING SHALL BE PAID FOR UNDER ITEMS 605532 AND 605522, RESPECTIVELY.
6. FOR LOCATION OF SECTION AF-AF, SEE SHT. NO. 25.



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ADDENDUMS / REVISIONS

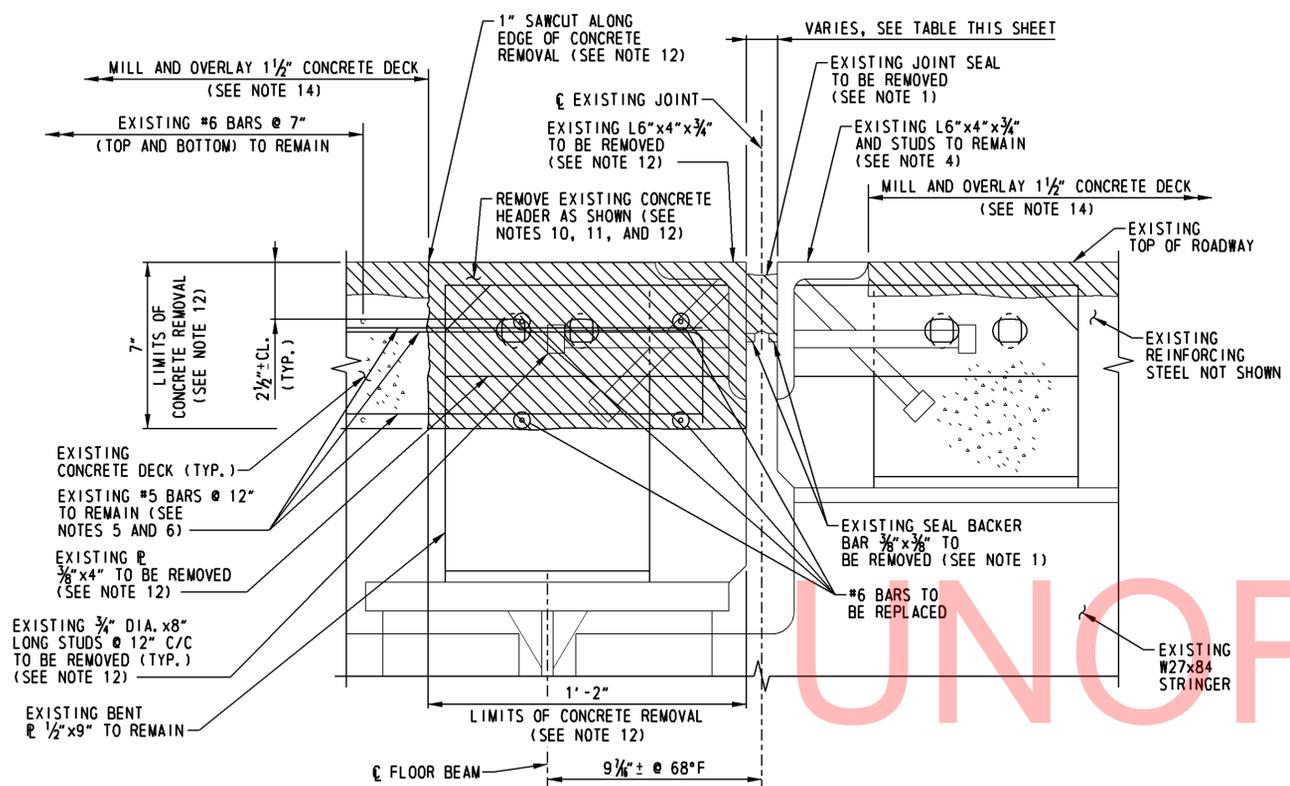
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

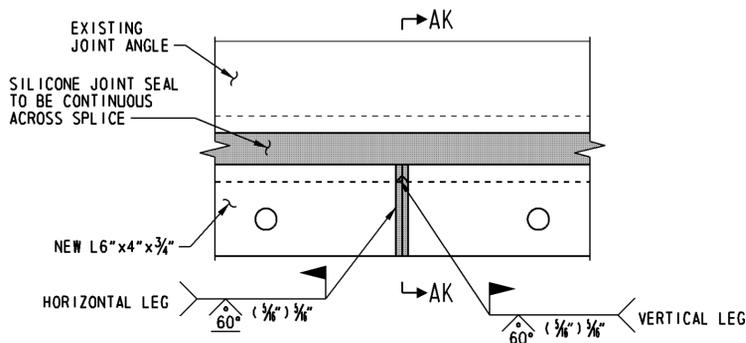
CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**FINGER JOINT SIDEWALK**  
**SLIDING PLATE DETAILS**

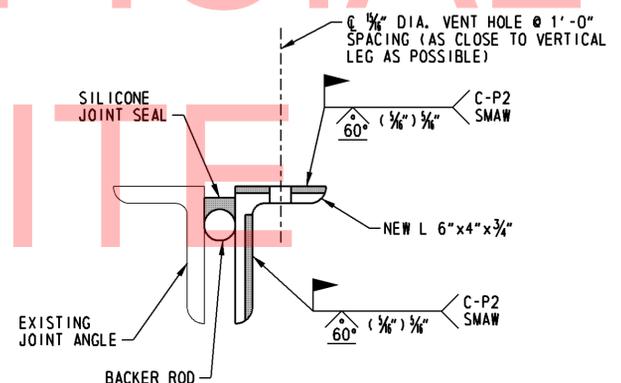
SHEET NO.	27
TOTAL SHTS.	48



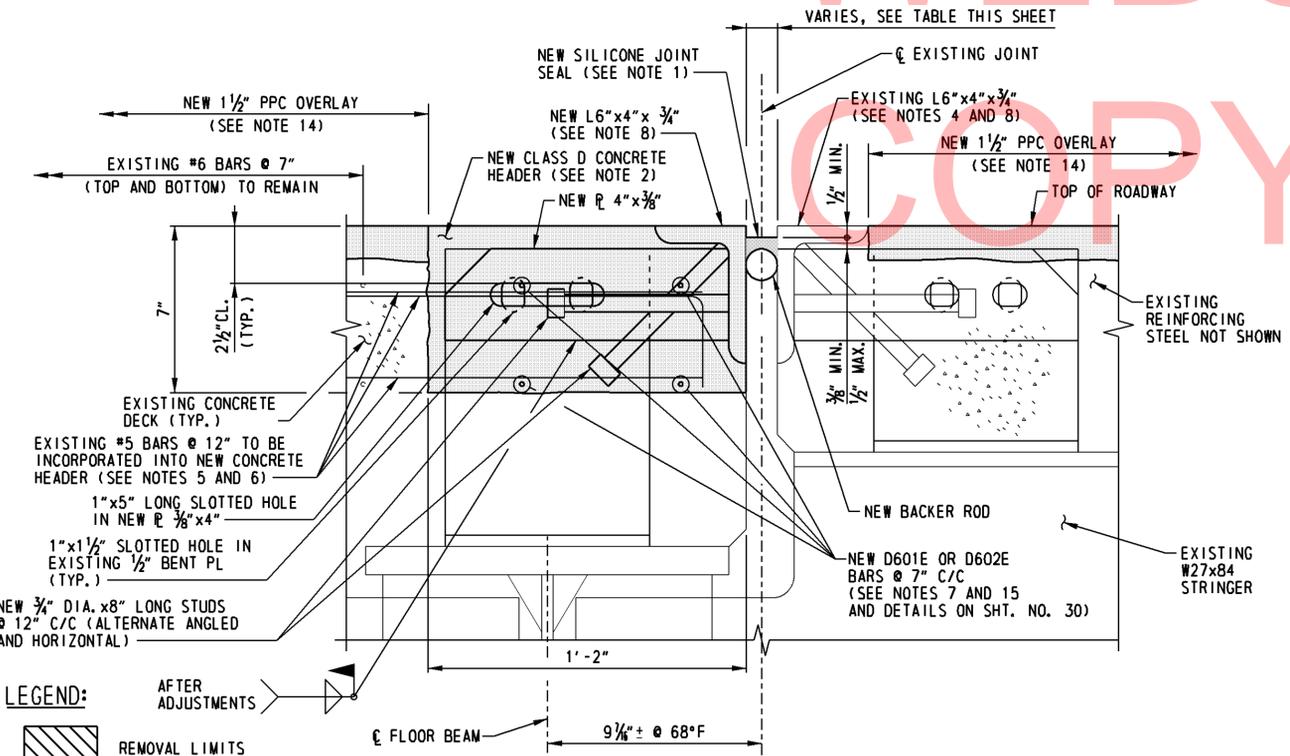
INTERMEDIATE DECK JOINT REMOVAL DETAIL  
SCALE: 3"=1'-0"  
(LOOKING NORTH)



FIELD SPLICE DETAIL  
SCALE: 3"=1'-0"



SECTION AK-AK  
SCALE: 3"=1'-0"



INTERMEDIATE DECK JOINT REPAIR DETAIL  
SCALE: 3"=1'-0"  
(LOOKING NORTH)

**LEGEND:**  
 REMOVAL LIMITS  
 RECONSTRUCTION LIMITS

**SUGGESTED JOINT REPLACEMENT SEQUENCE OF CONSTRUCTION:**

1. JOINT REPLACEMENT WORK SHALL BE STAGED AND TAKE PLACE DURING DAYTIME FLAGGING OPERATIONS.
2. AT THE END OF EACH WORK DAY STEEL PLATES SHALL BE PLACED OVER ALL UNFINISHED WORK. SEE DETAIL ON SHT. NO. 31.
3. INTERMEDIATE DECK JOINT SEQUENCE OF CONSTRUCTION:
  - a. REMOVE EXISTING JOINT SEAL AND BACKER BARS.
  - b. REMOVE STEEL ANGLE AND CONCRETE HEADER TO THE LIMITS SHOWN ON THE PLANS.
  - c. CLEAN AND PREPARE EXISTING JOINT ANGLE SURFACE.
  - d. CLEAN AND STRAIGHTEN ALL EXISTING REINFORCING STEEL TO REMAIN.
  - e. INSTALL NEW REINFORCING STEEL AS REQUIRED.
  - f. INSTALL NEW 3/8" PLATE AND JOINT ANGLE BY BOLTING TO EXISTING 1/2" BENT PLATE.
  - g. WELD PLATES IN PLACE ONCE ADJUSTMENTS HAVE BEEN MADE TO MATCH EXISTING PROFILE AND GRADES.
  - h. POUR NEW CONCRETE HEADER.
  - i. INSTALL BACKER ROD.
  - j. INSTALL SILICONE JOINT SEALANT AFTER FULL LENGTH OF HEADER IS COMPLETE.

**INTERMEDIATE DECK JOINT NOTES:**

1. SILICONE JOINT SEALANT SHALL BE IN ACCORDANCE WITH ITEM 605693 - SILICONE JOINT SEAL, 1". REMOVAL OF EXISTING JOINT SEAL AND BACKER BARS SHALL BE INCIDENTAL TO ITEM 605693 - SILICONE JOINT SEAL, 1".
2. CLASS D CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 602013 - P.C.C. MASONRY, SUPERSTRUCTURE, CLASS D. CLEAN AND APPLY EPOXY BONDING COMPOUND TO ALL REMOVAL AND ROUGHENED SURFACES PRIOR TO PLACING CONCRETE. COST FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 602013.
3. AT THE END OF EACH WORKDAY THE CONTRACTOR SHALL PLATE OVER THE ABUTMENT AND INTERMEDIATE DECK JOINTS WITHIN THE ROADWAY LIMITS. THE CONTRACTOR SHALL ENSURE THAT NO LOADING IS APPLIED TO THE NEW CONCRETE HEADERS UNTIL THEY REACH A MINIMUM OF 3000 PSI COMPRESSIVE STRENGTH. STEEL PLATING DETAILS FOR THE ABUTMENT JOINTS ARE SHOWN ON SHT. NO. 31; STEEL PLATING DETAILS FOR THE INTERMEDIATE DECK JOINTS SHALL BE SIMILAR. SEE STEEL PLATE NOTES ON SHT. NO. 31 AND JOINT REPLACEMENT SEQUENCE OF CONSTRUCTION NOTES, THIS SHEET.
4. CLEAN AND PAINT JOINT ANGLE TO REMAIN IN ACCORDANCE WITH ITEM 605693 - SILICONE JOINT SEAL, 1".
5. WHEREVER POSSIBLE, ALL EXPOSED EXISTING REINFORCING STEEL SHALL BE INCORPORATED INTO THE FINISHED STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
  - (A) AS DIRECTED BY THE ENGINEER, IF THE REINFORCING STEEL HAS LOST 20 PERCENT OR MORE OF ITS ORIGINAL CROSS SECTION AREA, IT SHALL BE CUT OUT. A NEW BAR OF THE SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR.
  - (B) WHERE THE REQUIRED BAR LAP LENGTH IS AVAILABLE, IT SHALL BE USED AS A DOWEL.
  - (C) WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP ARE TOO GREAT, A STANDARD HOOK OR WELDED OR APPROVED MECHANICAL SPLICE SHALL BE PROVIDED. THE ENGINEER SHALL BE THE SOLE JUDGE WHETHER REINFORCING STEEL IS TO BE REUSED OR REPLACED. PAYMENT FOR WELDING OR SPLICING OF REINFORCING STEEL SHALL BE UNDER ITEM 602586 - REHABILITATION OF CONCRETE STRUCTURE.
  - (D) IN THE EVENT THAT THE NEW BAR IS UNABLE TO BE WELDED OR MECHANICALLY SPLICED TO THE EXISTING REINFORCING STEEL, A NEW BAR SHALL BE DRILLED AND GROUTED ADJACENT TO THE EXISTING BAR LOCATION. PAYMENT FOR DRILLING OF HOLES AND INSTALLING DOWELS SHALL BE UNDER ITEM 602579 - DRILLING HOLES AND INSTALLING DOWELS.
6. ALL EXISTING REINFORCING STEEL TO BE INCORPORATED INTO THE FINISHED CONSTRUCTION SHALL BE STRAIGHTENED, BLAST CLEANED TO REMOVE ALL CONCRETE DEBRIS AND RUST, AND EPOXY COATED. PAYMENT SHALL BE INCIDENTAL TO ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
7. ALL NEW REINFORCING STEEL REQUIRED TO COMPLETE THE JOINT HEADER REPAIRS SHALL BE EPOXY COATED AND HAVE 2" MIN. CONCRETE COVER UNLESS SHOWN OTHERWISE. PAYMENT FOR ALL NEW REINFORCING STEEL SHALL BE UNDER ITEM 603500 - REPLACING BAR REINFORCEMENT.
8. PAINT SYSTEM TO BE APPLIED TO THE STEEL L 6"x4"x3/4" AND SHALL MATCH COLOR APPLIED TO SUPERSTRUCTURE. PAYMENT FOR PAINTING OF L 6"x4"x3/4" SHALL BE INCIDENTAL TO ITEM 605522 - URETHANE PAINT SYSTEM, EXISTING STEEL.
9. JOINT MODIFICATIONS SHALL EXTEND FROM 4" BEYOND INSIDE FACE OF PARAPETS AS SHOWN ON SHT. NO. 29. FOR SIDEWALK JOINT DETAILS SEE SHT. NO. 29.
10. THE CONTRACTOR SHALL USE CARE DURING THE REMOVAL OF THE EXISTING CONCRETE AND PORTIONS OF THE JOINT SYSTEM TO AVOID DAMAGE TO THE EXISTING PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN IN PLACE. ANY DAMAGE INCURRED TO EXISTING PORTIONS OF THE STRUCTURE TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.
11. THE PROPOSED INTERMEDIATE DECK JOINT MODIFICATIONS SHALL BE CONSTRUCTED IN STAGES AND SHALL COINCIDE WITH THE LIMITS OF WORK ALLOWED PER MAINTENANCE OF TRAFFIC PLANS.
12. PAYMENT FOR 1" SAW CUT ALONG EDGE OF REMOVAL AND REMOVAL OF THE EXISTING CONCRETE DECK, JOINT ANGLES, STUDS, AND REINFORCING TO THE LIMITS SPECIFIED WILL BE MADE UNDER ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
13. PRIOR TO REMOVAL OF THE EXISTING JOINT AND FABRICATION OF THE PROPOSED JOINT MATERIALS, THE CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPE OF THE ROADWAY AT THE INDIVIDUAL JOINT LOCATIONS.
14. PAYMENT FOR MILLING EXISTING CONCRETE DECK TO THE LIMITS SHOWN SHALL BE MADE UNDER ITEM 760001. PAYMENT FOR THE PPC OVERLAY SHALL BE MADE UNDER ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY.
15. FIELD DRILL HOLE IN EXISTING 1/2" BENT PLATE AND NEW 3/8" PLATE AS REQUIRED TO ALLOW PLACEMENT OF REINFORCING STEEL. COST OF DRILLING THESE HOLES SHALL BE INCIDENTAL TO ITEM 603500 - REPLACING BAR REINFORCEMENT. SEE JOINT REINFORCING DETAILS ON SHT. NO. 30 FOR ADDITIONAL INFORMATION.

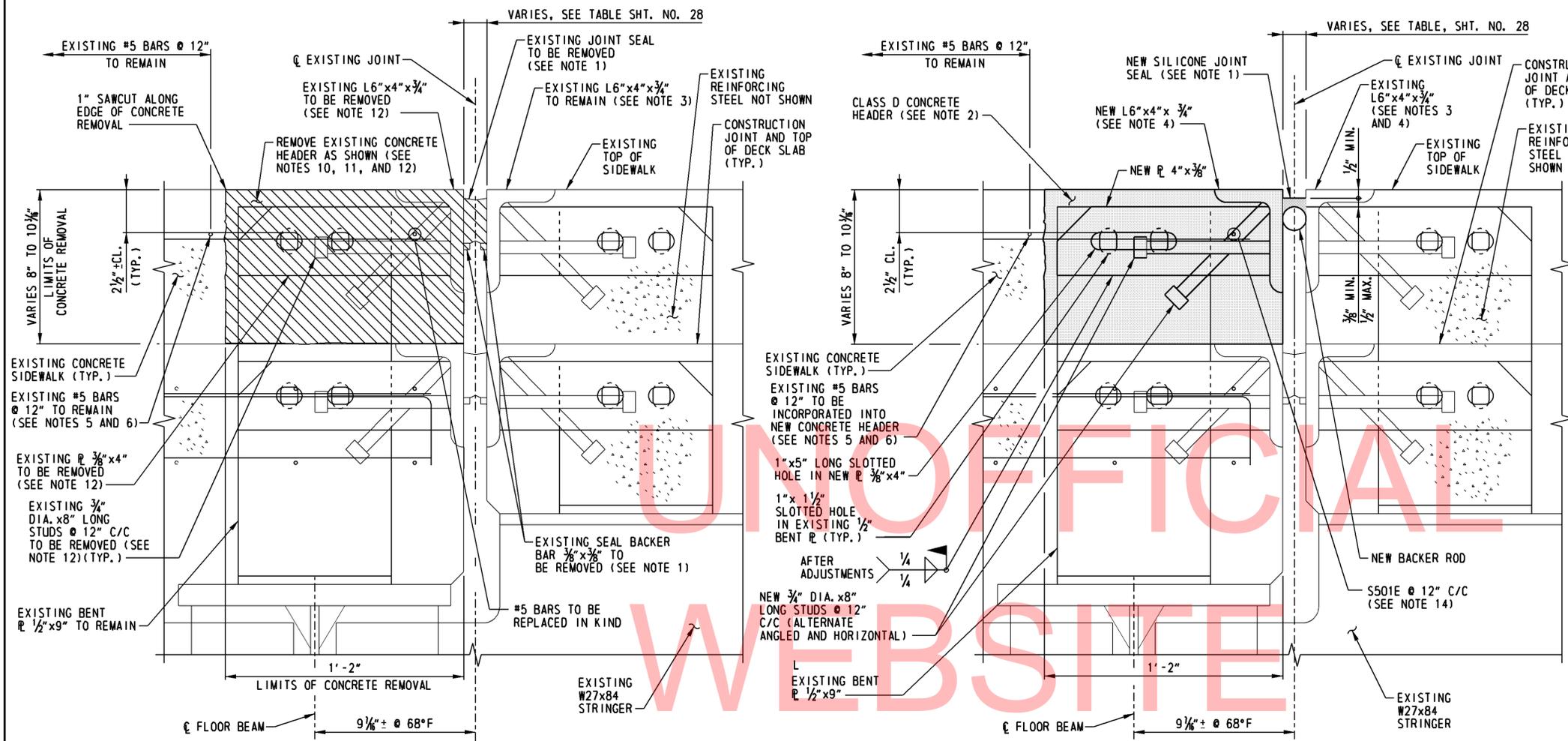
INTERMEDIATE DECK JOINT OPENINGS*							
TEMPERATURE °F	30°	40°	50°	60°	70°	80°	90°
JOINT NO. 2	1 1/8" ±	1 1/8" ±	1" ±	1" ±	5/8" ±	5/8" ±	3/4" ±
JOINT NO. 3	1 1/8" ±	1 1/8" ±	5/8" ±	5/8" ±	5/8" ±	3/4" ±	5/8" ±
JOINT NO. 4	3/4" ±	5/8" ±	5/8" ±	5/8" ±	5/8" ±	3/8" ±	3/8" ±
JOINT NO. 6	1 1/8" ±	5/8" ±	5/8" ±	5/8" ±	5/8" ±	3/8" ±	3/8" ±
JOINT NO. 7	1 1/8" ±	1" ±	5/8" ±	5/8" ±	3/8" ±	3/8" ±	3/4" ±

\* APPROXIMATE AMBIENT AIR TEMPERATURE AT TIME OF MEASUREMENT WAS 50°F ±.

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ADDENDUMS / REVISIONS

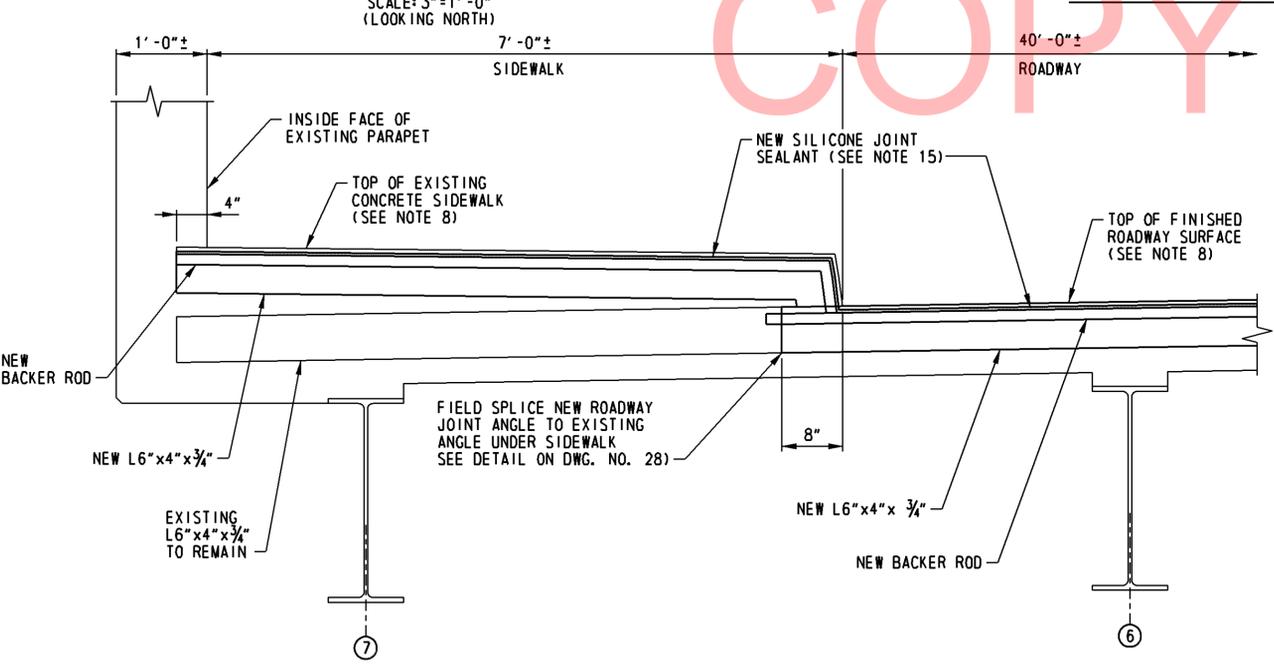
CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		



- INTERMEDIATE DECK JOINT NOTES:**
- SILICONE JOINT SEALANT SHALL BE IN ACCORDANCE WITH ITEM 605693 - SILICONE JOINT SEAL, 1". REMOVAL OF EXISTING JOINT SEAL AND BACKER BARS SHALL BE INCIDENTAL TO ITEM 605693 - SILICONE JOINT SEAL, 1".
  - CLASS D CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 602013 - P.C.C. MASONRY, SUPERSTRUCTURE, CLASS D. CLEAN AND APPLY EPOXY BONDING COMPOUND TO ALL REMOVAL AND ROUGHENED SURFACES PRIOR TO PLACING CONCRETE. COST FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 602013.
  - CLEAN AND PAINT JOINT ANGLE TO REMAIN IN ACCORDANCE WITH ITEM 605693 - SILICONE JOINT SEAL, 1".
  - PAINT SYSTEM TO BE APPLIED TO THE STEEL L6"x4"x3/4" AND SHALL MATCH COLOR APPLIED TO SUPERSTRUCTURE.
  - WHEREVER POSSIBLE, ALL EXPOSED EXISTING REINFORCING STEEL SHALL BE INCORPORATED INTO THE FINISHED STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
    - AS DIRECTED BY THE ENGINEER, IF THE REINFORCING STEEL HAS LOST 20 PERCENT OR MORE OF ITS ORIGINAL CROSS SECTION AREA, IT SHALL BE CUT OUT. A NEW BAR OF THE SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR.
    - WHERE THE REQUIRED BAR LAP LENGTH IS AVAILABLE, IT SHALL BE USED AS A DOWEL.
    - WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP ARE TOO GREAT, A STANDARD HOOK OR WELDED OR APPROVED MECHANICAL SPLICE SHALL BE PROVIDED. THE ENGINEER SHALL BE THE SOLE JUDGE WHETHER REINFORCING STEEL IS TO BE REUSED OR REPLACED. PAYMENT FOR WELDING OR SPLICING OF REINFORCING STEEL SHALL BE UNDER ITEM 602586 - REHABILITATION OF CONCRETE STRUCTURE.
    - IN THE EVENT THAT THE NEW BAR IS UNABLE TO BE WELDED OR MECHANICALLY SPLICED TO THE EXISTING REINFORCING STEEL, A NEW BAR SHALL BE DRILLED AND GROUTED ADJACENT TO THE EXISTING BAR LOCATION. PAYMENT FOR DRILLING OF HOLES AND INSTALLING DOWELS SHALL BE UNDER ITEM 602579 - DRILLING HOLES AND INSTALLING DOWELS.
  - ALL EXISTING REINFORCING STEEL TO BE INCORPORATED INTO THE FINISHED CONSTRUCTION SHALL BE STRAIGHTENED, BLAST CLEANED TO REMOVE ALL CONCRETE DEBRIS AND RUST, AND EPOXY COATED. PAYMENT SHALL BE INCIDENTAL TO ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
  - ALL NEW REINFORCING STEEL REQUIRED TO COMPLETE THE JOINT HEADER REPAIRS SHALL BE EPOXY COATED AND HAVE 2" MIN. CONCRETE COVER UNLESS SHOWN OTHERWISE. PAYMENT FOR ALL NEW REINFORCING STEEL SHALL BE UNDER ITEM 603500 - REPLACING BAR REINFORCEMENT.
  - PRIOR TO REMOVAL OF THE EXISTING JOINT AND FABRICATION OF THE PROPOSED JOINT MATERIALS, THE CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPE OF THE ROADWAY AT THE INDIVIDUAL JOINT LOCATIONS.
  - JOINT MODIFICATIONS SHALL EXTEND FROM 4" BEYOND INSIDE FACE OF PARAPETS AS SHOWN IN DETAIL THIS SHEET. FOR ROADWAY JOINT DETAILS SEE SHT. NO. 28.
  - THE CONTRACTOR SHALL USE CARE DURING THE REMOVAL OF THE EXISTING CONCRETE AND PORTIONS OF THE JOINT SYSTEM TO AVOID DAMAGE TO THE EXISTING PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN IN PLACE. ANY DAMAGE INCURRED TO EXISTING PORTIONS OF THE STRUCTURE TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.
  - THE PROPOSED INTERMEDIATE DECK JOINT MODIFICATIONS SHALL BE CONSTRUCTED IN STAGES AND SHALL COINCIDE WITH THE LIMITS OF WORK ALLOWED PER MAINTENANCE OF TRAFFIC PLANS.
  - PAYMENT FOR REMOVAL OF THE EXISTING CONCRETE DECK, JOINT ANGLES, STUDS, AND REINFORCING TO THE LIMITS SPECIFIED WILL BE MADE UNDER ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
  - PEDESTRIAN TRAFFIC ON SIDEWALK SHALL BE DETOURED DURING REMOVAL AND RECONSTRUCTION OF SIDEWALK JOINTS. PEDESTRIAN TRAFFIC SHALL NOT BE RE-OPENED UNTIL NEW CONCRETE HEADER HAS REACHED A MINIMUM OF 3000 PSI COMPRESSIVE STRENGTH. FOR PEDESTRIAN DETOUR PLANS, SEE SHT. NOS. 43 THROUGH 46.
  - FIELD DRILL HOLE IN EXISTING 1/2" BENT PLATE AND NEW 3/8" PLATE AS REQUIRED TO ALLOW PLACEMENT OF REINFORCING STEEL. COST OF DRILLING THESE HOLES SHALL BE INCIDENTAL TO ITEM 603500 - REPLACING BAR REINFORCEMENT. SEE JOINT REINFORCING DETAILS ON SHT. NO. 30 FOR ADDITIONAL INFORMATION.
  - SILICONE JOINT SEALANT FOR SIDEWALKS SHALL BE POURED AFTER ROADWAY SEAL HAS CURED. FORM VERTICAL FACE OF CURB USING BACKER ROAD MATERIAL AS FORM.

**SIDEWALK INTERMEDIATE DECK JOINT REMOVAL DETAIL**

**SIDEWALK INTERMEDIATE DECK JOINT REPAIR DETAIL**



**INTERMEDIATE DECK JOINT TYPICAL SECTION - WEST HEADER**  
SCALE: 1"=1'-0" (LOOKING WEST)

**LEGEND:**

	REMOVAL LIMITS
	RECONSTRUCTION LIMITS

No. 1599-013, CADD, 01/12/2012, 08:50:00 AM  
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ADDENDUMS / REVISIONS

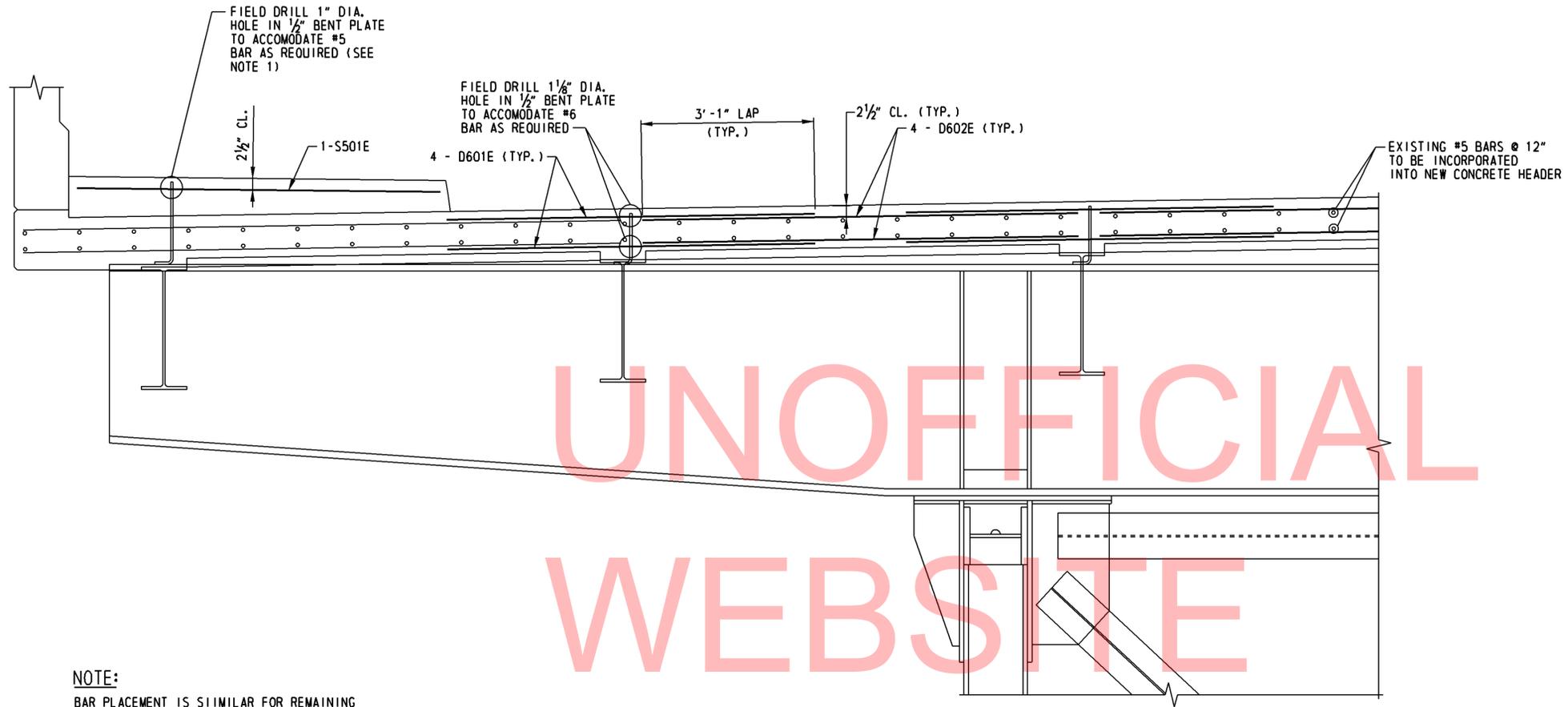
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**INTERMEDIATE DECK JOINT SIDEWALK REPAIR DETAILS**

SHEET NO.	29
TOTAL SHTS.	48



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WEBSITE  
COPY

**NOTE:**  
BAR PLACEMENT IS SIMILAR FOR REMAINING PORTION OF BRIDGE NOT SHOWN.

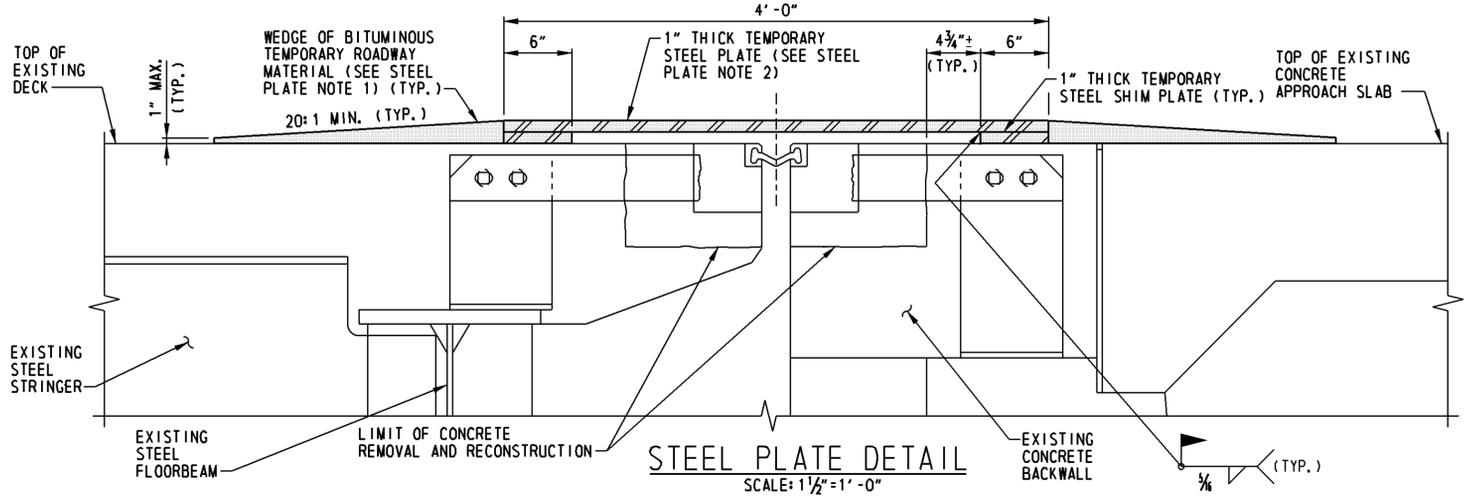
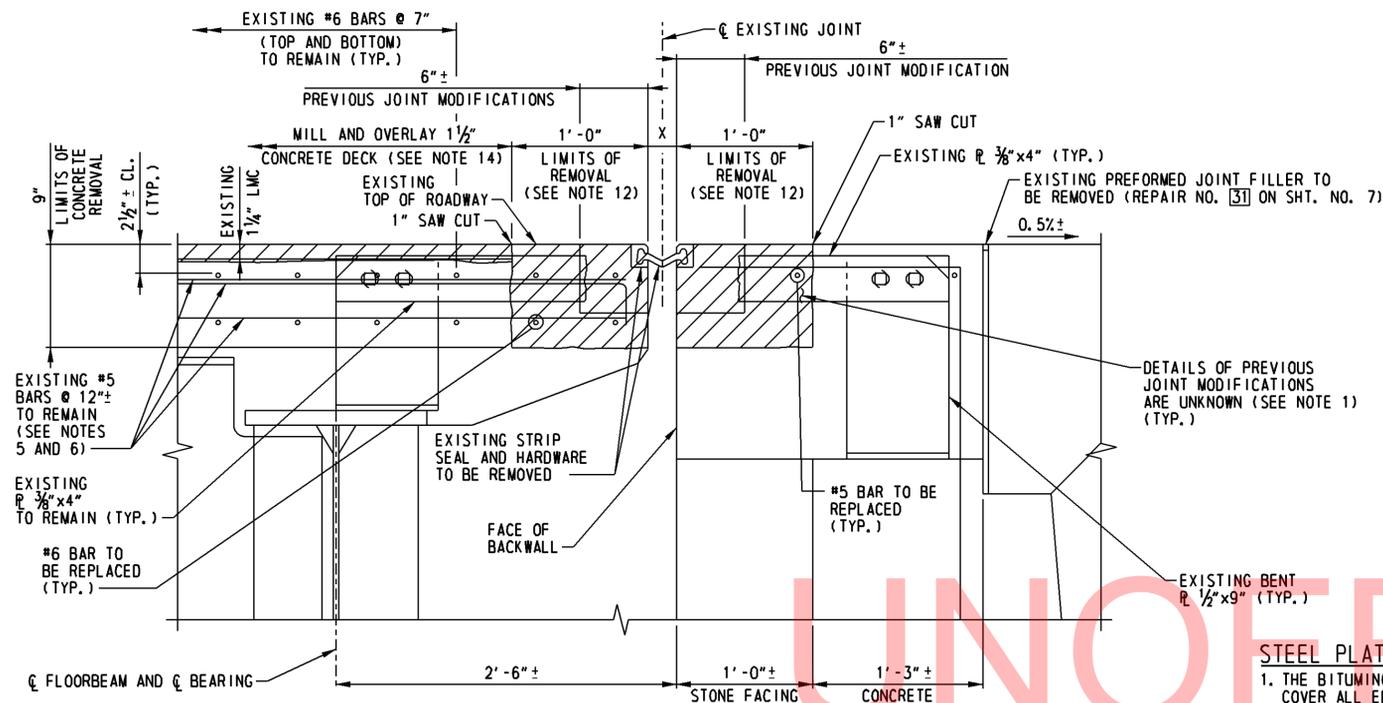
**ELEVATION**  
SCALE: 3/4" = 1' - 0"  
(INTERMEDIATE DECK JOINT SHOWN)  
(ABUTMENT JOINTS SIMILAR)

**REINFORCING BAR LIST**

SPECIFICATIONS				BENDING DIMENSIONS											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
28	5	6-08.0	S501E	STR		6-08.0									
160	6	6-09.0	D601E	STR		6-09.0									
128	6	8-00.0	D602E	STR		8-00.0									

**NOTES:**  
1. COST OF DRILLING HOLES IN 3/8" AND 1/2" PLATES SHALL BE INCIDENTAL TO ITEM 603500 - REPLACING BAR REINFORCEMENT.  
2. SEE PERTINENT REPAIR DETAILS ON SHT. NOS. 28, 29, 31 AND 32.

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**STEEL PLATE NOTES:**

1. THE BITUMINOUS TEMPORARY ROADWAY MATERIAL SHALL BE COMPACTED TO FORM RAMPS TO COVER ALL EDGES OF THE TEMPORARY STEEL PLATE.
2. THE STEEL PLATES SHALL CONFORM TO ASTM A 709, GRADE 50.
3. VERTICAL DIFFERENCES SHALL BE TREATED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.

**STRIP SEAL JOINT NOTES:**

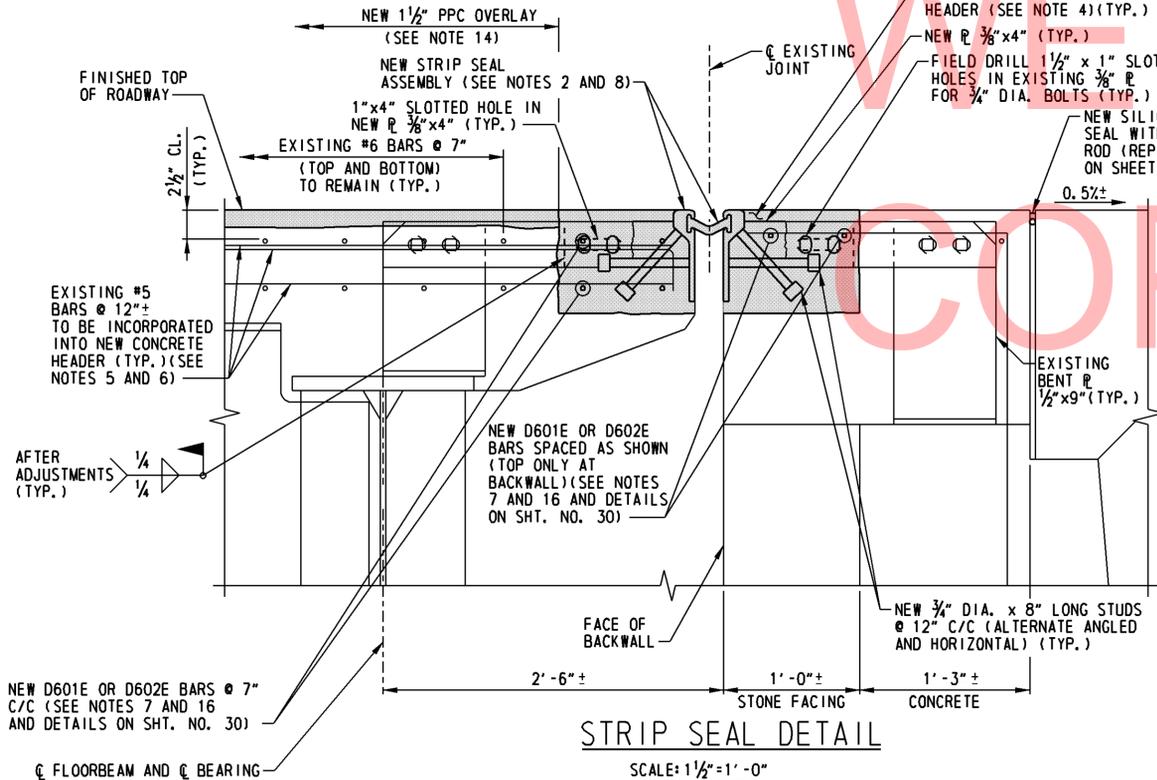
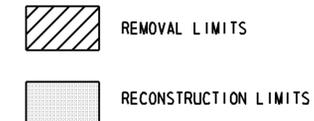
1. PREVIOUS JOINT MODIFICATION DETAILS ARE UNKNOWN. DETAILS SHOWN ON SHT. NOS. 31 AND 32 ARE BASED ON VISUAL INSPECTION AND SHOWN FOR GRAPHICAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS AND CONTACT THE ENGINEER IMMEDIATELY IF CONDITIONS FOUND DURING REMOVAL CONFLICT WITH THE PROPOSED JOINT REPLACEMENT DETAILS SHOWN IN THE PLANS. REFER TO EXISTING PLANS (CONTRACT 79-071-02) FOR ADDITIONAL INFORMATION.
2. NEW STRIP SEAL ASSEMBLY SHOWN FOR GRAPHICAL PURPOSES ONLY. DETAILS MAY VARY BY MANUFACTURER. STRIP SEAL AND ASSEMBLY SHALL BE IN ACCORDANCE WITH ITEM 605511 - PREFABRICATED EXPANSION JOINT SYSTEM, 3 INCHES. PAYMENT FOR REMOVAL OF EXISTING STRIP SEAL JOINT MATERIAL SHALL BE INCIDENTAL TO ITEM 605511.
3. AT THE END OF EACH WORKDAY THE CONTRACTOR SHALL PLATE OVER THE OPEN ABUTMENT JOINTS WITHIN THE ROADWAY LIMITS. THE CONTRACTOR SHALL ENSURE THAT NO LOADING IS APPLIED TO THE NEW CONCRETE HEADERS UNTIL THEY REACH A MINIMUM OF 3000 PSI COMPRESSIVE STRENGTH. STEEL PLATING DETAILS FOR THE ABUTMENT JOINTS ARE SHOWN ON THIS SHEET. SEE STEEL PLATE AND JOINT REPLACEMENT SEQUENCE OF CONSTRUCTION NOTES, THIS SHEET.
4. CLASS D CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 602013 - P.C.C. MASONRY, SUPERSTRUCTURE, CLASS D. CLEAN AND APPLY EPOXY BONDING COMPOUND TO ALL REMOVAL AND ROUGHENED SURFACES PRIOR TO PLACING CONCRETE. COST FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 602013.
5. WHEREVER POSSIBLE, ALL EXPOSED EXISTING REINFORCING STEEL SHALL BE INCORPORATED INTO THE FINISHED STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
  - (A) AS DIRECTED BY THE ENGINEER, IF THE REINFORCING STEEL HAS LOST 20 PERCENT OR MORE OF ITS ORIGINAL CROSS SECTION AREA, IT SHALL BE CUT OUT. A NEW BAR OF THE SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR.
  - (B) WHERE THE REQUIRED BAR LAP LENGTH IS AVAILABLE, IT SHALL BE USED AS A DOWEL.
  - (C) WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP ARE TOO GREAT, A STANDARD HOOK OR WELDED OR APPROVED MECHANICAL SPLICE SHALL BE PROVIDED. THE ENGINEER SHALL BE THE SOLE JUDGE WHETHER REINFORCING STEEL IS TO BE REUSED OR REPLACED. PAYMENT FOR WELDING OR SPLICING OF REINFORCING STEEL SHALL BE UNDER ITEM 602586 - REHABILITATION OF CONCRETE STRUCTURE.
  - (D) IN THE EVENT THAT THE NEW BAR IS UNABLE TO BE WELDED OR MECHANICALLY SPLICED TO THE EXISTING REINFORCING STEEL, A NEW BAR SHALL BE DRILLED AND GROUTED ADJACENT TO THE EXISTING BAR LOCATION. PAYMENT FOR DRILLING OF HOLES AND INSTALLING DOWELS SHALL BE UNDER ITEM 602579 - DRILLING HOLES AND INSTALLING DOWELS.
6. ALL EXISTING REINFORCING STEEL TO BE INCORPORATED INTO THE FINISHED CONSTRUCTION SHALL BE STRAIGHTENED, BLAST CLEANED TO REMOVE ALL CONCRETE DEBRIS AND RUST, AND EPOXY COATED. PAYMENT SHALL BE INCIDENTAL TO ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
7. ALL NEW REINFORCING STEEL REQUIRED TO COMPLETE THE JOINT HEADER REPAIRS SHALL BE EPOXY COATED AND HAVE 2" MIN. CONCRETE COVER UNLESS SHOWN OTHERWISE. PAYMENT FOR ALL NEW REINFORCING STEEL SHALL BE UNDER ITEM 603500 - REPLACING BAR REINFORCEMENT.

8. PAINT SYSTEM TO BE APPLIED TO THE NEW STEEL EXTRUSIONS AND SHALL MATCH COLOR APPLIED TO SUPERSTRUCTURE.
9. JOINT MODIFICATIONS SHALL EXTEND FROM 4" BEYOND INSIDE FACE OF PARAPETS SIMILAR TO DETAIL SHOWN ON SHT. NO. 29. FOR SIDEWALK JOINT DETAILS SEE SHT. NO. 32.
10. THE CONTRACTOR SHALL USE CARE DURING THE REMOVAL OF THE EXISTING CONCRETE AND PORTIONS OF THE JOINT SYSTEM TO AVOID DAMAGE TO THE EXISTING PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN IN PLACE. ANY DAMAGE INCURRED TO EXISTING PORTIONS OF THE STRUCTURE TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.
11. THE PROPOSED ABUTMENT JOINT MODIFICATIONS SHALL BE CONSTRUCTED IN STAGES AND SHALL COINCIDE WITH THE LIMITS OF WORK ALLOWED PER MAINTENANCE OF TRAFFIC PLANS.
12. PAYMENT FOR REMOVAL OF THE EXISTING CONCRETE DECK, STEEL EXTRUSIONS, STUDS, AND REINFORCING TO THE LIMITS SPECIFIED WILL BE MADE UNDER ITEM 602580 - PARTIAL REMOVAL OF P.C.C. MASONRY.
13. PRIOR TO REMOVAL OF THE EXISTING ROADWAY JOINT AND FABRICATION OF THE PROPOSED ROADWAY JOINT MATERIALS, THE CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPE OF THE ROADWAY AT THE INDIVIDUAL JOINT LOCATIONS.
14. PAYMENT FOR MILLING EXISTING CONCRETE DECK TO THE LIMITS SHOWN SHALL BE MADE UNDER ITEM 760001. PAYMENT FOR THE PPC OVERLAY SHALL BE MADE UNDER ITEM 602733 - POLYESTER FIBER POLYMER CONCRETE OVERLAY.
15. TROUGH DETAILS NOT SHOWN. SEE SHT. NO. 24 FOR DETAILS.
16. FIELD DRILL HOLE IN EXISTING 1/2" BENT PLATE AND NEW 3/8" PLATE AS REQUIRED TO ALLOW PLACEMENT OF REINFORCING STEEL. COST OF DRILLING THESE HOLES SHALL BE INCIDENTAL TO ITEM 603500 - REPLACING BAR REINFORCEMENT. SEE JOINT REINFORCING DETAILS ON SHT. NO. 30 FOR ADDITIONAL INFORMATION.

**SUGGESTED JOINT REPLACEMENT SEQUENCE OF CONSTRUCTION:**

1. JOINT REPLACEMENT WORK SHALL BE STAGED AND TAKE PLACE DURING DAYTIME FLAGGING OPERATIONS.
2. AT THE END OF EACH WORK DAY STEEL PLATES SHALL BE PLACED OVER ALL UNFINISHED WORK. SEE DETAIL ON THIS SHEET.
3. STRIP SEAL SEQUENCE OF CONSTRUCTION:
  - a. REMOVE STRIP SEAL
  - b. REMOVE STEEL KNUCKLES AND CONCRETE HEADER TO THE LIMITS SHOWN ON THE PLANS.
  - c. CLEAN AND STRAIGHTEN ALL EXISTING REINFORCING STEEL TO REMAIN.
  - d. INSTALL NEW REINFORCING STEEL AS REQUIRED.
  - e. FIELD DRILL NEW HOLES IN EXISTING 3/8" SUPPORT PLATES.
  - f. INSTALL NEW 3/8" PLATES AND JOINT EXTRUSIONS BY BOLTING TO EXISTING 3/8" PLATE.
  - g. WELD PLATES IN PLACE ONCE ADJUSTMENTS HAVE BEEN MADE TO MATCH EXISTING PROFILE AND GRADES.
  - h. POUR NEW CONCRETE HEADERS.
  - i. INSTALL STRIP SEAL MATERIAL AFTER FULL LENGTH OF HEADERS IS COMPLETE.

**LEGEND:**



ABUTMENT JOINT OPENINGS, X *							
TEMPERATURE, °F	30°	40°	50°	60°	70°	80°	90°
WEST ABUTMENT	2 1/2" ±	2 1/2" ±	2 1/2" ±	2 1/2" ±	2 1/2" ±	2 1/2" ±	2 1/2" ±
EAST ABUTMENT	2 3/8" ±	2 3/8" ±	2 3/8" ±	2 3/8" ±	2 3/8" ±	2 3/8" ±	2 3/8" ±

\* APPROXIMATE AMBIENT AIR TEMPERATURE AT TIME OF MEASUREMENTS WAS 50°F ±.

ADDENDUMS / REVISIONS

SCALE: AS NOTED

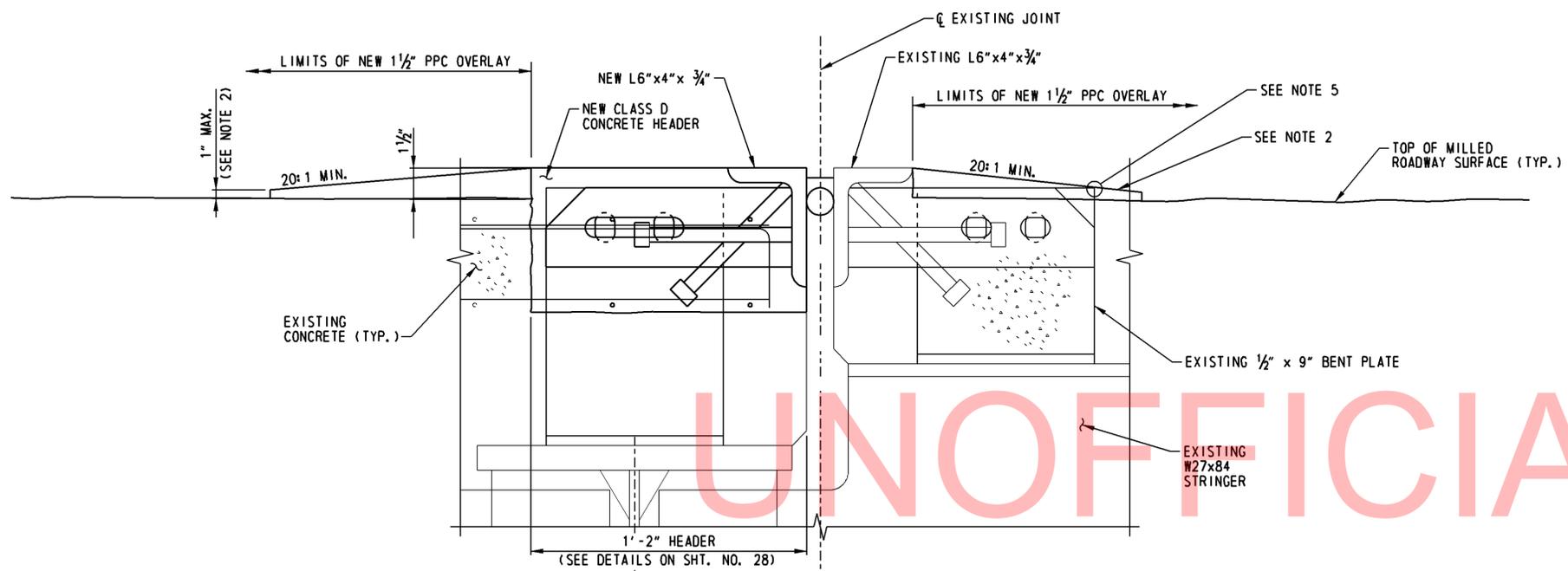
**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D. / D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**STRIP SEAL JOINT**  
**REPAIR DETAILS**

SHEET NO.	31
TOTAL SHTS.	48





TEMPORARY RAMPS AT INTERMEDIATE DECK JOINT

SCALE: 3" = 1' - 0"  
(LOOKING NORTH)

(INTERMEDIATE DECK JOINT SHOWN, ABUTMENT AND FINGER JOINTS SIMILAR)

MILL AND OVERLAY NOTES:

1. NEW PPC OVERLAY SHALL BE IN ACCORDANCE WITH ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY AND THE SYSTEM PROVIDER'S REQUIREMENTS.
2. TEMPORARY 20:1 RAMP AT JOINT LOCATIONS MAY BE CONSTRUCTED OF WMA, PPC, OR BY VARYING THE MILL DEPTH. VERTICAL DIFFERENCES SHALL BE TREATED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD. COST OF RAMPS SHALL BE INCIDENTAL TO ITEM 607733 - POLYESTER POLYMER CONCRETE OVERLAY.
3. LIMITS OF PPC OVERLAY SHALL BE CURB-TO-CURB AND FROM JOINT HEADER TO JOINT HEADER. SEE DETAIL THIS SHEET.
4. COMMENCEMENT OF MILLING OPERATIONS SHALL ONLY PROCEED WHEN THERE IS NO INCLEMENT WEATHER IN THE LOCAL FORECAST BETWEEN MILLING OF THE DECK AND THE CLEANING, SURFACE PREPARATION, AND PLACEMENT OF THE PPC OVERLAY OPERATIONS.
5. CONTRACTOR SHALL GRIND OR CLIP EDGE OF EXISTING 1/2" x 9" BENT PLATES AS REQUIRED TO MAINTAIN A MINIMUM OF 1" COVER WITH TEMPORARY RAMP. COST OF CLIP/GRINDING SHALL BE INCIDENTAL TO ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY.

MILL AND OVERLAY SUGGESTED SEQUENCE CONSTRUCTION:

1. DURING WEEKEND BRIDGE CLOSURE MILL BRIDGE DECK TO LIMITS SHOWN ON PLANS. SEE DWG. NO. 41 FOR RESTRICTIONS AND MAINTENANCE OF TRAFFIC PLANS FOR DETOUR OF AUGUSTINE CUTOFF.
2. BEFORE RE-OPENING BRIDGE TO THE PUBLIC, ALL VERTICAL DIFFERENCES AT BRIDGE DECK JOINTS SHALL BE TREATED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD. SEE DETAIL THIS SHEET.
3. INSPECTION AND PATCHING OF THE BRIDGE DECK SHALL TAKE PLACE DURING DAYTIME FLAGGING OPERATIONS MONDAY THROUGH FRIDAY. SEE NOTE 3 ON SHT. NO. 8 AND DETAILS ON SHT. NO. 34.
4. DURING WEEKEND BRIDGE CLOSURE, AFTER ALL DECK PATCHING IS COMPLETE, CLEAN AND PREPARE THE BRIDGE DECK SURFACE TO RECEIVE THE OVERLAY THEN PLACE THE PPC OVERLAY.
5. IF THE ENTIRE OVERLAY CANNOT BE PLACED IN ONE WEEKEND CLOSURE, REPEAT STEP 4 ON THE FOLLOWING WEEKEND. ALL JOINTS IN THE PPC OVERLAY SHALL BE IN ACCORDANCE WITH ITEM 602733 - POLYESTER POLYMER CONCRETE OVERLAY.

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ADDENDUMS / REVISIONS	

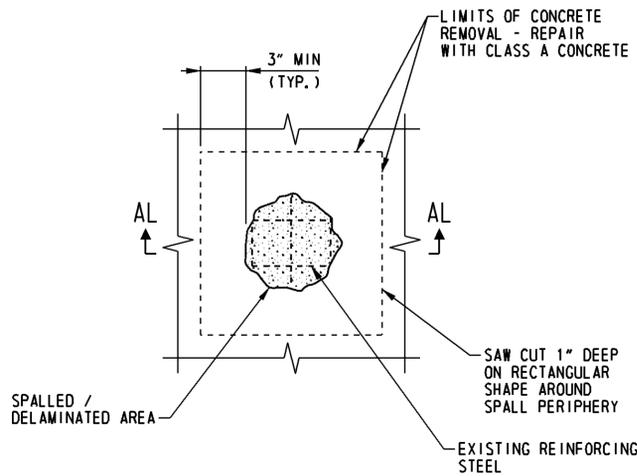
SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

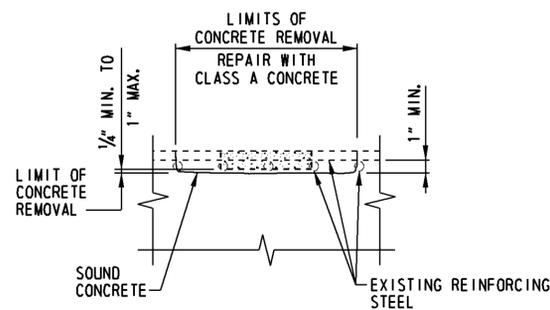
CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

**PPC OVERLAY DETAILS**

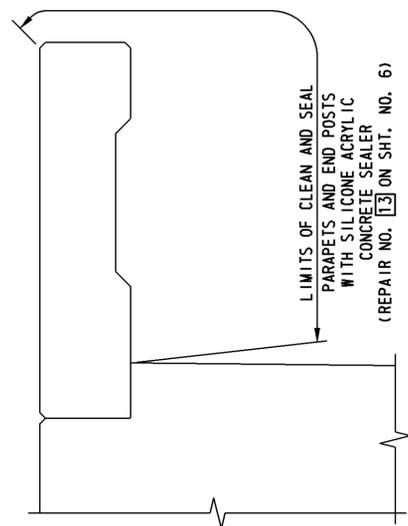
SHEET NO.	33
TOTAL SHTS.	48



**DEEP SPALL REPAIR**  
NOT TO SCALE



**SECTION AD-AD**  
NOT TO SCALE



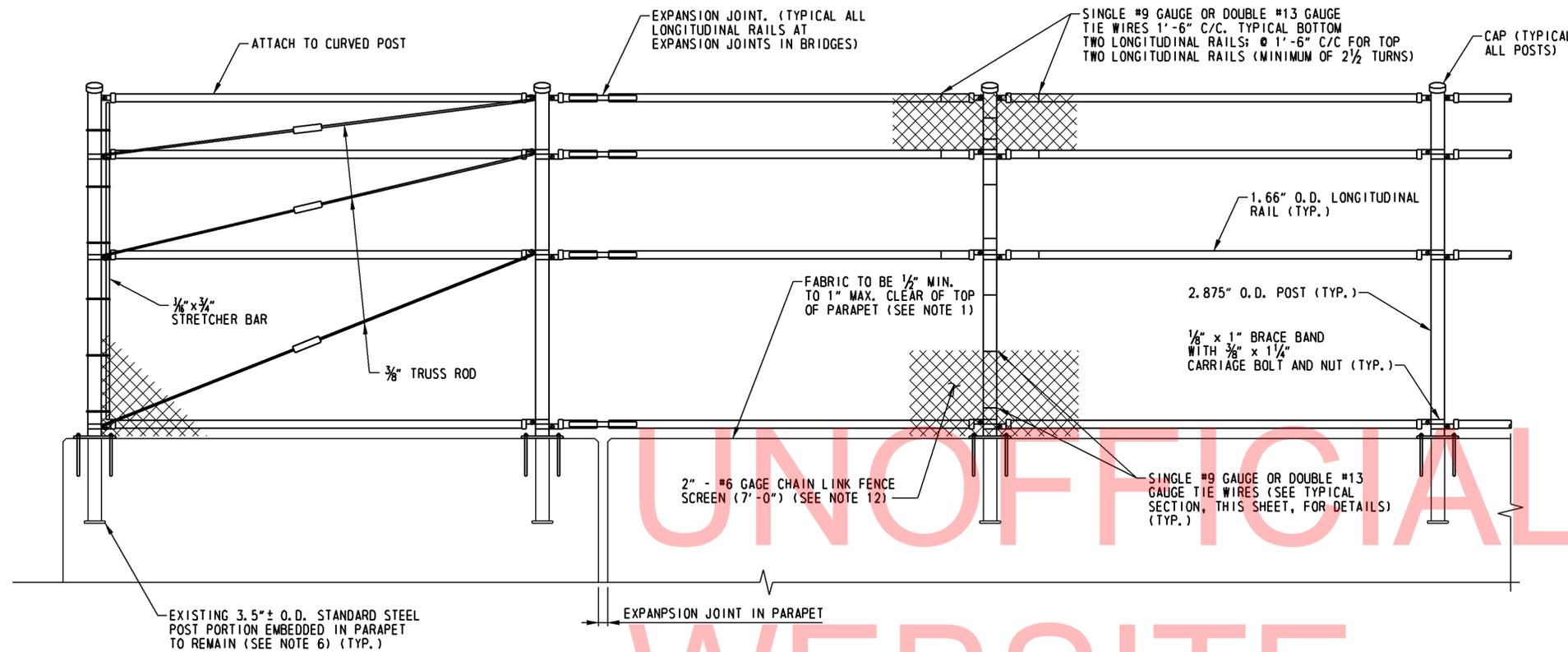
**CONCRETE PARAPET AND END POST DETAIL**  
SCALE: 1" = 1'-0"

**CONCRETE REPAIR NOTES:**

1. CONCRETE DECK REPAIRS SHALL BE IN ACCORDANCE WITH ITEMS: 602574 - DECK REPAIR, 1/4" TO 1" DEPTH, 602575 - DECK REPAIR, 1" TO 3" DEPTH, 602576 - DECK REPAIR, 3" TO < FULL DEPTH, 602577 - DECK REPAIR, FULL DEPTH.
2. PAYMENT FOR DEEP SPALL REPAIRS IN AREAS OTHER THAN TOP OF DECK WILL BE MADE UNDER ITEM 602586 - REHABILITATION OF CONCRETE STRUCTURES. WHEREVER POSSIBLE, ALL EXPOSED EXISTING REINFORCING STEEL SHALL BE INCORPORATED INTO THE FINISHED STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
  - (A) AS DIRECTED BY THE ENGINEER, IF THE REINFORCING STEEL HAS LOST 20 PERCENT OR MORE OF ITS ORIGINAL CROSS SECTION AREA, IT SHALL BE CUT OUT. A NEW BAR OF THE SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR.
  - (B) WHERE THE REQUIRED BAR LAP LENGTH IS AVAILABLE, IT SHALL BE USED AS A DOWEL.
  - (C) WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP ARE TOO GREAT, A STANDARD HOOK OR WELDED OR APPROVED MECHANICAL SPLICE SHALL BE PROVIDED. THE ENGINEER SHALL BE THE SOLE JUDGE WHETHER REINFORCING STEEL IS TO BE REUSED OR REPLACED. PAYMENT FOR WELDING OR SPLICING OF REINFORCING STEEL SHALL BE UNDER ITEM 602586 - REHABILITATION OF CONCRETE STRUCTURE.
  - (D) IN THE EVENT THAT THE NEW BAR IS UNABLE TO BE WELDED OR MECHANICALLY SPLICED TO THE EXISTING REINFORCING STEEL, A NEW BAR SHALL BE DRILLED AND GROUTED ADJACENT TO THE EXISTING BAR LOCATION. PAYMENT FOR DRILLING OF HOLES AND INSTALLING DOWELS SHALL BE UNDER ITEM 602579 - DRILLING HOLES AND INSTALLING DOWELS.
3. PAYMENT FOR ALL NEW REINFORCING STEEL REQUIRED TO COMPLETE CONCRETE REPAIRS WILL BE MADE UNDER ITEM 603500 - REPLACING BAR REINFORCEMENT.
4. FOR SIZE, TYPE, AND LOCATION OF EXISTING REINFORCING STEEL, SEE EXISTING CONTRACT NO. 79-071-02 PLANS.

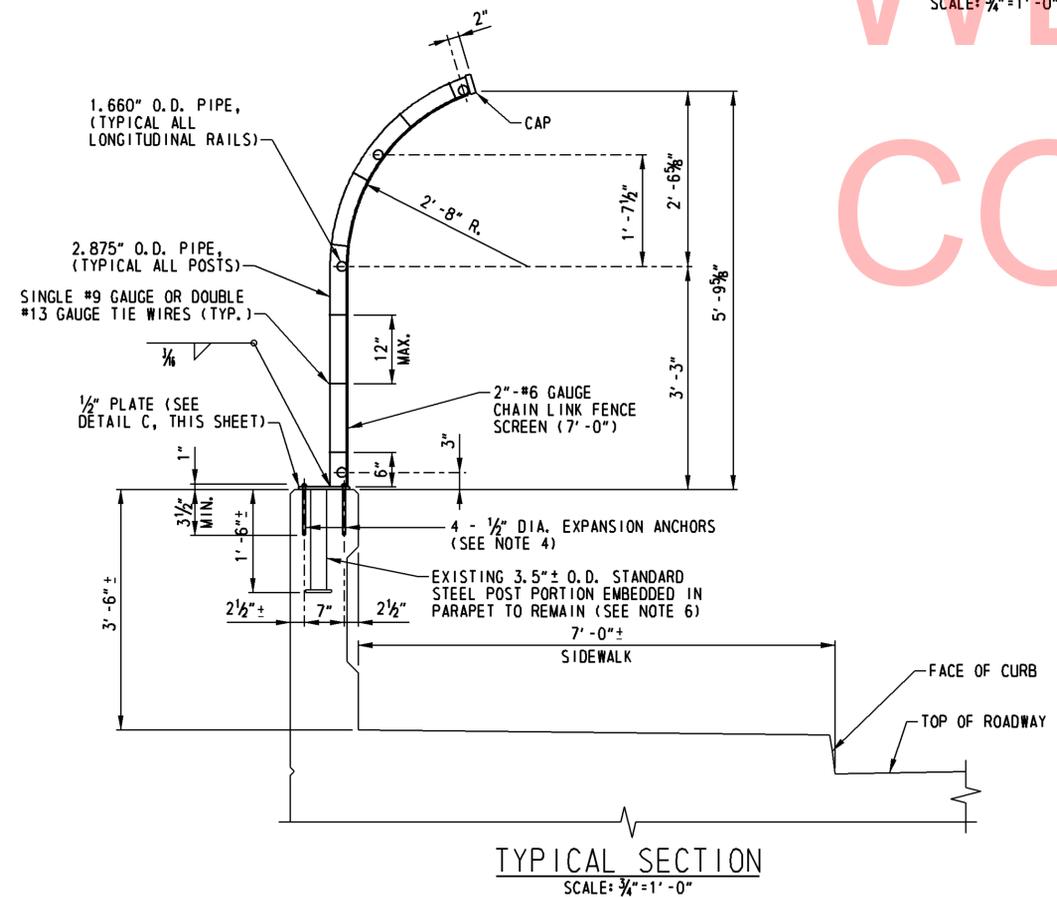
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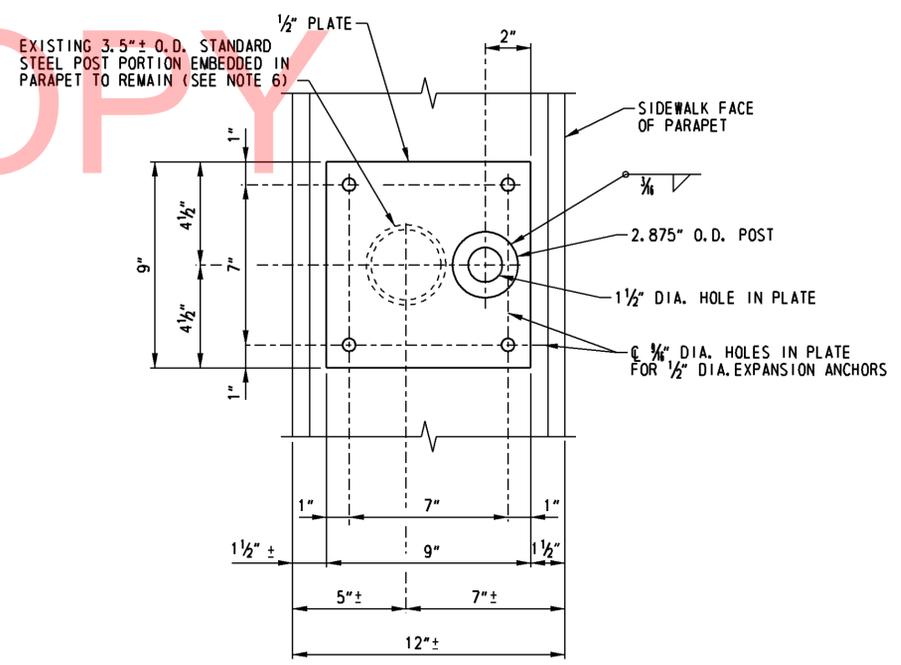


CHAIN-LINK FENCE ELEVATION  
SCALE: 3/4"=1'-0"

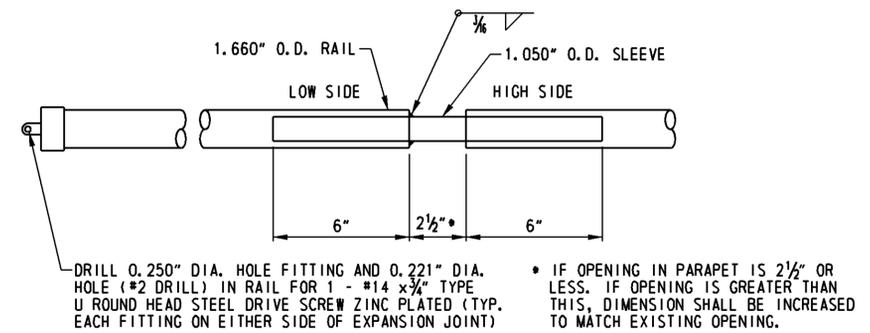
- CHAIN LINK FENCE NOTES:**
1. POSTS AND RAILS SHALL CONFORM TO ASTM F-1083, SCHEDULE 80. FABRIC SHALL BE 6 GAUGE, 2" PVC COATED MESH.
  2. ALL POSTS, BRACES, FITTINGS AND HARDWARE SHALL BE PVC COATED. NUTS, BOLTS AND WASHERS SHALL ALSO BE PVC COATED AND TOUCHED UP AFTER INSTALLATION. PRECOATED LONGITUDINAL RAILS, IF CUT, SHALL HAVE THE CUT END COATED WITH PVC TOUCH UP MATERIAL SUPPLIED BY THE MANUFACTURER PRIOR TO ERECTION. PVC COLOR FOR ALL ELEMENTS OF FENCE SHALL BE BLACK UNLESS OTHERWISE NOTED.
  3. ALL PLATES SHALL BE STEEL CONFORMING TO ASTM A 709 GRADE 36.
  4. EXPANSION ANCHORS SHALL BE STAINLESS STEEL WITH A MINIMUM TENSILE CAPACITY OF 2510 LB AND A SHEAR CAPACITY OF 3045 LB, WITH STAINLESS STEEL NUT AND WASHER OR APPROVED EQUAL. PAYMENT FOR FURNISHING AND INSTALLING EXPANSION ANCHORS SHALL BE INDICENTIAL TO ITEM 727004.
  5. ALL LONGITUDINAL RAILS SHALL BE PARALLEL TO TOP OF WALL. ALL POSTS SHALL BE SET NORMAL TO TOP OF WALL.
  6. ALL EXISTING FENCE POSTS SHALL BE CUT FLUSH WITH TOP OF PARAPET AND VOID FILLED WITH NONSHRINK GROUT BEFORE COVERING WITH PROPOSED PLATE. CUTTING AND GROUTING OF EXISTING POSTS SHALL BE PAID IN ACCORDANCE WITH ITEM 727547 - REMOVAL OF FENCE.
  7. NONSHRINK GROUT SHALL CONFORM TO THE FOLLOWING CRITERIA:  
NONSHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI IN SEVEN DAYS WHEN TESTED PER AASHTO T 106 (ASTM C 109), EXCEPT THAT THE CUBE MOLDS SHALL REMAIN INTACT WITH A TOP FIRMLY ATTACHED THROUGHOUT THE CURING PERIOD. THE NONSHRINK GROUT SHALL HAVE A MINIMUM EXPANSION OF 0.0 PERCENT AFTER SEVEN DAYS WHEN TESTED PER AASHTO T 106 (ASTM C 109).
  8. THE CHAIN LINK FENCE SHALL BE TRUE TO LINE, TAUT, TIGHT FIT TO TOP OF WALL (1/2" MAXIMUM GAP) AND SHALL COMPLY WITH THE BEST PRACTICE FOR FENCE CONSTRUCTION OF THIS TYPE.
  9. POST AND RAILS SHALL BE PERMANENTLY POSITIONED BEFORE FABRIC IS PLACED.
  10. POST SPACING OF END PANELS AND INTERMEDIATE SECTIONS TO MATCH EXISTING.
  11. ANY DEFECTS UNCOVERED BY THE INSPECTION OF WELDS ON BASE PLATES AND POLES SHALL BE REPAIRED OR REPLACED BY NEW MEMBERS AT NO ADDITIONAL COST TO THE DEPARTMENT.
  12. BEFORE PLACING FENCING, PLACE 1/2" TO 1" THICK MATERIAL (WOOD, ETC) ON TOP OF PARAPET TO ENSURE THE DESIRED GAP IS ACHIEVED. AFTER FENCE IS RIGIDLY ATTACHED, THIS TEMPORARY BLOCKING SHALL BE REMOVED.



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



DETAIL C  
SCALE: 3"=1'-0"



EXPANSION JOINT DETAIL  
SCALE: 3"=1'-0"

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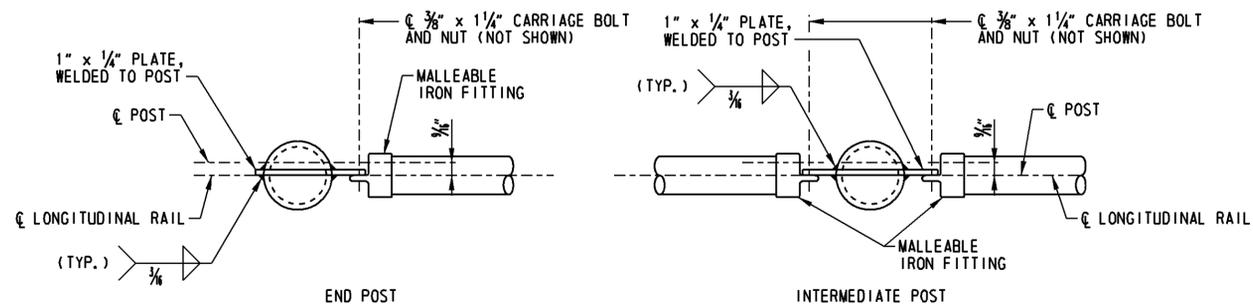
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ADDENDUMS / REVISIONS

SCALE: AS NOTED

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	J.P.D./D.A.N.
COUNTY	CHECKED BY:	W.A.G.
NEW CASTLE		

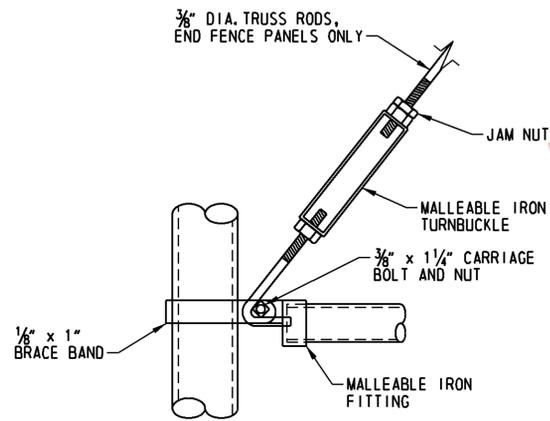
SHEET NO.	35
TOTAL SHTS.	48



NOTE:  
SCREEN NOT SHOWN.

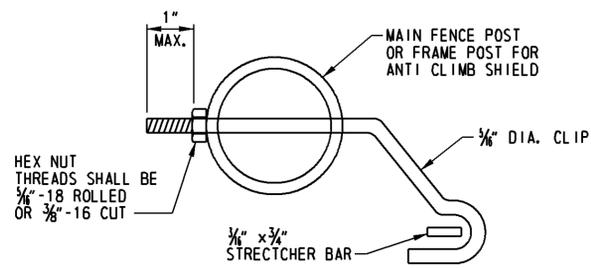
TOP LONGITUDINAL RAIL - POST ATTACHMENT

SCALE: 3" = 1' - 0"



TRUSS ROD ATTACHMENT

SCALE: 3" = 1' - 0"



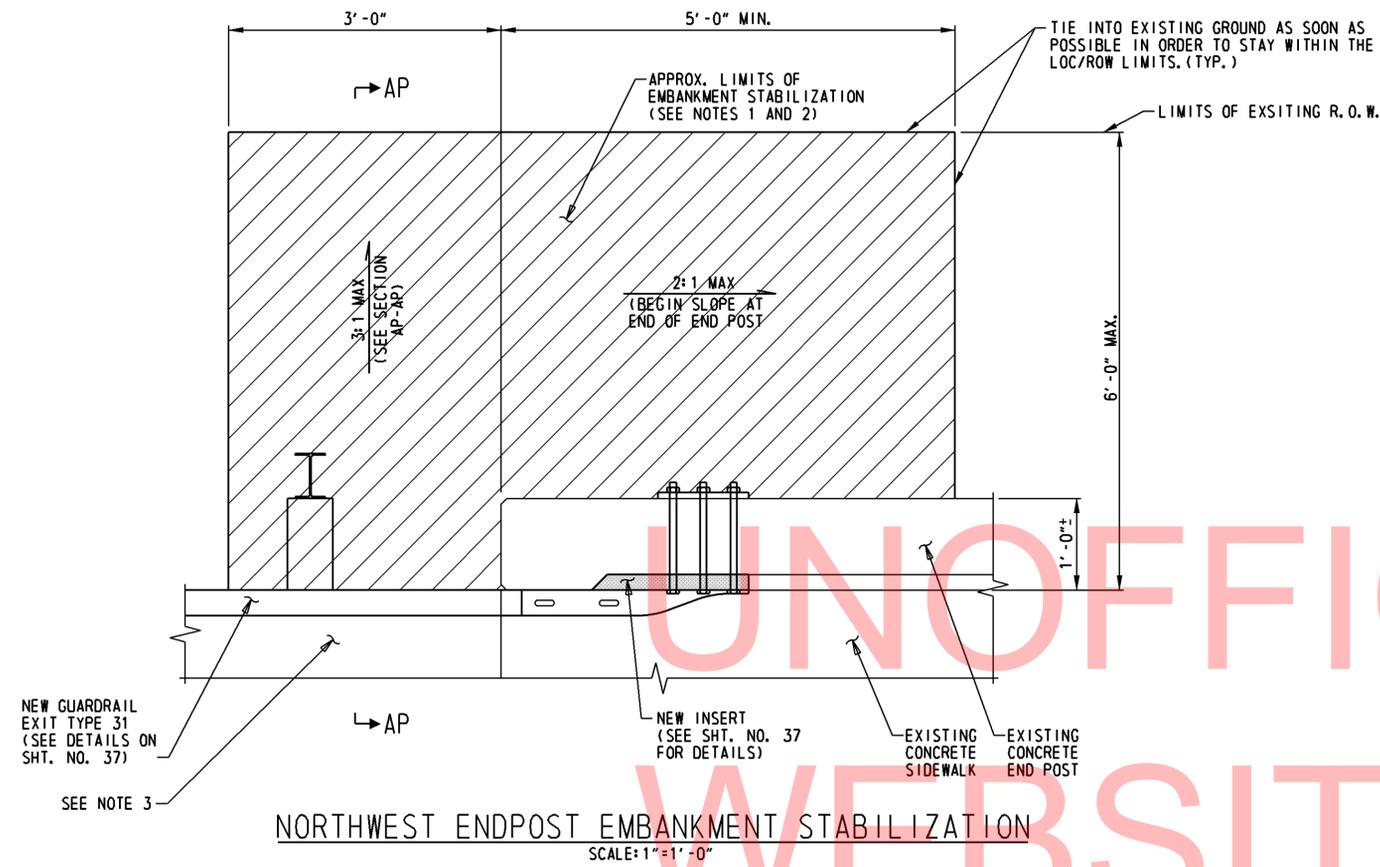
STRETCHER BAR ATTACHMENT

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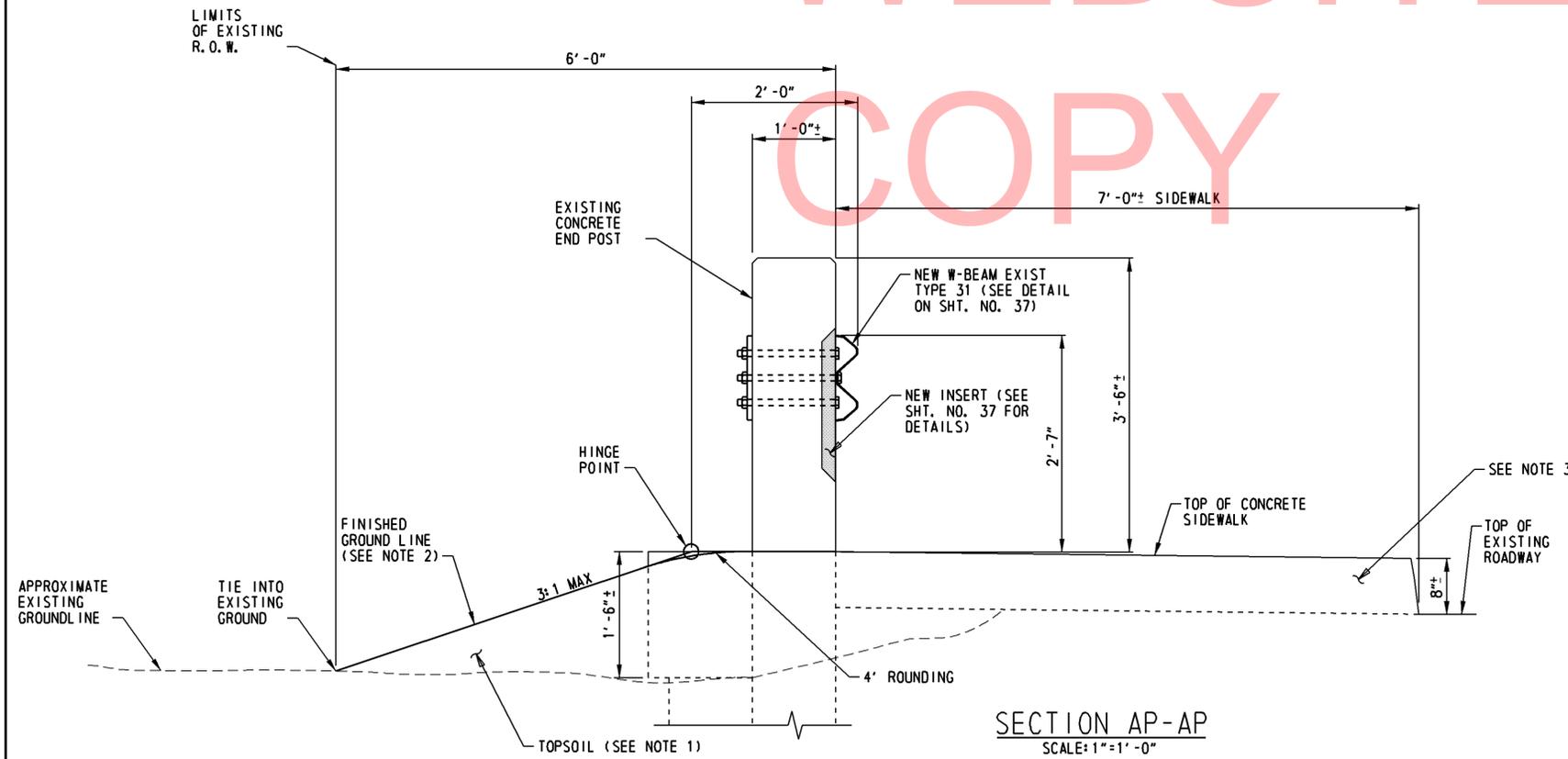
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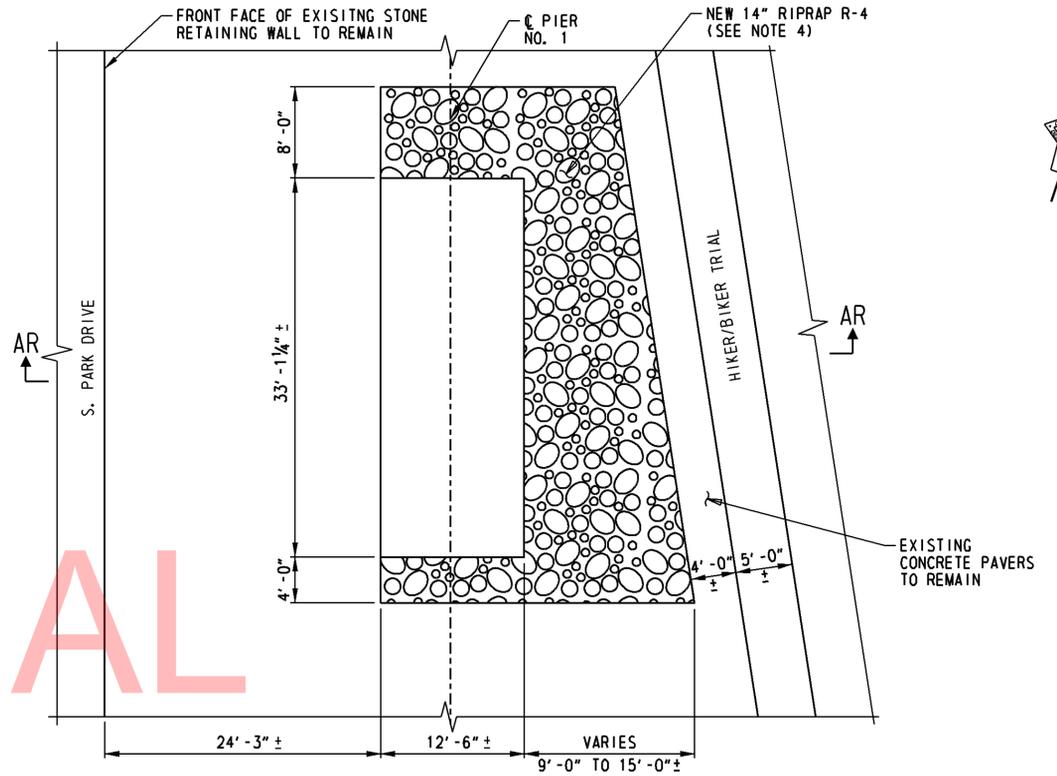




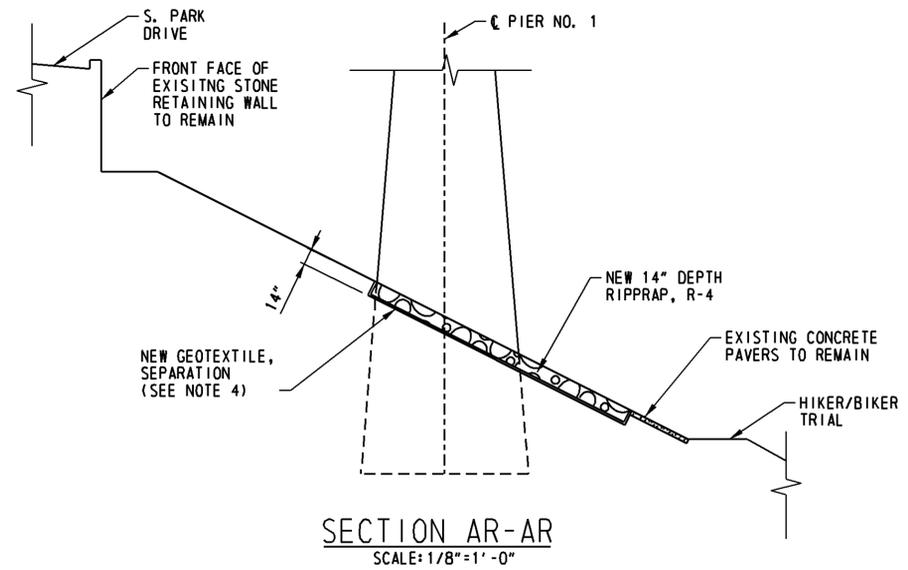
NORTHWEST ENDPOST EMBANKMENT STABILIZATION  
SCALE: 1"=1'-0"



SECTION AP-AP  
SCALE: 1"=1'-0"



PIER NO. 1 SLOPE STABILIZATION DETAIL - PLAN  
SCALE: 1/8"=1'-0"



SECTION AR-AR  
SCALE: 1/8"=1'-0"

NOTES:

1. PROVIDE ADDITIONAL TOPSOIL (APPROX. 1.5' DEPTH AT END OF END POST AS NEEDED TO FILL ERODED SECTION OF EMBANKMENT AREA AS DIRECTED BY THE ENGINEER.
2. STABILIZE AREA OF EROSION USING TOPSOIL (ITEM 732005), PERMANENT GRASS SEEDING, DRY GROUND (ITEM 734013), AND SOIL RETENTION BLANKET MULCH, TYPE 5 (ITEM 735535). SEE DELDOT STANDARD DETAIL E-9 FOR MORE INFORMATION.
3. REMOVE AND RECONSTRUCT SETTLED AND UNDERMINED CONCRETE SIDEWALK PANELS WITH 4" OF GRADED AGGREGATE BASE COURSE, TYPE B (ITEM 302007) BENEATH P.C.C. SIDEWALK, 4" (ITEM 705001). REMOVAL OF SIDEWALK TO BE PAID FOR UNDER ITEM 758000 - REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK. (REPAIR NO 35 ON SHT. NO. 7)
4. PLACE GEOTEXTILE UNDER RIPRAP, R-4 IN ACCORDANCE WITH SECTION 712 OF THE STANDARD SPECIFICATIONS.
5. RIPRAP, R-4 SHALL CLOSELY MATCH IN VISUAL COLOR AND APPEARANCE THE STONE OF PIER NO. 1.
6. THE CONTRACTOR IS ONLY PERMITTED TO USE SMALLER MECHANICAL EQUIPMENT TO ACHIEVE THE WORK PERFORMED AROUND PIER NO. 1.
7. FURTHER ACCESS CONTROLS NEED APPROVAL FROM BRANDYWINE PARK OFFICIALS AND DELDOT ENVIRONMENTAL STUDIES OFFICE FOR CONCURRENCE.
8. EXISTING STONE RETAINING WALL LOCATED ON THE EAST SIDE OF SOUTH PARK DRIVE SHALL NOT BE DISTURBED OR ALTERED. ANY DAMAGE TO THE EXISTING WALL SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER AND THE DEPARTMENT.

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ADDENDUMS / REVISIONS	

SCALE: AS NOTED

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT T201007402	BRIDGE NO. <b>1 585 049</b>
COUNTY NEW CASTLE	DESIGNED BY: J.P.D./D.A.N.
	CHECKED BY: W.A.G.

**EMBANKMENT**  
**STABILIZATION DETAILS**

SHEET NO. 38
TOTAL SHTS. 48

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS AND WORK HOUR RESTRICTIONS

1. MAINTENANCE OF TRAFFIC DURING THE LANE CLOSURES ALONG AUGUSTINE CUTOFF, INCLUDING THOSE FOR THE PLACEMENT AND REMOVAL OF PORTABLE PCC SAFETY BARRIER AND THE INSTALLATION AND REMOVAL OF TEMPORARY AND PERMANENT PAVEMENT MARKINGS, SHALL CONFORM TO TA-10 OF THE 2011 DE MUTCD.
  - LANE CLOSURES SHALL BE PERMITTED BETWEEN 9 AM AND 3 PM MONDAY THROUGH FRIDAY.
  - WEEKEND LANE CLOSURES SHALL BE PERMITTED ONLY AS DIRECTED BY THE ENGINEER, DELDOT TRAFFIC, CITY OF WILMINGTON, AND WILMINGTON STATE PARKS.
2. MAINTENANCE OF TRAFFIC DURING THE TEMPORARY ROAD CLOSURES ALONG N. PARK DRIVE (FIRE LANE) SHALL CONFORM TO TA-13 OF THE 2011 DE MUTCD.
  - THE TEMPORARY ROAD CLOSURE SHALL BE REQUIRED ONLY DURING TIME PERIODS WHEN THE CONSTRUCTION ACTIVITIES FOR BRIDGE 1-585 ARE DIRECTLY OVERHEAD OF N. PARK DRIVE (FIRE LANE) WHILE THE CONSTRUCTION CONTAINMENT SYSTEM (DEMOLITION SHIELD) IS NOT IN PLACE.
  - TEMPORARY ROAD CLOSURES SHALL BE PERMITTED BETWEEN 9 AM AND 3 PM MONDAY THROUGH FRIDAY.
  - WEEKEND TEMPORARY ROAD CLOSURES SHALL BE PERMITTED ONLY AS DIRECTED BY THE ENGINEER, DELDOT TRAFFIC, AND CITY OF WILMINGTON.
3. MAINTENANCE OF TRAFFIC DURING THE AUGUSTINE CUTOFF BRIDGE CLOSURE AND THE CORRESPONDING DETOUR SHALL CONFORM TO TA-20 OF THE 2011 DE MUTCD AND THE APPROVED VEHICULAR DETOUR PLAN (SEE SHEET 41).
  - THE CONTRACTOR SHALL SUBMIT A STREET CLOSING PERMIT TO THE CITY OF WILMINGTON COMMISSIONER OF PUBLIC WORKS AND CHIEF OF POLICE NO LESS THAN 14 DAYS PRIOR TO THE SCHEDULED BRIDGE CLOSURE.
  - THE CONTRACTOR SHALL ALSO COORDINATE THE BRIDGE CLOSURE WITH ANDY ROY, WILMINGTON STATE PARKS SUPERINTENDENT, AT 302-577-7020 NO LESS THAN 14 DAYS PRIOR TO THE SCHEDULED ROAD CLOSURE.
  - BRIDGE CLOSURES SHALL BE RESTRICTED TO SATURDAYS AND SUNDAYS DURING THE DECK MILLING AND OVERLAY OPERATIONS.
  - WORK HOURS SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON'S NOISE CODE (OR APPLICABLE WAIVER).
4. MAINTENANCE OF TRAFFIC DURING THE ROAD CLOSURE AND THE CORRESPONDING DETOUR OF S. PARK DRIVE SHALL CONFORM TO TA-20 OF THE 2011 DE MUTCD AND THE APPROVED VEHICULAR DETOUR PLAN (SEE SHEET 42).
  - THE ROAD CLOSURE SHALL BE REQUIRED ONLY DURING TIME PERIODS WHEN THE CONSTRUCTION ACTIVITIES FOR BRIDGE 1-585 REQUIRE DIRECT ACCESS FROM S. PARK DRIVE OR WHEN ACTIVITIES ARE DIRECTLY OVERHEAD S. PARK DRIVE WHILE THE CONSTRUCTION CONTAINMENT SYSTEM (DEMOLITION SHIELD) IS NOT IN PLACE.
  - THE CONTRACTOR SHALL SUBMIT A STREET CLOSING PERMIT TO THE CITY OF WILMINGTON COMMISSIONER OF PUBLIC WORKS AND CHIEF OF POLICE NO LESS THAN 14 DAYS PRIOR TO THE SCHEDULED ROAD CLOSURE.
  - THE CONTRACTOR SHALL ALSO COORDINATE THE ROAD CLOSURE WITH ANDY ROY, WILMINGTON STATE PARKS SUPERINTENDENT, AT 302-577-7020 NO LESS THAN 14 DAYS PRIOR TO THE SCHEDULED ROAD CLOSURE.
  - ROAD CLOSURES SHALL BE PERMITTED BETWEEN 9 AM AND 3 PM MONDAY THROUGH FRIDAY.
  - WEEKEND ROAD CLOSURES SHALL BE PERMITTED ONLY AS DIRECTED BY THE ENGINEER, DELDOT TRAFFIC, CITY OF WILMINGTON, AND WILMINGTON STATE PARKS.
5. MAINTENANCE OF TRAFFIC DURING THE SIDEWALK CLOSURES ALONG AUGUSTINE CUTOFF AND THE CORRESPONDING PEDESTRIAN DETOURS SHALL CONFORM TO TA-28 AND TA-29 OF THE 2011 DE MUTCD AND THE APPROVED PEDESTRIAN DETOUR PLANS (SEE SHEETS 43 TO 46).
  - THE CONTRACTOR SHALL INSTALL CONSTRUCTION SAFETY FENCE (ITEM 727014) LONGITUDINALLY ALONG THE FACE OF CURB (CORRESPONDING TO THE CLOSED SIDEWALK) BETWEEN THE SIDEWALK CLOSURE BARRICADES IF THE PARAPET-MOUNTED CHAIN LINK FENCE IS REMOVED DURING CONSTRUCTION.
  - PEDESTRIAN ACCESS TO THE ROUTE 28 DART BUS STOPS LOCATED ALONG AUGUSTINE CUTOFF SHALL BE MAINTAINED AT ALL TIMES.
  - IF CONSTRUCTION ACTIVITIES REQUIRE THE TEMPORARY CLOSURE OR RELOCATION OF THE DART BUS STOPS, THEN THE CONTRACTOR SHALL CONTACT MIKE ELLER (AT 302-576-6061) OR VINCENT DAMIANI (AT 302-576-6094) NO LESS THAN 14 DAYS PRIOR TO THE SCHEDULED BUS STOP CLOSURE/RELOCATION.
6. UNLESS OTHERWISE WAIVED BY THE CITY OF WILMINGTON, CONSTRUCTION ACTIVITIES OCCURRING BEHIND PORTABLE PCC SAFETY BARRIER (SEE SHEET 40) CAN BE PERFORMED DURING THE FOLLOWING TIME PERIODS IN ACCORDANCE WITH THE CITY OF WILMINGTON'S NOISE CODE FOR PARK/OPEN SPACE DISTRICTS:
  - MONDAY - FRIDAY: 8 AM TO 7 PM
  - SATURDAY: 9 AM TO 7 PM
  - SUNDAY & HOLIDAY: 10 AM TO 5 PM

TRAFFIC OFFICERS AND FLAGGERS

7. CITY OF WILMINGTON TRAFFIC OFFICERS SHALL BE REQUIRED DURING ALL CONSTRUCTION ACTIVITIES THAT ADVERSELY AFFECT SIGNAL OPERATIONS AT THE LOVERING AVENUE AT AUGUSTINE CUTOFF AND AUGUSTINE CUTOFF AT W. 18TH STREET INTERSECTIONS.
8. DURING THE TEMPORARY ROAD CLOSURES ALONG N. PARK DRIVE (FIRE LANE), THE FLAGGERS SHALL MONITOR INBOUND AND OUTBOUND TRAFFIC AT THE RESIDENTIAL COMPLEX. DURING PEAK TRAFFIC CONDITIONS, THE FLAGGERS SHALL PRIORITIZE THE OUTBOUND TRAFFIC TO AVOID EXCESSIVE QUEUES AND DELAYS WITHIN THE RESIDENTIAL COMPLEX.

ADDITIONAL PROJECT COORDINATION

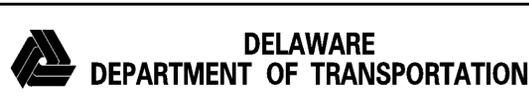
9. THE CONTRACTOR OR ENGINEER SHALL INFORM DELDOT'S TRANSPORTATION MANAGEMENT CENTER (TMC) AT 302-659-4600 OF ALL LANE CLOSURES ALONG AUGUSTINE CUTOFF THAT ADVERSELY AFFECT SIGNAL OPERATIONS AT THE AUGUSTINE CUTOFF AT W. 18TH STREET INTERSECTION (SIGNAL PERMIT NO. N320).
10. THE CONTRACTOR OR ENGINEER SHALL CONTACT LES SPICER, DELDOT NORTH DISTRICT LIGHTING MAINTENANCE SUPERINTENDENT, AT 302-894-6315 IF CONSTRUCTION ACTIVITIES REQUIRE THE TEMPORARY DISCONNECTION OR REMOVAL OF THE EXISTING PARAPET-MOUNTED ROADWAY LIGHTING STANDARDS.
11. THE CONTRACTOR OR ENGINEER CAN CONTACT AN AUTHORIZED REPRESENTATIVE OF DELDOT'S PAVEMENT MARKINGS SECTION AT 302-760-2588 FOR ADDITIONAL ASSISTANCE DURING THE INSTALLATION AND REMOVAL OF TEMPORARY AND PERMANENT PAVEMENT MARKINGS.
12. AS SHOWN ON SHEET 47, THE CONTRACTOR SHALL INSTALL AND REMOVE PERMANENT ROADWAY SIGNS IN ACCORDANCE WITH ITEM 749687 - INSTALLATION OR REMOVAL OF TRAFFIC SIGN ON SINGLE SIGN POST. DELDOT'S SIGN SHOP SHALL FABRICATE AND SUPPLY ALL PERMANENT ROADWAY SIGNS AND POSTS TO THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT DELDOT'S SIGN SHOP AT 302-760-2581. ALLOW FOUR (4) WEEKS FOR DELIVERY. ALL PERMANENT ROADWAY SIGNING MATERIALS REMOVED FROM THIS PROJECT SHALL BE RETURNED TO DELDOT'S SIGN SHOP.
13. THE CONTRACTOR OR ENGINEER SHALL CONTACT MIKE ELLER, DTC CHIEF OF SCHEDULING, AT 302-576-6061 A MINIMUM OF 30 DAYS PRIOR TO ANY LANE/ BRIDGE CLOSURES TO DISCUSS IMPACTS TO DART BUS ROUTE 28.

OTHER M.O.T. DEVICES

14. A TRUCK-MOUNTED ATTENUATOR (TMA), TYPE II (ITEM 743010) SHALL BE REQUIRED WHEN TRAFFIC IS PRESENT DURING THE FOLLOWING OPERATIONS:
  - LANE CLOSURES (TA-10) ALONG AUGUSTINE CUTOFF
  - ALL WORK REQUIRING A SNOOPER TRUCK ALONG AUGUSTINE CUTOFF (I.E., CONSTRUCTION PERSONNEL EXTENDING OVER THE PARAPET WITH NO ESCAPE ROUTE)
  - PLACEMENT AND REMOVAL OF PORTABLE PCC SAFETY BARRIER
  - INSTALLATION AND REMOVAL OF TEMPORARY AND PERMANENT PAVEMENT MARKINGS
  - AS DIRECTED BY THE ENGINEER OR DELDOT TRAFFIC
15. THE TMA SHOULD BE POSITIONED A SUFFICIENT DISTANCE IN ADVANCE OF THE WORKERS OR EQUIPMENT BEING PROTECTED SO THAT THERE WILL BE SUFFICIENT DISTANCE, BUT NOT SO MUCH SO THAT ERRANT VEHICLES WILL TRAVEL AROUND THE TMA AND STRIKE THE PROTECTED WORKERS AND/OR EQUIPMENT. THIS "ROLL-AHEAD" DISTANCE SHOULD BE BASED ON THE TMA MANUFACTURER'S SPECIFICATIONS. THE CONTRACTOR SHALL ALSO ABIDE BY THE ADDITIONAL TMA CRITERIA SPECIFIED IN SECTION 6F.86 OF THE 2011 DE MUTCD.
16. TEMPORARY BARRICADES, TYPE III (ITEM 743023) USED FOR THE VEHICULAR ROAD CLOSURE OF S. PARK DRIVE SHALL EXTEND ACROSS THE ENTIRE ROADWAY; HOWEVER, PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES ALONG THE CORRESPONDING SIDEWALK BETWEEN RIDDLE AVENUE AND THE WILMINGTON STATE PARK TRAILHEAD. TEMPORARY BARRICADES USED DURING THE AUGUSTINE CUTOFF SIDEWALK CLOSURES SHALL EXTEND ACROSS THE ENTIRE SIDEWALK AND, WHEN REQUIRED, SHALL BE INTEGRATED WITH THE CONSTRUCTION SAFETY FENCE TO PREVENT INTRUSION.
17. ALL TEMPORARY LONGITUDINAL PAVEMENT MARKINGS SHALL CONSIST OF 4" REMOVABLE RETROREFLECTIVE TAPE (ITEM 748525). MAINTENANCE OF TRAFFIC DURING THE INSTALLATION AND REMOVAL OF THE TEMPORARY AND PERMANENT PAVEMENT MARKINGS SHALL CONFORM TO TA-10 OF THE 2011 DE MUTCD.
18. END PROTECTION FOR THE LEADING AND TRAILING ENDS OF THE PORTABLE PCC SAFETY BARRIER SHALL BE PROVIDED USING A TEMPORARY IMPACT ATTENUATOR MEETING NCHRP REPORT 350 (OR MASH) TEST LEVEL 2 (TL-2) CRITERIA.

NON OFFICIAL  
WEBSITE  
COPY

No. 15599-013 (04/07) TCN01.dgn  
2/20/12 3:52:17 PM



ADDENDUMS / REVISIONS

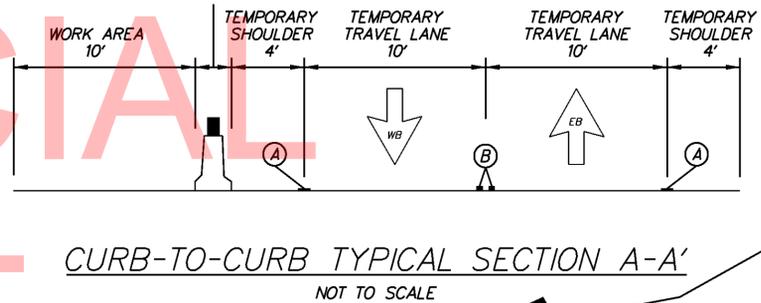
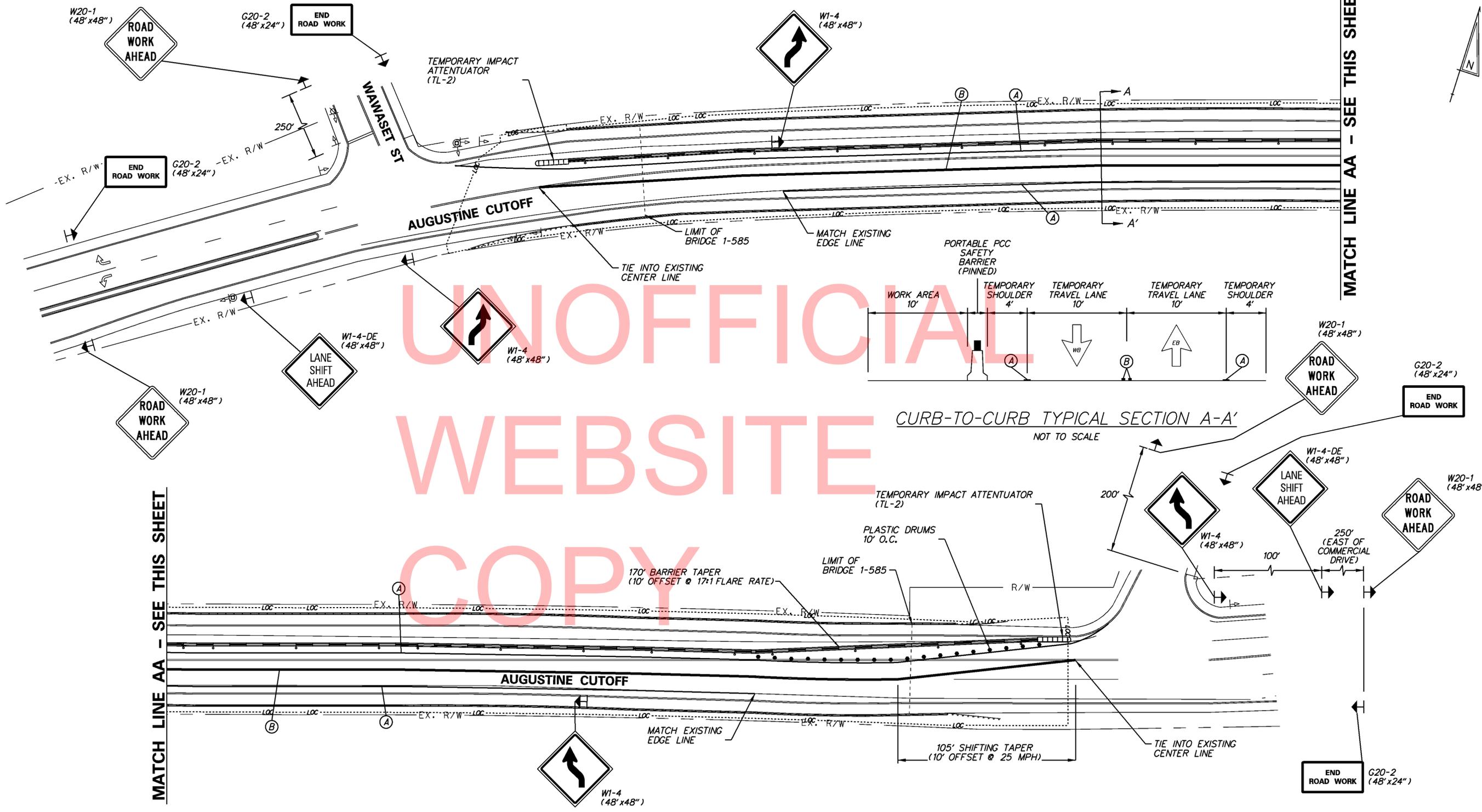

**BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER  
BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	D.W.C.
COUNTY	CHECKED BY:	M.J.B.
NEW CASTLE		

**GENERAL TRAFFIC  
CONTROL NOTES**

TCN01
SHEET NO.
39
TOTAL SHTS.
48

UNOFFICIAL  
WEBSITE  
COPY



MATCH LINE AA - SEE THIS SHEET

MATCH LINE AA - SEE THIS SHEET

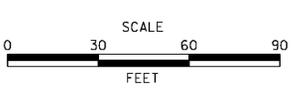
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAVEMENT STRIPING, TAPE (ITEM 748525)	1760 LF
(B)	4" SOLID DOUBLE YELLOW TEMPORARY PAVEMENT STRIPING, TAPE (ITEM 748525)	2090 LF

\*ALL CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED

No. 1585-013, CADD, V501, Augustine Cul Off.dgn 8/2/21 9:52:52 AM



ADDENDUMS / REVISIONS	



**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT T201007402	BIDGE NO. <b>1 585 049</b>
COUNTY NEW CASTLE	DESIGNED BY: D.W.C.
	CHECKED BY: M.J.B.

**CONSTRUCTION PHASING,**  
**M.O.T. CONTROL PLAN**

SHEET NO. 40
TOTAL SHTS. 48

PRIOR TO DETOUR  
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

AUGUSTINE  
BRIDGE  
TO CLOSE

MM/DD/YY  
TO  
MM/DD/YY

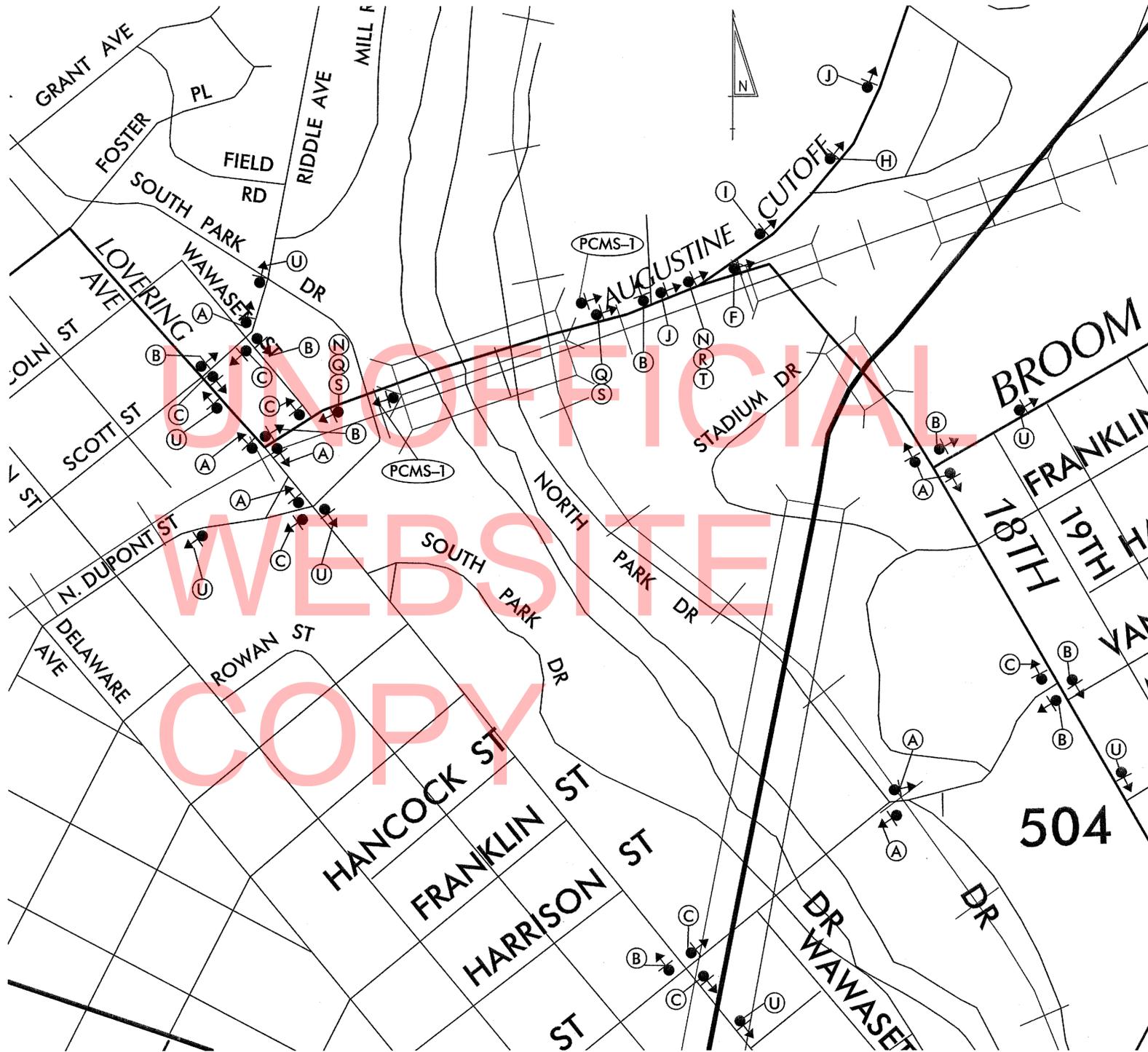
PCMS-1

PCMS-1 SHALL BE  
REMOVED DURING DETOUR  
AND RE-INSTALLED EACH  
WEDNESDAY PRIOR TO  
CLOSURE.

SPECIAL SIGNS



\*CUSTOM  
(48" x 60")  
6" C-SERIES  
BLACK-ON-ORANGE



CONSTRUCTION NOTE:

7. THE BRIDGE CLOSURE AND THE CORRESPONDING DETOUR OF AUGUSTINE CUTOFF SHALL BE RESTRICTED TO SATURDAYS AND SUNDAYS DURING THE DECK MILLING AND OVERLAY OPERATIONS. THE WORK HOURS SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON'S NOISE CODE (OR APPLICABLE WAIVER).

LEGEND

(A) DETOUR ↑	(B) DETOUR ←	(C) DETOUR →
(D) DETOUR ↙	(E) DETOUR ↘	(F) END DETOUR
(G) DETOUR AHEAD	(H) DETOUR 1000 FT	(I) DETOUR 500 FT
(J) ROAD CLOSED AHEAD	(K) ROAD CLOSED 1000 FT	(L) ROAD CLOSED 500 FT
(M) ROAD NAME	(N) DETOUR ←	(O) DETOUR →
(P) ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	(Q) ROAD CLOSED	(R) ROAD CLOSED TO THRU TRAFFIC
(S)	(T)	

GENERAL NOTES

- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE TO THE DE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN \*THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE- MUTCD PART 6) FOR BARRICADES AND SIGNS. (AS PER LATEST REVISION)
- FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WILL PREVAIL.
- WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
- \*S\* BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF ROADWAY.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_

RECOMMENDED *[Signature]* DATE: 7/1/12

RECOMMENDED *[Signature]* DATE: 7-27-12

APPROVED CHIEF SAFETY OFFICER *[Signature]* DATE: 8-1-12

APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 8/1/12



ADDENDUM / REVISIONS

NOT TO SCALE

BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER  
BRANDYWINE CREEK

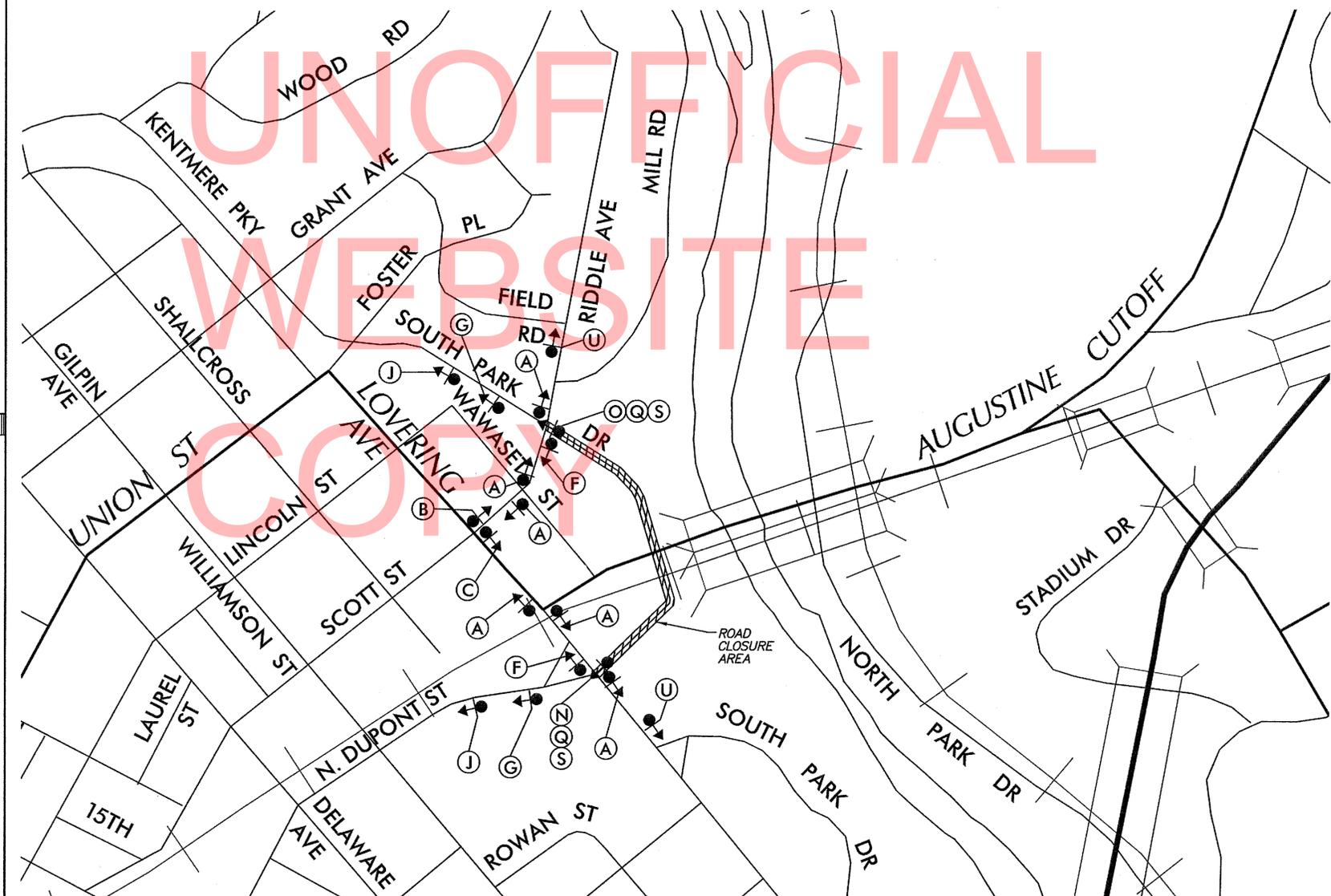
CONTRACT  
T201007402  
COUNTY  
NEW CASTLE

BRIDGE NO. 1 585 049  
DESIGNED BY: D.W.C.  
CHECKED BY: M.J.B.

VEHICULAR DETOUR PLAN  
AUGUSTINE CUTOFF  
BRIDGE

SHEET NO.  
41  
TOTAL SHTS.  
48

<b>A</b> DETOUR ↑	<b>B</b> DETOUR ←	<b>C</b> DETOUR →
<b>D</b> DETOUR ↙	<b>E</b> DETOUR ↗	<b>F</b> END DETOUR
<b>G</b> DETOUR AHEAD	<b>H</b> DETOUR 1000 FT	<b>I</b> DETOUR 500 FT
<b>J</b> ROAD CLOSED AHEAD	<b>K</b> ROAD CLOSED 1000 FT	<b>L</b> ROAD CLOSED 500 FT
<b>M</b> ROAD NAME	<b>N</b> DETOUR ←	<b>O</b> DETOUR →
<b>P</b> ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	<b>Q</b> ROAD CLOSED	<b>R</b> ROAD CLOSED TO THRU TRAFFIC
<b>S</b> 	<b>T</b> 	



SPECIAL SIGNS



\*CUSTOM (48" x 72") 6" C-SERIES BLACK-ON-ORANGE

GENERAL NOTES

- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE TO THE DE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
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- "S" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF ROADWAY.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_ RECOMMENDED *[Signature]* DATE: 7/17/12 RECOMMENDED *[Signature]* DATE: 7-27-12 APPROVED CHIEF SAFETY OFFICER *[Signature]* DATE: 8/1/12 APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 8/3/12

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUM / REVISIONS

NOT TO SCALE  
BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1 585 049
T201007402	DESIGNED BY:	D.W.C.
COUNTY	CHECKED BY:	M.J.B.
NEW CASTLE		

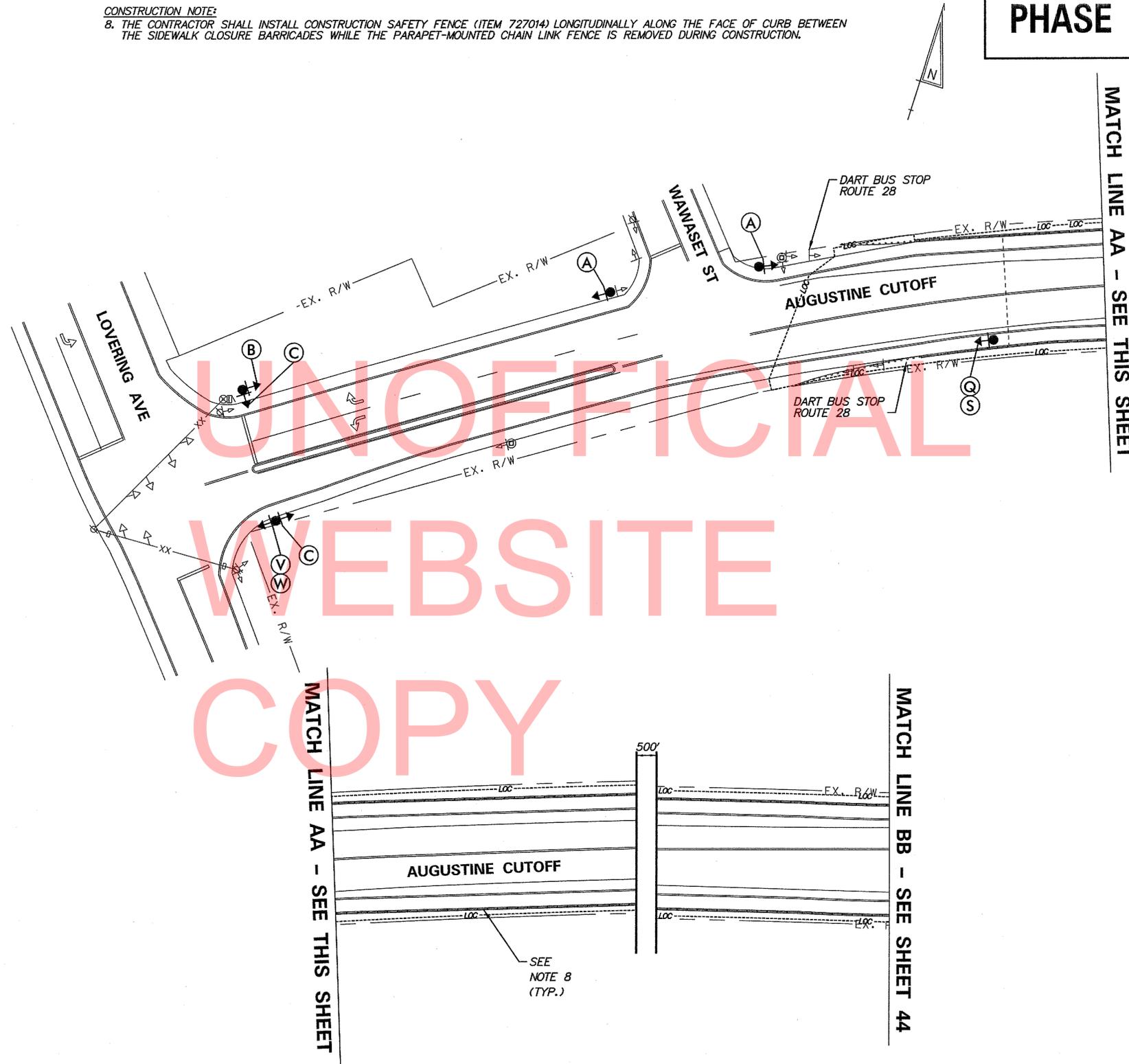
<b>VEHICULAR DETOUR PLAN</b>	SHEET NO.
<b>SOUTH PARK DRIVE @ AUGUSTINE CUTOFF</b>	42
	TOTAL SHTS.
	48

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**CONSTRUCTION NOTE:**  
 8. THE CONTRACTOR SHALL INSTALL CONSTRUCTION SAFETY FENCE (ITEM 727014) LONGITUDINALLY ALONG THE FACE OF CURB BETWEEN THE SIDEWALK CLOSURE BARRICADES WHILE THE PARAPET-MOUNTED CHAIN LINK FENCE IS REMOVED DURING CONSTRUCTION.

**PHASE 1**

SPECIAL SIGNS



MATCH LINE AA - SEE THIS SHEET

MATCH LINE AA - SEE THIS SHEET

MATCH LINE BB - SEE SHEET 44

(A)	(B)	(C)
(D)	(E)	(F)
(G)	(H)	(I)
(J)	(K)	(L)
(M)	(N)	(O)
(P)	(Q)	(R)
(S)		

GENERAL NOTES

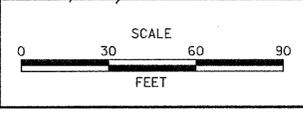
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- WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.
- \*S\* BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK.

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RECOMMENDED _____ DATE: _____	RECOMMENDED _____ DATE: _____	RECOMMENDED <i>[Signature]</i> DATE: 8/12	APPROVED CHIEF SAFETY OFFICER <i>[Signature]</i> DATE: 8-1-12	APPROVED TRAFFIC ENGINEER <i>[Signature]</i> DATE: 8/2/12
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**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUM / REVISIONS



**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER BRANDYWINE CREEK**

CONTRACT T201007402	BRIDGE NO. 1 585 049
COUNTY NEW CASTLE	DESIGNED BY: D.W.C.
	CHECKED BY: M.J.B.

<b>PEDESTRIAN DETOUR PLAN</b>	SHEET NO. 43
<b>AUGUSTINE CUTOFF</b>	TOTAL SHTS. 48

CONSTRUCTION NOTE:  
 8. THE CONTRACTOR SHALL INSTALL CONSTRUCTION SAFETY FENCE (ITEM 727014) LONGITUDINALLY ALONG THE FACE OF CURB BETWEEN THE SIDEWALK CLOSURE BARRICADES WHILE THE PARAPET-MOUNTED CHAIN LINK FENCE IS REMOVED DURING CONSTRUCTION.

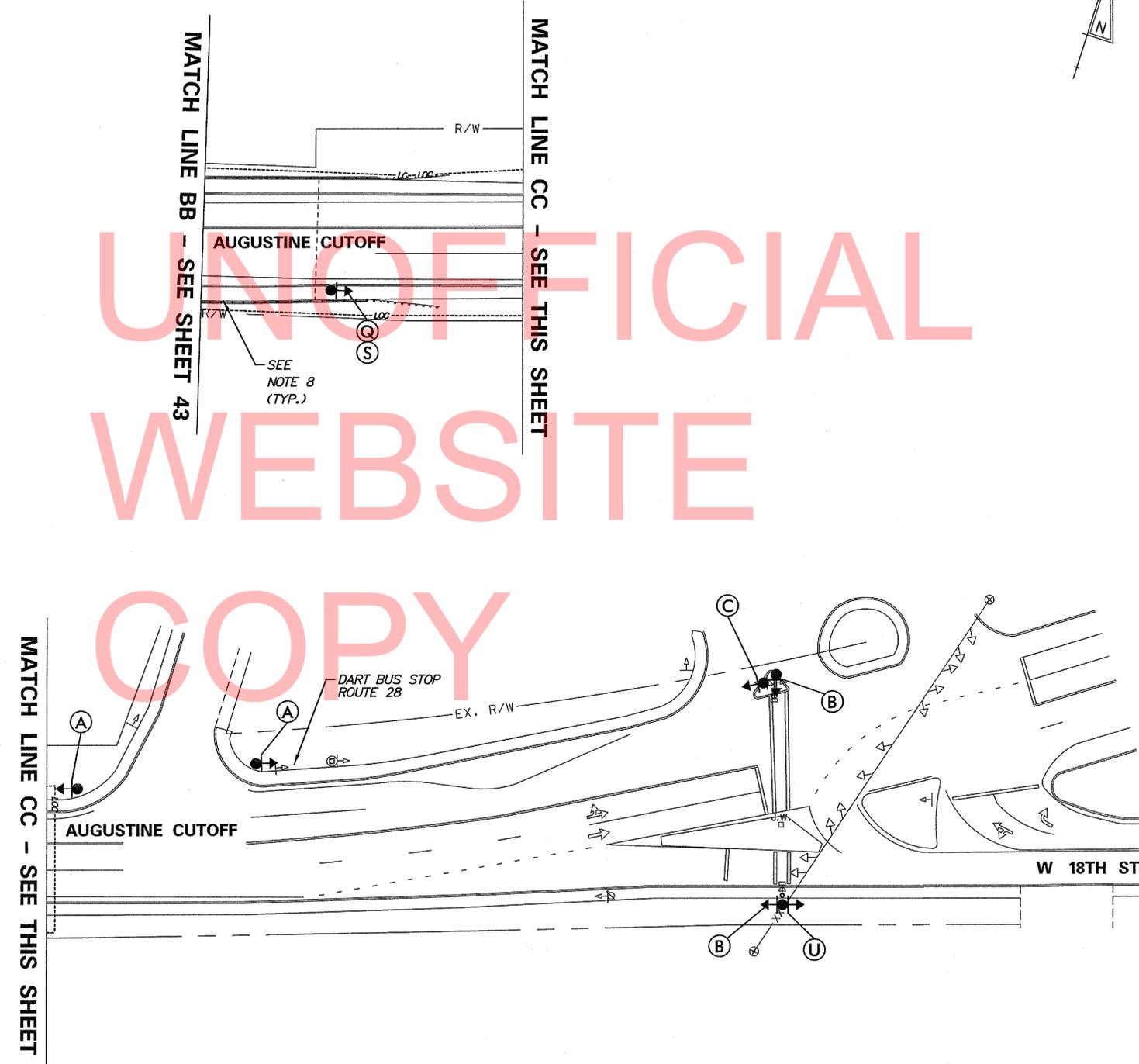
SPECIAL SIGNS

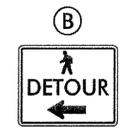
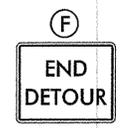
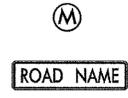
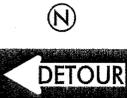
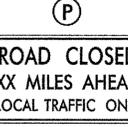
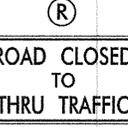
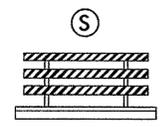
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U  
 SIDEWALK CLOSED AHEAD  
 CROSS HERE  
 R9-11R  
 (24" x 18")  
 BLACK-ON-WHITE
- 

V  
 SIDEWALK CLOSED AHEAD  
 CROSS HERE  
 R9-11L  
 (24" x 18")  
 BLACK-ON-WHITE
- 

W  
 BUS STOP OPEN  
 \*CUSTOM  
 (30" x 24")  
 5" C-SERIES  
 BLACK-ON-ORANGE



- |   |   |   |
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|     |     |     |
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GENERAL NOTES

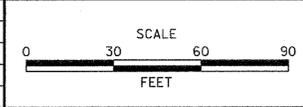
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7. \*S\* BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK.

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RECOMMENDED _____ DATE: _____	RECOMMENDED _____ DATE: _____	RECOMMENDED <i>[Signature]</i> DATE: 8/1/12	APPROVED CHIEF SAFETY OFFICER <i>[Signature]</i> DATE: 8-1-12	APPROVED TRAFFIC ENGINEER <i>[Signature]</i> DATE: 8/1/12
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**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUM / REVISIONS

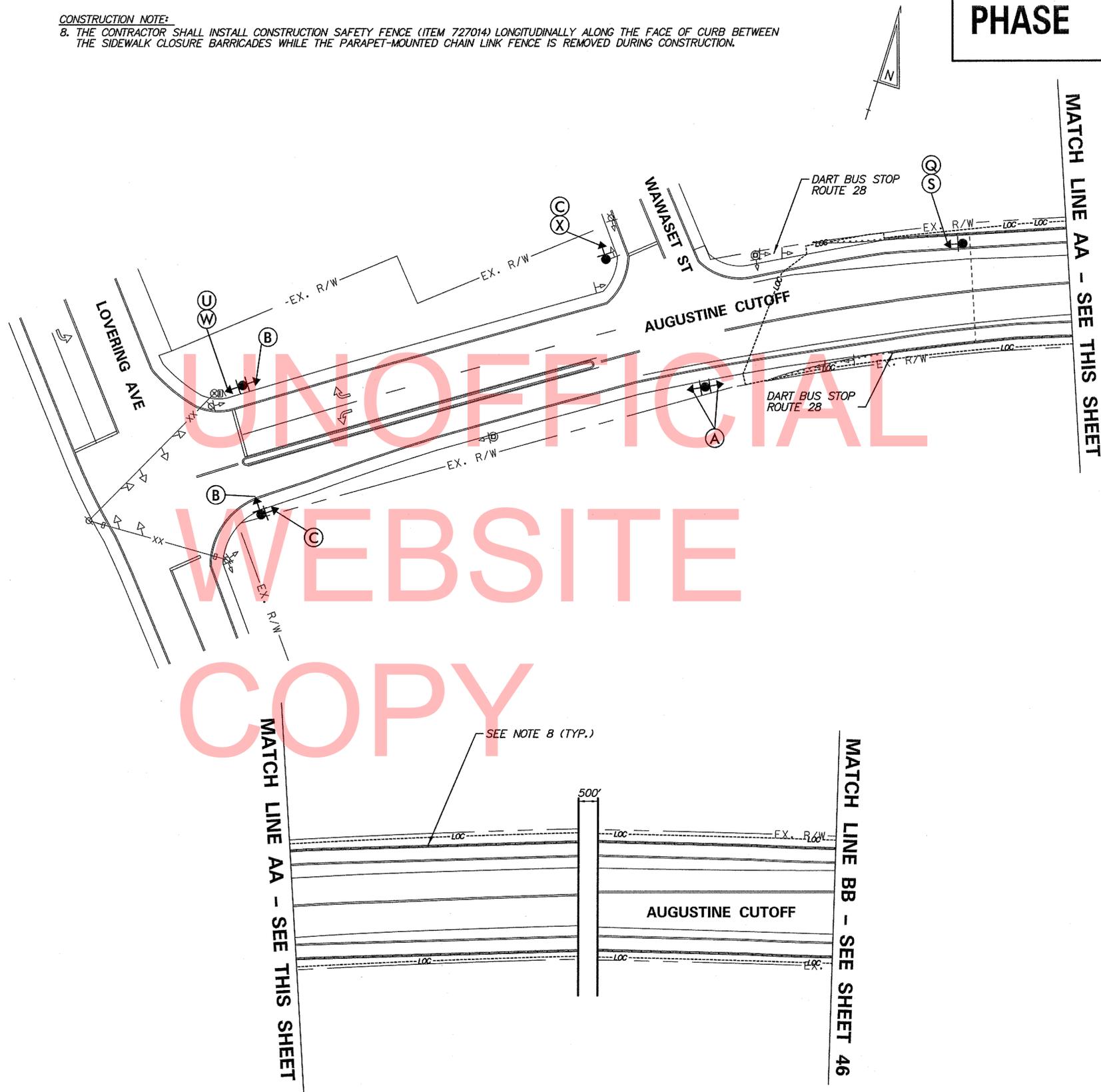


**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY: D.W.C.	
COUNTY	CHECKED BY: M.J.B.	
NEW CASTLE		

<b>PEDESTRIAN DETOUR PLAN</b>	SHEET NO.	44
<b>AUGUSTINE CUTOFF</b>	TOTAL SHTS.	48

CONSTRUCTION NOTE:  
8. THE CONTRACTOR SHALL INSTALL CONSTRUCTION SAFETY FENCE (ITEM 727014) LONGITUDINALLY ALONG THE FACE OF CURB BETWEEN THE SIDEWALK CLOSURE BARRICADES WHILE THE PARAPET-MOUNTED CHAIN LINK FENCE IS REMOVED DURING CONSTRUCTION.



<b>(A)</b> DETOUR ↑	<b>(B)</b> DETOUR ←	<b>(C)</b> DETOUR →
<b>(D)</b> DETOUR ↙	<b>(E)</b> DETOUR ↘	<b>(F)</b> END DETOUR
<b>(G)</b> DETOUR AHEAD	<b>(H)</b> DETOUR 1000 FT	<b>(I)</b> DETOUR 500 FT
<b>(J)</b> ROAD CLOSED AHEAD	<b>(K)</b> ROAD CLOSED 1000 FT	<b>(L)</b> ROAD CLOSED 500 FT
<b>(M)</b> ROAD NAME	<b>(N)</b> DETOUR ←	<b>(O)</b> DETOUR →
<b>(P)</b> ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	<b>(Q)</b> SIDEWALK CLOSED R9-9 (24" x 12")	<b>(R)</b> ROAD CLOSED TO THRU TRAFFIC
<b>(S)</b> BARRICADE		

SPECIAL SIGNS



GENERAL NOTES

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- "S" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK.

RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_

RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_

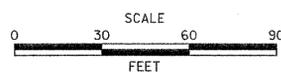
RECOMMENDED *[Signature]* DATE: 8/1/12

APPROVED CHIEF SAFETY OFFICER *[Signature]* DATE: 8-1-12

APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 8/2/12



ADDENDUM / REVISIONS



BR 1-585  
ON N049 AUGUSTINE CUTOFF OVER  
BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1 585 049
T201007402	DESIGNED BY:	D.W.C.
COUNTY	CHECKED BY:	M.J.B.
NEW CASTLE		

PEDESTRIAN DETOUR PLAN  
AUGUSTINE CUTOFF

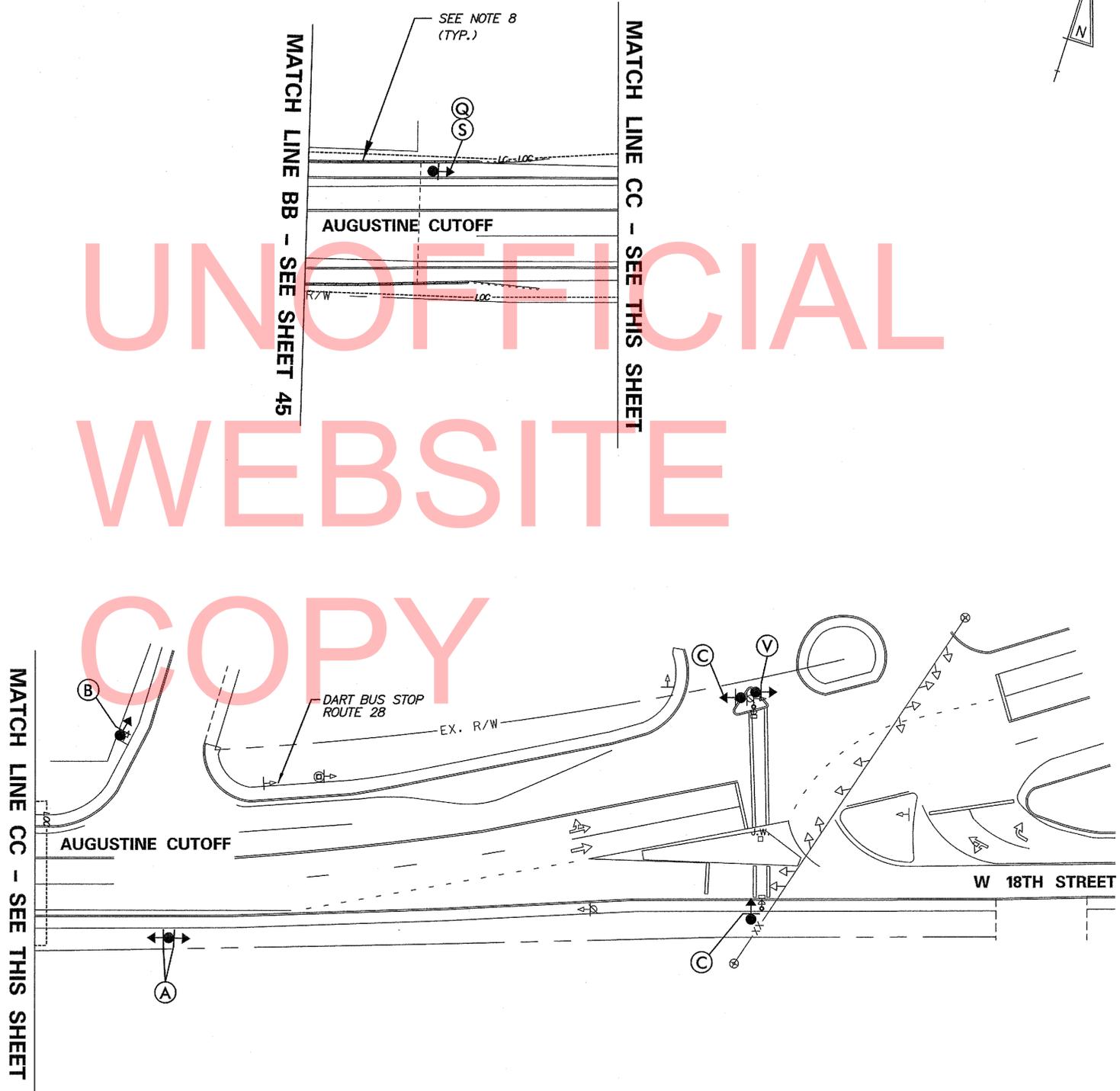
SHEET NO.	45
TOTAL SHTS.	48

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CONSTRUCTION NOTE:  
 8. THE CONTRACTOR SHALL INSTALL CONSTRUCTION SAFETY FENCE (ITEM 727014) LONGITUDINALLY ALONG THE FACE OF CURB BETWEEN THE SIDEWALK CLOSURE BARRICADES WHILE THE PARAPET-MOUNTED CHAIN LINK FENCE IS REMOVED DURING CONSTRUCTION.

(A)	(B)	(C)
(D)	(E)	(F)
(G)	(H)	(I)
(J)	(K)	(L)
(M)	(N)	(O)
(P)	(Q)	(R)
(S)		

SPECIAL SIGNS



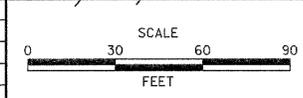
GENERAL NOTES

- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE TO THE DE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN 'THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE-MUTCD PART 6)' FOR BARRICADES AND SIGNS (AS PER LATEST REVISION)
- FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WILL PREVAIL.
- SIGNS J THROUGH L AND P THROUGH R, THE WORD (ROAD) SHOULD BE CHANGED TO RAMP, R/R, SIDEWALK OR BRIDGE WHERE APPLICABLE.
- WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.
- \*S\* BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK.

RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_ RECOMMENDED \_\_\_\_\_ DATE: \_\_\_\_\_ RECOMMENDED *Paul P. [Signature]* DATE: 8/1/12 APPROVED CHIEF SAFETY OFFICER *Shirley A. [Signature]* DATE: 8-1-12 APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 8/2/12

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS



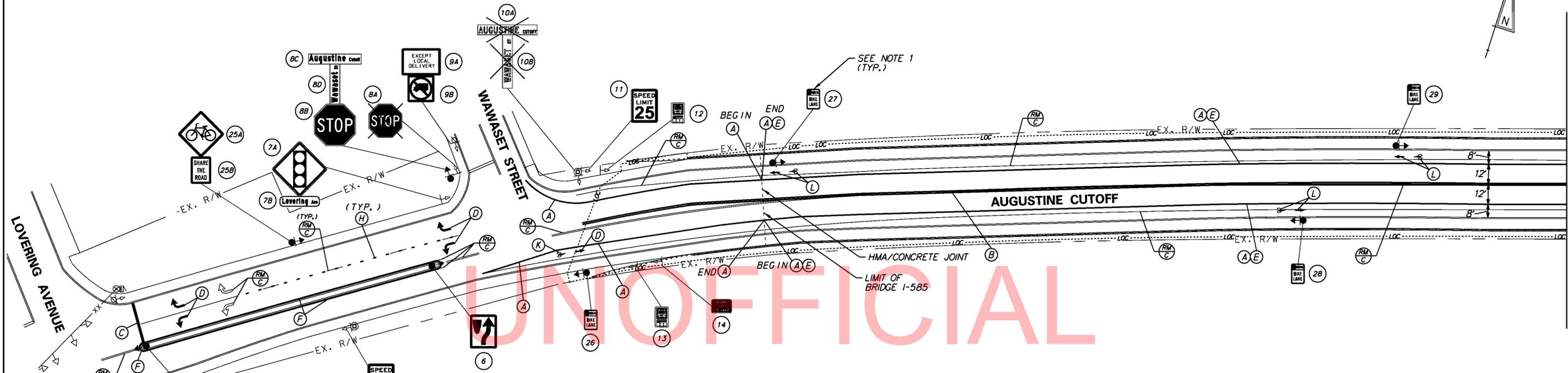
BR 1-585  
 ON N049 AUGUSTINE CUTOFF OVER BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1 585 049
T201007402	DESIGNED BY: D.W.C.	
COUNTY	CHECKED BY: M.J.B.	
NEW CASTLE		

PEDESTRIAN DETOUR PLAN	SHEET NO.	46
AUGUSTINE CUTOFF	TOTAL SHTS.	48

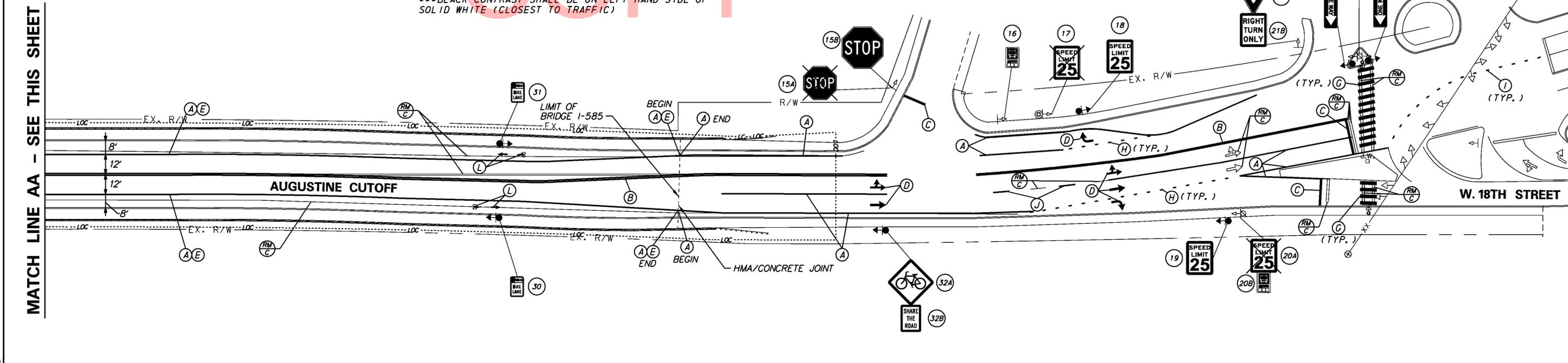
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NOTE:  
 1. IN ACCORDANCE WITH SECTION 2A.18 OF THE 2011 DE MUTCD, THE MINIMUM HEIGHT, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK, OF SIGNS INSTALLED ABOVE SIDEWALKS SHALL BE 7 FEET.



PAVEMENT MARKINGS LEGEND			PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY	SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY RESIN PAVEMENT STRIPING (ITEM 748548)	3030 LF	(G)	10' x 2" SOLID WHITE ALKYD THERMOPLASTIC PAVEMENT STRIPING (ITEM 748015)	320 SF
(B)	5" SOLID DOUBLE YELLOW EPOXY RESIN PAVEMENT STRIPING (ITEM 748548)	2255 LF	(H)	5" DOTTED WHITE EPOXY RESIN PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 748548)	78 LF
(C)	16" SOLID WHITE ALKYD THERMOPLASTIC PAVEMENT STRIPING (ITEM 748015)	105 SF	(I)	5" DOTTED WHITE ALKYD THERMOPLASTIC PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 748033)	28 LF
(D)	WHITE ALKYD THERMOPLASTIC PAVEMENT SYMBOL/LEGEND (ITEM 748015)	180 SF	(J)	5" BROKEN WHITE EPOXY RESIN PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748548)	20 LF
(E)	3" SOLID BLACK EPOXY RESIN PAVEMENT STRIPING (ITEM 748557) ***	1745 LF	(K)	PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKING, BIKE SYMBOL (ITEM 748553)	1 EA
(F)	5" SOLID YELLOW EPOXY RESIN PAVEMENT STRIPING (ITEM 748548)	390 LF	(L)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, SYMBOL/LEGEND (ITEM 748529)	70 SF

\*\*\*BLACK CONTRAST SHALL BE ON LEFT-HAND SIDE OF SOLID WHITE (CLOSEST TO TRAFFIC)



MATCH LINE AA - SEE THIS SHEET

MATCH LINE AA - SEE THIS SHEET

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PERMANENT SIGN SCHEDULE

SHEET NO.	NO.	CODE	DESCRIPTION	ASSEMBLY NO.	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	SIGN DISPOSITION	ITEM 749687 SINGLE POST (EACH)		ITEM 749690 MULTI POST (SF)		ITEM 749688 4" HOLE, 0-6" (EACH)	ITEM 749689 4" HOLE, >6" (EACH)	REMARKS	
									REMOVE	INSTALL	REMOVE	INSTALL				
47	1		ADVANCED INTERSECTION CONTROL				-	REMAIN								
47	2A		STREET NAME	2			-	REMOVE	1							
47	2B		STREET NAME	2			-	REMOVE	1							
47	3A	D3-1	STREET NAME	3	48	9	3	INSTALL		1					6" & 3" C-SERIES	
47	3B	D3-1	STREET NAME	3	36	9	2.25	INSTALL		1					6" & 3" C-SERIES	
47	4	R4-7	KEEP RIGHT		24	30	5	INSTALL		1			1			
47	5		SPEED LIMIT				-	REMAIN							25 M.P.H.	
47	6	R4-7	KEEP RIGHT		24	30	5	INSTALL		1			1			
47	7A		SIGNAL AHEAD	7			-	REMAIN								
47	7B	W16-8P	ADVANCE STREET NAME	7	36	9	2.25	INSTALL		1					5" & 3" C-SERIES	
47	8A		STOP	8			-	REMOVE	1							
47	8B	R1-1	STOP	8	36	36	9	INSTALL		1						
47	8C	D3-1	STREET NAME	8	48	9	3	INSTALL		1					6" & 3" C-SERIES	
47	8D	D3-1	STREET NAME	8	36	9	2.25	INSTALL		1					6" & 3" C-SERIES	
47	9A		WEIGHT LIMIT	9			-	REMAIN							"EXCEPT LOCAL DELIVERY"	
47	9B		TRUCK PROHIBITION	9			-	REMAIN								
47	10A		STREET NAME	10			-	REMOVE	1							
47	10B		STREET NAME	10			-	REMOVE	1							
47	11		SPEED LIMIT				-	REMAIN							25 M.P.H.	
47	12		BUS STOP				-	REMAIN								
47	13		BUS STOP				-	REMAIN								
47	14		ADOPT-A-HIGHWAY				-	REMAIN								
47	15A		STOP	15			-	REMOVE	1							
47	15B	R1-1	STOP	15	36	36	9	INSTALL		1						
47	16		BUS STOP				-	REMAIN								
47	17		SPEED LIMIT				-	REMOVE	1						25 M.P.H.	
47	18	R2-1-25	SPEED LIMIT		24	30	5	INSTALL		1					25 M.P.H.	
47	19	R2-1-25	SPEED LIMIT		24	30	5	INSTALL		1					25 M.P.H.	
47	20A		SPEED LIMIT	20			-	REMOVE	1						25 M.P.H.	
47	20B		BUS STOP	20			-	REMAIN								
47	21A		YIELD	21			-	REMAIN								
47	21B		MANDATORY MOVEMENT	21			-	REMAIN								
47	22	R6-1R	ONE WAY		36	12	3	INSTALL		1			1			
47	23A		ONE WAY	23			-	REMOVE	1							
47	23B		ONE WAY	23			-	REMOVE	1							
47	24	R6-1L	ONE WAY		36	12	3	INSTALL		1			1			
47	25A	W11-1	BICYCLE	25	30	30	6.25	INSTALL		1						
47	25B	W16-1P	SHARE THE ROAD	25	18	24	3	INSTALL		1						
47	26	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1						
47	27	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1			1			
47	28	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1			1			
47	29	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1			1			
47	30	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1			1			
47	31	R7-9	NO PARKING, BIKE LANE		12	18	1.5	INSTALL		1			1			
47	32A		BICYCLE	32	30	30	6.25	INSTALL		1						
47	32B		SHARE THE ROAD	32	18	24	3	INSTALL		1						
					TOTALS			84.25		10	23	0	0	9	0	

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No. 15599-013, CAD, 15502, Augustine Cut Off, 2012



ADDENDUMS / REVISIONS	

**BR 1-585**  
**ON N049 AUGUSTINE CUTOFF OVER**  
**BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	<b>1 585 049</b>
T201007402	DESIGNED BY:	D.W.C.
COUNTY	CHECKED BY:	M.J.B.
NEW CASTLE		

**SIGNING SCHEDULE**

SHEET NO.	48
TOTAL SHTS.	48