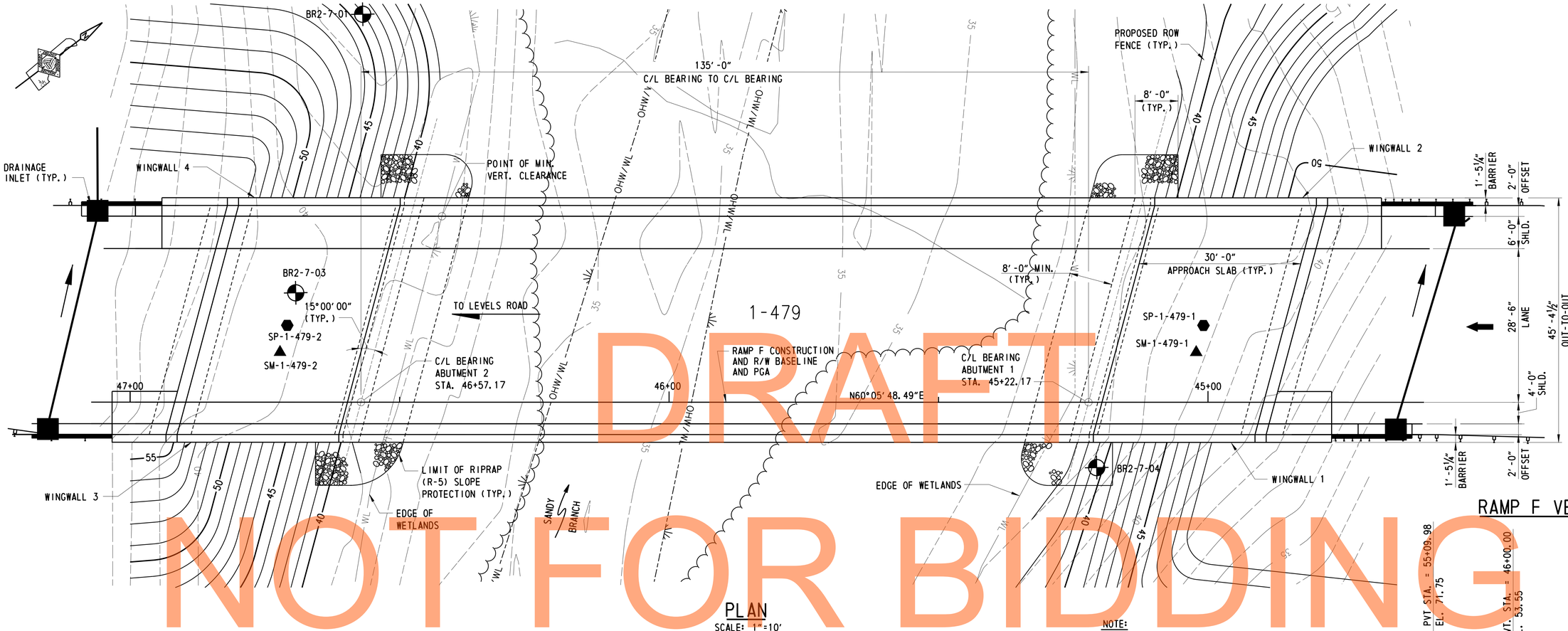
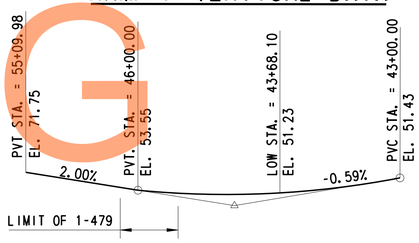


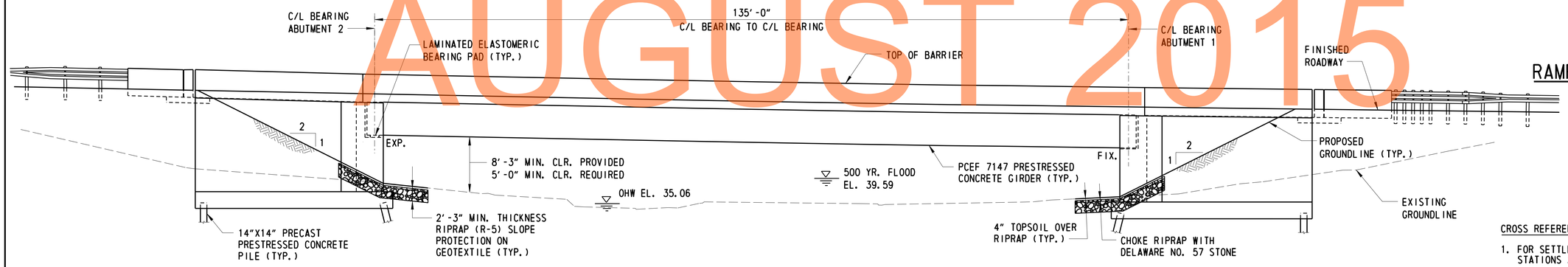
PLAN
SCALE: 1"=10'

NOTE:
BORING NUMBER BR2-7-02 IS NOT SHOWN ON PLAN, BUT IS LOCATED AT NORTHING 527402, EASTING 561887.

RAMP F VERTICAL DATA



PVI STA. = 44+50.00
EL. = 50.55
VC = 300.00
MO = 0.97
SSD = 702.35



ELEVATION
SCALE: 1"= 10'

RAMP F HORIZONTAL DATA

TANGENT

LEGEND

⬢ - SETTLEMENT PLATFORM
▲ - SETTLEMENT MONUMENT

CROSS REFERENCE NOTES:

1. FOR SETTLEMENT PLATFORM AND MONUMENT STATIONS AND OFFSETS, SEE DWG. NO. 1-479 DT-1.
2. FOR SETTLEMENT PLATFORM DETAILS, SEE DWG. NO. 1-479 DT-1.
3. RECESS AND CHOKE RIPRAP IN ACCORDANCE WITH THE STREAM RESTORATION AND SLOPE RIPRAP TREATMENT NOTES FOUND ON DWG. NO. EC-05.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 10 20 30
FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO. 1-479
T200911303	DESIGNED BY: PRH
COUNTY	CHECKED BY: JW
NEW CASTLE	

RAMP F OVER SANDY BRANCH
GENERAL PLAN AND ELEVATION

1-479 PE-1	
SHEET NO.	523
TOTAL SHTS.	1256

GENERAL NOTES

1. DESIGN SPECIFICATIONS:

   AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, 2007, INCLUDING 2008 AND 2009 INTERIM REVISIONS, AND AS SUPPLEMENTED BY DELAWARE DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, MAY 2005, INCLUDING LATEST REVISIONS.

   PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS, AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE, AND CONTRACT SPECIAL PROVISIONS.

   LIVE LOAD DISTRIBUTION TO BEAMS IS BASED UPON AASHTO DISTRUBUTION FACTORS.

2. LOADING:

   UNIT WEIGHTS OF MATERIALS SHALL BE IN ACCORDANCE WITH THE DELAWARE BRIDGE DESIGN MANUAL.

   FUTURE OVERLAY ALLOWANCE SHALL BE 25 LBS/SQ FT.

   STEEL BRIDGE DECK FORMS WHICH STAY IN PLACE (INCLUDING CONCRETE IN FORM CORRUGATIONS) SHALL BE 15 LBS/SQ FT.

   VEHICLE LIVE LOAD SHALL BE AASHTO HL-93 DESIGN VEHICLE, WHICH CONSISTS OF A DESIGN TRUCK OR TANDEM WITH DYNAMIC LOAD ALLOWANCE AND A LANE LOAD. RATINGS SHALL USE ALL DELAWARE LEGAL LOADS SPECIFIED IN THE BRIDGE DESIGN MANUAL.

   BARRIER HAS BEEN DESIGNED FOR TEST LEVEL FOUR (TL-4).

   FATIGUE DESIGN IS BASED ON THE FOLLOWING:
   PRESTRESSED CONCRETE: ADTT 1,236 (2030 ONE-DIRECTIONAL).

   FOR THERMAL LOADS, CONSIDER THE MODERATE TEMPERATURE RANGE AS STIPULATED IN THE AASHTO LRFD DESIGN SPECIFICATIONS, THE NORMAL TEMPERATURE SHALL BE CONSIDERED TO BE 68F.

   FOR SEISMIC LOADS, CONSIDER SEISMIC PERFORMANCE ZONE 1, WITH A SITE CLASS = D AND IMPORTANCE CATEGORY - ESSENTIAL.

   SEISMIC FORCES WERE CONSIDERED FOR ACCELERATION COEFFICIENT OF 0.08.

3. PORTLAND CEMENT CONCRETE:

   PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS SHALL BE AS FOLLOWS:
   (28 DAY COMPRESSIVE STRENGTH)
   ITEM NO. 602004 (CLASS B, f'c=3000 PSI) - ABUTMENT FOOTING
   ITEM NO. 602013 (CLASS D, f'c=4500 PSI) - DECK AND DIAPHRAGMS
   ITEM NO. 602014 (CLASS D, f'c=4500 PSI) - APPROACH SLAB, MOMENT SLAB AND SLEEPER SLAB
   ITEM NO. 602015 (CLASS A, f'c=4500 PSI) - ABUTMENT ABOVE FOOTING
   ITEM NO. 602017 (CLASS A, f'c=4500 PSI) - BARRIER

   RAKE FINISH ALL HORIZONTAL CONSTRUCTION, EXCEPT AS INDICATED.

   CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINTS PARALLEL TO BRIDGE CENTERLINE OF BEARING.

   PLACE CHEEKWALL AND BACKWALL CONCRETE AFTER BEAMS HAVE BEEN SET IN POSITION.

   DECK SLAB THICKNESS INCLUDES ½" INTEGRAL WEARING SURFACE.

   MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

   ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH ¾" X ¾" MILLED CHAMFER STRIPS UNLESS NOTED OTHERWISE, EXCEPT ON UNEXPOSED FOOTINGS OR WHERE INDICATED BY THE NOTATION ON THE PLANS, "DO NOT CHAMFER".

   NO SLIP-FORMING OF BARRIERS IS PERMITTED, UNLESS NOTED OTHERWISE.

4. BAR REINFORCEMENT:

   REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.

   PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.

   FUSION-BONDED EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963), AND SHALL BE DENOTED WITH A SUFFIX "E" IN THE BAR MARKS

   DO NOT WELD GRADE 60 REINFORCING STEEL, UNLESS NOTED OTHERWISE.

5. PRESTRESSED CONCRETE DESIGN:

   THE PRECAST CONCRETE GIRDERS ARE DESIGNED AS NONCOMPOSITE FOR ALL DEAD LOADS EXCEPT THE BARRIERS AND FUTURE WEARING SURFACE. THE PRECAST GIRDERS ARE DESIGNED AS COMPOSITE FOR LIVE LOADS AS WELL AS THE BARRIER AND FUTURE WEARING SURFACE DEAD LOADS.

   PRESTRESSED CONCRETE:

   THE MINIMUM COMPRESSIVE STRENGTH FOR PRESTRESSED CONCRETE AT THE AGE OF 28 DAYS SHALL BE f'c=8,000 PSI. THE MINIMUM COMPRESSIVE STRENGTH AT THE TRANSFER OF PRESTRESS SHALL BE f'ci=6,400 PSI.

   PRESTRESSED STEEL:

   PRETENSIONING STEEL FOR BEAMS SHALL CONSIST OF HIGH STRENGTH 7-WIRE LOW RELAXATION STRANDS, WITH A NOMINAL 0.60 INCH DIAMETER, CONFORMING TO THE REQUIREMENTS OF AASHTO M203 (ASTM A416) GRADE 270. EACH 0.60 INCH DIAMETER STRAND SHALL BE PRETENSIONED TO 43,942 LBS. (0.75 Fpu).

   AFTER ESTIMATED LOSSES OF 27,499 PSI, THE FINAL EFFECTIVE PRESTRESS FORCE PER STRAND IS 37,975 LBS.

6. SERVICEABILITY:

   LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/800.

   FOR REINFORCEMENT DISTRIBUTION REQUIREMENTS, CONSIDER CLASS 2 EXPOSURE CRITERIA FOR DECKS.

7. CONSTRUCTION JOINTS:

   KEYED CONSTRUCTION JOINTS SHALL BE 2" X 4" OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINT EDGES SHALL HAVE A ¾" V-NOTCH, UNLESS NOTED OTHERWISE.

8. STRUCTURAL BACKFILL:

   STRUCTURAL BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF BORROW TYPE C.

9. UTILITIES:

   COORDINATE ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH SECTION 107.04 OF THE STANDARD SPECIFICATIONS.

   VERIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO STARTING WORK. CONDUCT OPERATIONS IN A MANNER WHICH ENSURES THAT THE UTILITIES WILL NOT BE DISTURBED OR ENDANGERED AND ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES DURING CONSTRUCTION. THE DEPARTMENT DOES NOT ASSUME RESPONSIBILITY FOR REIMBURSEMENT, PARTICIPATION IN DESIGN AND/OR REVISION, OR LIABILITY FOR ACCURACY OF TYPE, SIZE AND LOCATION OF ANY UTILITY.

10. HYDRAULIC DATA:

    DRAINAGE AREA = 0.46 SQ. MILES
    DESIGN FREQUENCY = 100 YEARS
    DESIGN FLOOD ELEVATION = 38.36
    25-YR FLOOD ELEVATION = 37.54
    DESIGN DISCHARGE (100-YR) = 973 CFS
    PROPOSED OPENING = 1,134 SF

THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH HEC-18- 'EVALUATING SCOUR AT BRIDGES' AND HEC-23- 'BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES'. SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE WORST CASE OF THE OVERTOPPING FLOOD OR THE 500-YR FLOOD EVENT.

DESIGN EVENT: 500 YR — DESIGN VELOCITY: 10.7 FT/S

DESIGN DISCHARGE: 1640 CFS — DESIGN DEPTH OF FLOW: 5.3 FT

INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	TITLE
523	1-479 PE-1	GENERAL PLAN AND ELEVATION
524	1-479 GN-1	GENERAL NOTES AND INDEX OF DRAWINGS
525	1-479 TS-1	TYPICAL SECTION AND QUANTITIES
526	1-479 FT-1	GEOMETRIC LAYOUT
527	1-479 FT-2	ABUTMENT 1 PILE PLAN
528	1-479 FT-3	ABUTMENT 2 PILE PLAN
529	1-479 PL-1	PILE DETAILS
530	1-479 AB-1	ABUTMENT 1 PLAN AND ELEVATION
531	1-479 AB-2	ABUTMENT 1 FOOTING REINFORCEMENT PLAN 1
532	1-479 AB-3	ABUTMENT 1 FOOTING REINFORCEMENT PLAN 2
533	1-479 AB-4	ABUTMENT 1 REINFORCEMENT DETAILS 1
534	1-479 AB-5	ABUTMENT 1 REINFORCEMENT DETAILS 2
535	1-479 AB-6	ABUTMENT 2 PLAN AND ELEVATION
536	1-479 AB-7	ABUTMENT 2 FOOTING REINFORCEMENT PLAN 1
537	1-479 AB-8	ABUTMENT 2 FOOTING REINFORCEMENT PLAN 2
538	1-479 AB-9	ABUTMENT 2 REINFORCEMENT DETAILS 1
539	1-479 AB-10	ABUTMENT 2 REINFORCEMENT DETAILS 2
540	1-479 WW-1	WINGWALL ELEVATIONS
541	1-479 WW-2	WINGWALL DETAILS 1
542	1-479 WW-3	WINGWALL DETAILS 2
543	1-479 BR-1	ABUTMENT 1 REINFORCEMENT SCHEDULE
544	1-479 BR-2	ABUTMENT 2 REINFORCEMENT SCHEDULE
545	1-479 BD-1	BEARING DETAILS
546	1-479 FR-1	FRAMING PLAN
547	1-479 BM-1	GIRDER PLAN AND ELEVATION
548	1-479 BM-2	GIRDER DETAILS
549	1-479 DPH-1	DIAPHRAGM DETAILS
550	1-479 DK-1	DECK POURING SEQUENCE
551	1-479 DK-2	DECK AND BARRIER REINFORCEMENT
552	1-479 DK-3	DECK DETAILS
553	1-479 AS-1	APPROACH SLAB AND BARRIER REINFORCEMENT
554	1-479 AS-2	APPROACH SLAB DETAILS
555	1-479 BR-3	DECK REINFORCEMENT SCHEDULE
556	1-479 FD-1	FINISHED DECK ELEVATIONS
557	1-479 FD-2	FINISHED APPROACH SLAB ELEVATIONS
558	1-479 EX-1	EXPANSION JOINT DETAILS
559	1-479 DT-1	SETTLEMENT PLATFORM DETAIL
560	1-479 BO-1	TEST BORINGS

LOAD RATING SUMMARY

DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TONS)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.06	N/A	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
HL-93 TANDEM (INVENTORY)	1.26	N/A	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
HL-93 TRUCK TRAIN (INVENTORY)	N/A	N/A	N/A	N/A	N/A
HS-20 (INVENTORY)	1.61	57.94	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
HL-93 TRUCK (OPERATING)	1.65	N/A	EXTERIOR BEAM	105	LONG. REINF. MAX. EFFECTS MAX. MOMENT W/ CONCURRENT SHEAR
HL-93 TANDEM (OPERATING)	1.94	N/A	EXTERIOR BEAM	105	LONG. REINF. MAX. EFFECTS MAX. MOMENT W/ CONCURRENT SHEAR
HL-93 TRUCK TRAIN (OPERATING)	N/A	N/A	N/A	N/A	N/A
HS-20 (OPERATING)	2.18	78.37	INTERIOR BEAM	106	LONG. REINF. MIN. EFFECTS MAX. SHEAR W/ CONCURRENT MOMENT
DE S220 (LEGAL)	2.25	44.93	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
DE S335 (LEGAL)	1.26	44.25	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
DE S437 (LEGAL)	1.20	44.13	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
DE T330 (LEGAL)	1.63	49.01	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
DE T435 (LEGAL)	1.42	49.64	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER
DE T540 (LEGAL)	1.25	49.94	INTERIOR BEAM	105	CONC. STRESS MAX. EFFECTS DL+PS+LL BOT. OF GIRDER

NOTE: LOAD RATING DOES INCLUDE FUTURE WEARING SURFACE AS NOTED IN THE PLANS.

P:\cadd2\60049040 US301\Structure\Plans\FINAL\SUB\GN01BR27.dgn

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

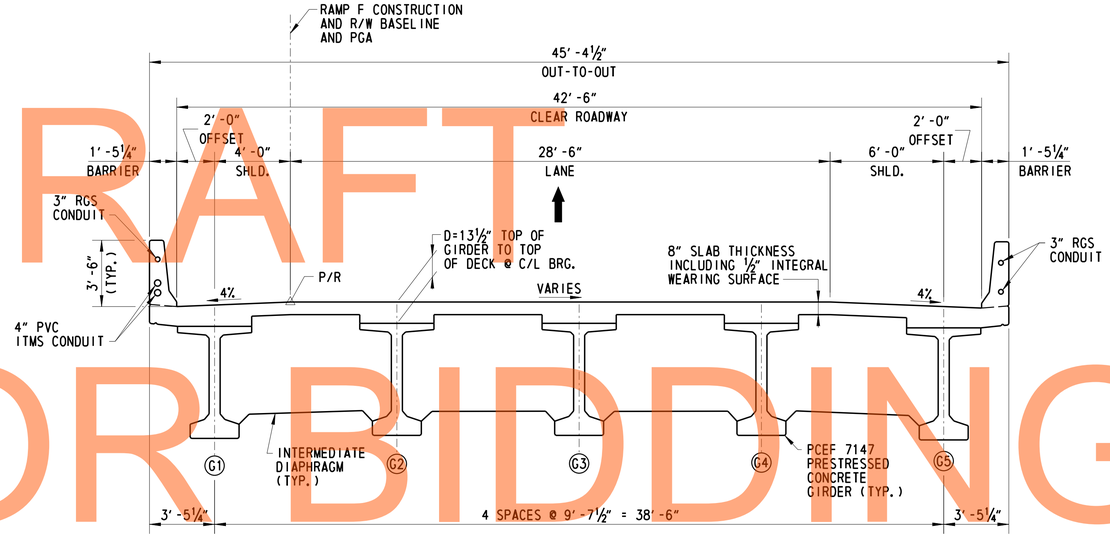
CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO. 1-479
DESIGNED BY: EE
CHECKED BY: JW

RAMP F OVER SANDY BRANCH
GENERAL NOTES AND INDEX OF DRAWINGS

1-479 GN-1
SHEET NO. 524
TOTAL SHTS. 1256

ESTIMATED BRIDGE QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY
202505	SETTLEMENT PLATFORM	EACH	2
202518	SETTLEMENT MONUMENT	EACH	2
207000	EXCAVATION AND BACKFILL FOR STRUCTURES	CY	559
302012	DELAWARE NO. 57 STONE	TON	13
602004	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT FOOTING, CLASS B	CY	252
602013	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	225
602014	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	209
602015	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY	341
602017	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	58
603000	BAR REINFORCEMENT	LB	36,886
604000	BAR REINFORCEMENT, EPOXY COATED	LB	126,860
605512	PREFABRICATED EXPANSION JOINT SYSTEM, 4"	LF	95
605581	ELASTOMERIC BRIDGE BEARING PAD	EA	10
618041 (ALTERNATE)	FURNISH CAST-IN-PLACE CONCRETE PILES, 14"	LF	5,253
618046 (ALTERNATE)	FURNISH CAST-IN-PLACE CONCRETE TEST PILES, 14"	LF	249
618081	FURNISH PRECAST PRESTRESSED CONCRETE PILE, 14"x14"	LF	6,073
618091	FURNISH PRECAST PRESTRESSED CONCRETE TEST PILE, 14"x14"	LF	281
619021 (ALTERNATE)	INSTALL CAST-IN-PLACE CONCRETE PILES, 14"	LF	5,253
619025 (ALTERNATE)	INSTALL CAST-IN-PLACE CONCRETE TEST PILES, 14"	LF	249
619061	INSTALL PRECAST PRESTRESSED CONCRETE PILE, 14"x14"	LF	6,073
619067	INSTALL PRECAST PRESTRESSED CONCRETE TEST PILE, 14"x14"	LF	281
619501	PRODUCTION PILE RESTRIKE	EACH	6
619502	TEST PILE RESTRIKE	EADY	4
619519	DYNAMIC PILE TESTING BY CONTRACTOR	EACH	4
619539	SIGNAL MATCHING ANALYSIS BY CONTRACTOR	EACH	4
623003	PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB TBEAM	LS	-
712006	RIPRAP, R-5	SY	141
713003	GEOTEXTILE, RIPRAP	SY	141
733001	TOPSOILING, 4" DEPTH	SY	282



TYPICAL SECTION
STATIONS AHEAD
SCALE: ¼" = 1'-0"

RAMP F SUPERELEVATION TRANSITION

STATION	CROSS SLOPE (LANE)
44+33.08	4%
45+23.08	2%
46+13.08	0%
47+03.08	2%

CROSS REFERENCE NOTES:

1. FOR GIRDER PLAN AND ELEVATION, SEE DWG. NO. 1-479 BM-1.
2. FOR GIRDER DETAILS, SEE DWG. NO. 1-479 BM-2.
3. FOR INTERMEDIATE AND END DIAPHRAGM DETAILS, SEE DWG. NO. 1-479 DPH-1.
4. FOR DECK AND BARRIER REINFORCEMENT, SEE DWG. NO. 1-479 DK-2.
5. FOR DECK DETAILS, SEE DWG. NO. 1-479 DK-3.
6. FOR FINISHED DECK ELEVATIONS, SEE DWG. 1-479 FD-1.
7. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
8. FOR CONDUIT DETAILS, SEE DWG. NO. DT-07.

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

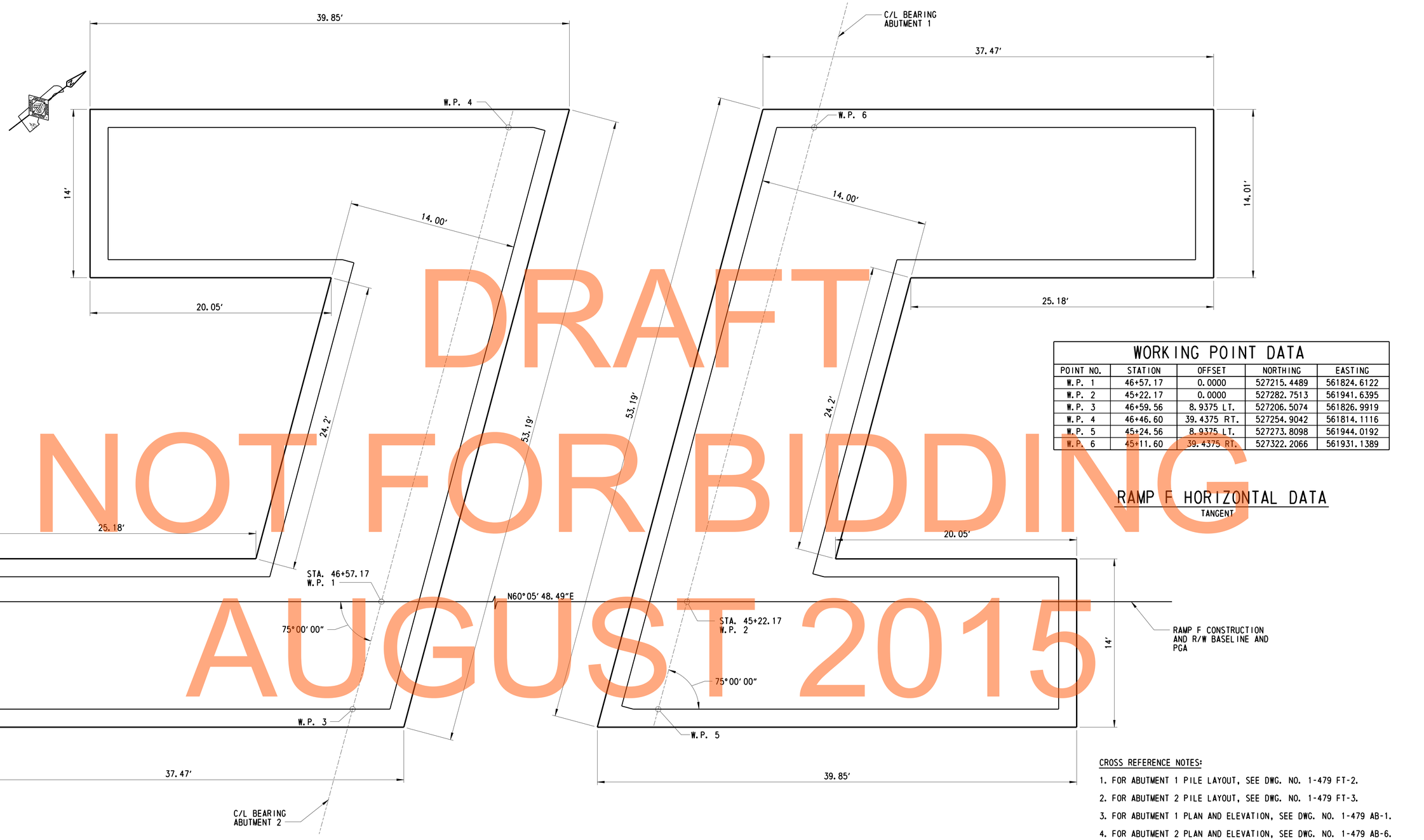
SCALE 0 2 8 / 1 4 FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY: LT	
COUNTY	CHECKED BY: JW	
NEW CASTLE		

RAMP F OVER SANDY BRANCH
TYPICAL SECTION AND QUANTITIES

1-479 TS-1
SHEET NO. 525
TOTAL SHTS. 1256



WORKING POINT DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING
W.P. 1	46+57.17	0.0000	527215.4489	561824.6122
W.P. 2	45+22.17	0.0000	527282.7513	561941.6395
W.P. 3	46+59.56	8.9375 LT.	527206.5074	561826.9919
W.P. 4	46+46.60	39.4375 RT.	527254.9042	561814.1116
W.P. 5	45+24.56	8.9375 LT.	527273.8098	561944.0192
W.P. 6	45+11.60	39.4375 RT.	527322.2066	561931.1389

RAMP F HORIZONTAL DATA

TANGENT

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PILE LAYOUT, SEE DWG. NO. 1-479 FT-2.
2. FOR ABUTMENT 2 PILE LAYOUT, SEE DWG. NO. 1-479 FT-3.
3. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
4. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.

GEOMETRIC LAYOUT

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

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 2 8
1 4
FEET

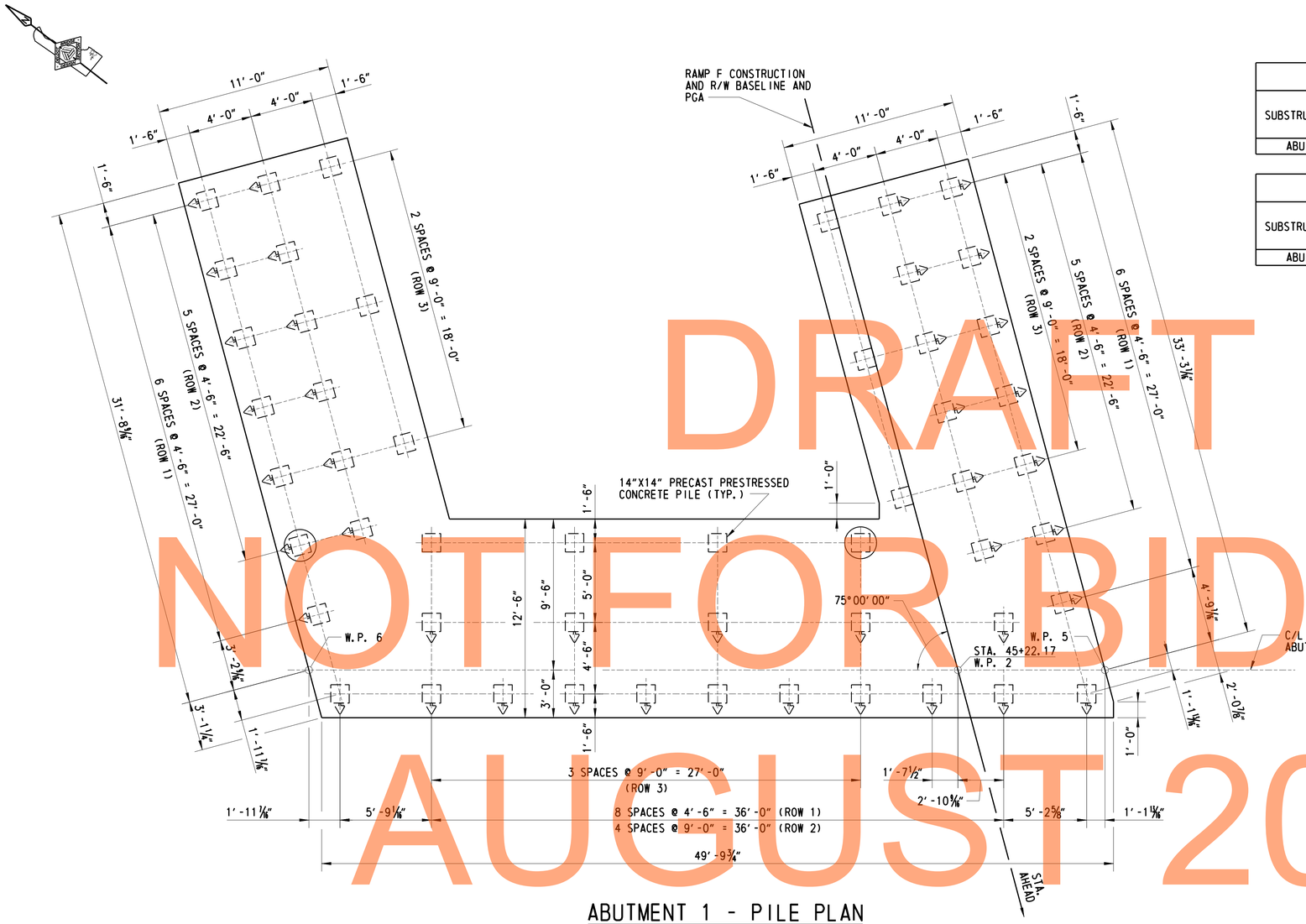
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: EE
CHECKED BY: JW

RAMP F OVER
SANDY BRANCH
GEOMETRIC LAYOUT

1-479 FT-1
SHEET NO. 526
TOTAL SHTS. 1256



ABUTMENT 1 - PILE PLAN

SCALE: ¼"= 1'-0"

PILE INSTALLATION DATA

SUBSTRUCTURE UNIT	DESIGN DATA		ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (KIP)	ESTIMATED TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 1	377	-20.00		

PILE INSTALLATION DATA (MONOTUBE ALTERNATE)

SUBSTRUCTURE UNIT	DESIGN DATA		ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (KIP)	ESTIMATED TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 1	377	-18.00		

PILE DRIVING INFORMATION

PILE SIZE AND TYPE:
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
AVERAGE ACTUAL BLOWS/FT.:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

PILE LEGEND

BATTERED PILE

PLUMB PILE

AND TEST PILE

CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
3. FOR ABUTMENT 1 TYPICAL SECTION, SEE DWG. NO. 1-479 AB-4.
4. FOR PILE DETAILS, SEE DWG. NO. 1-479 PL-1.
5. FOR FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-2 AND 1-479 AB-3.
6. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 2 8
1 4
FEET

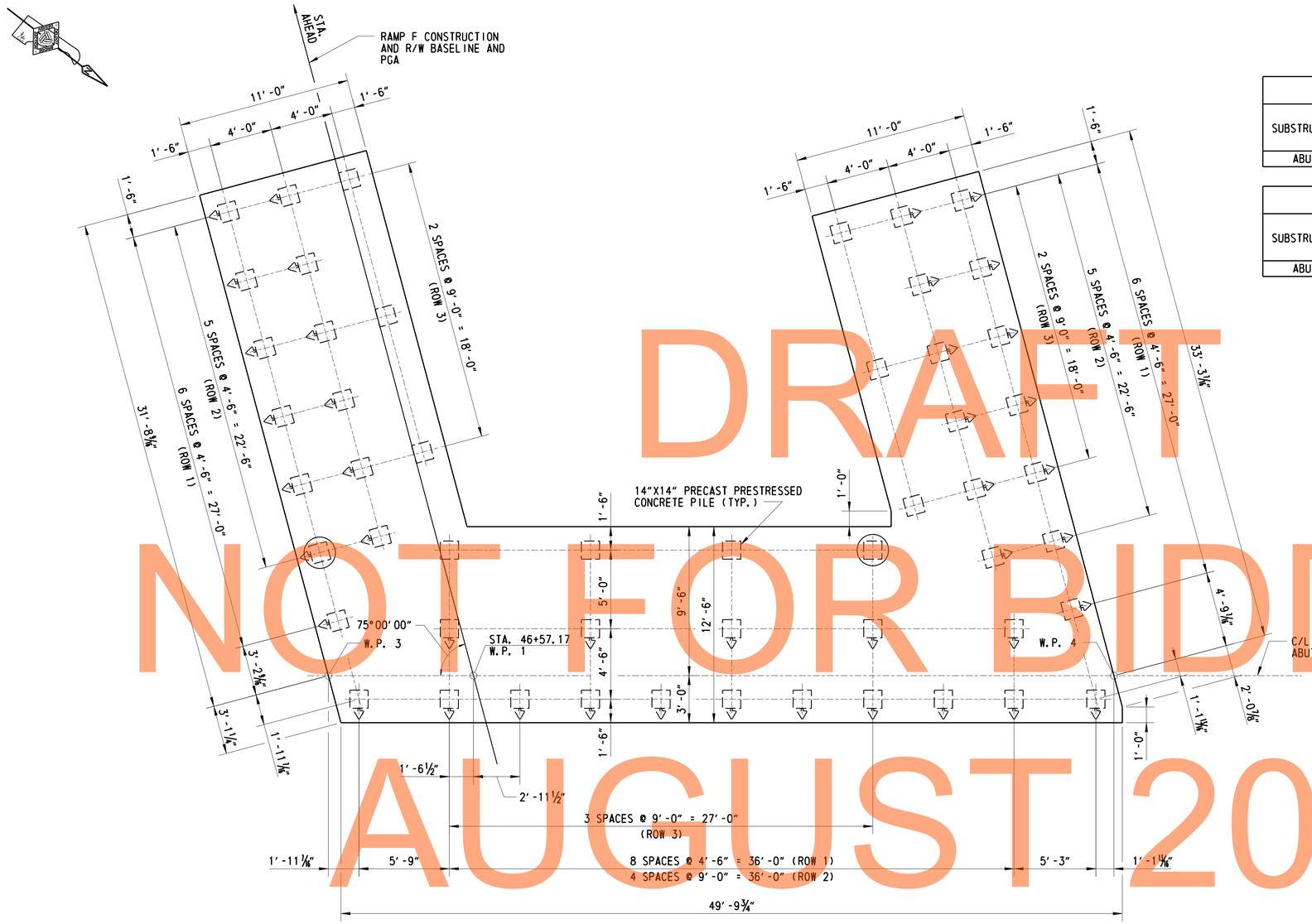
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: JW

RAMP F OVER SANDY BRANCH
ABUTMENT 1 PILE PLAN

1-479 FT-2
SHEET NO. 527
TOTAL SHTS. 1256



ABUTMENT 2 - PILE PLAN

SCALE: ¼" = 1'-0"

PILE INSTALLATION DATA

SUBSTRUCTURE UNIT	DESIGN DATA		ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (KIP)	ESTIMATED TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 2	377	-30.00		

PILE INSTALLATION DATA (MONOTUBE ALTERNATE)

SUBSTRUCTURE UNIT	DESIGN DATA		ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (KIP)	ESTIMATED TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 2	377	-16.00		

PILE DRIVING INFORMATION

PILE SIZE AND TYPE:
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
AVERAGE ACTUAL BLOWS/FT.:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

PILE LEGEND

BATTERED PILE

PLUMB PILE

AND TEST PILE

CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
3. FOR ABUTMENT 2 TYPICAL SECTION, SEE DWG. NO. 1-479 AB-9.
4. FOR PILE DETAILS, SEE DWG. NO. 1-479 PL-1.
5. FOR FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-7 AND 1-479 AB-8.
6. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

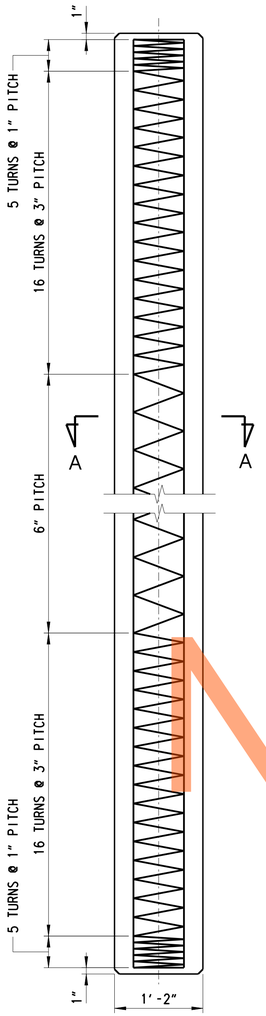
SCALE 0 2 4 8 FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: JW

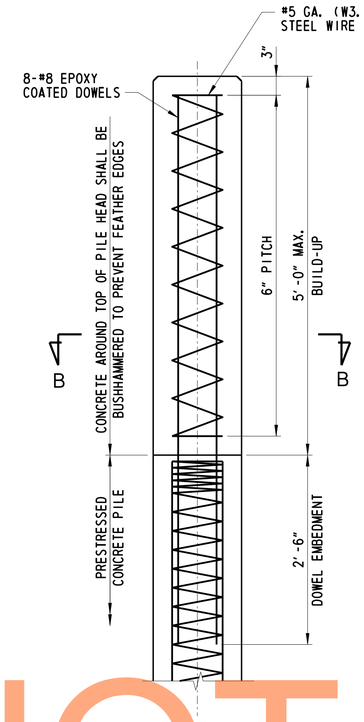
RAMP F OVER SANDY BRANCH
ABUTMENT 2 PILE PLAN

1-479 FT-3
SHEET NO. 528
TOTAL SHTS. 1256



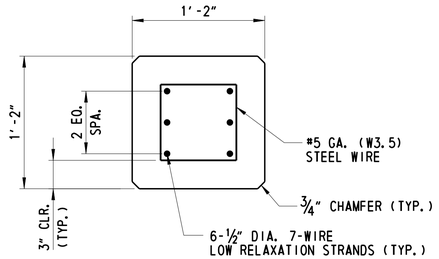
PRESTRESSED CONCRETE PILE

SCALE: 1" = 1'-0"



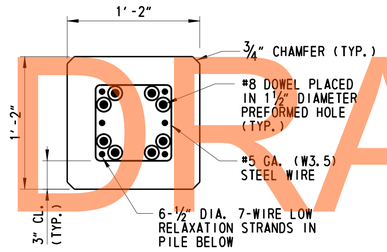
BUILD-UP DETAIL

SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1½" = 1'-0"



SECTION B-B

SCALE: 1½" = 1'-0"

NOTES:

1. THE COMPRESSIVE STRENGTH OF THE PILE BUILD-UP SHALL BE f'c=6000 PSI.
2. PREFORMED DOWEL HOLES SHALL BE LONG ENOUGH TO ALLOW FOR ANTICIPATED PILE CUT-OFFS AND THE NET CROSS-SECTIONAL AREA SHALL BE CONSIDERED IN THE WAVE EQUATION.
3. ONCE DOWELS ARE PLACED, THE HOLES SHALL BE FILLED WITH AN APPROVED EPOXY GROUT. MINIMUM COMPRESSIVE STRENGTH OF EPOXY GROUT SHALL BE f'c=6000 PSI.
4. PRIOR TO THE GROUTING PROCEDURE, PREFORMED HOLES SHALL REMAIN PLUGGED TO ENSURE THAT WATER AND FOREIGN MATERIAL DO NOT ENTER.
5. DOWEL HOLES SHALL BE POSITIONED TO MAINTAIN 1" CLEAR DISTANCE FROM ALL PRESTRESSING STRANDS IN THE PILE.

ADDITIONAL NOTES FOR CAST-IN-PLACE ALTERNATE:

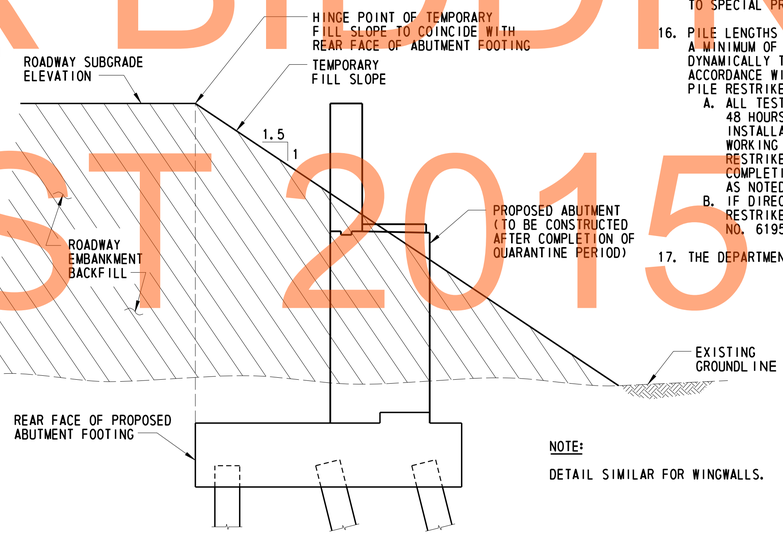
1. A ONE TO ONE SUBSTITUTION OF 14" STEEL MONOTUBE PILES IS ALLOWED FOR THE 14"X14" PRESTRESSED PRECAST CONCRETE PILES DETAILED IN THE CONTRACT DOCUMENTS.
2. STEEL MONOTUBE PILES SHALL HAVE A 3 GAUGE THICKNESS, AN 8IN TIP WITH A CLOSED CONICAL POINT, 14IN BUTT AND 15FT TAPER AT 0.40IN/FT.
3. ALL PILES SHALL BE DRIVEN TO THE TIP ELEVATIONS AND NOMINAL PILE DRIVING RESISTANCES LISTED IN THE PILE INSTALLATION DATA TABLES.

PILE PICK-UP NOTES:

1. UNLESS SPECIAL LIFTING DEVICES ARE ATTACHED FOR PICK-UP, PICK-UP POINTS SHALL BE PLAINLY MARKED ON ALL PILES AFTER REMOVAL OF THE FORMS. THE PILE SHALL BE SUPPORTED ONLY AT THE INDICATED PICK-UP POINTS WHILE BEING STORED OR HANDLED.
2. THE USE OF PROPER RIGGING IS REQUIRED TO ENSURE THAT THE PICK-UP POINTS REMAIN IN A STRAIGHT LINE DURING LIFTING AND WHEN POSITIONING THE PILE FOR DRIVING.
3. THE USE OF SPECIAL EMBEDDED OR ATTACHED LIFTING DEVICES, THE USE OF OTHER PICK-UP LOCATIONS OR ANY OTHER METHOD OF PICK-UP SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PILE NOTES:

1. ALL PILES SHALL BE 14"X14" PRESTRESSED PRECAST CONCRETE PILES. PILES SHALL NOT BE COATED.
2. THE MINIMUM COMPRESSIVE STRENGTH FOR THE PRESTRESSED CONCRETE PILES AT THE AGE OF 28 DAYS SHALL BE f'c=6000 PSI. THE MINIMUM COMPRESSIVE STRENGTH AT THE TIME OF TRANSFER OF PRESTRESS SHALL BE f'ci=4800 PSI.
3. PRETENSIONING STEEL FOR PILES SHALL CONSIST OF ½" DIAMETER 7-WIRE LOW RELAXTION STRANDS CONFORMING TO THE REQUIREMENTS OF AASHTO M203 (ASTM A416) GRADE 270. EACH ½" DIAMETER STRAND SHALL BE PRETENSIONED TO 30,982 LBS. (0.75 Fpu).
4. SPIRAL TIES SHALL BE #5 GAGE STEEL WIRE CONFORMING TO THE REQUIREMENTS OF SECTION 618.18.
5. THE SPLICING OF PRESTRESSED PRECAST CONCRETE PILES SHALL NOT BE PERMITTED.
6. A MINIMUM QUARANTINE PERIOD OF 30 DAYS IS REQUIRED AFTER THE CONSTRUCTION OF THE FULL HEIGHT OF THE FILL AT THE ABUTMENTS IS ACHIEVED.
7. PILES MAY NOT BE DRIVEN UNTIL AFTER THE COMPLETION OF THE 30 DAY QUARANTINE PERIOD.
8. ALL TEST PILES SHALL BE 10 FT LONGER THAN PRODUCTION PILES AS INDICATED IN THE PILE INSTALLATION DATA TABLE.
9. THE ENGINEER SHALL APPROVE THE COMPLETION OF THE WAITING PERIOD, BASED ON RESULTS OF INSTRUMENTATION.
10. TEST PILES MAY BE DRIVEN PRIOR TO PLACING EMBANKMENT AND SURCHARGE MATERIAL. RESTRIKES OF THESE TEST PILES SHALL BE PERFORMED PRIOR TO PLACING EMBANKMENT IN ACCORDANCE WITH ITEM NO. 619502 - TEST PILE RESTRIKE. AFTER THE SETTLEMENT HAS BEEN ACHIEVED AND THE SUBSTRUCTURE HAS BEEN RELEASED BY THE ENGINEER, PRODUCTION PILES MAY BE INSTALLED. AT THIS POINT, THE TEST PILE SHALL BE ACTING AS A PRODUCTION PILE AND IT SHALL BE RE-STRUCK PRIOR TO PLACING ANY OTHER PRODUCTION PILES WITH PAYMENT UNDER ITEM NO. 619501 - PRODUCTION PILE RESTRIKE.
11. SEE SPECIAL PROVISIONS 202505 AND 202518 FOR SETTLEMENT MONITORING LOCATIONS AND REQUIREMENTS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A WAVE EQUATION ANALYSIS AND ALL OTHER INCIDENTALS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THE WAVE EQUATION AND HIGH-STRAIN DYNAMIC PILE TESTING MUST BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
13. UPON COMPLETION OF THE HIGH-STRAIN DYNAMIC PILE TESTING THE CONTRACTOR SHALL SUBMIT A SIGNAL MATCHING ANALYSIS TO THE ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
14. ALL PILES SHALL BE DRIVEN TO THE NOMINAL PILE DRIVING RESISTANCE LISTED IN THE PILE INSTALLATION DATA TABLE.
15. DELDOT STANDARD SPECIFICATION 619.11(a)(6) SHALL BE MODIFIED BY REFERENCE TO SPECIAL PROVISIONS 619519 AND 619539.
16. PILE LENGTHS FOR ORDERING PURPOSES SHALL BE DETERMINED BY THE TEST PILES. A MINIMUM OF ONE PILE PER SUBSTRUCTURE, AS SHOWN ON THE PLANS, SHALL BE DYNAMICALLY TESTED WITH SIGNAL MATCHING ANALYSIS BY THE CONTRACTOR IN ACCORDANCE WITH SPECIAL PROVISIONS 619519 AND 619539. TEST AND PRODUCTION PILE RESTRIKES WILL BE PAID AS FOLLOWS:
    A. ALL TEST PILE(S) WILL BE RESTRUCK AFTER A WAITING PERIOD OF AT LEAST 48 HOURS. TEST PILE RESTRIKES SHALL BE INCIDENTAL TO THE INITIAL INSTALLATION OF THE PILE PROVIDED THEY ARE REQUESTED WITHIN FIVE WORKING DAYS FROM THE COMPLETION OF THE INITIAL DRIVE. IF TEST PILE RESTRIKES ARE REQUESTED AFTER THE FIVE WORKING DAYS FROM THE COMPLETION OF THE INITIAL DRIVE, THE TEST PILE RESTRIKE SHALL BE PAID AS NOTED IN SPECIAL PROVISION 619502.
    B. IF DIRECTED BY THE ENGINEER TO RESTRIKE A PRODUCTION PILE, THE RESTRIKE OF THE PRODUCTION PILE SHALL BE PAID SEPARATELY UNDER ITEM NO. 619501.
17. THE DEPARTMENT RESERVES THE RIGHT TO PERFORM DYNAMIC TESTING OF RESTRIKES.



FILL PLACEMENT DURING QUARANTINE PERIOD

NTS

NOTE:

DETAIL SIMILAR FOR WINGWALLS.

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PILE PLAN, SEE DWG. NO. 1-479 FT-2.
2. FOR ABUTMENT 2 PILE PLAN, SEE DWG. NO. 1-479 FT-3.

DELAWARE DEPARTMENT OF TRANSPORTATION

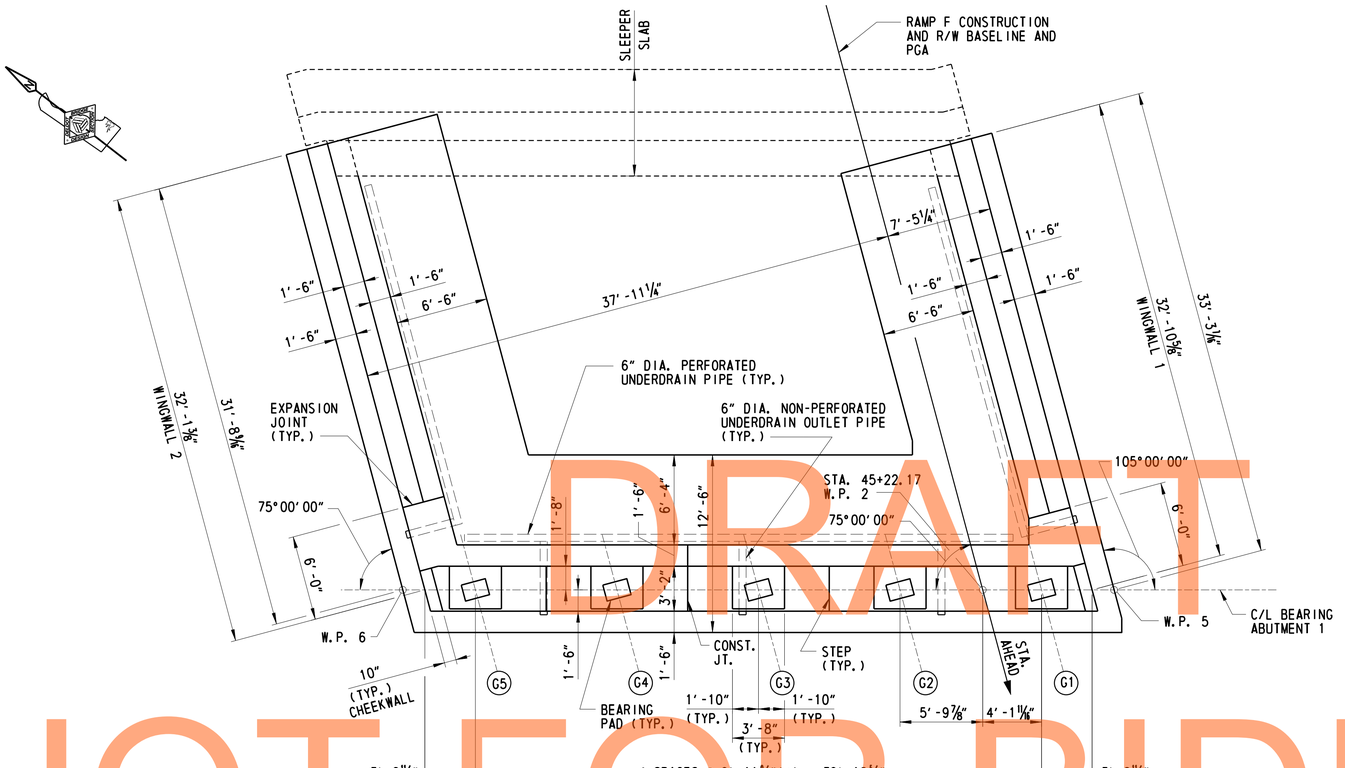
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: JW

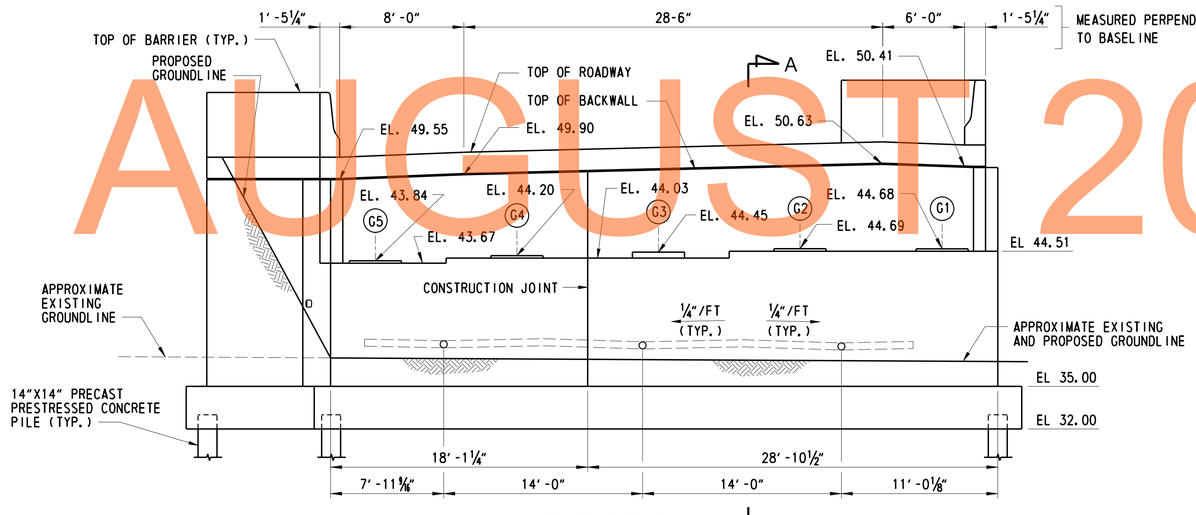
RAMP F OVER SANDY BRANCH
PILE DETAILS

1-479 PL-1
SHEET NO. 529
TOTAL SHTS. 1256



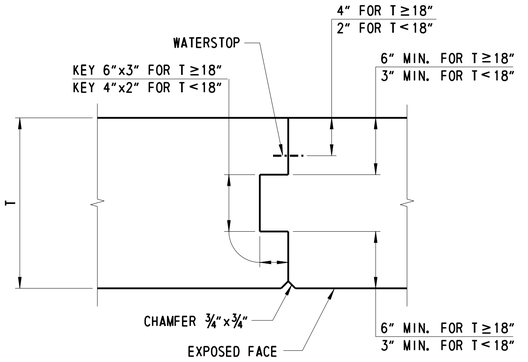
PLAN

SCALE: ⅛" = 1'-0"



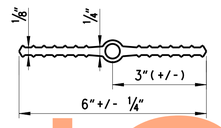
ELEVATION

SCALE: ⅛" = 1'-0"



CONSTRUCTION JOINT DETAIL

SCALE: 1½" = 1'-0"



POLYVINYL CHLORIDE

WATERSTOP

NOT TO SCALE

NOTES:

1. PROVIDE HOLES OR SLOTS IN WATERSTOP, AS REQUIRED, WHEN NECESSARY TO ACCOMMODATE REINFORCEMENT BARS, BUT DO NOT COMPROMISE SEAL.
2. STOP WATERSTOP 9" FROM TOP OF WALL.

NOTES:

1. TOP OF ABUTMENT SEAT ELEVATIONS SHOWN ARE AT THE FRONT FACE OF BACKWALL.
2. TOP OF BACKWALL ELEVATIONS SHOWN AT CENTER OF BACKWALL.
3. ABUTMENT SEAT STEPS LOCATED MID-WAY BETWEEN GIRDERS.

CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR GEOMETRIC LAYOUT, SEE DWG. NO. 1-479 FT-1.
3. FOR PILE LAYOUT AT ABUTMENT 1, SEE DWG. NO. 1-479 FT-2.
4. FOR SECTION A-A, SEE DWG. NO. 1-479 AB-4.
5. FOR ABUTMENT DETAILS, SEE DWG. NOS. 1-479 AB-4 AND 1-479 AB-5.
6. FOR WINGWALL ELEVATIONS, SEE DWG. NO. 1-479 WW-1.
7. FOR BEARING DETAILS, SEE DWG. NO. 1-479 BD-1.
8. FOR STEM EXPANSION JOINT DETAIL, SEE DWG. NO. 1-479 AB-10.

DELAWARE
DEPARTMENT OF TRANSPORTATION

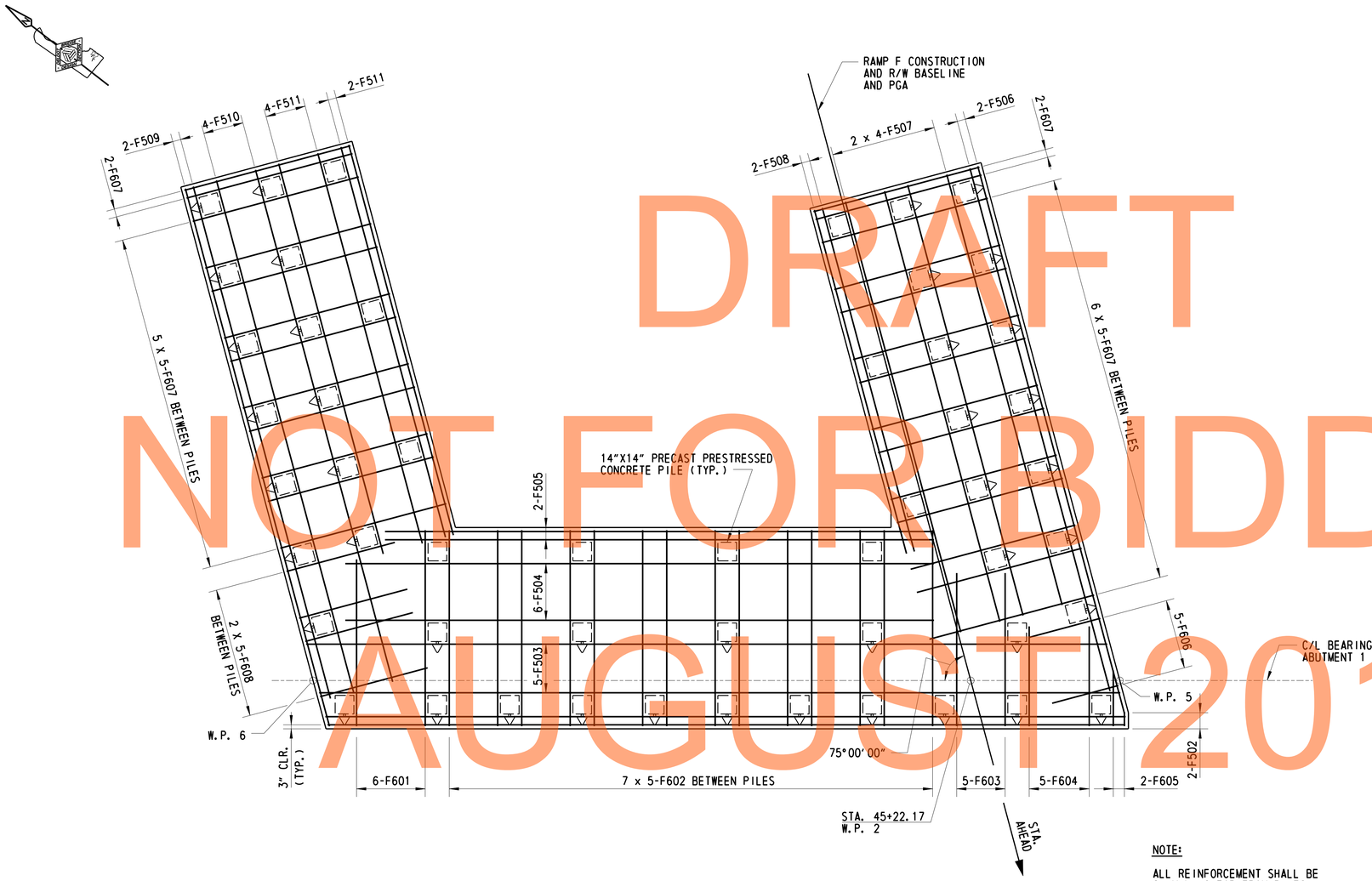
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO. 1-479
T200911303	DESIGNED BY: LT
COUNTY	CHECKED BY: JW
NEW CASTLE	

RAMP F OVER
SANDY BRANCH
ABUTMENT 1 PLAN
AND ELEVATION

1-479 AB-1	
SHEET NO.	530
TOTAL SHTS.	1256



ABUTMENT 1 - BOTTOM MAT REINFORCEMENT PLAN

SCALE: ¼"= 1'-0"

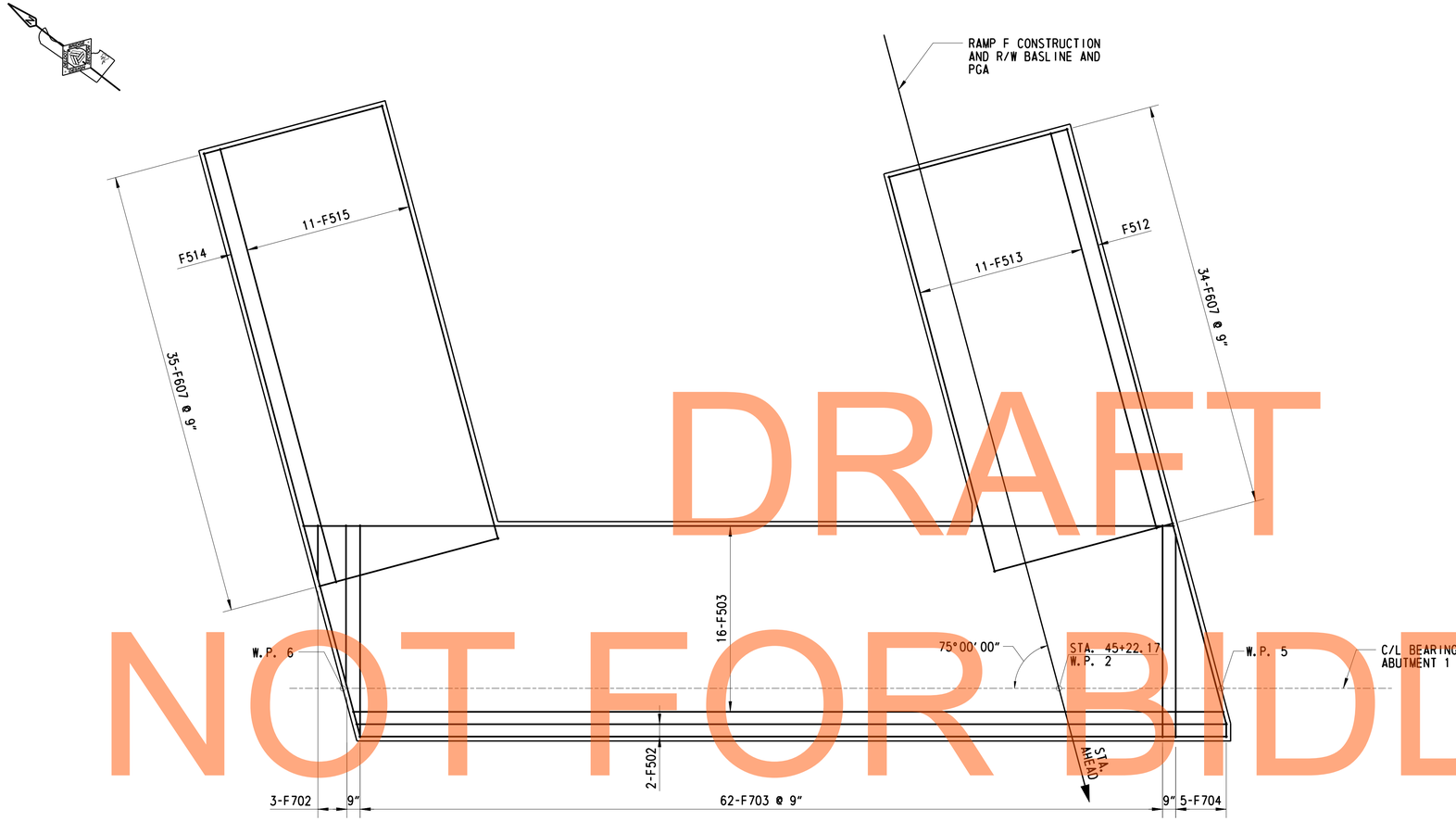
NOTE:

ALL REINFORCEMENT SHALL BE
2" MIN. CLEAR FROM PILES.

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PILE PLAN, SEE DWG. NO. 1-479 FT-2.
2. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-1.
4. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 2 8 / 1 4 FEET	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH ABUTMENT 1 FOOTING REINFORCEMENT PLAN 1	1-479 AB-2
				COUNTY NEW CASTLE	DESIGNED BY: LT		SHEET NO. 531
					CHECKED BY: JW		TOTAL SHTS. 1256



ABUTMENT 1 - TOP MAT REINFORCEMENT PLAN

SCALE: ¼"= 1'-0"

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PILE PLAN, SEE DWG. NO. 1-479 FT-2.
2. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-1.
4. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 2 8
1 4
FEET

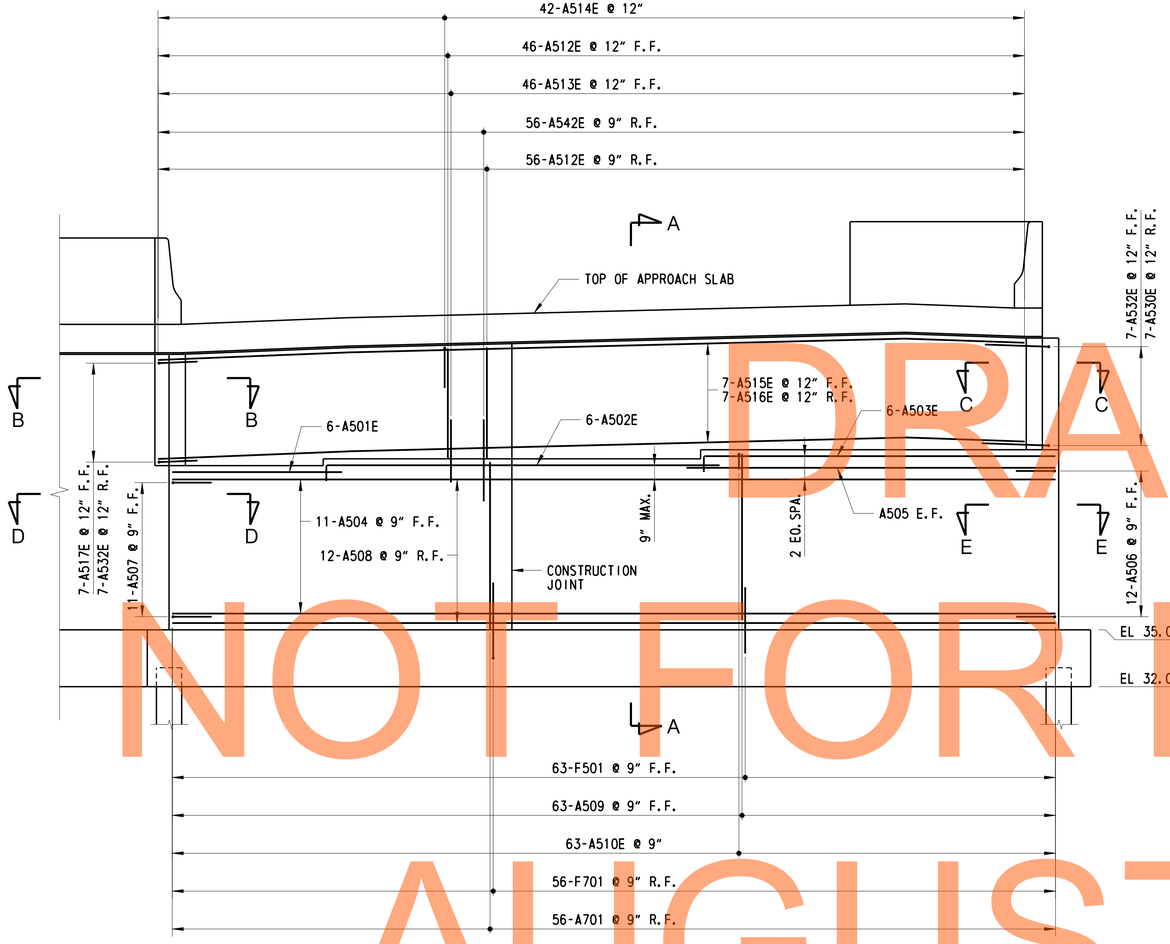
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: JW

RAMP F OVER SANDY BRANCH
ABUTMENT 1 FOOTING REINFORCEMENT PLAN 2

1-479 AB-3
SHEET NO. 532
TOTAL SHTS. 1256

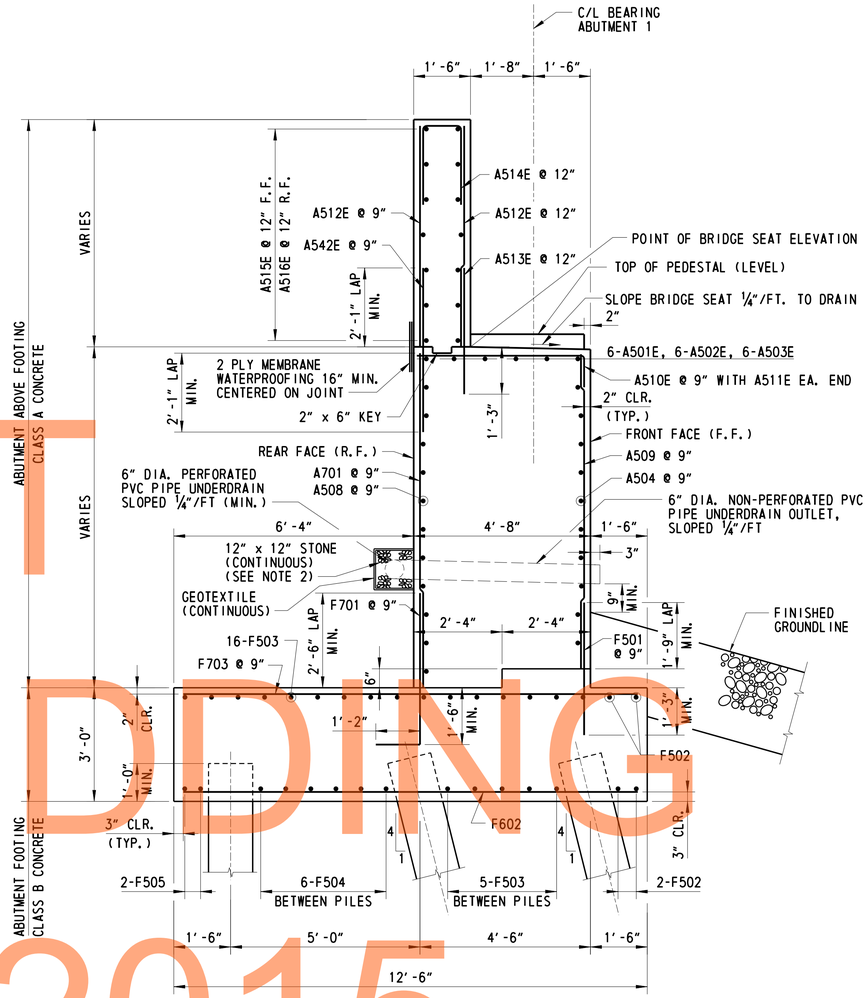


ELEVATION - ABUTMENT 1 REINFORCEMENT

SCALE: ¼"= 1'-0"

NOTE:

PEDESTALS, PEDESTAL REINFORCEMENT AND END DIAPHRAGM DOWELS NOT SHOWN FOR CLARITY.



SECTION A-A

SCALE: ½"= 1'-0"

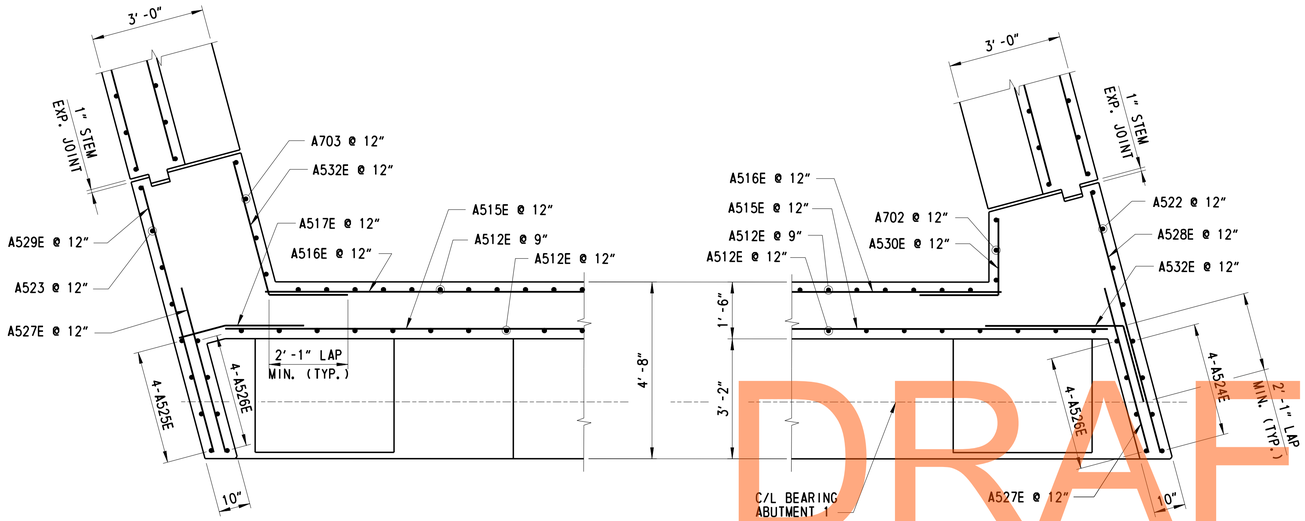
NOTES:

1. APPROACH SLAB NOT SHOWN FOR CLARITY.
2. STONE SHALL BE DELAWARE NO. 57 CONFORMING TO THE REQUIREMENTS OF SECTION 813.
3. THE WATERPROOFING MEMBRANE SHALL BE INCIDENTAL TO ITEM NO. 602015.

CROSS REFERENCE NOTES:

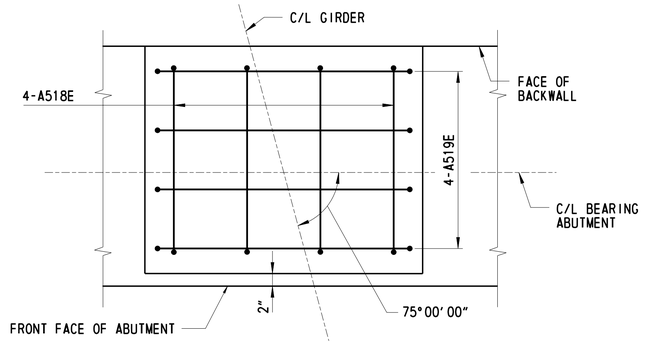
1. FOR FOUNDATION PLAN, SEE DWG. NO. 1-479 FT-2.
2. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
3. FOR ABUTMENT 1 FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-2 AND 1-479 AB-3.
4. FOR SECTIONS B-B, C-C, D-D AND E-E, SEE DWG. NO. 1-479 AB-5.
5. FOR PEDESTAL REINFORCEMENT DETAIL, SEE DWG. NO. 1-479 AB-5.
6. FOR END DIAPHRAGM DETAILS, SEE DWG. NO. 1-479 DPH-1.
7. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-1.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH ABUTMENT 1 REINFORCEMENT DETAILS 1	1-479 AB-4
				COUNTY NEW CASTLE	DESIGNED BY: LT		SHEET NO. 533
					CHECKED BY: JW		TOTAL SHTS. 1256

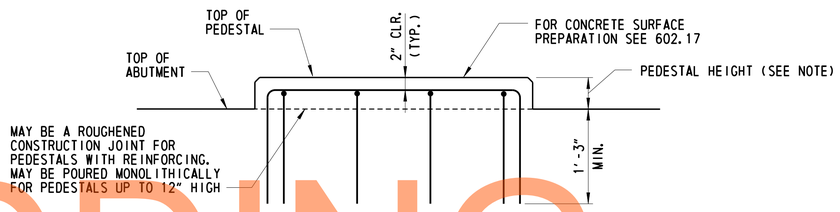


SECTION B-B
SCALE: ½"= 1'-0"

SECTION C-C
SCALE: ½"= 1'-0"



PLAN

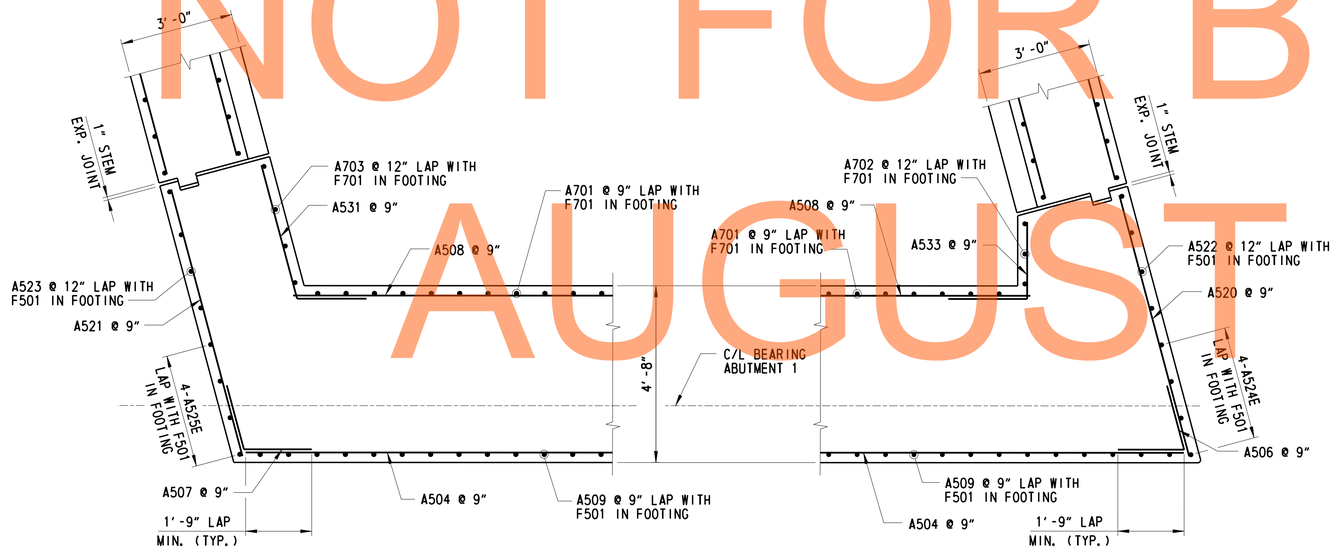


ELEVATION

NOTE:

PEDESTAL REINFORCEMENT NOT REQUIRED FOR PEDESTAL HEIGHTS LESS THAN 4".

PEDESTAL REINFORCEMENT DETAIL
SCALE: 1"= 1'-0"



SECTION D-D
SCALE: ½"= 1'-0"

SECTION E-E
SCALE: ½"= 1'-0"

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO 1-479 AB-1.
2. FOR ABUTMENT 1 REINFORCEMENT, SEE DWG. NO. 1-479 AB-4.
3. FOR WINGWALL REINFORCEMENT, SEE DWG. NO. 1-479 WW-2.
4. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-1.
5. FOR STEM EXPANSION JOINT DETAIL, SEE DWG. NO. 1-479 AB-10.

DELAWARE
DEPARTMENT OF TRANSPORTATION

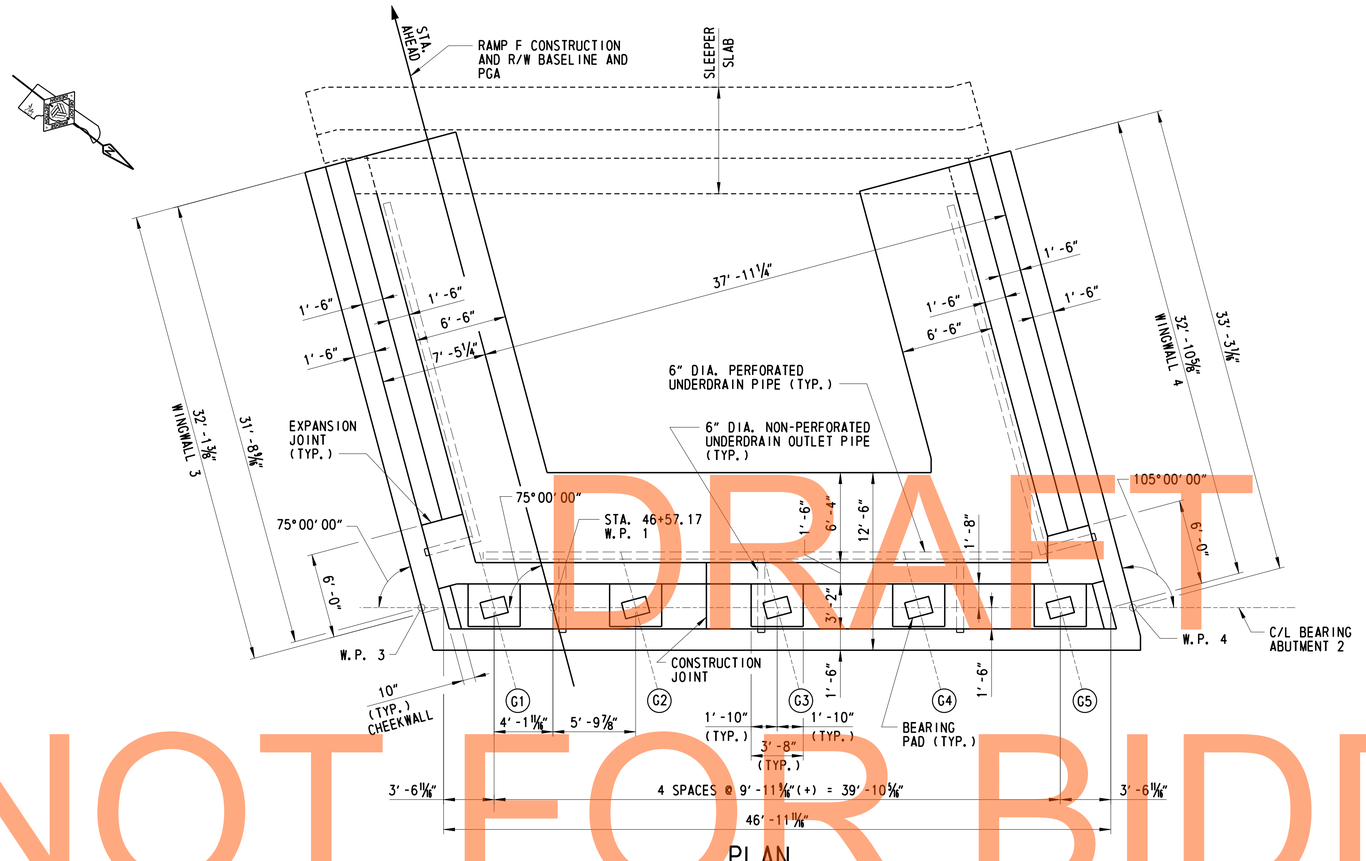
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO. 1-479
T200911303	DESIGNED BY: LT
COUNTY	CHECKED BY: JW
NEW CASTLE	

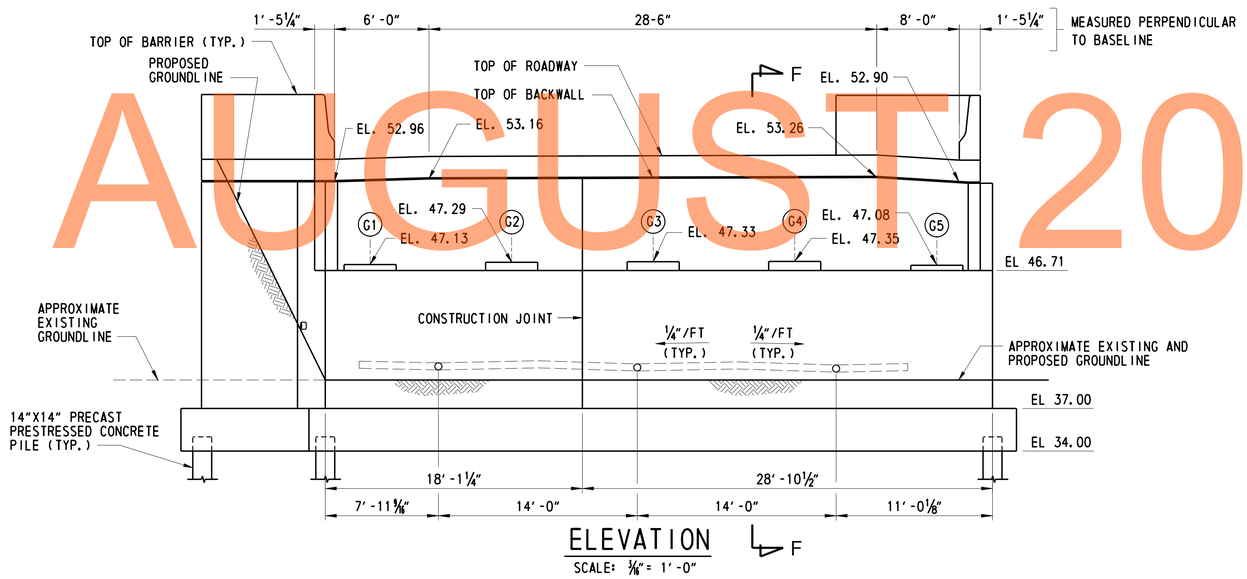
RAMP F OVER
SANDY BRANCH
ABUTMENT 1
REINFORCEMENT DETAILS 2

1-479 AB-5	
SHEET NO.	534
TOTAL SHTS.	1256



PLAN

SCALE: 1/16" = 1'-0"



ELEVATION

SCALE: 1/16" = 1'-0"

NOTES:

1. TOP OF ABUTMENT SEAT ELEVATIONS SHOWN ARE AT THE FRONT FACE OF BACKWALL.
2. TOP OF BACKWALL ELEVATIONS SHOWN AT CENTER OF BACKWALL.

CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR GEOMETRIC LAYOUT, SEE DWG. NO. 1-479 FT-1.
3. FOR PILE LAYOUT AT ABUTMENT 2, SEE DWG. NO. 1-479 FT-3.
4. FOR SECTION F-F, SEE DWG. NO. 1-479 AB-9.
5. FOR ABUTMENT DETAILS, SEE DWG. NOS. 1-479 AB-9 AND 1-479 AB-10.
6. FOR WINGWALL ELEVATIONS, SEE DWG. NO. 1-479 WW-1.
7. FOR BEARING DETAILS, SEE DWG. NO. 1-479 BD-1.
8. FOR CONSTRUCTION JOINT DETAIL, SEE DWG. NO. 1-479 AB-1.
9. FOR STEM EXPANSION JOINT DETAIL, SEE DWG. NO. 1-479 AB-10.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

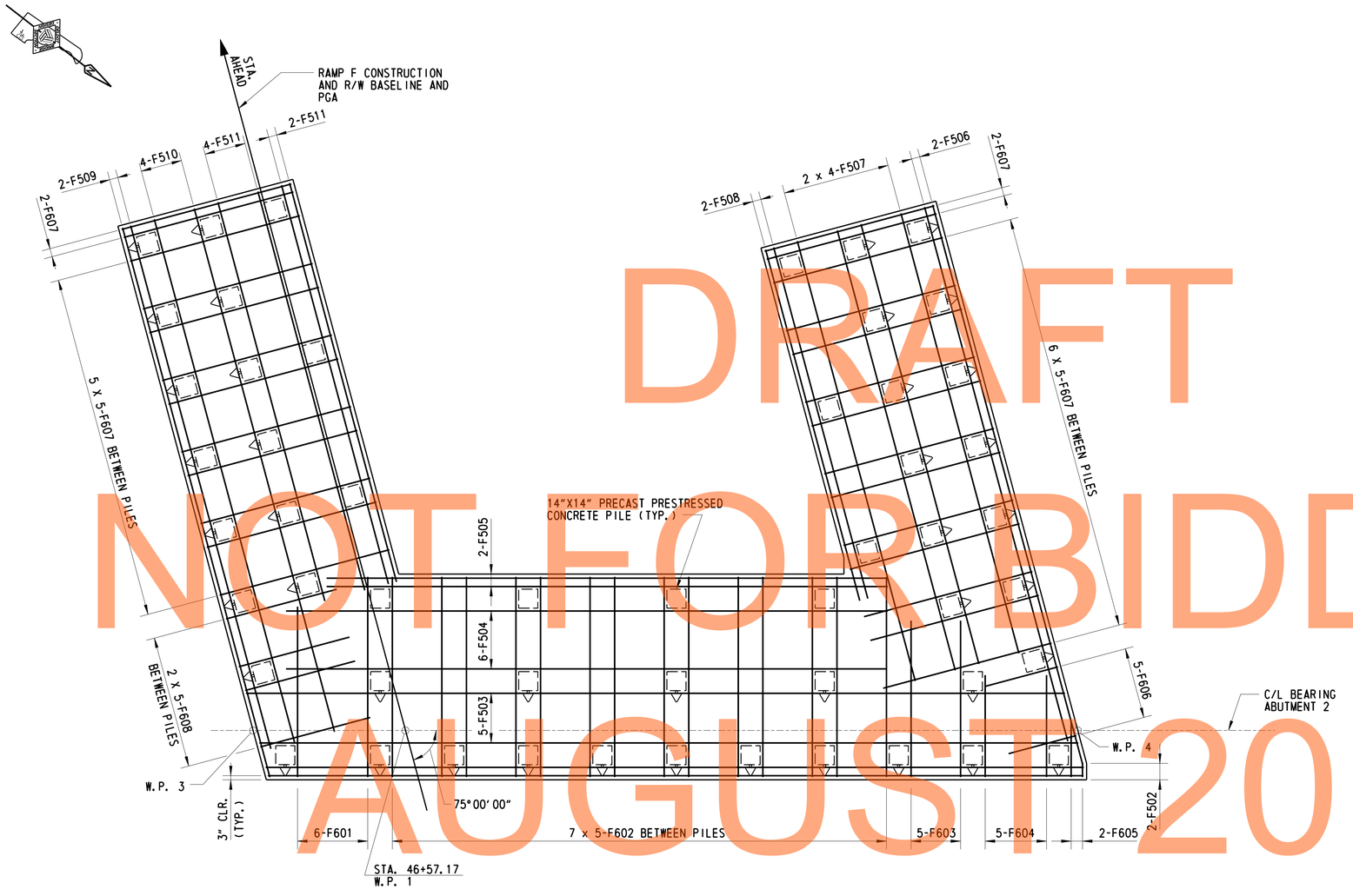
SCALE
0 2 8
1 4
FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY:	LT
COUNTY	CHECKED BY:	JW
NEW CASTLE		

RAMP F OVER
SANDY BRANCH
ABUTMENT 2 PLAN
AND ELEVATION

1-479 AB-6	
SHEET NO.	535
TOTAL SHTS.	1256



ABUTMENT 2 - BOTTOM MAT REINFORCEMENT PLAN

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

NOTE:

ALL REINFORCEMENT SHALL BE 2" MIN. CLEAR FROM PILES.

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 2 PILE PLAN, SEE DWG. NO. 1-479 FT-3.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-2.
4. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

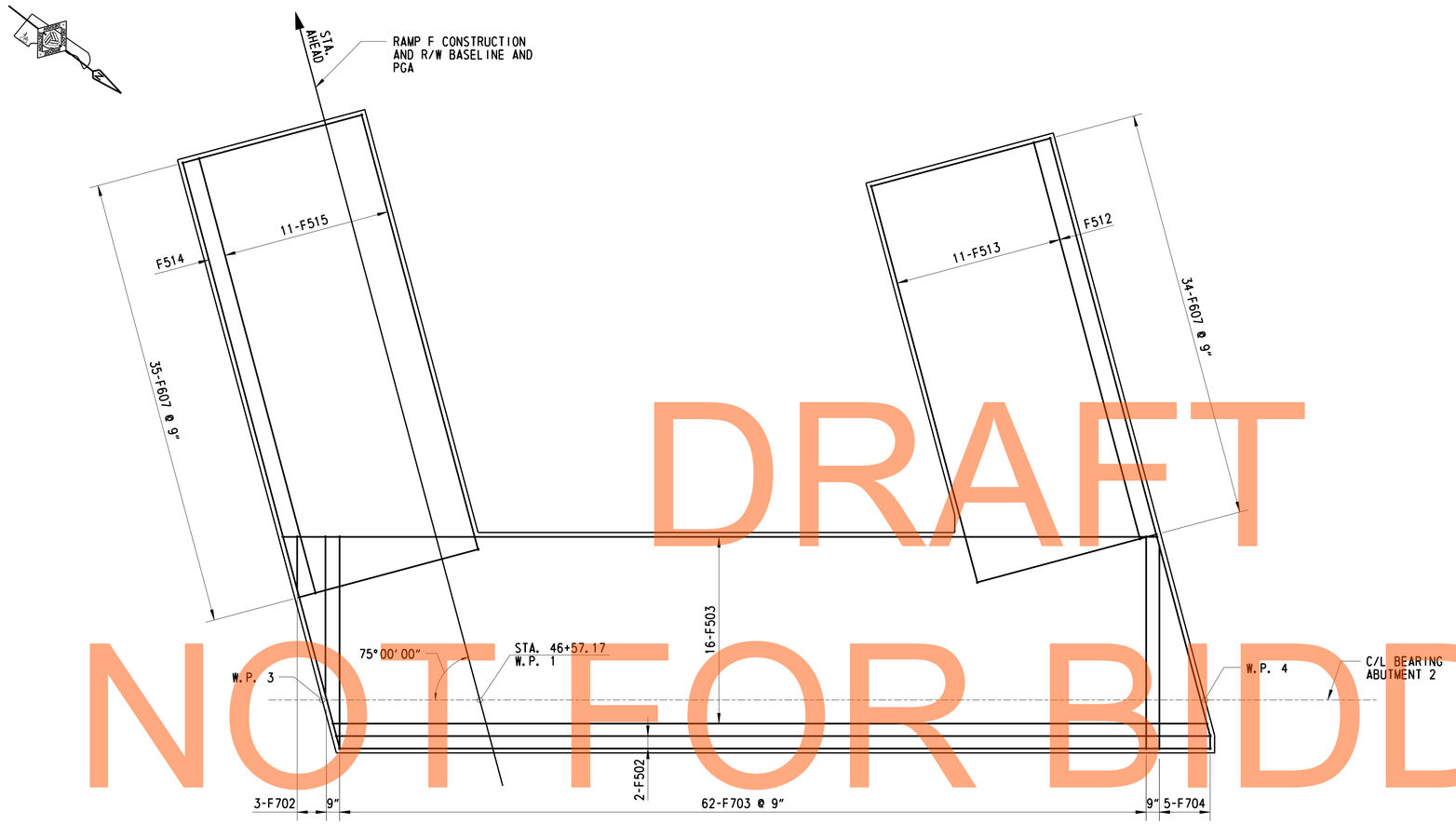
SCALE
0 2 8
1 4
FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO. 1-479
T200911303	DESIGNED BY: LT
COUNTY	CHECKED BY: JW
NEW CASTLE	

RAMP F OVER
SANDY BRANCH
ABUTMENT 2 FOOTING
REINFORCEMENT PLAN 1

1-479 AB-7
SHEET NO. 536
TOTAL SHTS. 1256



ABUTMENT 2 - TOP MAT REINFORCEMENT PLAN

SCALE: ¼" = 1'-0"

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 2 PILE PLAN, SEE DWG. NO. 1-479 FT-3.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-2.
4. FOR WORKING POINT COORDINATES, SEE DWG. NO. 1-479 FT-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 2 8
1 4
FEET

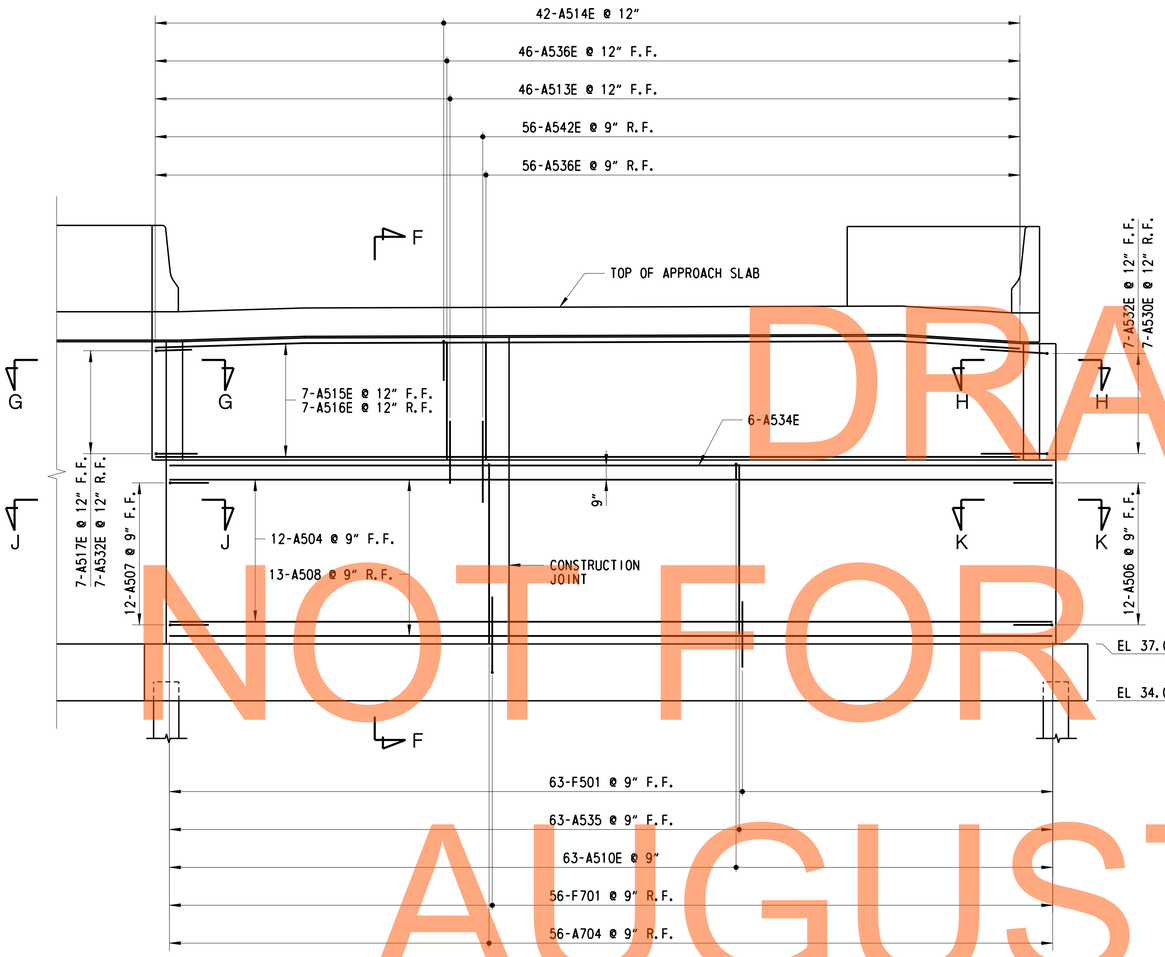
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: JW

RAMP F OVER SANDY BRANCH
ABUTMENT 2 FOOTING REINFORCEMENT PLAN 2

1-479 AB-8
SHEET NO. 537
TOTAL SHTS. 1256

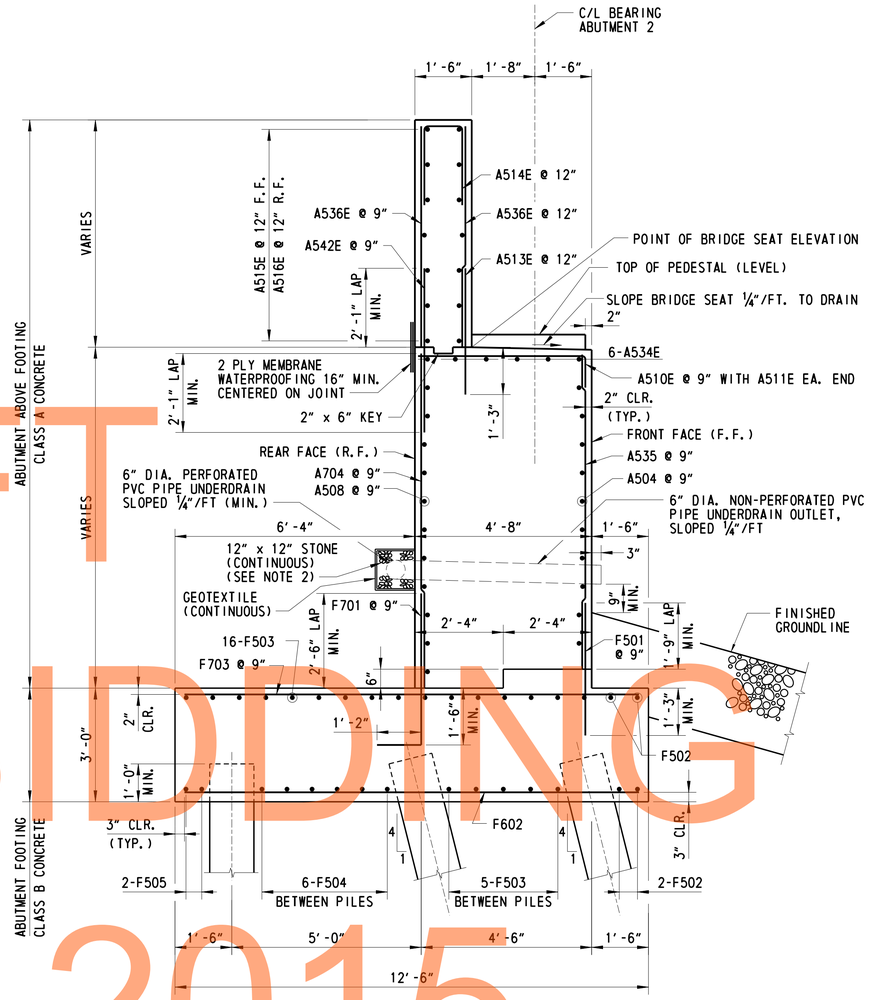


ELEVATION - ABUTMENT 2 REINFORCEMENT

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

NOTE:

PEDESTALS AND PEDESTAL REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION F-F

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

NOTES:

1. APPROACH SLAB NOT SHOWN FOR CLARITY.
2. STONE SHALL BE DELAWARE NO. 57 STONE CONFORMING TO THE REQUIREMENTS OF SECTION 813.
3. THE WATERPROOFING MEMBRANE SHALL BE INCIDENTAL TO ITEM NO. 602015.

CROSS REFERENCE NOTES:

1. FOR FOUNDATION PLAN, SEE DWG. NO. 1-479 FT-3.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
3. FOR ABUTMENT 2 FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-7 AND 1-479 AB-8.
4. FOR SECTIONS G-G, H-H, J-J AND K-K, SEE DWG. NO. 1-479 AB-10.
5. FOR PEDESTAL REINFORCEMENT DETAIL, SEE DWG. NO. 1-479 AB-5.
6. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-2.

DELAWARE
DEPARTMENT OF TRANSPORTATION

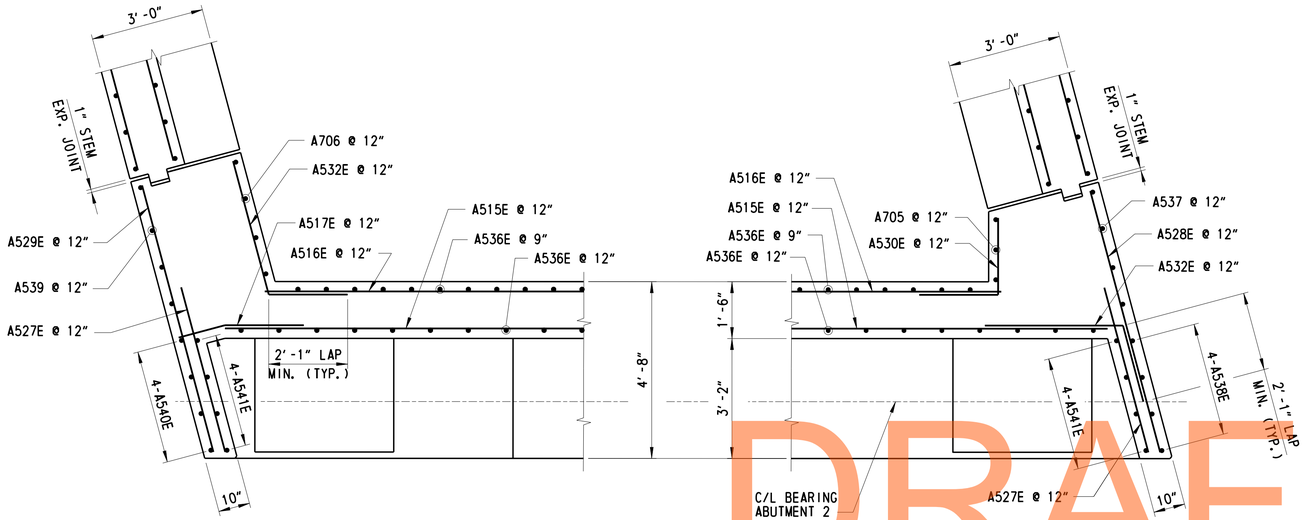
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY: LT	
COUNTY	CHECKED BY: JW	
NEW CASTLE		

RAMP F OVER
SANDY BRANCH
ABUTMENT 2
REINFORCEMENT DETAILS 1

1-479 AB-9
SHEET NO. 538
TOTAL SHTS. 1256

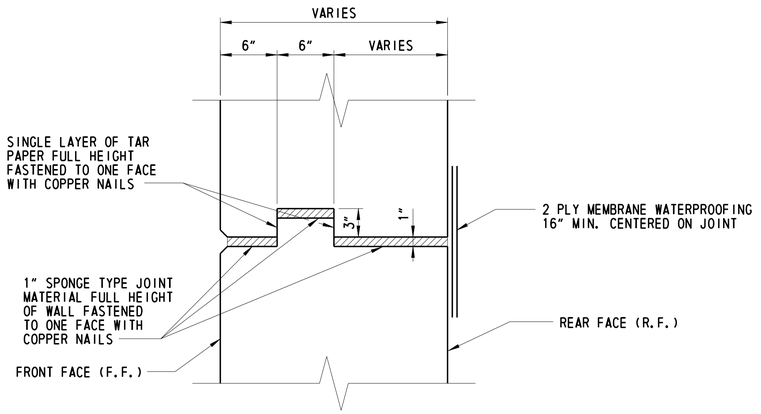


SECTION G-G

SCALE: ½" = 1' -0"

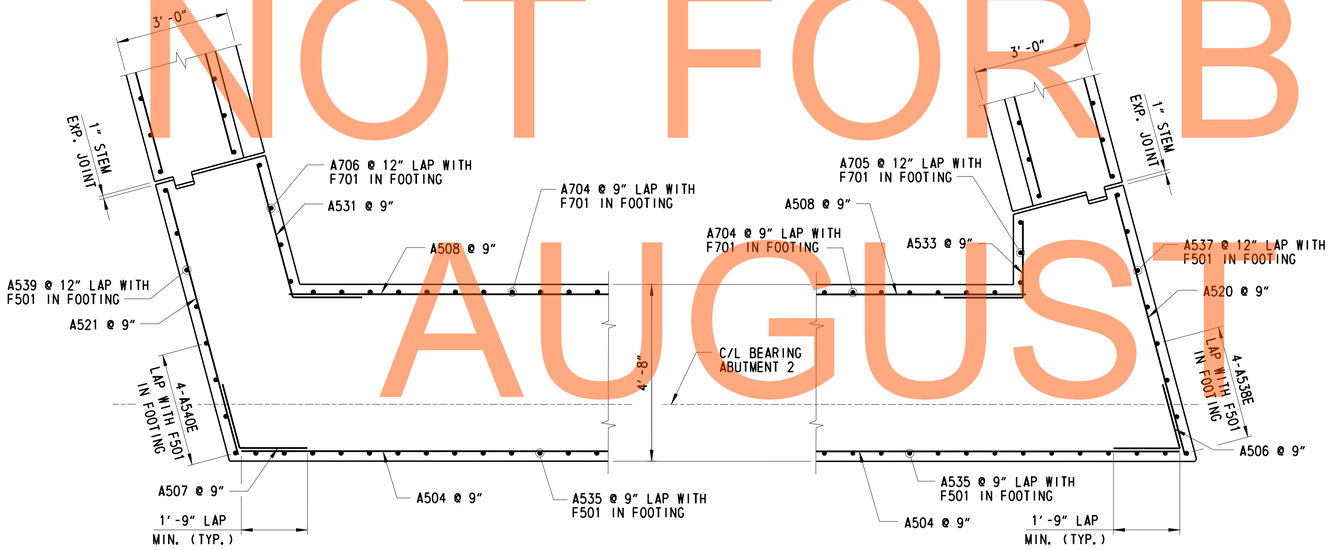
SECTION H-H

SCALE: ½" = 1' -0"



STEM EXPANSION JOINT DETAIL

SCALE: 1½" = 1' -0"



SECTION J-J

SCALE: ½" = 1' -0"

SECTION K-K

SCALE: ½" = 1' -0"

NOTES:

1. STOP KEY 9" BELOW TOP OF WALL.
2. REINFORCEMENT SHALL NOT PASS THROUGH EXPANSION JOINT.
3. ONLY PLACE EXPANSION JOINT IN STEM (NO JOINT IN FOOTING).
4. NO CHAMFER REQUIRED ON REAR FACE.
5. THE WATERPROOFING MEMBRANE SHALL BE INCIDENTAL TO ITEM NO. 602015.

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
2. FOR ABUTMENT 2 REINFORCEMENT, SEE DWG. NO. 1-479 AB-9.
3. FOR WINGWALL REINFORCEMENT, SEE DWG. NO. 1-479 WW-3.
4. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-2.

DELAWARE
DEPARTMENT OF TRANSPORTATION

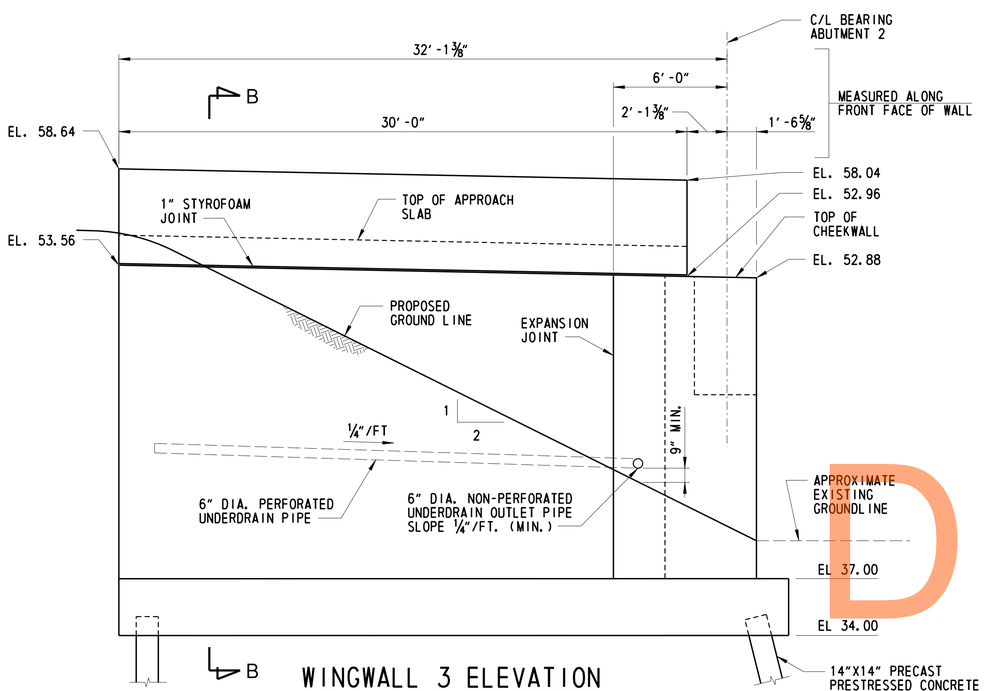
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY:	LT
COUNTY	CHECKED BY:	JW
NEW CASTLE		

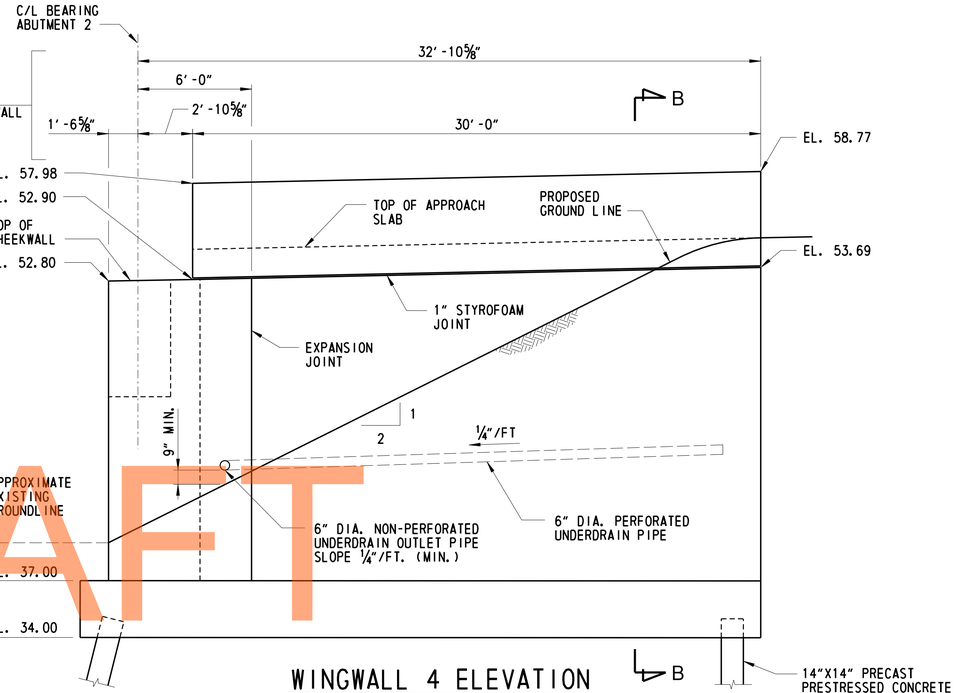
RAMP F OVER SANDY BRANCH
ABUTMENT 2
REINFORCEMENT DETAILS 2

1-479 AB-10	
SHEET NO.	539
TOTAL SHTS.	1256



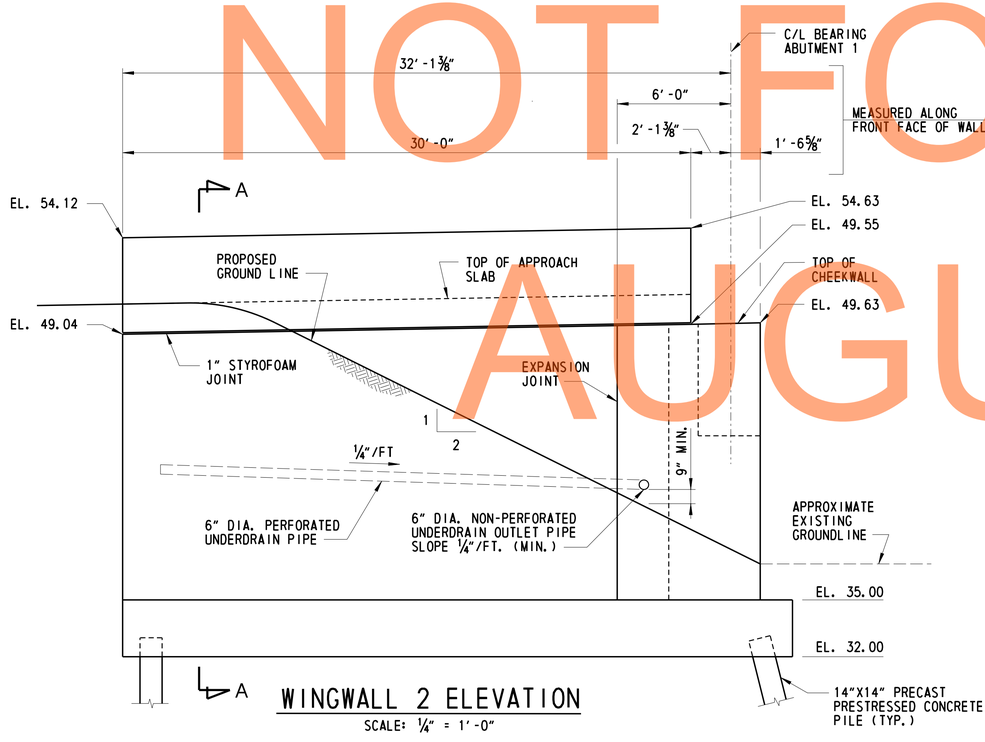
WINGWALL 3 ELEVATION

SCALE: ¼″ = 1′-0″



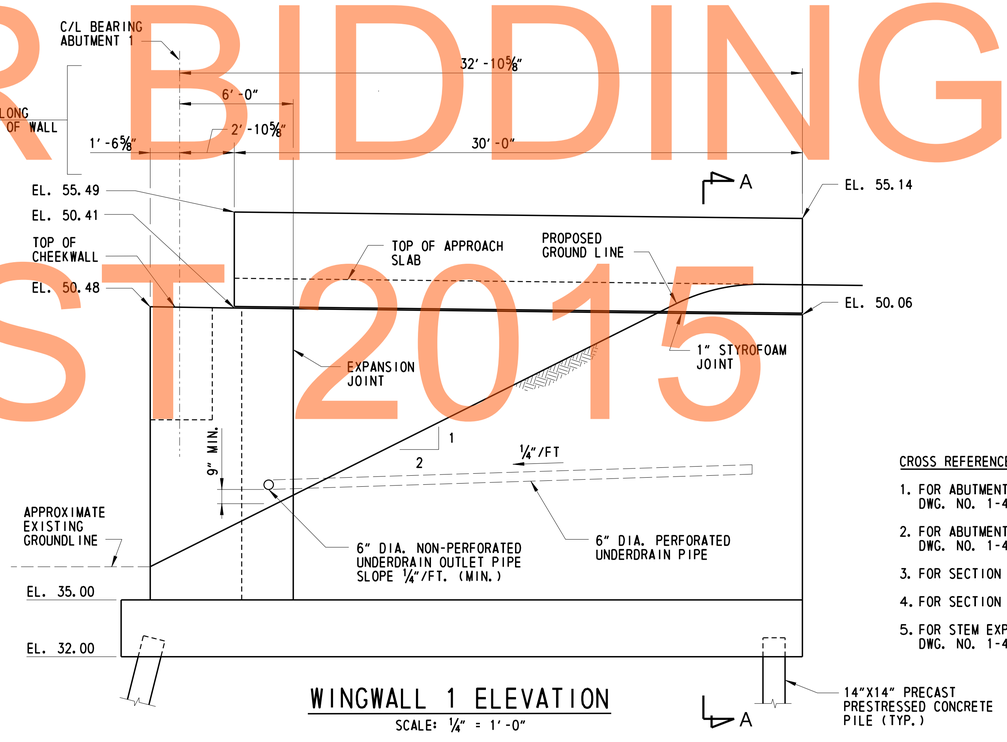
WINGWALL 4 ELEVATION

SCALE: ¼″ = 1′-0″



WINGWALL 2 ELEVATION

SCALE: ¼″ = 1′-0″



WINGWALL 1 ELEVATION

SCALE: ¼″ = 1′-0″

CROSS REFERENCE NOTES:

1. FOR ABUTMENT 1 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-1.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE DWG. NO. 1-479 AB-6.
3. FOR SECTION A-A, SEE DWG. NO. 1-479 WW-2.
4. FOR SECTION B-B, SEE DWG. NO. 1-479 WW-3.
5. FOR STEM EXPANSION JOINT DETAIL, SEE DWG. NO. 1-479 AB-10.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 2 8
1 4
FEET

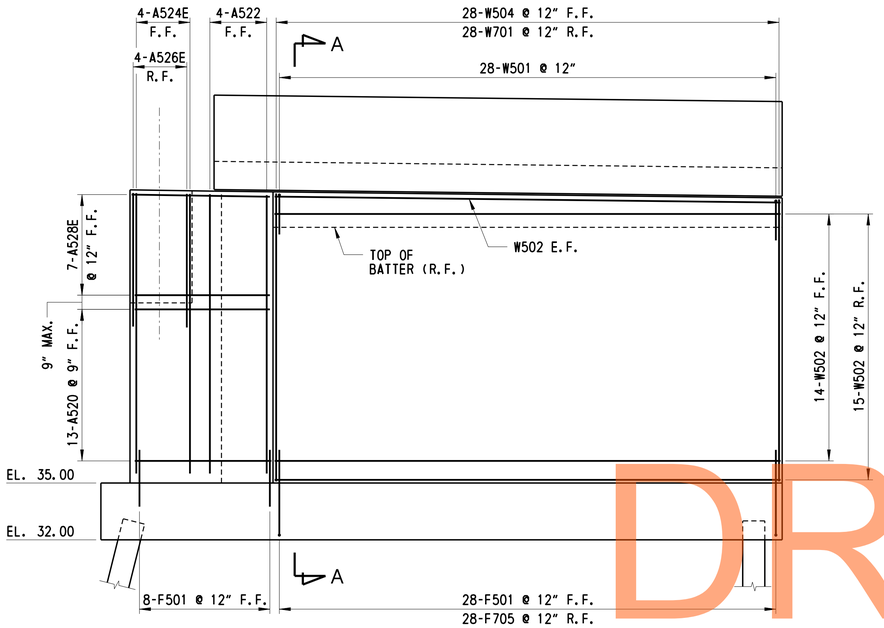
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY: KW	
COUNTY	CHECKED BY: JW	
NEW CASTLE		

RAMP F OVER
SANDY BRANCH

WINGWALL ELEVATIONS

1-479 WW-1
SHEET NO. 540
TOTAL SHTS. 1256

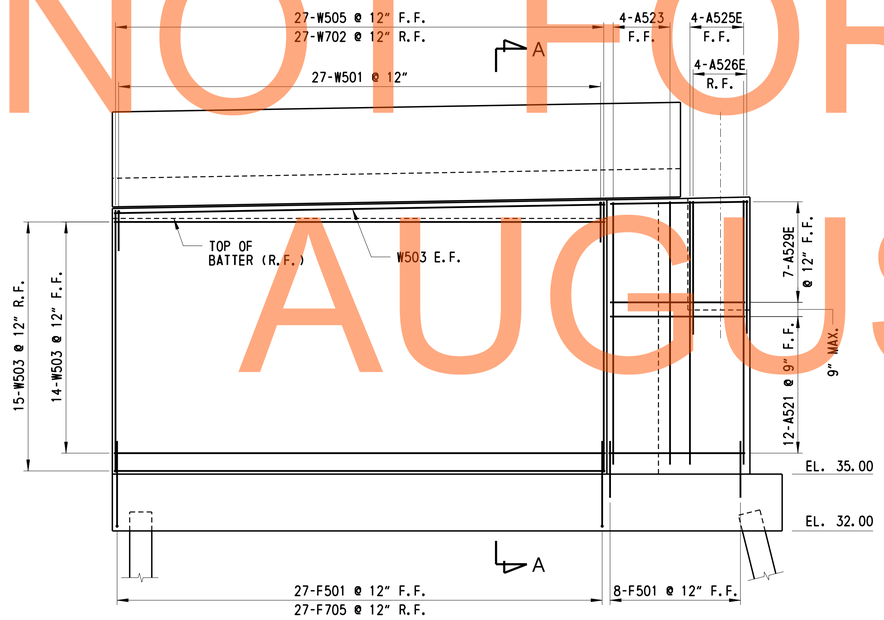


WINGWALL 1 ELEVATION

SCALE: ¼" = 1'-0"

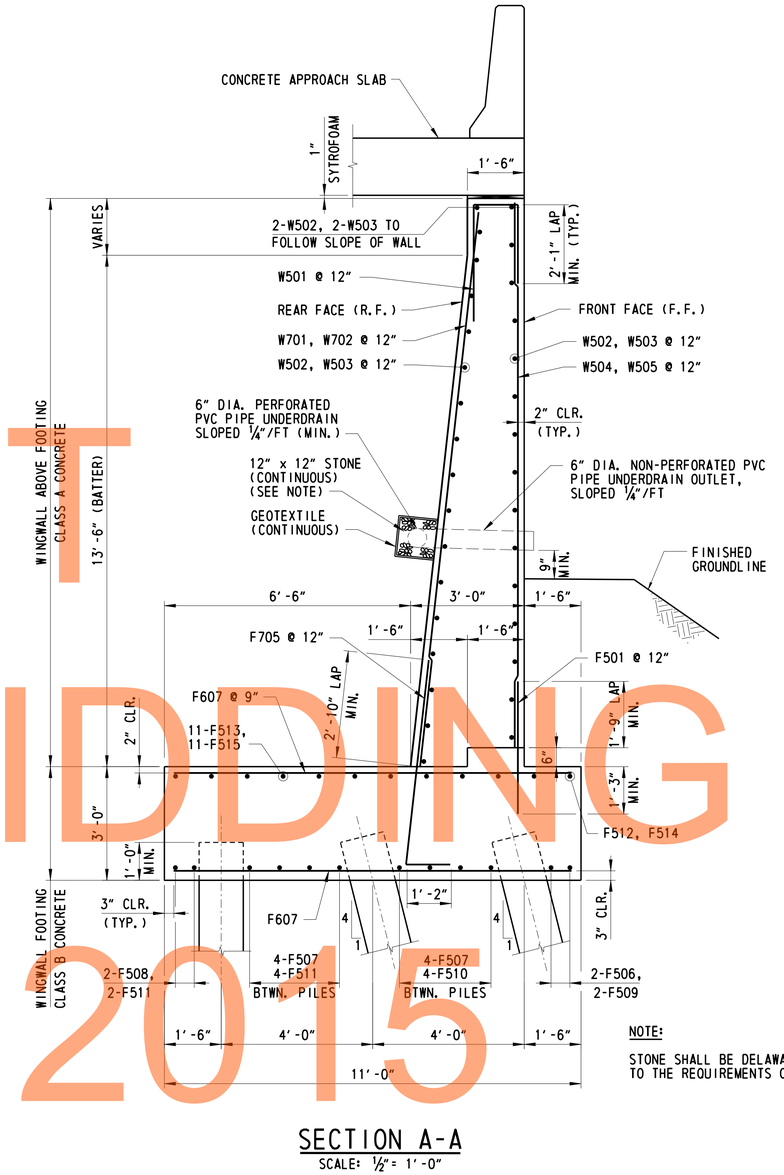
NOTE:

FOR ADDITIONAL ABUTMENT REINFORCEMENT, NOT SHOWN FOR CLARITY, SEE DWG. NO. 1-479 AB-5.



WINGWALL 2 ELEVATION

SCALE: ¼" = 1'-0"



SECTION A-A

SCALE: ½" = 1'-0"

NOTE:

STONE SHALL BE DELAWARE NO. 57 CONFORMING TO THE REQUIREMENTS OF SECTION 813.

CROSS REFERENCE NOTES:

1. FOR WINGWALL ELEVATIONS, SEE DWG. NO. 1-479 WW-1.
2. FOR FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-2 AND 1-479 AB-3.
3. FOR APPROACH SLAB REINFORCEMENT, SEE DWG. NO. 1-479 AS-1.
4. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

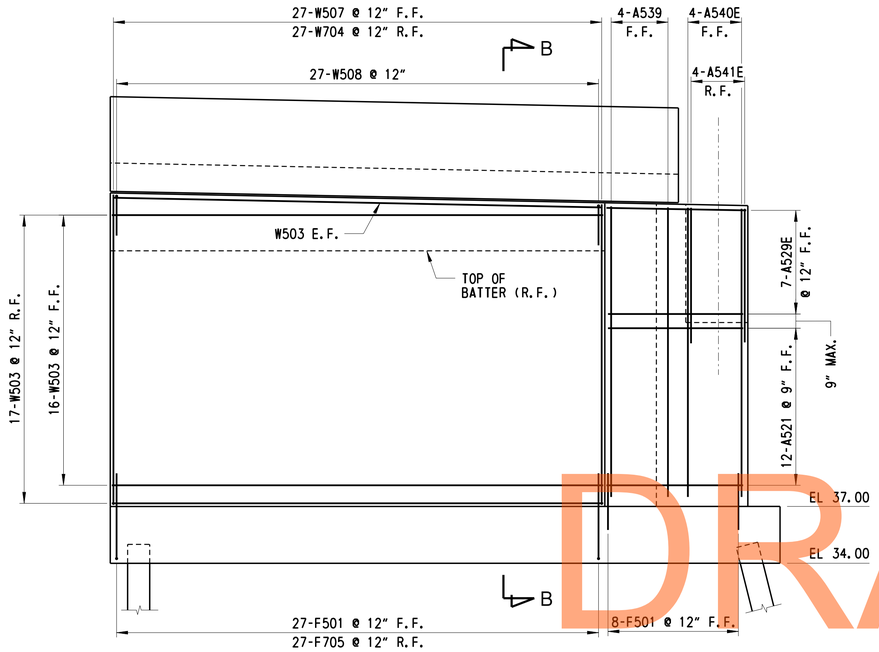
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	T200911303
COUNTY	NEW CASTLE
BRIDGE NO.	1-479
DESIGNED BY:	KW
CHECKED BY:	JW

RAMP F OVER
SANDY BRANCH

WINGWALL DETAILS 1

	1-479 WW-2
SHEET NO.	541
TOTAL SHTS.	1256

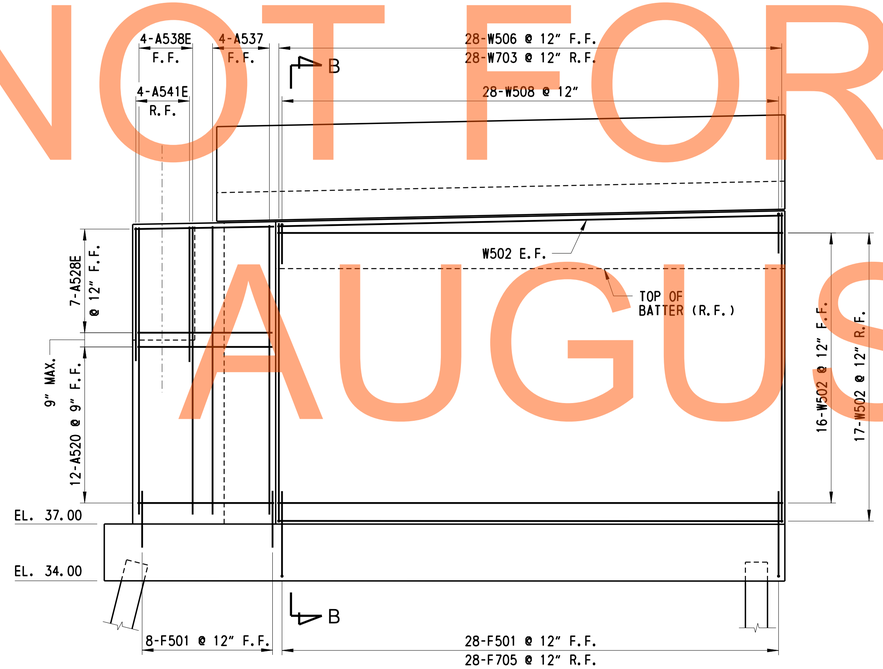


WINGWALL 3 ELEVATION

SCALE: ¼" = 1'-0"

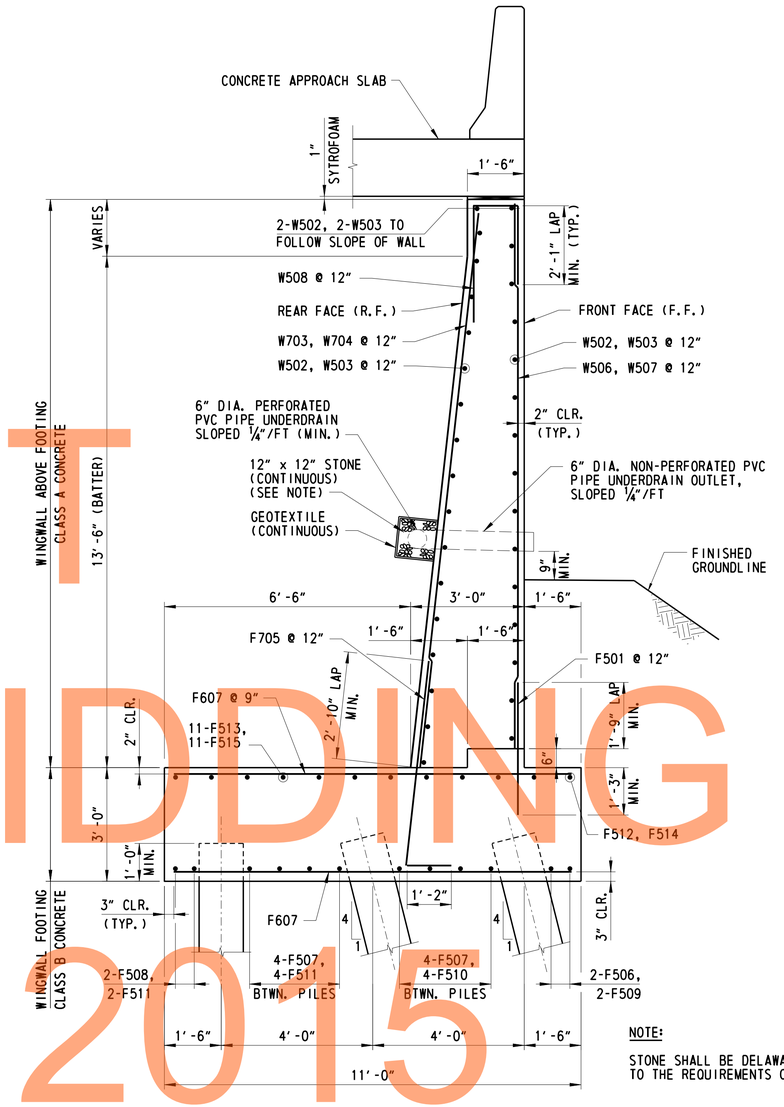
NOTE:

FOR ADDITIONAL ABUTMENT REINFORCEMENT, NOT SHOWN FOR CLARITY, SEE DWG. NO. 1-479 AB-10.



WINGWALL 4 ELEVATION

SCALE: ¼" = 1'-0"



SECTION B-B

SCALE: ½" = 1'-0"

NOTE:

STONE SHALL BE DELAWARE NO. 57 CONFORMING TO THE REQUIREMENTS OF SECTION 813.

CROSS REFERENCE NOTES:

1. FOR WINGWALL ELEVATIONS, SEE DWG. NO. 1-479 WW-1.
2. FOR FOOTING REINFORCEMENT, SEE DWG. NOS. 1-479 AB-7 AND 1-479 AB-8.
3. FOR APPROACH SLAB REINFORCEMENT, SEE DWG. NO. 1-479 AS-1.
4. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-2.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH	1-479 WW-3
				COUNTY NEW CASTLE	DESIGNED BY: KW	WINGWALL DETAILS 2	SHEET NO. 542
					CHECKED BY: JW		TOTAL SHTS. 1256

REINFORCING BAR SCHEDULE

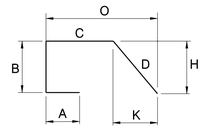
ABUTMENT 1

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	F	G	H	J	K	O	REMARKS
A501E	9′-0″	6	STR.												
A502E	21′-7″	6	2	10″	20′-9″										
A503E	19′-5″	6	2	10″	18′-7″										
A504	46′-8″	11	STR.												
A505	19′-6″	2	STR.												
A506	3′-6″	12	T7			1′-9″	1′-9″						5½″		
A507	3′-6″	11	16			1′-9″	1′-9″				1′-8″		5½″	2′-2½″	
A508	40′-9″	12	STR.												
A509	8′-0″	63	STR.												
A510E	5′-2″	63	2	10″	4′-4″										
A511E	2′-6″	2	2	10″	1′-8″										
A512E	5′-10½″	102	STR.												
A513E	4′-0″	46	STR.												
A514E	5′-4″	42	17		2′-1″	1′-2″	2′-1″								
A515E	44′-9″	7	STR.												
A516E	40′-9″	7	STR.												
A517E	3′-3″	7	16			2′-1″	1′-2″				3⅝″		1′-1½″	3′-2½″	
A518E	5′-10″	4	17		1′-7″	2′-8″	1′-7″								
A519E	6′-6″	4	17		1′-7″	3′-4″	1′-7″								
A520	7′-2″	13	STR.												
A521	7′-3½″	12	STR.												
A522	14′-9″	4	STR.												
A523	13′-10″	4	STR.												
A524E	14′-9″	4	STR.												
A525E	13′-10″	4	STR.												
A526E	7′-3″	8	STR.												
A527E	4′-6″	14	STR.												
A528E	7′-2″	7	STR.												
A529E	7′-3½″	7	STR.												
A530E	3′-11″	7	2	1′-10″	2′-1″										
A531	5′-8″	12	16			3′-7″	1′-9″				1′-8¼″		5⅜″	4′-0⅜″	
A532E	5′-8″	14	16			3′-7″	2′-1″				2′-0¼″		6½″	4′-1½″	
A533	3′-7″	12	2	1′-10″	1′-9″										
A542E	4′-9″	56	STR.												
A701	8′-6″	56	STR.												
A702	15′-3″	3	STR.												
A703	14′-4″	4	STR.												
F501	4′-5″	134	STR.												
F502	49′-4″	4	STR.												
F503	49′-7″	21	STR.												
F504	36′-7″	6	STR.												
F505	34′-1″	2	STR.												
F506	33′-6″ TO 35′-0″	2	STR.												LENGTH △ = 1′-6″
F507	27′-8″	8	STR.												
F508	22′-0″	2	STR.												
F509	32′-10″ TO 34′-4″	2	STR.												LENGTH △ = 1′-6″
F510	32′-10″	4	STR.												
F511	25′-1″	6	STR.												
F512	35′-0″	1	STR.												
F513	23′-3″	11	STR.												
F514	34′-4″	1	STR.												
F515	25′-8″	11	STR.												
F601	10′-3″ TO 12′-0″	6	STR.												LENGTH △ = 4⅛″
F602	12′-0″	35	STR.												
F603	9′-6″	5	STR.												
F604	6′-1″	5	STR.												
F605	8½″ TO 3′-3½″	2	STR.												LENGTH △ = 2′-7″
F606	4′-3″	5	STR.												
F607	10′-6″	128	STR.												
F608	6′-11″	10	STR.												

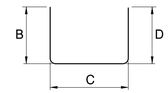
ABUTMENT 1

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	F	G	H	J	K	O	REMARKS
F701	6′-1″	63	2	1′-2″	4′-11″										
F702	3′-6″ TO 9′-2″	3	STR.												LENGTH △ = 2′-10″
F703	12′-0″	62	STR.												
F704	9″ TO 11′-5½″	5	STR.												LENGTH △ = 2′-8⅛″
F705	7′-3″	55	T7			1′-2″	6′-1″						7¼″		
W501	6′-9″	55	17		2′-1″	1′-2″	3′-6″								
W502	26′-6½″	31	STR.												
W503	25′-9½″	31	STR.												
W504	14′-4½″	28	STR.												
W505	13′-4½″	27	STR.												
W701	14′-11″	28	STR.												
W702	13′-11″	27	STR.												

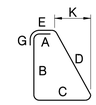
2



16



17



T7

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: BCM

RAMP F OVER
SANDY BRANCH
ABUTMENT 1
REINFORCEMENT SCHEDULE

1-479 BR-1
SHEET NO. 543
TOTAL SHTS. 1256

REINFORCING BAR SCHEDULE

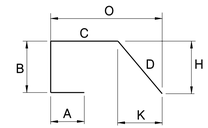
ABUTMENT 2

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	F	G	H	J	K	O	REMARKS
A504	46′-8″	12	STR.												
A506	3′-6″	12	T7			1′-9″	1′-9″						5½″		
A507	3′-6″	12	16			1′-9″	1′-9″				1′-8″		5½″	2′-2½″	
A508	40′-9″	13	STR.												
A510E	5′-2″	63	2	10″	4′-4″										
A511E	2′-6″	2	2	10″	1′-8″										
A513E	4′-0″	46	STR.												
A514E	5′-4″	42	17		2′-1″	1′-2″	2′-1″								
A515E	44′-9″	7	STR.												
A516E	40′-9″	7	STR.												
A517E	3′-3″	7	16			2′-1″	1′-2″				3⅝″		1′-1½″	3′-2½″	
A518E	5′-10″	20	17		1′-7″	2′-8″	1′-7″								
A519E	6′-6″	20	17		1′-7″	3′-4″	1′-7″								
A520	7′-2″	12	STR.												
A521	7′-3½″	12	STR.												
A527E	4′-6″	14	STR.												
A528E	7′-2″	7	STR.												
A529E	7′-3½″	7	STR.												
A530E	3′-11″	7	2	1′-10″	2′-1″										
A531	5′-8″	13	16			3′-7″	1′-9″				1′-8¼″		5⅜″	4′-0⅜″	
A532E	5′-8″	14	16			3′-7″	2′-1″				2′-0¼″		6½″	4′-1½″	
A533	3′-7″	13	2	1′-10″	1′-9″										
A534E	46′-8″	6	STR.												
A535	9′-0″	63	STR.												
A536E	6′-0″	102	STR.												
A537	15′-3″	4	STR.												
A538E	15′-3″	4	STR.												
A539	15′-3½″	4	STR.												
A540E	15′-3½″	4	STR.												
A541E	7′-4″	8	STR.												
A542E	4′-9″	56	STR.												
A704	9′-6″	56	STR.												
A705	15′-9″	3	STR.												
A706	15′-9½″	4	STR.												
F501	4′-5″	134	STR.												
F502	49′-4″	4	STR.												
F503	49′-7″	21	STR.												
F504	36′-7″	6	STR.												
F505	34′-1″	2	STR.												
F506	33′-6″ TO 35′-0″	2	STR.												LENGTH △ = 1′-6″
F507	27′-8″	8	STR.												
F508	22′-0″	2	STR.												
F509	32′-10″ TO 34′-4″	2	STR.												LENGTH △ = 1′-6″
F510	32′-10″	4	STR.												
F511	25′-1″	6	STR.												
F512	35′-0″	1	STR.												
F513	23′-3″	11	STR.												
F514	34′-5″	1	STR.												
F515	25′-8″	11	STR.												
F601	10′-3 TO 12′-0″	6	STR.												LENGTH △ = 4 3/16″
F602	12′-0″	35	STR.												
F603	9′-6″	5	STR.												
F604	6′-1″	5	STR.												
F605	8½″ TO 3′-3½″	2	STR.												LENGTH △ = 2′-7″
F606	4′-3″	5	STR.												
F607	10′-6″	128	STR.												
F608	6′-11″	10	STR.												

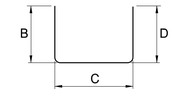
ABUTMENT 2

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	F	G	H	J	K	O	REMARKS
F701	6′-1″	63	2	1′-2″	4′-11″										
F702	3′-6″ TO 9′-2″	3	STR.												LENGTH △ = 2′-10″
F703	12′-0″	62	STR.												
F704	9″ TO 11′-5½″	5	STR.												LENGTH △ = 2′-8⅛″
F705	7′-3″	55	T7			1′-2″	6′-1″						7¼″		
W502	26′-6½″	35	STR.												
W503	25′-9½″	35	STR.												
W506	15′-3″	28	STR.												
W507	15′-3½″	27	STR.												
W508	7′-10″	55	17		2′-1″	1′-2″	4′-7″								
W703	15′-9″	28	STR.												
W704	15′-10″	27	STR.												

2



16



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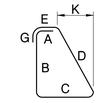


T7

DELAWARE
DEPARTMENT OF TRANSPORTATION

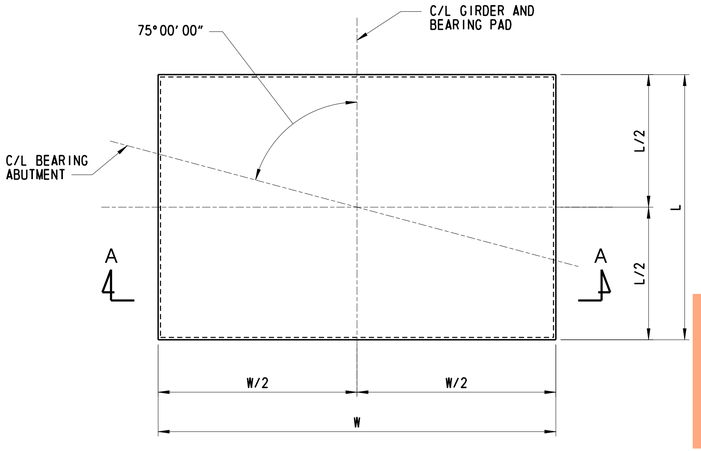
ADDENDUMS / REVISIONS

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

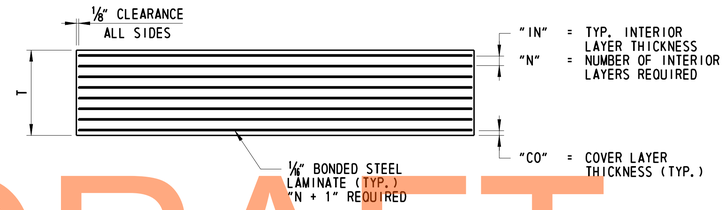
CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY:	LT
COUNTY	CHECKED BY:	BCM
NEW CASTLE		

RAMP F OVER
SANDY BRANCH
ABUTMENT 2
REINFORCEMENT SCHEDULE

1-479 BR-2	
SHEET NO.	544
TOTAL SHTS.	1256



PLAN



SECTION A-A

NOTES:

1. ELASTORMERIC BEARINGS SHALL BE 60 DUROMETER HARDNESS SHORE TYPE A.
2. MINIMUM LOW TEMPERATURE ELASTOMER SHALL BE GRADE 3.
3. ALL BEARINGS ARE TO BE MOLDED TO DESIGN DIMENSIONS. CUTTING TO SIZE AFTER FABRICATION IS PROHIBITED.
4. HOLES ARE NOT PERMITTED IN THE ELASTOMERIC BEARINGS.
5. VULCANIZE PATCH PIN GROOVES.
6. STEEL LAMINATE SHALL HAVE A MINIMUM YIELD STRENGTH (Fy) OF 36 KSI.
7. MAXIMUM DESIGN LOAD (SERVICE):
   FIXED BEARING: DL = 232 KIPS, LL = 127 KIPS
   EXP. BEARING: DL = 232 KIPS, LL = 127 KIPS

STEEL REINFORCED ELASTOMERIC BEARING PAD

SCALE: 3" = 1'-0"

BEARING PAD DATA

LOCATION	QUANTITY	L (IN)	W (IN)	T (IN)	IN (IN)	N	N + 1	CO (IN)
ABUTMENT 1 (FIXED)	5	14	21	4½	½	7	8	¼
ABUTMENT 2 (EXP.)	5	14	21	4½	½	7	8	¼

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

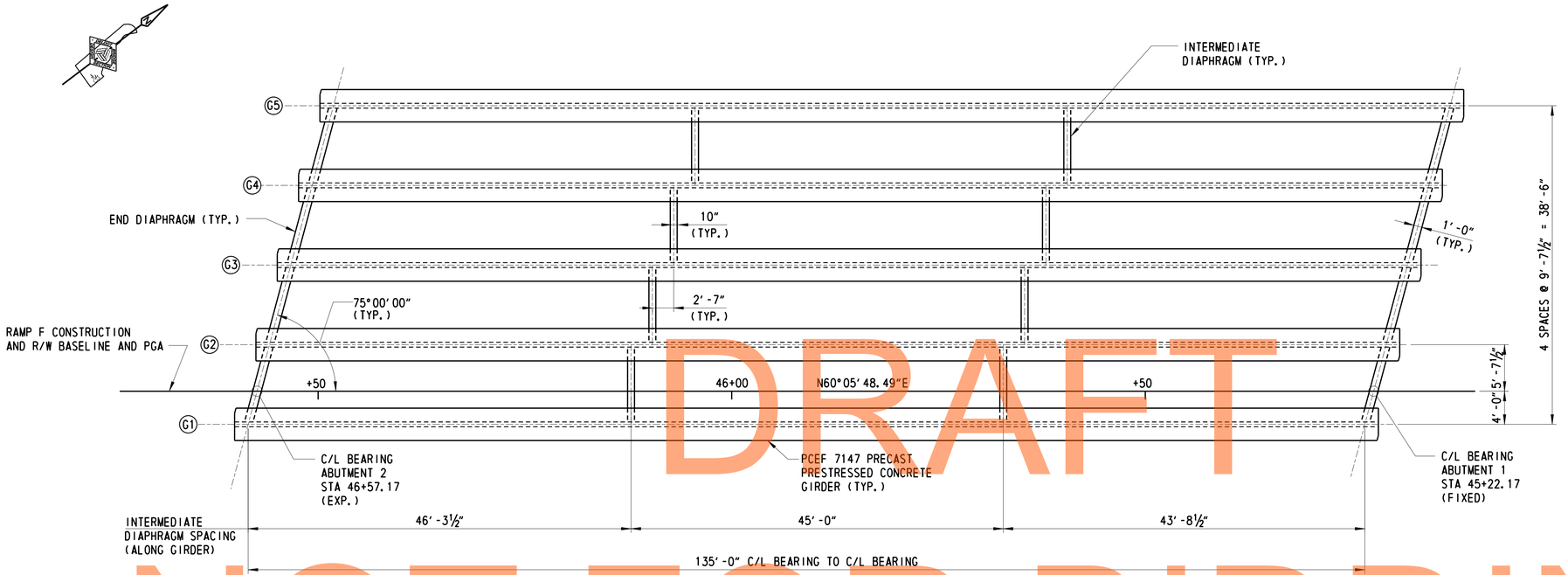
SCALE 0 ½ ½ FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO. 1-479
DESIGNED BY: BM
CHECKED BY: JW

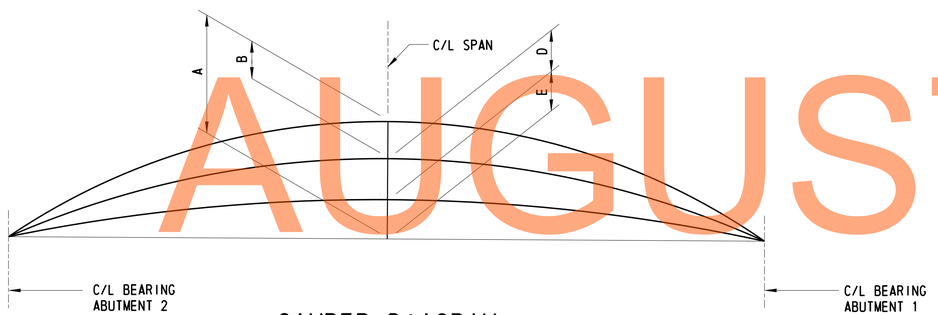
RAMP F OVER SANDY BRANCH
BEARING DETAILS

1-479 BD-1
SHEET NO. 545
TOTAL SHTS. 1256



FRAMING PLAN

SCALE: ⅛" = 1'-0"



CAMBER DIAGRAM

NTS

CAMBER/DEFLECTION TABLE (INCHES)					
GIRDER NO.	A	B	C	D	E
G1 & G5	8 15/16	-4 1/16	4 3/8	-2 3/16"	1 11/16"
G2 - G4	8 15/16	-4 1/16	4 3/8	-2 3/16"	1 1/16"

LEGEND:

A = CAMBER DUE TO PRESTRESS AT ERECTION, CREEP MULTIPLIER = 1.8.

B = DEFLECTION DUE TO GIRDER DEAD LOAD AT ERECTION, CREEP MULTIPLIER = 1.85.

C = A+B

D = DEFLECTION DUE TO SLAB, DIAPHRAGMS, SIP FORMS, AND BARRIERS.

E = NET CAMBER, C+D.

NOTES:

1. PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESSING CONDITIONS AND PRESTRESS LOSSES. CONTRACTOR SHALL VERIFY VALUES IN THE FIELD.
2. THE THICKNESS OF THE GIRDER HAUNCHES SHALL BE VARIED TO COMPENSATE FOR ANY INACCURACIES IN THE FINAL CAMBER.

CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR TYPICAL SECTION, SEE DWG. NO. 1-479 TS-1.
3. FOR GIRDER PLAN AND ELEVATION, SEE DWG. NO. 1-479 BM-1.
4. FOR GIRDER DETAILS, SEE DWG. NO. 1-479 BM-2.
5. FOR INTERMEDIATE AND END DIAPHRAGM DETAILS, SEE DWG. NO. 1-479 DPH-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 4 16
2 8
FEET

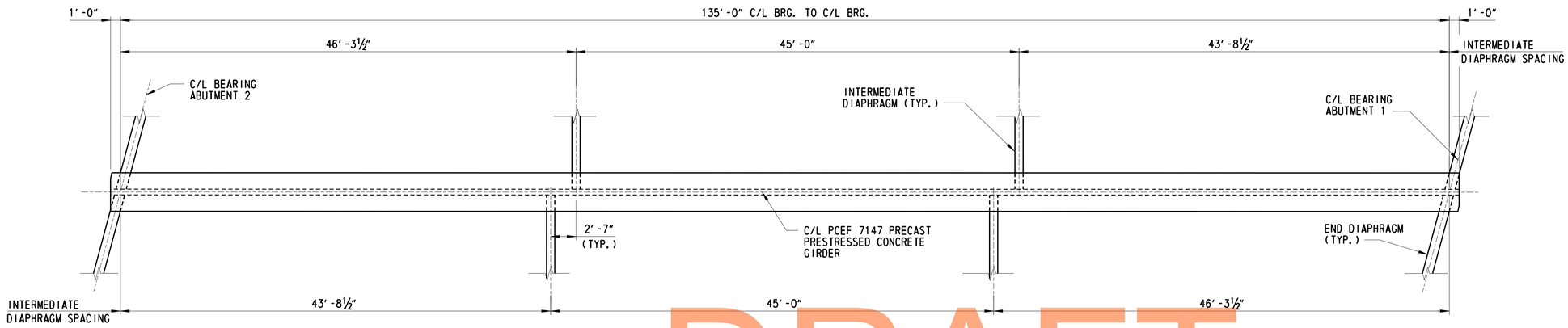
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: LT
CHECKED BY: BCW

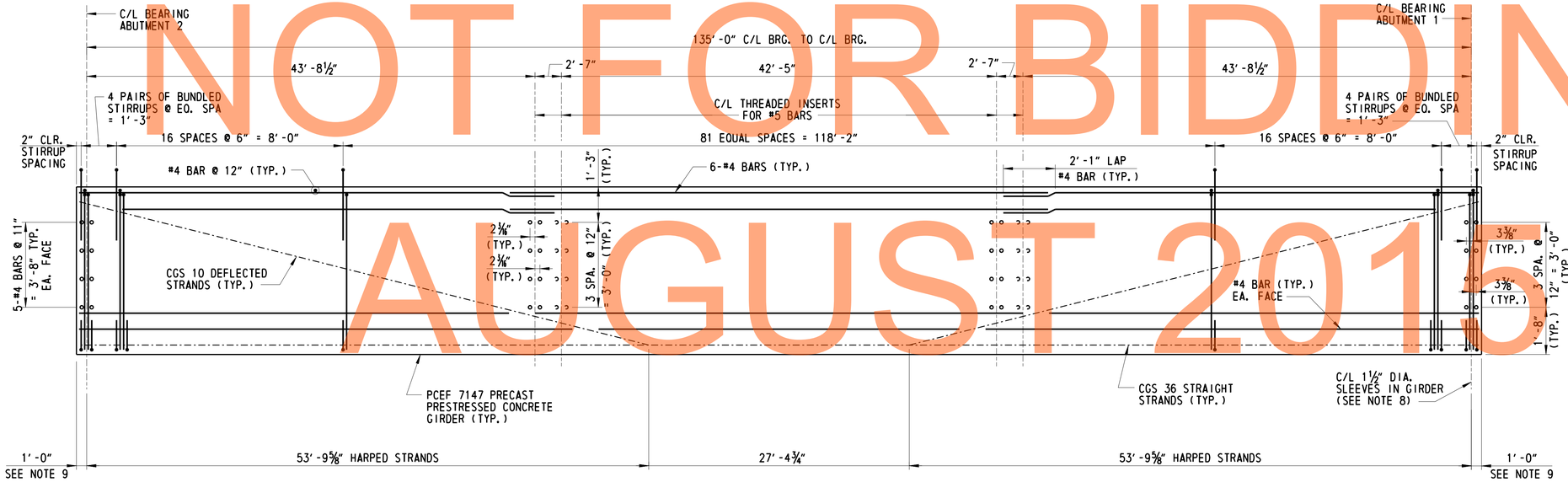
RAMP F OVER
SANDY BRANCH
FRAMING PLAN

1-479 FR-1
SHEET NO. 546
TOTAL SHTS. 1256



GIRDER PLAN

NTS



GIRDER ELEVATION

NTS

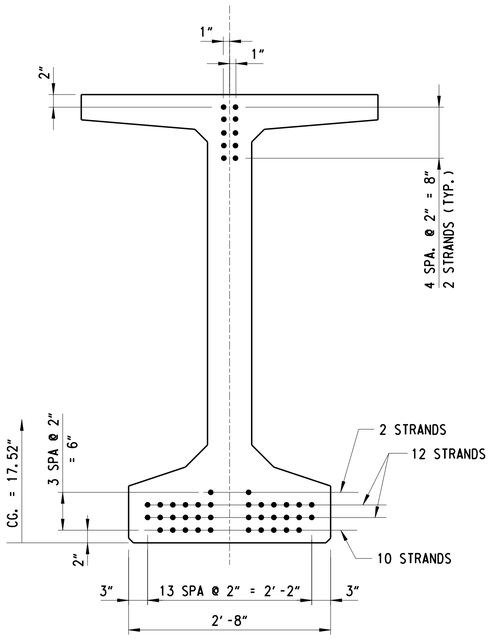
NOTES:

1. NOT ALL PRESTRESSING STRANDS SHOWN FOR CLARITY. CENTER OF GRAVITY FOR STRANDS GROUP (CGS) SHOWN ONLY.
2. GIRDER LENGTHS IN CASTING BED SHALL BE DETERMINED AND DEPICTED IN SHOP DRAWINGS TO COMPENSATE FOR GRADE SHORTENING DUE TO PRESTRESS EFFECTS.
3. SECTION IS A PCEF 7147.
4. ALL MILD STEEL REINFORCEMENT IN GIRDERS SHALL BE EPOXY COATED.
5. TOP SURFACE OF GIRDERS SHALL BE ROUGH FINISHED TO A FULL AMPLITUDE OF A 1/4" AND SCRUBBED TRANSVERSELY WITH A COURSE WIRE BRUSH TO REMOVE ALL LAITANCE TO PRODUCE A ROUGHENED SURFACE FOR BONDING.
6. END ZONE REINFORCEMENT MAY BE INCREASED BY THE FABRICATOR TO REFLECT FABRICATORS EXPERIENCE AND/OR TO CONTROL CRACKING.
7. NO CLEAR COVER LESS THAN AS SHOWN ON THESE PLANS WILL BE ACCEPTED.
8. OMIT SLEEVES AND THREADED INSERTS ON THE EXTERIOR FACE OF FASCIA GIRDERS.
9. DIMENSION REFERENCED FROM C/L OF GIRDER.
10. FABRICATOR TO CHECK GIRDER STABILITY FOR HANDLING, TRANSPORTATION AND ERECTION.

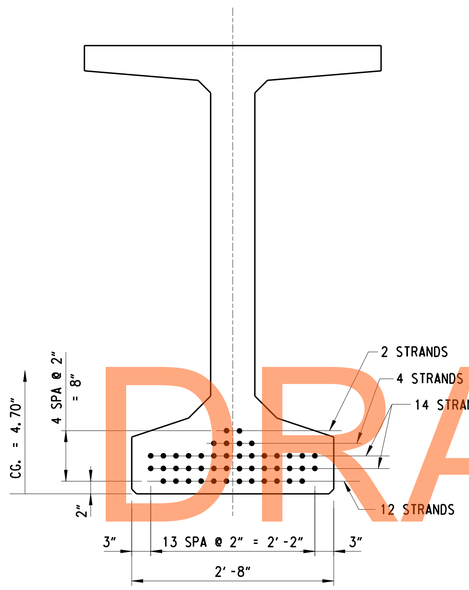
CROSS REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. NO. 1-479 PE-1.
2. FOR GENERAL NOTES, SEE DWG. NO. 1-479 GN-1.
3. FOR TYPICAL SECTION, SEE DWG. NO. 1-479 TS-1.
4. FOR FRAMING PLAN, SEE DWG. NO. 1-479 FR-1.
5. FOR GIRDER DETAILS, SEE DWG. NO. 1-479 BM-2.
6. FOR CAMBER DIAGRAM, SEE DWG. NO. 1-479 FR-1.
7. FOR INTERMEDIATE AND END DIAPHRAGM DETAILS, SEE DWG. NO. 1-479 DPH-1.

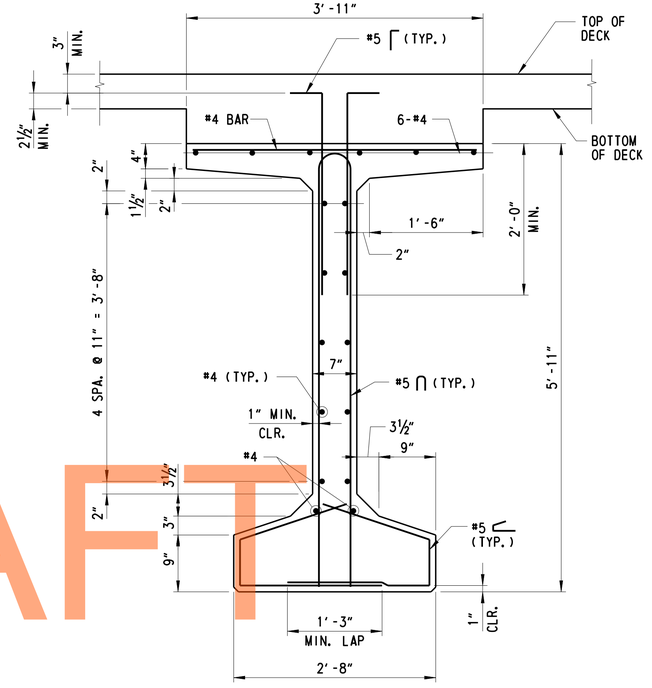
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH GIRDER PLAN AND ELEVATION
				COUNTY NEW CASTLE	DESIGNED BY: LT	1-479 BM-1
					CHECKED BY: BCW	SHEET NO. 547
						TOTAL SHTS. 1256



PRESTRESSING AT GIRDER ENDS



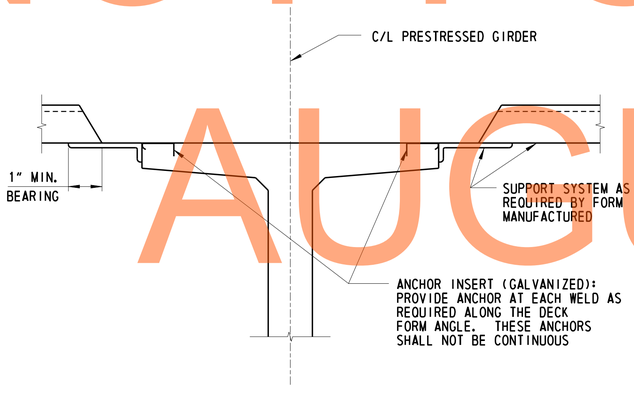
PRESTRESSING AT MIDSPAN



TYPICAL REINFORCEMENT

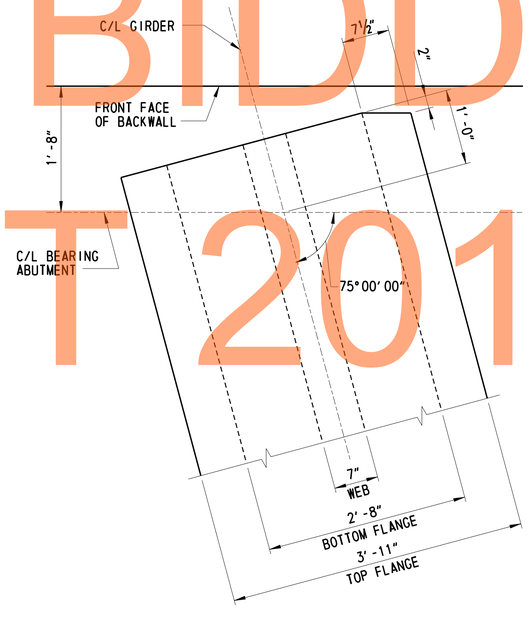
TYPICAL GIRDER SECTIONS

SCALE: 1"= 1'-0"



FORM ANCHOR DETAIL

SCALE: 1"= 1'-0"



TYPICAL GIRDER END DETAIL

SCALE: 1"= 1'-0"

NOTES:

1. GIRDER LIFTING DETAILS SHALL BE PROVIDED BY THE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
2. TYPICAL COVER - 1" CLR. TO STIRRUPS, 1½" CLR. TO LONGITUDINAL BARS AND STRANDS.
3. PERMANENT STEEL BRIDGE DECK FORMS AND SUPPORTS SHALL BE PROVIDED CONFORMING TO THE REQUIREMENTS OF SECTION 602 OF THE DELDOT STANDARD SPECIFICATIONS AND AS SHOWN IN THE BDM.
4. ANY PERMANENTLY EXPOSED FORM METAL WHERE THE GALVANIZED COATING HAS BEEN DAMAGED SHALL BE THOROUGHLY CLEANED, WIRE BRUSHED AND PAINTED WITH TWO COATS OF ZINC DUST-ZINC OXIDE PAINT, NO COLOR ADDED TO THE SATISFACTION OF THE ENGINEER. MINOR HEAT DISCOLORATION IN AREAS OF WELDS NEED NOT BE TOUCHED UP.

CROSS REFERENCE NOTES:

1. FOR GIRDER PLAN AND ELEVATION, SEE DWG. NO. 1-479 BM-1.
2. FOR FRAMING PLAN AND CAMBER SCHEDULE, SEE DWG. NO. 1-479 FR-1.
3. FOR TYPICAL SECTION, SEE DWG. NO. 1-479 TS-1.

NOTES:

1. CLIP TOP FLANGE AT EACH END OF GIRDER AS SHOWN.
2. INSERTS/SLEEVES FOR END DIAPHRAGM NOT SHOWN.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

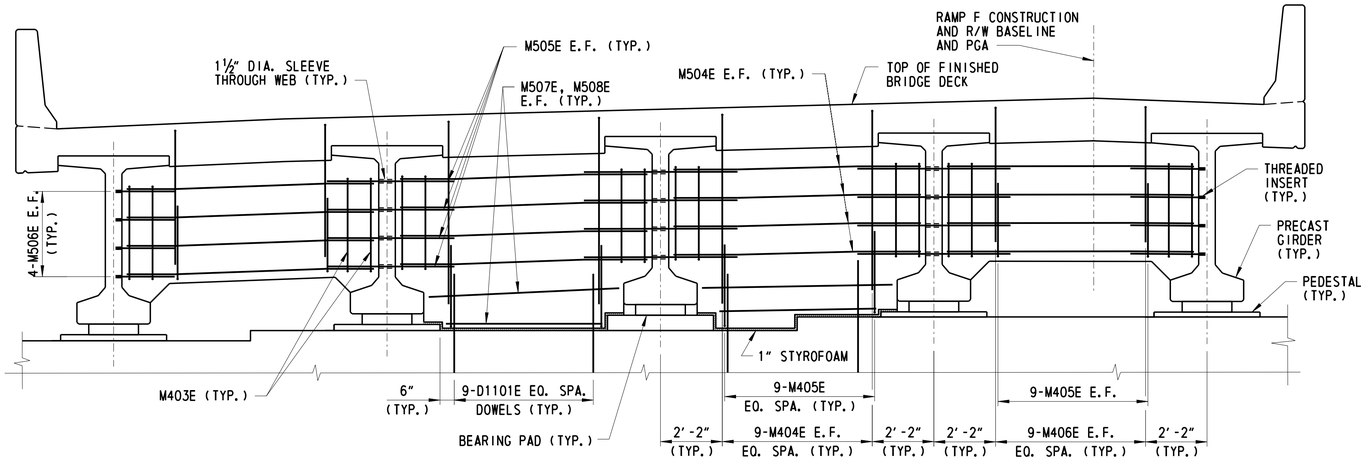
SCALE 0 1 2 FEET ½

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY:	LT
COUNTY	CHECKED BY:	BCW
NEW CASTLE		

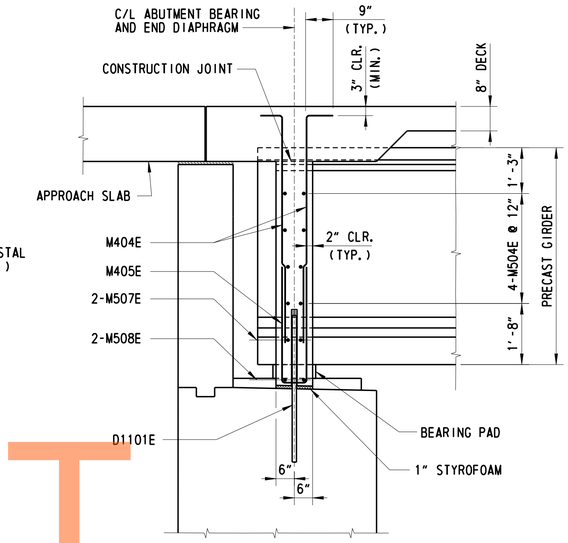
RAMP F OVER
SANDY BRANCH
GIRDER DETAILS

1-479 BM-2
SHEET NO. 548
TOTAL SHTS. 1256



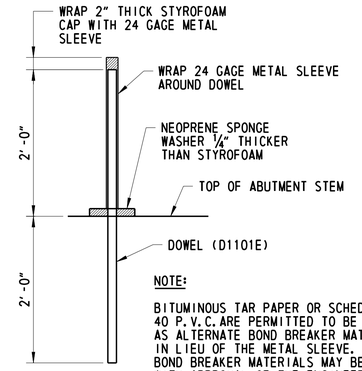
END DIAPHRAGM - ABUTMENT 1 (FIXED)

SCALE: ⅜" = 1'-0"



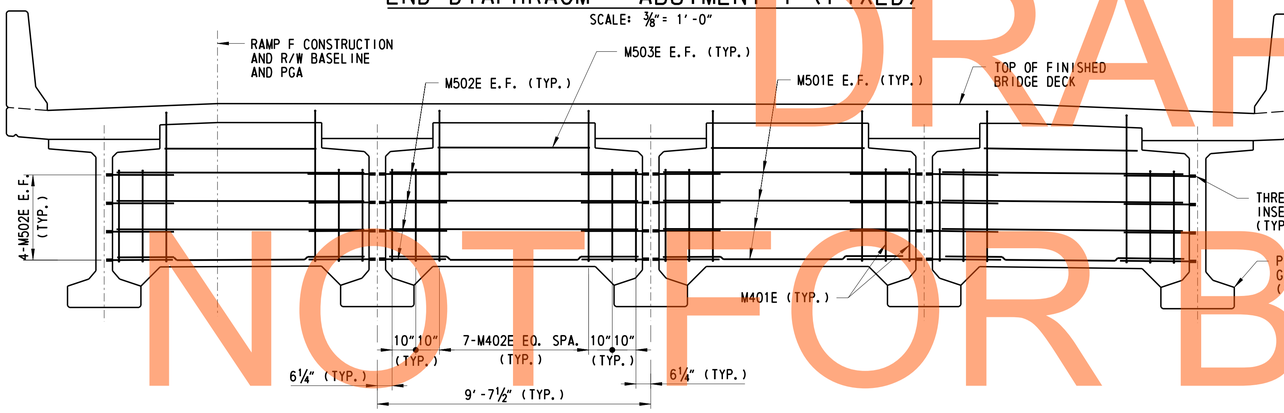
END DIAPHRAGM BETWEEN GIRDERS ABUTMENT 1 (FIXED)

SCALE: ½" = 1'-0"



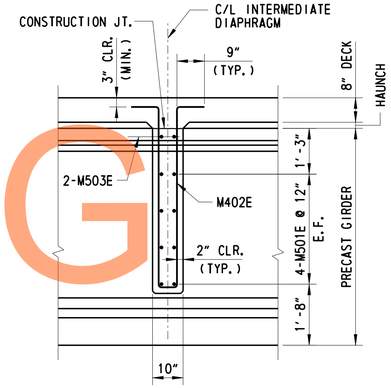
DOWEL DETAIL

SCALE: 1½" = 1'-0"



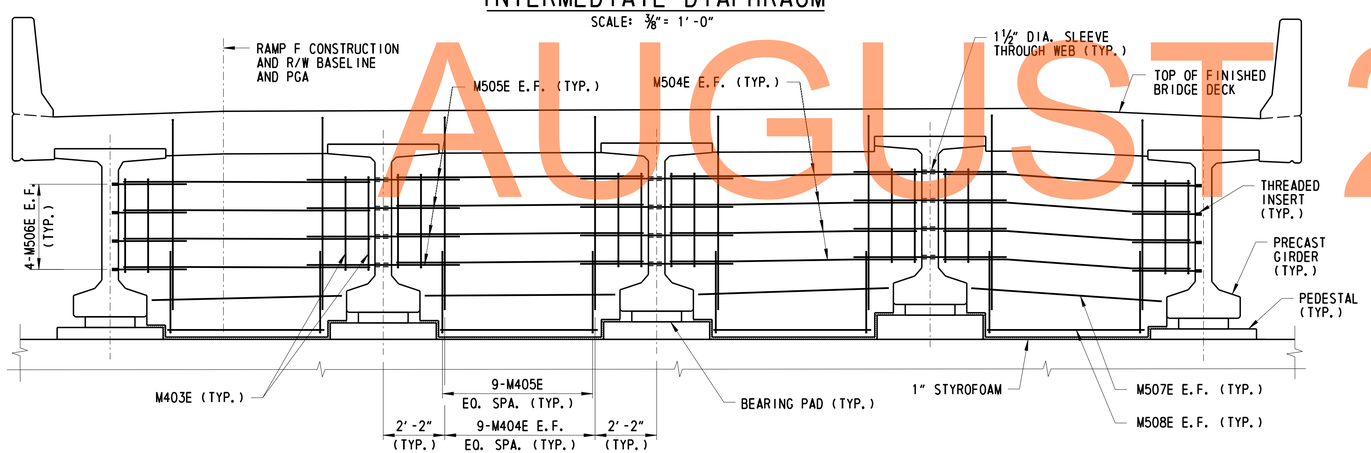
INTERMEDIATE DIAPHRAGM

SCALE: ⅜" = 1'-0"



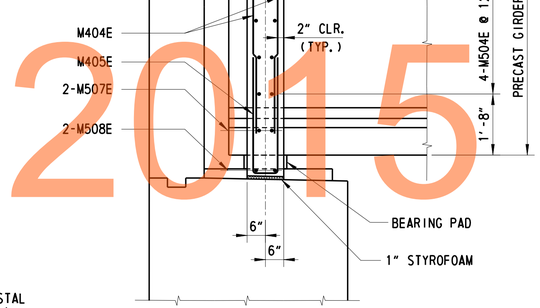
INTERMEDIATE DIAPHRAGM BETWEEN GIRDERS

SCALE: ½" = 1'-0"



END DIAPHRAGM - ABUTMENT 2 (EXPANSION)

SCALE: ⅜" = 1'-0"



END DIAPHRAGM BETWEEN GIRDERS ABUTMENT 2 (EXPANSION)

SCALE: ½" = 1'-0"

NOTE:

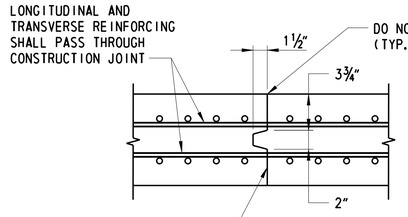
MINIMUM LAP SPLICE LENGTHS:
#4 BAR - 1'-8"
#5 BAR - 2'-1"

CROSS REFERENCE NOTES:

1. FOR TYPICAL SECTION, SEE DWG. NO. 1-479 TS-1.
2. FOR FRAMING PLAN, SEE DWG. NO. 1-479 FR-1.
3. FOR DECK DETAILS, SEE DWG. NOS. 1-479 DK-2 AND 1-479 DK-3.

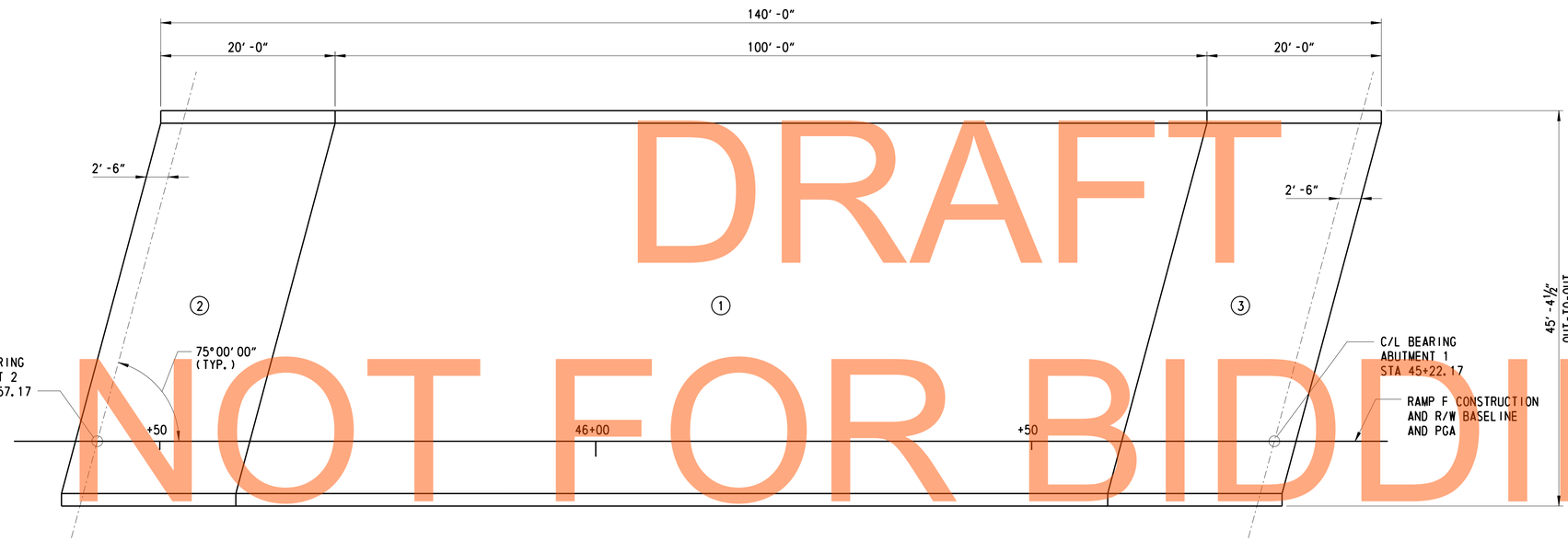
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH DIAPHRAGM DETAILS
				COUNTY NEW CASTLE	DESIGNED BY: BCM	
					CHECKED BY: BCW	

1-479 DPH-1 | SHEET NO. 549 | TOTAL SHTS. 1256



BRIDGE DECK CONSTRUCTION JOINT

NTS



BRIDGE DECK POURING SEQUENCE

SCALE: ⅛" = 1'-0"

PLACEMENT SEQUENCE:

1. CAST INTERMEDIATE DIAPHRAGMS.
2. CAST POUR NO. 1 AS SHOWN.
3. CAST END DIAPHRAGMS AT ABUTMENTS.
4. CAST POUR NO. 2 AND 3 AS SHOWN.

NOTES:

1. CONTRACTOR MAY REVERSE THE ORDER OF THE POURS NUMBERED 2 AND 3.
2. THE CONTRACTOR MAY USE TWO CREWS AND TWO SETS OF EQUIPMENT TO CONSTRUCT POURS 2 AND 3 SIMULTANEOUSLY.

CROSS REFERENCE NOTES:

1. FOR DECK REINFORCEMENT PLAN, SEE DWG. NO. 1-479 DK-2.
2. FOR DECK DETAILS, SEE DWG. NO. 1-479 DK-3.
3. FOR FINISHED DECK ELEVATIONS, SEE DWG. NO. 1-479 FD-1.
4. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-3.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 4 16
2 8
FEET

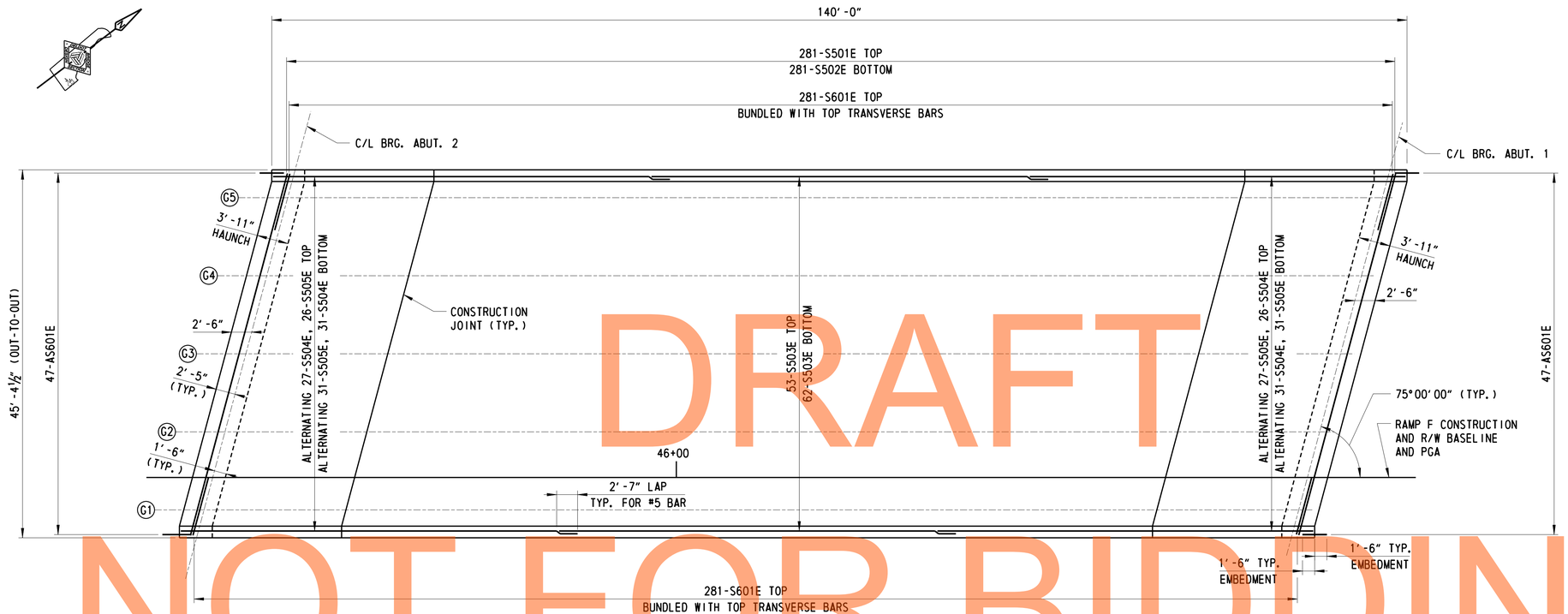
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: PRH
CHECKED BY: JW

RAMP F OVER
SANDY BRANCH
DECK POURING
SEQUENCE

1-479 DK-1
SHEET NO. 550
TOTAL SHTS. 1256

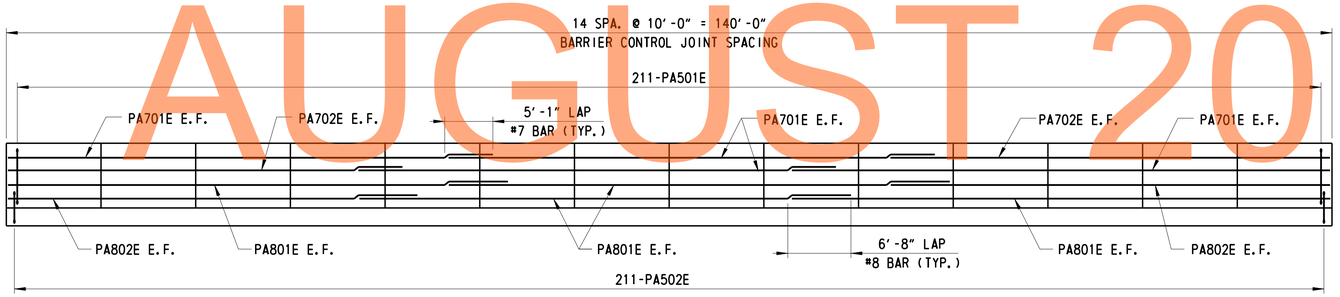


BRIDGE DECK REINFORCEMENT PLAN

SCALE: ⅛" = 1'-0"

NOTE:

BARRIER REINFORCEMENT NOT SHOWN IN PLAN VIEW FOR CLARITY.



ELEVATION - DECK AND BARRIER REINFORCEMENT

NTS

CROSS REFERENCE NOTES:

1. FOR TYPICAL DECK AND PARAPET REINFORCEMENT SECTIONS, SEE DWG. NO. 1-479 DK-3.
2. FOR FINISHED DECK ELEVATIONS, SEE DWG. NO. 1-479 FD-1.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-3.
4. FOR BARRIER CONTROL JOINT DETAIL, SEE DWG. NO. 1-479 DK-3.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 4 16
2 8
FEET

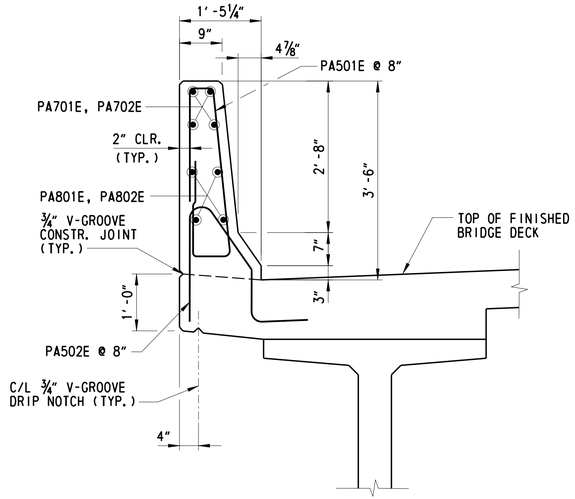
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	T200911303
COUNTY	NEW CASTLE

BRIDGE NO.	1-479
DESIGNED BY:	EE
CHECKED BY:	BCW

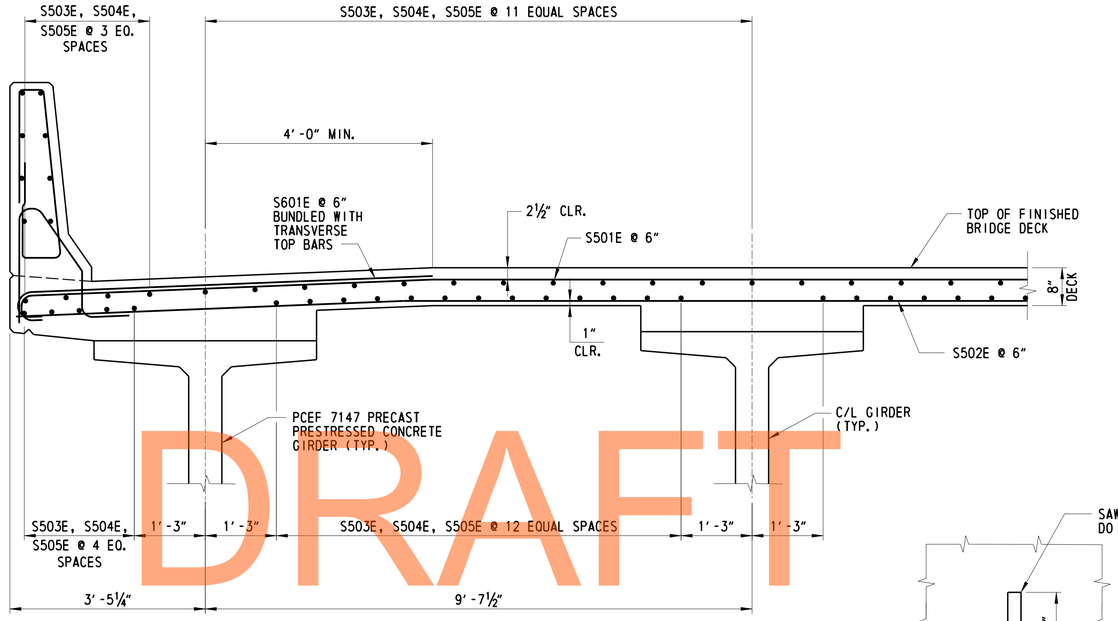
RAMP F OVER SANDY BRANCH
DECK AND BARRIER REINFORCEMENT

1-479 DK-2	
SHEET NO.	551
TOTAL SHTS.	1256



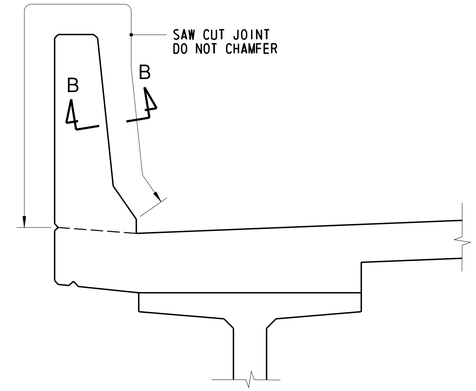
TYPICAL BARRIER REINFORCING SECTION @ DECK SLAB

SCALE: ¾″= 1′-0″



TYPICAL DECK REINFORCING SECTION

SCALE: ¾″= 1′-0″

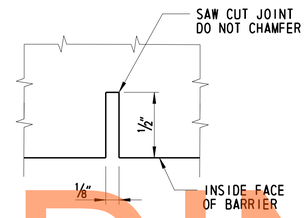


BARRIER CONTROL JOINT DETAIL

SCALE: ¾″= 1′-0″

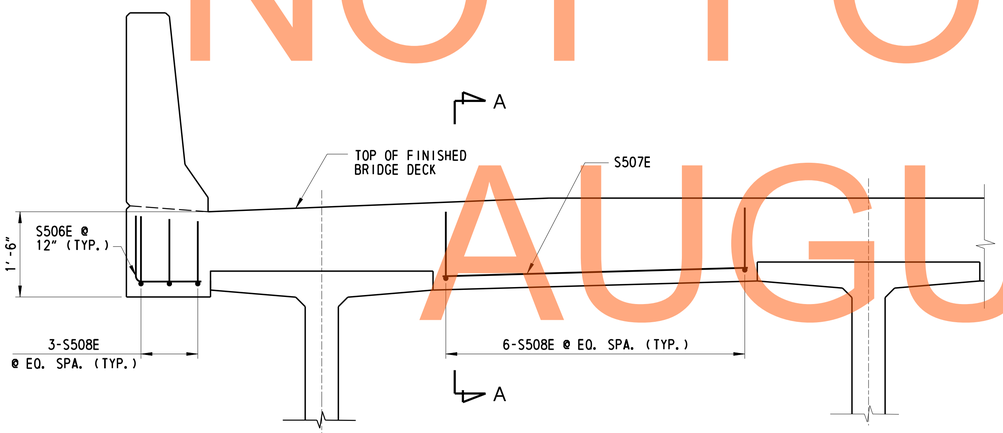
NOTES:

1. SAW CUT CONTROL JOINTS THE SAME DAY THAT THE FORMS ARE STRIPPED.
2. DETAIL FOR BARRIER ON APPROACH SLAB SIMILAR.



SECTION B-B

NOT TO SCALE

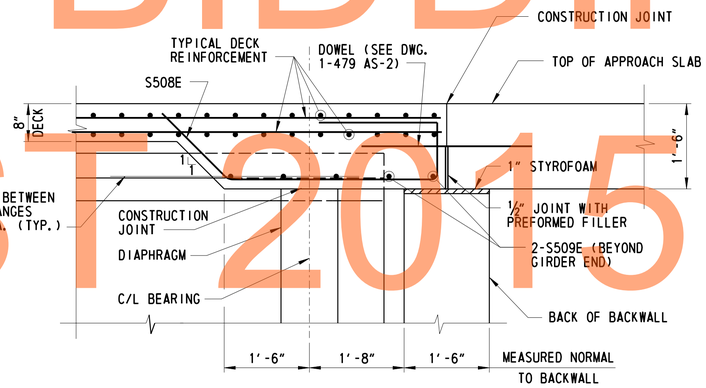


TYPICAL END HAUNCH SECTION

SCALE: ¾″= 1′-0″

NOTE:

TYPICAL DECK REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION A-A

SCALE: ¾″= 1′-0″

CROSS REFERENCE NOTES:

1. BRIDGE DECK REINFORCEMENT PLAN, SEE DWG. NO. 1-479 DK-2.
2. FOR BRIDGE DECK POURING SEQUENCE, SEE DWG. NO. 1-479 DK-1.
3. FOR FINISHED BRIDGE DECK ELEVATIONS, SEE DWG. NO. 1-479 FD-1.
4. FOR REINFORCING BAR SCHEDULE, SEE 1-479 BR-3 DWG. NO. 1-479 BR-3.

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

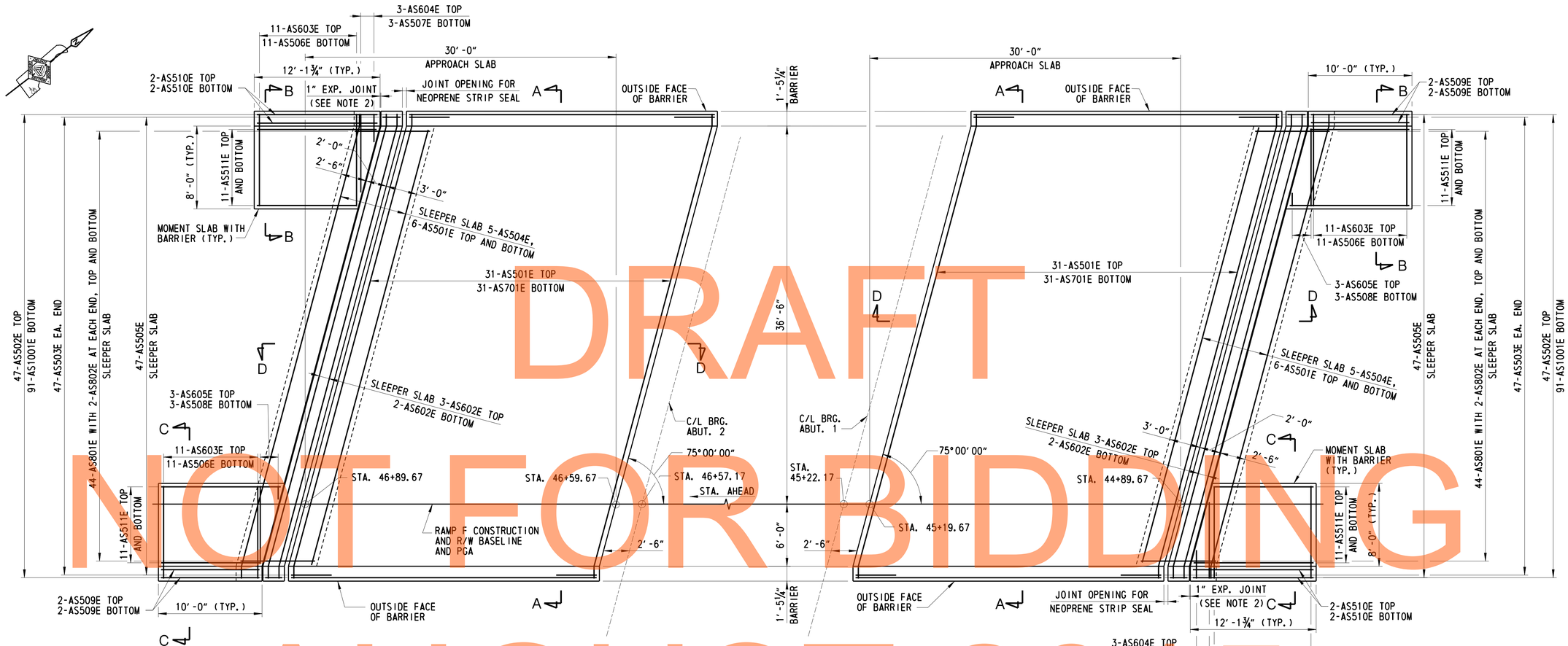
SCALE 0 1 4 ½ 2 FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO. 1-479
DESIGNED BY: EE
CHECKED BY: BCW

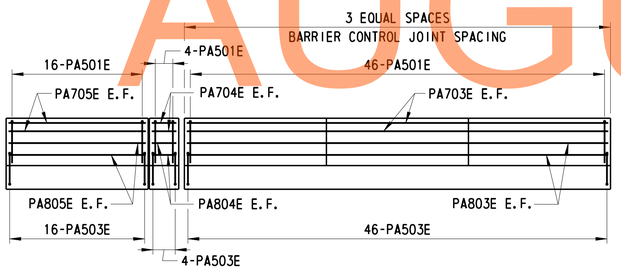
RAMP F OVER SANDY BRANCH
DECK DETAILS

1-479 DK-3
SHEET NO. 552
TOTAL SHTS. 1256



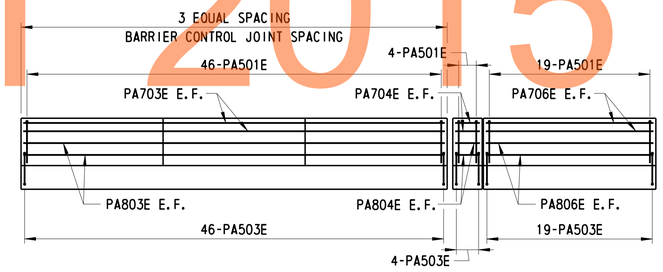
APPROACH SLAB REINFORCEMENT PLAN

SCALE: 1/16" = 1'-0"



ELEVATION - APPROACH SLAB AND BARRIER

SCALE: 1/16" = 1'-0"



ELEVATION - APPROACH SLAB AND BARRIER

SCALE: 1/16" = 1'-0"

NOTES:

1. BARRIER REINFORCEMENT NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. PROVIDE 1" FLUSH EXPANSION JOINT BETWEEN MOMENT SLAB AND SLEEPER SLAB (SEE DELDOT STANDARD P-1).

CROSS REFERENCE NOTES:

1. FOR SECTION A-A, B-B, C-C AND D-D, SEE DWG. NO. 1-479 AS-2.
2. FOR FINISHED APPROACH SLAB ELEVATIONS, SEE DWG. NO. 1-479 FD-2.
3. FOR REINFORCING SCHEDULE, SEE DWG. NO. 1-479 BR-3.
4. FOR EXPANSION JOINT DETAILS, SEE DWG. NO. 1-479 EX-1.
5. FOR BARRIER CONTROL JOINT DETAIL, SEE DWG. 1-479 DK-3.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

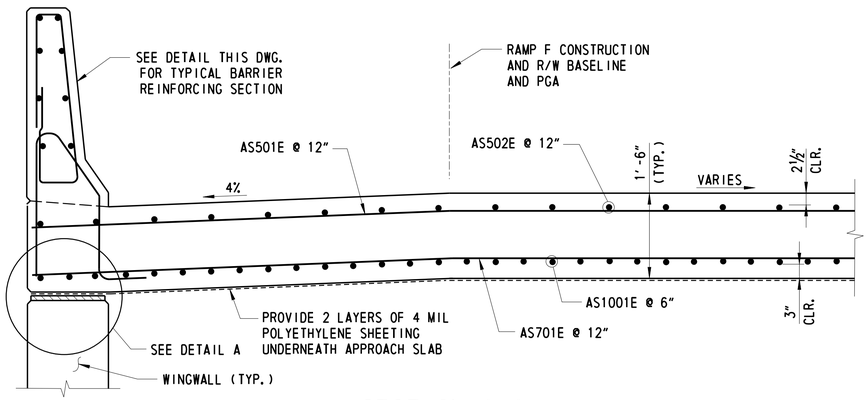
SCALE
0 2 8
1 4
FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY: EE	
COUNTY	CHECKED BY: JW	
NEW CASTLE		

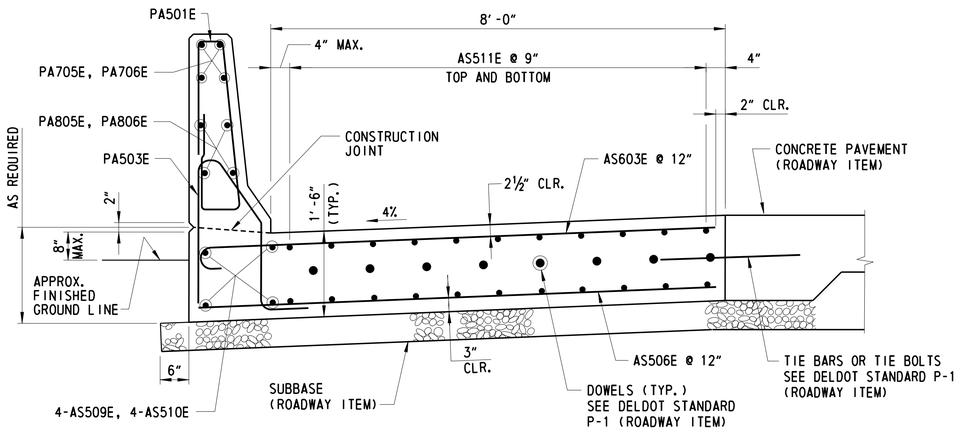
RAMP F OVER
SANDY BRANCH
APPROACH SLAB AND
BARRIER REINFORCEMENT

1-479 AS-1
SHEET NO. 553
TOTAL SHTS. 1256



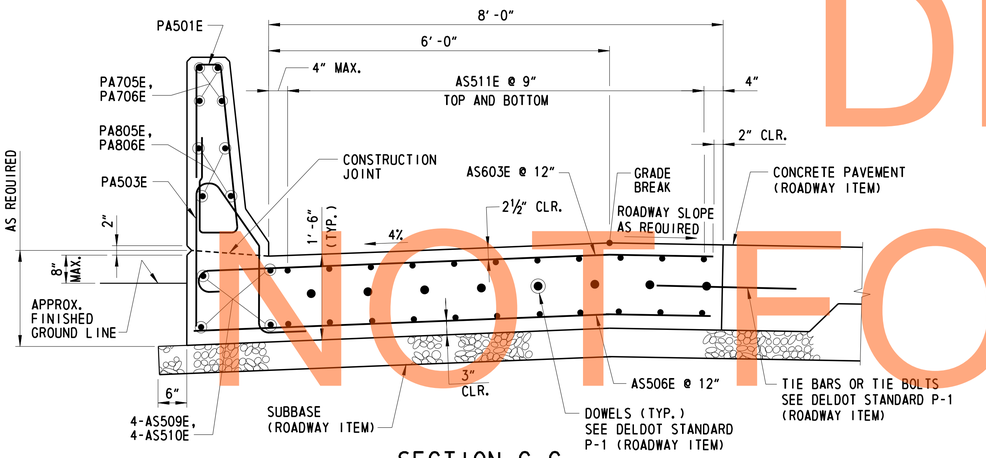
SECTION A-A

SCALE: ¾"= 1'-0"



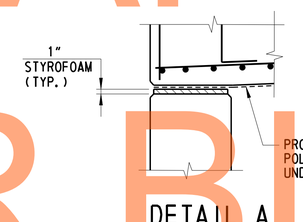
SECTION B-B

SCALE: ¾"= 1'-0"



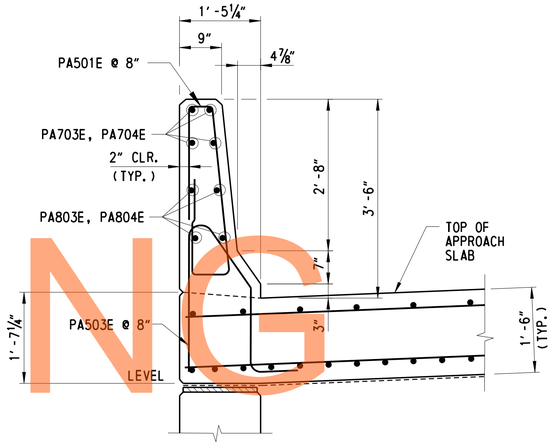
SECTION C-C

SCALE: ¾"= 1'-0"



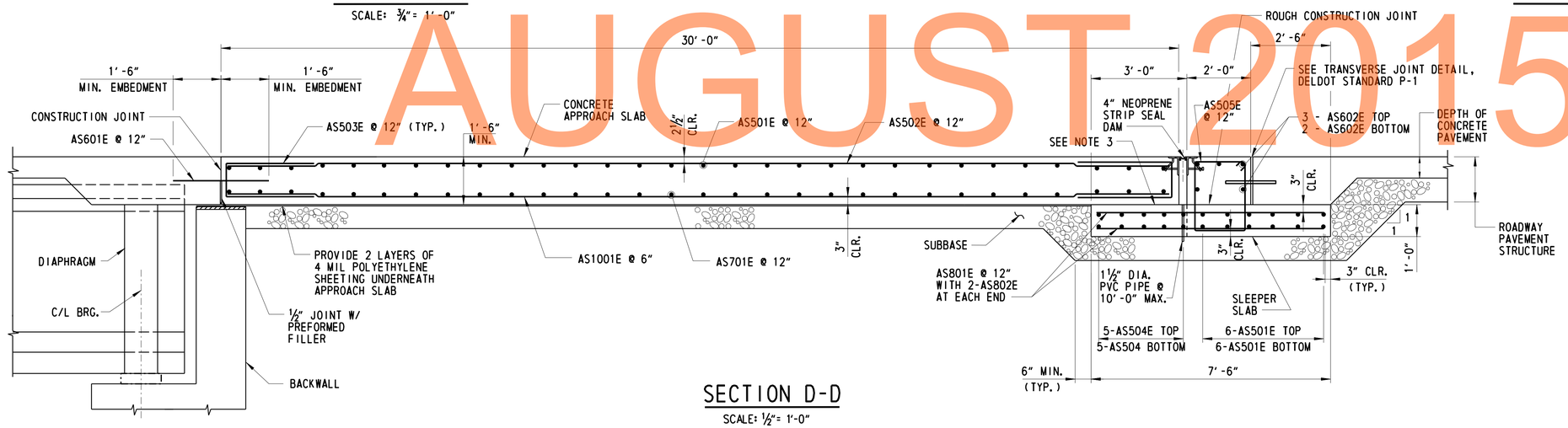
DETAIL A

SCALE: ¾"= 1'-0"



TYPICAL BARRIER REINFORCING SECTION

SCALE: ¾"= 1'-0"



SECTION D-D

SCALE: ½"= 1'-0"

NOTES:

1. SECTION D-D SHOWN LEVEL FOR CLARITY. SLOPE APPROACH SLAB AND SLEEPER SLAB AS REQUIRED TO MATCH ROADWAY PROFILE.
2. SLEEPER SLAB DIMENSIONS SHOWN NORMAL TO ABUTMENT FOR CLARITY.
3. TROWEL SMOOTH AND PLACE 2 LAYERS OF 4 MIL POLYETHYLENE SHEETING.

CROSS REFERENCE NOTES:

1. FOR APPROACH SLAB REINFORCEMENT PLAN, SEE DWG. NO. 1-479 AS-1.
2. FOR FINISHED APPROACH SLAB ELEVATIONS, SEE DWG. NO. 1-479 FD-2.
3. FOR REINFORCING BAR SCHEDULE, SEE DWG. NO. 1-479 BR-3.
4. FOR EXPANSION JOINT DETAILS, SEE DWG. NO. 1-479 EX-1.

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY: EE	
COUNTY	CHECKED BY: JW	
NEW CASTLE		

RAMP F OVER SANDY BRANCH

APPROACH SLAB DETAILS

1-479 AS-2
SHEET NO. 554
TOTAL SHTS. 1256

REINFORCING BAR SCHEDULE

DECK BAR SCHEDULE

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	G	H	J	K	O	R	REMARKS
S501E	47′-7″	281	1	7″	46′-5″				7″		5″				
S502E	46′-7½″	281	STR.												
S503E	55′-0″	115	STR.												
S504E	53′-3″	115	STR.												
S505E	36′-7″	115	STR.												
S506E	2′-4″	20	2	1′-2″	1′-2″										
S507E	5′-7″	24	STR.												
S508E	8′-3½″	60	16	2′-1″	1′-2½″	3′-8½″	1′-7″			1′-1½″		1′-2″			
S509E	46′-7½″	4	STR.												
S601E	8′-0″	562	1	8″	7′-4″						6″				

APPROACH SLAB BAR SCHEDULE

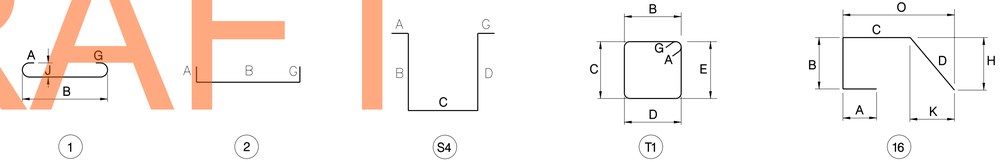
AS501E	46′-7½″	86	STR.												
AS502E	29′-8″	94	STR.												
AS503E	7′-0½″	188	2	3′-0″	1′-0½″				3′-0″						
AS504E	43′-9″	20	STR.												
AS505E	8′-7″	94	T1	7″	1′-8″	2′-0½″	1′-8″	2′-0½″	7″						
AS506E	9′-1¼″	44	STR.												
AS507E	2′-6″ TO 8′-0″	6	STR.												LENGTH △ = 2′-9″, 2 SETS
AS508E	1′-6″ TO 7′-6″	6	STR.												LENGTH △ = 3′-0″, 2 SETS
AS509E	9′-8″	8	STR.												
AS510E	11′-9¾″	8	STR.												
AS511E	9′-8″ TO 11′-9″	88	STR.												LENGTH △ = 2½″, 8 SETS
AS601E	3′-0″	94	STR.												DOWEL
AS602E	46′-7½″	10	STR.												
AS603E	9′-9¼″	44	1	8″	9′-1¼″						6″				
AS604E	2′-6″ TO 8′-0″	6	STR.												LENGTH △ = 2′-9″, 2 SETS
AS605E	1′-6″ TO 7′-6″	6	STR.												LENGTH △ = 3′-0″, 2 SETS
AS701E	46′-7½″	62	STR.												
AS801E	7′-3″	176	STR.												
AS802E	4′-0″	16	STR.												
AS1001E	29′-8″	182	STR.												

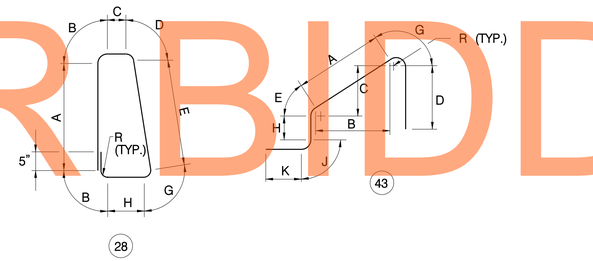
DIAPHRAGM BAR SCHEDULE

M401E	8′-1″	32	T1	4½″	6″	3′-2″	6″	3′-2″	4½″
M402E	11′-10″	56	S4	9″	4′-11″	6″	4′-11″		9″
M403E	8′-5″	32	T1	4½″	8″	3′-2″	8″	3′-2″	4½″
M404E	7′-7″	108	2	9″	6′-10″				
M405E	6′-8″	72	2	3′-0″	8″				3′-0″
M406E	5′-6″	36	2	9″	4′-9″				
M501E	8′-9″	64	STR.						
M502E	2′-5″	128	STR.						
M503E	5′-4″	16	STR.						
M504E	9′-0″	64	STR.						
M505E	5′-7″	48	STR.						
M506E	2′-9″	32	STR.						
M507E	6′-11″	12	STR.						
M508E	5′-9″	12	STR.						
D1101E	4′-0″	18	STR.						

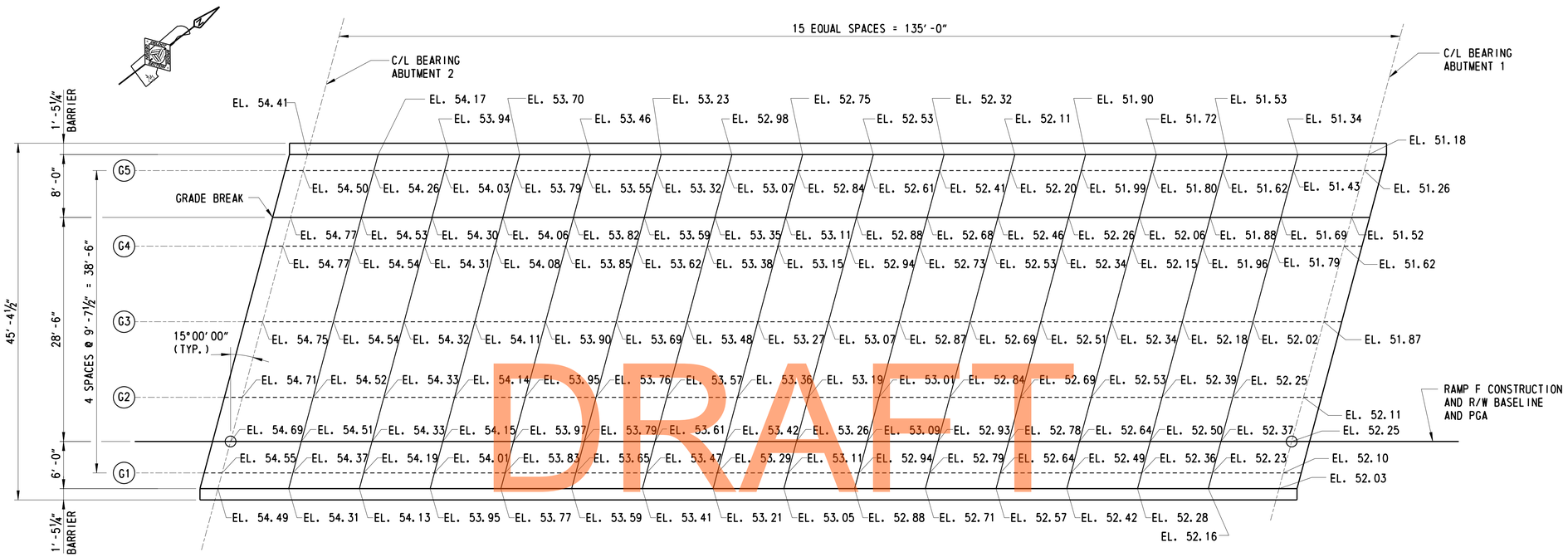
BARRIER BAR SCHEDULE

MARK	LENGTH	NO. BARS	TYPE	A	B	C	D	E	G	H	J	K	O	R	REMARKS
PA501E	7′-6″	692	28	2′-8¾″	3⅞″	½″	3⅝″	2′-8⅞″	4¼″	3¼″				3¾″	
PA502E	5′-4¾″	422	43	1′-2½″	8¼″	11⅞″	1′-10⅜″	1⅜″	6⅜″	6⅛″	4″	10″		3¾″	
PA503E	6′-8¾″	270	43	1′-2½″	8¼″	11⅞″	2′-6⅜″	1⅜″	6⅜″	1′-2⅛″	4″	10″		3¾″	
PA701E	53′-0″	16	STR.												
PA702E	43′-10″	8	STR.												
PA703E	29′-8″	16	STR.												
PA704E	2′-1″	16	STR.												
PA705E	9′-8″	8	STR.												
PA706E	11′-9¾″	8	STR.												
PA801E	53′-0″	16	STR.												
PA802E	47′-0″	8	STR.												
PA803E	29′-8″	16	STR.												
PA804E	2′-1″	16	STR.												
PA805E	9′-8″	8	STR.												
PA806E	11′-9¾″	8	STR.												



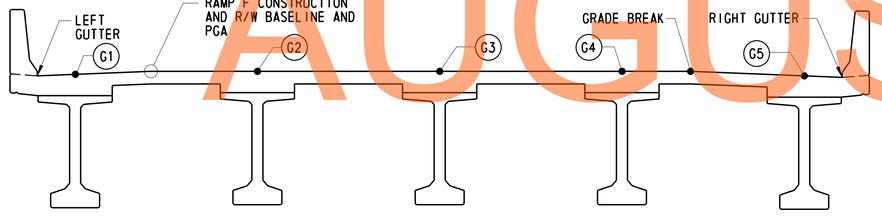


DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH DECK REINFORCEMENT SCHEDULE	1-479 BR-3
				COUNTY NEW CASTLE	DESIGNED BY: LT		SHEET NO. 555
					CHECKED BY: BCM		TOTAL SHTS. 1256



FINISHED DECK ELEVATIONS

SCALE: ⅛"= 1'-0"



TYPICAL SECTION

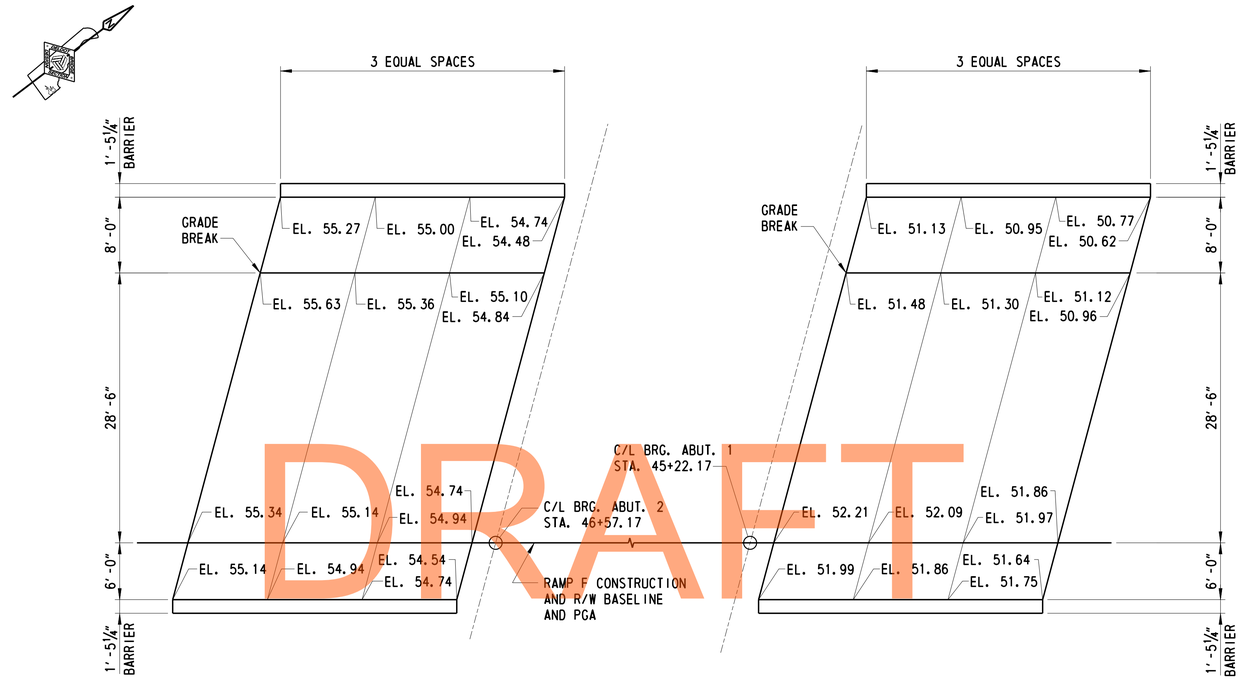
STATIONS AHEAD

SCALE: ¼"= 1'-0"

CROSS REFERENCE NOTES:

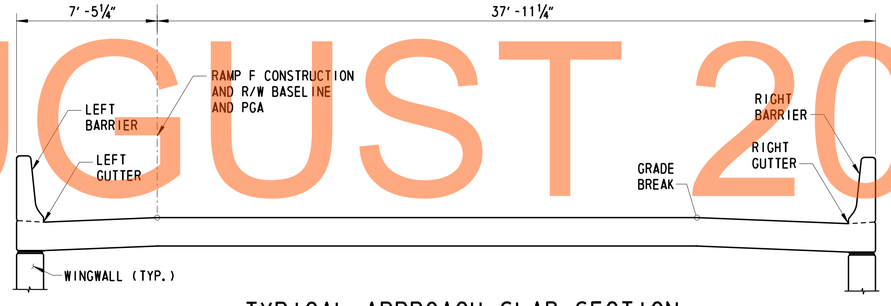
1. FOR VERTICAL CURVE DATA, SEE DWG. NO. 1-479 PE-1.
2. FOR DECK POURING SEQUENCE, SEE DWG. NO. 1-479 DK-1.
3. FOR DECK REINFORCEMENT PLAN, SEE DWG. NO. 1-479 DK-2.
4. FOR DECK DETAILS, SEE DWG. NO. 1-479 DK-3.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH FINISHED DECK ELEVATIONS	1-479 FD-1
				COUNTY NEW CASTLE	DESIGNED BY: LT		SHEET NO. 556
					CHECKED BY: JW		TOTAL SHTS. 1256



FINISHED APPROACH SLAB ELEVATIONS

SCALE: ⅛" = 1'-0"



TYPICAL APPROACH SLAB SECTION

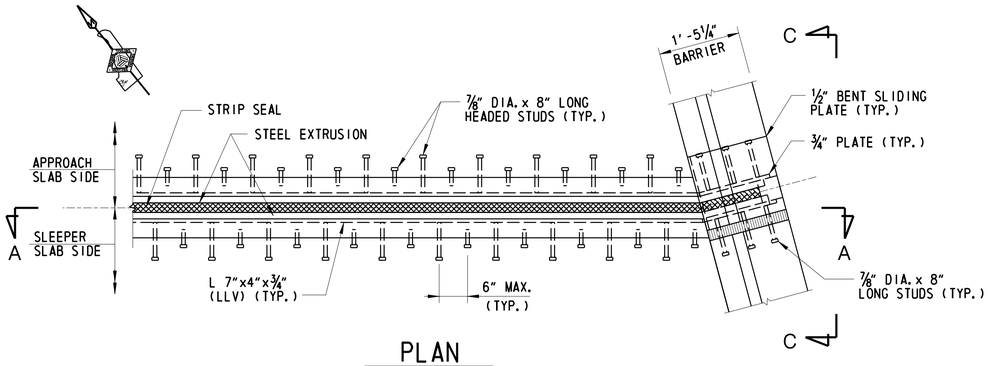
STATIONS AHEAD

SCALE: ¼" = 1'-0"

CROSS REFERENCE NOTES:

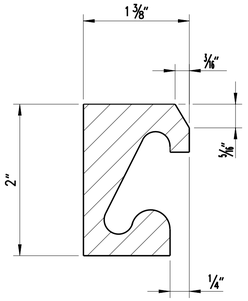
1. FOR APPROACH SLAB REINFORCEMENT PLAN, SEE DWG. NO. 1-479 AS-1.
2. FOR APPROACH SLAB DETAILS, SEE DWG. NO. 1-479 AS-2.
3. FOR VERTICAL CURVE DATA, SEE DWG. NO. 1-479 PE-1.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO. 1-479	RAMP F OVER SANDY BRANCH FINISHED APPROACH SLAB ELEVATIONS	1-479 FD-2
				COUNTY NEW CASTLE	DESIGNED BY: PRH		SHEET NO. 557
					CHECKED BY: JW		TOTAL SHTS. 1256



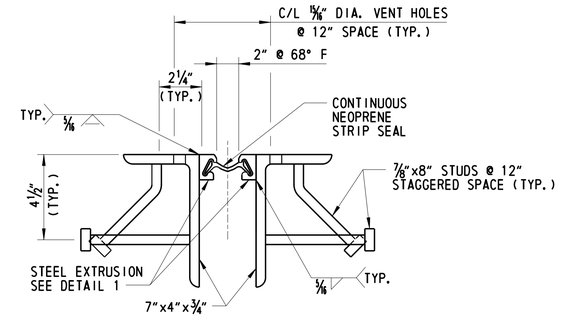
PLAN

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



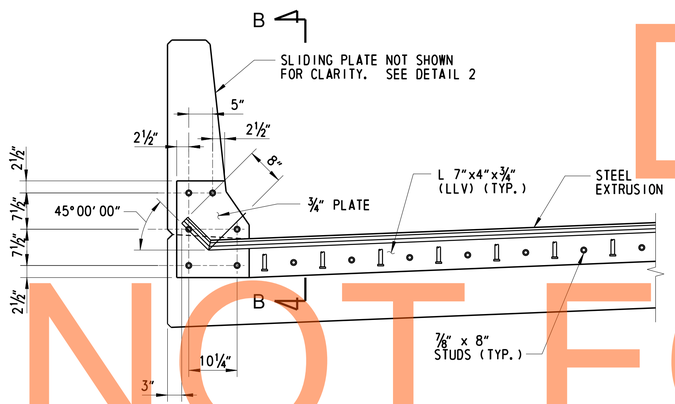
DETAIL 1

NTS



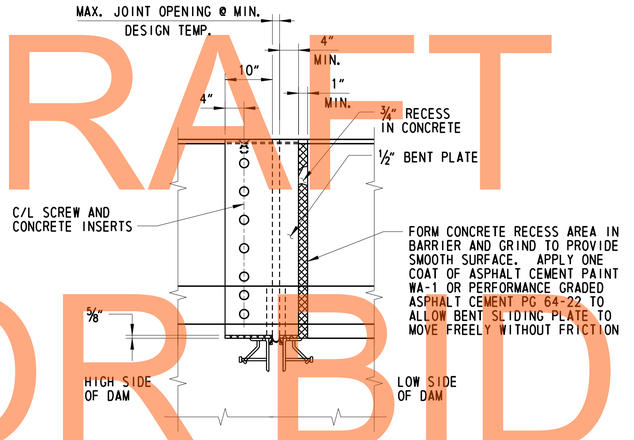
PREFABRICATED EXPANSION JOINT SYSTEM 4"

SCALE: 3" = 1'-0"



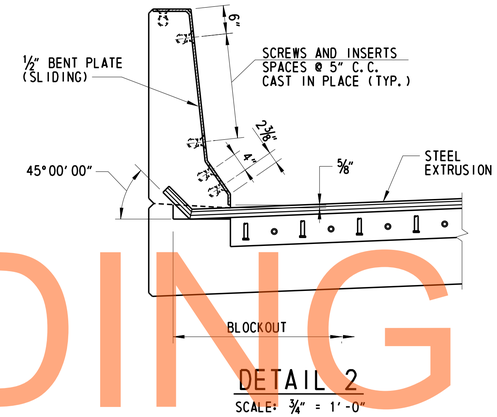
SECTION A-A

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



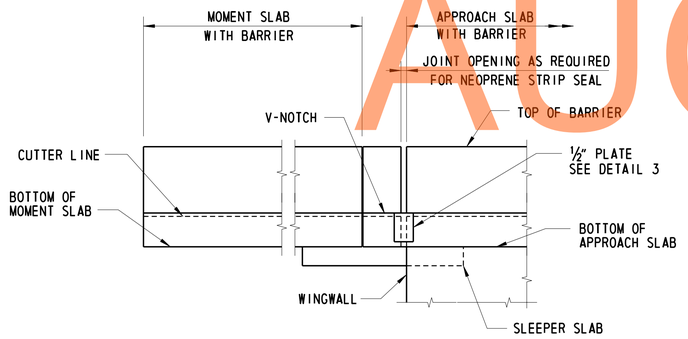
SECTION B-B

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



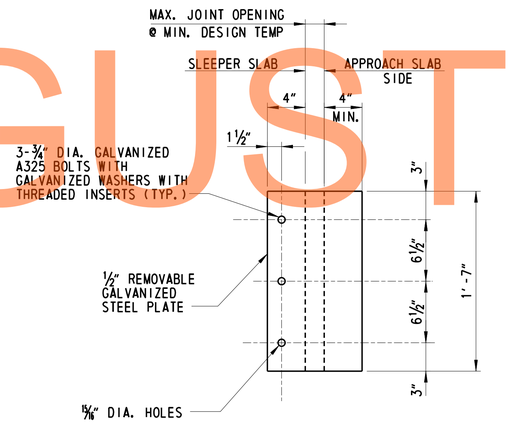
DETAIL 2

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



SECTION C-C

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



DETAIL 3

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

JOINT OPENING (INCH)								
	TEMPERATURE (°F)							
LOCATION	10	20	30	40	50	60	70	80
ABUTMENT 1	2 3/16	2 1/8	2 1/8	2 1/16	2 1/16	2	2	1 15/16
ABUTMENT 2	2 1/16	2 1/16	2 1/16	2	2 1/4	2 1/8	2	1 15/16

NOTES:

1. STRUCTURAL STEEL FOR DECK JOINTS SHALL CONFORM TO AASHTO M270, GRADE 36.
2. STEEL EXTRUSIONS FOR DECK JOINTS SHALL CONFORM TO AASHTO M270, GRADE 36.
3. THE NEOPRENE STRIP SEAL SHALL BE PROVIDED CONTINUOUS THROUGHOUT THE LIMITS OF THE DECK. SPLICING OF THE NEOPRENE STEEL SEAL IS NOT PERMITTED.
4. COST FOR MATERIALS, FABRICATION AND INSTALLATION OF STRIP SEAL EXPANSION JOINTS, 4" MOVEMENT CLASSIFICATION, WITH STEEL ELEMENTS INCLUDING STUDS AND STEEL EXTRUSIONS, SHALL BE PAID FOR UNDER ITEM 605512.
5. CONSTRUCT EXPANSION JOINT TO MATCH ROADWAY GRADE AND CROSS SLOPE.
6. GRIND ALL STEEL EDGES EXPOSED TO TRAFFIC TO 3/16" MIN. RADIUS.
7. BOND NEOPRENE STRIP SEAL TO EXTRUSION WITH APPROVED ADHESIVE.

DELAWARE
DEPARTMENT OF TRANSPORTATION

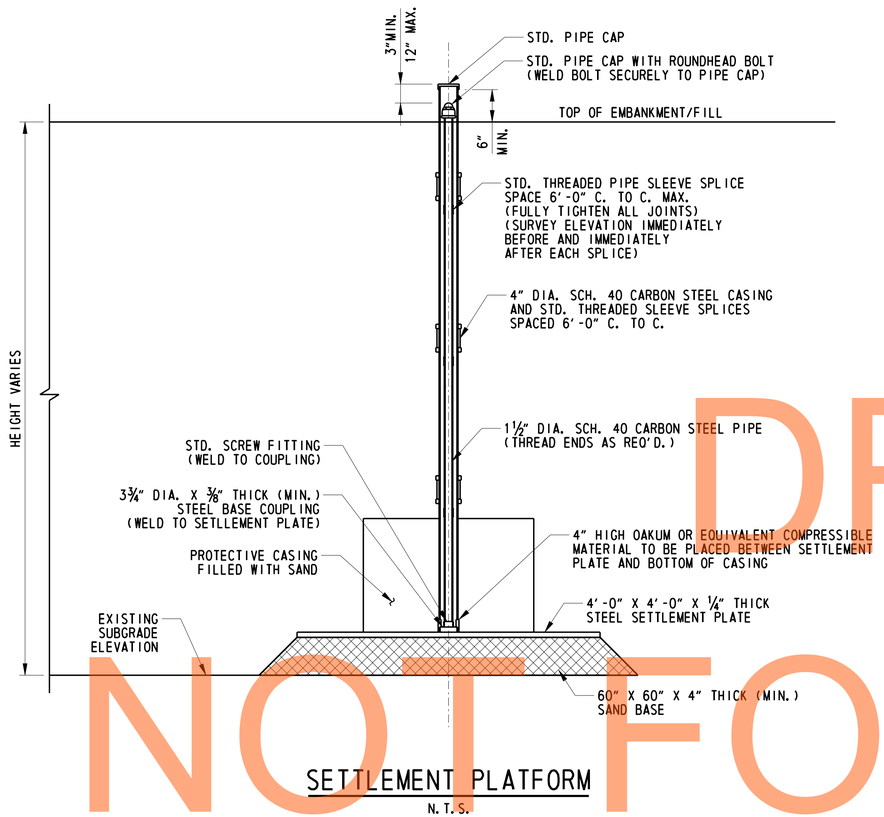
ADDENDUMS / REVISIONS	

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	1-479
T200911303	DESIGNED BY:	PRH
COUNTY	CHECKED BY:	JW
NEW CASTLE		

RAMP F OVER SANDY BRANCH
EXPANSION JOINT DETAILS

1-479 EX-1
SHEET NO. 558
TOTAL SHTS. 1256



SETTLEMENT PLATFORM

N. T. S.

SETTLEMENT PLATFORM	STATION	OFFSET	SETTLEMENT MONUMENT	STATION	OFFSET
SP-1-479-1	45+00.85	14.25' RT	SM-1-479-1	45+02.19	9.25' RT
SP-1-479-2	46+70.85	14.25' RT	SM-1-479-2	46+72.19	9.25' RT

NOTES:

1. THE BASE OF THE SETTLEMENT PLATFORM SHALL BE PLACED ON THE TOP OF THE EXISTING GROUND.

2. READINGS ON THE SETTLEMENT PLATFORMS SHALL BE MADE AFTER THE INITIAL INSTALLATION OF THE RISER AND CASING PIPES AND INSTALLATION RECORD SHEETS ARE APPROVED BY THE ENGINEER AND PRIOR TO FILL PLACEMENT. DURING FILL PLACEMENT, READINGS ON ALL SETTLEMENT PLATFORMS SHALL BE TAKEN AT A MINIMUM OF THREE (3) CALENDAR DAY INTERVALS. AFTER COMPLETION OF THE FILL AND SURCHARGE PLACEMENT, INSTALL SETTLEMENT MONUMENTS IF INDICATED ON THE BRIDGE PLANS AND TAKE INITIAL READINGS. READINGS ON ALL SETTLEMENT MONITORING DEVICES SHALL THEN BE TAKEN AT A MINIMUM OF THREE (3) CALENDAR DAY INTERVALS. AFTER THE FILL HAS BEEN COMPLETED AND TWO (2) SUCCESSIVE READINGS OF EACH DEVICE HAS RECORDED LESS THAN OR EQUAL TO 0.1 INCH, THE IMMEDIATE SETTLEMENT WILL BE DEEMED COMPLETE AND THE GEOTECHNICAL ENGINEER CAN RELEASE THE SUBSTRUCTURE FOR REMOVAL OF SURCHARGE AND INSTALLATION OF PRODUCTION PILES. AFTER COMPLETION OF THE ABUTMENT, THE CONTRACTOR SHALL ESTABLISH REFERENCE POINTS TO MONITOR SETTLEMENT ON TOP OF THE ABUTMENT SEAT WITHIN 5 FEET OF ALL ENDS AND CORNERS AND AT THE CENTER OF BRIDGES AND THE CENTERLINE OF US301. AFTER THE CONCRETE ABUTMENTS HAVE BEEN CONSTRUCTED, READINGS ON ALL SETTLEMENT MONITORING DEVICES AND REFERENCE POINTS SHALL CONTINUE TO BE TAKEN AT A MINIMUM OF THIRTY (30) DAY INTERVALS FOR THE NEXT SIX (6) MONTHS OR AS DIRECTED BY THE ENGINEER.

CROSS REFERENCE NOTE:

FOR LOCATION OF SETTLEMENT PLATFORMS AND MONUMENTS, SEE DWG. 1-479 PE-1.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

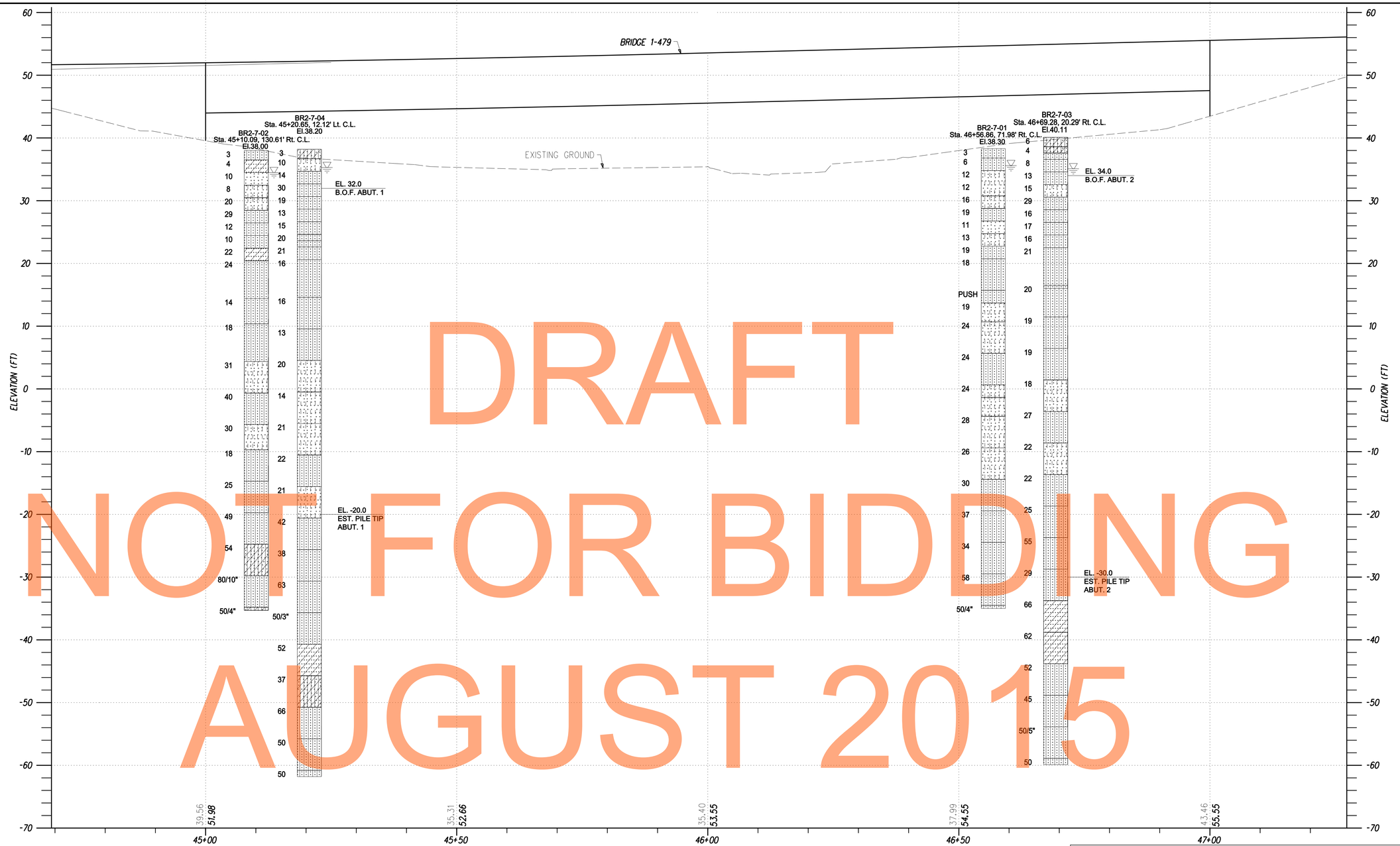
US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1-479
DESIGNED BY: PRH
CHECKED BY: JW

RAMP F OVER
SANDY BRANCH
SETTLEMENT PLATFORM
DETAIL

1-479 DT-1
SHEET NO. 559
TOTAL SHTS. 1256



SYMBOL DESCRIPTION — KEY TO SYMBOLS

STRATA SYMBOLS

- SILTY SAND
- CLAYEY SAND
- POORLY GRADED CLAYEY SILTY SAND
- POORLY GRADED SAND WITH SILT
- POORLY GRADED SAND
- LOW PLASTICITY ORGANIC SILTS
- POORLY GRADED SAND WITH CLAY

MISC. SYMBOLS

- WATER TABLE DURING DRILLING

VERTICAL SCALE FEET: 0, 8, 16, 24

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

HORIZONTAL SCALE
0 15 30 45
FEET

US 301
LEVELS ROAD
TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE

BRIDGE NO. 1–479
DESIGNED BY: ZH
CHECKED BY: RDB

RAMP F OVER
SANDY BRANCH
TEST BORINGS

1-479 B0-1
SHEET NO. 560
TOTAL SHTS. 1256