

GENERAL LOCATION OF CONTRACT

# THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION



## CONSTRUCTION AND RIGHT OF WAY PLANS FOR: BR 1-295 ON PROVIDENCE DRIVE OVER TRIBUTARY TO CHRISTINA RIVER

CONTRACT NUMBER: T201707101  
FEDERAL AID PROJECT NUMBER: NA

COUNTY: NEW CASTLE M.R. #: 137830

U.S. CUSTOMARY  
UNITS

DESIGN DESIGNATION

FUNCTIONAL CLASS: URBAN LOCAL	D.H.V. PROJECTED: 285	YEAR:
TYPE OF CONSTRUCTION: PIPE REPLACEMENT	DESIGN SPEED: 30 M.P.H.	
A.A.D.T. CURRENT: 2000 (EST)	YEAR: 2016	TRUCKS: 12 %
A.A.D.T. PROJECTED: 2600	YEAR: 2040	DIRECTION OF DISTRIBUTION: 60 %

INDEX OF SHEETS

SHEET NO	TITLE
1	TITLE
2	LEGEND
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8	BRIDGE PLAN, SECTION, AND ELEVATION
9	BORING LOG
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14	DETOUR PLAN
15,16	SIGNING, STRIPING, AND CONDUIT PLANS
17-19	RIGHT-OF-WAY SHEETS

TOTAL SHEETS: 19

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
N/A			

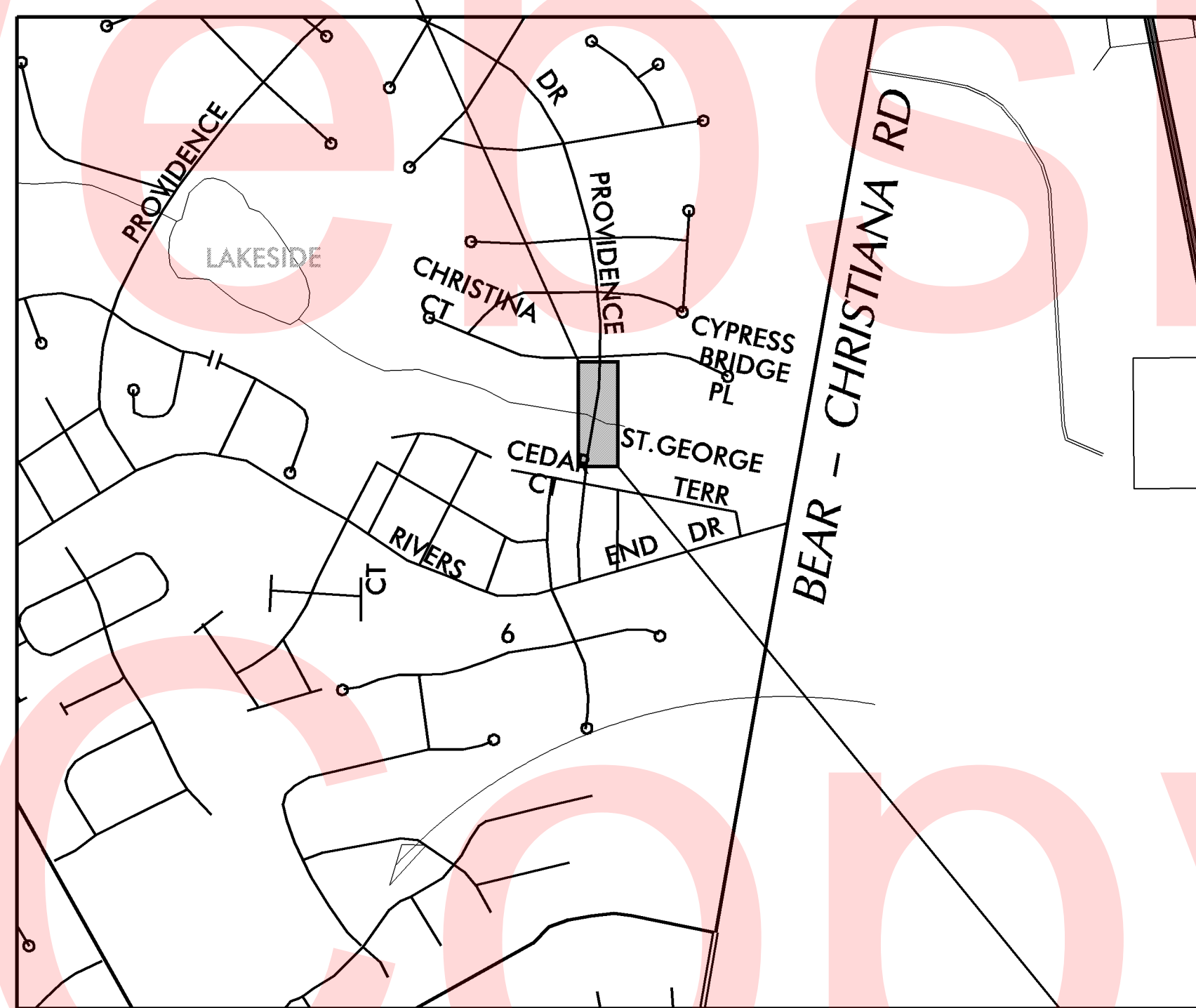
ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
MF 4993	RIVER'S END RECORD SUBDIVISION PLAN

END CONTRACT  
STATION 12+00.00



LOCATION MAP  
NOT TO SCALE

BEGIN CONTRACT  
STATION 5+00.00

RECOMMENDED

*[Signature]* 10/31/2017  
SQUAD MANAGER, CONSTRUCTION DATE

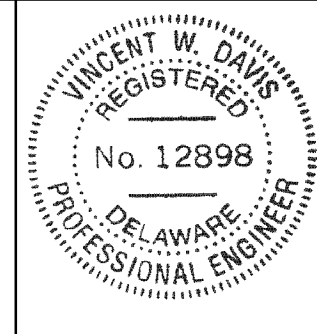
*[Signature]* 10/31/2017  
GROUP ENGINEER, CONSTRUCTION DATE

*[Signature]* 11/01/2017  
ASSISTANT DIRECTOR, CONSTRUCTION DATE

RECOMMENDED

*[Signature]*  
STORMWATER ENGINEER

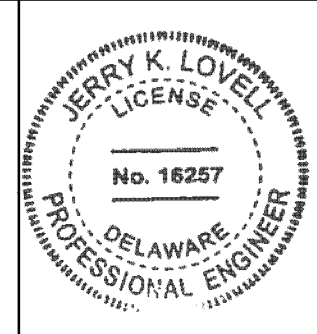
DATE 10/27/2017



RECOMMENDED

*[Signature]*  
SQUAD MANAGER  
PROJECT DEVELOPMENT

DATE 10/31/2017



RECOMMENDED

*[Signature]*  
BRIDGE DESIGN ENGINEER

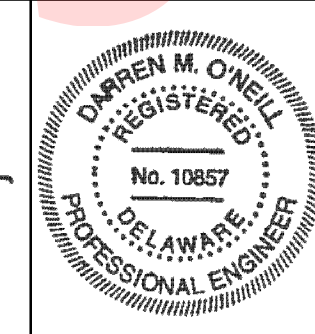
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RECOMMENDED

*[Signature]*  
GROUP ENGINEER, PROJECT DEVELOPMENT

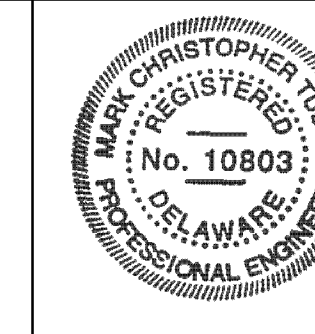
DATE 11/01/2017



RECOMMENDED

*[Signature]*  
ASSISTANT DIRECTOR,  
TRANSPORTATION SOLUTIONS

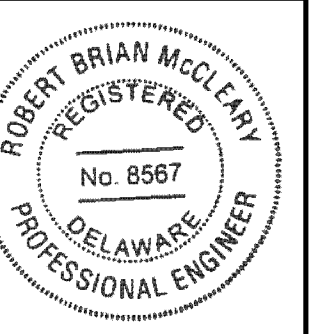
DATE 11/01/2017



APPROVED

*[Signature]*  
CHIEF ENGINEER

DATE 11/02/2017



LAST REVISED: 03/03/2011  
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## EXISTING SYMBOLS

DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
	DRAINAGE INLET
	DRAINAGE JUNCTION BOX
	DRAINAGE MANHOLE
	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES	
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	CURB
	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
	LAMP AND POST - RESIDENTIAL
	MAILBOX
	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES	
	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

RIGHT-OF-WAY SYMBOLS	
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE
	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING DENIAL OF ACCESS
	EXISTING R/W & DENIAL OF ACCESS

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
	GAS MANHOLE
	GAS METER
	GAS VALVE
	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
	SANITARY SEWER MANHOLE
	SANITARY SEWER VALVE
	SANITARY SEWER CLEANOUT OR VENT
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD
	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES	
	ARTESIAN WATER COMPANY
	COMCAST CABLE
	DELMARVA POWER-ELECTRIC
	NEW CASTLE COUNTY-SEWER
	UNKNOWN
	VERIZON
	VERIZON-FIBER OPTIC

## PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
	CLEAR ZONE
	CONSTRUCTION BASELINE
	CONSTRUCTION SAFETY FENCE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CURB OPENING
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPE 1
	GUARDRAIL, TYPE 2
	GUARDRAIL, TYPE 3
	GUARDRAIL END ANCHORAGE
	GUARDRAIL END TREATMENT, TYPE 1
	GUARDRAIL END TREATMENT, TYPE 2
	GUARDRAIL END TREATMENT, TYPE 3
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
	LATERAL OFFSET
	LIMIT OF CONSTRUCTION
	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	PROPOSED DENIAL OF ACCESS
	PROPOSED PERMANENT EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED R/W & DENIAL OF ACCESS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED RIGHT-OF-WAY BASELINE

IDENTIFIERS	
	ADJUST BY CONTRACTOR
	ADJUST BY OTHERS
	CONCRETE SAFETY BARRIER
	CURB OR CURB & GUTTER
	CONVERT TO JUNCTION BOX
	CONVERT TO DRAINAGE MANHOLE
	CURB OPENING
	CURB RAMP / TYPE
	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
	CONSTRUCTION SAFETY FENCE
	DRAINAGE INLET
	DO NOT DISTURB
	ENERGY DISSIPATOR
	FENCE
	FLARED END SECTION
	FILL WITH FLOWABLE FILL
	FILTRATION STRUCTURE
	GUARDRAIL
	JUNCTION BOX
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	REMOVE BY CONTRACTOR
	REMOVE BY TRAFFIC CONTRACTOR
	REMOVE BY OTHERS
	UNDERDRAIN / LENGTH
	UNDERDRAIN OUTLET PIPE

LANDSCAPING	
	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC	
	ITMS CONDUIT
	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

PAVEMENT SECTION(S)	
	MILL PAVEMENT 2" AND OVERLAY WITH 2" TYPE 'C', PG 64-22.
	2" TYPE C ON 3.5" TYPE B ON 8" GABC

LAST REVISED: 05/12/2016  
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**GENERAL NOTES**

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

2. ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
( )	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
( X )	ALL PLAN SHEETS, IN PDF FORMAT.
( )	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( )	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE 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).

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

3. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

( X )	CROSS SECTIONS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)
( X )	RIGHT-OF-WAY PLANS (INCLUDED IN PLANS)

**PROJECT NOTES**

**SECTION 100**

- 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 WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AIRCRAFT VEHICLE (UAV) FLIGHTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION: THE REGISTRATION NUMBER OF THE UAV, THE FLIGHT TIME, LOCATION OF THE FLIGHT, THE PILOT'S NAME AND THE PILOT'S CONTACT NUMBER DURING THE FLIGHT.

**SECTION 200**

- ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
  - EXISTING CONCRETE SCOUR PROTECTION
  - EXISTING PIPES: (2) ARCH CMP AND (2) DRAINAGE PIPES
  - EXISTING DRAINAGE INLETS (2)

**SECTION 300**

- THE CONTRACTOR MAY ELECT TO USE ANY OF THE FOLLOWING MATERIALS TO MEET THE REQUIREMENTS OF ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE 'B':
  - CRUSHED STONE (PER STANDARD SPECIFICATION 1005)
  - CRUSHED CONCRETE (PER STANDARD SPECIFICATION 1005)
  - HOT-MIX MILLINGS (PER SPECIAL PROVISION 301500 MILLED HOT-MIX BASE COURSE)

THE CONTRACTOR WILL NOT BE ALLOWED TO MIX DIFFERENT MATERIALS (OR SIMILAR MATERIALS FROM DIFFERENT SOURCES) TO MEET THE REQUIREMENTS OF ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

ALL OF THE ABOVE LISTED MATERIALS ARE PERMITTED FOR USE ON THE JOB, PROVIDED THEY ARE SEPARATED INTO APPROVED AREAS. EACH AREA OF BASE COURSE MUST BE CONSTRUCTED USING MATERIALS FROM A SINGULAR SOURCE, FULL DEPTH, IN ORDER THAT PROPER TESTING MAY BE ACCOMPLISHED. THE CONTRACTOR AND DELDOT'S PROJECT ENGINEER SHALL AGREE ON THE LIMITS OF EACH SOURCE OF MATERIAL PRIOR TO PLACEMENT. HOT-MIX MILLINGS SHALL ONLY BE USED IN AREAS APPROVED BY THE ENGINEER LARGE ENOUGH TO ACCOMMODATE THE COMPACTION METHOD REQUIRED BY SPECIAL PROVISION 301500 UTILIZING A SHEEPSFOOT ROLLER (MINIMAL 50 TON STATIC ROLLER).

B. THE QUANTITY USED FOR BASE OF EACH OF THE ABOVE LISTED MATERIALS WILL BE THE CONTRACTOR'S CHOICE, WITH THE TOTAL MEETING THE ADVERTISED QUANTITY OF ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

C. THE CONTRACTOR MAY ALSO ELECT TO RECYCLE MILLINGS FOR USE IN HOT-MIX AS PERMITTED BY THE STANDARD SPECIFICATIONS. THE CHOICE OF THE QUANTITY OF MILLINGS USED FOR THIS PURPOSE, OR FOR BASE COURSE, LIES WITH THE CONTRACTOR. ALL MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

D. HOT-MIX MILLINGS MAY BE GENERATED FROM THE FOLLOWING SOURCES:
 

- MATERIAL MADE AVAILABLE WHEN MILLED ON THIS CONTRACT UNDER THE MILLING ITEM UTILIZED ON THE CONTRACT.
- MATERIAL MILLED ON THIS CONTRACT AT THE CONTRACTOR'S CHOICE UNDER ITEM 202000.
- MILLED MATERIAL FURNISHED ON THE JOB FROM THE CONTRACTOR'S YARD OR OTHER OUTSIDE SOURCE.

 ALL MILLED MATERIALS SHALL MEET THE MATERIAL REQUIREMENTS OF ITEM 301500 - MILLED HOT-MIX BASE COURSE.

E. PAYMENT CLARIFICATION:
 

- SHOULD THE CONTRACTOR ELECT TO MILL PORTIONS OF HOT-MIX SHOWN ON THE PLANS TO BE REMOVED UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT THE COST OF MILLING THIS HOT-MIX WILL BE PAID AS ITEM 202000 - EXCAVATION AND EMBANKMENT. THE MILLINGS GENERATED MAY BE RECYCLED INTO HOT-MIX, UTILIZED FOR BASE COURSE, OR DISPOSED OF TO AN APPROVED SITE. HAULING COSTS FOR DISPOSAL AND/OR RECYCLING ARE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.
- MILLINGS GENERATED UNDER THE MILLING ITEM UTILIZED FOR THE CONTRACT MAY BE RECYCLED INTO HOT-MIX, UTILIZED FOR BASE COURSE OR DISPOSED OF BY THE CONTRACTOR TO AN APPROVED SITE. NO SEPARATE PAYMENT WILL BE MADE FOR TRANSPORTING MILLINGS ON SITE OR TO AN APPROVED DISPOSAL SITE.
- SHOULD THE CONTRACTOR ELECT TO TEMPORARILY STOCKPILE MILLINGS ON THE JOB SITE FOR LATER USE, ALL COSTS FOR STOCKPILING AND SUBSEQUENT REHANDLING SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.
- MILLINGS USED FOR BASE COURSE SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIAL PROVISION 301500 - MILLED HOT-MIX BASE COURSE. NO SEPARATE PAYMENT WILL BE MADE TO FURNISH MILLINGS FROM AN OUTSIDE SOURCE OR TRANSPORT MILLINGS WITHIN THE PROJECT LIMITS. MILLINGS USED FOR BASE COURSE WILL BE PAID IN PLACE AT THE UNIT BID PRICE FOR ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.
- ALL COSTS TO UTILIZE MILLINGS IN RECYCLED HOT-MIX WILL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE HOT-MIX ITEM USING THE RECYCLED MATERIAL.
- SPECIAL PROVISION 301500 MILLED HOT-MIX BASE COURSE IS PROVIDED TO SPECIFY THE MEANS OF LAY DOWN AND COMPACTION AS WELL AS THE MATERIAL REQUIREMENTS FOR MILLINGS USED AS BASE COURSE. ALL COSTS TO BRING THE MILLINGS INTO COMPLIANCE WITH THE REQUIREMENTS OF 301500 MILLED HOT-MIX BASE COURSE ARE INCIDENTAL TO ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE 'B'. NO PAYMENT WILL BE MADE FOR ITEM 301500 - MILLED HOT-MIX BASE COURSE. THE QUANTITY OF MILLINGS USED FOR BASE COURSE WILL BE PAID FOR UNDER ITEM 301001 - GRADED AGGREGATE BASE COURSE.

**SECTION 600**

- DRAINAGE INLET GRATES ADJACENT TO THE ROAD, WITHIN THE PROJECT LIMITS, WHICH ARE NOT TYPE 1 OR TYPE 4, SHALL BE REPLACED. THE ACTUAL LOCATIONS, THE NEED FOR ANY GRATE MODIFICATIONS OR FOR NEW FRAMES SHALL BE DETERMINED BY THE ENGINEER. ALL REPLACED GRATES/FRAMES SHALL BE DELIVERED TO THE NEAREST DISTRICT MAINTENANCE YARD WITH THE COST OF DELIVERY INCIDENTAL TO ITEM 602100 - REPLACING DRAINAGE INLET GRATE(S). FINAL PAYMENT FOR REPLACED GRATES/FRAMES SHALL NOT BE MADE UNTIL RECEIPT OF DELIVERED MATERIALS IS PRODUCED, SIGNED BY A DELDOT MAINTENANCE YARD SUPERVISOR.
- STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE FOR INLETS AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.

**SECTION 700**

- ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.
- MAINTENANCE OF TRAFFIC SHALL BE AS PER DETOUR. THE DETOUR SHALL REMAIN IN EFFECT UNTIL THE FINAL HOT MIX, SIGNS, AND STRIPING ARE PLACED.
- ALL GEOTEXTILES SHALL BE KEYED UNDER ADJACENT SOIL OR RIPRAP A MINIMUM OF 6" IN LENGTH TO PREVENT FREE EDGES.
- IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.
- ALL M.O.T. ITEMS WITH THE EXCEPTION OF CHANGEABLE MESSAGE BOARDS AND FLAGGERS WILL BE INCLUDED IN ITEM 801500 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.

**SECTION 900**

- THIS PROJECT IS COVERED UNDER AN NPDES GENERAL PERMIT FOR CONSTRUCTION, UNDER THE GENERAL PERMIT, COMPLIANCE WITH DELDOT'S APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS WILL CONSTITUTE COMPLIANCE WITH THE NPDES INDUSTRIAL PERMITTING REQUIREMENTS FOR THIS CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NOI'S KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S STORMWATER SECTION. A COPY OF THE GENERAL PERMIT OR THE NOI CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

**MISCELLANEOUS**

- UTILITIES: SEE UTILITY STATEMENT FOR FULL UTILITY RELOCATION DETAILS.
- ENVIRONMENTAL COMPLIANCE: SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/ GUIDANCE ASSOCIATED WITH THIS PROJECT.
- HYDRAULIC DATA FOR BR 1-295
 

DRAINAGE AREA	: 79.36 ACRES	25 YEAR FLOOD ELEVATION, UPSTREAM	: 51.79 FT
DESIGN FREQUENCY	: 25 YR	25 YEAR FLOOD ELEVATION, DOWNSTREAM	: 50.74 FT
DESIGN DISCHARGE	: 221 CFS	PROPOSED OPENING	: 56.52 SQ FT
- THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH, HEC-14, 'HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS' AND HEC-23 'BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES'. SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE WORST CASE OF THE OVERTOPPING FLOOD OR THE 100-YR FLOOD EVENT.
 

DESIGN EVENT	: 100 YR	DESIGN VELOCITY	: 7.11 FPS
DESIGN DISCHARGE	: 285 CFS	DESIGN DEPTH OF FLOW	: 4.78 FT
- ANY NECESSARY EXCAVATION FOR PROPOSED PIPES OUTSIDE 211000 LIMITS WILL BE INCIDENTAL TO THE RESPECTIVE PIPE ITEM. BACKFILL FOR THE PROPOSED PIPES WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

LAST REVISED: 08/11/2016  
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<b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	<b>NOT TO SCALE</b>	<b>BR 1-295 ON PROVIDENCE DRIVE OVER TRIBUTARY TO CHRISTINA RIVER</b>	CONTRACT	BRIDGE NO.	<b>1-295</b>	<b>NOTES</b>	SHEET NO.
	T201707101			DESIGNED BY: APS		3		
	COUNTY			CHECKED BY: JKL		TOTAL SHTS.		
	NEW CASTLE					19		

CIRCULAR CURVE NO. ①			
Element: Circular	STATION	NORTHING	EASTING
PC ( 12002)	9+32.12	601547.2344	587997.9955
PI ( )	9+86.11	601600.2545	588008.2210
CC ( 12103)		601641.9200	587507.0427
PT ( 12003)	10+39.69	601654.2352	588006.8910
Radius:	500.00		
Delta:	12° 19' 38.8536" Left		
Degree of Curvature(Arc):	11° 27' 32.9612"		
Length:	107.58		
Tangent:	54.00		
Chord:	107.37		
Middle Ordinate:	2.89		
External:	2.91		
Tangent Direction:	N 10° 54' 57.9395" E		
Radial Direction:	S 79° 05' 02.0605" E		
Chord Direction:	N 4° 45' 08.5127" E		
Radial Direction:	N 88° 35' 19.0859" E		
Tangent Direction:	N 1° 24' 40.9142" W		

CIRCULAR CURVE NO. ②			
Element: Circular	STATION	NORTHING	EASTING
PC ( 10007)	58+75.10	601698.9706	588057.9134
PI ( )	59+29.93	601705.0848	588112.4045
CC ( 10104)		601497.1471	588080.5593
PT ( 10008)	59+82.21	601682.9429	588162.5683
Radius:	203.09		
Delta:	30° 13' 06.5676" Right		
Degree of Curvature(Arc):	28° 12' 43.2508"		
Length:	107.11		
Tangent:	54.83		
Chord:	105.88		
Middle Ordinate:	7.02		
External:	7.27		
Tangent Direction:	N 83° 35' 52.2288" E		
Radial Direction:	S 6° 24' 07.7711" E		
Chord Direction:	S 81° 17' 34.4873" E		
Radial Direction:	S 23° 48' 58.7965" W		
Tangent Direction:	S 66° 11' 01.2036" E		



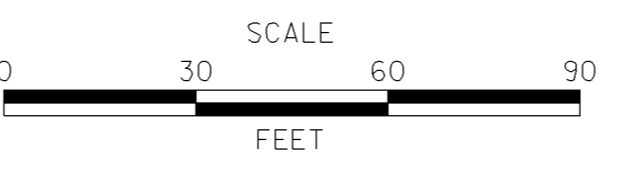
CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
12000	5+00.00	0.00	601122.4214	587918.8829
12001	5+69.50	0.00	601190.7631	587931.5010
12004	12+00.00	0.00	601813.5419	587989.0208
10006	57+10.10	0.00	601680.5715	587893.9425

HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
4	5+95.07	0.20	601215.8630	587936.3830	56.05
5	9+27.41	20.93	601538.7670	588017.7100	54.58
10	8+01.37	-27.93	601423.8230	587946.5660	53.99
11	5+09.13	-22.13	601135.4150	587898.7740	58.80
20	7+86.60	21.44	601400.2508	587992.3910	54.43
2332	9+40.43	29.81	601550.2507	588028.8655	54.19
6	58+40.51	-232.66	601926.3240	587997.5940	59.56
8	57+93.52	-278.56	601966.6970	587945.7870	60.47
9	57+99.24	2.85	601687.6820	587982.8450	54.01
2326	55+00.00	-25.00	601681.9876	587682.3680	51.97
2327	55+70.15	-24.75	601689.5658	587752.1112	51.00
2328	56+40.25	-24.87	601697.4990	587821.7567	51.15
2329	57+10.10	-25.00	601705.4155	587891.1548	52.49
2330	61+21.82	-25.45	601649.8524	588300.5650	57.80
2331	58+57.20	27.03	601670.1120	588043.1469	55.42

DATUM REFERENCE:  
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).  
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.



ADDENDUMS / REVISIONS	



**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT T201707101	BRIDGE NO. <b>1-295</b>
COUNTY NEW CASTLE	DESIGNED BY: APS CHECKED BY: JKL

**HORIZONTAL AND  
VERTICAL CONTROL**

SHEET NO. 4
TOTAL SHTS. 19

Y:\NEWCASTLE\137830\BRIDGE\T201707101\500\_CADD\530\_PLANS\_DGN\SB.DGN

UTILITY TEST HOLE SCHEDULE						
NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL
TH-1	AW-W	6+85.3	33.8'	53.48	5.81	12 3/4" D. I. WATER LINE
TH-2	COM-FO	7+97.2	-20.5'	54.25	7.94	2" PLASTIC
TH-3	COM-C	7+97.6	18.7'	54.43	2.50	3/4" & 1/2" CABLES
TH-4	DP-E	7+97.5	21.0'	54.53	1.71	1" CABLE
TH-4	VER-FO	7+97.5	21.0'	54.53	1.71	2" PLASTIC
TH-6	VER-C	7+97.6	22.4'	54.47	2.42	(2) 2 1/2" TEL. CABLES
TH-7	DP-E	7+97.6	25.2'	54.28	1.59	(3) 1/4" ELECTRIC CABLES
TH-8	VER-C	7+97.5	29.5'	53.65	1.78	4 1/2" PLASTIC TEL. CONDUIT
TH-9	NCC-S	7+97.6	-22.8'	54.14	10.12	12 3/4" PLASTIC SAN. LINE
TH-10	AW-W	7+55.0	50.0'	49.89	4.32	12 3/4" D. I. WATER LINE
TH-11	AW-W	8+18.0	51.0'	50.81	7.39	12 3/4" D. I. WATER LINE

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	18" RCP	III	32.00	X	50.50	X
2	18" RCP	III	36.00	0.0069	51.00	50.75
3	72" RCP	III	80.00	0.0050	46.50	46.10
4	72" RCP	III	80.00	0.0050	46.50	46.10

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
1	7+59.09	**	34" x 18"	I	*	50.40
2	7+59.09	**	34" x 18"	I	*	48.89

X = SET IN FIELD BY THE ENGINEER.  
 \* MATCH FLOWLINE OF PROPOSED CURBING  
 \*\*MATCH PROPOSED CURBLINE

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
50001	5+60.00	-16.61'	601184.9595	587913.5352
50002	5+60.00	17.04'	601178.7461	587946.6128
50003	7+50.00	-15.86'	601371.1135	587948.9459
50004	7+50.00	16.36'	601365.2291	587980.6251
50005	8+25.00	-15.71'	601444.8245	587962.7921
50006	8+25.00	16.28'	601438.9824	587994.2430
50007	10+50.00	-16.87'	601662.5971	587988.9854
50008	10+50.00	16.13'	601666.2752	588021.7740
50009	7+83.06	-40.00'	601408.0421	587931.6212
50010	7+92.54	-40.00'	601417.3445	587933.4363
50011	7+83.06	40.00'	601393.2014	588010.6276
50012	7+92.54	40.00'	601402.5037	588012.4427

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	I. P. C. C. CURB AND GUTTER, TYPE 2	75.00
2	I. P. C. C. CURB AND GUTTER, TYPE 2	75.00

10-033.10-247 DAMIAN SEYMOUR AND ASHLEE N SEYMOUR H/W INST 20120110 0058545 MF 4993

10-033.10-245 CHARLOTTE L. COUSINS DR 1492 98 MF 4993

10-033.10-244 JAIME M. WILLEY AND MARIANO CROMARTIE INST 20040505 0049824 MF 4993

10-033.10-243 TORREY FISH AND MINDIE FISH DR 2599 296 MF 4993

10-033.10-242 DONNA S. LUMPKIN INST 20040601 0059909 MF 4993

10-033.10-241 ARLEYSHA C. MORRIS INST 20100416 0018217 MF 4993

10-033.10-240 MARY W. GACHAGUA INST 20050721 0071953 MF 4993

10-033.10-239 ALLISON MANGINI AND TYRONE STOKES INST 20130418 0024814 MF 4993

10-033.10-238 RHONDA D. WATSON DR 1596 288 MF 4993

10-033.10-237 MICHAEL L. MCCALLA, JR. INST 20070702 0058760 MF 4993

10-033.10-236 AMANDA C. TOBIN & MARK KUCKARSKI INST 20061211 0116078 MF 4993

10-033.10-179 GERRY BLEVINS AND YANG BLEVINS H/W INST 20130213 0010177 MF 4993

10-033.10-181 KIMBERLY A. ORTIZ DR 2642 339 MF 4993

10-033.10-182 SHERRY MURPHY DR 2717 168 MF 4993

10-033.10-183 DEBBIE L. HARNETT INST 20070802 0068550 MF 4993

10-033.10-184 DEBRA LYNN ROSS DR 912 222 MF 4993

10-033.10-185 SHAUNTRELLE Y. HOLMES INST 20011204 0101319 MF 4993

10-033.10-186 AMANDA L. GRAY INST 20030515 0059493 MF 4993

10-033.10-188 CAROL E. COLE INST 20080402 0022512 MF 4993

10-033.10-187 IVA B. HYNSON DR 098 147 MF 4993

10-033.10-189 CROFTON HOMES ASSOCIATION, INC. DR 211 274 MF 4993

10-028.30-243 OPEN SPACES INC. DR Y117 11 MF 4993

10-033.10-117 LISA M. TRACEY INST 20061204 0113285 MF 4993

10-033.10-145 JOSEPHINE A. FONTANA INST 20160422 0018707 MF 4993

10-033.10-146 DANNY H. JUSTICE DR G98 82 MF 4993

10-033.10-147 YVETTE M. IWANOWSKI AND DENNIS C. GRIER DR 1669 50 MF 4993

10-033.10-148 CHERYL A. BETTS INST 20030602 0066095 MF 4993

10-033.10-114 MICHAEL T. DUFFIN & VALERIE D. DUFFIN H/W DR 1352 131 MF 4993

10-033.10-178 RONALD E. PENNER & SHARON E. PENNER H/W DR V99 71 MF 4993

10-033.10-160 MARCIA OFUM INST 20121105 0064557 MF 4993

10-033.10-161 RAYMOND L. SOBOCINSKI AND BETH M. SOBOCINSKI DR 1956 116 MF 4993

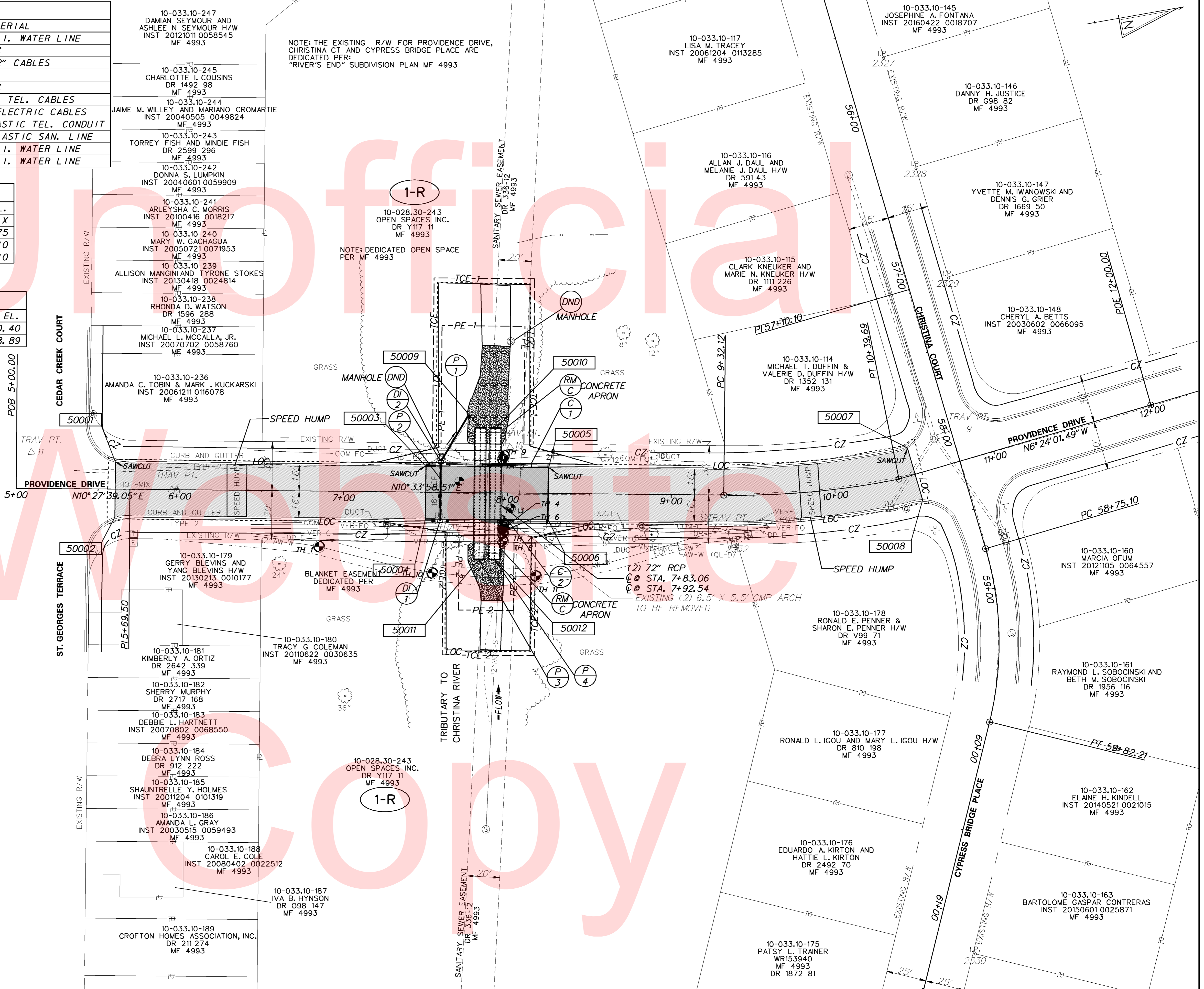
10-033.10-162 ELAINE H. KINDELL INST 20140521 0021015 MF 4993

10-033.10-176 EDUARDO A. KIRTON AND HATTIE L. KIRTON DR 2492 70 MF 4993

10-033.10-175 PATSY L. TRAINER WR153940 MF 4993 DR 1872 81

NOTE: THE EXISTING R/W FOR PROVIDENCE DRIVE, CHRISTINA CT AND CYPRESS BRIDGE PLACE ARE DEDICATED PER "RIVER'S END" SUBDIVISION PLAN MF 4993

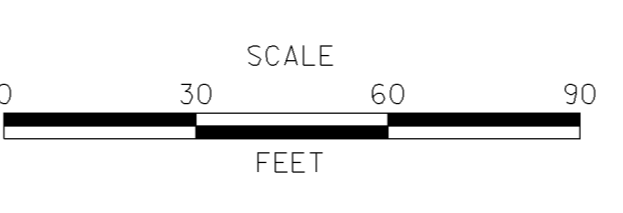
NOTE: DEDICATED OPEN SPACE PER MF 4993



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ADDENDUMS / REVISIONS	

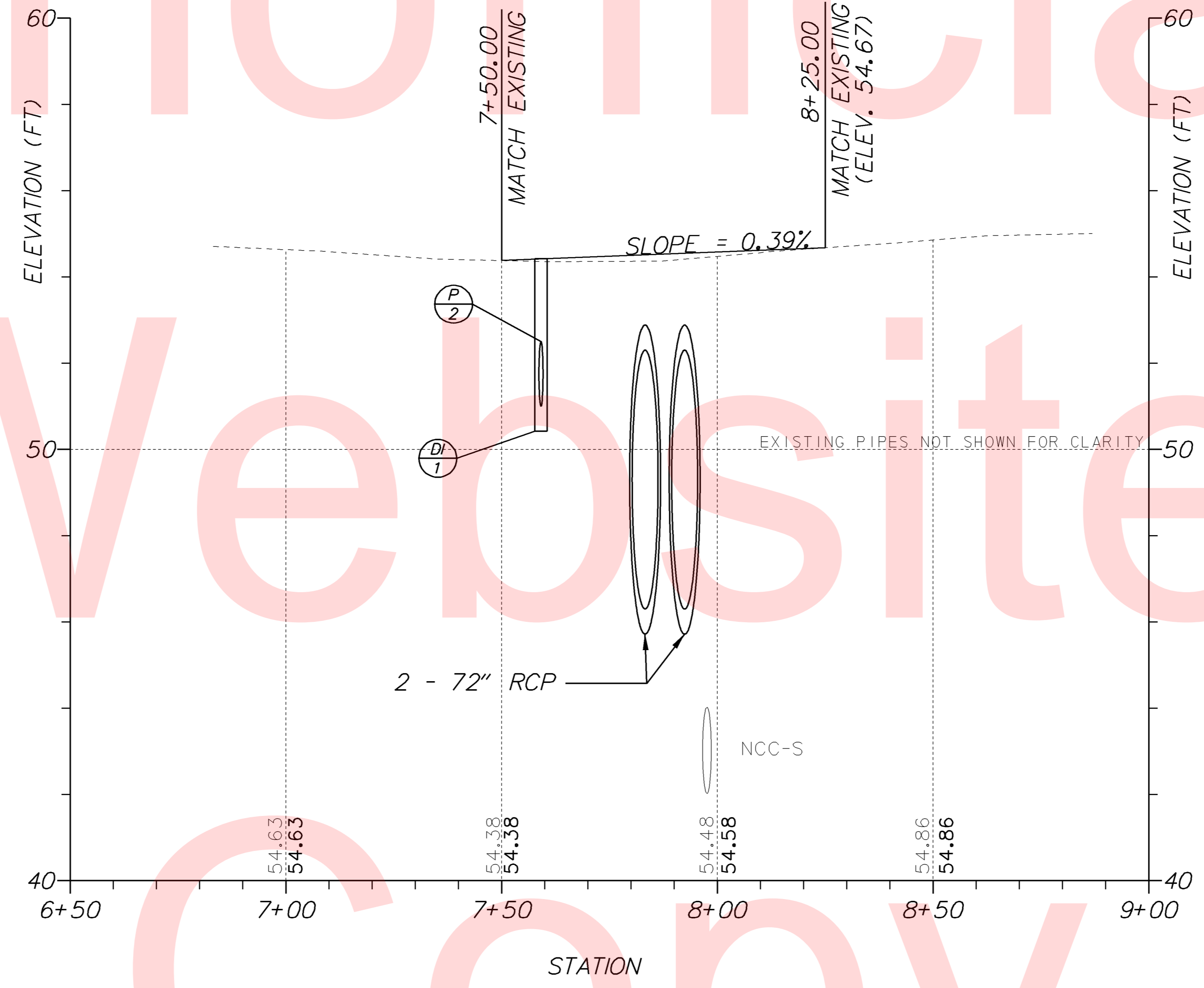


**BR 1-295 ON PROVIDENCE DRIVE OVER TRIBUTARY TO CHRISTINA RIVER**

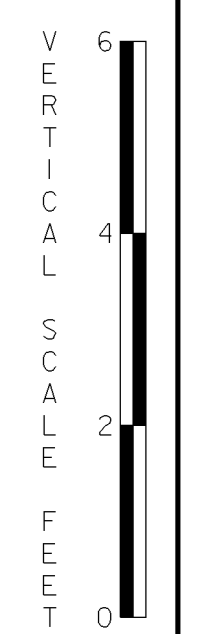
CONTRACT	BRIDGE NO.	<b>1-295</b>
T201707101	DESIGNED BY:	APS
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

<b>CONSTRUCTION PLAN</b>		SHEET NO.	5
		TOTAL SHTS.	19

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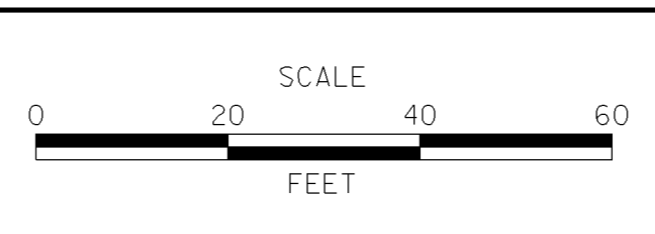


**PROVIDENCE DRIVE (137830)**



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ADDENDUMS / REVISIONS	



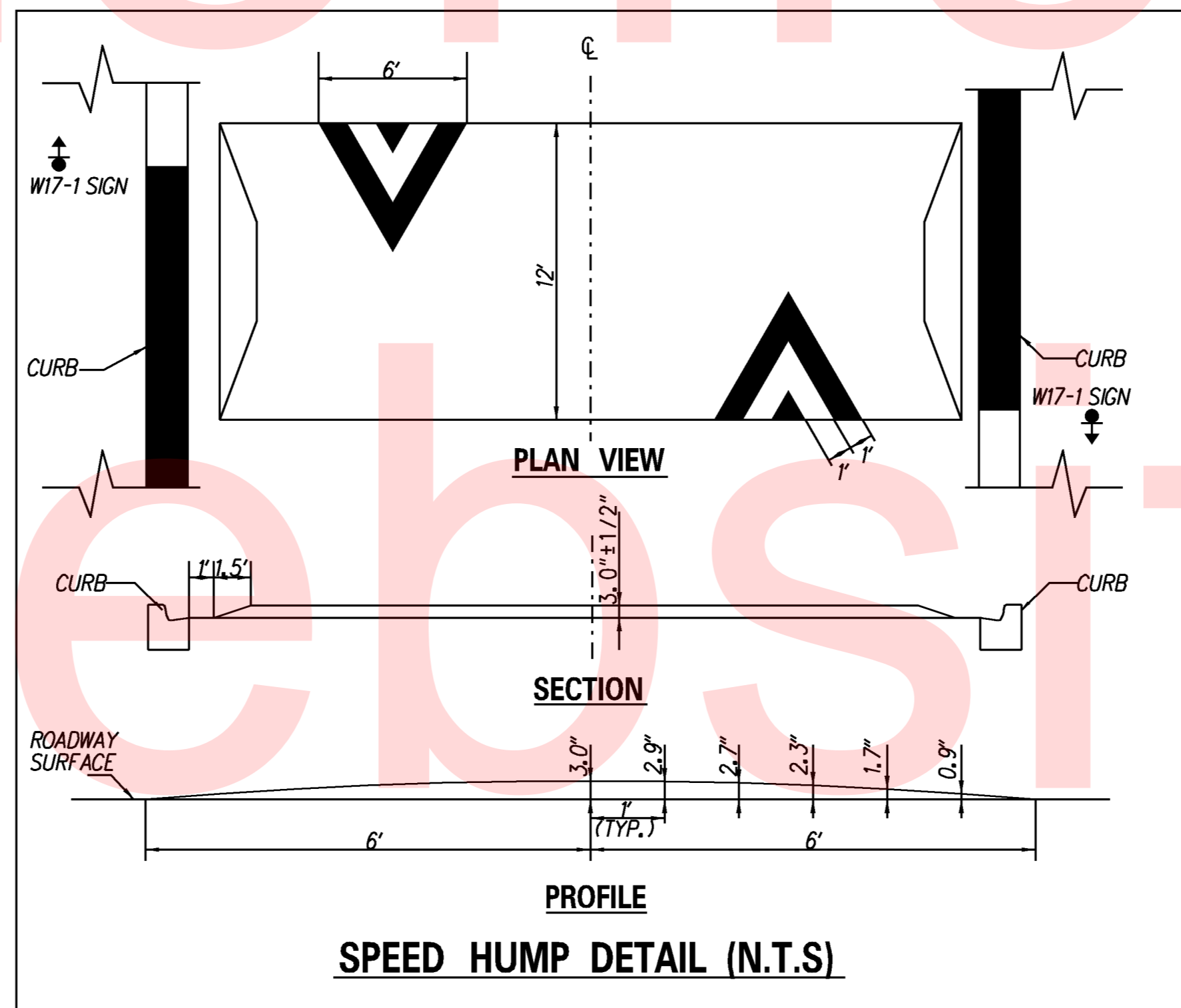
BR 1-295 ON PROVIDENCE DRIVE  
 OVER TRIBUTARY TO  
 CHRISTINA RIVER

CONTRACT	BRIDGE NO.	<b>1-295</b>	<b>PROFILE</b>
T201707101	DESIGNED BY: APS		
COUNTY	CHECKED BY: JKL		
NEW CASTLE			

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Website

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SPEED HUMP DETAIL (N.T.S)

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ADDENDUMS / REVISIONS	

**NOT TO SCALE**

**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT	BRIDGE NO.	<b>1-295</b>
T201707101	DESIGNED BY:	APS
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

**CONSTRUCTION DETAILS**

SHEET NO.	7
TOTAL SHTS.	19





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BORING: PD-1		DATE DRILLED: 9/13/16	
STATION:	OFFSET:	ELEVATION:	NORTHING:
COMMENTS: N/A			
SAMPLE INFORMATION			
NO.	DEPTH	DESCRIPTION	CLASS /G.I.
1	0.0	MOIST STIFF ORANGE FINE SANDY SILT W/SOME COARSE SAND, FINE GRAVEL AND CLAY.	A-4(0)
2	0.0	MOIST MEDIUM DENSE ORANGE SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.	A-2-4(0)
3	2.0	MOIST MEDIUM DENSE ORANGE CLAYEY FINE TO COARSE SAND AND FINE GRAVEL W/SOME SILT.	A-2-4(0)
4	4.0	WET SOFT GRAY FINE SANDY SILT W/TRACE COARSE SAND, FINE GRAVEL AND CLAY.	A-4(0)
U-1	6.0	NOT ENOUGH SAMPLE FOR TESTING	
6	8.0	WET MEDIUM DENSE GRAY CLAYEY FINE GRAVELLY FINE SAND W/SOME COARSE SAND AND SILT.	A-2-4(0)
7	10.0	WET MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
8	12.0	WET DENSE GRAY FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
9	14.0	WET STIFF GRAY FINE SANDY SILT.	A-4(0)
10	16.0	WET FIRM WHITE CLAYEY SILT W/SOME FINE SAND.	A-4(10)
11	18.0	WET MEDIUM DENSE WHITE SILTY FINE SAND W/TRACE COARSE SAND.	A-2-4(0)
12	23.0	WET DENSE BROWN FINE SAND W/TRACE COARSE SAND AND SILT.	A-3
13	28.0	WET MEDIUM DENSE BROWN FINE TO COARSE SAND W/TRACE SILT.	A-3
14	33.0	WET VERY DENSE BROWN FINE TO COARSE SAND W/TRACE SILT.	A-3
15	38.0	WET MEDIUM DENSE BROWN FINE TO COARSE SAND W/TRACE SILT.	A-3
16	43.0	WET VERY STIFF GRAY FINE SANDY SILT W/TRACE COARSE SAND AND CLAY.	A-4(0)
	48.0	END BORING	
	50.0		

BORING: PD-2		DATE DRILLED: 9/14/16	
STATION:	OFFSET:	ELEVATION:	NORTHING:
COMMENTS: N/A			
SAMPLE INFORMATION			
NO.	DEPTH	DESCRIPTION	CLASS /G.I.
1	0.0	MOIST STIFF BROWN FINE SANDY SILT W/SOME COARSE SAND AND CLAY, TRACE OF FINE GRAVEL.	A-4(0)
2	0.0	MOIST STIFF BROWN SILT W/SOME FINE TO COARSE SAND AND CLAY, TRACE OF FINE GRAVEL.	A-4(1)
3	2.0	MOIST STIFF BROWN FINE SANDY SILT W/TRACE COARSE SAND, FINE GRAVEL AND CLAY.	A-4(0)
4	4.0	MOIST STIFF BROWN FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(0)
5	6.0	MOIST MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
6	8.0	MOIST MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
7	10.0	MOIST MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
8	12.0	MOIST MEDIUM DENSE BROWN FINE SAND	A-2-4(0)
9	14.0	MEDIUM DENSE BROWN FINE SAND W/ SOME SILT	A-2-4(0)
10	16.0	WET MEDIUM DENSE BROWN SILTY FINE SAND W/TRACE COARSE SAND.	A-2-4(0)
11	18.0	WET STIFF GRAY SILTY CLAY W/TRACE FINE TO COARSE SAND.	A-6(12)
12	23.0	WET MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
13	28.0	WET MEDIUM DENSE BROWN FINE SAND W/SOME SILT, TRACE OF COARSE SAND.	A-2-4(0)
14	33.0	WET MEDIUM DENSE BROWN FINE SAND W/TRACE COARSE SAND AND SILT.	A-3
15	38.0	WET MEDIUM DENSE GRAY FINE SAND W/SOME COARSE SAND AND SILT.	A-2-4(0)
16	43.0	WET VERY STIFF BROWN CLAYEY FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(2)
	48.0	END BORING	
	50.0		

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT (302)760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

- A. PERMIT REQUIREMENTS/APPROVALS\*:
  - U.S. ARMY CORPS OF ENGINEERS (COE): \*3 (a) AND (c) (NO PCN)
  - DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT CONSISTENT WITH DEL. CODE CH.72, SECTION 7217, SPECIAL EXEMPTION (a+b)
  - DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED

\* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THIS APPROVAL.  
 \*\* THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE IT IS DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

- B. CONSTRUCTION RESTRICTIONS:
  - FISHERIES - NONE
  - ENDANGERED SPECIES - NONE
  - MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

- A. DUE TO THE PRESENCE OF KNOWN ARCHAEOLOGICAL RESOURCES IN THE AREA, ALL CHANGES MADE TO THE CURRENT PROPOSED LOC MUST BE COORDINATED WITH A DELDOT ARCHAEOLOGIST.
- B. ANY STAGING AND STOCKPILE AREA(S) OUTSIDE THE PROJECT'S LOC THAT INDIVIDUALLY OR CUMULATIVELY ARE LARGER THAN 10,000 SQUARE FEET MUST BE APPROVED BY THE DELDOT'S ARCHAEOLOGIST. CONTACT THE AREA ENGINEER WHO WILL COORDINATE WITH DELDOT'S ARCHAEOLOGIST. WITHIN 30 DAYS, DELDOT WILL (1) APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S) (2) REJECT THE REQUEST; OR (3) PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

4. STREAM RESTORATION AND SLOPE RIPRAP TREATMENT

- A. THE CONTRACTOR SHALL FOLLOW THE SPECIAL PROVISIONS OF ITEM \*707500- CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFF-SITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ITEM \*707500 CHANNEL BED FILL. ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) SHALL BE CHOKED WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH MATERIAL. PAYMENT UNDER ITEM \*209002- BORROW TYPE 'B'. THE RIPRAP SHALL THEN BE COVERED WITH A MINIMUM OF 12" CHANNEL BED FILL. FINAL CHANNEL ELEVATIONS SHALL MATCH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS SHALL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM \*707500- CHANNEL BED FILL.
- B. OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) SHALL BE RESTORED TO EXISTING CONDITIONS. ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE FILLED WITH CHANNEL BED FILL. PAYMENT UNDER ITEM \*707500 - CHANNEL BED FILL.
- C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.
- D. ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, SHALL BE CHOKED WITH DELAWARE #57 STONE, FILLED WITH TOPSOIL, AND SEEDED. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF TOPSOIL THROUGH THE RIPRAP, AND THEN FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. AN ADDITIONAL 4" TOPSOIL LAYER SHALL BE PLACED ON TOP OF THE RIPRAP. SLOPE SEEDING SHALL BE WITH ITEM \*908019-STREAMBANK SEED MIX, SEEDING. FOLLOWING THE SEEDING OPERATION, ITEM \*908020 - EROSION CONTROL BLANKET MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS SHALL BE INSTALLED. ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING, SHALL BE COMPLETED PRIOR TO ANY RAIN EVENT. DELAWARE #57 STONE SHALL BE INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS SHALL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

5. PROTECTION OF RESOURCES

- A. SILT FENCE INSTALLATION ADJACENT TO WOODED UPLANDS/WETLANDS: SANDBAGS SHALL BE USED TO SECURE SILT FENCE IN LIEU OF TRENCHING PROVIDED PROPER EROSION & SEDIMENT CONTROL CAN BE MAINTAINED. SANDBAGS USED TO SECURE SILT FENCE SHALL BE INCIDENTAL TO ITEM NUMBER 905001-SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (CAROL SULLIVAN, 302-760-2129) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.
- B. ALL TREES TO BE REMOVED SHALL BE CLEARLY MARKED WITH PAINT PRIOR TO THE E&S SEDIMENT CONTROL/ENVIRONMENTAL MEETING.

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Website  
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ADDENDUMS / REVISIONS	






**NOT TO SCALE**

**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT	BRIDGE NO.	<b>1-295</b>
T201707101	DESIGNED BY: APS	
COUNTY	CHECKED BY: JKL	
NEW CASTLE		

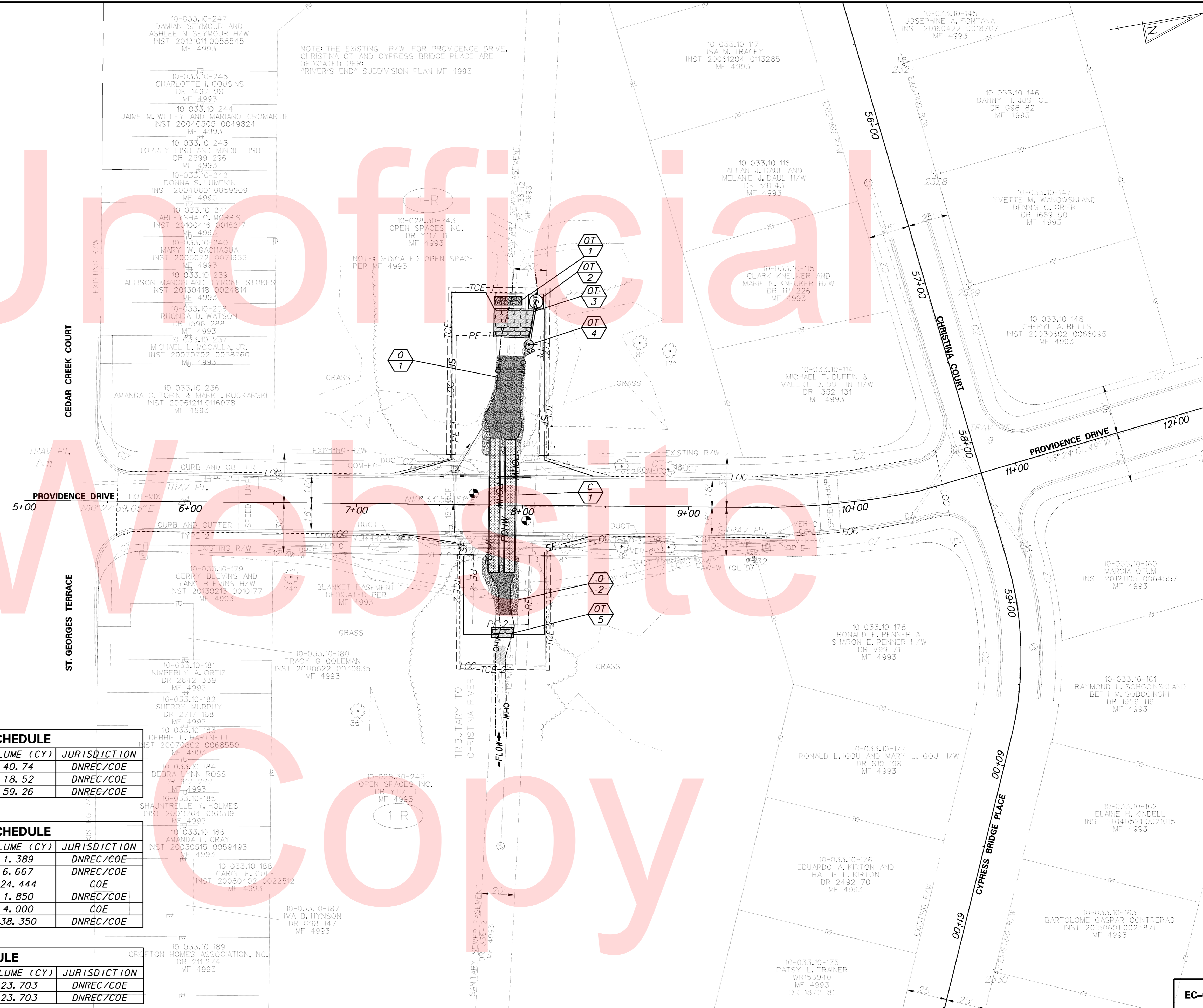
<b>ENVIRONMENTAL COMPLIANCE NOTES</b>	SHEET NO.
	10
	TOTAL SHTS.
	19

<b>EC-01</b>
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LEGEND	
	PERMANENT IMPACT AREA
	TEMPORARY IMPACT AREA
	CREATION AREA
	IMPACT AREA TYPE ID. (SEE BELOW)
	IMPACT AREA ID. AND/OR NUMBER
O	= OPEN WATER IMPACT
T	= TEMPORARY IMPACT
C	= CREATION AREA

\*NOTE: THERE ARE NO WETLANDS ON THIS PROJECT.

SHEET PREPARED BY ANDREW SHORT  
(DELDOT) ON 03-07-2017. LAST  
UPDATED ON 09-20-2017



PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O-1	RIPRAP AREA	1100.00	0.0252	40.74	DNREC/COE
O-2	RIPRAP AREA	500.00	0.0115	18.52	DNREC/COE
TOTAL PERMANENT OPEN WATER IMPACTS		1600.00	0.0367	59.26	DNREC/COE

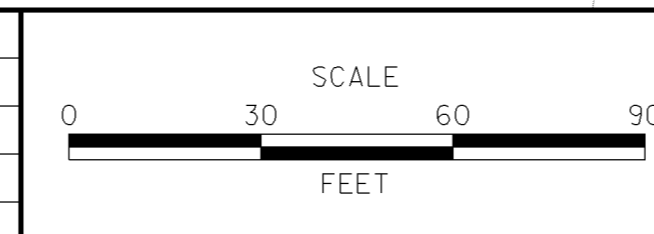
TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-1	RIPRAP OUTFALL	75.00	0.0017	1.389	DNREC/COE
OT-2	PORTABLE SEDIMENT TANK	36.00	0.0008	6.667	DNREC/COE
OT-3	DOWNSTREAM SANDBAGS	330.00	0.0076	24.444	COE
OT-4	SUMP PIT	50.00	0.0011	1.850	DNREC/COE
OT-5	UPSTREAM SANDBAGS	80.00	0.0018	4.000	COE
TOTAL TEMPORARY OPEN WATER IMPACTS		571.00	0.0131	38.350	DNREC/COE

OPEN WATER CREATION AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
C-1	PIPE	960.00	0.022	23.703	DNREC/COE
TOTAL OPEN WATER CREATION AREAS		960.00	0.022	23.703	DNREC/COE

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ADDENDUMS / REVISIONS	



**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT	BRIDGE NO.	<b>1-295</b>
T20170101	DESIGNED BY:	APS
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

<b>ENVIRONMENTAL COMPLIANCE PLAN</b>	SHEET NO.	11
	TOTAL SHTS.	19

EC-02

1. EROSION POTENTIAL FOR THIS PROJECT	CONTRACTOR ESC SUPERVISOR REQUIREMENT
( ) INSIGNIFICANT	NONE
( ) MINOR	CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
( X ) MAJOR	CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

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

( X )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( )	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. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.

3. THE ADDITIONAL IMPERVIOUS AREA FOR THIS PROJECT IS 0.00 SQUARE FEET.

4. THE DISTURBED AREA FOR THIS PROJECT IS 0.092 ACRES.

5. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A FIVE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

CONSTRUCTION PHASING & M.O.T	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION SAFETY FENCE / LENGTH
	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE
EROSION & SEDIMENT CONTROL	
	COMPOST FILTER LOG
	DEWATERING BAG
	DEWATERING BASIN
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE / LENGTH
	SILT FENCE
	SILT FENCE - REINFORCED
	SUMP PIT
	SEDIMENT TRAP / NUMBER
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN
	TURBIDITY CURTAIN / LENGTH
	TURBIDITY CURTAIN

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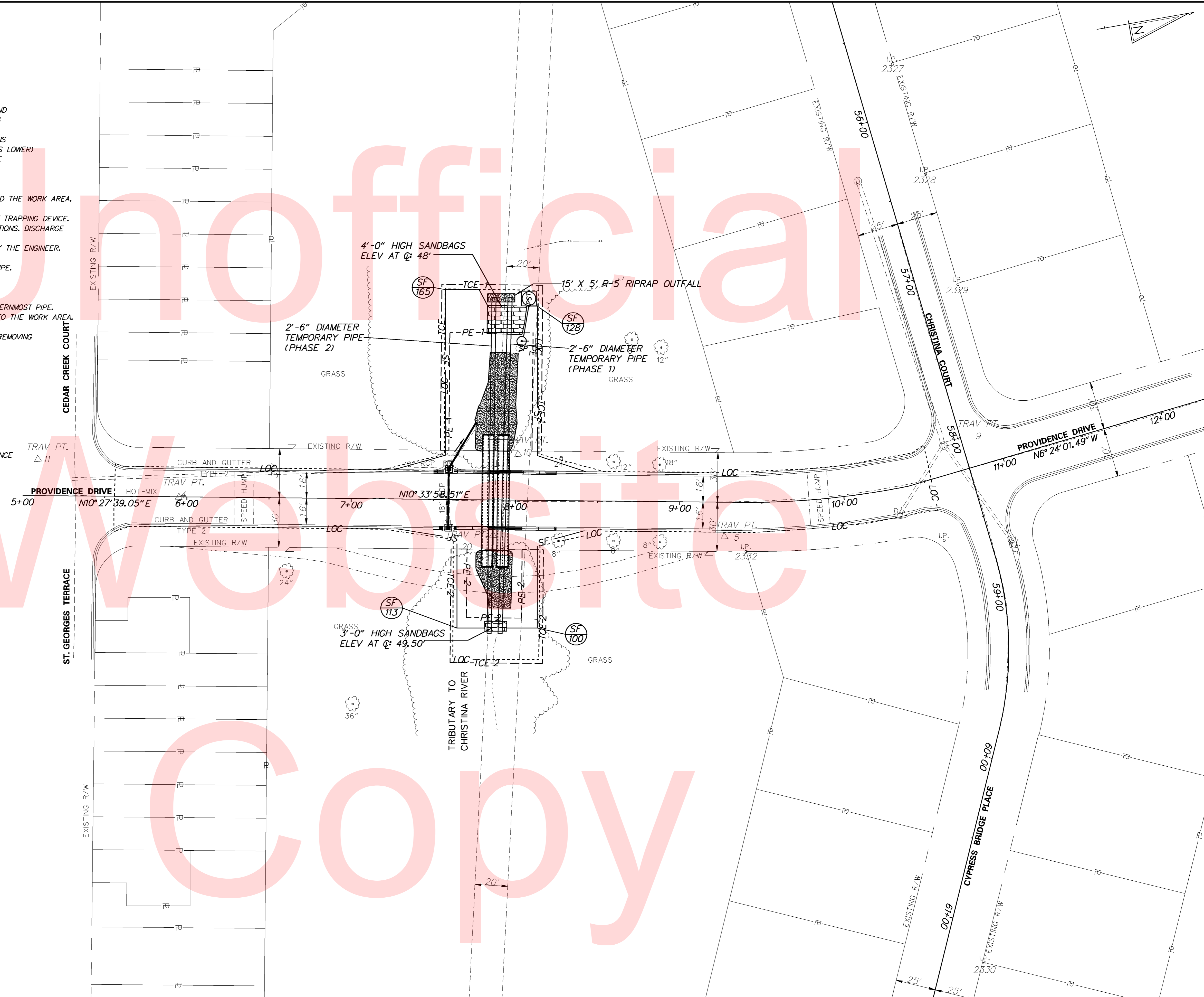
<b>DELAWARE DEPARTMENT OF TRANSPORTATION</b>	ADDENDUMS / REVISIONS	NOT TO SCALE	BR 1-295 ON PROVIDENCE DRIVE OVER TRIBUTARY TO CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-295	<b>CONSTRUCTION SEQUENCE AND EROSION CONTROL PLAN</b>	SHEET NO.	12	
					T201707101	DESIGNED BY: APS			TOTAL SHTS.	19
					NEW CASTLE	CHECKED BY: JKL				

**SEQUENCE OF CONSTRUCTION:**

1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN.
  2. INSTALL SILT FENCE (905001), EXCEPT CONNECTION TO SANDBAG DIKES\*.
- PHASE 1
3. STABILIZE THE PROPOSED DISCHARGE AREA OF A 15' x 5' AREA OF R-5 RIPRAP\*.  
INSTALL 2'-6" TEMPORARY DIVERSION PIPE\* AT LOCATION SHOWN. PLACE THE UPSTREAM END OF THE PIPE TO MATCH OR 6-INCHES TO 12-INCHES ABOVE EXISTING STREAM BOTTOM USING PIPE WITH WATER-TIGHT JOINTS. SECURE THE PIPE TO MINIMIZE MOVEMENT UNDER USE TO PREVENT LEAKAGE INTO THE WORK AREA. CONSTRUCT THE SANDBAG DIKES AT THE LOCATIONS SHOWN, WITH TOP EL. OF 49.50' OR 6 INCHES BELOW TOP OF STREAM BANK (WHICHEVER IS LOWER) WITH A 1' LONG X 0.5' DEEP WEIR OPENING UPSTREAM. UPSTREAM SANDBAG DIKE SHALL BE CONSTRUCTED BEFORE THE DOWNSTREAM SANDBAG DIKE. ELEVATION OF THE DOWNSTREAM SANDBAG DIKES SHALL NOT BE HIGHER THAN THE LOWEST ELEVATION OF THE UPSTREAM SANDBAG DIKES. CONNECT SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA. THE DIVERSION MUST BE ABLE TO PASS A MINIMUM FLOW OF 24.0 CFS AROUND THE WORK AREA.
- PHASE 2
4. INSTALL SUMP PIT (ITEM 906003) AND PORTABLE SEDIMENT TANK (ITEM 906001) AS SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OF THE TEMPORARY DRAINAGE PIPE OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
  5. REMOVE THE SOUTHERNMOST EXISTING PIPE ARCH. INSTALL THE SOUTHERNMOST PROPOSED PIPE.
- PHASE 2
6. MOVE THE SUMP PIT AND DIVERSION PIPE TO GO THROUGH THE RECENTLY INSTALLED SOUTHERNMOST PIPE. SECURE THE DIVERSION PIPE TO MINIMIZE MOVEMENT UNDER USE TO PREVENT LEAKAGE INTO THE WORK AREA.
  7. PERFORM ALL REMAINING CONSTRUCTION ACTIVITY IN WORK AREA AS PER PLANS INCLUDING REMOVING NORTHERNMOST EXISTING PIPE ARCH, PLACING NEW PIPE, AND PLACING RIPRAP.
  8. REMOVE STREAM DIVERSION INCLUDING SUMP PIT, PORTABLE SEDIMENT TANK, STABILIZED OUTFALL AND SANDBAGS. RESTORE DISTURBED AREAS IN ACCORDANCE WITH THE ENVIRONMENTAL COMPLIANCE NOTE ON STREAM RESTORATION AND RIPRAP TREATMENT.
  9. COMPLETE ALL REMAINING WORK INCLUDING ROADWAY RECONSTRUCTION AND GRADING.
  10. THE REMOVAL OF THE STREAM DIVERSION MAY OCCUR AFTER ALL DISTURBED CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED, OTHERWISE INSTALL A TURBIDITY CURTAIN. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND WITH CONCURRENCE FROM THE STORMWATER ENGINEER.
  11. REMOVE ALL MOT DEVICES AND REOPEN THE ROADWAY. REMOVAL OF MOT DEVICES MAY OCCUR PRIOR TO REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

\*NOTE: ALL ITEMS MARKED (\*) ARE INCIDENTAL TO ITEM 905005 STREAM DIVERSION.

\*\*NOTE: PLACE LAYERS OF RIPRAP AND WASH WITH BORROW TYPE "B" AFTER EACH LAYER. DO NOT PLACE ALL OF THE RIPRAP AND THEN WASH WITH BORROW.



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 <b>DELAWARE</b> <b>DEPARTMENT OF TRANSPORTATION</b>	ADDENDUMS / REVISIONS	SCALE 0      30      60      90 FEET	<b>BR 1-295 ON PROVIDENCE DRIVE</b> <b>OVER TRIBUTARY TO</b> <b>CHRISTINA RIVER</b>	CONTRACT T201707101 COUNTY NEW CASTLE	BRIDGE NO. <b>1-295</b> DESIGNED BY: APS CHECKED BY: JKL	<b>CONSTRUCTION SEQUENCE</b> <b>AND EROSION</b> <b>CONTROL PLAN</b>	SHEET NO. 13 TOTAL SHTS. 19
	DELAWARE DEPARTMENT OF TRANSPORTATION						

**PORTABLE CHANGEABLE MESSAGE SIGNS**

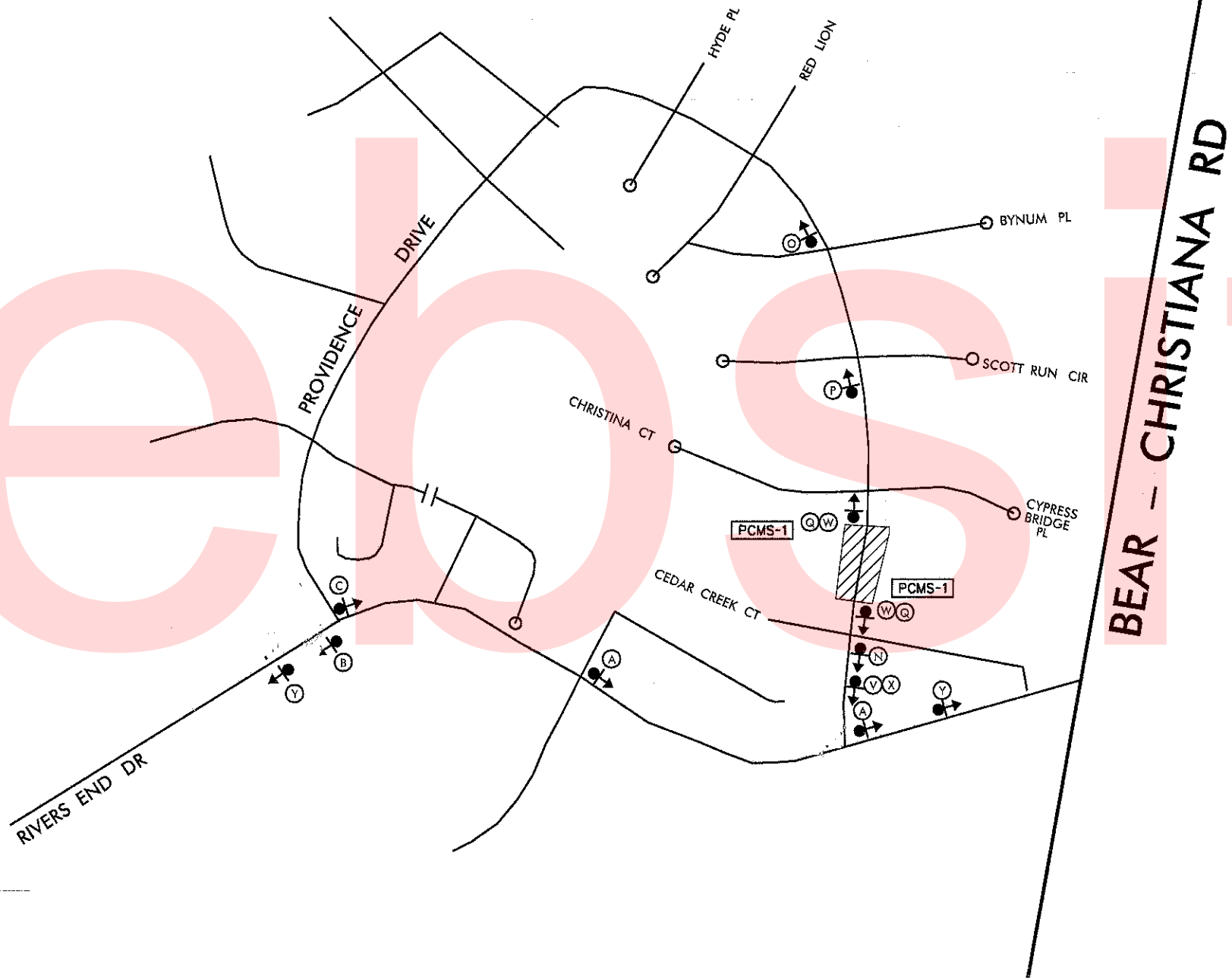
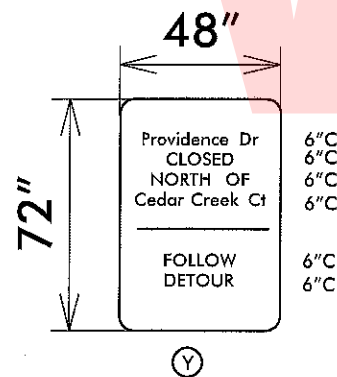
**PRIOR TO DETOUR**  
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

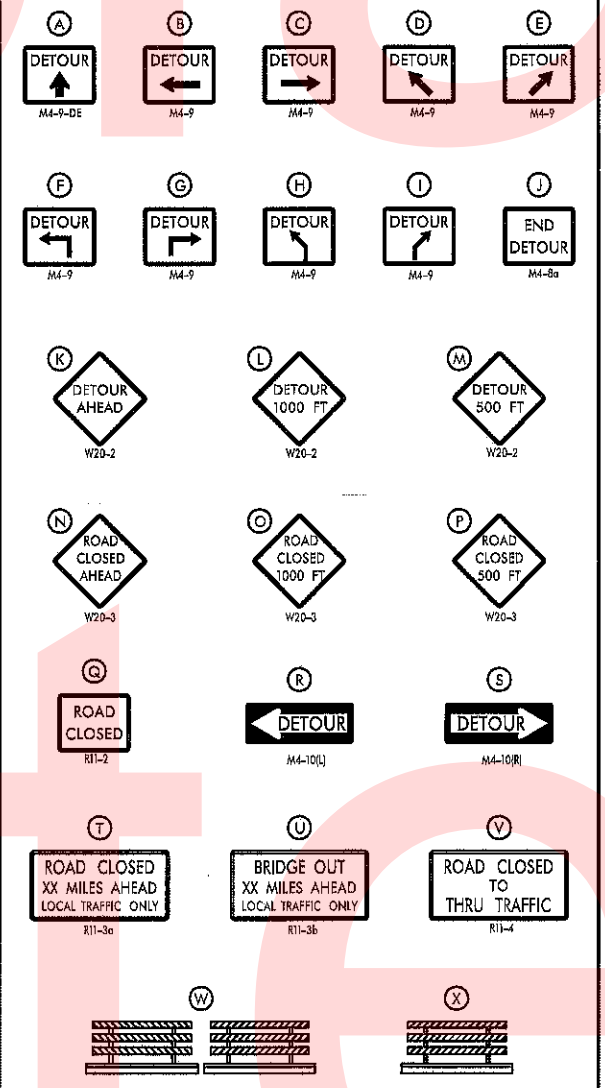
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TO CLOSE  
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**SPECIAL SIGNS**



**LEGEND**

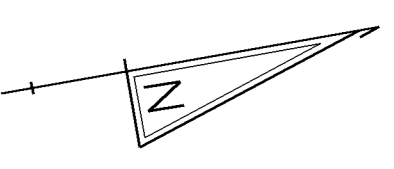


**GENERAL NOTES**

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. 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.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
6. 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" (DE MUTCD) WILL PREVAIL.
7. SIGNS "N" THROUGH "O" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
8. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
9. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
10. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE: _____	RECOMMENDED _____ DATE: _____	RECOMMENDED _____ DATE: _____	APPROVED CHIEF SAFETY OFFICER <i>[Signature]</i> DATE: 11-28-16	APPROVED TRAFFIC ENGINEER <i>[Signature]</i> DATE: 11/28/16
DELAWARE DEPARTMENT OF TRANSPORTATION ADDENDUM / REVISIONS			BR 1-295 ON PROVIDENCE DRIVE OVER TRIBUTARY TO CHRISTIANA RIVER	CONTRACT 7201707101 COUNTY NEW CASTLE ROAD NO. _____ DESIGNED BY: YH CHECKED BY: ASW
NOT TO SCALE			DETOUR PLAN	
			SHEET NO. 14 TOTAL SHTS. 19	

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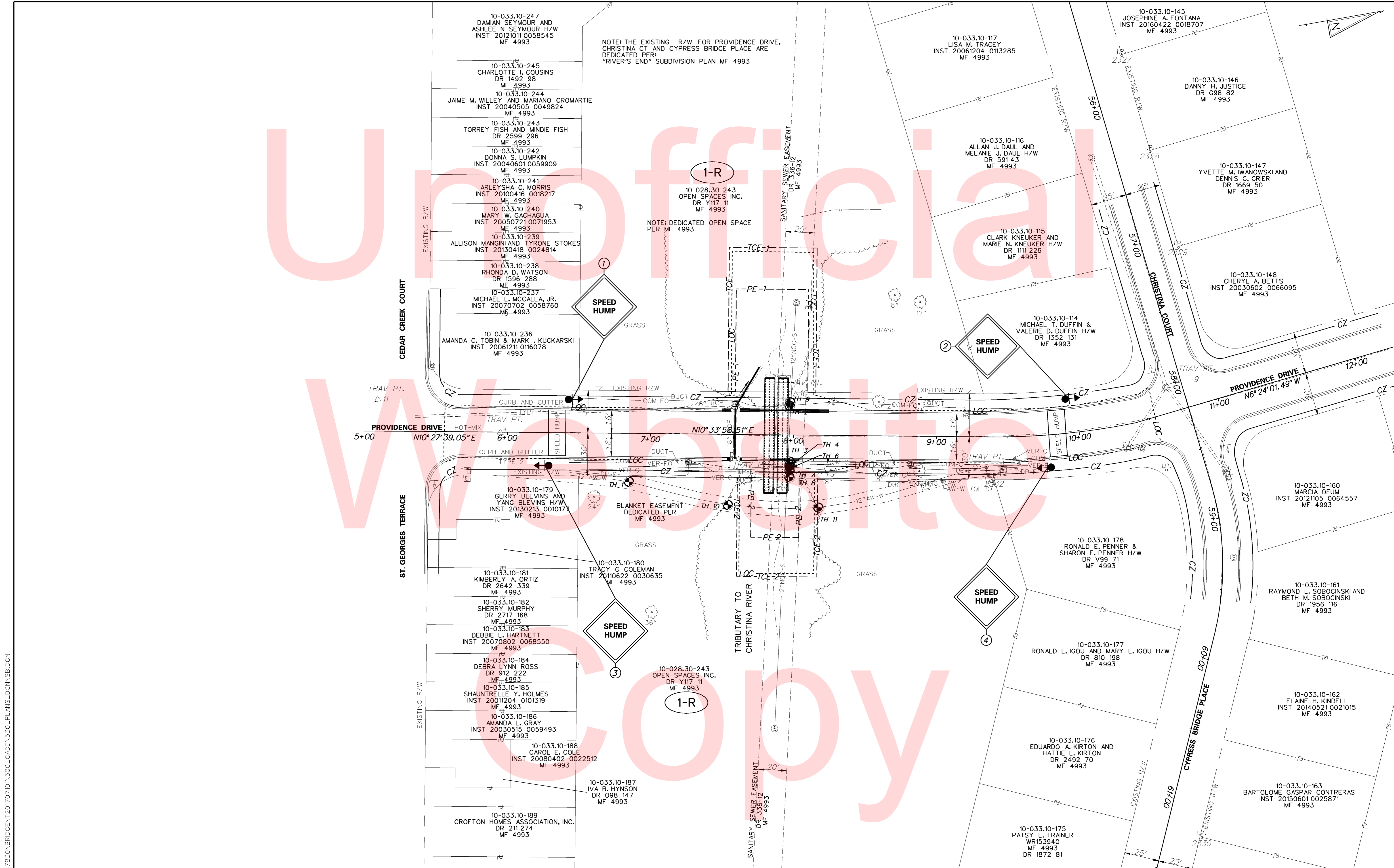


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NOTE: THE EXISTING R/W FOR PROVIDENCE DRIVE, CHRISTINA CT AND CYPRESS BRIDGE PLACE ARE DEDICATED PER: "RIVER'S END" SUBDIVISION PLAN MF 4993

NOTE: DEDICATED OPEN SPACE PER MF 4993

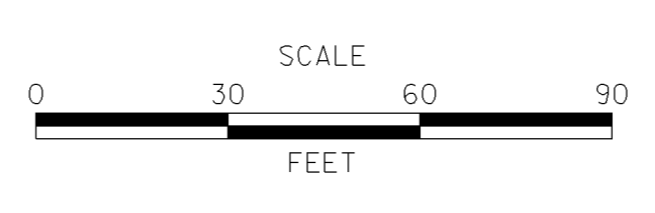
NOTE: DEDICATED OPEN SPACE PER MF 4993



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ADDENDUMS / REVISIONS	



**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT	BRIDGE NO.	<b>1-295</b>
T201707101	DESIGNED BY:	APS
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

**SIGNING, STRIPING  
AND CONDUIT PLANS**

SHEET NO.	15
TOTAL SHTS.	19

**PERMANENT SIGN SCHEDULE**

#	SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN	SIGN	SIGN	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
						WIDTH (IN)	HEIGHT (IN)	AREA (SF)	SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL	12' Post (w/ Basepost)				
1389	SS-15	1	W17-1(36)	1	SPEED HUMP - 36x36	36"	36"	9	NEW		1			SOIL	1				
1389	SS-15	2	W17-1(36)	1	SPEED HUMP - 36x36	36"	36"	9	NEW		1			SOIL	1				
1389	SS-15	3	W17-1(36)	1	SPEED HUMP - 36x36	36"	36"	9	NEW		1			SOIL	1				
1389	SS-15	4	W17-1(36)	1	SPEED HUMP - 36x36	36"	36"	9	NEW		1			SOIL	1				
<b>PAGE TOTALS</b>								36		0	4		0	0		4	0	0	

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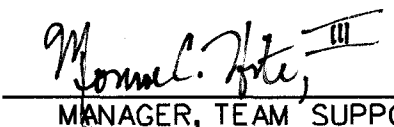




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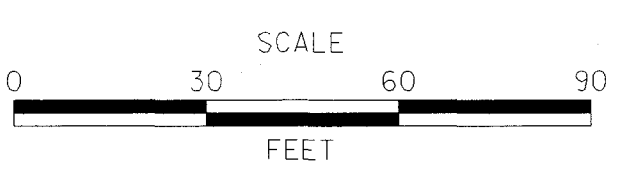
NOTE: THE EXISTING R/W FOR PROVIDENCE DRIVE, CHRISTINA CT AND CYPRESS BRIDGE PLACE ARE DEDICATED PER "RIVER'S END" SUBDIVISION PLAN MF 4993

NOTE: DEDICATED OPEN SPACE PER MF 4993

BLANKET EASEMENT DEDICATED PER MF 4993

RECOMMENDED AS TO ENGINEERING NEED	
 MANAGER, TEAM SUPPORT	6/27/17 DATE
 PROGRAM MANAGER, TEAM SUPPORT	6/27/17 DATE
 TECHNICAL REVIEWER, TEAM SUPPORT	6/27/17 DATE

ADDENDUMS / REVISIONS



**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT	BRIDGE NO.	<b>1-295</b>
T201707101	DESIGNED BY:	APS
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

**RIGHT-OF-WAY SHEET 1 OF 3**

**RIGHT-OF-WAY PLAN**

SHEET NO.	17
TOTAL SHTS.	19

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ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
10-028.30-243	(1R) OPEN SPACES INC.					P/E-1	Y117 11	57.170			
ALIGNMENT NUMBER & DESCRIPTION: 20001 - BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40011	20001	7+59.12	-30.00	601382.6674	587936.7805	N 79°28' 37.98" W	71.85				
40012	20001	7+59.06	-101.85	601395.7894	587866.1373	N 10°31' 21.76" E	50.62				
40013	20001	8+09.69	-101.85	601445.5630	587875.3827	S 79°28' 38.04" E	71.89				
40014	20001	8+09.74	-30.00	601432.4340	587946.0637	S 10°33' 58.39" W	50.63				
40011	20001	7+59.12	-30.00	601382.6674	587936.7805						

FIGURE 45003 AREA = 3638.4584 SQ. FT. (0.0835 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
10-028.30-243	(1R) OPEN SPACES INC.					P/E-2	Y117 11	57.170			
ALIGNMENT NUMBER & DESCRIPTION: 20001 - BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40015	20001	7+70.77	30.00	601383.1268	587997.9011	N 10°33' 58.39" E	33.53				
40016	20001	8+04.31	30.00	601416.0917	588004.0502	S 79°28' 38.09" E	41.71				
40017	20001	8+04.34	71.71	601408.4741	588045.0602	S 10°31' 22.04" W	33.53				
40018	20001	7+70.81	71.74	601375.5046	588038.9361	N 79°28' 38.30" W	41.74				
40015	20001	7+70.77	30.00	601383.1268	587997.9011						

FIGURE 45004 AREA = 1399.1572 SQ. FT. (0.0321 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
10-028.30-243	(1R) OPEN SPACES INC.					TCE-1	Y117 11	57.170			
ALIGNMENT NUMBER & DESCRIPTION: 20001 - BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40001	20001	7+53.98	-30.00	601377.6150	587935.8380	N 79°28' 37.93" W	100.92				
40002	20001	7+53.90	-130.92	601396.0459	587836.6141	N 10°31' 22.03" E	61.38				
40003	20001	8+15.28	-130.97	601456.3930	587847.8236	S 79°28' 37.95" E	100.97				
40004	20001	8+15.36	-30.00	601437.9536	587947.0933	S 10°33' 58.49" W	5.61				
40014	20001	8+09.74	-30.00	601432.4340	587946.0637	N 79°28' 38.04" W	71.89				
40013	20001	8+09.69	-101.89	601445.5630	587875.3827	S 10°31' 21.76" W	50.62				
40012	20001	7+59.06	-101.85	601395.7894	587866.1373	S 79°28' 37.98" E	71.85				
40011	20001	7+59.12	-30.00	601382.6674	587936.7805	S 10°34' 00.43" W	5.14				
40001	20001	7+53.98	-30.00	601377.6150	587935.8380						

FIGURE 45001 AREA = 2557.4487 SQ. FT. (0.0587 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
10-028.30-243	(1R) OPEN SPACES INC.					TCE-2	Y117 11	57.170			
ALIGNMENT NUMBER & DESCRIPTION: 20001 - BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40005	20001	7+61.06	30.00	601373.5757	587996.1195	N 10°33' 58.14" E	9.72				
40015	20001	7+70.77	30.00	601383.1268	587997.9011	S 79°28' 38.30" E	41.74				
40018	20001	7+70.81	71.74	601375.5046	588038.9361	N 10°31' 22.04" E	33.53				
40017	20001	8+04.34	71.71	601408.4741	588045.0602	N 79°28' 38.09" W	41.71				
40016	20001	8+04.31	30.00	601416.0917	588004.0502	N 10°33' 58.03" E	12.97				
40006	20001	8+17.28	30.00	601428.8428	588006.4287	S 79°28' 38.19" E	69.18				
40007	20001	8+17.33	99.18	601416.2093	588074.4424	S 10°31' 22.19" W	56.22				
40008	20001	7+61.11	99.22	601360.9343	588064.1750	N 79°28' 37.79" W	69.22				
40005	20001	7+61.06	30.00	601373.5757	587996.1195						

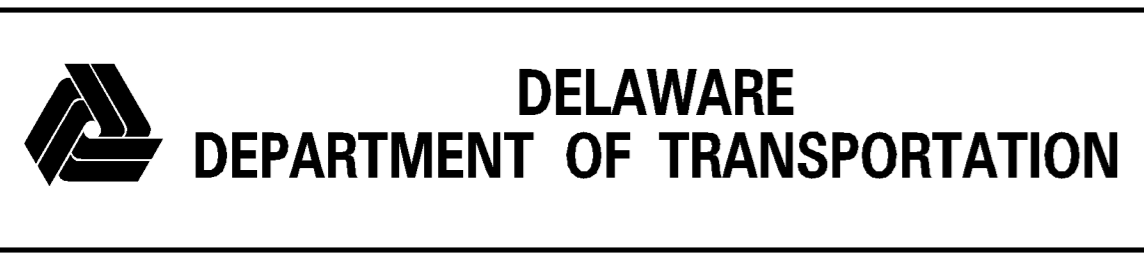
FIGURE 45002 AREA = 2491.2042 SQ. FT. (0.0572 ACRES)

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LEGEND	
FW	AREA OF ACQUISITION
RW	AREA OCCUPIED BY EXISTING RW
PE	PERMANENT EASEMENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
*	OFFSET IS LEFT OF BASELINE
**	CURVE TURNS TO THE LEFT

**RIGHT OF WAY SHEET 2 OF 3**



ADDENDUMS / REVISIONS

**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT T201707101	BRIDGE NO. 1-295
COUNTY NEW CASTLE	DESIGNED BY: APS
	CHECKED BY: JKL

<b>RIGHT-OF-WAY DATA SHEET</b>	SHEET NO. 18
	TOTAL SHTS. 19

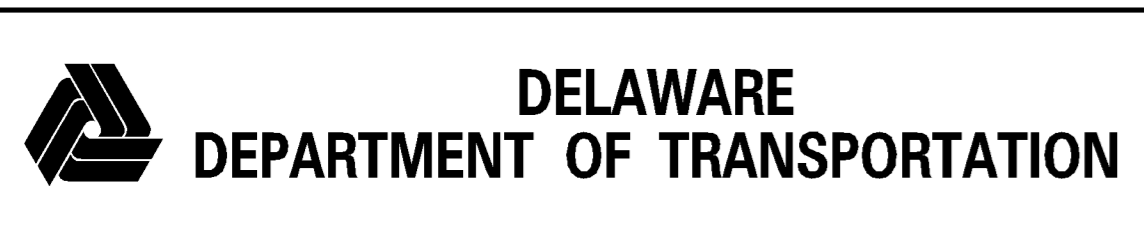
COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE) D=DEED C=CALCULATED A=ASSESSMENT	ACQUISITION CODE FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED				PROPERTY AREA REMAINING (SQ. FEET /ACRES)	DEED RECORD OF ACQUISITION	REMARKS
						ACQUISITION (SQ. FEET /ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET /ACRES)	EASEMENT				
								PERMANENT (SQ. FEET /ACRES)	TEMPORARY (SQ. FEET /ACRES)			
10-028.30-243	13	(1R) OPEN SPACES INC.	Y117 11	D - 57.17	P/E-1 P/E-2			3638.4584 / 0.08 1399.1572 / 0.03				AREA OCCUPIED BY EX. SANITARY SEWER EASEMENT: 1396.6284 SQ FT AREA OCCUPIED BY EX. SANITARY SEWER EASEMENT: 796.1546 SQ FT AREA OCCUPIED BY EX. WATER EASEMENT: 335 SQ FT
					TCE-1 TCE-2				2557.4487 / 0.06 2491.2042 / 0.06	2490325.20 / 57.17		AREA OCCUPIED BY EX. SANITARY SEWER EASEMENT: 624.2607 SQ FT AREA OCCUPIED BY EX. SANITARY SEWER EASEMENT: 588.9426 SQ FT AREA OCCUPIED BY EX. WATER EASEMENT: 195 SQ FT

Unofficial  
 Website  
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**RIGHT OF WAY SHEET 3 OF 3**

ACQUISITION CODES  
 FEE - ACQUISITION      P/E - PERMANENT EASEMENT  
 R/W - AREA OCCUPIED BY EXISTING R/W      TCE - TEMPORARY EASEMENT



ADDENDUMS / REVISIONS	

**BR 1-295 ON PROVIDENCE DRIVE  
OVER TRIBUTARY TO  
CHRISTINA RIVER**

CONTRACT T201707101	BRIDGE NO. <b>1-295</b>
COUNTY NEW CASTLE	DESIGNED BY: APS CHECKED BY: JKL

**RIGHT-OF-WAY  
TABULATION SHEET**

SHEET NO. 19
TOTAL SHTS. 19