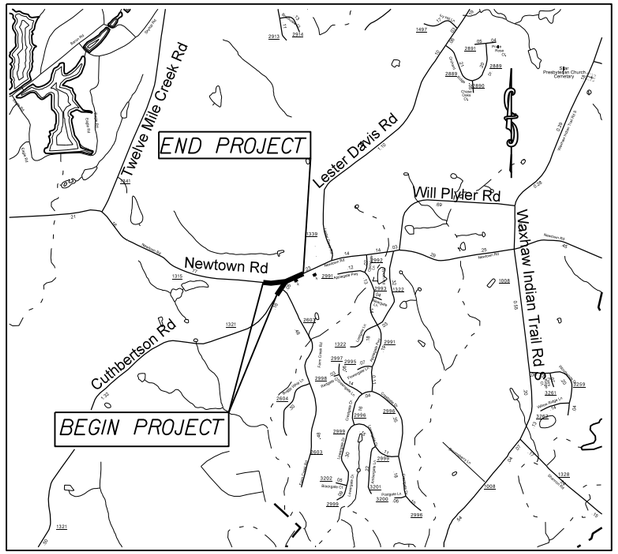
TIP: SS-4910CC

PROJECT: 44720.3.1



VICINITY MAP NOT TO SCALE

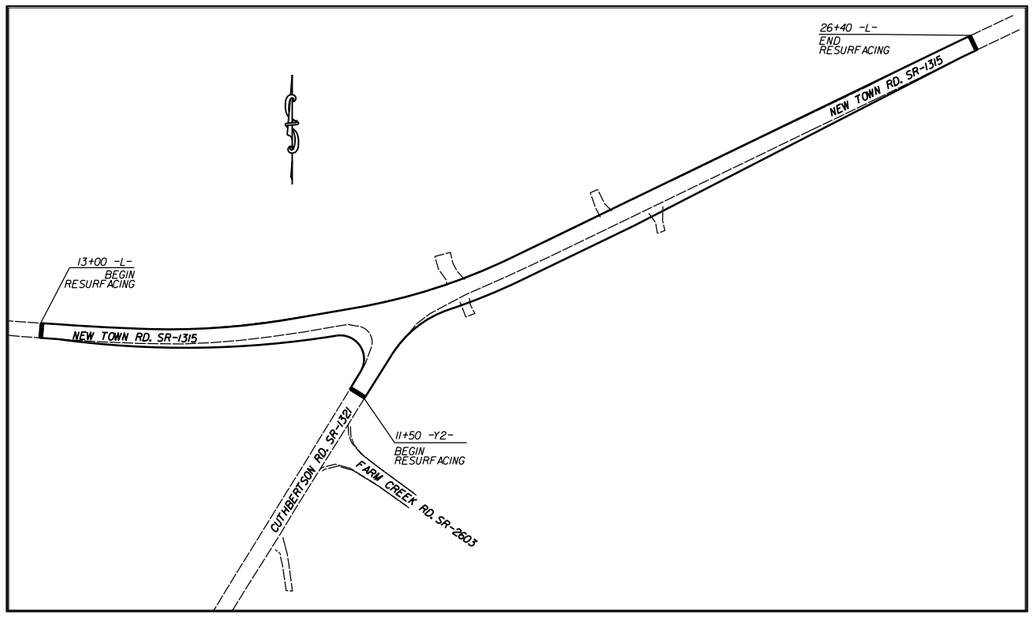
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	44720.3.1	1	

STATE PROJ.NO.	F.A. PROJ.NO.	DESCRIPTION
44720.1.1	HSIP-1315(018)	*P.E.*
44720.2.1	HSIP-1315(018)	*R/W*
44720.3.1	HSIP-1315(018)	*CONST.*

LOCATION: *INTERSECTION OF NEW TOWN RD. (SR-1315) AND CUTHBERTSON RD. (SR-1321)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNALS, AND THERMOPLASTIC PAVEMENT MARKINGS.*



GRAPHIC SCALES

PLANS 0 50 100

PROFILE (HORIZONTAL) 0 50 100

PROFILE (VERTICAL) 0 5 10

DESIGN DATA

ADT =

ADT =

DHV = %

D = %

T = %

V = MPH

PROJECT LENGTH

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 44720.3.1 = 0.27 MILES

TOTAL LENGTH OF STATE PROJECT 44720.3.1 = 0.27 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

DIVISION TEN

DIVISION DESIGN / CONSTRUCT UNIT

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
May 16, 2018

DONALD GRIFFITH
PROJECT ENGINEER

DONALD HARWARD
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · DESIGN CONSTRUCT UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034357 ENGINEER SEAN MICHAEL EPPERSON

DocuSigned by:

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SIGNATURE:

22-MAR-2018 16:37
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langward AT D10DIVCAD277126

PROJECT NO.	SHEET NO.
44720.3.1	2
F.A. PROJECT NO.	HSIP-1315(018)

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034357 ENGINEER

DocuSigned by: HAEL

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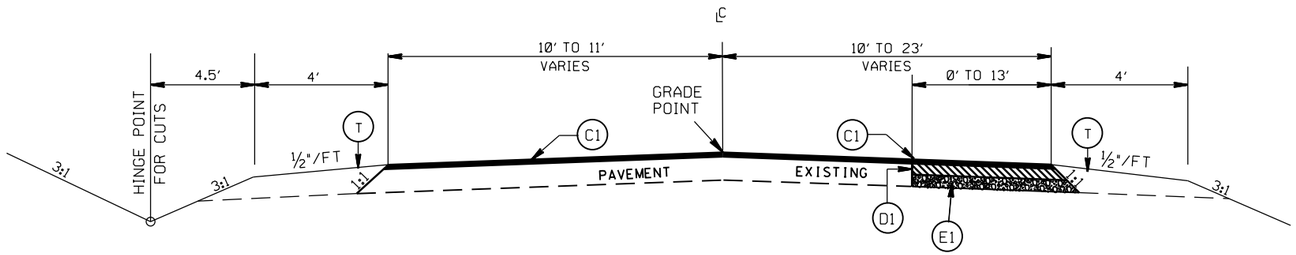
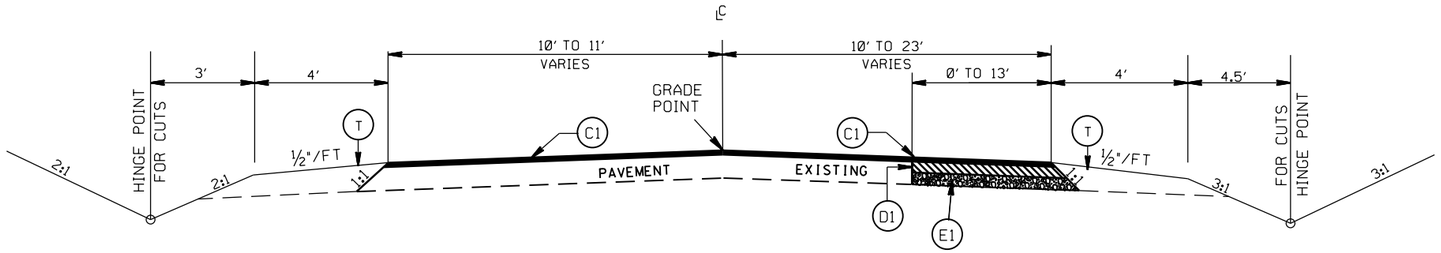


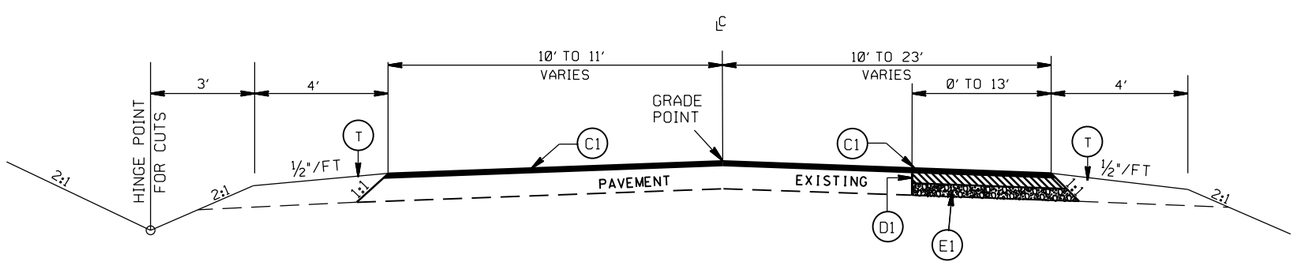
TYPICAL SECTION NO. 4

18+50 TO 26+15 -L-



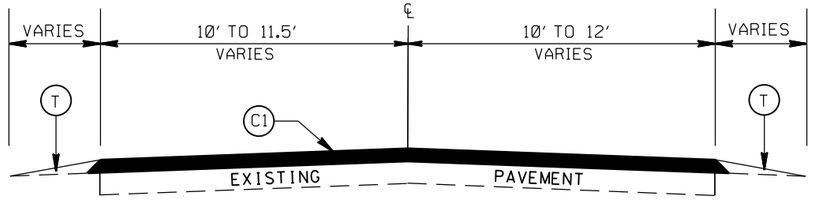
TYPICAL SECTION NO. 3

17+00 TO 18+50 -L-



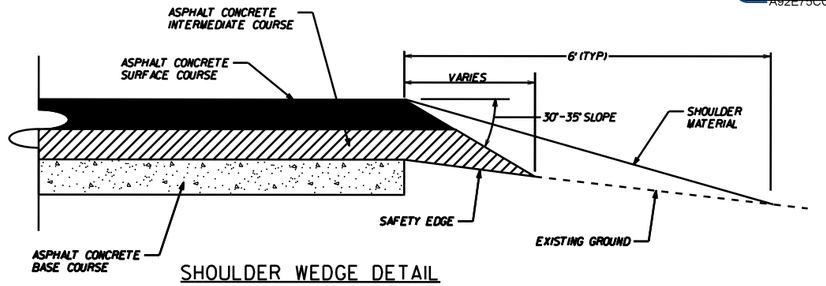
TYPICAL SECTION NO. 2

13+25 TO 17+00 -L-



TYPICAL SECTION NO. 1

STA. 13+00 TO 13+25 -L-
STA. 26+15 TO 26+40 -L-
STA. 11+50 TO 12+20.21 -Y-



SHOULDER WEDGE DETAIL

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4.0" ASPHALT CONC. INTERMIDATE COURSE, I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL

LEFT TURN LANE ON
NEW TOWN RD. (SR-1315)
ONTO CUTHBERTSON RD. (SR-1321)

SCALE	1"=50'
DATE	3-2018
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	DCG

DIVISION OF HIGHWAYS — NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REVISIONS	

COMPUTED BY: JDH	DATE: 11/16
CHECKED BY: TWB	DATE: 11/16

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
44720.3.1	3

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300–5".

RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	TEMP. CONST. EASE.	PERM. DRAIN. EASE.	TEMP. DRAIN. EASE.
1	ANTHONY CINQUE					3,645 SQ.FT.		
2	JACKSON L. and CAROLYN G. CLARK					483 SQ.FT.		
3	JACKSON L. CLARK					1,927 SQ.FT.		
4	TRUSTEES OF UNION PLEASANT GROVE CHARGE, UNITED METHODIST CHURCH		0.007 AC.			1,345 SQ.FT.		
5	DAVID JETER GRIFFIN and MARLEENE MILLER GIFFIN		0.019 AC.			1,332 SQ.FT.		

SUMMARY OF QUANTITIES

SUMMARY					SUMMARY				
DESC.NO.	SECT.NO.	QUANTITY	UNIT	ITEM DESCRIPTION	DESC.NO.	SECT.NO.	QUANTITY	UNIT	ITEM DESCRIPTION

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	C.S. PIPE (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	CLASS III R.C. PIPE (UNLESS OTHERWISE NOTED) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	T.B.D.I. STD. 840.35	T.B.D.I. FRAME WITH GRATE STD. 840.36	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
18+66 -L-	LT	401			622.25'	623.15'		32'																																																						
18+71 -L-	RT	402			623.44'	623.93'																		20'																																				20'	
20+69 -L-	LT	403			627.35'	629.55'		64'																																																						
21+51 -L-	RT	404			629.60'	630.22'																		24'																																				22'	
23+73 -L-	LT	405			632.97'	633.40'		20'																																																				20'	
TOTALS								116'																48'																																				62'	

ABBREVIATIONS

- C.B. CATCH BASIN
- N.D.I. NARROW DROP INLET
- D.I. DROP INLET
- G.D.I. GRATED DROP INLET
- G.D.I. (N.S.) GRATED DROP INLET (NARROW SLOT)
- J.B. JUNCTION BOX
- M.H. MANHOLE
- T.B.D.I. TRAFFIC BEARING DROP INLET
- T.B.J.B. TRAFFIC BEARING JUNCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS

6/21/00

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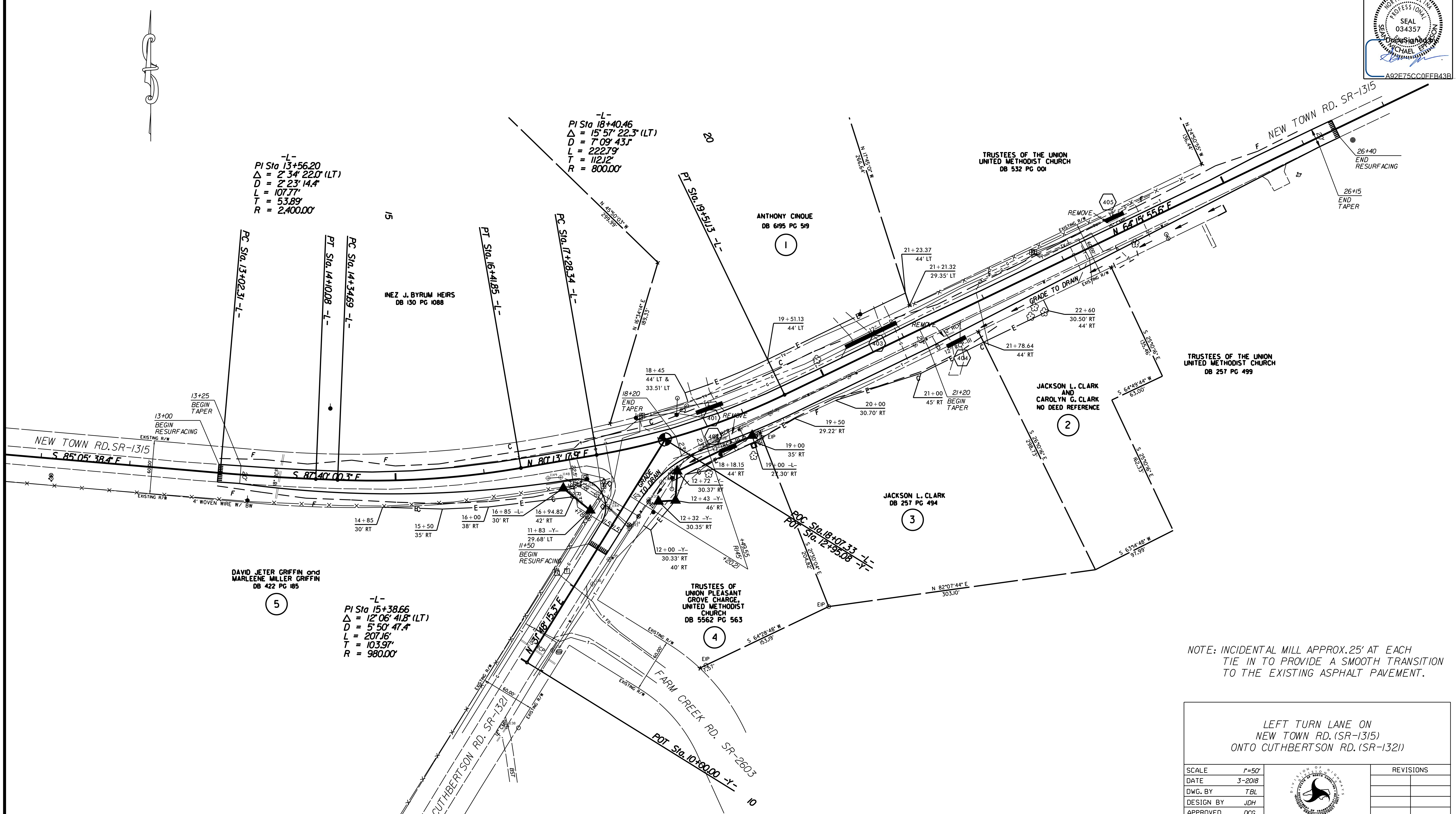
PROJECT NO.	SHEET NO.
44720.3.1	4
F.A. PROJECT NO.	HSIP-1315(018)

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034357 MICHAEL EPPS

DocuSigned by: A92E75CC0FFB43B...



NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFT TURN LANE ON NEW TOWN RD. (SR-1315) ONTO CUTHBERTSON RD. (SR-1321)

SCALE	1"=50'
DATE	3-2018
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	DCG

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION

REVISIONS	

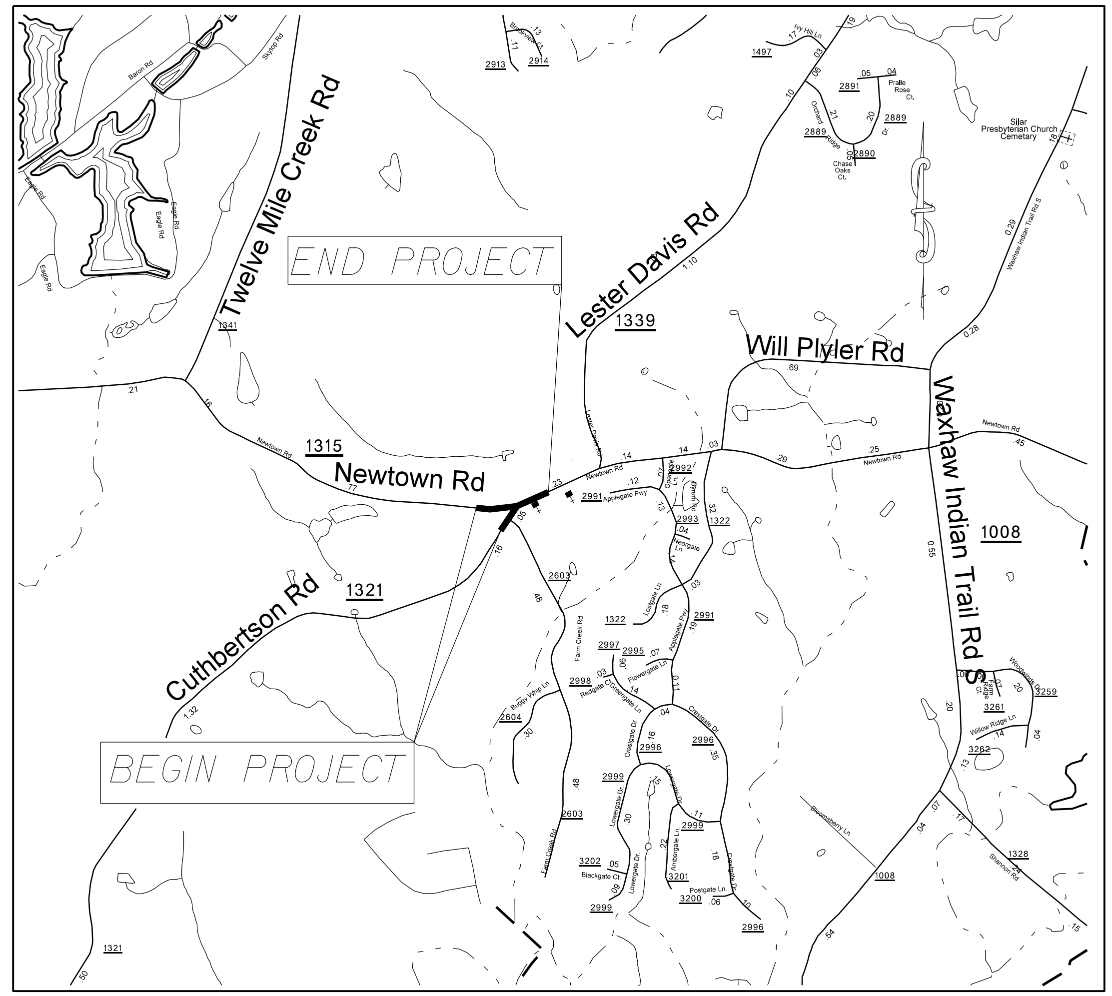
PROJECT: 44720.3.1 TIP: SS-4910CC

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SS-4910CC	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL



VICINITY MAP NOT TO SCALE

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE

0

PLANS

0

PROFILE (HORIZONTAL)

0

PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

DDC UNIT DIVISION 10

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

TRAVIS LOWDER — *EROSION CONTROL DESIGNER*

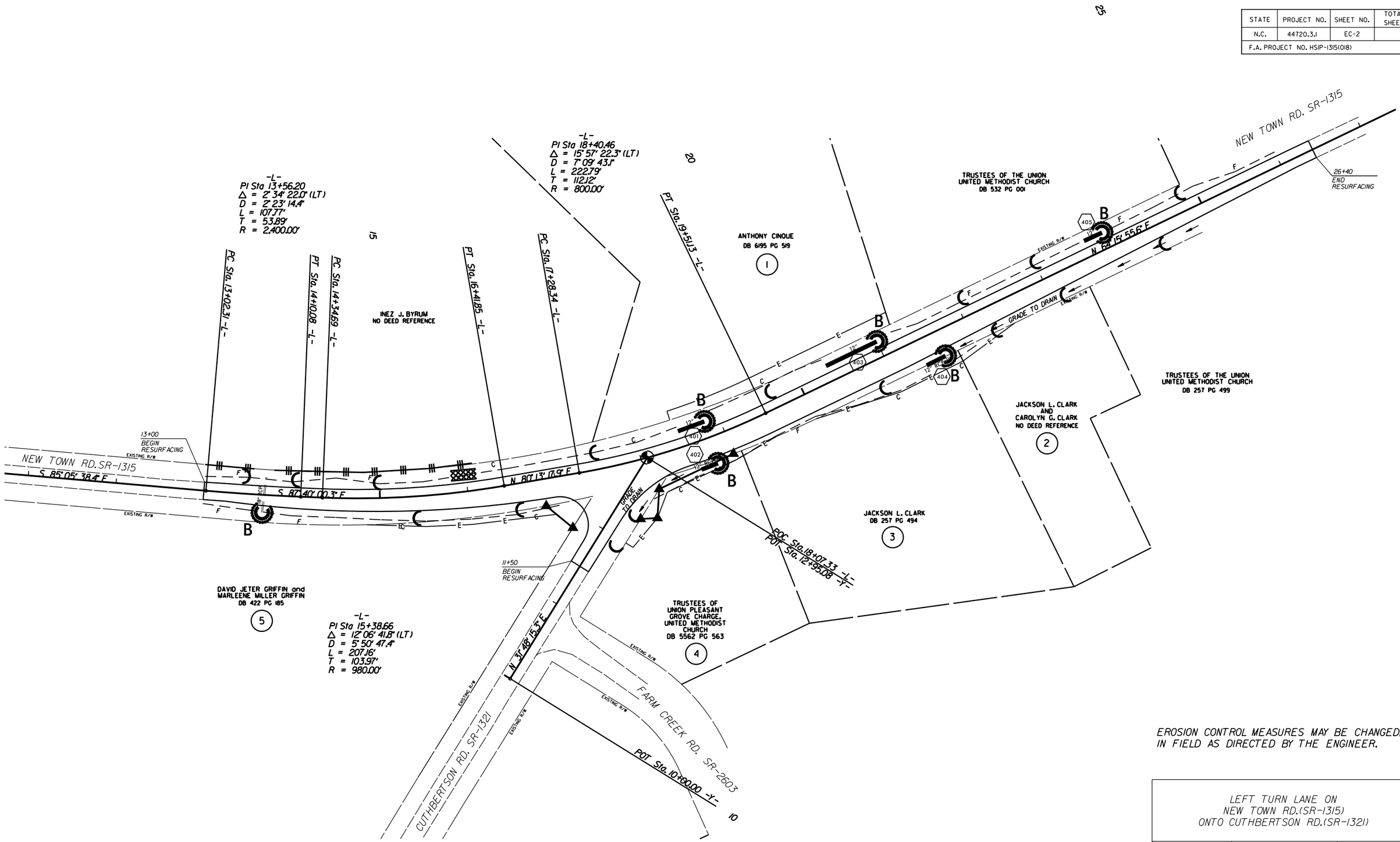
3742 — *LEVEL III CERTIFICATION #*

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail
1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.01 Riser Basin
1630.02 Silt Basin Type B
1630.03 Temporary Silt Ditch
1630.04 Stilling Basin
1630.05 Temporary Diversion
1630.06 Special Stilling Basin
1631.01 Matting Installation
1632.01 Rock Inlet Sediment Trap Type A
1632.02 Rock Inlet Sediment Trap Type B
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A
1633.02 Temporary Rock Silt Check Type B
1634.01 Temporary Rock Sediment Dam Type A
1634.02 Temporary Rock Sediment Dam Type B
1635.01 Rock Pipe Inlet Sediment Trap Type A
1635.02 Rock Pipe Inlet Sediment Trap Type B
1640.01 Coir Fiber Baffle
1645.01 Temporary Stream Crossing

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	44720.3.1	EC-2	
F.A. PROJECT NO. HSIP-1315(018)			



EROSION CONTROL MEASURES MAY BE CHANGED. IN FIELD AS DIRECTED BY THE ENGINEER.

LEFT TURN LANE ON
NEW TOWN RD.(SR-1315)
ONTO CUTHBERTSON RD.(SR-1321)

		REVISIONS	
SCALE	1"=50'		
DATE	8/2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

PROJECT NO.	SHEET NO.
44720.3.1	PMP-1
F.A. PROJECT NO.	HSIP-1315(018)

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034357 ENGINEER MICHAEL SPEAR

DocuSigned by:

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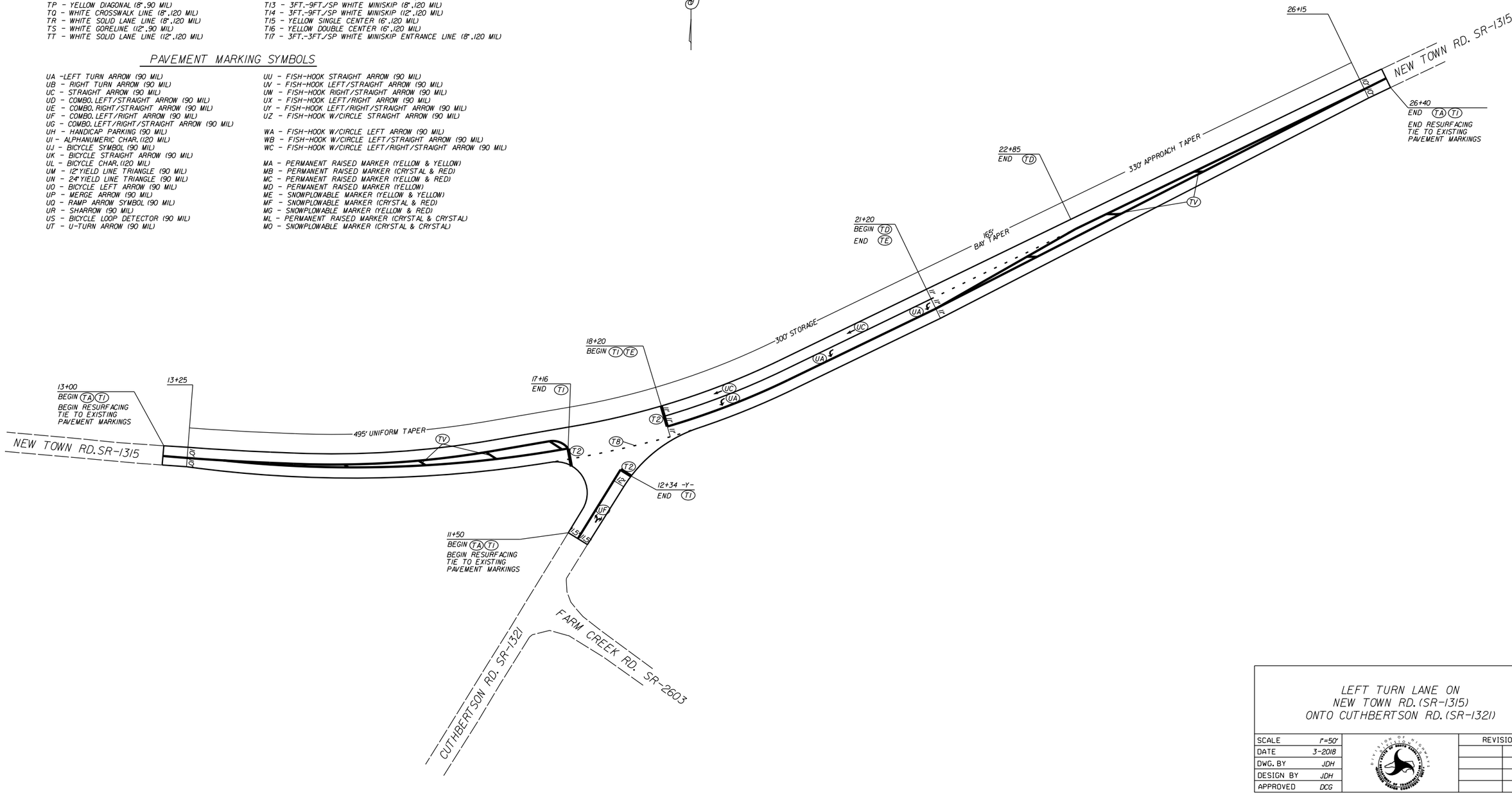
PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

TA - WHITE EDGELINE (4",90 MIL)
TB - YELLOW EDGELINE (4",90 MIL)
TC - 10FT. WHITE SKIP (4",120 MIL)
TD - 3FT.-9FT./SP WHITE MINISKIP (4",120 MIL)
TE - WHITE SOLID LANE LINE (4",120 MIL)
TF - 10FT. YELLOW SKIP (4",120 MIL)
TH - YELLOW SINGLE CENTER (4",120 MIL)
TJ - YELLOW DOUBLE CENTER (4",120 MIL)
TJ - 10FT. WHITE SKIP (6",120 MIL)
TK - 3FT.-9FT./SP WHITE MINISKIP (6",120 MIL)
TL - WHITE SOLID LANE LINE (6",120 MIL)
TM - 10FT. YELLOW SKIP (6",120 MIL)
TN - WHITE GORELINE (8",90 MIL)
TO - WHITE DIAGONAL (8",90 MIL)
TP - YELLOW DIAGONAL (8",90 MIL)
TQ - WHITE CROSSWALK LINE (8",120 MIL)
TR - WHITE SOLID LANE LINE (8",120 MIL)
TS - WHITE GORELINE (12",90 MIL)
TT - WHITE SOLID LANE LINE (12",120 MIL)
TU - WHITE DIAGONAL (12",90 MIL)
TV - YELLOW DIAGONAL (12",90 MIL)
TI - WHITE LINE, RR X (16",120 MIL)
T2 - WHITE STOPBAR (24",120 MIL)
T3 - WHITE CROSSWALK LINE (24",120 MIL)
T4 - WHITE RUMBLE STRIP (4",240 MIL)
T5 - YELLOW RUMBLE STRIP (4",240 MIL)
T6 - WHITE EDGELINE (6",90 MIL)
T7 - YELLOW EDGELINE (6",90 MIL)
T8 - 2FT.-6FT./SP WHITE MINISKIP (4",120 MIL)
T9 - 2FT.-6FT./SP YELLOW MINISKIP (4",120 MIL)
T10 - 3FT.-3FT./SP WHITE MINISKIP (12",120 MIL)
T11 - 2FT.-6FT./SP WHITE MINISKIP (6",120 MIL)
T12 - 2FT.-6FT./SP YELLOW MINISKIP (6",120 MIL)
T13 - 3FT.-9FT./SP WHITE MINISKIP (8",120 MIL)
T14 - 3FT.-9FT./SP WHITE MINISKIP (12",120 MIL)
T15 - YELLOW SINGLE CENTER (6",120 MIL)
T16 - YELLOW DOUBLE CENTER (6",120 MIL)
T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8",120 MIL)

PAVEMENT MARKING SYMBOLS

UA -LEFT TURN ARROW (90 MIL)
UB - RIGHT TURN ARROW (90 MIL)
UC - STRAIGHT ARROW (90 MIL)
UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL)
UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL)
UF - COMBO. LEFT/RIGHT ARROW (90 MIL)
UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
UH - HANDICAP PARKING (90 MIL)
UI - ALPHANUMERIC CHAR. (120 MIL)
UJ - BICYCLE SYMBOL (90 MIL)
UK - BICYCLE STRAIGHT ARROW (90 MIL)
UL - BICYCLE CHAR. (120 MIL)
UM - 12" YIELD LINE TRIANGLE (90 MIL)
UN - 24" YIELD LINE TRIANGLE (90 MIL)
UO - BICYCLE LEFT ARROW (90 MIL)
UP - MERGE ARROW (90 MIL)
UQ - RAMP ARROW SYMBOL (90 MIL)
UR - SHARROW (90 MIL)
US - BICYCLE LOOP DETECTOR (90 MIL)
UT - U-TURN ARROW (90 MIL)
UU - FISH-HOOK STRAIGHT ARROW (90 MIL)
UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL)
UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL)
UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL)
UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL)
WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL)
WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL)
WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
MA - PERMANENT RAISED MARKER (YELLOW & YELLOW)
MB - PERMANENT RAISED MARKER (CRYSTAL & RED)
MC - PERMANENT RAISED MARKER (YELLOW & RED)
MD - PERMANENT RAISED MARKER (YELLOW)
ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW)
MF - SNOWPLOWABLE MARKER (CRYSTAL & RED)
MG - SNOWPLOWABLE MARKER (YELLOW & RED)
ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL)
MO - SNOWPLOWABLE MARKER (CRYSTAL & CRYSTAL)

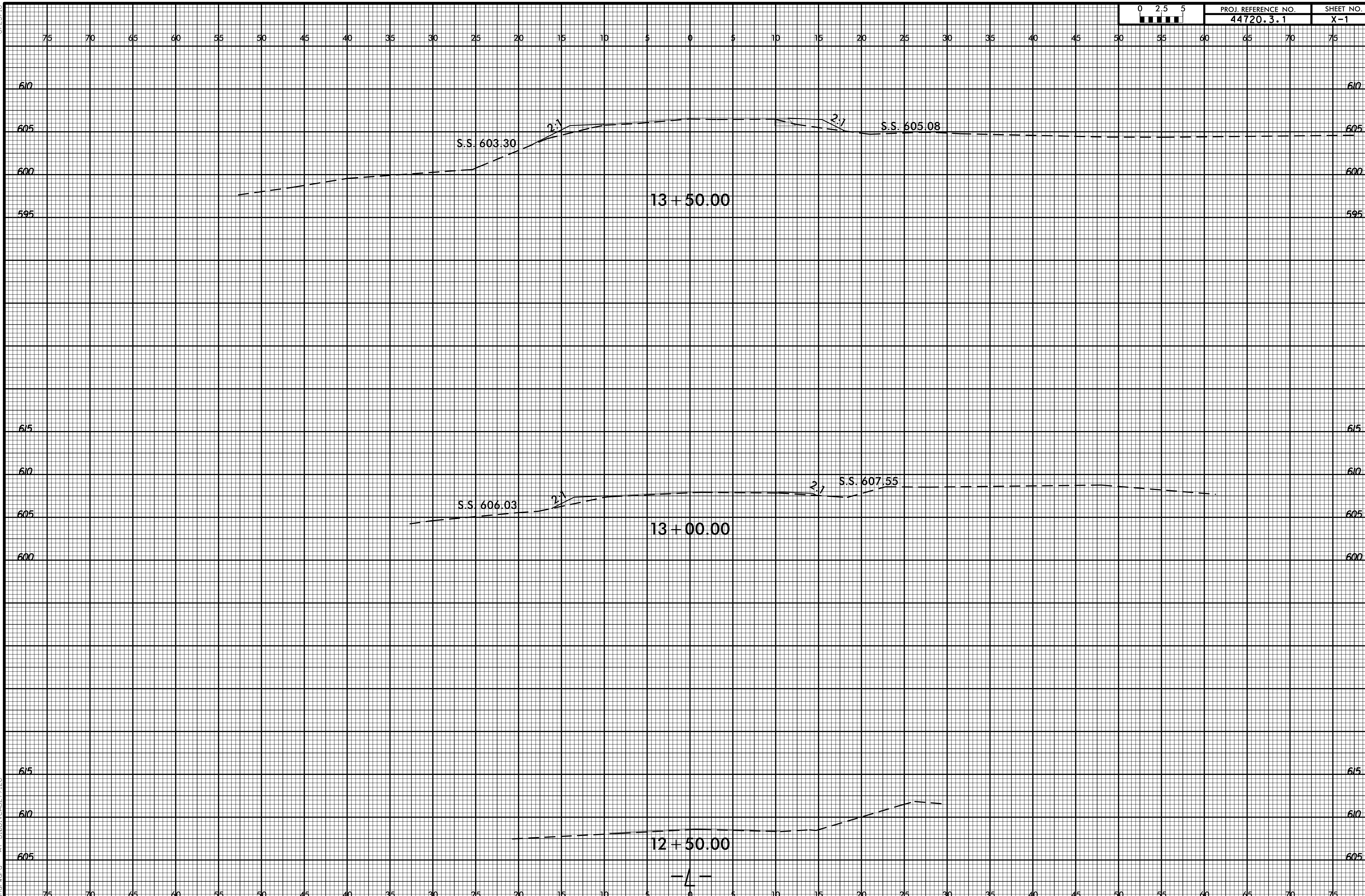


LEFT TURN LANE ON NEW TOWN RD. (SR-1315) ONTO CUTHBERTSON RD. (SR-1321)

SCALE	1"=50'
DATE	3-2018
DWG. BY	JDH
DESIGN BY	JDH
APPROVED	DCG

DIVISION OF HIGHWAYS — NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REVISIONS	



6/23/16

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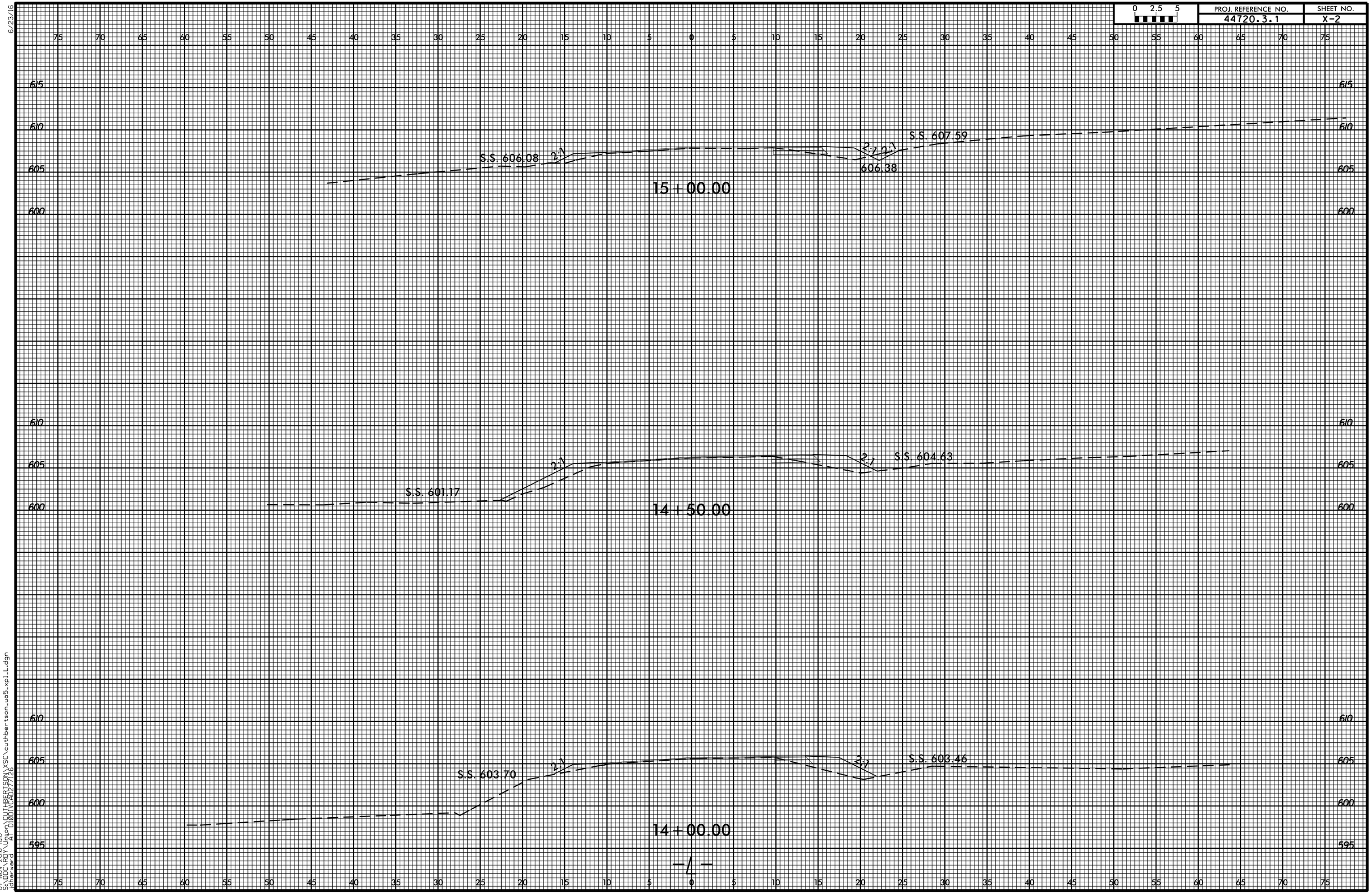
	44720.3.1	X-2



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dhayward
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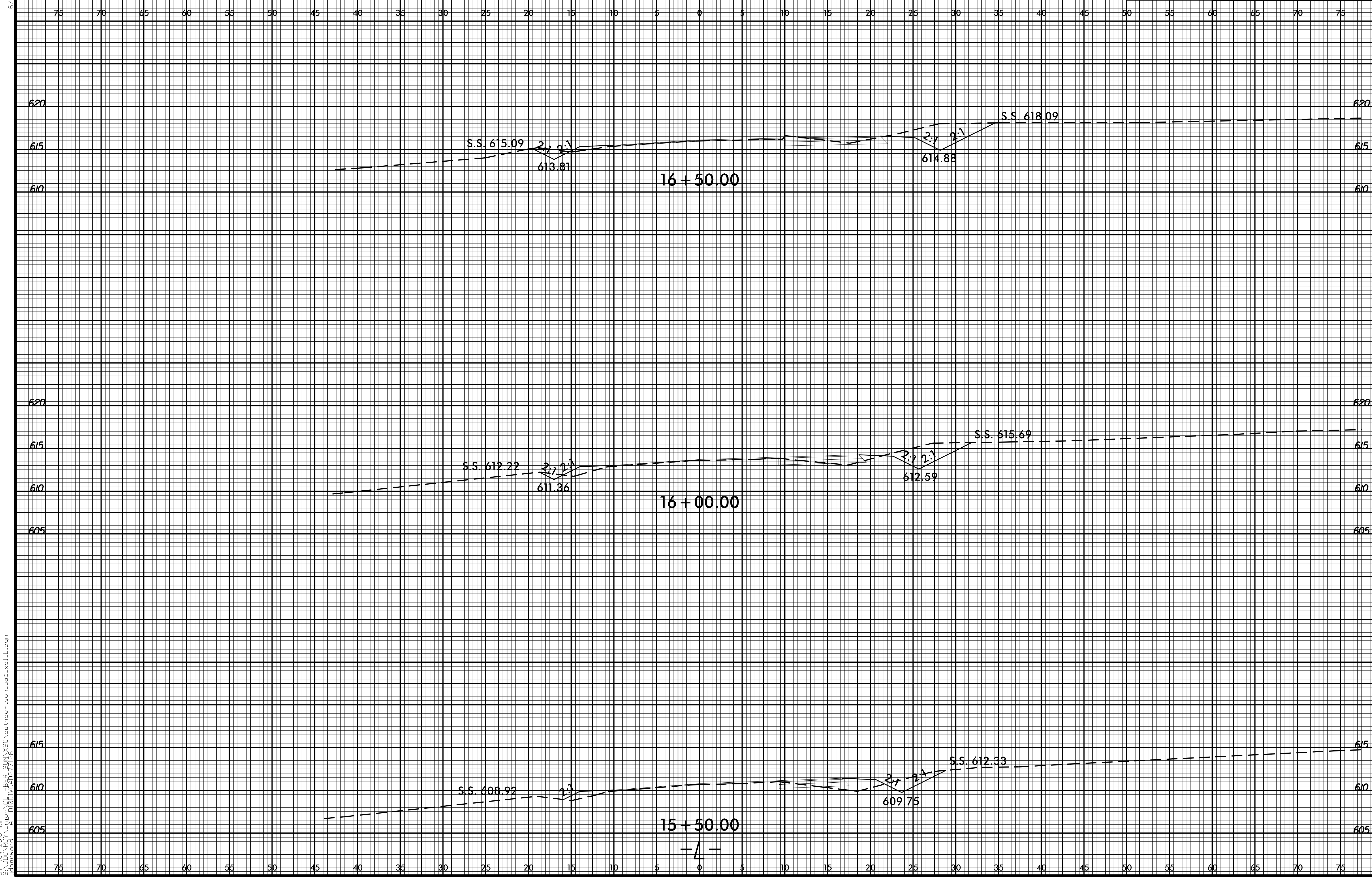
6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44720.3.1	X-3



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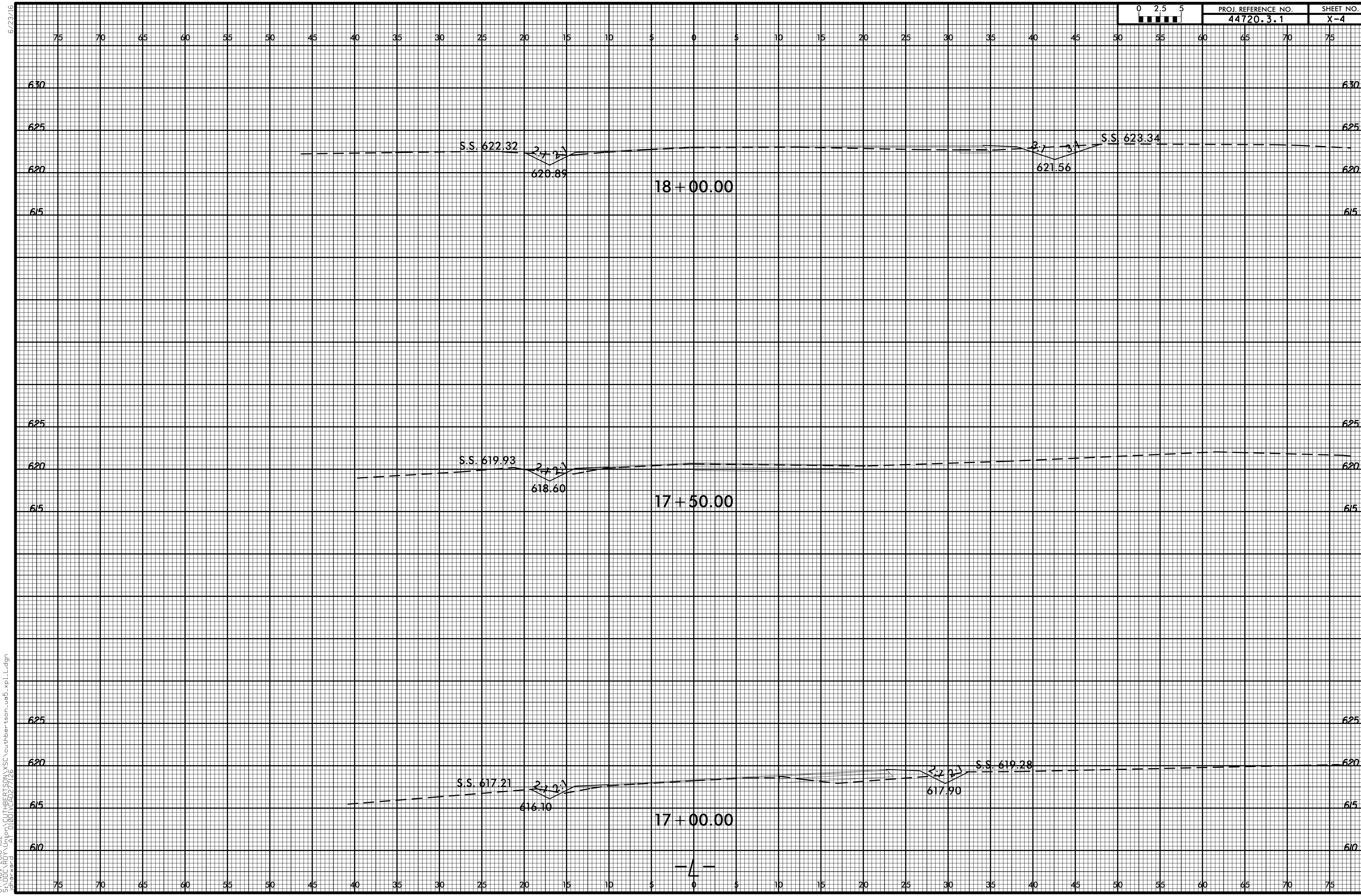
jdharward AT D10DIVCAD277126



6/23/16

07-NOV-2016 11:12
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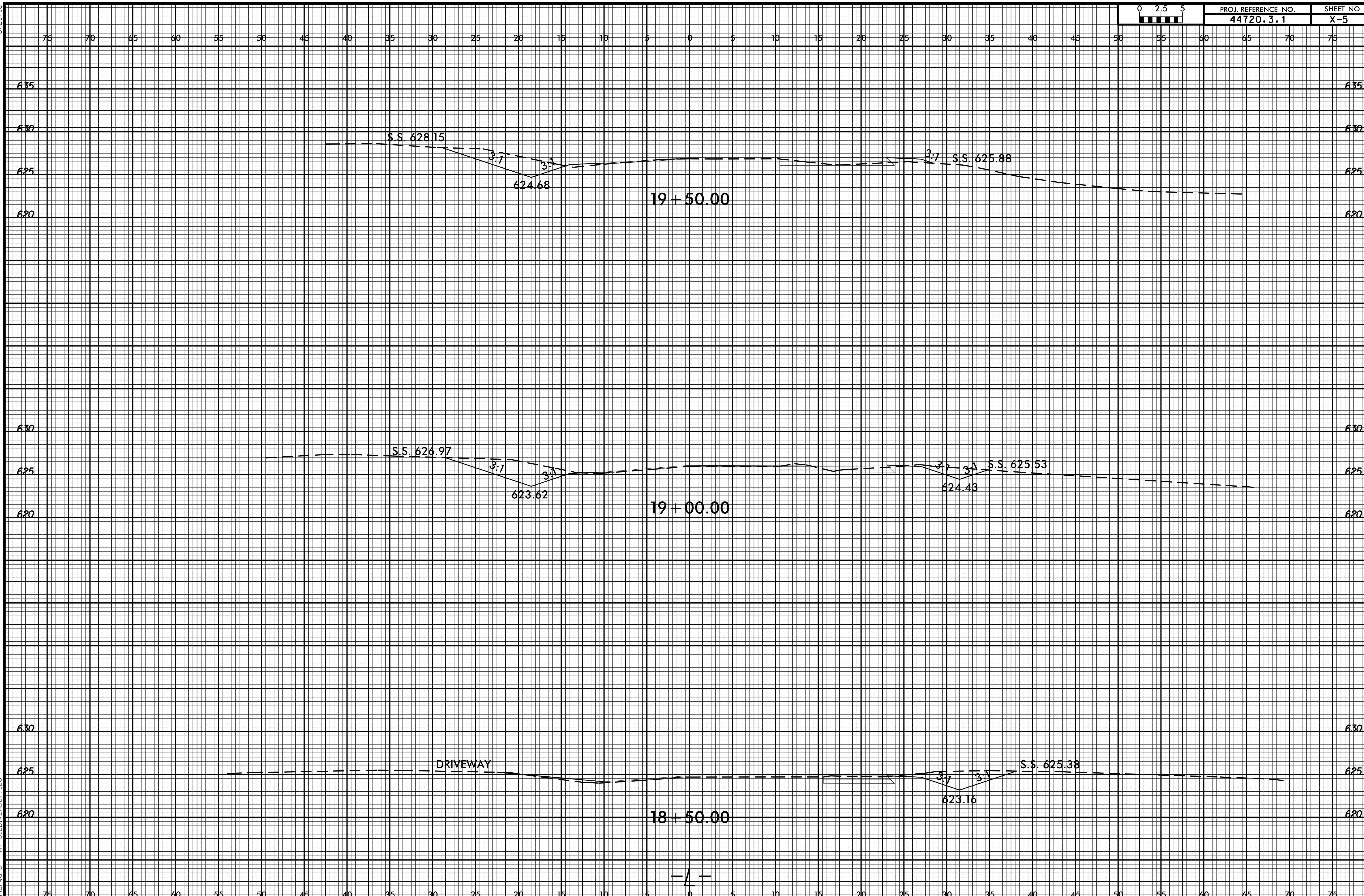
jdharward AT D10DIVCAD277126

PROJ. REFERENCE NO.	SHEET NO.
44720.3.1	X-5



6/23/16

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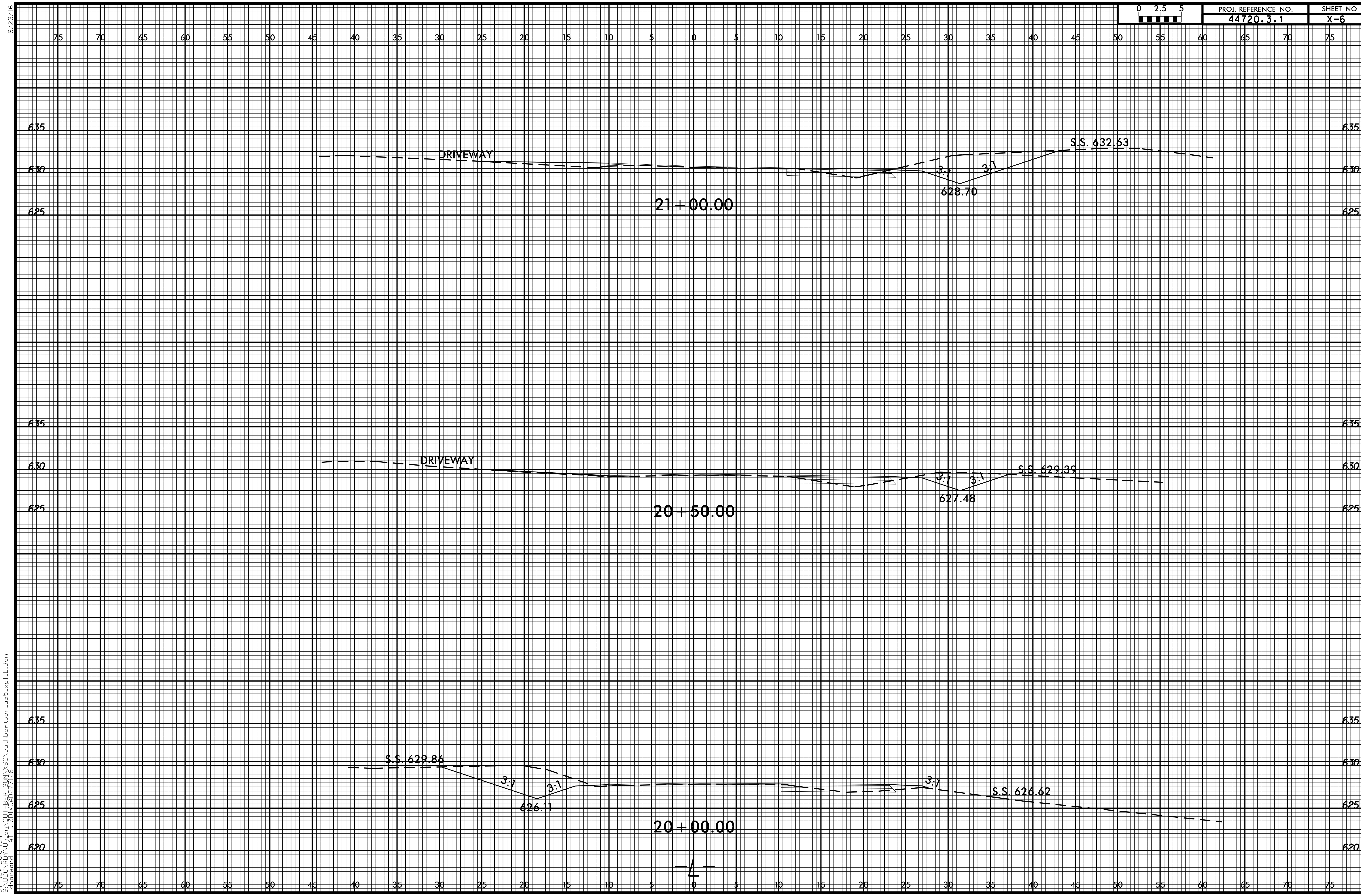
jdharward AT D10DIVCAD277126

PROJ. REFERENCE NO.	SHEET NO.
44720.3.1	X-6



-L-

6/23/16

07-NOV-2016 11:14
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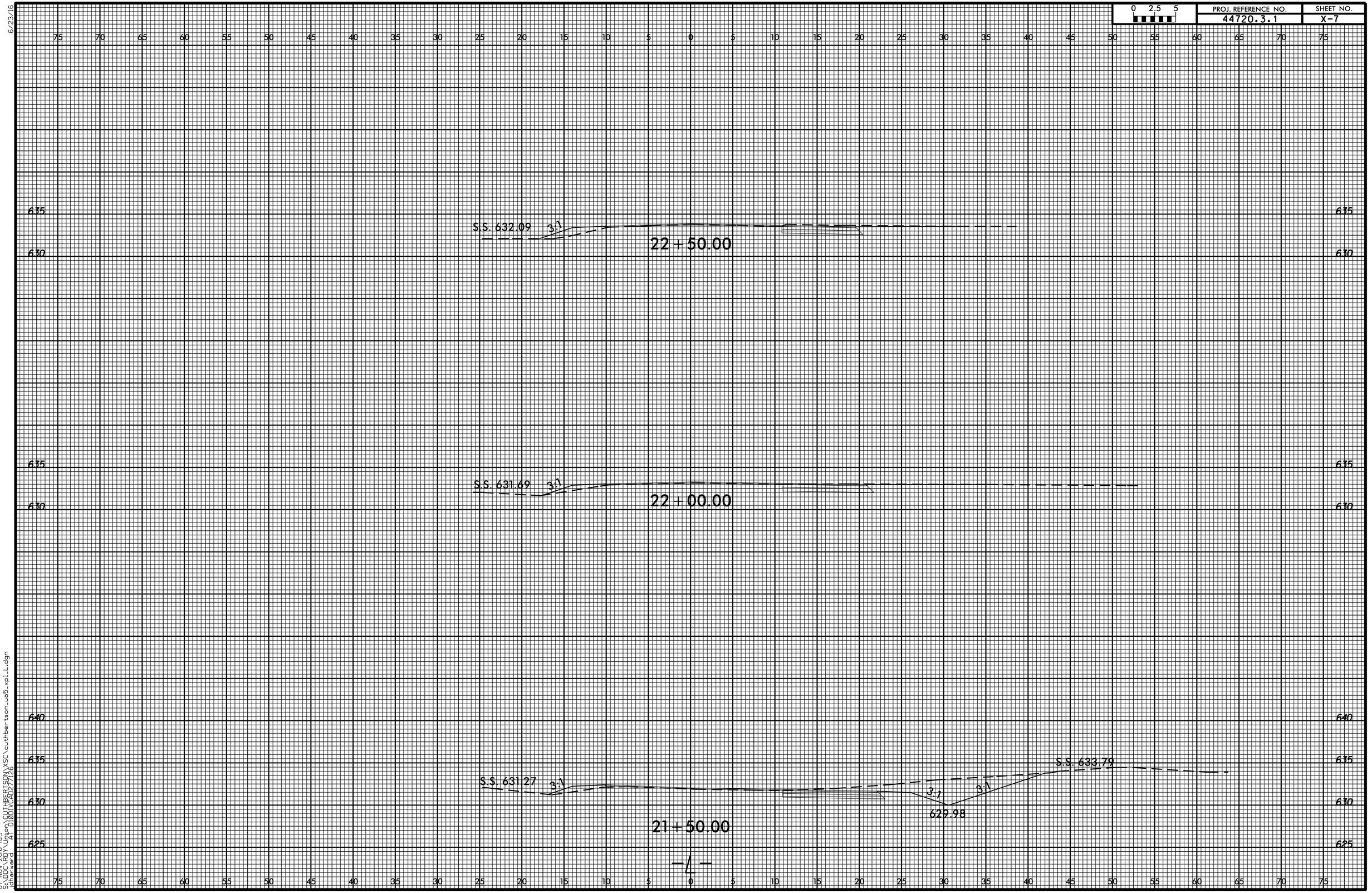
jdharward AT D10DIVCAD277126

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44720.3.1	X-7



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dhayward
41 D10DIVC4D27726

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44720.3.1	X-8

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

640
635
630

S.S. 633.71 3:1

24+00.00

640
635
630

S.S. 632.76 3:1

23+50.00

640
635
630

S.S. 632.27 3:1

23+00.00

—L—

640
635
630

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

07-NOV-2016 11:16
S:\DOCRDY\Union\OUTHERTSONX\SC\cuthbertson_ua5_xpl_L.dgn
dhayward 41 D10IVC4D27726

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44720.3.1	X-9

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

645
640
635

S.S. 638.57 3:1 DRIVEWAY

25+50.00

640
635
630

S.S. 635.05 3:1 DRIVEWAY

25+00.00

640
635
630

S.S. 634.00 3:1

24+50.00

—L—

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

07-NOV-2016 11:17
S:\DOCROOT\Union\OUTHERTSONVSC\cuthbertson_ua5_xpl_L.dgn
dhayward A1 D10D1VC4D27726

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44720.3.1	X-10

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

645
640
635

26+50.00

S.S. 640.13 3.1 S.S. 639.34

26+00.00

07-NOV-2016 11:18
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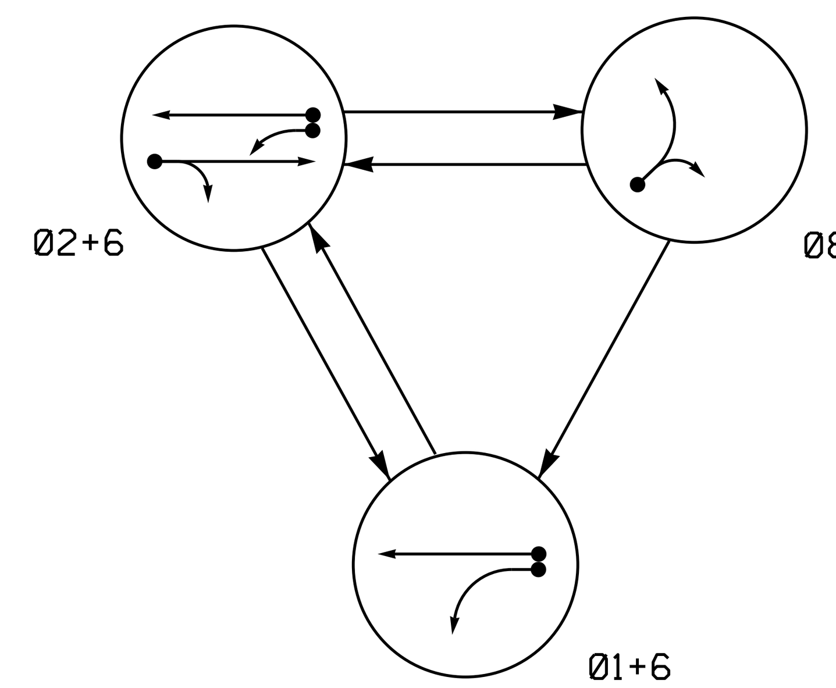
dhayward
41 D10D1VC4D27726

PROJECT REFERENCE NO.	SHEET NO.
SS-4910 CC	Sig. 1.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

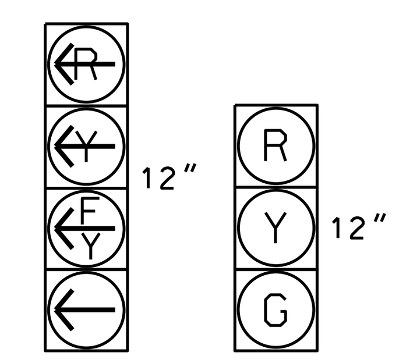
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	Ø2+6	Ø8	FLASH
11	←	← F/Y	← R	← Y
21, 22	R	G	R	Y
61, 63, 63	G	G	R	Y
81, 82	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



11

21, 22
61, 62, 63
81, 82

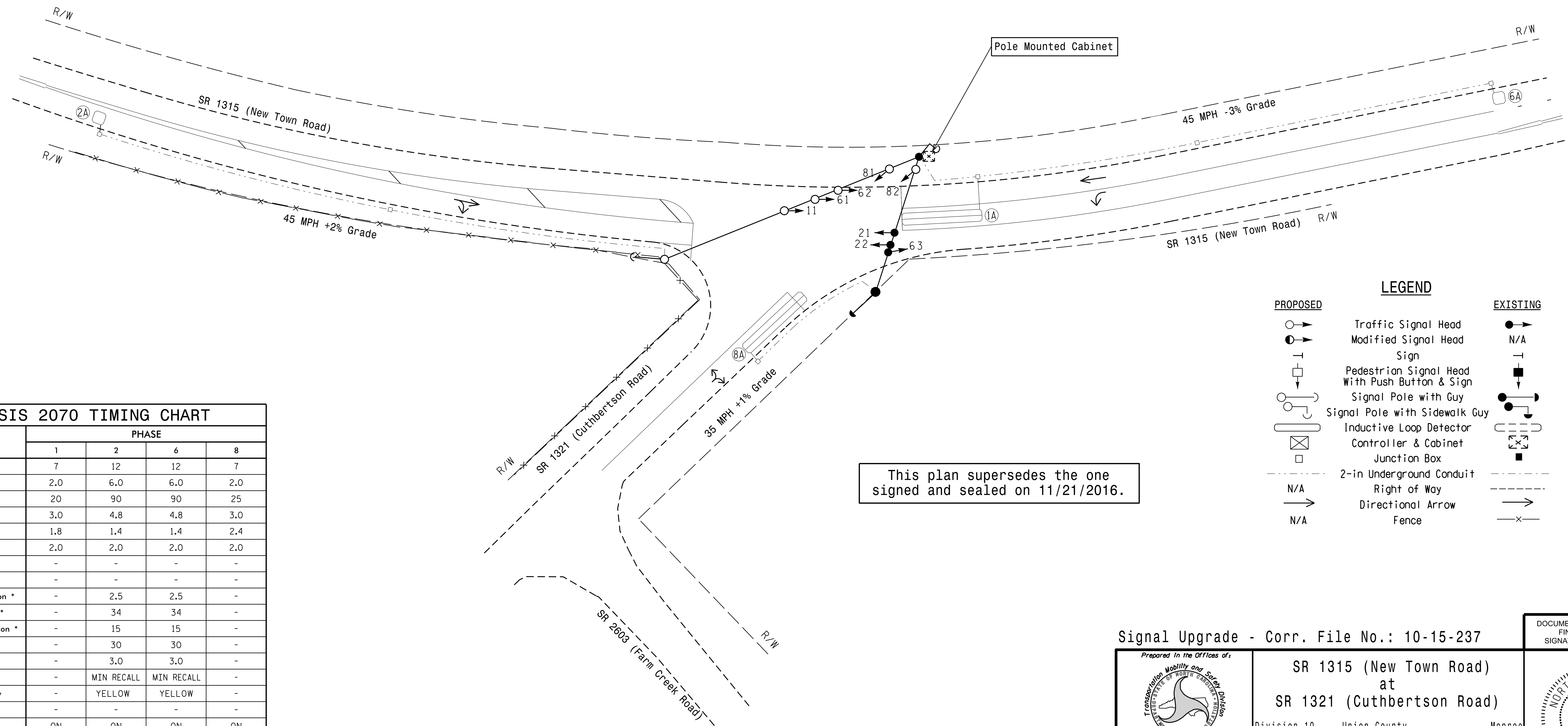
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
					6	Y	Y	Y	-	3	-	-
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
6A	6X6	300	4	Y	6	Y	Y	-	-	-	-	-
8A	6X40	+5	2-4-2	Y	8	Y	Y	-	-	10	-	-

3 Phase
Fully Actuated
Isolated

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Program controller to operate using FYA compact mode.
5. Set all detector units to presence mode.



This plan supersedes the one signed and sealed on 11/21/2016.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Fence	

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	6	8
Min Green 1 *	7	12	12	7
Extension 1 *	2.0	6.0	6.0	2.0
Max Green 1 *	20	90	90	25
Yellow Clearance	3.0	4.8	4.8	3.0
Red Clearance	1.8	1.4	1.4	2.4
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	2.5	2.5	-
Max Variable Initial *	-	34	34	-
Time Before Reduction *	-	15	15	-
Time To Reduce *	-	30	30	-
Minimum Gap	-	3.0	3.0	-
Recall Mode	-	MIN RECALL	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	YELLOW	-
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade - Corr. File No.: 10-15-237

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1315 (New Town Road) at SR 1321 (Cuthbertson Road)

Division 10 Union County Monroe

PLAN DATE: April 2018	REVIEWED BY: T.J. Williams
PREPARED BY: R.N. Zinser	REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 30 1"=30'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 024393 ENGINEER TIMOTHY J. WILLIAMS

DocuSigned by: T. J. Williams 4/2/2018
DATE

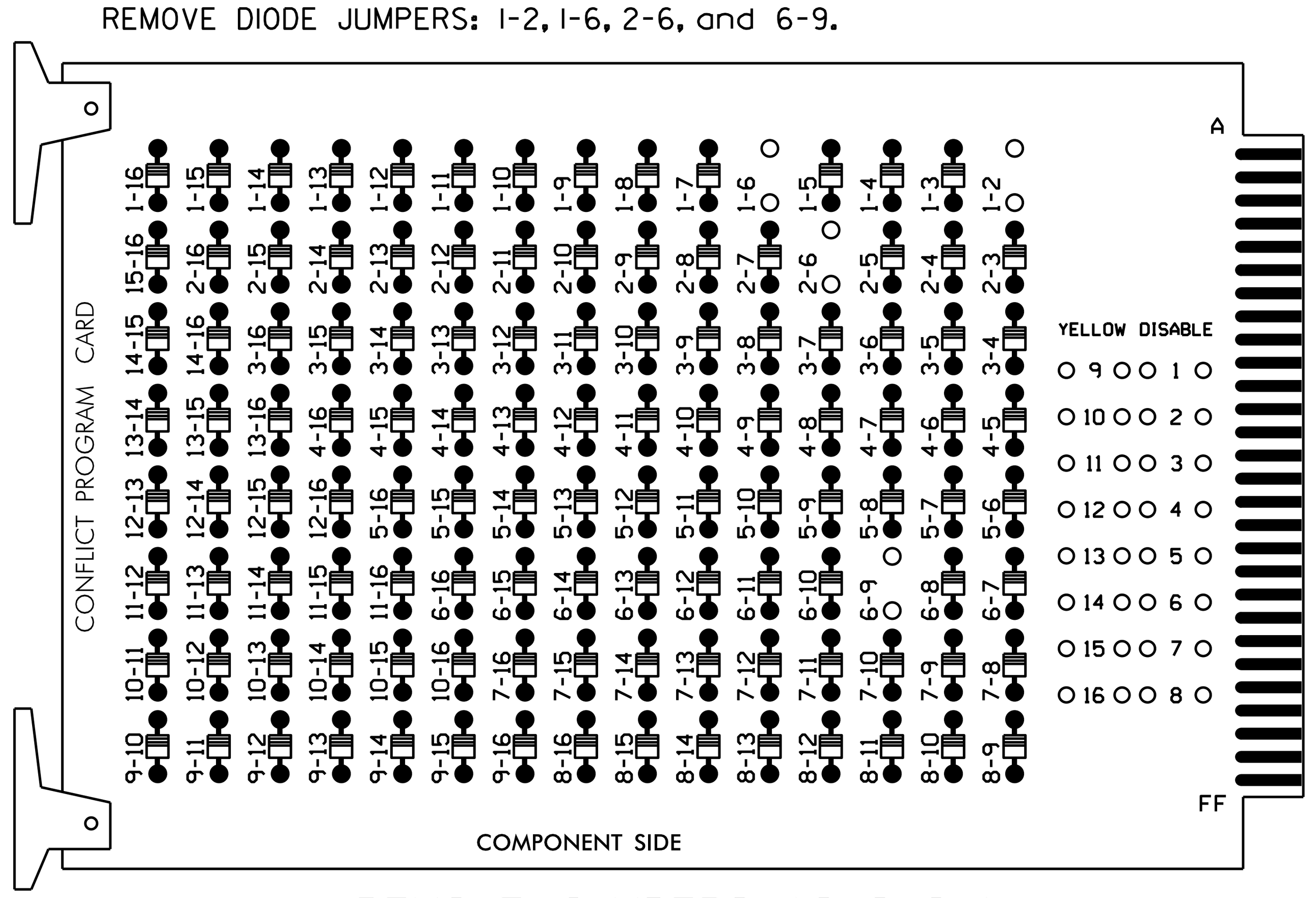
SIG. INVENTORY NO. 10-2054

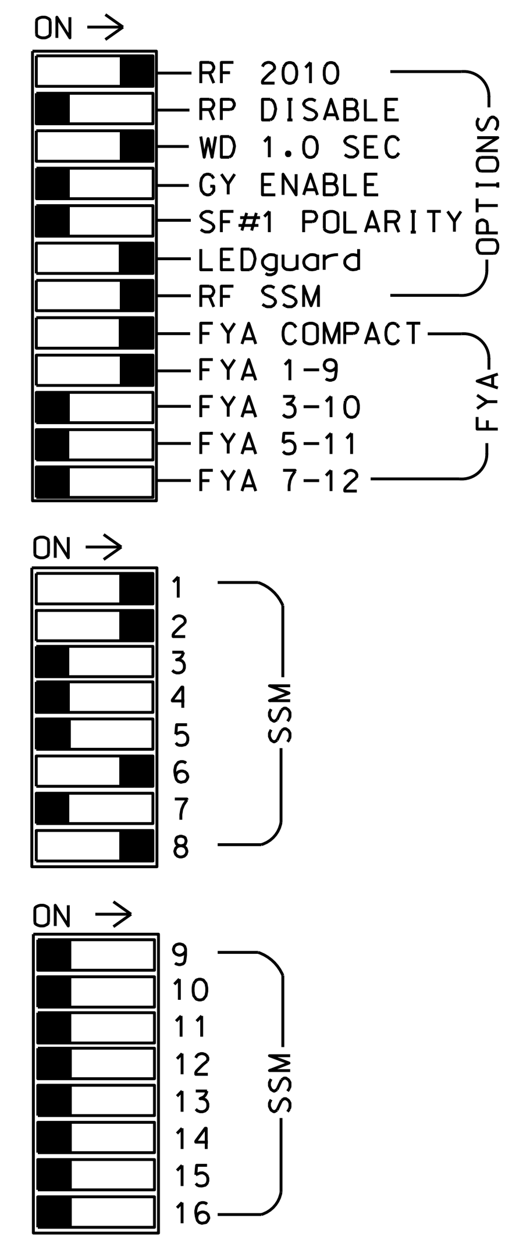
EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

ON OFF
WD ENABLE
SW2

REMOVE DIODE JUMPERS: 1-2, 1-6, 2-6, and 6-9.





REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.
3. ! Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet. !

■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 3,4, 5,7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.

EQUIPMENT INFORMATION

CONTROLLER..............2070
CABINET.................336
SOFTWARE................ECONOLITE OASIS
CABINET MOUNT...........POLE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED......S1,S2,S2P,S6,S8
PHASES USED.............1,2,6,8
OVERLAP "A".............1+2
OVERLAP "B".............NOT USED
OVERLAP "C".............NOT USED
OVERLAP "D".............NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P		S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	OLA	2	1 GRN	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	11 ★	21,22	11 ★	NU	NU	NU	NU	NU	61,62 63	NU	NU	81,82	NU
RED		128							134			107	
YELLOW		129							135			108	
GREEN		130							136			109	
RED ARROW	125												
YELLOW ARROW	126												
FLASHING YELLOW ARROW	127												
(hand)													
GREEN ARROW			114										
(walk)				✳									

NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail on sheet 2.

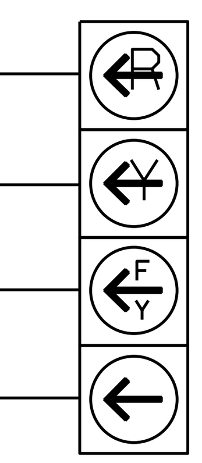
★ See pictorial of head wiring in detail below.

NOTE: Load Switches S1 and S2P require output remapping. See sheet 3 of this electrical detail for instructions.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)

OLA RED (125) (LOAD SWITCH S1-RED)
OLA YELLOW (126) (LOAD SWITCH S1-YELLOW)
OLA GREEN (127) (LOAD SWITCH S1-GREEN)
Ø1 GREEN (114) (LOAD SWITCH S2P-YELLOW)



11

NOTE

The sequence display for this signal requires special logic and output remapping. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

FILE "I"		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	U	Ø 1 1A	Ø 2 2A	SLOT	SLOT	SLOT	Ø 6 6A	SLOT	Ø 8 8A	SLOT	SLOT	SLOT	SLOT	SLOT	FS DC ISOLATOR
	L	⊗ WIRED INPUT	NOT USED	EMPTY	EMPTY	EMPTY	NOT USED	EMPTY	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	ST DC ISOLATOR

EX.: 1A, 2A, ETC. = LOOP NO.'S

⊗ Wired Input - turn off Channel 2.

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A [1]	TB21-1,2	I1U	56	18	1	1	Y	Y			15
	-	I1L	47	9	22	6	Y	Y	Y		3
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
8A	TB22-1,2	I8U	42	4	8	8	Y	Y			10

[1] Add jumper from I1-F to I1-W, on rear of input file.

INPUT FILE POSITION LEGEND: I2L

FILE I
SLOT 2
LOWER

PED YELLOW CONFLICT MONITOR WIRING DETAIL

(make cabinet wiring changes as shown below)

In order to use FYA COMPACT mode with the 2018ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired to the conflict monitor as follows: From 2 PY (field term. 114) to chan. 9 green (monitor pin 13).

Follow the instructions below to make the appropriate connections:

STEP 1: Fold down rear panel of output file.

STEP 2: Find unused wiring harness from conflict monitor card edge connector (which should be tied and bundled together).

STEP 3: Find the conductors that correspond to the following conflict monitor card edge pins and solder wire to the appropriate terminal on the rear of the output file as shown below:

CMU-13 ———————— 2PY (term. 114)

NOTE: Some cabinet manufacturers use keyed connectors to accomplish this wiring configuration. If connectors are used, fold down the rear panel of the output file and find the set of 3 keyed connectors and connect them as shown below:

1-2PY	1-CMU-13
2-4PY	2-CMU-16
3-6PY	3-CMU-R
4-8PY	4-CMU-U

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2054
DESIGNED: April 2018
SEALED: 4/2/2018
REVISED: N/A

Electrical Detail - Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1315 (New Town Road)
at
SR 1321 (Cuthbertson Road)

Prepared in the Offices of: Transportation Mobility and Safety Division, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

Division 10 | Union County | Monroe

PLAN DATE: April 2018 | REVIEWED BY:
PREPARED BY: S. Armstrong | REVIEWED BY:

REVISIONS | INIT. | DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 4/4/2018
DATE

SIG. INVENTORY NO. 10-2054

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
 LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #14 ON
SET OUTPUT  ASSIGNMENT #15 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
 LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #16 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
 LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #15 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 14 = Overlap A Red
OUTPUT 15 = Overlap A Yellow
OUTPUT 16 = Overlap A Green
OUTPUT 33 = Phase 1 Green

Note: All outputs shown above have been remapped. See sheet 3 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:          ¦12345678910111213141516
VEH OVL PARENTS:¦XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

← NOTICE GREEN FLASH

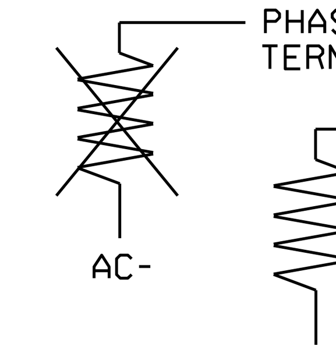
OVERLAP PROGRAMMING COMPLETE

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



IMPORTANT! Remove resistor as shown above, if present.

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2054
DESIGNED: April 2018
SEALED: 4/2/2018
REVISED: N/A

Electrical Detail - Sheet 2 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1315 (New Town Road)
at
SR 1321 (Cuthbertson Road)

Division 10 Union County Monroe

PLAN DATE: April 2018	REVIEWED BY:
PREPARED BY: S. Armstrong	REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of:
ITS & Signals Management Section, Transportation Mobility and Safety Division
750 N.Greenfield Pkwy,Garner,NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 4/4/2018 DATE

SIG. INVENTORY NO. 10-2054

03-APR-2018 12:17
S:*ITS&SU*ITS Signals*Workgroups*Sig Man*Armstrong*102054_sm_ele_xxx.dgn
sarmstrong

PROJECT REFERENCE NO.	SHEET NO.
SS-4910 CC	Sig. 1.3

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL
FOR LOADSWITCHES S1 AND S2P (SIGNAL HEAD 11)

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN
'1' (OUTPUT ASSIGNMENTS).
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "14"

```
PAGE:1  C1 PIN:16  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................14
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................Y
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1  C1 PIN:16  VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN).....0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1  C1 PIN16  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................14
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................_
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

PRESS "+" KEY FOR OUTPUT 15

```
PAGE:1  C1 PIN:17  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................15
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................Y
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1  C1 PIN:17  VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN).....1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:17  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................15
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................_
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

PRESS "+" KEY FOR OUTPUT 16

```
PAGE:1  C1 PIN:18  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................16
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................Y
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

ENTER A "Y" FOR VEHICLE OVERLAP.

```
PAGE:1  C1 PIN:18  VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN).....2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:18  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................16
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................_
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................Y
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

PRESS "+" UNTIL OUTPUT 33 IS REACHED.

```
PAGE:1  C1 PIN:35  NOT ENABLED
OUTPUT ASSIGNMENT #.................33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED..........................Y
VEHICLE PHASE........................Y
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

ENTER A "Y" FOR VEHICLE PHASE.

```
PAGE:1  C1 PIN:35  NOT ENABLED
SELECT VEHICLE PHASE (1-16).........1
SELECT COLOR(0=RED,1=YEL,2=GRN).....2
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:35  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................._
VEHICLE PHASE........................Y
PEDESTRIAN PHASE....................._
VEHICLE OVERLAP......................_
PEDESTRIAN OVERLAP..................._
WATCHDOG............................._
DETECTOR RESET......................._
ADVANCE BEACON......................._
OUT OF PHASE FLASHER................._
CONTROLLER FLASH....................._
RUN FREE............................._
RESERVED............................._
PREEMPT.............................._
SOFT PREEMPT........................._
ANY PREEMPT.........................._
COORDINATION PLAN...................._
OFFSET..............................._
PHASE CHECK.........................._
PHASE ON............................._
PHASE NEXT..........................._
```

OUTPUT PROGRAMMING FOR HEAD 11 COMPLETE

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2054
DESIGNED: April 2018
SEALED: 4/2/2018
REVISED: N/A

Electrical Detail - Sheet 3 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

ITS & Signals Management Section, Transportation Mobility and Safety Division, State of North Carolina Department of Transportation

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1315 (New Town Road)
at
SR 1321 (Cuthbertson Road)

Division 10 | Union County | Monroe

PLAN DATE: April 2018	REVIEWED BY:
PREPARED BY: S. Armstrong	REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036880 KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 4/4/2018 DATE

SIG. INVENTORY NO. 10-2054

03-APR-2018 12:17
S:*ITS&SU*ITS Signals*Workgroups*Sig Man*Armstrong*102054_sm_ele_xxx.dgn
sarmstrong