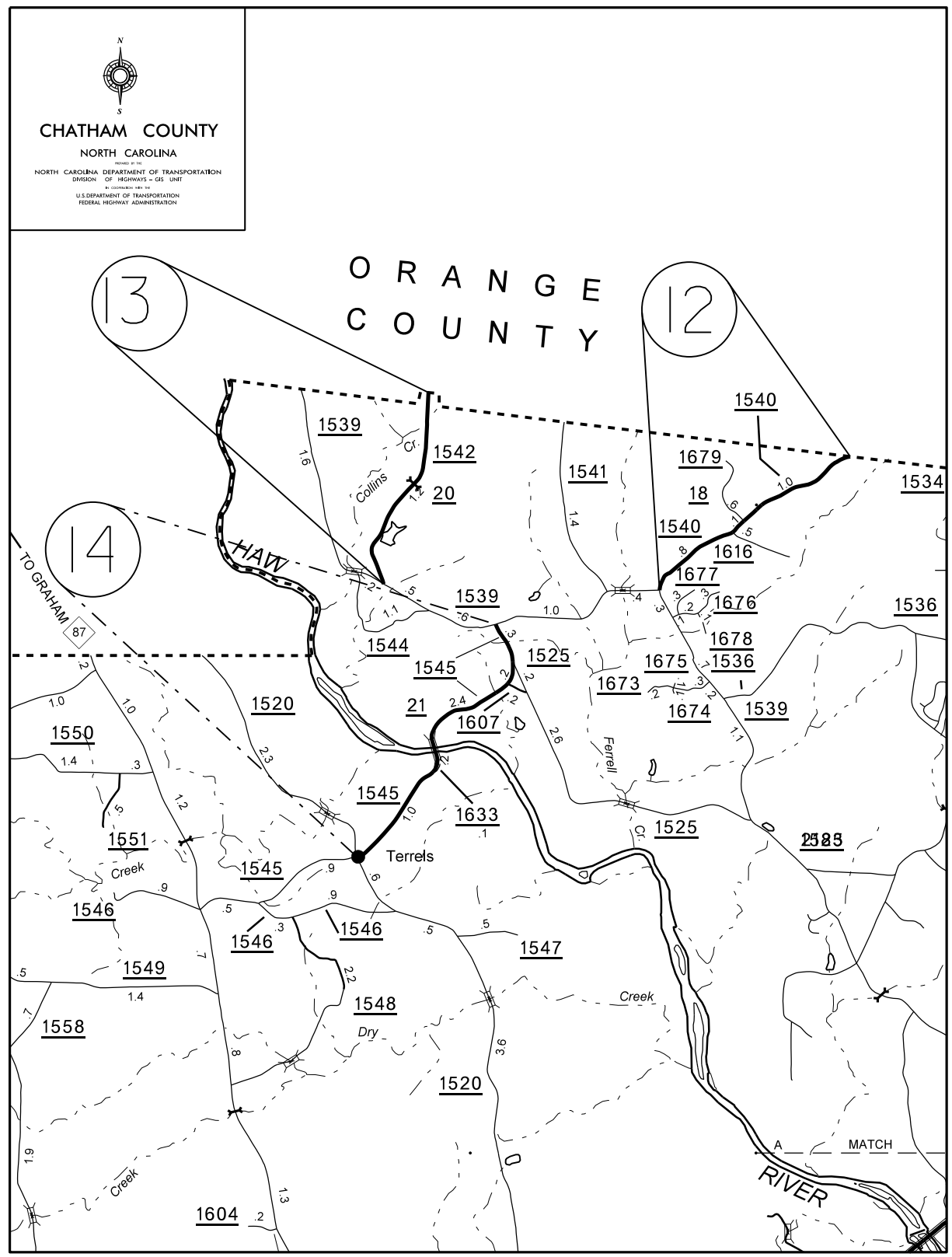


CHATHAM COUNTY

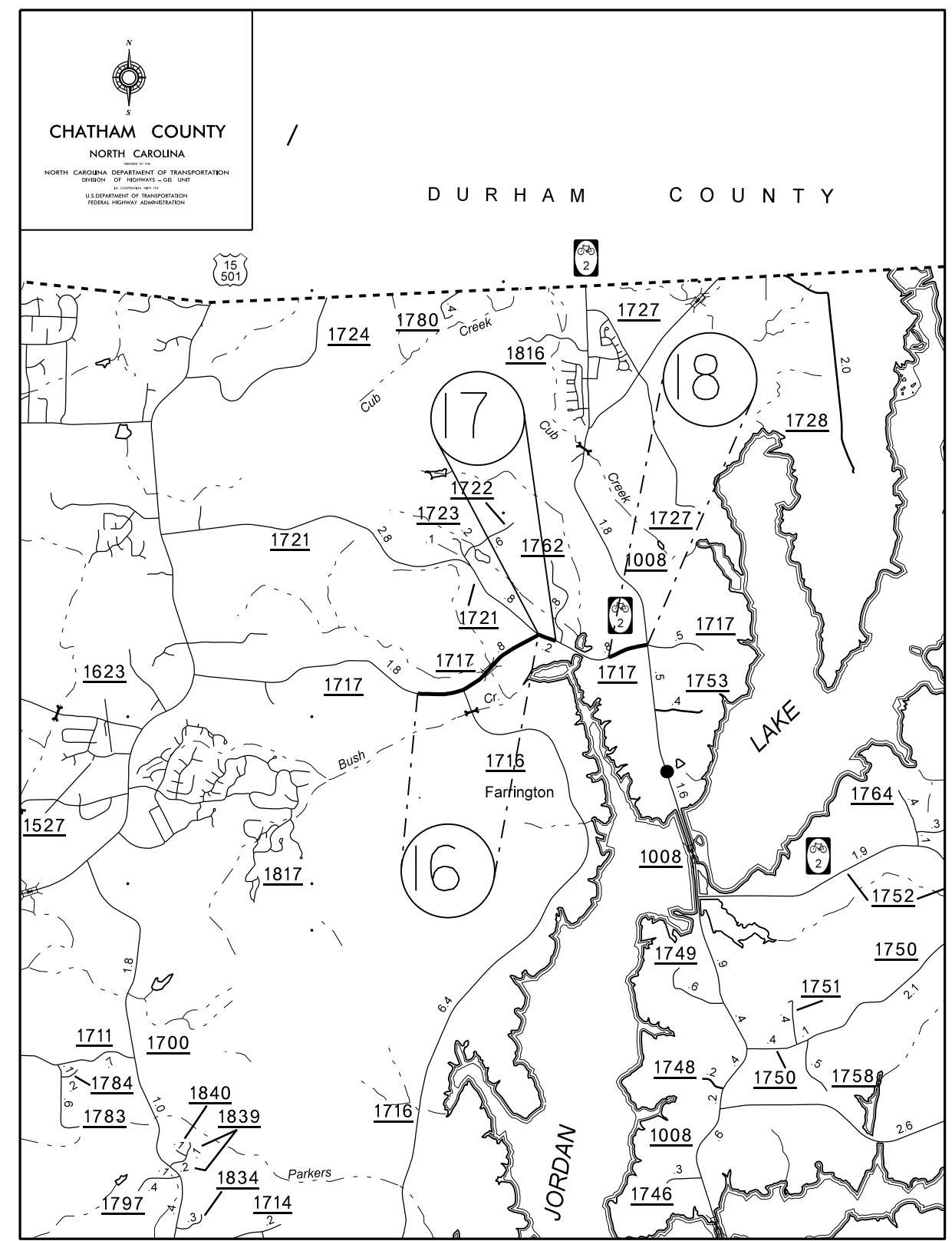
PRIMARY AND SECONDARY RESURFACING MAP

SYSTEMS DESIGN CONSULTANTS
 10000 W. HARRIS CREEK RD.
 SUITE 100
 RALEIGH, NC 27617
 919-871-1111
 WWW.SDCON.COM

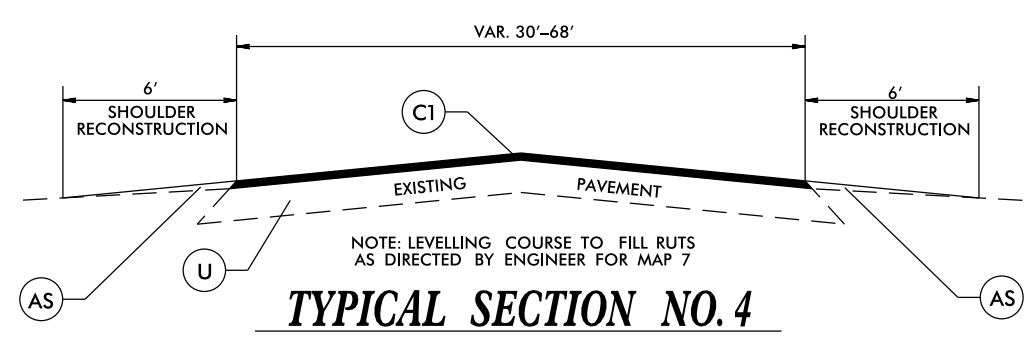
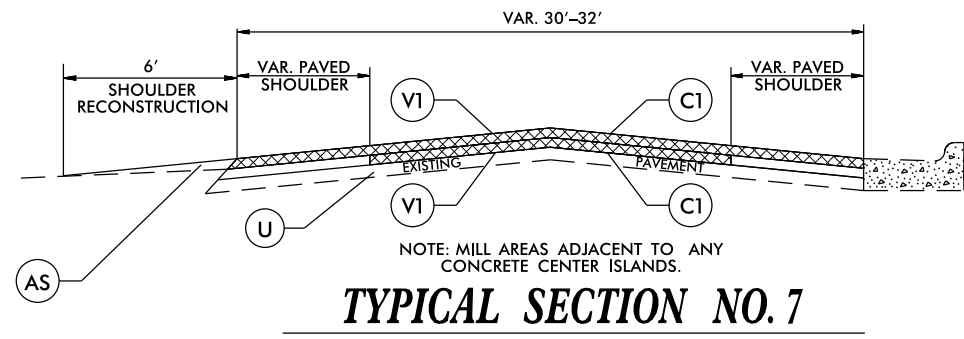
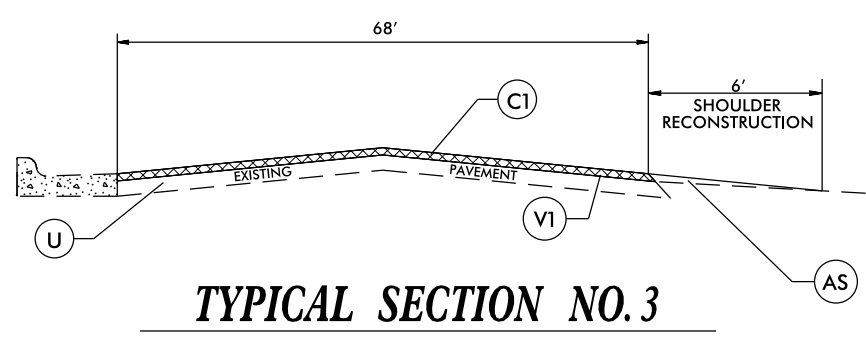
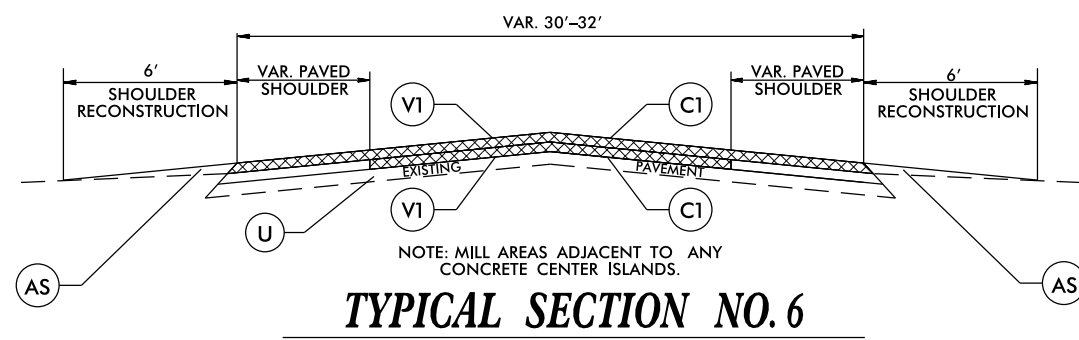
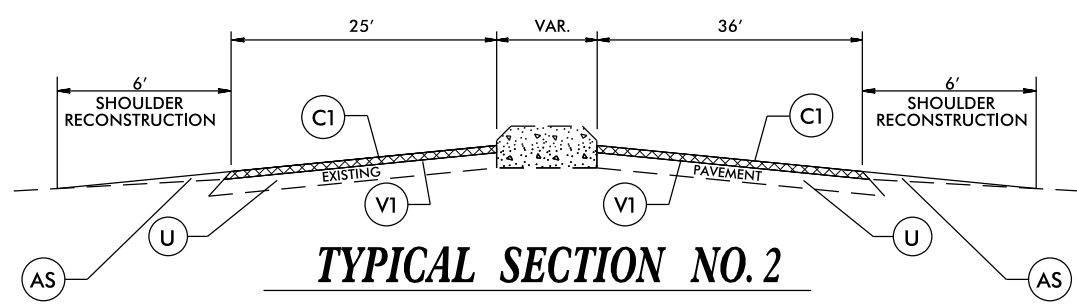
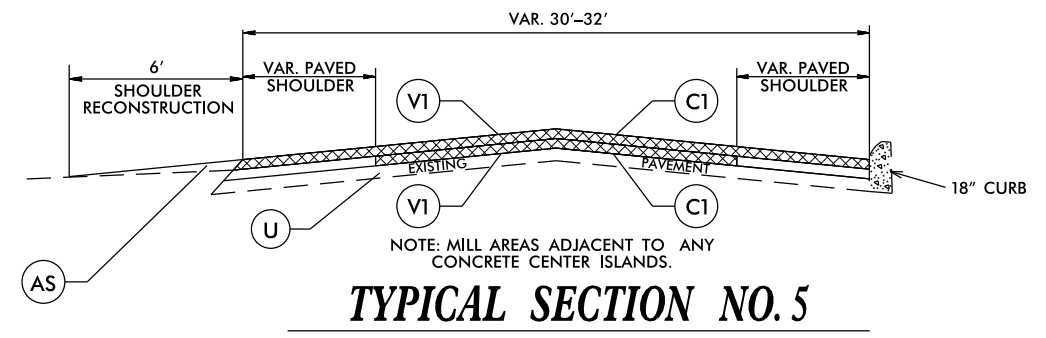
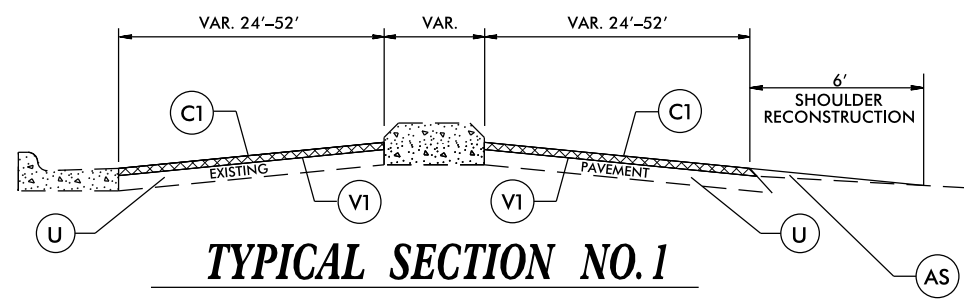
MAPS #12, #13 & #14



MAPS #16 - #18

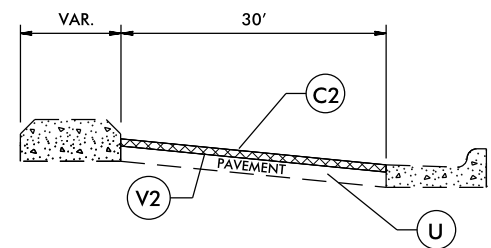


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JOB: 2018CPT.08.01.10191
SHEET: 3 OF 3

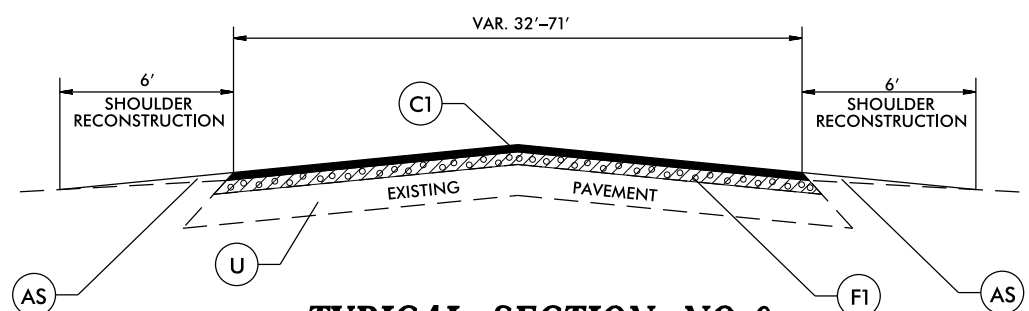


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS PER SQ. YD.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C4	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 2.0" IN DEPTH
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
F2	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #78M STONE
AS	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.

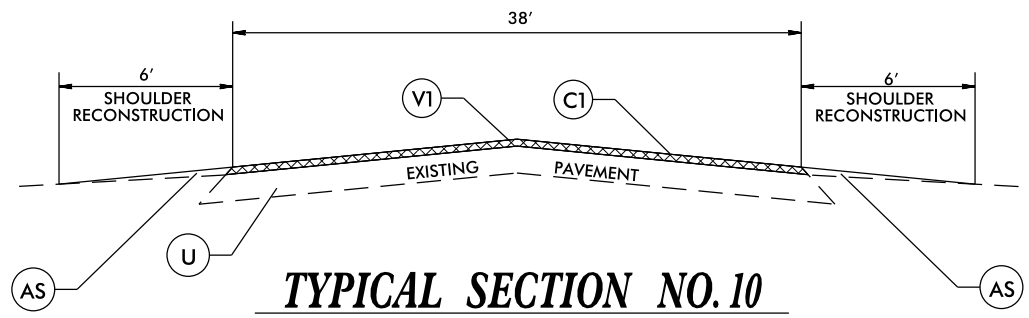
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chatham



TYPICAL SECTION NO. 8

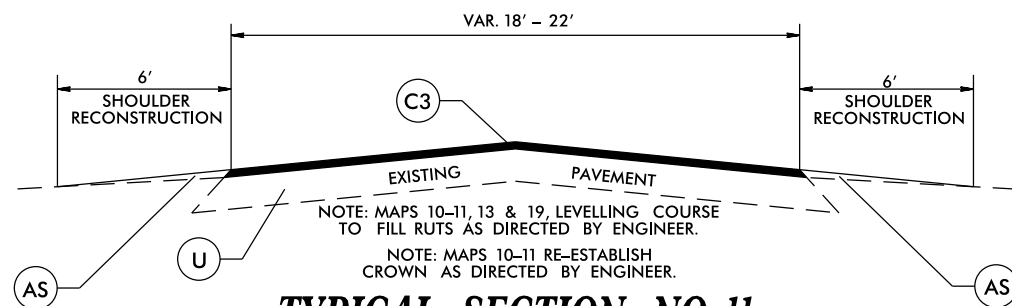


TYPICAL SECTION NO. 9



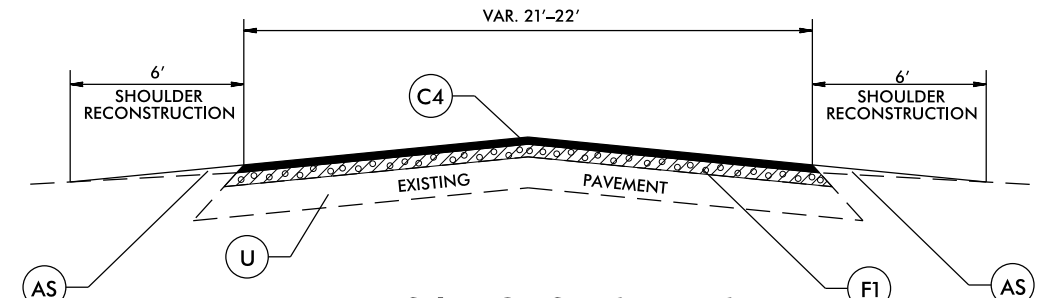
TYPICAL SECTION NO. 10

NOTE: MAP 9 INCLUDES MILLING AND RESURFACING CROSSOVERS AS DIRECTED BY ENGINEER.

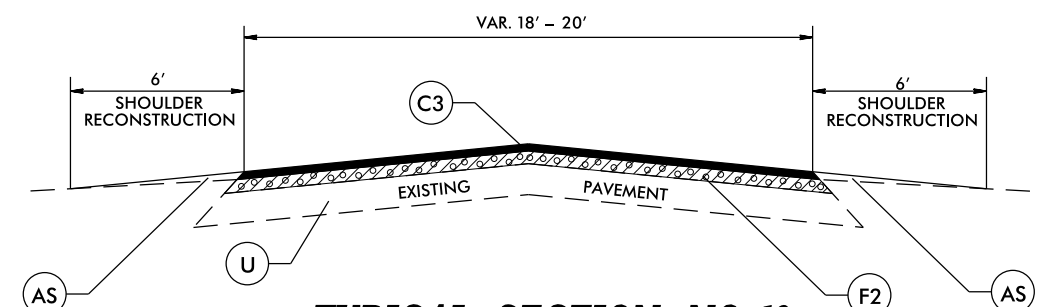


TYPICAL SECTION NO. 11

NOTE: MAPS 10-11, 13 & 19, LEVELLING COURSE TO FILL RUTS AS DIRECTED BY ENGINEER.
NOTE: MAPS 10-11 RE-ESTABLISH CROWN AS DIRECTED BY ENGINEER.



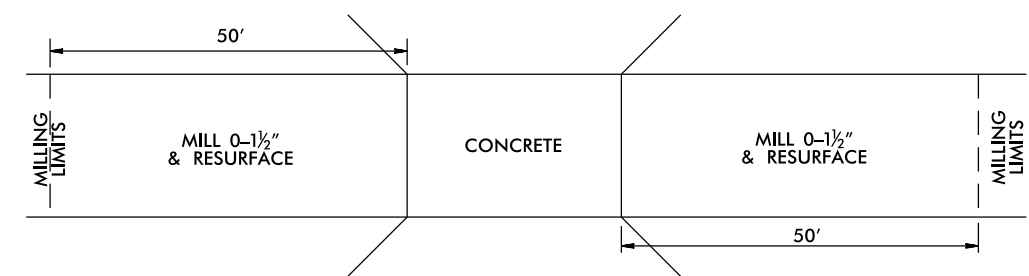
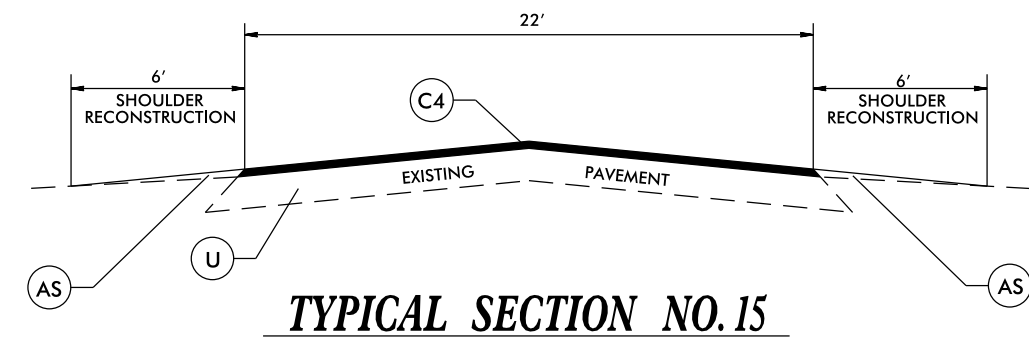
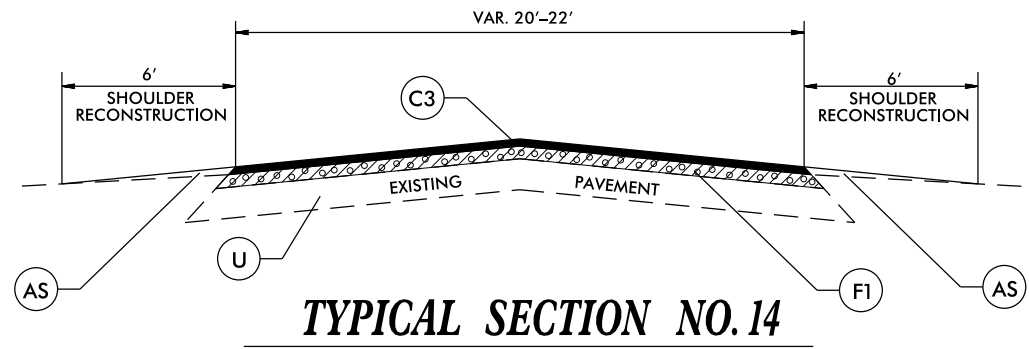
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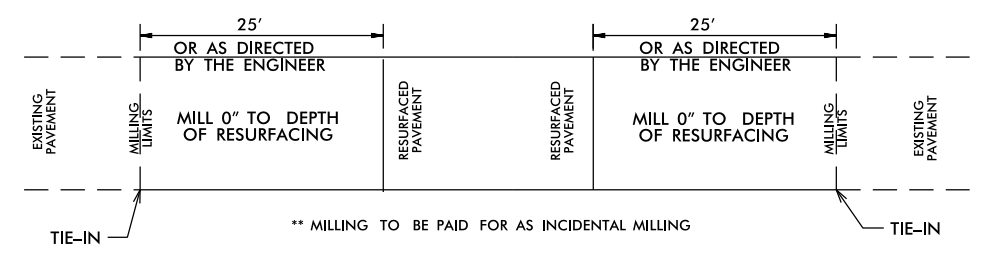
TYPICAL SECTION NO. 13

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS PER SQ. YD.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C4	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 2.0" IN DEPTH
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
F2	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #78M STONE
AS	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.

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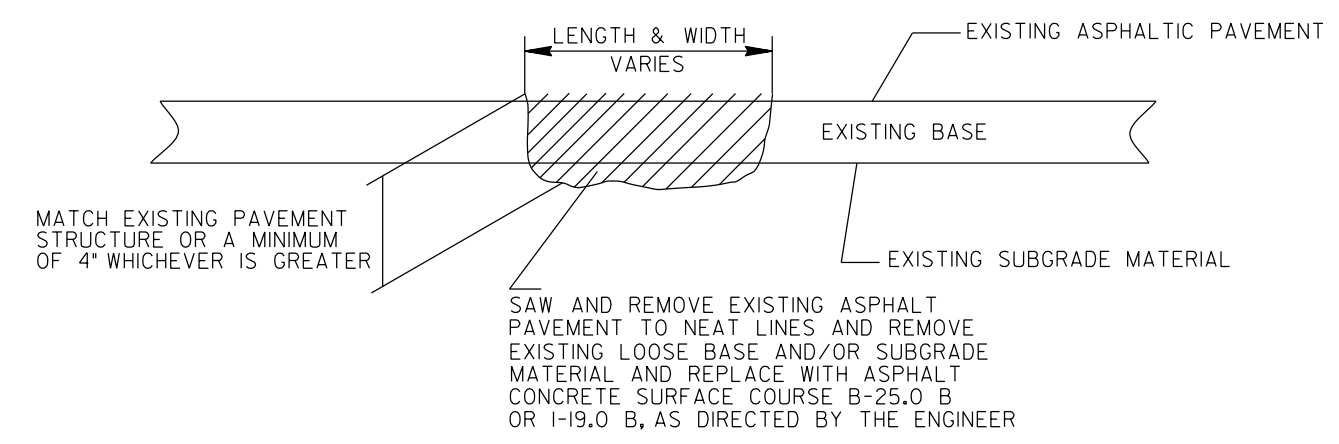


BRIDGE DRAWING FOR US 15-501 & SR 1545
USE FOR MAP #1, #2, #5 #6 & #14
USE FOR BRIDGES #484, #37, 510, #25, #489, #6 & #91
 * MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING



DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

DETAIL NO. 1

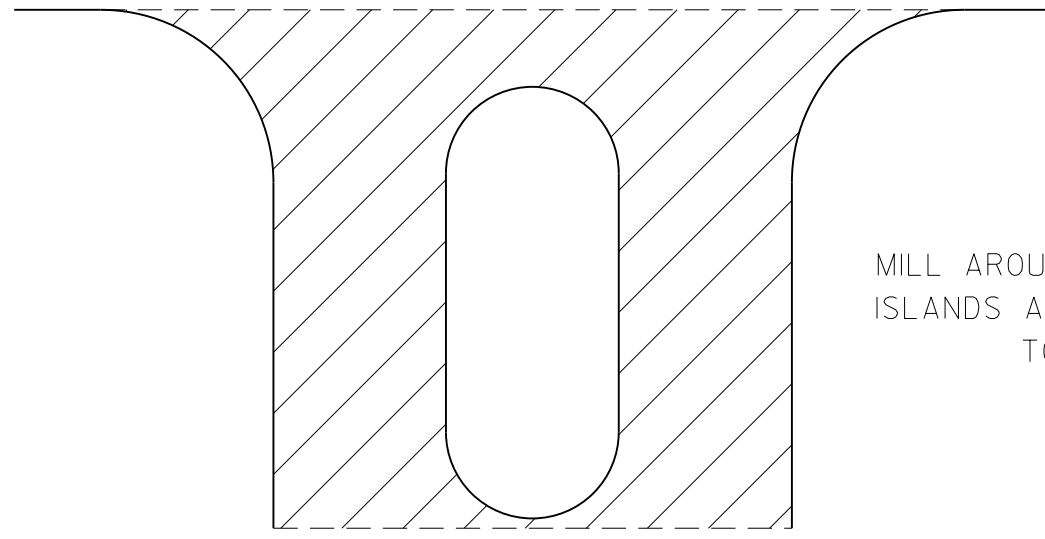


PAVEMENT TIE-IN DETAIL

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS PER SQ. YD.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C4	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 2.0" IN DEPTH
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
F2	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #78M STONE
AS	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.

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 01/01/2017 10:41:00 AM



MILL AROUND CENTERLINE CONCRETE ISLANDS AND PAVE BACK ACCORDING TO TABLE AT RIGHT

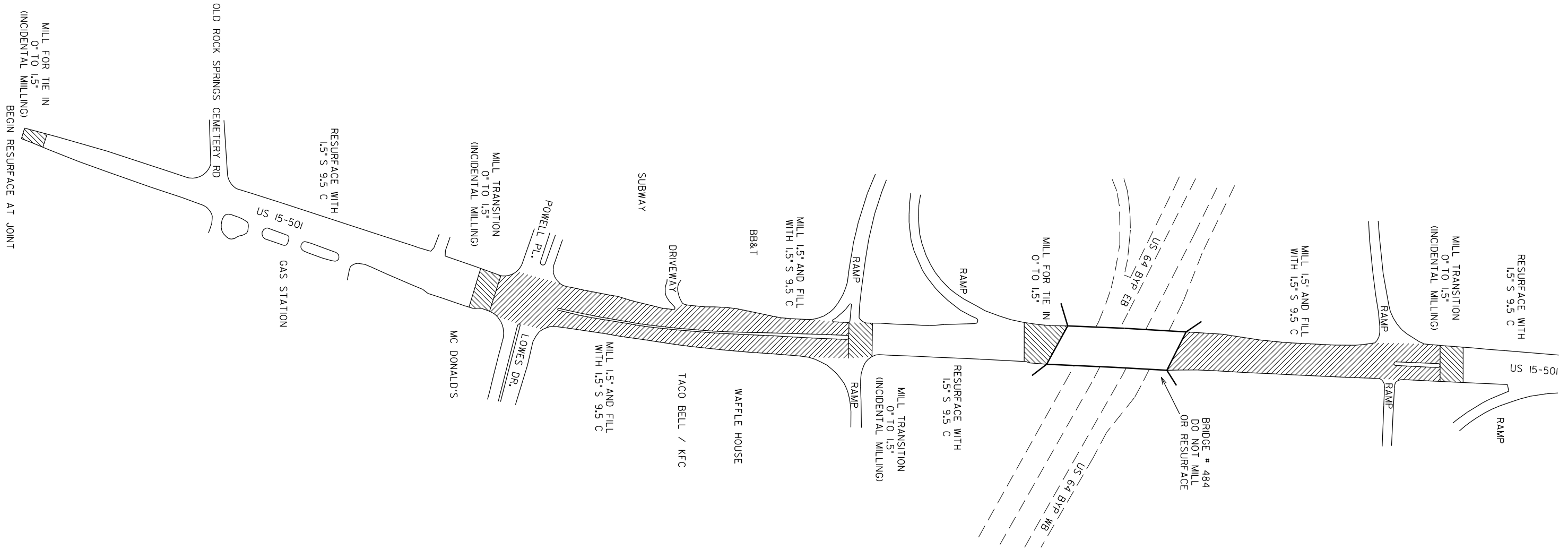
NOTES:

- SEQUENCE FOR MAPS #2 & #5
- 1) MILL 1.5" ENTIRE ROADWAY (INCLUDING THROUGH LANES, BULB OUTS, TURNLANES CROSSOVERS AND PAVED SHOULDERS)
 - 2) MILL 1.5" AND FILL 1.5" S9.5C THROUGH LANES ONLY
 - 3) OVERLAY ENTIRE ROADWAY (SAME AREAS AS IN NUMBER 1) WITH 1.5" S9.5C

MAP #9
*CROSSOVER TREATMENT
MILL 1.5", 1.5" S9.5C

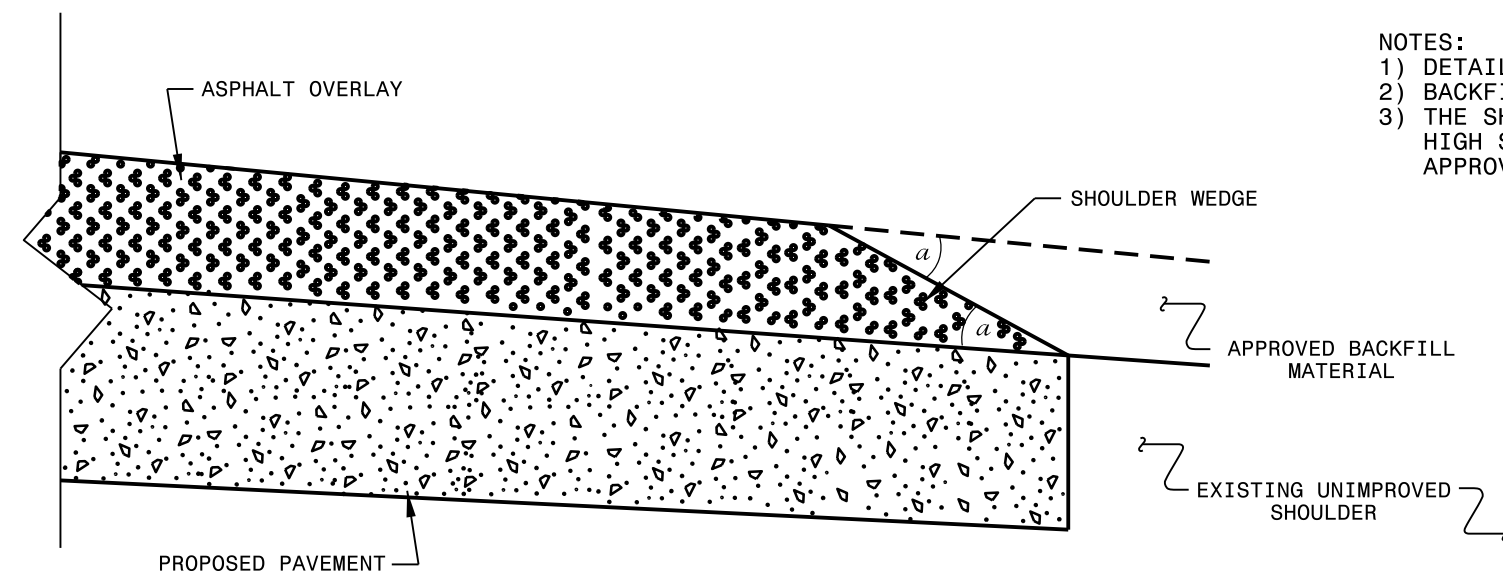
* DO NOT MILL / RESURFACE ANY NEW ASPHALT CONSTRUCTION COMPLETED BY OTHERS WITHIN PROJECT LIMITS ON US 15-50I UNLESS DIRECTED BY THE ENGINEER

MAP	ROUTE	TREATMENT	INTERSECTING ROUTE
2	US 15-50I NB	MILL 1.5", 1.5" S9.5C	SR 1713 BYNM RD (BOTH CONNECTIONS) SR 1712 E COTTON RD SR 1700 MT GILEAD CH RD SR 1718 VILLAGE WAY SR 1717 JACK BENNETT RD SR 1719 VICKERS RD HIDDEN OAKS (NON SYSTEM)
5	US 15-50I SB	MILL 1.5", 1.5" S9.5C	SR 1606 POPLAR ST SR 1528 ANDREWS STORE RD SR 1623 PRESTONWOOD DR SR 1527 MORRIS RD BIRCHWOOD DR (NON SYSTEM) SR 1619 MILES BRANCH RD SR 1523 W SMITH RD SR 1520 RUSSELL CHAPEL CH RD
6	US 15-50I	MILL 1.5", 1.5" S9.5C	SR 2217 WALTER BRIGHT RD (N AND S CONNECTIONS)
7	US 15-50I	MILL 1.5", 1.5" S9.5C	SR 2220 CENTER GROVE CH RD SR 1955 MT VIEW CH RD (BOTH CONNECTIONS)
8	US 64 EB	MILL 1.5", 1.5" S9.5C	SR 1985 E DEER RUN
9	US 64 WB	MILL 1.5", 1.5" S9.5C	SR 1890 HERITAGE DR SR 1744 BOB HORTON RD SR 1745 JOHN HORTON RD
10	SR 1527 MORRIS RD	MILL 1.25", 1.25" SF9.5A	US 15-50I

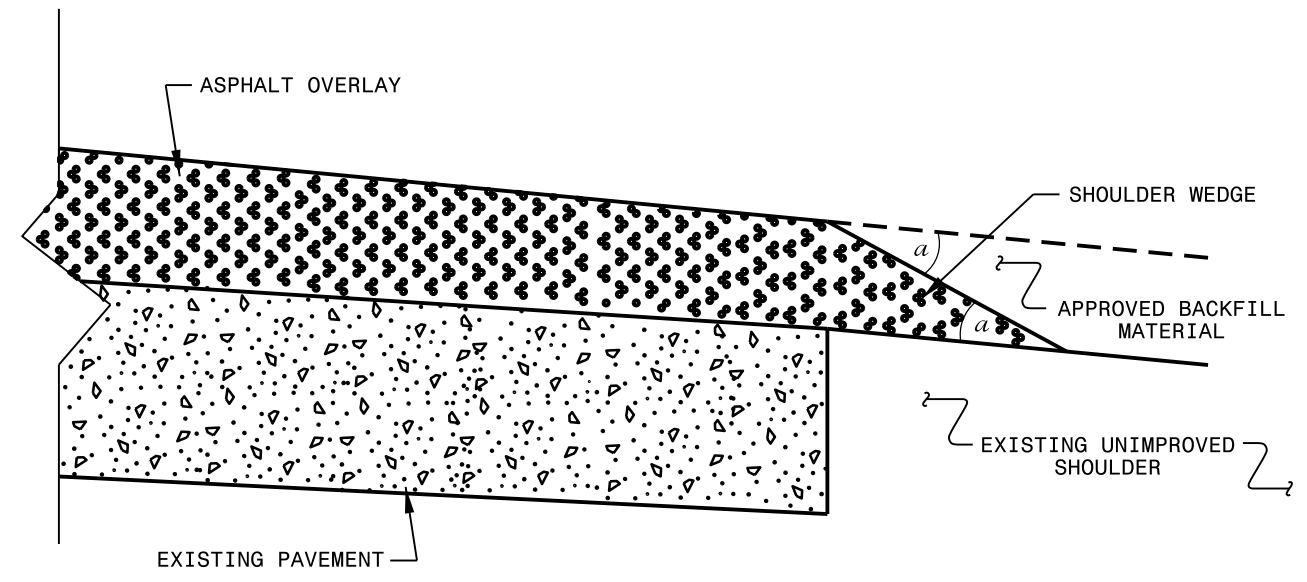


USE FOR MAP #1
US 15-501

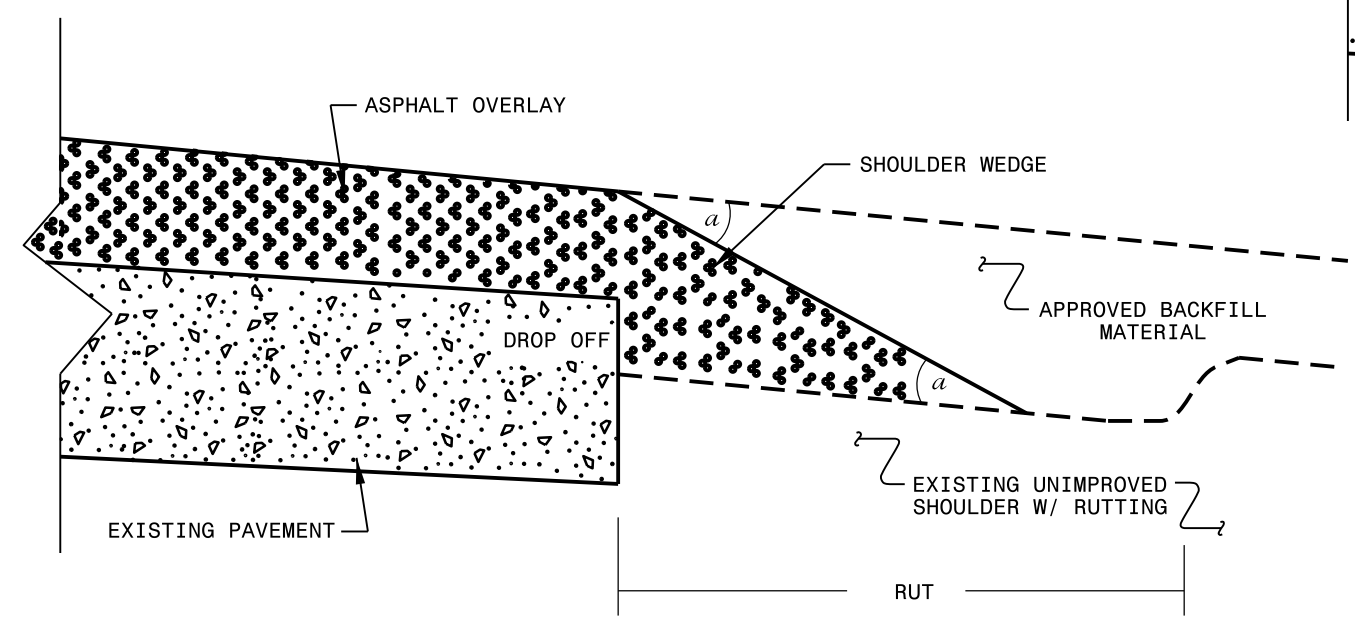
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT			
Office 919-707-6950		FAX 919-250-4119	
SHOULDER WEDGE DETAILS			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 2/2/16		
CHECKED BY:	DATE:		
FILE SPEC.: szusr/details/stand/shoulderwedgedetail.dgn			

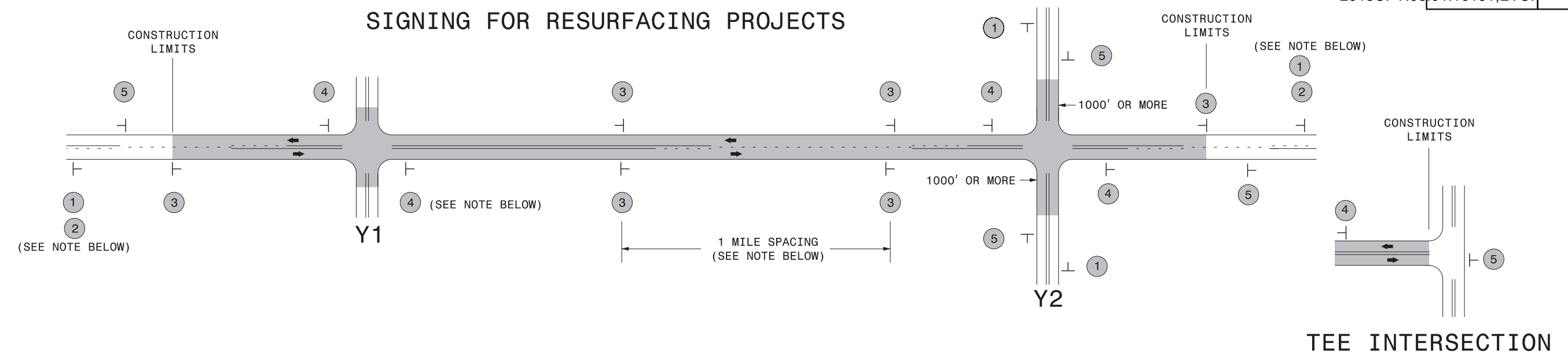
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 \$\$\$USERNAME\$\$\$

PROJECT NO. 2018CPT.08.01.10191, ETC.	SHEET NO. 11	TOTAL NO.
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SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW TON	SHOULDER RECONSTRUCTION SMI	1.5" MILLING SY	2" MILLING SY	1.25" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, \$9.5B TONS	LEVELING COURSE, \$9.5B TONS	SURFACE COURSE, \$9.5C TONS	LEVELING COURSE, \$9.5C TONS	SURFACE COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ASPHALT SURFACE TREATMENT, MATCOAT, #78M STONE SY	ASPHALT SURFACE TREATMENT, MATCOAT, #67 STONE SY	EMULSION FOR ASPHALT SURFACE TREATMENT GAL	VACUUM TRUCK WK	ADJUST DROP INLET EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	PORTABLE LIGHTING LS	INDUCTIVE LOOP SAWCUT LF						
2018CPT.08.01.10191	Chatham	1	US 15-501	FROM PVT. JT 440FT S OF OLD ROCK SPRING CEMETERY RD (PRIVATE) TO BEGIN MED DIV SECTION 750FT N OF SR 1658 (RUSSET RUN)	1, 2, 3, 4	2	MU	NO	NO	1.071	68	525	2.14	11,625				3,211							297	20									8,600				
		2	US 15-501 NB	FROM BEGIN MEDIAN DIVIDED SECTION 750FT N OF SR 1658 (RUSSET RUN) TO BEGIN CURB AND GUTTER SECTION 790FT S OF SR 1532 (MANN'S CHAPEL RD)	5, 6, 7	2	MD	NO	NO	8.54	32	4,185	17.08	330,250				3,200							1,798	1,500									10,500				
		3	US 15-501 NB	FROM BEGIN CURB AND GUTTER SECTION 790FT S OF SR 1532 (MANN'S CHAPEL RD) TO ORANGE CO	8	2	MD	NO	NO	1.277	30					31,000											4,395	200			1	1			1,000				
		4	US 15-501 SB	FROM ORANGE CO TO END CURB AND GUTTER SECTION 790FT S OF SR 1532 (MANN'S CHAPEL RD)	8	2	MD	NO	NO	1.278	30					31,000												4,315			1		5						
		5	US 15-501 SB	FROM END CURB AND GUTTER SECTION 790FT S OF SR 1532 (MANN'S CHAPEL RD) TO BEGIN MED DIV SECTION 750FT N OF SR 1658 (RUSSET RUN)	5, 6, 7	2		NO	NO	8.56	30	4,194	17.12	323,500				3,167								1,765	250							*					
		6	US 15-501	FROM LEE CO TO ROCKY RIVER BRIDGE #6 (.96MI S OF SR 2220 CENTER GROVE CH RD)	9	2	2WU	NO	NO	3.162	32	1,549	6.32	59,361				1,422									335	200											
		7	US 15-501	FROM ROCKY RIVER BRIDGE #6 (.96MI S OF SR 2220 CENTER GROVE CH RD) TO SR 1989 (JOE WOMBLE RD)	4	2	2WU	NO	NO	2.448	32	1,200	4.90					889									4,355	730											
		8	US 64 EB	FROM PVT. JT. E OF SR 1008 (FARRINGTON RD) TO WAKE CO	10	2	MD	NO	NO	2.952	38	1,446	5.90	69,000				1,267									360	1,350								500			
		9	US 64 WB	FROM WAKE CO TO PVT. JT. E OF SR 1008 FARRINGTON RD	10	2	MD	NO	NO	2.952	38	1,446	5.90	12,000				1,794										6,735	397	2,250							1,000		
TOTAL FOR PROJ NO. 2018CPT.08.01.10191										32.24		14,545	59.36	805,736	62,000		14,950			97,000	730		5,770	6,490		60,000	24,000	1	5	1	5	1	21,600						
2018CPT.08.01.20191	Chatham	10	SR 1527 (MORRIS RD)	FROM SR 1526 (PARKER HERNDON RD) TO US 15-501	11	2	2WU	NO	NO	1.81	20	887	3.62			630	167								1,640	122	980								510				
		11	SR 1536 (LAMONT NORWOOD RD)	FROM SR 1537 (TOBACCO RD) TO SR 1539 (JONES FERRY RD)	11	2	2WU	NO	NO	1.93	20	946	3.86					167								1,725	128	675											
		12	SR 1540 (JONES FERRY RD)	FROM ORANGE CO TO SR 1539 (CRAWFORD DAIRY RD)	11	2	2WU	NO	NO	1.922	22	942	3.84													2,640	177	685											
		13	SR 1542 (COLLIS MTN RD)	FROM SR 1539 (CRAWFORD DAIRY RD) TO ORANGE CO LINE	11	2	2WU	NO	NO	1.701	20	833	3.40														1,520	107	860										
		14	SR 1545 (CHICKEN BRIDGE RD)	FROM SR 1520 (OLD GRAHAM RD) TO SR 1539 (CRAWFORD DAIRY RD)	13	2	2WU	NO	NO	2.58	22	1,264	5.16														2,530	170	760	33,310			11,660	0.25					
		15	SR 1717 (JACK BENNETT RD)	FROM US 15-501 (ALL THE WAY TO THE EOP OF US 15-501) TO NEW PVT JT 700FT W OF HERNDON CREEK WAY (PRIVATE)	14	2	2WU	NO	NO	1.328	21	651	2.66														1,305	87	1,000				16,500	6,600	0.25				
		16	SR 1717 (JACK BENNETT RD)	FROM NEW PVT JT 0.145MI E OF WOOD LAUREL LN (PRIVATE) TO SR 1717 (LYSTRA RD)	14	2	2WU	NO	NO	1.489	22	730	2.98														1,525	102	563				18,900	7,560	0.25				
		17	SR 1717 (LYSTRA RD)	FROM SR 1717 (JACK BENNETT RD) TO NEW PVT. JT 0.171MI S OF SR 1717 (JACK BENNETT RD)	12	2	2WU	NO	NO	0.171	22	84	0.34															16	23				2,300	920	0.25				
		18	SR 1717 (LYSTRA RD)	FROM NEW PVT. JT 0.33MI E OF SR 1008 (FARRINGTON PT RD) TO SR 1008 (FARRINGTON RD)	15	2	2WU	NO	NO	0.331	22	162	0.66																								500		
19	SR 1747 (HORTON POND RD)	FROM SR 1008 (FARRINGTON RD) TO NC 751	11	2	2WU	NO	NO	2.543	20	1,246	5.09															2,270	179	560								1,010			
TOTAL FOR PROJ NO. 2018CPT.08.01.20191										15.805		7,745	31.61			630	4,802	695	865			15,155	1,114	6,106	33,310	37,700	26,740	1											
GRAND TOTAL										48.045		22,290	90.97	805,736	62,000	630	19,752	695	865	97,000	730	15,155	6,884	12,596	33,310	97,700	50,740	2	5	1	5	1	22,610						

SIGNING FOR RESURFACING PROJECTS



MAINLINE (-L-) SIGNING

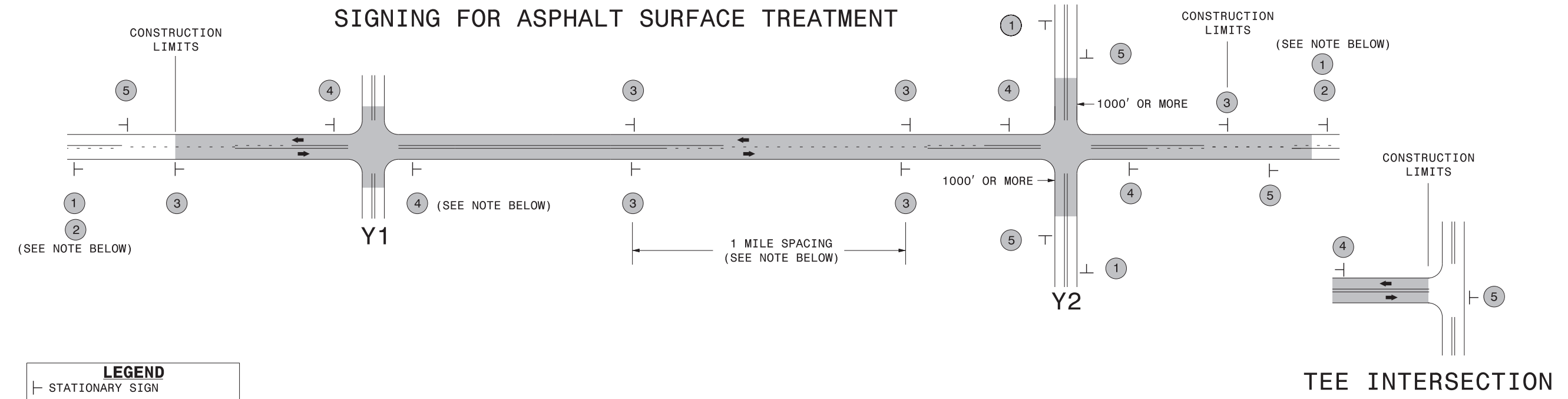
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	<p>W20-1 48" X 48"</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS 	
	2	<p>W7-3aP 24" X 18"</p>	<p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p>	
	3	<p>SP 13107 48" X 48"</p>	<p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>	
	4	<p>SP 13106 48" X 48"</p>	<p>PLACED 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.</p>	

RESURFACING ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2 LANE ROADWAYS

4/20/2016 C:\Users\rmgarrrett\Desktop\Resurfacing_AdvWarn_2Ln.dgn User:rmgarrrett

SIGNING FOR ASPHALT SURFACE TREATMENT



MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1	 W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.
	2	 W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)
	3	 W8-7 48" X 48"	- ALTERNATE THE FOLLOWING TWO SIGNS: - STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT". - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.
		 SP 48" X 48"	
	4	 SP 13106 48" X 48"	- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.
5	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

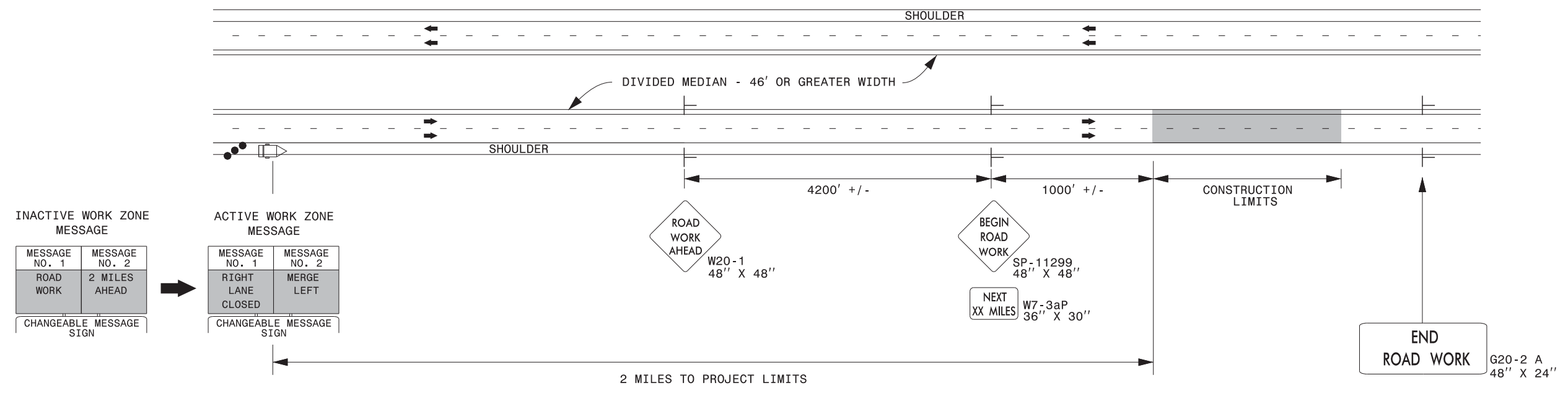
WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.



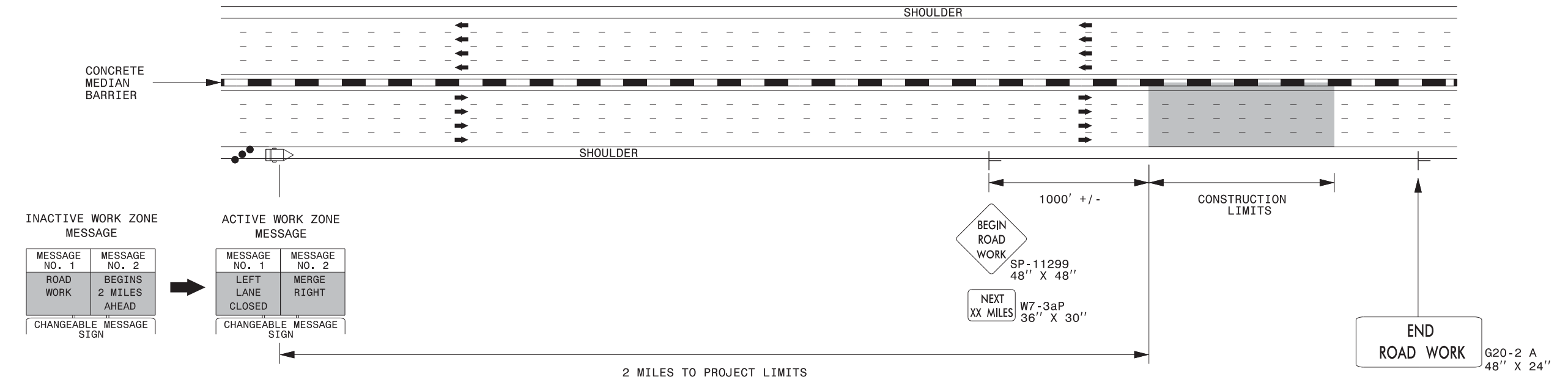
PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.

ADVANCE WARNING SIGNS FOR ASPHALT SURFACE TREATMENTS 2 LANE ROADWAYS

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

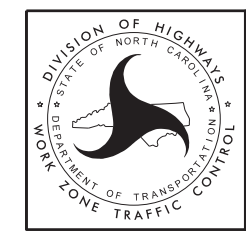


NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

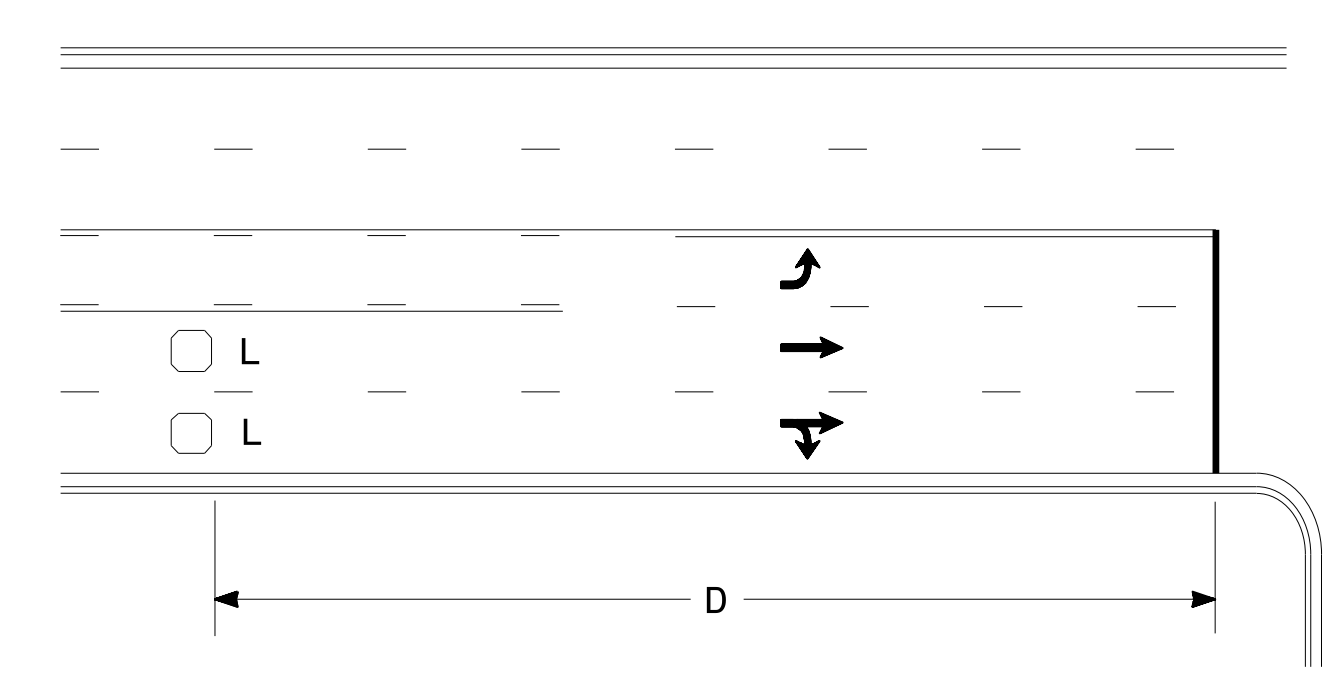
- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM



RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

3/23/2015 C:\Users\rmgarrrett\Downloads\Resurfacing_AdvWarn_HSpd.dgn User:rmgarrrett

High Speed Detection (≥40 mph)

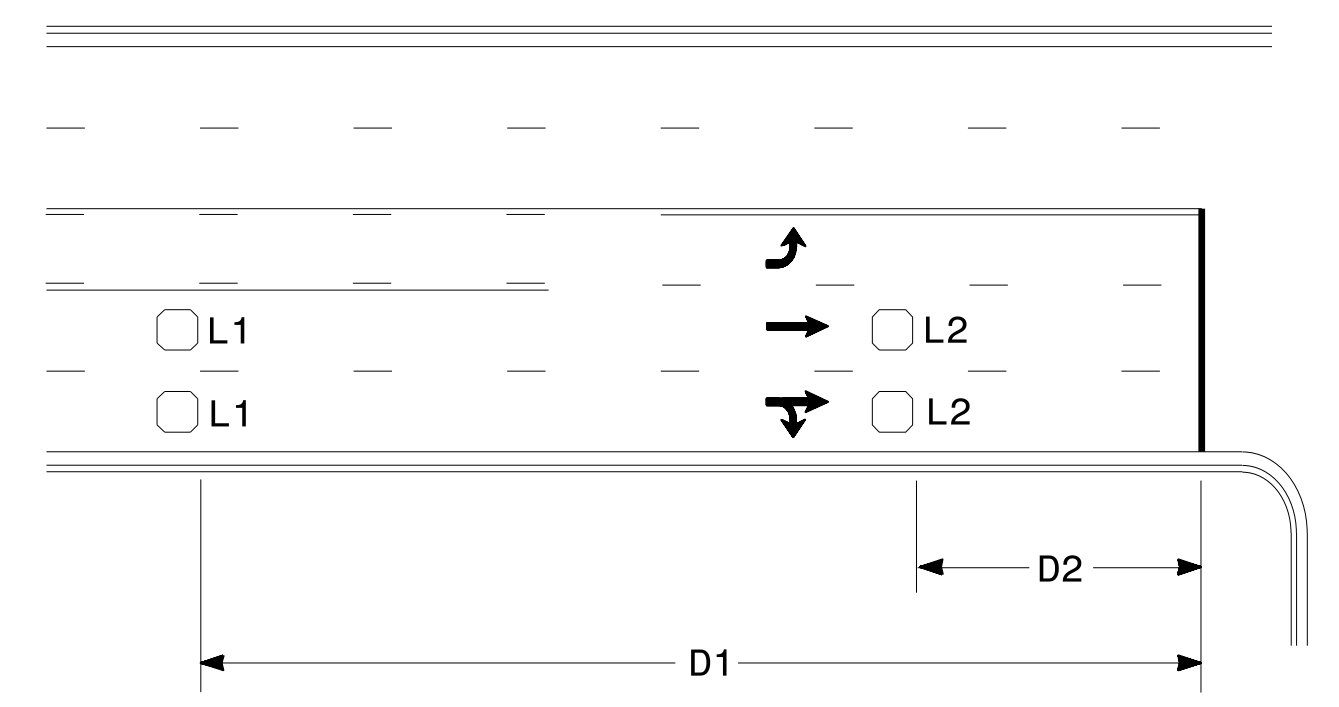


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
 Wired in series for TS1
 Controllers
 Wired separately for TS2,
 170, and 2070L Controllers

Volume Density Operation

OR

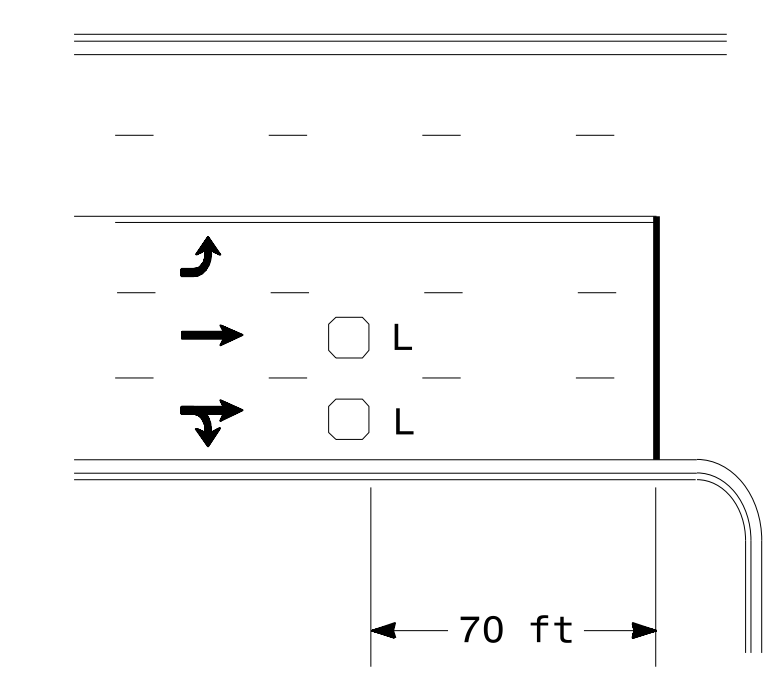


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
 Wired in series
 L2 = 6ft X 6ft
 Wired in series

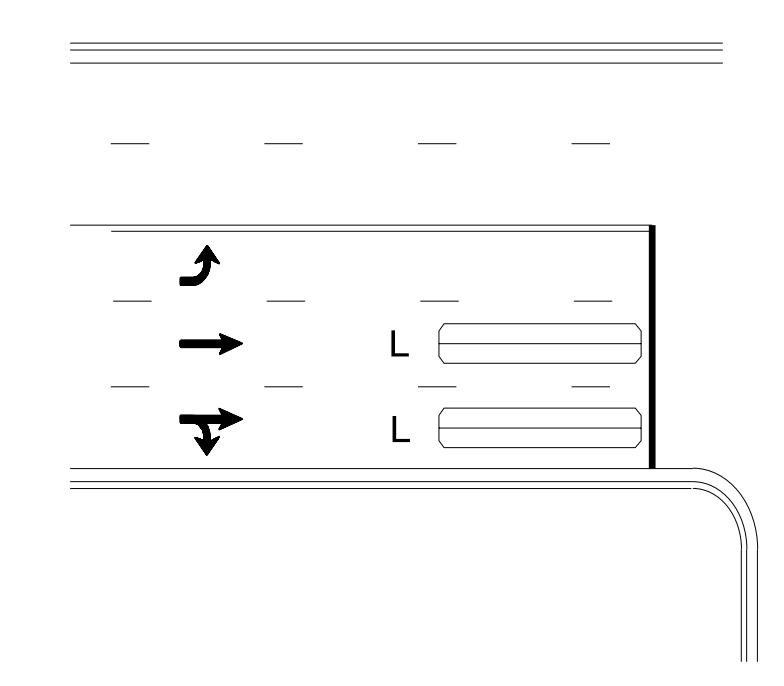
"Stretch" Operation

Low Speed Detection (≤35 mph)



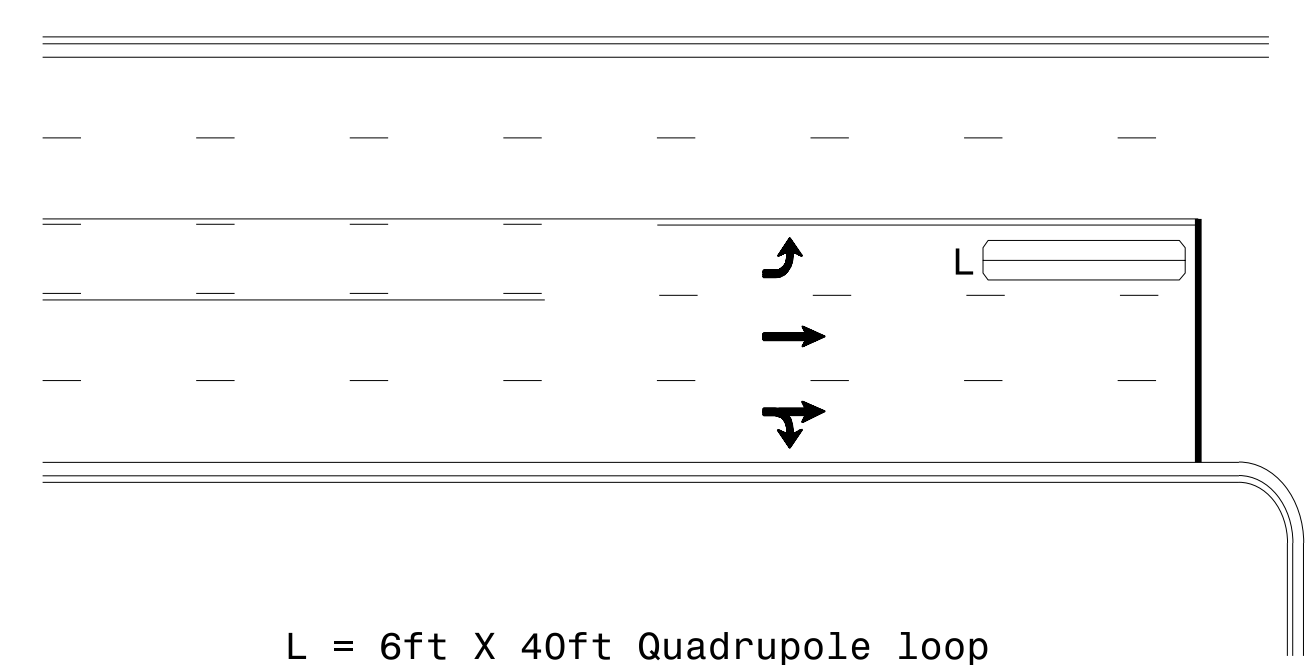
L = 6ft X 6ft
 Wired in series

OR



L = 6ft X 40ft
 Quadrupole loop, wired separately

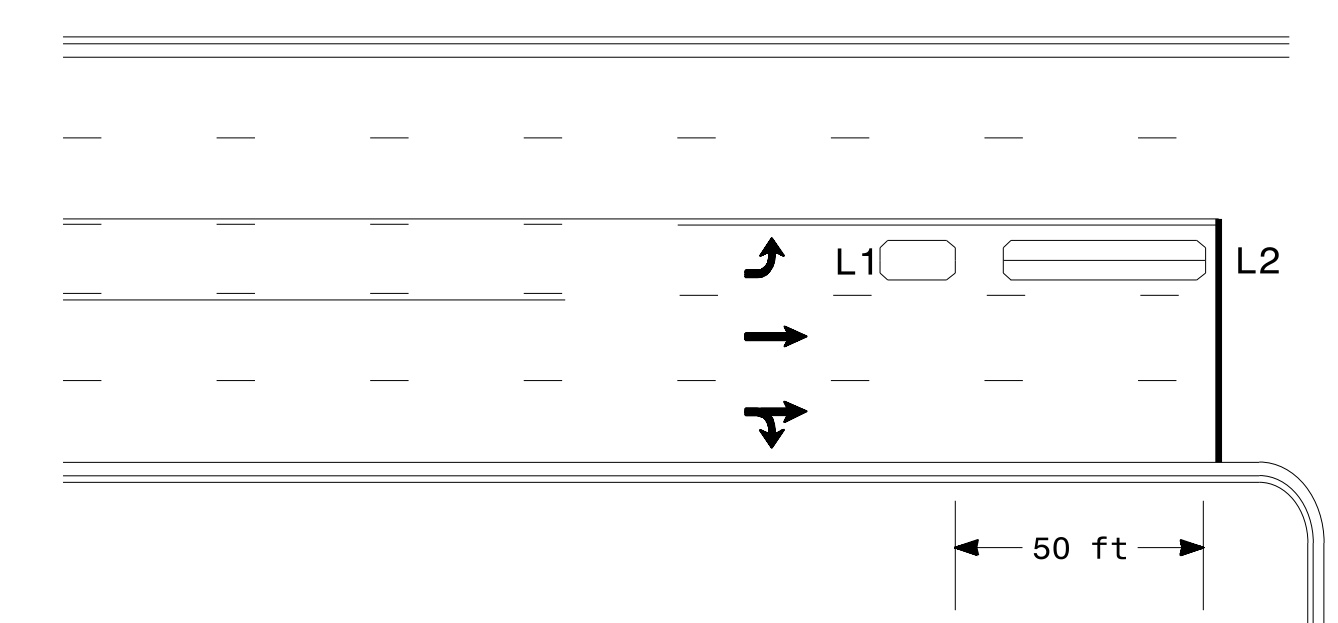
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

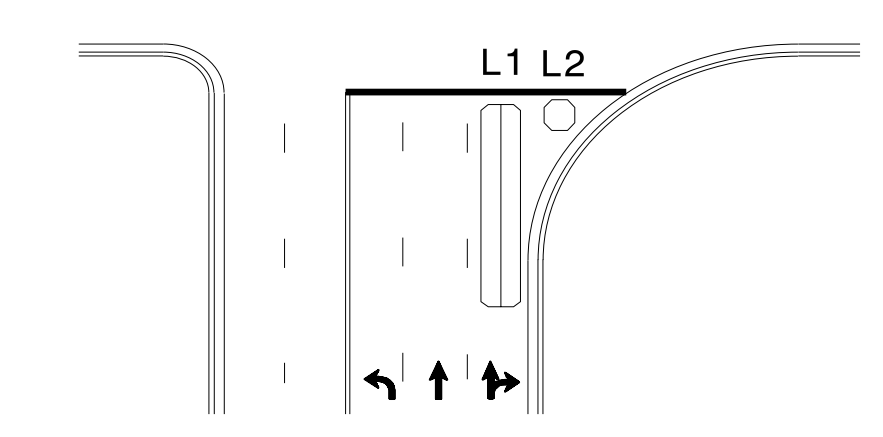
OR



L1 = 6ft X 15ft Queue detector
 L2 = 6ft X 40ft Quadrupole loop

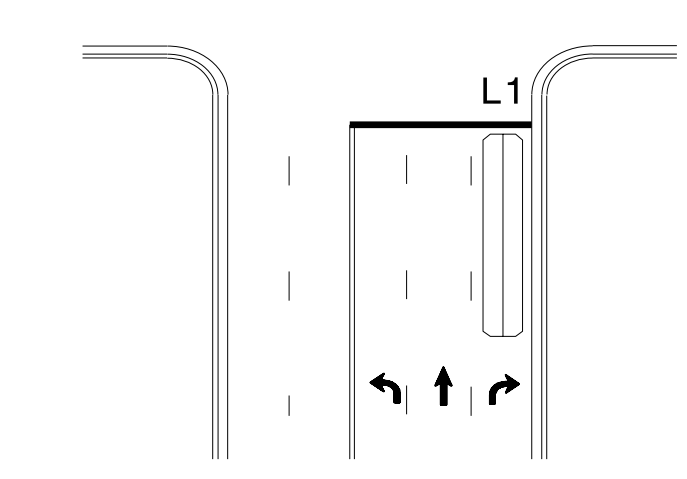
Queue Loop Detection

Right Turn Lane Detection

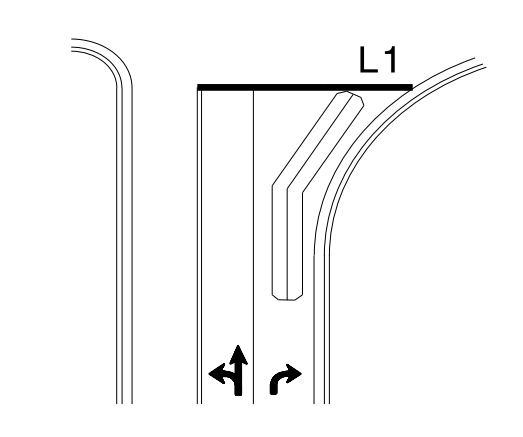


Shared Lane/
 Wide Radius Turn

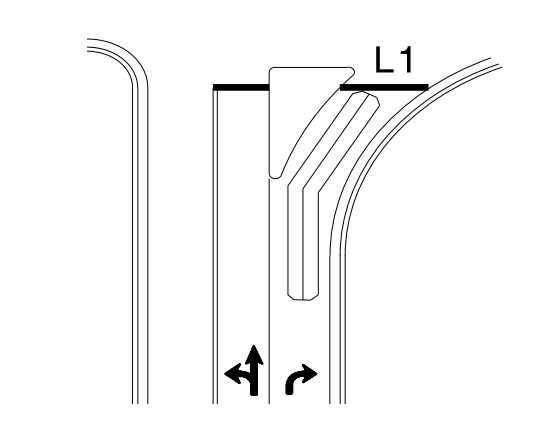
L1 = 6ft X 40ft Quadrupole loop
 L2 = 6ft X 6ft [Minimum] Presence loop
 Wired separately



Standard Turn

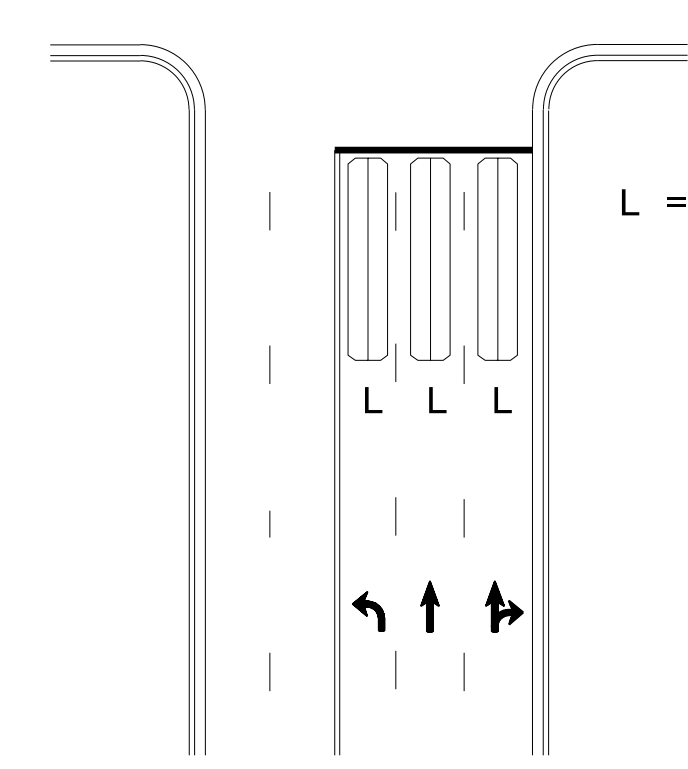


Wide Radius Turn



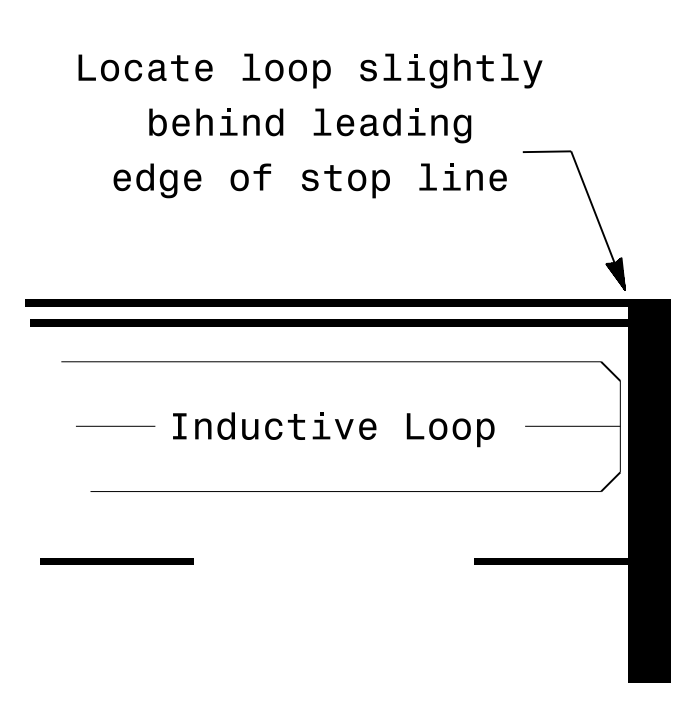
Channelized Turn

Side Street Detection



L = 6ft X 40ft
 Quadrupole loop
 Wired to separate
 detectors/channels

Presence Loop Placement at Stop Lines



Locate loop slightly
 behind leading
 edge of stop line

Note:
 Loop may be located in advance
 of stop line under any of the
 following conditions:
 1) stop line is greater than 15'
 from edge of intersecting
 roadway
 2) loop detects a permissive or
 protected/permissive left turn
 3) for an exclusive right turn
 lane

Recommended Number of Turns

Single 6' X 6' loop
 (when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns
 6' X 15' Loops:
 Lead-in < 150', use 2 turns
 Lead-in > 150', use 3 turns

SEAL
 NORTH CAROLINA
 PROFESSIONAL ENGINEER
 PAMELA L. ALEXANDER
 23489

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SCALE
N/A

DocuSigned by:

 1/30/2015

SIG. INVENTORY NO.
 DATE

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