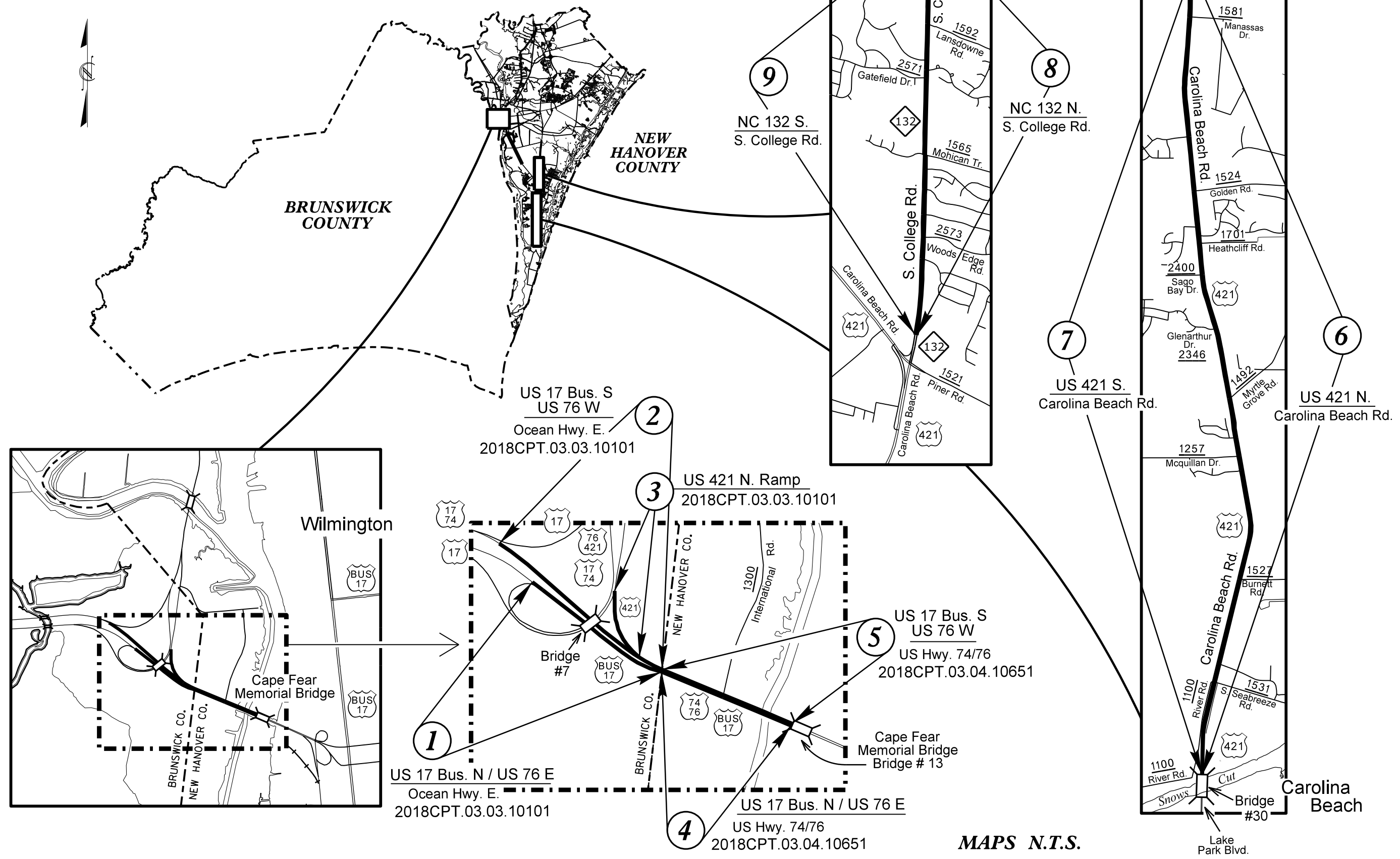


BRUNSWICK & NEW HANOVER CO.



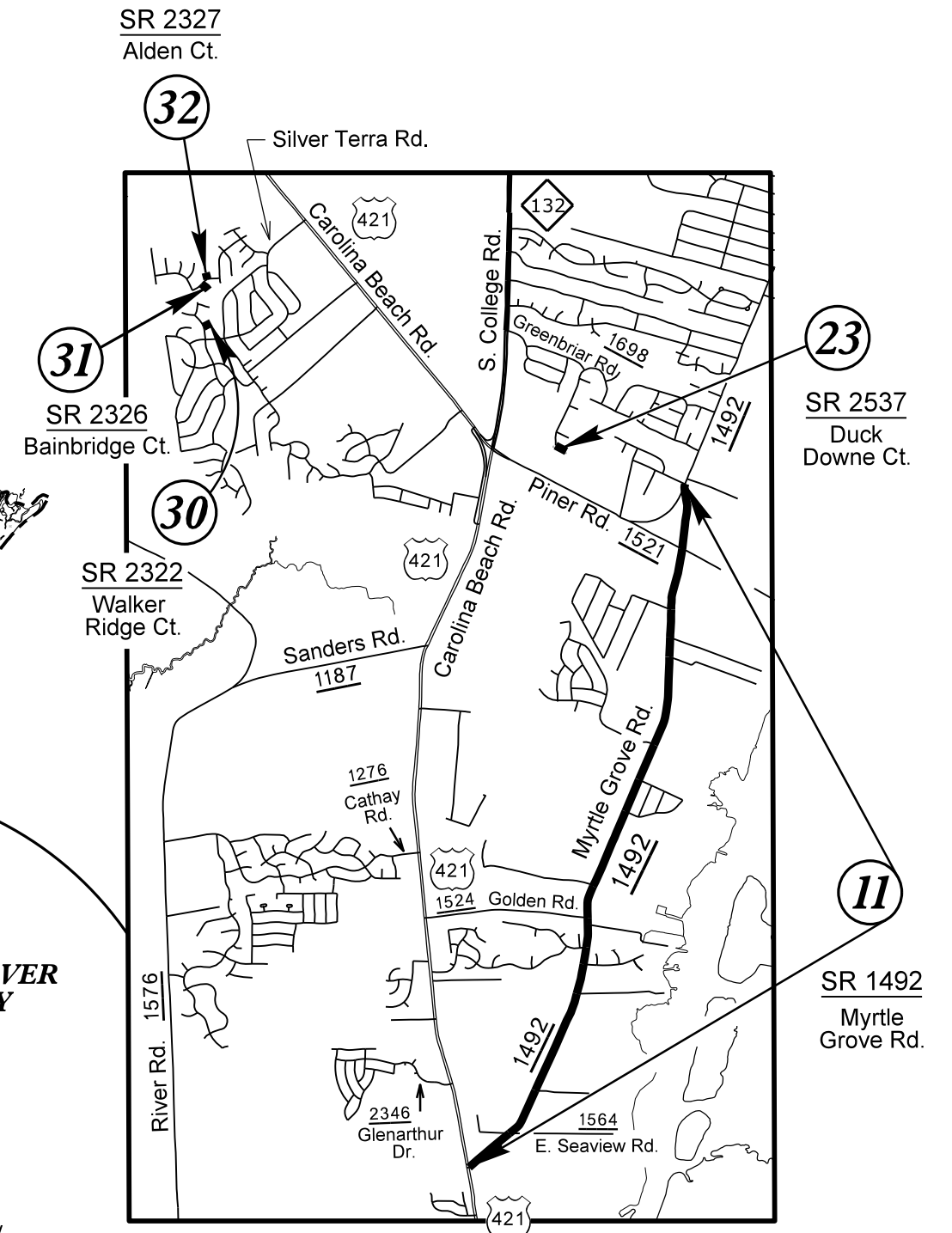
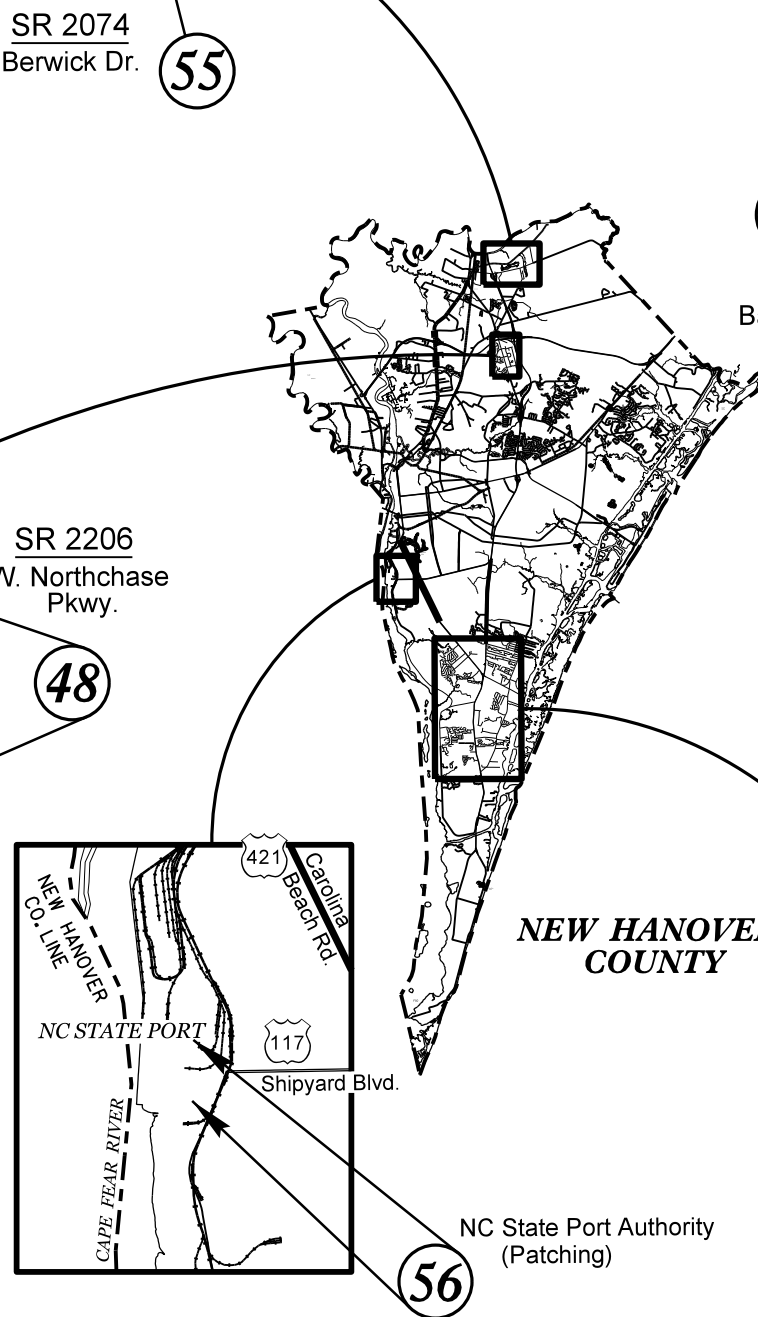
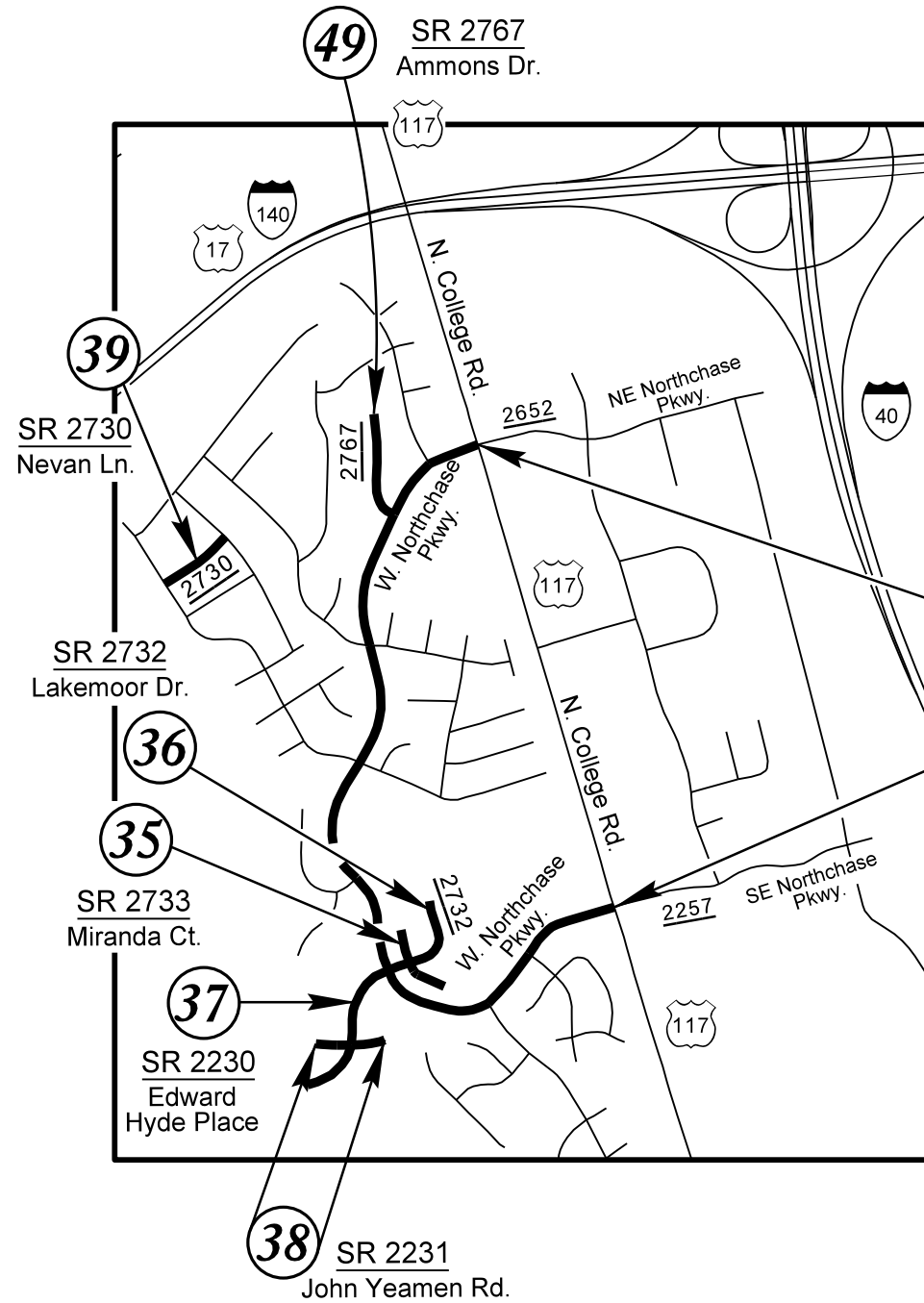
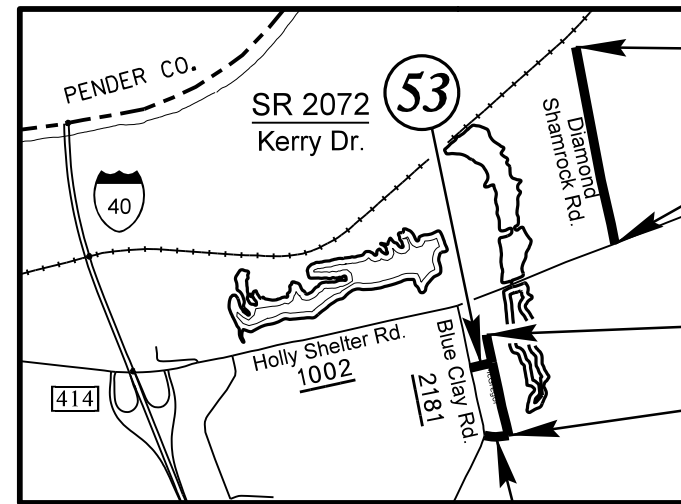
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MAPS N.T.S.

MAPS N.T.S.

NEW HANOVER CO. - CONT.

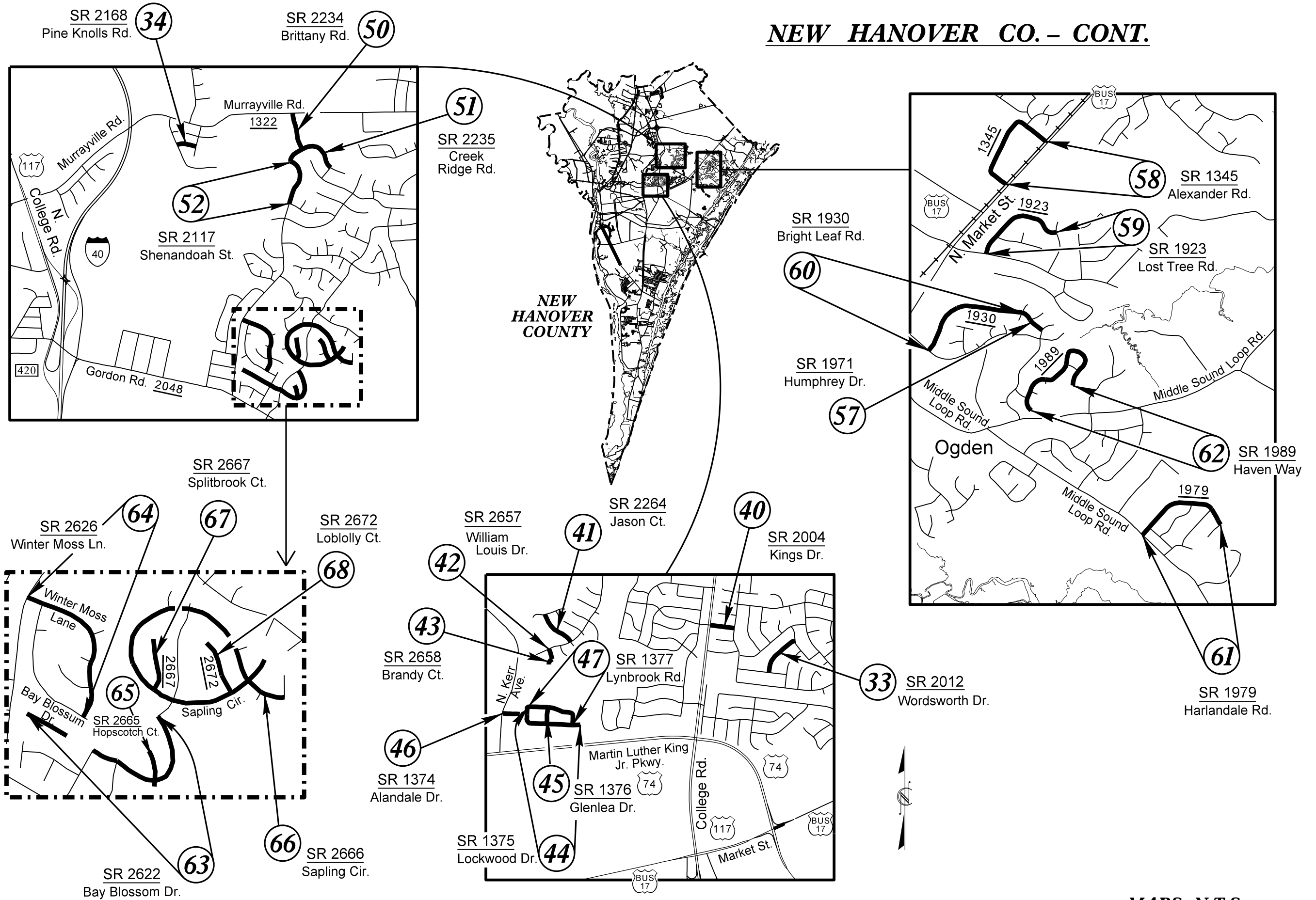


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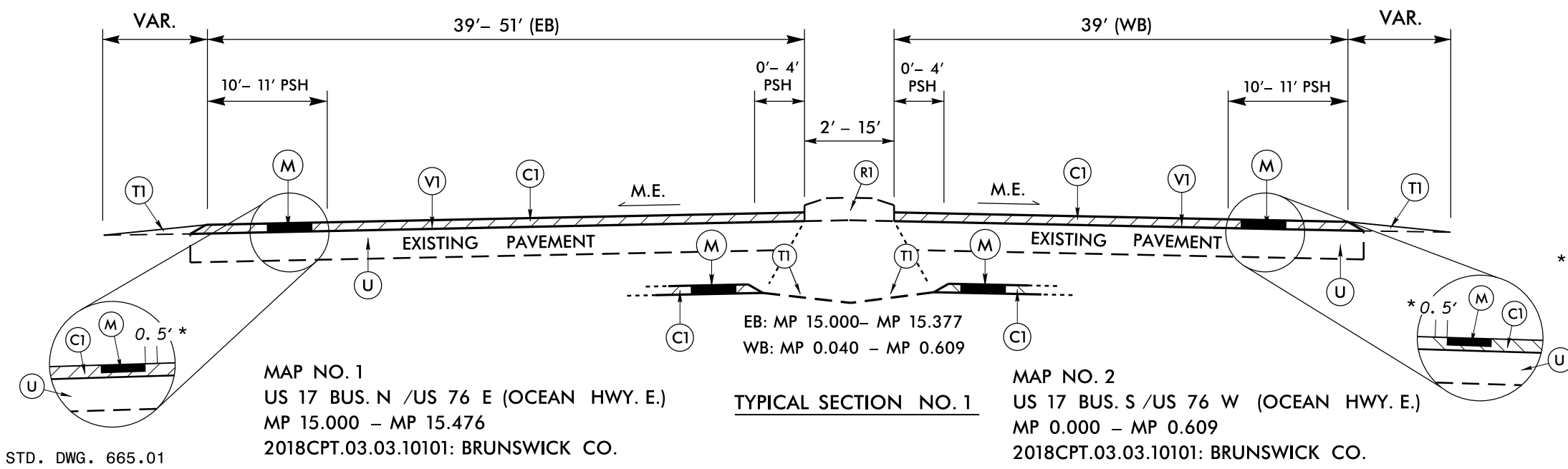
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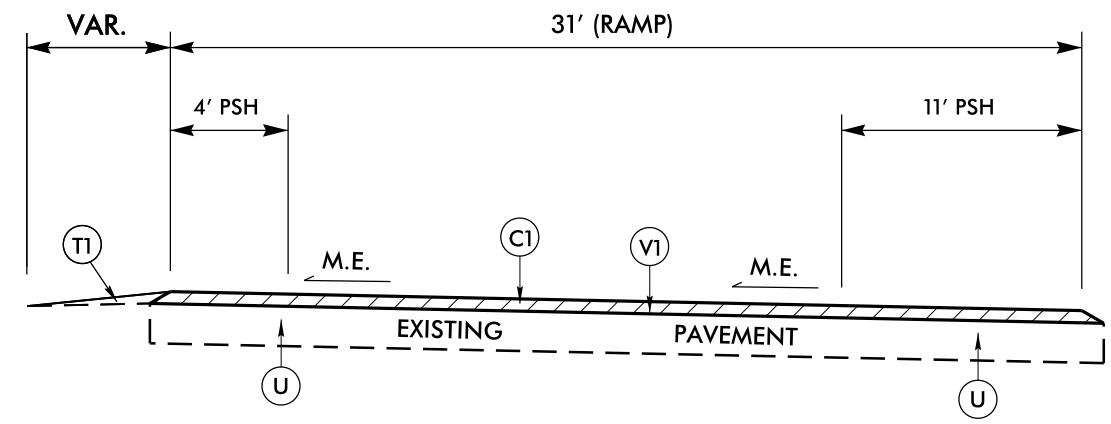
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* SEE STD. DWG. 665.01 FOR MILLED RUMBLE OFFSET AT EDGE OF PAVED SHOULDER

* SEE STD. DWG. 665.01 FOR MILLED RUMBLE OFFSET AT EDGE OF PAVED SHOULDER



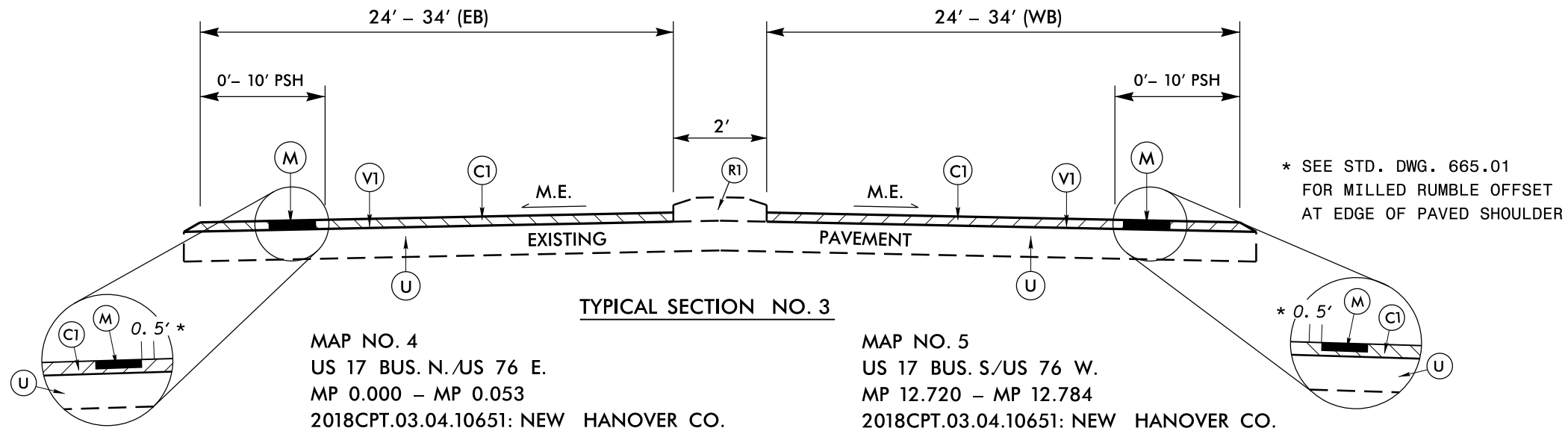
NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY MAP 1-3 (AND RELEVANT -Y- LINE TIE-INS).
SHOULDER WORK ON MAP NO.1 - 3 AS NEEDED, TO BE DETERMINED BY ENGINEER.

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.	E1	PROP. APPROX. 4 1/2" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ.YD.	T2	EXISTING EARTH MATERIAL
C2	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.	E2	PROP. APPROX. 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ.YD.	U	EXISTING PAVEMENT
C3	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.	M	MILLED RUMBLE STRIPS	V1	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH
C4	PROP. APPROX. 1 1/2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.	R1	EXISTING CONCRETE MONOLITHIC ISLAND	V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
C5	PROP. APPROX. 1 1/4" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQ.YD.	R2	EXISTING CONCRETE 1'-6" CURB & GUTTER	V3	MILLING ASPHALT PAVEMENT, 1 1/4" DEPTH
C6	PROP. APPROX. 1" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 113 LBS. PER SQ.YD.	R3	EXISTING ROLLED ASPHALT CURB	V4	VARIABLE MILLING ASPHALT PAVEMENT, 0" - 1 1/4" DEPTH
C7	PROP. APPROX. 3/4" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 85 LBS. PER SQ.YD.	R4	EXISTING CONCRETE VALLEY CURB	V5	VARIABLE MILLING ASPHALT PAVEMENT, 0" - 1 1/2" DEPTH
D1	PROP. APPROX. 2 1/2" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ.YD.	T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)	PAVEMENT EDGE SLOPES ARE 1:1, EXCEPT FINAL SURFACE COURSE. SEE SHOULDER WEDGE DETAIL.	

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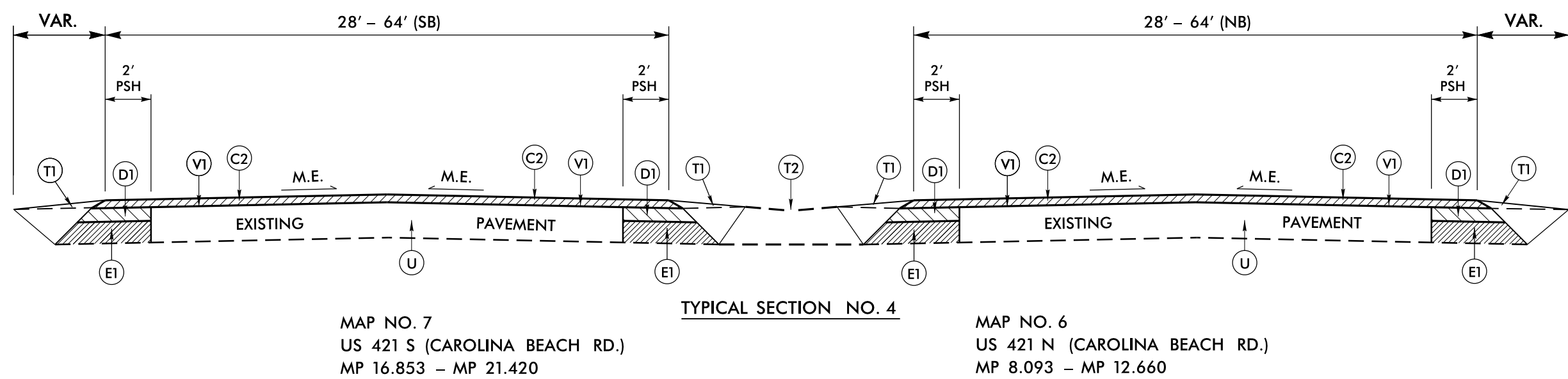


PAVEMENT SCHEDULE	
C1	1½" S9.5C
C2	1½" S9.5B
D1	2½" I19.0B
E1	4½" B25.0B
M	MILLED RUMBLE STRIPS
R1	EXISTING CONCRETE MONOLITHIC ISLAND
T1	SHOULDER RECONSTRUCTION
T2	EXISTING EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH

* SEE STD. DWG. 665.01 FOR MILLED RUMBLE OFFSET AT EDGE OF PAVED SHOULDER

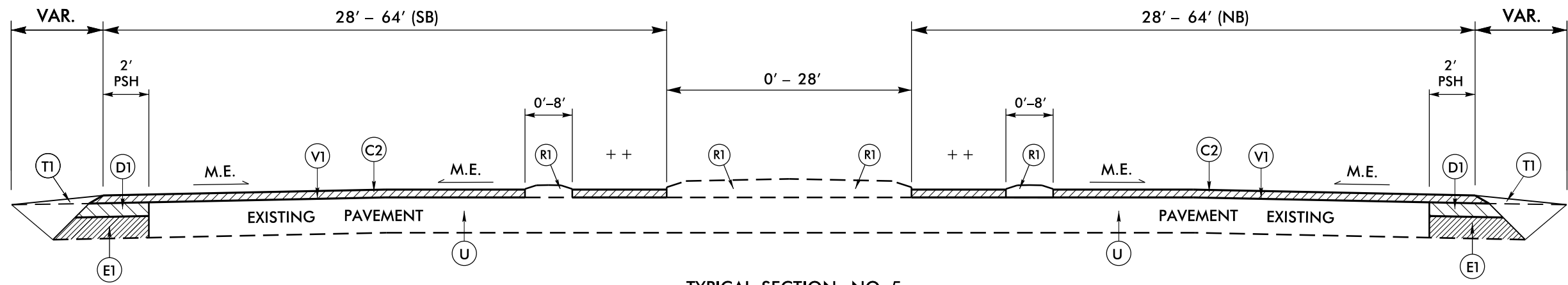
NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY MAP 4 - 7 (AND RELEVANT -Y- LINE TIE-INS).

SHOULDER WORK ON MAP NO. 4 - 7 AS NEEDED, TO BE DETERMINED BY ENGINEER.



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MAP NO. 7
US 421 S (CAROLINA BEACH RD.)
MP 16.853 – MP 21.420

TYPICAL SECTION NO. 5

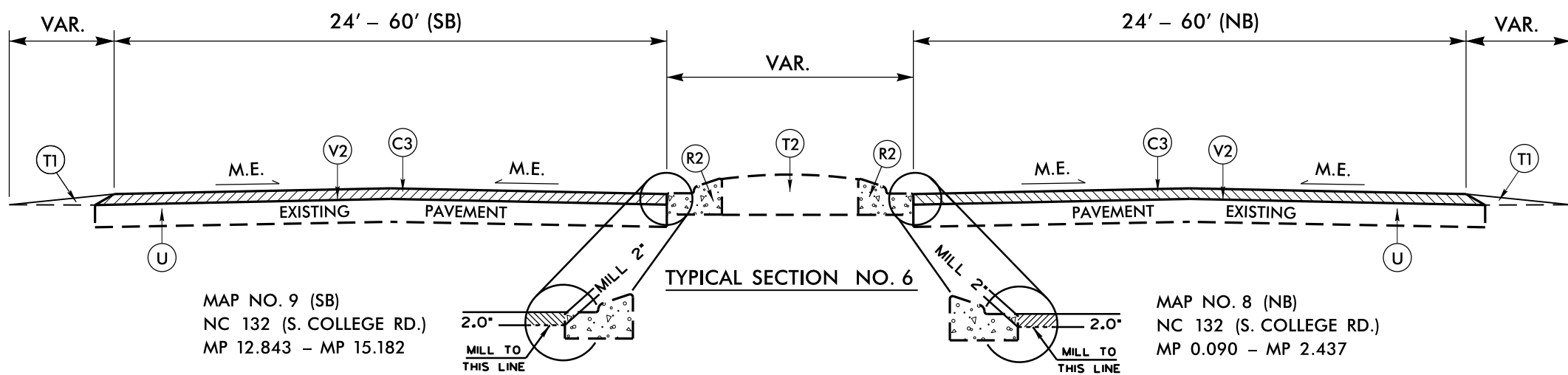
MAP NO. 6
US 421 N (CAROLINA BEACH RD.)
MP 8.093 – MP 12.660

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY (AND RELEVANT -Y- LINE TIE-INS)

SHOULDER WORK ON MAP NO. 6 & 7 AS NEEDED, TO BE DETERMINED BY ENGINEER.

++ ALL NEWLY INSTALLED CONCRETE MEDIAN CROSS-OVERS SHALL NOT BE MILLED & RESURFACED WITH THE FOLLOWING EXCEPTIONS:

- COBIA LANE
- BURNETT RD.
- MANASSAS DR.



MAP NO. 9 (SB)
NC 132 (S. COLLEGE RD.)
MP 12.843 – MP 15.182

TYPICAL SECTION NO. 6

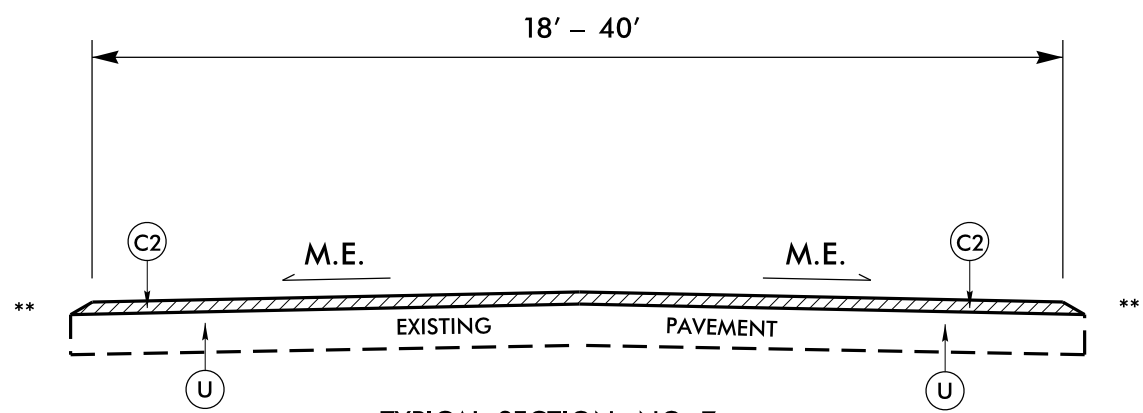
MAP NO. 8 (NB)
NC 132 (S. COLLEGE RD.)
MP 0.090 – MP 2.437

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY
MILL 1.5" TO TIE INTO -Y- LINES OR AS DIRECTED BY ENGINEER.
SHOULDER WORK ON MAP NO. 8 & 9 AS NEEDED, TO BE DETERMINED BY ENGINEER.

PAVEMENT SCHEDULE	
C2	1½" S9.5B
C3	2" S9.5B
D1	2½" I19.0B
E1	4½" B25.0B
R1	EXISTING CONCRETE MONOLITHIC ISLAND
R2	EXISTING 1'-6" CURB & GUTTER
T1	SHOULDER RECONSTRUCTION
T2	EXISTING EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH
V2	MILLING 2" DEPTH

REVISIONS

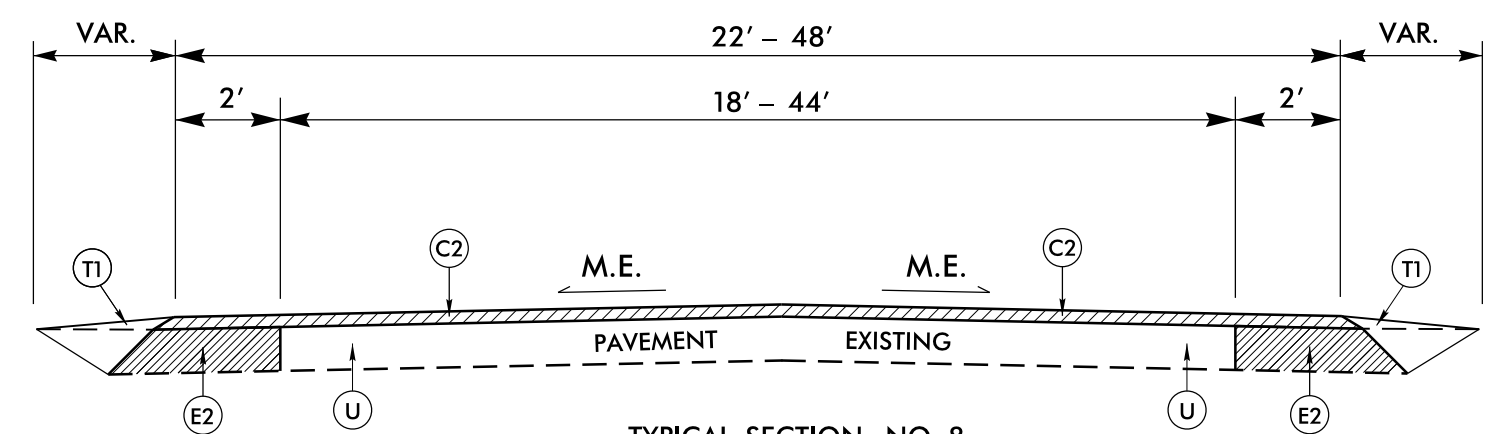
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TYPICAL SECTION NO. 7

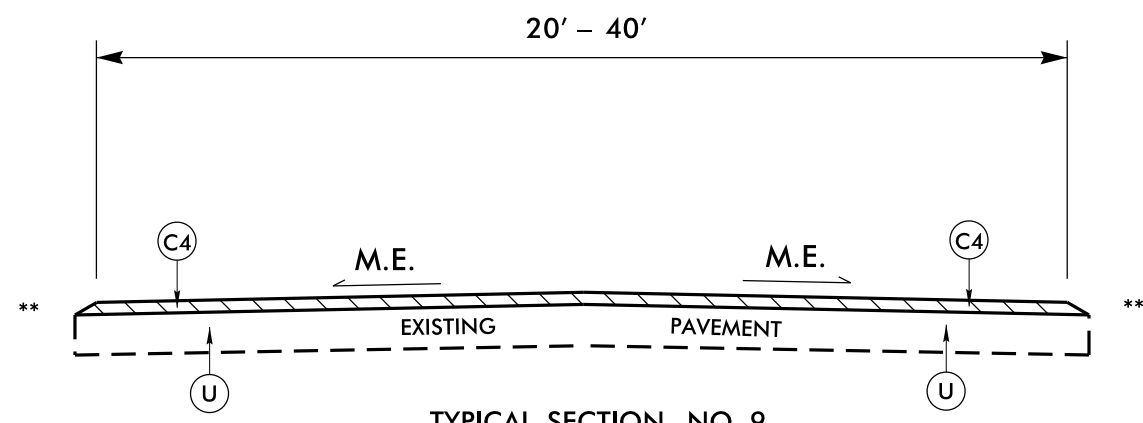
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|---|---|---|
| MAP NO. 10
SR 1318 (BLUE CLAY RD.)
MP 0.00 – MP 1.57 | MAP NO. 13
SR 2158 (HERMITAGE RD.)
MP 0.00 – MP 0.23 | MAP NO. 29
SR 2024 (KRAUSS LN.)
MP 0.00 – MP 0.09 |
| MAP NO. 11
SR 1492 (MYRTLE GROVE RD.)
MP 1.76 – MP 5.35 | MAP NO. 14
SR 2157 (CROWATAN RD.)
MP 0.00 – MP 0.79 | MAP NO. 44
SR 1375 (LOCKWOOD DR.)
MP 0.00 – MP 0.36 |
| MAP NO. 12
SR 1333 (HERMITAGE RD.)
MP 0.00 – MP 0.83 | MAP NO. 24
SR 2023 (DIAMOND SHAMROCK RD.)
MP 0.00 – MP 0.61 | |

NOTE: ** SHOULDER WORK TO BE DONE BY STATE FORCES (MAP NO. 11 - 14, 24, 29 & 44) MAP NO. 10 (BLUE CLAY RD.) WILL HAVE CONTRACT SHOULDER WORK.



TYPICAL SECTION NO. 8

- MAP NO. 10
SR 1318 (BLUE CLAY RD.)
MP 1.565 – MP 4.455



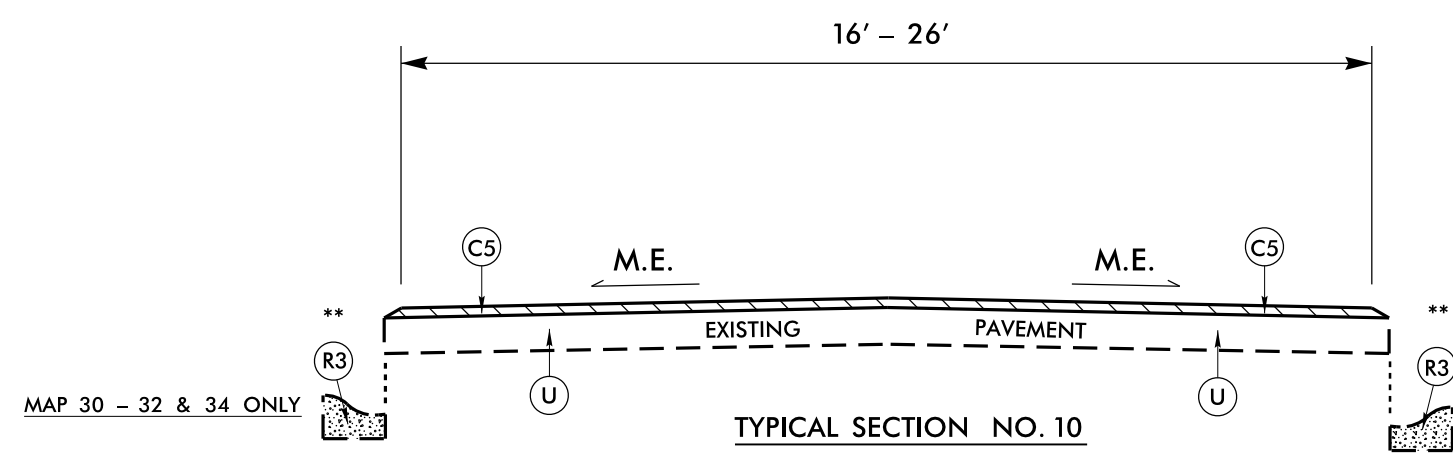
TYPICAL SECTION NO. 9

- | | | |
|---|---|---|
| MAP NO. 15
SR 2159 (CHESTERFIELD RD.)
MP 0.00 – MP 0.16 | MAP NO. 48
SR 2206 (NORTHCHASE PKWY.)
MP 0.00 – MP 1.30 | (V1) MAP NO. 50
SR 2234 (BRITTANY RD.)
MP 0.057 – MP 0.20 |
|---|---|---|

NOTE: ** SHOULDER WORK TO BE DONE BY STATE FORCES (MAP NO. 15, 48 & 50)

PAVEMENT SCHEDULE	
C2	1½" S9.5B
C4	1½" SF9.5A
E2	5" B25.0B
T1	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH

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NOTE: ** SHOULDER WORK TO BE DONE BY STATE FORCES AS DETERMINED BY THE ENGINEER EXCEPT FOR MAP NO. 30 - 32, & 34

- MAP NO. 16
SR 2228 (DEKKER RD.)
MP 0.00 - MP 0.10
- MAP NO. 17
SR 1317 (CHADWICK AVE.)
MP 0.00 - MP 0.74
- MAP NO. 18
SR 2697 (MEMORY LN.)
MP 0.00 - MP 0.33
- MAP NO. 19
SR 1852 (SHORE POINT DR.)
MP 0.00 - MP 0.79

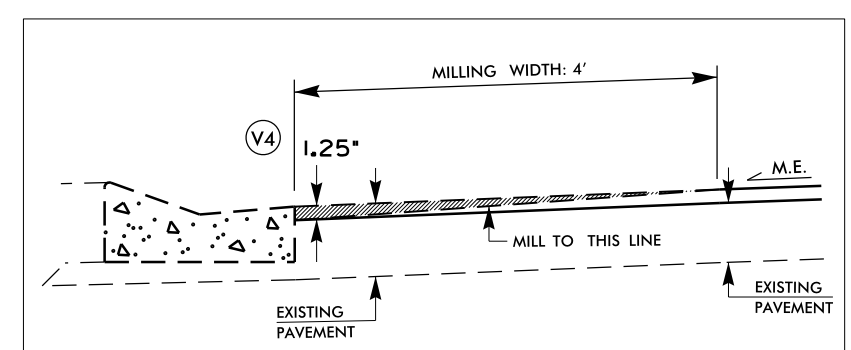
- MAP NO. 20
SR 1853 (CONCH DR.)
MP 0.00 - MP 0.06
- MAP NO. 21
SR 1882 (ABALONE DR. COWRIE LN. CONQUINA DR.)
MP 0.00 - MP 0.29
- MAP NO. 22
SR 2908 (CONQUINA DR.)
MP 0.00 - MP 0.07
- MAP NO. 26
SR 1824 (BRANDYWINE CIR.)
MP 0.00 - MP 0.61

- MAP NO. 27
SR 1826 (HOMESTEAD CT.)
MP 0.00 - MP 0.07
- MAP NO. 28
SR 1825 (SALEM CT.)
MP 0.00 - MP 0.05
- MAP NO. 30
SR 2322 (WALKER RIDGE CT.)
MP 0.00 - MP 0.04
- MAP NO. 31
SR 2326 (BAINBRIDGE CT.)
MP 0.00 - MP 0.05

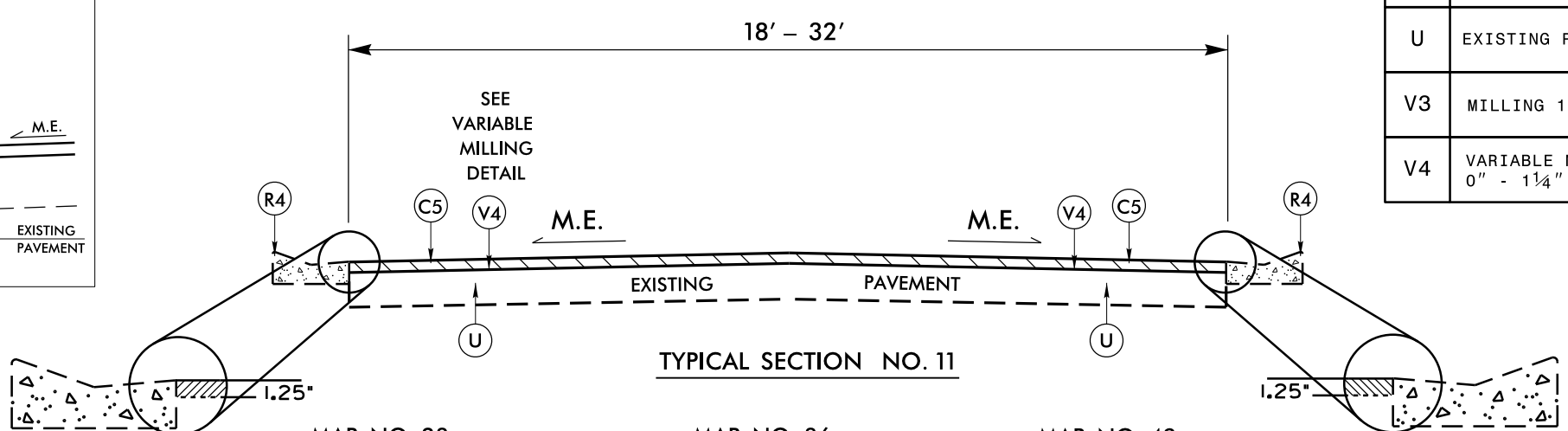
- MAP NO. 32
SR 2327 (ALDEN CT.)
MP 0.00 - MP 0.04
- MAP NO. 33
SR 2012 (WORDSWORTH DR.)
MP 0.00 - MP 0.23
- MAP NO. 34
SR 2168 (PINE KNOLL RD.)
MP 0.00 - MP 0.11
- MAP NO. 37
SR 2230 (EDWARD HYDE PL.)
MP 0.00 - MP 0.22

- MAP NO. 38
SR 2231 (JOHN YEAMEN RD.)
MP 0.00 - MP 0.12
- MAP NO. 42
SR 2657 (WILLIAM LOUIS DR.)
MP 0.00 - MP 0.06
- MAP NO. 43
SR 2658 (BRANDY CT.)
MP 0.00 - MP 0.04
- MAP NO. 45
SR 1376 (GLENLEA DR.)
MP 0.00 - MP 0.09

- MAP NO. 46
SR 1374 (ALANDALE DR.)
MP 0.00 - MP 0.13
- MAP NO. 47
SR 1377 (LYNBROOK DR.)
MP 0.00 - MP 0.30
- MAP NO. 53
SR 2072 (KERRY DR.)
MP 0.00 - MP 0.068
- MAP NO. 54
SR 2073 (MCGREGOR RD.)
MP 0.00 - MP 0.315
- MAP NO. 55
SR 2074 (BERWICK DR.)
MP 0.00 - MP 0.073



V4 VARIABLE MILLING 0" - 1.25" AT CONC. VALLEY CURB



- V3 MAP NO. 40
SR 2004 (KING DR.)
MP 0.00 - MP 0.14

MILL ENTIRE LANE WIDTHS BOTH DIRECTIONS

- MAP NO. 23
SR 2537 (DUCK DOWNE CT.)
MP 0.00 - MP 0.06
- MAP NO. 35
SR 2733 (MIRANDA CT.)
MP 0.00 - MP 0.14

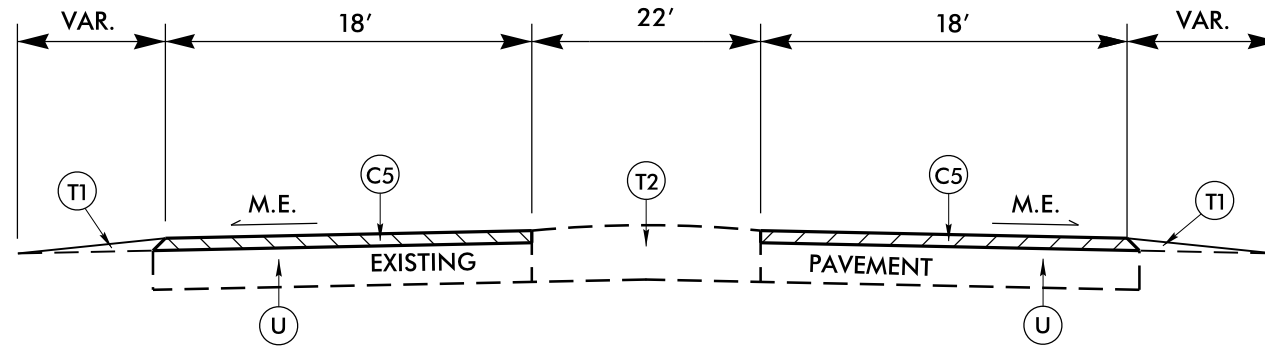
- MAP NO. 36
SR 2732 (LAKEMOOR DR.)
MP 0.00 - MP 0.15
- MAP NO. 39
SR 2730 (NEVAN LN.)
MP 0.00 - MP 0.11

- MAP NO. 49
SR 2767 (AMMONS DR.)
MP 0.00 - MP 0.16

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY (AND RELEVANT -Y- LINE TIE-INS).

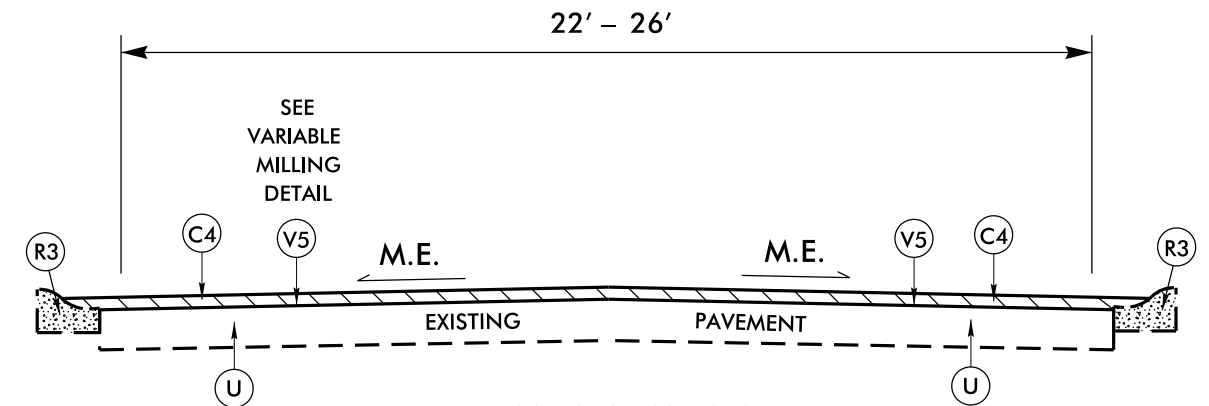
PAVEMENT SCHEDULE	
C5	1 1/4" SF9.5A
R3	EXISTING ROLLED ASPHALT CURB
R4	EXISTING VALLEY CURB
U	EXISTING PAVEMENT
V3	MILLING 1 1/4" DEPTH
V4	VARIABLE MILLING 0" - 1 1/4" DEPTH

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 Resurfacing Projects Division



TYPICAL SECTION NO. 12

MAP NO. 25
SR 1823 (KENMORE DR.)
MP 0.00 - MP 0.08



TYPICAL SECTION NO. 13

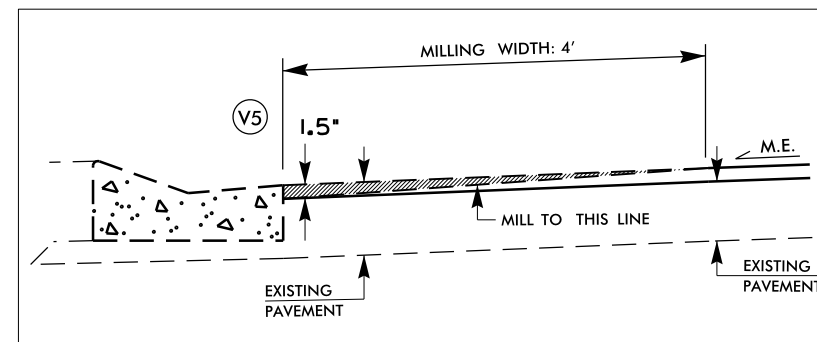
MAP NO. 41
SR 2264 (JASON CT.)
MP 0.00 - MP 0.24

MAP NO. 50
SR 2234 (BRITTANY RD.)
MP 0.00 - MP 0.057

MAP NO. 51
SR 2235 (CREEK RIDGE RD.)
MP 0.00 - MP 0.40

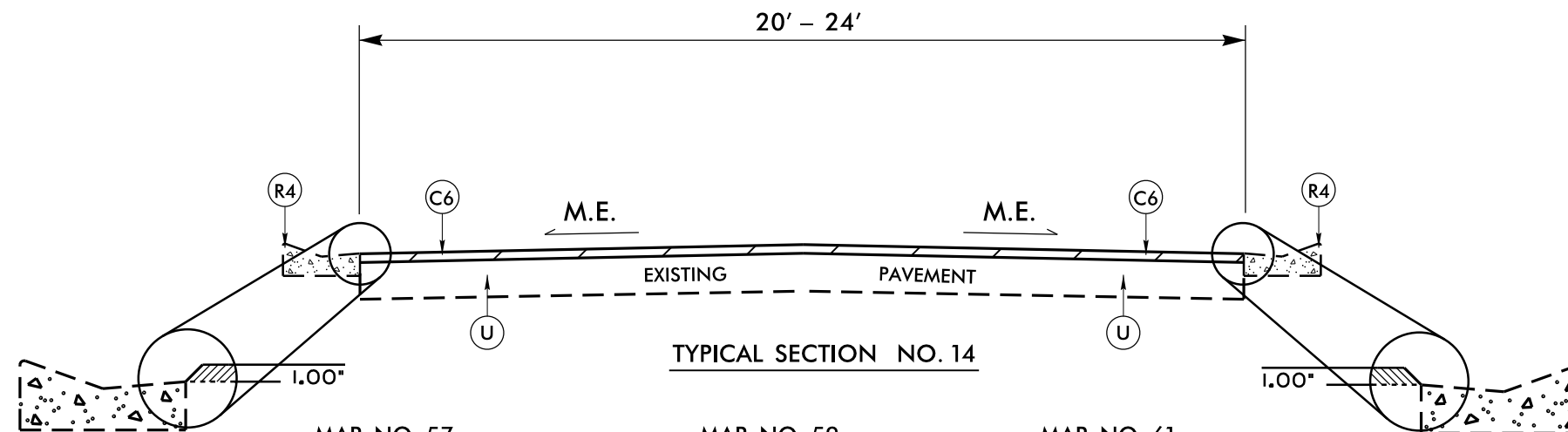
MAP NO. 52
SR 2117 (SHENANDOAH ST.)
MP 1.13 - MP 1.39

NOTE: ** SHOULDER WORK TO BE DONE BY STATE FORCES AS DETERMINED BY THE ENGINEER ON MAP NO. 25



(V5) VARIABLE MILLING 0" - 1.5" AT CONC. VALLEY CURB

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY (AND RELEVANT -Y- LINE TIE-INS).



TYPICAL SECTION NO. 14

MAP NO. 57
SR 1971 (HUMPHREY DR.)
MP 0.00 - MP 0.13

MAP NO. 59
SR 1923 (LOST TREE RD.)
MP 0.00 - MP 0.46

MAP NO. 61
SR 1979 (HARLANDALE DR.)
MP 0.00 - MP 0.48

MAP 58 & 59 ONLY

MAP NO. 58
SR 1345 (ALEXANDER RD.)
MP 0.00 - MP 0.56

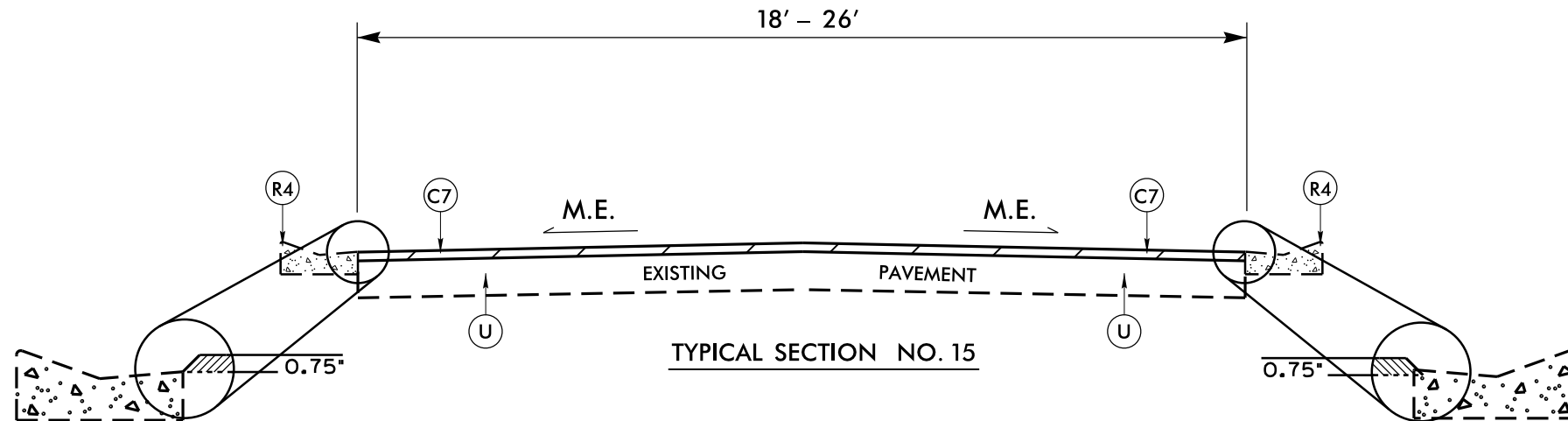
MAP NO. 60
SR 1930 (BRIGHT LEAF RD.)
MP 0.00 - MP 0.57

MAP NO. 62
SR 1989 (HAVEN WAY)
MP 0.00 - MP 0.66

MAP 58 & 59 ONLY

PAVEMENT SCHEDULE

C4	1 1/2" SF9.5A
C5	1 1/4" SF9.5A
C6	1" S4.75A
R3	EXISTING ROLLED ASPHALT CURB
R4	EXISTING VALLEY CURB
T1	SHOULDER RECONSTRUCTION
T2	EXISTING EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING 1 1/2" DEPTH
V5	VARIABLE MILLING 0" - 1 1/2" DEPTH



TYPICAL SECTION NO. 15

- | | | |
|--|--|---|
| MAP NO. 63
SR 2622 (BAY BLOSSOM RD.)
MP 0.00 - MP 0.51 | MAP NO. 65
SR 2665 (HOPSCOTCH CT.)
MP 0.00 - MP 0.10 | MAP NO. 67
SR 2667 (SPLITBROOK CT.)
MP 0.00 - MP 0.13 |
| MAP NO. 64
SR 2626 (WINTER MOSS LN.)
MP 0.00 - MP 0.37 | MAP NO. 66
SR 2666 (SAPLING CIR.)
MP 0.00 - MP 0.85 | MAP NO. 68
SR 2672 (LOBLOLLY CT.)
MP 0.00 - MP 0.13 |

PAVEMENT SCHEDULE	
C7	3/4" S4.75A
R4	EXISTING VALLEY CURB
U	EXISTING PAVEMENT

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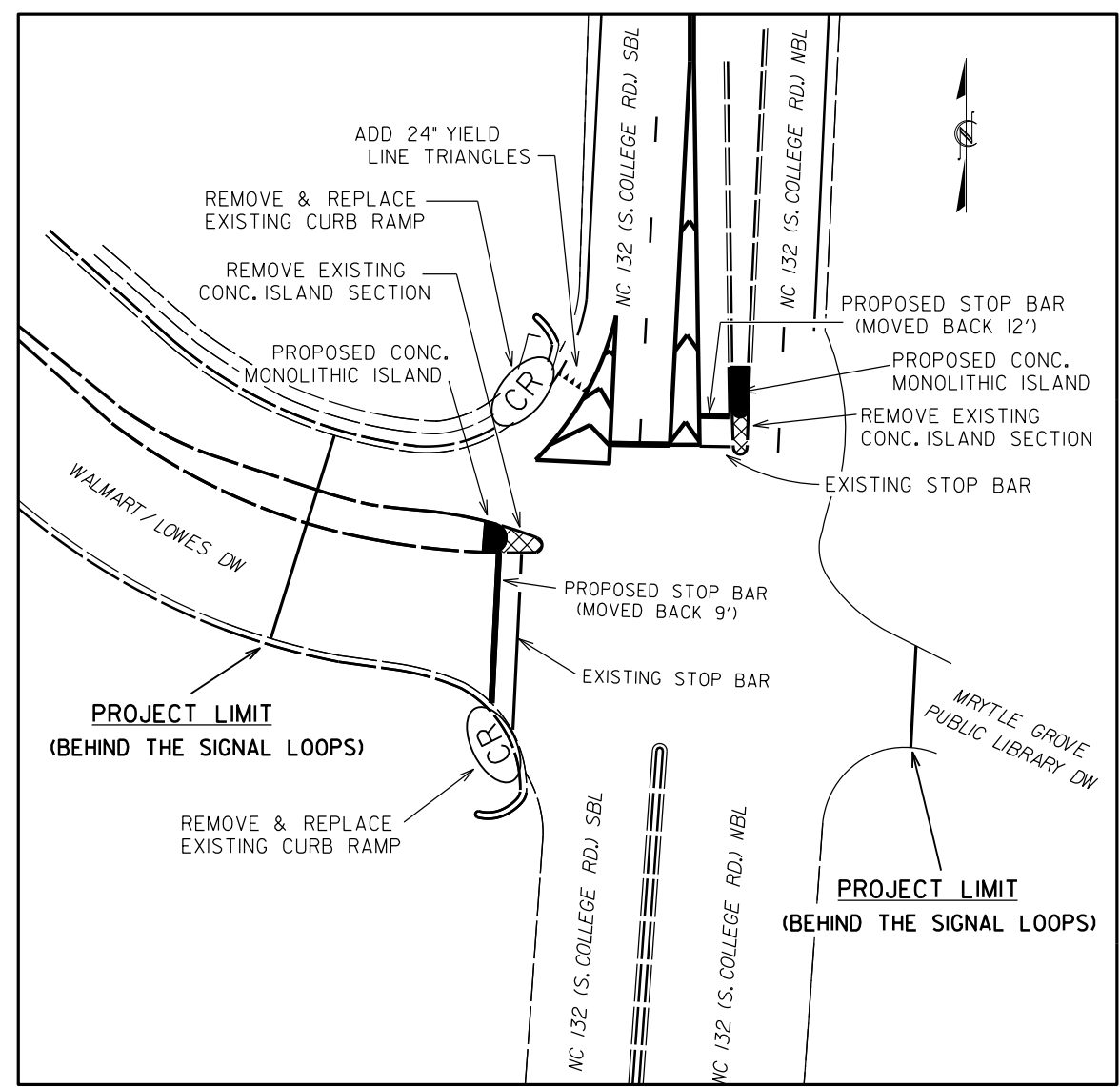
2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

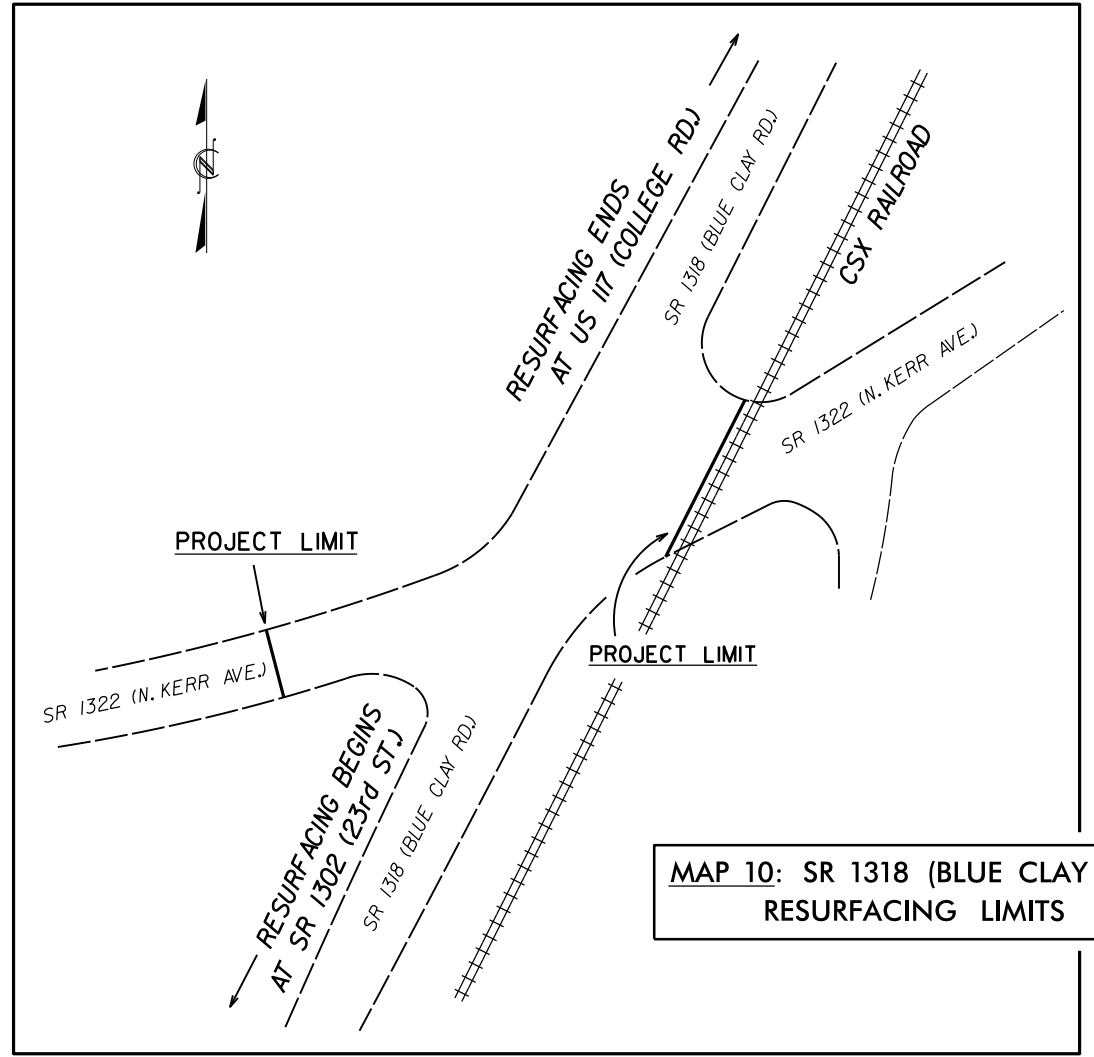
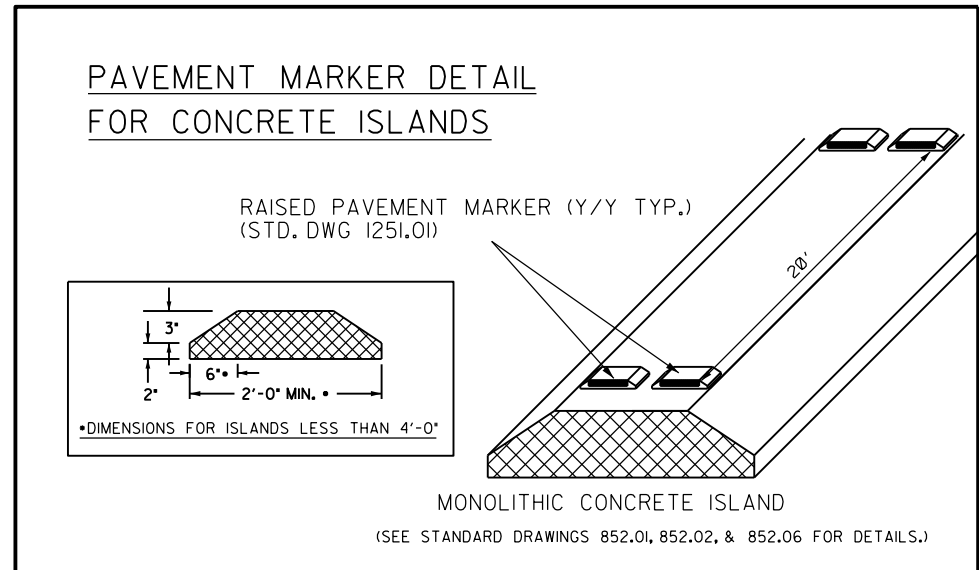
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|---|---|
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 665.01 | Asphalt Shoulders - Milled Rumble Strips |
| DIVISION 8 - INCIDENTALS | |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 848.01 | Concrete Sidewalk |
| 848.05 | Curb Ramp - Proposed Curb & Gutter |
| 848.06 | Curb Ramp - Existing Curb & Gutter |
| 852.01 | Concrete Islands |
| 852.06 | Method for Placement of Drop Inlets in Concrete Islands |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |

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**RESURFACING PROJECT LIMITS, CONCRETE ISLAND
MODIFICATIONS, PAVEMENT MARKING
& MARKER DETAILS**



MAP 9: NC 132 (S. COLLEGE RD.) SB
RESURFACING LIMITS AND MODIFICATION OF MONOLITHIC CONCRETE ISLANDS. SEE SIGNAL PLANS FOR LOCATION OF INDUCTIVE LOOPS, STOP BARS AND YIELD LINE TRIANGLES.

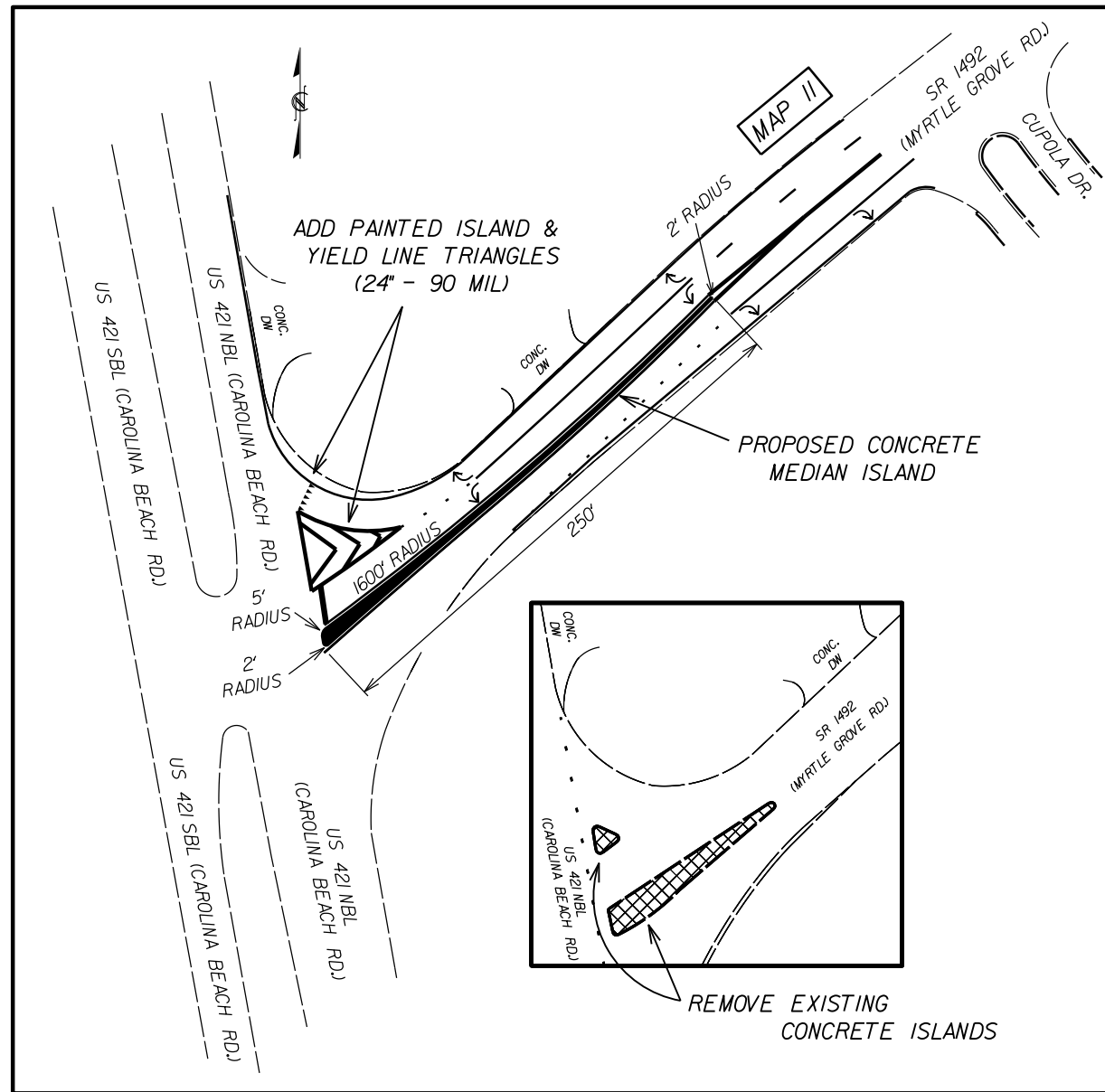


**MAP 10: SR 1318 (BLUE CLAY RD.)
RESURFACING LIMITS**

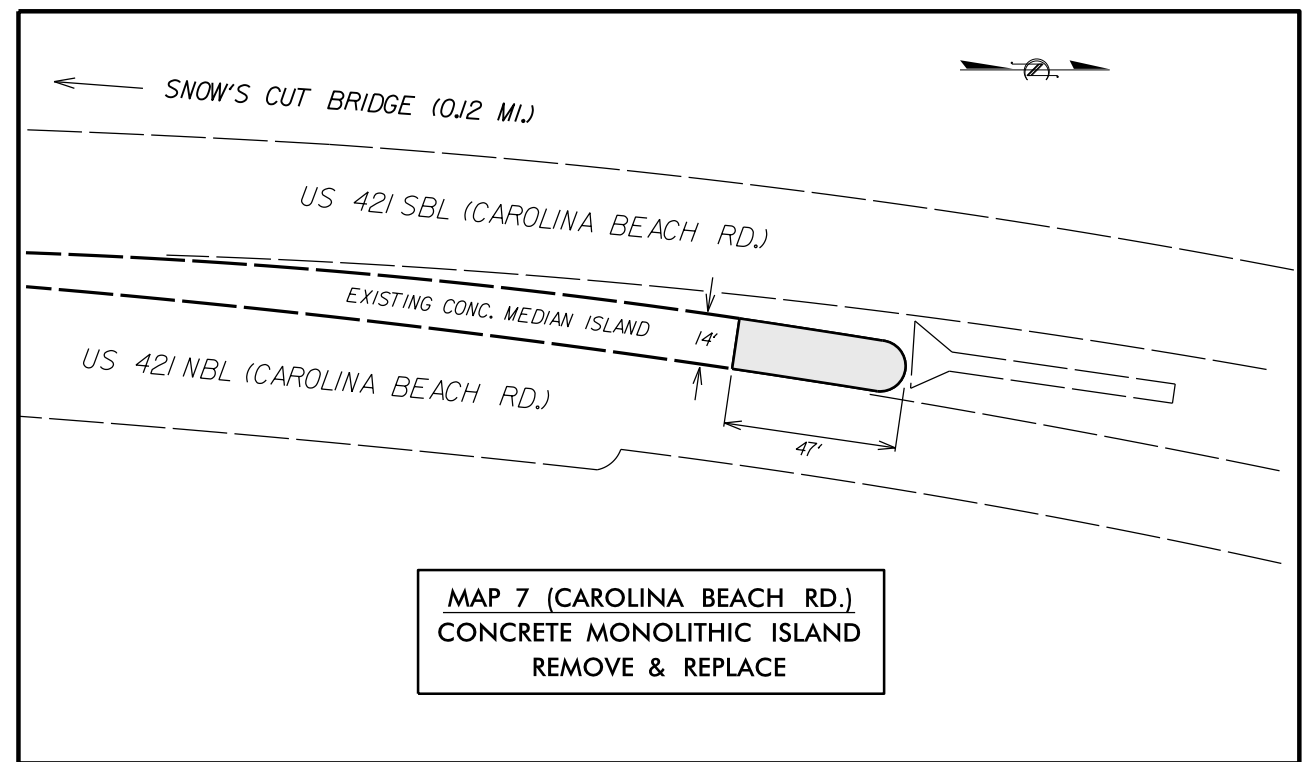
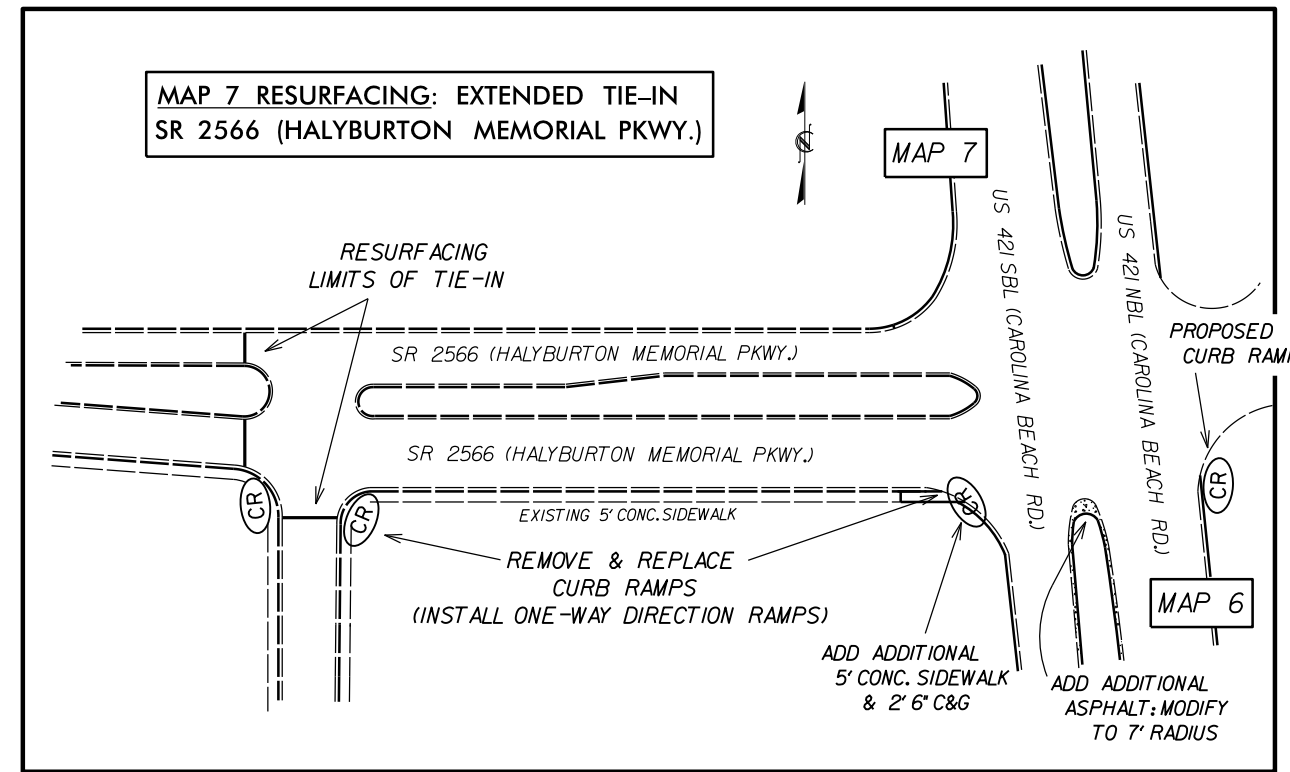
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DETAILS FOR MAP 6, 7 & 11
(US 421 CAROLINA BEACH RD. & SR 1492 MYRTLE GROVE RD.)



MAP 11: SR 1492 (MYRTLE GROVE RD.)
 MODIFICATION OF EXISTING MONOLITHIC CONCRETE ISLAND
 AND PROPOSED PAINTED ISLAND. SEE SIGNAL PLANS FOR LOCATION
 OF INDUCTIVE LOOPS, STOP BARS AND YIELD LINE TRIANGLES

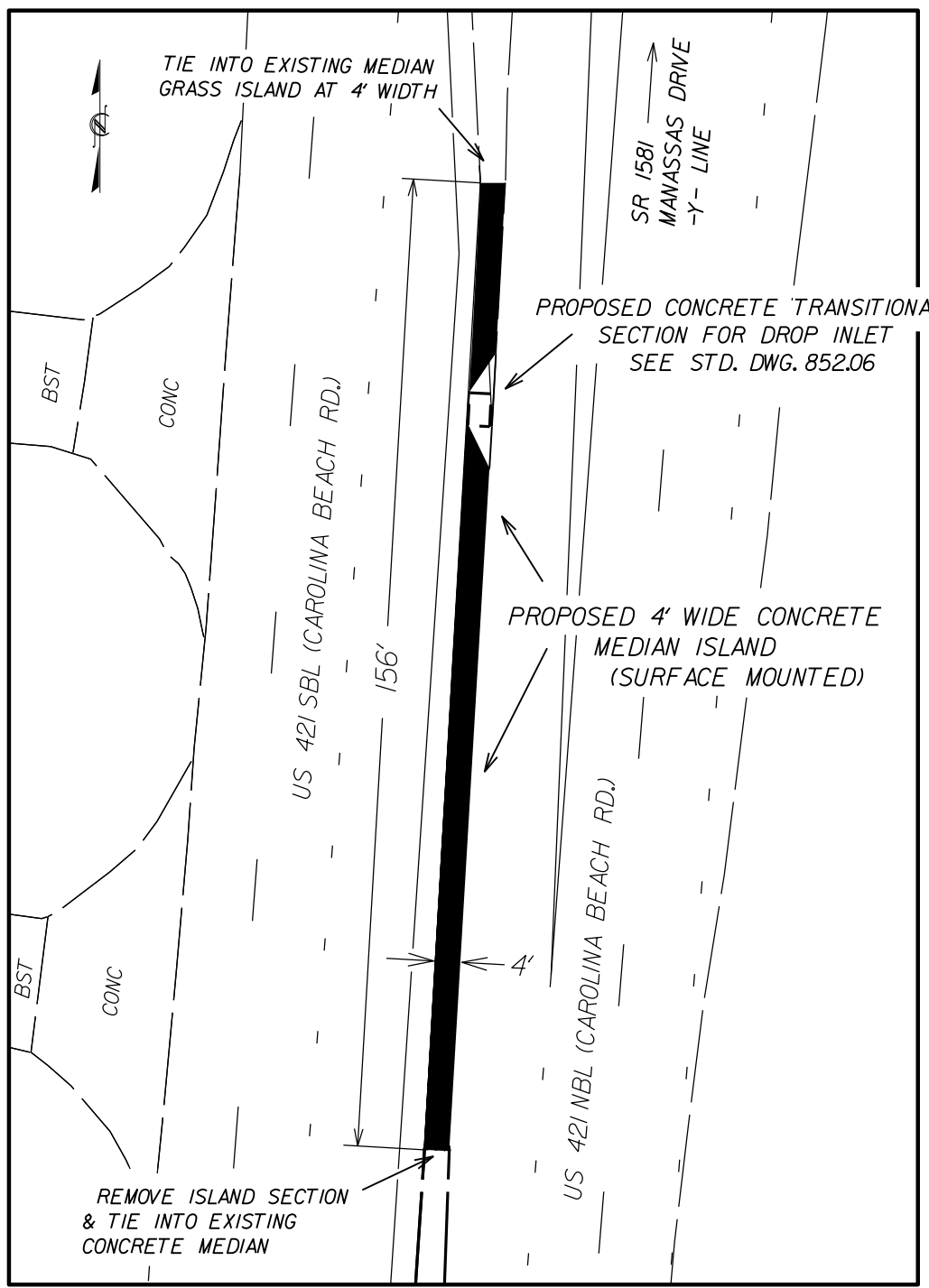


MAP 7 (CAROLINA BEACH RD.)
 CONCRETE MONOLITHIC ISLAND
 REMOVE & REPLACE

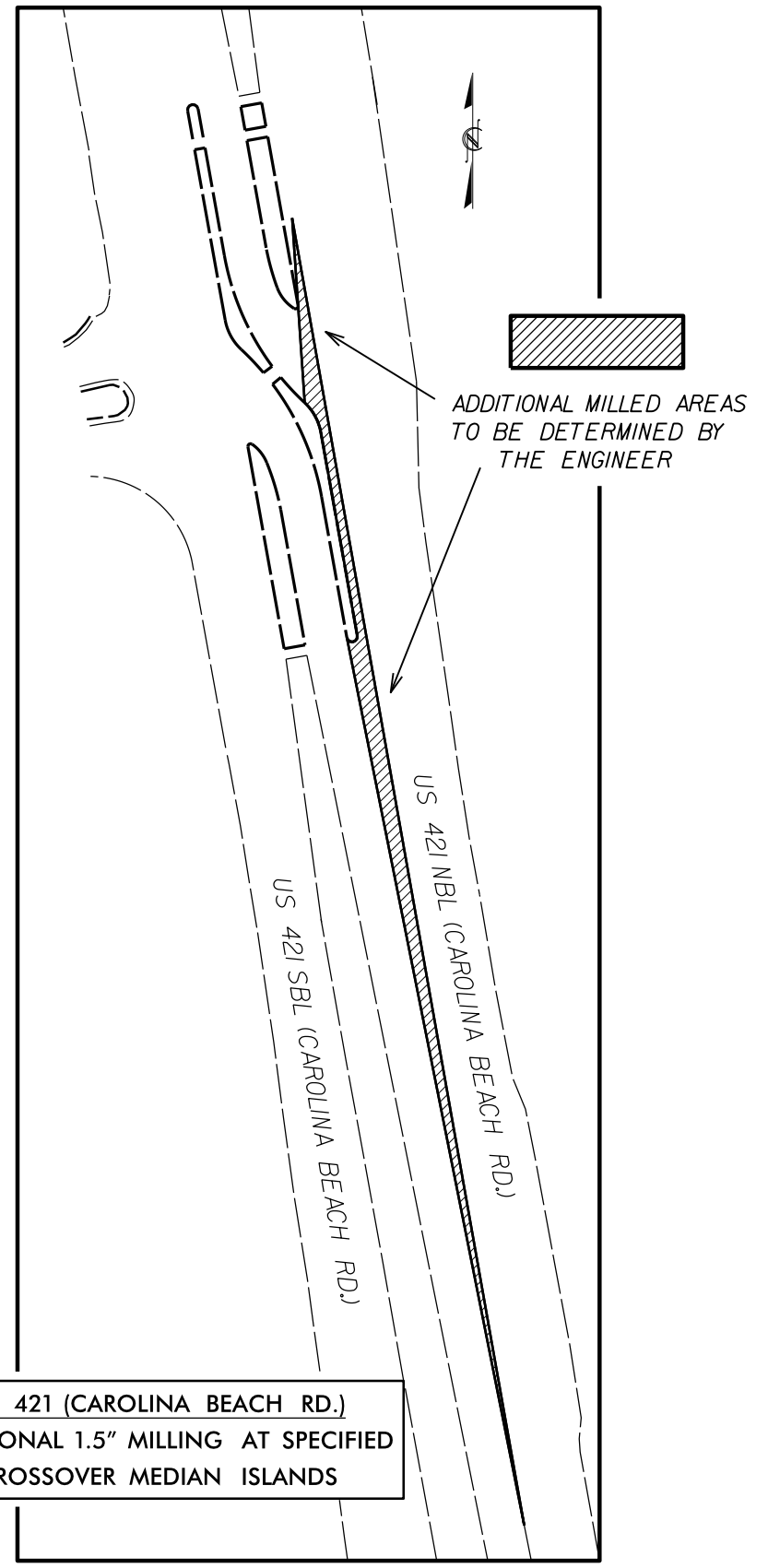
REVISIONS

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 8/17/99
 3:\New Hanover Brunswick Feb 2018\2018CPT.03.04.10651\Island Details Etc.\REV.DGN
 9555
 Resurfacing Projects\Division 3
 2018

DETAILS FOR MAP 6 & 7 (US 421 - CAROLINA BEACH RD.)



**US 421 (CAROLINA BEACH RD.)
PROPOSED MONOLITHIC CONCRETE MEDIAN ISLAND**



**US 421 (CAROLINA BEACH RD.)
ADDITIONAL 1.5" MILLING AT SPECIFIED
CROSSOVER MEDIAN ISLANDS**

10-JAN-2018 12:00
 S:\Contracts\2018\2018CPT.03.04.10651\Island Details2 Etc-REV.DGN
 REVISIONS
 8/17/99

8/17/99

REVISIONS
 Resurfacing\Duplin_Co\2018CPT.03.04.10311.Etc.US.117 & NC.11.24.50\2018CPT.03.04.10311.Etc.RdJ.tjpdgn

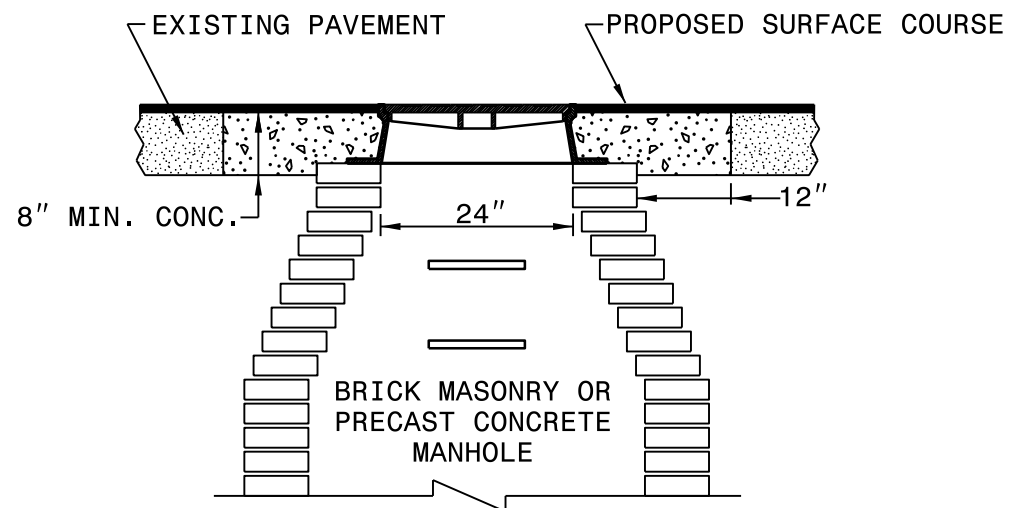
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

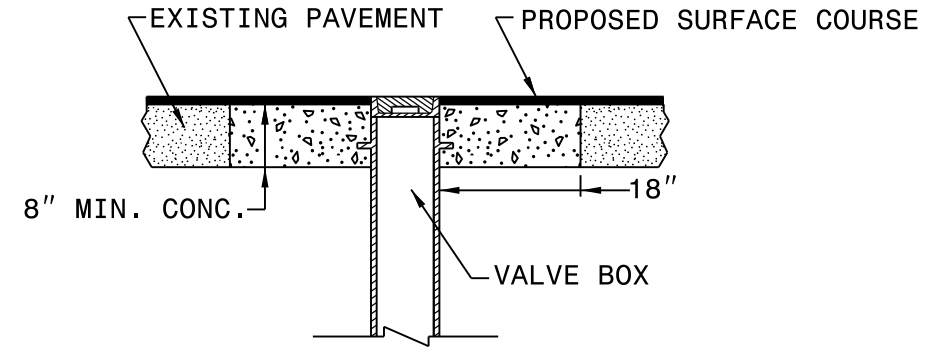
SHEET 1 OF 1
840D55

GENERAL NOTES:

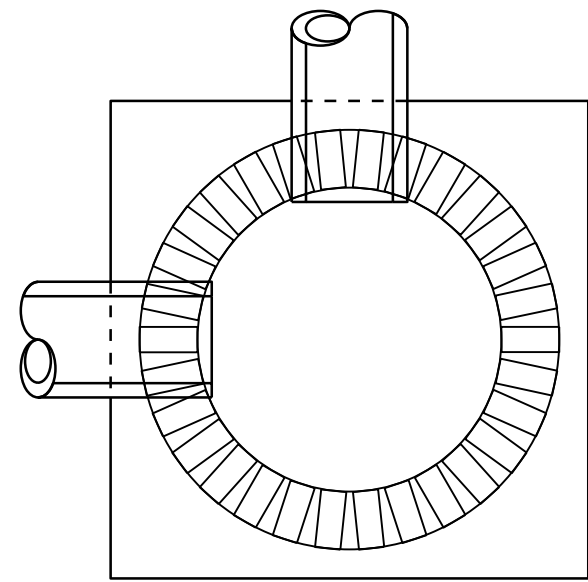
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE THAT WILL TAKE FULL SET AND BECOME LOAD BEARING WITHIN SIXTY MINUTES OF PLACEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " +/- $\frac{1}{8}$ "
7. CONSTRUCT AN ASPHALT RAMP IN ACCORDANCE WITH SECTION 858-3 OF THE 2012 STANDARD SPECIFICATIONS.



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

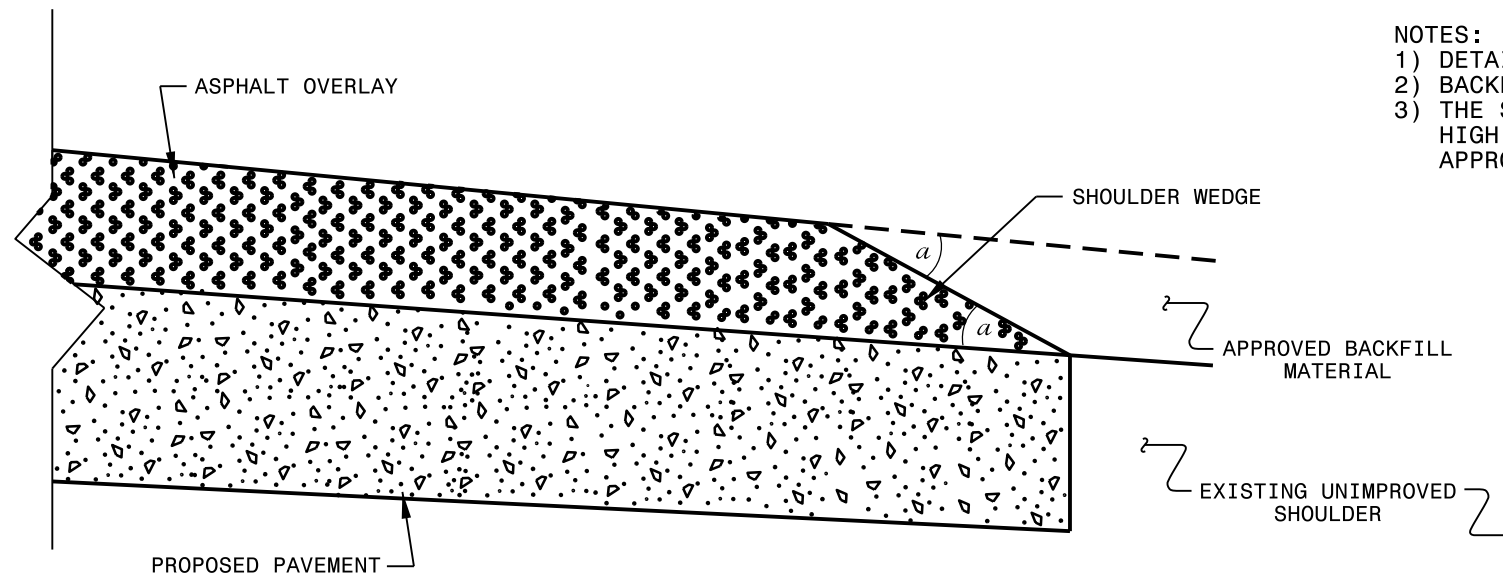
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

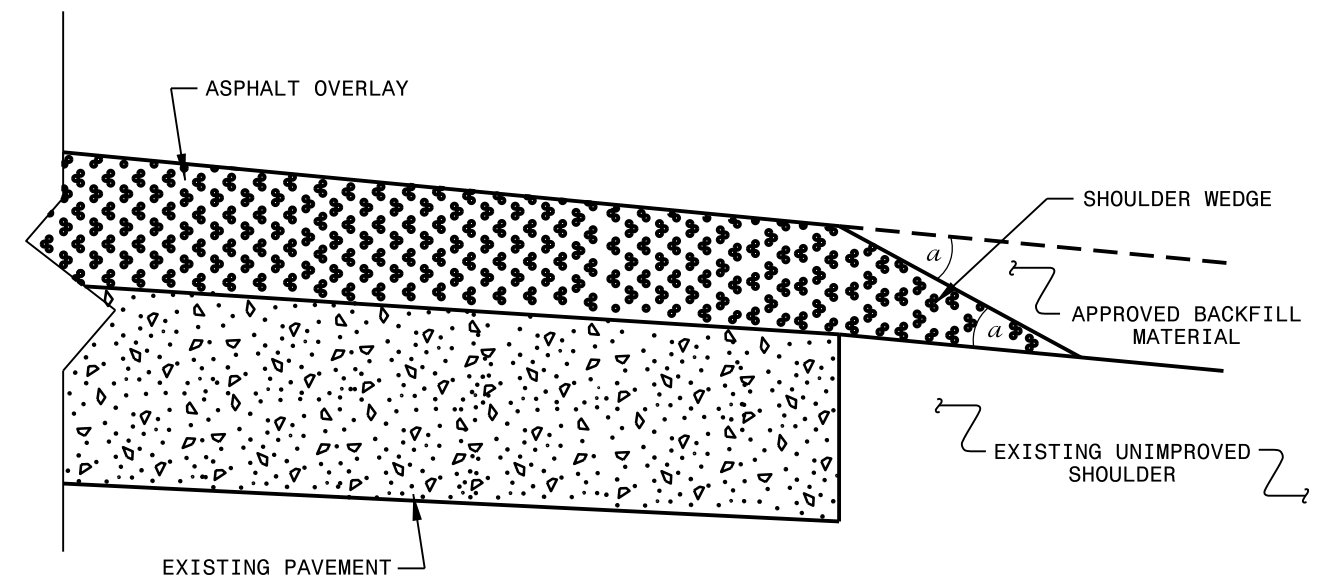
SHEET 1 OF 1
840D55

21-JUL-2017 10:45
 S:\Division\Resurfacing\Resurfacing Data\2018
 \$\$\$SUSPENSE\$\$\$

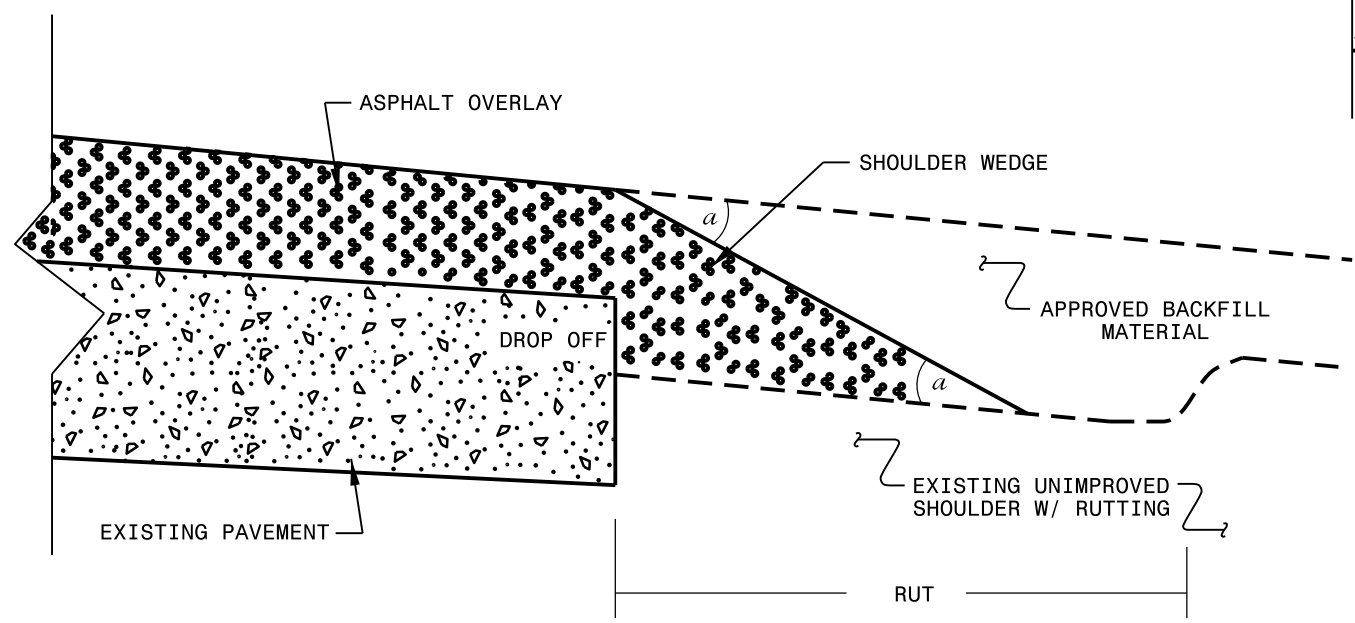
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)

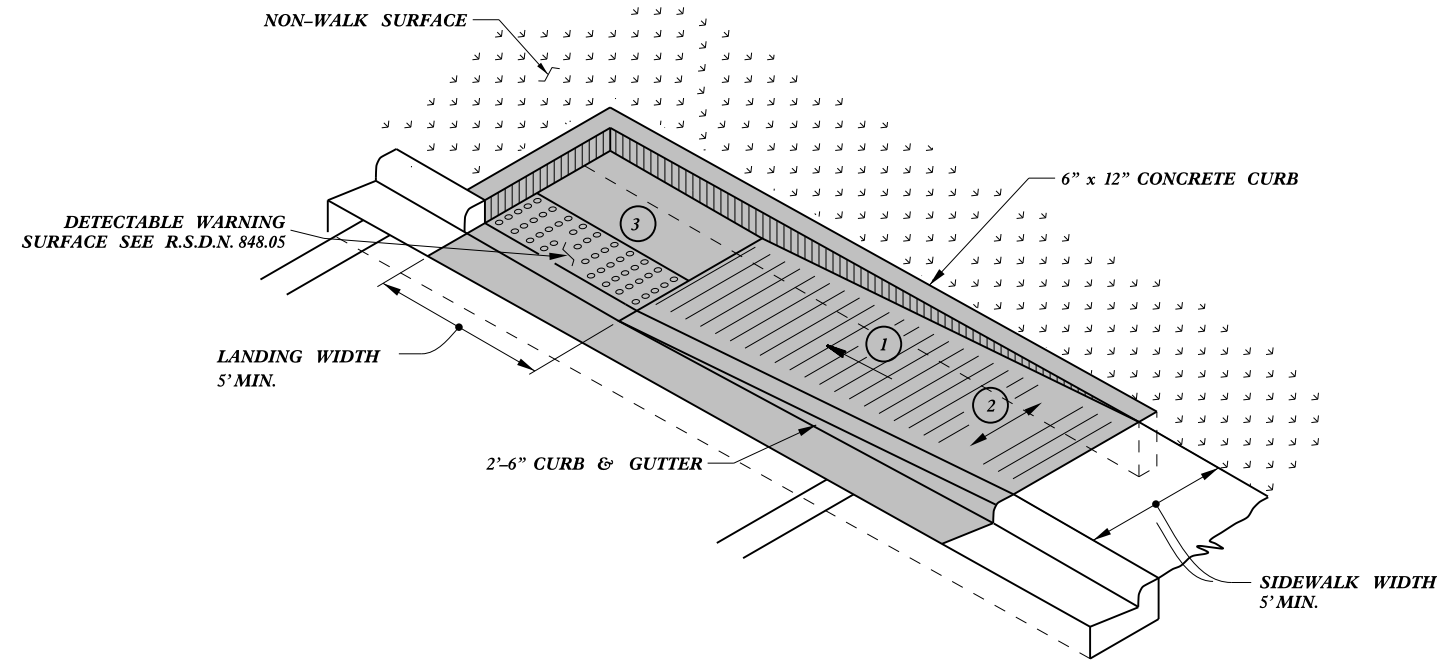


SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

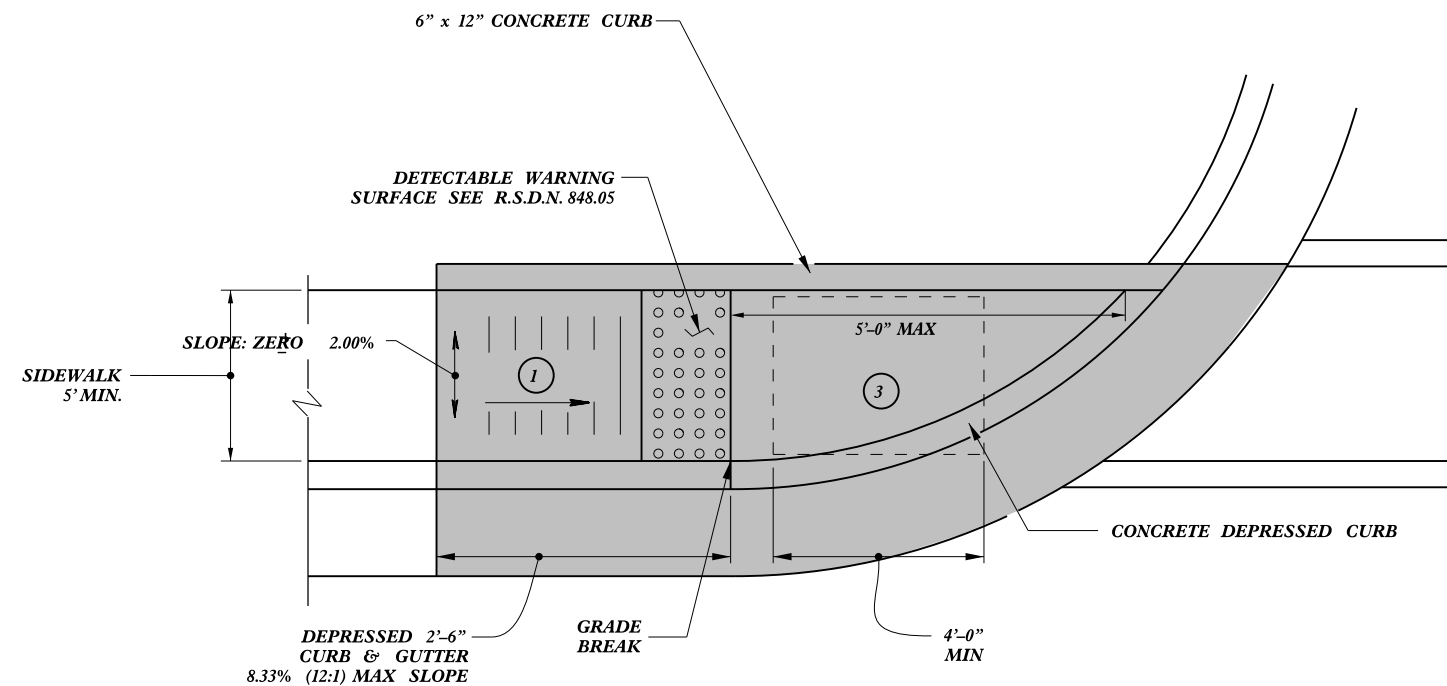
- SHOULDER WEDGE ANGLE = 30°

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.: s:\usr\details\stand\shoulderwedge\detail.dgn	

12-JAN-2016 12:58
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 Reporter: AT-CSP-262542
 Projects\Division 3\Brunswick New Hanover Feb 2018\Revised Shoulder Wedge Detail.dgn



TYPE 1A



TYPE 1

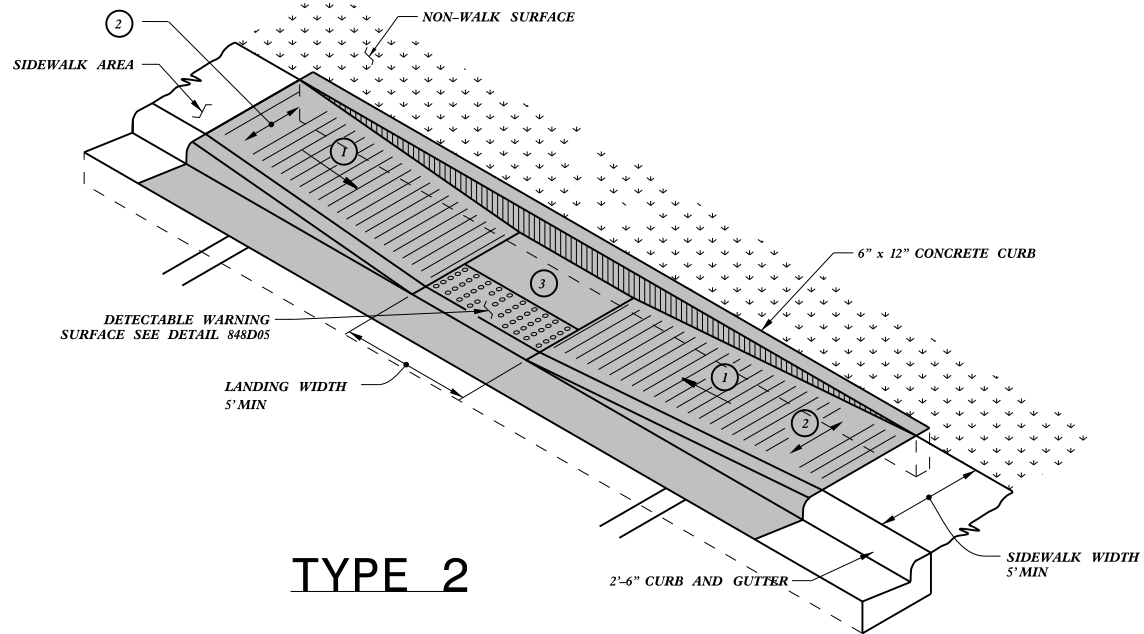
- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR CURB RAMP

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: sstds/2012CurbRamp/CurbRampDetails.dwg	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

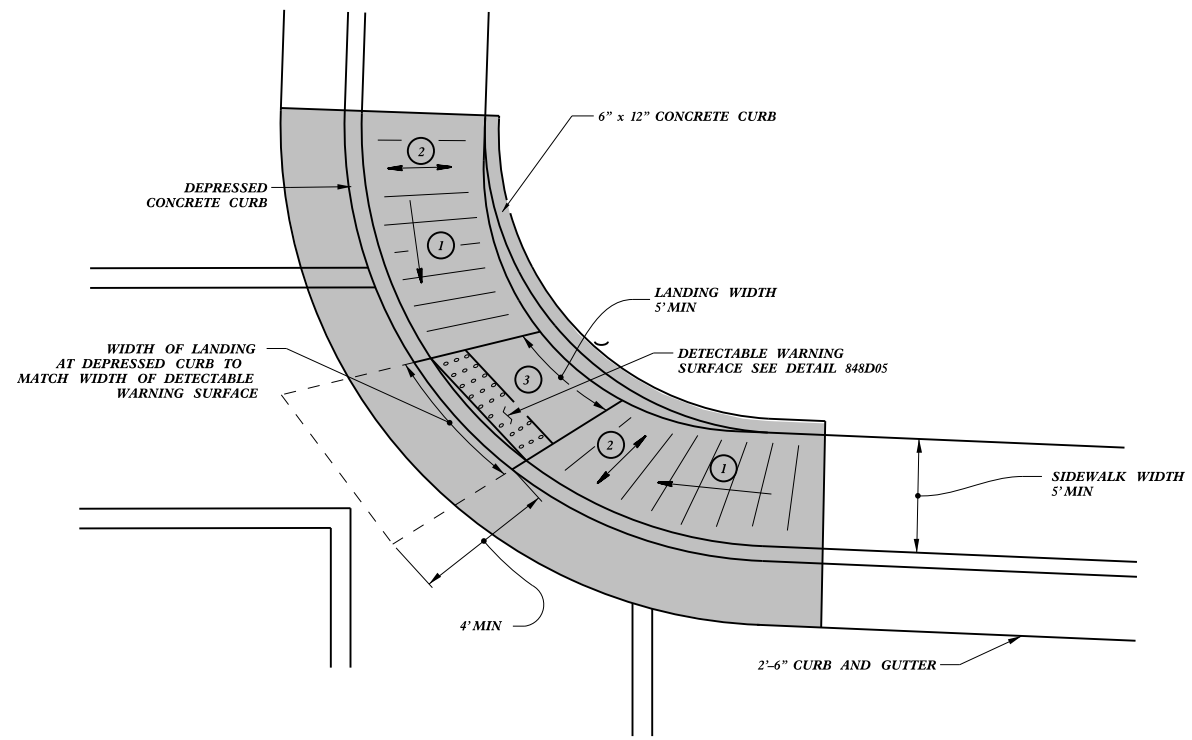
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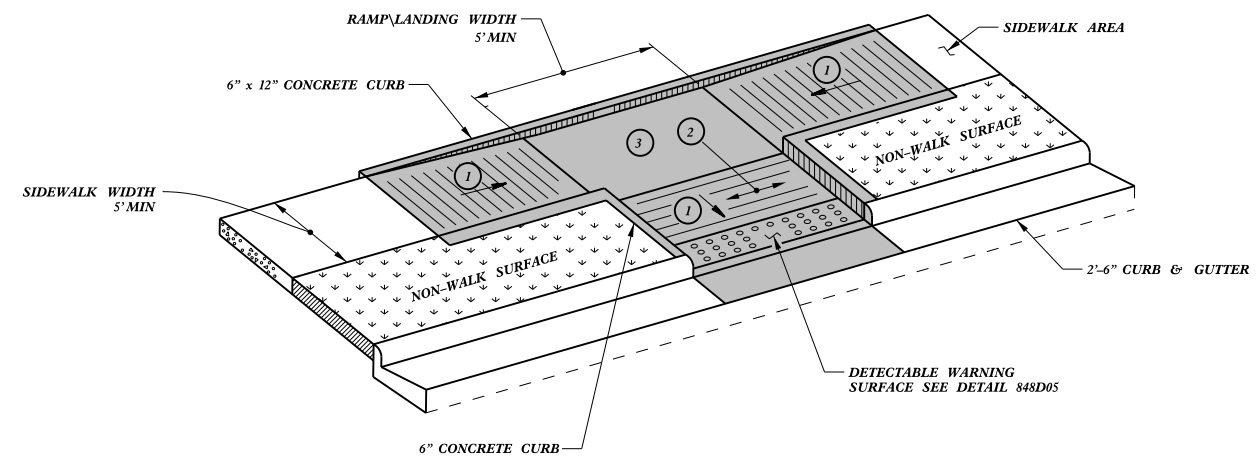
TYPE 2

PAY LIMITS FOR CURB RAMP

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE 2A

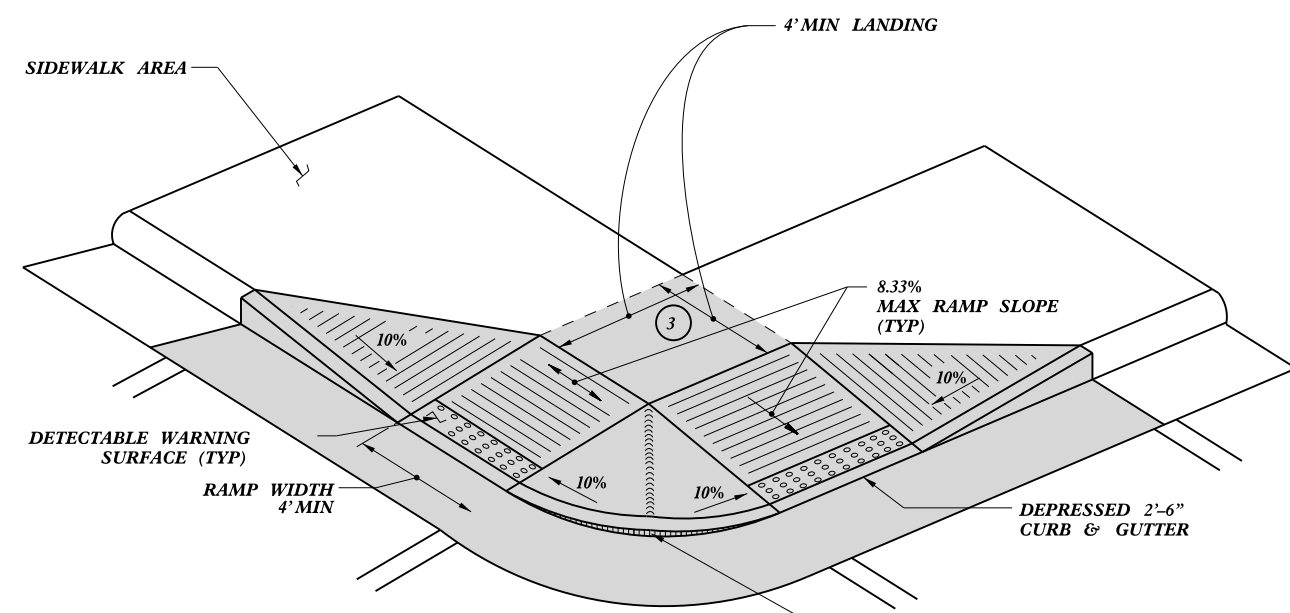


TYPE 3

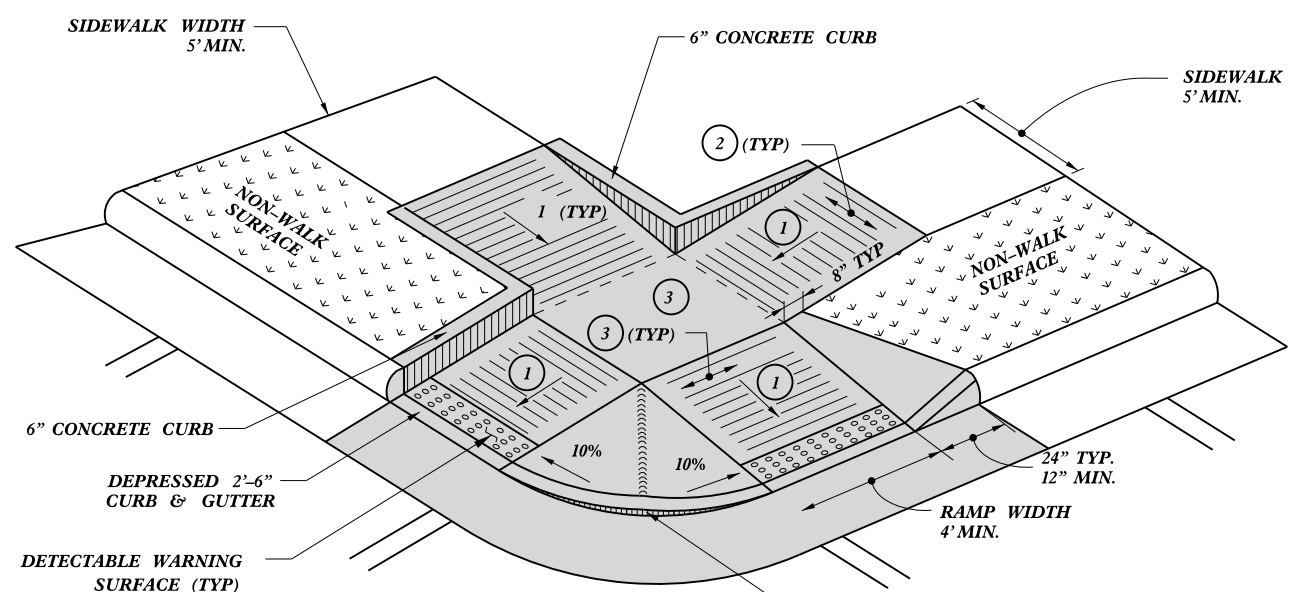
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: sstds/2012CurbRamp/CurbRampDetails.dwg	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

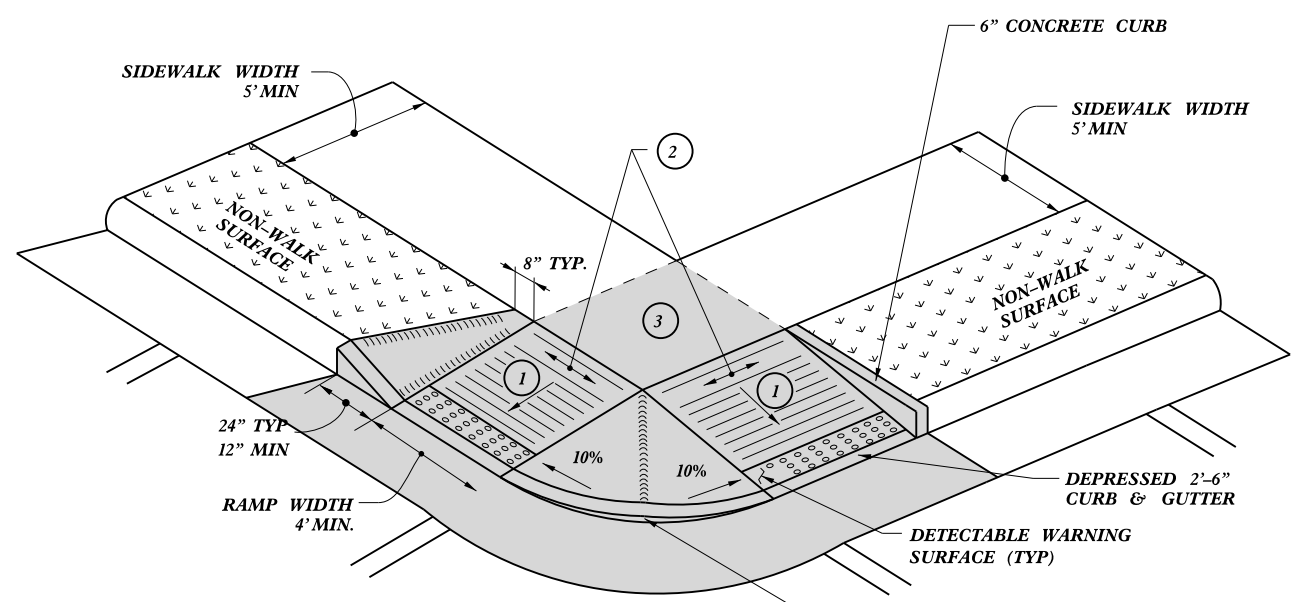
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TYPE 4



TYPE 5



TYPE 4A

PAY LIMITS FOR CURB RAMP

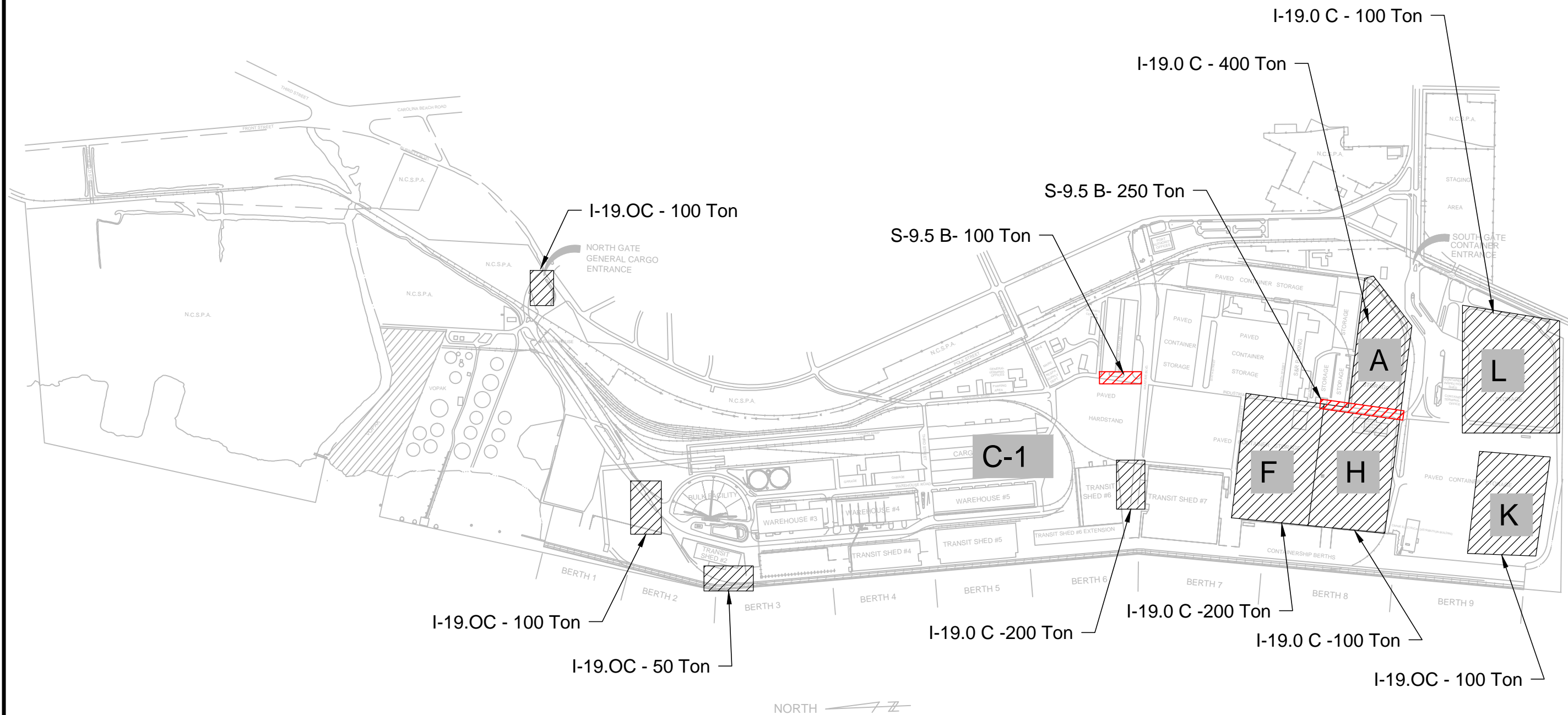
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: sstds/2012CurbRamp/CurbRampDetails.dwg	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

23-MAR-2012 15:08 J:\Contracts\2012\Standard Drawings\2012 Standard Drawings\Curb Ramp Special Details\Curb Ramp Details.dwg J:\Howerton

PROPOSED DOT PAVING 2018



NOTES;

1. All areas are approximate locations and quantities are subject to change.
2. All repairs are 2" - 2 1/2" mill / fill.
3. Assume 350 Tons S-9.5B and 1350 Tons I-19.0C Total Tonnages ≈ 1700 tons.
4. Full road closures not allowed without coordination with (NCSPA Operations).
5. All work will occur from hours of 6pm to 6am (Monday - Sunday).

POW Paving Locations Map 2018.dwg
 The North Carolina State Ports Authority does not and cannot guarantee the accuracy of this drawing(s).
 Use of the information and data contained within this drawing(s) is at your sole risk. If you rely on this information
 on this drawing you are responsible for ensuring by independent verification its accuracy, currency or completeness.

REV	DESCRIPTION	DATE	ISSUED BY	APP BY
A		7/7/2017	JRL	

NORTH CAROLINA STATE PORTS AUTHORITY
 DEPARTMENT OF ENGINEERING AND MAINTENANCE
 PO BOX 9002
 WILMINGTON, NC 28402
 MARK A. BLAKE, P.E. DIRECTOR

DESIGNED BY: NAME
 DRAWN BY: NAME
 CHECKED BY: NAME
 RDM
 PROJ. MAN. NAME

PROFESSIONAL SEAL
 NORTH CAROLINA PROFESSIONAL SEAL 25855
 BARRY W. ADDERTON
 ENGINEER

NORTH CAROLINA PORTS

NORTH CAROLINA STATE PORTS AUTHORITY
 Asphalt Patching Locations
 Proposed DOT Paving - 2018
 Port of Wilmington

SHEET# 1
 SCALE: AS SHOWN

PROJECT # N/A

GA

SUMMARY OF QUANTITIES

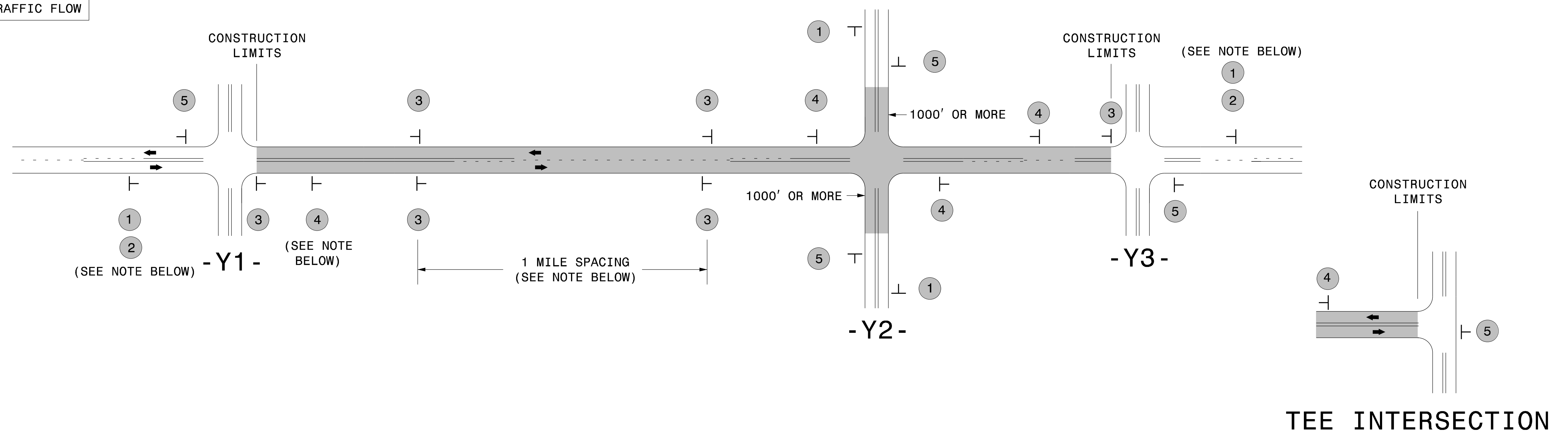
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRE D	LENGTH	WIDTH	BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONST.	1.5" MILLING	2" MILLING	1.25" MILLING	0" - 1.5" MILLING	0" - 1.25" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	INTER-MEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	SURFACE COURSE, S9.5C	SURFACE COURSE, S4.75A	ASPHALT BINDER FOR PLANT MIX	MILLED RUMBLE STRIPS	PATCHING EXISTING PAV. (MILL)	PATCHING EXISTING PAV. (FULL DEPTH)	PATCHING EXISTING PAV. I19.0C (MILL)	PATCHING EXISTING PAV. S9.5C (MILL)	CONC TRANS. SECT. FOR DI'S	2'-6" CONC CURB & GUTTER	4" CONC SIDE-WALK	CONC CURB RAMP	6" CONC DRIVE-WAY	5" CONC ISLANDS (SURFACE MOUNTED)	5" CONC ISLANDS (KEYED IN)	REMOVE & REPL 5" CONC ISLANDS	REMOVE & REPL 4" CONC SIDE WALK								
										MI	FT	CY	TON	SMI	SY	SY	SY	SY	SY	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	LF	TON	TON	TON	TON	EA	LF	SY	EA	SY	SY	SY	SY	
2018 CPT. 03.04. 10101	Brunswick	1	US 17 BUS. N / US 76 E (OCEAN HWY. E.)	FROM US 17 TO NEW HANOVER CO. (MP 15.00 - MP 15.476)	1	2	2WD	NO	NO	0.476	39 - 51	15		0.28	13,175											1,110	65	3,445																					
		2	US 17 BUS. S / US 76 W (OCEAN HWY. E.)	FROM NEW HANOVER CO. TO US 17 (MP 0.000 - MP 0.609)	1	2	2WD	NO	NO	0.609	39	15			0.36	13,934											1,170	69	4,000																				
		3	US 421 N. RAMP	FROM US 17 BUS./US 76 TO US 17 (MP 0.036 - MP 0.360)	2	2		NO	NO	0.324	31					5,890											495	29																					
TOTAL FOR PROJ NO. 2018CPT.03.04.10101										1.409		30		0.64	32,999											2,775	164	7,445																					
2018CPT.03.04.10651	NewHanover	4	US 17 BUS. N / US 76 E (74/76)	FROM BRUNSWICK CO. TO CAPE FEAR MEMORIAL BRIDGE (MP 0.000 - MP 0.053)	3	2	2WD	NO	NO	0.053	24				800											70	4	275																					
		5	US 17 BUS. S / US 76 W (74/76)	FROM CAPE FEAR MEMORIAL BRIDGE TO BRUNSWICK CO. (MP 12.720 - MP 12.784)	3	2	2WD	NO	NO	0.064	24					960											85	5	325																				
		6	US 421 N (CAROLINA BEACH RD.)	FROM SNOWS CUT BRIDGE TO PVMT. SEAM SOUTH OF SR 1187 (SANDERS RD.) (MP 8.093 - MP 12.660)	4 & 5	2	MD	NO	NO	4.567	28 - 64	125			2.74	85,462							2,705	1,500	7,180								1					33	80		16								
		7	US 421 S (CAROLINA BEACH RD.)	FROM PVMT. SEAM SOUTH OF SR 1187 (SANDER RD.) TO SNOWS CUT BRIDGE (MP 16.853 - MP 21.420)	4 & 5	2	MD	NO	NO	4.567	28 - 64	125			2.74	85,462				2,355			2,705	1,500	7,395																				10				
		8	NC 132 NB (S. COLLEGE RD.)	FROM 0.09 MI. NORTH OF US 421 TO 17TH ST. (MP 0.090 - MP 2.437)	6	2	MD	NO	NO	2.347	24 - 60	65	50		1.40		51,305																																
		9	NC 132 SB (S. COLLEGE RD.)	FROM 17TH ST. TO 0.09 MI. NORTH OF US 421 (MP 12.843 - MP 15.182)	6	2	MD	NO	NO	2.339	24 - 60	65			1.40		53,955																													25	14		
TOTAL FOR PROJ NO. 2018CPT.03.04.10651										13.937		380	50	8.28	172,684	105,260		2,355		5,410	3,000	26,365				155	1,978	600	700					1	40	7	1	66	80	25	16	24							
2018CPT.03.04.20651	New Hanover	10	SR 1318 (BLUE CLAY RD)	FROM 1302 TO NC 132 (MP 0.00 - MP 4.455)	7 & 8	2	2WU	NO	NO	4.455	22 - 48	450	108	8.91							805	2,234				5,680	225																						
		11	SR 1492 (MYRTLE GROVE RD)	FROM SR 1520 TO US 421 (MP 1.76 - MP 5.35)	7	2	2WU	NO	NO	3.6	26			130														4,691																					
		12	SR 1333 (HERMITAGE LN)	FROM NC 133 TO SR 2157 (MP 0.00 - MP 0.83)	7	2	2WU	NO	NO	0.83	20			20														864																					
		13	SR 2158 (HERMITAGE RD)	FROM 2157 TO SR 2159 (MP 0.00 - MP 0.23)	7	2	2WU	NO	NO	0.23	21			10															239																				
		14	SR 2157 (CROWATAN)	FROM NC 133 TO SR 2158 (MP 0.00 - MP 0.79)	7	2	2WU	NO	NO	0.79	21			15															822																				
		15	SR 2159 (CHESTERFIELD)	FROM SR 2158 TO END OF PAVEMENT (MP 0.00 - MP 0.16)	9	2	2WU	NO	NO	0.16	20			5															156																				
		16	SR 2228 (DEKKER RD)	FROM SR 2227 TO END OF CUL-DE-SAC (MP 0.00 - MP 0.10)	10	2	2WU	NO	NO	0.1	18			5															105																				
		17	SR 1317 (CHADWICK AVE)	FROM NC 133 TO END OF MAINTENANCE (MP 0.00 - MP 0.74)	10	2	2WU	NO	NO	0.74	18			20															540																				
		18	SR 2697 (MEMORY LANE)	FROM 2600 TO CUL-DE-SAC (MP 0.00 - MP 0.33)	10	2	2WU	NO	NO	0.33	20			5															295																				
		19	SR 1852 (SHORE POINT DR)	FROM 1363 TO END OF SYSTEM (MP 0.00 - MP 0.79)	10	2	2WU	NO	NO	0.79	20			20															640																				
		20	SR 1853 (CONCH DR)	SR 1852 TO SR 1852 (MP 0.00 - MP 0.06)	10	2	2WU	NO	NO	0.06	20			5															50																				
		21	SR 1882 (ABALONE DR./CONQUINA DR./COWRIE LANE)	FROM SR 1402 TO END OF SYSTEM (MP 0.00 - MP 0.29)	10	2	2WU	NO	NO	0.29	20			5															235																				
		22	SR 2908 (CONQUINA DR)	FROM ABALONA TO END OF SYSTEM (MP 0.00 - MP 0.07)	10	2	2WU	NO	NO	0.07	18			5															51																				
		23	SR 2537 (DUCK DOWNE COURT)	FROM SR 1720 TO ENC OF CUL-DE-SAC (MP 0.00 - MP 0.06)	11	2		NO	NO	0.06	20																			84	5																		
		24	SR 2023 (DIAMOND SHAMROCK RD)	FROM SR 1002 TO END MAINTENANCE (MP 0.00 - MP 0.61)	7	2	2WU	NO	NO	0.61	24			15																725																			
		25	SR 1823 (KENMORE DR)	FROM SR 1403 TO SR 1824 (MP 0.00 - MP 0.08)	12	2	2WU	NO	NO	0.08	36																			116																			
		26	SR 1824 (BRANDYWINE CIR)	FROM SR 1823 TO SR 1824 (MP 0.00 - MP 0.61)	10	2	2WU	NO	NO	0.61	20			15																515																			
		27	SR 1826 (HOMESTEAD CT)	FROM SR 1824 TO END OF CUL-DE-SAC (MP 0.00 - MP 0.07)	10	2	2WU	NO	NO	0.07	20			5																70																			
		28	SR 1825 (SALEM CT)	FROM SR1824 TO END CUL-DE-SAC (MP 0.00 - MP 0.05)	10	2	2WU	NO	NO	0.05	20			5																51																			
		29	SR 2024 (KRAUSS LN)	FROM SR 1310 TO END OF SYSTEM (MP 0.00 - MP 0.09)	7	2	2WU	NO	NO	0.09	22			5																98																			
		30	SR 2322 (WALKER RIDGE CT)	FROM SR 1265 TO END OF CUL-DE-SAC (MP 0.00 - MP 0.04)	10	2	2WU	NO	NO	0.04	26			5																52																			
		31	SR 2326 (BAINRIDGE CT)	FROM SR 2325 TO END OF CUL-DE-SAC (MP 0.00 - MP 0.04)	10	2	2WU	NO	NO	0.04	26																			63																			
		32	SR 2327 (ALDEN CT)	FROM SR 2325 TO END CUL-DE-SAC (MP 0.00 - MP 0.04)	10	2	2WU	NO	NO	0.04	26			5																63																			
		33	SR 2012 (WORDSWORTH)	FROM SR 2011 TO SR 2017 (MP 0.00 - MP 0.23)	10	2	2WU	NO	NO	0.23	22			6																225																			
		34	SR 2168 (PINE KNOLL DR)	FROM SR 2165 TO SR 2166 (MP 0.00 - MP 0.11)	10	2																																											

SIGNING FOR RESURFACING PROJECTS

LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

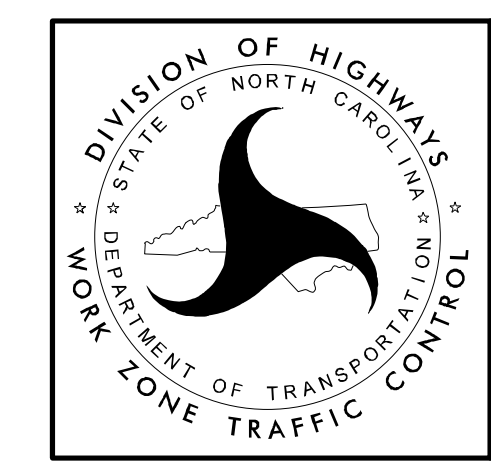
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<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 <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		<ul style="list-style-type: none"> PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. 	
	4		<ul style="list-style-type: none"> 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		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

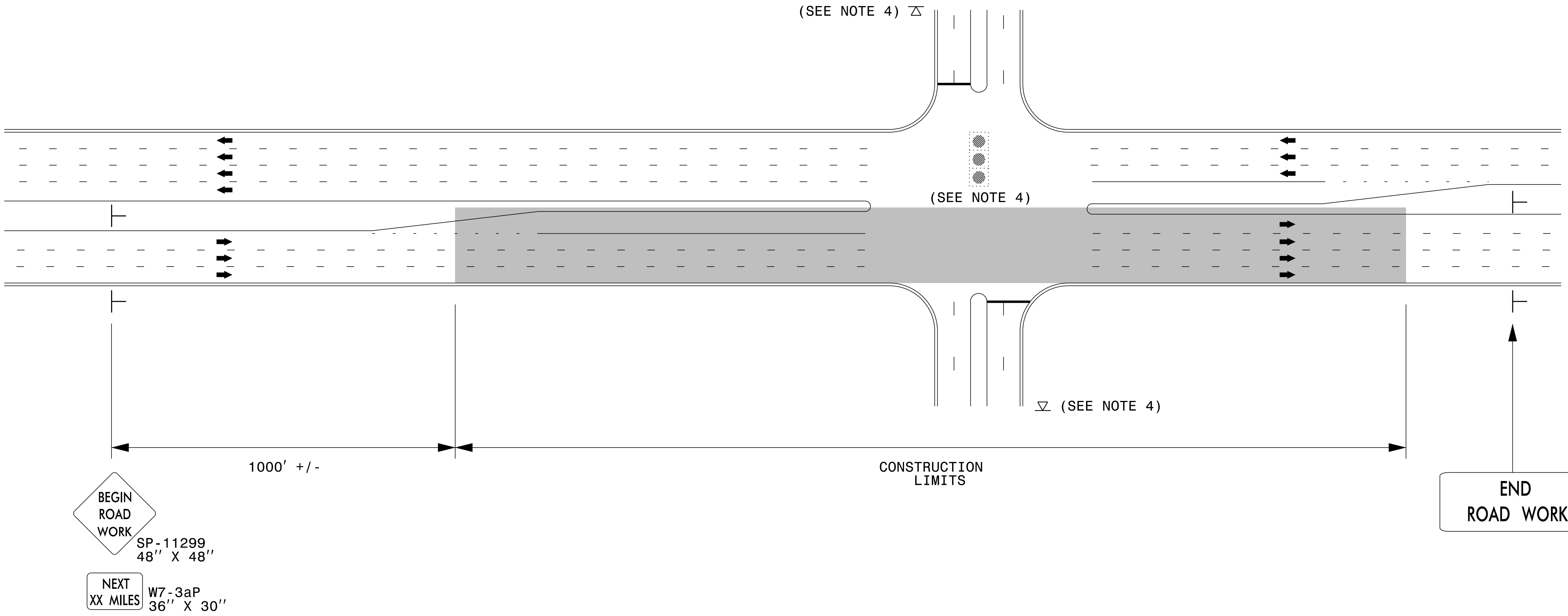
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

5/15/2017 S:\TMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn User:kadai

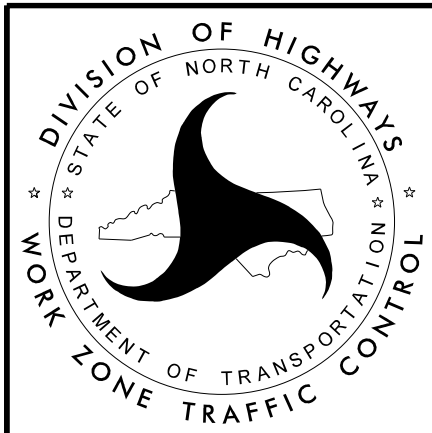
URBAN / SUBURBAN WORKZONES



NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 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) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) 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 WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
├	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

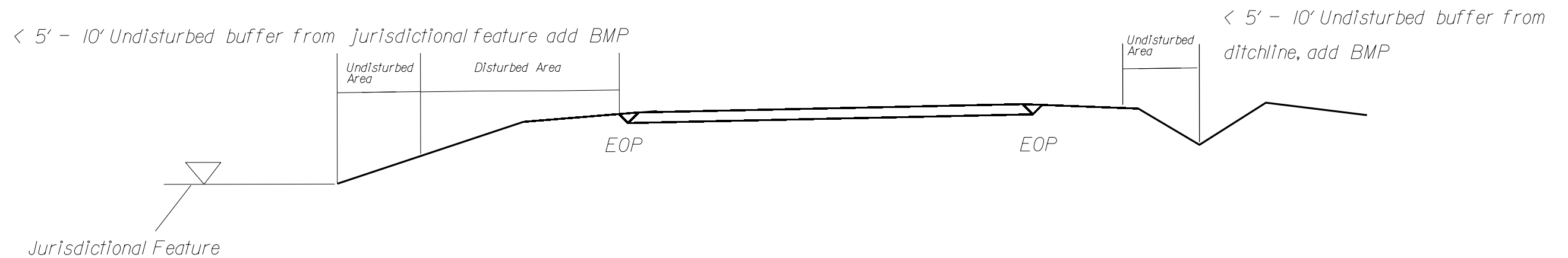
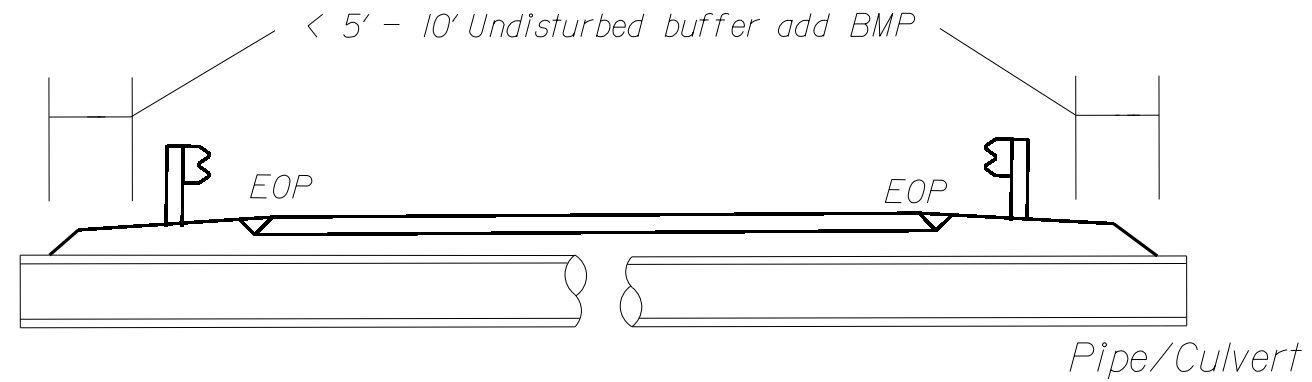
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

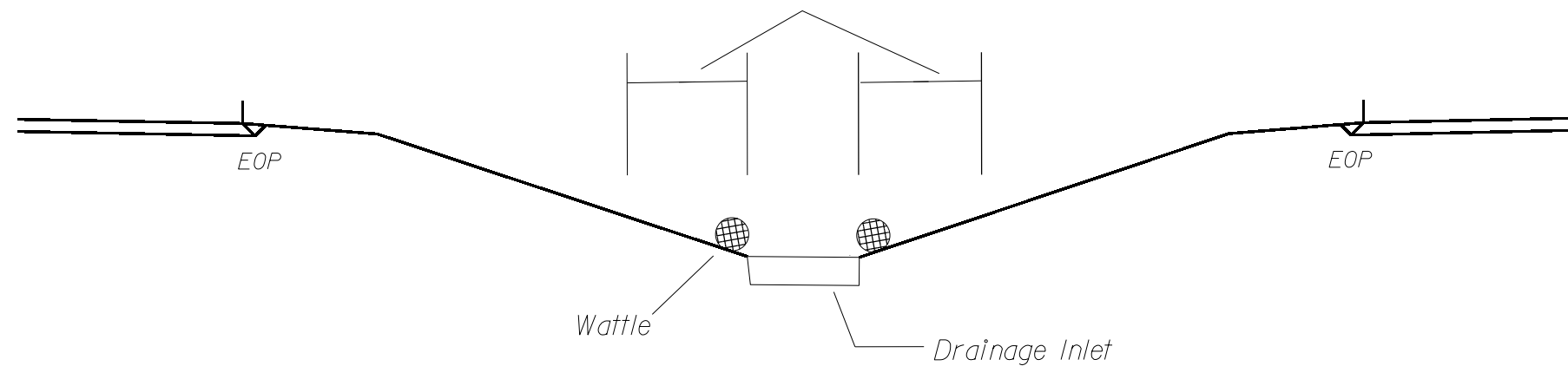
EROSION CONTROL DETAIL



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

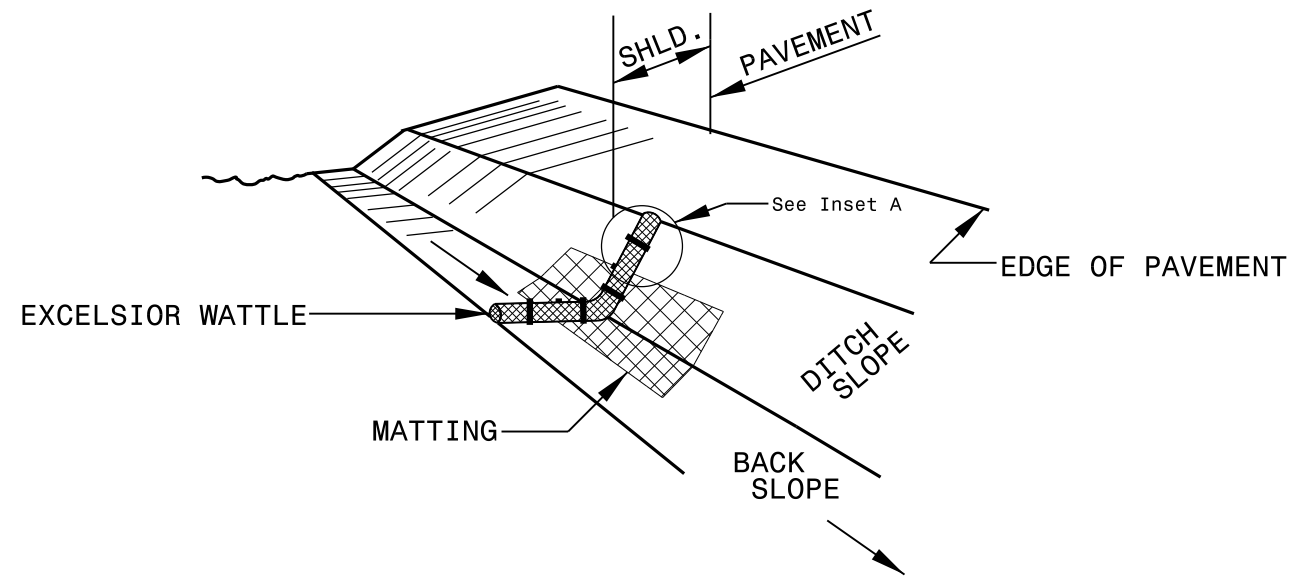


< 5' - 10' Undisturbed buffer from inlet, add wattle

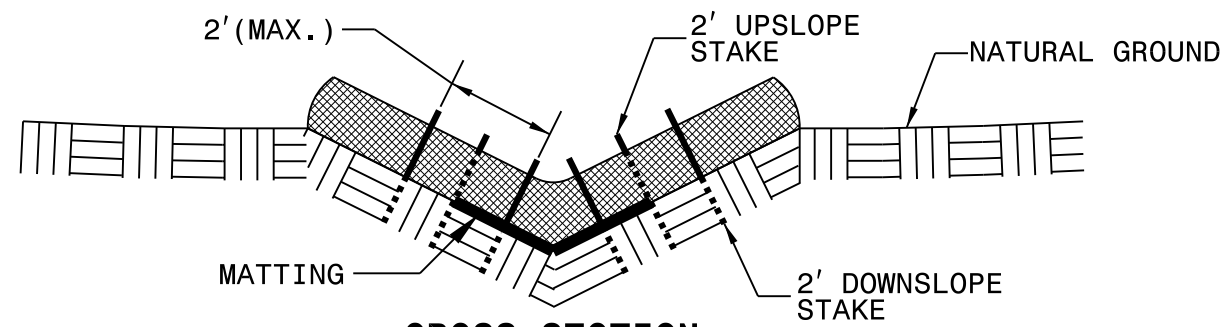


NOT TO SCALE

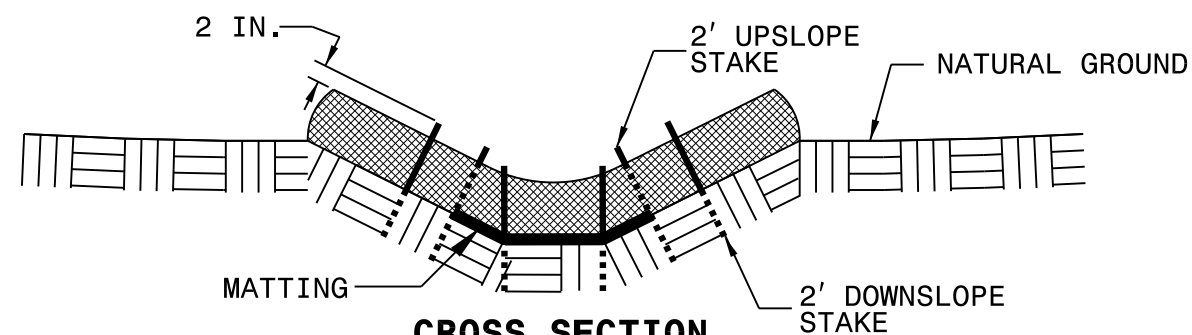
WATTLE DETAIL



ISOMETRIC VIEW



**CROSS SECTION
VEE DITCH**



**CROSS SECTION
TRAPEZOIDAL DITCH**

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

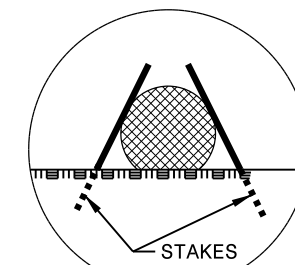
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

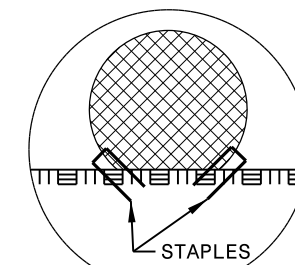
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

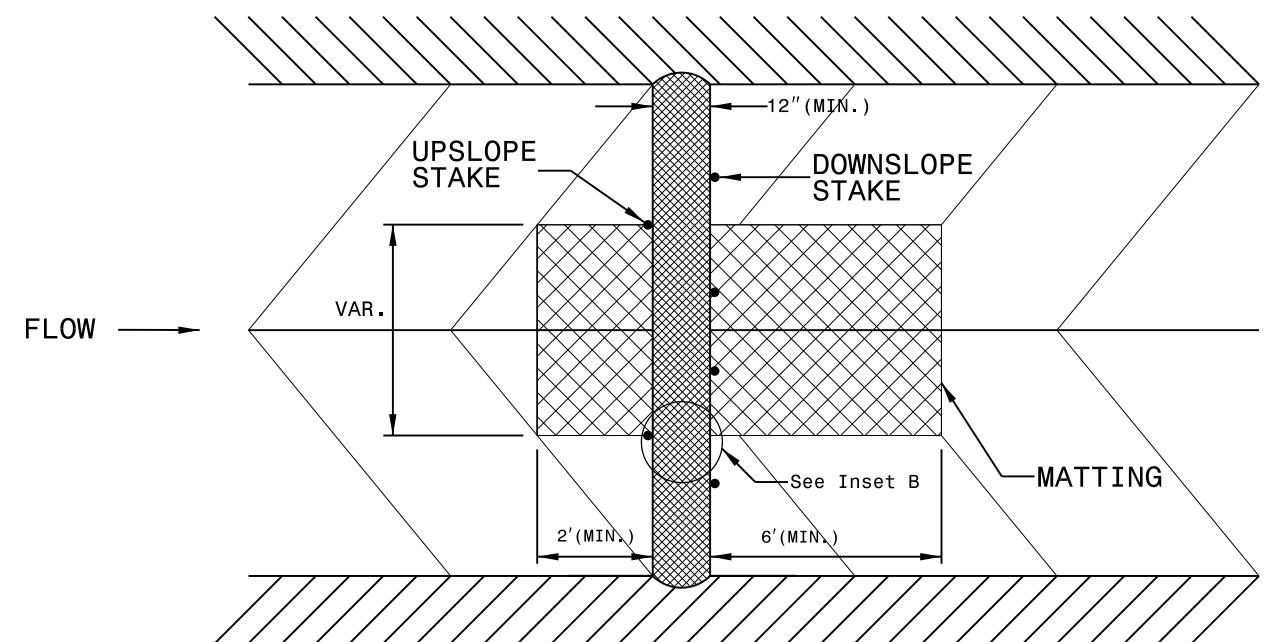
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A

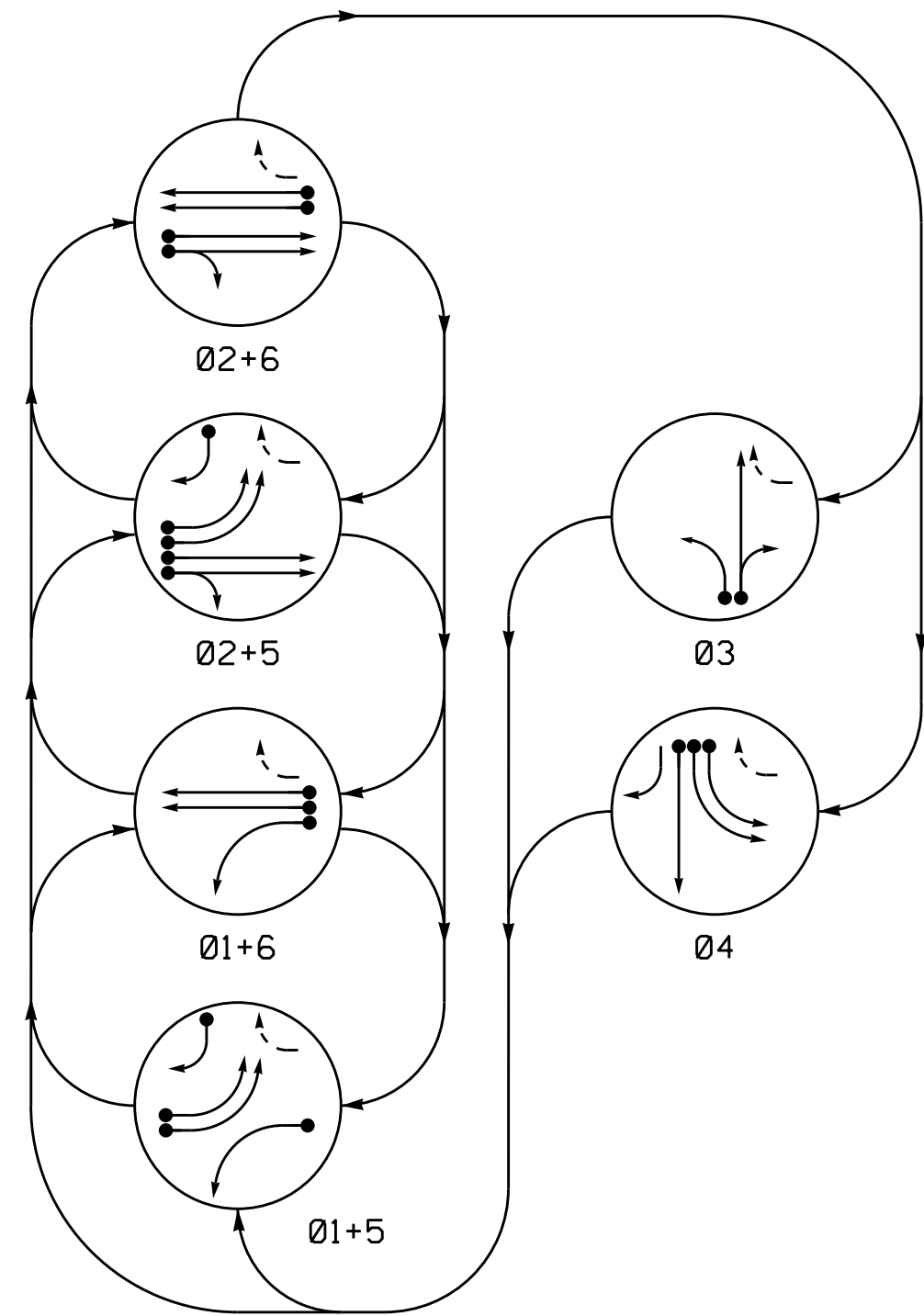


INSET B



TOP VIEW

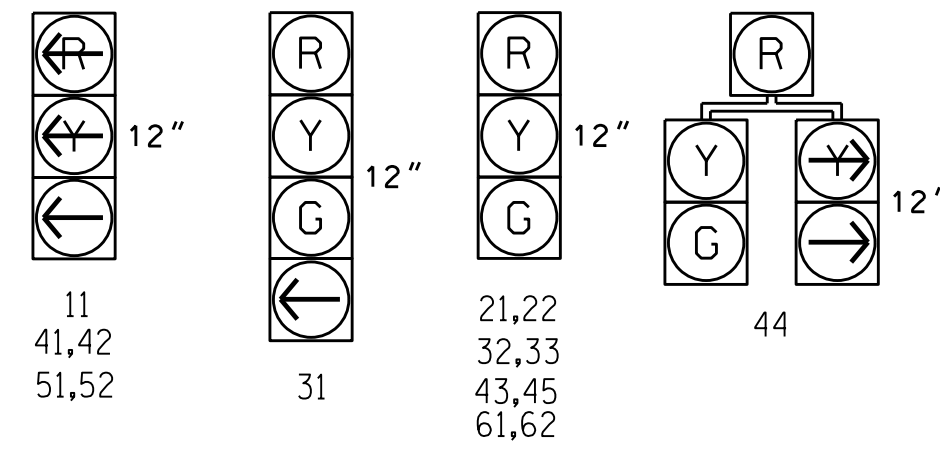
PHASING DIAGRAM



SIGNAL FACE	PHASE					
	Ø 1 + 5	Ø 2 + 5	Ø 2 + 6	Ø 3	Ø 4	F
11	←	←	←	←	←	←
21,22	R	R	G	G	R	R
31	R	R	R	R	G	R
32,33	R	R	R	R	G	R
41,42	←	←	←	←	←	←
43,45	R	R	R	R	R	G
44	←	←	←	←	←	←
51,52	←	←	←	←	←	←
61,62	R	G	R	G	R	R

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION												
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING						SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME		
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	-	-	-
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
2B	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	-	3	-	-
3B	6X40	0	2-4-2	Y	3	Y	Y	-	-	10	-	-
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
4C	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5C	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	-
6A	6X6	300	6	Y	6	Y	Y	-	-	-	-	-
6B	6X6	300	6	Y	6	Y	Y	-	-	-	-	-

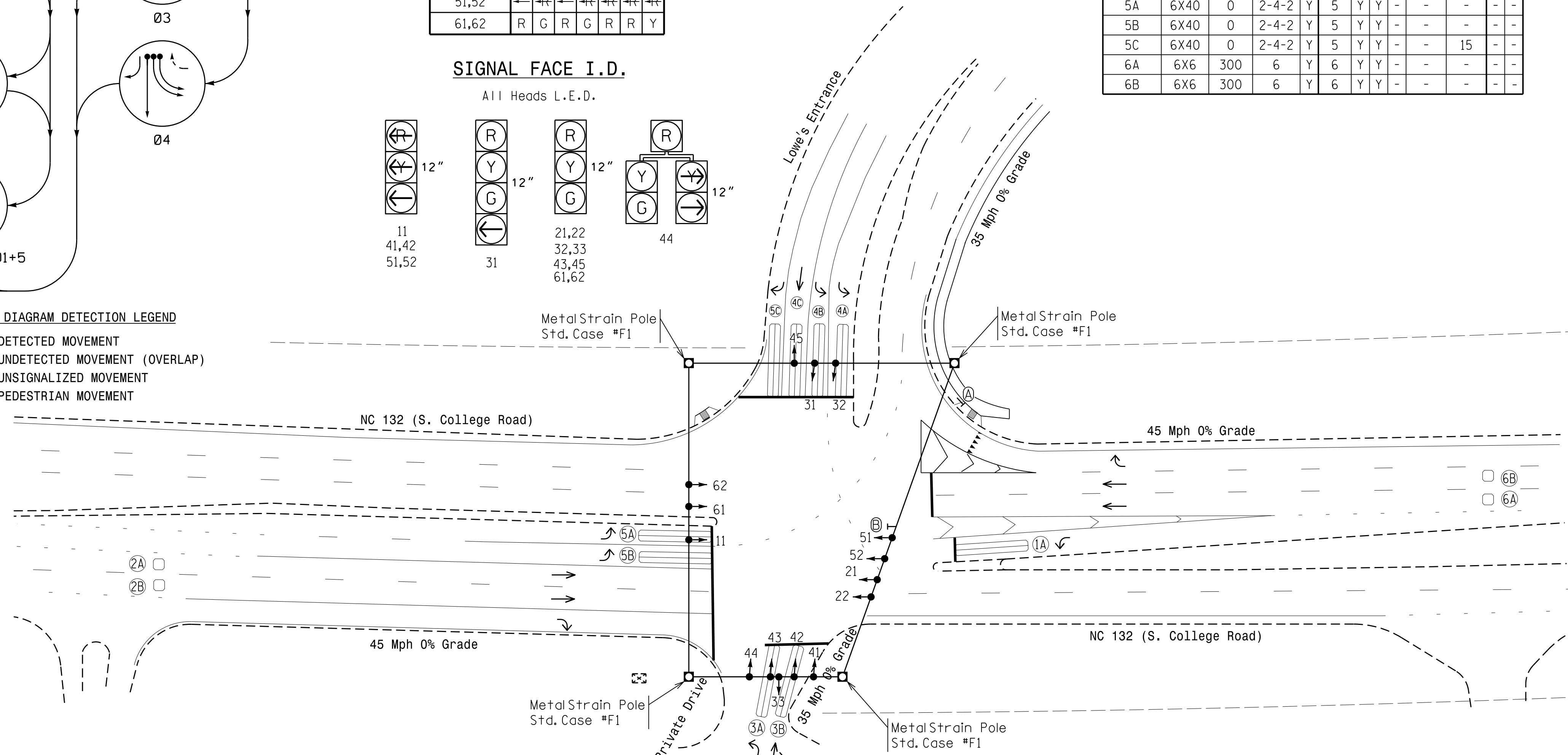
6 Phase Fully Actuated Wilmington Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- The order of phase 3 and phase 4 may be reversed.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Signal system data: Controller Asset # 0930.

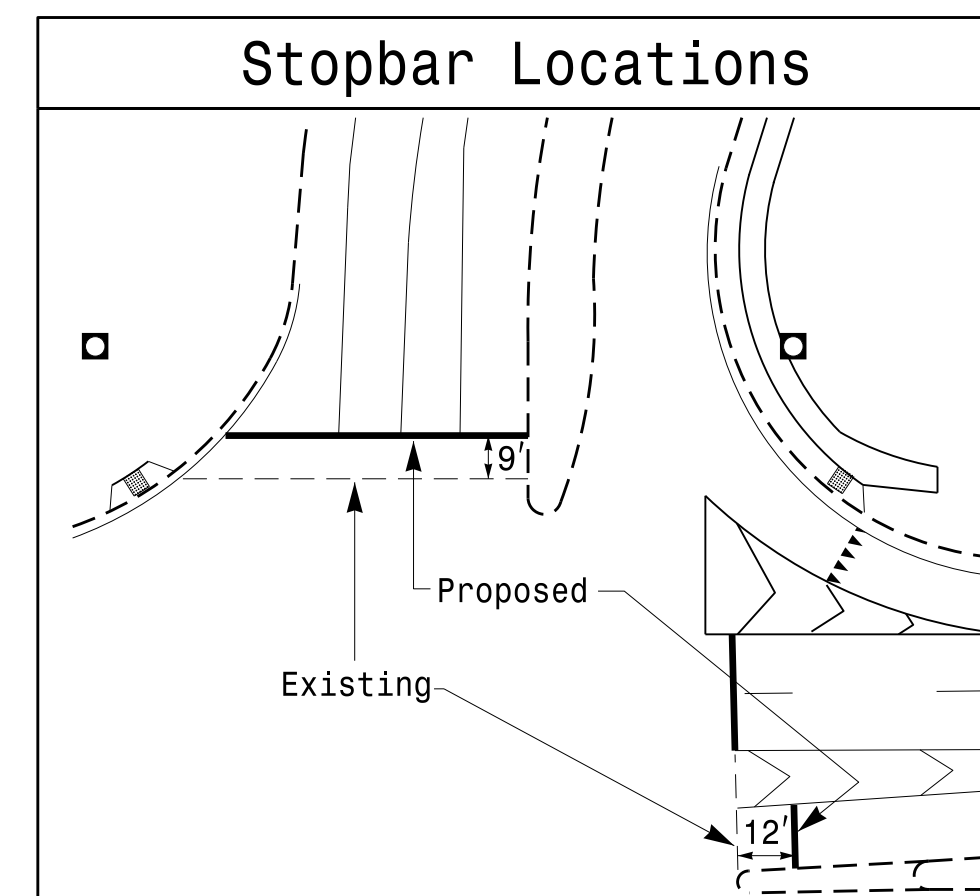
PHASING DIAGRAM DETECTION LEGEND

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



FEATURE	OASIS 2070 TIMING CHART					
	1	2	3	4	5	6
Min Green 1 *	5	12	5	5	5	12
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0
Max Green 1 *	15	90	15	25	20	90
Yellow Clearance	3.0	4.5	3.8	3.8	3.0	4.5
Red Clearance	3.5	1.5	2.9	2.7	3.5	1.6
Walk 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	46	-	-	-	46
Time Before Reduction *	-	15	-	-	-	15
Time To Reduction *	-	30	-	-	-	30
Minimum Gap	-	3.2	-	-	-	3.2
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	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.



LEGEND	
PROPOSED	EXISTING
Traffic Signal Head	N/A
Modified Signal Head Sign	N/A
Pedestrian Signal Head With Push Button & Sign	N/A
Signal Pole with Guy	N/A
Signal Pole with Sidewalk Guy	N/A
Inductive Loop Detector	N/A
Controller & Cabinet Junction Box	N/A
2-in Underground Conduit	N/A
Right of Way	N/A
Directional Arrow	N/A
Metal Strain Pole	N/A
"YIELD" Sign (R1-2)	N/A
U-Turn "YIELD TO RIGHT TURN" Sign (R10-16)	N/A

Signal Upgrade

Prepared In the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

NC 132 (S. College Road) at Lowe's Entrance and Private Drive
 Division 3 New Hanover County S. of Wilmington
 PLAN DATE: October 2017 REVIEWED BY: ZML
 PREPARED BY: Jeff Spence REVIEWED BY: [Signature]

REVISIONS: [Table with columns for REVISIONS, INIT., DATE]

SCALE: 1" = 40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

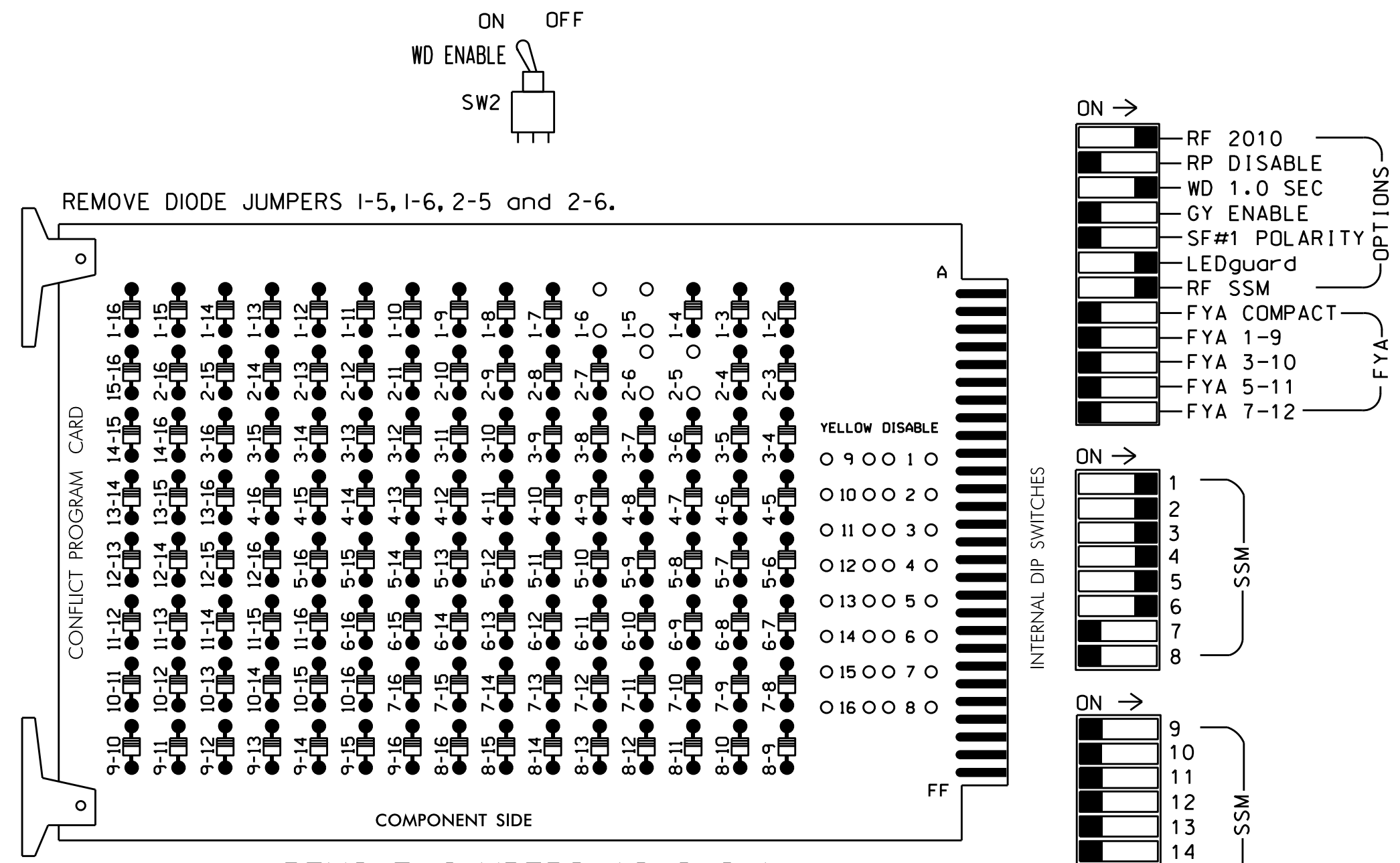
SEAL: ZACHARY M. LITTLE, ENGINEER, 030530

SIG. INVENTORY NO. 03-0930

06-06-2017 08:06 S:\IT\SASU\15_Signal\Signal Design_Section\Eastern Region\01-03\03-0930-0304030930_sig_den_2017mdd.dgn

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



- NOTES:**
- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
 - Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTES

- 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.
- 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 7,8, 9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.
- The cabinet and controller are part of the Wilmington Signal System.

SIGNAL HEAD HOOK-UP CHART

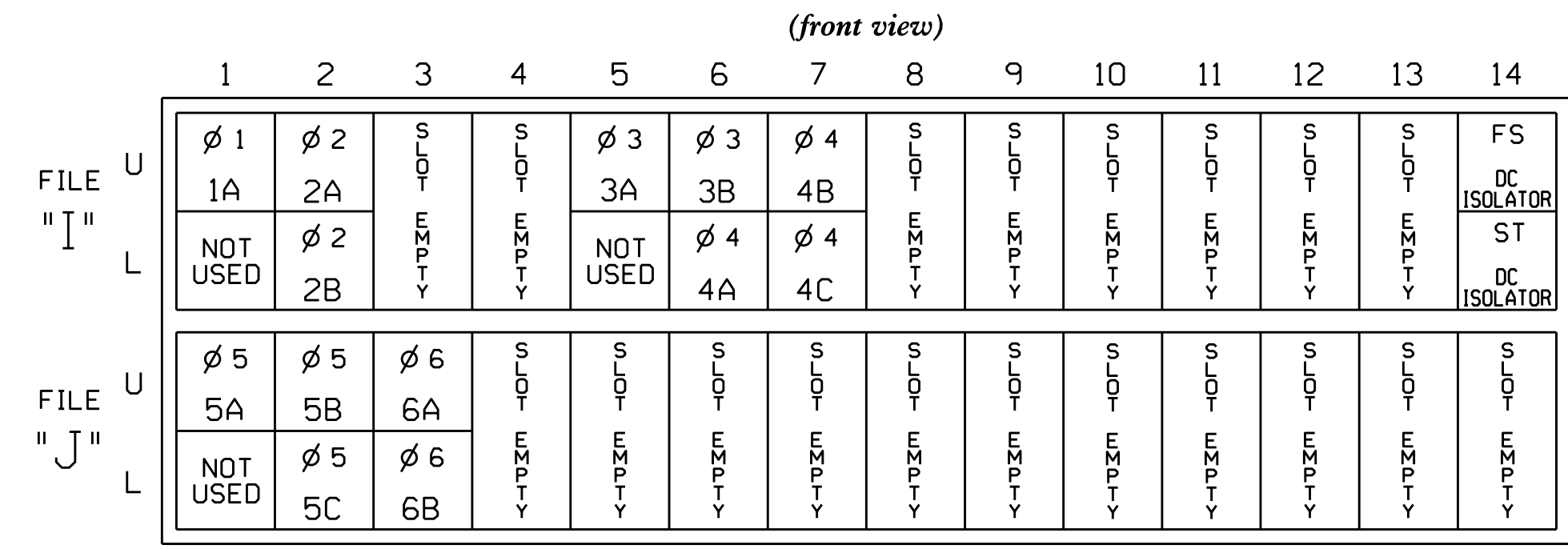
LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	11	21,22	NU	31	32,33	41,42 43 44,45	NU	44	51,52	61,62	NU	NU
RED		128		116	116	101				134		
YELLOW		129		117	117	102				135		
GREEN		130		118	118	103				136		
RED ARROW	125					101				131		
YELLOW ARROW	126					102			132	132		
GREEN ARROW	127			118	103			133	133			

NU = Not Used

EQUIPMENT INFORMATION

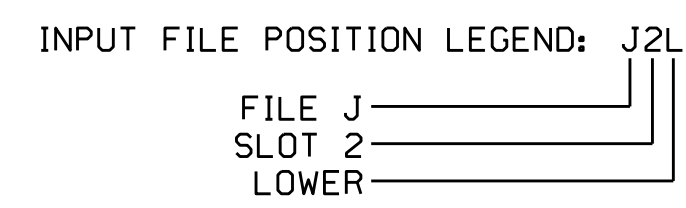
CONTROLLER.....2070
 CABINET.....332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6
 PHASES USED.....1,2,3,4,5,6
 OVERLAPS.....NONE

INPUT FILE POSITION LAYOUT



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	TB2-1,2	I1U	56	18	1	1	Y	Y			
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			3
3B	TB4-9,10	I6U	41	3	4	3	Y	Y			10
4A	TB4-11,12	I6L	45	7	14	4	Y	Y			
4B	TB6-1,2	I7U	65	27	34	4	Y	Y			
4C	TB6-3,4	I7L	78	40	44	4	Y	Y			
5A	TB3-1,2	J1U	55	17	5	5	Y	Y			
5B	TB3-5,6	J2U	40	2	6	5	Y	Y			
5C	TB3-7,8	J2L	44	6	16	5	Y	Y			15
6A	TB3-9,10	J3U	64	26	36	6	Y	Y			
6B	TB3-11,12	J3L	77	39	46	6	Y	Y			



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 03-0930
 DESIGNED: October 2017
 SEALED: 12/7/2017
 REVISED:

Electrical Detail

Prepared In the Offices of:
 G.L. Transportation, Mobility and Safety Division
 STATE OF NORTH CAROLINA
 Department of Transportation
 Signal Management Section
 750 N. Greenfield Pkwy, Garner, NC 27529

NC 132 (S. College Road) at Lowe's Entrance and Private Drive

Division 3 New Hanover County S. of Wilmington

PLAN DATE: November 2017 REVIEWED BY: T. Joyce
 PREPARED BY: C. Strickland REVIEWED BY:

REVISIONS: _____ INIT. DATE

DocuSigned by: D. Todd Joyce 12/7/2017
 SEAL
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL 031001
 ENGINEER
 D. TODD JOYCE

DocuSigned by: _____ DATE
 SEAL
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL 031001
 ENGINEER
 D. TODD JOYCE

SIG. INVENTORY NO. 03-0930

03-0930-2017-11-18
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