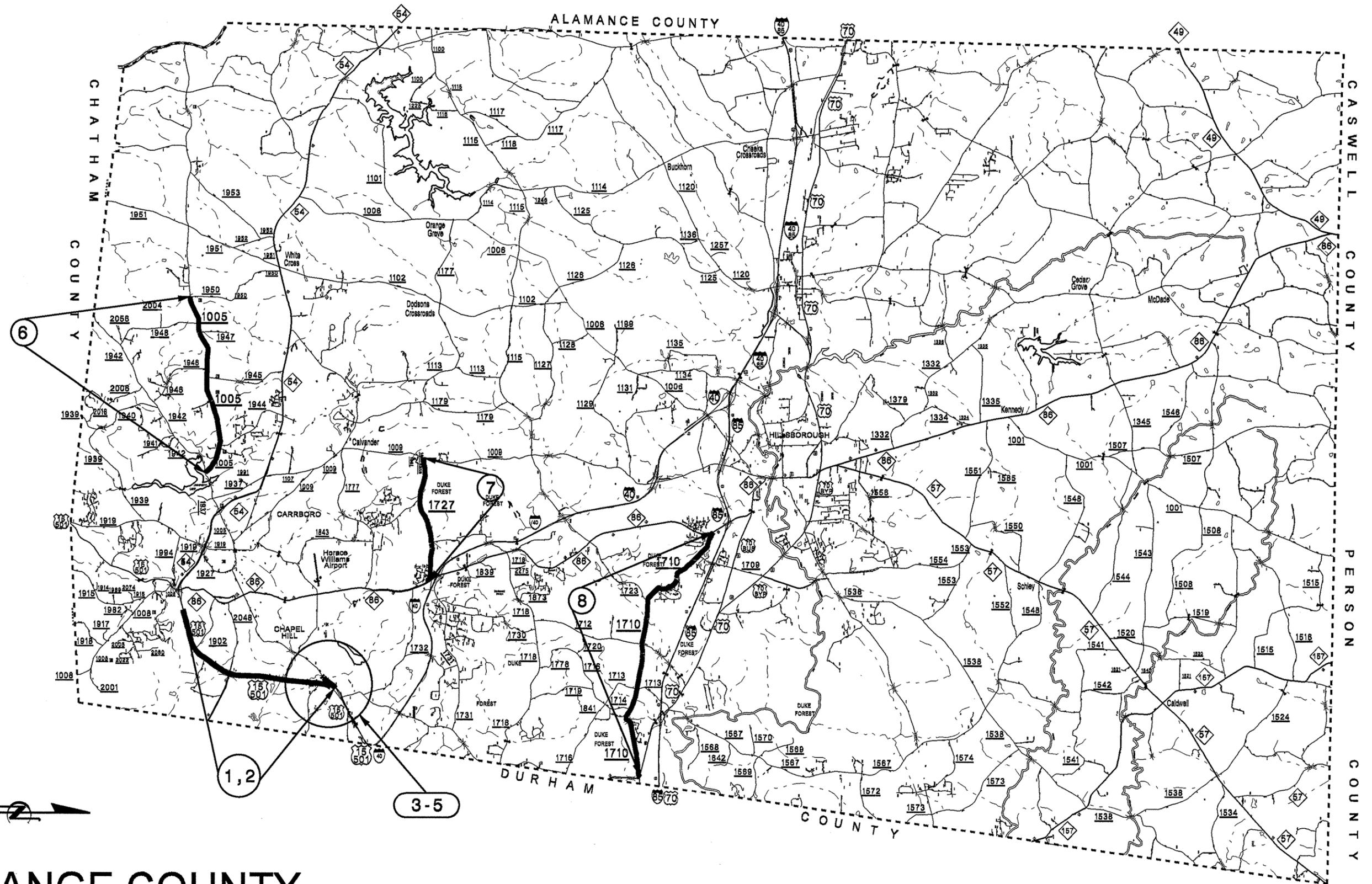


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	1	15

7CR.10681.22
7CR.20681.22
7.106812
7.20682



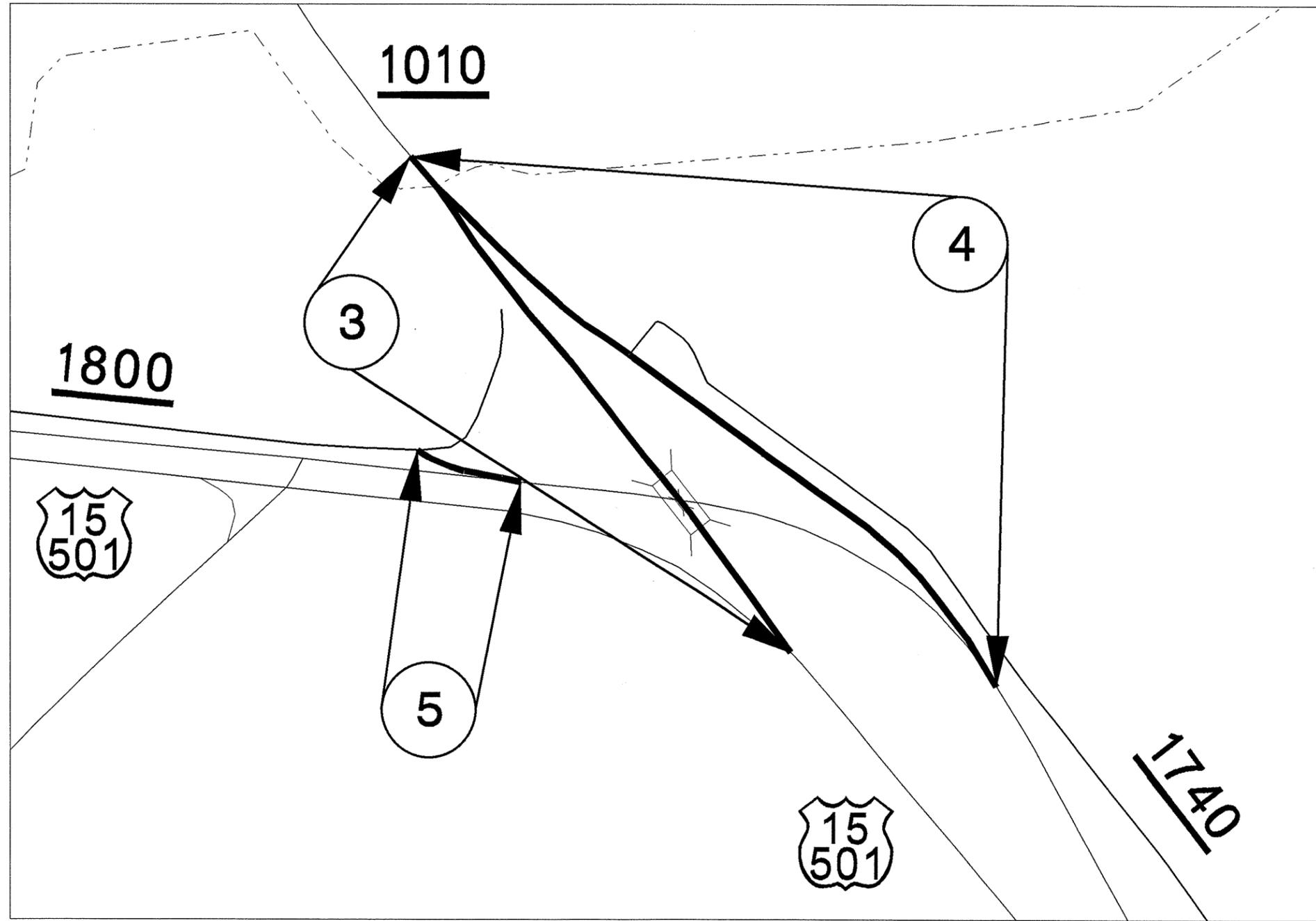
ORANGE COUNTY

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 At CSD237456

ORANGE COUNTY

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	2	15

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7CR.20681.22
7.106812
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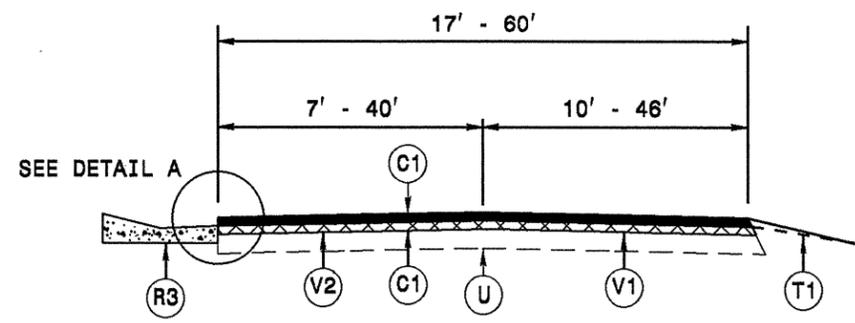


MAPS 3, 4, AND 5



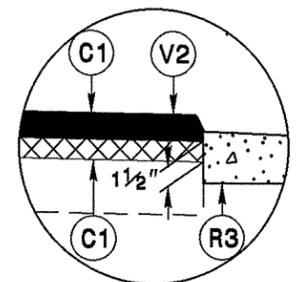
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	3	15

7CR.10681.22
7CR.20681.22
7.106812
7.206812



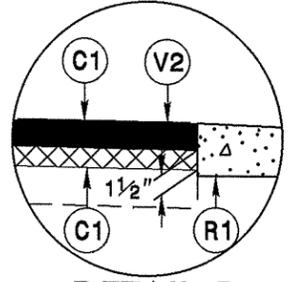
MILL AND FILL WITH OVERLAY
TYPICAL SECTION NO. 1

TO BE USED ON:
MAP 1: STA. 0+00 TO STA. 9+70
STA. 12+55 TO STA. 44+80
STA. 53+45 TO STA. 181+50
STA. 188+15 TO STA. 193+75
STA. 202+40 TO STA. 208+05
** NOT OVERLAYING ON BRIDGE AT
STA. 89+20 TO STA. 91+10



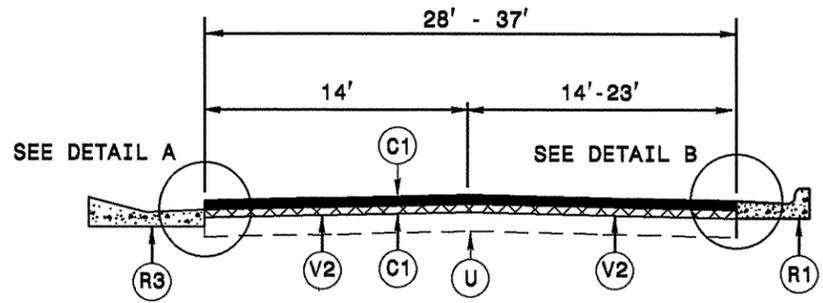
DETAIL A

1 1/2" - 3" MILLING WITH 1 1/2" FILL OF S9.5B ASPHALT AND OVERLAY WITH 1 1/2" S9.5B ASPHALT



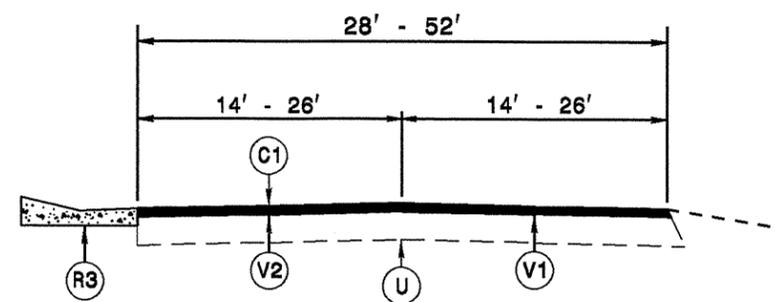
DETAIL B

1 1/2" - 3" MILLING WITH 1 1/2" FILL OF S9.5B ASPHALT AND OVERLAY WITH 1 1/2" S9.5B ASPHALT TO MAKE FLUSH WITH C&G



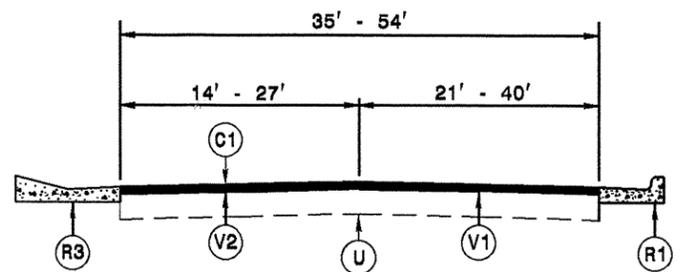
MILL AND FILL WITH OVERLAY
TYPICAL SECTION NO. 2

TO BE USED ON:
MAP 1: STA. 9+70 TO STA. 12+55
STA. 44+80 TO STA. 53+45



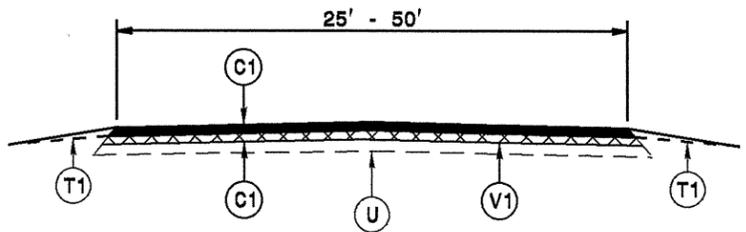
TYPICAL SECTION NO. 4

TO BE USED ON:
MAP 2: STA. 17+25 TO STA. 21+95
STA. 29+55 TO STA. 35+80
STA. 42+50 TO STA. 165+35
STA. 168+30 TO STA. 207+55
** NOT OVERLAYING ON BRIDGE AT
STA. 119+80 TO STA. 121+80



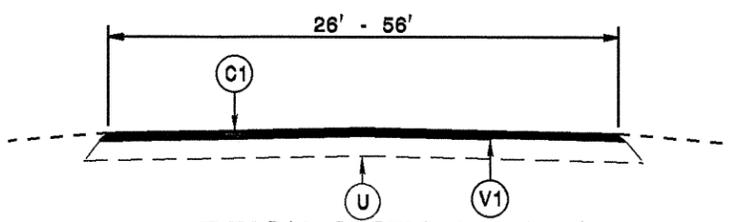
TYPICAL SECTION NO. 5

TO BE USED ON:
MAP 2: STA. 35+80 TO STA. 42+50
STA. 165+35 TO STA. 168+30
STA. 207+55 TO STA. 210+15



MILL AND FILL WITH OVERLAY
TYPICAL SECTION NO. 3

TO BE USED ON:
MAP 1: STA. 181+50 TO STA. 188+15
STA. 193+75 TO STA. 202+40
STA. 208+05 TO STA. 208+75



TYPICAL SECTION NO. 6

TO BE USED ON:
MAP 2: STA. 0+00 TO STA. 17+25
STA. 21+95 TO STA. 29+55

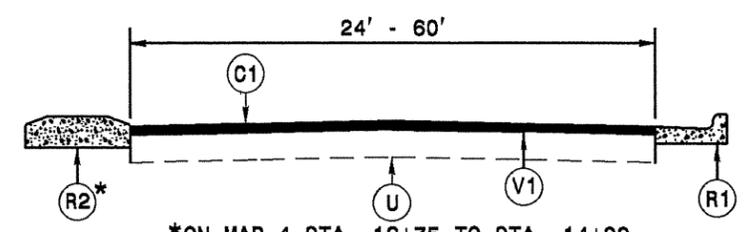
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
E2	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F	AST MAT COAT, 78M		
R1	EXISTING CONCRETE CURB & GUTTER		
R2	EXISTING CONCRETE ISLAND		
R3	EXPRESSWAY GUTTER		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER		
U	EXISTING PAVEMENT.		
V1	1 1/2" MILLING	V2	1 1/2" TO 3" MILLING
V3	0 TO 1 1/2" MILLING	V4	3" MILLING FOR PATCHING
V5	7" MILLING FOR PATCHING		

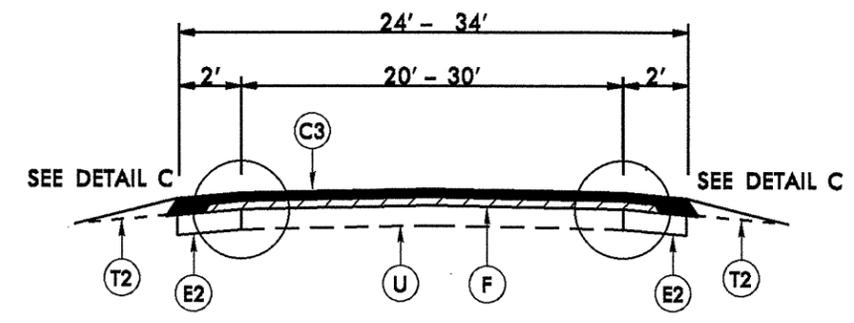
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STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	4	15

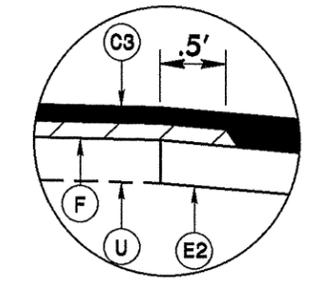
7CR.10681.22
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7.206812



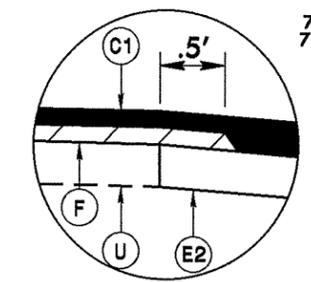
*ON MAP 4 STA. 12+75 TO STA. 14+00
EXISTING CURB AND GUTTER
TYPICAL SECTION NO. 7
TO BE USED ON:
MAP 3: STA. 0+00 TO STA. 2+80
MAP 4: STA. 9+95 TO STA. 14+00



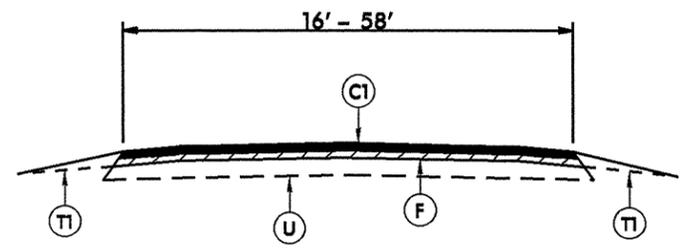
TYPICAL SECTION NO. 10
TO BE USED ON MAP 6
** NOT OVERLAYING ON BRIDGE AT
STA. 152+80 TO STA. 153+10



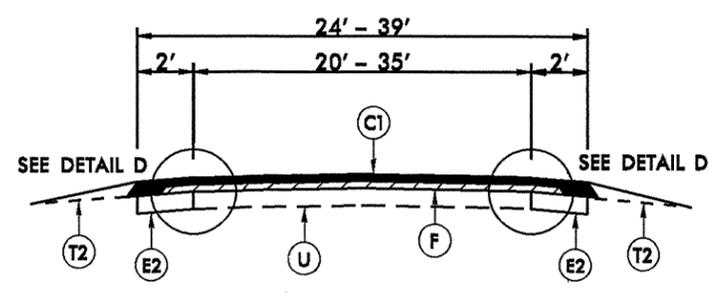
DETAIL C



DETAIL D

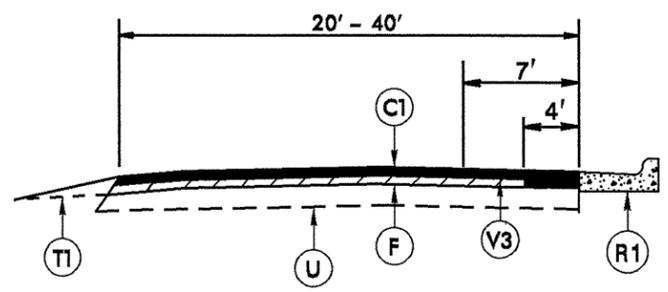


TYPICAL SECTION NO. 8
TO BE USED ON MAPS 3, 4, 5, AND 7
MAP 3: STA. 2+80 TO STA. 12+50
MAP 4: STA. 0+00 TO STA. 9+65
MAP 7: STA. 0+00 TO STA. 2+90
MAP 7: STA. 25+15 TO STA. 28+60
MAP 7: STA. 30+75 TO STA. 31+50
MAP 7: STA. 46+90 TO STA. 48+20

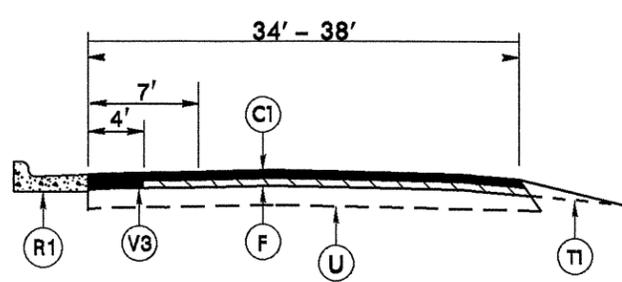


TYPICAL SECTION NO. 11
TO BE USED ON MAP 7
STA. 2+90 TO STA. 25+15
STA. 31+50 TO STA. 38+70
STA. 41+80 TO STA. 42+85
STA. 48+20 TO STA. 117+00
STA. 130+70 TO STA. 137+00

** NOT WIDENING OR OVERLAYING ON NEW
PAVEMENT AT STA. 117+00 TO STA. 130+70



ON MAP 3 EXISTING CONCRETE ISLAND
TYPICAL SECTION NO. 9
TO BE USED ON MAPS 3, 4, AND 7:
MAP 3: STA. 12+50 TO STA. 18+15
MAP 4: STA. 9+65 TO STA. 9+95
MAP 7: STA. 28+60 TO STA. 30+75
MAP 7: STA. 38+70 TO STA. 41+80



TYPICAL SECTION NO. 12
TO BE USED ON MAP 7
STA. 42+85 TO STA. 46+90

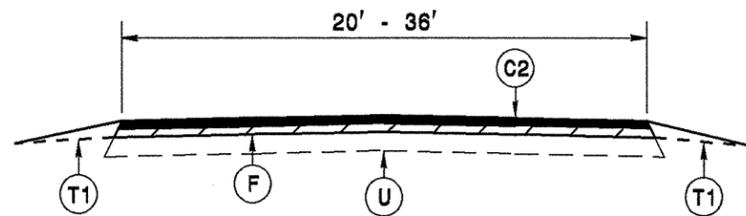
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
E2	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F	AST MAT COAT, 78M		
R1	EXISTING CONCRETE CURB & GUTTER		
R2	EXISTING CONCRETE ISLAND		
R3	EXPRESSWAY GUTTER		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER		
U	EXISTING PAVEMENT.		
V1	1½" MILLING	V2	1½" TO 3" MILLING
V3	0 TO 1½" MILLING	V4	3" MILLING FOR PATCHING
V5	7" MILLING FOR PATCHING		

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Division 7
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STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	5	15

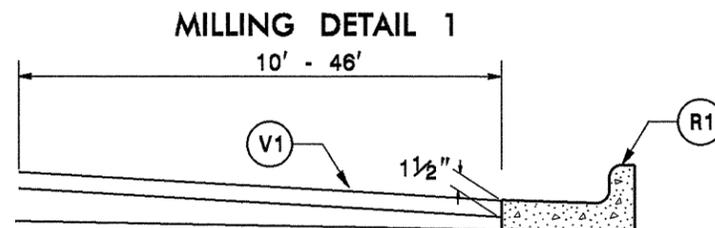
7CR.10681.22
7CR.20681.22
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7.206812



TYPICAL SECTION NO. 13

TO BE USED ON MAP 8

* DO NOT PAVE AT STA. 206+35 TO STA. 214+35
FUTURE SAFETY PROJECT

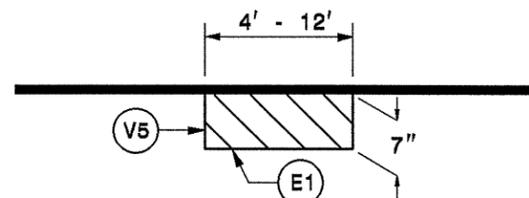


MILL EXISTING ASPHALT PAVEMENT 1½" AT LOCATIONS AS DIRECTED BY THE ENGINEER

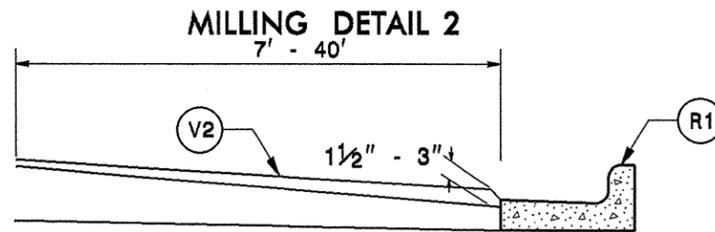
NOTE: TO BE USED IN CONJUNCTION WITH

- TS. NO. 1 ON MAP 1 STA. 0+00 TO STA. 9+70 RT
- TS. NO. 1 ON MAP 1 STA. 12+55 TO STA. 44+80 RT
- TS. NO. 1 ON MAP 1 STA. 53+45 TO STA. 181+50 RT
- TS. NO. 1 ON MAP 1 STA. 188+15 TO STA. 193+75 RT
- TS. NO. 1 ON MAP 1 STA. 202+40 TO STA. 208+05 RT
- TS. NO. 4 ON MAP 2 STA. 17+25 TO STA. 21+95 RT
- TS. NO. 4 ON MAP 2 STA. 29+55 TO STA. 35+80 RT
- TS. NO. 5 ON MAP 2 STA. 35+80 TO STA. 42+50 RT
- TS. NO. 4 ON MAP 2 STA. 42+50 TO STA. 165+35 RT
- TS. NO. 5 ON MAP 2 STA. 165+35 TO STA. 168+30 RT
- TS. NO. 4 ON MAP 2 STA. 168+30 TO STA. 207+55 RT
- TS. NO. 5 ON MAP 2 STA. 207+55 TO STA. 210+15 RT

PATCHING DETAIL 2



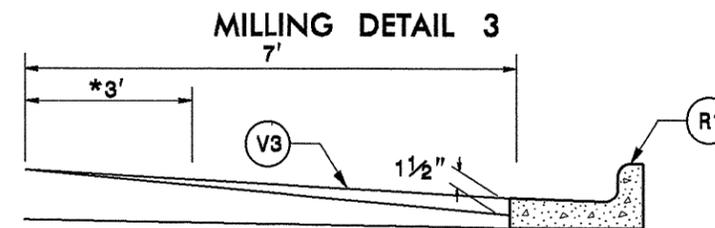
USE FOR PATCHING ON MAPS 6, 7, AND 8
MILL EXISTING ASPHALT PAVEMENT 7" IN DEPTH
AND FILL WITH BASE COURSE, TYPE B25.0B AT
LOCATIONS AS DIRECTED BY THE ENGINEER



MILL EXISTING ASPHALT PAVEMENT 1½" TO 3"
AT LOCATIONS AS DIRECTED BY THE ENGINEER

NOTE: TO BE USED IN CONJUNCTION WITH

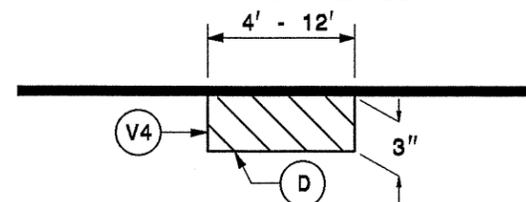
- TS. NO. 1 ON MAP 1 STA. 0+00 TO STA. 9+70 LT
- TS. NO. 2 ON MAP 1 STA. 9+70 TO STA. 12+55 LT/RT
- TS. NO. 1 ON MAP 1 STA. 12+55 TO STA. 44+80 LT
- TS. NO. 2 ON MAP 1 STA. 44+80 TO STA. 53+45 LT/RT
- TS. NO. 1 ON MAP 1 STA. 53+45 TO STA. 181+50 LT
- TS. NO. 1 ON MAP 1 STA. 188+15 TO STA. 193+75 LT
- TS. NO. 1 ON MAP 1 STA. 202+40 TO STA. 208+05 LT
- TS. NO. 4 ON MAP 2 STA. 17+25 TO STA. 21+95 LT
- TS. NO. 4 ON MAP 2 STA. 29+55 TO STA. 35+80 LT
- TS. NO. 5 ON MAP 2 STA. 35+80 TO STA. 42+50 LT
- TS. NO. 4 ON MAP 2 STA. 42+50 TO STA. 165+35 LT
- TS. NO. 5 ON MAP 2 STA. 165+35 TO STA. 168+30 LT
- TS. NO. 4 ON MAP 2 STA. 168+30 TO STA. 207+55 LT
- TS. NO. 5 ON MAP 2 STA. 207+55 TO STA. 210+15 LT



*IF 78M IS INVOLVED OVERLAP 3'
PROFILE MILL EXISTING ASPHALT PAVEMENT
1½" AT LOCATIONS AS DIRECTED BY THE
ENGINEER

- TS. NO. 9 ON MAP 3 STA. 12+50 TO STA. 18+15 RT
- TS. NO. 9 ON MAP 4 STA. 9+65 TO STA. 9+95 RT
- TS. NO. 9 ON MAP 7 STA. 28+60 TO STA. 30+75 RT
- TS. NO. 9 ON MAP 7 STA. 38+70 TO STA. 41+80 RT
- TS. NO. 9 ON MAP 7 STA. 42+85 TO STA. 46+90 LT

PATCHING DETAIL 1



USE FOR PATCHING ON MAPS 1 AND 2
MILL EXISTING ASPHALT PAVEMENT 3" IN DEPTH
AND FILL WITH INTERMEDIATE COURSE I19.0B
AT LOCATIONS AS DIRECTED BY THE ENGINEER

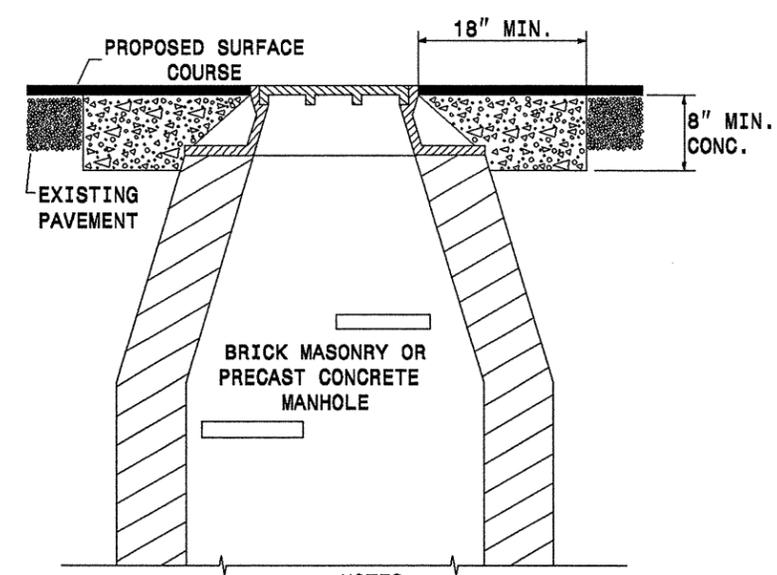
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
E2	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F	AST MAT COAT, 78M		
R1	EXISTING CONCRETE CURB & GUTTER		
R2	EXISTING CONCRETE ISLAND		
R3	EXPRESSWAY GUTTER		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER		
U	EXISTING PAVEMENT.		
V1	1½" MILLING	V2	1½" TO 3" MILLING
V3	0 TO 1½" MILLING	V4	3" MILLING FOR PATCHING
V5	7" MILLING FOR PATCHING		

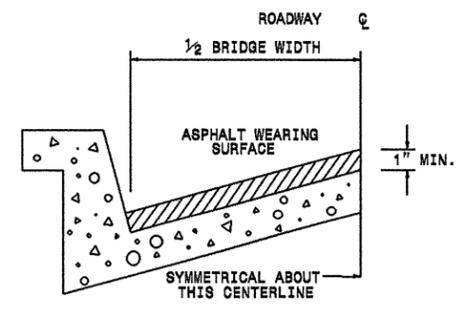
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STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	6	15

7CR.10681.22
7CR.20681.22
7.106812
7.206812



- NOTES:
- MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 - ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 - EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 - USE RAPID SET GROUT, MORTAR OR CONCRETE AS NOTED IN PROJECT SPECIAL PROVISIONS. CLASS B CONCRETE MAY BE USED WHEN THE ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.



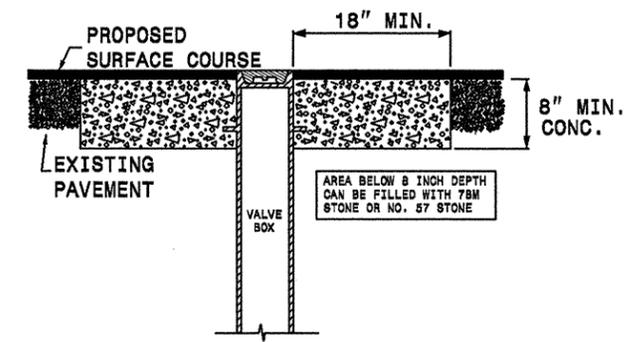
BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN. THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 1" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

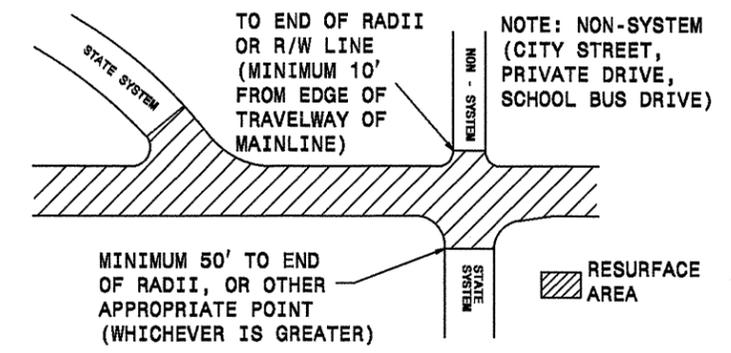
ALL UNPAVED S.R. ROUTES TO BE SURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT. ALL PAVED S.R. ROUTES TO BE RESURFACED TO END OF RADII, OR AS DIRECTED BY THE ENGINEER. EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES. BRIDGES TO BE RESURFACED AT LOCATIONS AND DEPTH AS DIRECTED BY THE ENGINEER.

STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT
DETAIL DRAWING NO. 858.01

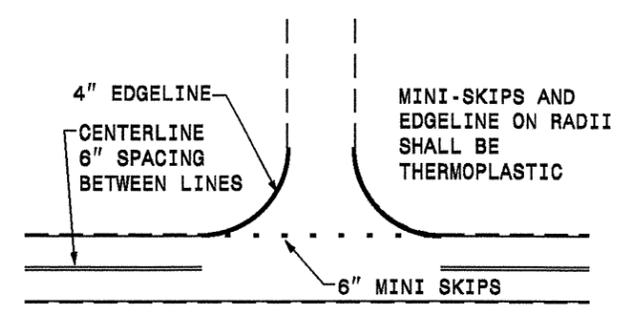


USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

PAVING DETAIL
MAIN LINE IS BEING RESURFACED

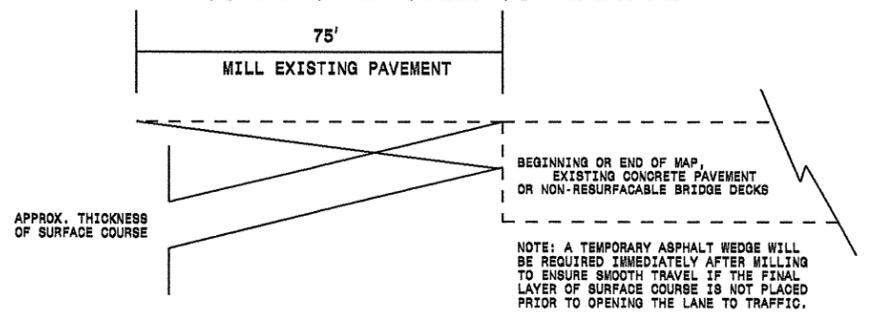


STRIPING DETAIL 2
TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS (NOT TO SCALE)



NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

INCIDENTAL MILLING DETAIL



PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
E2	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F	AST MAT COAT, 78M		
R1	EXISTING CONCRETE CURB & GUTTER		
R2	EXISTING CONCRETE ISLAND		
R3	EXPRESSWAY GUTTER		
T1	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
T2	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER		
U	EXISTING PAVEMENT.		
V1	1 1/2" MILLING	V2	1 1/2" TO 3" MILLING
V3	0 TO 1 1/2" MILLING	V4	3" MILLING FOR PATCHING
V5	7" MILLING FOR PATCHING		

06-OCT-2010 10:14
1:13on 7.7cr.1001.23orange\CADD\revised\REVISED 2011 ORANGE 10-5-10\CADD\typical.4.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

7CR.10681.22
7CR.20681.22
7.20681Z 7.106812

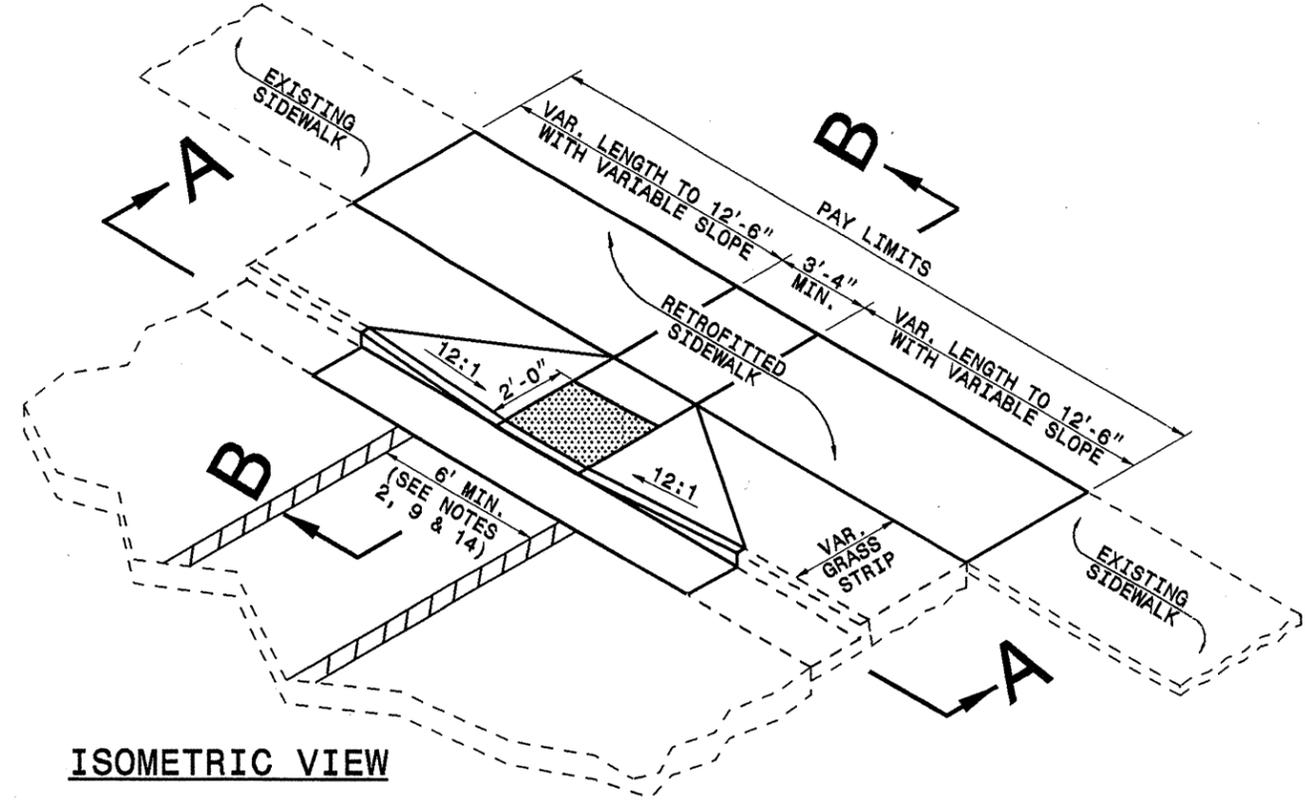
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

EXISTING CURB AND GUTTER
WHEELCHAIR RAMP
ENGLISH DETAIL DRAWING FOR

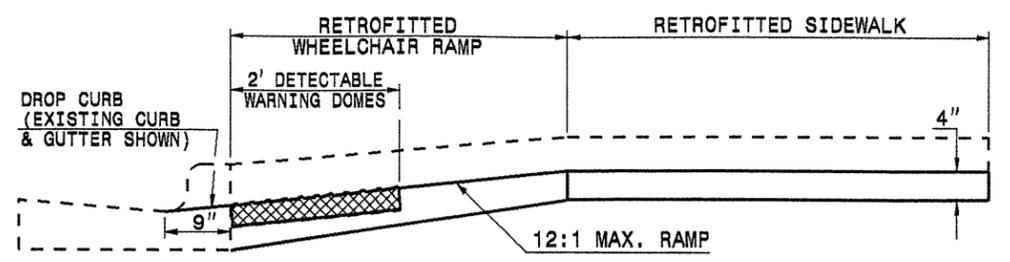
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

EXISTING CURB AND GUTTER
WHEELCHAIR RAMP
ENGLISH DETAIL DRAWING FOR

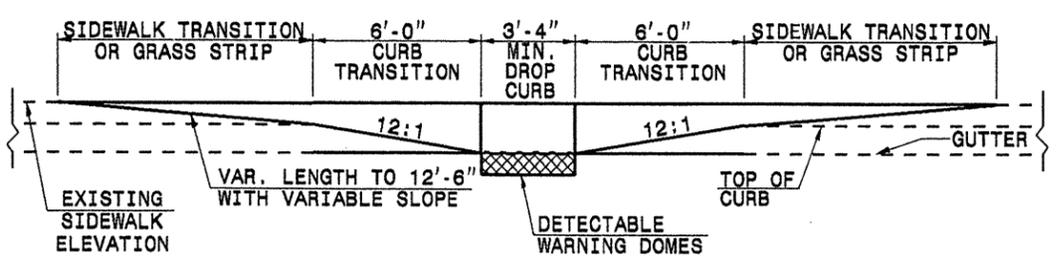
WHEELCHAIR RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



ISOMETRIC VIEW

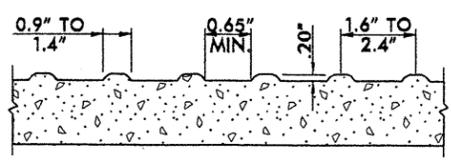
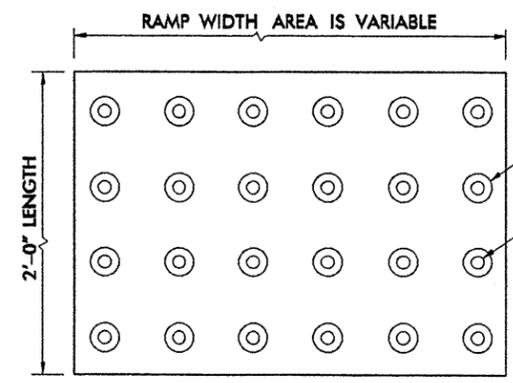


SECTION B-B

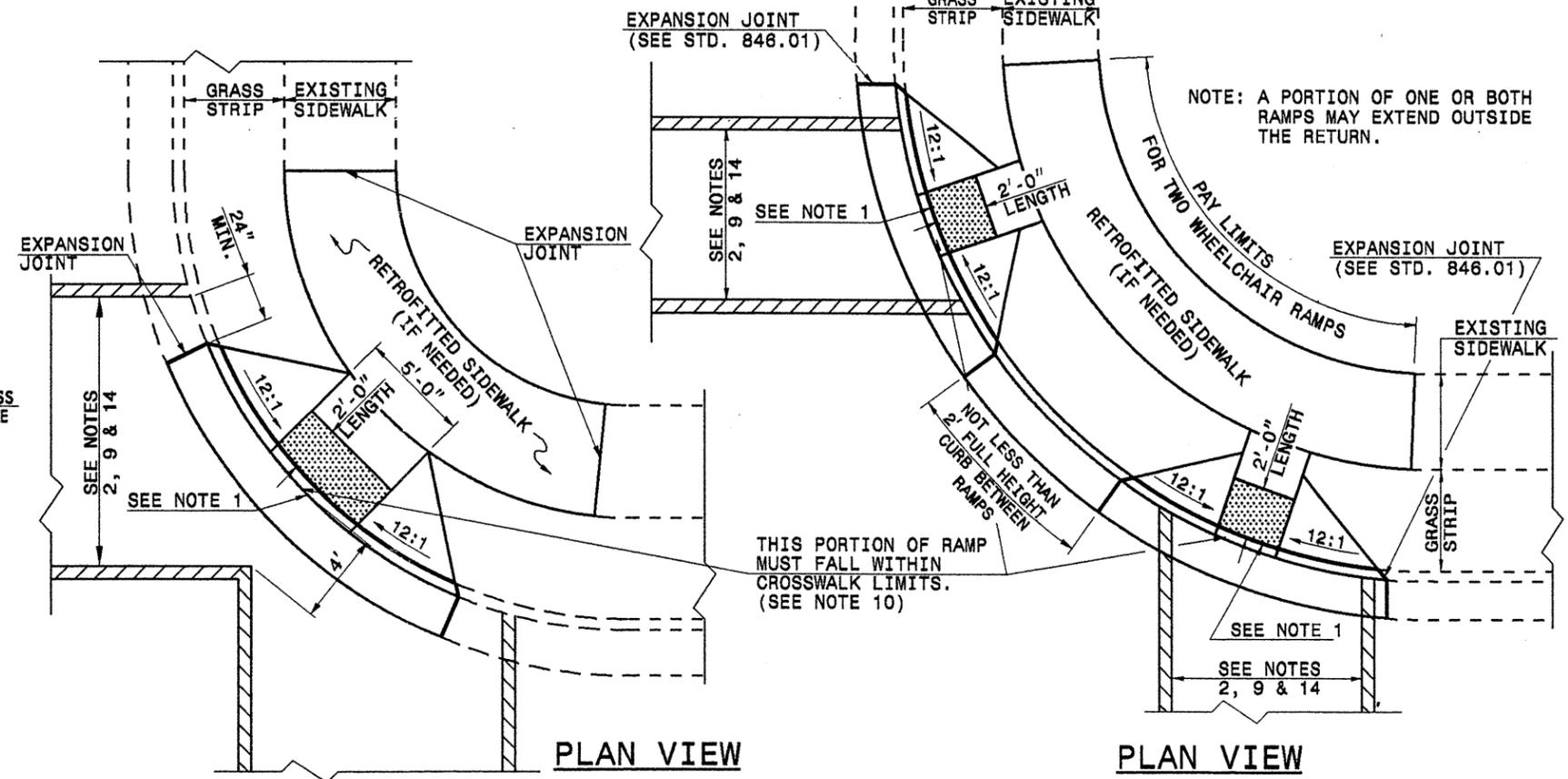


SECTION A-A

- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES



PLAN VIEW

DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

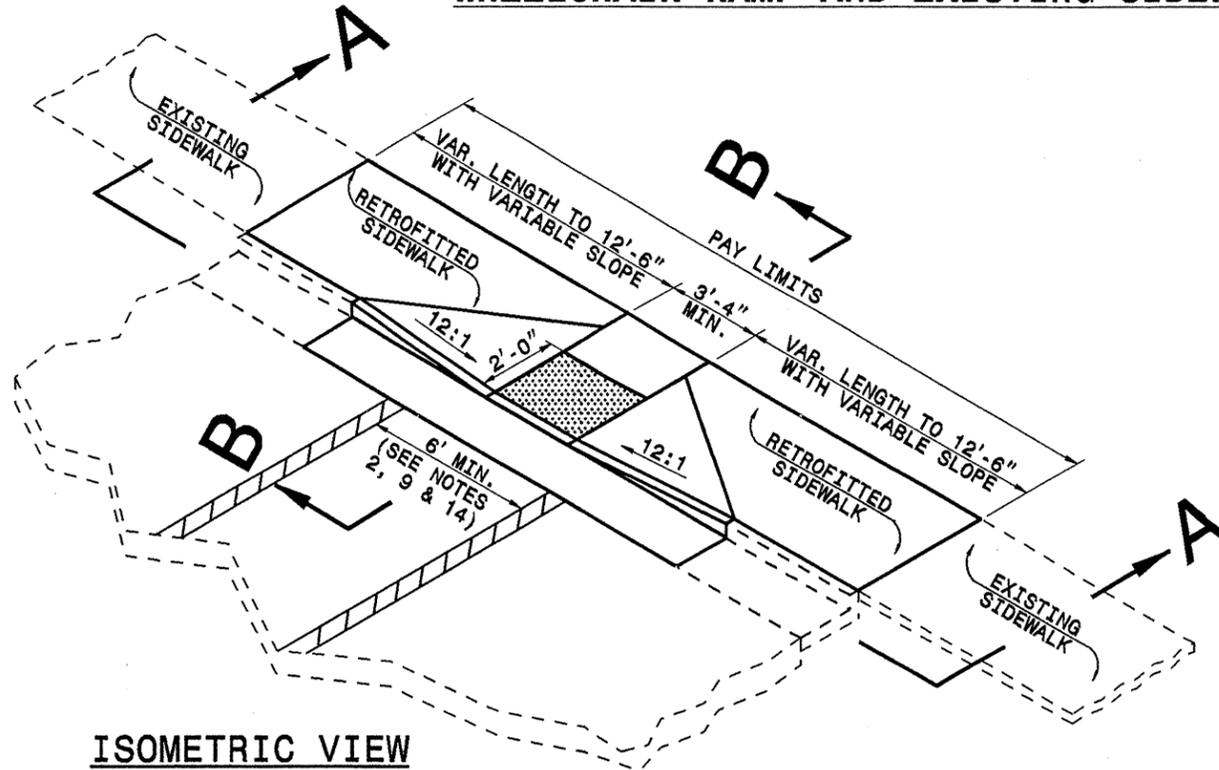
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	8	15

7.206812
7CR.10681.22
7CR.20681.22
7.106812

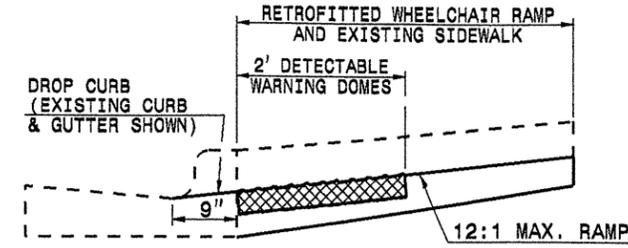
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

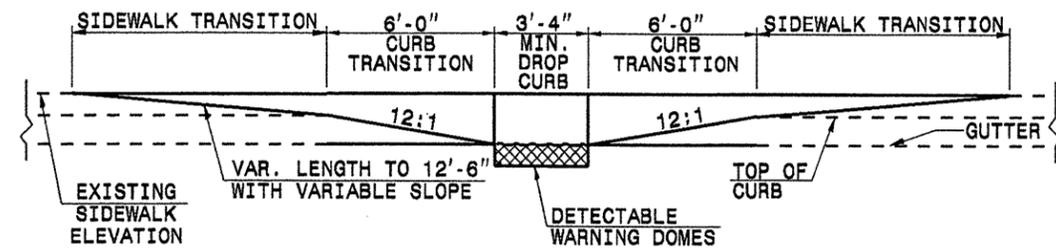
WHEELCHAIR RAMP AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

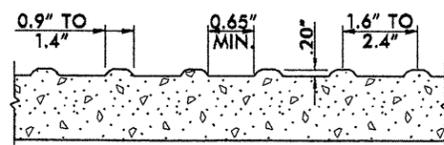
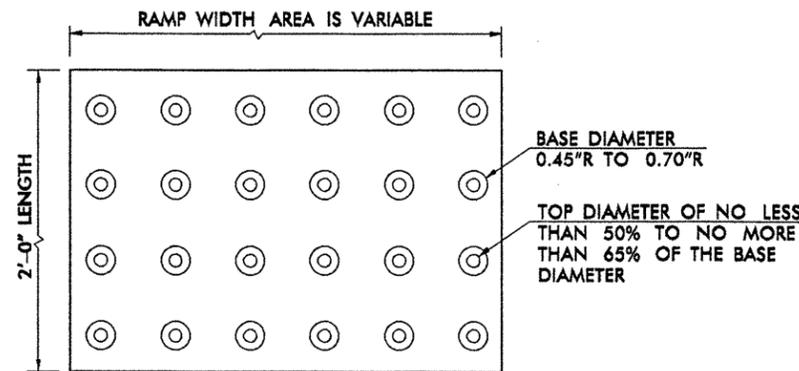


SECTION B-B

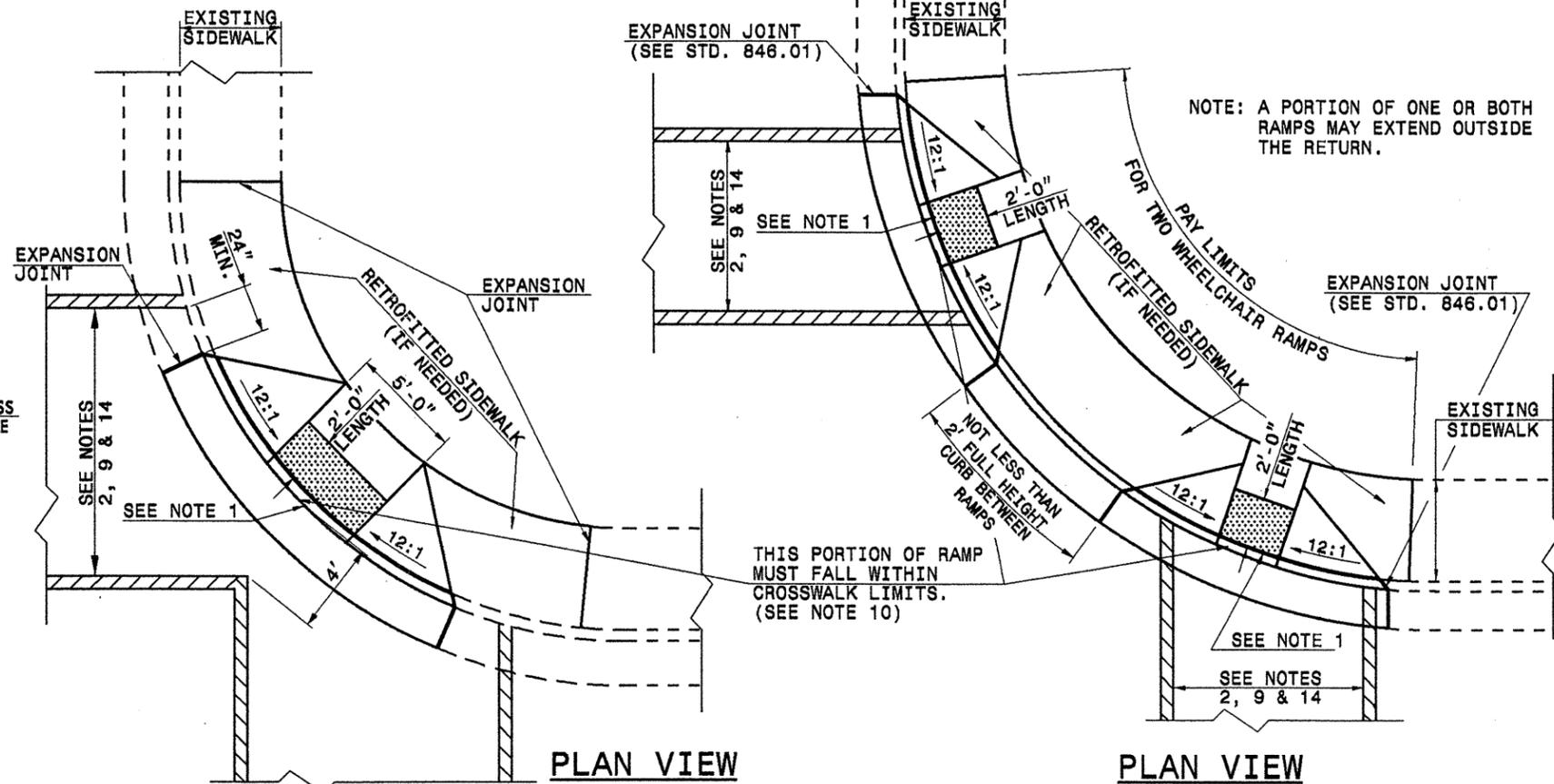


SECTION A-A

- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES



PLAN VIEW

DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

PLAN VIEW

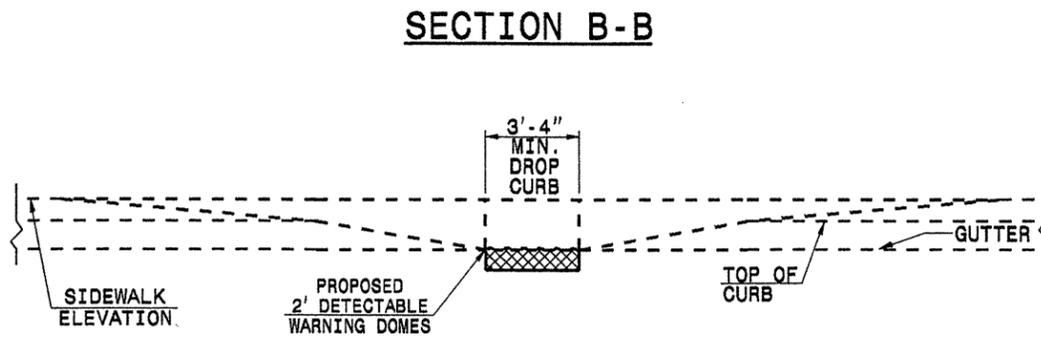
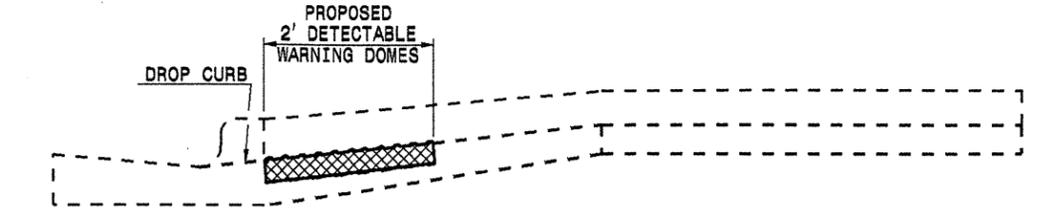
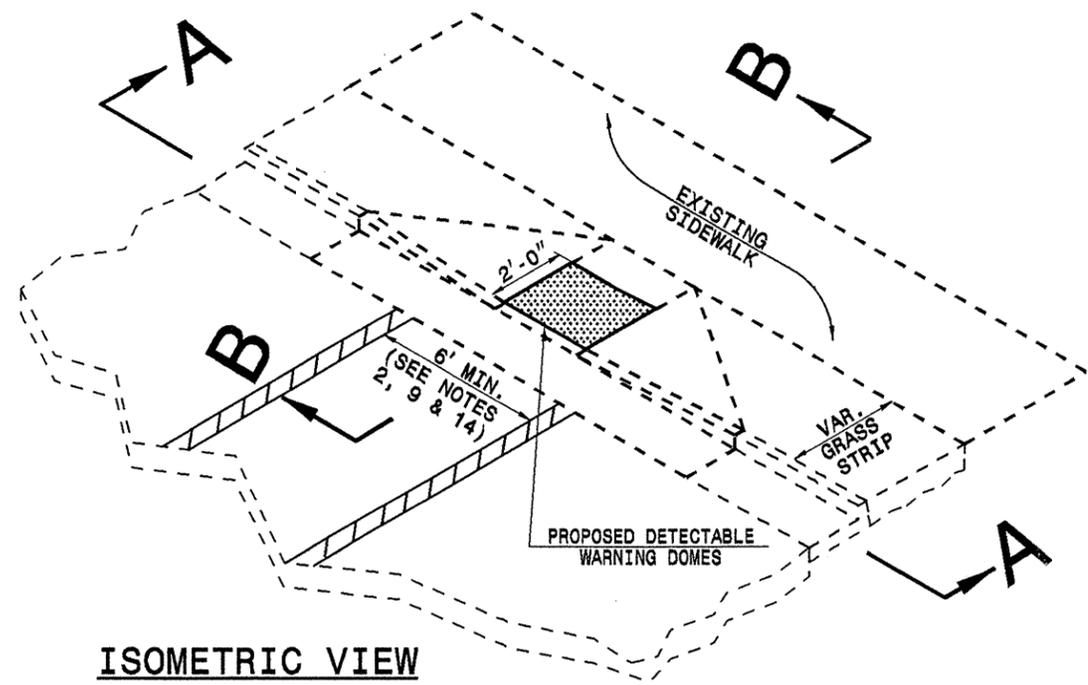
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

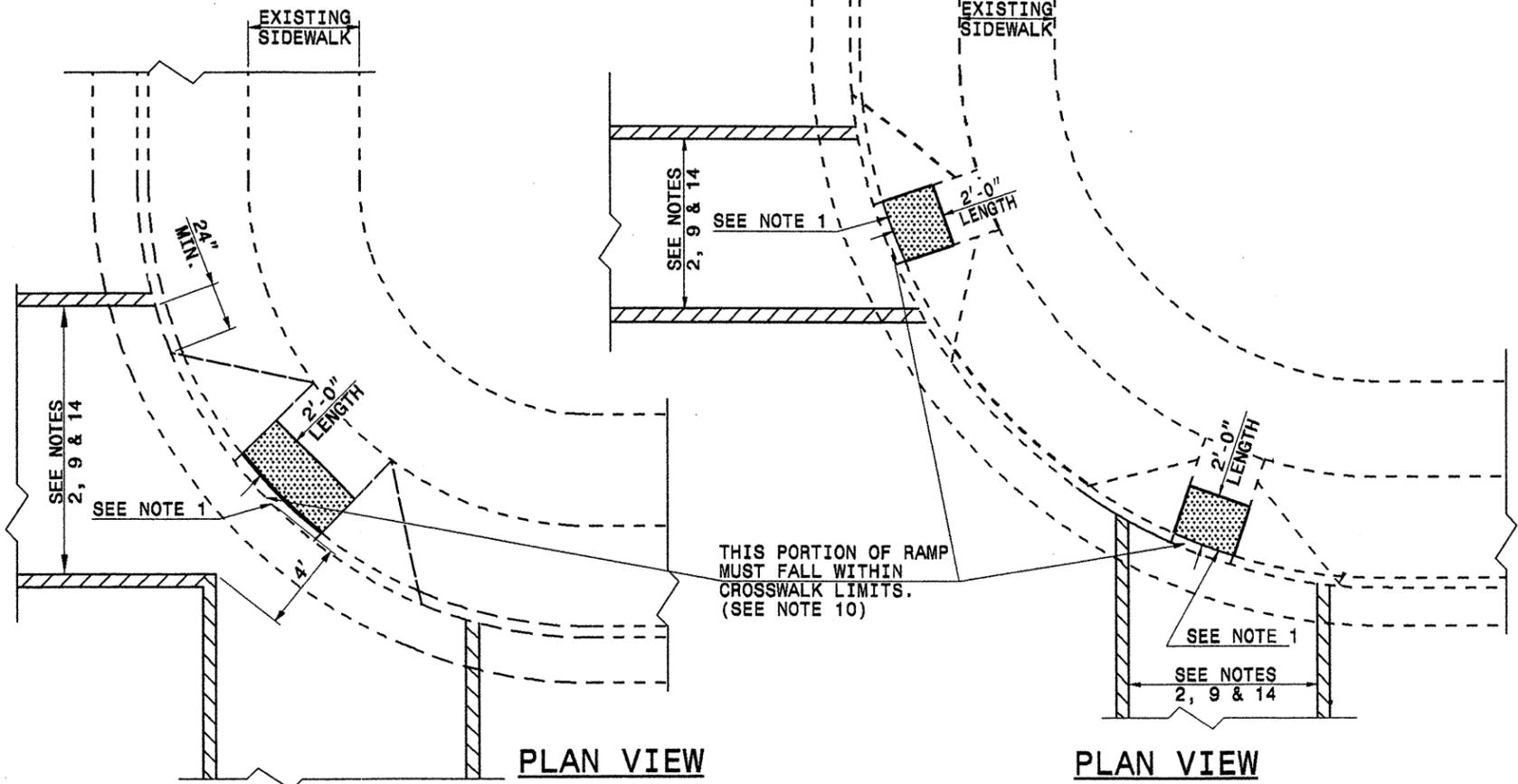
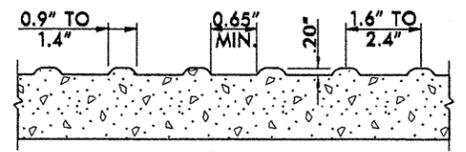
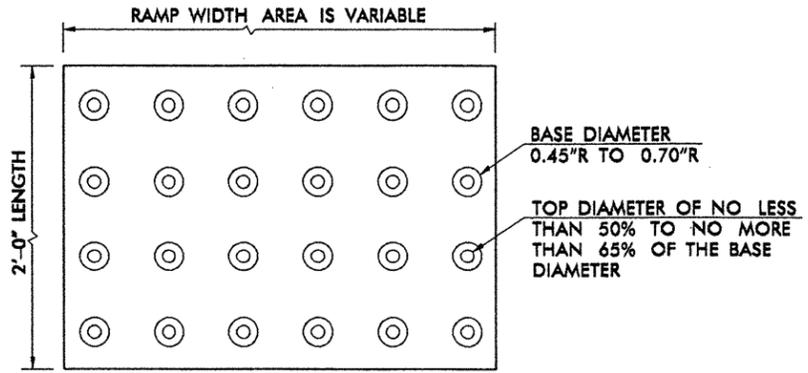
ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

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7.206812

RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING WHEELCHAIR RAMP



- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

DUAL RAMP
ANY RADII
(40" MIN. FLOOR WIDTH)

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

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

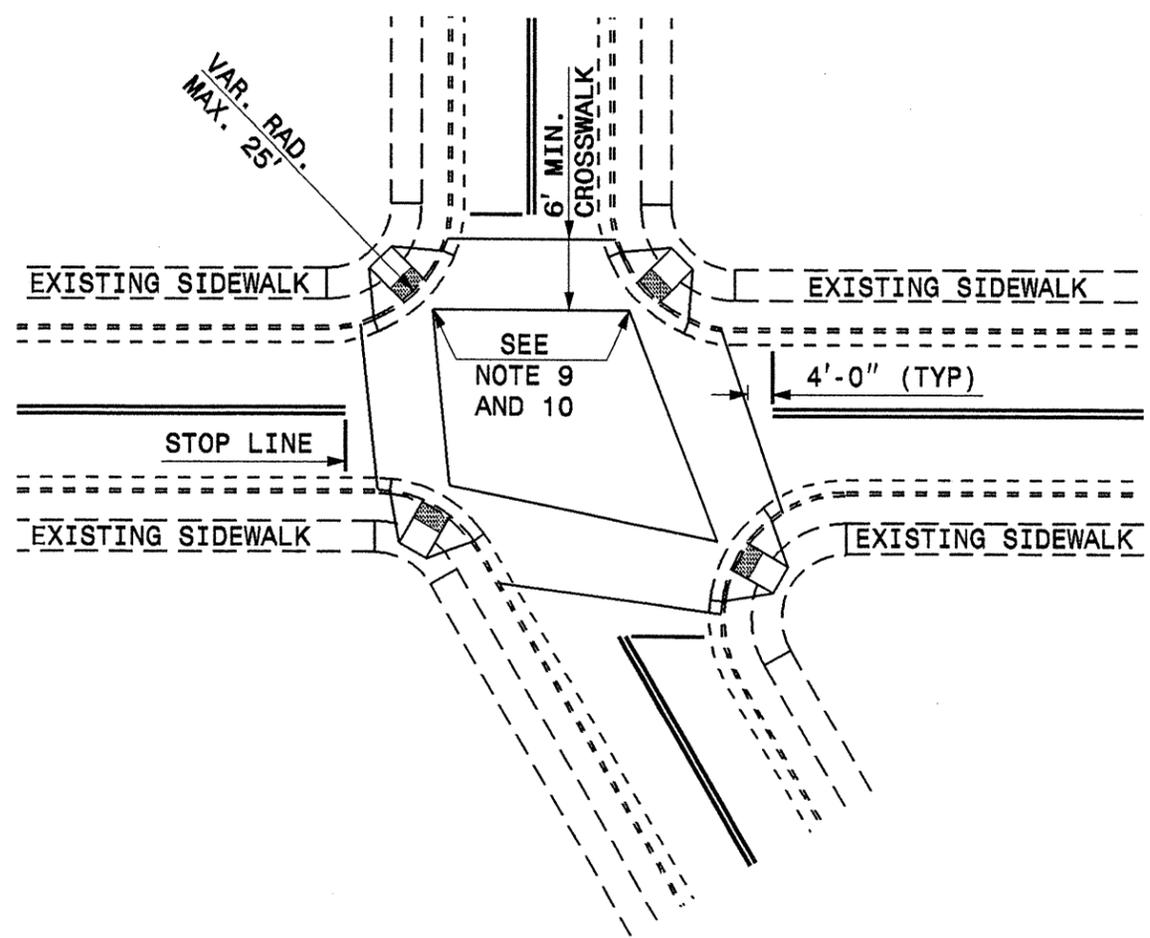
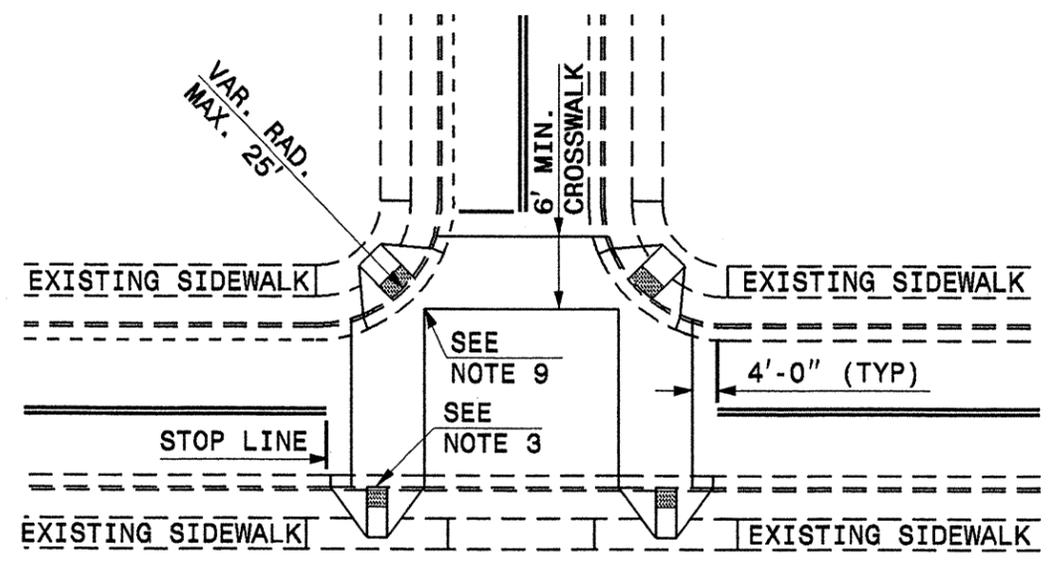
ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

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 7.106812

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

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

WHEELCHAIR RAMP AND EXISTING SIDEWALK

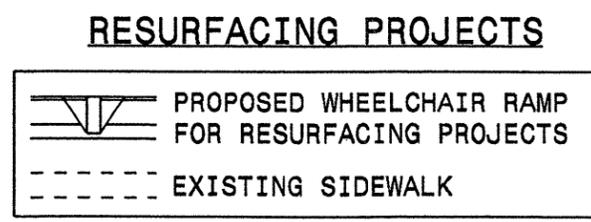


DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS

DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
 EXISTING CURB AND GUTTER

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
 EXISTING CURB AND GUTTER



ALLOWABLE LOCATIONS
 DIAGONAL RAMP RADII...MAX. 25'

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10681.22, ETC.	11	15

7CR.10681.22
7CR.20681.22
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WHEELCHAIR RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE AND A 70% CONTRASTING COLOR TO THE SIDEWALK.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY, BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1, 1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.

THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES, COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILIAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
4. PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
5. DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. CONSTRUCT WHEELCHAIR RAMPS 40" (3'-4") OR GREATER FOR DUAL RAMPS AND 60" (5'-0") OR GREATER FOR DIAGONAL RAMPS.
7. USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
8. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
9. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 14)
10. COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24" OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
11. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
12. USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
13. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
14. PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
EXISTING CURB AND GUTTER

PROJECT NO.		SHEET NO.	TOTAL NO.
7CR.10681.22, 7CR.20681.22		12	15
7.106812, 7.206812			

SUMMARY OF QUANTITIES

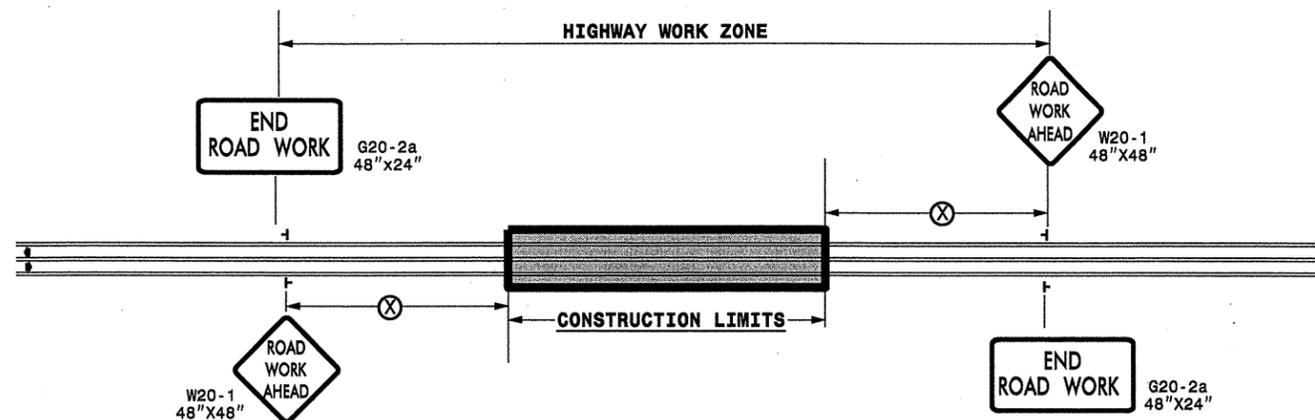
PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH SY	MILLING ASPHALT PAVEMENT, 1 1/2" - 3" DEPTH SY	MILLING ASPHALT PAVEMENT, 0-1 1/2" DEPTH SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	PG 64-22 PLANT MIX TONS	AST MAT COAT 78M SY	GENERIC PAVING ITEM - [3" PATCHING OF EXISTING PAVEMENT] TON	GENERIC PAVING ITEM - [7" PATCHING OF EXISTING PAVEMENT] TON	RETROFITTING EXISTING WHEELCHAIR RAMPS EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	SEEDING AND MULCHING AC	RESIDENTIAL SEEDING AC	TEMPORARY SILT FENCE LF	WATTLE LF	TRENCHING (UNPAVED) (1) (2") LF	JUNCTION BOX (STANDARD SIZE) EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY) EA	2" RISER W/ WEATHER HEAD EA	PORTABLE LIGHTING LS	INDUCTIVE LOOP SAW CUT LF	LEAD-IN CABLE (14-2) LF									
7CR.10681.22	Orange	1	US 15-501 NB	FROM MORGAN CREEK RD (NON-SYSTEM) TO JOINT AFTER ON RAMP OF E. FRANKLIN ST	1	NO	0.184	28	294		1,526	1,511				515	31			34.00																								
					2	NO	0.054	37							1,172				198	12																								
					1	NO	0.611	28							5,036	6,679				2,083	125																							
					2	NO	0.164	28							2,694	2,694				457	27																							
					1	NO	2.425	28							21,657	24,184		467		8,426	506					1	2																	
					3	NO	0.126	28							2,800					473	28																							
					1	NO	0.106	28							1,345	1,251				420	25						1																	
					3	NO	0.028	28							527					89	5																							
					3	NO	0.135	25-28							2,138					363	22																							
					1	NO	0.107	17-25							879	439				224	13																							
					3	NO	0.013	41							313					53	3																							
					TOTAL FOR MAP NO. 1							3.953		294	36,221	37,930		467		13,301	797			34.00			2	2	16				2,855	33	1	11	1		6,271	12,792				
					2	US 15-501 SB	FROM JOINT BEFORE OFF RAMP OF E. FRANKLIN ST. TO MORGAN CREEK RD (NON-SYSTEM)	6	NO	0.288	26					6,106					462	28					1																	
								4-6	NO	2.85	28						31,119	25,127				5,188	311						1															
								5	NO	0.049	54						1,156	404				280	17																					
								4-5	NO	0.793	28						7,360	7,156				1,237	74																					
								TOTAL FOR MAP NO. 2							3.98			45,741	32,687				7,167	430			34.00			1	1	4												
					3	RAMP A	ON RAMP FROM SR 1010 (FRANKLIN ST) TO US 15-501 NB (FORDHAM BLVD)	7	NO	0.023	25-28		51			364					31	2																						
								7	NO	0.03	25-55						704					79	5																					
								8	NO	0.067	25											83	5																					
								8	NO	0.028	25-29											37	2																					
								8	NO	0.038	29											55	4																					
					8	NO	0.05	25-29											67	4																								
					8	NO	0.107	20-25										439		122	7																							
					TOTAL FOR MAP NO. 3							0.343		51	1,068					474	28																							
					4	RAMP B	OFF RAMP FROM US 15-501 SB (FORDHAM BLVD) TO SR 1010 (FRANKLIN ST)	8	NO	0.028	25-26		39								36	2																						
								8	NO	0.07	25											87	5																					
								8	NO	0.038	25-42											64	4																					
								8	NO	0.013	42											27	2																					
								8	NO	0.007	25-42											12	1																					
								8	NO	0.018	25											22	1																					
								8	NO	0.009	25-42											15	1																					
								9	NO	0.006	38-40							137					12	1																				
					7	NO	0.053	24-38							964					81	5																							
					7	NO	0.024	60							845					71	4																							
					TOTAL FOR MAP NO. 4							0.266		39	1,946					427	25																							
					5	RAMP C	OFF RAMP FROM US 15-501 SB TO SR 1800 (EASTGATE SERVICE RD)	8	NO	0.036	0-21		17								20	1																						
								8	NO	0.01	16-21											9	1																					
								8	NO	0.057	16											45	3																					
								8	NO	0.01	16-18											8	1																					
					TOTAL FOR MAP NO. 5							0.113		17						82	5																							
					TOTAL FOR PROJ NO. 7CR.10681.22							8.655		401		84,976	70,617	439	467		21,451		1,285	11,419		68.00			3	3	19				2,855	33	1	11	1		6,271	12,792		

PROJECT NO.		SHEET NO.	TOTAL NO.
7CR.10681.22, 7CR.20681.22 7.106812, 7.206812		13	15

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH	WIDTH	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH	MILLING ASPHALT PAVEMENT, 1 1/2" - 3" DEPTH	MILLING ASPHALT PAVEMENT, 0-1 1/2" DEPTH	INCIDENTAL MILLING	BASE COURSE, B25.0B	SURFACE COURSE, S9.5B	SURFACE COURSE, SF9.5A	PG 64-22 PLANT MIX	AST MAT COAT 78M	GENERIC PAVING ITEM - (3" PATCHING OF EXISTING PAVEMENT) TON	GENERIC PAVING ITEM - (7" PATCHING OF EXISTING PAVEMENT) TON	RETROFITTING EXISTING WHEELCHAIR RAMPS	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX EA	SEEDING AND MULCHING	RESIDENTIAL SEEDING	TEMPORARY SILT FENCE	WATTLE	TRENCHING (UNPAVED) (1)(2")	JUNCTION BOX (STANDARD SIZE)	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	2" RISER W/ WEATHER HEAD	PORTABLE LIGHTING	INDUCTIVE LOOP SAW CUT	LEAD-IN CABLE (14-2)						
																																				NO	MI	FT	TONS	SMI	SY
7CR.20681.22	Orange	6	SR 1005 (OLD GREENSBORO RD)	FROM SR 1942 (JONES FERRY RD) TO SR 1950 (CARL DURHAM RD)	10	NO	2.894	20	201	7.68				167	3,105		3,397	354	33,956		638.00				1.40	1.40	400	128													
				BRIDGE #85 - DO NOT PAVE	10	NO	0.006	23																																	
					10	NO	0.909	20									167	975		1,066	111	10,666																			
					10	NO	0.034	20-30										36			48	5	499																		
				TOTAL FOR MAP NO. 6						3.843		201	7.68				334	4,116		4,511	470	45,121		638.00				1.40	1.40	400	128										
				7	SR 1727 (EUBANKS RD)	FROM NC 86 TO SR 1009 (OLD NC 86)	8	NO	0.012	55-58			160	4.00						34		401							0.73	1.40	400	128									
							8	NO	0.043	25-55											81		5	1,009																	
							11	NO	0.068	20-25												91		9	918																
							11	NO	0.353	20												441	512	50	4,142																
							8	NO	0.049	26-44												78		5	1,006																
			8			NO	0.016	39-44												33		2	394																		
			9			NO	0.02	39												82		2	458			1															
			9			NO	0.021	38-39												86		2	468																		
			8			NO	0.014	21-36													20		1	238																	
			11			NO	0.136	21													170	236	21	1,676																	
			9			NO	0.019	21-34													78		2	312																	
			9			NO	0.04	24-30													131		8	751																	
			11			NO	0.007	22-30													9	11	1	107								625	9		6		480	1,600			
			11			NO	0.013	22-34													16	27	2	214																	
			12			NO	0.03	34-38													123	43	3	633																	
			12			NO	0.046	38													189	46	3	1,026																	
			8			NO	0.025	26-38														32	2	469																	
			11			NO	0.022	20-26													27	39	4	297																	
			11			NO	0.281	20													351	336	35	3,297																	
			11			NO	0.039	20-32													49	60	6	595																	
			11			NO	0.059	32													74	73	8	1,108																	
			11			NO	0.058	21-32													72	78	8	919																	
			11			NO	0.845	21													1,055	1,132	113	10,410																	
			11			NO	0.259	21														121	141	14	1,195																
			11			NO	0.087	21														37	3	378																	
		TOTAL FOR MAP NO. 7						2.595		160	4.00				722	2,499	3,371		311	32,421		522.00		2	1	2	0.73	0.73	200	64	625	9		6		480	1,600				
		8	SR 1710 (OLD NC 10)			FROM NC 86 TO US 70	13	NO	0.546	22			707									14	1,195																		
							13	NO	0.02	20-22													487	32	7,047																
					13	NO	0.916	20													37	2	246																		
					13	NO	0.015	20-21														763	50	10,736																	
					13	NO	0.148	21														33	2	185																	
					13	NO	0.023	20-21														146	9	1,823																	
					13	NO	0.023	20-21														20	1	283																	
					13	NO	0.758	20																																	
					13	NO	0.013	21															635	41	8,894																
					13	NO	1.47	20															11	1	160																
					13	NO	0.152	20															734																		
					13	NO	1.732	20																1,504	98	20,322															
					13	NO	0.027	20-36															29	2	444																
		TOTAL FOR MAP NO. 8						5.82		707						1,101			4,939	321	89,482		1,932.00																		
TOTAL FOR PROJ NO. 7CR.20681.22						12.258		1,068	11.68				722	1,435	6,615	3,371	9,450	1,102	167,024		3,092.00		2	1	3	2.13	2.13	600	192	625	9		6		480	1,600					
7.106812	Orange	1	US 15-501 NB (FORDHAM BLVD)	FROM MORGAN CREEK RD (NON-SYSTEM) TO JOINT AFTER RAMP OF SR 1010 (E. FRANKLIN ST.)		NO	***	***																																	
		TOTAL FOR MAP NO. 1						***	***																																
		2	US 15-501 SB (FORDHAM BLVD)	FROM JOINT BEFORE RAMP OF SR 1010 (E. FRANKLIN ST.) TO MORGAN CREEK RD (NON-SYSTEM)		NO	***	***																																	
		TOTAL FOR MAP NO. 2						***	***																																
		6	SR 1005 (OLD GREENSBORO RD)	FROM SR 194																																					

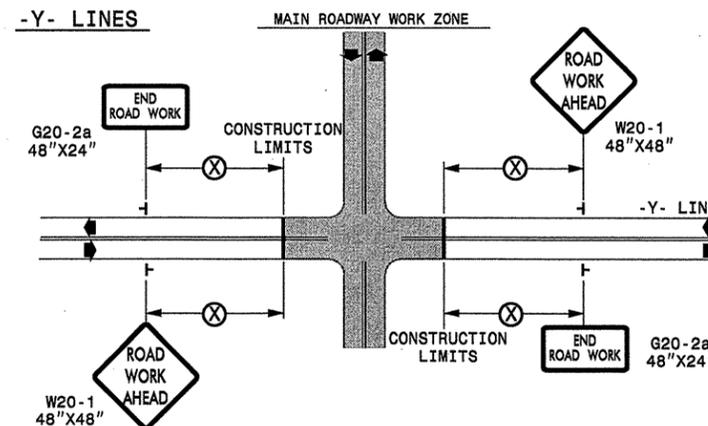
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

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

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- └ STATIONARY SIGN
- ◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

DETAIL DRAWING FOR
TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
SEAL	SCALE: NONE	REVISIONS	
	DATE:	7-98	10/01
	DWG. BY:	10-98	03/04
	DESIGN BY:	01/01	11/04
REVIEWED BY:			

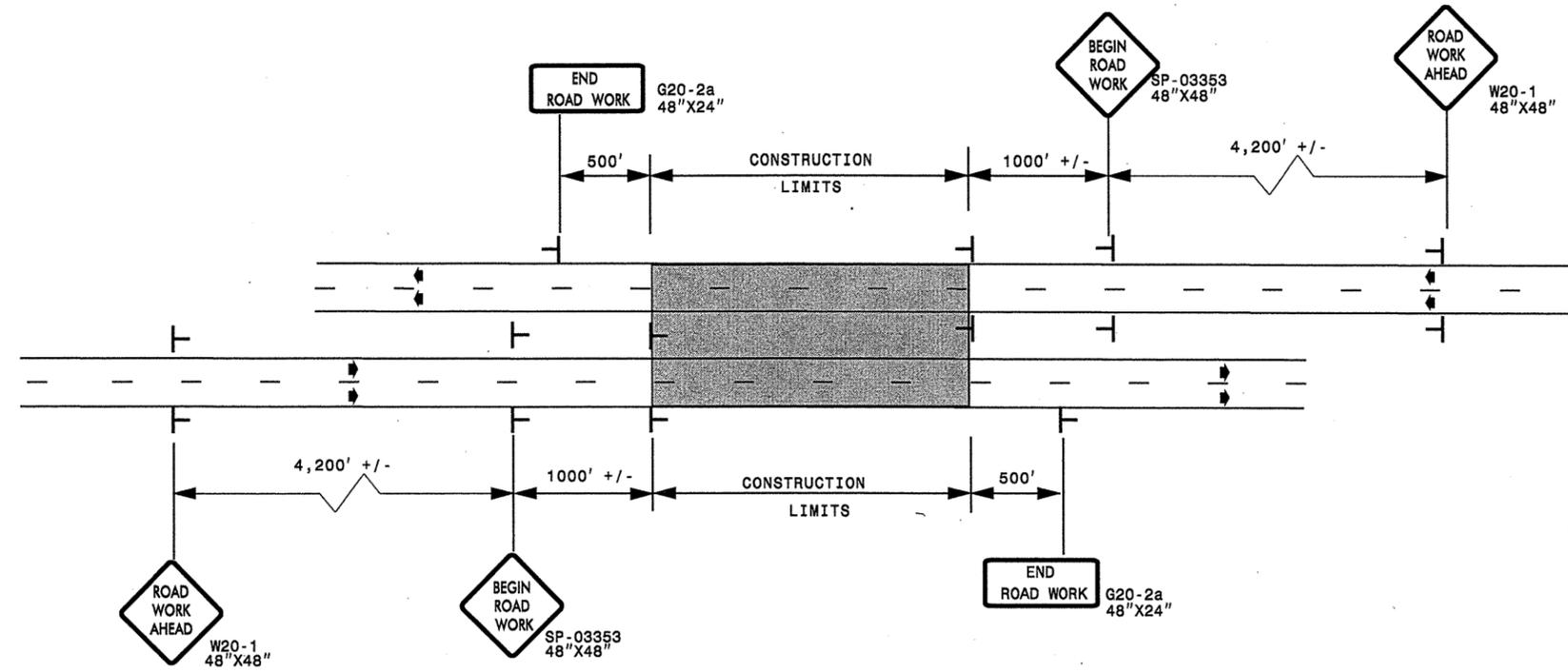
05-OCT-2000 08:31 \\DOT\DFSR001\GROUPS-WZTCC\TMU\WZTC\Resurfacing\2000\Central Region\Div07\C202633A-C-7.106812x3-2way_Undiv.&_Urban_Fr.wys.stationary.dgn bpschoenbauer AT WZTC241737

ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

WBS ELEMENTS: 7.106812,
7CR.10681.22, 7CR.20681.22
7.206812

PROJ. REFERENCE NO. SEE TO THE LEFT	SHEET NO. TCP-2
--	--------------------

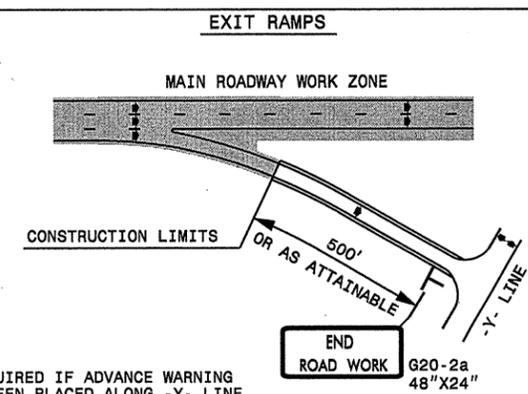
DETAIL A



LEGEND	
└	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW

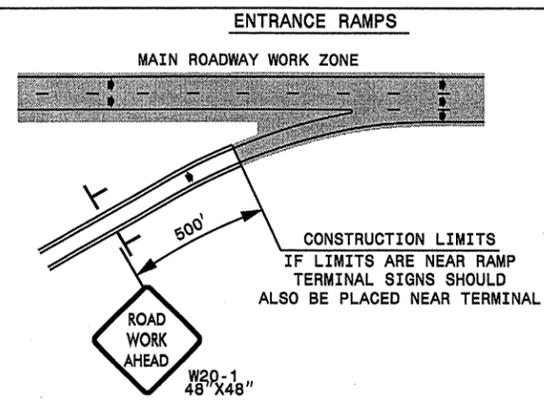
* USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B



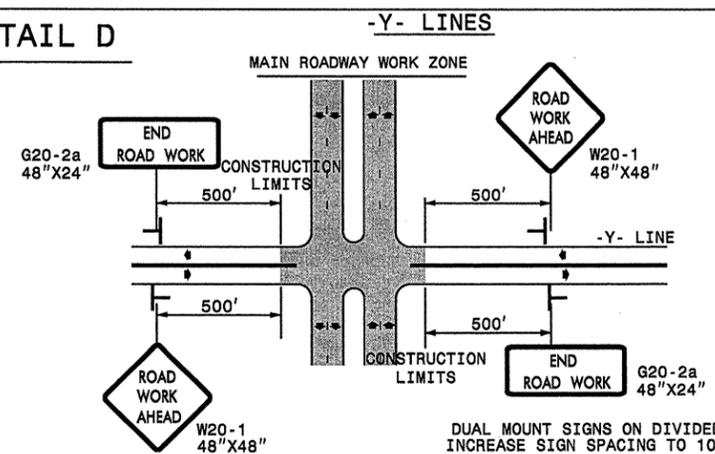
NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



CONSTRUCTION LIMITS IF LIMITS ARE NEAR RAMP TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL

DETAIL D



DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000'+/-.

GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
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- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

05-OCT-2000 08:33 \\DOT\SR00701\GROUPS-WZTCCC\TMU\WZTC\Resurfacing\2000\Central Region\Div07\C202633A-C-7.106812x3-Freeways-4lanes-or-greater-stationary.dgn bpschoenbauer AT WZTC244737

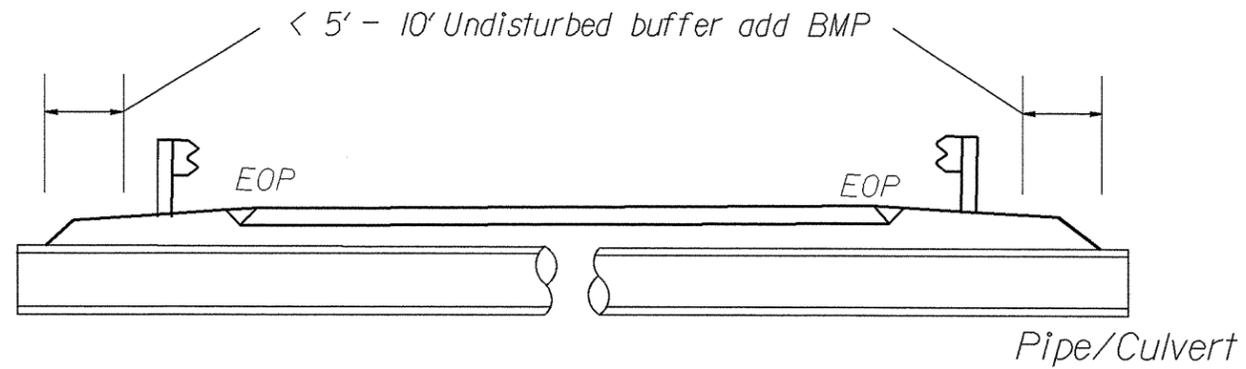
APPROVED: _____	DATE: _____	ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)	
<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> SEAL </div>	SCALE: NONE		REVISIONS
	DATE: 8/03		03/04
	DWG. BY: JI		
	DESIGN BY: JI		
REVIEWED BY:		CADD FILE	

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

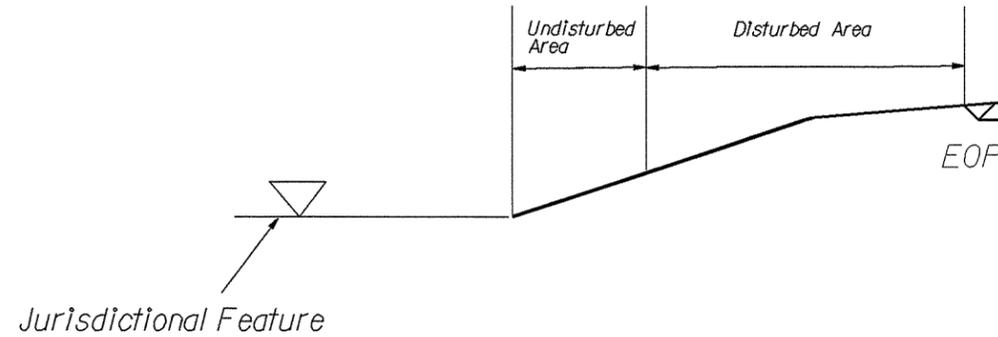
BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL

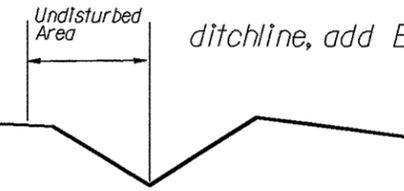
PROJECT REFERENCE NO. 7CR1001123, ETC.	SHEET NO. EC-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



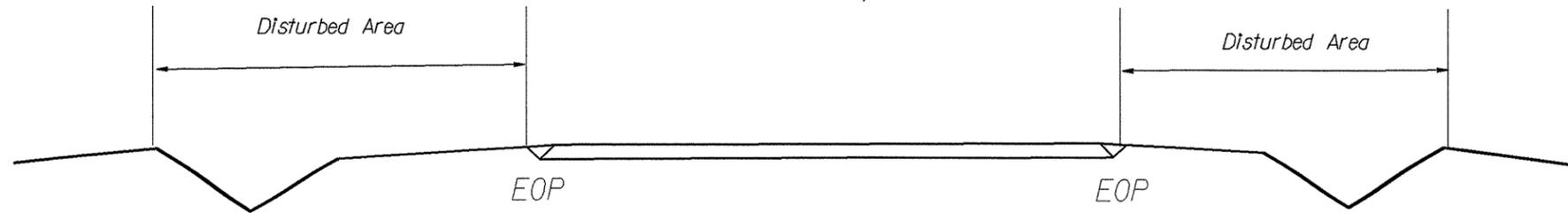
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



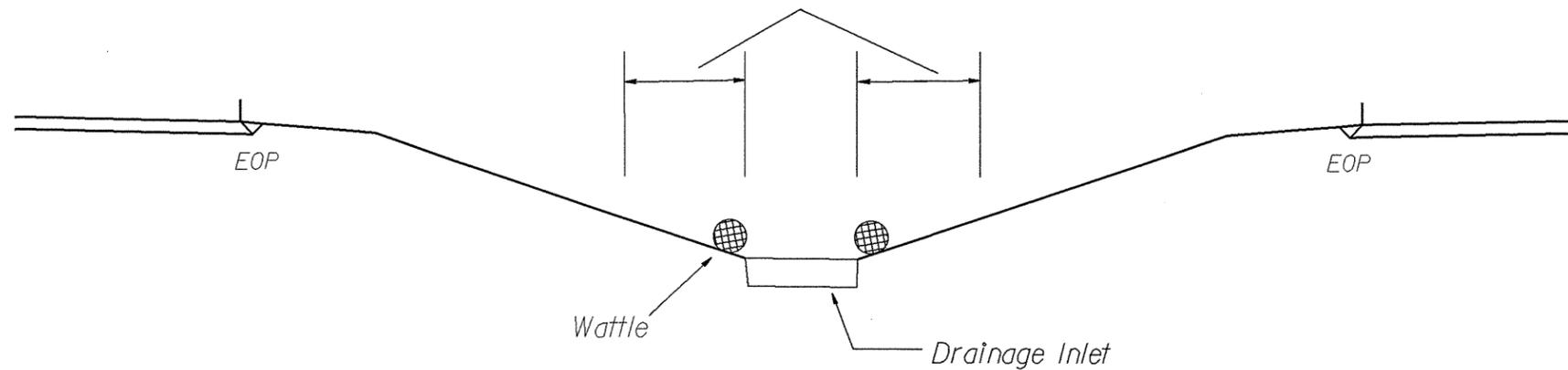
< 5' - 10' Undisturbed buffer from ditchline, add BMP



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

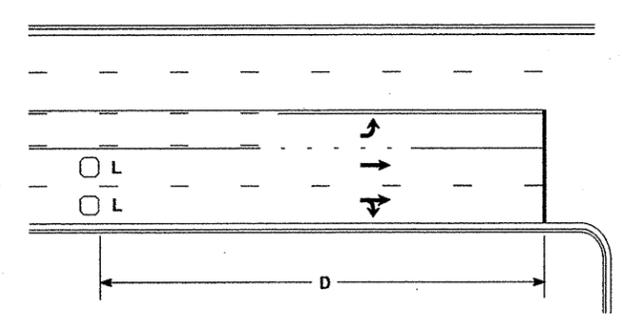


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

High Speed Detection [≥40 mph (64 km/hr)]

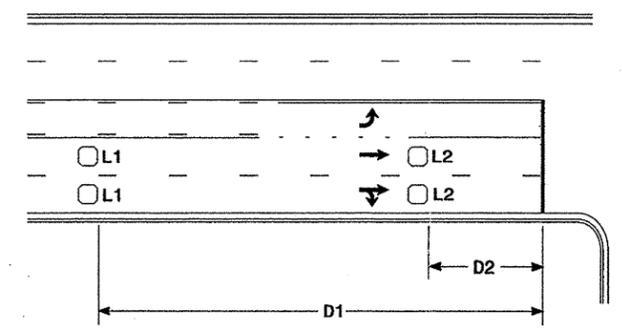


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR



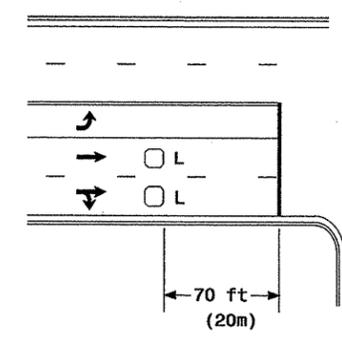
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

"Stretch" Operation

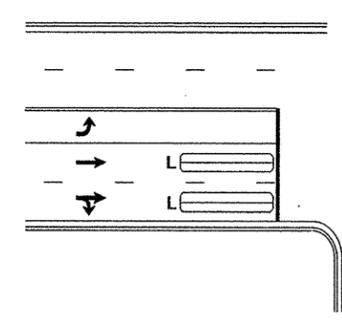
Low Speed Detection [≤35 mph (56 km/hr)]

7.106812, 7CR.10681.22, 7CR.20681.22
7.206812



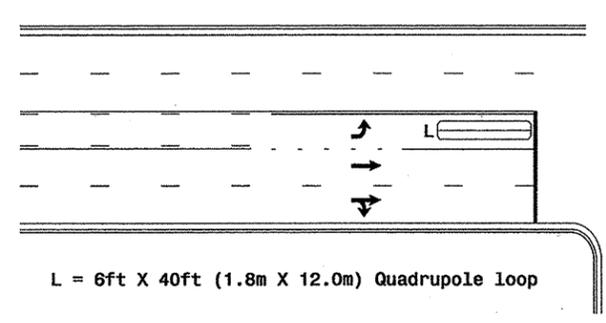
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

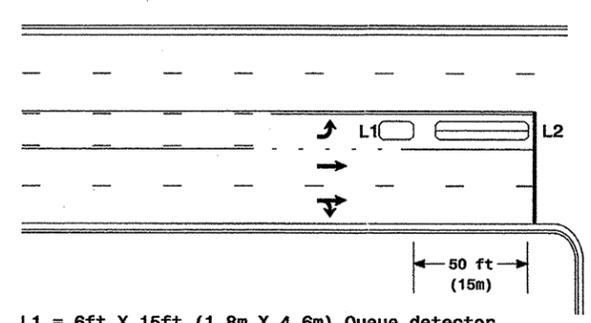
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

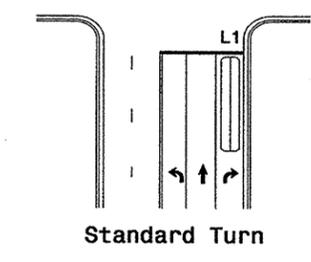
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

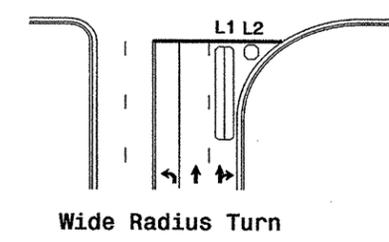
Queue Loop Detection

Right Turn Lane Detection

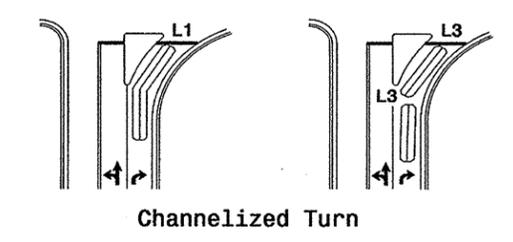


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

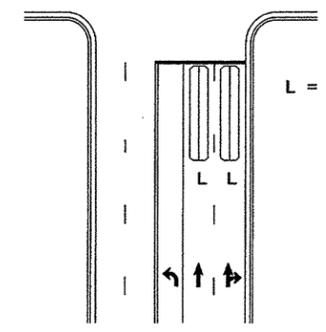


Wide Radius Turn



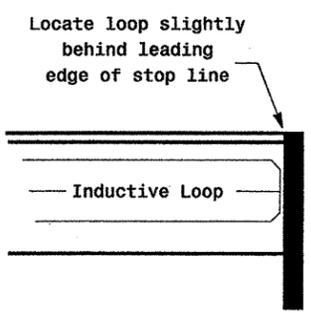
Channelized Turn

Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines



Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns
6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

	Typical Loop Locations	
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:
SCALE: N/A	REVISIONS:	INIT. DATE: 12/19/06
SIGNATURE:		DATE:
SIG. INVENTORY NO.		

7.106812
7.CR.10681.22
7.CR.20681.22
7.206812

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

11-08

INDUCTIVE DETECTION LOOPS
ENGLISH DETAIL DRAWING FOR

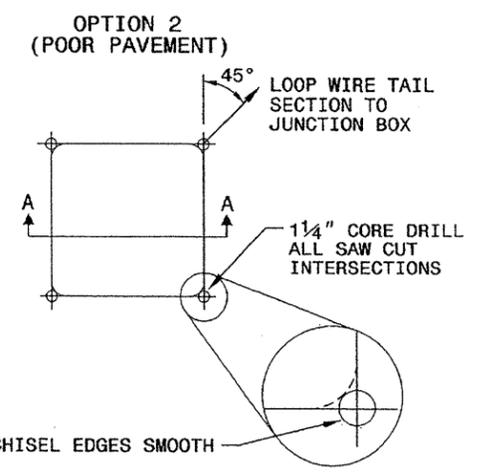
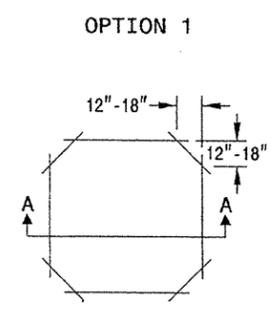
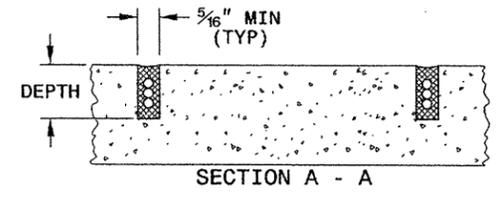
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

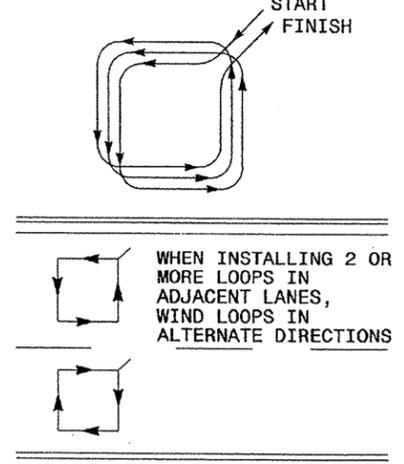
SAW CUT OPTIONS

SAW SLOT DEPTH CHART

DEPTH (IN)	NO. OF WIRE TURNS				
	2	3	4	5	6
CONCRETE	2.0	2.0	2.5	2.5	3.0
ASPHALT	2.0	2.5	3.0	3.0	3.0

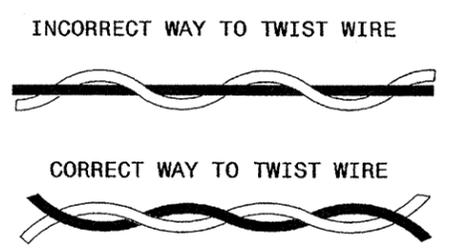


LOOP WINDING METHOD



WHEN INSTALLING 2 OR MORE LOOPS IN ADJACENT LANES, WIND LOOPS IN ALTERNATE DIRECTIONS

LOOP WIRE TWISTING METHOD

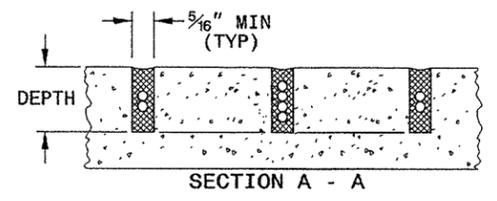
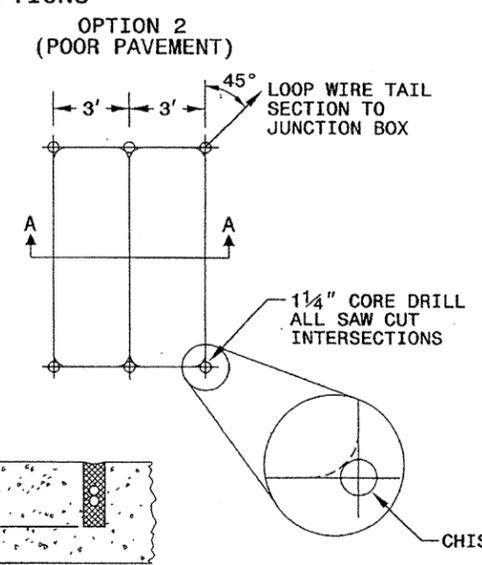
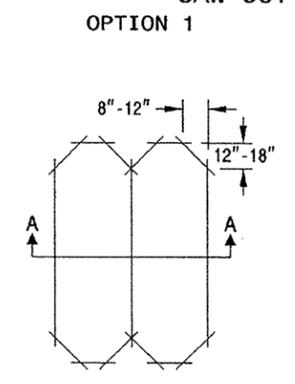


NOTES

1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

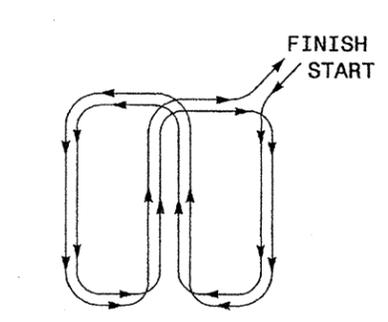
QUADRUPOLE LOOP

SAW CUT OPTIONS



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



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

11-08

INDUCTIVE DETECTION LOOPS
ENGLISH DETAIL DRAWING FOR

SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

Milton I. Dean 4/24/08
SIGNATURE DATE

24-MAY-2008 09:28
c:\pork\11\as0-standard\plate sheets\1725D01.mxd
mlittle

7.106812
 7CR.10681.22
 7CR.20681.22
 7.206812

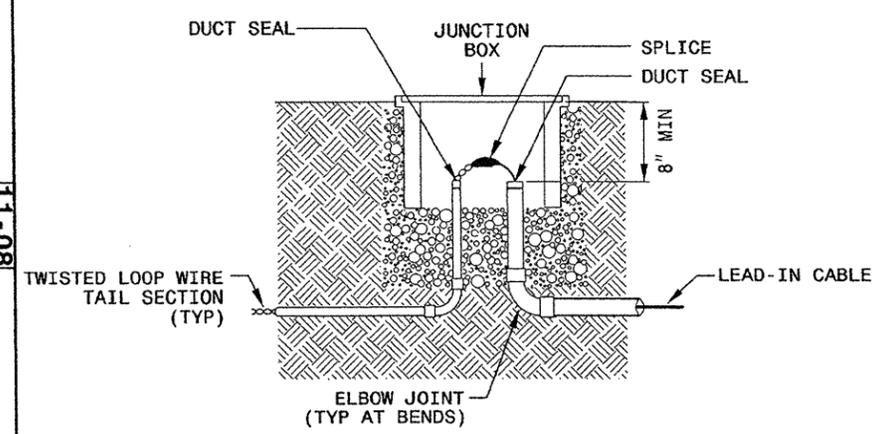
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

11-08
 ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

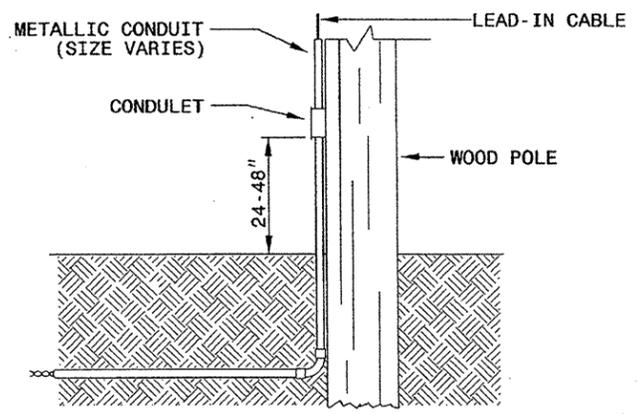
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

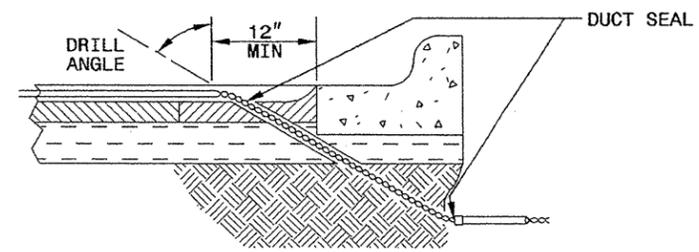


NOTE

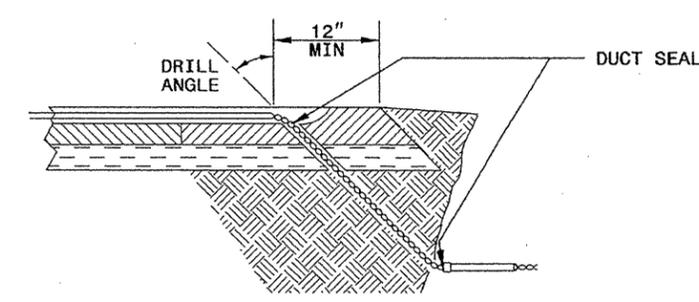
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

11-08
 STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
 Garner, NC 27529

SEAL

Milton I. Dean 11/24/08
 SIGNATURE DATE

24-Nov-08 08:29
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7.106812
7.C.R.10681.22
7CR.20681.22
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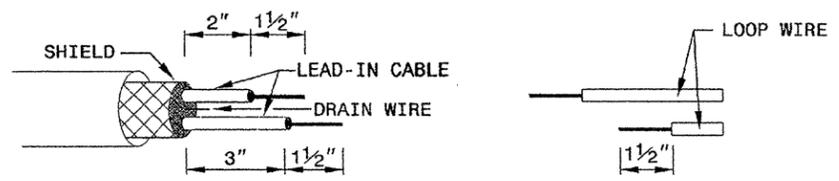
STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

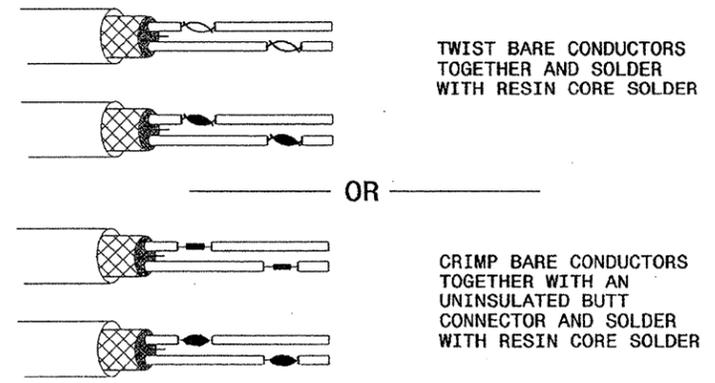
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

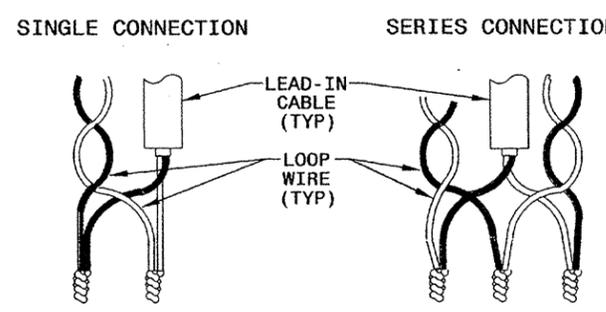


STEP 2. CONNECT AND SOLDER

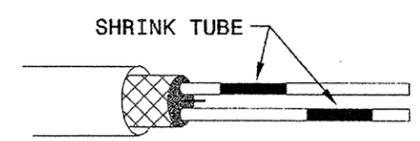


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

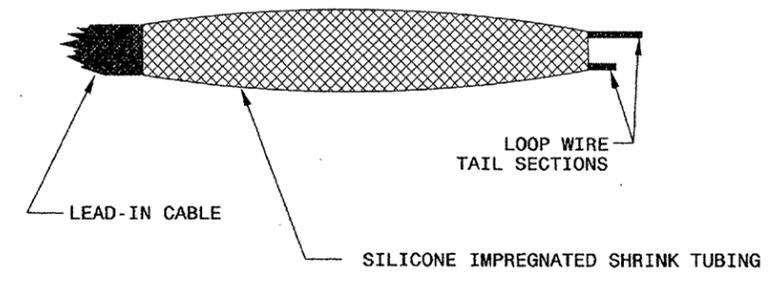
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

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Garner, NC 27529

SEAL

Milton J. Dean 11/24/08
SIGNATURE DATE

24-Nov-2008 09:16
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