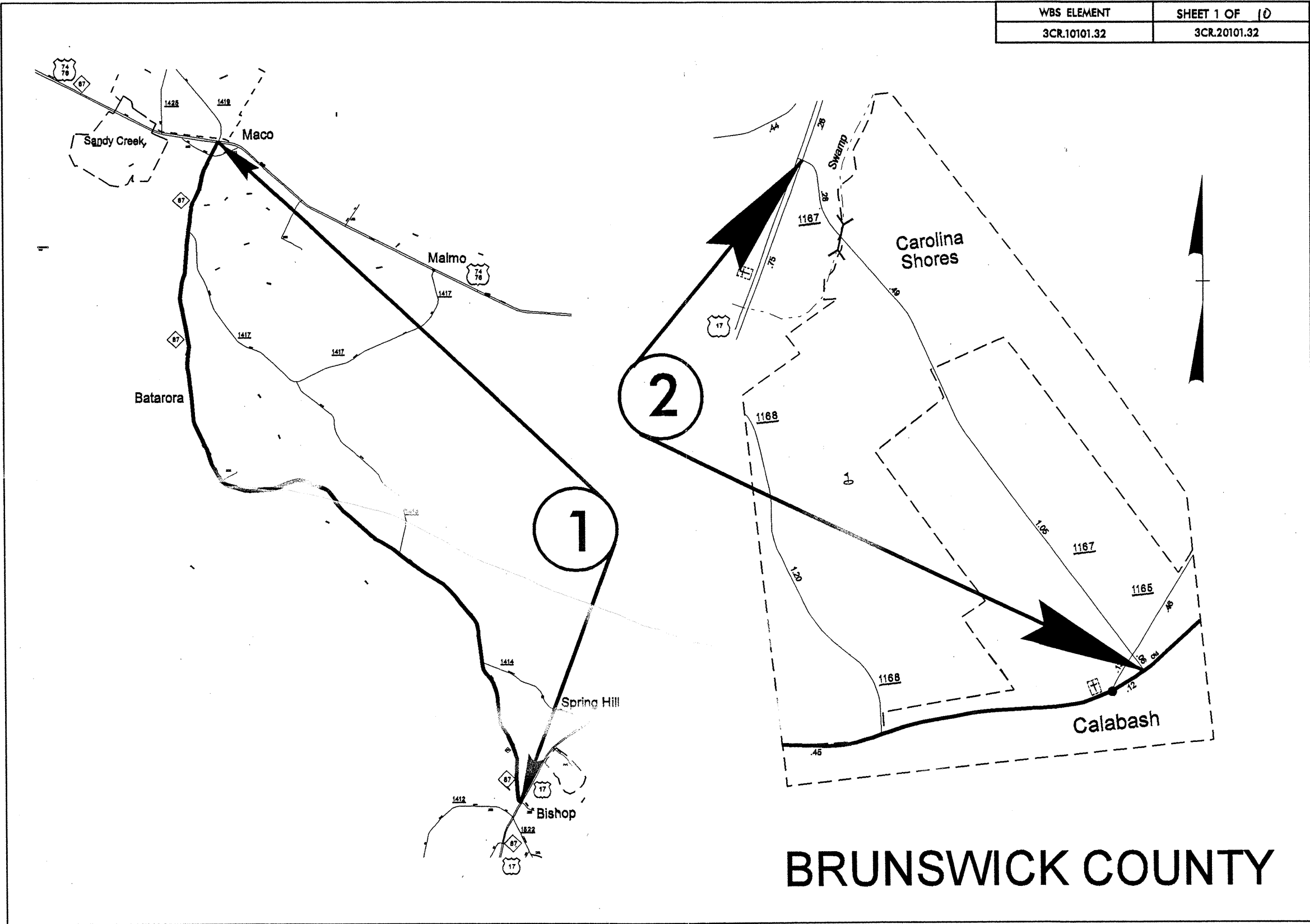
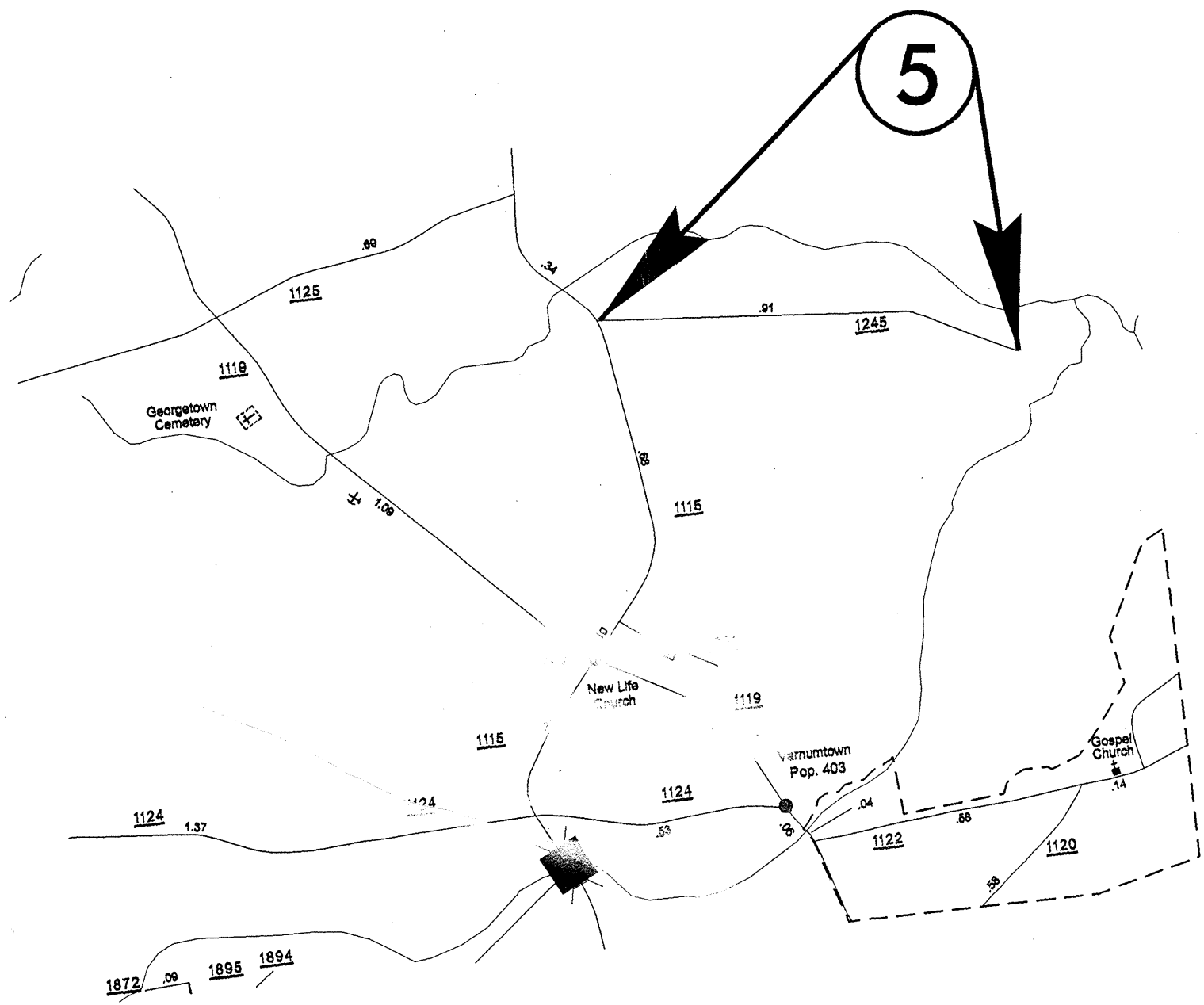


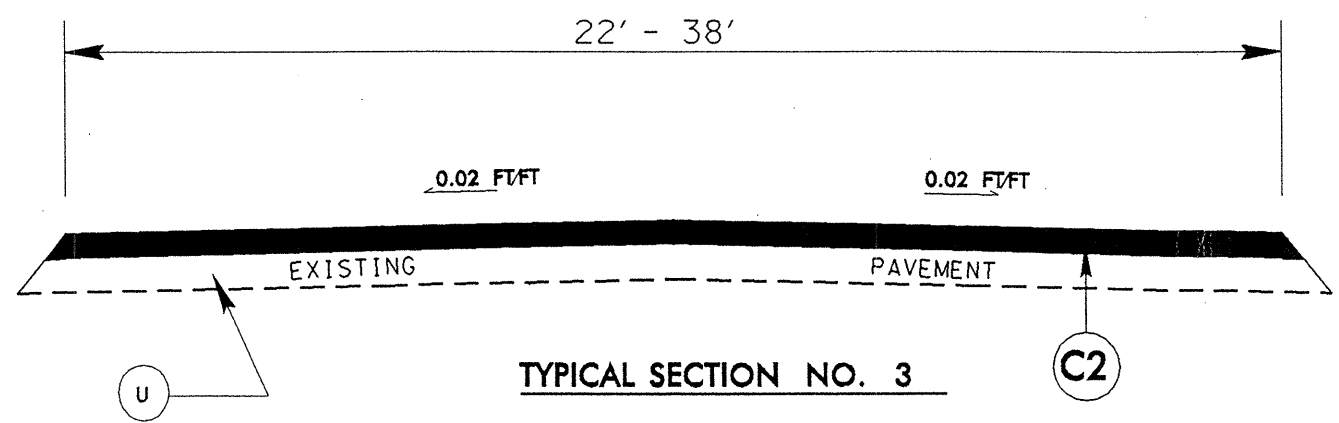
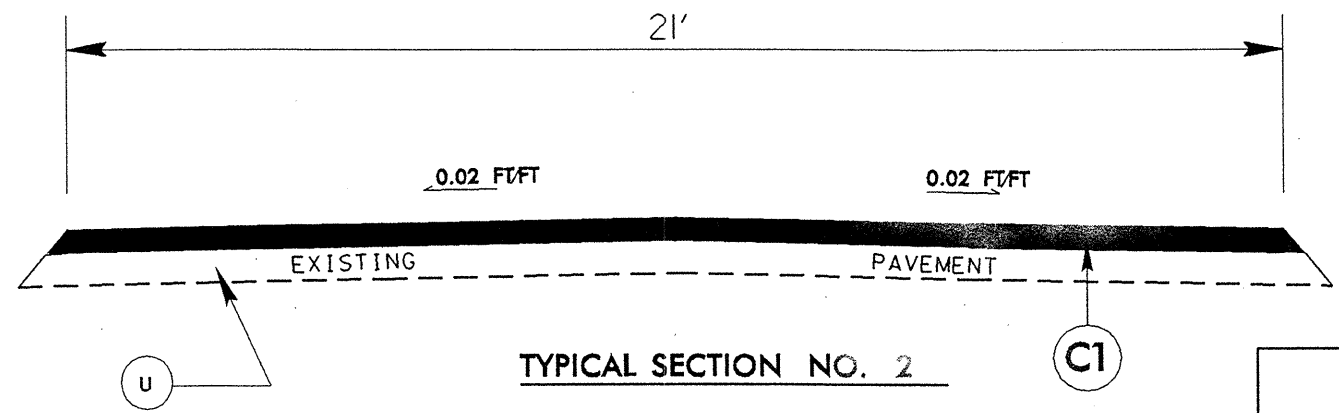
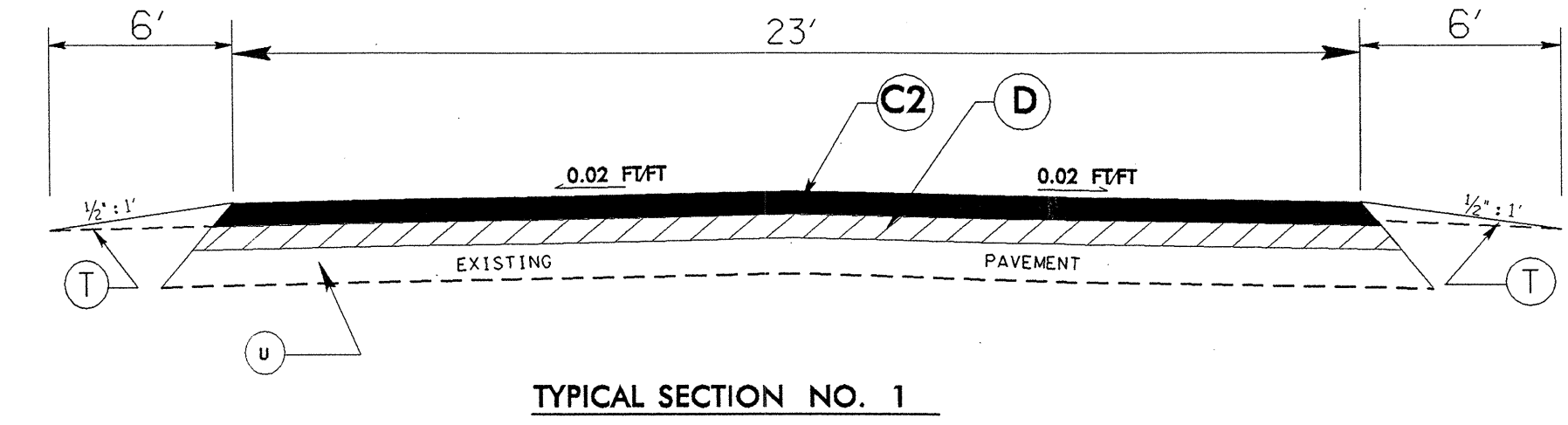
WBS ELEMENT	SHEET 1 OF 10
3CR.10101.32	3CR.20101.32



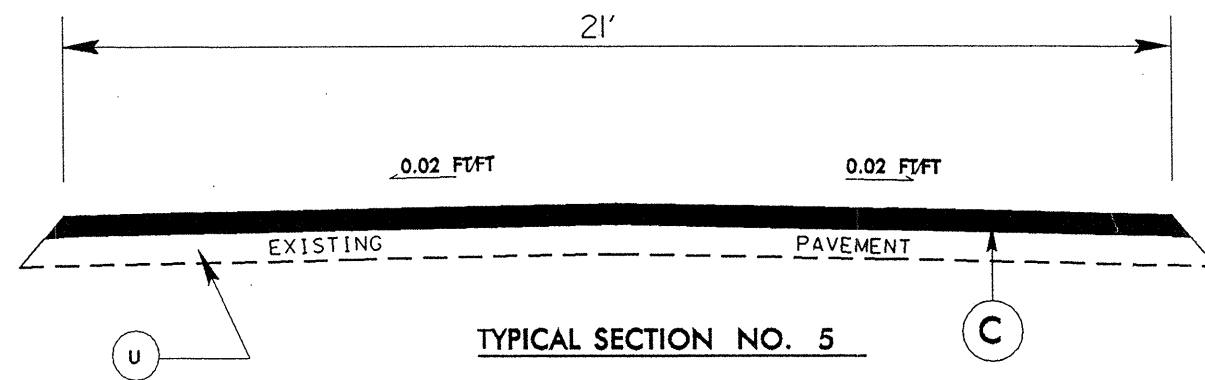
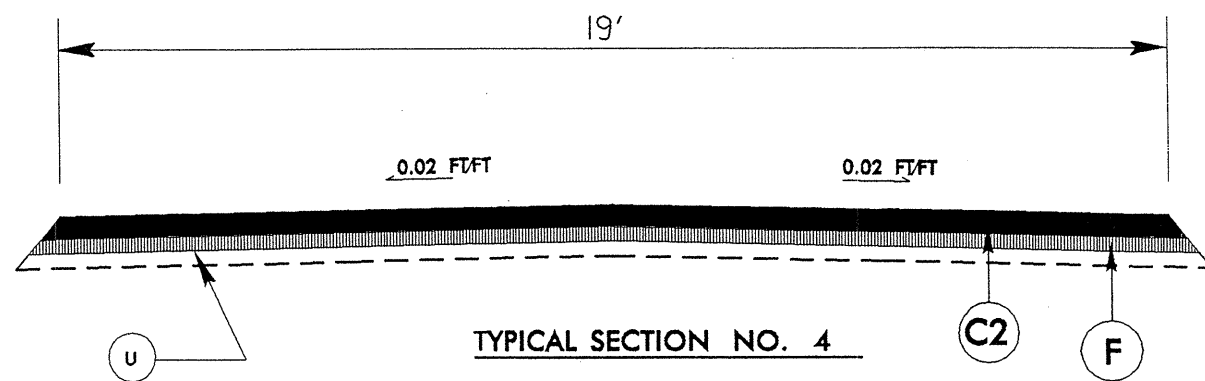
BRUNSWICK COUNTY



BRUNSWICK COUNTY



PAVEMENT SCHEDULE	
C	PROPOSED APPROX. 1" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT A RATE OF 110 LBS. PER SQ.YD
C1	PROPOSED APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT A RATE OF 165 LBS. PER SQ.YD
C2	PROPOSED APPROX 1 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT A RATE OF 168 LBS. PER SQ.YD
D	PROPOSED APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT A RATE OF 285 LBS. PER SQ.YD
F	MAT COAT #8 STONE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.



PAVEMENT SCHEDULE	
C	PROPOSED APPROX. 1" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT A RATE OF 110 LBS. PER SQ.YD
C1	PROPOSED APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT A RATE OF 166 LBS. PER SQ.YD
C2	PROPOSED APPROX 1½" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT A RATE OF 168 LBS. PER SQ.YD
D	PROPOSED APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT A RATE OF 285 LBS. PER SQ.YD
F	MAT COAT #8 STONE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

3CR.10101.32, 3CR.20101.32

SUMMARY OF QUANTITIES

WBS ELEMENT	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP NO.	LENGTH	WIDTH FT.	ASPHALT BINDER 64-22 TON	PATCH EXISTING PAV'T MILLING TON	PATCH EXISTING PAV'T FULL DEPTH TON	MAT COAT #6 STONE SY	SURFACE COURSE SF9.5A TON	SURFACE COURSE S9.5B TON	INTERMEDIATE COURSE I19.0B TON	LEVELING SF9.5A TON	6" CONC DRIVEWAY SY	SHOULDER RECONSTR. SHDR MI.	BORROW EXCAVATION CY	SEEDING & MULCHING AC	INCIDENTIAL STONE TON	ADJ WV/VB EA	
3CR.10101.32	BRUNSWICK	1	NC 87	0.03 MILE NORTH OF US 17 TO 0.03 SOUTH OF US 74/76	1	9.20	23	1644	1350	150			11470	20343		175	18.40	5392	14.72	1100		
3CR.20101.32	BRUNSWICK	2	SR 1167	US 17 TO NC 179	2	1.85	21					2068										
"	"			9 NON-SYSTEM INTERSECTIONS @ 6 TONS PER								54										
TOTAL FOR MAP No. 2						1.85		138	450	50		2122								20	2	
"	"	3	SR 1120	0.06 MILE NE OF NC 130 TO SR 1122	3	0.09	38						185									
"	"				3	0.57	22						680									
"	"				4	1.30	19				14500		1339									
TOTAL FOR MAP No. 3						1.96		132	360	40	14500		2204									
"	"	4	SR 1513	US 17 BUS TO EAST BOLIVA CITY LIMIT	4	0.42	19	26	90	10	4680		433									
"	"	5	SR 1245	SR 1115 TO END STATE SYSTEM	5	0.91	21	53	315	35		709			100							
TOTAL FOR WBS ELEMENT 3CR.20101.32						5.14		349	1215	135	19180	2831	2637		100						20	2
GRAND TOTAL						14.34		1993	2565	285	19180	2831	14107	20343	100	175	18.40	5392	14.72	1120	2	






THERMO PLASTIC PAVEMENT MARKINGS					PAINT PAVEMENT MARKINGS		PAVEMENT MARKERS	
WBS ELEMENT	COUNTY	MAP NO.	4"WHITE 90 MILS (E/L) LF	4"YELLOW 120 MILS (C/L) LF	4" WHITE LF	4"YELLOW LF	RAISED MARKERS (Y/Y) EA.	S/P RAISED (Y/Y) EA
3CR.10101.32	BRUNSWICK	1	97150	36450	97150	36450		607
3CR.20101.32	BRUNSWICK	2			39075	14650	118	
		3			41400	1550	129	
		4			8875	10550	28	
		5			19225	7200	60	
TOTAL FOR WBS ELEMENT 3CR.20101.32					108575	33950	335	
PROJECT TOTAL			97150	36450	205725	70400	335	607
GRAND TOTAL			97150	36450	276125		335	607

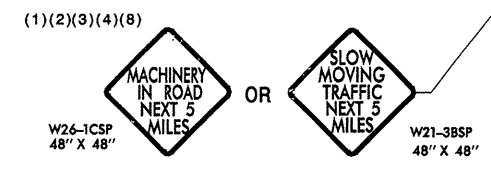
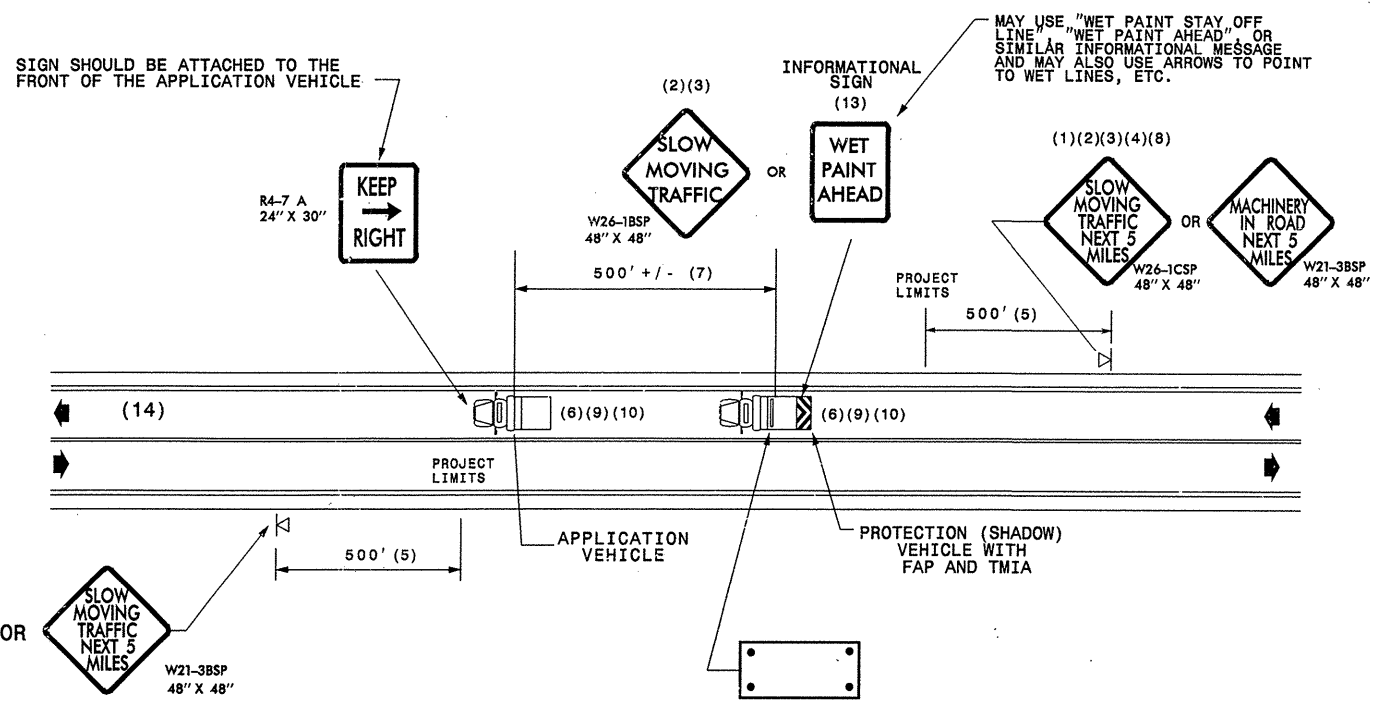
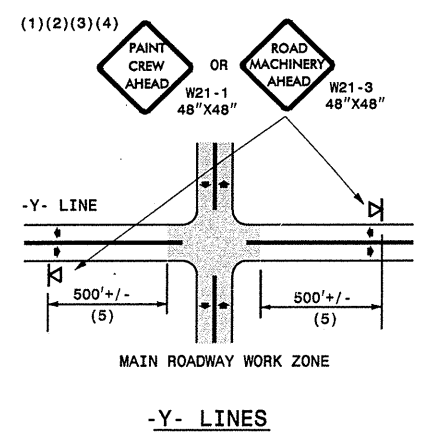
NOTE: PRIMARY ROADS 24' IN WIDTH WILL HAVE THE EDGE LINES 1' FROM EDGE OF PAVEMENT
 PRIMARY ROADS 28' - 40' IN WIDTH OR GREATER WILL HAVE THE EDGE LINES 2' FROM EDGE OF PAVEMENT
 SECONDARY ROADS 22'-24' IN WIDTH WILL HAVE THE EDGE LINES 1' FROM EDGE OF PAVEMENT
 SECONDARY ROADS 26' - 40' IN WIDTH OR GREATER WILL HAVE THE EDGE LINES 2' FROM EDGE OF PAVEMENT

GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, i.e. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.
- (14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1185.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  FLASHING ARROW PANEL, TYPE "B" (80"X30" MIN.), "CAUTION MODE"



MOVING OPERATION CARAVAN
(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON TWO-LANE TWO-WAY ROADWAYS

DRAWING NUMBER 6
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04

6/2/99

WBS ELEMENT	SHEET 9 OF 10
3CR.10101.32	3CR.20101.32

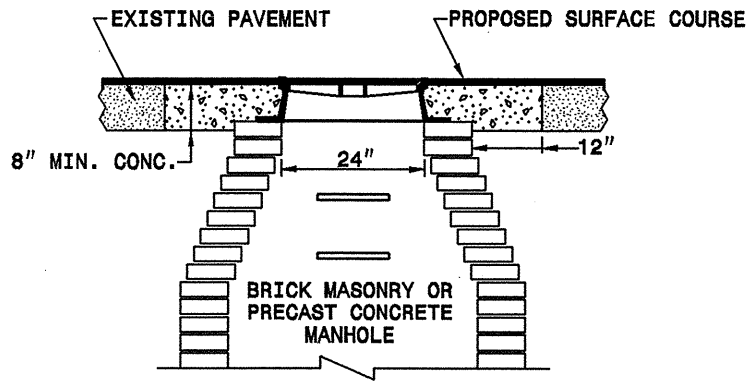
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

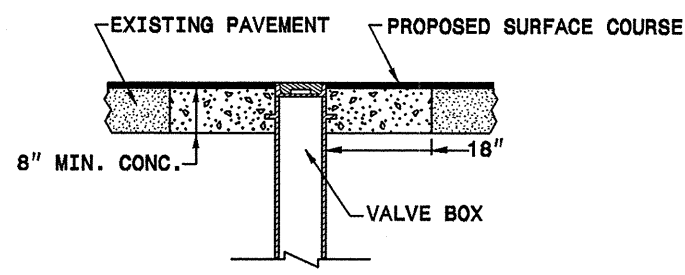
SHEET 1 OF 1
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GENERAL NOTES:

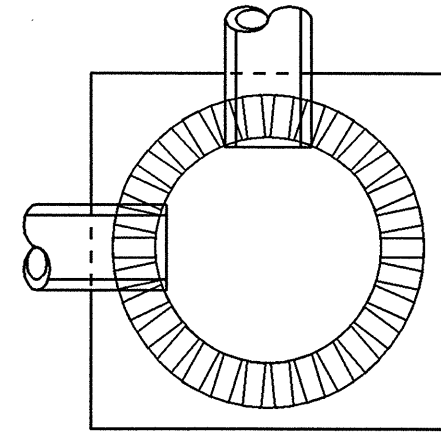
1. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
4. AREA BELOW 8" DEPTH CAN BE FILLED WITH 78M OR NO. 57 CLEAN STONE.
5. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " +/- $\frac{1}{8}$ "



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

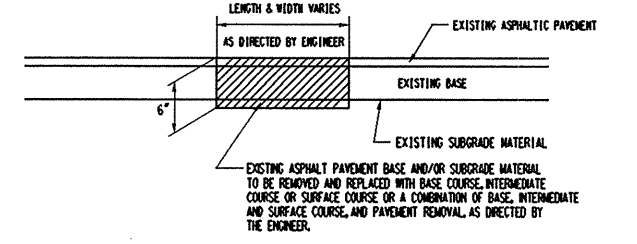
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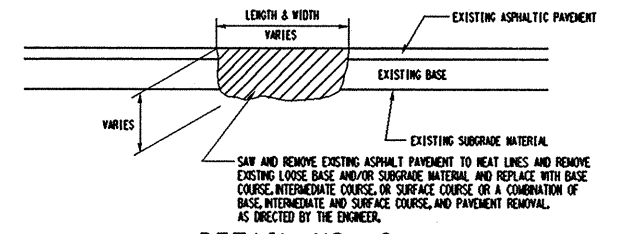
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WBS ELEMENT	SHEET 10 OF 10
3CR.10101.32	3CR.20101.32

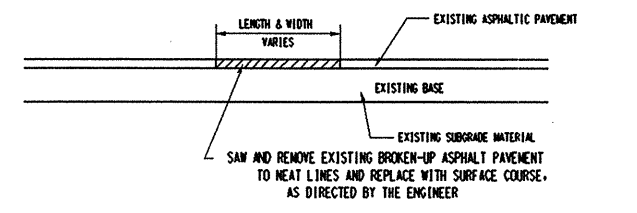
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



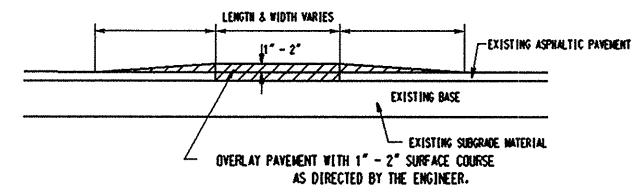
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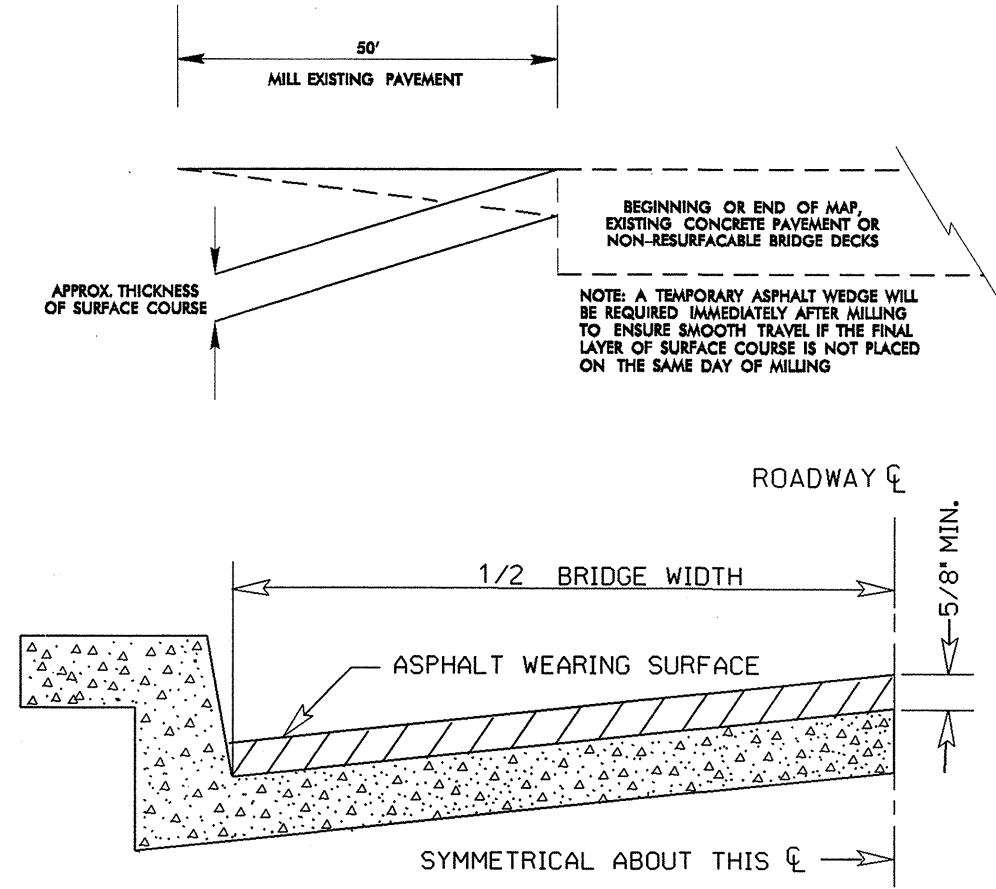
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DETAIL NO. 3



DETAIL NO. 4

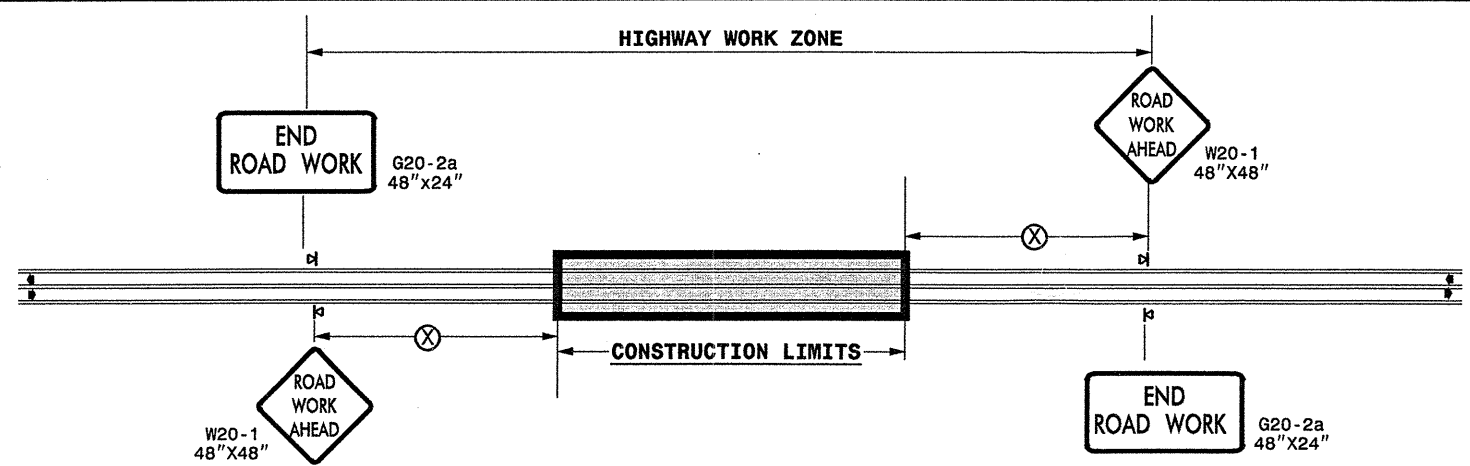


BRIDGE HALF TYPICAL SECTION

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 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

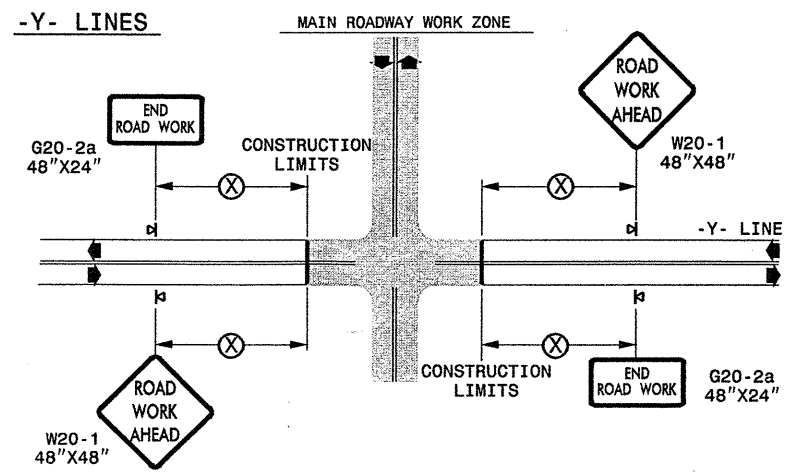
TWO-WAY UNDIVIDED ** (L-LINES)



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.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** 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

◀ PORTABLE SIGN

◀ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED 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: _____	CADD	FILE	

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