

**LAYOUT AND GENERAL INFORMATION:**

- PAVEMENT BY OTHERS
- GUARDRAIL BY OTHERS
- LENGTH OF ALUMINUM BOX CULVERT SHALL BE 45 FEET (PROVIDED BY THE DEPARTMENT)

EXISTING UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED.

**HAZARDOUS SPILL BASIN CHECKLIST**

RIVER BASIN: CAPE FEAR  
STREAM CLASSIFICATION: C, SW

**WATER QUALITY CRITERIA:**

STREAM CROSSING BLUE LINE ON USGS OR WSI  YES  NO  
 WITH TYPICAL OR IV CROSSING WITH WS OF W.S. CRITICAL AREA  YES  NO

**ROADWAY CRITERIA:**

ROUTE DESIGNATION -  YES  NO  
 ARTERIAL URBAN  YES  NO  
 ARTERIAL RURAL  YES  NO

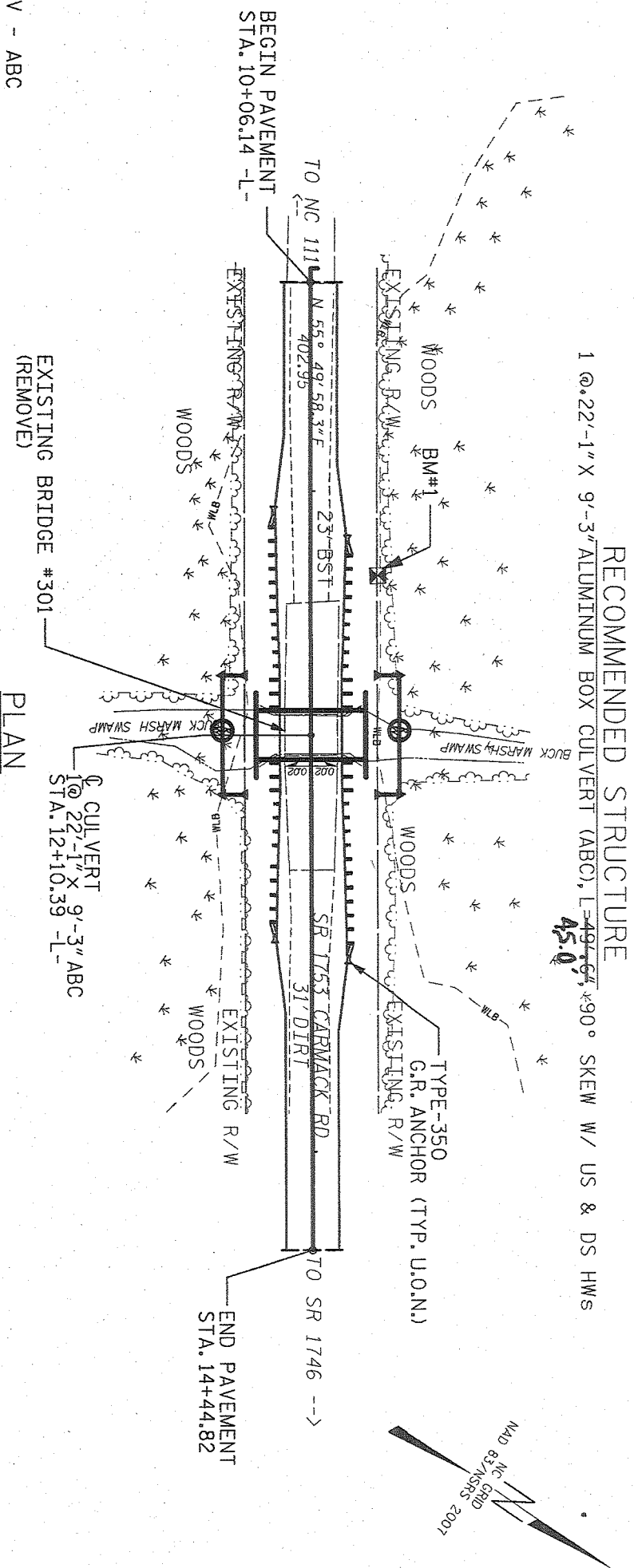
IS A HAZARDOUS SPILL BASIN REQUIRED?  YES  NO

**NOTES:**

FOR SELECT BACKFILL AROUND CULVERT, USE TYPE IV - ABC FILL RELATED JUST TO THE REMOVAL OF THE EXISTING STRUCTURE CAN FOLLOW STANDARD SELECT FILL MATERIALS.

**DATUM DESCRIPTION**

THE COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "95-0301-2"  
 WITH NAD 1983/2007 STATE PLANE GRID COORDINATES OF NORTHING: 523868.0430(++) EASTING: 2336985.0710(++)  
 GROUND DISTANCES IN FIELD WERE USED TO DETERMINE COORDINATES FOR "95-0301-1" AND "95-0301-3"  
 VERTICAL DATUM USED IS NAVD 88



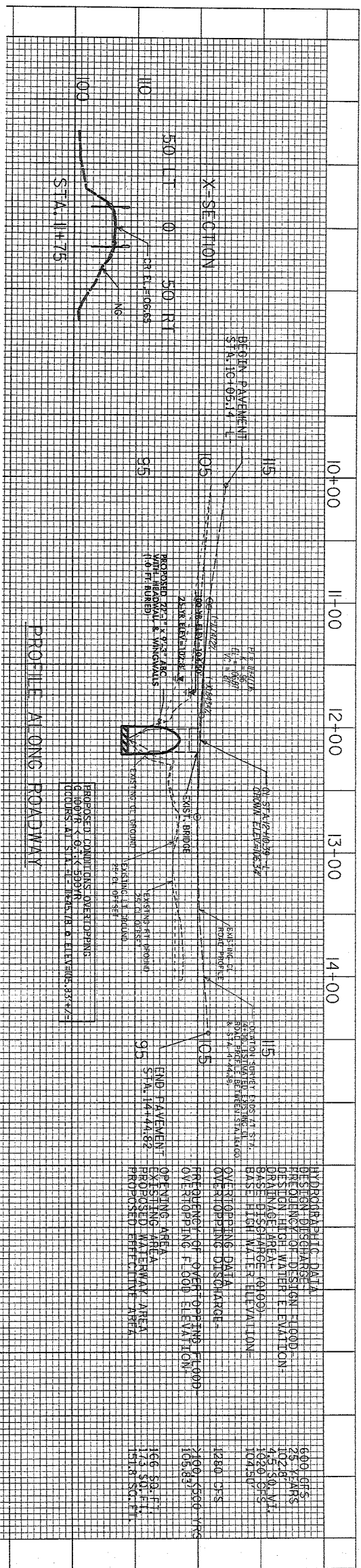
PLAN

**TO BE VERIFIED**  
 TBM: BM 1  
 R/R SPIKE IN 18" OAK  
 43.8' LEFT OF STA. 9+32.35 - BL-  
 ELEV. 105.25'

BL POINT	DESC.	NORTH	EAST	ELEVATION	BL STATION
1	95-0301-1	523578.9300	2336549.8336	121.24'	5+00.00
2	95-0301-2	523868.0430	2336985.0710	105.95'	10+22.51
3	95-0301-3	524031.7726	2337222.8932	108.79'	13+11.24

**PROFILES – FOR INFORMATION PURPOSES ONLY:**

- INVERT ELEVATION OF ALUMINUM BOX CULVERT TO BE FIELD DETERMINED (BURIED 1 FOOT BELOW STREAM ELEVATION)
- FINISHED ROADWAY GRADE STATION 10+06.14 TO 14+44.62 SHALL BE 4.5 INCHES BELOW THAT WHICH IS PROPOSED BELOW TO ALLOW FOR FUTURE PAVING. PROVIDE A SMOOTH TRANSITION AT BEGIN AND END STATIONS.
- SHAPE, GRADE, AND PLACE AGGREGATE BASE COURSE TO ACHIEVE NORMAL CROWN SECTION BETWEEN STATIONS 10+06.14 TO 14+44.62.



NOTE: THIS SITE IS LOCATED IN A FLOOD ZONE, LIMITED DETAIL STUDY, (SEVEN SPRINGS, NC QUAD)

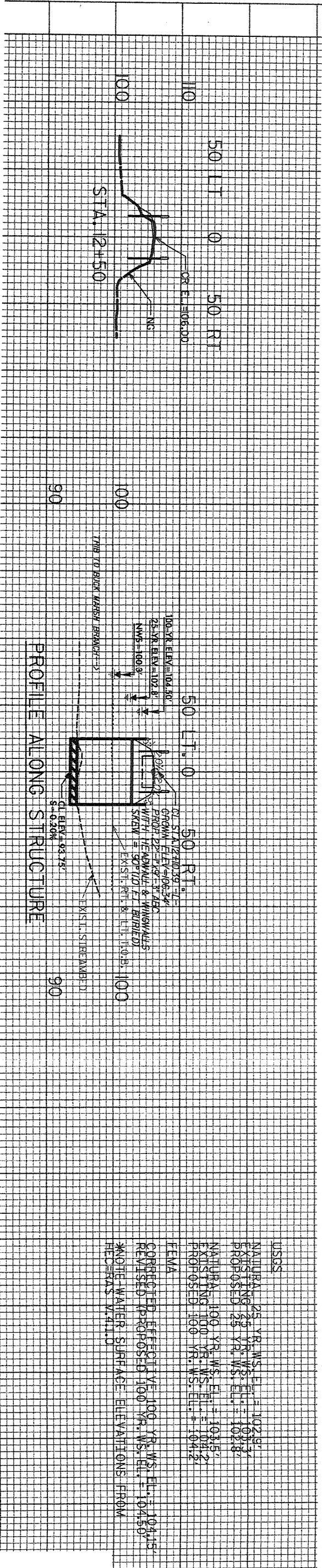
D.A. = 4.5 SQ. MI.

Q<sub>10</sub> = 440 CFS } USGS RURAL  
 Q<sub>5</sub> = 600 CFS }  
 Q<sub>2</sub> = 950 CFS }

Q<sub>100</sub> (FEWA) = 1020 CFS

HISTORIC UTG/WATER INFORMATION MADE AVAILABLE BY USGS IN SEPTEMBER 1999. FLOOD PERIOD OF KNOWLEDGE IS 15+ YEARS.

EXISTING BRIDGE NO. 301  
 24'-0" CLEAR ROADWAY  
 SPAN 1 @ 18'-6"  
 REINFORCED CONCRETE BRIDGE DECK ON TIMBER JOISTS; END BENTS-TIMBER CAPS ON TIMBER PILES.



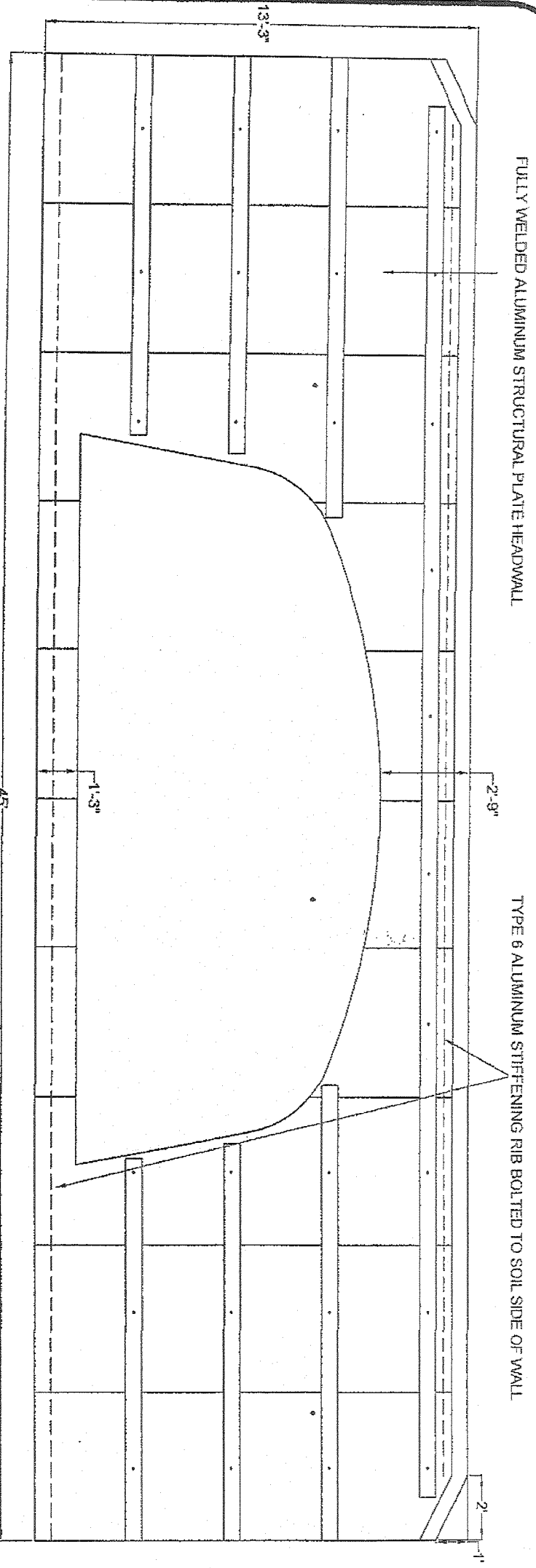
USGS

NATURAL 25 YR. WS. EL. = 102.97'  
 PROPOSED 25 YR. WS. EL. = 102.97'  
 PROPOSED 48 YR. WS. EL. = 102.82'

NATURAL 100 YR. WS. EL. = 103.15'  
 EXISTING 100 YR. WS. EL. = 104.12'  
 PROPOSED 100 YR. WS. EL. = 104.12'

FEWA

CORRECTED EFFECTIVE 100 YR. WS. EL. = 104.15'  
 REVISED (PROPOSED) 100 YR. WS. EL. = 104.50'  
 NOTE: WATER SURFACE ELEVATIONS FROM FEDERAL WALL.

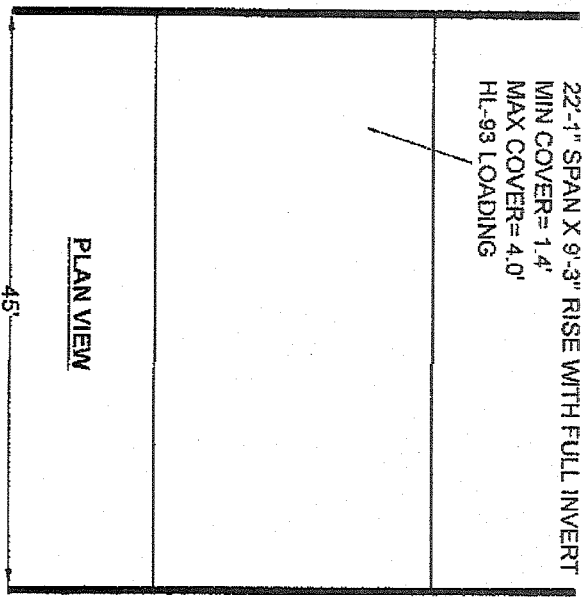


**END VIEW- INLET & OUTLET HEADWALL**

#60-L2 ALUMINUM BOX CULVERT  
 22'-1" SPAN X 9'-3" RISE WITH FULL INVERT  
 MIN COVER= 1.4'  
 MAX COVER= 4.0'  
 HL-93 LOADING

**PROPOSED ELEVATIONS:**

TOP  $\epsilon$  ROAD= 100.00  
 TOP HW= 98.50  
 TOP ALBC= 95.75  
 INV STREAM= 87.50  
 INV ALBC= 86.50



**PLAN VIEW**

**NCDOT- WAYNE CO  
 CARMACK RD- SR 1753**

DESCRIPTION

FRAME

PROJECT

DATE:  
 NOV 21, 2016

SHEET

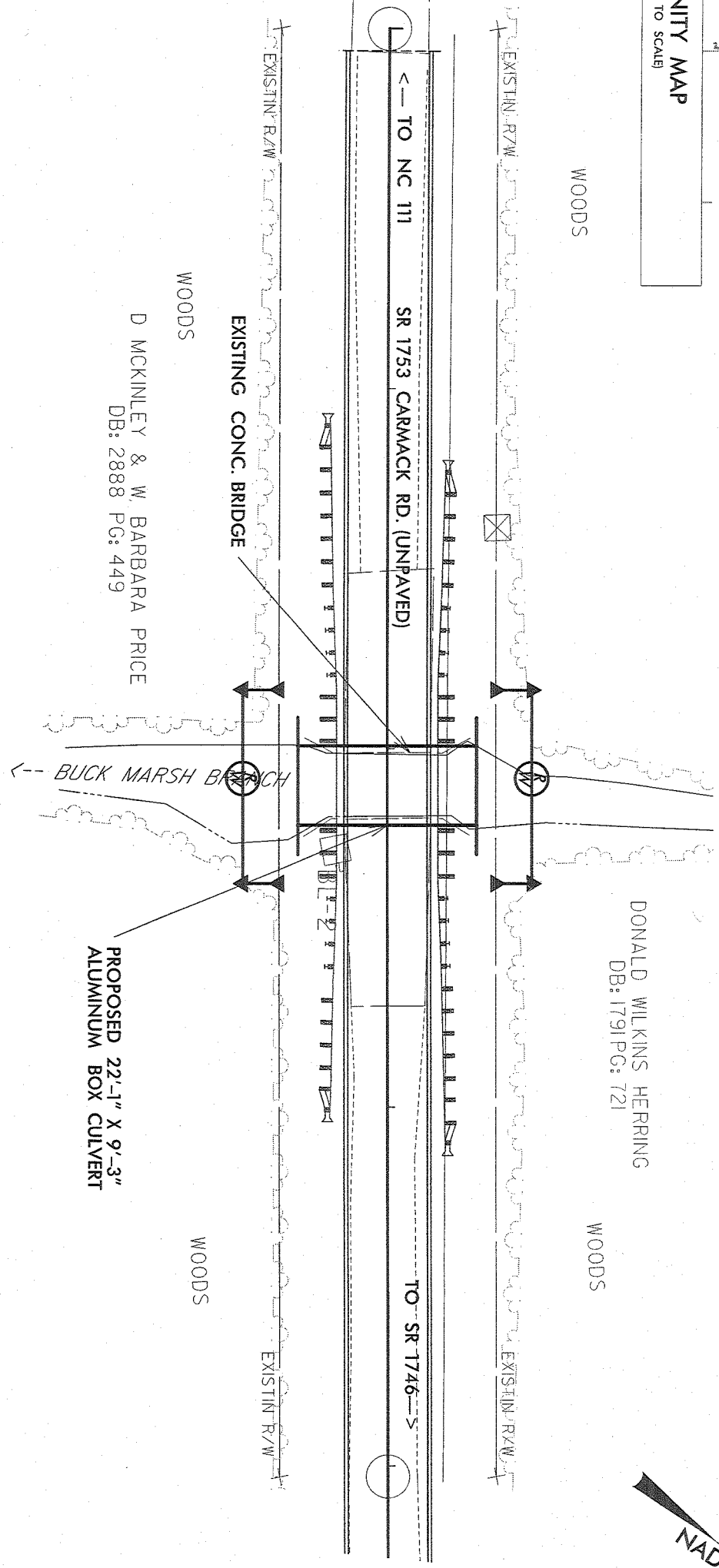
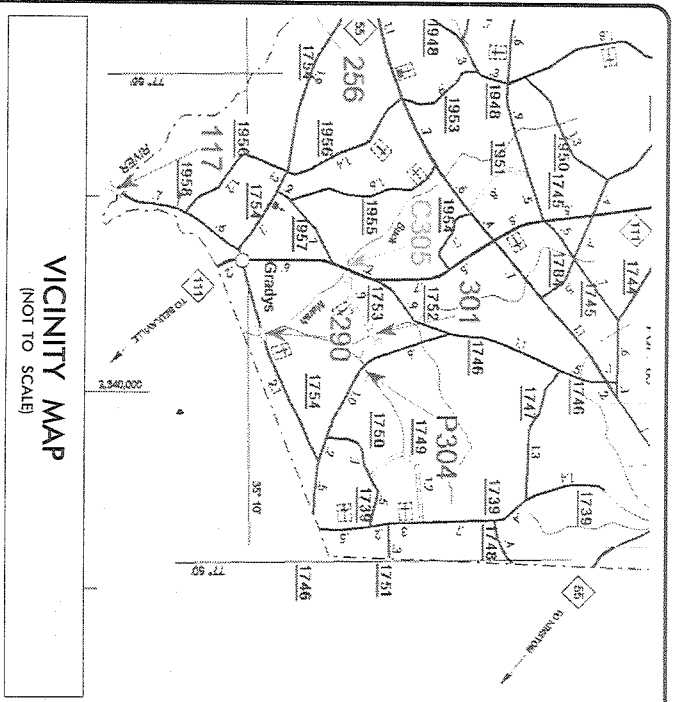
NOT TO SCALE

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WAYNE COUNTY**

PLAN FOR PROPOSED  
**HIGHWAY EROSION CONTROL**

DONALD WILKINS HERRING  
DB: 1791 PG: 721



D MCKINLEY & W. BARBARA PRICE  
DB: 2888 PG: 449

GRAPHIC SCALE



**EXISTING STRUCTURE:** SINGLE SPAN REINFORCED CONCRETE DECK ON TIMBER JOISTS AND TIMBER PILES ON TIMBER END BENTS WITH VERTICAL TIMBER ABUTMENTS

**PROPOSED STRUCTURE:** SINGLE 22'-1" X 9'-3" ALUMINUM BOX CULVERT 90° SKEW WITH HEADWALLS AND WINGWALLS BURIED I-FT

ROADSIDE ENVIRONMENTAL UNIT  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

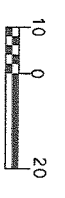
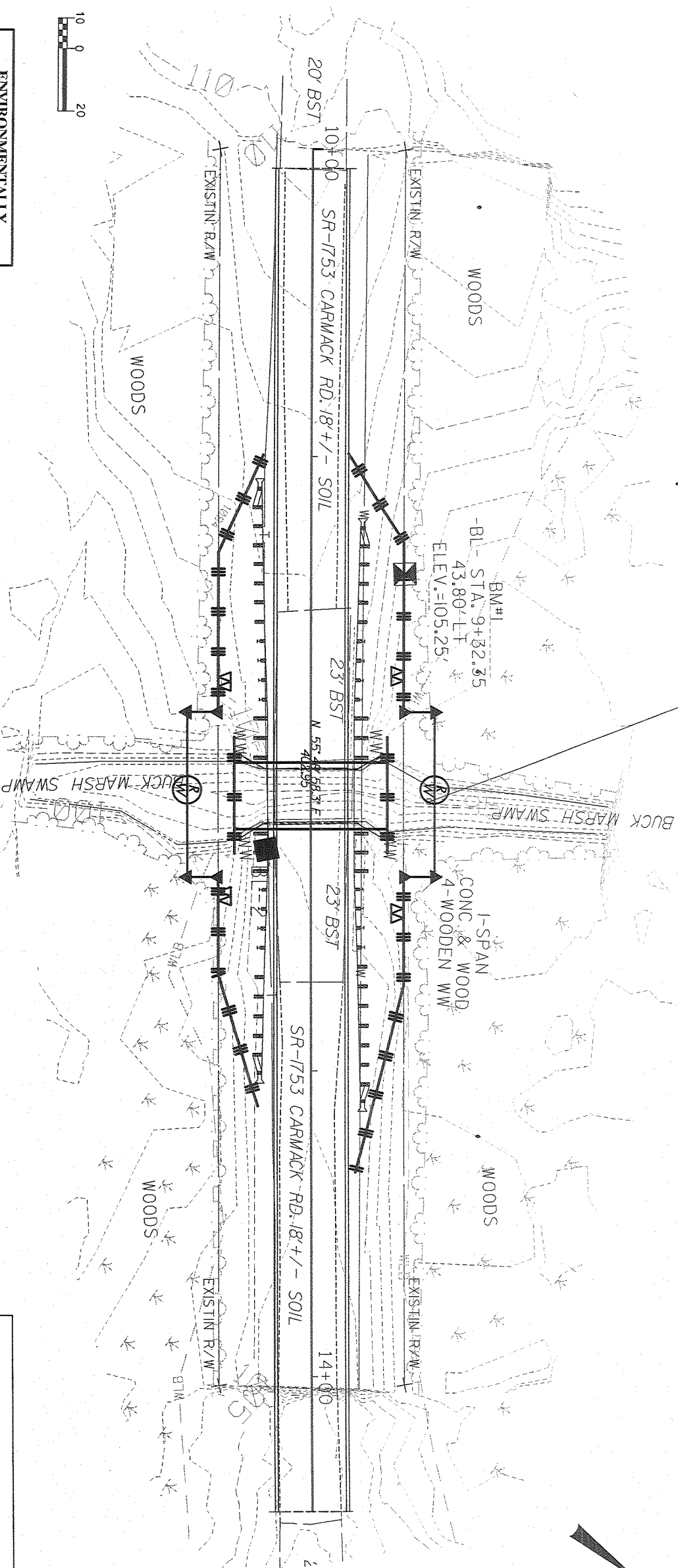
2012 STANDARD SPECIFICATIONS

J. BRANCH SMITH  
LEVEL III NAME

3355  
LEVEL III CERTIFICATION NO.

- Roadway Standard Drawings
- The following roadway english standards as appear in "Roadway Standard Drawings", Roadway Design Unit - N.C. Department of Transportation - Raleigh, N.C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.
- |         |                                  |         |                                      |
|---------|----------------------------------|---------|--------------------------------------|
| 1604.01 | Railroad Erosion Control Detail  | 1632.01 | Rock Inlet Sediment Trap Type A      |
| 1605.01 | Temporary Silt Fence             | 1632.02 | Rock Inlet Sediment Trap Type B      |
| 1606.01 | Special Sediment Control Fence   | 1632.03 | Rock Inlet Sediment Trap Type C      |
| 1607.01 | Gravel Construction Entrance     | 1633.01 | Temporary Rock Silt Check Type A     |
| 1622.01 | Temporary Berms and Slope Drains | 1633.02 | Temporary Rock Silt Check Type B     |
| 1630.01 | River Basin                      | 1634.01 | Temporary Rock Sediment Dam Type A   |
| 1630.02 | Silt Basin Type B                | 1634.02 | Temporary Rock Sediment Dam Type B   |
| 1630.03 | Temporary Silt Ditch             | 1635.01 | Rock Pipe Inlet Sediment Trap Type A |
| 1630.04 | Stilling Basin                   | 1635.02 | Rock Pipe Inlet Sediment Trap Type B |
| 1630.05 | Temporary Diversion              | 1640.01 | Coff Filter Baffle                   |
| 1630.06 | Special Stilling Basin           | 1645.01 | Temporary Stream Crossing            |
| 1631.01 | Marsh Installation               |         |                                      |

☐ STA. 12+10.39 -L-  
22'-1" x 9'-3" CABO  
45.0' LENGTH



**ENVIRONMENTALLY SENSITIVE AREAS(S) EXIST ON THIS PROJECT**  
Refer To E. C. Special Provisions for Special Considerations.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-01000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

**EROSION CONTROL MEASURES**

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	

**SOIL STABILIZATION TIMEFRAMES**

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) 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 PERMETERS AND HOW ZONES.

**GENERAL EROSION CONTROL NOTES:**

INSTALL EROSION/SEDIMENT CONTROL MEASURES ACCORDING TO PLANS, CONTRACT, AND SPECIAL PROVISIONS.  
 TEMPORARY SILT FENCE SHALL BE INSTALLED AT ROW AS SHOWN. SILT FENCE OUTLETS MUST ALLOW FOR SEDIMENT TO DISCHARGE WITHIN ROW AND NOT OFFSITE.  
 ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.  
 ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.  
 SEED ALL DISTURBED AREAS ACCORDING TO THE SITE STABILIZATION TIMEFRAMES.  
**INSTALLATION SCHEDULE:**  
 INSTALL TEMPORARY IMPERVIOUS DIKE PER SPECIAL PROVISIONS.  
 INSTALL SILT FENCE PRIOR TO DEMOLITION OF EXISTING STRUCTURE.  
 PREPARE CULVERT FOUNDATION WHILE LIMITING MATERIAL AND SEDIMENT FROM ENTERING THE CHANNEL.  
 PREPARE CULVERT INLET AND OUTLET GRADING AS SHOWN AND COVER WITH COIR FIBER MATTING OR RIP-RAP STONE.  
 INSTALL PROPOSED ALUMINUM BOX CULVERT, HEADWALLS, AND WINGWALLS.  
 COMPLETE BACKFILL OF PROPOSED BOX CULVERT AND INSTALL SILT FENCE ALONG EACH HEADWALL AS SHOWN TO PREVENT BACKFILL FROM ENTERING CHANNEL.  
 REMOVE ALL SEDIMENT CONTROL DEVICES AFTER PERMANENT VEGETATIVE COVER HAS BEEN ESTABLISHED.

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - HIGHWAY DESIGN BRANCH - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

### TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
- B) PROVIDE PERMANENT SIGNING.
- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.  
~~PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.~~
- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.  
~~COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.~~
- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC CONTROL DEVICES

- F) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

### PAVEMENT MARKINGS AND MARKERS

- G) ~~INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE.~~

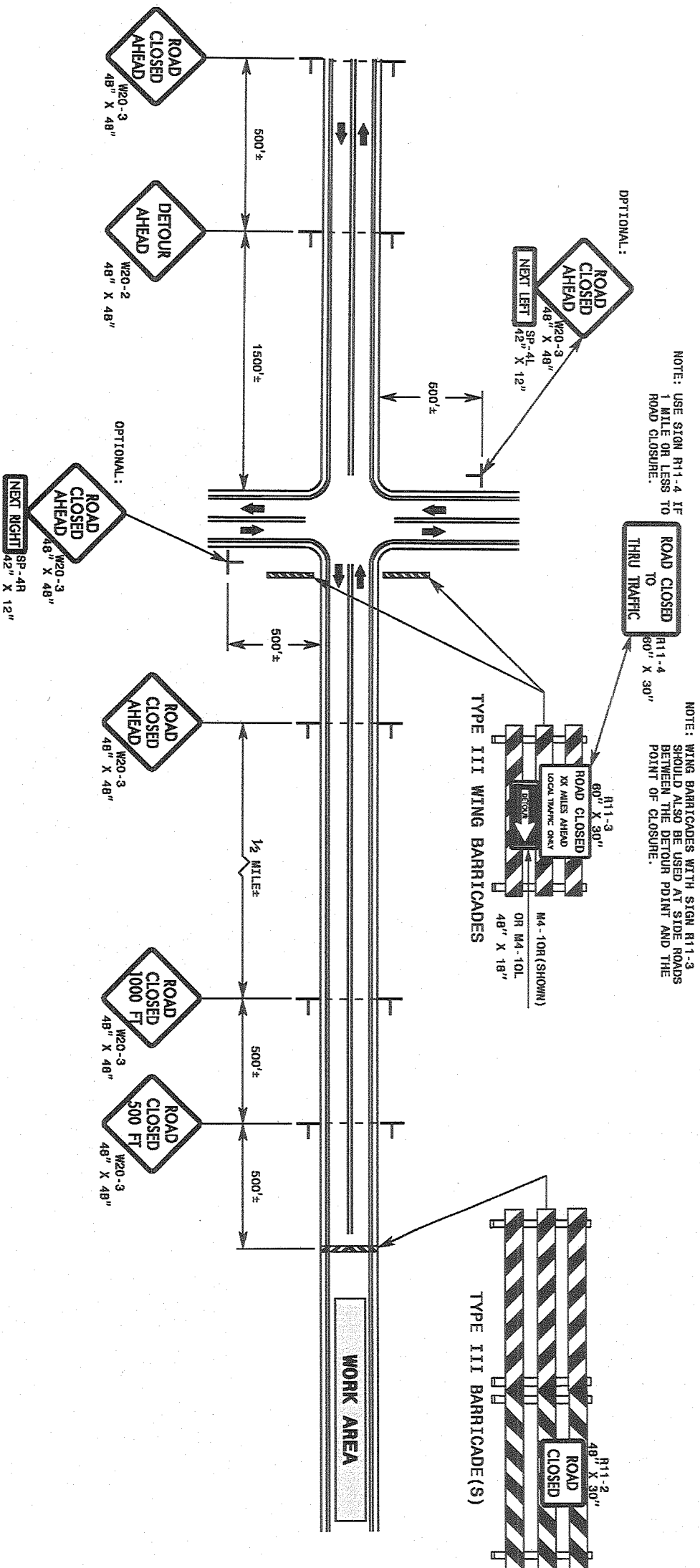
## PHASING

- STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.03, SHEET 1 OF 9, AND SHEET TP-2, PERFORM THE FOLLOWING:
  - INSTALL ALL ROAD CLOSURE AND DETOUR SIGNING INCLUDING BARRICADES
  - CLOSE SR 1753 (CARMACK ROAD)
  - PLACE TRAFFIC ONTO OFF-SITE DETOUR
- STEP 2: REMOVE EXISTING BRIDGE #301 AND CONSTRUCT THE PROPOSED BRIDGE AND APPROACHES AS SHOWN IN THE CONSTRUCTION PLANS.
- ~~STEP 3: INSTALL FINAL PAVEMENT MARKINGS.~~
- STEP 4: REMOVE ALL TRAFFIC CONTROL SIGNING AND DEVICES AND RE-OPEN SR 1753 (CARMACK ROAD) TO THE FINAL TRAFFIC PATTERN.

## PAVEMENT MARKING

- ~~PAINT WHITE EDGE LINE (4") 696 LF~~
- ~~PAINT YELLOW DOUBLE CENTER (4") 696 LF~~
- ~~NOTE: QUANTITY INCLUDES 2 APPLICATIONS OF EACH~~

ENGLISH STANDARD DRAWING FOR  
**TEMPORARY ROAD CLOSURES**  
CLOSURE BEYOND DETOUR POINT



NOTE: USE SIGN R11-4 IF ROAD CLOSED TO THRU TRAFFIC.

NOTE: WING BARRICADES WITH SIGN R11-3 SHOULD ALSO BE USED AT SIDE ROADS BETWEEN THE DETOUR POINT AND THE POINT OF CLOSURE.

**GENERAL NOTES**

- 1- IF NECESSARY USE THIS STD. FOR TWO-LANE, TWO-WAY, AND MULTILANE DIVIDED AND UNDIVIDED ROADWAYS.
- 2- INSTALLATION OF DETOUR ROUTING PANELS, TEMPORARY ROUTE MARKERS, DESTINATION SIGNS, AND ANY NECESSARY MODIFICATIONS TO EXISTING OR PROPOSED REGULATORY OR WARNING SIGNS WILL BE MADE BY OTHERS (STATE OR CITY FORCES) UNLESS OTHERWISE DESIGNATED IN THE PLANS. PROVIDE A MINIMUM 21 CALENDAR DAY NOTICE TO STATE FORCES BEFORE A ROADWAY IS CLOSED TO TRAFFIC SUCH THAT THE NECESSARY PROVISIONS CAN BE MADE TO INSTALL DETOUR ROUTE SIGNS, INFORM LOCAL EMERGENCY AND LAW ENFORCEMENT PERSONNEL, SCHOOLS, OR ANY OTHER PARTIES AFFECTED BY THE ROAD CLOSURE.
- 3- INSTALL SIGNS BEFORE THE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL/REMOVE SIGNS AND BARRICADES WITHIN THE SAME CALENDAR DAY.
- 4- USE ADDITIONAL TYPE III BARRICADES IN STAGGERED LOCATIONS SUPPLEMENTED WITH SIGN R11-4 "ROAD CLOSED TO THRU TRAFFIC" IN THE EVENT THAT TRAFFIC MUST BE MAINTAINED BEYOND THE DETOUR POINT.
- 5- DO NOT DISPLAY FRACTIONS OR DECIMALS ON SIGN R11-3 "ROAD CLOSED XX MILES AHEAD".
- 6- POSITION WING BARRICADES ON THE SHOULDERS AND SLOPE THE STRIPES DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING.
- 7- USE PORTABLE SIGNS IF ROAD CLOSURE IS TO BE IMPLEMENTED FOR LESS THAN ONE DAY OR FOR EMERGENCIES.

