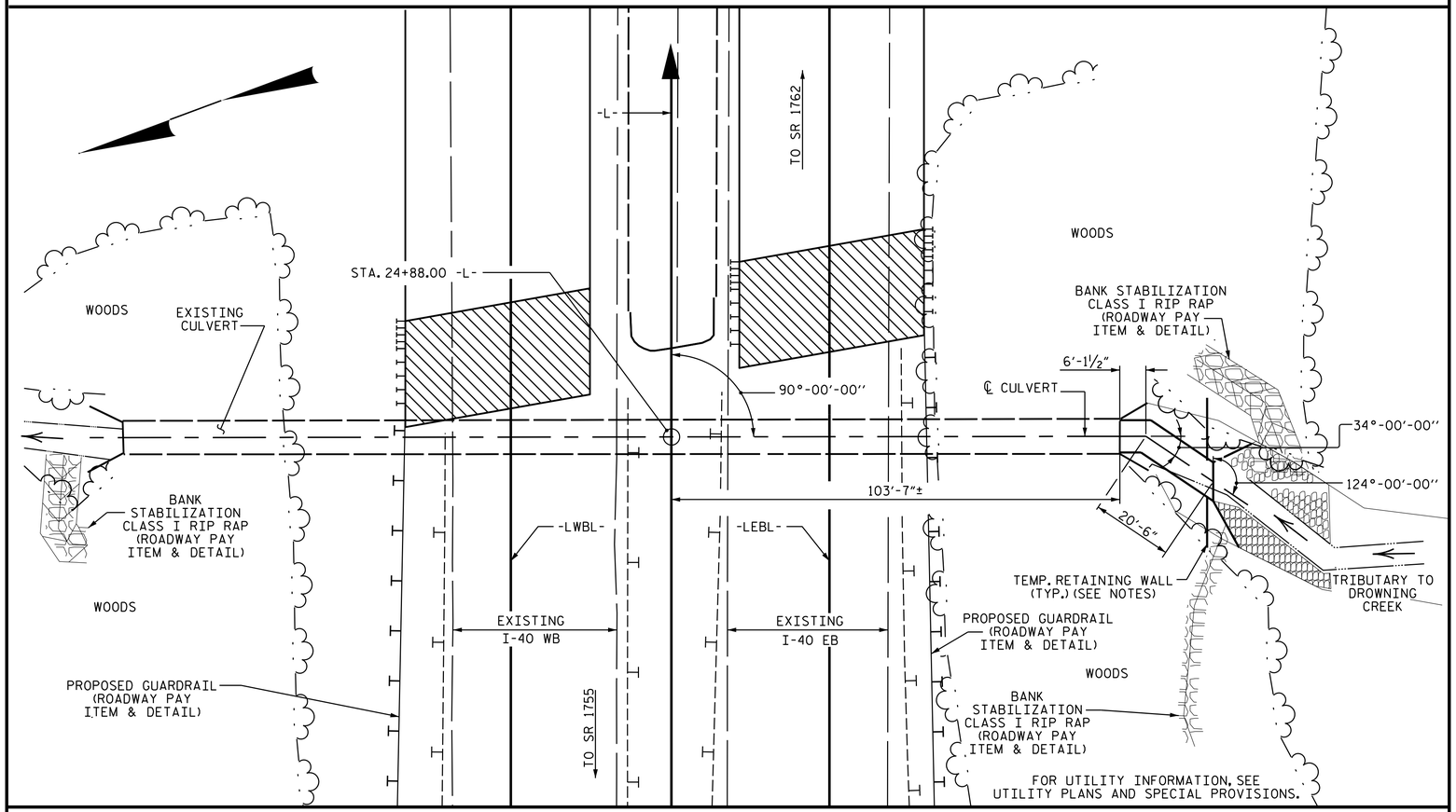
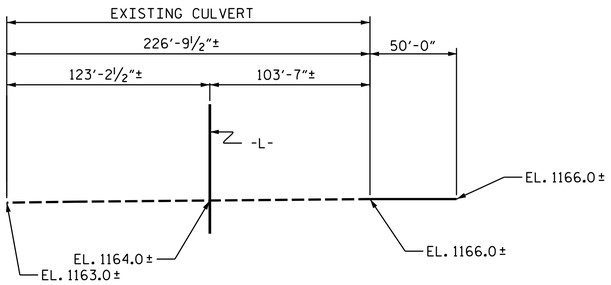
BENCHMARK #1: TWO INCH SQUARE ETCHED ON NORTH WINGWALL AT WEST ABUTMENT ON WESTBOUND I-40 OVER SR 1758, STA. 15+02.46 -Y-; 66' RIGHT, EL. 1209.55.



LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

ROADWAY DATA

GRADE POINT ELEV. @ STA. 24+88.00 -L- = 1211.42

BED ELEV. @ STA. 24+88.00 -L- = 1164.40

ROADWAY SLOPES = 1.5: 1 (LEFT)
1.64: 1 (RIGHT)

HYDRAULIC DATA

DESIGN DISCHARGE ---------- = 190 C.F.S.

FREQUENCY OF DESIGN FLOOD ----- = 50 YEARS

DESIGN HIGH WATER ELEVATION --- 1170.5

DRAINAGE AREA ---------- = 167 ACRES

BASE DISCHARGE (Q100) ---------- = 230 C.F.S.

BASE HIGH WATER ELEVATION ------ = 1171.1

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ---------- = 340+ C.F.S.

FREQUENCY OF OVERTOPPING FLOOD -= 500+ YEARS

OVERTOPPING FLOOD ELEVATION ----= 1187.8

NOTES

ASSUMED LIVE LOAD ---------- HL-93 OR ALTERNATE LOADING.

DESIGN FILL ---------- 38.84 FT. (MAX.)

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSION. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR LIMITS OF TEMPORARY RETAINING WALL FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

NO PRECAST CONCRETE BOX CULVERT OPTION WILL BE ALLOWED.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

TOTAL STRUCTURE QUANTITIES

CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	21 TONS
CLASS A CONCRETE	
BARREL @ 0.923 CY/FT	24.6 CY
WINGS, ETC.	8.0 CY
TOTAL	32.6 CY
REINFORCING STEEL	
BARREL	2605 LBS.
WINGS, ETC.	519 LBS.
TOTAL	3124 LBS.

PROJECT NO. B-4447

BURKE COUNTY

STATION: 24+88.00 -L-

SHEET 1 OF 6

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER A. KEITH PASCHAL

DocuSigned by: A. Keith Paschal F886AD6DB2FC48F...

4/20/2017

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHEEK, JR.

DocuSigned by: Marshall G. Cheek Jr 6549D6EBAA3B405...

4/20/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 6'-0" X 6'-0" CONCRETE EXTENSION CULVERT

DRAWN BY : H. T. BARBOUR DATE : 1-29-17
CHECKED BY : M. G. CHEEK DATE : 2-17-17
DESIGN ENGINEER OF RECORD: G. KOUCHEKI DATE : 4-17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			6