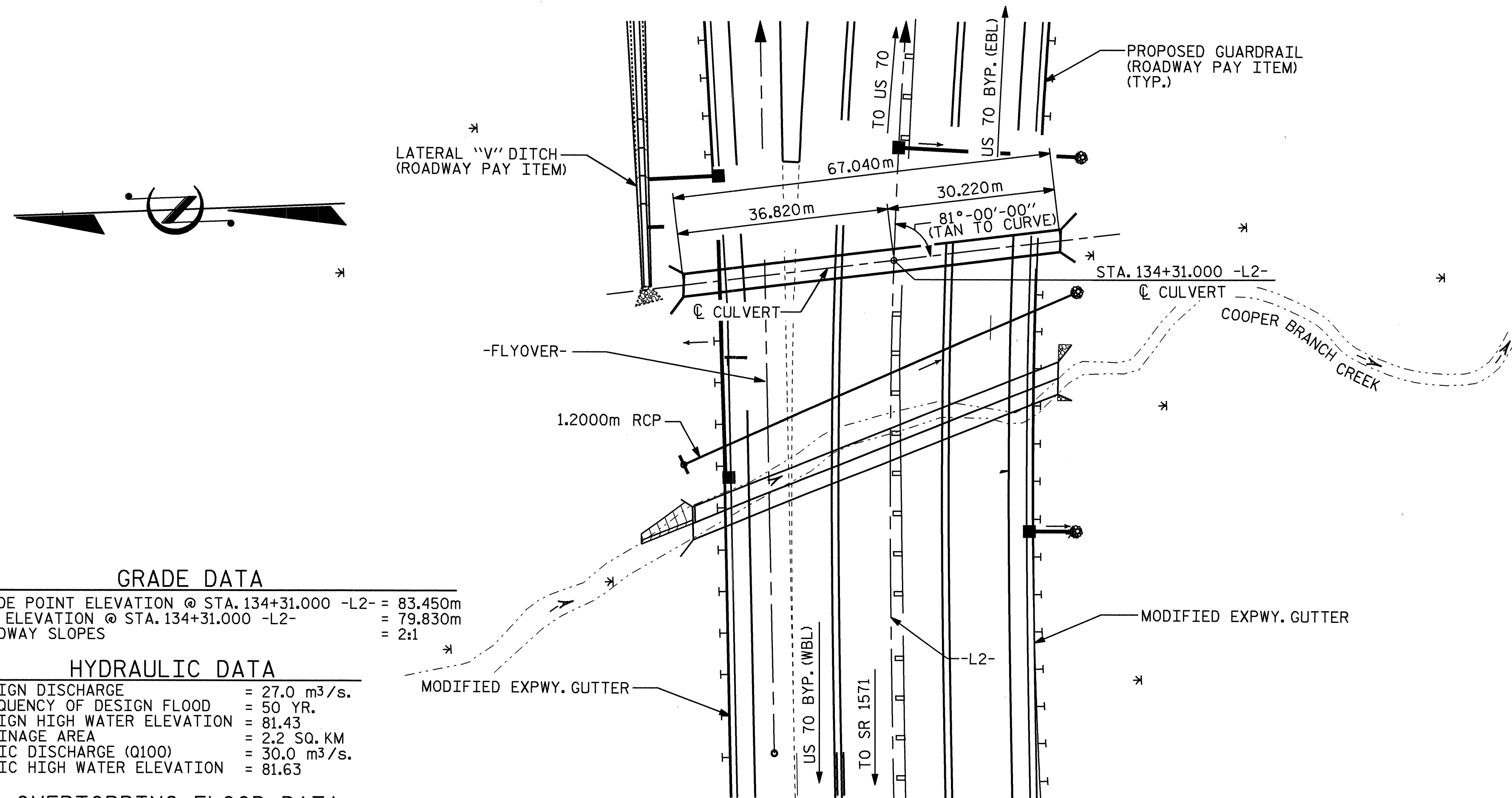


BENCH MARK IS R/R SPIKE DRIVEN VERTICALLY IN THE BASE OF 16" HOLLY TREE
120.089m RT. OF STA. 135+85.578 -BL- EL. 85.921, DATUM 1929

F.A. PROJECT NO.: NHF 60 (116)

NOTES

- ASSUMED LIVE LOAD -----MS18 OR ALTERNATE LOADING.
- DESIGN FILL-----2.600m
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS ARE IN METERS.
- 76mm Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 100mm 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.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 21.0m. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE LOWER WALL COSTRUCTION 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.
- THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS, FOR PROJECTS REQUIRING UP TO 360,000 kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000 kg OF REINFORCING STEEL, TWO 760mm SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- A 900mm STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.



GRADE DATA

GRADE POINT ELEVATION @ STA. 134+31.000 -L2- = 83.450m
BED ELEVATION @ STA. 134+31.000 -L2- = 79.830m
ROADWAY SLOPES = 2:1

HYDRAULIC DATA

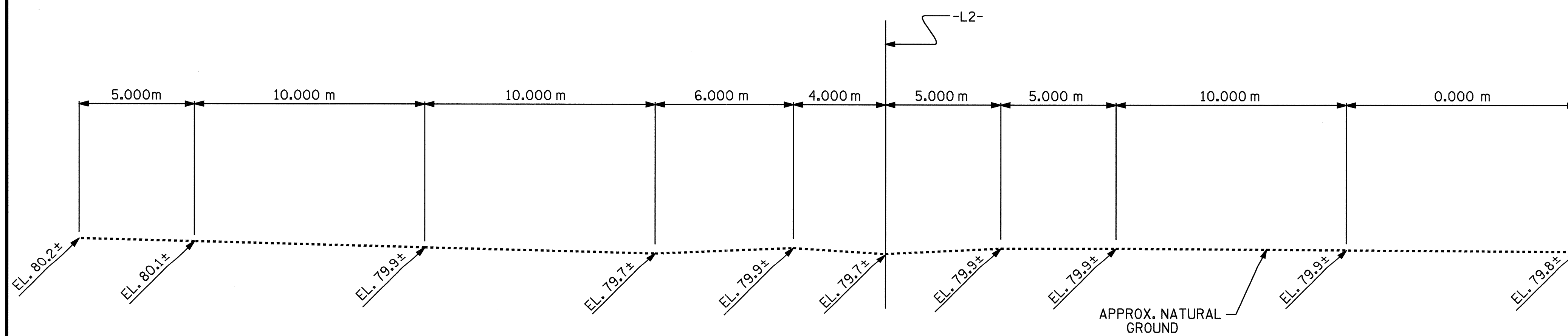
DESIGN DISCHARGE = 27.0 m³/s.
FREQUENCY OF DESIGN FLOOD = 50 YR.
DESIGN HIGH WATER ELEVATION = 81.43
DRAINAGE AREA = 2.2 SQ. KM
BASIC DISCHARGE (Q100) = 30.0 m³/s.
BASIC HIGH WATER ELEVATION = 81.63

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 56.7 m³/s.
FREQUENCY OF OVERTOPPING FLOOD = 500 YRS.
OVERTOPPING FLOOD ELEVATION = 83.92

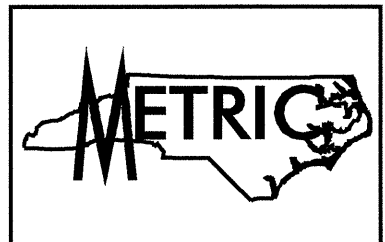
FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG CULVERT

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE	
BARREL @ 3.07 m ³ /m	205.8 m ³
WINGS ETC.	17.9 m ³
TOTAL	223.7 m ³
REINFORCING STEEL	
BARREL	25084 kg
WINGS ETC.	669 kg
TOTAL	25753 kg
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MAT'L	186 METRIC TONS

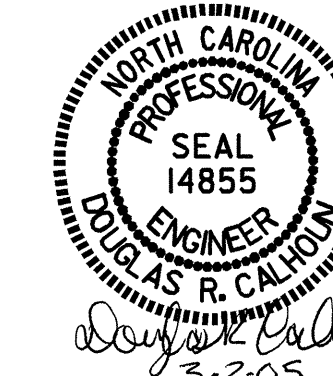
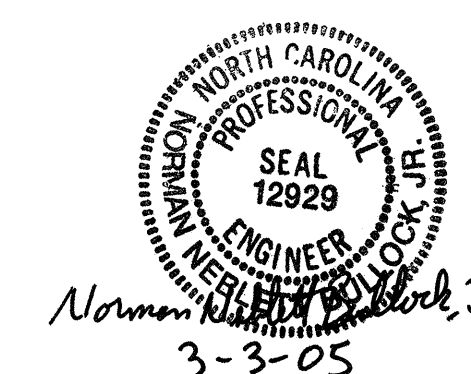


PROJECT NO. R-2552C
JOHNSTON COUNTY
STATION: 134+31.000 -L2-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE
3.700m X 2.400m
CONCRETE BOX CULVERT
81° SKEW



ASSEMBLED BY: T.L.CLELLAND DATE: 2/2/05
CHECKED BY: T.A.HARRIS DATE: 2/9/05

02-MAR-2005 12:01
W:\squad\vr2552c\TCLLELL\MICROS\VR-2552C\VR-A7A6\DLGN
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-22
1			3			TOTAL SHEETS 42
2			4			