



PROFILE ALONG & CULVERT

_ DATE : 1/23

_ DATE : ___1/23

MGC

ZCS

DRAWN BY : .

ESIGN ENGINEER OF RECORD: _

TOTAL STRUCTURE QUANTITIES CLASS A CONCRETE 14.5 C.Y. LEFT EXTENSION <u>14.4</u> C.Y. RIGHT EXTENSION _____ <u> 28.9</u> C.Y. TOTAL _____ REINFORCING STEEL 1,448 LBS LEFT EXTENSION 1,188 LBS RIGHT EXTENSION ___ 2,636 LBS TOTAL _____ LUMP SUM CULVERT EXCAVATION FOUNDATION COND. MAT'L. 13 TONS LEFT EXTENSION _____ <u>6</u> TONS RIGHT EXTENSION _____

TOTAL _____

ROADWAY DATA

<u> 19</u> TONS

GRADE POINT ELEV. @ STA. 520+60.00 -L- = 135.66' BED ELEV. @ STA. 520+60.00 -L-___ = 122.59' ROADWAY SLOPES ____ = 3:1 LEFT 2:1 RIGHT

HYDROGRAPHIC DATA

DESIGN DISCHARGE = 72 CFS FREQUENCY OF DESIGN FLOOD ____ = 50 YRS DESIGN HIGH WATER ELEVATION____ = 127.4' DRAINAGE AREA_____ = 0.11 SQ. MI. BASE DISCHARGE (Q100) _____ = 86 CFS BASE HIGH WATER ELEVATION ____ = 127.9'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ____ = >120 CFS FREQUENCY OF OVERTOPPING FLOOD __ = 500+ YRS OVERTOPPING FLOOD ELEVATION ____ = 136.6'

NOTES:

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

DESTGN FTIL----- 5.75' MAX.

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.

 $3''\emptyset$ 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 4"OF OF ALL VERTICAL WALLS.
- 2. THE REMAINING PORTIONS OF THE WALLS 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 WALL 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.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

EXCAVATE 1 FOOT BELOW CULVERT AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414-4 OF THE STANDARD SPECIFICATIONS. FOUNDATION CONDITIONING MATERIAL SHOULD CONSIST OF SELECT MATERIAL CLASS V OR VI FOR CULVERTS.

DOWELS SHALL BE USED TO CONNECT THE PROPOSED EXTENSIONS TO THE EXISTING CULVERT. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.

FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.

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

> PROJECT NO. R-5739 NORTHAMPTON COUNTY STATION: 520+60.00 -L-

SHEET 1 OF 11

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SINGLE 3' X 4' LEFT EXT.

3' X 6' RIGHT EXT. 60° SKEW

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED TGS ENGINEERS

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