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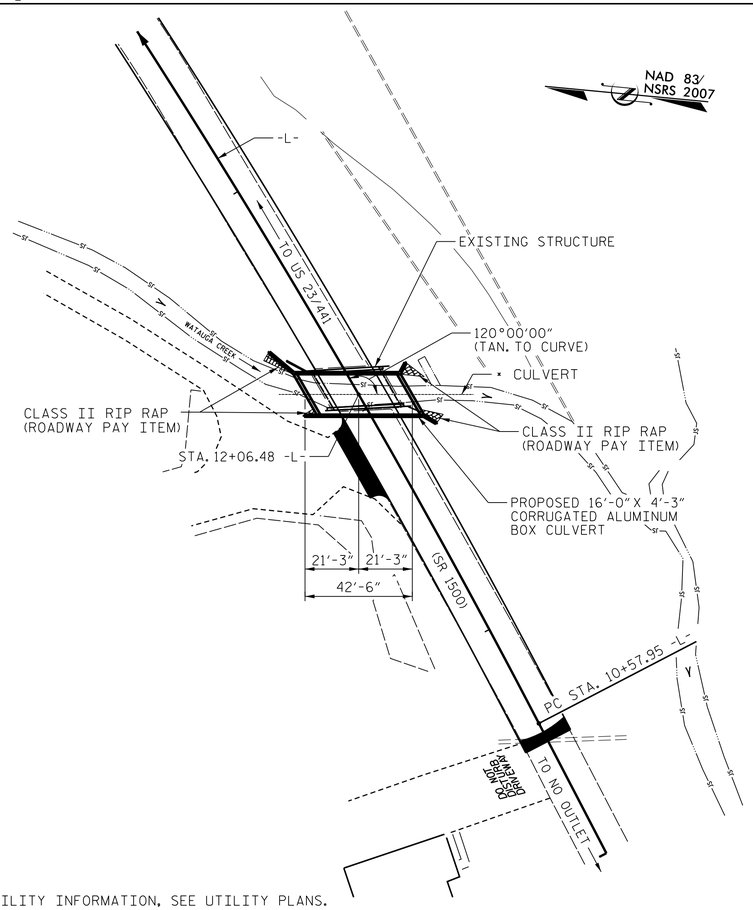
BM#1 - ℄ STATION 6+13.74, 53.37' LEFT, 8 INCH SPIKE IN ROOT OF 24" DOUBLE MAPLE, ELEV. 2303.67'



FOR UTILITY INFORMATION, SEE UTILITY PLANS.

LOCATION SKETCH

VERTICAL CURVE DATA -L-

+4.2500% △ +3.0000%

PI = 11+90.00 -L-
EL = 2305.57
VC = 60.00'

HORIZONTAL CURVE DATA -L-

PI STA. 12+34.48 -L-
△ = 5°56'40.1" (LT.)
D = 1°41'06.6"
L = 352.75'
T = 176.53'
R = 3400.00'

NOTES:

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

DESIGN FILL ---------- 1.6'.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

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.

FOR BORING INFORMATION, SEE GEOTECHNICAL REPORT.

SEE ROADWAY PLANS FOR RIP RAP REQUIREMENTS AT CULVERT ENDS.

FOR ADDITIONAL INFORMATION REGARDING DRAINAGE, GRADING, AND ROADWAY, SEE ROADWAY PLANS.

THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY, THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS FOR REVIEW AND APPROVAL THAT MEET THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL, AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.

THE EXISTING STRUCTURE CONSISTING OF ONE 18'-6" SPAN WITH A TIMBER FLOOR WITH AN ASPHALT WEARING SURFACE ON TIMBER JOISTS, TIMBER CAPS, POSTS & SILLS END BENTS SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

ASPHALT WEARING SURFACE IS INCLUDED IN THE ROADWAY QUANTITY ON ROADWAY PLANS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE CONTRACTOR SHALL STAKE OUT THE LENGTH OF CULVERT FOR ENGINEER REVIEW PRIOR TO ORDERING CULVERT.

CONTRACTOR WILL MAINTAIN THE ALIGNMENT OF THE ALUMINUM BOTTOMLESS CULVERT SECTIONS DURING BACKFILL.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR ALUMINUM BOX CULVERT, SEE SPECIAL PROVISIONS.

AT THE CONTRACTORS OPTION, CONCRETE HEADWALLS MAY BE PRICED IN LIEU OF ALUMINUM HEADWALLS.

FOUNDATION NOTES:

1. THE CORRUGATED ALUMINUM BOX CULVERT AT STATION 12+06.48 IS DESIGNED FOR A FACTORED RESISTANCE OF 2 TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 4.5 TSF JUST BEFORE PLACING CULVERT.
2. EXCAVATE 2 FEET BELOW CULVERT AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH SECTION 414 OF THE STANDARD SPECIFICATIONS.
3. PLACE TYPE 5 GEOTEXTILE IN ACCORDANCE WITH SECTION 1060 OF THE STANDARD SPECIFICATIONS BEFORE PLACING FOUNDATION CONDITIONING MATERIAL.

TOTAL STRUCTURE QUANTITIES	UNIT
REMOVAL OF EXISTING STRUCTURE	LS
CULVERT EXCAVATION STA. 12+06.48 -L-	LS
FOUNDATION CONDITIONING MATERIAL	108 TONS
ALUMINUM BOX CULVERT STA. 12+06.48 -L-	LS
TYPE 5 GEOTEXTILE	LS

GRADE DATA

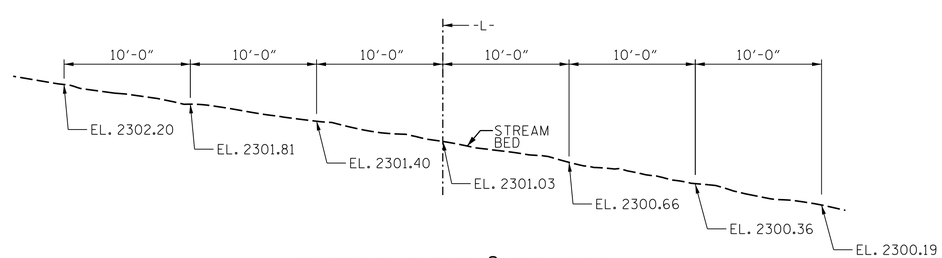
GRADE POINT ELEVATION @ STA. 12+06.48 -L-	= 2306.05'
BED ELEVATION @ STA. 12+06.48 -L-	= 2300.07'
ROADWAY SLOPES	= 12:1

HYDRAULIC DATA

DESIGN DISCHARGE	= 250 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 5 YEARS
DESIGN HIGH WATER ELEVATION	= 2305.4'
DRAINAGE AREA	= 1.30 SQ. MI.
BASE DISCHARGE (Q100)	= 700 C.F.S.
BASE HIGH WATER ELEVATION	= 2307.15'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 250 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 5 YEARS
OVERTOPPING FLOOD ELEVATION	= 2305.34'



PROFILE ALONG ℄ CULVERT

PROJECT NO. 17BP.14.R.48
MACON COUNTY
STATION: 12+06.48 -L-

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SHEET 1 OF 3 REPLACES BRIDGE No. 308

NORTH CAROLINA PROFESSIONAL SEAL 020103 ENGINEER FARHAD ASEFNIA
DocuSigned by: D382A2CFB028... 2/6/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
16'-0" X 4'-3" CORUGATED
ALUMINUM BOX CULVERT
ON SR 1500
AT WATAUGA CREEK
BETWEEN ELDERS RD AND
WILD STRAWBERRY LN

THE LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, NC 27605-3322
NC COA No. F-0840

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

DRAWN BY : M. HOGAN	DATE : 06/14	M. Hogan	DATE : 01/18
CHECKED BY : R. DECOLA	DATE : 11/14	F. Asefnia	DATE : 01/18
DESIGN ENGINEER OF RECORD : S. COOK	DATE : 5/15	F. Asefnia	DATE : 01/18

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