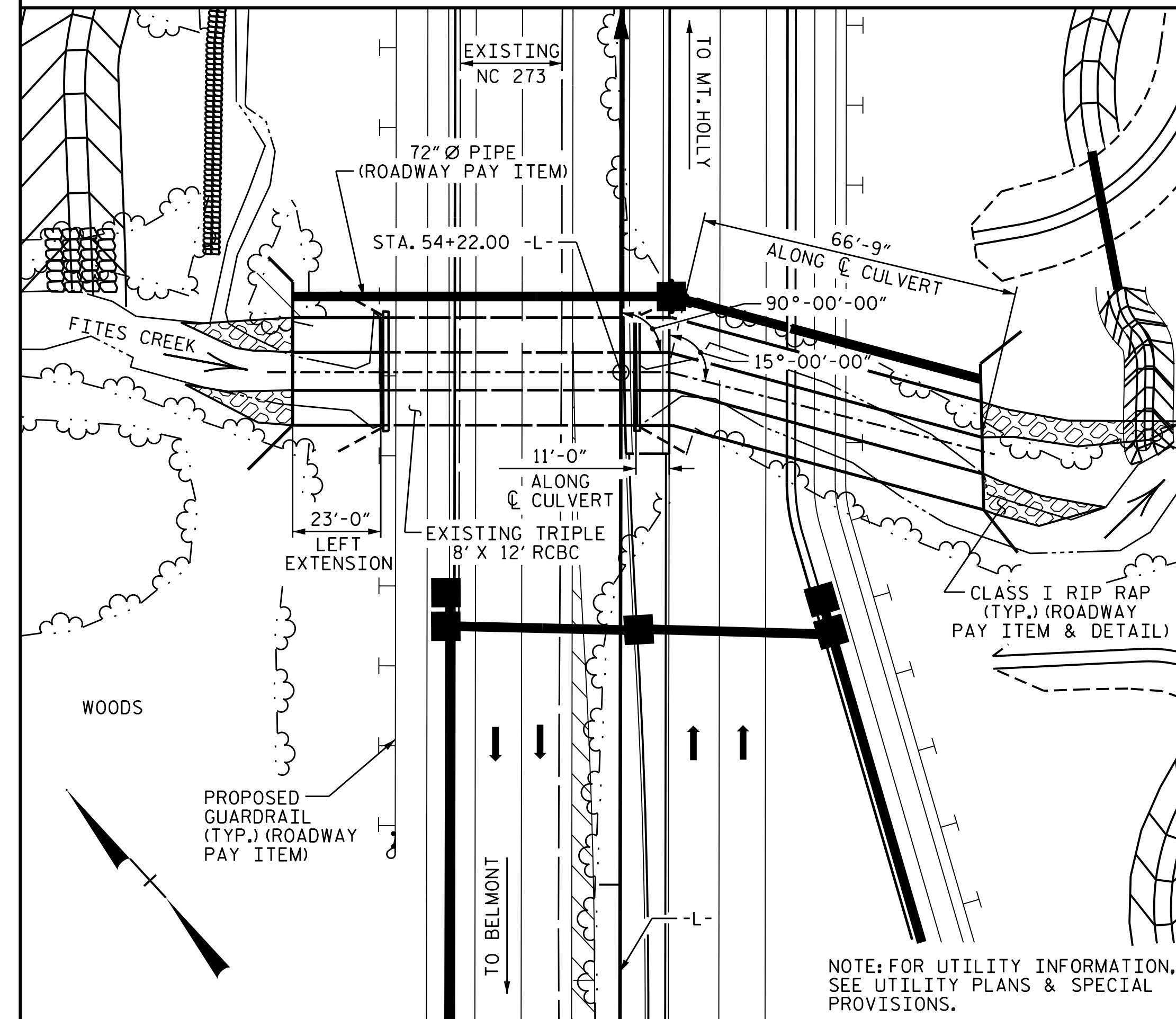


BENCHMARK #5: RR SPIKE IN 22" Ø OAK,
169' RT. OF STA. 51+30.00 -L-, EL. 599.61



LOCATION SKETCH

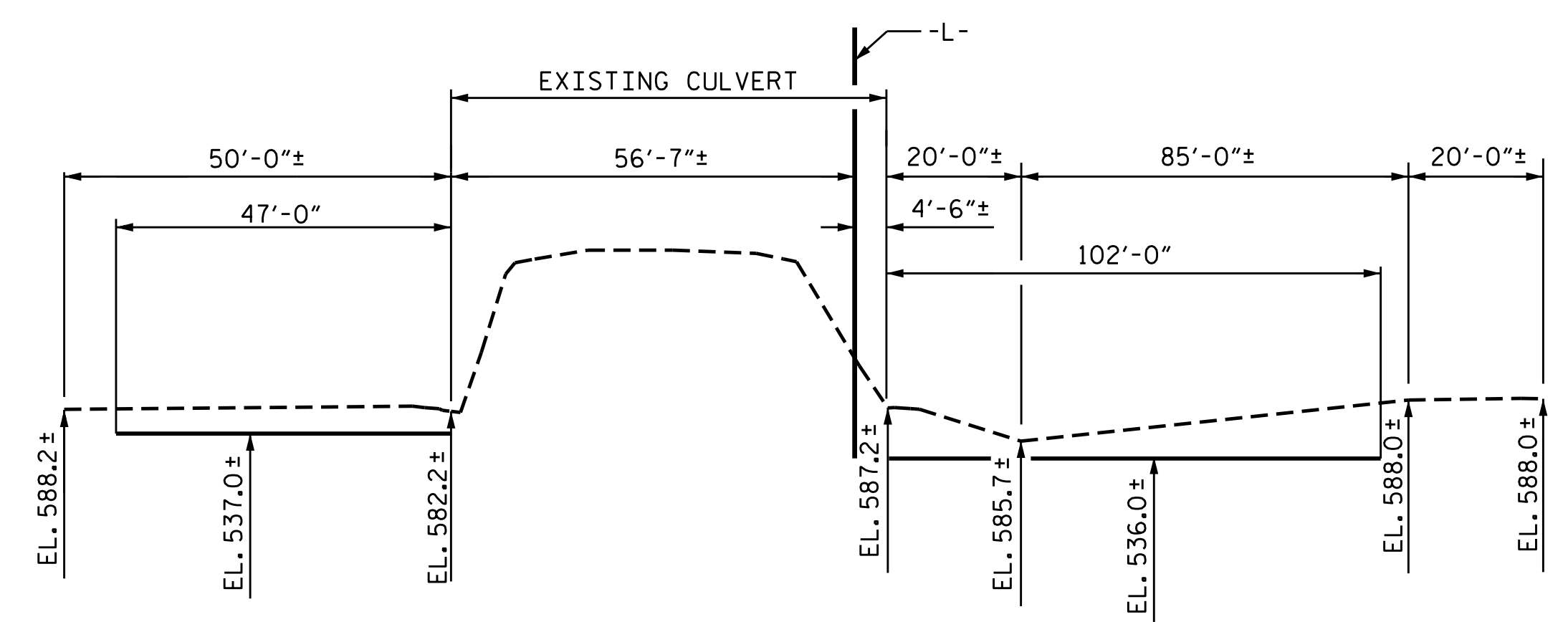
ROADWAY DATA	
GRADE POINT EL. @ STA. 54+22.00 -L-	= 612.72
BED ELEVATION @ STA. 54+22.00 -L-	= 587.2
ROADWAY SLOPES	= 2 : 1
HYDRAULIC DATA	
DESIGN DISCHARGE	= 2262 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 599.1
DRAINAGE AREA	= 3.9 SQ. MI.
BASE DISCHARGE (Q100)	= 2842 C.F.S.
BASE HIGH WATER ELEVATION	= 600.36
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 6250 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= > 500 YRS
OVERTOPPING FLOOD ELEVATION	= 612.54

TOTAL CULVERT QUANTITIES	
CLASS A CONCRETE	
LEFT EXTENSION	121.6 C.Y.
RIGHT EXTENSION	324.8 C.Y.
TOTAL	446.4 C.Y.
REINFORCING STEEL	
LEFT EXTENSION	15,142 LBS.
RIGHT EXTENSION	45,119 LBS.
TOTAL	60,261 LBS.
FOUNDATION CONDITIONING MAT'L.	
LEFT EXTENSION	52 TONS
RIGHT EXTENSION	175 TONS
TOTAL	227 TONS
CULVERT EXCAVATION	LUMP SUM

NOTES

ASSUMED LIVE LOAD HL-93 OR ALTERNATE LOADING.
 DESIGN FILL: LEFT EXTENSION = 13.64 FEET, RIGHT EXTENSION = 13.61 FEET.
 FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.
 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 CONCRETE IN CULVERT EXTENSIONS TO BE POURED IN THE FOLLOWING ORDER:
 PHASE I
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF PHASE I WALLS AND WING FULL HEIGHT.
 PHASE II
 3. FLOOR SLAB INCLUDING 4" OF VERTICAL WALL.
 4. THE REMAINING PORTION OF PHASE II WALL FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
 CONCRETE IN 72" Ø PIPE WINGS, FOOTINGS AND HEADWALL SHALL BE POURED IN THE FOLLOWING ORDER:
 1. WINGS AND HEADWALL FOOTINGS UP TO CONSTRUCTION JOINT.
 2. REMAINING PORTION OF WINGS AND HEADWALL FULL HEIGHT.
 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 SHEETS.
 AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR 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.
 DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.

IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSIONS. 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.
 FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
 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.
 THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH 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. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.
 TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.



PROFILE ALONG CULVERT

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. U-3633
GASTON COUNTY
 STATION: 54+22.00 -L-
 SHEET 1 OF 13 CULVERT No. C437



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 TRIPLE 8 FT. X 12 FT.
 CONCRETE BOX CULVERT
 LEFT EXTENSION AND
 RIGHT EXTENSION WITH
 72" Ø PIPE

DRAWN BY : N.D. AIUTO DATE : 7/30/16
 CHECKED BY : H. A. LOCKLEAR DATE : 8/4/16
 DESIGN ENGINEER OF RECORD: H. A. LOCKLEAR DATE : 11/16

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			13