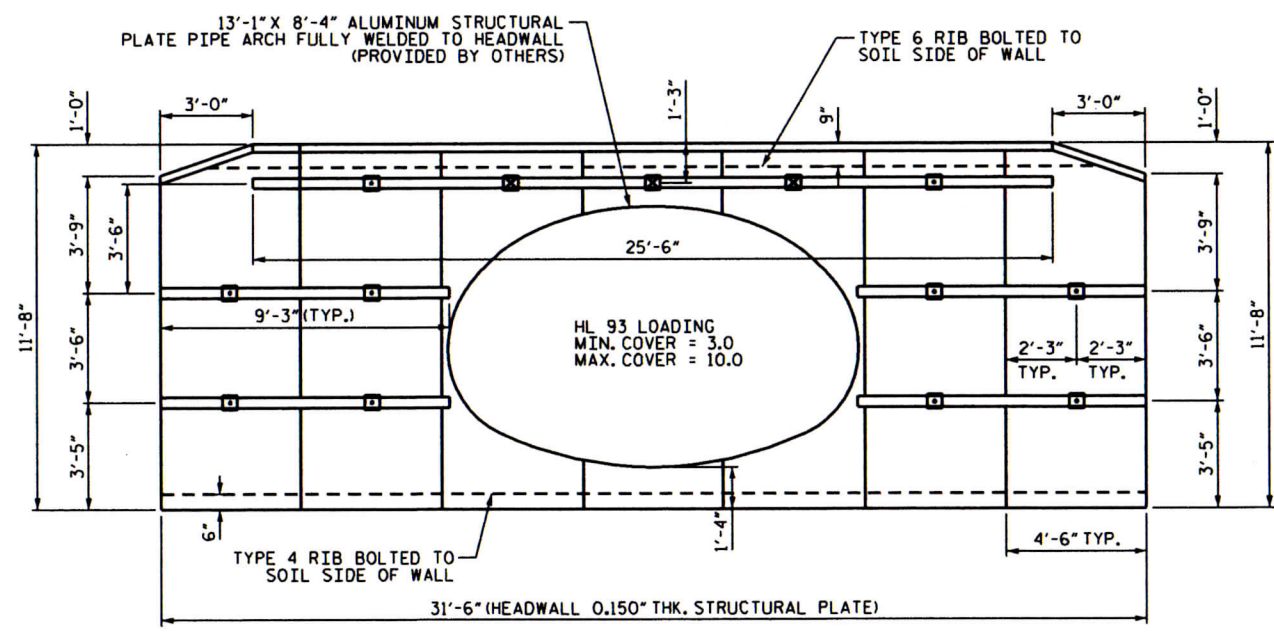
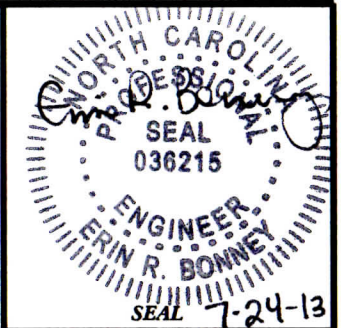


FILE: P:\2013\Gilead.Rd.-Mecklenburg.Co.-Chris.Beatty\Gilead-rd-Mecklenburg.Co.dgn
 MODEL: Default
 PLOT DRW: PDF_LetterSize.pit
 DATE/TIME: 7/24/2013 2:44:21 PM



INLET & OUTLET HEADWALL ELEVATION

DIMENSIONS ARE TO BE VERIFIED BY ENGINEER IN THE FIELD.
 INLET & OUTLET HEADWALLS & WINGWALLS HAVE 3/4" Ø GALVANIZED
 (1) 12'-6" LONG STEEL TIEBACK ROD W/ DMA PLATE
 (3) 12'-6" LONG STEEL TIEBACK ROD BOLTED TO BOX

ALUMINUM STRUCTURAL PLATE WALL
 MATERIAL SPECIFICATIONS (AASHTO M-219):
 HEADWALLS & WINGWALLS
 Fy = 24 ksi
 THICKNESS = 0.150"
 SECTION MODULUS = 1.131 CUBIC INCHES
 ALUMINUM WALE BEAM
 MATERIAL SPECIFICATIONS:
 Fy = 35 ksi
 SECTION MODULUS = 5.073 CUBIC INCHES

- NOTES**
- SOIL PROPERTIES
 Ø = 30 DEG.
 UNIT WEIGHT = 120 PCF.
 - MINIMUM EMBEDMENT ALONG THE
 BASE OF WALL SHALL BE 2'-0"
 - HEADWALL DESIGN BASED ON
 HL 93 LOADING

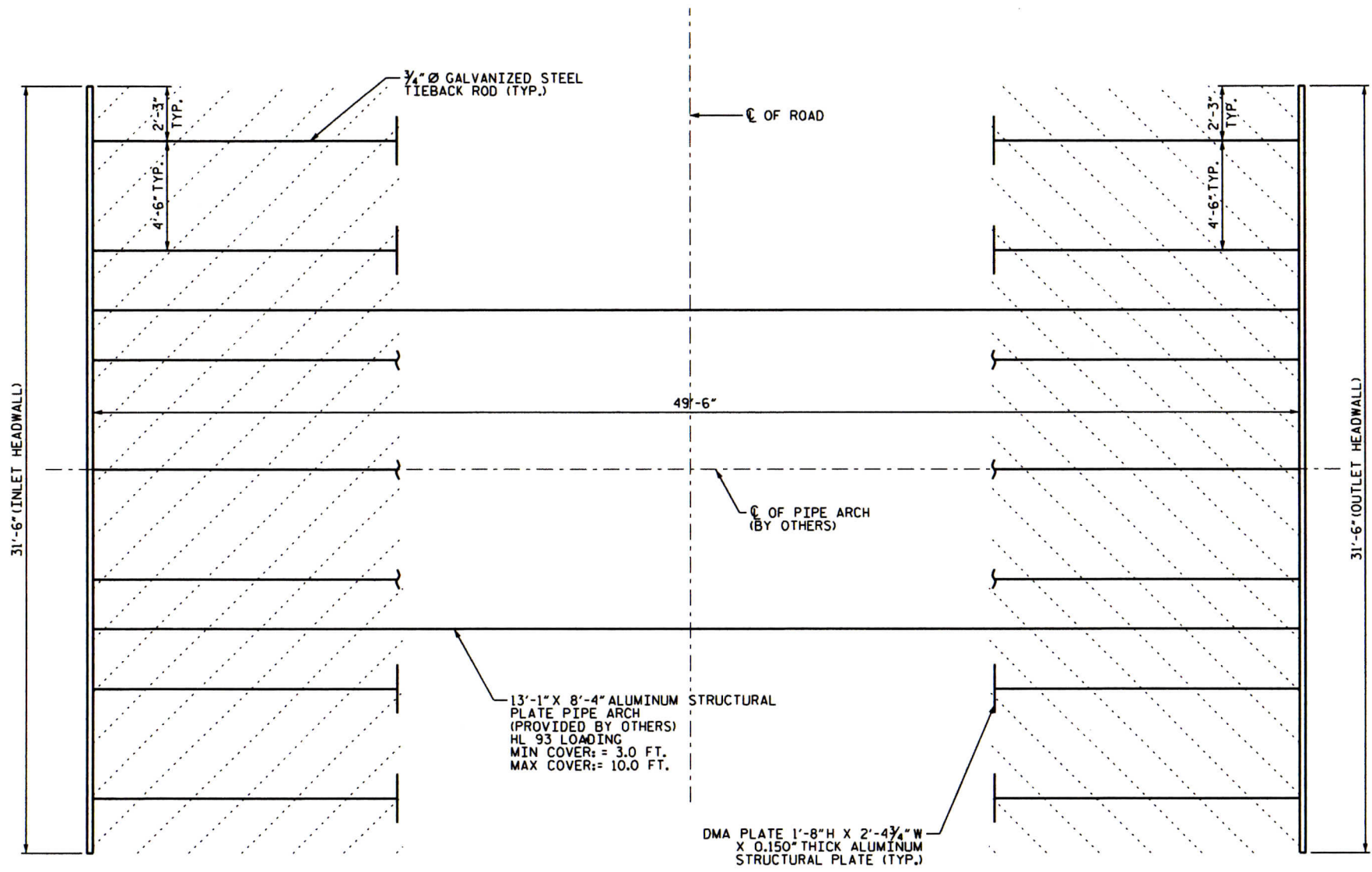
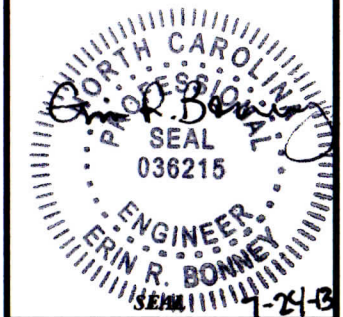
REVISIONS		BY	DATE	DESCRIPTION
NO.	DATE			

559 Jones Franklin Rd. Suite 164
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8077
 License No. F-0377



NCDOT DIVISION 10
 GILEAD ROAD
 MECKLENBURG COUNTY NORTH CAROLINA
METAL HEADWALL DESIGN

DATE:	7-18-13
SCALE:	NTS
DESIGN:	ERB
DRAWN:	RA
CHECKED:	ERB
PROJ. NO.:	13377.06
SHEET:	S1 OF 3



PLAN VIEW

DIMENSIONS TO BE VERIFIED BY ENGINEER IN FIELD

BACKFILL #57 STONE

ALUMINUM STRUCTURAL PLATE WALL
 MATERIAL SPECIFICATIONS (AASHTO M-219):
 HEADWALLS & WINGWALLS
 Fy = 24 ksi
 THICKNESS = 0.150"
 SECTION MODULUS = 1.131 CUBIC INCHES
 ALUMINUM WALE BEAM
 MATERIAL SPECIFICATIONS:
 Fy = 35 ksi
 SECTION MODULUS = 5.073 CUBIC INCHES

- NOTES**
- SOIL PROPERTIES
 Ø = 30 DEG.
 UNIT WEIGHT = 120 PCF.
 - MINIMUM EMBEDMENT ALONG THE
 BASE OF WALL SHALL BE 2'-0"
 - HEADWALL DESIGN BASED ON
 HL 93 LOADING

FILE: P:\2013\Gilead.Rd.-Mecklenburg.Co.-Chris.Beatty\Gilead-rd-Mecklenburg.Co.dgn
 MODEL: Default
 PLOT DRW: PDF_LetterSize.plt
 DATE/TIME: 7/24/2013 2:43:59 PM

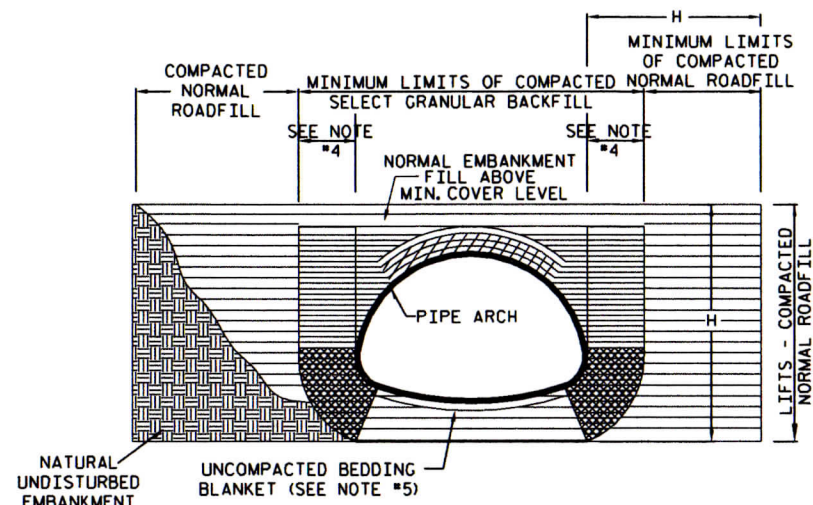
REVISIONS		NO.	DATE	DESCRIPTION	BY

559 Jones Franklin Rd. Suite 164
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8077
 License No. F-0377



NCDOT DIVISION 10
 GILEAD ROAD
 MECKLENBURG COUNTY NORTH CAROLINA
METAL HEADWALL DESIGN

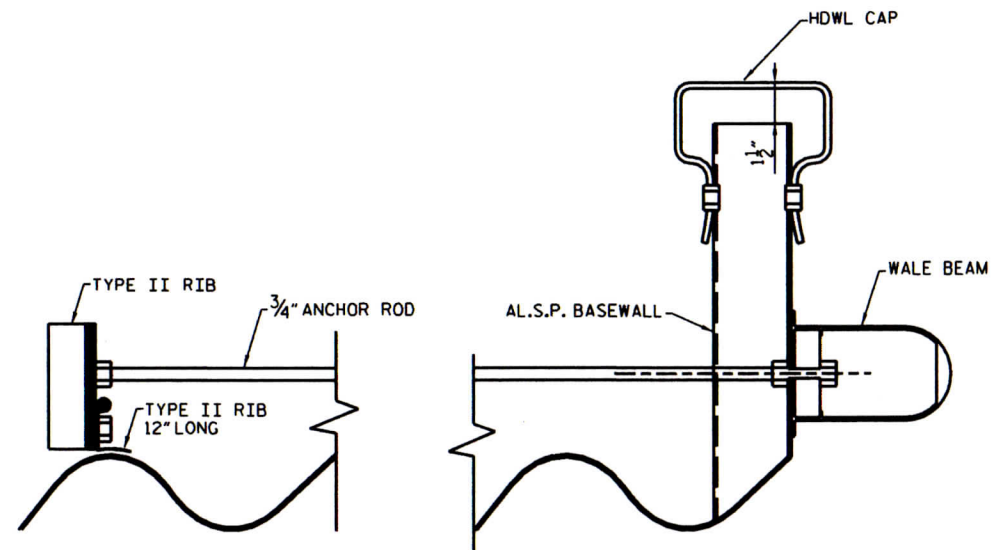
DATE: 7-18-13
 SCALE: NTS
 DESIGN: ERB
 DRAWN: RA
 CHECKED: ERB
 PROJ. NO.: 13377.06
 SHEET: S2 OF 3



- SECTION**
- CRITICAL BACKFILL ZONE, PRESSURE ON SOIL GREATEST HERE.
 - INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT OR WITH SMALL TRACTOR (D-4 OR SMALLER) DRAWN EQUIPMENT.
 - SELECT GRANULAR STRUCTURAL BACKFILL LIMITS.

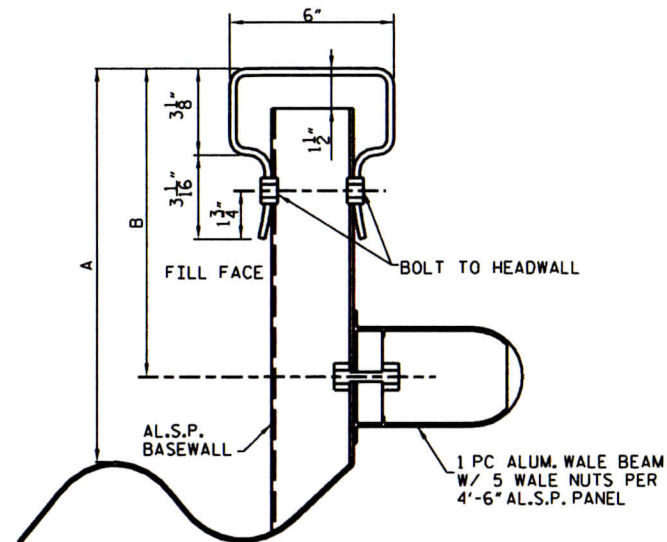
NOTES:

1. ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.
2. COMPLETE AND REGULAR MONITORING OF THE CSP ARCH SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.
3. PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
4. THIS WIDTH SHOULD BE EQUAL TO 1/2 SPAN TO ONE SPAN WIDTH TYPICALLY. GREATER OR LESSER DISTANCE MAY BE REQUIRED. DISTANCE DEPENDS ON BEARING LOAD FOR ANY GIVEN LOADING, STRUCTURE SHAPE AND BACKFILL MATERIAL. THIS MUST BE EVALUATED BY THE PROJECT ENGINEER FOR EACH SPECIFIC SITUATION.
5. SHAPED BED FOR A MINIMUM WIDTH OF SPAN/2. MINIMUM BEDDING THICKNESS IS TWICE THE CORRUGATION DEPTH.
6. EMBANKMENT WIDTH H TO BE SUCH THAT A STABLE EMBANKMENT CAPABLE OF RESISTING SIDE PRESSURES FROM CSP PIPE-ARCH SHAPE WILL BE MAINTAINED THROUGHOUT THE LIFE OF INSTALLATION. THIS WIDTH TO BE DETERMINED BY THE PROJECT ENGINEER.



RIB & ANCHOR ATTACHMENT

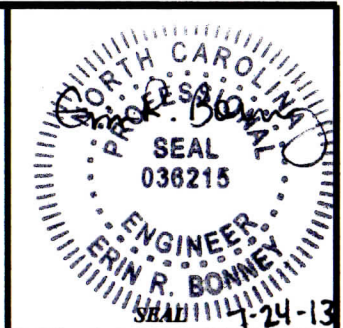
NTS
MAY BE USED TO ATTACH DEADMAN ANCHOR RODS TO PIPE ARCH WHERE COVER LIMITS USE OF THE TYPICAL ANCHOR PLATE.



"A" & "B" DIMENSIONS:
SEE "INLET/OUTLET END" VIEWS

DETAIL AT TOP OF WALL

NTS



REVISIONS	
NO.	DESCRIPTION

559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
Box: 919 851 8077
Fax: 919 851 8077
License No. F-0377



NCDOT DIVISION 10
GILEAD ROAD
MECKLENBURG COUNTY NORTH CAROLINA
METAL HEADWALL DESIGN

DATE:	7-18-13
SCALE:	NTS
DESIGN:	ERB
DRAWN:	RA
CHECKED:	ERB
PROJ. NO.:	13377.06
SHEET:	S3 OF 3

FOUNDATION AND DETAILS ON THIS SHEET PROVIDED BY:
POMONA PIPE PRODUCTS
DUNDAS DR., GREENSBORO, NC

FILE: P:\2013\Gilead.Rd.-Mecklenburg.Co.-Chris.Beatty\Gilead-rd-Mecklenburg.Co.dgn
MODEL: DeFault
PLOT DRW: PDF_LetterSize.plt
DATE/TIME: 7/24/2013 2:44:33 PM