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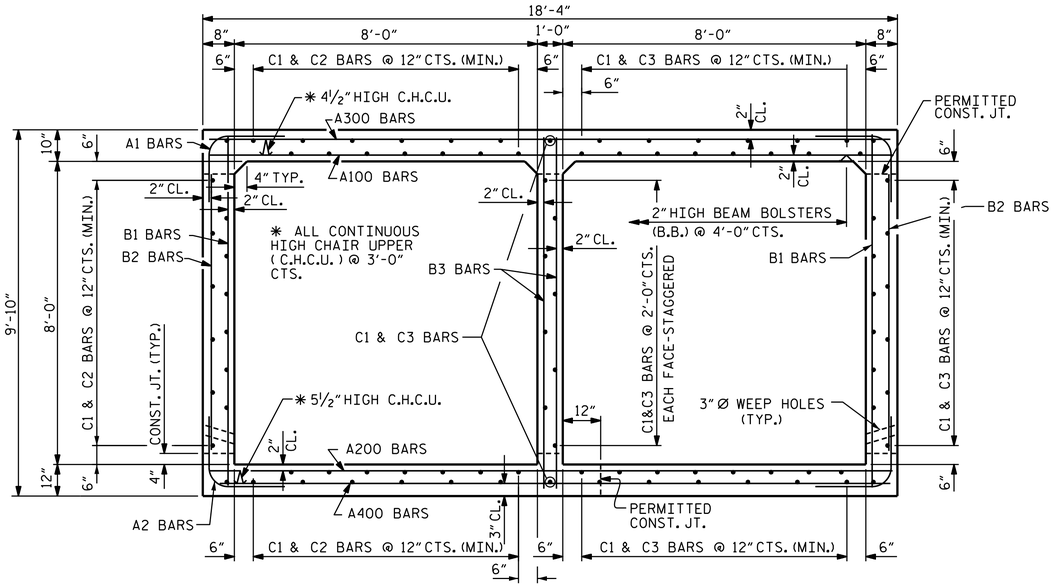
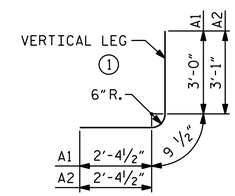



## RIGHT ANGLE SECTION OF BARREL

(LOOKING DOWNSTREAM)
THERE ARE 94 "C" BARS (2 BAR RUNS) IN SECTION OF BARREL

## BAR TYPE




BAR DIMENSIONS ARE OUT TO OUT

## BILL OF MATERIAL

### CULVERT EXTENSION

| BAR | NO. | SIZE | TYPE | LENGTH | WEIGHT | BAR | NO. | SIZE | TYPE | LENGTH | WEIGHT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 134 | #5 | 1 | 6'-2" | 862 | A400 | 62 | #5 | STR | 18'-0" | 1164 |
| A2 | 134 | #5 | 1 | 6'-3" | 874 | A401 | 1 | #5 | STR | 16'-2" | 17 |
| | | | | | | A402 | 1 | #5 | STR | 14'-3" | 15 |
| A100 | 62 | #5 | STR | 18'-0" | 1164 | A403 | 1 | #5 | STR | 12'-5" | 13 |
| A101 | 1 | #5 | STR | 16'-2" | 17 | A404 | 1 | #5 | STR | 10'-6" | 11 |
| A102 | 1 | #5 | STR | 14'-3" | 15 | A405 | 1 | #5 | STR | 8'-8" | 9 |
| A103 | 1 | #5 | STR | 12'-5" | 13 | A406 | 1 | #5 | STR | 6'-10" | 7 |
| A104 | 1 | #5 | STR | 10'-6" | 11 | A407 | 1 | #5 | STR | 4'-11" | 5 |
| A105 | 1 | #5 | STR | 8'-8" | 9 | A408 | 1 | #5 | STR | 3'-1" | 3 |
| A106 | 1 | #5 | STR | 6'-10" | 7 | A409 | 1 | #5 | STR | 1'-3" | 1 |
| A107 | 1 | #5 | STR | 4'-11" | 5 | A410 | 1 | #5 | STR | 12'-4" | 13 |
| A108 | 1 | #5 | STR | 3'-1" | 3 | A411 | 1 | #5 | STR | 6'-9" | 7 |
| A109 | 1 | #5 | STR | 1'-3" | 1 | | | | | | |
| A110 | 1 | #5 | STR | 12'-4" | 13 | B1 | 134 | #5 | STR | 9'-5" | 1316 |
| A111 | 1 | #5 | STR | 6'-9" | 7 | B2 | 134 | #4 | STR | 7'-3" | 649 |
| | | | | | | B3 | 69 | #4 | STR | 9'-5" | 434 |
| A200 | 62 | #5 | STR | 18'-0" | 1164 | | | | | | |
| A201 | 1 | #5 | STR | 16'-2" | 17 | C1 | 94 | #4 | STR | 20'-0" | 1256 |
| A202 | 1 | #5 | STR | 14'-3" | 15 | C2 | 43 | #4 | STR | 19'-3" | 553 |
| A203 | 1 | #5 | STR | 12'-5" | 13 | C3 | 51 | #4 | STR | 16'-2" | 551 |
| A204 | 1 | #5 | STR | 10'-6" | 11 | | | | | | |
| A205 | 1 | #5 | STR | 8'-8" | 9 | G1 | 4 | #5 | STR | 18'-6" | 77 |
| A206 | 1 | #5 | STR | 6'-10" | 7 | | | | | | |
| A207 | 1 | #5 | STR | 4'-11" | 5 | S2 | 6 | #8 | STR | 18'-6" | 296 |
| A208 | 1 | #5 | STR | 3'-1" | 3 | S3 | 12 | #6 | STR | 18'-0" | 324 |
| A209 | 1 | #5 | STR | 1'-3" | 1 | | | | | | |
| A210 | 1 | #5 | STR | 12'-4" | 13 | D1 | 36 | #6 | STR | 2'-6" | 135 |
| A211 | 1 | #5 | STR | 6'-9" | 7 | D2 | 12 | #6 | STR | 2'-7" | 47 |
| | | | | | | D3 | 12 | #6 | STR | 1'-7" | 29 |
| A300 | 62 | #5 | STR | 18'-0" | 1164 | D4 | 6 | #6 | STR | 1'-1" | 10 |
| A301 | 1 | #5 | STR | 16'-2" | 17 | | | | | | |
| A302 | 1 | #5 | STR | 14'-3" | 15 | | | | | | |
| A303 | 1 | #5 | STR | 12'-5" | 13 | | | | | | |
| A304 | 1 | #5 | STR | 10'-6" | 11 | | | | | | |
| A305 | 1 | #5 | STR | 8'-8" | 9 | | | | | | |
| A306 | 1 | #5 | STR | 6'-10" | 7 | | | | | | |
| A307 | 1 | #5 | STR | 4'-11" | 5 | | | | | | |
| A308 | 1 | #5 | STR | 3'-1" | 3 | | | | | | |
| A309 | 1 | #5 | STR | 1'-3" | 1 | | | | | | |
| A310 | 1 | #5 | STR | 12'-4" | 13 | | | | | | |
| A311 | 1 | #5 | STR | 6'-9" | 7 | | | | | | |

REINFORCING STEEL
BARREL 11555 LBS.
SILLS 85 LBS.
ETC. 833 LBS.

CLASS A CONCRETE
2 BARRELS 66.1 CU.YDS.
SILLS 3.9 CU.YDS.

## SPLICE LENGTH CHART

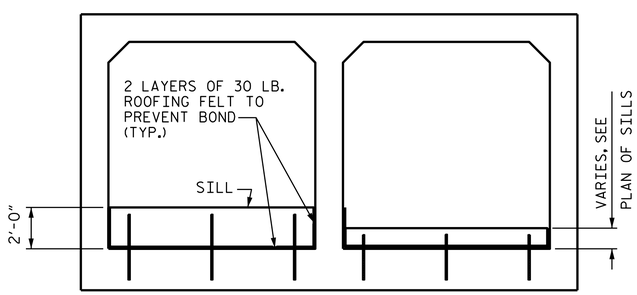
| BAR | SIZE | SPLICE LENGTH |
|---|---|---|
| C2 | #4 | 2'-5" |
| C3 | #4 | 2'-5" |

## NOTES:

NATIVE MATERIAL BETWEEN SILLS/BAFFLES IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL. NATIVE MATERIAL CONSISTS ON MATERIAL THAT IS EXCAVATED FROM THE STREAM OR FLOODPLAIN AT THE PROJECT SITE DURING CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE LOW FLOW CULVERT BARREL. RIP-RAP MAY BE USED TO SUPPLEMENT THE NATIVE BED MATERIAL IN THE HIGH FLOW CULVERT BARREL. IF RIP-RAP IS USED TO LINE THE HIGH FLOW CULVERT BARREL, NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS AND PROVIDE A FLAT SURFACE FOR ANIMAL PASSAGE. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

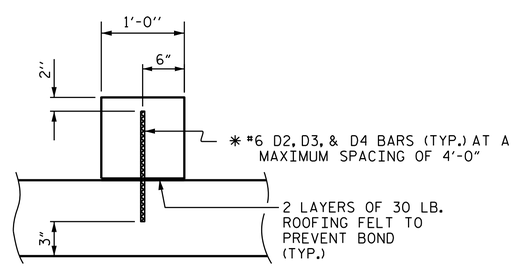
TOP OF LOW FLOW SILLS/BAFFLES SHOULD MATCH BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)

DO NOT SET ELEVATION OF HIGH SILL/BAFFLES ABOVE BANK FILL.




## ELEVATION

(LOOKING DOWNSTREAM)

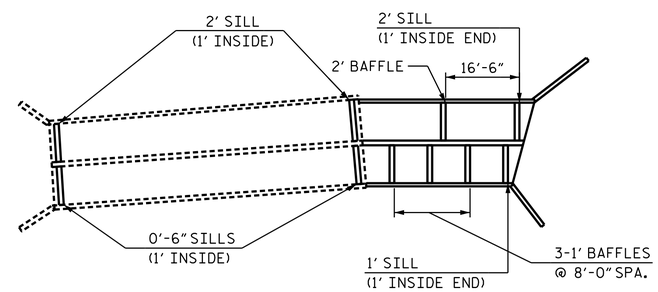



## SECTION THROUGH SILL

✱ DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SLAB HAS BEEN FLOAT FINISHED.

| SILL/BAFFLE BARS | |
|---|---|
| BAR | SILL/BAFFLE HEIGHT |
| D2 | 2'-0" |
| D3 | 1'-0" |
| D4 | 0'-6" |

## CULVERT SILL DETAILS




## PLAN OF SILLS

PROJECT NO. W-5714E
JACKSON COUNTY
STATION: 18+58.00 -L-

SHEET 6 of 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

# DOUBLE 8'-0" X 8'-0" CONCRETE BOX CULVERT EXTENSION 75° SKEW

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

NORTH CAROLINA PROFESSIONAL SEAL 037903 ENGINEER JEFFREY M KEPICH
DocuSigned by: Jeffrey Kepich 4/21/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|
| NO. | BY: | DATE: | NO. | BY: | DATE: | C-6 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 09 |

DRAWN BY : J.M. KEPICH DATE : 03/21
CHECKED BY : L.M. SAMPLES DATE : 05/21
DESIGN ENGINEER OF RECORD : J.M. KEPICH DATE : 04/22

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$