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

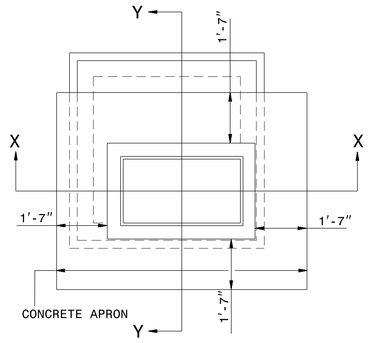
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

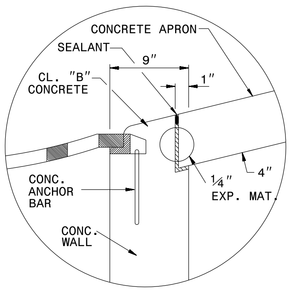
# CONCRETE MEDIAN DROP INLET TYPE 'A'
# EXTRA DEPTH OVER 12' TO 21'
12" THRU 72" PIPE

SHEET 1 OF 2

**840D17**




PLAN




DETAIL

(APRON SUPPORT NOTCH)

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE DROP INLETS WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

WHEN PAYMENT FOR THE DROP INLET IS MADE ON A PER EACH BASIS, THE CONCRETE APRON WILL BE CONSIDERED PART OF THE DROP INLET.

CONSTRUCT WITH PIPE CROWNS MATCHING.

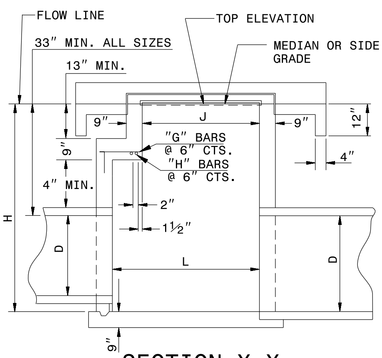
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

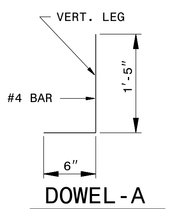
CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

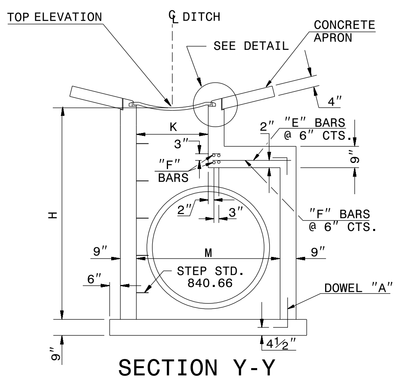
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 21 FEET.



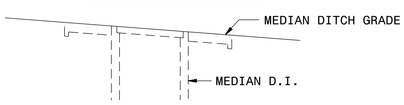

SECTION X-X




DOWEL-A




SECTION Y-Y

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# CONCRETE MEDIAN DROP INLET TYPE 'A'
# EXTRA DEPTH OVER 12' TO 21'
12" THRU 72" PIPE

SHEET 1 OF 2

**840D17**

STATE OF NORTH CAROLINA
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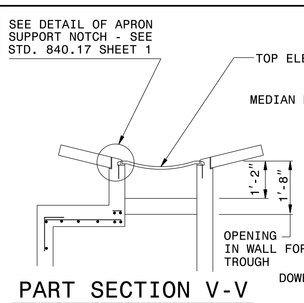
ENGLISH DETAIL DRAWING FOR

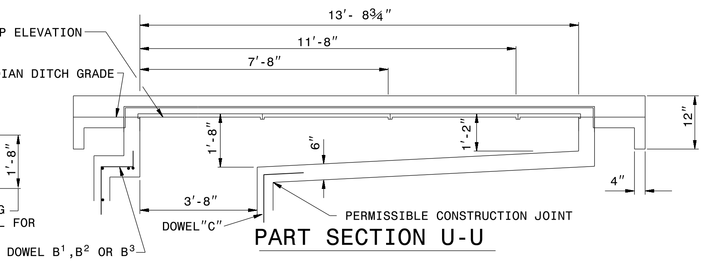
# CONCRETE MEDIAN DROP INLET TYPE 'A'
# EXTRA DEPTH OVER 12' TO 21'
12" THRU 72" PIPE

SHEET 2 OF 2

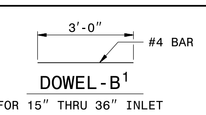
**840D17**




PART SECTION V-V

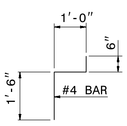



PART SECTION U-U



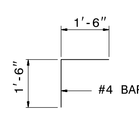

DOWEL-B¹

FOR 15" THRU 36" INLET

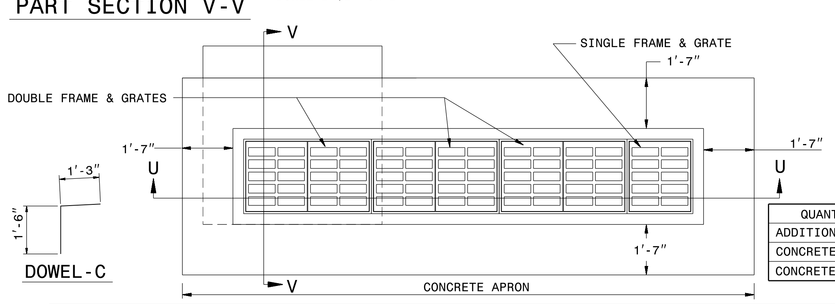



DOWEL-B²

FOR 42" INLET




DOWEL-B³




DOWEL-C

| QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING | | | | | | |
|---|---|---|---|---|---|---|
| ADDITIONAL INLETS | 2'-0" | 4'-0" | 6'-0" | 8'-0" | 10'-0" | 12'-0" |
| CONCRETE CU. YDS. | 0.191 | 0.417 | 0.665 | 0.897 | 1.145 | 1.380 |
| CONCRETE APRON CU. YDS. | 0.074 | 0.148 | 0.222 | 0.296 | 0.370 | 0.444 |

**MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET(BASED ON MIN. HEIGHT, H)**

| DIMENSIONS OF BOX AND PIPE | | | | | | REINFORCING STEEL - NO. 4 BARS | | | | | | | | | CU YDS CONC. IN BOX | | | | | DEDUCTIONS FOR ONE PIPE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIPE | SPAN | WIDTH | SPAN | WIDTH | HEIGHT | BARS E | | BARS F | | BARS G | | BARS H | | TOTAL | BOTTOM SLAB | H TOTAL | H PER FT HT | APRON | TOTAL | C.S. | R.C. |
| D | J | K | L | M | H | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | LBS. | | | | | | | |
| 12" | 3'-8" | 2'-0" | 3'-8" | 2'-0" | 3'-9" | — | — | — | — | — | — | — | — | — | 0.362 | 0.926 | 0.247 | 0.395 | 1.683 | 0.015 | 0.024 |
| 15" | 3'-8" | 2'-0" | 3'-8" | 2'-0" | 4'-0" | — | — | — | — | — | — | — | — | — | 0.362 | 0.988 | 0.247 | 0.395 | 1.745 | 0.023 | 0.036 |
| 18" | | | | 2'-0" | 4'-3" | — | — | — | — | — | — | — | — | — | 0.362 | 1.050 | 0.247 | | 1.807 | 0.033 | 0.049 |
| 24" | | | 2'-10" | 4'-9" | | 8 | 1'-5" | 6 | 4'-9" | — | — | — | — | 27 | 0.444 | 1.362 | 0.278 | | 2.201 | 0.059 | 0.085 |
| 30" | | | 3'-8" | 3'-5" | 5'-3" | 8 | 2'-0" | 7 | 4'-9" | — | — | — | — | 33 | 0.502 | 1.644 | 0.288 | | 2.541 | 0.092 | 0.127 |
| 36" | | | 4'-0" | 4'-0" | 5'-9" | 8 | 2'-5" | 8 | 4'-11" | 4 | 0'-9" | 2 | 4'-11" | 47 | 0.560 | 1.931 | 0.321 | | 2.920 | 0.132 | 0.178 |
| 42" | | | 4'-10" | 4'-10" | 6'-3" | 10 | 3'-1" | 9 | 5'-7" | | 1'-5" | 3 | 5'-7" | 67 | 0.704 | 2.500 | 0.370 | | 3.677 | 0.180 | 0.243 |
| 48" | | | 5'-4" | 5'-4" | 6'-9" | 11 | 3'-7" | 10 | 6'-1" | | 1'-11" | 4 | 6'-1" | 87 | 0.823 | 3.013 | 0.407 | | 4.315 | 0.235 | 0.317 |
| 54" | | | 6'-0" | 6'-0" | 7'-3" | 12 | 4'-1" | 11 | 6'-7" | | 2'-5" | 5 | 6'-7" | 107 | 0.951 | 3.589 | 0.444 | | 5.072 | 0.297 | 0.401 |
| 60" | | | 6'-6" | 6'-6" | 7'-9" | 13 | 4'-9" | 12 | 7'-3" | | 3'-1" | 6 | 7'-3" | 135 | 1.311 | 4.539 | 0.494 | | 6.170 | 0.367 | 0.495 |
| 66" | | | 7'-2" | 7'-2" | 8'-3" | 14 | 5'-4" | 14 | 7'-10" | | 3'-7" | 7 | 7'-10" | 168 | 1.136 | 5.061 | 0.537 | | 6.901 | 0.444 | 0.599 |
| 72" | 3'-8" | 2'-0" | 7'-8" | 7'-8" | 8'-9" | 15 | 5'-11" | 15 | 8'-5" | 4 | 4'-3" | 8 | 8'-5" | 199 | 1.500 | 5.860 | 0.580 | 0.395 | 7.868 | 0.528 | 0.713 |


**CONTRACT STANDARDS AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119


# SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD. 840.17 DATE:
MODIFIED BY: K.A. KEMPF DATE: 07-06-09
CHECKED BY: DATE:
FILE SPEC.: /usr/details/stand/840d17.dgn

8/6/2015

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 STEPHEN G. HOWARD

PROJECT REFERENCE NO. R-2915A
SHEET NO. 2C-7