

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

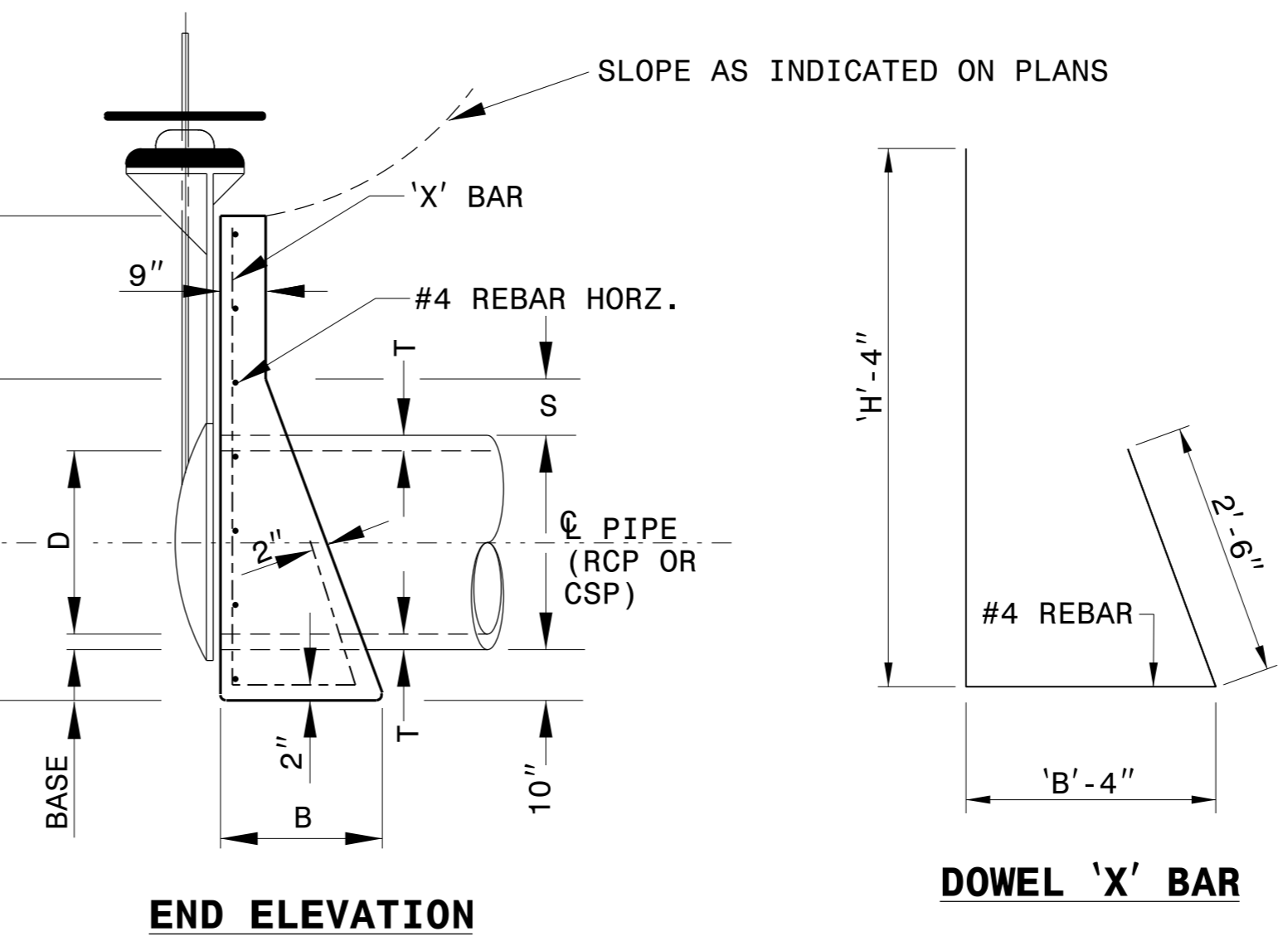
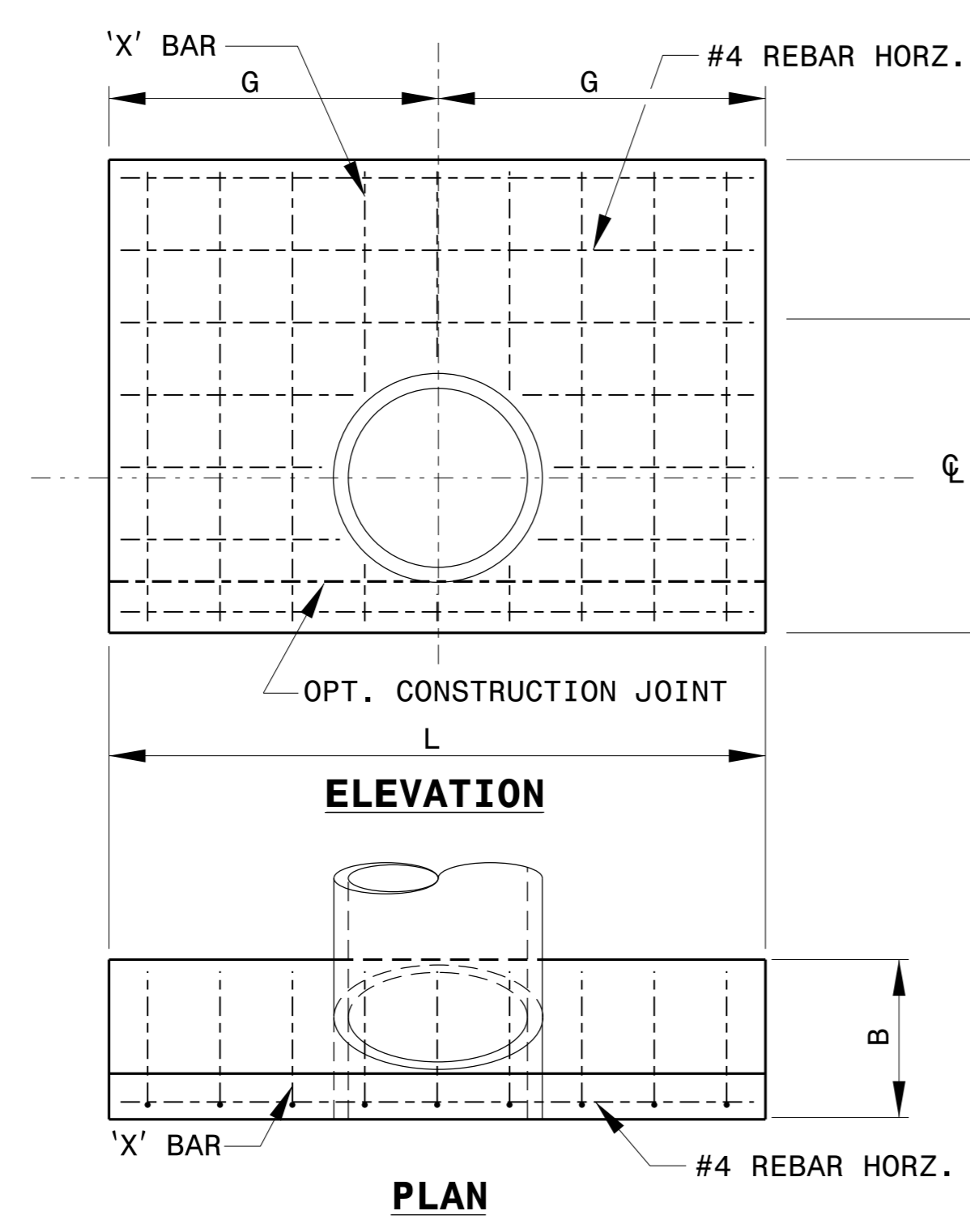
ENGLISH DETAIL DRAWING FOR  
**CONCRETE ENDWALL AND SLUICE GATE**  
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 1  
**838D02**

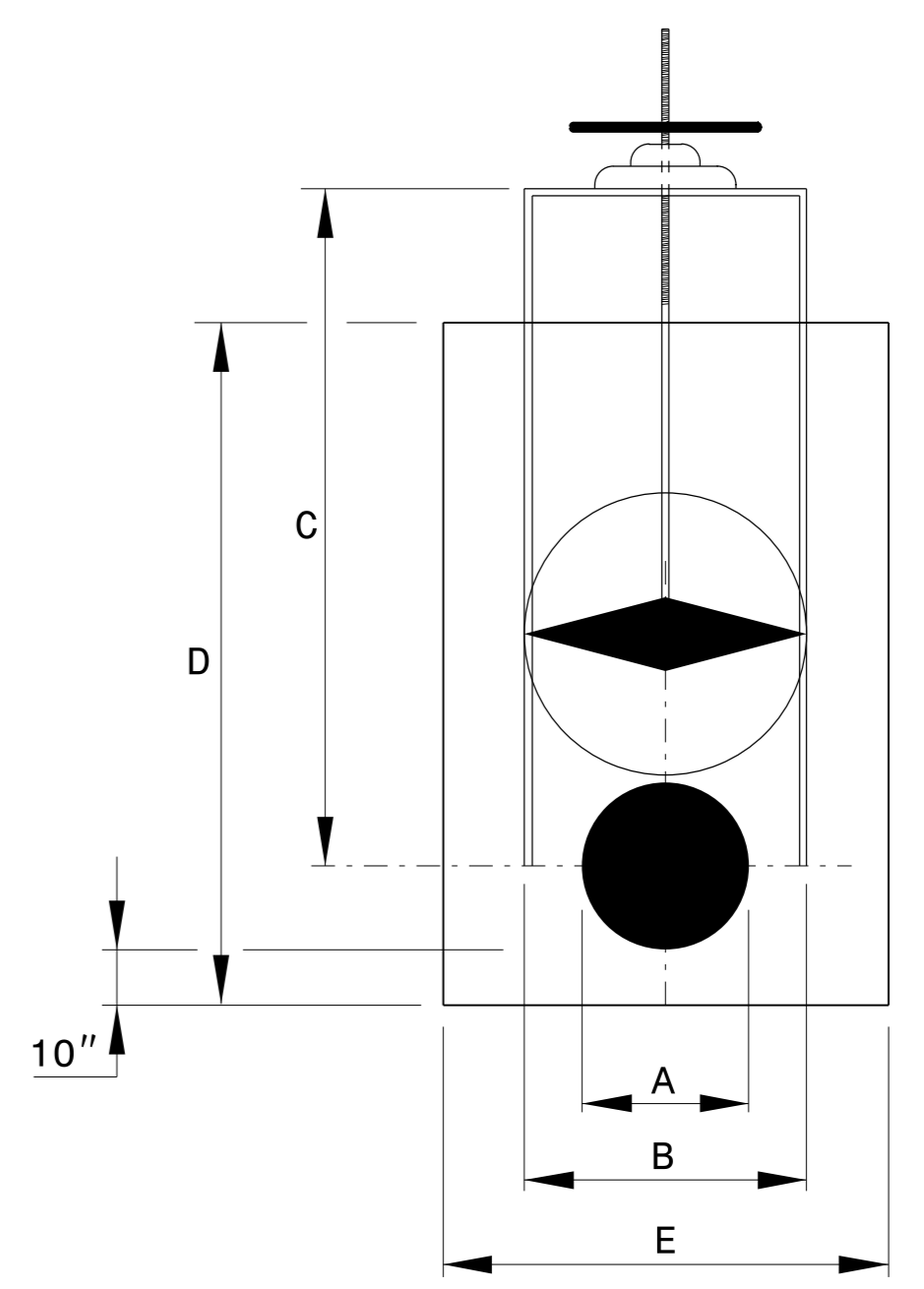
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE ENDWALL AND SLUICE GATE**  
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 1  
**838.02**



- GENERAL NOTES:
- LIMIT VARIABLE HEIGHT DIMENSION (H) TO FRAME HEIGHT OF SLUICE GATE, 3' ABOVE THE H<sup>1</sup> DIMENSION OR 10' WHICHEVER IS LESS.
  - ATTACHMENT OF GATE MAY REQUIRE SPECIFIC POSITIONING OF PIPE AND/OR MODIFICATION OF ENDWALL. CONFIRMATION OF GATE DIMENSIONS AND ATTACHMENT METHOD IS RECOMMENDED PRIOR TO CONSTRUCTION OF ENDWALL.
  - PLACE NO. 4 REBAR ON 12" HORIZONTAL AND VERTICAL CENTERS WITH 2" MINIMUM CONCRETE COVERAGE.
  - CONSTRUCT 1" CHAMFER OR RADIUS ON ALL EXTERIOR CORNERS.
  - USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
  - WALL THICKNESS (T) IS USED TO COMPUTE QUANTITIES, NOT TO INFER SIZE.
  - WHEN THE BASE IS POURED SEPARATELY, LEAVE THE POUR ROUGH.
  - USE CLASS 'B' CONCRETE.
  - CUT OR BEND REBARS AS NEEDED TO ACCOMMODATE PIPE.



DIMENSIONS AND QUANTITIES FOR RCP OR CSP							
CALCULATIONS BASED ON CONCRETE PIPE							
PIPE DIA. D	H <sup>1</sup> MINIMUM DIMENSIONS						CONC YD <sup>3</sup>
	H <sup>1</sup>	B	G	T	S	L	
15"	3'-3"	1'-8"	2'-9"	2 1/4"	9 1/2"	5'-6"	0.7
18"	3'-7"	1'-10"	3'-2"	2 1/2"	10"	6'-4"	1.0
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5
30"	5'-0"	2'-6"	4'-7"	4 1/4"	11 1/2"	9'-2"	2.3
36"	5'-8"	2'-8"	5'-6"	4 3/4"	11 1/2"	11'-0"	3.4
42"	6'-2"	3'-1"	6'-4"	5 1/4"	11 1/2"	12'-8"	4.5
48"	6'-9"	3'-5"	7'-2"	5 3/4"	11 1/2"	14'-4"	6.0

H <sup>2</sup> QUANTITIES		
PIPE DIA. D	PER 1' ADDITIONAL STEEL LBS.	PER 1' HEIGHT CONC YD <sup>3</sup>
15"	7.5	0.2
18"	8.7	0.2
24"	11.1	0.2
30"	12.6	0.3
36"	15.1	0.3
42"	17.6	0.4
48"	19.1	0.4

REBAR IN ENDWALL (H <sup>1</sup> MIN.)							
USE WITH RC OR CS PIPE	PIPE DIA.						
	15"	18"	24"	30"	36"	42"	48"
'X' BARS	6	7	9	10	12	14	15
HORZ BARS	4	4	5	6	7	7	8
TOTAL LBS.	41	50	74	112	131	161	195

NOTE:  
-THIS STANDARD FOR THE SLUICE GATE PROVIDES ONLY BASIC INFORMATION FOR PLACEMENT.  
-INSTALL THE SLUICE GATE IN ACCORDANCE WITH THE MANUFACTURER'S DIMENSIONS AND SPECIFICATIONS.  
-SEE PLANS FOR LOCATIONS AND PIPE SIZES

SLUICE GATE DIMENSIONS								
PIPE DIAMETER	A	15"	18"	24"	30"	36"	42"	48"
GATE DIAMETER	B	22"	25"	32"	38 3/4"	46"	52"	60"
FRAME HEIGHT, MIN.	C	36"	36"	48"	60"	72"	84"	96"
H. W. HEIGHT, MIN.	D	4'-5 1/2"	4'-7"	5'-10"	7'-1"	8'-4"	9'-2"	9'-9"
H. W. WIDTH	E	5'-6"	6'-4"	8'-0"	9'-2"	11'-0"	12'-8"	14'-4"



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

**SEE TITLE BLOCK**

ORIGINAL BY: E.E.WARD DATE: 12-99  
MODIFIED BY: T.S.Spell DATE: 1-4-05  
CHECKED BY: DATE:  
FILE SPEC.: w:jhowerton\handrail\_adjacent\_to\_sidewalk.dgn

\$\$\$\$\$ TYPED IN MICROSOFT WORD \$\$\$\$\$