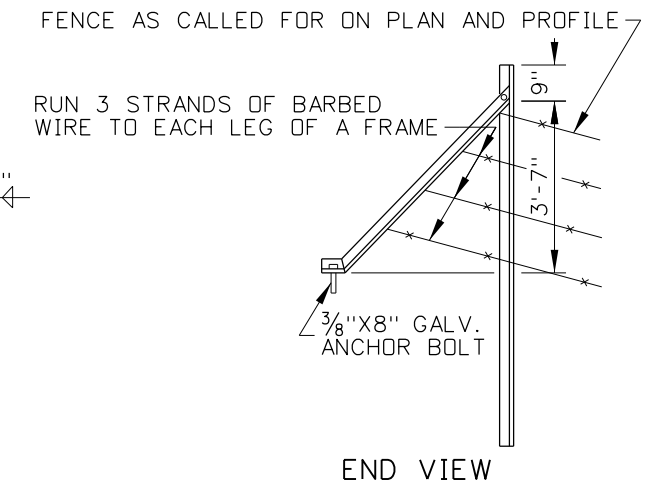
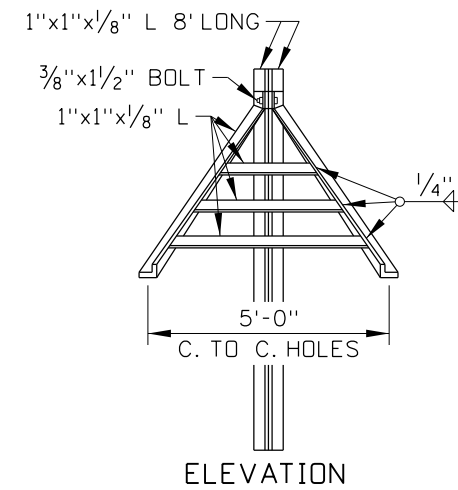
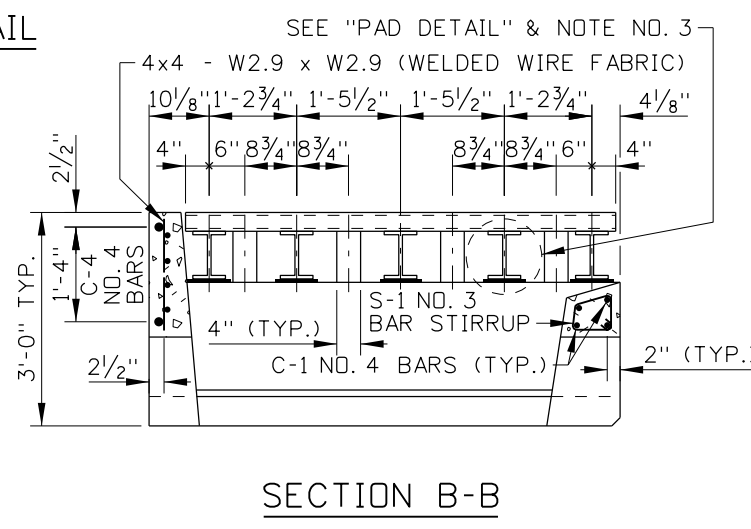
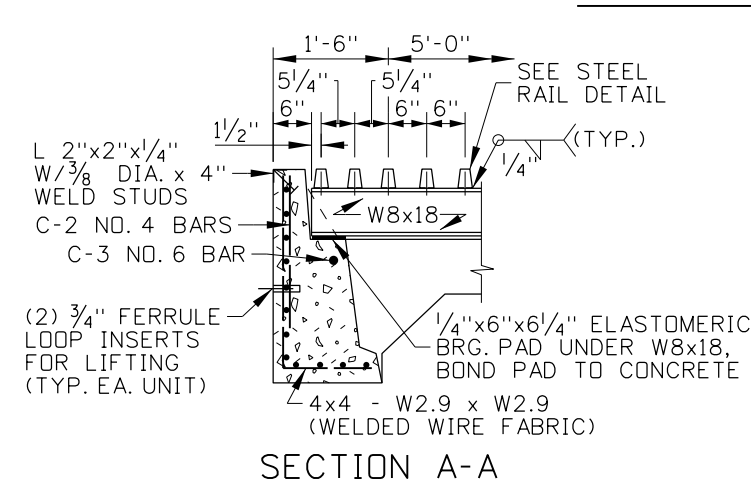
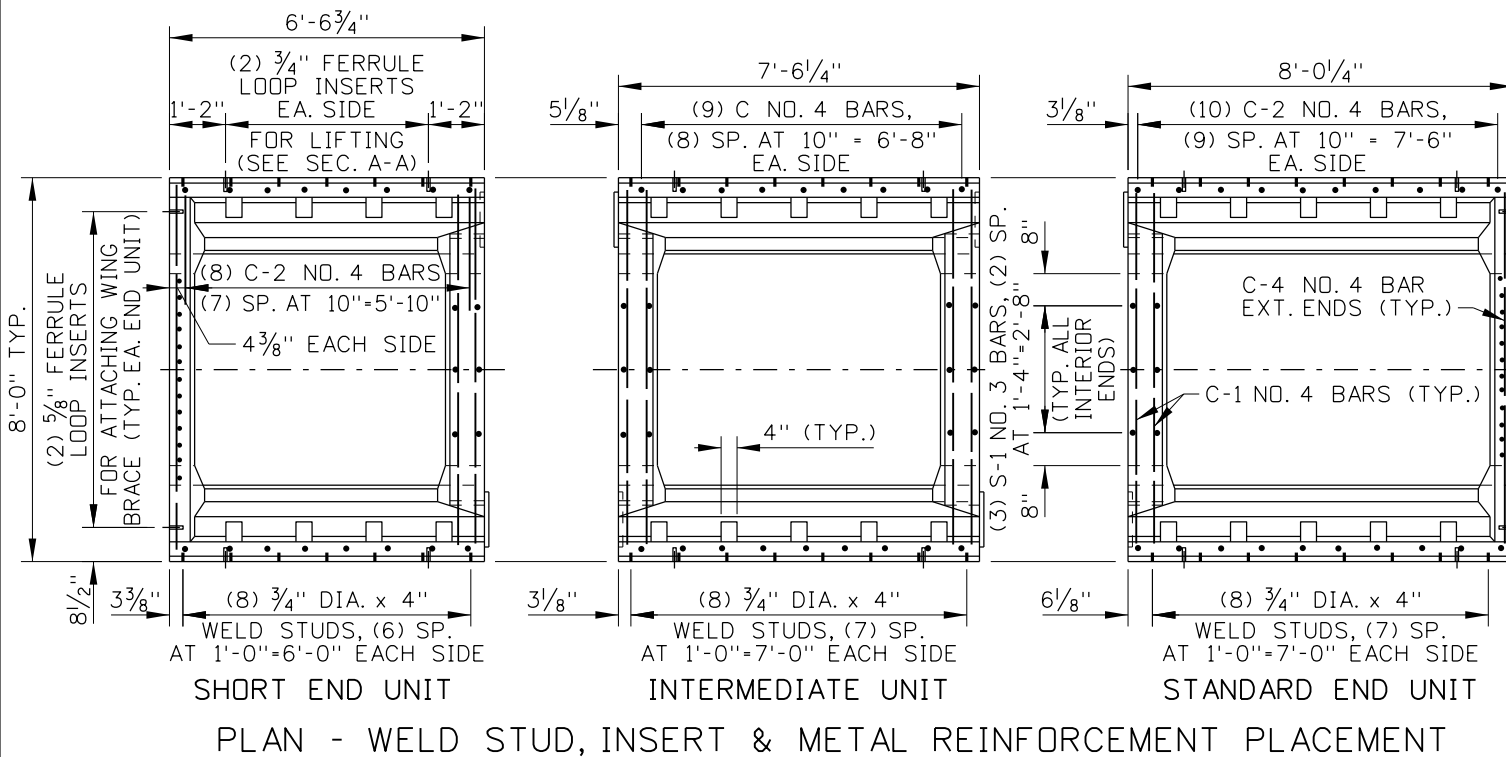
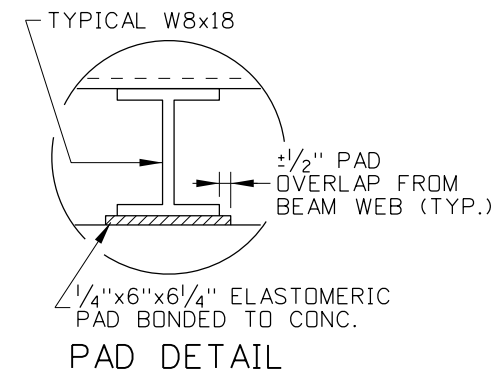


* UNITS ARE TO BE FURNISHED AS REQUIRED BY THE SPECIFIED CATTLE GUARD WIDTH.



WING BRACE



REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	07-02	MSM					
2	12-05	MSM					

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: flb_1205.dgn
 DRAWING DATE: MARCH, 1981

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
 ASSISTANT CHIEF ENGINEER (DEVELOPMENT)
 ORIGINAL SIGNED BY: STEVEN HUTCHINSON
 CHIEF ENGINEER

STANDARD DRAWING
CATTLE GUARD TYPE B
 REQUIRES SHEET 2 OF 2

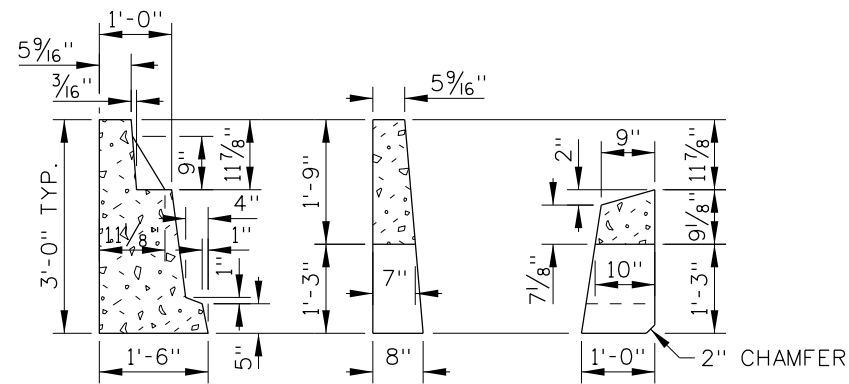
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO.
F-1-B

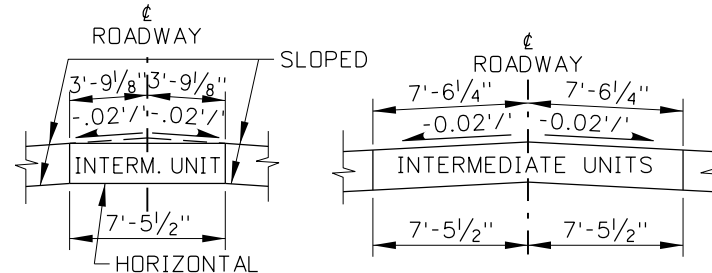
SHEET 1 OF 2

ORIGINAL SIGNED BY:
 MILFORD L. MILLER
 DATE ORIGINAL SIGNED:
 DECEMBER 19, 2005



THE SECTIONS THRU SUPPORT WALLS GIVE DIMENSIONS FOR FORMING. SEE SECTIONS A-A & B-B ON PLAN VIEW ORIENTATION.

SUPPORT DIMENSIONS

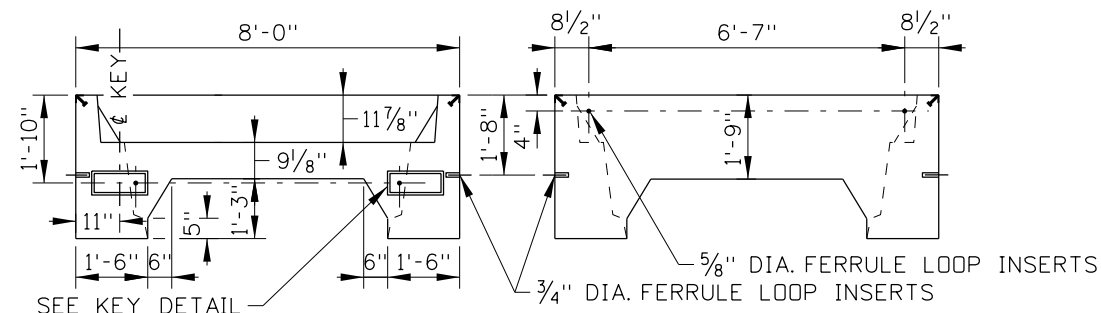


TWO TYPES OF COMBINATIONS OF BEVELED INTERMEDIATE UNITS

ROADWAY SECTIONS

SUPPORT REINFORCEMENT TABLE								
MARK	BAR SIZE	NO. PER UNIT			LENGTH PER UNIT			SKETCH
		INTER. UNIT	STD. END	SHORT END	INTER. UNIT	STD. END	SHORT END	
C-1	NO. 4	8	4	4	7'-9"	7'-9"	7'-9"	
C-2	NO. 4	18	20	16	1'-9"	1'-9"	1'-9"	
C-3	NO. 6	2	2	2	7'-3"	6'-3"	6'-3"	
C-4	NO. 4	-	2	2	-	7'-9"	7'-9"	
S-1	NO. 3	6	3	3	1'-9 5/8"	1'-9 5/8"	1'-9 5/8"	
W.W.F.	4x4-W2.9xW2.9	2	2	2	4'-0"x7'-3"	4'-0"x6'-3"	4'-0"x6'-3"	3/4"
W.W.F.	4x4-W2.9xW2.9	-	1	1	-	1'-6"x7'-9"	1'-6"x7'-9"	135° HOOKS

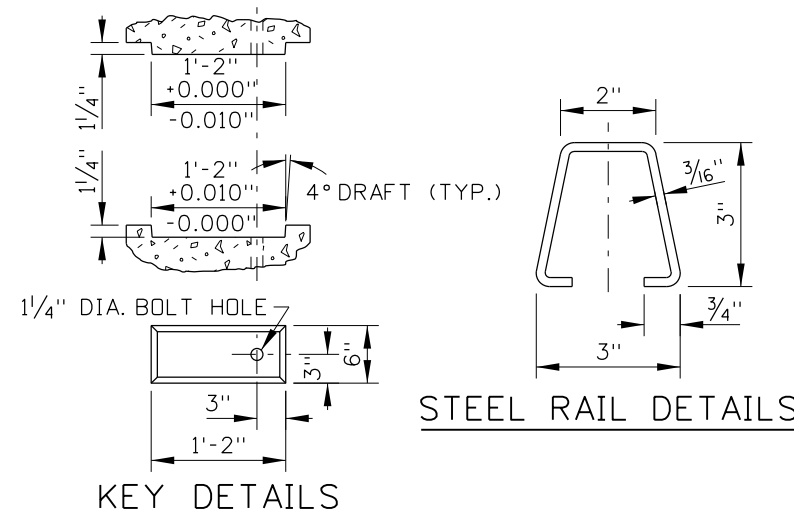
STRUCTURAL STEEL TABLE							
MARK	SIZE	NO. PER UNIT			LENGTH PER UNIT		
		INTER. UNIT	STD. END	SHORT END	INTERMED. UNIT	STANDARD END UNIT	SHORT END UNIT
WIDE FLG.	W8x18	6	6	5	7'-0"	7'-0"	7'-0"
RAIL	SEE D.	15	15	15	7'-6"	7'-6"	7'-0 1/2"
WELDSTUD	3/8" DIA.	16	16	14	4"	4"	4"
ARMOR L	2x2x1/4"	2	2	2	7'-6 1/4"	8'-6 1/4"	6'-6 3/4"
WING BRACE							
ANGLE	1x1x1/8"	WING FRAME		4 REQ'D	21'-1" TOTAL		
ANGLE	1x1x1/8"	WING FILLER		6 REQ'D	16'-6" TOTAL		
POST L	1x1x1/8"	WING SUPPORT		4 REQ'D	VARIES APPR. 8'-0"		
PLATE	3x5 1/2x1/8"	WING FRAME TIE		2 REQ'D	TOTAL L = 37'-9"		



TYPICAL VIEW OF INTERIOR END

TYPICAL VIEW OF INTERIOR END

END VIEWS



STEEL RAIL DETAILS

KEY DETAILS

NOTES

1. THE ABOVE SECTIONS SHOW REINFORCEMENT, RAIL, AND RAIL SUPPORT PLACEMENT ONLY.
2. ALL CATTLE GUARDS SHALL MEET THE REQUIREMENTS OF SECTION 611 - CATTLE GUARDS OF THE STANDARD SPECIFICATIONS.
3. THE CATTLE GUARD AND SUPPORTS SHALL BE DESIGNED FOR HS-25 LOADING. THE ELASTOMERIC BEARING PADS SHALL BE 50 DUROMETER IN HARDNESS.
4. THE CATTLE GUARD SHALL BE PLACED ON BASE AGGREGATE 3" MIN. THICKNESS OVER HAND LEVELED SOIL COMPACTED TO 95% DENSITY.
5. CATTLE GUARD EXPOSED STEEL MEMBERS AND HARDWARE SHALL BE GALVANIZED.
6. DRAINAGE SHALL BE PROVIDED AT THE TIME OF INSTALLATION SO THE CATTLE GUARD WILL DRAIN.
7. THE CATTLE GUARD SHALL BE PLACED TO MATCH THE ROADWAY SLOPE AND/OR THE CROWN.
8. COMMERCIAL OR ALTERNATE CATTLE GUARD DESIGNS MAY BE USED UPON MEETING THE ABOVE REQUIREMENTS.
9. ALL DETAILS SHOWN ARE NOT DRAWN TO ANY SCALE.
10. NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

ORIGINAL SIGNED BY: MILE DRD L. MILLER
DATE ORIGINAL SIGNED: DECEMBER 19, 2005

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
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IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
ASSISTANT CHIEF ENGINEER (DEVELOPMENT)
ORIGINAL SIGNED BY: STEVEN HUTCHINSON
CHIEF ENGINEER

STANDARD DRAWING
CATTLE GUARD TYPE B
REQUIRES SHEET 1 OF 2

English
STANDARD DRAWING NO.
F-1-B
SHEET 2 OF 2