BRIDGE OVER INYAN KARA CREEK

LENGTH IN MILES		PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GROSS	NET			
0.151	0.151	BROS 0.00 0C18005	1	85
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

INDEX OF SHEETS

SHEET NO.		PLANS
1		TITLE SHEET
2		PROFESSIONAL SEALS SHEET
3		LEGEND SHEET
T1		TYPICAL SECTION SHEET
S1 - S4		SUMMARY SHEETS
4 - 5		PLAN AND PROFILE SHEETS
6 - 8		MACHINE-PLACED RIPRAP DETAIL SHEETS
9		GUARDRAIL DETAIL SHEET

SHEET NO.	DWG. NO.	STRUCTURE
B1 - B16	7297	BRIDGE OVER INYAN KARA CREEK

STANDARD PLAN NUMBER	NO. OF SHEETS	TITLE
203-2A	1	EARTHWORK
215-1	11	TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION
511-1A	3	WIRE ENCLOSED RIPRAP AND GABIONS
606-1	16	CORRUGATED BEAM GUARDRAIL
607-1A	6	WIRE FENCE
703-1C	12	CONSTRUCTION TRAFFIC CONTROL DEVICES
703-2C	4	CONSTRUCTION TRAFFIC CONTROL TWO LANE
703-6C	2	TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE
	85	TOTAL

SHEET NO.	
1 - 6	CROSS SECTION SHEETS

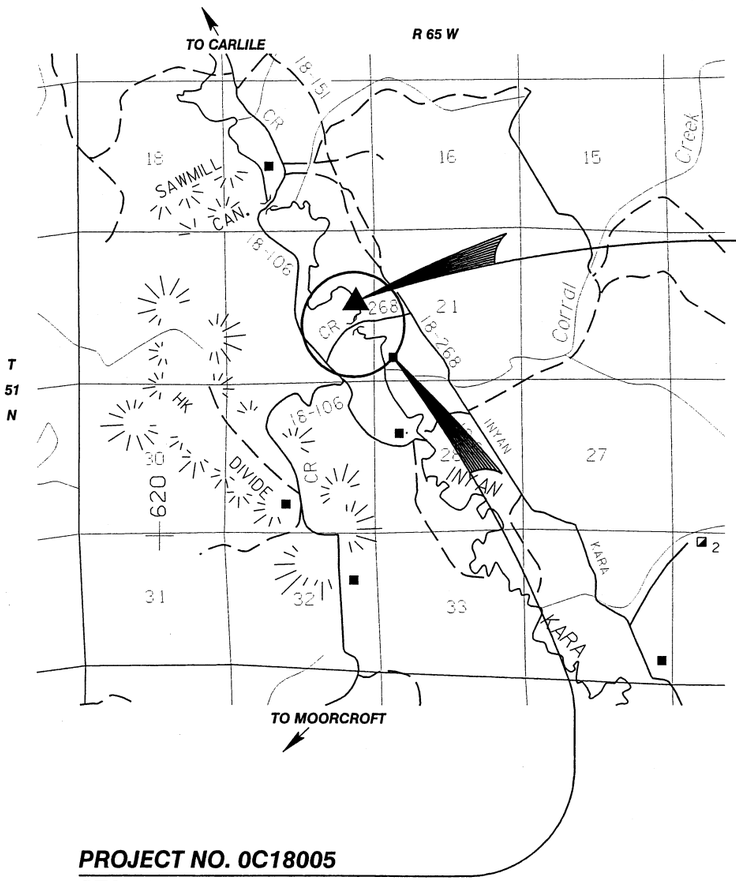
STATE OF WYOMING

WYOMING DEPARTMENT OF TRANSPORTATION

BRIDGE OVER INYAN KARA CREEK

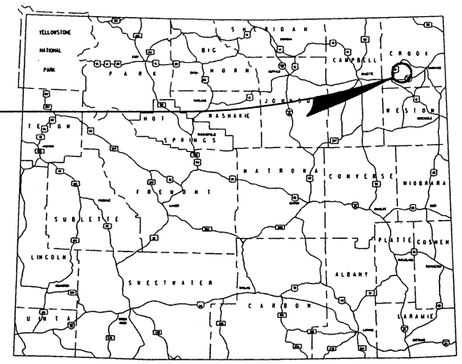
CR 268

CROOK COUNTY



WATER SOURCE:
INYAN KARA CREEK
AGMT. NO. 57335

0C18005



PROJECT NO. 0C18005
STA 114+49.50
MP 7.2

APPROVED:

Dellert A McOmie 01/09/2009
CHIEF ENGINEER DATE

DESIGNED BY **BRIDGE & ALLEN'S SQUAD**

BROS 0.00 0C18005

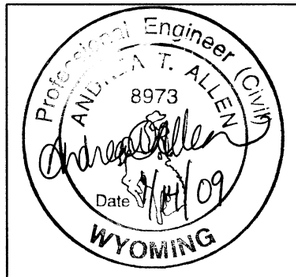
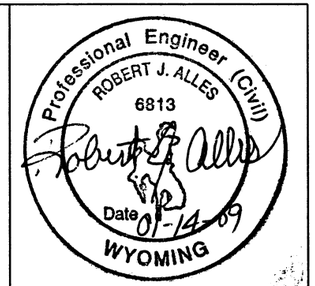
STATE OF WYOMING	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	0C18005	2	9

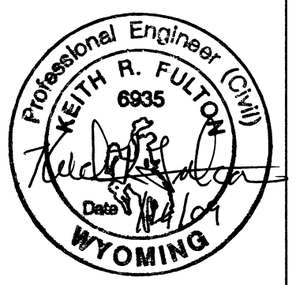
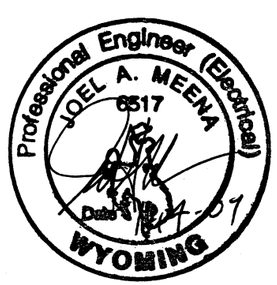
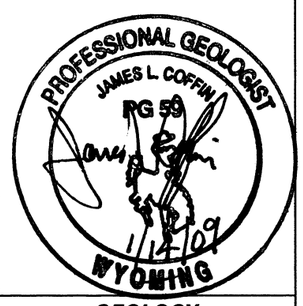
PROFESSIONAL SEALS

"AS CONSTRUCTED PLANS"

RESIDENT ENGINEER	LAND SURVEY

"DESIGN PLANS"

	
PROJECT DEVELOPMENT	PHOTOGRAMMETRY & SURVEYS

		
BRIDGE DESIGN	TRAFFIC	GEOLOGY

STATE OF WYOMING	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	0C18005	3	9

LEGEND

** UNDERGROUND UTILITIES ARE APPROXIMATE LOCATION **

SOME TOPOGRAPHIC FEATURES RESEMBLE OTHER FEATURES OR USE THE SAME SYMBOLOGY. THAT SYMBOLOGY SHOULD NOT BE RELIED UPON SOLELY, BUT TAKEN IN CONTEXT WITH SURROUNDING FEATURES AND VERIFIED IN THE FIELD.

SURVEY CONTROL FEATURES

- AUXILIARY CONTROL
- CENTER OF ROADWAY POINT
- ENGINEERING MARKER
- FLIGHT LINE TARGET
- HIGHWAY MONUMENT
- PERMANENT BENCHMARK
- PHOTO CENTER (111 — 222)
- PICKED POINT
- PROJECT CONTROL POINT
- PROPERTY CORNER
- TEMPORARY BENCHMARK
- TEMPORARY CONTROL
- USPLSS CORNER
- WING POINT

TRAVELED WAY FEATURES

- BRIDGE PIER
- BRIDGE RAIL
- CATTLE GUARD
- CONCRETE BARRIER
- CURB
- EDGE OF TRAVELED WAY
- GUARDRAIL
- CABLE GUARDRAIL
- MAIL BOX
- RAILROAD
- REFERENCE MARKER
- RETAINING WALL
- SURFACED ROAD
- TRAIL
- UNSURFACED ROADS

SPECIAL TOPOGRAPHIC FEATURES

- BRUSH
- BUSH
- CULTIVATED FIELD
- MARSH
- MARSH BOUNDARY
- ROCK OUTCROPPING
- SINGLE TREE
- TREE LINE

SIGN FEATURES

- BILLBOARD
- MAJOR SIGN
- MEMORIAL MARKER
- SMALL SIGN
- STRUCTURAL SIGN

IRRIGATION & DRAINAGE FEATURES

- CHANNEL CHANGE (OH OH)
- DROP INLET
- EARTHEN DAM
- FLARED ENDS
- GUTTER DRAIN
- HEADGATE
- HEADWALL
- INTERMITTENT STREAM
- IRRIGATION BOX
- IRRIGATION DITCH - EXISTING
- IRRIGATION DITCH - PROPOSED
- LARGE PIPE - EXISTING
- LIVE WATER
- SMALL PIPE - EXISTING
- SPRINKLER HEAD
- RIPRAP
- WASTE DITCH - EXISTING
- WASTE DITCH - PROPOSED
- WEIR
- WINGWALL

MISCELLANEOUS FEATURES

- BEE HIVE
- BUILDING
- FOUNDATION
- GAS PUMP
- GRAVE
- PARKING BLOCK
- PROPANE TANK
- STOCK TANK
- STORAGE TANK
- WINDMILL

CONSTRUCTION LIMITS

- CUT
- FILL
- TRANSITION

UTILITY FEATURES

- FIRE HYDRANT
- GAS & OIL VALVE
- GUY ANCHORS
- MANHOLES
- OH COMB POWER/TELE POLE
- OH FIBER OPTIC LINE (FOW)
- OH POWER LINE (OPW)
- OH POWER POLE
- OH TELEPHONE LINE (OTW)
- OH TELEPHONE POLE
- OH UNDEFINED UTILITY POLE
- POLE
- SANITARY SEWER LIFT STATION
- SANITARY SEWER LINE (SA)
- STOP LIGHT
- STORM SEWER LINE (ST)
- STREET LIGHT
- TELEPHONE BOOTH
- TRANSMISSION TOWER
- UG FIBER OPTIC LINE (FO)
- UG GAS (G)
- UG OIL (O)
- UG POWER LINE (P)
- UG TELEPHONE LINE (T)
- UG TELEVISION LINE (TV)
- UG UNDEFINED UTILITY
- WATER LINE (W)
- WATER METER BOX
- WATER SPIGOT
- WATER VALVE
- WELL

R.O.W. BOUNDARY AND LAND LINE FEATURES (1)

- CITY LIMITS (CITY)
- CONTINUOUS LAND OWNERSHIP
- CORPORATE LIMIT (CL)
- CORRIDOR LIMIT LINE (COR)
- COUNTY LINE
- EASEMENT LINE (EL)
- GOVERNMENT SURV. TRACT LINE (TR)
- HIGHWAY R/W LINE - EXISTING
- HIGHWAY R/W LINE - PROPOSED
- LOT LINE (L/L)
- NON R/W ACCESS CONTROL LINE
- NON R/W NO ACCESS LINE

R.O.W. BOUNDARY AND LAND LINE FEATURES CONT'D (1)

- PROPERTY LINE (P/L)
- QUARTER SECTION LINE
- 1/4 & 1/16 CORNER (1 | 6)
- RAILROAD R/ W LINE - EXISTING
- RESERVATION, PARK OR FOREST
- R/W ACCESS CONTROL LINE - EXISTING
- R/W ACCESS CONTROL LINE - PROPOSED
- R/W NO ACCESS LINE - EXISTING
- R/W NO ACCESS LINE - PROPOSED
- SECTION CORNER (1 | 6 / 31 | 36)
- 1/16 & CENTER SECTION
- SIXTEENTH SECTION LINE
- STATE LINE
- SUB DIVISION BOUNDARY LINE (SD)
- TOWNSHIP, RANGE OR SECTION LINE
- URBAN LIMIT (UL)

FENCING FEATURES (1)

- BARBED WIRE FENCE - EXISTING
- BARBED WIRE FENCE - PROPOSED
- BLOCK FENCE - EXISTING
- BUCK & POLE FENCE - PROPOSED
- CEDAR FENCE - PROPOSED
- DEER FENCE - PROPOSED
- GATE
- INDUSTRIAL FENCE - EXISTING
- INDUSTRIAL FENCE - PROPOSED
- OTHER FENCE - EXISTING
- SNOW FENCE - EXISTING (SF)
- SNOW FENCE - PROPOSED (SF)
- SPECIAL FENCE - PROPOSED

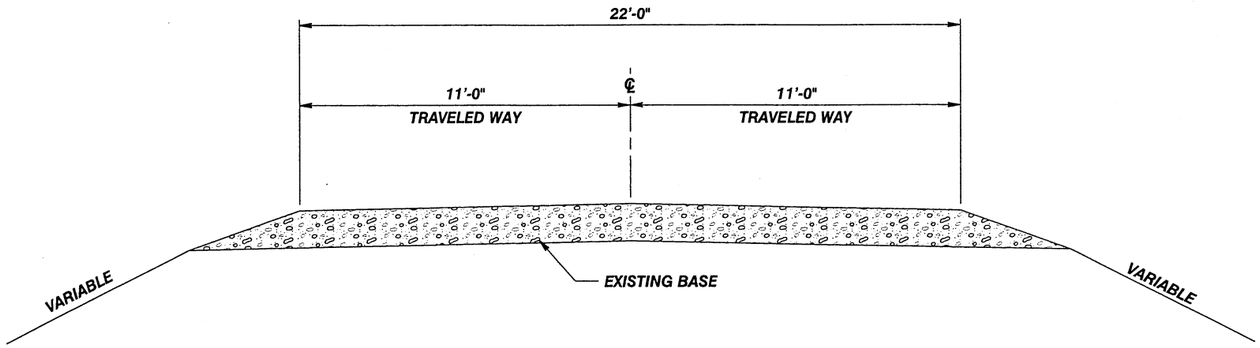
★ *FENCE TYPE DESIGNATED BY LETTER T through Z INSIDE BOX.*

- TEMPORARY FENCE (TF)
- WING FENCE - PROPOSED (WF)
- WOOD FENCE - EXISTING
- WOVEN WIRE FENCE - EXISTING
- WOVEN WIRE FENCE - PROPOSED
- WW/BW FENCE - EXISTING

(1) *A FENCING FEATURE MAY BE INTEGRATED WITH A R.O.W. BOUNDARY FEATURE TO PRODUCE A COMBINATION FEATURE IN THE PLANS.*

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	T1	T1

EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

TABLE OF WIDTHS

STATION TO STATION	A	B	C
110+00 - 113+00	29'-0"	22'-0"	0'-0"
113+00 - 113+30	VARIES	VARIES	VARIES
113+30 - 114+07	33'-0"	26'0"	2'-0"
114+07 - 114+97	BRIDGE		
114+97 - 115+75	33'-0"	26'-0"	2'-0"
115+75 - 116+05	VARIES	VARIES	VARIES
116+05 - 118+00	29'-0"	22'-0"	0'-0"

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	S1	S4

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY STRUCTURE CODE 11
109.04000	FORCE ACCOUNT WORK	$$	$2000
109.08000	MOBILIZATION	LS	LUMP SUM
201.03200	CLEARING AND GRUBBING	LS	LUMP SUM
202.03140	REMOVAL OF CATTLE GUARDS	EA	1
202.03165	REMOVAL OF GUARDRAIL AND BARRIER	FT	80
202.03205	REMOVAL OF FENCE	FT	1520
202.03220	REMOVAL OF TIMBER BRIDGES	EA	1
203.02400	MUCK EXCAVATION	CY	420
203.02500	UNCLASSIFIED EXCAVATION	CY	2490
207.03100	TOPSOIL STORING	CY	650
207.03200	TOPSOIL PLACING	CY	650
209.01000	WATER	MG	100
210.03300	MOTOR GRADER	HR	15
210.03710	BACKHOE	HR	15
212.02100	DRY EXCAVATION	CY	100
212.03900	PERVIOUS BACKFILL MATERIAL	CY	30
215.01000	CONTRACTOR STORM WATER CONTROL	LS	LUMP SUM
216.03100	SEEDING (PLS)	LB	35
216.03120	FERTILIZER TYPE I	LB	65
216.03900	DRY MULCH	TON	3
217.01010	GEOTEXTILE, EROSION CONTROL	SY	515
217.01025	GEOTEXTILE, MATERIAL SEPARATION (NON-WOVEN)	SY	157
301.01085	CRUSHED BASE	CY	410
501.01000	STRUCTURAL STEEL	LS	LUMP SUM
502.01000	PRECAST CONCRETE MEMBERS	LS	LUMP SUM
502.50047	PRESTRESSED PRECAST CONC BULB T 47 in	FT	340
503.01000	BRIDGE RAILING	FT	170
504.04010	PILE SPLICES	EA	1
504.11253	STEEL PILING HP 12 X 53	FT	480
511.02000	GABIONS	SY	515
511.06000	MACHINE-PLACED RIPRAP	CY	335
605.10006	UNDERDRAIN PIPE (PERF) 6 in	FT	60
605.20006	UNDERDRAIN PIPE (NON-PERF) 6 in	FT	50
606.01000	CORR BEAM GUARDRAIL	FT	150
606.02020	CORR BEAM GUARDRAIL END ANCH TYPE A	EA	4
607.30700	FENCE TYPE G (METAL POSTS)	FT	860
607.30800	FENCE TYPE H (METAL POSTS)	FT	605
607.51000	FENCE-WING (METAL POSTS)	FT	60
607.51100	FENCE TEMPORARY	FT	1900
607.80100	BRACE PANELS	EA	2
607.90100	END PANELS	EA	24
615.01024	CATTLE GUARD (HEAVY DUTY) 24 ft	EA	1
703.01000	CATEGORY I TCD UNITS	EA	1500

LENGTH OF PROJECT SUMMARY

LOCATION		FT ROADWAY	FT STRUCTURE
110+00	BEGIN PROJECT 0C18005		
		407	
114+07			
	BRIDGE OVER INYAN KARA CREEK		90
114+97			
		303	
118+00	END PROJECT 0C18005		
SUB-TOTAL		**710**	**90**
TOTAL		**800**	
		MI	
SUB-TOTAL		**0.134**	**0.017**
TOTAL		**0.151**	

GENERAL NOTES

FUNCTIONAL CLASSIFICATION = LOCAL RURAL
MINIMUM DESIGN SPEED = 30 MPH
CLEAR ZONE = 10 FT

TRAFFIC DATA

ADT (2004) = 60

MISCELLANEOUS SUMMARY

ITEM	UNIT	TOTAL AND FOR ESTIMATE
FORCE ACCOUNT WORK	$$	**$2000**
MOBILIZATION	LS	**LUMP SUM**
CLEARING AND GRUBBING (1)	LS	**LUMP SUM**
CONTRACTOR STORM WATER CONTROL	LS	**LUMP SUM**
CATEGORY I TCD UNITS	EA	**1500**

(1) APPX. 5 TREES, 4 IN - 16 IN DIAMETER.

EQUIPMENT SUMMARY

LOCATION	HR MOTOR GRADER	HR BACKHOE
THROUGHOUT PROJECT	15	15
TOTAL AND FOR ESTIMATE	**15**	**15**

FOR BLENDING ROADWAY SLOPES AND OTHER UNFORSEEN WORK.

WATER ACCUMULATION SUMMARY

ITEM/DESCRIPTION	MG WATER
CRUSHED BASE	16
EMBANKMENT COMPACTION	76
TOPSOIL PLACING	3
TOTAL	**95**
FOR ESTIMATE	**100**

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	S2	S4

MATERIALS AND RATES SUMMARY

RATES AND WIDTH OF APPLICATION AS SHOWN BELOW OR AS DIRECTED.
RATES AND WEIGHTS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO ADJUSTMENT DURING CONSTRUCTION.

ITEM	GRADE	ESTIMATED RATE	REMARKS
EXCAVATION AND EMBANKMENT			
EMBANKMENT		30 GAL/CY EMB. COMPACTION	AVAILABLE MATERIAL SOURCE: WITHIN R/W & BORROW
WATER		5 GAL/CY FOR DUST CONTROL	
TOTAL:		35 GAL/CY	
CRUSHED BASE			
AGGREGATE	GR	142.0 LB/CF DRY	AVAILABLE MATERIAL SOURCE: CONTRACTOR FURNISHED
WATER (OPTIMUM MOISTURE)		8.5 LB/CF (6.0% OF 142.0)	
CRUSHED BASE		150.5 LB/CF (COMPACTED)	ENSURE THAT THE SUM OF THE PERCENT PASSING THE NO. 200 SIEVE PLUS THE PLASTICITY INDEX IS NOT LESS THAN 10.0 OR GREATER THAN 20.0 FOR THE CRUSHED BASE AGGREGATE.
WATER (OPTIMUM MOISTURE)		27.5 GAL/CY	
WATER (FOR FINISHING)		10.0 GAL/CY	
WATER (TOTAL)		37.5 GAL/CY	
TOPSOIL			
TOPSOIL		4 IN±	SALVAGE AND REPLACE.
WATER		5 GAL/CY	WATER FOR DUST CONTROL AND EASE OF HANDLING.
SEEDING			
RIGHT-OF-WAY & BORROW:			SEED TO BE DRILLED TO A DEPTH OF ½ IN TO ¼ IN. IN AREAS INACCESSIBLE, BROADCAST THE SEED AT 1.5X THE GIVEN RATE, CHAIN-DRAG OR HARROW TO COVER.
ROSANA WESTERN WHEATGRASS		5.0 LB PLS/ACRE	
PRYOR SLENDER WHEATGRASS		3.5 LB PLS/ACRE	
LODORM GREEN NEEDLEGRASS		2.0 LB PLS/ACRE	
REUBEN'S CANADA BLUEGRASS		1.0 LB PLS/ACRE	
V.N.S. ALKALI SACATON		0.5 LB PLS/ACRE	
MONARCH CICER MILVETCH (Inoculate @ 2X Labeled Rate)		3.0 LB PLS/ACRE	INOCULATE LEGUME (milkvetch) WITH N-FIX BACTERIA PRIOR TO SEEDING.
TOTAL SEED:		15.0 LB PLS/ACRE	
FERTILIZER	TYPE I	30.0 LB AVAILABLE NITROGEN/ACRE	
DRY MULCH		1.5 TON/ACRE	SLOPES 1:3 AND FLATTER

WATER SOURCE: INYAN KARA CREEK, AGMT. NO. 57335

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	S3	S4

GRADING SUMMARY

LOCATION	CY				SHRINK FACTOR	CY	CYMI	MG
	UNCLASSIFIED EXCAVATION					EMBANKMENT COMPACTION	HAUL	WATER
	OBTAINED FROM ROADWAY	OBTAINED FROM BORROW	TOTAL UNCLASSIFIED EXCAVATION	USED FOR ROADWAY		USED FOR ROADWAY		
BORROW AREA (1)		2291	2291					
LENGTH OF PROJECT	192		192	2483	1.15	2159	199	76
TOTAL	**192**	**2291**	**2483**	**2483**		**2159**	**199**	**76**
FOR ESTIMATE			**2490**				**(E)**	**(W)**

AVERAGE HAUL = 0.08 MILES
(1) LOCATION: FROM STA 109+70 RT TO STA 112+25 RT.
(E) FOR ESTIMATING PURPOSES ONLY.
(W) SEE WATER ACCUMULATION SUMMARY.

CRUSHED BASE SUMMARY

STATION	FT	CY/FT	CY	MG	REMARKS
	DISTANCE	CRUSHED BASE		WATER	
110+00					
	300	0.551	165	6	
113+00					
	30	0.594	18	1	TRANSITION
113+30					
	77	0.637	49	2	
114+07					
	90				BRIDGE OVER INYAN KARA CREEK
114+97					
	78	0.637	50	2	
115+75					
	30	0.594	18	1	TRANSITION
116+05					
	195	0.551	107	4	
118+00					
TOTAL			**407**	**16**	
FOR ESTIMATE			**410**	**(W)**	

(W) SEE WATER ACCUMULATION SUMMARY.

TOPSOIL AND SEEDING SUMMARY

STATION	ACRES	CY		LB		TON	MG
		TOPSOIL STORING	TOPSOIL PLACING	SEEDING (PLS)	FERTILIZER TYPE I	DRY MULCH	WATER
110+00 - 114+07	1.44	471	471	22	43	2.2	2
114+97 - 118+00	0.54	177	177	8	16	0.8	1
TOTAL	**1.98**	**648**	**648**	**30**	**59**	**3.0**	**3**
FOR ESTIMATE		**650**	**650**	**35**	**65**	**3**	**(W)**

(W) SEE WATER ACCUMULATION SUMMARY.

GUARDRAIL SUMMARY

LOCATION	FT		EA
	REMOVAL OF GUARDRAIL AND BARRIER	CORR BEAM GUARDRAIL	CORR BEAM GUARDRAIL END ANCH TYPE A
SW QUADRANT	20	50	1
NW QUADRANT	20	25	1
SE QUADRANT	20	25	1
NE QUADRANT	20	50	1
TOTAL AND FOR ESTIMATE	**80**	**150**	**4**

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	S4	S4

STRUCTURE SUMMARY

ITEM	UNIT	LOCATION CODE 11 -DXH BRIDGE OVER INYAN KARA CREEK STA 114+49.50 DRWG. NO. 7297	TOTAL AND FOR ESTIMATE	FOR BIDDING PURPOSES ONLY
REMOVAL OF TIMBER BRIDGES	EA	1	**1**	
DRY EXCAVATION	CY	100	**100**	
PERVIOUS BACKFILL MATERIAL	CY	30	**30**	
GEOTEXTILE, EROSION CONTROL	SY	515	**515**	
GEOTEXTILE, MATERIAL SEPARATION (NON-WOVEN)	SY	157	**157**	
STRUCTURAL STEEL	LS	LUMP SUM	**LUMP SUM**	3800 LB
PRECAST CONCRETE MEMBERS	LS	LUMP SUM	**LUMP SUM**	28.6 CY
PRESTRESSED PRECAST CONC BULB T 47 in	FT	340	**340**	
BRIDGE RAILING	FT	170	**170**	
PILE SPLICES	EA	1	**1**	
STEEL PILING HP 12 X 53	FT	480	**480**	
GABIONS	SY	515	**515**	
UNDERDRAIN PIPE (PERF) 6 in	FT	60	**60**	
UNDERDRAIN PIPE (NON-PERF) 6 in	FT	50	**50**	

RIPRAP SUMMARY

ITEM	UNIT	TOTAL	FOR ESTIMATE
MUCK EXCAVATION	CY	**420**	**420**
MACHINE-PLACED RIPRAP	CY	**335**	**335**

LOCATED BETWEEN STA 112+50 RT AND STA 113+75 RT.

FENCE & CATTLEGUARD SUMMARY

LOCATION	FT										EA			
	REMOVAL OF FENCE		FENCE TYPE G (METAL POSTS)		FENCE TYPE H (METAL POSTS)		FENCE-WING (METAL POSTS)		FENCE TEMPORARY		REMOVAL OF CATTLE GUARDS	BRACE PANELS	END PANELS	CATTLE GUARD (HEAVY DUTY) 24 ft
	RT	LT	RT	LT	RT	LT	RT	LT	RT	LT				
THROUGHOUT PROJECT	670	850	104	754	546	56			1100	800		2	12	
TIE TO BRIDGE							20	40					12	
113+00											1			1
TOTAL	**1520**		**858**		**602**		**60**		**1900**		**1**	**2**	**24**	**1**
FOR ESTIMATE	**1520**		**860**		**605**		**60**		**1900**		**1**	**2**	**24**	**1**

APPROXIMATELY 6 WIRE GATES TO BE CONSTRUCTED.
PRESERVE OR RESET THE NEWLY INSTALLED R/W MARKERS LOCATED ALONG THE SOUTH SIDE OF THE PROJECT, RESET IS INCIDENTAL TO THE FENCE ITEMS.

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	4	9

BEGIN PROJECT
0C18005
STA 110+00.00
N 1418195.8713
E 782911.0224

PI STA. 109+60.99
N = 1,418,162.9364
E = 782,880.8618
D = 6° 21' 58.3"
Δ = 21° 48' 30.6" (LT)
T = 173.38'
L = 342.57'
R = 900.00'
e = 0.039 FT/FT
S = 105'
C = 36'
DESIGN SPEED = 30 M.P.H.

PI STA. 113+96.87
N = 1,418,417.6733
E = 783,239.7191
D = 2° 17' 30.6"
Δ = 6° 37' 56.4" (LT)
T = 144.86'
L = 289.39'
R = 2,500.00'
e = RC
S = 55'
C = 55'
DESIGN SPEED = 30 M.P.H.

T 51 N, R 65 W
SECTION 20

MYRTLE M. PROCTOR, REV. TRUST
(FRANK PROCTOR, TRUSTEE)

10' CONSTRUCTION PERMIT
20' CONSTRUCTION PERMIT
110' CONSTRUCTION PERMIT
65' CONSTRUCTION PERMIT

N 54° 37' 50.7" E
N 47° 59' 54.3" E

S 28°58'24.4" E 1963.68 FT FROM STA 110+00.00 TO SE CORNER SEC 20

BORROW = 2291 CY ±

MACHINE-PLACED RIPRAP

FENCE TEMPORARY (TYP)
FENCE TYPE H (METAL POSTS) (REMOVE AND REPLACE)
FENCE TYPE G (METAL POSTS) (REMOVE AND REPLACE)
FENCE-WING (METAL POSTS) (TYP)

WATERS OF THE US
TYPE 2 WET MEADOW
5BW/STE

"Coordinates are based on the Wyoming Coordinate System NAD 83/93, WY EAST Zone, and have been multiplied by a project factor of: 1.000238877. Labeled plan data (coordinates, curve data, bearings, distances, and stationing) exceed survey accuracy. Existing land lines, property lines and easement lines not surveyed or tied to the alignment should be considered approximate. The vertical datum is NAVD 88."

VPI 110+00.00
ELEV. 4,110.70
NO V.C.

-4.4456%

VPI 112+35.00
ELEV. 4,100.25'
V.C. 235.00'
K = 37

+1.8404%

VPI 113+82.00
ELEV. 4,102.96'
V.C. 50.00'
K = 22

-0.4451%

SIMPLE PRESTRESSED PRECAST CONCRETE BULB TEE GIRDER SPAN BRIDGE

VPI 115+22.00
ELEV. 4,102.33'
V.C. 50.00'
K = 20

-2.9099%

CATTLE GUARD (HEAVY DUTY) 24 ft

+07 B.E.
+49.50 ℄
+97 B.E.

4120
4116
4112
4108
4104
4100
4096
4092
4088
4084
4080

109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	5	9

N 1419119.1380
E 783844.4237

NESE

MYRTLE M. PROCTOR, REV. TRUST
(FRANK PROCTOR, TRUSTEE)

NWSW

118+00 | 119+00 | 120+00 | 121+00 | 122+00 | 123+00 | 117+00 | +25

PI 118+48.39

N 34°17'15.7" E
531.07 FT FROM
STA 118+00.00 TO
E 1/4 SEC 20

N 00°23'11" W
363.36 FT FROM STA 121+13.62
TO E ¼ SEC 20 / W ¼ SEC 21
2 ½" B.L.M. BRASS CAP

10' CONSTRUCTION PERMIT

PT 119+79.62

N 82° 29' 47.0" E

POT 123+37.12

N 47° 59' 54.3" E
66.00'
20.00'

MYRTLE M. PROCTOR, REV. TRUST
(FRANK PROCTOR, TRUSTEE)

+73 | +00

PC 117+08.67

20' CONSTRUCTION PERMIT

PI STA. 118+48.39
N = 1,418,720.0245
E = 783,575.4954
D = 12° 43' 56.6"
Δ = 34° 29' 52.7" (RT)
T = 139.72'
L = 270.95'
R = 450.00'
e = 0.053 FT/FT
S = 145'
C = 55'
DESIGN SPEED = 30 M.P.H.

END PROJECT
0C18005
STA 118+00.00
N 1418680.3603
E 783545.2481

T 51 N, R 65 W
SECTION 20

2277.86 FT FROM STA 121+13.62
TO SEC. COR. 29-20/28-21
2 1/2" B.L.M. BRASS CAP

N 1416477.9633
E 783862.2385

T 51 N, R 65 W
SECTION 21

"Coordinates are based on the Wyoming Coordinate System NAD 83/93, WY EAST Zone, and have been multiplied by a project factor of: 1.000238877. Labeled plan data (coordinates, curve data, bearings, distances, and stationing) exceed survey accuracy. Existing land lines, property lines and easement lines not surveyed or tied to the alignment should be considered approximate. The vertical datum is NAVD 88."

4120 | 4116 | 4112 | 4108 | 4104 | 4100 | 4096 | 4092 | 4088 | 4084 | 4080

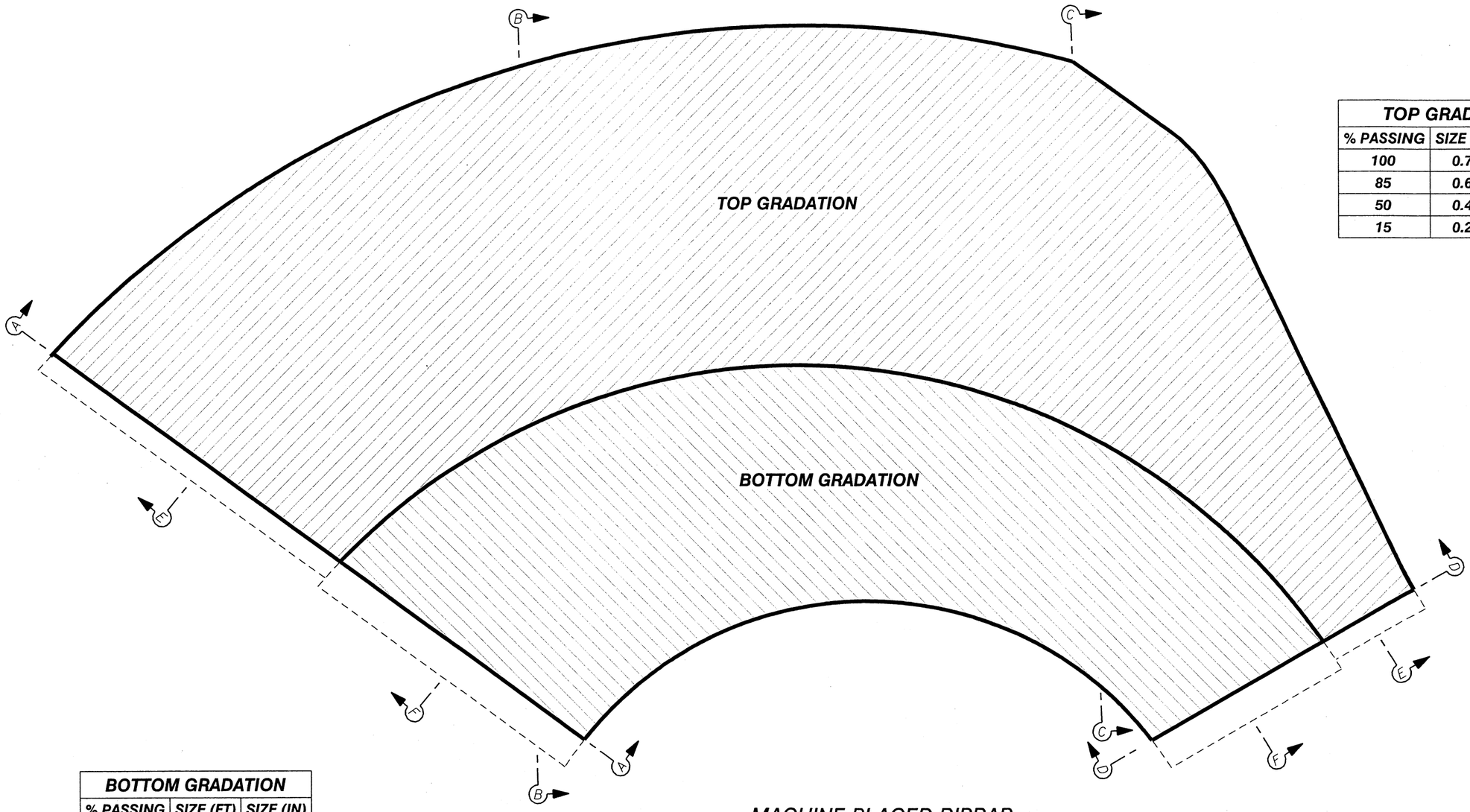
VPI 116+85.00
ELEV. 4,097.59'
V.C. 200.00'
K = 39

+2.1945%

VPI 118+00.00
ELEV. 4,100.11
NO V.C.

117+00 | 118+00 | 119+00 | 120+00 | 121+00 | 122+00 | 123+00

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	6	9



TOP GRADATION		
% PASSING	SIZE (FT)	SIZE (IN)
100	0.78	9.4
85	0.64	7.6
50	0.49	5.6
15	0.25	2.9

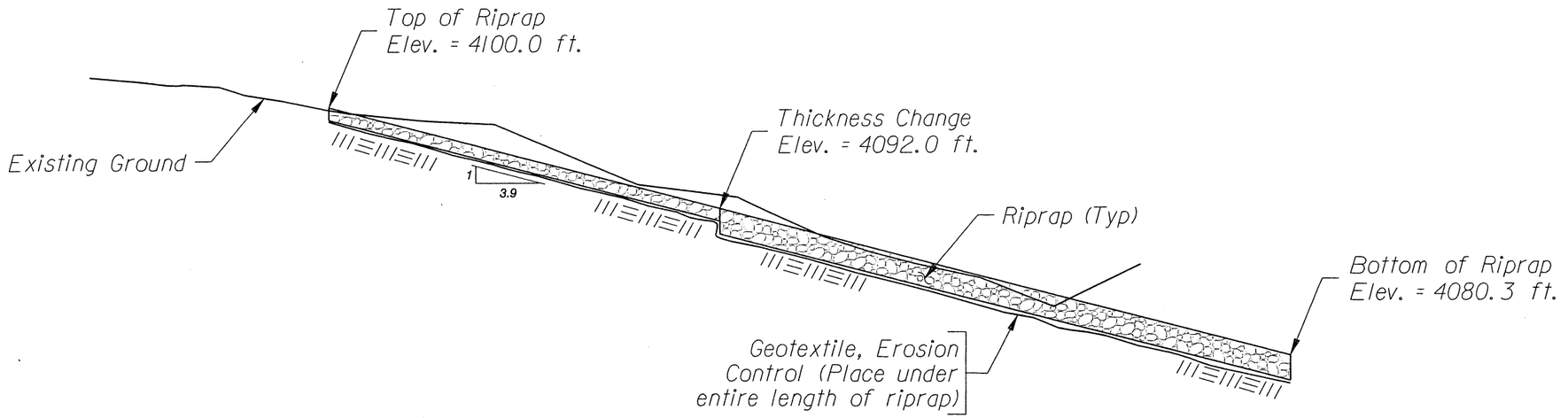
BOTTOM GRADATION		
% PASSING	SIZE (FT)	SIZE (IN)
100	1.70	21.0
85	1.40	17.0
50	1.10	13.0
15	0.55	6.6

MACHINE-PLACED RIPRAP

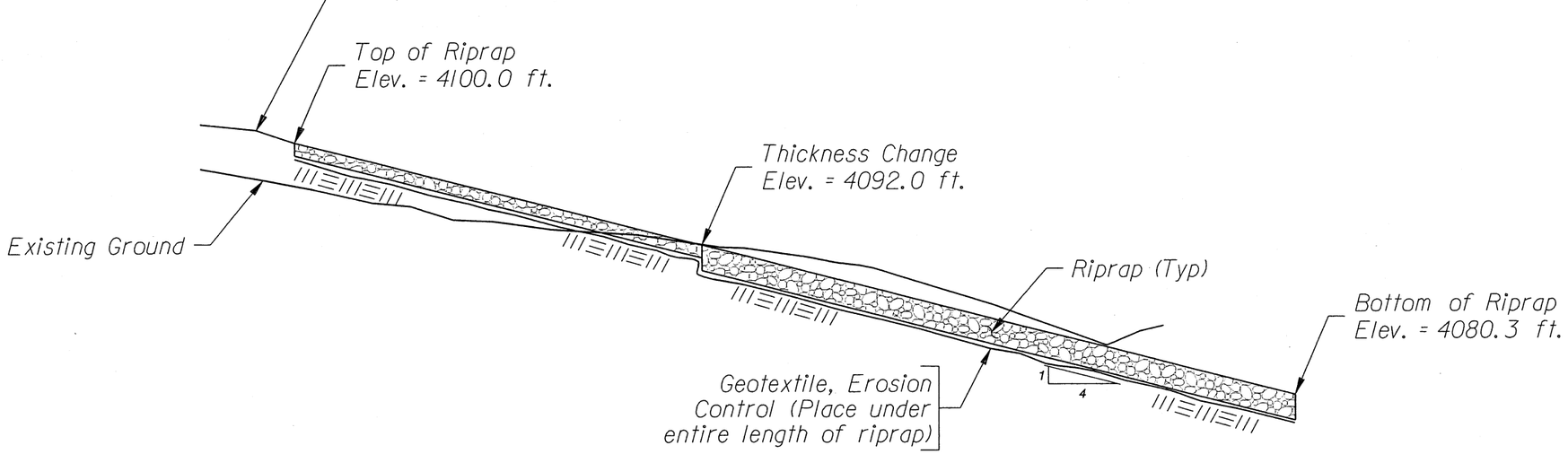
PLAN VIEW
(RIPRAP LOCATED BETWEEN
STA 112+50 RT AND STA 113+75 RT)

INYAN KARA CREEK
MACHINE- PLACED RIPRAP
DETAIL SHEET 1 OF 3

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	7	9



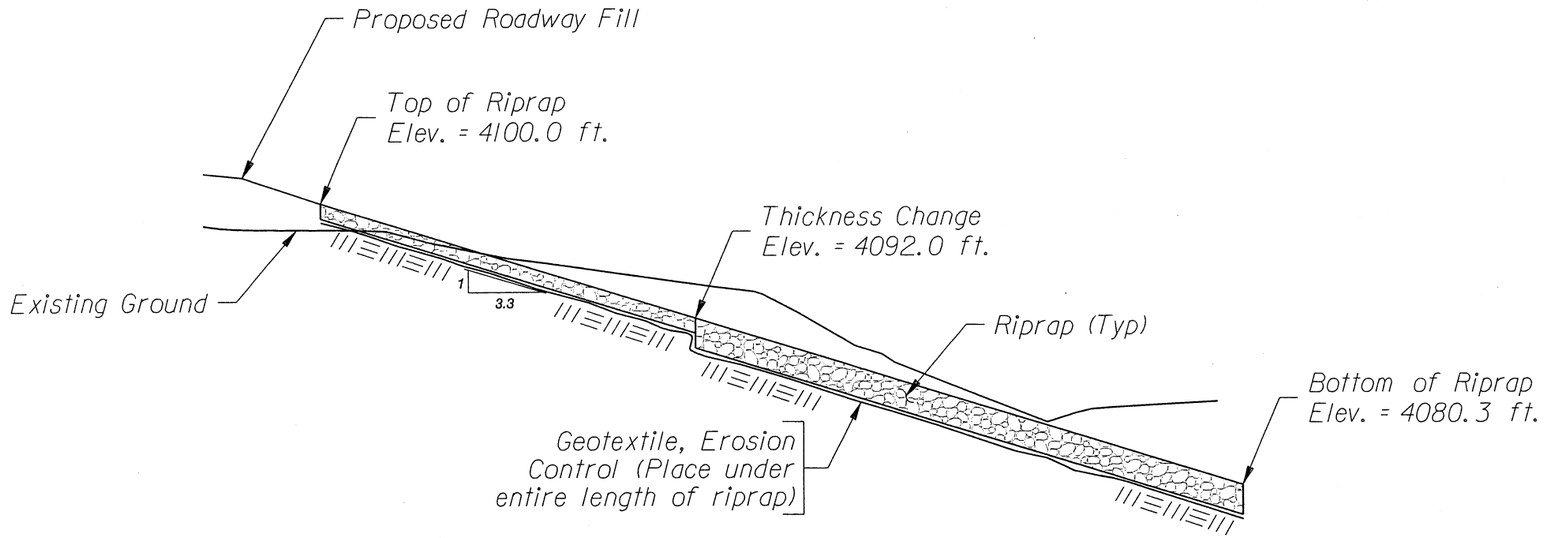
SECTION A-A
(Inlet)



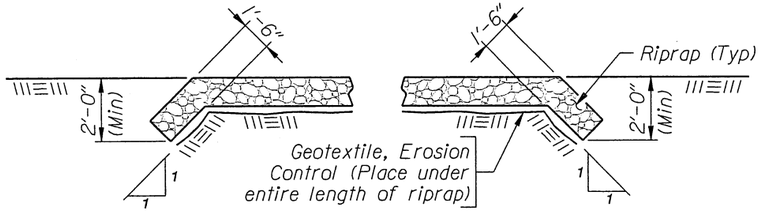
SECTION B-B
(XS 113+00)

INYAN KARA CREEK
MACHINE-PLACED RIPRAP
DETAIL SHEET 2 OF 3

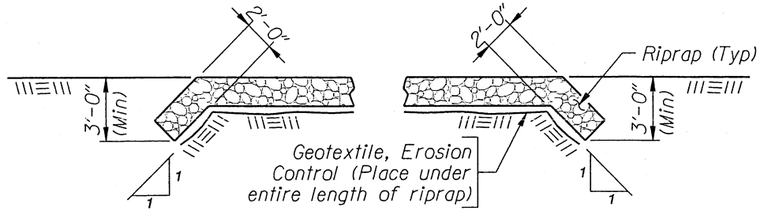
STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	8	9



SECTION C-C
(XS 113+50)



SECTION E-E



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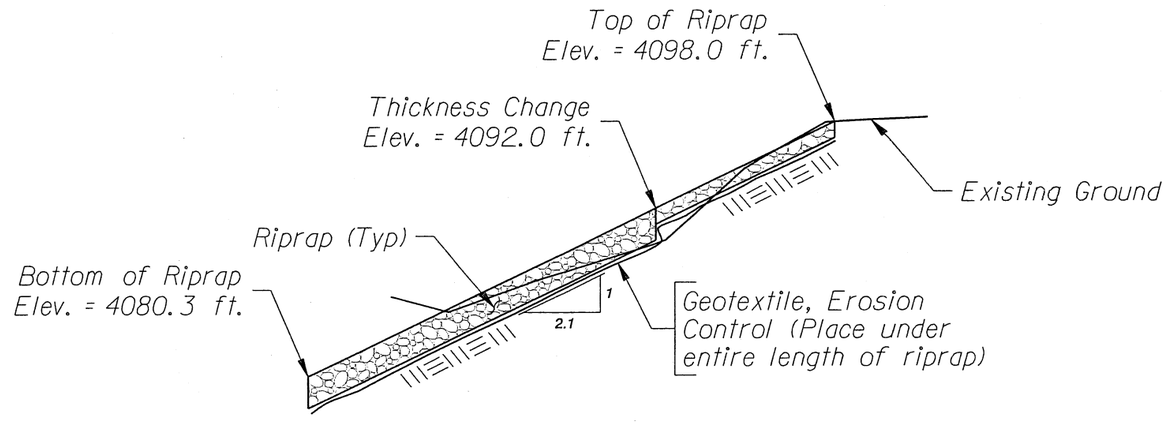
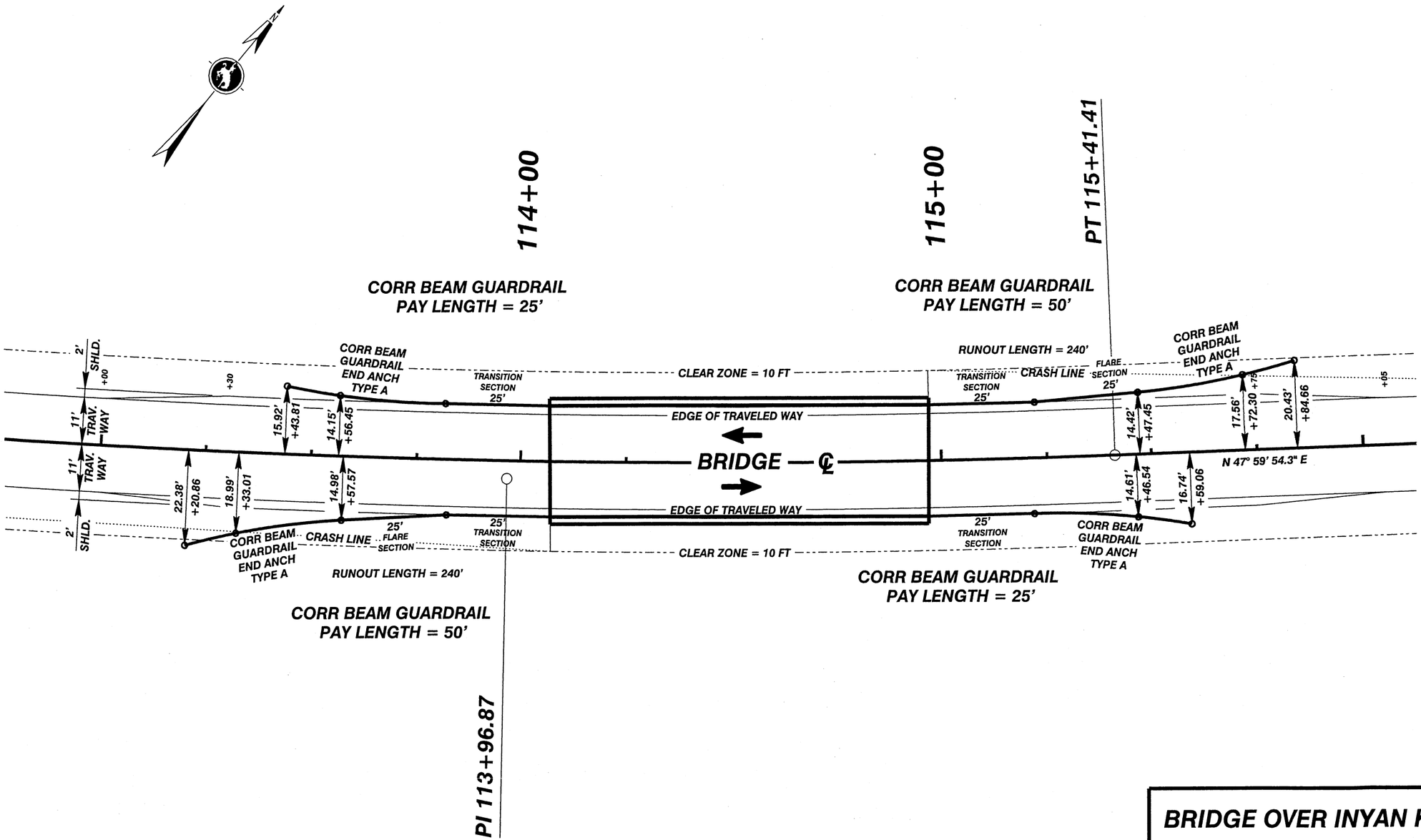


SECTION D-D
(Outlet)

INYAN KARA CREEK
MACHINE-PLACED RIPRAP
DETAIL SHEET 3 OF 3

STATE OF WYOMING	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	0C18005	9	9



BRIDGE OVER INYAN KARA CREEK
CORRUGATED BEAM
GUARDRAIL LAYOUT
DETAIL SHEET

BRIDGE OVER INYAN KARA CREEK

STA 114 +49.50

CR 268

0C18005 **CROOK COUNTY**

ESTIMATED QUANTITIES - CODE II-DXH				
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE
202.03220	REMOVAL OF TIMBER BRIDGES	EA	1	
212.02100	DRY EXCAVATION	CY	100	
212.03900	PERVIOUS BACKFILL MATERIAL	CY	30	
217.01010	GEOTEXTILE, EROSION CONTROL	SY	515	
217.01025	GEOTEXTILE, MATERIAL SEPARATION (NON-WOVEN)	SY	157	
501.01000	STRUCTURAL STEEL	LS	LUMP SUM	3800 LB
502.01000	PRECAST CONCRETE MEMBERS	LS	LUMP SUM	28.6 CY
502.50047	PRESTRESSED PRECAST CONC BULB T 47 in	FT	340	
503.01000	BRIDGE RAILING	FT	170	
504.04010	PILE SPLICES	EA	1	
504.11253	STEEL PILING HP 12 X 53	FT	480	
511.02000	GABIONS	SY	515	
605.10006	UNDERDRAIN PIPE (PERF) 6 in	FT	60	
605.20006	UNDERDRAIN PIPE (NON-PERF) 6 in	FT	50	

INDEX OF DRAWINGS

DESIGN DATA

SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 4th Edition

ADT: 10 (Year 2006)

LOADING: HL93. Future wearing surface 18 psf.

STRUCTURAL STEEL: Load and Resistance Factor Design -
F_y = 50,000 psi (Grade 50W)

REINFORCED CONCRETE: Load and Resistance Factor Design -
Class B Concrete f'_c = 3250 psi
Reinforcing Steel f_y = 40,000 psi (Grade 40)
f_y = 60,000 psi (Grade 60)

PRESTRESSED CONCRETE: Load and Resistance Factor Design -
Concrete f'_c = 5000 psi
f'_{ci} = 4000 psi
Reinforcing Steel f_y = 40,000 psi (Grade 40)
f_y = 60,000 psi (Grade 60)
Prestressing Steel f_s = 270,000 psi (Grade 270)

PILE LOADS: Load and Resistance Factor Design -
Abutments, 133 T per pile

ROADWAY WIDTH: 26'-0"

Professional Engineer (Civil)
Paul D. Huck
3855
Date 1/7/09
WYOMING

STRUCTURE NO. MFC, RM 7.2
SEC 20, T51N, R65W

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM
REVISIONS

APPROVED
DATE 1/10/08
DESIGN — ✓ —
DETAIL LAC ✓ ZPG
O'S. — ✓ —
Design Section P D Huck
Drwg. No. 7297 | Sheet 1 of 16

0C18005_1ts.dgn

GENERAL NOTES

SPECIFICATIONS: WYDOT Standard Specifications for Road and Bridge Construction, 2003 Edition

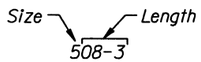
DIMENSIONS: Longitudinal dimensions for the substructure are horizontal and include no correction for grade. Longitudinal dimensions for the superstructure are along grade. Slopes are vertical : horizontal.

CONCRETE: Use class B concrete in all locations except the prestressed precast bridge sections.

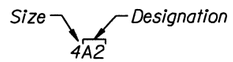
REINFORCING STEEL: Concrete cover to face of reinforcing steel is 2" unless noted. Dimensions for bent bars are out to out. Ensure bars marked with an asterisk (*) are coated.

BAR MARKS

Straight Bars



Bent Bars



STRUCTURAL STEEL: Ensure structural steel conforms to ASTM A 709 (Grade 50 W).

STEEL PILING: Use steel piling conforming to ASTM A 709 (Grade 50).

EYEBOLTS: Eyebolts are to be supplied by precast concrete fabricator. Work necessary for the eyebolts is incidental to the contract pay item Precast Concrete Members.

GABIONS: Use aggregate conforming to Subsection 803.15.6, Stone-Filled Gabions.

BRIDGE BEARING ANCHOR BOLTS: Use one of the following anchorage systems for setting anchor bolts:

Epoxy Anchoring Systems as manufactured by Covert Operations
Epcon System as manufactured by ITW Ramset/Red Head
Sure-Anchor I (J-51) as manufactured by Dayton Superior
HSE 2421 Epoxy Adhesive Anchor as manufactured by Hilti, Inc.
HIT HY 150 System as manufactured by Hilti, Inc.

Use anchor bolts compatible with the adhesive product. Prepare holes and set anchor bolts as recommended by the manufacturer. Anchor bolts may be swedge bolts or threaded rod. Ensure swedge bolts conform to ASTM A 709 (Grade 36). Ensure the swedges are produced by deforming the steel through application of pressure, and not by any method such as grinding or cutting that removes material. Ensure threaded rod conforms to ASTM F 1554, grade 36. Work necessary for the anchorage system is incidental to the contract pay item Structural Steel.

BACKER ROD: Use a closed cell polyethylene backer rod with a diameter $\frac{1}{8}$" larger than the gap width.

EXPANDED POLYSTYRENE FOAM BOARD: Use 2" expanded polystyrene foam board at each abutment conforming to ASTM C 578.

PRESTRESSED PRECAST CONCRETE GIRDERS: Low-relaxation strands conforming to ASTM A 416 (Grade 270) may be used, provided that design computations are submitted along with data regarding the properties and effects of the low-relaxation strands.

Ensure the title pages of the design computations and shop plans bear the seal and signature of a professional engineer.

CURBS: Ensure exterior precast concrete bulb tee sections include curbs with integrally cast bridge railing anchorage system.

FABRICATION AND ERECTION: Steel components cast into the precast concrete members, reinforcing steel, expanded polystyrene foam board, impermeable plastic membrane, field welding, and other incidentals necessary for fabrication and erection of the precast concrete members is incidental to the contract pay item Precast Concrete Members.

Steel components cast into the precast concrete bulb tee sections, curbs, bridge railing anchorage system, weld ties, non-shrink grout, backer rods, field welding, and other incidentals necessary for the fabrication and erection of the precast concrete bulb tee sections are incidental to the contract pay item Precast Conc Bulb T 47 in.

REMOVAL OF TIMBER BRIDGES: Remove the existing single span 31'-0" x 19'-1" timber stringer bridge, Structure No. DXH. The timber stringers will remain the property of the county. Transport the stringers to the county's shop in Sundance and stockpile the stringers as directed by the engineer. Haul distance is approximately 30 miles.

DRY EXCAVATION: The estimated quantity of dry excavation is calculated below existing ground line for the abutment installations.

CHANNEL EXCAVATION: Excavation below the existing ground line to install the channel opening between the dry excavation limits is incidental to the contract pay item Gabions.

FOUNDATIONS: Abutments are on steel piles driven to refusal in hard shale bedrock.

DRAINAGE AND FILTRATION GEOTEXTILE: Work necessary to wrap the perforated pipe at abutments with drainage and filtration geotextile is incidental to the contract pay item Underdrain Pipe (Perf) 6 in.

BRIDGE OFFICE NOTIFICATION: The engineer will notify the State Bridge Engineer in writing within 14 calendar days after the existing structure has been removed and again within 14 calendar days after the new structure has been opened to traffic.

STREAM DATA

Drainage Area	316 Sq Mi
Channel Slope	0.07% US/0.22% DS
Description of Channel Material	Silty, clayey gravel with sand
Drift Potential	Trees & brush
Ordinary High Water Elevation	4095.7 ft
Headwater Elevation Q_{25}	4099.8 ft
Q_{100}	4101.2 ft
High Water Elevation Q_{25}	4099.8 ft
Q_{100}	4101.2 ft
Constricted Velocity Q_{25}	7.8 fps
Q_{100}	10.1 fps
Design Frequency	25 Year
Design Discharge Q_{25}	3660 cfs
Review Discharge Q_{100}	5950 cfs
Source of Discharge	1988 Mixed Pop.
Method of Analysis	HEC-RAS
Flood History	Unknown

REFERENCES

Special Provisions:

		Dated
SP-500ES	Rail Post Correction	12-22-08

Supplementary Specifications:

		Dated
SS-100K	Adjustment For Structural Steel	8-14-08
SS-500B	Welder Qualification	Rev 12-7-04
SS-500E	Bridge Bearing Correction	Rev 7-9-04

Standard Plans:

511-1	Wire Enclosed Riprap and Gabions

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

GENERAL NOTES

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

OCI8005 Cr

APPROVED Gregg Seyfarth DATE 1/10/09

DESIGN ___ ✓ ___
DETAIL LAC ✓ ZPG
Q's. ___ ✓ ___

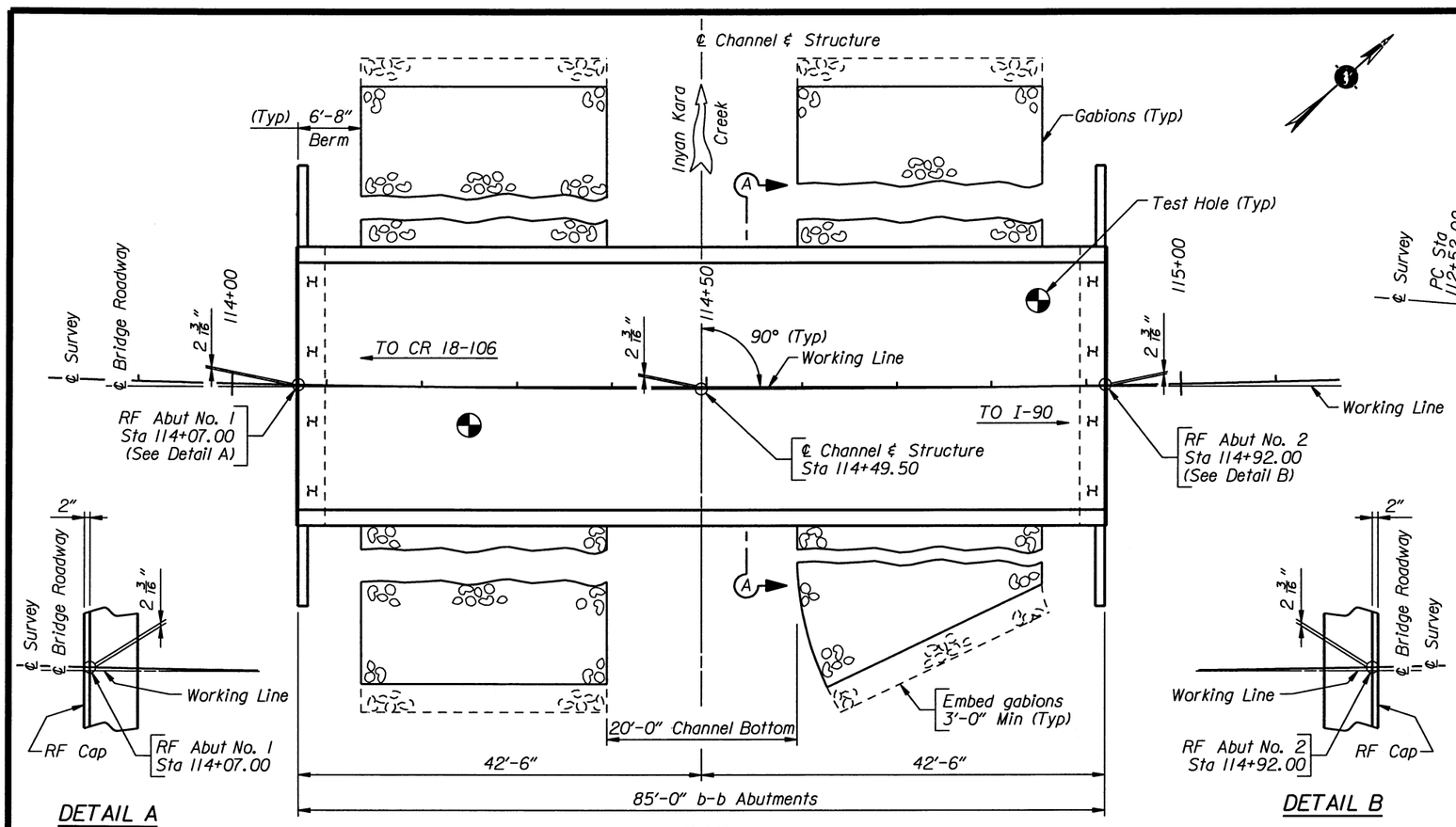
Design Section P D Huck

Drwg. No. 7297 | Sheet 2 of 16

OC18005_1gn.dgn

Wyo. Proj. 0CI8005

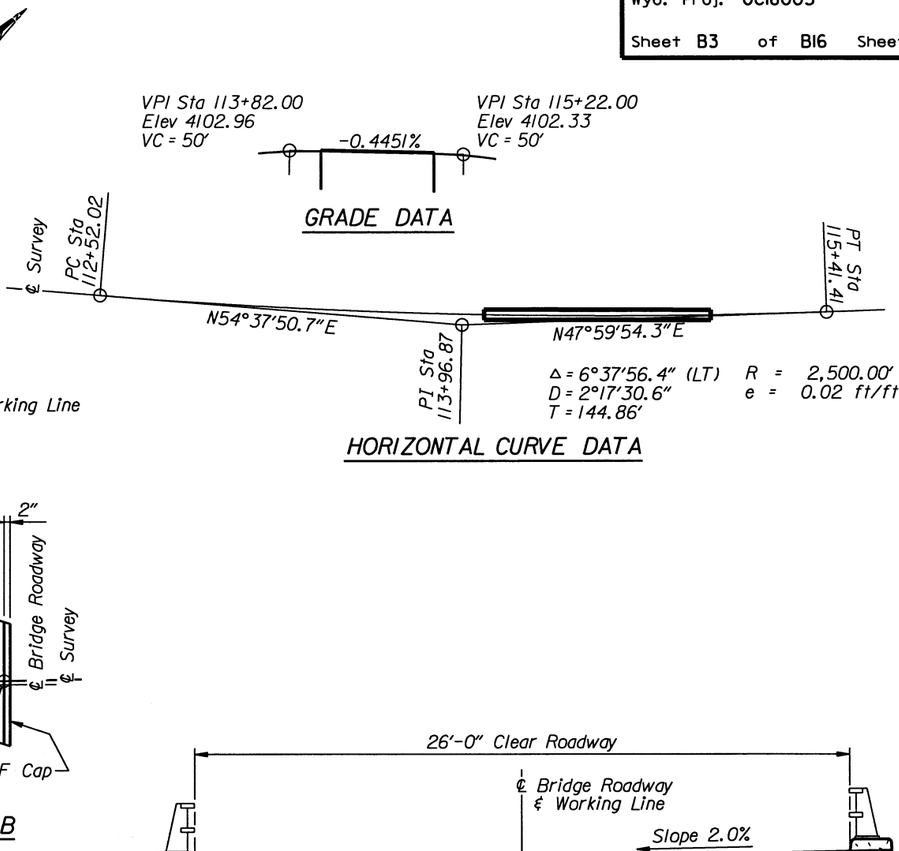
Sheet B3 of BI6 Sheets



PLAN

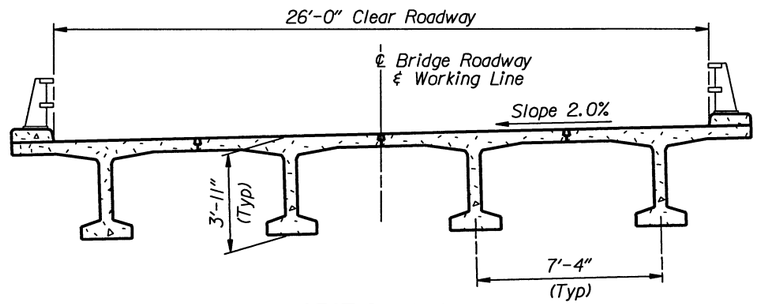
DETAIL A

DETAIL B



ELEVATION

(Simple Prestressed Precast Concrete Bulb Tee Girder Span)



SECTION A-A

Note: 1) Elevations shown as 4102.85 indicate finished grade at rear face abutment on ℄ Bridge Roadway.
2) Berm slopes are 1:2±, measured perpendicular to ℄ Channel.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

GENERAL PLAN & ELEVATION

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0CI8005 Cr

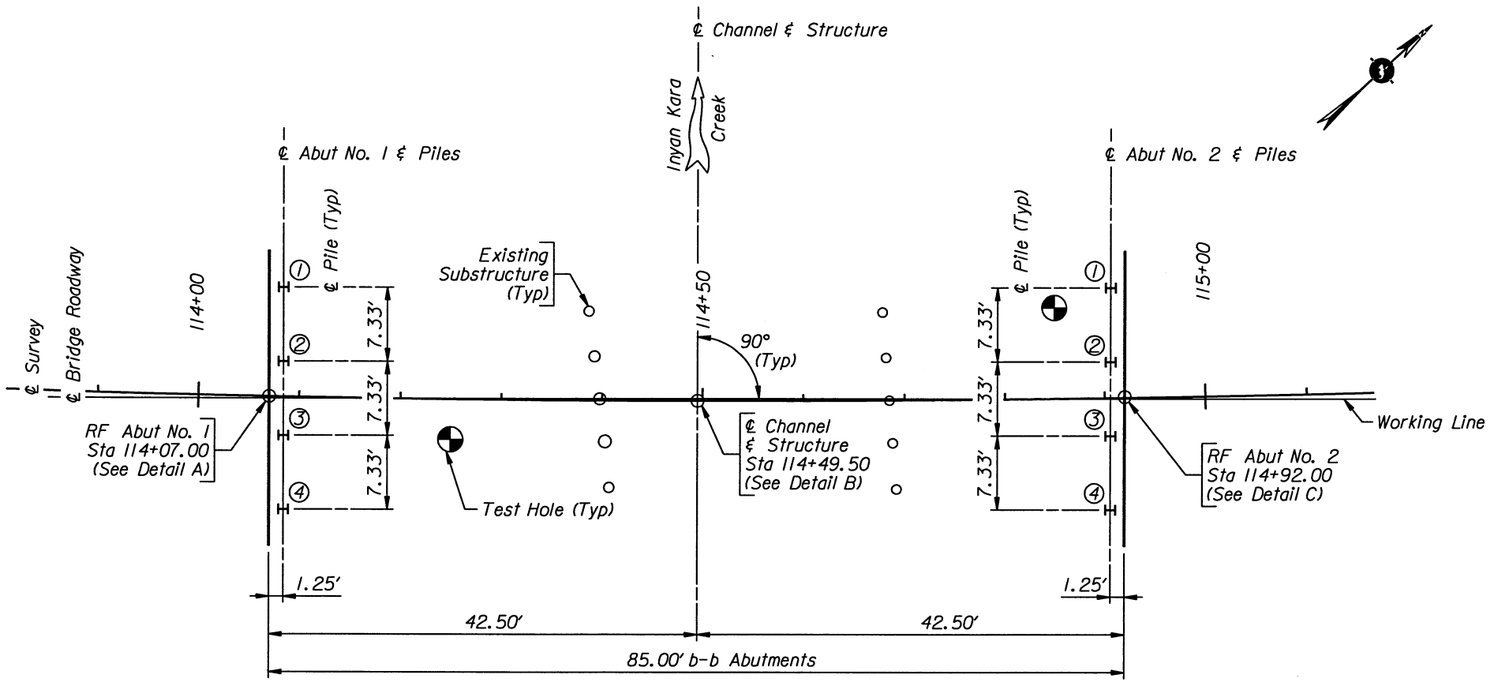
APPROVED
DATE 1/10/09

DESIGN — ✓ —
DETAIL LAC ✓ ZPG
QA'S. — ✓ —

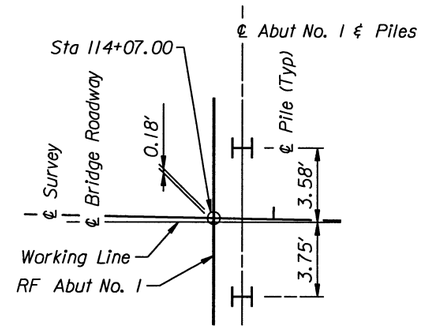
Design Section P D Huck

Drwg. No. 7297 | Sheet 3 of 16

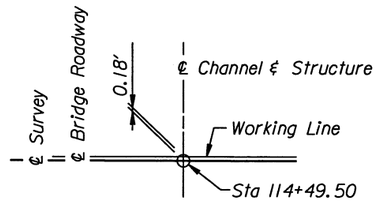
0CI8005_1gp.dgn



PLAN

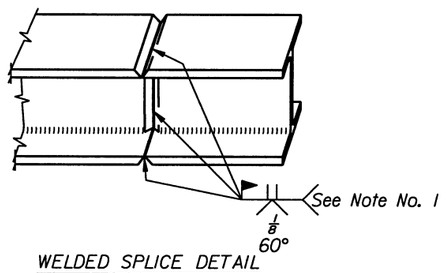


DETAIL A

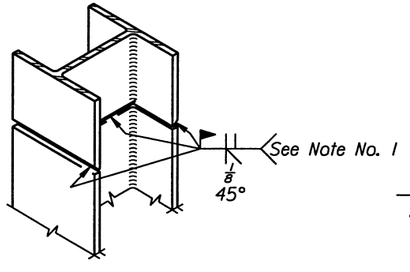


DETAIL B

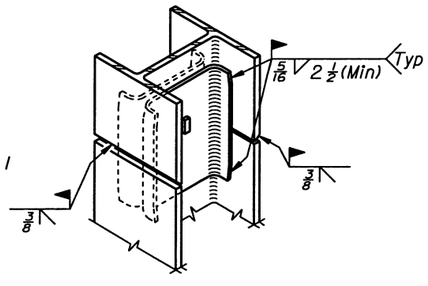
SUBSTRUCTURE DATA		
Location	Pile Elevations Piles No. ① - ④	
	Top	Bottom
Abut No. 1	4095.61	4033.61
Abut No. 2	4095.23	4037.23



WELDED SPLICE DETAIL
(Piles welded horizontal)

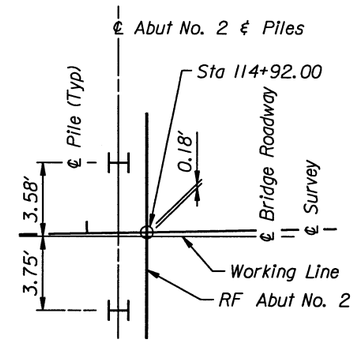


WELDED SPLICE DETAIL
(Piles welded vertical)



PILE SPLICER DETAIL
(Piles vertical or horizontal)

PILE SPLICE DETAILS



DETAIL C

Note: 1) Gouge root to sound metal before welding second site.
2) Piles are HP 12x53.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

SUBSTRUCTURE LAYOUT

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0CI8005 Cr

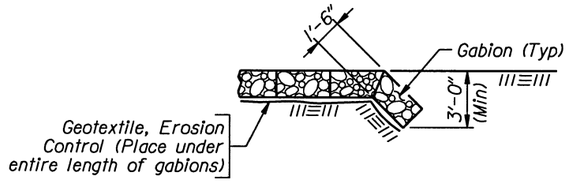
APPROVED
DATE 1/10/02

DESIGN — ✓ —
DETAIL SAM ✓ ZPG
O'S. — ✓ —

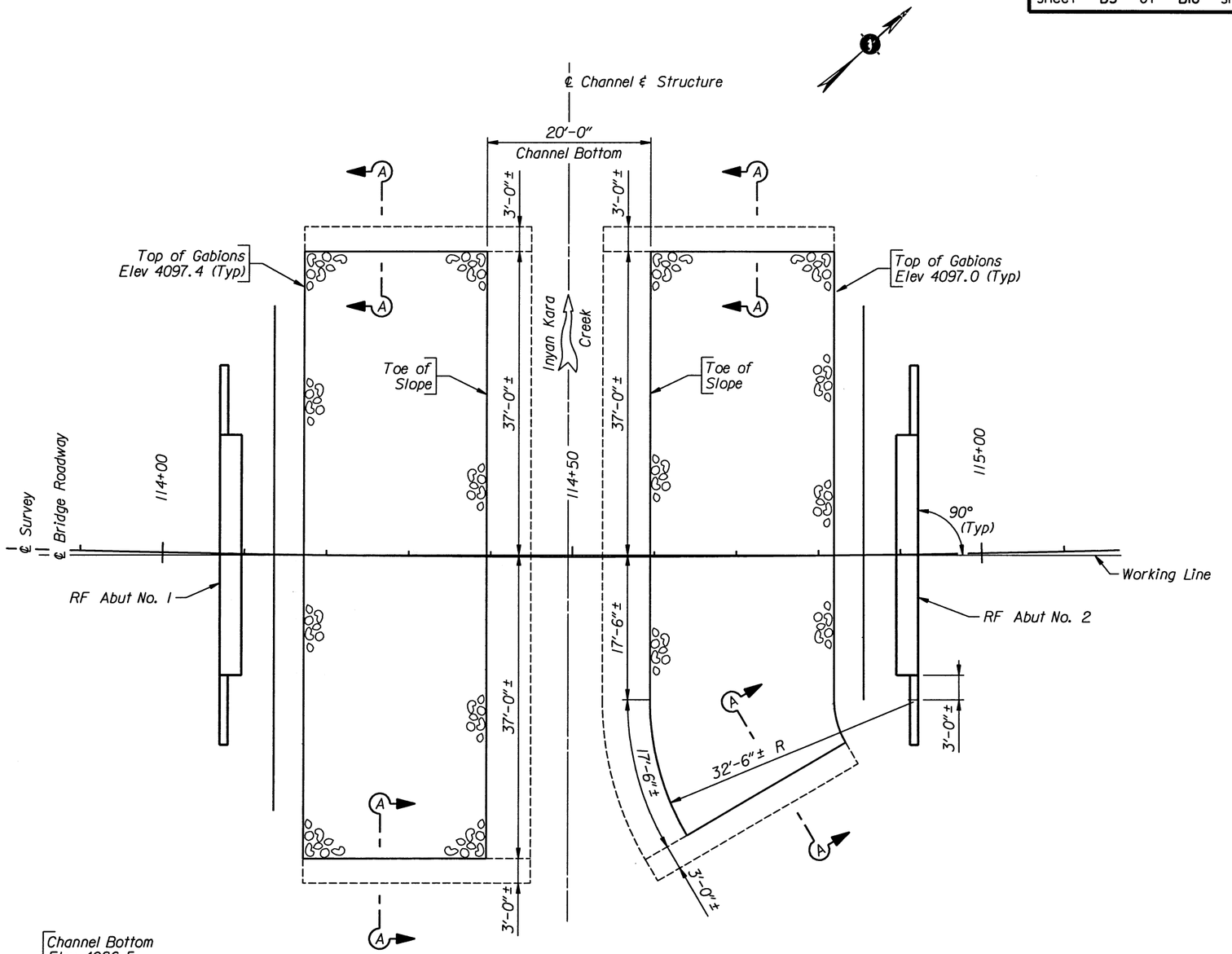
Design Section P D Huck

Drwg. No. 7297 | Sheet 4 of 16

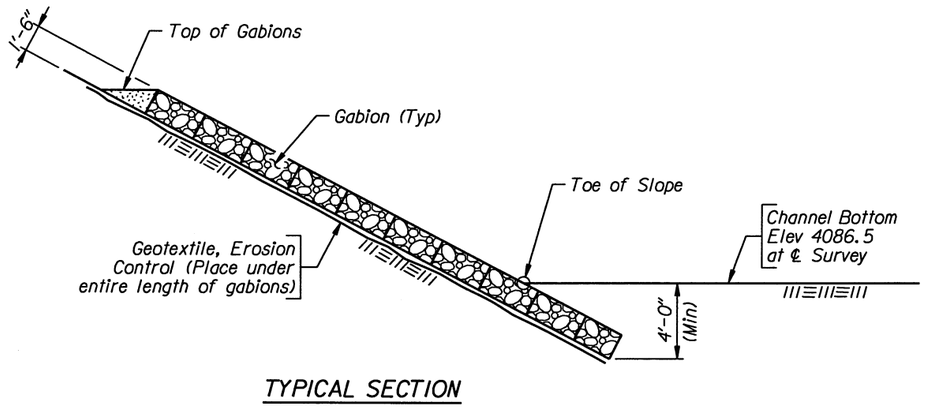
0C18005_1sb.dgn



SECTION A-A



PLAN



TYPICAL SECTION

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

GABION DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0CI8005 Cr

APPROVED Gregg Fedchuk DATE 1/16/09

DESIGN SAM ✓ LAC ✓ ZPG
DETAIL ZPG ✓ JFJ
O'S.

Design Section P D Huck

Drwg. No. 7297 | Sheet 5 of 16

0C18005_1gb.dgn

Wyo. Proj. 0C18005

Sheet B6 of B16 Sheets

Borings shown made with:

Auger Rig [X] H-823 — [ ] Air ____ [ ] Not Encountered

Rotary Rig [ ] ___ circulation medium — [ ] Water ____ [X] As Shown, measured - Date (s) 10/31/07

[ ] Mud ____

GROUND WATER SURFACE

UNIFIED SOIL CLASSIFICATION

GRAVEL	GW	Well graded gravel
	GP	Poorly graded gravel
	GM	Silty sandy gravel
	GC	Clayey gravel
SAND	SW	Well graded sand
	SP	Poorly graded sand
	SM	Silty sand
	SC	Clayey sand
SILT & CLAY	ML	Inorganic silt, slight plasticity
	CL	Inorganic clay, medium plasticity
	OL	Organic silt and silty clay, low plasticity
SILT & CLAY L.L.greater than 50%	MH	Inorganic elastic silt
	CH	Inorganic clay, high plasticity
	OH	Organic clay, medium to high plasticity
highly Organic soils	PT	Peat and other highly organic soils

Classification of earth material on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis unless otherwise noted.

The data on this sheet is for design purposes only and is not a warranty of subsurface conditions, except at locations actually drilled. Projections between test holes are based on geologic interpretations and exact elevations cannot be guaranteed.

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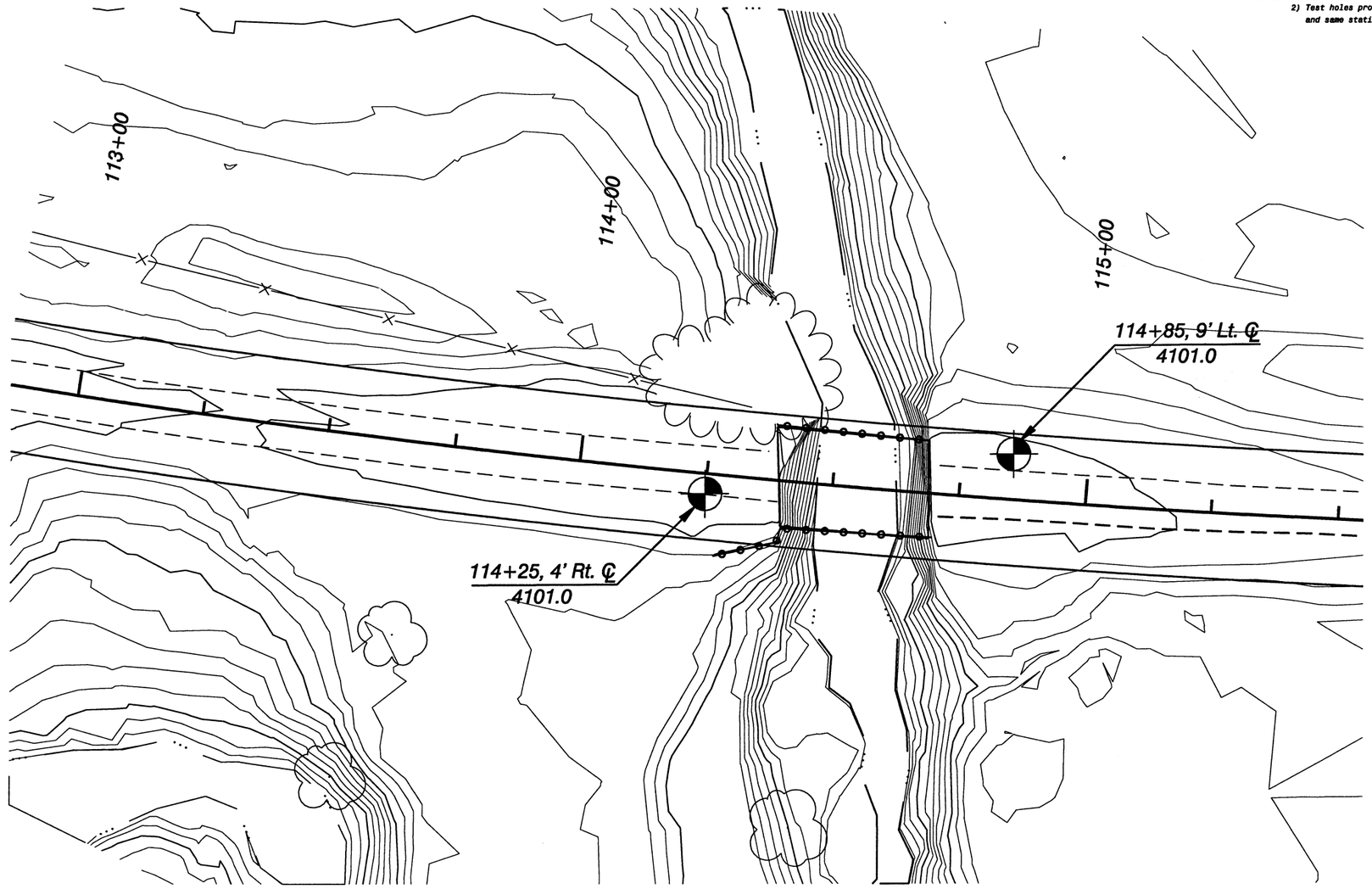
STRENGTH CLASS DEFINITION - BASED ON BLOWS/FT. — STANDARD PENETRATION —

CONSISTENCY GRANULAR	BLOWS PER FT.	CONSISTENCY COHESIVE	BLOWS PER FT.
Very Loose	0 - 4	Very Soft	0 - 1
Loose	5 - 10	Soft	2 - 4
Medium Dense	11 - 24	Medium Stiff	5 - 8
Dense	25 - 50	Stiff	9 - 15
Very Dense	>51	Very Stiff	16 - 30
		Hard	31 - 60
		Very Hard	>61

NOTES: 1) All testing was completed using the SPT based on ASTM D1586 Standards.
2) Test holes projected to center line, at actual elevations and same stations as drilled.



0000+00 / 00000 — LOCATION (station) & TOP HOLE ELEVATION

0000+00 / 00000 — LOCATION (station) & TOP HOLE ELEVATION Not Shown When Projected

test number; blows per foot; Ground line — 1 | 35 — STANDARD PENETRATION

test number; size of tube — 2 | SH. | 3" — SHELBY TUBE SAMPLE

3" | SH. | 2 — Mirror Image (when test is shown

test number; size of tube — 3 | S.T.C. | 3" — SHELBY TUBE CORE SAMPLE

test number; shear strength (lbs./ft.²) — 4 | V.S. | 200 — VANE SHEAR

test number — 5 — 90% REC. (Recovery)

Ground Surface; Ground Water Surface, date; abrupt material change; estimated material change; transitional material change; Bedrock Contact

GRAPHIC REPRESENTATION - DRIVEPOINT PENETRATION

LEGEND OF EARTH MATERIALS

soils	bedrock
LOESS	LIMESTONE
CLAY	SHALE
SILT	CLAYSTONE
SAND	SILTSTONE
GRAVEL	COAL & LIGNITE
fill	SANDSTONE
	CONGLOMERATE
	all igneous and metamorphic rocks

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

LOG BORING SHEET

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0C18005 Cr

APPROVED 7/7/09 DATE

DESIGN ___ ✓ ___
DETAIL SAM ✓ ZPG
O's. ___ ✓ ___

Design Section P D Huck

Drwg. No. 7297 | Sheet 6 of 16

0C18005_11b1.dgn

Wyo. Proj. OCI8005

Sheet B7 of B16 Sheets

SUMMARY OF LABORATORY DATA

TEST NO.	LOCATION (station)	ELEVATION	SIEVE ANALYSIS - % PASSING #10	#40	#200	LIQUID LIMIT	PLASTIC INDEX	DENSITY WET PCF	MOIST. % DRY WT.	UNIFIED & AASHTO CLASSIFICATION	AVG. STRENGTH (KSF) UNDRAINED SHEAR	UNIAXIAL COMP.	UNIT COHESION lb./ft.²	Ø	% ROD	REMARKS
1	114+85, 9.0' Lt. ℄	4092.5 - 4091.5	100	97	75.7	28.4	12.7	120.4	16.4	CL,A-6(7)			120			
2	114+85, 9.0' Lt. ℄	4082.5 - 4081.5	43	29	17.1	22.4	5.8		8.8	GC-GM,A-1-b(0)						
3	114+85, 9.0' Lt. ℄	4072.5 - 4071.5	46	34	19.4	NV	NP		11.8	GM,A-1-b(0)						
4	114+85, 9.0' Lt. ℄	4062.5 - 4061.5							22.8							Shale Bedrock
5	114+85, 9.0' Lt. ℄	4052.5 - 4051.5							8.2							Shale Bedrock
6	114+85, 9.0' Lt. ℄	4042.5 - 4041.5						129.2	17.0				125			Shale Bedrock
7	114+85, 9.0' Lt. ℄	4040.5 - 4039.5						124.6	20.2				125			Shale Bedrock
8	114+85, 9.0' Lt. ℄	4035.5 - 4035.0						134.8	15.4				135			Shale Bedrock
9	114+85, 9.0' Lt. ℄	4036.0 - 4028.5														No Recovery
10	114+85, 9.0' Lt. ℄	4028.0 - 4023.0														No Recovery
11	114+85, 9.0' Lt. ℄	4023.0 - 4018.0						133.7	19.3			20	134		90%	Shale Bedrock
12	114+85, 9.0' Lt. ℄	4018.0 - 4013.0														No Recovery
13	114+85, 9.0' Lt. ℄	4013.0 - 4009.5						124.8	17.1			12	125		78%	Shale Bedrock
14	114+85, 9.0' Lt. ℄	4008.0 - 4003.5						142.1	12.9			12	142		100%	Shale Bedrock

Borings shown made with:

Auger Rig [X] H-823

Rotary Rig [ ] ___ circulation medium

[ ] Air ___

[ ] Water ___

[ ] Mud ___

GROUND WATER SURFACE

[ ] Not Encountered

[X] As Shown, measured - Date (s) 10/31/07

UNIFIED SOIL CLASSIFICATION

GRAVEL: GW - Well graded gravel; GP - Poorly graded gravel; GM - Silty sandy gravel; GC - Clayey gravel

SAND: SW - Well graded sand; SP - Poorly graded sand; SM - Silty sand; SC - Clayey sand

SILT & CLAY: ML - Inorganic silt, slight plasticity; CL - Inorganic clay, medium plasticity; OL - Organic silt and silty clay, low plasticity

SILT & CLAY L.L. greater than 50%: MH - Inorganic elastic silt; CH - Inorganic clay, high plasticity; OH - Organic clay, medium to high plasticity

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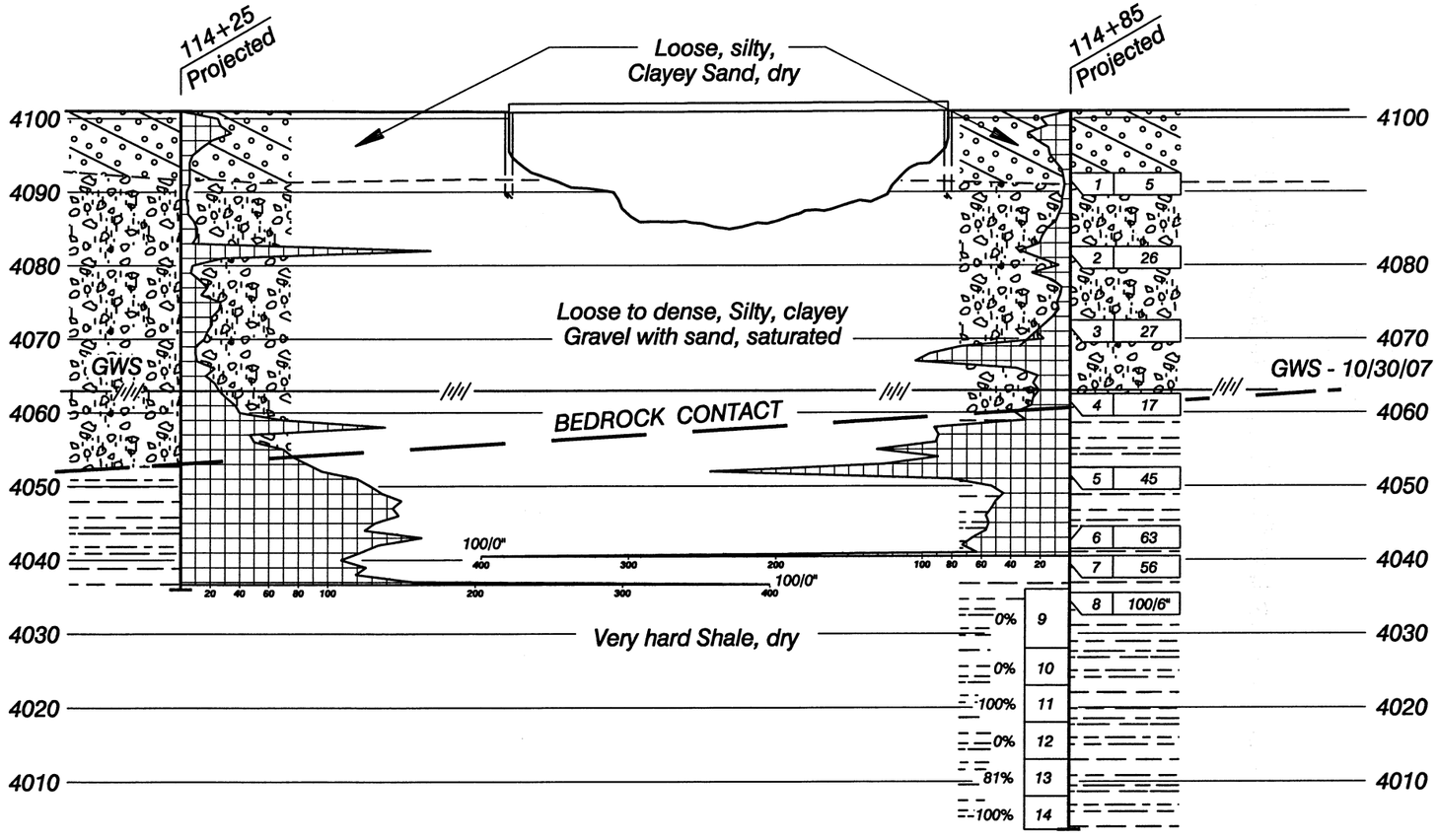
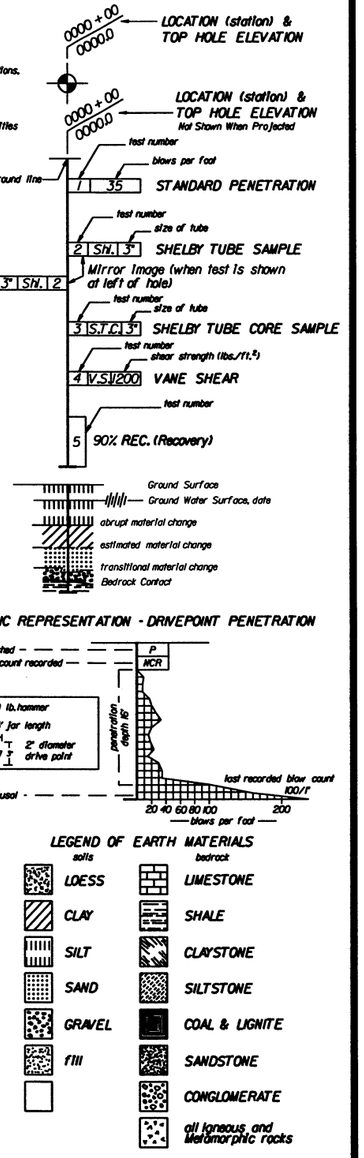
		Hard	31 - 60
		Very Hard	>60

NOTES: 1) All testing was completed using the SPT based on ASTM D1586 Standards.
2) Test holes projected to center line, at actual elevations and same stations as drilled.



SCALE: 1"=10' H.
1"=20' V.



GRAPHIC REPRESENTATION - DRIVEPOINT PENETRATION

LEGEND OF EARTH MATERIALS

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SAND	SILTSTONE
GRAVEL	COAL & LIGNITE
fill	SANDSTONE
	CONGLOMERATE
	all igneous and metamorphic rocks

PROFESSIONAL GEOLOGIST — JAMES L. COFFIN — PG 59 — WYOMING — 1/7/09

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

LOG BORING SHEET

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

OCI8005 Cr

APPROVED _____ DATE 1/7/09

DESIGN ___ ✓ ___
DETAIL SAM ✓ ZPG
O'S. ___ ✓ ___

Design Section P D Huck

Drwg. No. 7297 | Sheet 7 of 16

OC18005_11b2.dgn

Wyo. Proj. OCI8005

Sheet B8 of BI6 Sheets

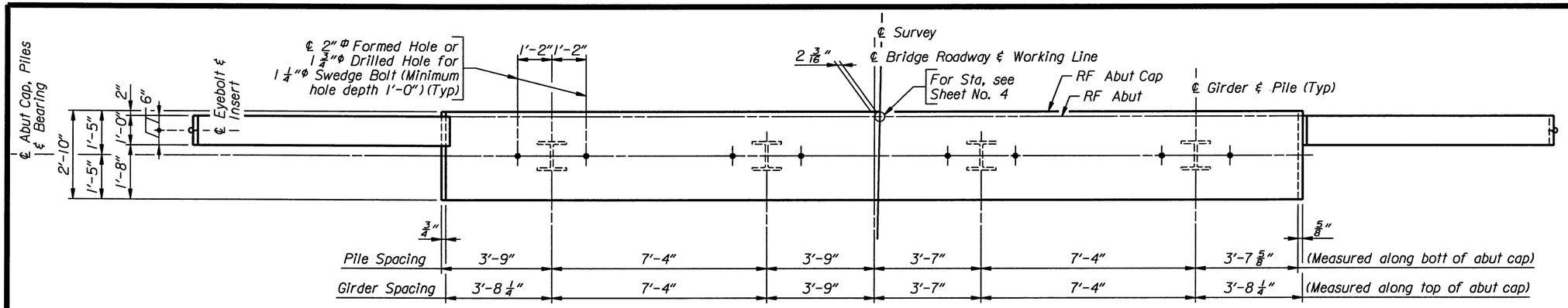
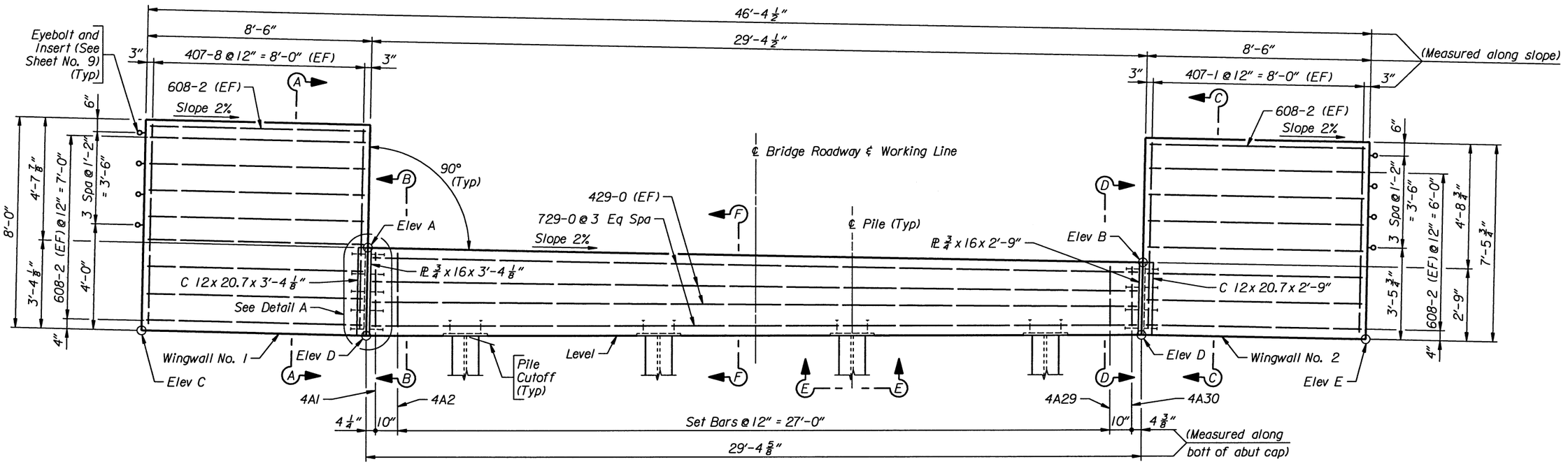


TABLE OF ELEVATIONS		
Elevation	Location	
	Abut No. 1	Abut No. 2
A	4098.95	4098.57
B	4098.36	4097.98
C	4095.78	4095.40
D	4095.61	4095.23
E	4095.44	4095.06

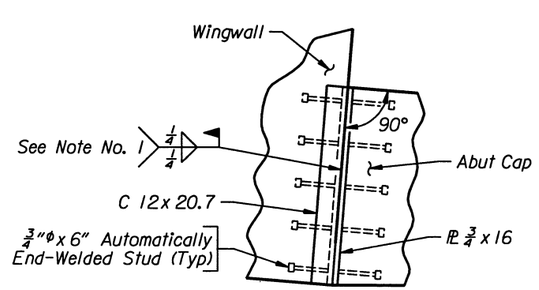
PLAN

(Plates and channels not shown)
(Abut No. 1 shown, Abut No. 2 similar)

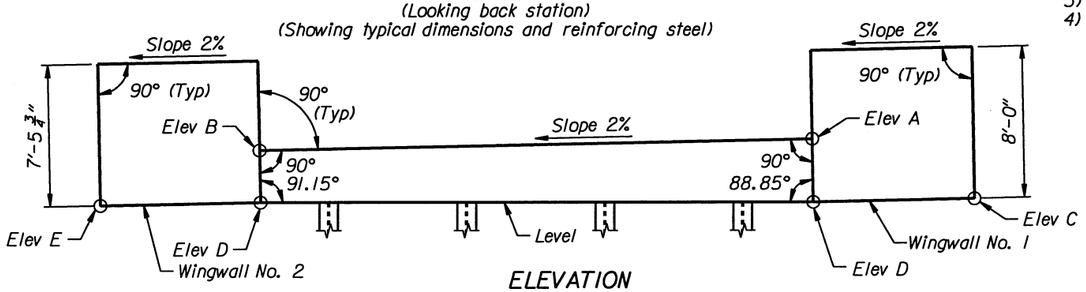


ELEVATION

(Abut No. 1)
(Looking back station)
(Showing typical dimensions and reinforcing steel)



DETAIL A



ELEVATION

(Abut No. 2 shown, Abut No. 1 similar)
(Looking ahead station)

Note:
1) Terminate plate to channel welds 1/4" from the ends of the members.
2) Ensure holes for swedge bolts are installed perpendicular to top of cap.
3) For pile cutoff elevations, see Sheet No. 4.
4) For Sections A-A, B-B, C-C, D-D, E-E, and F-F, see Sheet No. 9.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

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BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

OCI8005 Cr

APPROVED Greg Corbett
DATE 11/6/02

DESIGN	ZPG ✓ JFJ	Design Section P D Huck
DETAIL	SAM ✓ ZPG	
O'S.	ZPG ✓ JFJ	Drwg. No. 7297 Sheet 8 of 16

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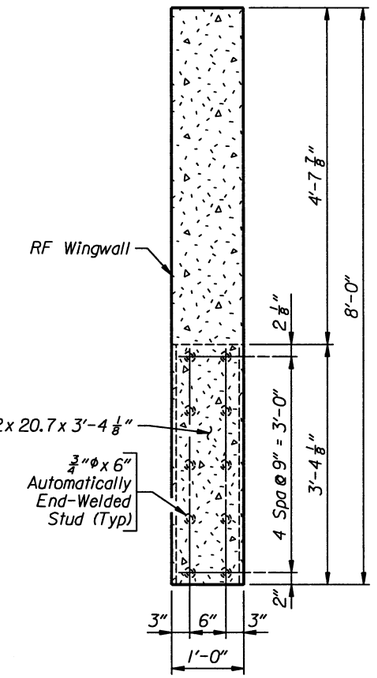
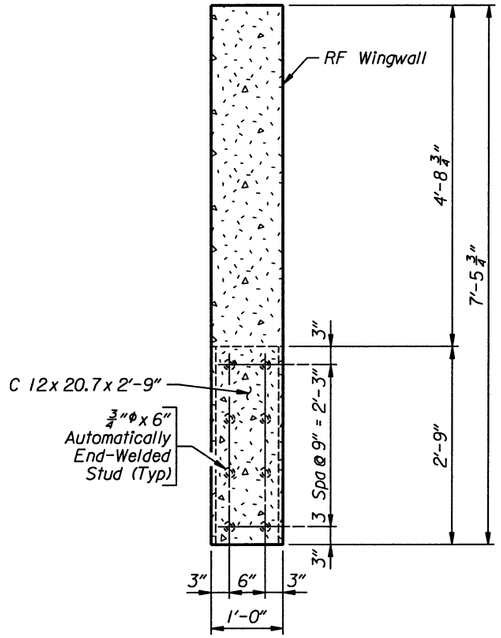
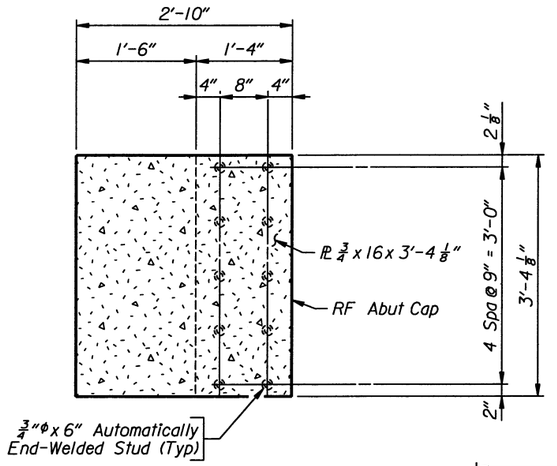


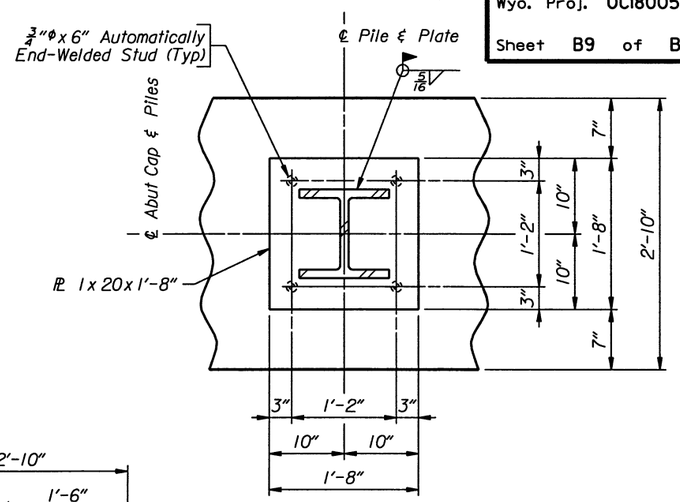
SECTION A-A
(Reinforcing steel not shown)



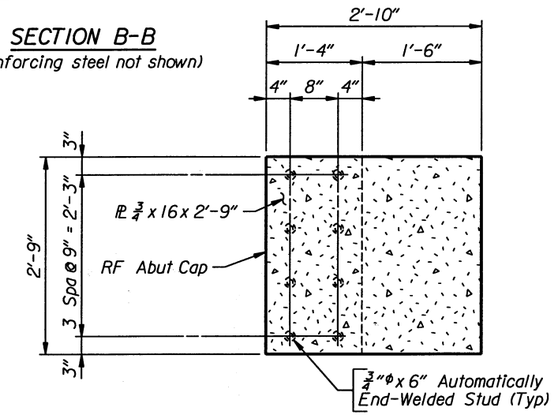
SECTION C-C
(Reinforcing steel not shown)



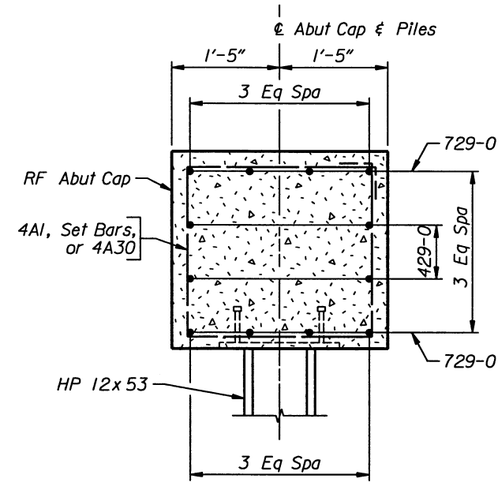
SECTION B-B
(Reinforcing steel not shown)



SECTION E-E

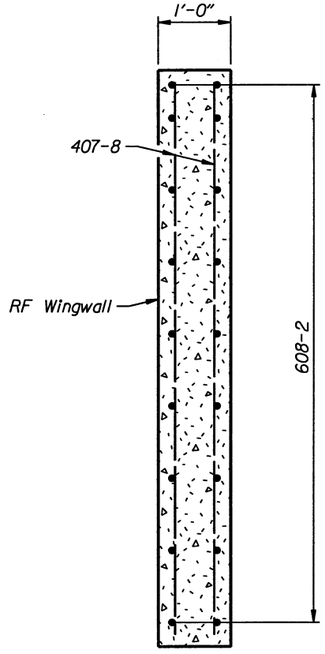


SECTION D-D
(Reinforcing steel not shown)

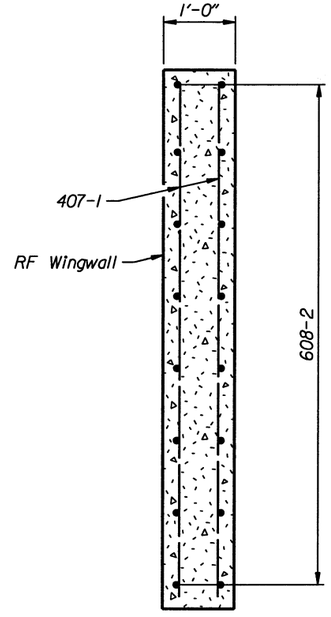


SECTION F-F

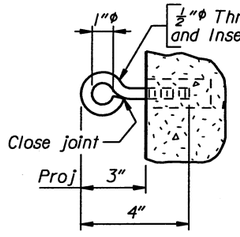
BILL OF REINFORCEMENT		
Location	Mark	Number Required Per Abut
Abut Cap	4A1	1
	4A30	1
	429-0	4
	Set Bars	1
	729-0	8
	Weight	777 LB
Wingwalls	407-1	18
	407-8	18
	608-2	34
	Weight	595 LB
Bending Diagrams		
3'-0" 2'-6" 4A1 (11'-9")	2'-5" 2'-6" 4A30 (10'-7")	
Set Diagram		
2'-11 3/4" 2'-6" 4A2 (11'-9")	2'-5 1/4" 2'-6" 4A29 (10'-8")	
Set Bars (No. 4 Bars) (Avg length = 11'-2 1/2")		



TYPICAL WINGWALL NO. 1 SECTION
(Channel and studs not shown)



TYPICAL WINGWALL NO. 2 SECTION
(Channel and studs not shown)



EYEBOLT DETAIL
(16 req'd for securing fence)

Note: For location of Sections A-A, B-B, C-C, D-D, E-E, and F-F, see Sheet No. 8.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

ABUTMENT DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

OCI8005 Cr

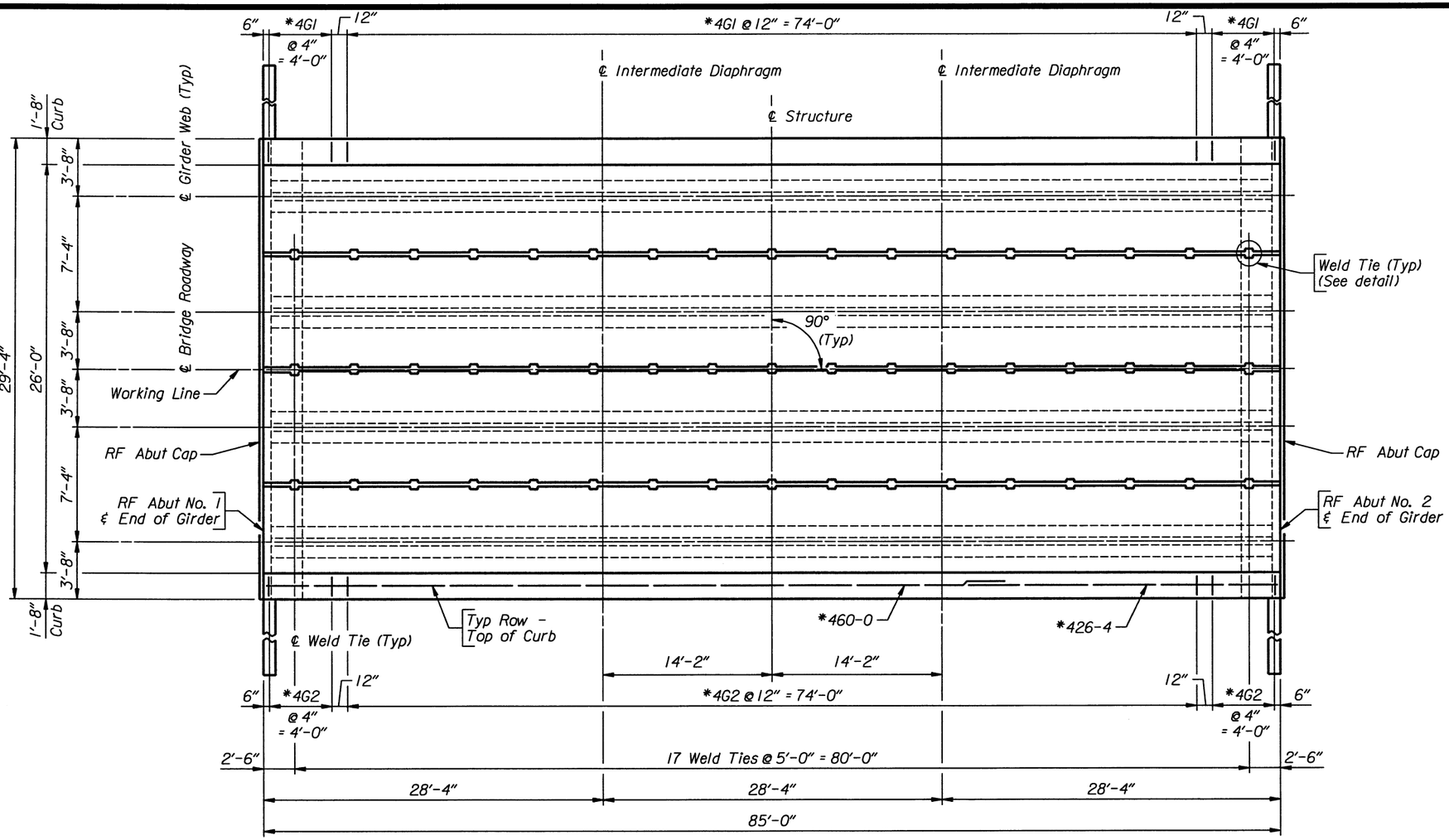
APPROVED
DATE 1/10/09

DESIGN	ZPG ✓ JFJ	Design Section P D Huck
DETAIL	SAM ✓ ZPG	
O'S.	ZPG ✓ JFJ	Drwg. No. 7297 Sheet 9 of 16

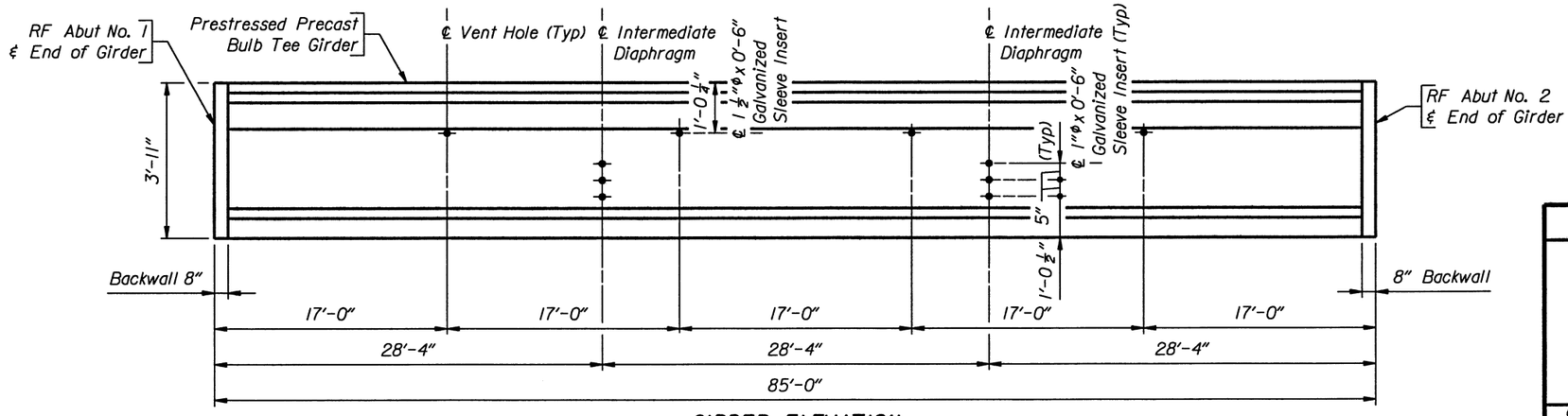
OC18005_1ab2.dgn

Wyo. Proj. 0CI8005

Sheet BI0 of BI6 Sheets

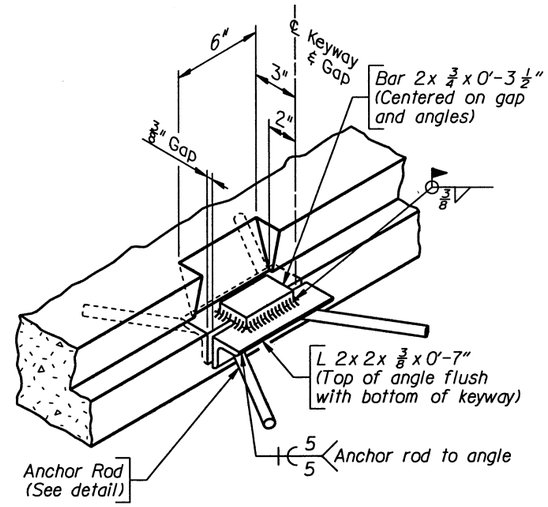


PLAN



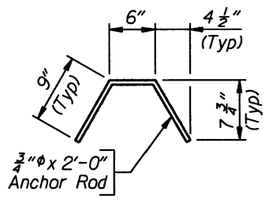
GIRDER ELEVATION

(Longitudinal dimensions are along bottom of girder)



WELD TIE DETAIL

(Backer rod, non-shrink grout, and near girder flange not shown)
(Weld tie assembly and flange blockout is symmetrical)



ANCHOR ROD DETAIL

Note: For Bridge Railing Details, see Sheets No. 14 and 15.

WYOMING DEPARTMENT OF TRANSPORTATION
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APPROVED Jeff Goodluck
DATE 1/10/08

DESIGN ZPG ✓ JFJ
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

Design Section P D Huck

Drwg. No. 7297 | Sheet 10 of 16

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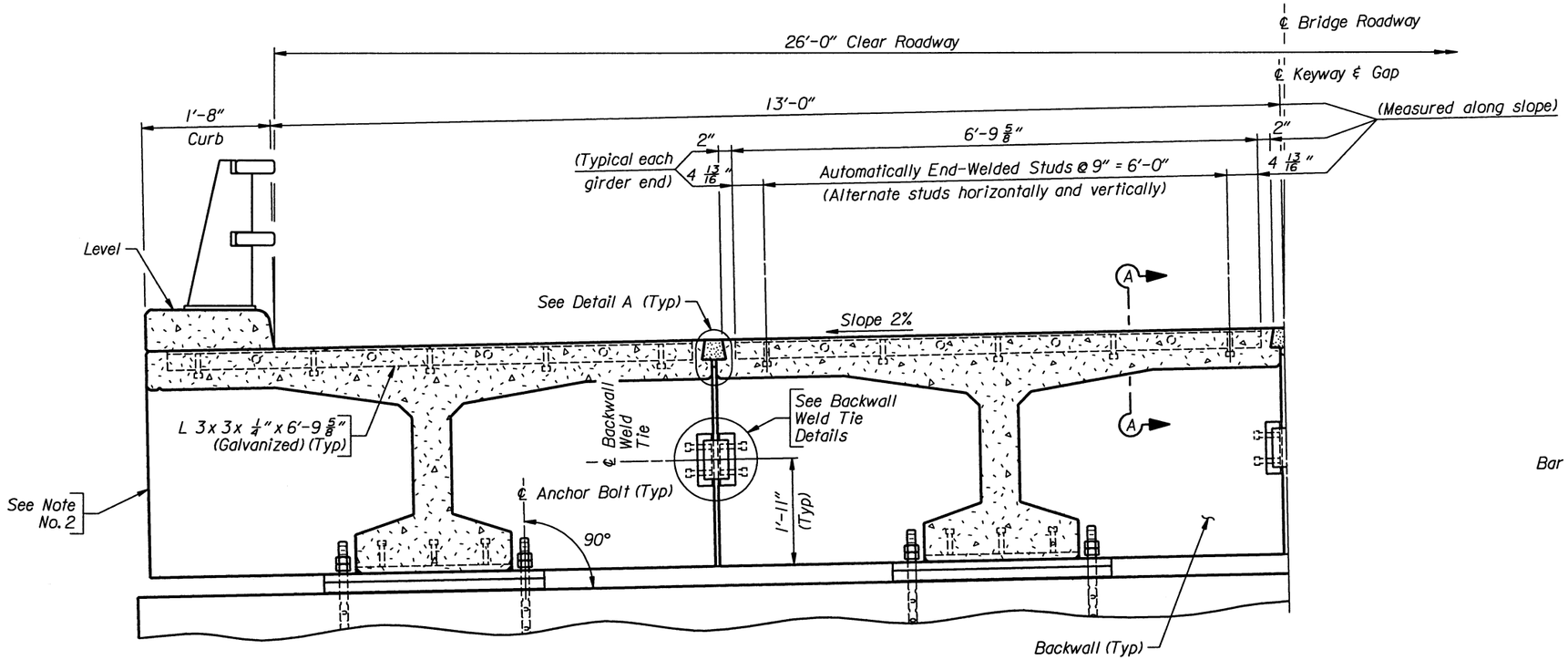
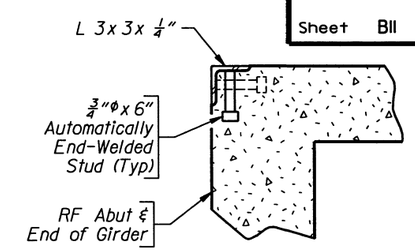
Sheet B11 of B16 Sheets

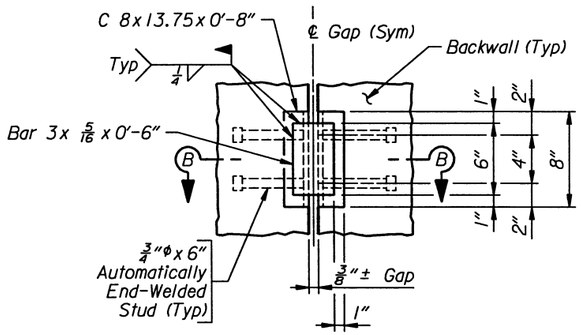


HALF SECTION AT ABUTMENTS

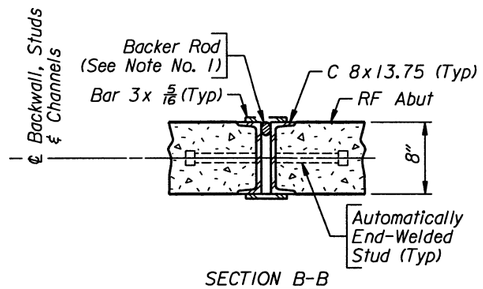
(Looking ahead station)



SECTION A-A



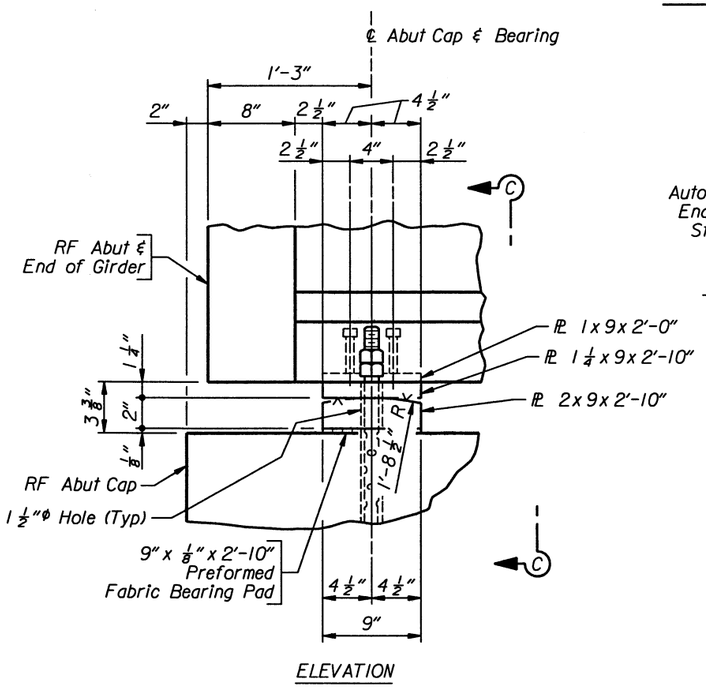
ELEVATION



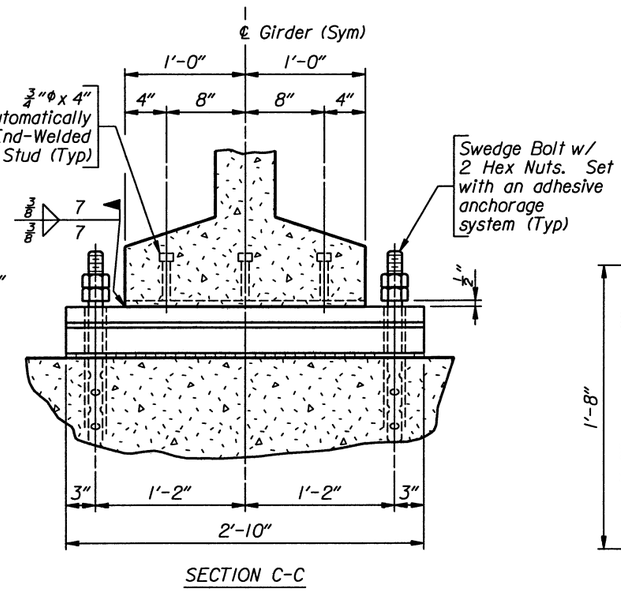
SECTION B-B

BACKWALL WELD TIE DETAILS

Note: 1) Install backer rod entire height of backwall.
2) On rear face side, install backer rod entire height of gap between wingwalls and edge of superstructure.
3) For Detail A, see Sheet No. 13.



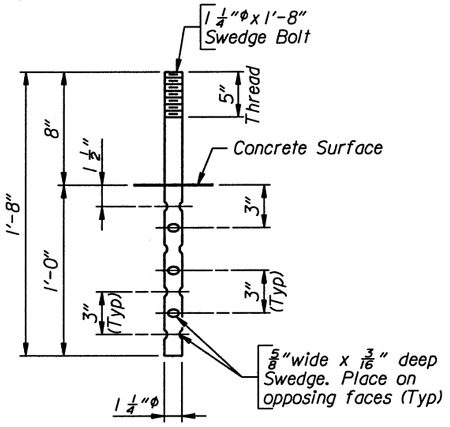
ELEVATION



SECTION C-C

BEARING DETAILS

(8 req'd)



SWEDGE BOLT DETAIL

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

SUPERSTRUCTURE DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0C18005 Cr

APPROVED DATE 1/16/09

DESIGN ZPG ✓ JFJ
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

Design Section P D Huck

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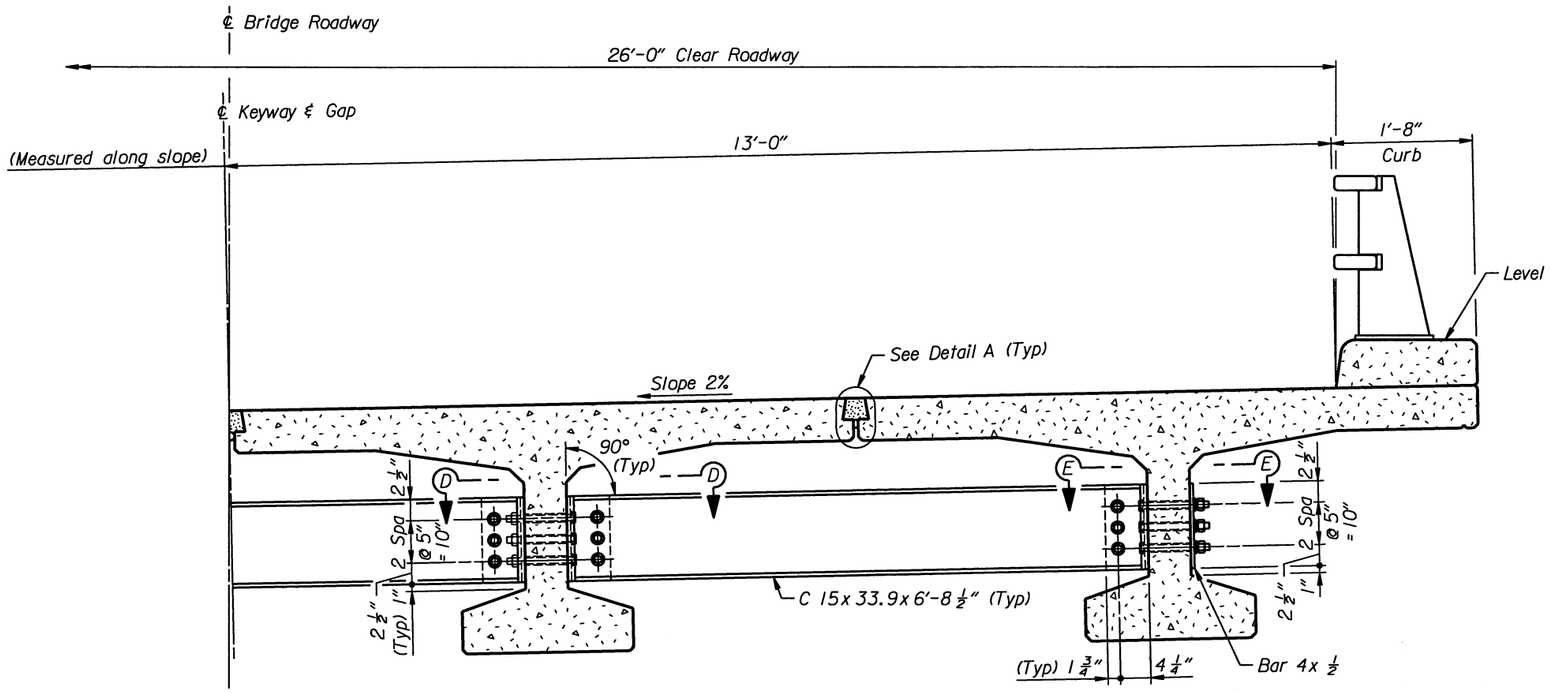
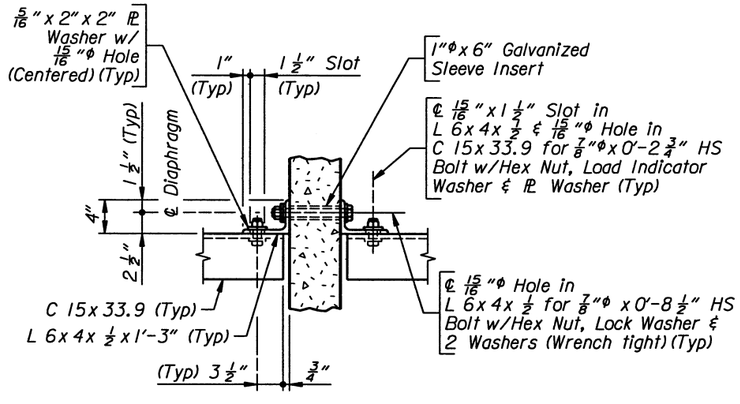


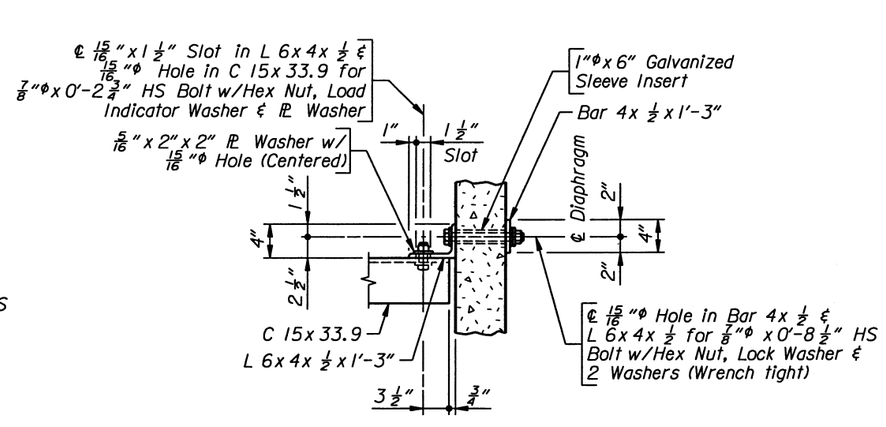
HALF SECTION AT INTERMEDIATE DIAPHRAGMS

(Looking ahead station)



SECTION D-D

(Typical at interior girders)



SECTION E-E

(Typical at exterior girders)

Note: For Detail A, see Sheet No. 13.

WYOMING DEPARTMENT OF TRANSPORTATION
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STA 114+49.50

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DATE 1/10/09

DESIGN ZPG ✓ JFJ
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

Design Section P D Huck

Drwg. No. 7297 | Sheet 12 of 16

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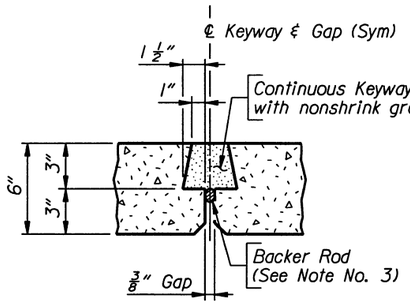
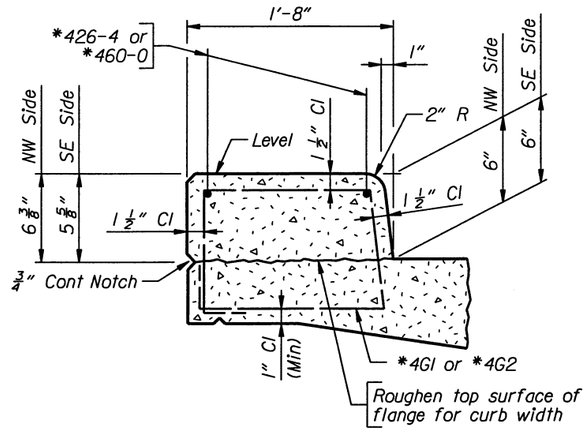


DETAIL A

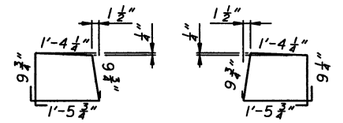


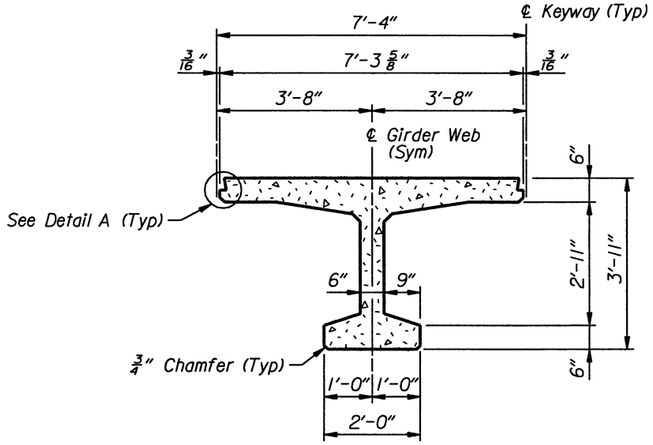
TYPICAL CURB SECTION

BILL OF REINFORCEMENT

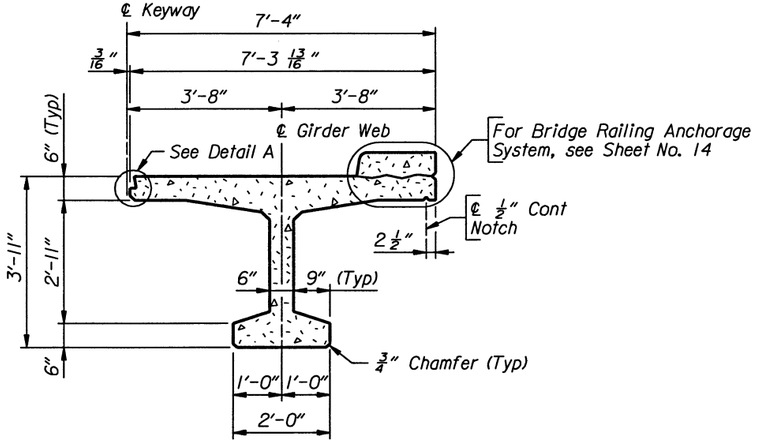
Location	Mark	Number Required
Curbs	*4GI	101
	*4G2	101
	*426-4	4
	*460-0	4
	*Weight	*934 LB

Bending Diagram





PRESTRESSED PRECAST INTERIOR GIRDER SECTION



PRESTRESSED PRECAST EXTERIOR GIRDER SECTION

Note: 1) Reinforcing steel shown will be provided by the prestressed girder manufacturer.
2) Ensure reinforcing steel in girder top flange is coated.
3) Install backer rod continuous between abutments.
4) For location of Detail A, see Sheets No. 11 and 12.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

SUPERSTRUCTURE DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0CI8005 Cr

APPROVED
DATE 1/10/09

DESIGN ZPG ✓ JFJ
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

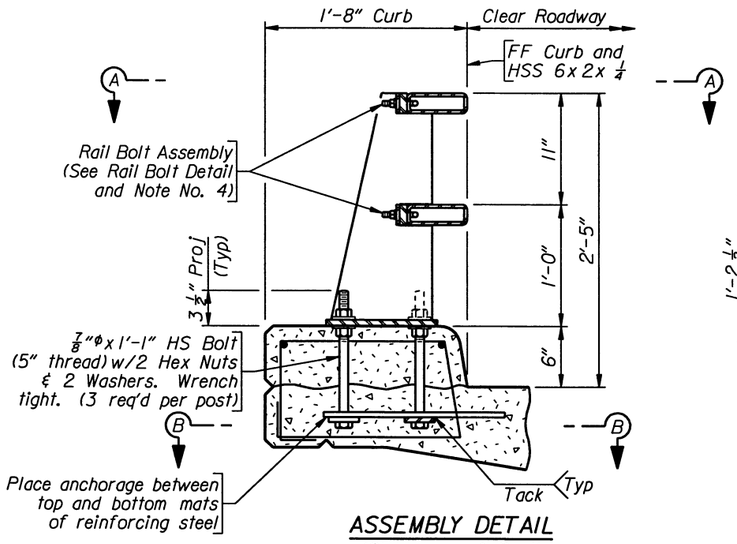
Design Section P D Huck

Drwg. No. 7297 | Sheet 13 of 16

0C18005_1ss4.dgn

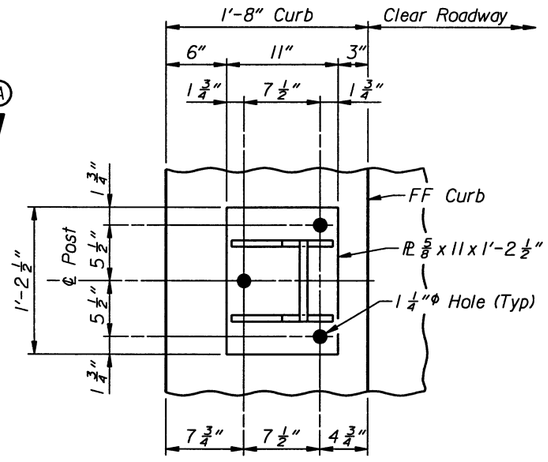
Wyo. Proj. 0CI8005

Sheet BI4 of BI6 Sheets



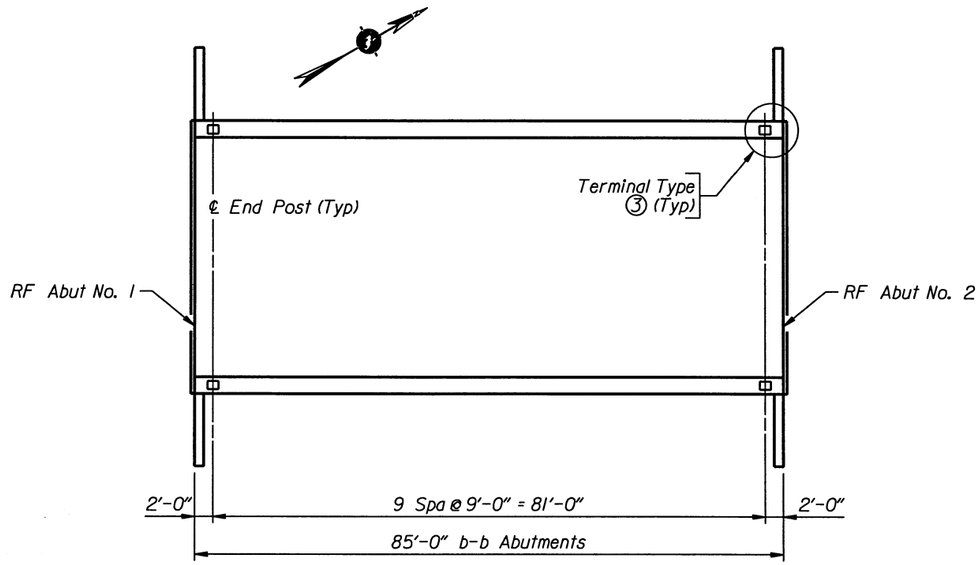
ASSEMBLY DETAIL

(Shown near ℄ Post)



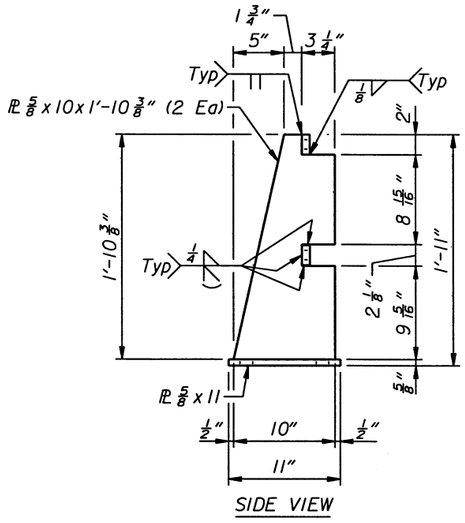
VIEW A-A

(Anchor bolts, rails, and rail bolts not shown)

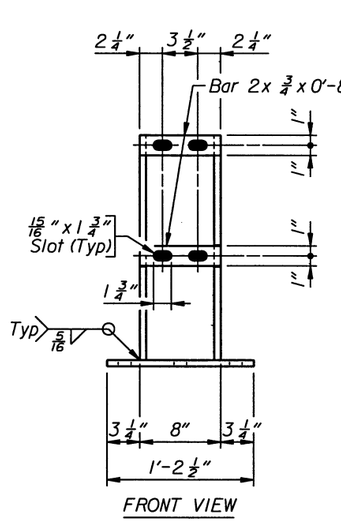


PLAN

(20 posts req'd on bridge)



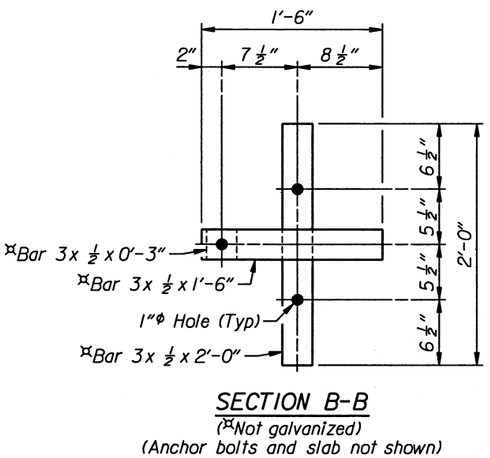
SIDE VIEW



FRONT VIEW

POST DETAILS

(See View A-A for anchor bolt hole spacing)



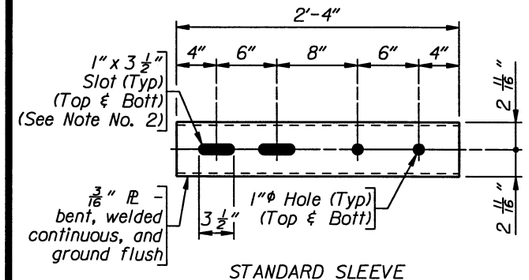
SECTION B-B

(¤Not galvanized)

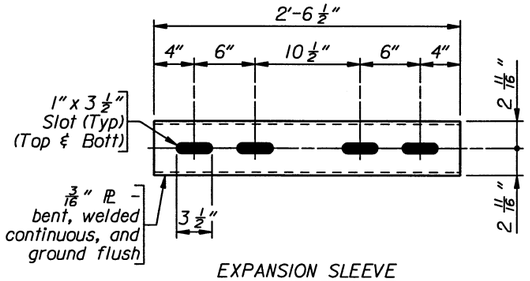
(Anchor bolts and slab not shown)

Note:

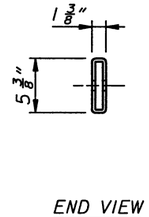
1) Ensure the expansion splice is located in the railing panel which passes over the bridge expansion joint as indicated on the plan.
2) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
3) Anchor bolts may be tack welded to anchorage (Shop or field).
4) At post locations, drill two 1 1/16"Φ holes in the rails to receive rail bolts (Shop or field). See Post Details for hole spacing.
5) Before installing rails, paint cut, drilled, or otherwise damaged surface areas of the railing components with two coats of zinc rich paint conforming to the requirements of ASTM A 780.
6) After installing the rails, paint exposed bolt threads with two coats of zinc rich paint conforming to the requirements of ASTM A 780.



STANDARD SLEEVE

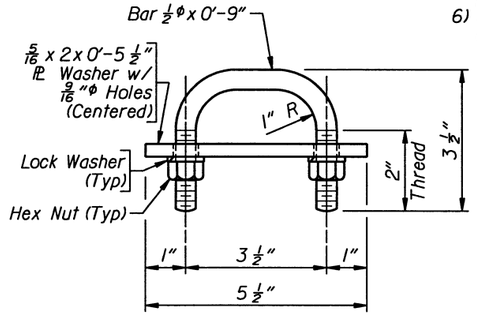


EXPANSION SLEEVE



END VIEW

SLEEVE DETAILS



RAIL BOLT DETAIL

WYOMING DEPARTMENT OF TRANSPORTATION

BRIDGE PROGRAM

REVISIONS

BRIDGE RAILING DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0CI8005 Cr

APPROVED

DATE 1/10/09

DESIGN — ✓ —

DETAIL SAM/LAC ✓ ZPG

O'S. ZPG ✓ JFJ

Design Section P D Huck

Drwg. No. 7297 | Sheet 14 of 16

Standard Sheet Dated 9-8-08

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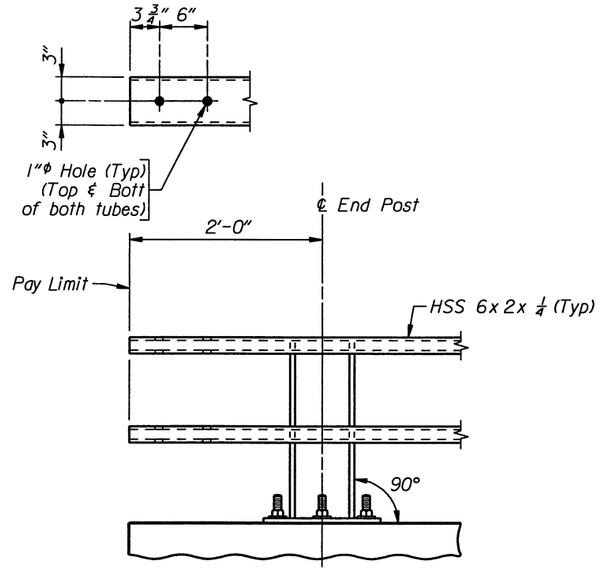
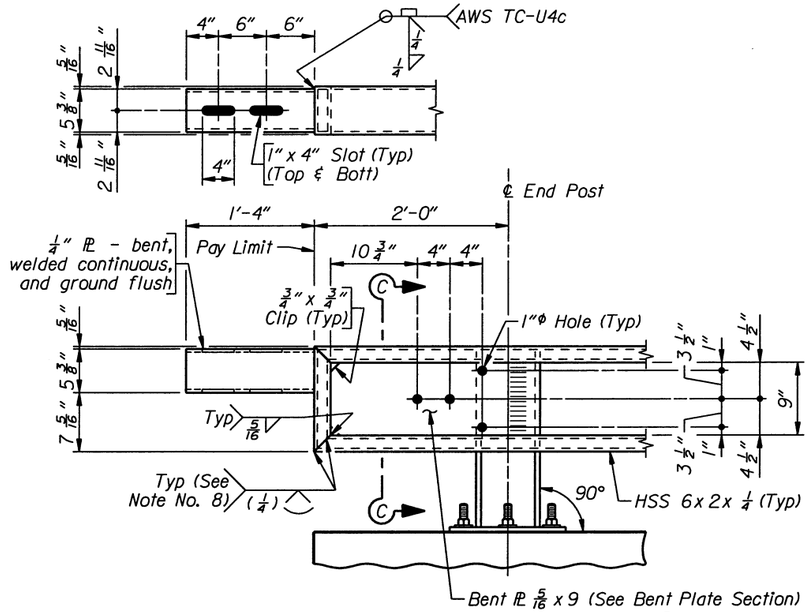
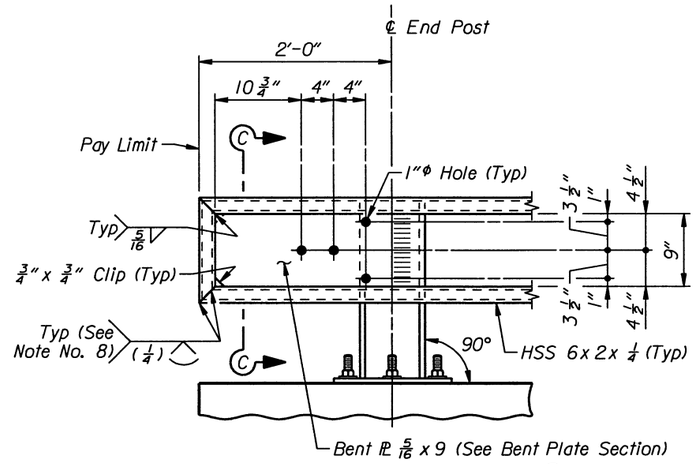


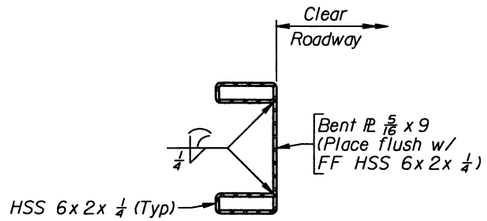
ELEVATION AT TERMINAL TYPE ①
(Box beam guardrail connection)



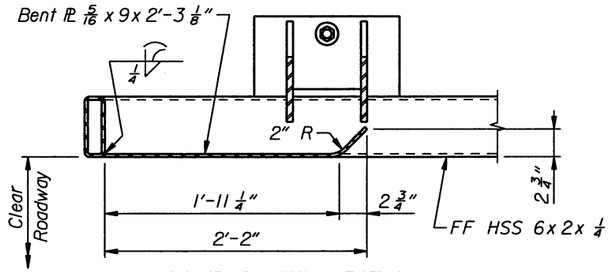
ELEVATION AT TERMINAL TYPE ②
(Box beam guardrail connection, Interstate exit end only)
(With provision for temporary corrugated beam guardrail connection)



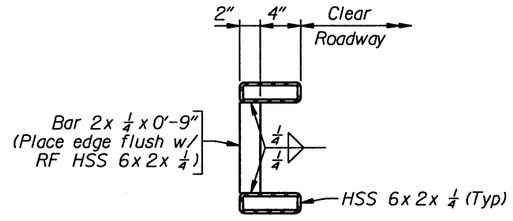
ELEVATION AT TERMINAL TYPE ③
(Corrugated beam guardrail connection
or no guardrail connection)



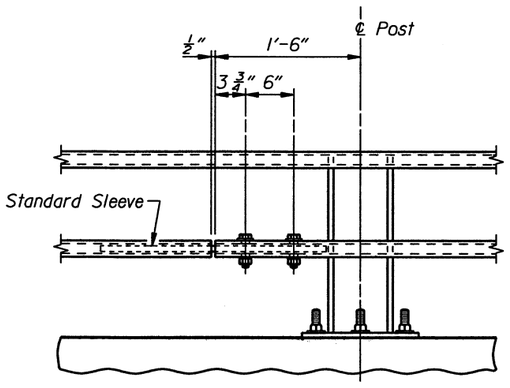
SECTION C-C



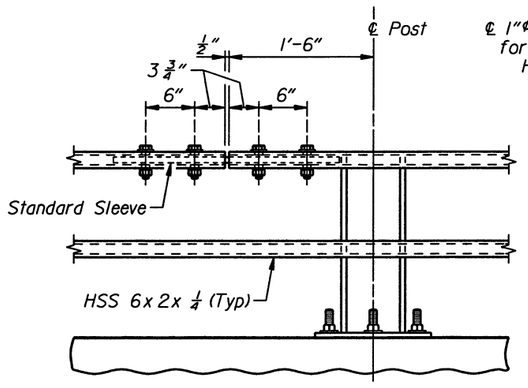
BENT PLATE SECTION
(Top rail not shown)
(Req'd at Type ② and ③ Terminals)



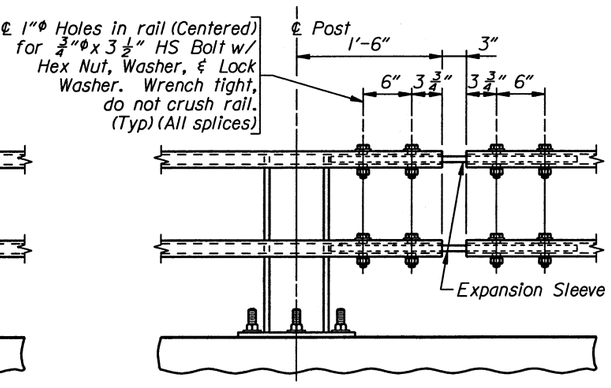
BRACE BAR DETAIL
(See Note No. 7)



STANDARD SPLICE
(Top or bottom rail)



DOUBLE-BOLTED SPLICE
(Top or bottom rail)



EXPANSION SPLICE
(Top and bottom rail)

SPLICE DETAILS

Note: 1) Either top or bottom rail in terminal section may be the longer rail.
2) Ensure each rail length is continuous over a minimum of two posts. Railing that is part of a type ② or ③ terminal is continuous if either the top or bottom rail in the terminal is continuous over a minimum of two posts.
3) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
4) Splices may be located on either side of post.
5) Not more than one splice is permitted per side of post, except at expansion splices.
6) Do not shop splice rails.
7) Ensure a brace bar is placed 2'-0" from the splice end of the shorter tube at type ② and ③ terminals.
8) Ensure the fabricator prepares a sample of the indicated joint and it is macroetched to demonstrate that the required effective throat is achieved.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

BRIDGE RAILING DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

0C18005 Cr

APPROVED Gregg Fredrick
DATE 1/10/09

DESIGN — ✓ —
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

Design Section P D Huck

Drwg. No. 7297 | Sheet 15 of 16

Standard Sheet Dated 9-8-08

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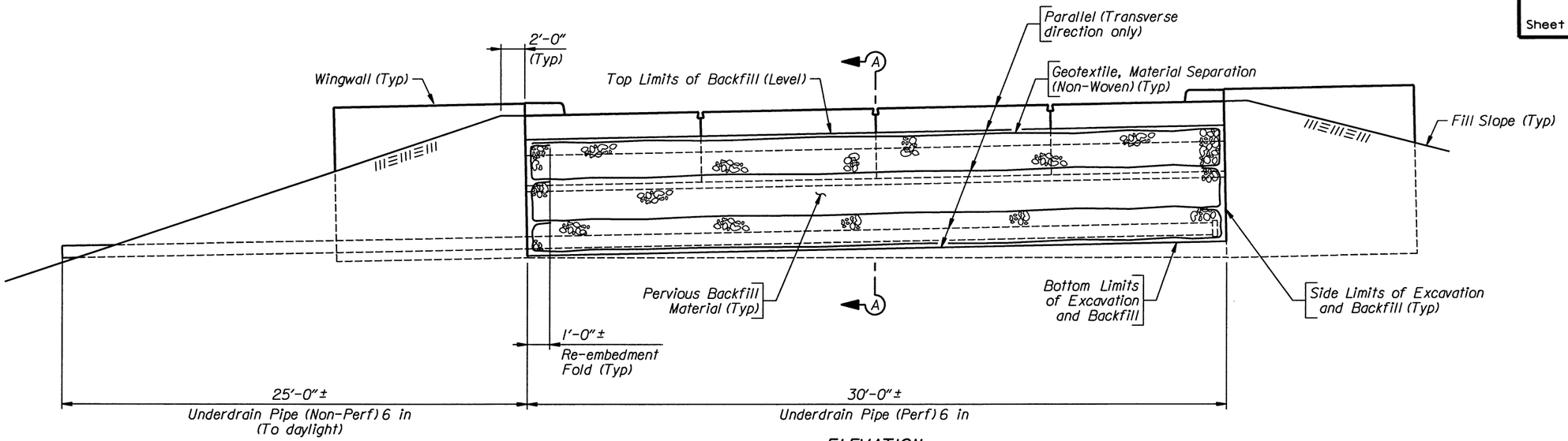
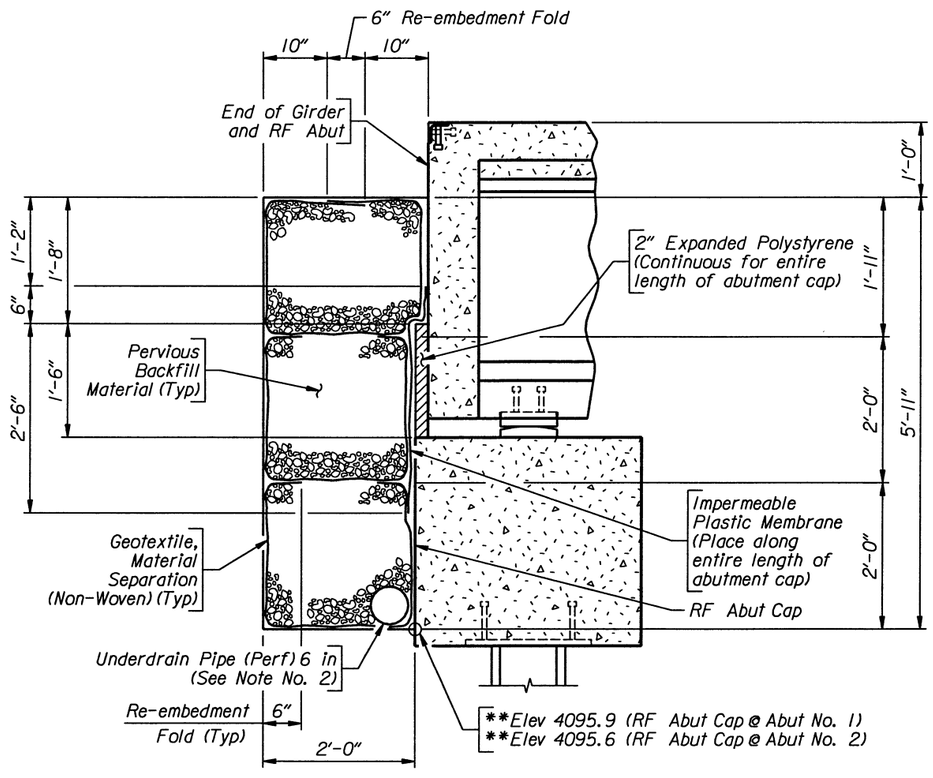


ELEVATION

(Abutment No. 1 shown, Abutment No. 2 similar)



SECTION A-A

Note: 1) Elevations preceded by a double asterisk (**) are measured at ℄ Bridge Roadway.
2) Ensure Perforated Underdrain Pipe is wrapped with Drainage and Filtration Geotextile.

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

REVISIONS

DRAINAGE DETAILS

BRIDGE OVER INYAN KARA CREEK

STA 114+49.50

CR 268

OC18005 Cr

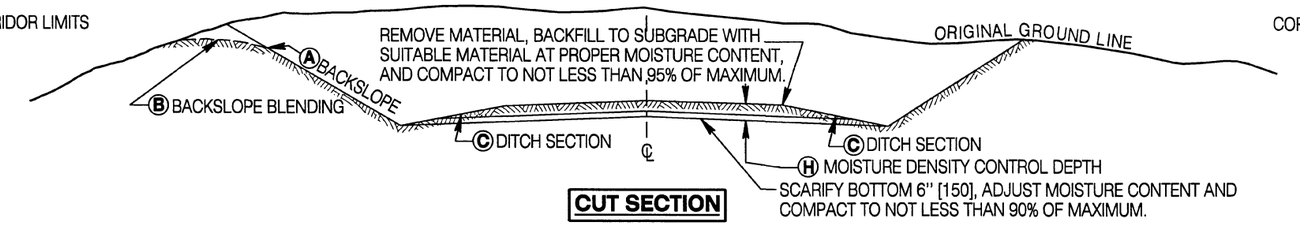
APPROVED DATE 1/10/02

DESIGN ZPG ✓ JFJ
DETAIL SAM ✓ ZPG
O'S. ZPG ✓ JFJ

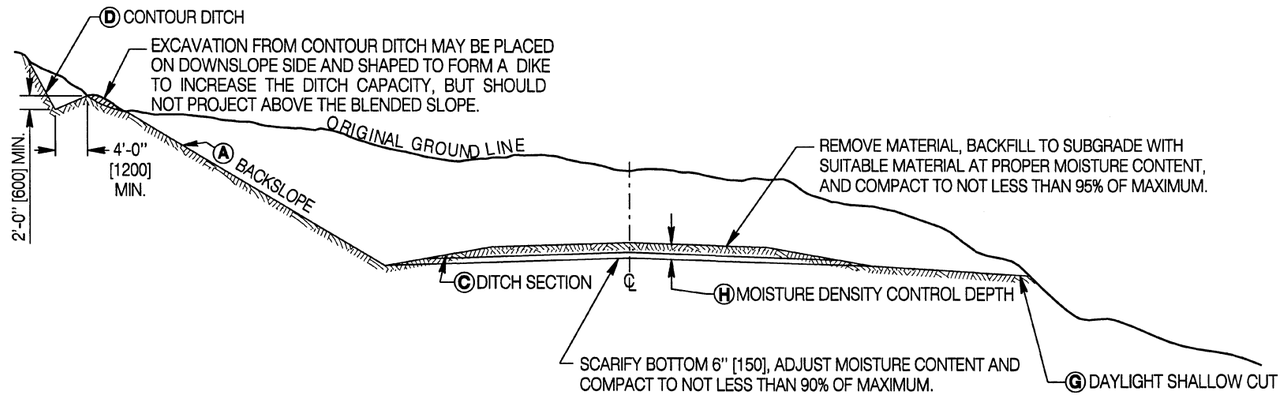
Design Section P D Huck

Drwg. No. 7297 Sheet 16 of 16

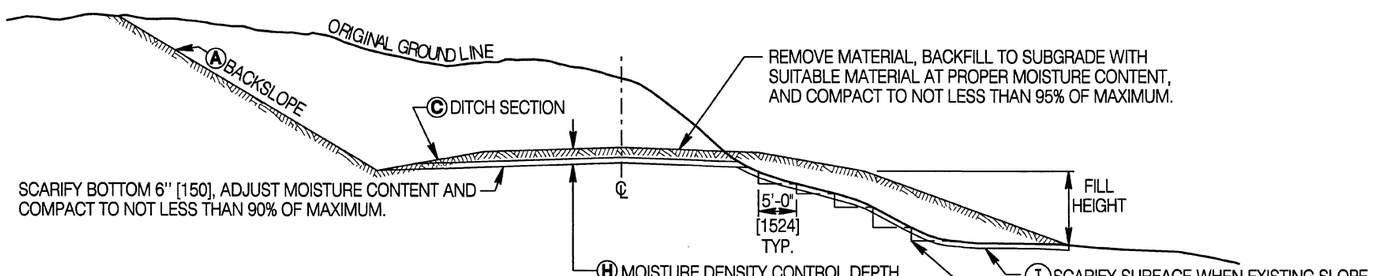
OC18005_1dr.dgn



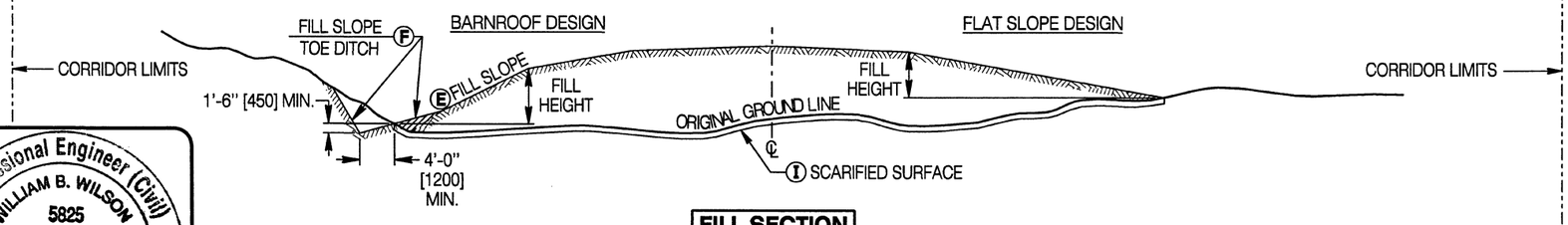
CUT SECTION



DAYLIGHT CUT SECTION



SIDEHILL CUT & FILL SECTION

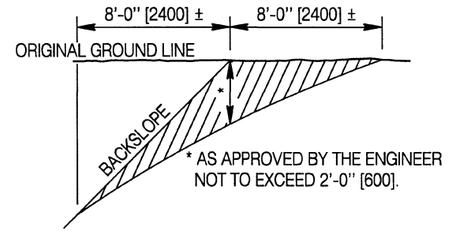


FILL SECTION

Grading Notes

(A) Backslope (Variable)
Hold the horizontal distance constant from the centerline of the traveled way to top of the backslope in any one cut. Construct the backslope with a variable rate of slope, depending upon the depth of the cut, but normally not steeper than 1V:3H.

(B) Backslope Blending
See "Blend Diagram" for construction procedure.



(C) Ditch Section
Hold the ditch section width constant in any one cut.

(D) Contour Ditch
Construct and locate contour ditches as approved by the engineer. Locate contour ditches above the point of intersection between the backslope and the original ground line at sites having a drainage area of sufficient size where surface runoff would erode the backslope. Construct contour ditches on contour grades to reduce erosion. When ordered by the engineer, construct the ditch before excavation from the cut begins.

(E) Fill Slope (Variable)
Make transitions between different rates of fill slopes in a distance that provides a uniform warped section having a pleasing natural appearance.

(F) Fill Slope Toe Ditch
Construct ditches at locations designated by the engineer to reduce erosion along the toe of the fill slope. Smooth excavation from ditches along the fill slope.

(G) Daylight Shallow Cut
Construct daylight shallow cuts as staked by the engineer.

(H) Moisture Density Control (Cuts)
Outer limits of MDC are from ditch bottom to ditch bottom. Depth of MDC is to the ditch bottom or a maximum of 2' [600].

(I) Scarified Surface (Fills)
Scarify the surface to a depth of 6" [150], adjust moisture content and compact to not less than 90% of maximum.

Professional Engineer (Civil)
WILLIAM B. WILSON
5825
Date 12-8-08
WYOMING

Designed by:	WBW
Drawn by:	JK
Checked by:	WBW
Previous Dwg. No.	203-2

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

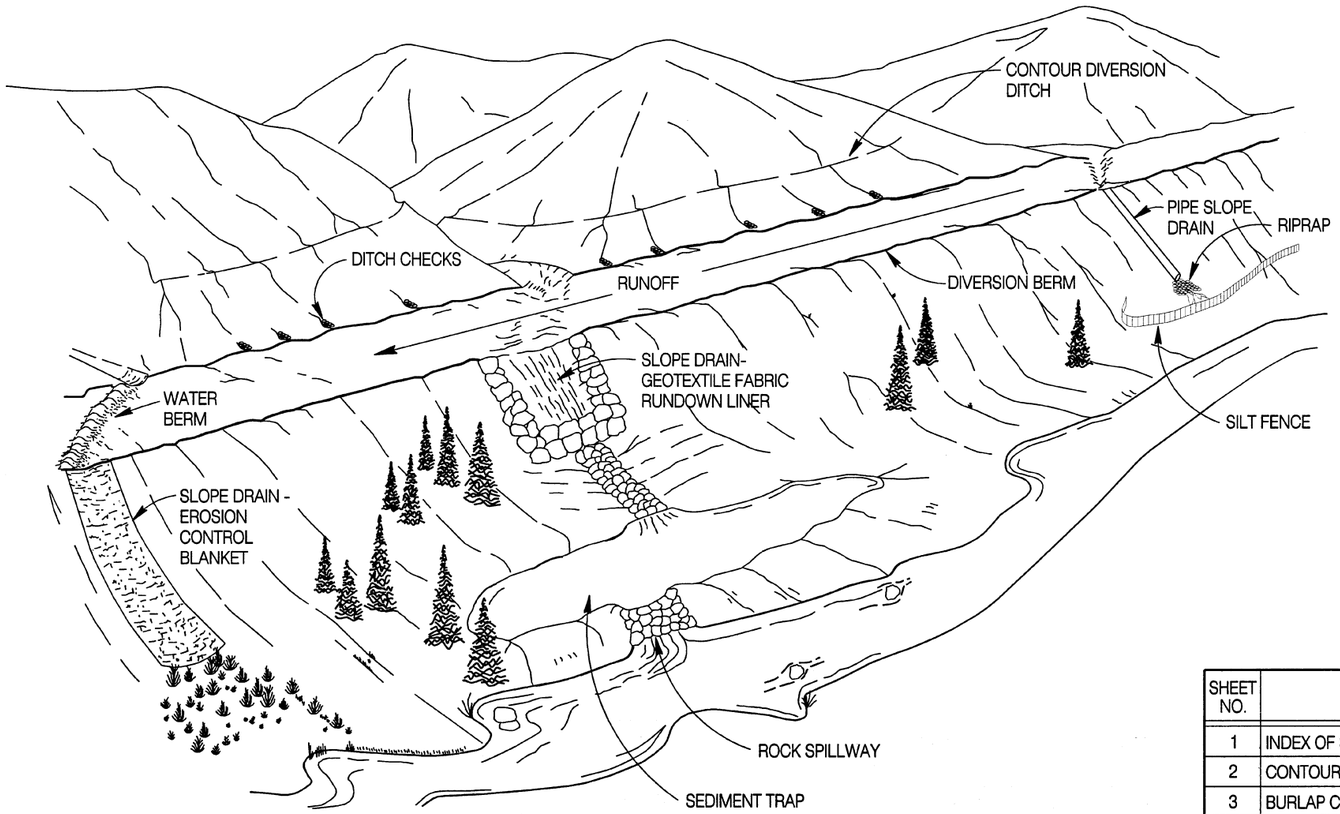
EARTHWORK

STANDARD PLAN

STANDARD PLAN NUMBER
203-2A
SHEET 1 of 1
Issued by: PROJECT DEVELOPMENT
Date Issued: MARCH 2009

GENERAL NOTE

This standard plan includes some, but not all techniques for limiting erosion and pollution during construction operations. Limit size of areas to be disrupted to reduce the quantity of erosion control devices to be installed and maintained. Adhere to Best Management Practices (BMP) and project erosion control plan. Refer to specifications for detailed information not shown hereon.



BASIC EROSION CONTROL SYSTEM

SHEET NO.	ITEM
1	INDEX OF SHEETS, GENERAL INFORMATION & BASIC EROSION CONTROL SYSTEM
2	CONTOUR DIVERSION DITCHES AND ROADBED RUN-OFF BERMS
3	BURLAP CURB DIVERSION DIKE FOR SLOPE DRAIN AND LEVEL SPREADER DETAILS
4	SLOPE DRAINS
5	FILL SLOPE SHEET FLOW PROTECTION
6	DITCH CHECKS - EXCELSIOR LOGS & EROSION BALES
7	DITCH CHECKS - TRIANGULAR SILT DIKES & ROCK CHECK DIKES
8	SEDIMENT TRAPS FOR INLET PROTECTION
9	MISCELLANEOUS SEDIMENT TRAPS
10	CHEMICAL WATER TREATMENT
11	TEMPORARY PIPE DIVERSION CHANNEL

Professional Engineer (Civil) WILLIAM B. WILSON 5625 Date 2-24-04 WYOMING

Designed by:	KBP
Drawn by:	GLD
Checked by:	WBW
Previous Dwg. No.	215-01C

INDEX OF SHEETS, GENERAL INFORMATION & BASIC EROSION CONTROL SYSTEM

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

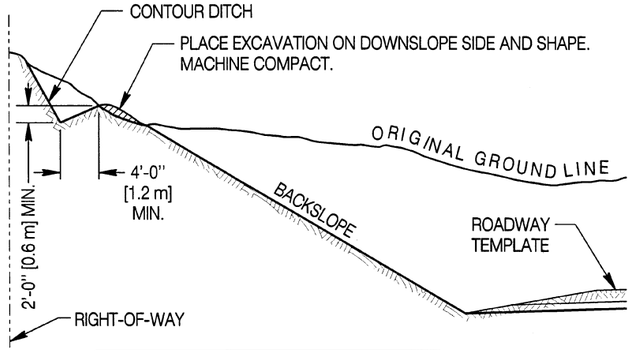
WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

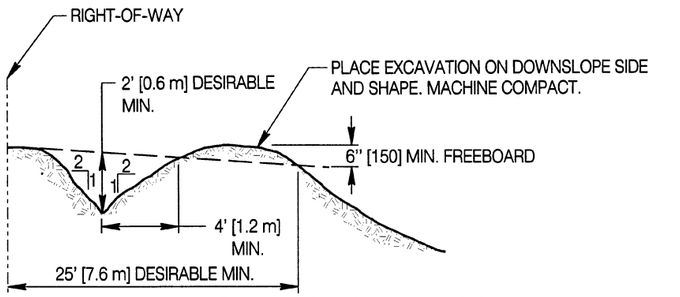
STANDARD PLAN

STANDARD PLAN NUMBER
215-1
SHEET 1 of 11
Issued by: ENGINEERING SERVICES
Date issued: MARCH, 2004

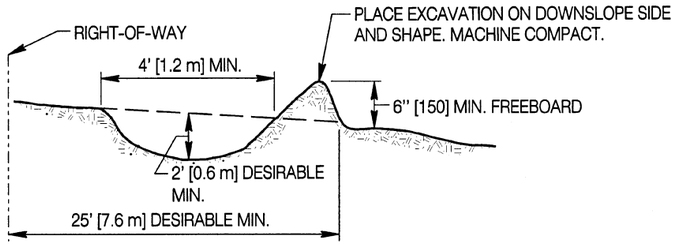
FILE: j:\Stan\Dual_Std_Wrk\2151_01.dgn



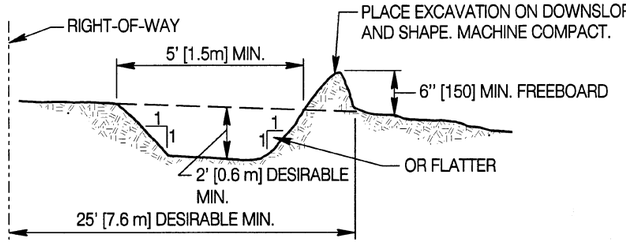
TYPICAL CONTOUR DIVERSION DITCH LOCATION



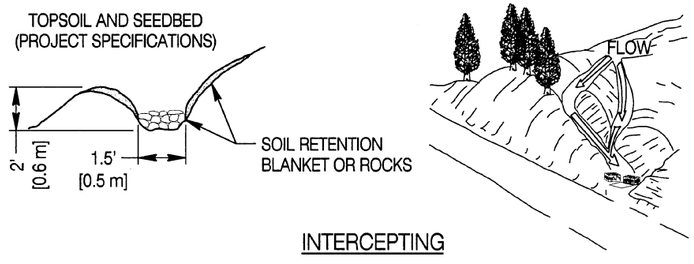
TRIANGULAR CONTOUR DIVERSION



PARABOLIC CONTOUR DIVERSION

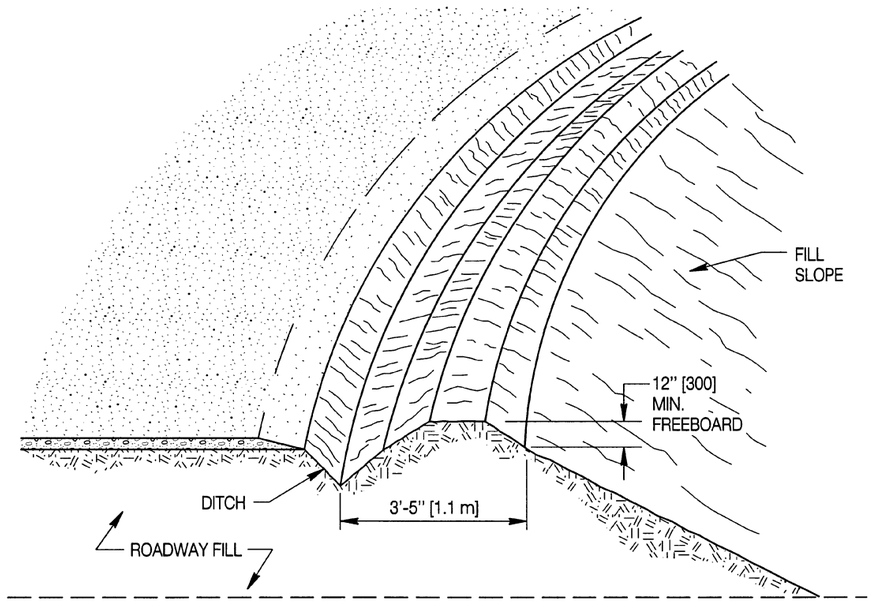


TRAPEZODIAL CONTOUR DIVERSION



INTERCEPTING

TYPES OF DITCHES



INTERIM EARTHWORK BERM

Determine height and width of temporary berms by the size of the run-off area. Compact berms with several passes of dozer or grader wheels as approved by the engineer.

Designed by: KBP	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 215-01C	

CONTOUR DIVERSION DITCHES AND ROADBED RUN-OFF BERMS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

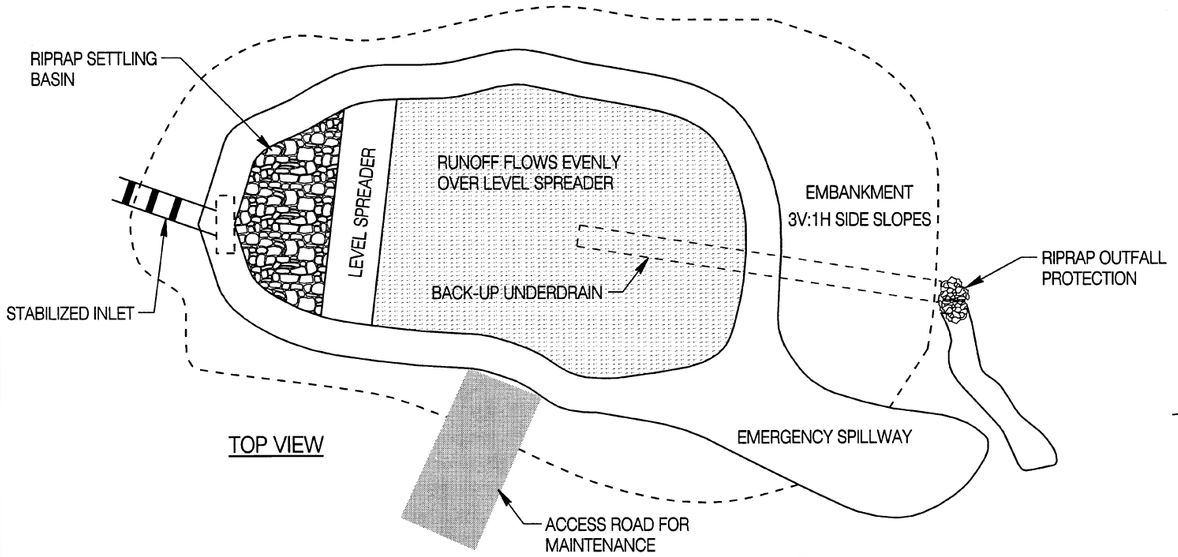
WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

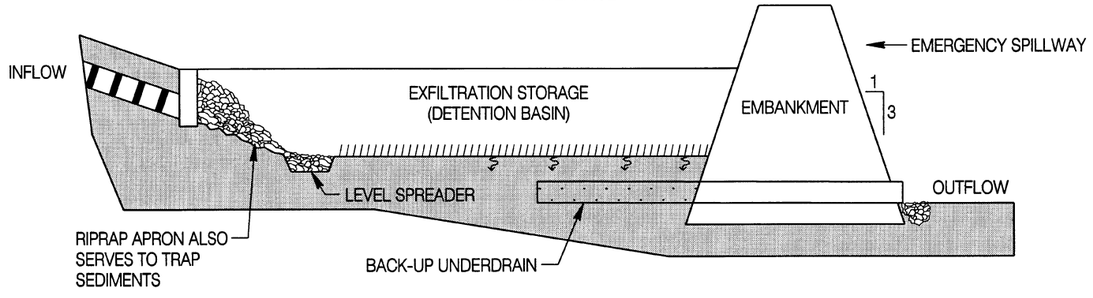
STANDARD PLAN

STANDARD PLAN NUMBER	215-1
SHEET	2 of 11
Issued by:	ENGINEERING SERVICES
Date Issued:	MARCH, 2004

FILE: j:\Stan\Dual_Std_Wrk\2151_02.dgn



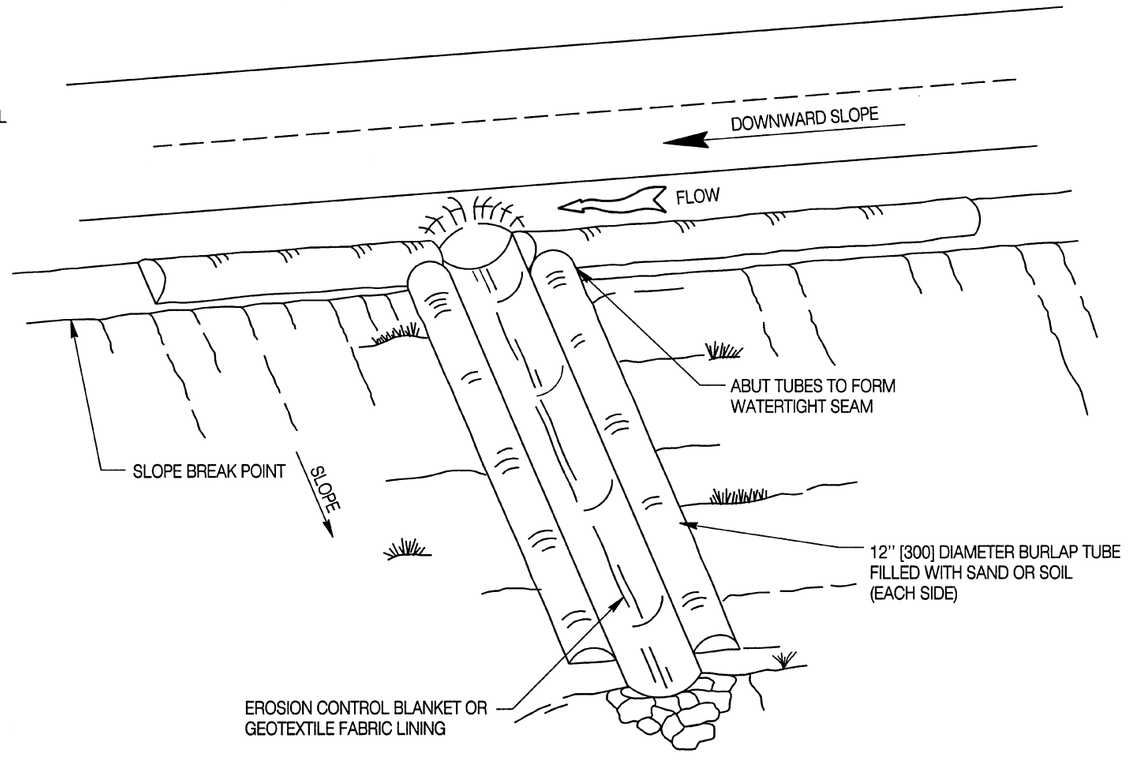
TOP VIEW



SIDE VIEW

LEVEL SPREADER

Water may be diverted from a slope by one of the above ditches and then redistributed with a level spreader. The level spreader may be covered with geotextile fabric, erosion control blankets, or rock.



BURLAP TUBE DIVERSION DIKE

Construct temporary run-off diversions with burlap tubes, low berming, or by excavating and lining a shallow channel.

Designed by:	KBP
Drawn by:	GLD
Checked by:	WBW
Previous Dwg. No.	215-01C

BURLAP CURB DIVERSION DIKE FOR SLOPE DRAIN AND LEVEL SPREADER DETAILS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

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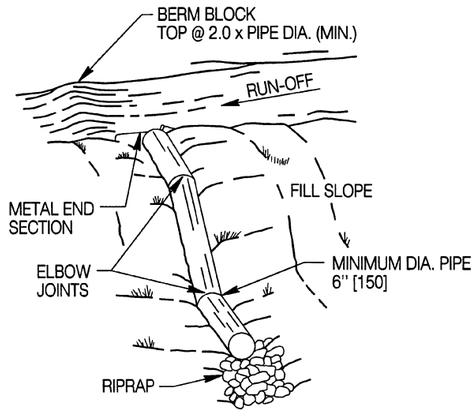
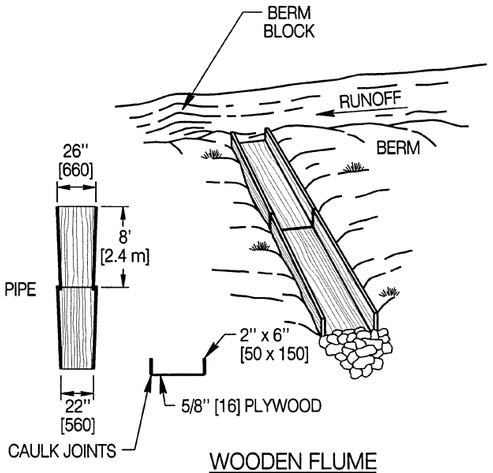
Issued by: ENGINEERING SERVICES
Date Issued: MARCH, 2004

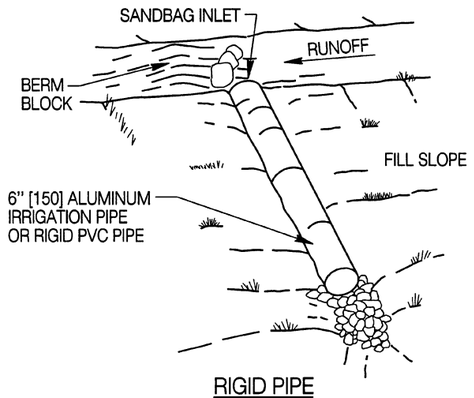
FILE: j:\Stan\Dual_Std_Wrk\2151_03.dgn



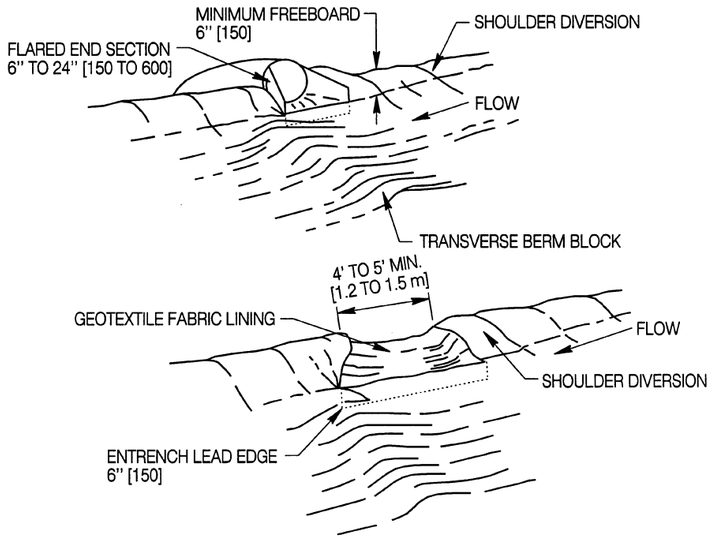
JOINTED PIPE



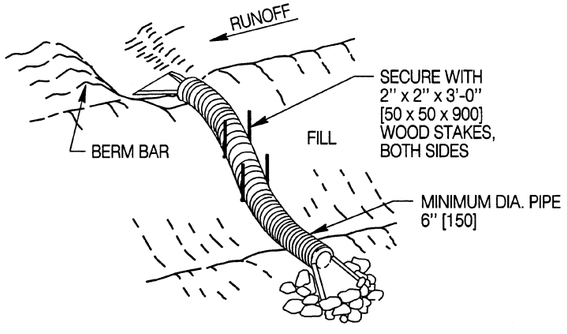
WOODEN FLUME



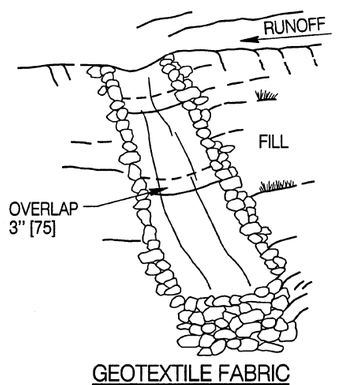
RIGID PIPE



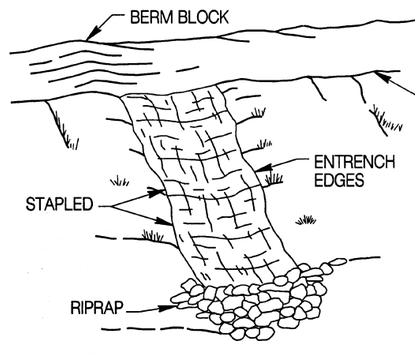
SLOPE DRAIN INLETS



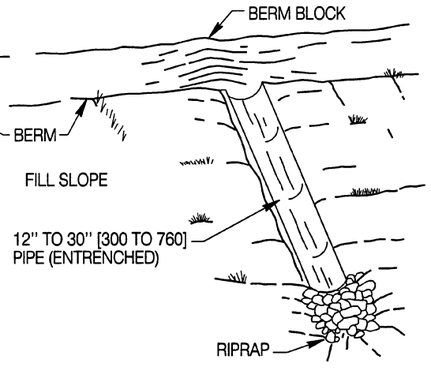
FLEXIBLE PIPE



GEOTEXTILE FABRIC
DITCH LINER



EROSION CONTROL
BLANKET RUNDOWN



HALF-ROUND PIPE

TYPES OF SLOPE DRAINS

Construct slope drains at frequent intervals along countinuous fill slopes and at low points on roadway grade.

Designed by: KBP Drawn by: GLD Checked by: WBW Previous Dwg. No. 215-01C	SLOPE DRAINS	WYOMING DEPARTMENT OF TRANSPORTATION	TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION STANDARD PLAN	STANDARD PLAN NUMBER 215-1 SHEET 4 of 11 Issued by: ENGINEERING SERVICES Date Issued: MARCH, 2004

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

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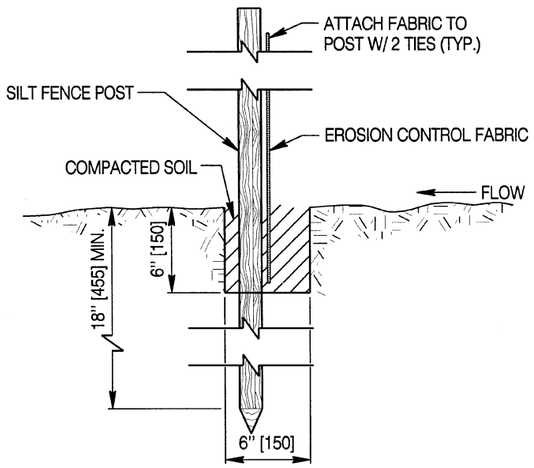
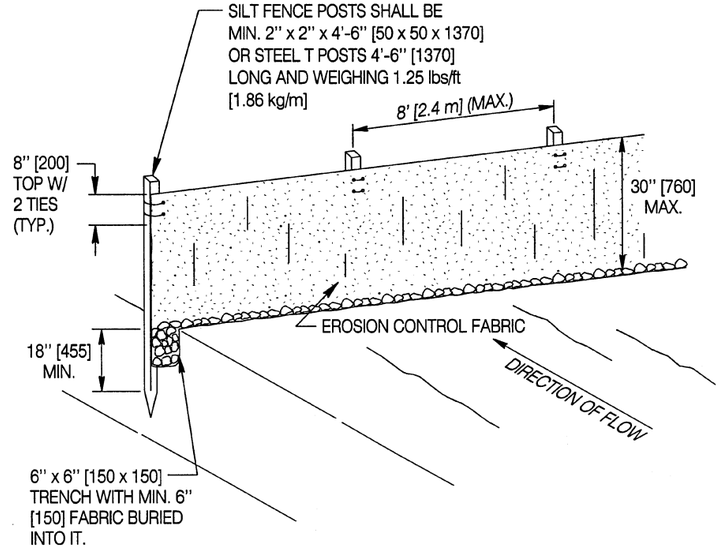
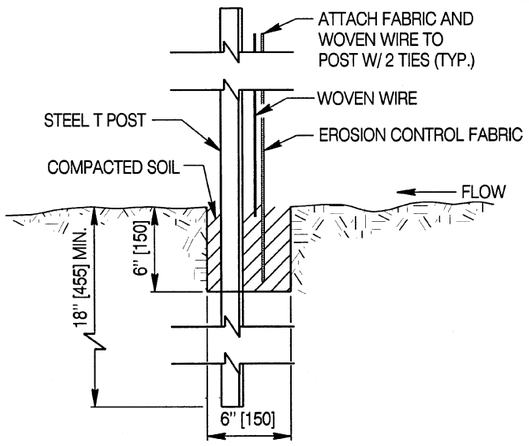


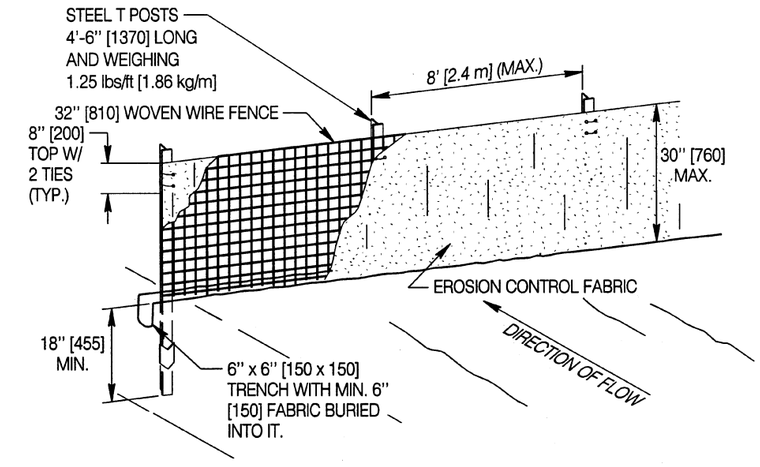
STANDARD SILT FENCE TRENCH DETAIL



STANDARD SILT FENCE



WIRE-REINFORCED SILT FENCE TRENCH DETAIL

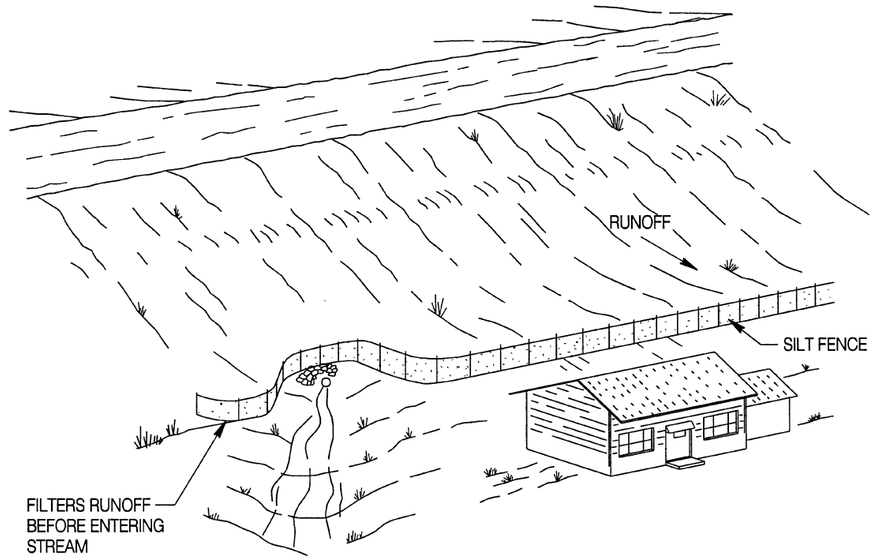


WIRE-REINFORCED SILT FENCE

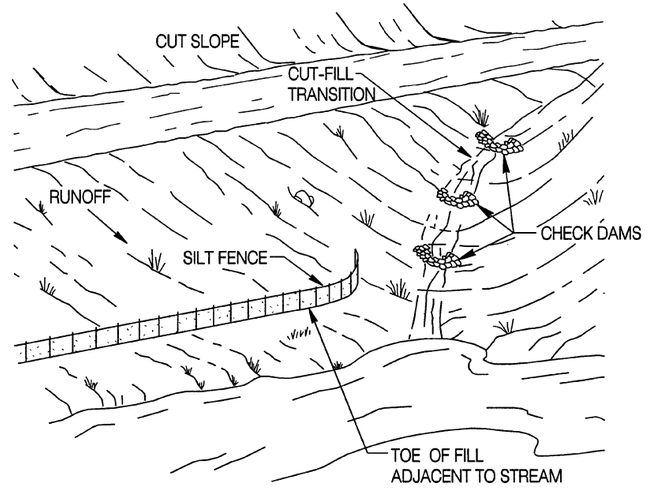
Usage: Place above WDEQ Class I waters and in severe snowfall or high wind areas.

Silt Fence Usage:

Place around inlets, across minor swales, and at the toe of fill slopes adjacent to developed property. Area to be handled shall not exceed 1000 ft² [93 m²] per 10 ft [3 m] of fence. Use caution on slopes in excess of 1V:1H when water flow rates exceed 1 cfs [.03 m³/s] per 10 ft [3 m] of fence.



PROTECTION OF ADJACENT PROPERTY



PROTECTION OF LIVE STREAM

SILT FENCE APPLICATIONS

Designed by: KBP Drawn by: GLD Checked by: WBW Previous Dwg. No. 215-01C	FILL SLOPE SHEET FLOW PROTECTION	WYOMING DEPARTMENT OF TRANSPORTATION

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

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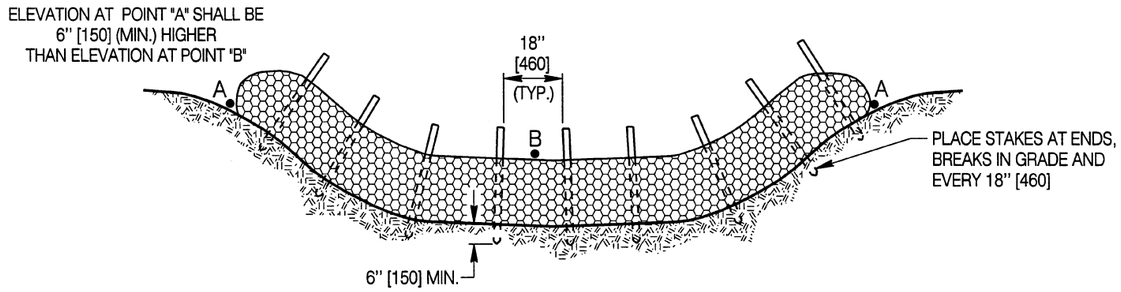
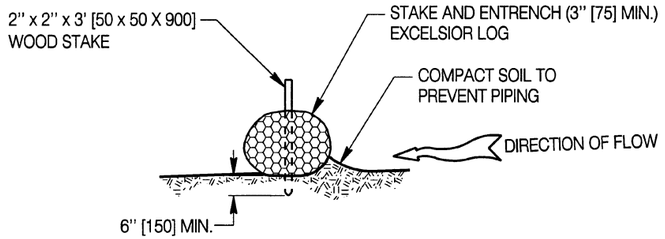
Date Issued: MARCH, 2004

FILE: j:\Stan\Dual_Std_Wrk\2151_05.dgn

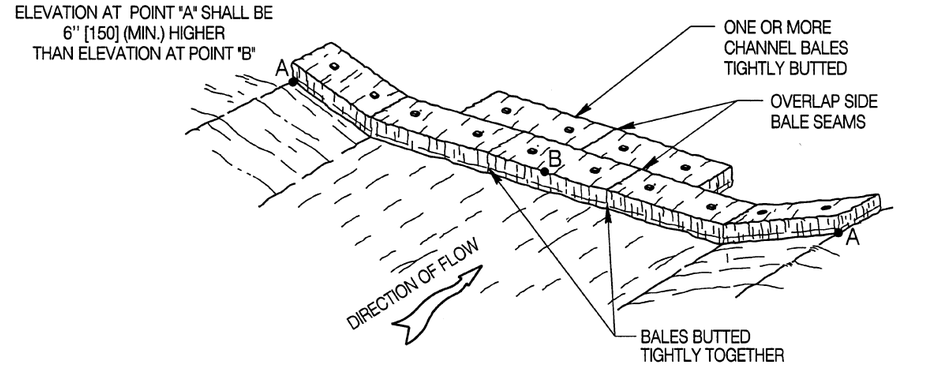


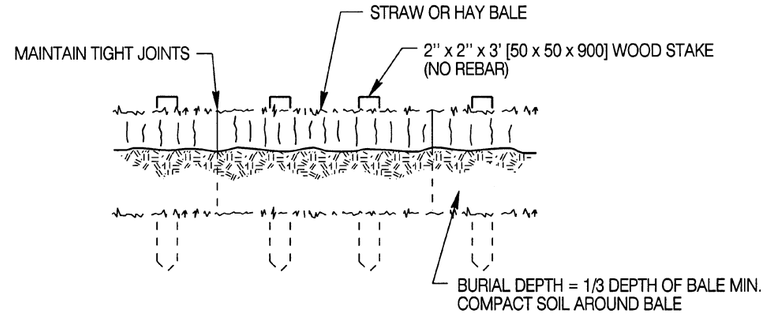
FRONT VIEW



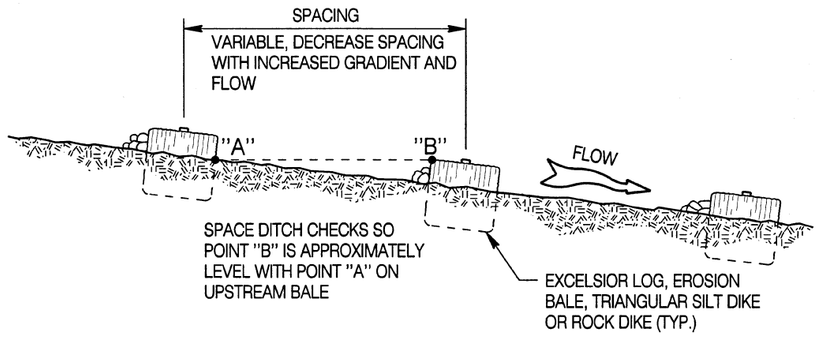
SECTION VIEW

EXCELSIOR LOG DITCH CHECK





EROSION BALE DITCH CHECK



GENERAL DITCH CHECK SPACING DETAIL

General Notes:

1. Place erosion bale check dams in a wide swale.
2. Where a high volume of run-off is expected, cover erosion bales with plastic 10 mil thick.
3. Place rock check dams in narrow ditches and gullies.
4. Concentrate the flow of water to the center of the channel.
5. Place ends of the check dam 6" [150] above the center and curve upstream to prevent flow around the ends.
6. Reduce water velocity and trap sediment by placing check dams more frequently as slope and flow increase.

Designed by: KBP Drawn by: GLD Checked by: WBW Previous Dwg. No. 215-01C	DITCH CHECKS - EXCELSIOR LOGS & EROSION BALES	WYOMING DEPARTMENT OF TRANSPORTATION	TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION STANDARD PLAN	STANDARD PLAN NUMBER 215-1 SHEET 6 of 11 Issued by: ENGINEERING SERVICES Date Issued: MARCH, 2004

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

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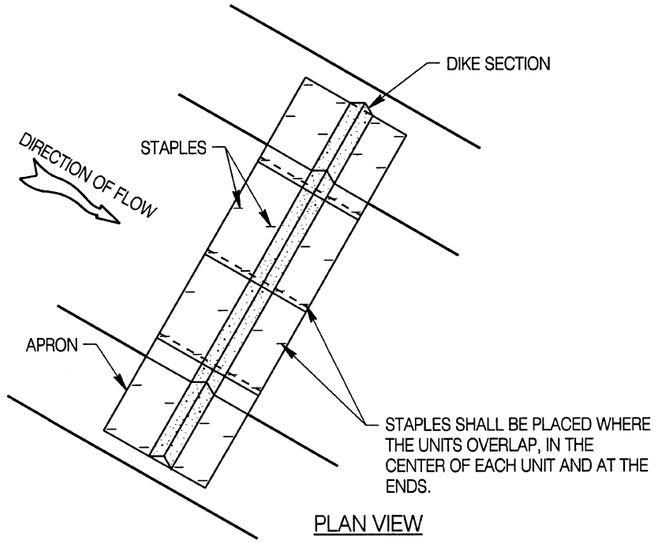
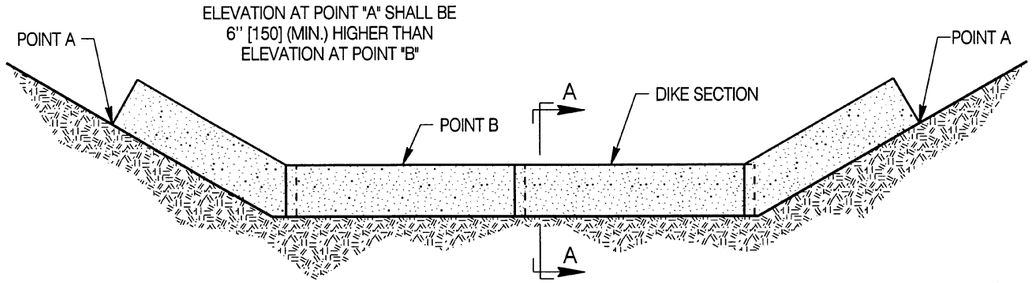
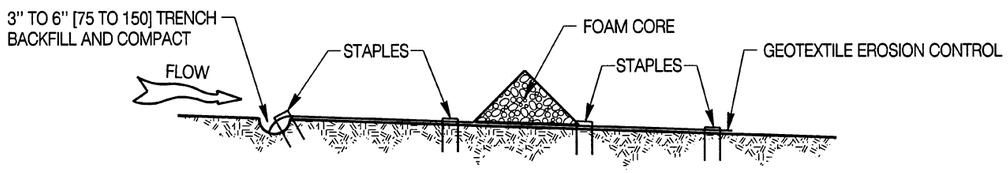


PLAN VIEW

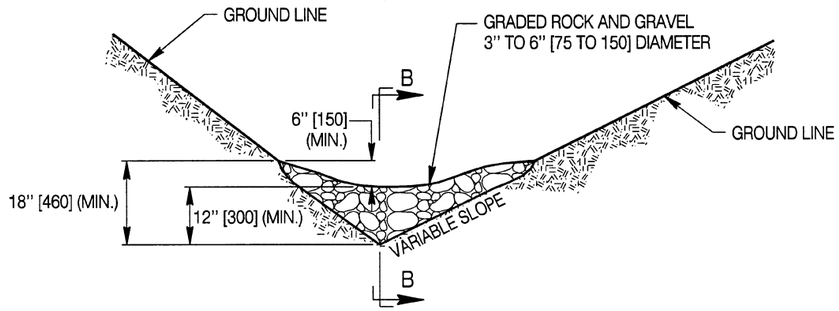


UP CHANNEL VIEW

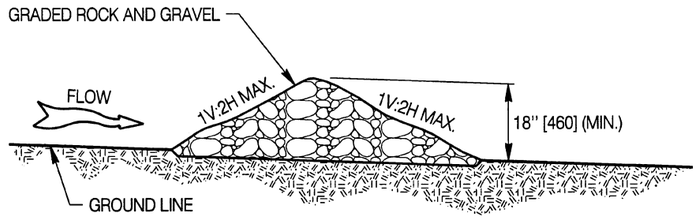


SECTION A-A

TRIANGULAR SILT DIKE (SYNTHETIC)



ELEVATION



SECTION B - B

ROCK CHECK DIKE

ROCK DITCH CHECKS WILL NOT BE ALLOWED WITHIN THE LIMITS OF THE CLEAR ZONE.

See sheet 6 for Ditch Checks notes and general details.

Designed by:	KBP
Drawn by:	GLD
Checked by:	WBW
Previous Dwg. No.	215-01C

DITCH CHECKS - TRIANGULAR SILT DIKES & ROCK CHECK DIKES

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

STANDARD PLAN

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215-1
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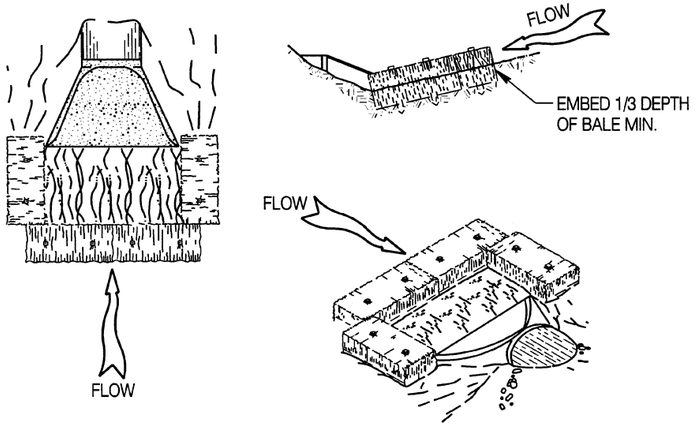
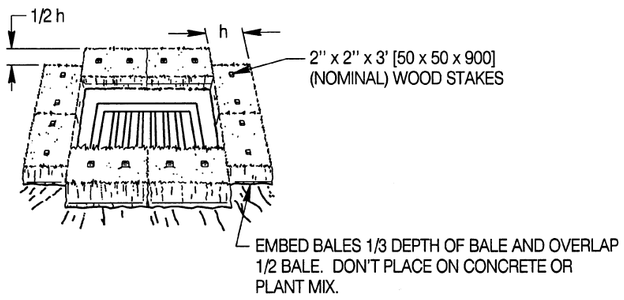
Issued by: ENGINEERING SERVICES
Date Issued: MARCH, 2004

FILE: j:\Stan\Dual_Std_Wrk\2151_07.dgn



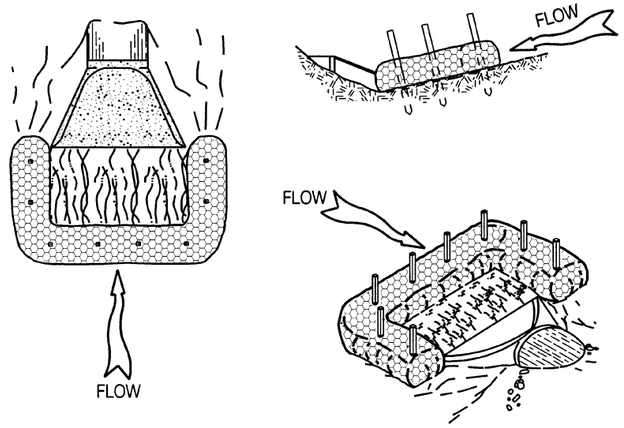
EROSION BALE CULVERT INLET TRAP FOR FLARED END INLETS



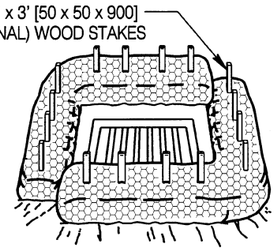
EROSION BALE INLET TRAP FOR M1 INLETS

Note:

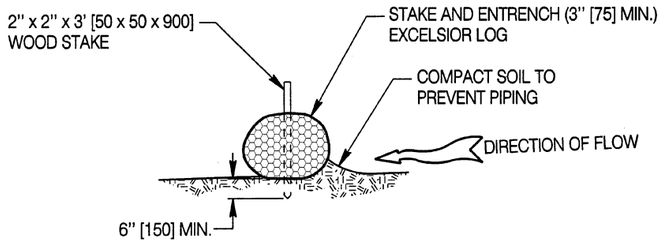
1. Limit use of erosion bales to situations where expected storm water flow volumes are low.
2. Install bales tightly and compact soil all around. Install so that water is not allowed to flow around, beneath or under bales.
3. When no longer needed, spread seed and mulch with the erosion bale.



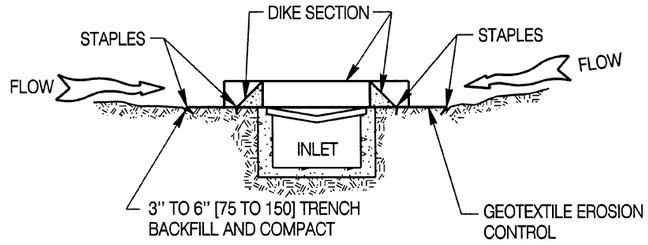
EXCELSIOR LOG CULVERT INLET TRAP FOR FLARED END INLETS



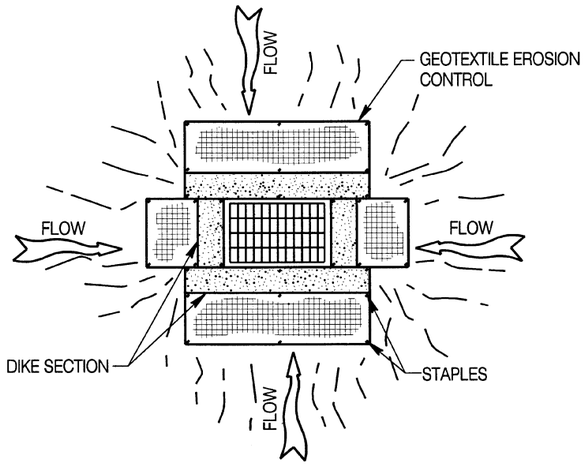
EXCELSIOR LOG INLET TRAP FOR M1 INLETS



SECTION VIEW



SECTION VIEW



SYNTHETIC TRIANGULAR INLET TRAP FOR M1 INLETS

Designed by: KBP	SEDIMENT TRAPS FOR INLET PROTECTION
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 215-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

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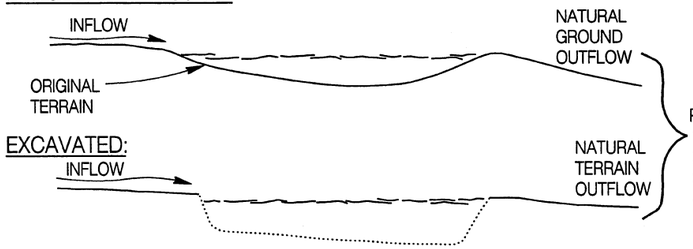
Issued by: ENGINEERING SERVICES
Date Issued: MARCH, 2004

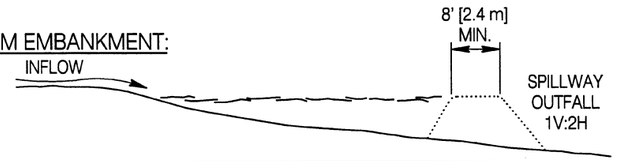
FILE: j:\Stan\Dual_Std_Wrk\2151_08.dgn

NATURAL DEPRESSION:

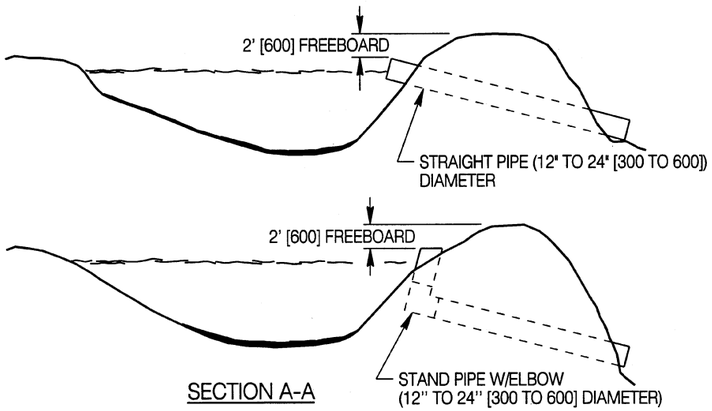


PROTECT OUTFLOW BY:
1. NATURAL VEGETATION
2. EROSION CONTROL BLANKETS
3. GEOTEXTILE FABRIC
4. ROCK RIP RAP

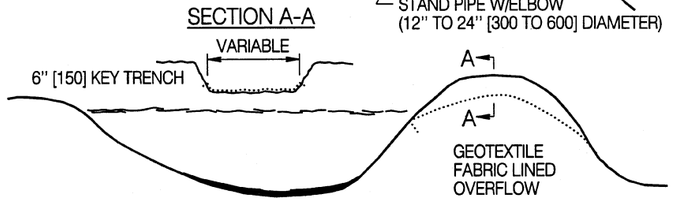
DAM EMBANKMENT:



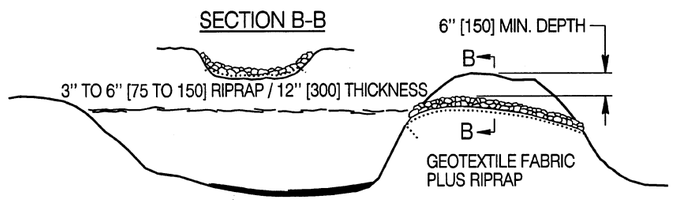
TYPES OF SEDIMENT TRAPS



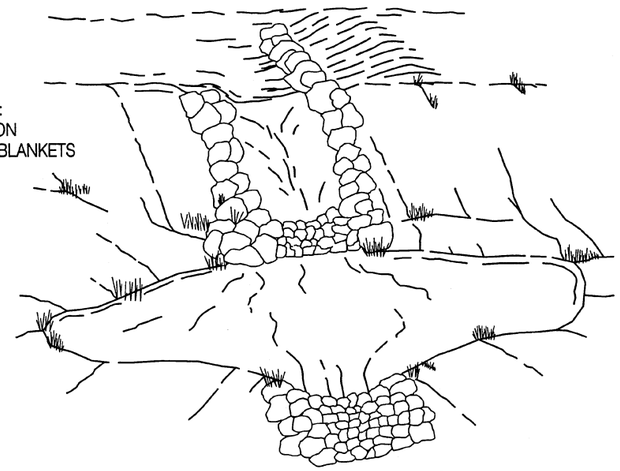
SECTION A-A



SECTION B-B



SEDIMENT TRAP OUTLETS



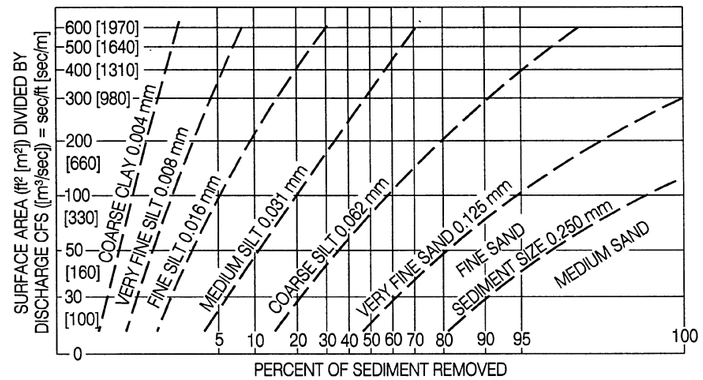
SEDIMENTATION TRAP

$$\text{APPROXIMATE VOLUME} = D\left(\frac{L_o W_o + L_i W_i}{2}\right)$$

D = AVERAGE WATER DEPTH (MIDDLE OF POND)
W_o = WIDTH OF POND AT TOP (SURFACE)
W_i = WIDTH OF POND AT BOTTOM
L_o = LENGTH OF POND AT TOP (SURFACE)
L_i = LENGTH OF POND AT BOTTOM

ALTERNATIVE SEDIMENT TRAP DRAINS

CHART FOR DETERMINING SIZE OF SEDIMENT TRAPS



PERCENT OF SEDIMENT REMOVED FOR DIFFERENT BASIN SIZES, SEDIMENT SIZES, AND DISCHARGES.

Sediment Traps

Sediment traps are small water detention basins which allow sediment to settle out before the water is allowed to enter streams or ditches.

Determine size and percentage of particles. Remove ninety percent of all particles larger than fine sand. Remove silt and clay particles with trap, chemical system, or both, as approved by the engineer.

The required surface area of the trap is computed using the above chart. The horizontal scale shows the percent of sediment load removed and the vertical axis gives the ratio of the required surface area divided by the discharge.

Example:

Given: 1. Q_2 = 3 CFS [0.08 m³/sec.]
2. Must remove 90% of particles larger than course silt.

Solution: 1. Read up from 90% removal to the coarse silt curve.
2. Read across to the ratio of surface Area/Q = 280.
3. Use this number to compute the trap surface area. Surface area = 3 x 280 = 840 ft² [78 m²]
4. The trap dimensions may be any combination which give this surface area, 25 ft x 34 ft [7.6 m x 10.4 m] or 15 ft x 57 ft [4.6 m x 17.4 m]. The terrain generally controls these dimensions.

Construct depth of trap from spillway to low point not to exceed 3 ft [0.9 m].

Construct a geotextile lined overflow channel for small design flows up to 3 CFS [0.08 m³/sec] over low dam.

Add riprap for greater flows over higher dam embankments.

As approved by the engineer, place pipe outlets in overflow spillways.

Construct pipe outlet so that it provides a suitable freeboard to the dam crest and has suitable capacity to handle a two year frequency discharge.

Drain trap as approved by the engineer prior to storms that may inundate the trap system.

Designed by: KBP	MISCELLANEOUS SEDIMENT TRAPS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 215-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION

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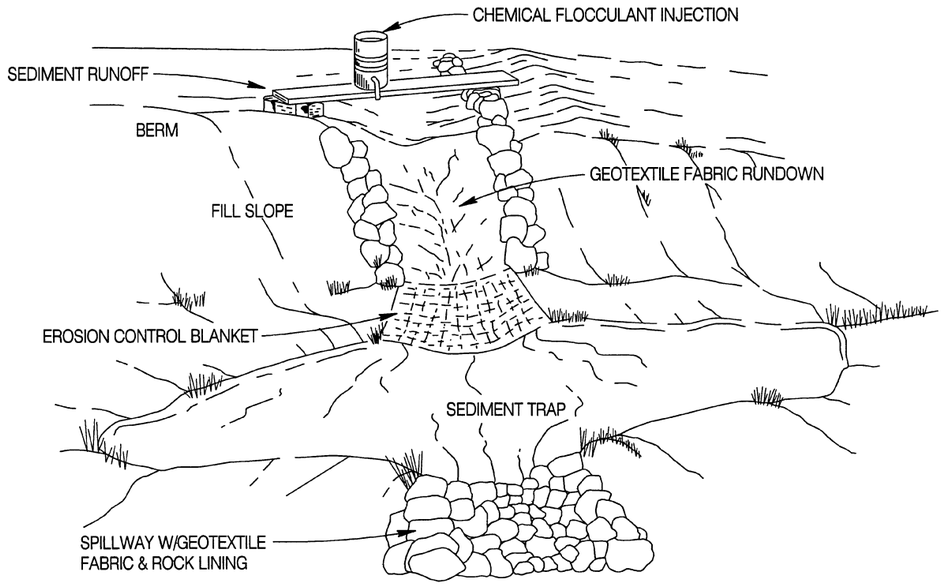
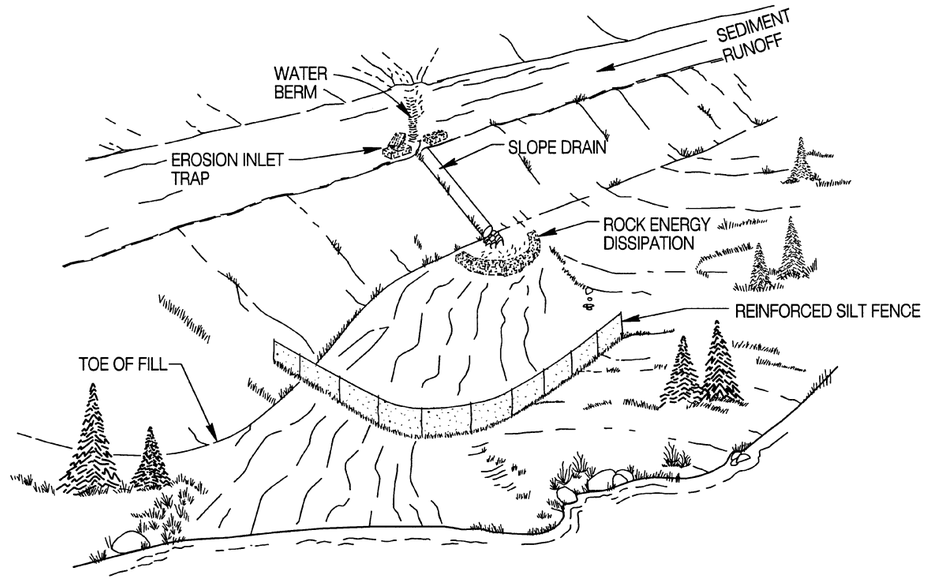
Date Issued: MARCH, 2004

FILE: j:\Stan\Dual_Std_Wrk\2151_09.dgn



CHEMICAL TREATMENT



DIRTY WATER TREATMENT SYSTEM

CHEMICAL WATER TREATMENT, DIRTY WATER TREATMENT SYSTEM

Chemical settling agents may be warranted where turbidity caused by fine silt particles (which pass through the other sediment control devices) cannot be tolerated.

Chemical settling agents form a nucleus which attracts small soil particles (flocculation). This heavier conglomerate of particles then can be trapped.

Add the chemical at the top of the slope rundown or at the entrance of the sedimentation pond to insure even mixing. The chemical is effective in the still or slow waters of the pond.

Use only non-toxic settling agents. Injection methods, concentration, and effective maintenance shall be as directed and according to the manufacturer's recommendation.

Designed by: KBP Drawn by: GLD Checked by: WBW Previous Dwg. No. 215-01C	CHEMICAL WATER TREATMENT	WYOMING DEPARTMENT OF TRANSPORTATION	TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION STANDARD PLAN	STANDARD PLAN NUMBER 215-1 SHEET 10 of 11 Issued by: ENGINEERING SERVICES Date Issued: MARCH, 2004

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

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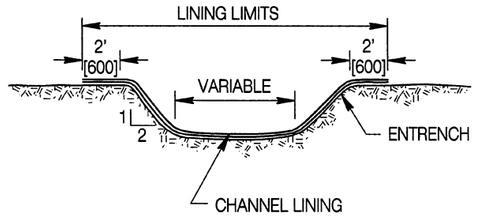
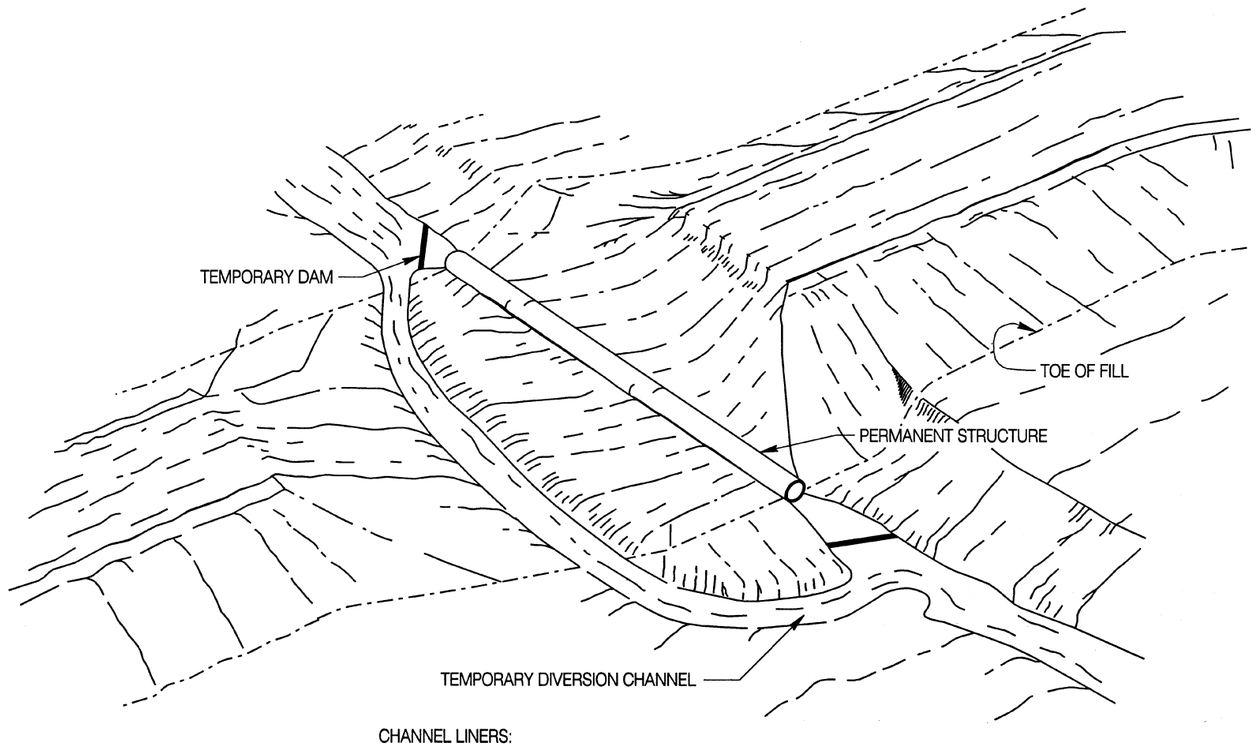




CHANNEL LINERS:
EROSION CONTROL BLANKET, ROCK, GEOTEXTILE FABRIC

TEMPORARY PIPE DIVERSION CHANNEL

Notes:

Construct temporary diversion channels to convey flows around a work site to keep the area dry while permanent drainage structures are being constructed.

Construct the following sequence:

1. Excavate and shape the diversion channel with a plug at both ends.
2. Install channel linings as specified.
3. Remove plugs and divert flow into diversion channel.
4. Construct permanent drainage structures.
5. Divert flow through the permanent structure.
6. Salvage material and obliterate temporary diversion channel.

Line temporary diversion channel with erosion control blankets when specified and as approved by the engineer.

When using erosion control blankets or geotextile fabric or rock, cover the entire structure.

Entrench the lining and anchor with rocks or soil.

Overlap 2 ft [600] and pin edges to the ground.

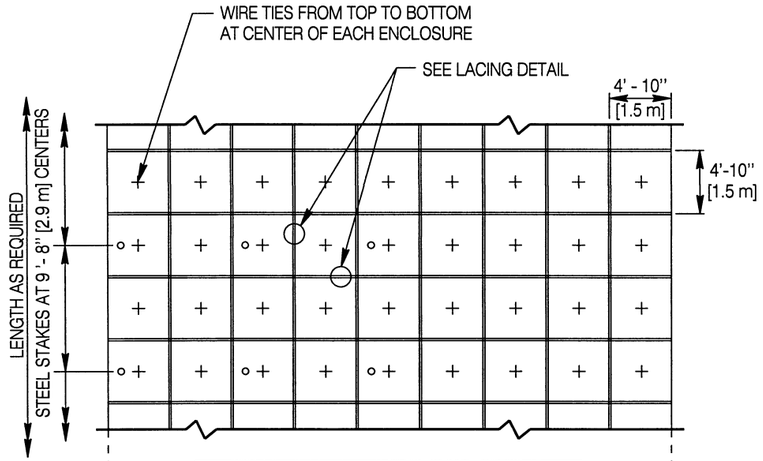
Use silt fence or berms as approved by the engineer parallel across the top of the channel to prevent sediment laden run-off from other construction from entering water sensitive areas.

Inspect temporary diversions, contour diversion ditches, berms and burlap tubes frequently to ensure that there are no breaks or underwashing of the structure.

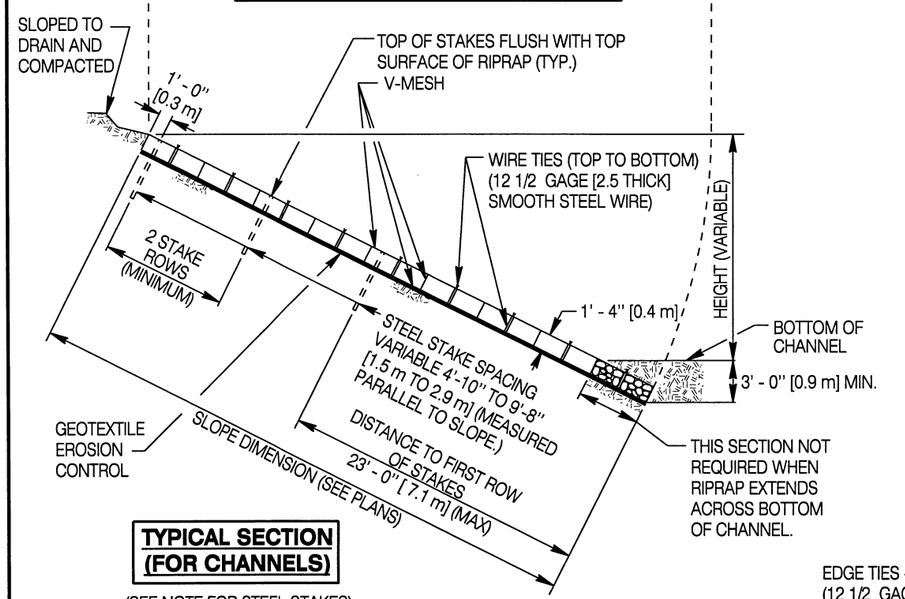
Designed by: KBP Drawn by: GLD Checked by: WBW Previous Dwg. No. 215-01C	TEMPORARY PIPE DIVERSION CHANNEL	WYOMING DEPARTMENT OF TRANSPORTATION	TEMPORARY EROSION CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION STANDARD PLAN	STANDARD PLAN NUMBER 215-1 SHEET 11 of 11 Issued by: ENGINEERING SERVICES Date Issued: MARCH, 2004

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

FILE: j:\Stan\Dual_Std_Wrk\2151_11.dgn

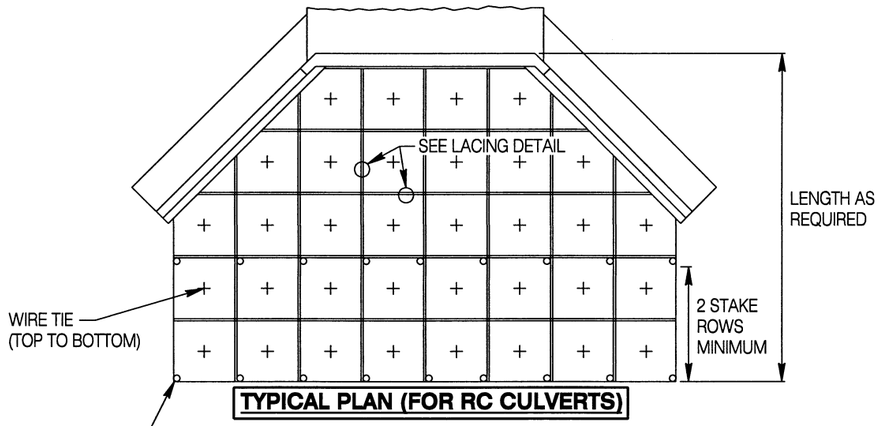


TYPICAL PLAN NORMAL TO SLOPE (FOR CHANNELS)

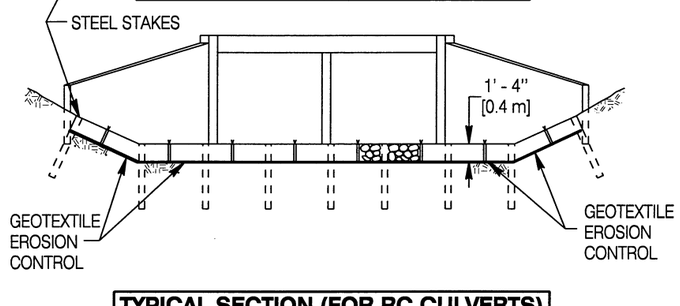


TYPICAL SECTION (FOR CHANNELS)

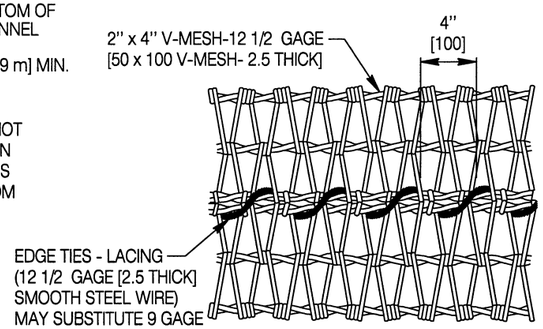
(SEE NOTE FOR STEEL STAKES)



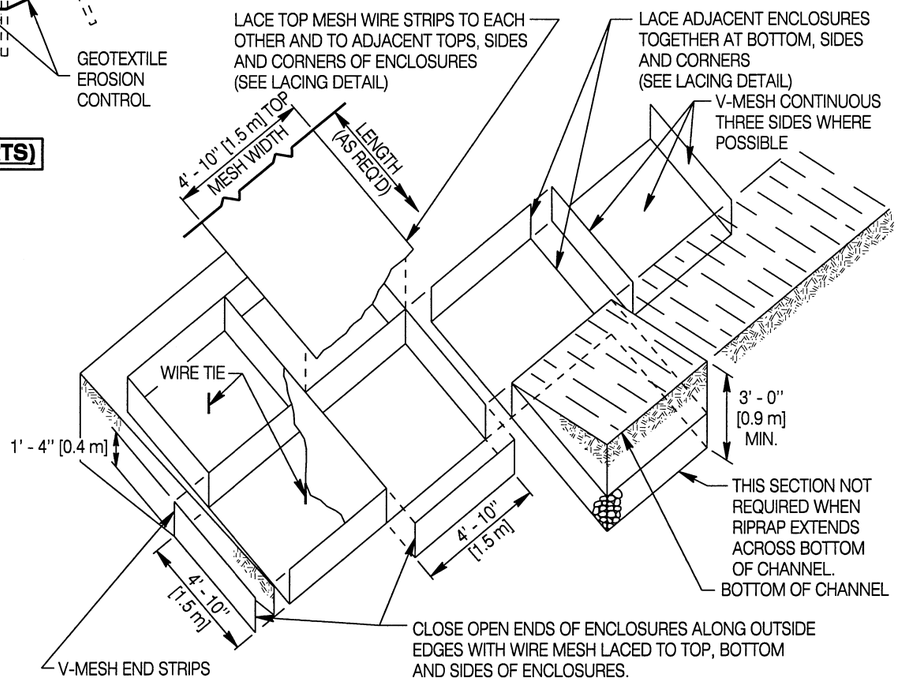
TYPICAL PLAN (FOR RC CULVERTS)



TYPICAL SECTION (FOR RC CULVERTS)



LACING DETAIL FOR WIRE ENCLOSED RIPRAP



EXPANDED VIEW

General Notes For Wire Enclosed Riprap

Steel Stakes

Use stakes on slopes that are 1V:2H and steeper.

Placement of stakes may vary with site conditions - place stakes as approved by the engineer.

V-Mesh

Use alternate mesh only with the approval of the engineer.

Lacing For Wire Enclosed Riprap

Lace edges and corners of wire mesh together.

Estimated Riprap Quantities

Estimate 0.444 CY [0.400 m^3] of riprap for 1 SY [1 m^2] surface area.

Geotextile Erosion Control (Fabric)

Place Geotextile erosion control under entire surface area of riprap.

Professional Engineer (Civil) WILLIAM B. WILSON 5825 Date 10-2-06 WYOMING

Designed by: CRR	WIRE ENCLOSED RIPRAP DETAILS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 511-1	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

WIRE ENCLOSED RIPRAP AND GABIONS

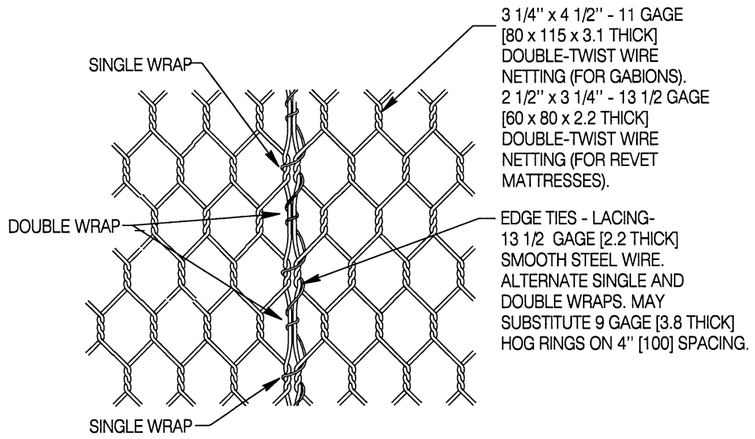
STANDARD PLAN

STANDARD PLAN NUMBER **511-1A**

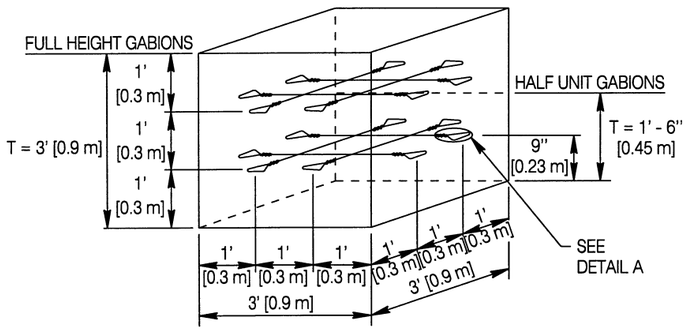
SHEET 1 of 3

Issued by: ENGINEERING SERVICES

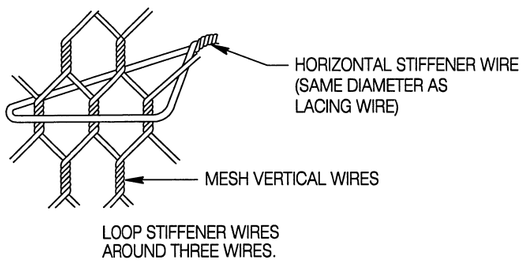
Date Issued: DECEMBER 2006



LACING DETAIL FOR GABIONS AND REVET MATTRESSES



HALF HEIGHT AND FULL HEIGHT GABION CELL HORIZONTAL STIFFENER WIRE REQUIREMENTS

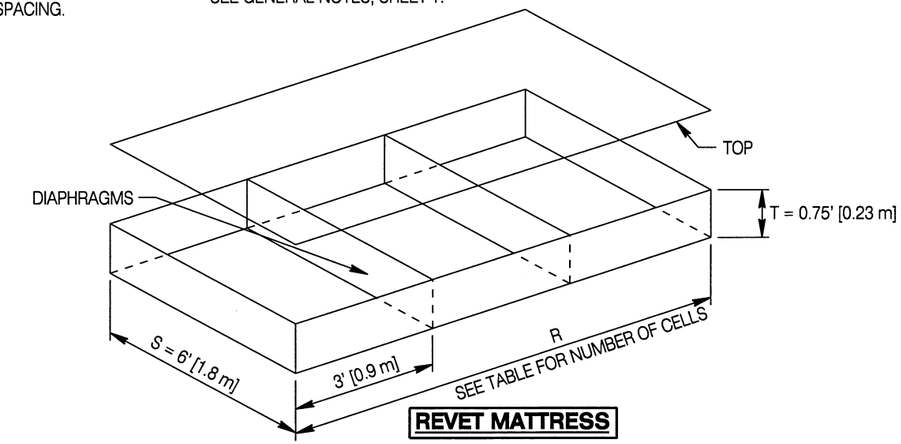


DETAIL A HORIZONTAL STIFFENER WIRE CONNECTION

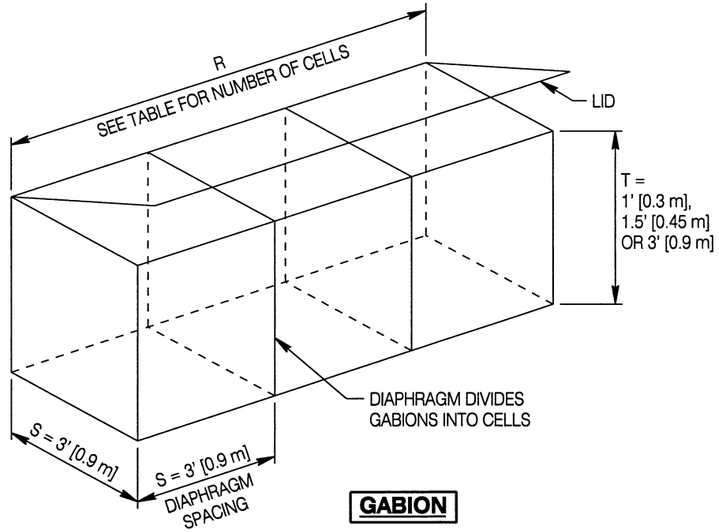
STAKE SPACING TABLE				
SLOPE	SPACING			
	ACROSS		DOWN	
	FT	m	FT	m
1V:2H	6	1.8	8	2.4
1V:2.5H	6	1.8	8	2.4
1V:3H	12	3.6	12	3.6
1V:4H	12	3.6	12	3.6
1V:5H	12	3.6	12	3.6
1V:6H	NONE		NONE	

STAKE LENGTH
CLAY SOIL - 4 ft. [1.2 m] SANDY SOIL - 6 ft. [1.8 m]

NOTE: PLACE STAKES NEAR CONNECTIONS OF UNITS WHEN POSSIBLE. USE STRAIGHT STAKES AND DO NOT WIRE TO THE BASKET. SEE GENERAL NOTES, SHEET 1.



REVET MATTRESS



GABION

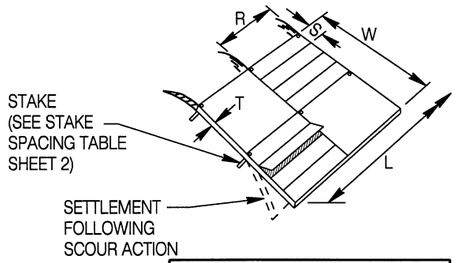
STANDARD REVET MATTRESS SIZES					
R x S x T		NO. OF CELLS (EACH UNIT)	UNIT CAPACITY		VOLUME PER SURFACE AREA
FT x FT x FT	m x m x m		CY	m^3	
9 x 6 x .75	2.7 x 1.8 x 0.23	3	1.5	1.1	0.028 CY/ft^2
12 x 6 x .75	3.6 x 1.8 x 0.23	4	2.0	1.5	0.23 m^3/m^2

STANDARD GABION SIZES					
R x S x T		NO. OF CELLS (EACH UNIT)	UNIT CAPACITY		VOLUME PER SURFACE AREA
FT x FT x FT	m x m x m		CY	m^3	
6 x 3 x 3	1.8 x 0.9 x 0.9	2	2.0	1.5	0.11 CY/ft^2 0.9 m^3/m^2
9 x 3 x 3	2.7 x 0.9 x 0.9	3	3.0	2.3	
12 x 3 x 3	3.6 x 0.9 x 0.9	4	4.0	3.1	
6 x 3 x 1.5	1.8 x 0.9 x 0.45	2	1.0	0.8	0.056 CY/ft^2 0.45 m^3/m^2
9 x 3 x 1.5	2.7 x 0.9 x 0.45	3	1.5	1.1	
12 x 3 x 1.5	3.6 x 0.9 x 0.45	4	2.0	1.5	
6 x 3 x 1	1.8 x 0.9 x 0.3	2	0.7	0.5	0.037 CY/ft^2 0.30 m^3/m^2
9 x 3 x 1	2.7 x 0.9 x 0.3	3	1.0	0.8	
12 x 3 x 1	3.6 x 0.9 x 0.3	4	1.3	1.0	

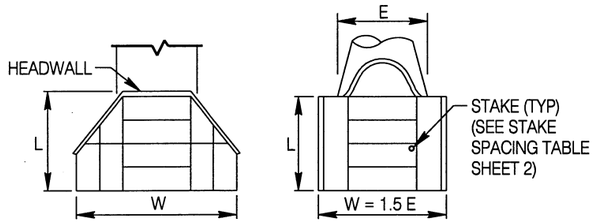
Gabion and Revet Mattress Construction

Place riprap in gabions in lifts not to exceed 1 ft. [0.3 m] or the height of each horizontal stiffener wire level, whichever is less. Install horizontal tie wires and proceed to the next lift. Continue until gabions are full. Lace lid or top to sides and diaphragms and tie to other units.

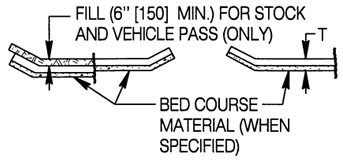
1 ft. [0.3 m] Gabions and Revet mattresses do not require horizontal stiffener wires.



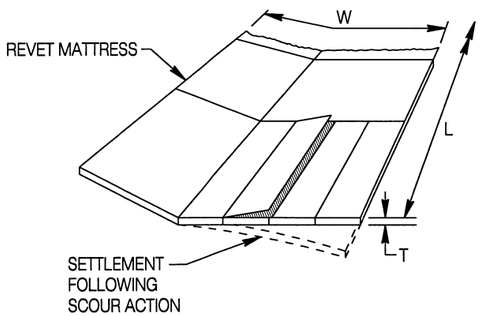
SIDE SLOPE TREATMENT



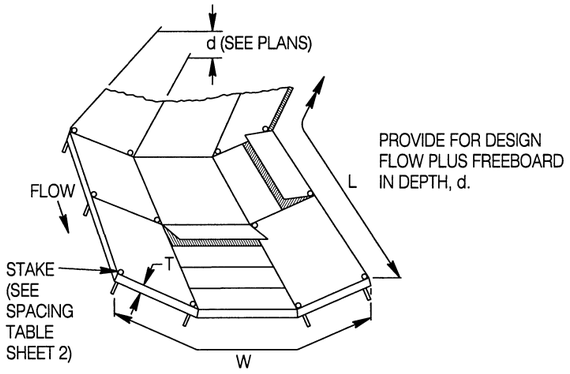
CULVERT FLARED END SECTION



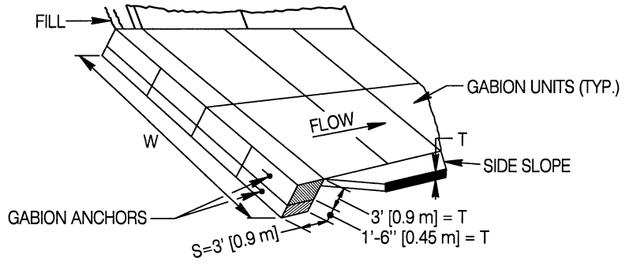
OUTLET TREATMENT

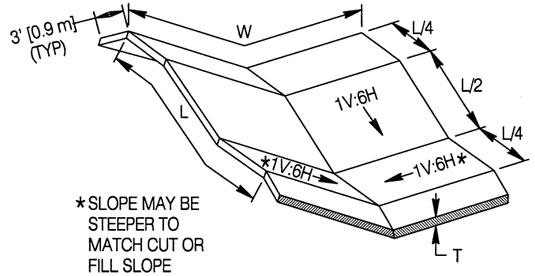


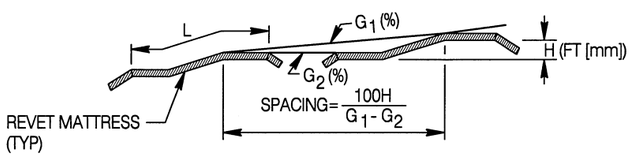
SCOUR APRON



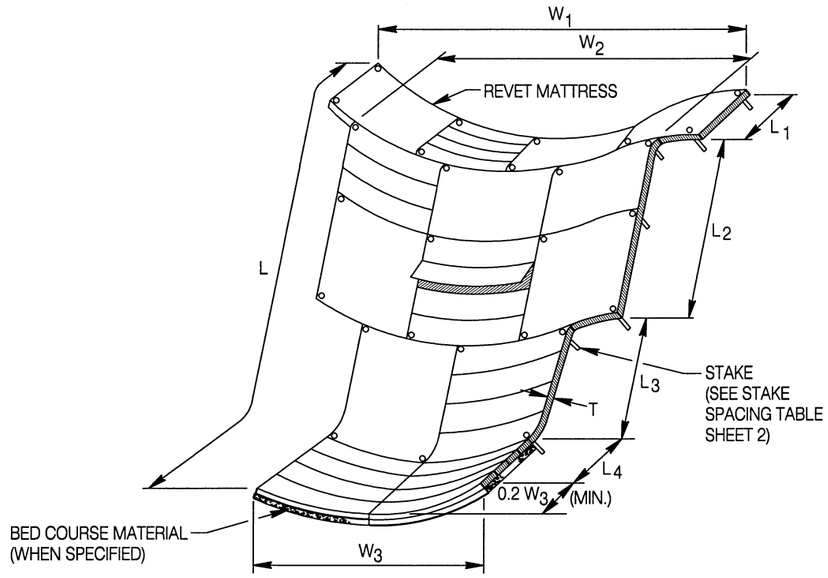
LINED CHANNEL



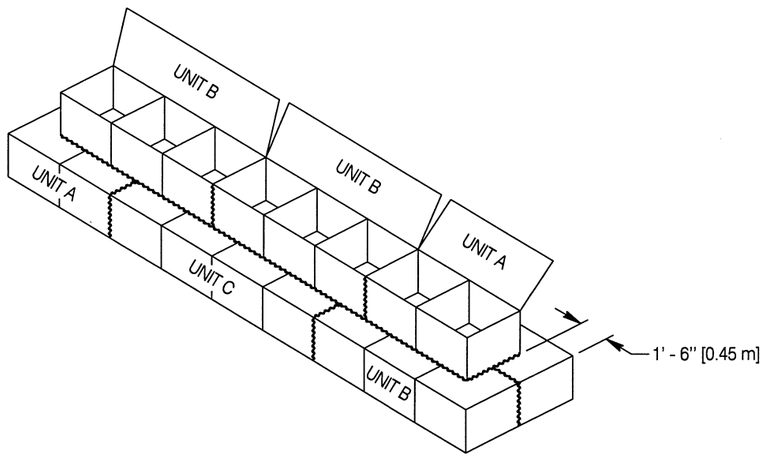




BORROW DITCH CHECK



CHANNEL DROP



PLACING AND FASTENING ADJACENT BASKETS

Designed by: CRR Drawn by: GLD Checked by: WBW Previous Dwg. No. 511-1	GABION AND REVET MATTRESS DETAILS	STANDARD PLAN NUMBER 511-1A SHEET 3 of 3 Issued by: ENGINEERING SERVICES Date Issued: DECEMBER, 2006

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

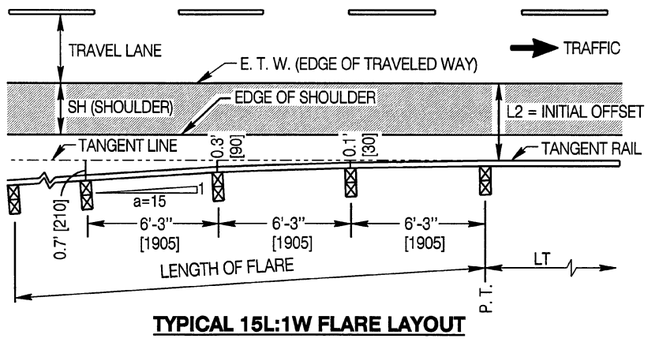
WYOMING DEPARTMENT OF TRANSPORTATION

WIRE ENCLOSED RIPRAP AND GABIONS

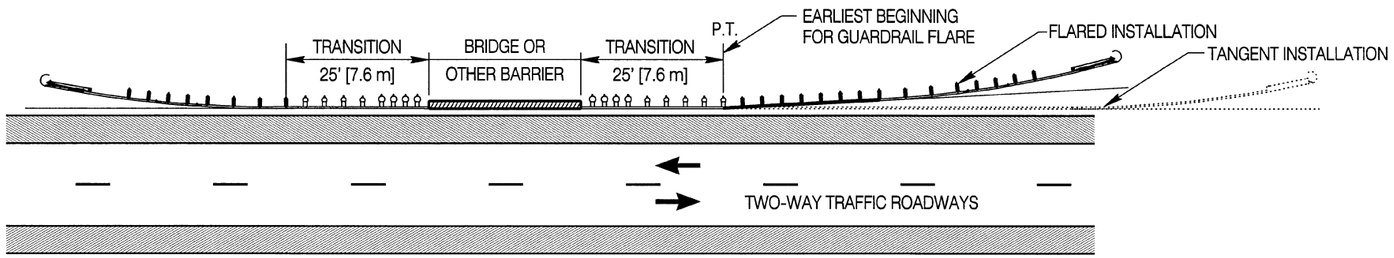
STANDARD PLAN

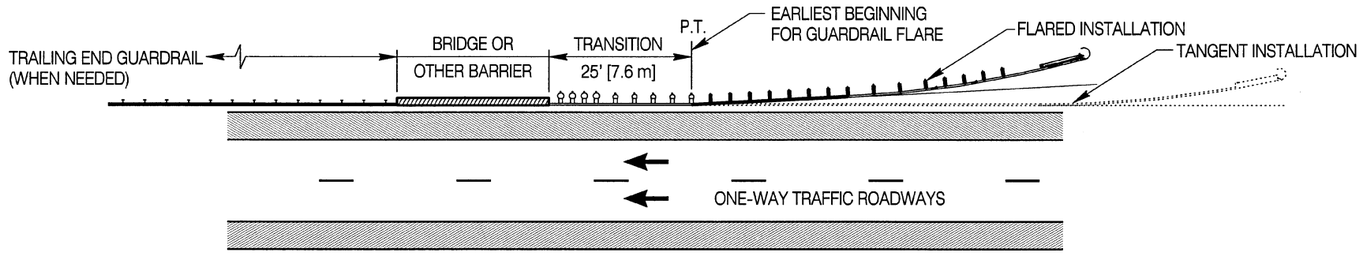
CORRUGATED BEAM GUARDRAIL STANDARD PLAN
INDEX OF SHEETS

Initiating a straight guardrail flare - Initiate a 15L:1W guardrail flare (typical for high speed roadways) as shown below:



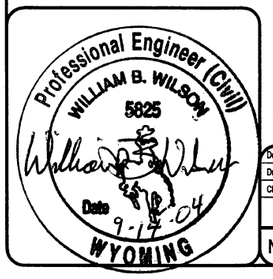
TYPICAL 15L:1W FLARE LAYOUT





CONNECTIONS TO BRIDGE RAILING AND OTHER TRAFFIC BARRIERS

Connect guardrail to another type of traffic barrier with a transition section (see installation details for transitions). Use transitions on both the upstream and downstream ends of two-way traffic bridges and the upstream ends only for one-way traffic bridges typically found on interstates and freeways. Ensure the transition section is tangent with the roadway where possible.



Designed by: WBW	LAYOUT DETAILS AND GENERAL REQUIREMENTS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER **606-1**

SHEET 1 of 16

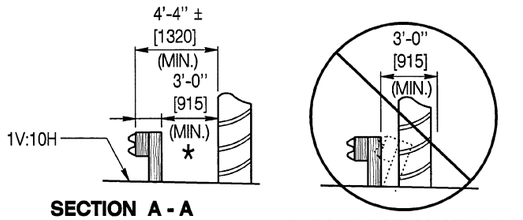
Issued by: ENGINEERING SERVICES

Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_01.dgn

NOTES

① **Shielding Fixed Object Hazards -** Extend tangent run of guardrail a minimum of four standard post spaces 25 ft. [7.6 m] on each side of the fixed object hazard. For standard post spacing, locate the back of guardrail posts a minimum of 3 ft. [915] from the fixed object.



SECTION A - A
PROPER GUARDRAIL PLACEMENT

INCORRECT GUARDRAIL PLACEMENT

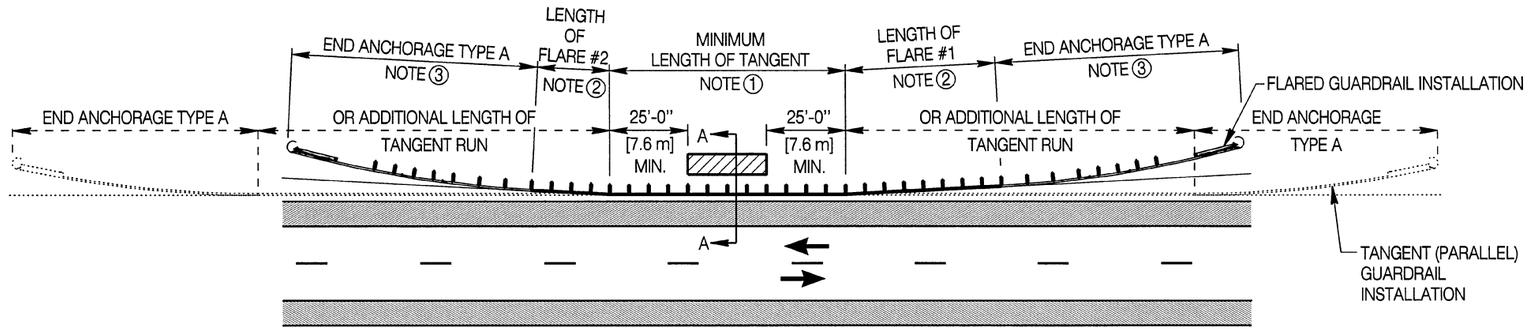
* The minimum provided deflection distance may be reduced by decreasing post spacing and/or adding double nested sections of guardrail. Start reduced post spacing, when required, and double nested guardrail 25 ft. [7.6 m] before the hazard and extend 25 ft. [7.6 m] beyond the hazard.

*Deflection Distance	Post Spacing	Rail Elements
3 ft. [915]	6'-3" [1905] (Standard)	Single Rail
2 ft. [610]	3'-1 1/2" [952]	Single Rail
1.5 ft. [460]	3'-1 1/2" [952]	Double Nested Rail

② **Flared vs. Tangent (Parallel) Installation -** Drawing depicts flared guardrail runs with solid lines and tangent (parallel) installations in dashed lines.

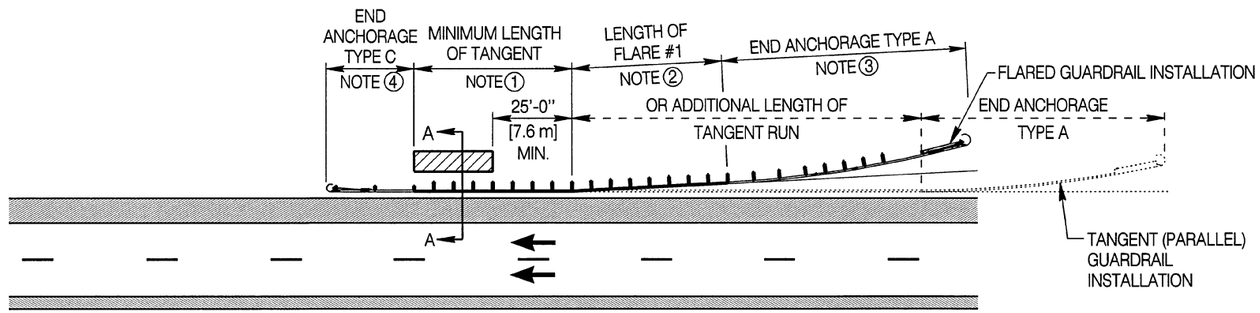
③ **End Anchorage Flares -** Where an end anchorage such as the Type A requires a flare, construct terminal flare in addition to the guardrail flare (if present).

④ **Post Spacing Reduction -** Where a tighter post spacing is required to limit guardrail deflection, add 25 ft. [7.6 m] downstream tangent guardrail as indicated in asterisk (*) above. Do not use Type C end anchorages unless shielded or far outside clear zone.



TYPICAL GUARDRAIL PLACEMENT AROUND A FIXED OBJECT

TWO WAY TRAFFIC ROADWAYS



TYPICAL GUARDRAIL PLACEMENT AROUND A FIXED OBJECT

ONE WAY TRAFFIC ROADWAYS SUCH AS DIVIDED HIGHWAYS

GRADING NOTES

If necessary, modify the earthwork shown in the plans and as staked to provide these minimum grading requirements at guardrail installations. The engineer will pay for this work using standard grading bid items as provided in the plans.

① Ensure the cross-slope of the earthwork in the area approaching a guardrail installation, the area around the terminal and the area of the guardrail flare is a 1V:10H surface or flatter.

② Ensure cross slope of grading from roadway to the barrier face is 1V:10H or flatter. Extend 1V:10H a minimum of 2 ft. [600] behind the guardrail posts. The department may specify 1V:8H for the guardrail installation where drainage and/or snow accumulation must be mitigated.

③ Ensure the area immediately behind and beyond the terminal is traversable and free from fixed object hazards or at least similar in character to upstream, unshielded slopes located within the clear-zone. Ensure a slope of 1V:4H or flatter; if not practical, use a maximum slope of 1V:3H. Extend the traversable slope for a distance X beyond post 3 of the end terminal.

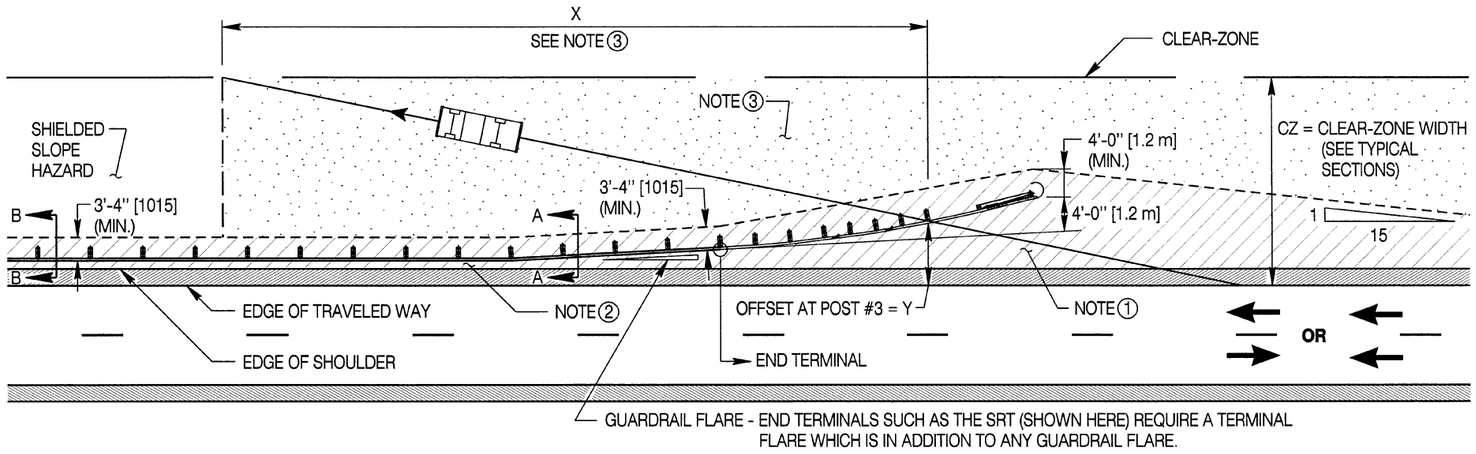
If not shown in the plans, calculate X from the formula below:

$$X = (CZ - Y)\,(L_R)\,/\,(CZ)$$

DESIGN SPEED (mph)	L_R Runout Length (ft)			
	ADT OVER 6000	ADT 2000 to 6000	ADT 800 to 2000	ADT Under 800
80	480	440	400	360
70	480	440	400	360
60	400	360	330	300
50	320	290	260	240
40	240	220	200	180
30	170	160	140	130

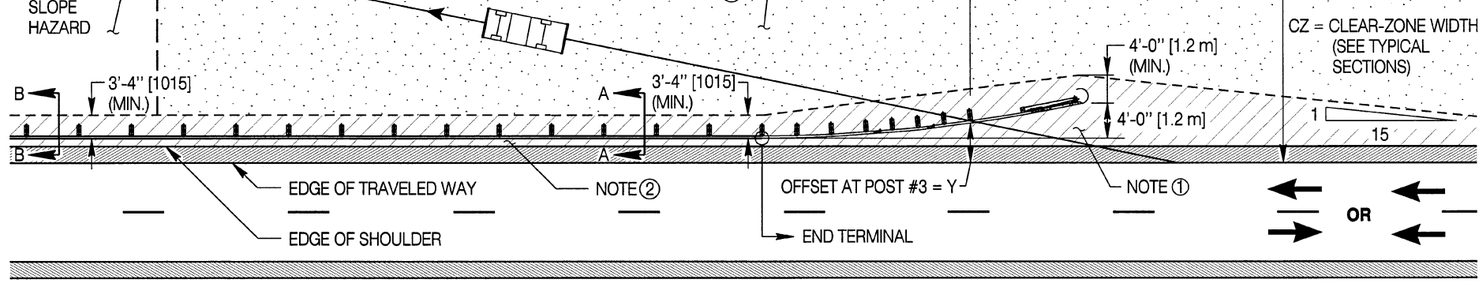
METRIC TABLE

DESIGN SPEED (km/h)	L_R Runout Length [meters]			
	ADT OVER 6000	ADT 2000 to 6000	ADT 800 to 2000	ADT Under 800
120	145	135	120	110
110	145	135	120	110
100	130	120	105	100
90	110	105	90	85
80	100	90	80	75
70	80	75	65	60
60	70	60	55	50
50	50	50	45	40



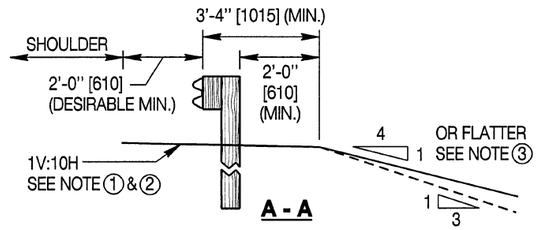
APPROACH END GRADING - FLARED GUARDRAIL INSTALLATION

(APPLIES TO TWO WAY TRAFFIC AND ONE WAY TRAFFIC ROADWAYS SUCH AS DIVIDED HIGHWAYS)

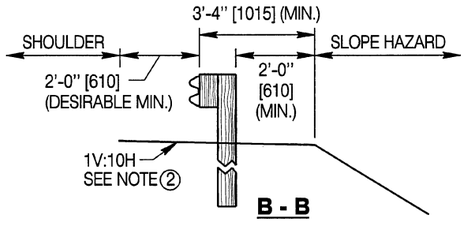


APPROACH END GRADING - TANGENT GUARDRAIL INSTALLATION

(APPLIES TO TWO WAY TRAFFIC AND ONE WAY TRAFFIC ROADWAYS SUCH AS DIVIDED HIGHWAYS)



RUNOUT GRADING BEHIND GUARDRAIL



FILL SLOPE HAZARD PROTECTION

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-01C

GRADING REQUIREMENTS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER
606-1
SHEET 3 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004
FILE: j:\Stan\Std_E\6061_03.dgn

GRADING NOTES

If necessary, modify the earthwork shown in the plans and as staked to provide these minimum grading requirements at guardrail installations. The engineer will pay for this work using standard grading bid items as provided in the plans.

① Ensure the cross-slope of the earthwork in the area approaching a guardrail installation, the area around the terminal and the area of the guardrail flare is a 1V:10H surface or flatter.

② Ensure cross slope of grading from roadway to the barrier face is 1V:10H or flatter. Extend 1V:10H a minimum of 2 ft. [600] behind the guardrail posts. The department may specify 1V:8H for the guardrail installation where drainage and/or snow accumulation must be mitigated.

③ Ensure the area immediately behind and beyond the terminal is traversable and free from fixed object hazards or at least similar in character to upstream, unshielded slopes located within the clear-zone. Ensure a slope of 1V:4H or flatter; if not practical, use a maximum slope of 1V:3H. Extend the traversable slope for a distance X beyond post 3 of the end terminal.

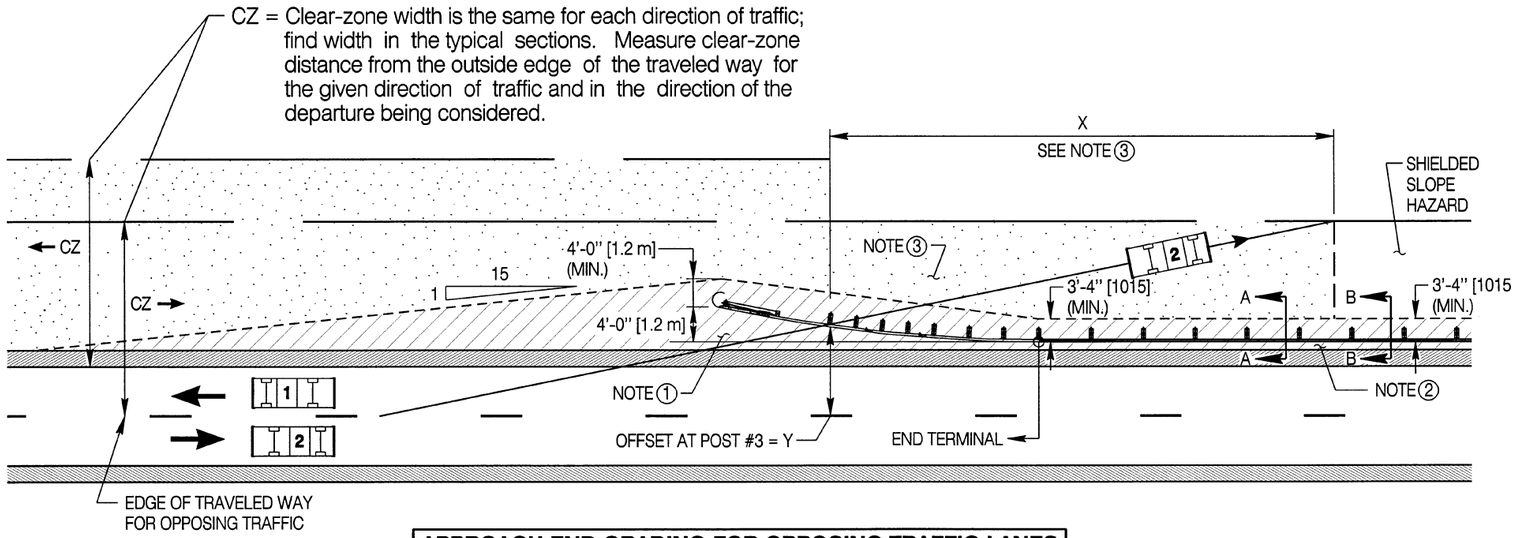
If not shown in the plans, calculate X from the formula below:

$$X = (CZ - Y)\,(L_R) / (CZ)$$

DESIGN SPEED (mph)	L_R Runout Length (ft.)			
	ADT OVER 6000	ADT 2000 to 6000	ADT 800 to 2000	ADT Under 800
80	480	440	400	360
70	480	440	400	360
60	400	360	330	300
50	320	290	260	240
40	240	220	200	180
30	170	160	140	130

METRIC TABLE

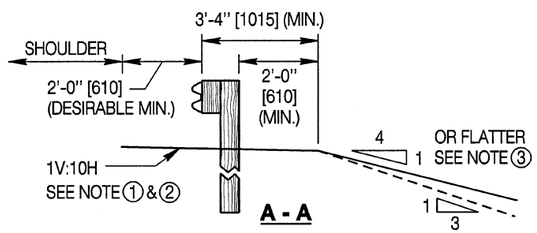
DESIGN SPEED (km/h)	L_R Runout Length [meters]			
	ADT OVER 6000	ADT 2000 to 6000	ADT 800 to 2000	ADT Under 800
120	145	135	120	110
110	145	135	120	110
100	130	120	105	100
90	110	105	90	85
80	100	90	80	75
70	80	75	65	60
60	70	60	55	50
50	50	50	45	40



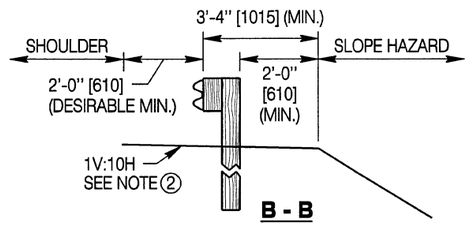
APPROACH END GRADING FOR OPPOSING TRAFFIC LANES

(APPLIES TO TWO WAY TRAFFIC ROADWAYS)

NOTE: Tangent installation shown, apply same concept for flared installations



RUNOUT GRADING BEHIND GUARDRAIL



FILL SLOPE HAZARD PROTECTION

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-01C

GRADING REQUIREMENTS (CONTINUED)

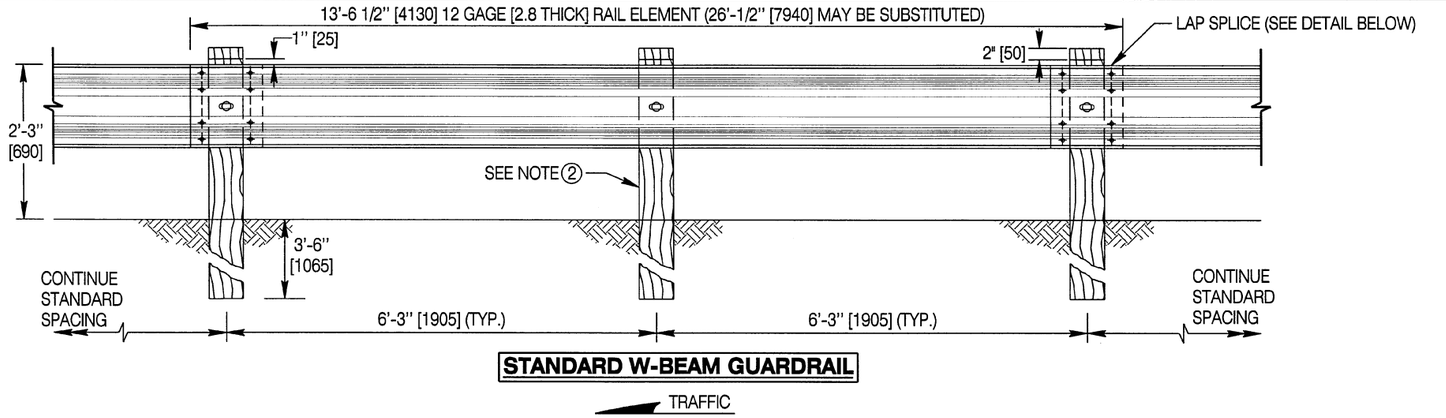
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER
606-1
SHEET 4 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004
FILE: j:\Stan\Dual_Std_Wrk\6061_04.dgn



STANDARD W-BEAM GUARDRAIL

RAIL LAP DETAIL

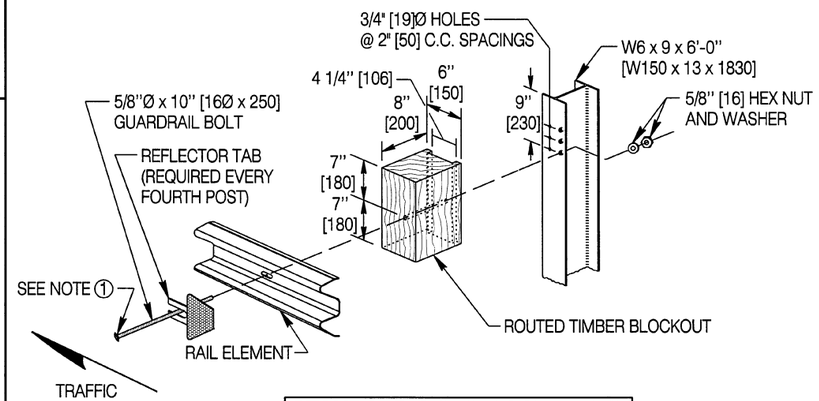
WOOD POST AND W-BEAM LAP SPLICE DETAIL

GENERAL NOTES

① DO NOT use washers between the head of the guardrail bolt and rail element unless specifically shown in the plans.

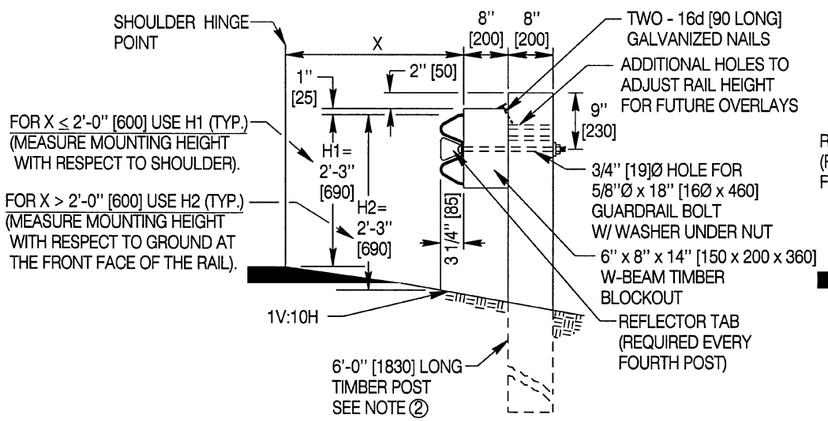
② Use post dimensions based on timber species in accordance with the material requirements in the Standard Specifications.

③ All wood cross-section dimensions shown are nominal dimensions.

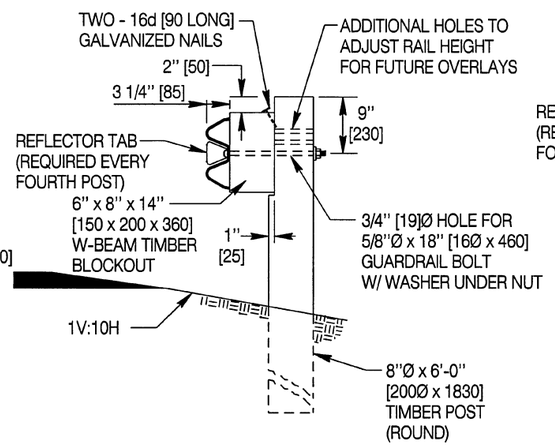


STANDARD STEEL POST DETAIL

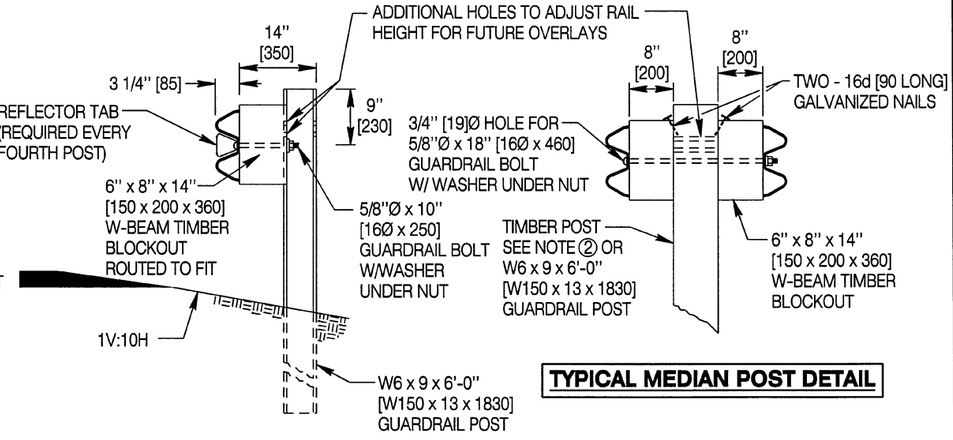
NOTE: BACK-UP PLATES NOT REQUIRED



STANDARD W-BEAM WOOD POST DETAIL



ALTERNATE W-BEAM ROUND WOOD POST DETAIL



TYPICAL MEDIAN POST DETAIL

ALTERNATE W-BEAM STEEL POST DETAIL

Designed by: WBW	STANDARD RUN OF CORRUGATED BEAM (W-BEAM) GUARDRAIL
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

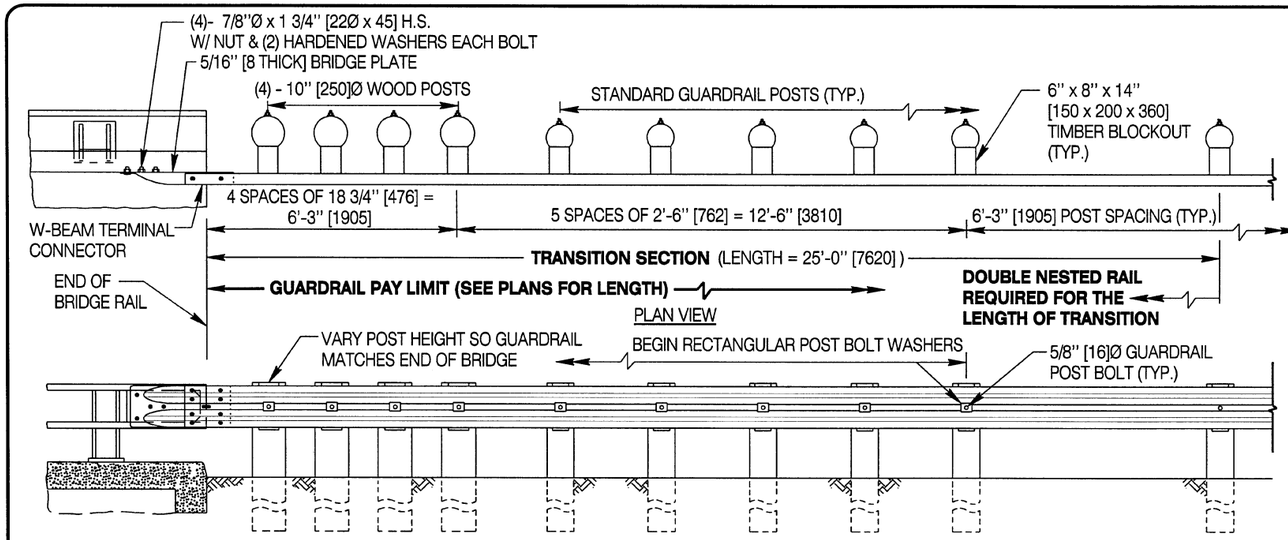
WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER
606-1
SHEET 5 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004

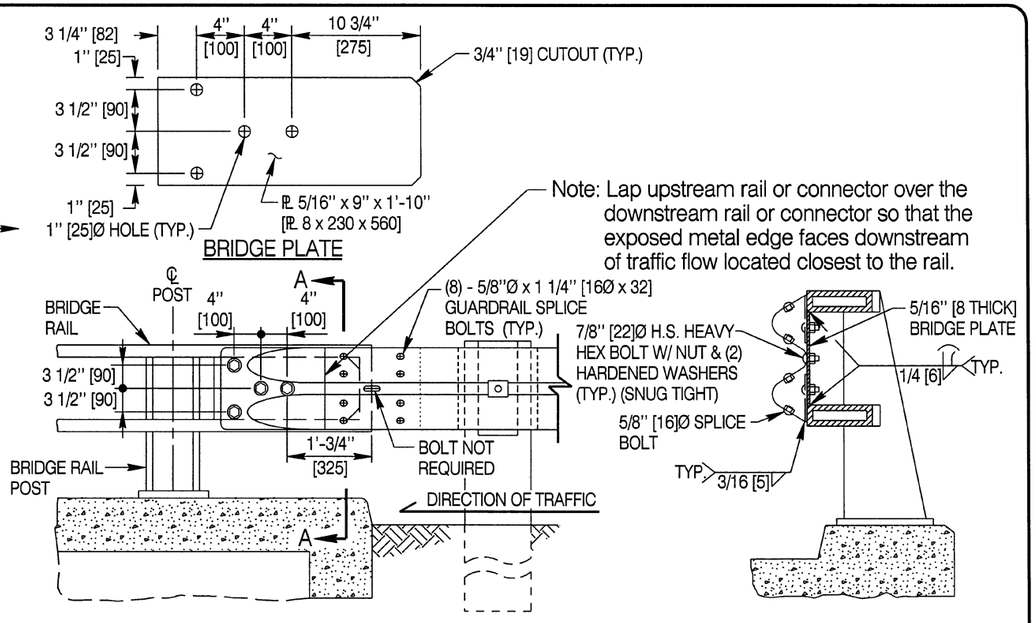
FILE: j:\Stan\Dual_Std_Wrk\6061_05.dgn



CONNECTION TO STEEL BRIDGE RAILING (TRANSITION SECTION)

Notes: ① Install transition section on tangent (parallel) with the road. Do not begin guardrail flares within the transition section.

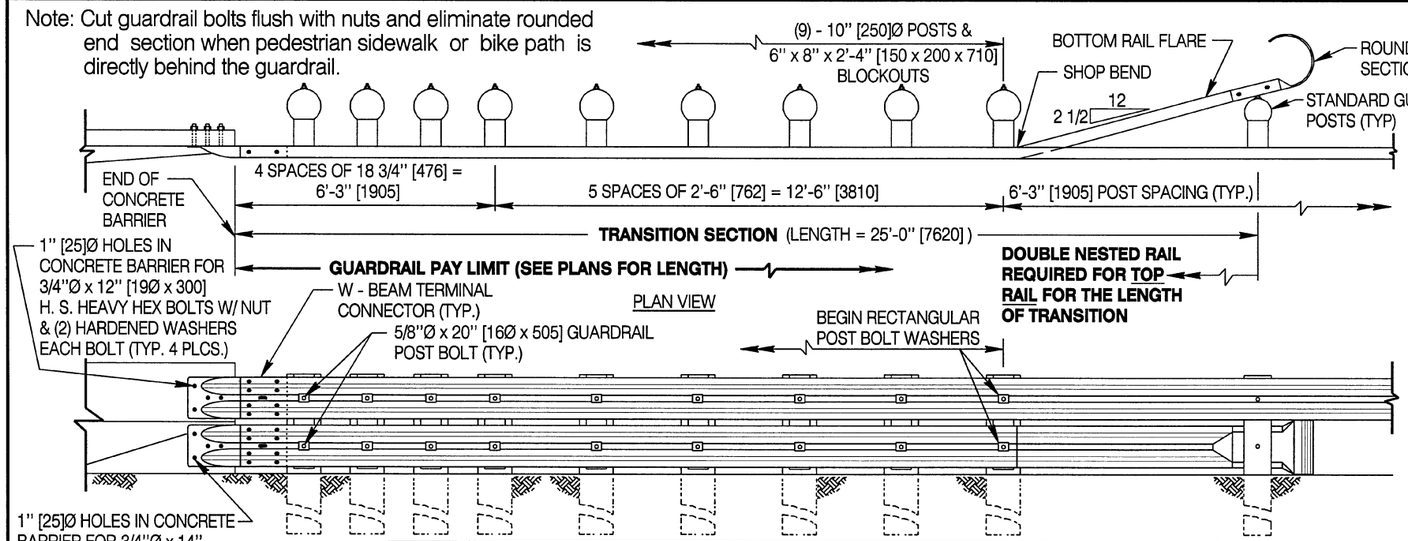
② Use transition sections on exit ends of one way traffic bridges only when specified.



CONNECTION TO STEEL BRIDGE RAILING

SECTION A-A

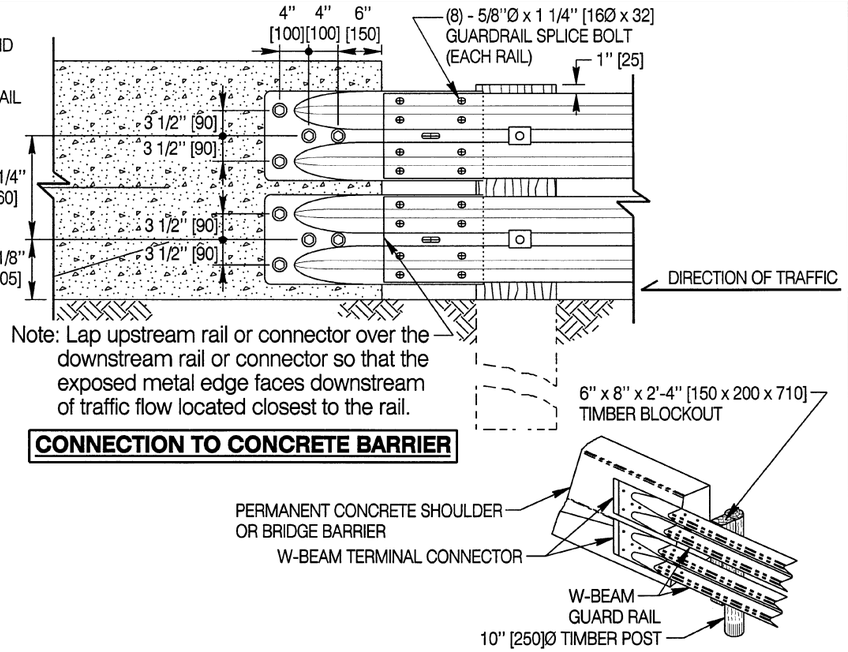
Note: Cut guardrail bolts flush with nuts and eliminate rounded end section when pedestrian sidewalk or bike path is directly behind the guardrail.



CONNECTION TO PERMANENT CONCRETE BARRIER (TRANSITION SECTION)

Notes: ① Install transition section on tangent (parallel) with the road. Do not begin guardrail flares within the transition section.

② Use transition sections on exit ends of one way traffic bridges only when specified.



CONNECTION TO CONCRETE BARRIER

Designed by: WBW	TRANSITION SECTIONS - BRIDGE RAIL AND CONCRETE BARRIER CONNECTIONS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

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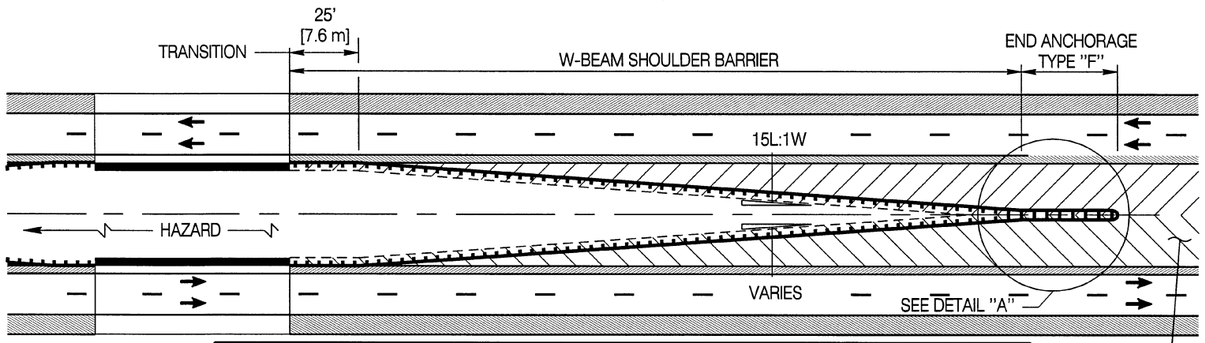
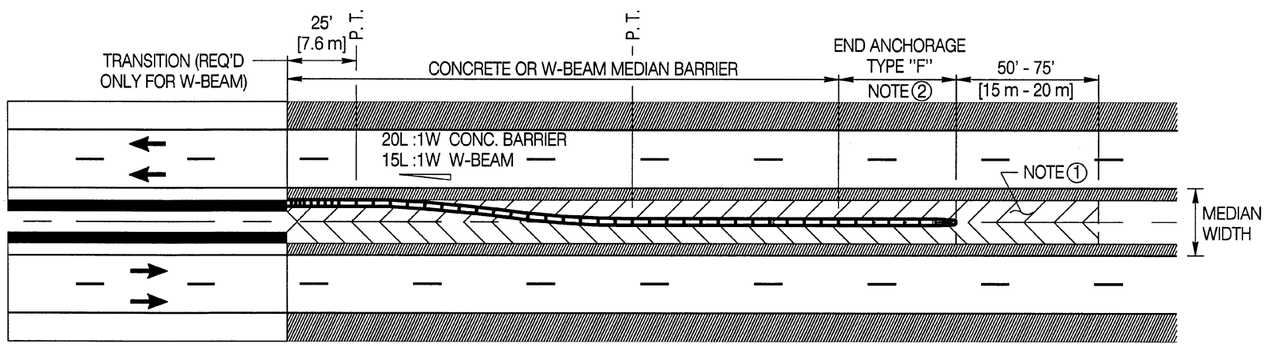
Date Issued: NOVEMBER, 2004

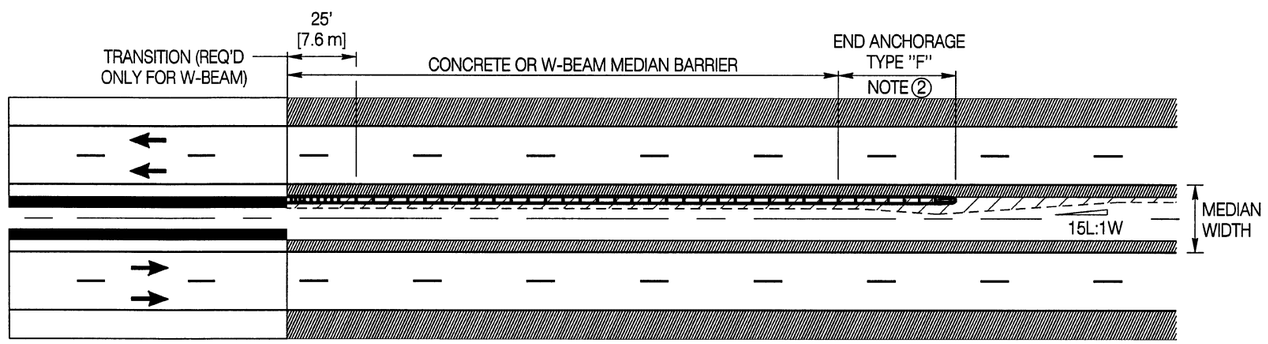
FILE: j:\Stan\Dual_Std_Wrk\6061_06.dgn



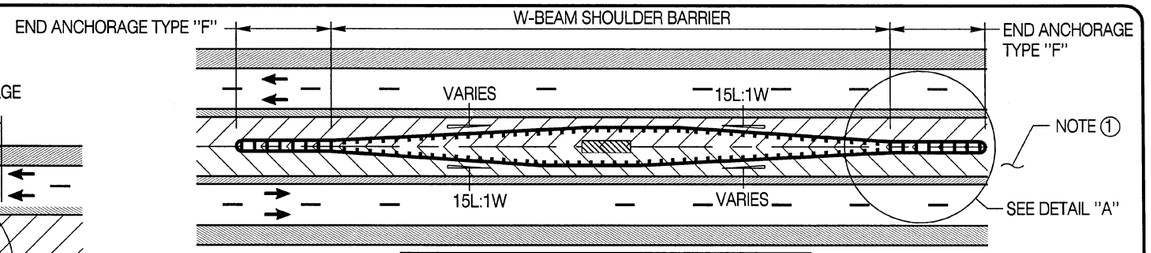
BRIDGE END AND SLOPE PROTECTION WITH W-BEAM SHOULDER BARRIER



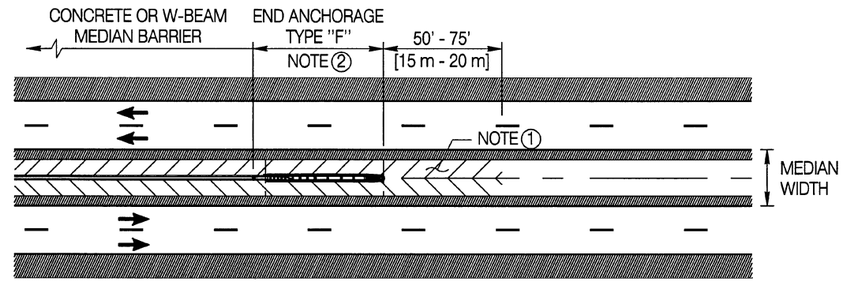
BRIDGE END PROTECTION WITH FLARED MEDIAN BARRIER



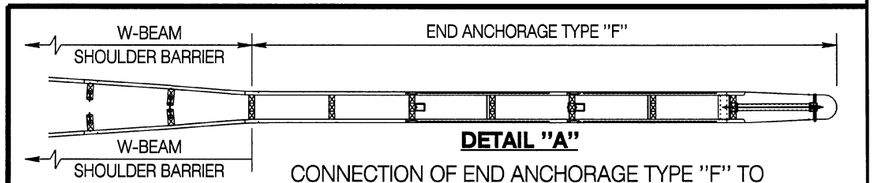
BRIDGE END PROTECTION - NON-FLARED MEDIAN BARRIER



FIXED OBJECT SHIELDING IN MEDIAN



TERMINATION OF CONCRETE OR W-BEAM MEDIAN BARRIER



DETAIL "A"

CONNECTION OF END ANCHORAGE TYPE "F" TO DOUBLE RUN OF W-BEAM SHOULDER BARRIER

NOTES:

Details are typical for narrow medians - medians less than 60 feet [18 m] measured from edge of traveled way to edge of traveled way. Locate End Anchorages as specified, not necessarily at the ditch bottom.

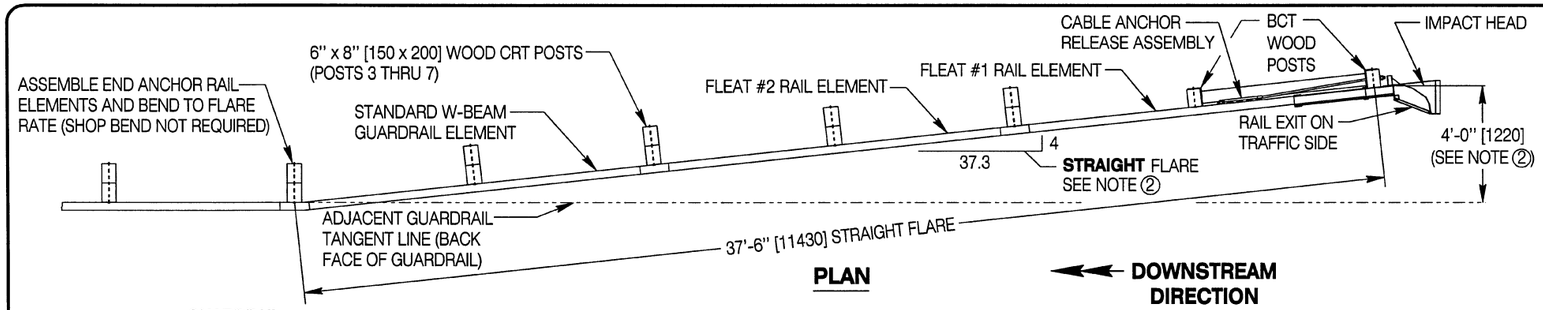
Ensure grading requirements and requirements for placement of guardrail around fixed object hazards are met for median installations.

① Grade cross-slopes 50 to 75 feet [15 to 20 m] in approach of, and extending around, median installations 1V:10H or flatter (shown in cross-hatched areas) into the face of the guardrail and terminal. Smoothly transition slopes into this relatively flat grading section. When the terminal is located within 3 feet [1 m] laterally from the ditch bottom or crosses the ditch bottom, grade immediately in front of, and near, the terminal 1V:20H. Maintain adequate drainage in the median.

② The length for End Anchorage Type F varies depending on whether it transitions to w-beam or concrete barrier. See Type F installation details for lengths.

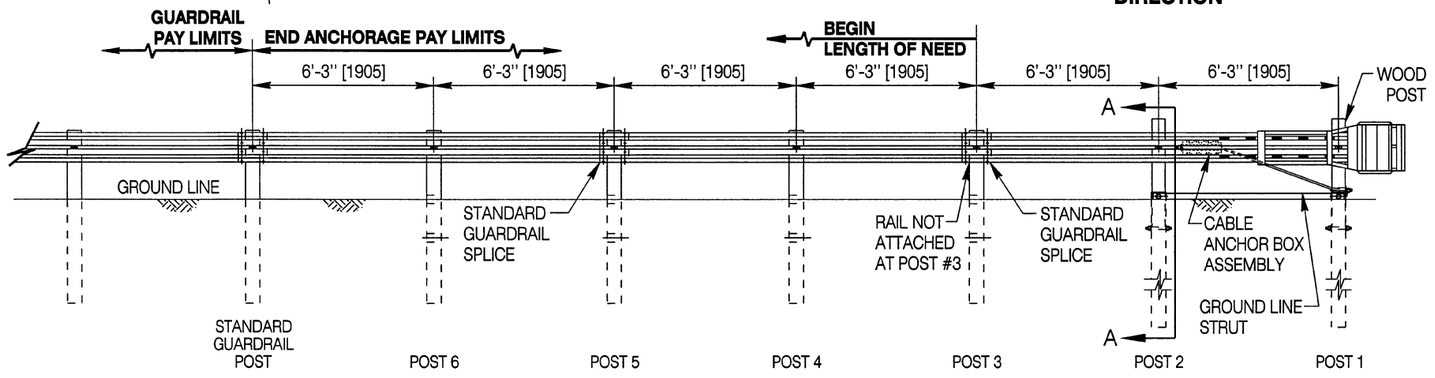
Designed by: WBW Drawn by: GLD Checked by: WBW Previous Dwg. No. 606-01C	NARROW MEDIAN INSTALLATIONS	WYOMING DEPARTMENT OF TRANSPORTATION	CORRUGATED BEAM GUARDRAIL STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER 606-1 SHEET 7 of 16 Issued by: ENGINEERING SERVICES Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_07.dgn



PLAN

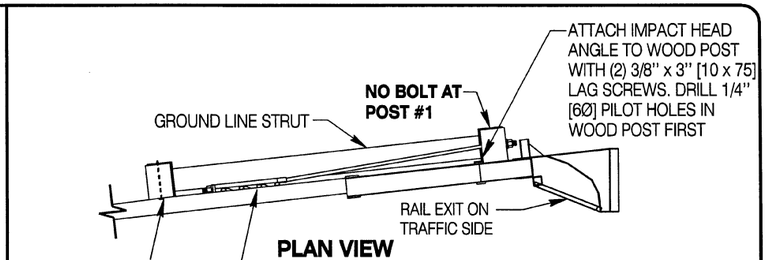
DOWNSTREAM DIRECTION



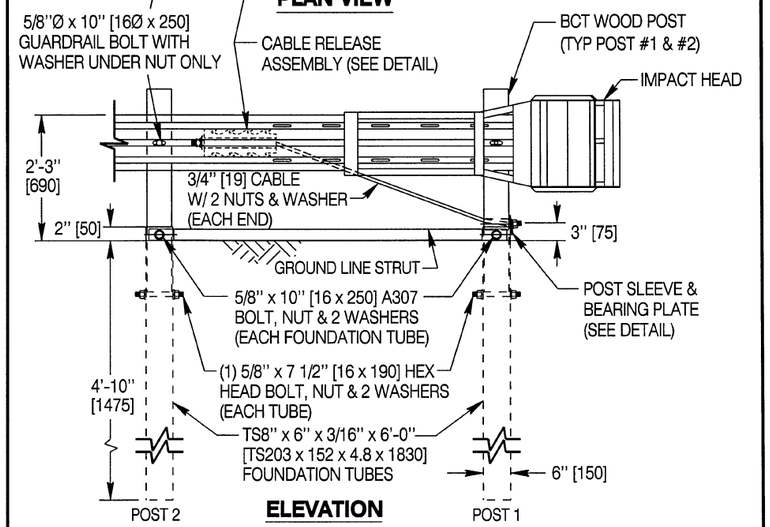
ELEVATION

END ANCHORAGE TYPE A - (ALTERNATE 1 - FLEAT 350 ⋆) PLAN & ELEVATION VIEW

⋆ **PROPRIETARY DETAILS**



PLAN VIEW



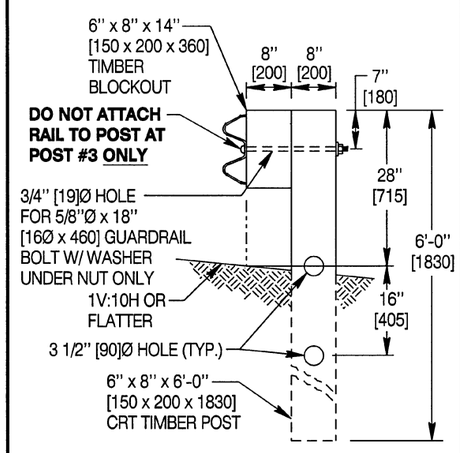
ELEVATION

NOTES

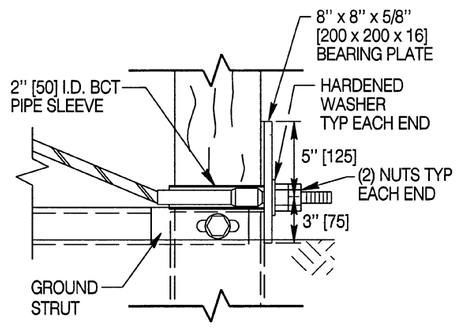
① Alternate #1 - FLEAT 350 End Terminal may be provided when End Anchorage Type A is specified.

② Flare the FLEAT End Terminal on a straight line from the tangent line of the adjacent guardrail run to provide a 4 foot [1.2 m] offset to the rear face of the rail at the impact head. The offset can be reduced to 2 1/2 feet [760] in special conditions. This applies **only to this end anchorage alternate** and will only be done when specifically called for in the plans.

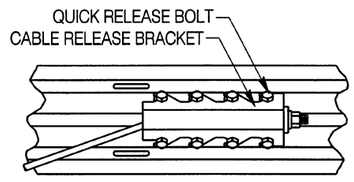
③ Delineate the entire end plate of the impact head with reflective diagonal sheeting with alternating diagonal black and yellow stripes.



POST 3 - 6

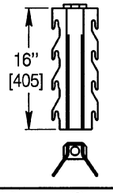


BEARING PLATE DETAIL

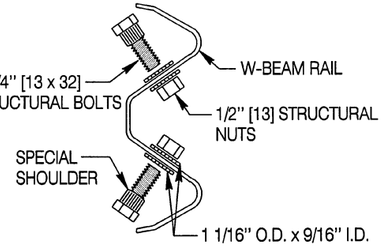


CABLE RELEASE ASSEMBLY ATTACHMENT

(BACK SIDE OF RAIL)



CABLE RELEASE ASSEMBLY



Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-01C

END ANCHORAGE TYPE A ALTERNATE #1 -FLEAT 350

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

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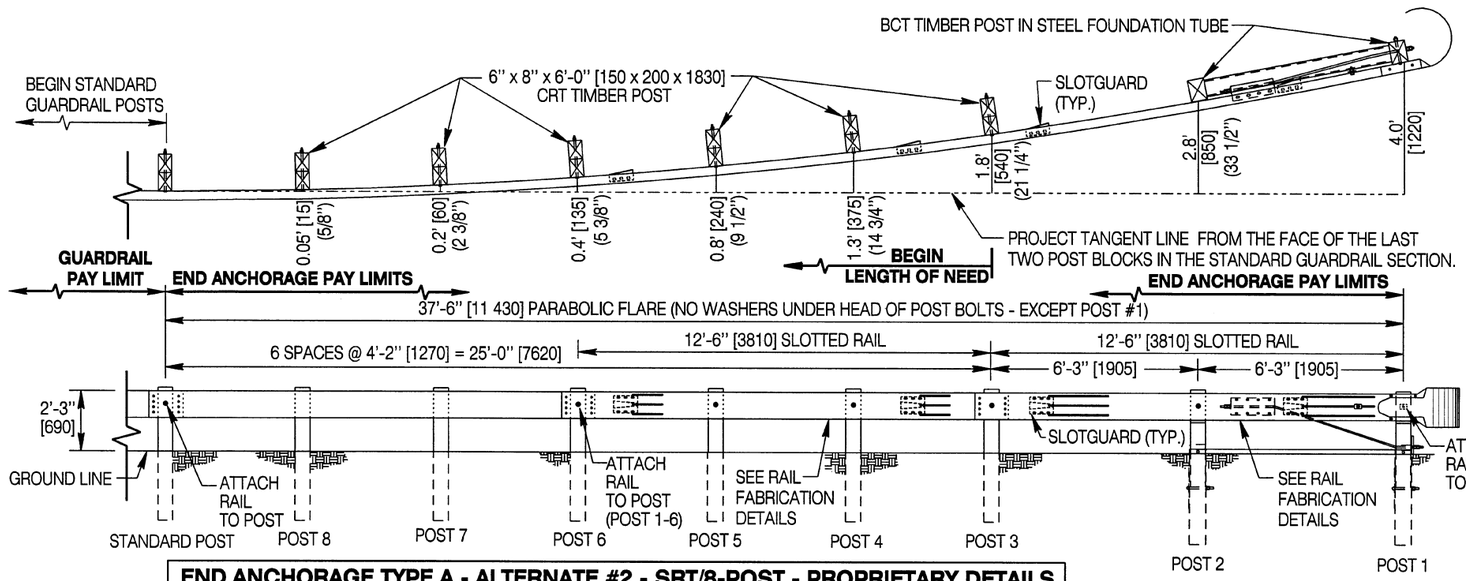
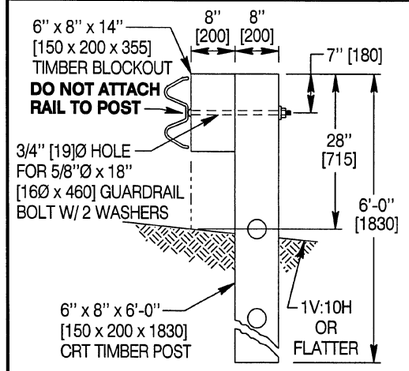
606-1
SHEET 8 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004

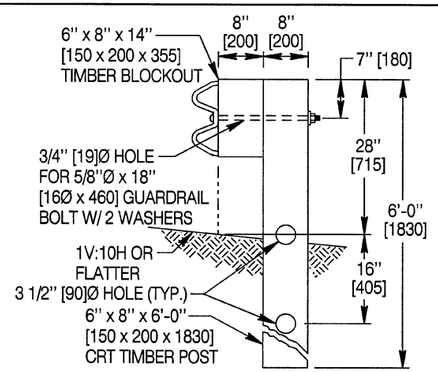
FILE: j:\Stan\Dual_Std_Wrk\6061_08.dgn



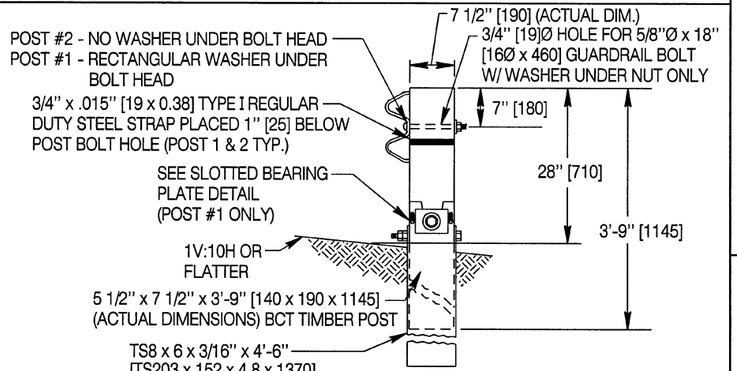
END ANCHORAGE TYPE A - ALTERNATE #2 - SRT/8-POST - PROPRIETARY DETAILS



POST 7 & 8



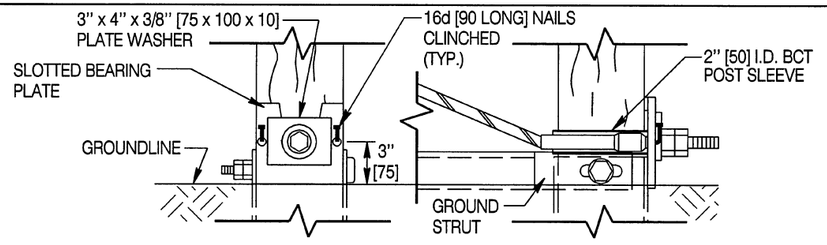
POST 3,4,5,6



POST 1 & 2

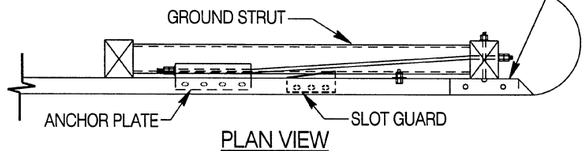
Notes:

1. Alternate #2 - SRT/8 Post may be provided when End Anchorage Type A is specified.
2. Components and installation details may not be interchangeable with older versions of the SRT.
3. Install this version of the SRT with a parabolic (not straight) flare as shown herein.
4. Delineate the rounded end section with reflective sheeting with alternating diagonal black and yellow stripes.

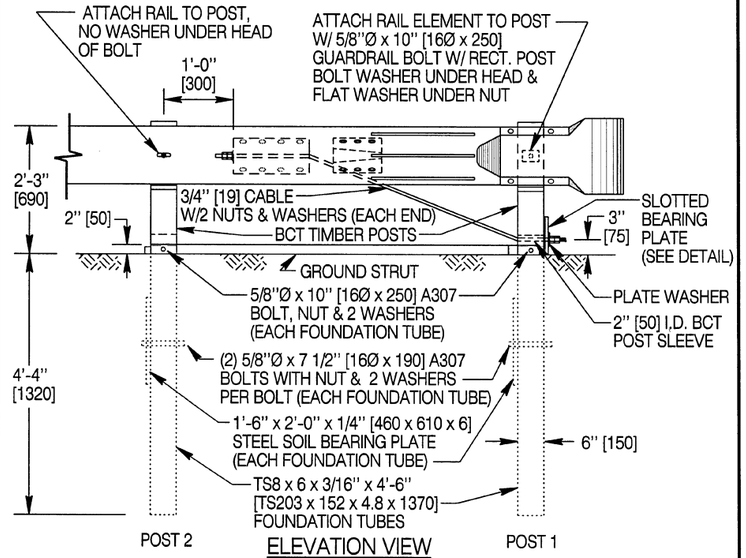


SLOTTED BEARING PLATE DETAIL

ATTACH ROUNDED END SECTION TO W-BEAM CONNECTOR TERMINAL AND TO RAIL ELEMENT W/ (4) 5/8''Ø x 1 1/4'' [16Ø x 32] GUARDRAIL BOLTS W/ NUTS

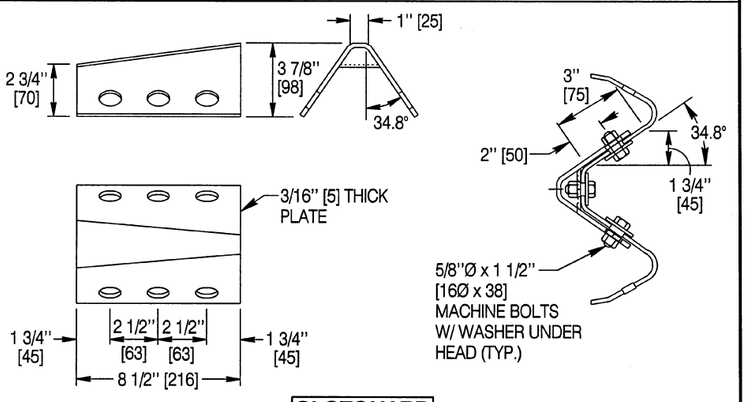


PLAN VIEW



ELEVATION VIEW

END ANCHORAGE ASSEMBLY



SLOTGUARD

(4 REQ'D PER ANCHORAGE)

Designed by: WBW	END ANCHORAGE TYPE A ALTERNATE #2 - SRT / 8-POST
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

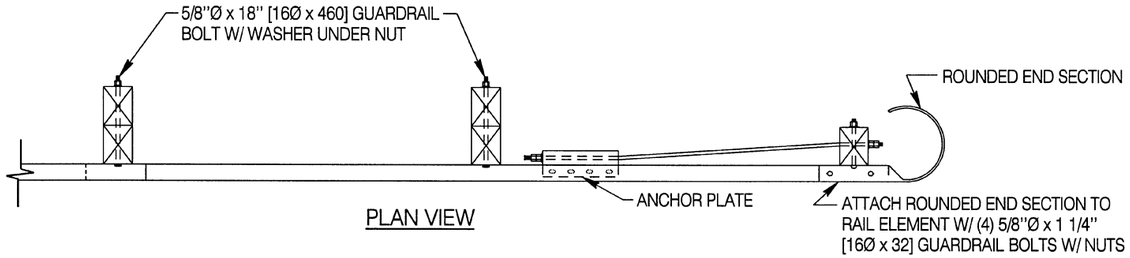
STANDARD PLAN NUMBER **606-1**

SHEET 9 of 16

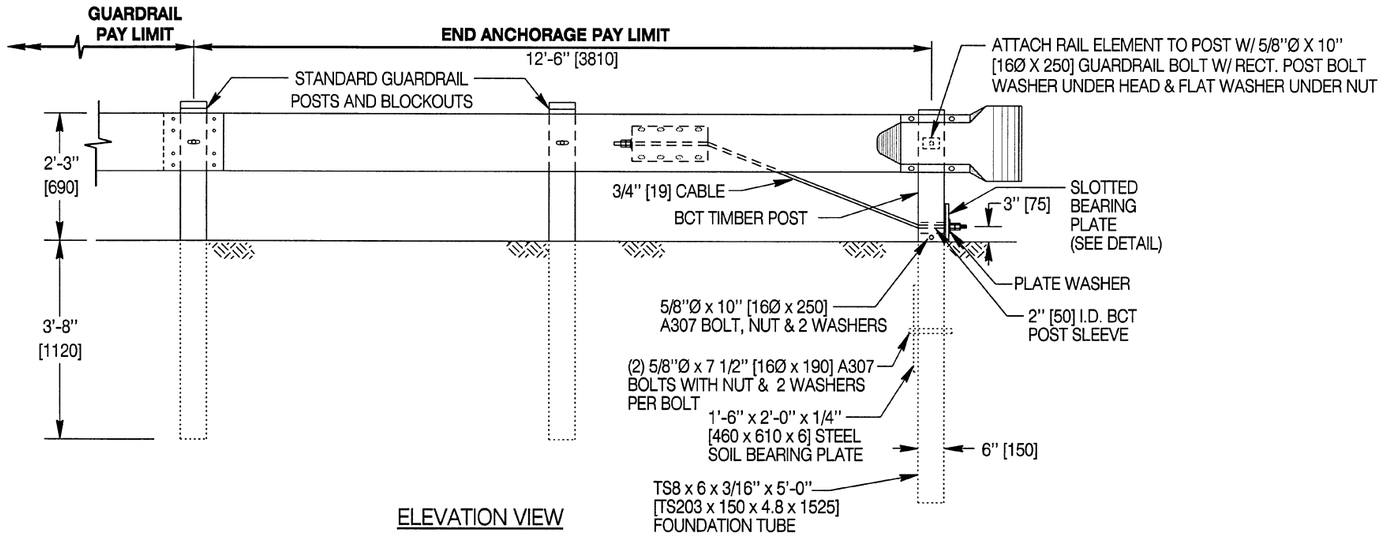
Issued by: ENGINEERING SERVICES

Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_09.dgn

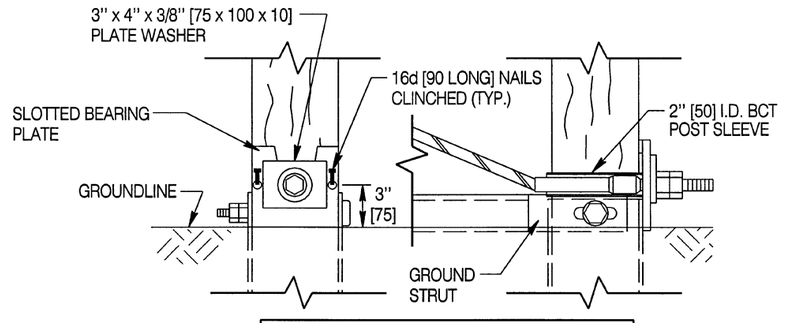


PLAN VIEW



ELEVATION VIEW

END ANCHORAGE TYPE C



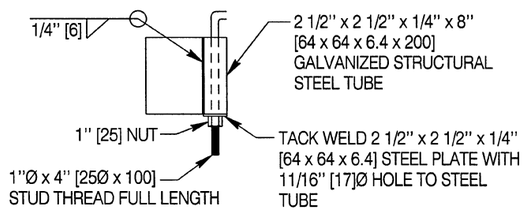
SLOTTED BEARING PLATE DETAIL

Designed by: WBW Drawn by: GLD Checked by: WBW Previous Dwg. No. 606-01C	END ANCHORAGE TYPE C - TRAILING END	WYOMING DEPARTMENT OF TRANSPORTATION	CORRUGATED BEAM GUARDRAIL STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			

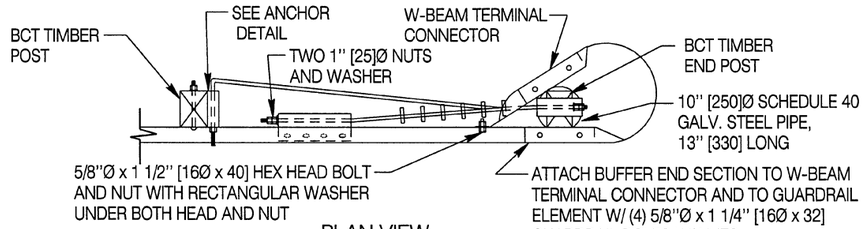
STANDARD PLAN NUMBER
606-1
SHEET 10 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004
FILE: j:\Stan\Dual_Std_Wrk\6061_10.dgn

GENERAL NOTES

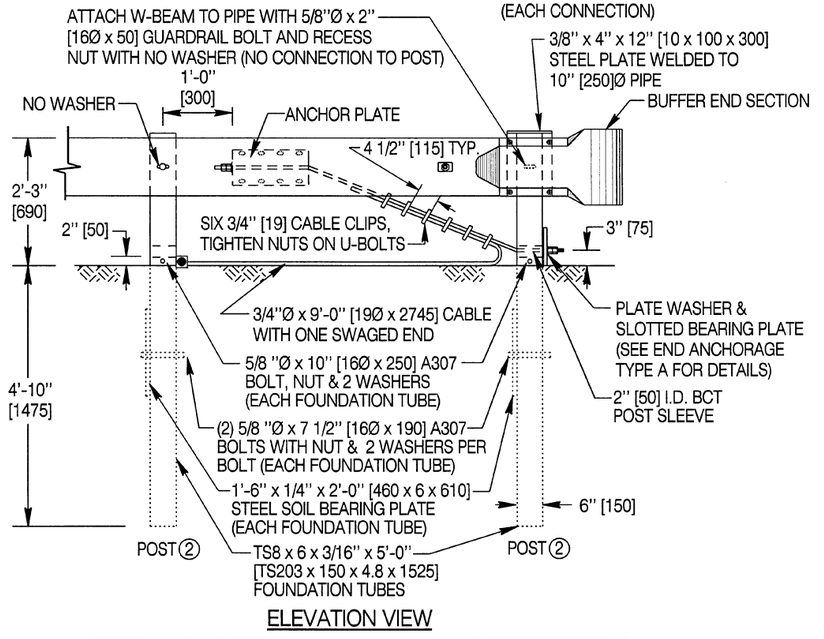
1. Application: When necessary, use the short radius transition to shield hazards at the intersection of two roadways. Typical applications include, but not limited to, the following:
   - Canal service roads at bridge ends.
   - Interruptions in guardrail runs by intersecting roadways, etc.
2. Only use the low speed end anchorage on driveways and low speed service roads. Whenever an approved crash-tested end treatment is required, use an End Anchorage Type A.
3. Grade terrain to 1V:10H or flatter in front of rail and for 2 ft. [610] beyond posts, then 1V:2H or flatter
4. Do not bolt the rail to the CRT post at the center of the curve for the 8'-6" [2.6 m], 17' [5.2 m] and 25'-6" [7.8 m] radii.
5. Tighten outside nut against inside nut with the cable installed taut between the anchor plate and first post.
6. Shop bend all curved guardrail.



ANCHOR DETAIL



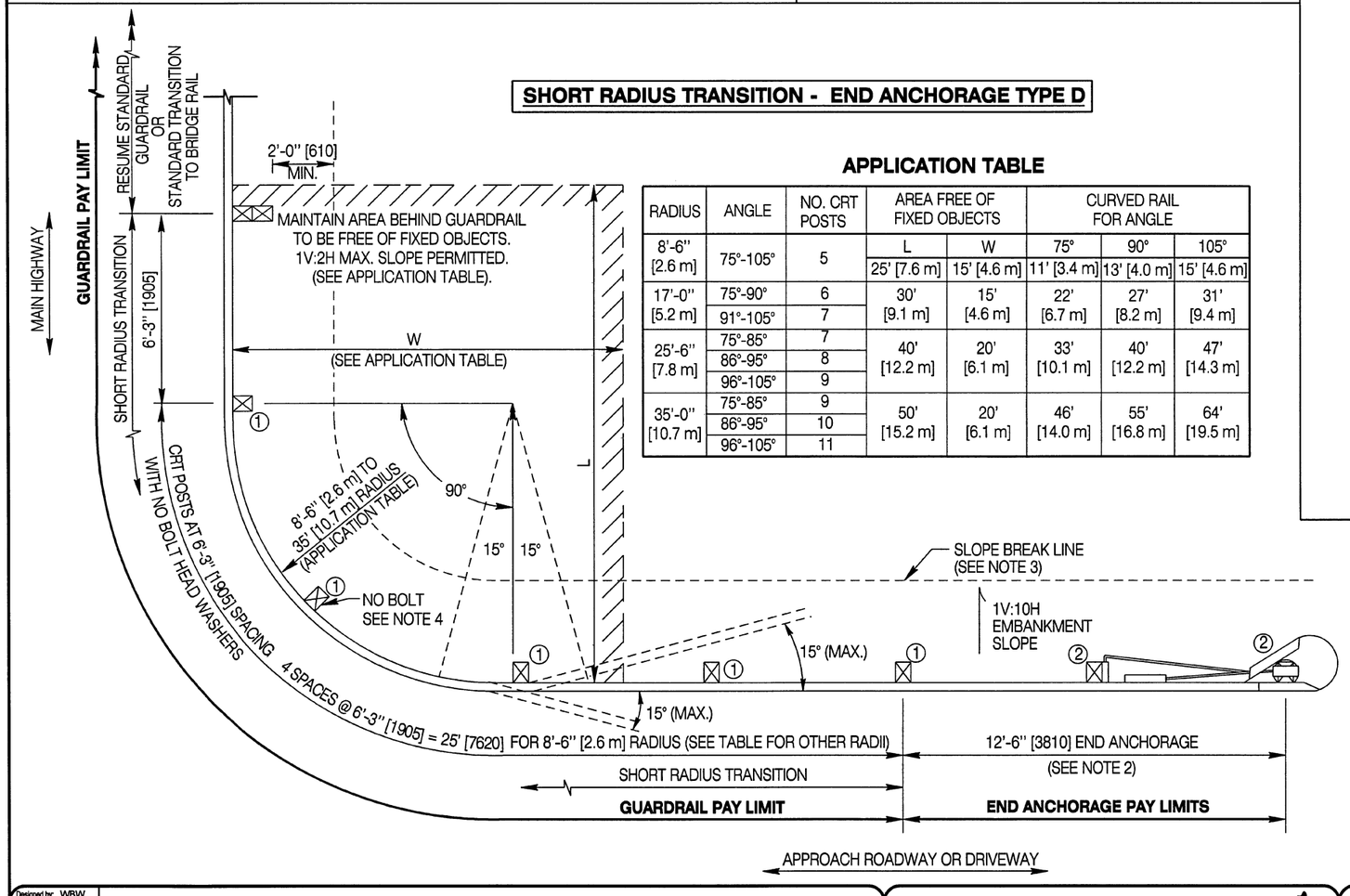
PLAN VIEW



ELEVATION VIEW

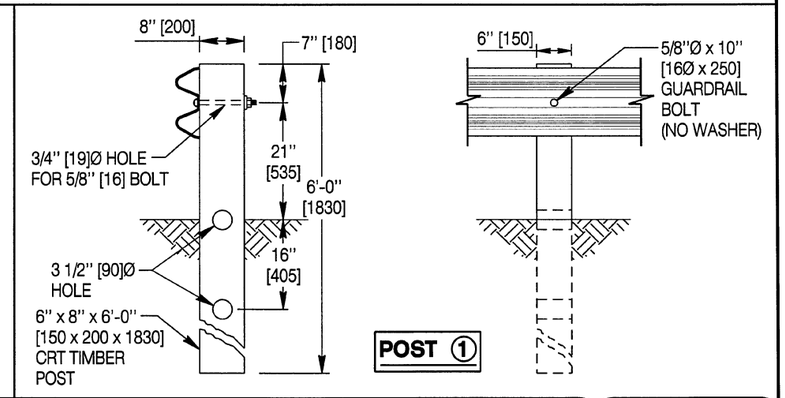
END ANCHORAGE TYPE D LOW SPEED TERMINAL

SHORT RADIUS TRANSITION - END ANCHORAGE TYPE D



APPLICATION TABLE

RADIUS	ANGLE	NO. CRT POSTS	AREA FREE OF FIXED OBJECTS		CURVED RAIL FOR ANGLE		
			L	W	75°	90°	105°
8'-6" [2.6 m]	75°-105°	5	25' [7.6 m]	15' [4.6 m]	11' [3.4 m]	13' [4.0 m]	15' [4.6 m]
17'-0" [5.2 m]	75°-90°	6	30' [9.1 m]	15' [4.6 m]	22' [6.7 m]	27' [8.2 m]	31' [9.4 m]
	91°-105°	7					
25'-6" [7.8 m]	75°-85°	7	40' [12.2 m]	20' [6.1 m]	33' [10.1 m]	40' [12.2 m]	47' [14.3 m]
	86°-95°	8					
	96°-105°	9					
35'-0" [10.7 m]	75°-85°	9	50' [15.2 m]	20' [6.1 m]	46' [14.0 m]	55' [16.8 m]	64' [19.5 m]
	86°-95°	10					
	96°-105°	11					



POST ①

Designed by: WBW	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

END ANCHORAGE TYPE D - FOR RADIUS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER **606-1**

SHEET 11 of 16

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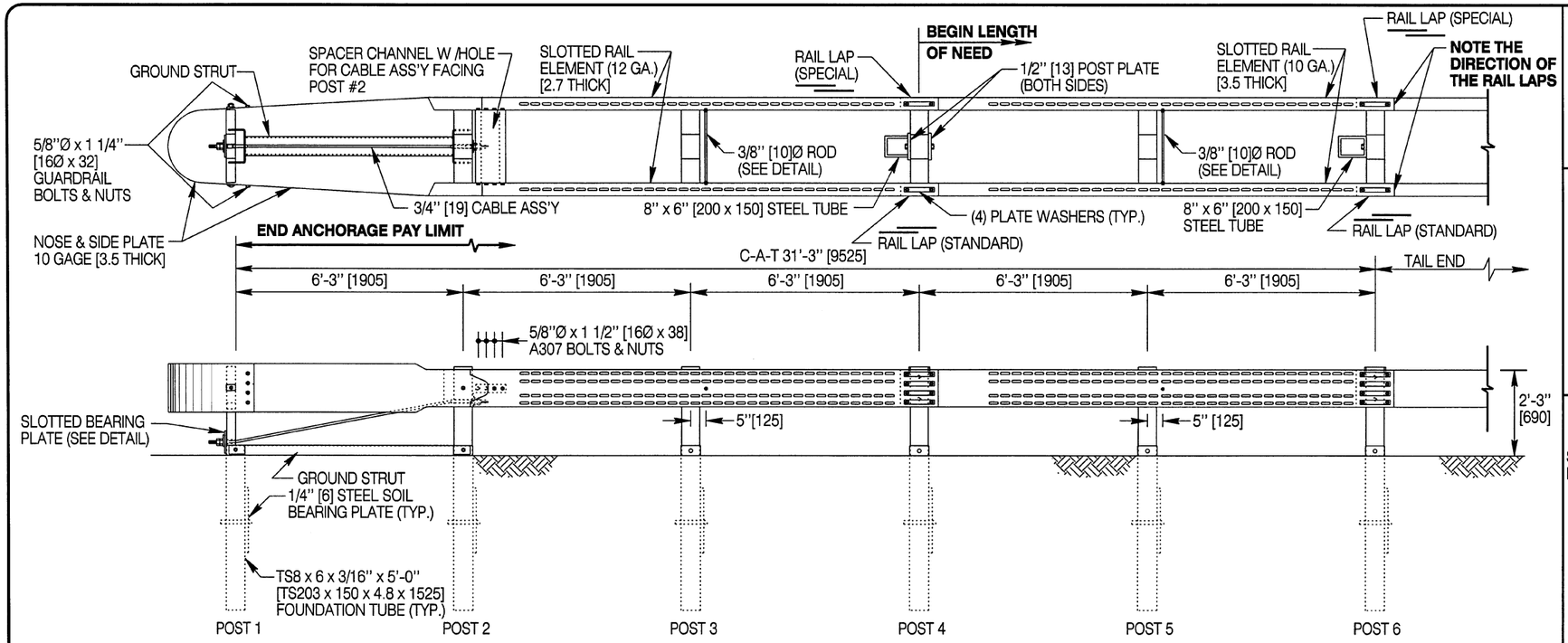
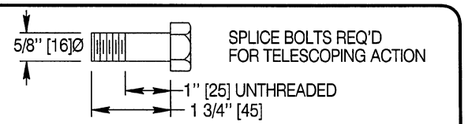
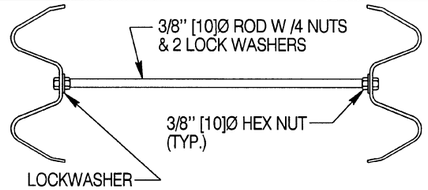
FILE: j:\Stan\Dual_Std_Wrk\6061_11.dgn



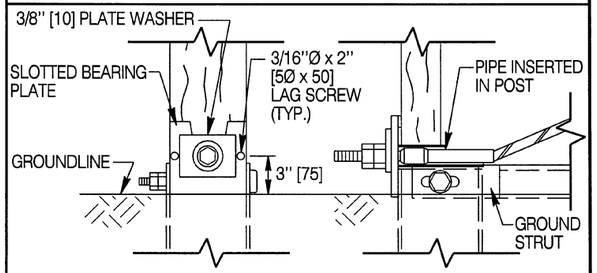
END ANCHORAGE TYPE F - CAT - PROPRIETARY DETAILS



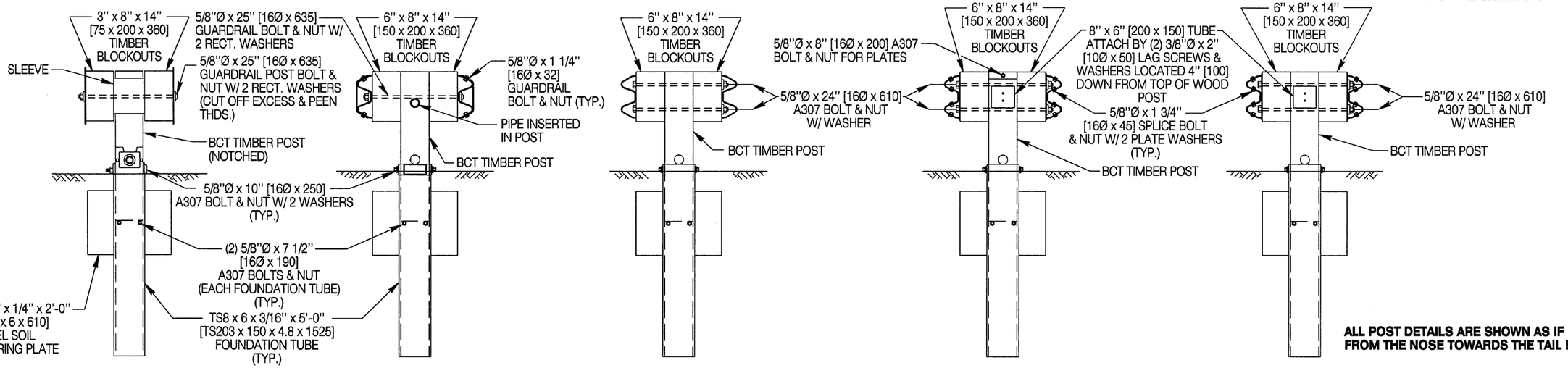
SPLICE BOLT



RESTRAINT ROD DETAIL



SLOTTED BEARING PLATE DETAIL



POST 1 **POST 2** **POST 3 & 5** **POST 4** **POST 6**

ALL POST DETAILS ARE SHOWN AS IF LOOKING FROM THE NOSE TOWARDS THE TAIL END.

Designed by: WBW	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	END ANCHORAGE TYPE F - CAT

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

NOTE:

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

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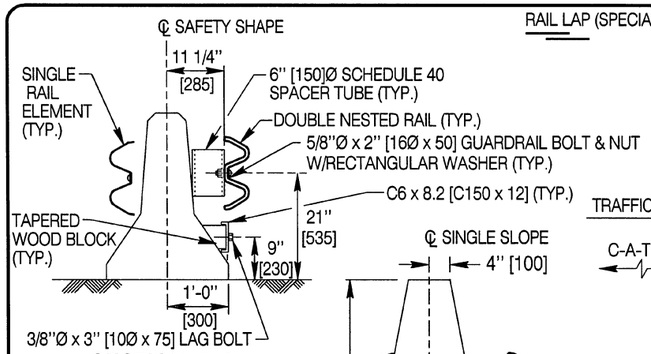
Issued by: ENGINEERING SERVICES

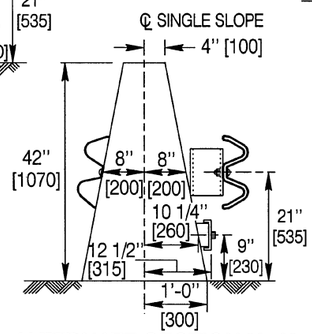
Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_12.dgn



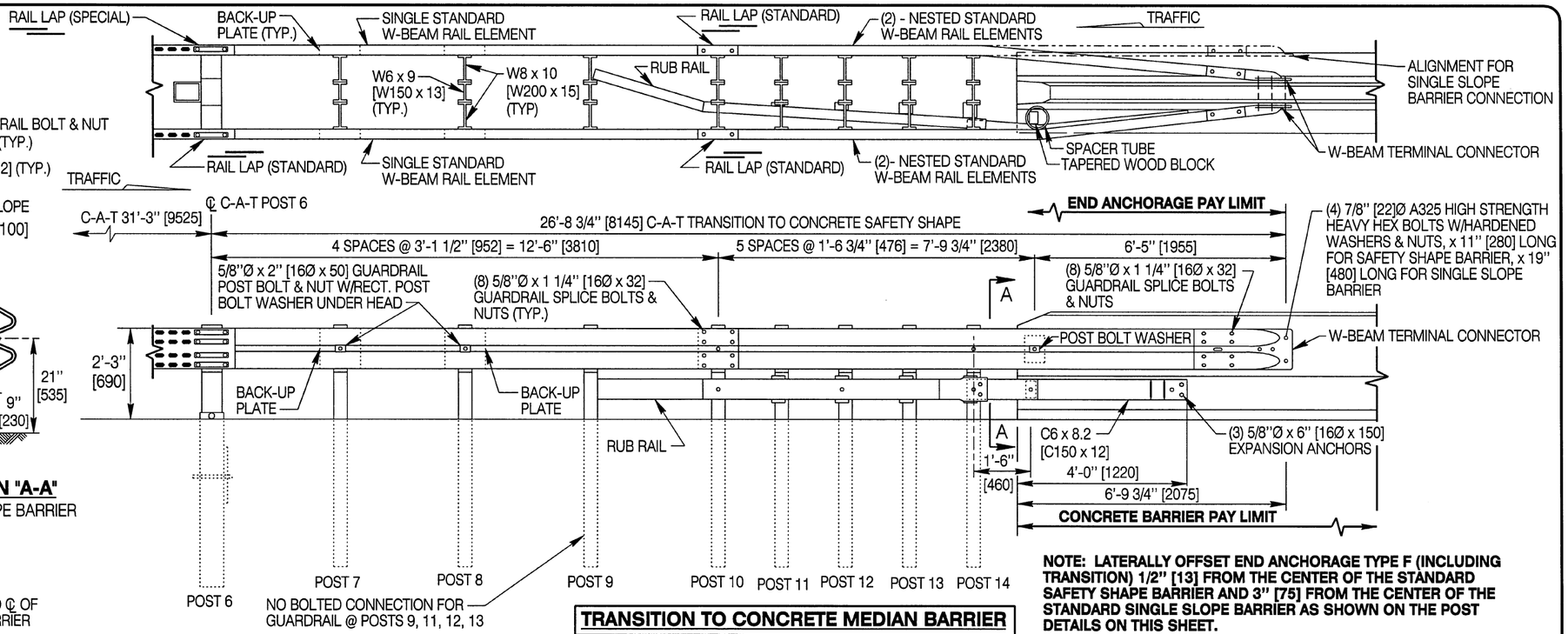
SECTION "A-A"

32" [815] HIGH SAFETY SHAPE



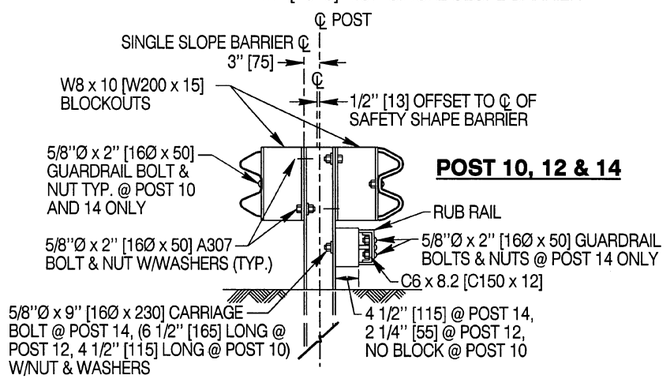
ALTERNATE SECTION "A-A"

42" [1070] HIGH SINGLE SLOPE BARRIER

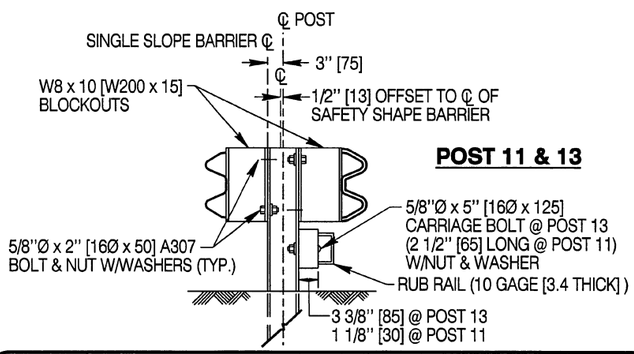


TRANSITION TO CONCRETE MEDIAN BARRIER

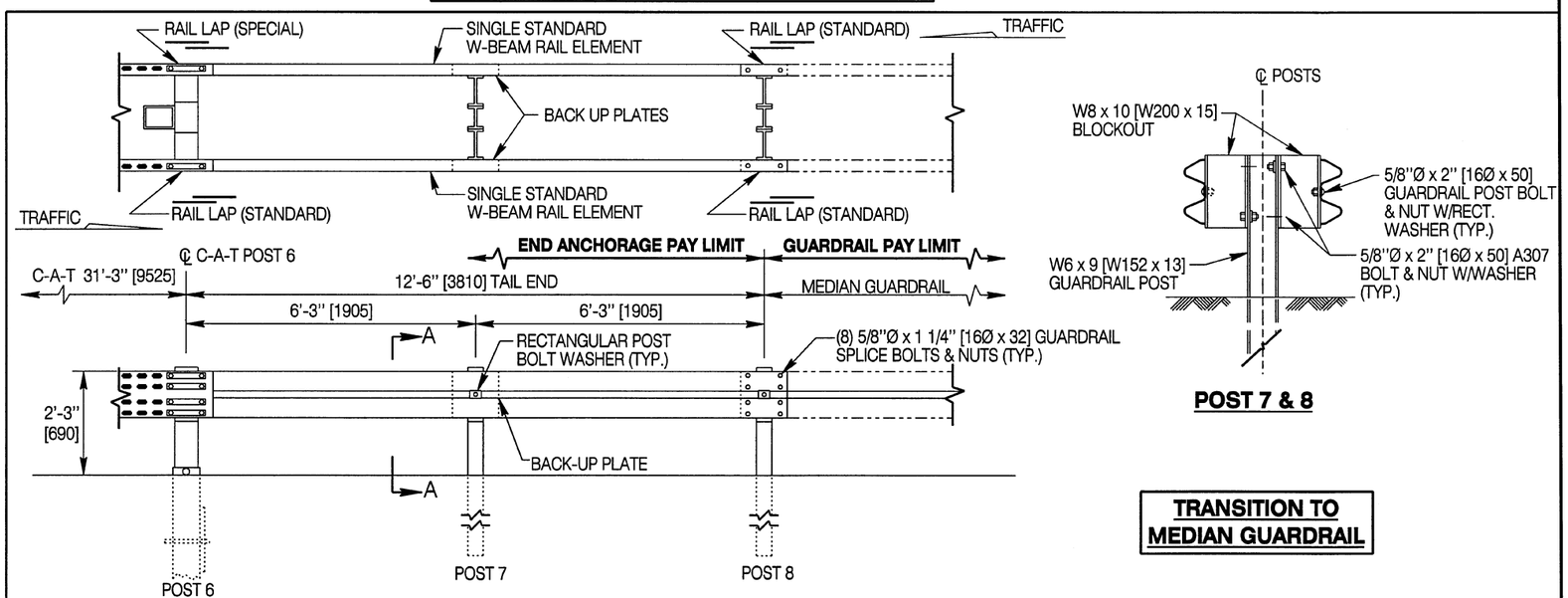
NOTE: LATERALLY OFFSET END ANCHORAGE TYPE F (INCLUDING TRANSITION) 1/2" [13] FROM THE CENTER OF THE STANDARD SAFETY SHAPE BARRIER AND 3" [75] FROM THE CENTER OF THE STANDARD SINGLE SLOPE BARRIER AS SHOWN ON THE POST DETAILS ON THIS SHEET.



POST 10, 12 & 14



POST 11 & 13



TRANSITION TO MEDIAN GUARDRAIL

POST 7 & 8

Designed by: WBW	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

INSTALLATION DETAILS END ANCHORAGE TYPE F (CONTINUED)

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

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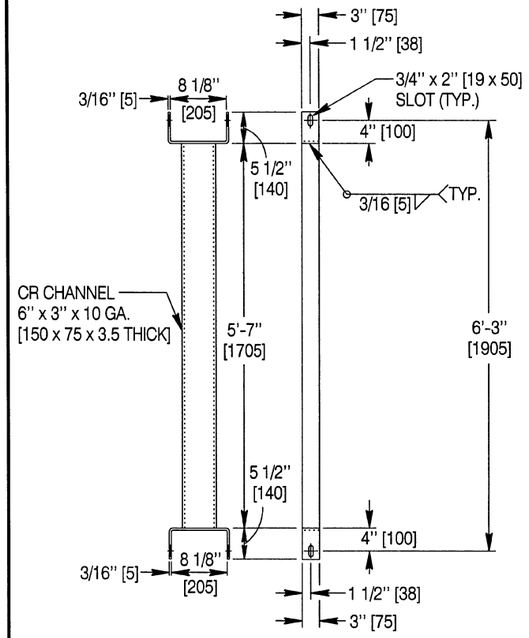
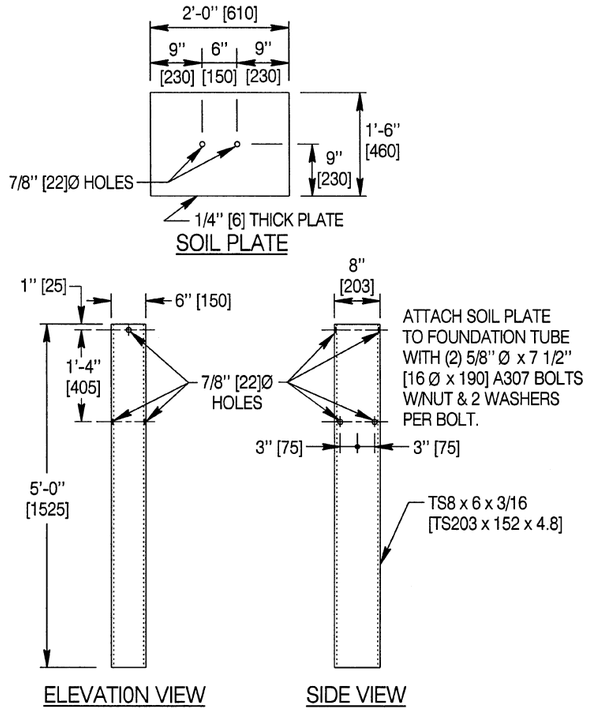
Date Issued: NOVEMBER, 2004

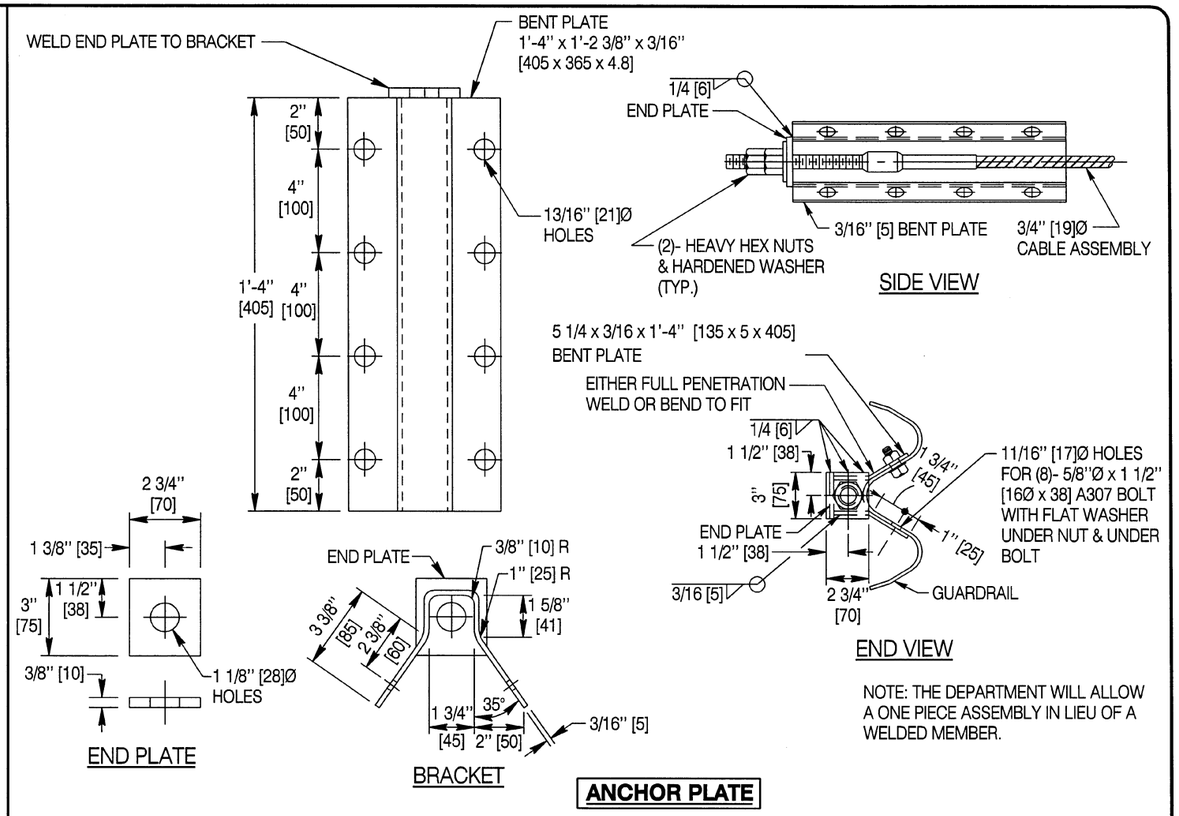
FILE: j:\Stan\Dual_Std_Wrk\6061_13.dgn



FOUNDATION TUBE GROUND STRUT



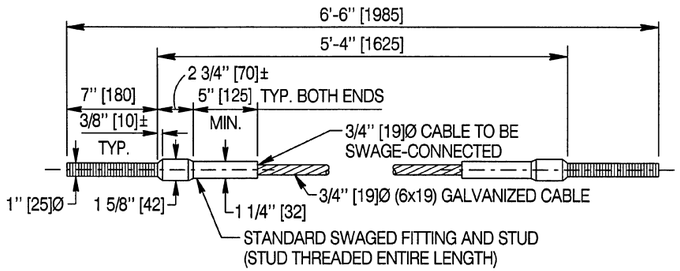
STANDARD FOUNDATION TUBE (INCL. SOIL PLATE)



ANCHOR PLATE

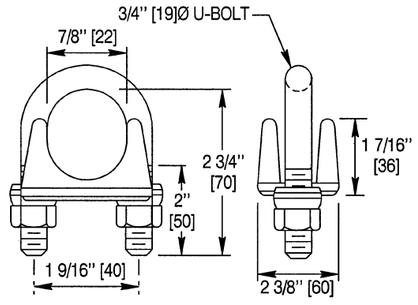
GENERAL NOTE

Proprietary End Anchorages may require different components than shown here.

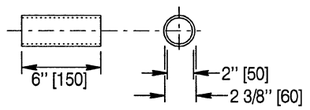


3/4" [19] CABLE ANCHOR ASSEMBLY

(SUPPLIED WITH (4) HEAVY HEX NUTS & (2) HARDENED WASHERS



U-BOLT CABLE CLIP



BCT POST SLEEVE

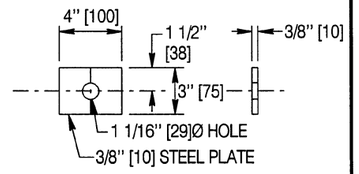
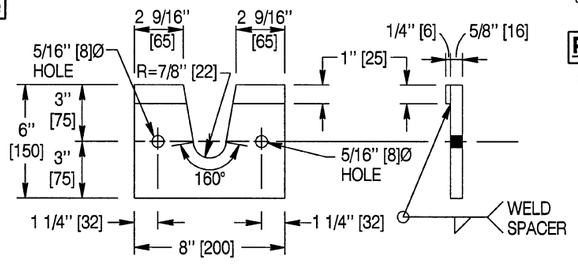


PLATE WASHER

(USED WITH SLOTTED BEARING PLATE)



SLOTTED BEARING PLATE

Designed by: WBW	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

FABRICATION DETAILS - STANDARD CABLE ANCHORAGE DETAILS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

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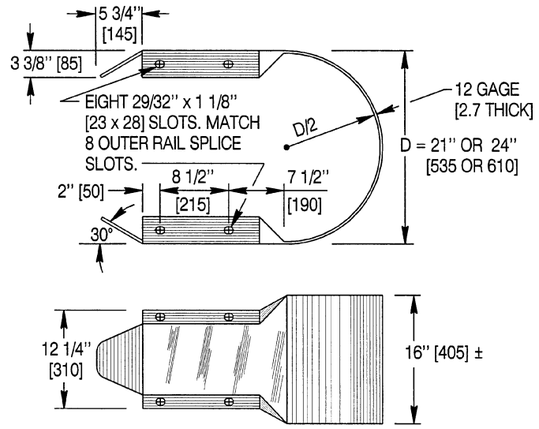
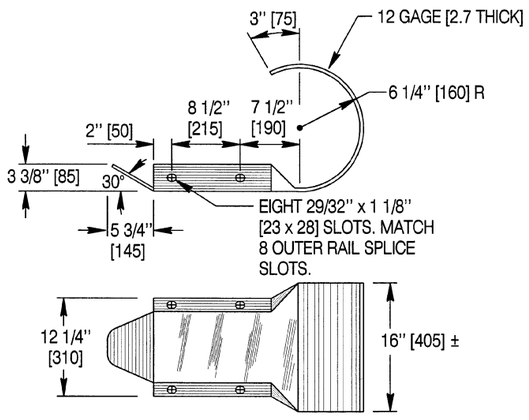
Date Issued: NOVEMBER, 2004

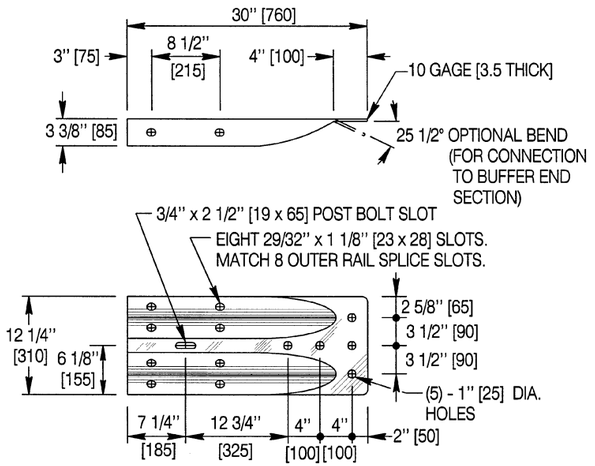
FILE: J:\Stan\Dual_Std_Wrk\6061_14.dgn



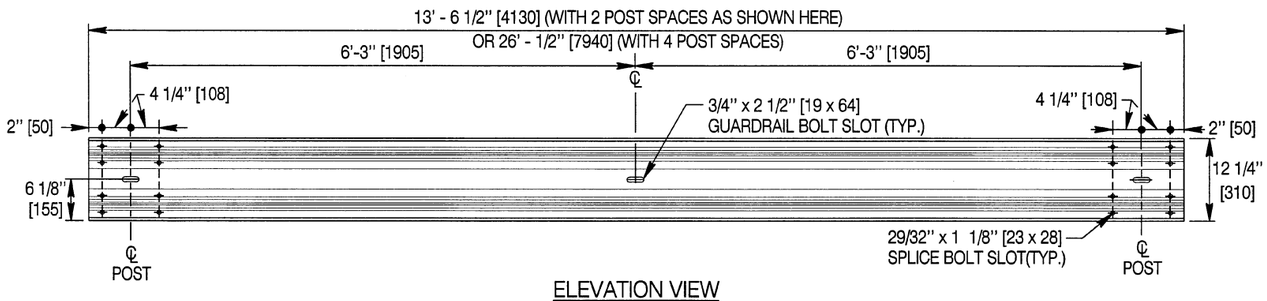
BUFFER END SECTION



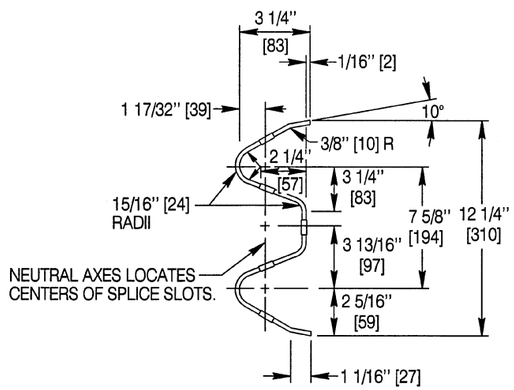
ROUNDED END SECTION



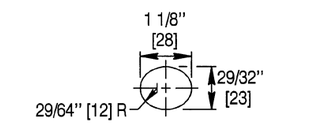
W - BEAM TERMINAL CONNECTOR



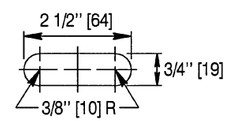
ELEVATION VIEW



SECTION VIEW



TYPICAL SPLICE BOLT SLOT



TYPICAL POST BOLT SLOT

STANDARD W-BEAM RAIL ELEMENT

12 GAGE [2.7 THICK]

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. 606-01C

FABRICATION DETAIL - STANDARD RAIL AND END SECTIONS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

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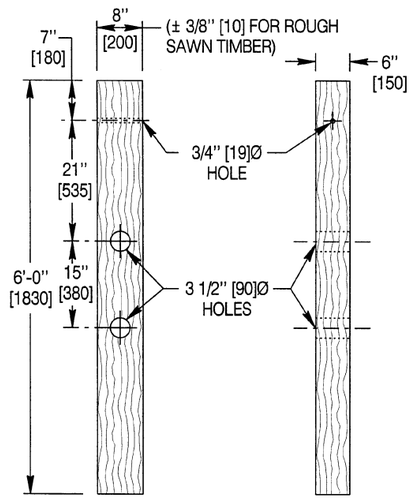
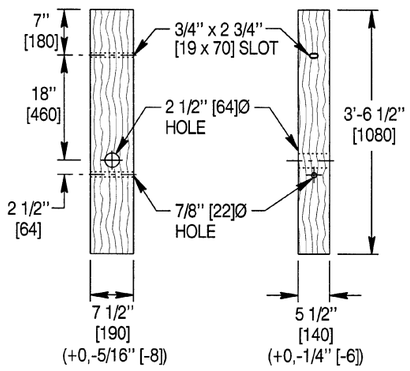
Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_15.dgn



CRT TIMBER POST



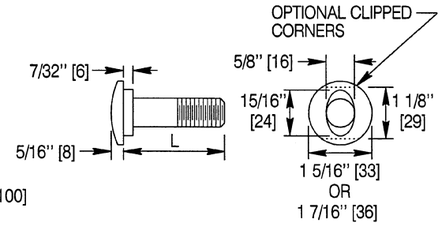
SIDE VIEW ELEVATION VIEW

BCT TIMBER POST

S4S ONLY

VARY BOLT LENGTH BASED ON USAGE:
FOR L ≤ 4" [100] BOLTS SHALL BE FULLY THREADED
FOR L > 4" [100] MIN. BOLT THREAD LENGTH SHALL BE 4" [100]

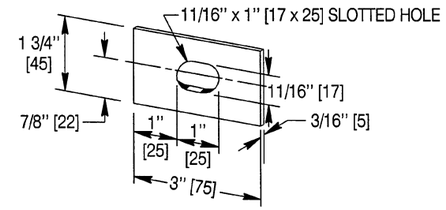
PROVIDE BOLTS TO CONFORM TO ASTM A307.



5/8" [16]Ø GUARDRAIL BOLT

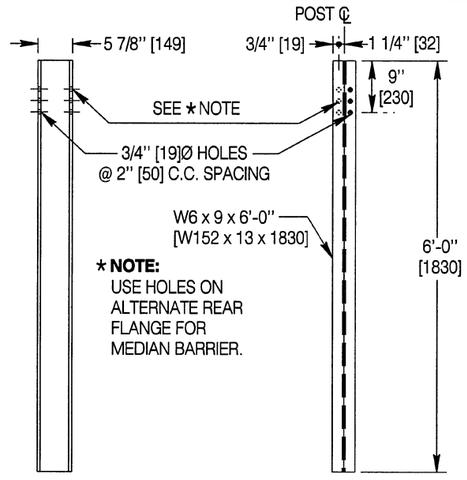
(BUTTON HEAD BOLT)

(FOR SPLICE & POST BOLTS)

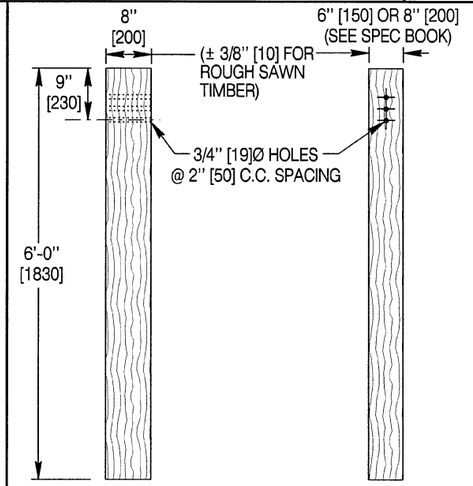


RECTANGULAR POST BOLT WASHER

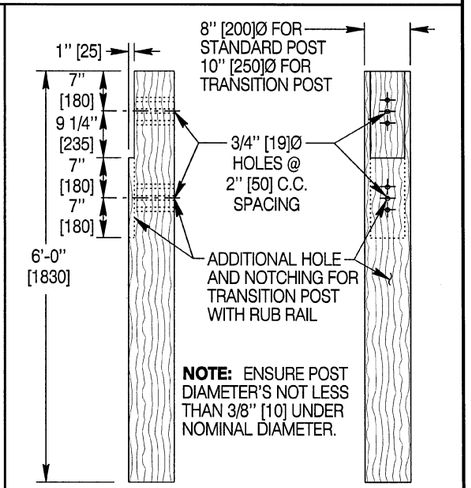
(USE ONLY WHERE SPECIFIED)



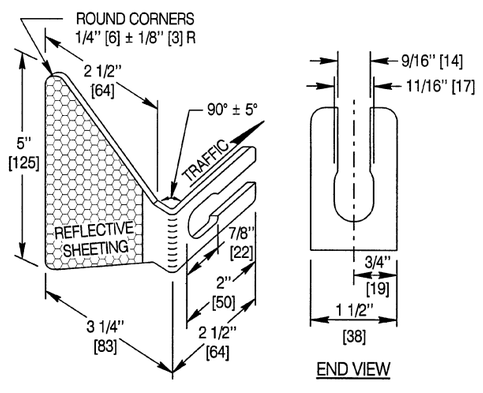
WIDE-FLANGE GUARDRAIL POST



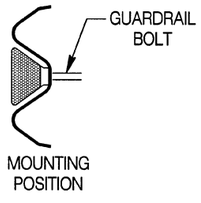
TIMBER GUARDRAIL POST



ROUND TIMBER GUARDRAIL POST



END VIEW



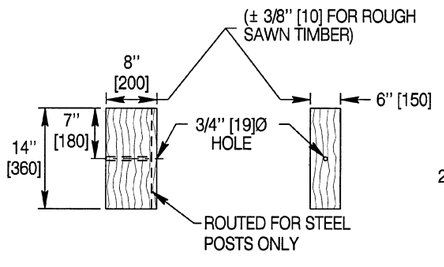
NOTES:

INSTALL REFLECTOR TABS AT 4 POST INTERVALS.

DO NOT PLACE REFLECTOR TABS ON END ANCHORAGES.

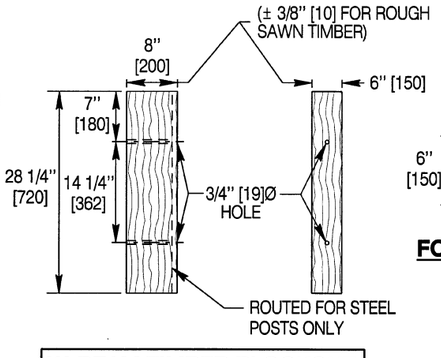
REFLECTOR TAB

MANUFACTURE REFLECTOR TABS FROM 12 TO 14 GAGE [2.8 TO 2.0 THICK] STEEL. USE TYPE II OR TYPE III REFLECTIVE SHEETING.

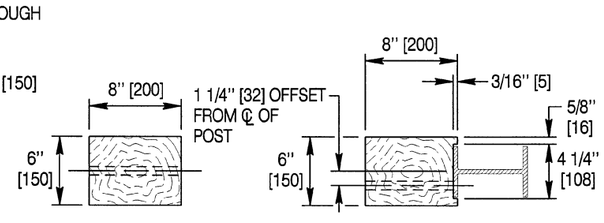


W-BEAM TIMBER BLOCKOUT

NOTE:
SOME BLOCKOUTS VARY FOR END ANCHORAGE TYPE F. REFER TO THOSE DETAIL SHEETS FOR SPECIFIC DIMENSIONS AND HOLE CONFIGURATIONS.



W-BEAM TIMBER BLOCKOUT FOR TRANSITION W/RUBRAIL



FOR WOOD POSTS **ROUTED FOR STEEL POSTS**

TOP VIEW OF BLOCKOUT

Designed by: WBW	
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 606-01C	

FABRICATION DETAILS - STANDARD POST AND MISCELLANEOUS HARDWARE DETAILS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

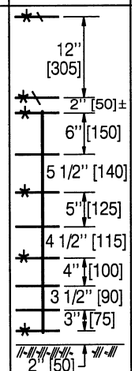
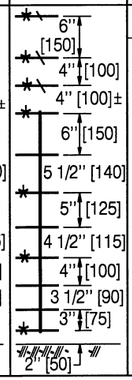
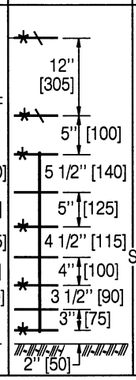
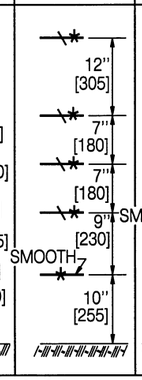
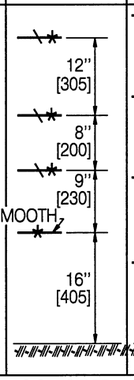
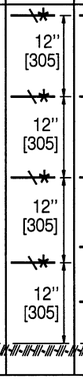
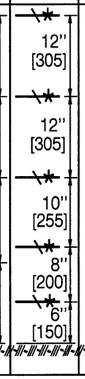
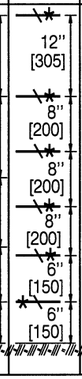
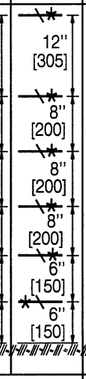
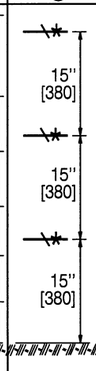
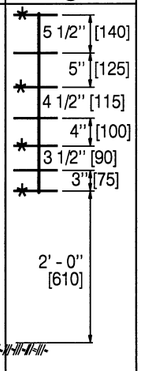
CORRUGATED BEAM GUARDRAIL

STANDARD PLAN

STANDARD PLAN NUMBER
606-1
SHEET 16 of 16
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004

FILE: j:\Stan\Dual_Std_Wrk\6061_16.dgn

WIRE FENCE TYPE AND POST SPACING REQUIREMENTS

WIRE	COMBINATION WOVEN WIRE & BARBED WIRE			BARBED WIRE							WOVEN WIRE
HEIGHT	48" [1220]		45" [1145]	45" [1145]		48" [1220]				45" [1145]	50" [1270]
FENCE TYPE	TYPE A	TYPE B (INTERSTATE STANDARD)	TYPE C	TYPE D	TYPE E	TYPE F	TYPE G	TYPE H	WING	TEMPORARY	BARRIER
REMARKS	32" [812] WW-2 BW	32" [812] WW-3 BW	26" [660] WW-2 BW	4 BW- 1 SMOOTH	3 BW- 1 SMOOTH	4 BW	5 BW	6 BW	6 BW	3 BW	26" [660] WW
NOTES										①	②
CONFIGURATION											
LINE POST TYPE	WOOD, PLASTIC OR METAL AS SPECIFIED (IF WOOD OR PLASTIC LINE POSTS ARE USED, METAL LINE POSTS ARE REQUIRED AT SPECIFIED INTERVALS FOR LIGHTENING GROUNDING AS PER THE STANDARD SPECIFICATIONS)									METAL	METAL
MAX. LINE POST SPACING	16' - 6" [5.0 m]								8' - 3" [2.5 m]	20' - 0" [6.1 m] MAX.	16' - 6" [5.0 m]

Indicates which wires require a fence clip, tie wire or staple attachment to the post.

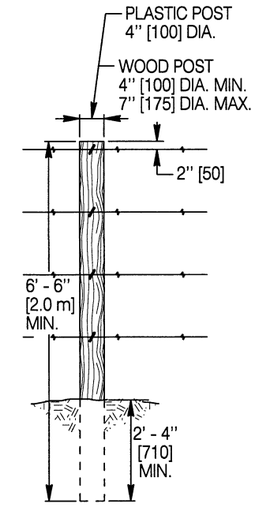
Indicates barbed wire.

SMOOTH Indicates twisted barbless wire.

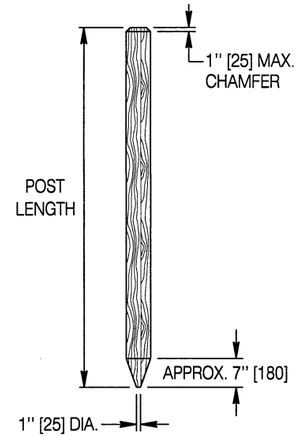
NOTES

① Temporary fence runs 200 feet [61 m] and less do not require brace panels for fence terminations unless determined by the engineer they are needed for fence stability.

② Barrier Fence should only be specified for medians, not for right-of-way fence.



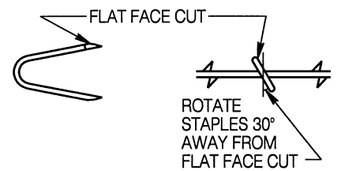
LINE POST DETAIL

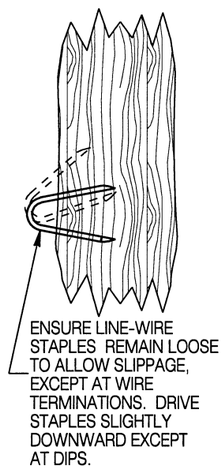


PERMISSABLE MODIFICATIONS FOR DRIVEN POSTS

WOOD AND PLASTIC LINE POSTS

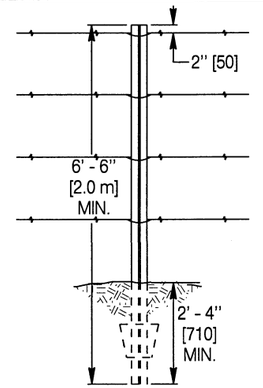
Attach wire to wood post with fence staples. Attach wire to plastic posts with clips approved by the engineer per specifications.





WIRE ATTACHMENT TO WOOD POSTS & WOOD STAYS (STAPLE DETAILS)

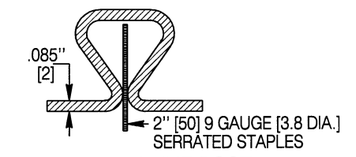
Attach wire to wood posts, wood stays and gate sticks with 2" x 9 gage [50 x 3.8 Dia.] galvanized barbed staples.



LINE POST DETAIL

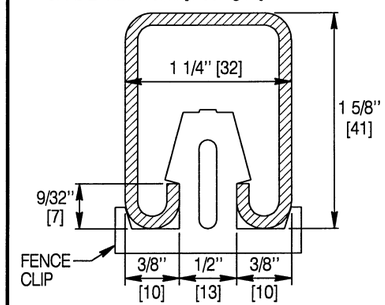
STANDARD T-POST

1.33 LBS/FT [1.98 kg/m] WITH TIE WIRE NOTCHES & 0.67 LBS [0.30 kg] ANCHOR PLATE SECURELY ATTACHED



ALTERNATE LINE POST

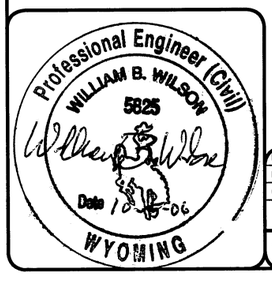
STAPLE GRIPPER WITH SAND SPADE-1.27 lbs./ft. [1.89 kg/m]



ALTERNATE LINE POST

HAMMERLOCK - 1.27 lbs/ft. [1.89 kg/m] W/O 0.67 LBS [0.30 kg] ANCHOR PLATE

METAL LINE POSTS



Designed by:	WBW
Drawn by:	GLD
Checked by:	WBW
Previous Dwg. No.	607-1

WIRE SPACING AND LINE POST DETAILS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

WIRE FENCE

STANDARD PLAN

STANDARD PLAN NUMBER **607-1A**

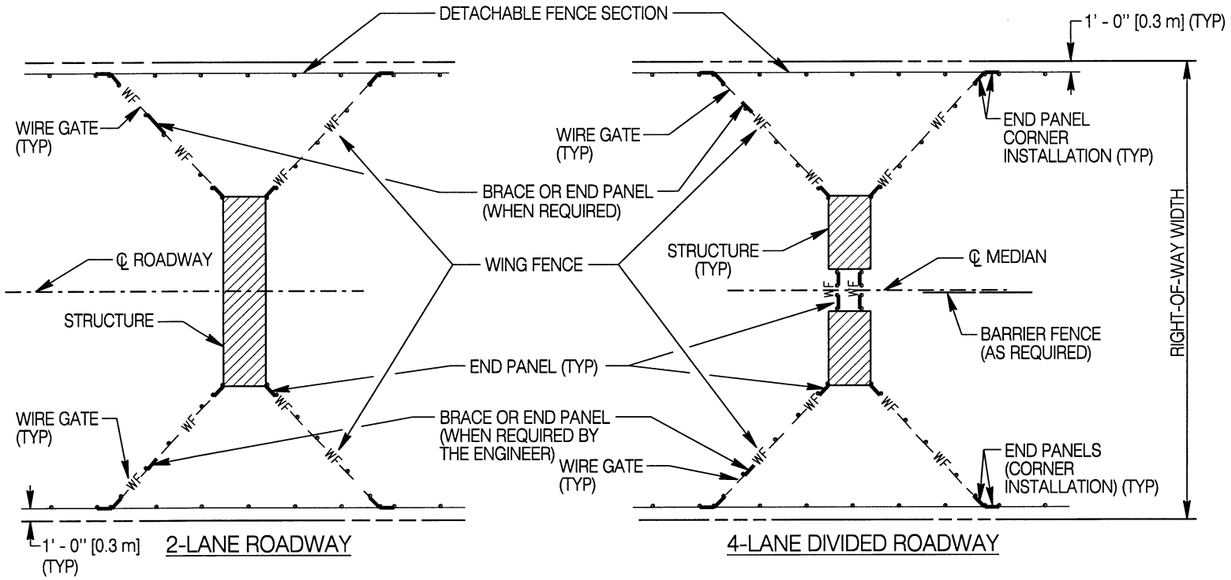
SHEET 1 of 6

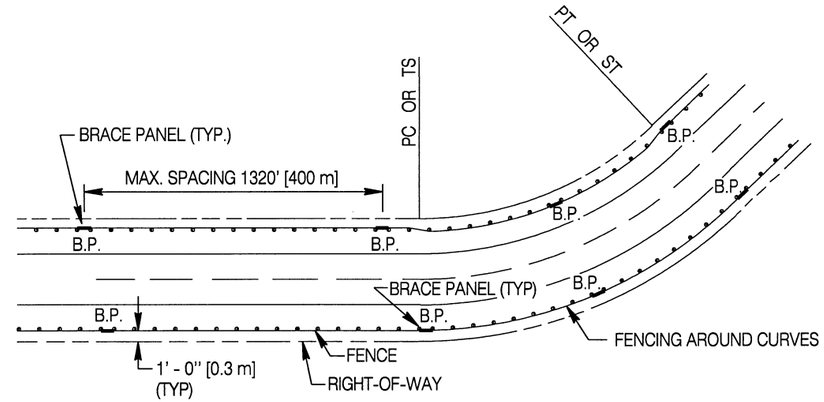
Issued by: ENGINEERING SERVICES

Date Issued: DECEMBER 2006

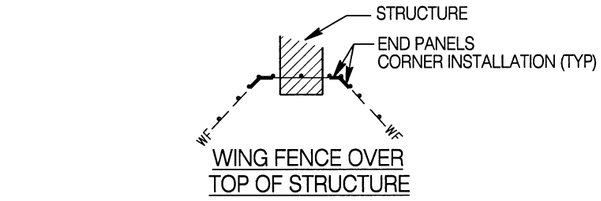
GENERAL NOTES

Place brace panels in tangent fence runs at locations designated by the engineer but no more than 1320 ft. [400 m] apart.





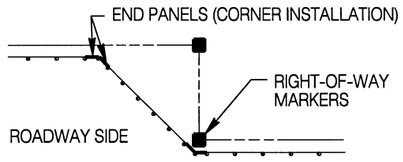
GENERAL FENCE REQUIREMENTS



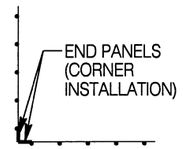
WING FENCE OVER TOP OF STRUCTURE

WING FENCE DETAILS

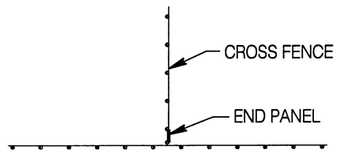
(FOR ALL 72" [1830] EQUIVALENT DIAMETER OR LARGER PIPE, BOX CULVERTS, BRIDGES AND OTHER LOCATIONS AS SPECIFIED IN THE PLANS)



RIGHT-OF-WAY WIDTH CHANGE

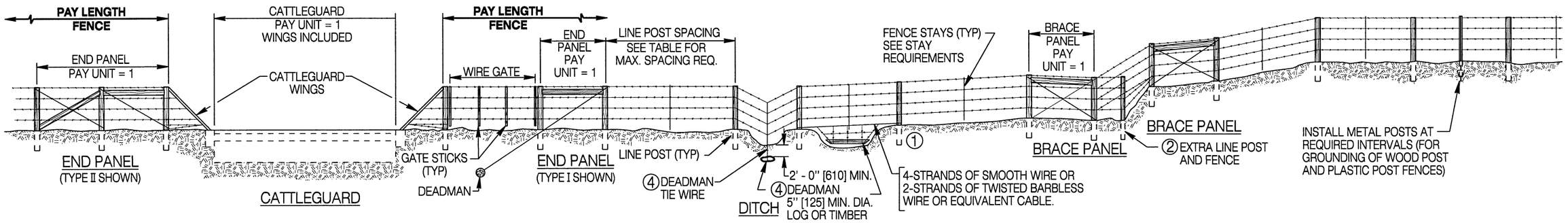


CORNER FENCE

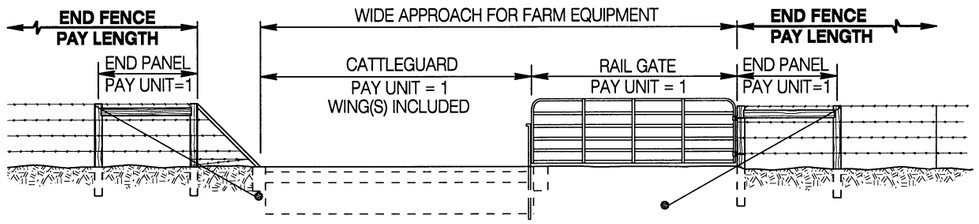


CROSS FENCE CONNECTION

Designed by: WBW Drawn by: GLD Checked by: WBW Previous Dwg. No. 607-1	GENERAL LAYOUT	WYOMING DEPARTMENT OF TRANSPORTATION	**WIRE FENCE** STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER **607-1A** SHEET 2 of 6 Issued by: ENGINEERING SERVICES Date Issued: DECEMBER 2006

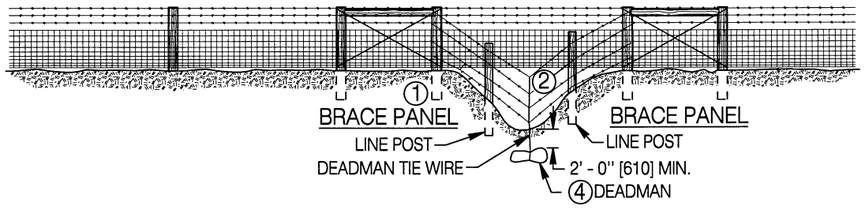


TYPICAL FENCE DETAILS

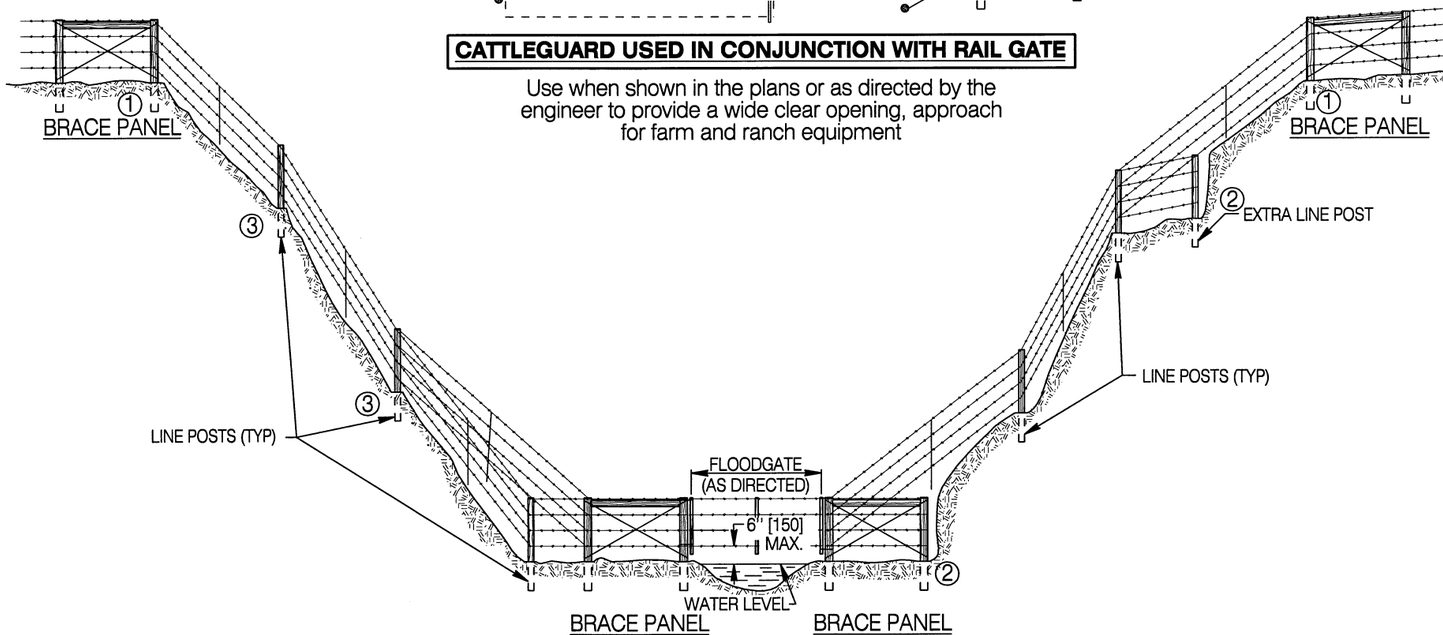


CATTLEGUARD USED IN CONJUNCTION WITH RAIL GATE

Use when shown in the plans or as directed by the engineer to provide a wide clear opening, approach for farm and ranch equipment



TYPICAL DITCH TREATMENT



TYPICAL ROUGH TERRAIN AND FLOOD GATE TREATMENT

NOTES

① As the fence line approaches a depression, ditch or gulley, place the last post on level ground close enough to the drop-off edge to string wire to a post in the depression, ditch or gulley from both sides without touching the ground.

② Level uneven ground as much as possible. Otherwise place additional line fence and/or posts to compensate for terrain features.

③ Maintain required wire spacing of bottom wire with respect to the ground. Don't allow bottom wire to contact ground. If necessary, tie bottom wire to next wire to prevent ground contact.

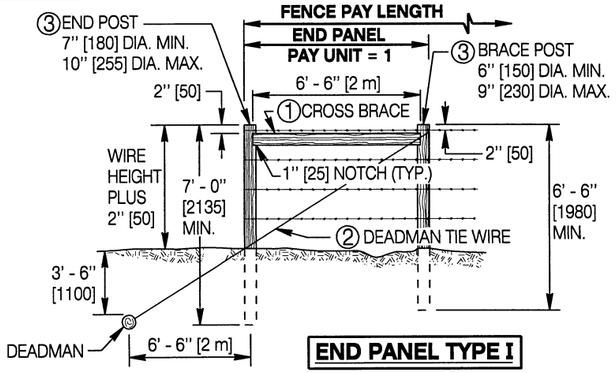
④ Ensure deadman and deadman tie wire meet the requirements for End Panels Type I.

⑤ Details and notes on this sheet apply to all wire fencing.

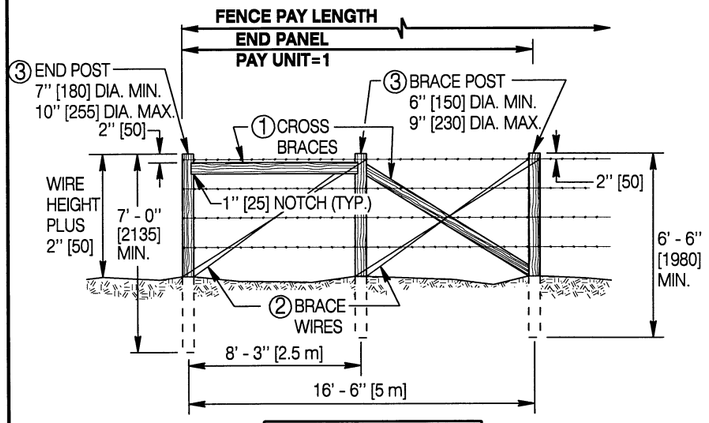
Designed by: WBW Drawn by: GLD Checked by: WBW Previous Dwg. No. 607-1	TYPICAL FENCE CONSTRUCTION DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	WIRE FENCE STANDARD PLAN

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

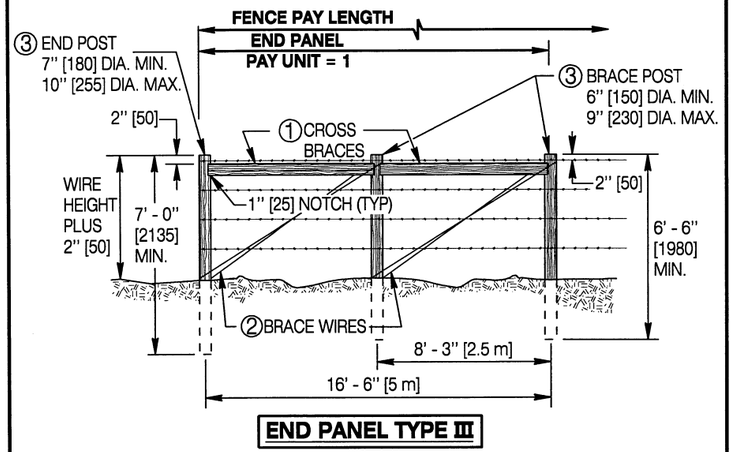
STANDARD PLAN NUMBER
607-1A
SHEET 3 of 6
Issued by: ENGINEERING SERVICES
Date Issued: DECEMBER 2006



END PANEL TYPE I



END PANEL TYPE II



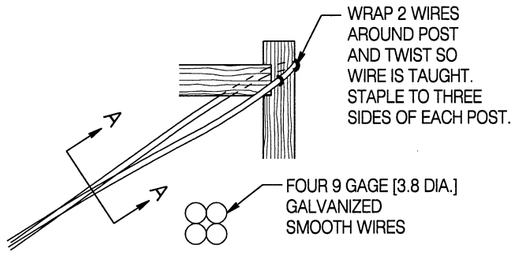
END PANEL TYPE III

NOTES

①CROSS BRACES
Provide wood cross braces that have a minimum diameter of 4 inches [100]. Install top of cross brace flush with top wire.

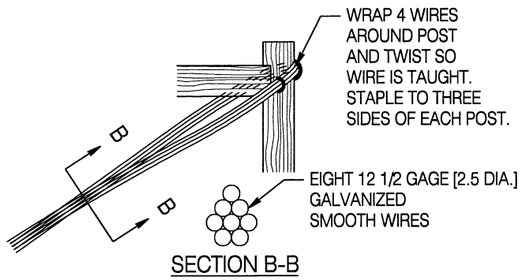
②BRACE AND DEADMAN TIE WIRES
Staple brace and tie wire with a minimum of three staples to each wood post and/or deadman. Twist tie wires together to form a tight composite brace and/or anchor wire.

③BRACE AND END POSTS
Provide wood brace and end posts as shown.



SECTION A-A

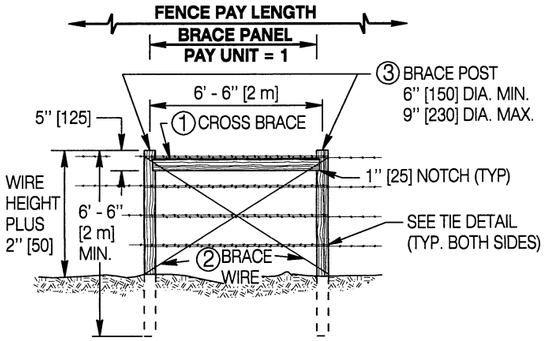
OPTION A
9 GAUGE [3.8 DIA.] WIRE



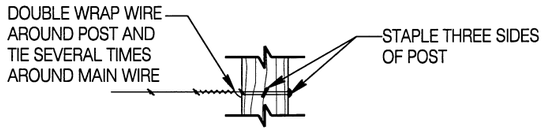
SECTION B-B

OPTION B
12 1/2 GAUGE [2.5 DIA.] WIRE

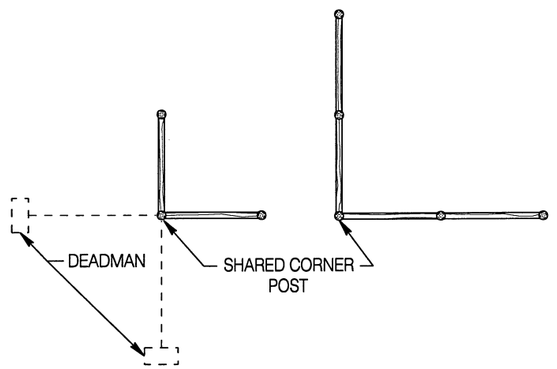
BRACE AND DEADMAN TIE WIRE DETAIL



BRACE PANEL



TERMINATING FENCE WIRE AT END & BRACE POSTS



PLAN VIEW

TYPICAL CORNER INSTALLATION - 2 END PANEL PAY UNITS

Designed by: WBW	END & BRACE PANEL DETAILS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 607-1	

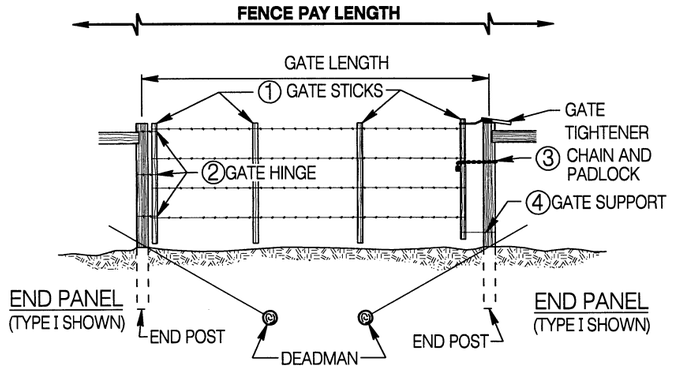
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

WIRE FENCE

STANDARD PLAN

STANDARD PLAN NUMBER
607-1A
SHEET 4 of 6
Issued by: ENGINEERING SERVICES
Date Issued: DECEMBER 2006



WIRE GATES

① GATE STICK

Provide wood gate sticks with a minimum cross section of either a rough dimension 2 in. x 2 in. [50 x 50], 1 1/2 in. x 3 1/2 in. [40 x 90] (nominal 2 in. x 4 in. [50 x 100]) or 2 1/2 in. [65] diameter. Extend the stick 1 inch [25] below the bottom strand of wire and 2 inches [50] above the top strand of wire.

② GATE HINGE

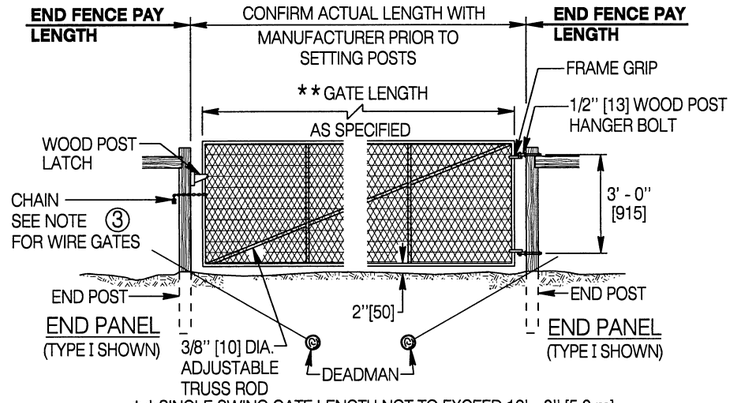
Staple to gate stick and to the end post. Use 3 per gate.

③ GATE CHAIN

Provide 3 foot [915] long galvanized chains where required with 1/4 inch [6] diameter welded links. Secure to end post by wiring or stapling.

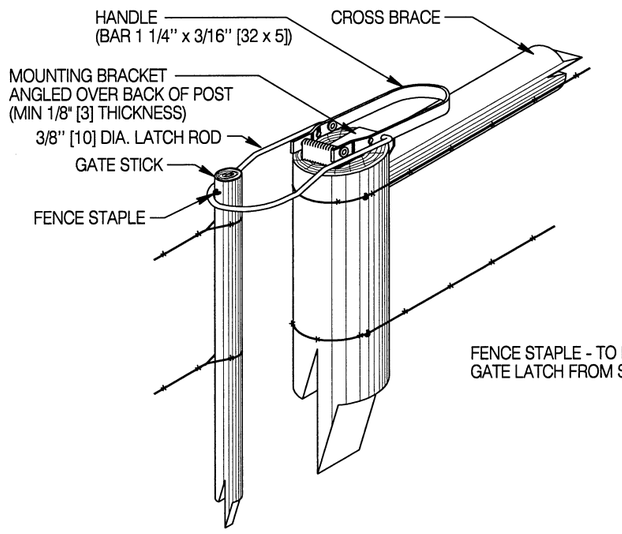
④ GATE SUPPORT

Secure to the end post leaving a loop big enough to encompass a gate stick.

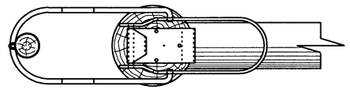


****SINGLE SWING GATE LENGTH NOT TO EXCEED 16' - 0" [5.0 m] NOMINAL GATE LENGTHS ARE 8' [2.4 m],10' [3.0 m],12' [3.6 m], 14' [4.3 m] AND 16' [5.0 m].**

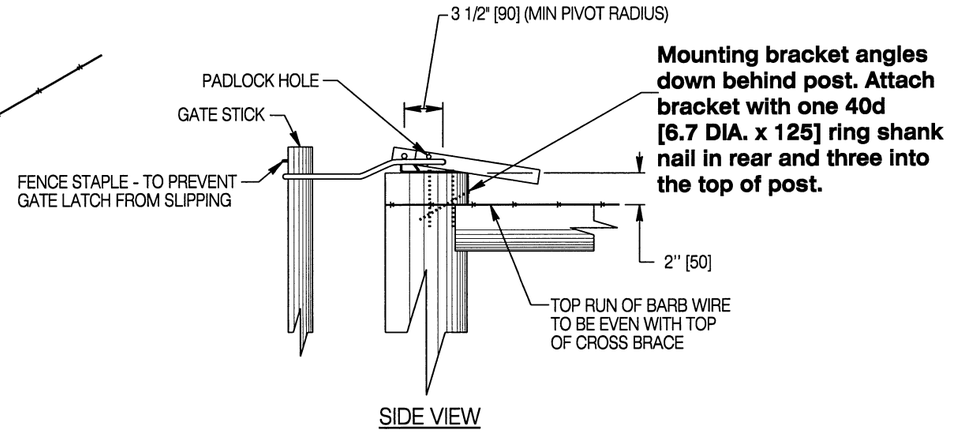
GALVANIZED STEEL GATE



ISOMETRIC VIEW



TOP VIEW



SIDE VIEW

TYPICAL GATE TIGHTENER

Shop paint gate tighteners. Use alternate tighteners only when approved by the engineer. It will be the sole discretion of the engineer in determining whether alternate gate tighteners are of equivalent strength, functionality and durability.

Designed by:	WBW
Drawn by:	GLD
Checked by:	WBW
Previous Dwg. No.	607-1

WIRE GATES AND GALVANIZED STEEL GATES

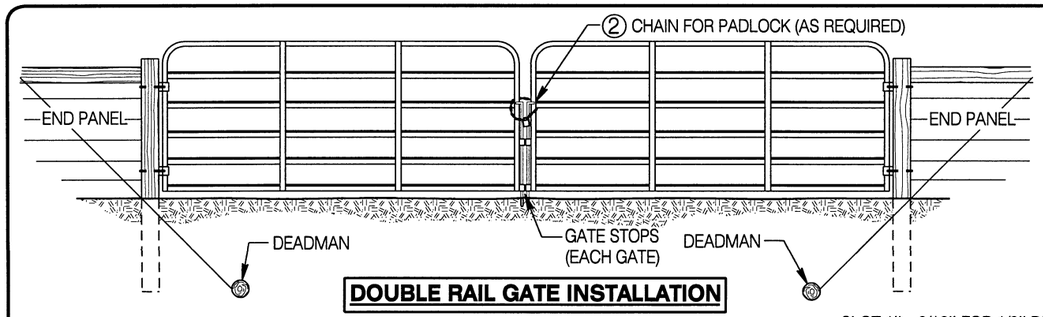
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

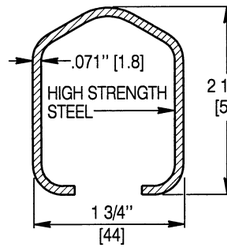
WIRE FENCE

STANDARD PLAN

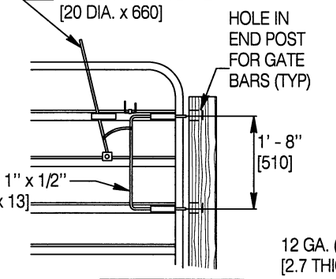
STANDARD PLAN NUMBER	607-1A
SHEET	5 of 6
Issued by:	ENGINEERING SERVICES
Date Issued:	DECEMBER 2006



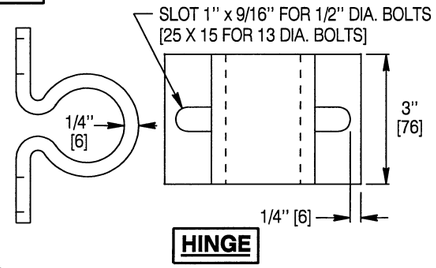
DOUBLE RAIL GATE INSTALLATION



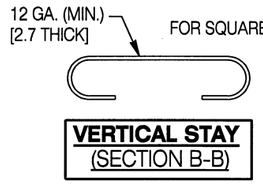
TYPICAL HORIZONTAL RAIL (SECTION A-A)



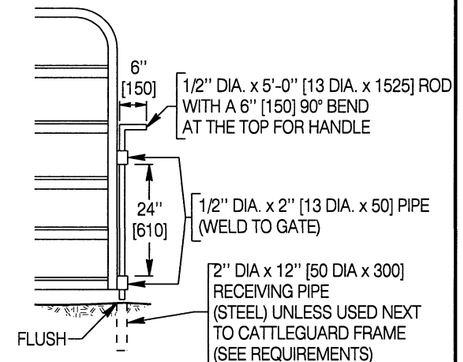
GATE LATCH



HINGE

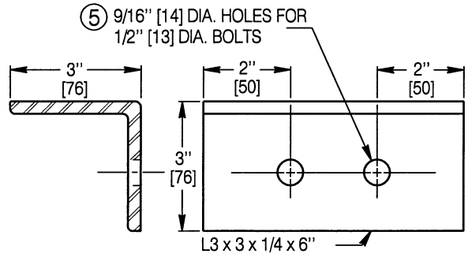


VERTICAL STAY (SECTION B-B)

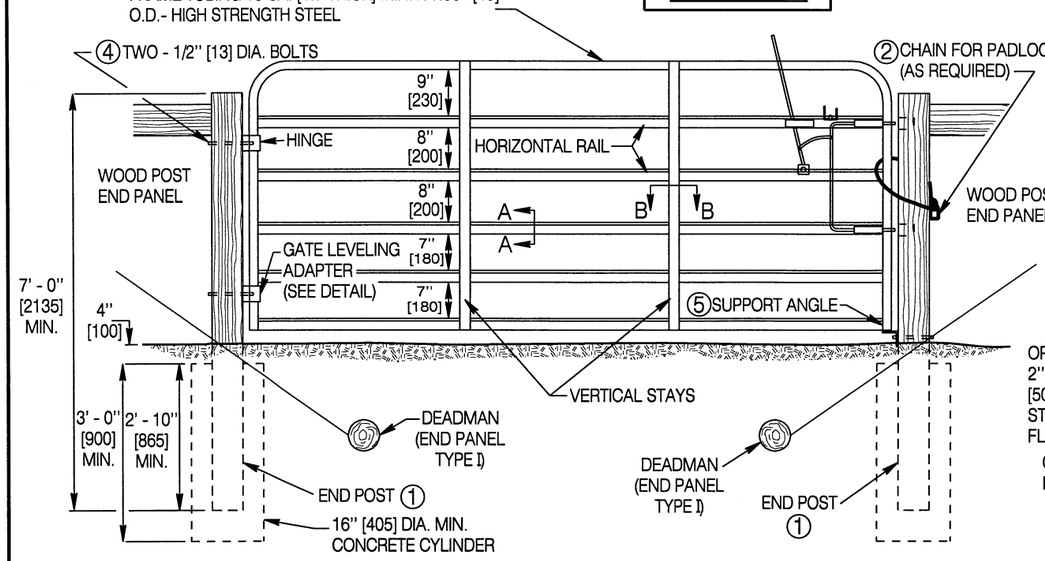


GATE STOP

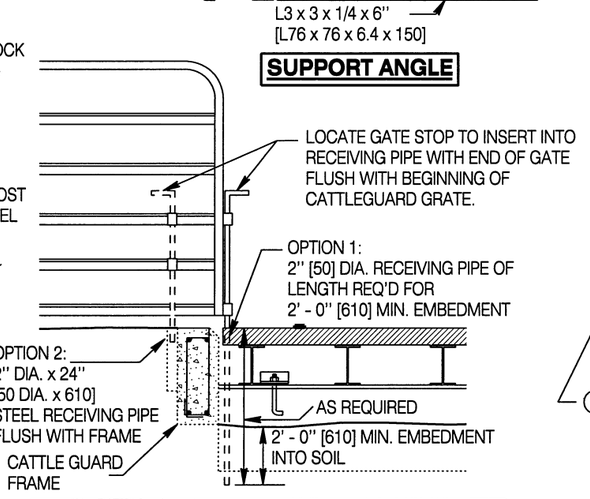
(USE WITH BOTH GATES IN DOUBLE INSTALLATION AND FOR SINGLE GATE USED IN CONJUNCTION WITH CATTLEGUARD)



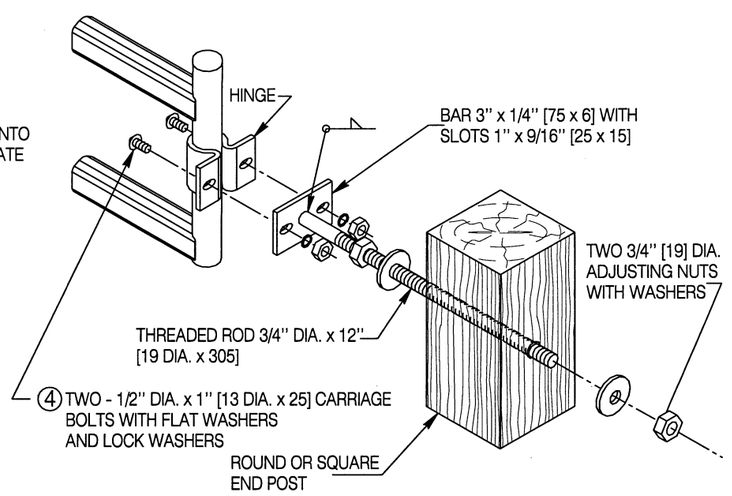
SUPPORT ANGLE



TYPICAL SINGLE RAIL GATE INSTALLATION



SINGLE RAIL GATE INSTALLATION USED IN CONJUNCTION WITH CATTLEGUARD



GATE LEVELING ADAPTOR

RAIL GATE NOTES

① **POST EMBEDMENT**
In lieu of anchoring end posts in concrete, embed a minimum of 4 ft. [1220] deep.

② **GATE CHAIN**
When required provide 3 ft. [915] long, galvanized chains with 1/4" [6] diameter welded links. Secure to the end post by wiring or stapling.

③ **RAIL GATES**
Alternate gates with horizontal rail, frame tubing and vertical stay sections may be used as approved by the engineer.

④ **HINGE BOLTS**
Use two 1/2 in [13] dia. bolts with nuts and washers for each hinge; bolt length to be determined by the size and type of post used.

⑤ **SUPPORT ANGLE AND BOLTS**
Use two 1/2 in. [13] dia. bolts with nuts and washers for attaching each support angle to the posts.

Designed by: WBW	RAIL GATE DETAILS
Drawn by: GLD	
Checked by: WBW	
Previous Dwg. No. 607-1	

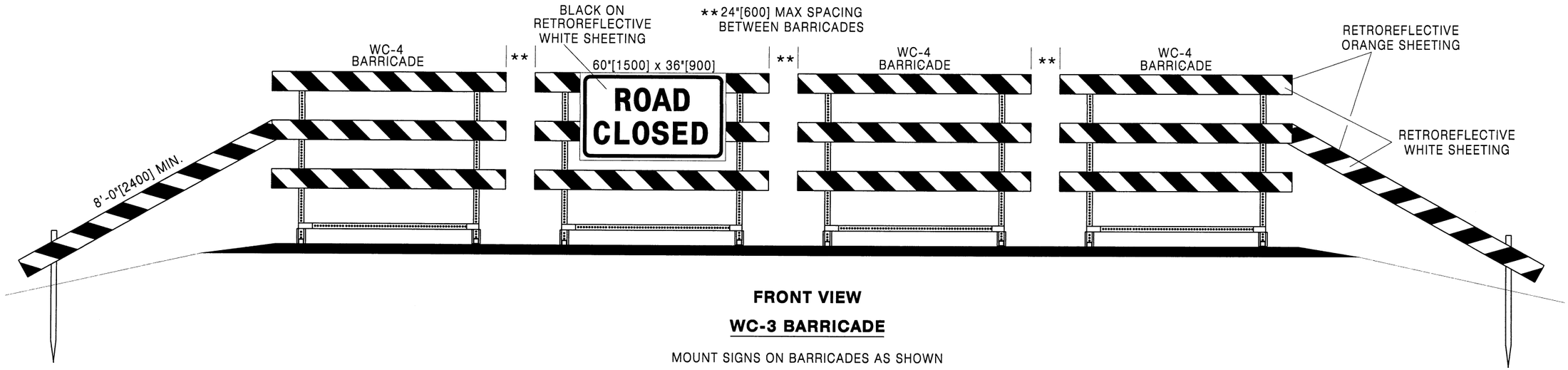
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

WIRE FENCE

STANDARD PLAN

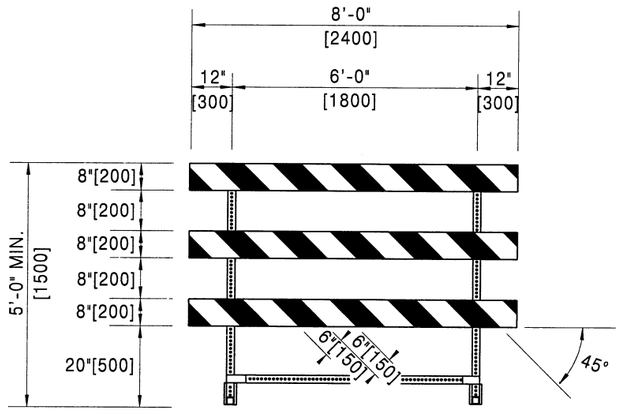
STANDARD PLAN NUMBER
607-1A
SHEET 6 of 6
Issued by: ENGINEERING SERVICES
Date Issued: DECEMBER 2006



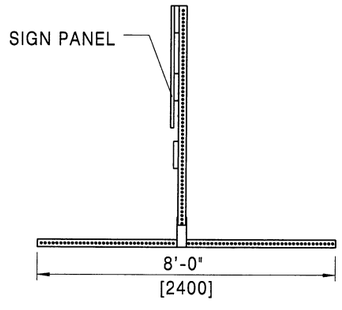
FRONT VIEW

WC-3 BARRICADE

MOUNT SIGNS ON BARRICADES AS SHOWN



FRONT VIEW



SIDE VIEW

WC-4 BARRICADE

NOTES:

1. Submit support design modifications to the engineer for approval.
2. Slope stripes on WC-3 and WC-4 barricades downward towards the travel way or in the direction which traffic moves when moving by the barricade.

Professional Engineer (Civil)
MICHAEL N. GOSTOVICH
1481
Date 10-26-06
WYOMING

Designed by: TRAFFIC	WC-3 AND WC-4 BARRICADES
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-1B	

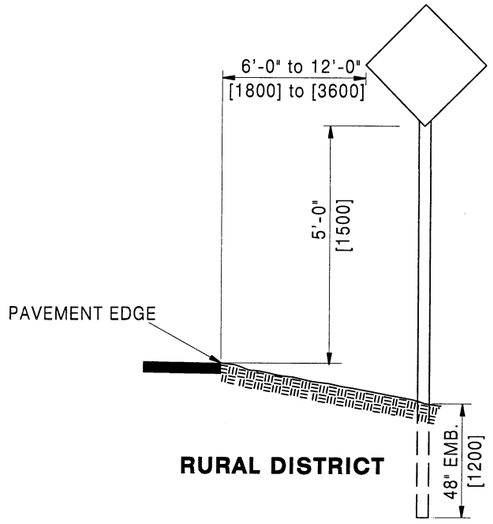
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

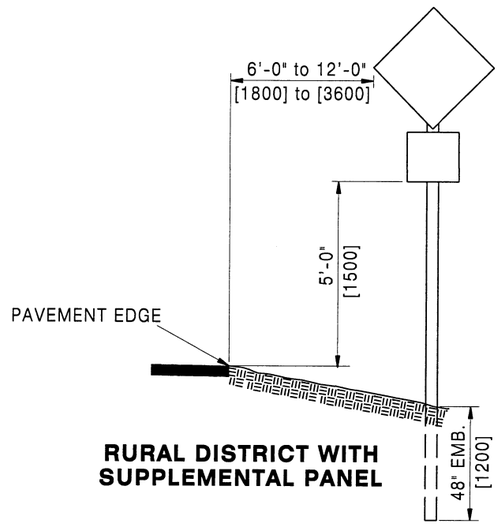
CONSTRUCTION TRAFFIC CONTROL DEVICES

STANDARD PLAN

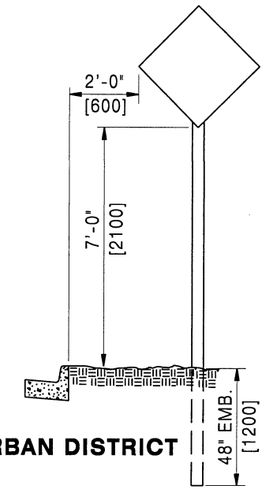
STANDARD PLAN NUMBER
703-1C
SHEET 1 of 12
Issued by: TRAFFIC PROGRAM
Date Issued: DECEMBER, 2006



RURAL DISTRICT

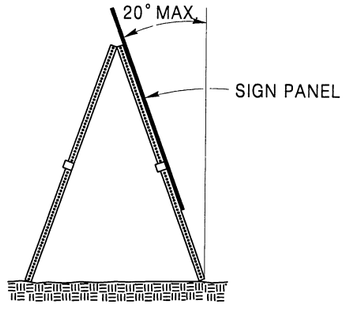


RURAL DISTRICT WITH SUPPLEMENTAL PANEL

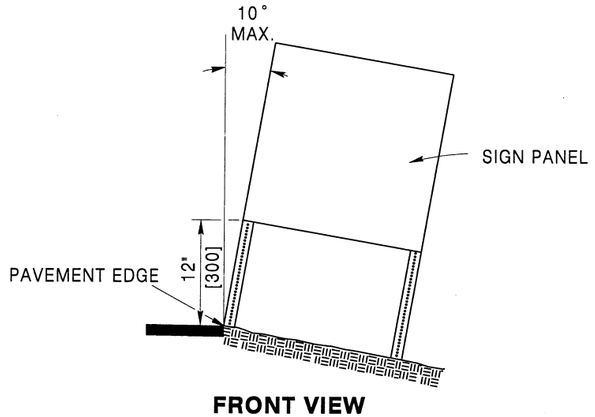


URBAN DISTRICT

SIGN PLACEMENT

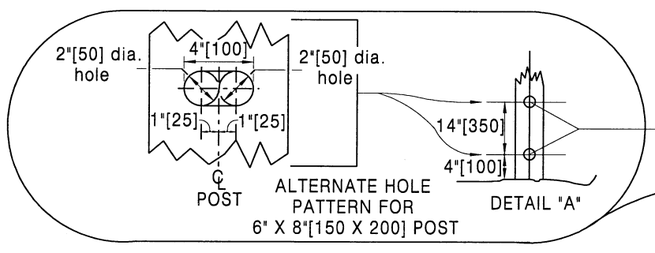


SIDE VIEW

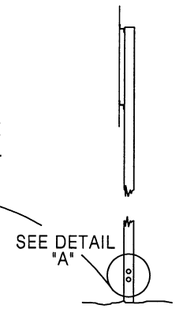


FRONT VIEW

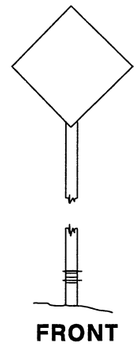
PORTABLE SIGN SUPPORT ORIENTATION



POST SIZE	HOLE DIA.
4" x 4"[100 X 100]	1"[25] Ø
4" x 6"[100 X 150]	2"[50] Ø
6" x 6"[150 X 150]	2 1/2"[64] Ø
6" x 8"[150 X 200]	4"[100] Ø



SIDE

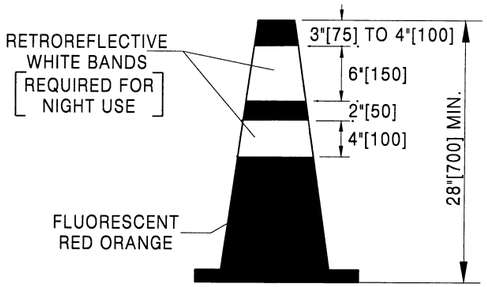


FRONT

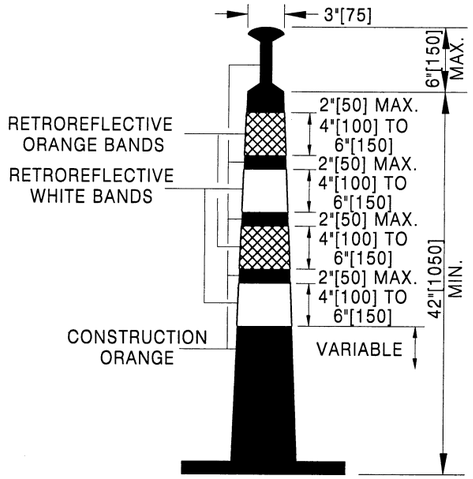
BREAK-AWAY TIMBER POST DETAIL

Designed by: TRAFFIC	MISCELLANEOUS SIGNING DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	CONSTRUCTION TRAFFIC CONTROL DEVICES
Drawn by: JTG			STANDARD PLAN
Checked by: TRAFFIC			STANDARD PLAN NUMBER 703-1C
Previous Dwg. No. 703-1B			SHEET 2 of 12
			Issued by: TRAFFIC PROGRAM
			Date Issued: DECEMBER, 2006

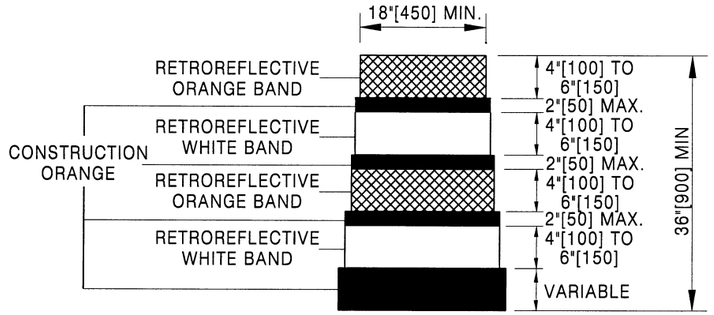
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



CONE

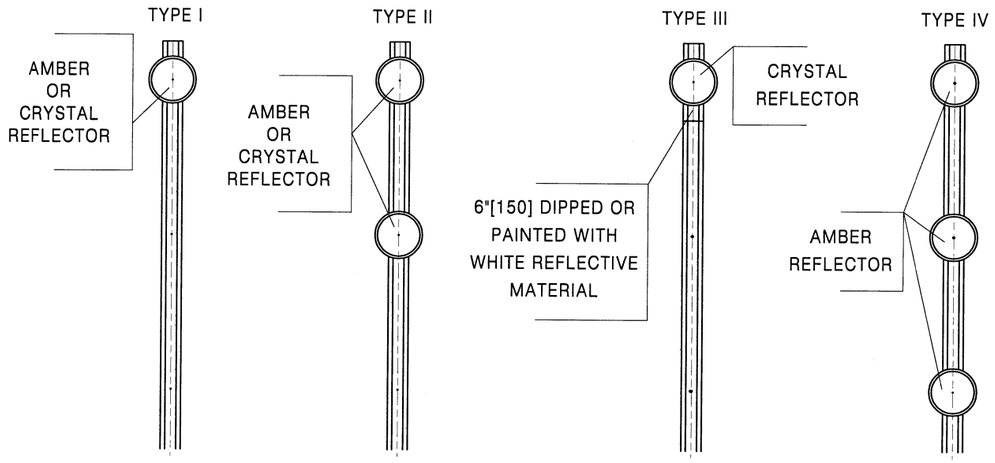


42"[1050] CONE

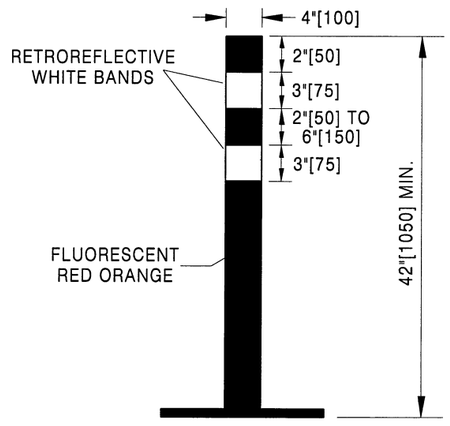


DRUM

CHANNELIZING DEVICES



DELINEATORS

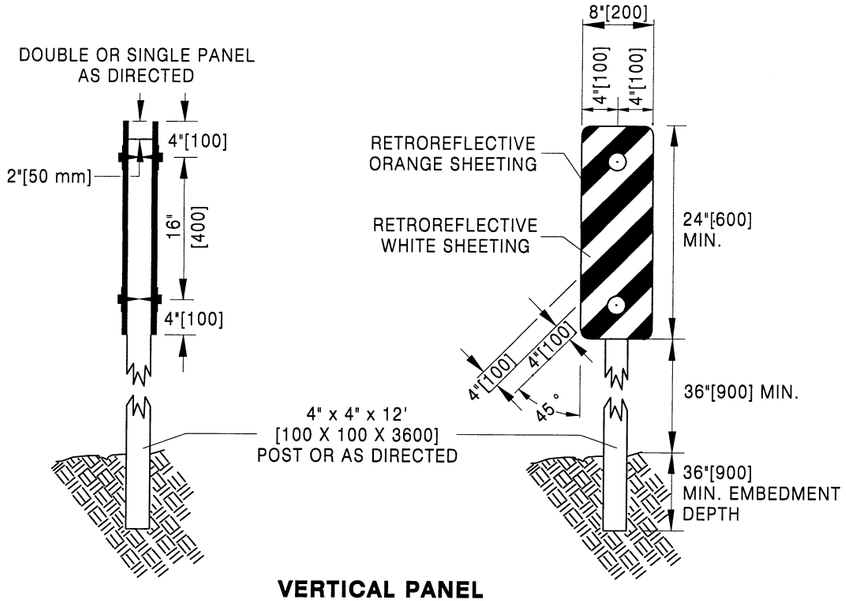


TUBULAR MARKER

DELINEATING DEVICES

Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	CHANNELIZING AND DELINEATING DEVICES	WYOMING DEPARTMENT OF TRANSPORTATION	**CONSTRUCTION TRAFFIC CONTROL DEVICES** STANDARD PLAN	STANDARD PLAN NUMBER **703-1C** SHEET 3 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006

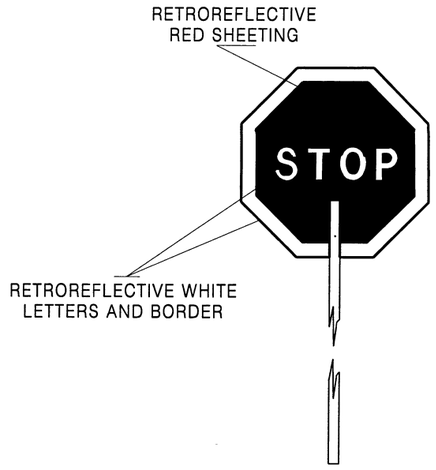
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

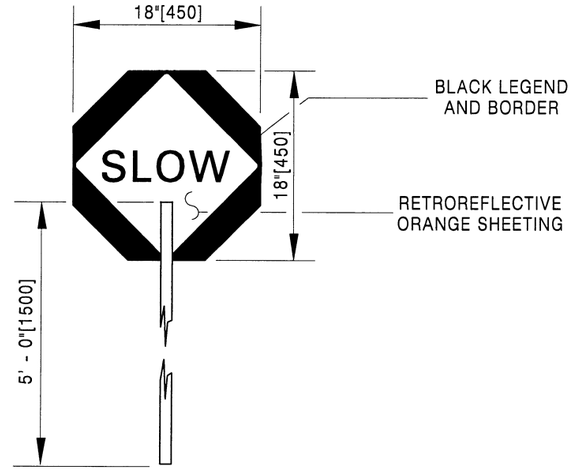


VERTICAL PANEL

Mount vertical panels on wood posts using 1/4 in.[6] X 2 1/2 in.[64] galvanized lag screws and flat washers.

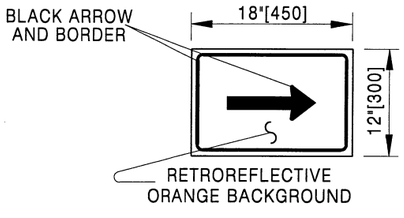
Slope stripes on vertical panels downward towards the travel way or in the direction which traffic moves when moving by the marker.

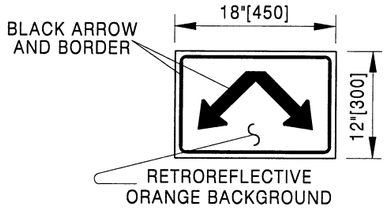




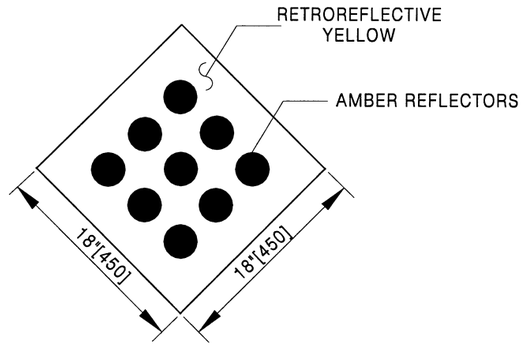
STOP-SLOW PADDLE

LEFT,RIGHT OR DOUBLE ARROW (AS DIRECTED)



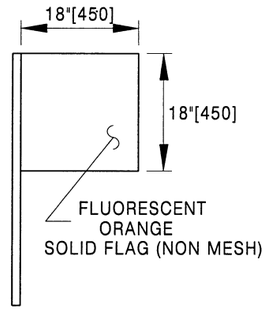


DIRECTIONAL ARROWS



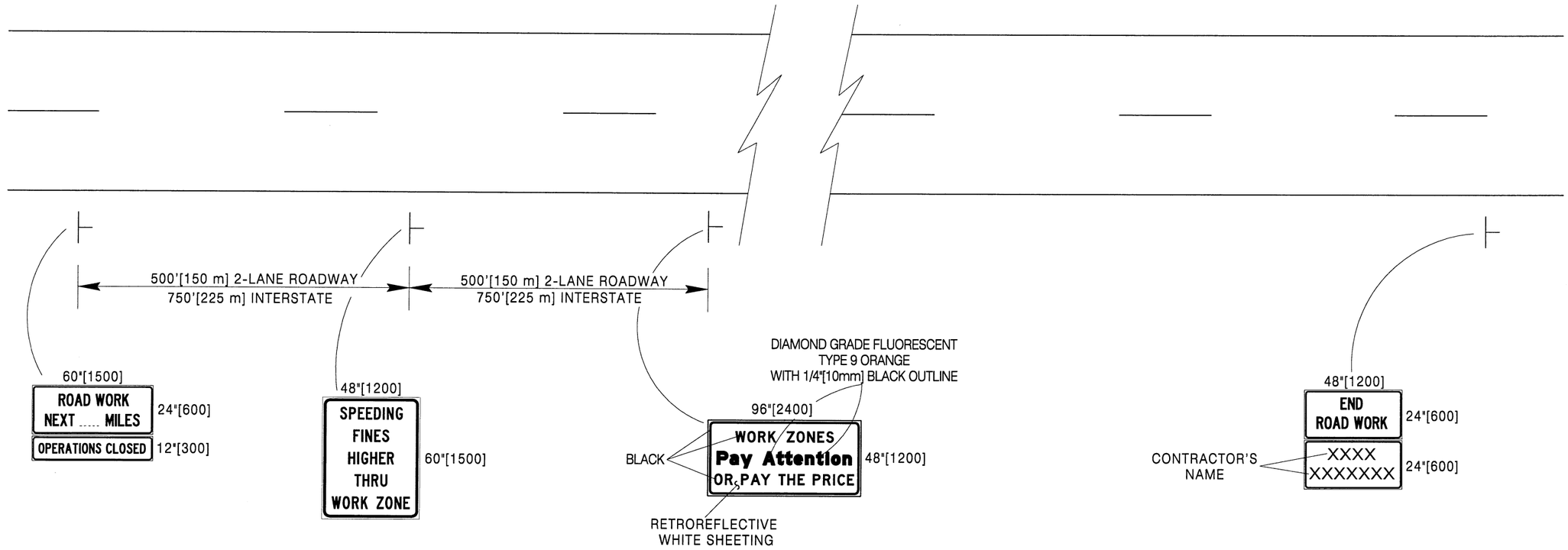
TYPE 1

OBJECT MARKER



SIGN FLAG DETAIL

Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	MISCELLANEOUS SIGNING DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	CONSTRUCTION TRAFFIC CONTROL DEVICES STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER 703-1C SHEET 4 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006

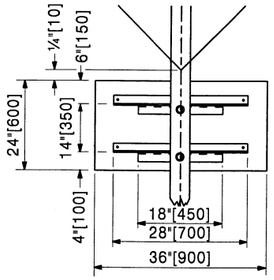


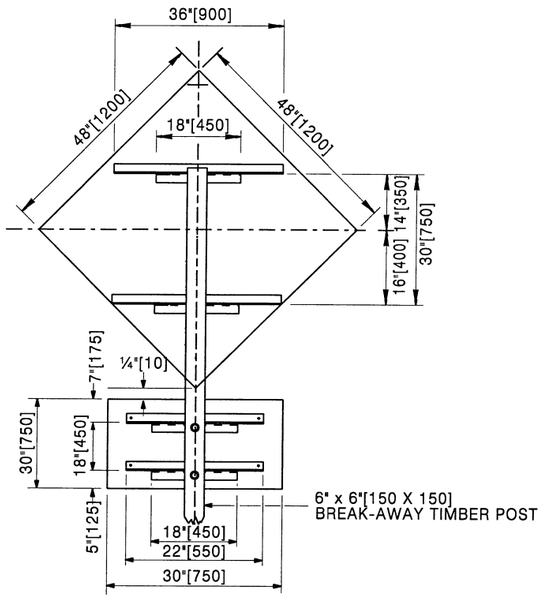
NOTES:

Do not obstruct or detract from the effectiveness of standard construction or permanent signs with these signs. Place signs **500'[150 m] or 750'[225 m]** in advance of any construction or permanent signing. Do not substitute these signs for construction warning or regulatory signs.

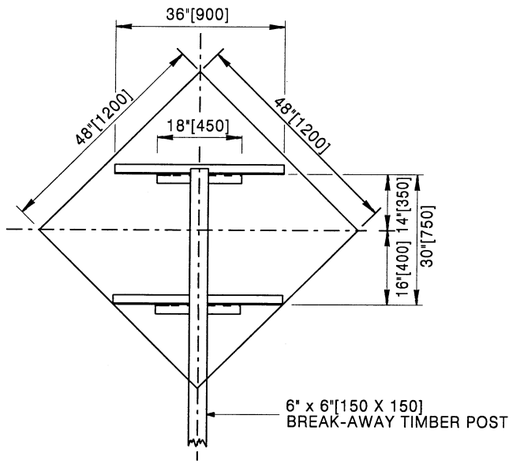
Use "OPERATIONS CLOSED" sign as directed by the engineer, when construction ceases for the winter or other periods of suspension.

Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	BEGINNING AND ENDING CONSTRUCTION ZONE SIGNING	WYOMING DEPARTMENT OF TRANSPORTATION	CONSTRUCTION TRAFFIC CONTROL DEVICES STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER 703-1C SHEET 5 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006

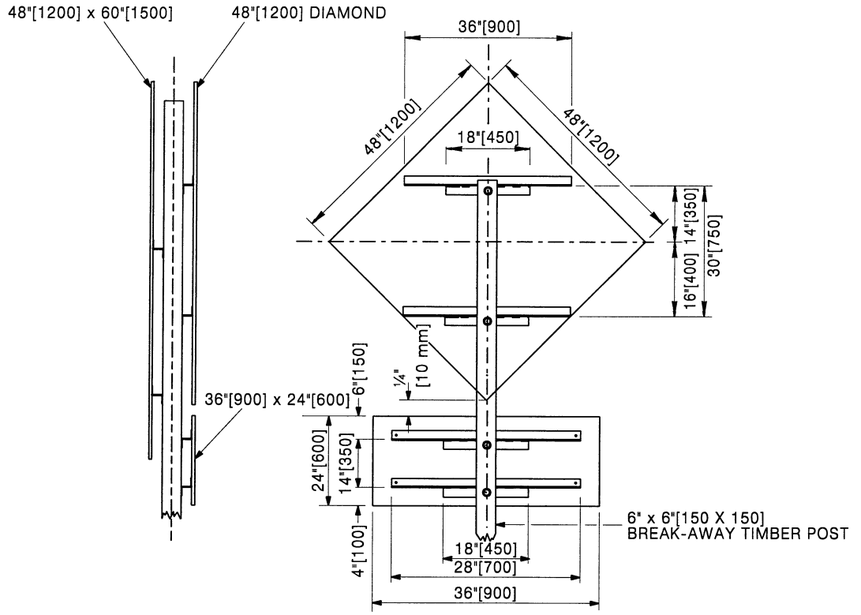




S-1 AND S-1A



S-2 AND S-2A



S-3

Designed by: TRAFFIC	
Drawn by: JTG	SIGN STRUCTURE DETAILS
Checked by: TRAFFIC	
Previous Dwg. No. 703-1B	

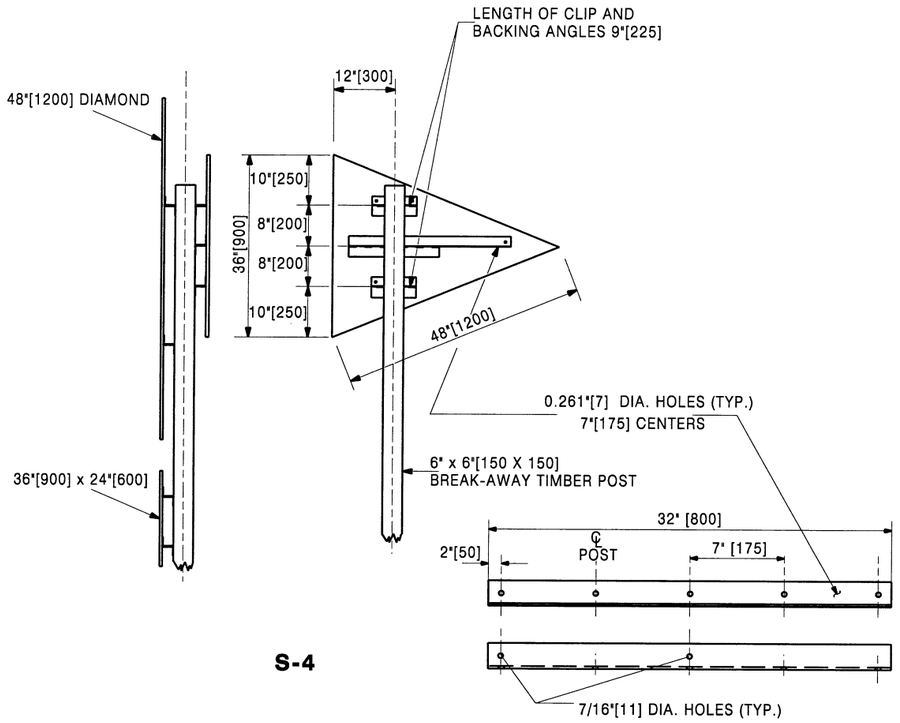
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CONSTRUCTION TRAFFIC CONTROL DEVICES

STANDARD PLAN

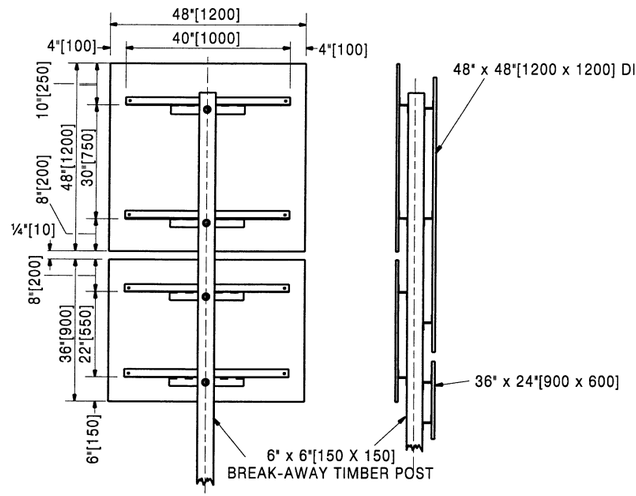
STANDARD PLAN NUMBER
703-1C
SHEET 6 of 12
Issued by: TRAFFIC PROGRAM
Date Issued: DECEMBER, 2006



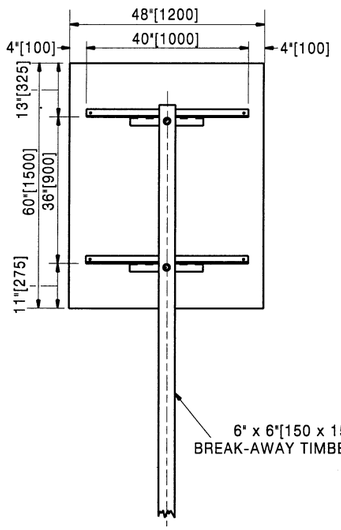
S-4

BACKING ANGLE DETAIL

2" x 2" x 3/16"
[51 X 51 X 4.8]

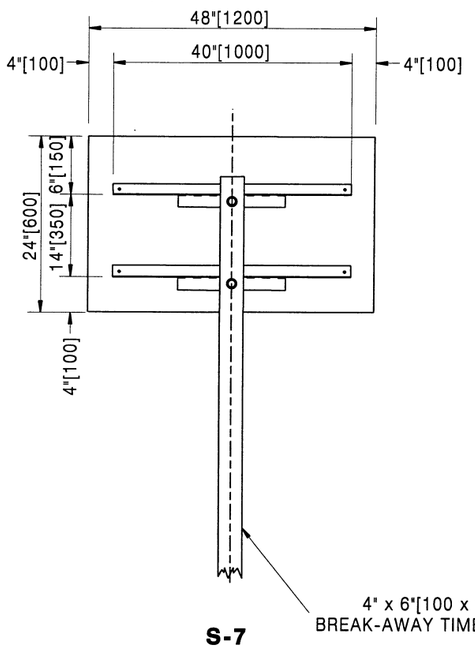


S-5

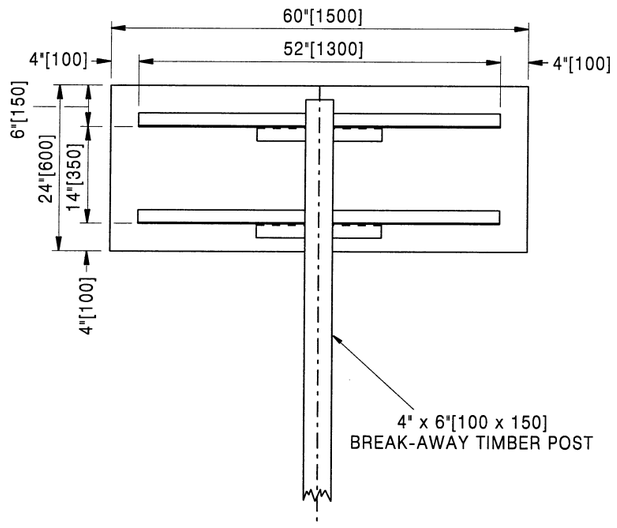


S-6

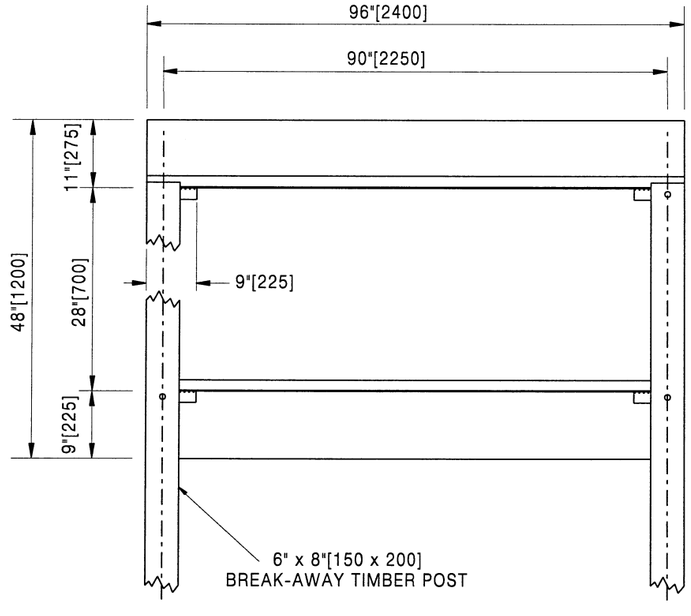
Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	SIGN STRUCTURE DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	CONSTRUCTION TRAFFIC CONTROL DEVICES STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER 703-1C SHEET 7 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006

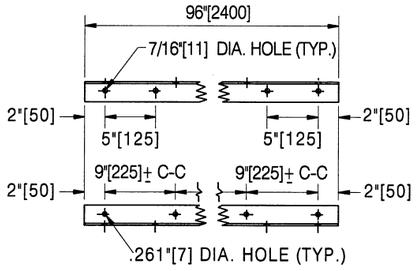


S-7

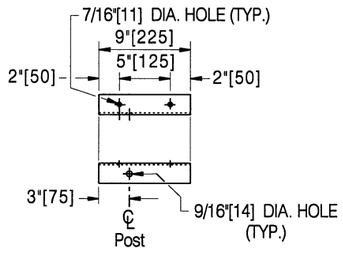


S-10





BACKING ANGLE
DETAIL

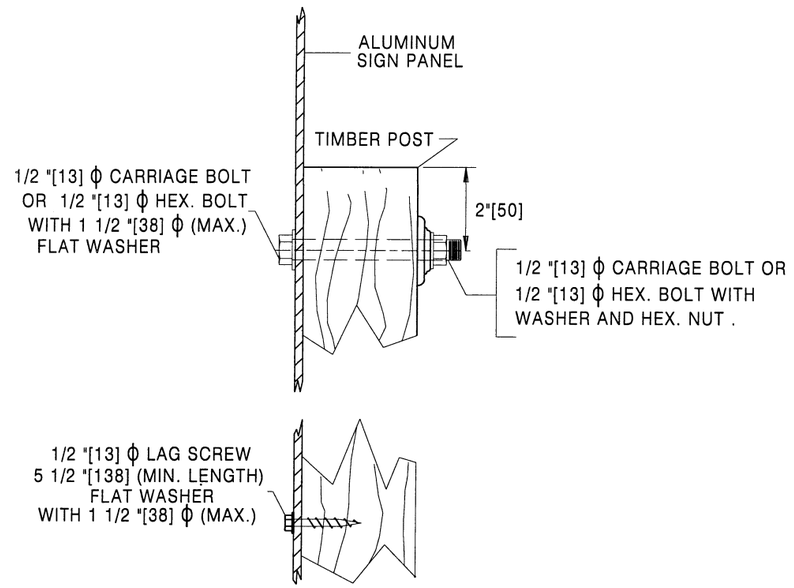


9"[225] CLIP ANGLE
DETAIL

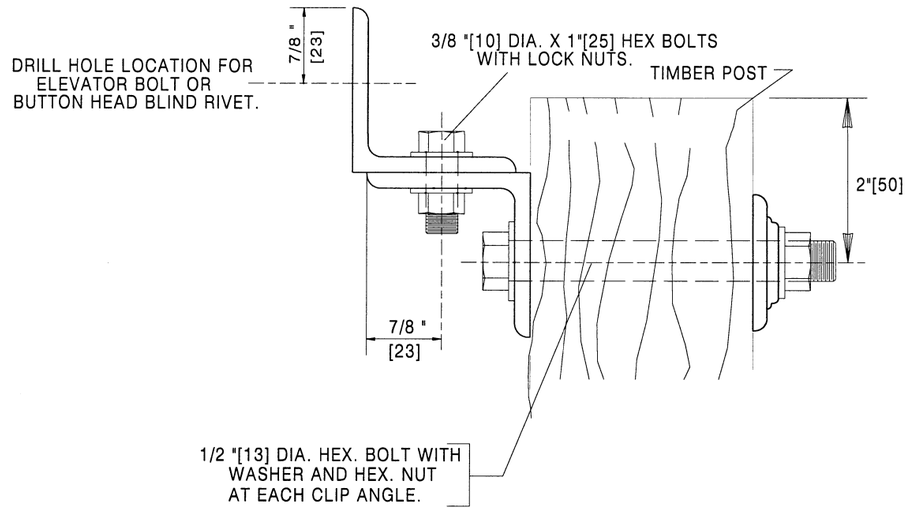
S-11

Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	SIGN STRUCTURE DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	**CONSTRUCTION TRAFFIC CONTROL DEVICES** STANDARD PLAN	STANDARD PLAN NUMBER **703-1C** SHEET 8 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006

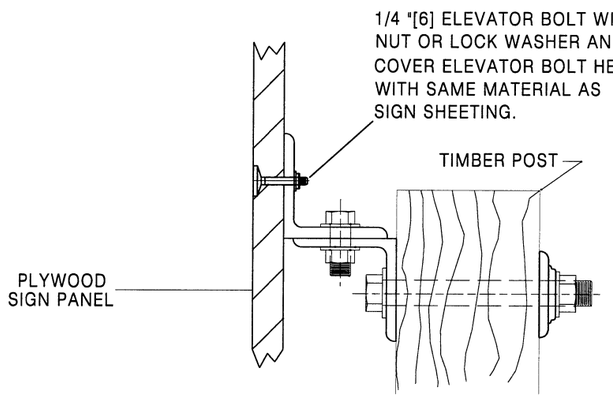
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



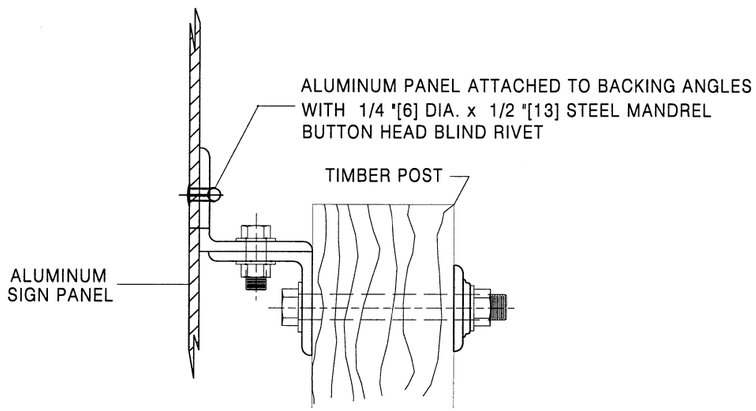
PANEL MOUNTING
SIDE VIEW ALUMINUM
WITHOUT BACKING ANGLES



BACKING ANGLE AND CLIP ANGLE
MOUNTING DETAIL



PANEL MOUNTING
SIDE VIEW PLYWOOD

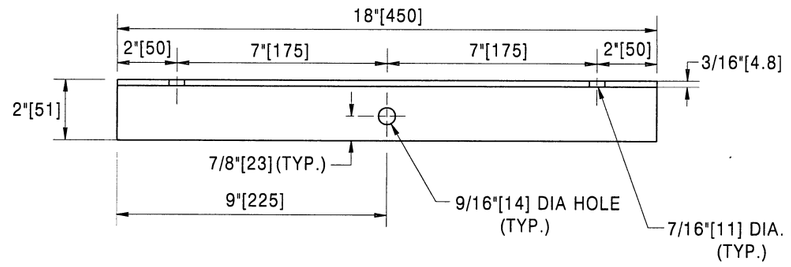


PANEL MOUNTING
SIDE VIEW ALUMINUM

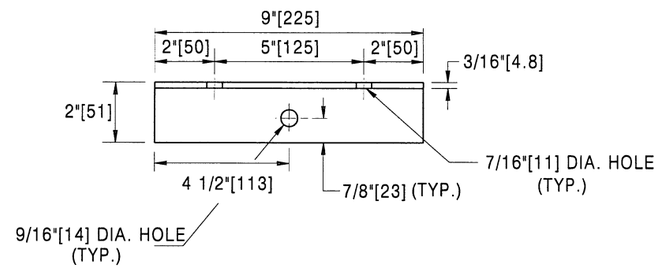
Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	SIGN STRUCTURE DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	**CONSTRUCTION TRAFFIC CONTROL DEVICES** STANDARD PLAN

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

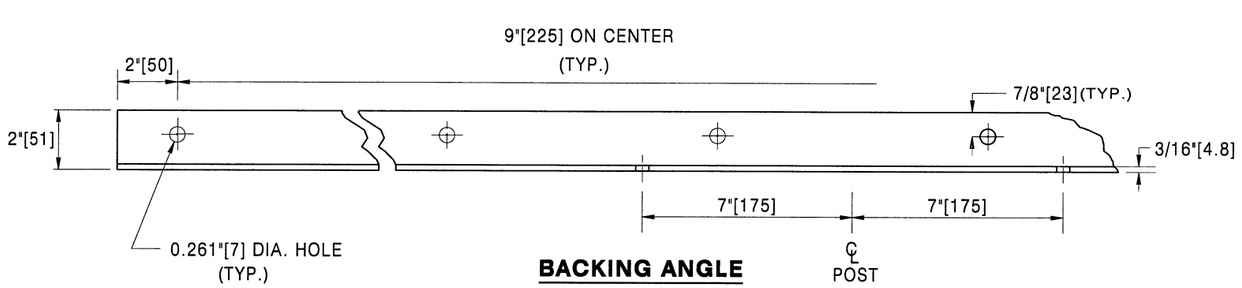
STANDARD PLAN NUMBER
703-1C
SHEET 9 of 12
Issued by: TRAFFIC PROGRAM
Date Issued: DECEMBER, 2006



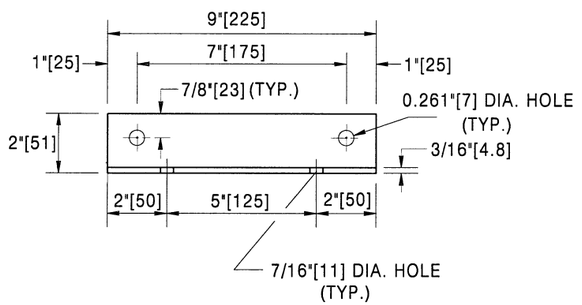
CLIP ANGLE



CLIP ANGLE



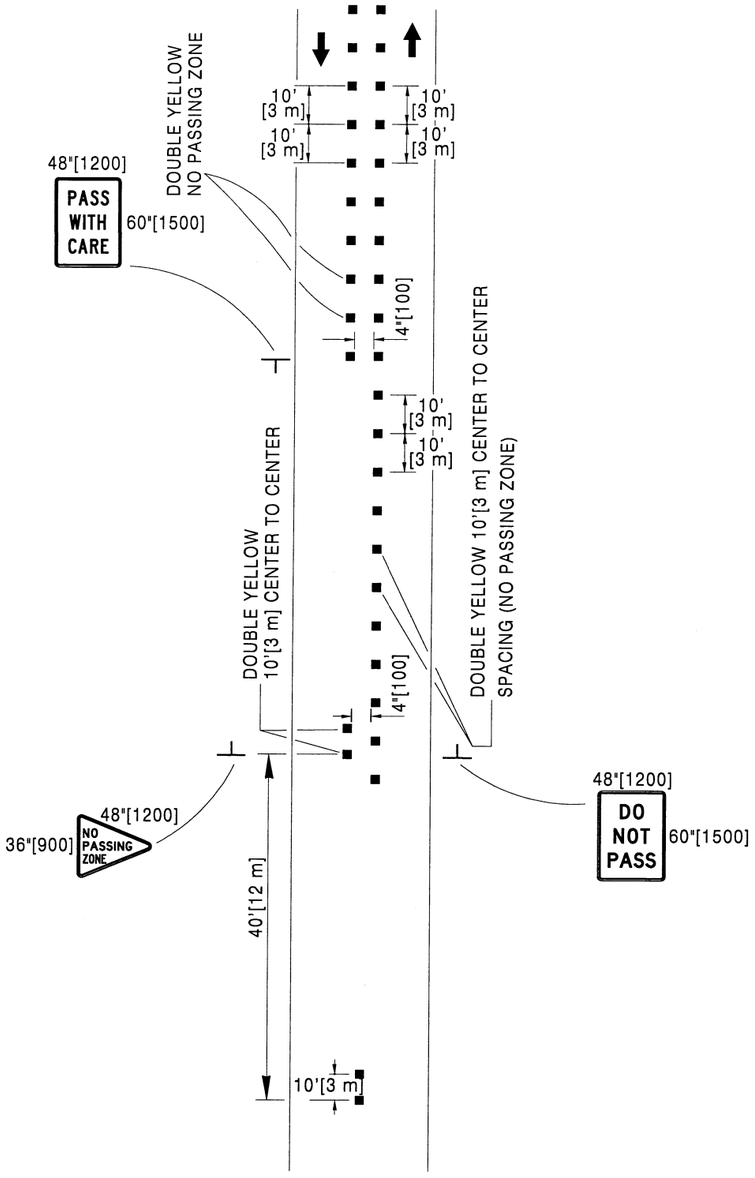
BACKING ANGLE



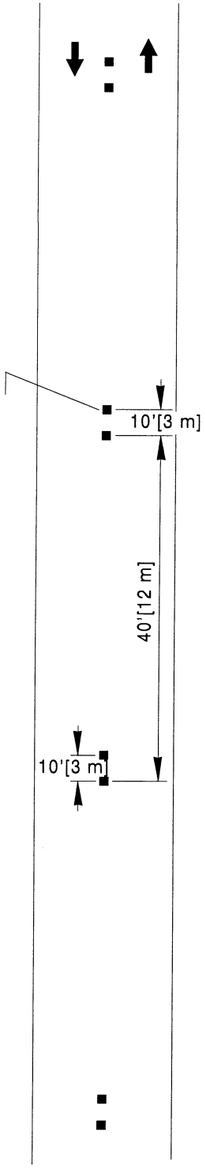
BACKING ANGLE

BACKING ANGLE OR CLIP ANGLE DETAILS

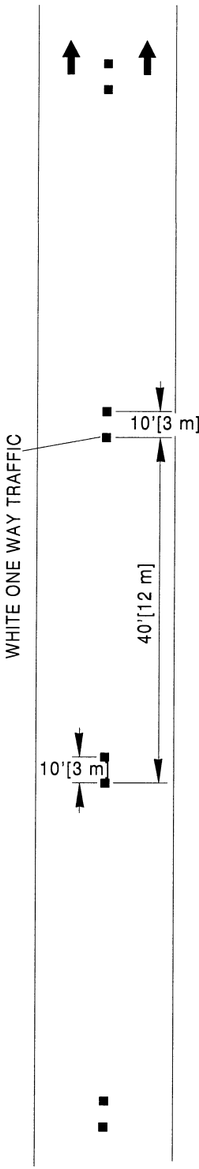
Designed by: TRAFFIC Drawn by: JTG Checked by: TRAFFIC Previous Dwg. No. 703-1B	SIGN STRUCTURE DETAILS	WYOMING DEPARTMENT OF TRANSPORTATION	CONSTRUCTION TRAFFIC CONTROL DEVICES STANDARD PLAN
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.			STANDARD PLAN NUMBER 703-1C SHEET 10 of 12 Issued by: TRAFFIC PROGRAM Date Issued: DECEMBER, 2006



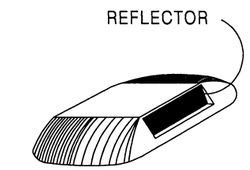
2 LANE 2-WAY ROADWAYS USING RAISED PAVEMENT MARKERS OR MOTORIST GUIDANCE MARKERS CENTERLINE AND SOLID LINES, INCLUDING NO-PASSING ZONE



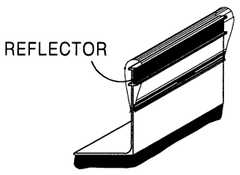
2 LANE 2-WAY ROADWAY (CENTER LINE) USING RAISED PAVEMENT MARKERS OR MOTORIST GUIDANCE MARKERS



INTERSTATE (LANE LINE) USING RAISED PAVEMENT MARKERS



2" x 4"[50 x 100] TEMPORARY RAISED PAVEMENT MARKERS



MOTORIST GUIDANCE MARKERS

LEGEND

■ TEMPORARY MARKERS

Designed by: TRAFFIC	
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-1B	

TEMPORARY PAVEMENT MARKERS

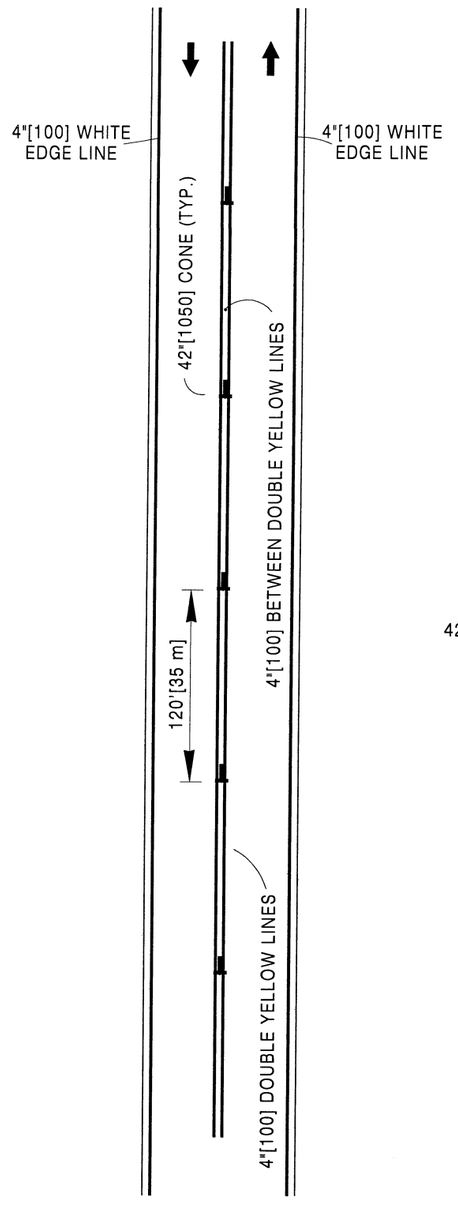
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

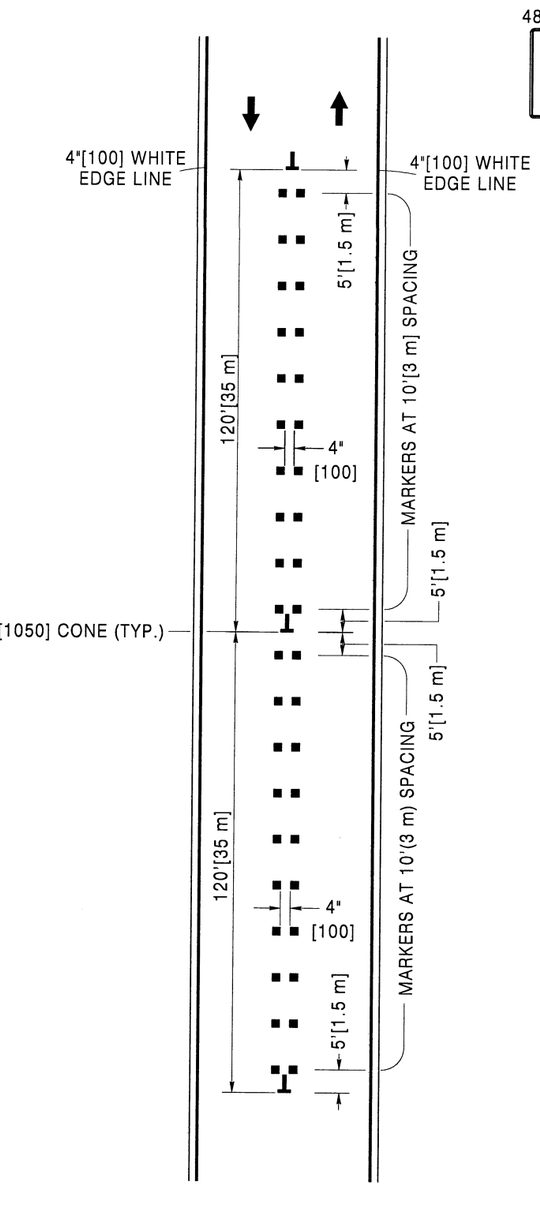
CONSTRUCTION TRAFFIC CONTROL DEVICES

STANDARD PLAN

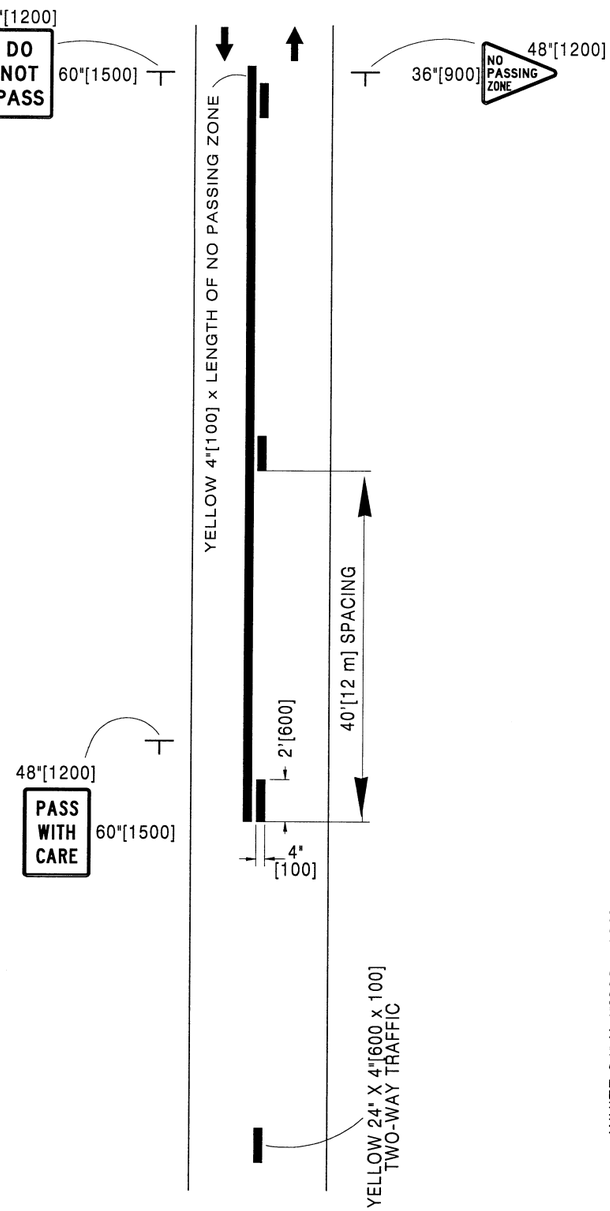
STANDARD PLAN NUMBER
703-1C
SHEET 11 of 12
Issued by: TRAFFIC PROGRAM
Date Issued: DECEMBER, 2006



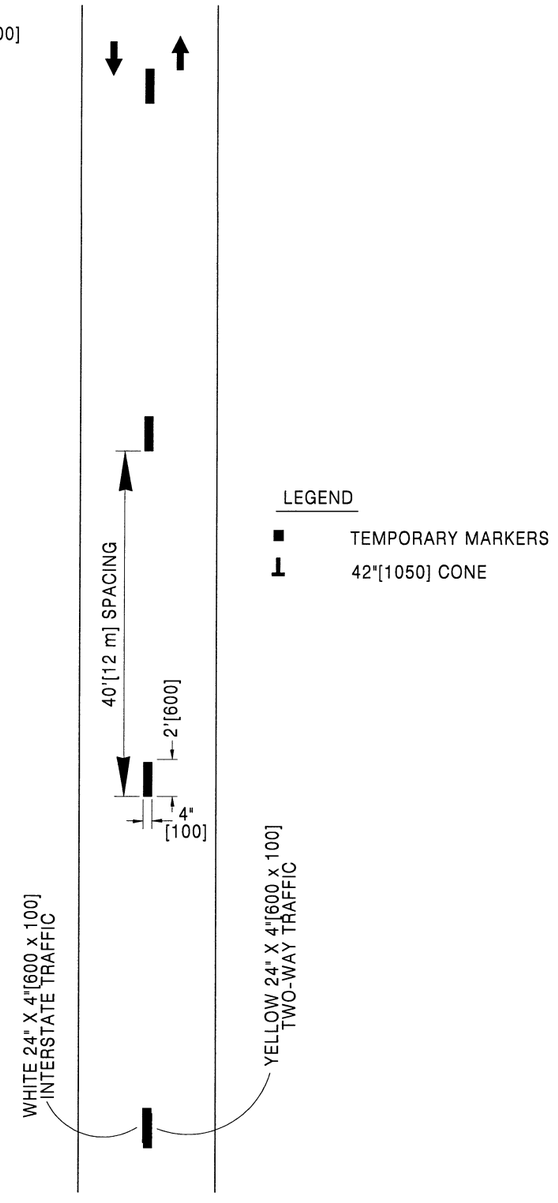
ONE LANE OF INTERSTATE
(2 LANE 2-WAY DURING CONSTRUCTION)
TEMPORARY STRIPING TAPE OR PAINT



ONE LANE OF INTERSTATE
(2 LANE 2-WAY DURING CONSTRUCTION)
RAISED PAVEMENT MARKERS
DOUBLE SIDE (YELLOW)



2 LANE 2-WAY ROADWAY
USING TEMPORARY STRIPING TAPE OR
PAINT CENTERLINE AND SOLID LINES
INCLUDING NO-PASSING ZONE



2 LANE 2-WAY ROADWAY
(CENTER LINE) OR INTERSTATE
(LANE LINE) USING TEMPORARY
STRIPING TAPE OR PAINT

Designed by: TRAFFIC	TEMPORARY PAVEMENT MARKERS
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-1B	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CONSTRUCTION TRAFFIC CONTROL DEVICES

STANDARD PLAN

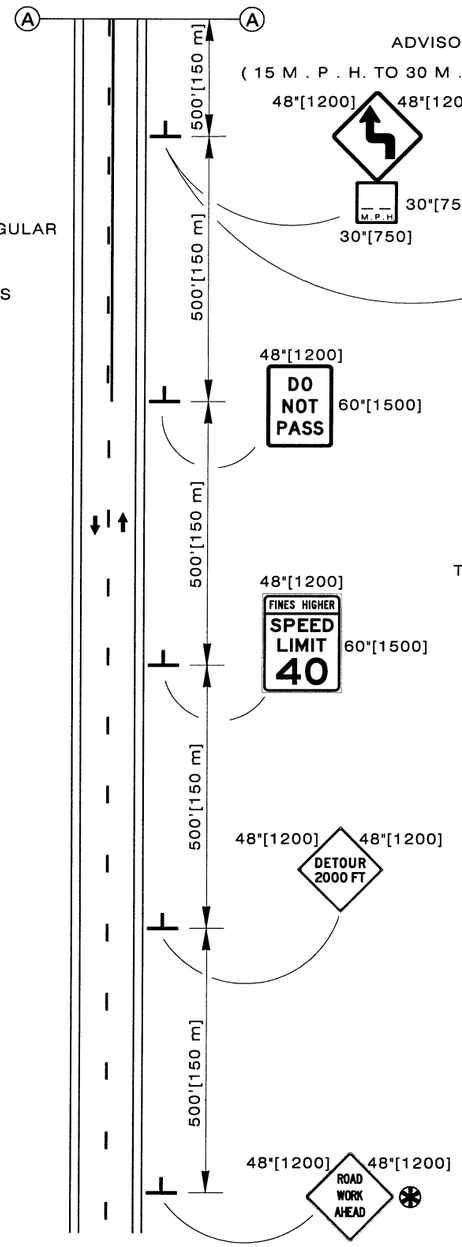
STANDARD PLAN NUMBER
703-1C
SHEET 12 of 12
Issued by: TRAFFIC PROGRAM
Date Issued: DECEMBER, 2006

✻ USE ONLY IF NO PREVIOUS "ROAD WORK AHEAD" SIGNS WITHIN 1 MILE [1.6 km], OR IF OUTSIDE OF THE REGULAR CONSTRUCTION AREA.

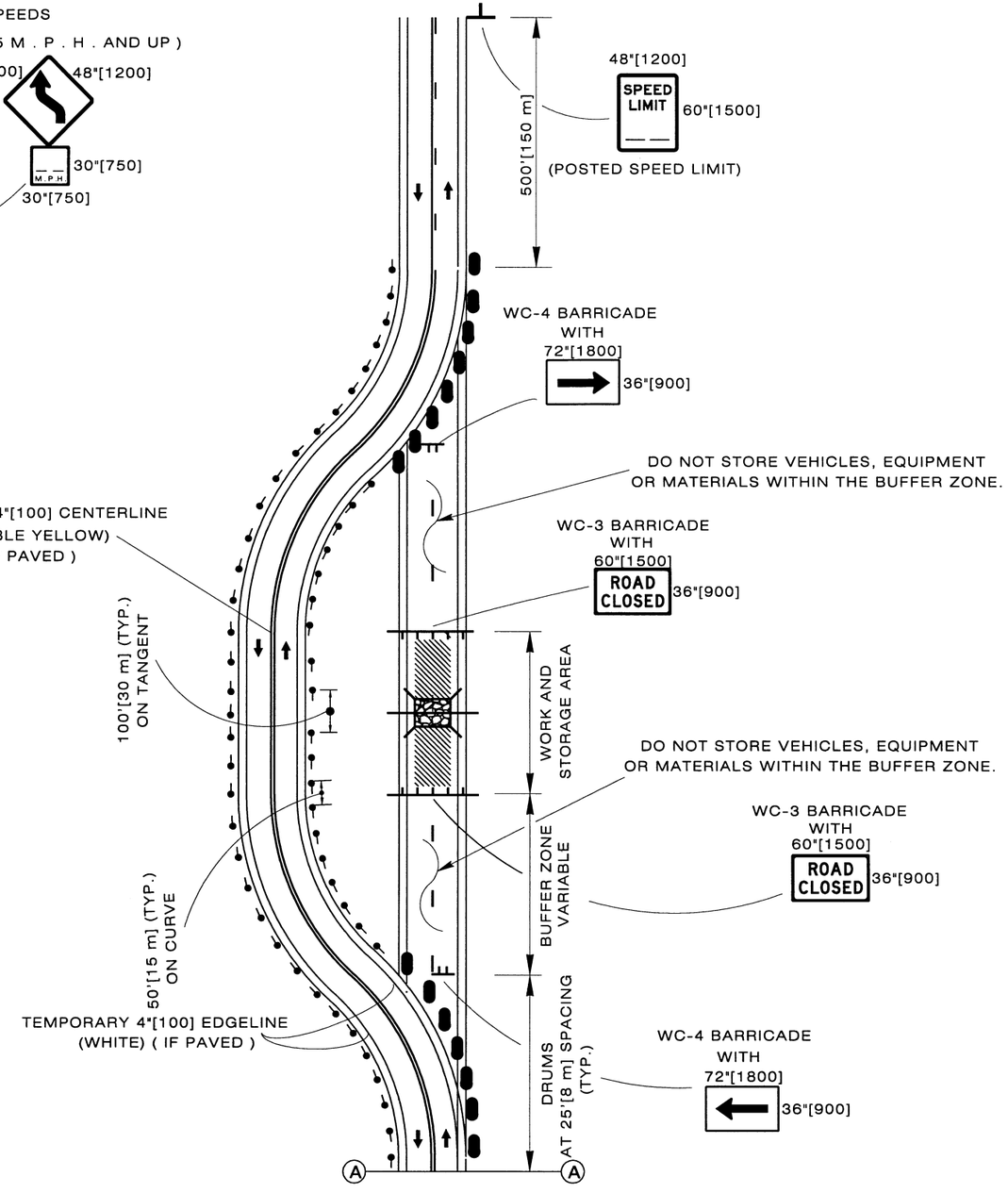
♦ TYPICAL APPROACH SIGNING, SIGN FOR BOTH DIRECTIONS (SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY).

LEGEND

- TYPE II DELINEATOR
- CONSTRUCTION AREA
- STORAGE AREA
- DRUM



♦ TYPICAL APPROACH SIGNING



Professional Engineer (Civil)
MICHAEL N. GOSTOVICH
1481
Date 7-21-08
WYOMING

Designed by: TRAFFIC	TYPICAL TRAFFIC CONTROL SIGNING FOR DETOUR AROUND CONSTRUCTION
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-2B	

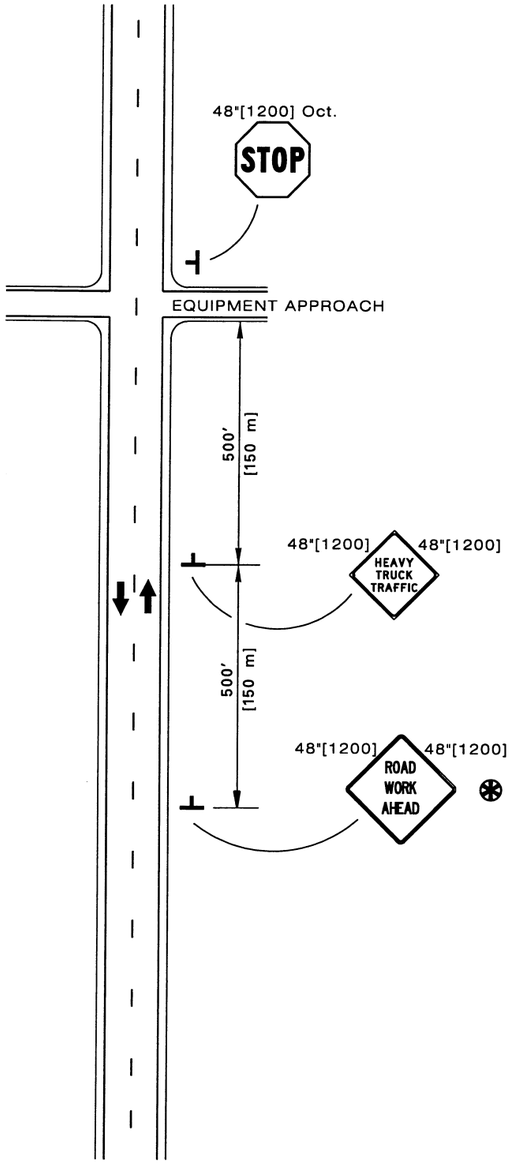
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

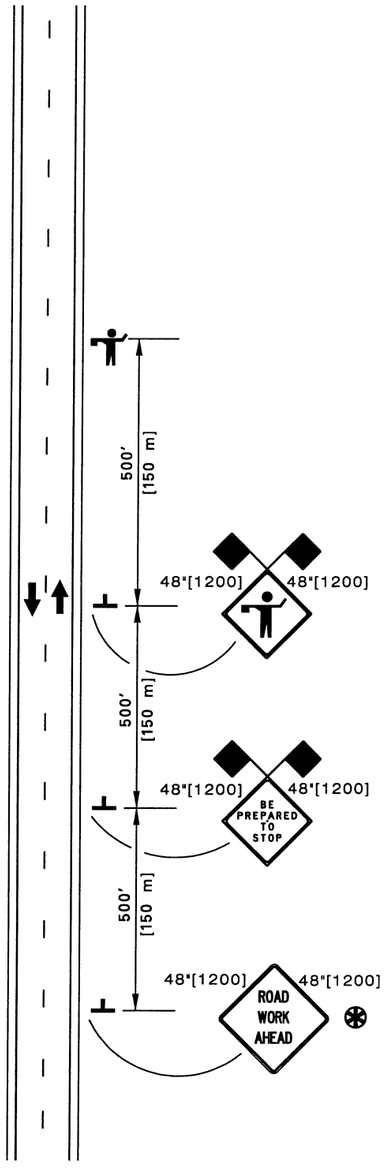
CONSTRUCTION TRAFFIC CONTROL TWO LANE

STANDARD PLAN

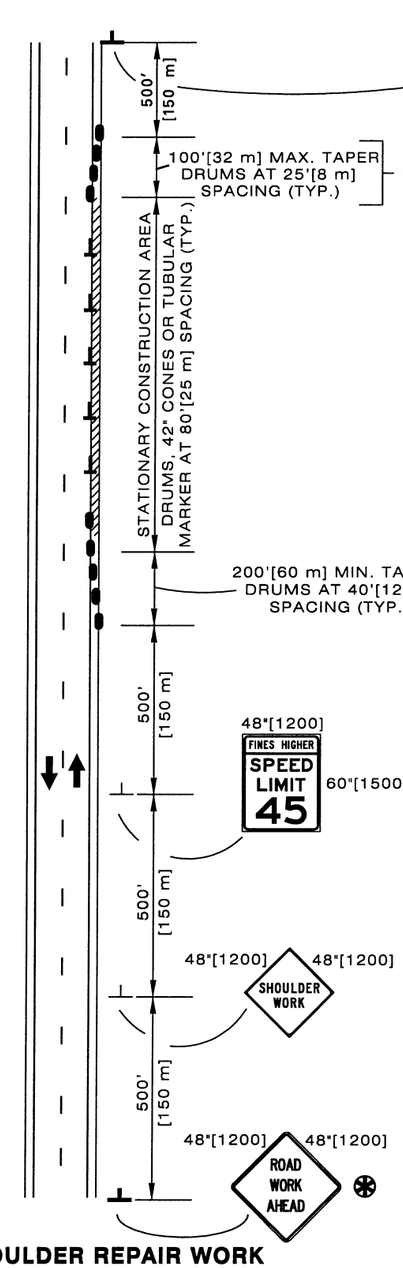
STANDARD PLAN NUMBER
703-2C
SHEET 1 of 4
Issued by: TRAFFIC PROGRAM
Date Issued: MARCH, 2009



♦ **EQUIPMENT CROSSING STOP CONTROL**



♦ **TYPICAL FLAGGER STATION SIGNING**



♦ **SHOULDER REPAIR WORK 10'[3 m] MIN. LANE WIDTH**

LEGEND

- DRUM
- FLAGS
- FLAGGER
- CONSTRUCTION AREA
- DRUM, 42"[1050] CONE OR TUBULAR MARKER

✱ USE ONLY IF NO PREVIOUS "ROAD WORK AHEAD" SIGNS WITHIN 1 MILE [1.6 km], OR IF OUTSIDE OF THE REGULAR CONSTRUCTION AREA.

♦ TYPICAL APPROACH SIGNING, SIGN FOR BOTH DIRECTIONS (SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY).

Designed by: TRAFFIC	
Drawn by: JTG	TYPICAL TRAFFIC CONTROL SIGNING
Checked by: TRAFFIC	
Previous Dwg. No. 703-2B	

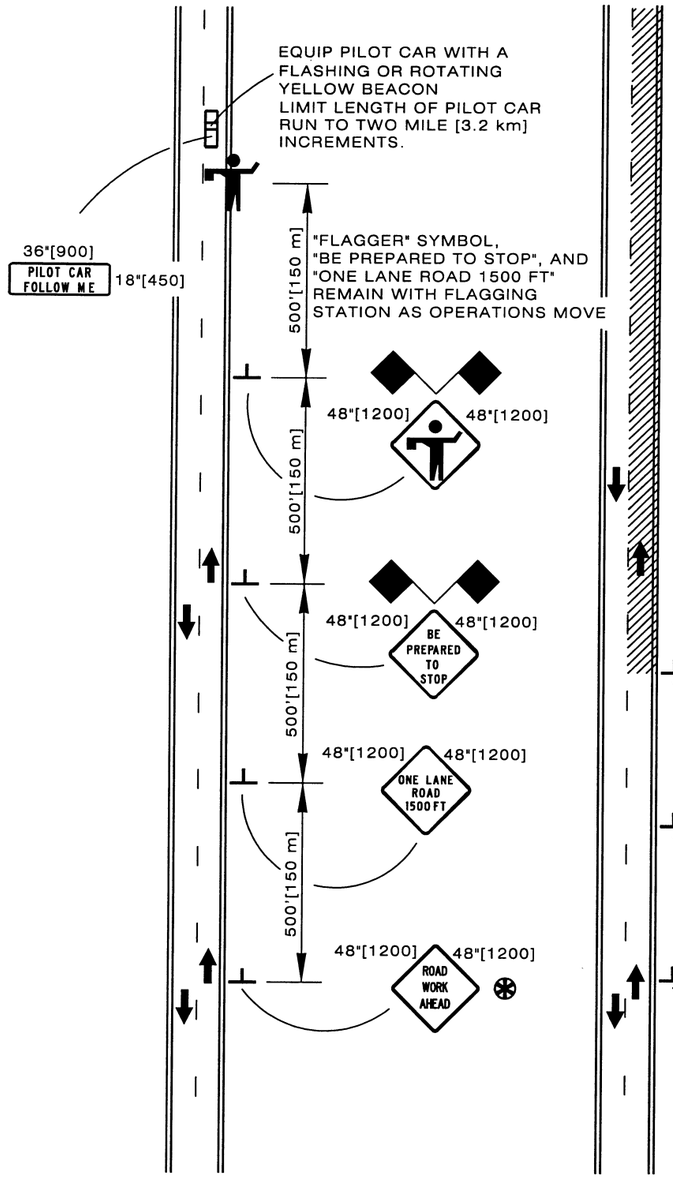
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

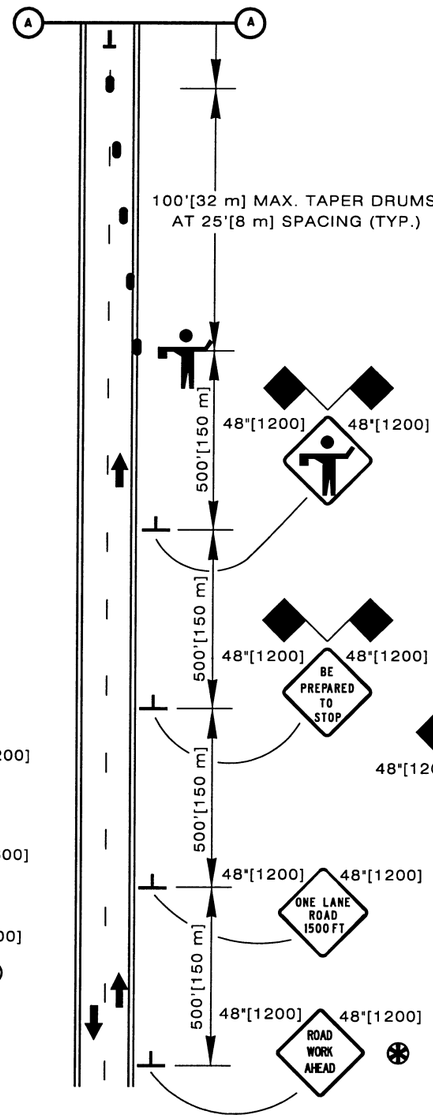
WYOMING DEPARTMENT OF TRANSPORTATION

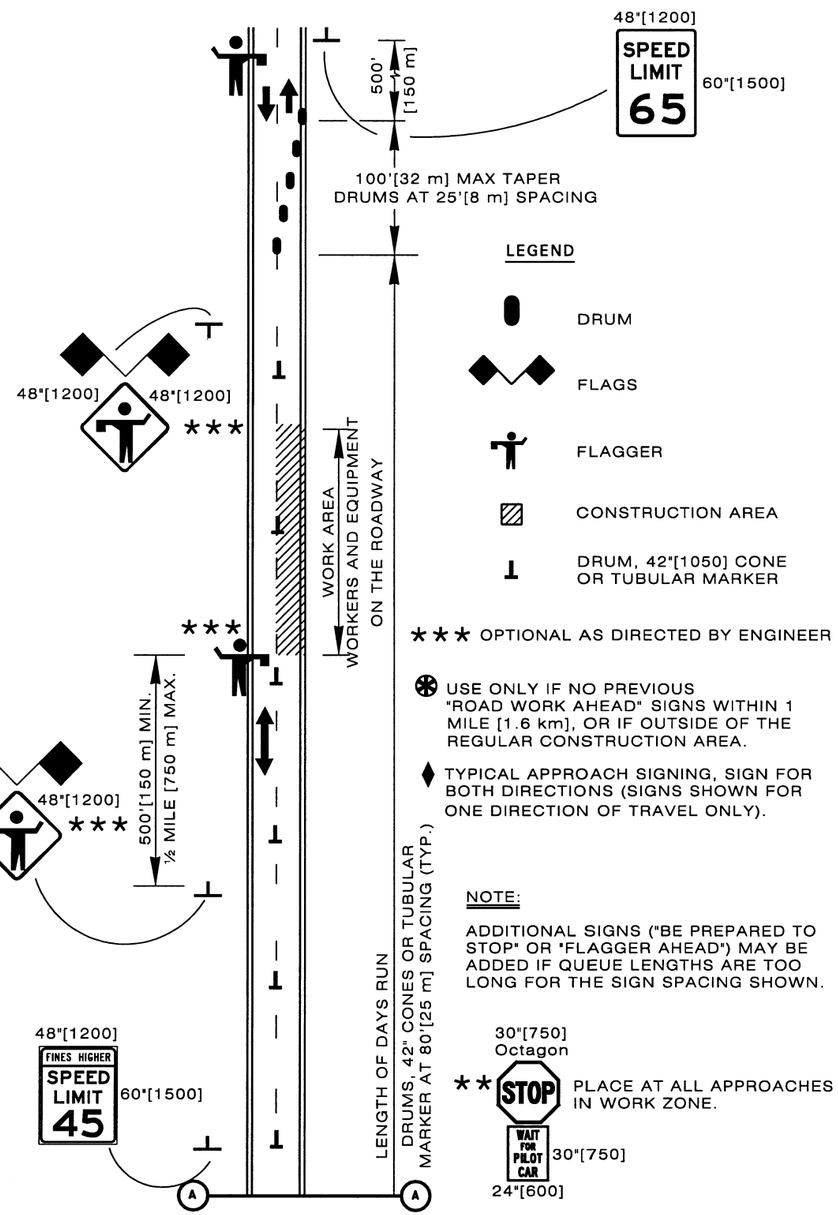
CONSTRUCTION TRAFFIC CONTROL TWO LANE

STANDARD PLAN

STANDARD PLAN NUMBER
703-2C
SHEET 2 of 4
Issued by: TRAFFIC PROGRAM
Date Issued: MARCH, 2009







PILOT CAR OPERATIONS MOBILE OR STATIONARY WORK SITE

ROADWAY CHIP SEALING

OPERATIONS FOR ONE LANE CLOSURE ON A TWO LANE ROAD

Designed by: TRAFFIC	TYPICAL TRAFFIC CONTROL SIGNING
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-2B	

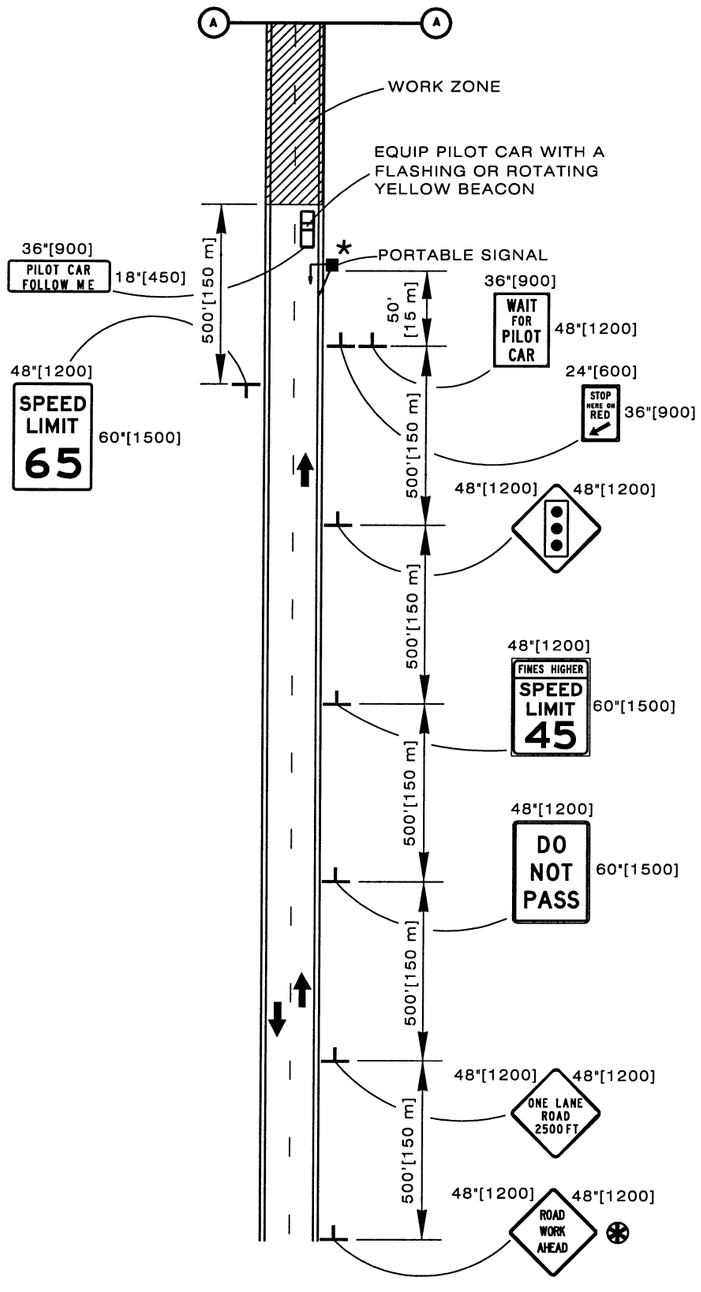
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

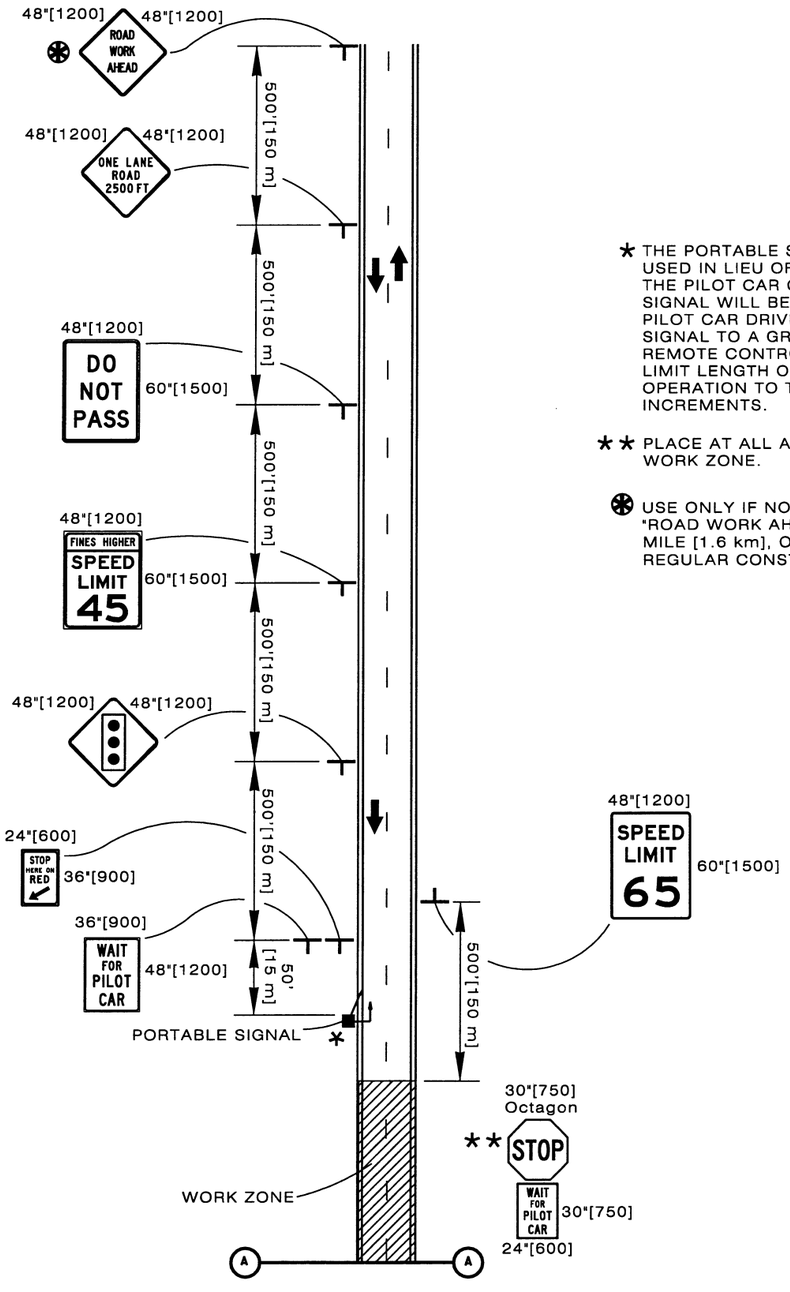
WYOMING DEPARTMENT OF TRANSPORTATION

CONSTRUCTION TRAFFIC CONTROL TWO LANE

STANDARD PLAN

STANDARD PLAN NUMBER
703-2C
SHEET 3 of 4
Issued by: TRAFFIC PROGRAM
Date Issued: MARCH, 2009





* THE PORTABLE SIGNAL MAY BE USED IN LIEU OF FLAGGERS FOR THE PILOT CAR OPERATION. THE SIGNAL WILL BE RED UNTIL THE PILOT CAR DRIVER CHANGES THE SIGNAL TO A GREEN LIGHT WITH REMOTE CONTROL.
LIMIT LENGTH OF PILOT CAR OPERATION TO TWO MILE [3.2 km] INCREMENTS.

** PLACE AT ALL APPROACHES IN WORK ZONE.

✻ USE ONLY IF NO PREVIOUS "ROAD WORK AHEAD" SIGNS WITHIN 1 MILE [1.6 km], OR IF OUTSIDE OF THE REGULAR CONSTRUCTION AREA.

Designed by:	TRAFFIC
Drawn by:	JTG
Checked by:	TRAFFIC
Previous Dwg. No.	703-2B

TYPICAL SIGNING FOR PILOT CAR WITH PORTABLE SIGNAL

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CONSTRUCTION TRAFFIC CONTROL TWO LANE

STANDARD PLAN

STANDARD PLAN NUMBER
703-2C
SHEET 4 of 4
Issued by: TRAFFIC PROGRAM
Date Issued: MARCH, 2009

TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE
CATEGORY I

				(EA) RATE IN UNITS	
TYPE (1)	DESCRIPTION	SIZE IN INCHES	POST SIZE AND LENGTH	PER FIXED INSTALLATION	PER PORTABLE INSTALLATION (2)
S - 1	Diamond Warning with Advisory Speed or Supplemental Distance or Message Sign	48x48 with 30x30 or 36x24 24x30	6"x6"xL'	60	40
S - 1 A	Diamond Warning with Message Sign and 2 Flags	as shown above	6"x6"xL'	61	41
S - 2 (7)	Message Sign	36x48x48 36x48	6"x6"xL'	38 47	25 31
	Diamond Warning	48x48	6"x6"xL'	53	35
S - 2 A	Diamond Warning with 2 Flags	48x48	6"x6"xL'	54	36
S - 3	Signs Back to Back	48x60 48x48 with 36x24	6"x6"xL'	84	56
S - 4	Signs Back to Back	48x48 with 36x24 36x48x48	6"x6"xL'	68	45
S - 5	Signs Back to Back	48x48 with 48x36 48x48 with 36x24	6"x6"xL'	95	63
S - 6	Regulatory Sign	48x60	6"x6"xL'	59	39
S - 7 (7)	Small Arrow End Road Work	48x24	4"x6"xL'	30	20
	"Contractor's Name"	48x24	None	10	
S-9	Special Signs	Variable	Variable	30 (3)	10 (3)
S-10	"ROAD WORK" "NEXT ___ MILES"	60x24	4"x6"xL'	70	
	"OPERATIONS CLOSED"	60x12	None	12	
S-11	WORK ZONES Pay Attention OR PAY THE PRICE	96x48	2 Posts 6"x8"xL'	106	70

TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE
CATEGORY I

				(EA) RATE IN UNITS	
TYPE (1)	DESCRIPTION	SIZE IN INCHES	POST SIZE AND LENGTH	PER FIXED INSTALLATION	PER PORTABLE INSTALLATION (2)
WC-3	Barricade (4)	32'x6'		400	
WC-4	Barricade	8' x 6'			100
	Road Closed	60x36	None		28
	Detour Arrow	72x36	None		32
	Stop (Octagonal)	30 48	4"x4"xL' 6"x6"xL'	35 45	23 30
	Type I Object Marker	18x18	4"x4"xL' or steel	13	8
	Delineators-Type I Delineators-Type II Delineators-Type III		Steel Steel Steel	7 7 7	
	Flashboards (Vertical Panel)	8x24	4"x4"xL'	20	
	Yield Sign	36x36x36 48x48x48	4"x6"xL' 6"x6"xL'	28 32	18 22

Metric Equivalence: 1" = 25.0 millimeters

L - Based on mounting height and site conditions for shoulder slope variations.

CATEGORY II

(1)	DESCRIPTION	(EA) RATE IN UNITS PER INSTALLATION
	Drums (with signing) Drums (without signing)	35 30
	Reboundable Tubular Markers - 28"	16
	42 inch Cones	17

Metric Equivalence: 1" = 25.0 millimeters

Professional Engineer (Civil)
MICHAEL N. GOSTOVICH
1481
Date 3-24-08
WYOMING

Designed by: TRAFFIC	
Drawn by: JTG	
Checked by: TRAFFIC	
Previous Dwg. No. 703-6B	

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE

STANDARD PLAN

STANDARD PLAN NUMBER
703-6C
SHEET 1 of 2
Issued by: TRAFFIC PROGRAM
Date Issued: JUNE, 2008

CATEGORY III

(1)	DESCRIPTION	(EA) RATE IN UNITS PER INSTALLATION
	Portable Flashboard (6)	0.55/day
	Type I Barricade	0.55/day
	Type II Barricade	0.80/day
	Fluorescent Traffic Cones	
	28" Plain or sleeves	1.10/day
	36" Plain or sleeves	1.25/day
	Tubular Markers - 42" with bands	1.30/day
	Flag for Sign (each)	0.25/day
	Flagger Communication Radio	0.25/hr
	Sequential Chevron	*Blue book rate or negotiated price by Extra Work Order

Metric Equivalence: 1" = 25.0 millimeters

* Use only in extenuating circumstances when Sequential Chevrons were not anticipated and established as a pay item on the contract.

CATEGORY IV

(1)	DESCRIPTION	(EA) RATE IN UNITS PER INSTALLATION
	Temporary Retro-Reflective Raised Pavement Markers	2.50/each
	Temporary Retro-Reflective Motorist Guidance Marker	0.85/each
	Segmented Striping - paint or tape (Up to 10' lengths)	0.35/foot
	Continuous Striping - paint or tape (Greater than 10' lengths)	0.11/foot
	Removal of Traffic Striping Paint	1.20/sq. ft.

Metric Equivalence: 1" = 25.0 millimeters

Temporary retro-reflective raised pavement markers may be reused and will be measured for payment at one-half the unit value. Do not reuse temporary retro-reflective motorist guidance markers.

CATEGORY V

(1)	DESCRIPTION	(EA) RATE IN UNITS PER INSTALLATION
	Pilot Car (5)	22.00/hr.

NOTES FOR TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE

(1) See Traffic Control Standard Plans included in project plans for additional information on temporary traffic control devices.

(2) Portable signs may be mounted on stands, skids, trailers or on WC-4 Barricades at the option of the Contractor unless otherwise specified. However, if portable signs are mounted on WC-4 Barricades, payment will be made for the portable sign installation only. If the Engineer specifies a WC-4 Barricade with arrow or other specified signs attached to be placed at a particular location, payment will be made for each installation. Payment will be made for each installation for any subsequent relocation required by the Engineer.

(3) Payment for transporting Department Furnished Special Signs to the project will be paid for at one Category I TCD unit per mile.

(4) Includes specified signs. Rate is established for a 32' [9.75 m] top width and includes 8' [2.44 m] sideboards. If the top width is increased or decreased by an 8' [2.44 m] increment, the rate for barricades will increase or decrease proportionately, using the WC-4 barricade rates.

(5) The rate shown is for Pilot Car with sign, beacon, and driver, and includes overhead and associated costs.

(6) Use on urban projects only, unless approved otherwise by the Engineer.

(7) Single sign on a single post.

Designed by: TRAFFIC
Drawn by: JTG
Checked by: TRAFFIC
Previous Dwg. No. 703-6B

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DEVICE (TCD) UNIT SCHEDULE

STANDARD PLAN

STANDARD PLAN NUMBER
703-6C
SHEET 2 of 2
Issued by: TRAFFIC PROGRAM
Date Issued: JUNE, 2008