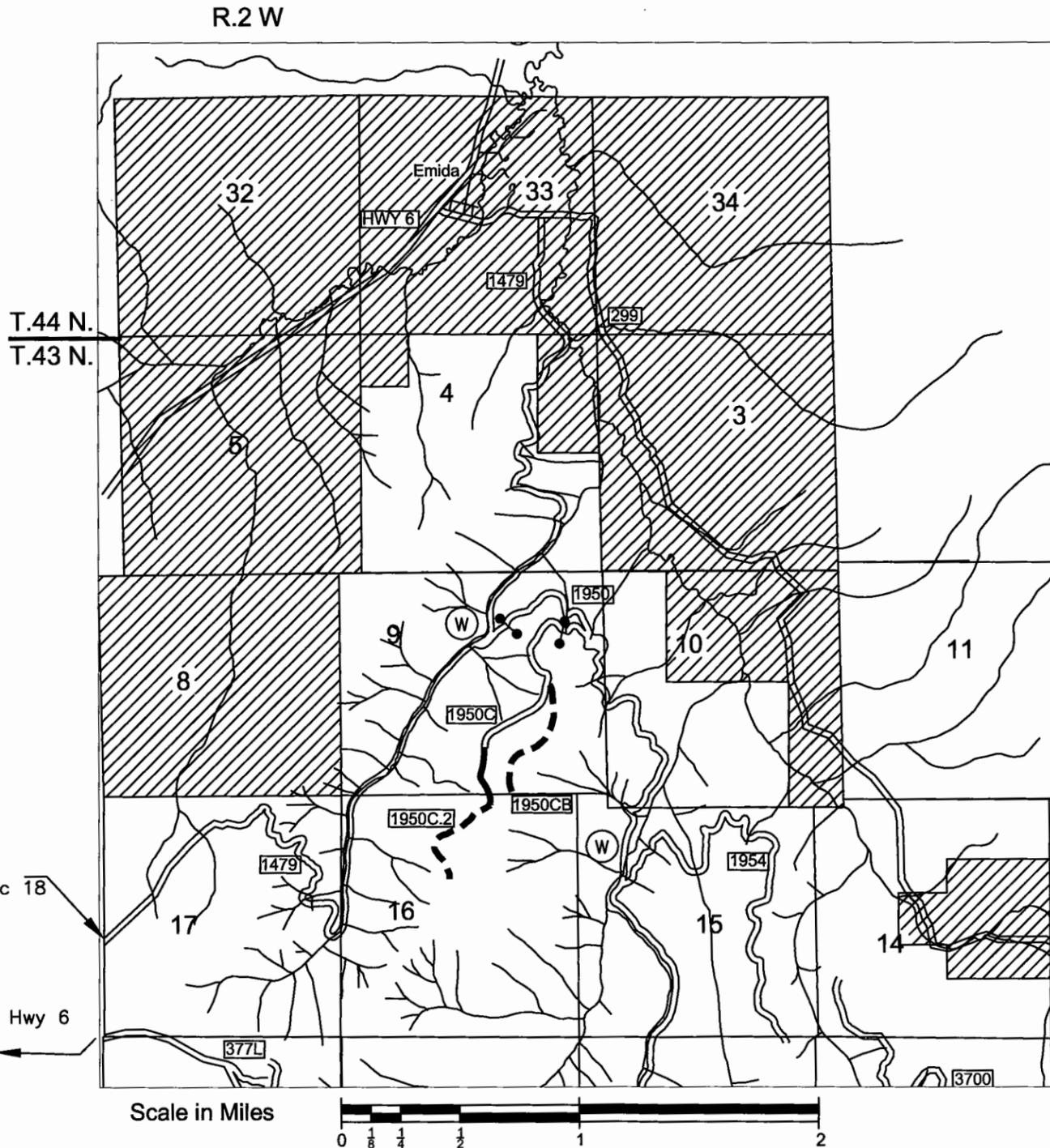
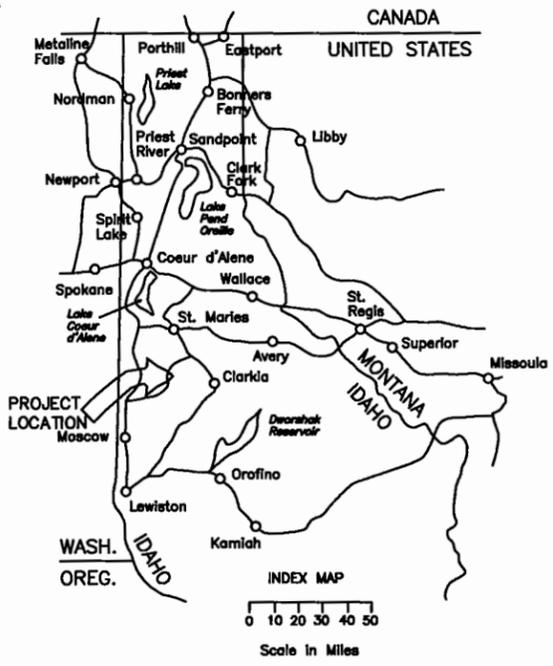


U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE - REGION ONE
 DRAWINGS FOR PROPOSED FOREST DEVELOPMENT

Mini-Hume T.S.

TIMBER SALE ROADS
 IDAHO PANHANDLE NATIONAL FORESTS
 St. JOE RANGER DISTRICT
 SHOSHONE COUNTY

SHEET	DESCRIPTION
1	Title Sheet
2	Summary of Estimated Quantities and General Notes
3	Typical Sections
4	Drainage Structure Summary
5-8	Plan and Profile Rd. 1950C.2
9-11	Plan and Profile Rd. 1950CB
12	Sign Plan
13	Piling Const. Slash Typical Section
14	Culvert Detail
15-17	Coupling Band Details



LEGEND

- National Forest System Lands
- Other than NFS lands
- Existing Road
- Reconstruction
- New Construction
- Water Source
- Existing Gate
- New Gate
- Power Line
- Road Number

Road 1479 Joins Road 377 in sec 18

To Hwy 6



Recommended to be technically correct and that this project is in conformance with Environmental Assessment requirements

Pete Ratzliff
 Operations Team Leader

Approved to be in conformance with sound Engineering practice for safety, structural integrity, and operational requirements.

[Signature]
 Forest Engineer

Approved: *[Signature]* 3/20/12
 District Ranger Date

SUMMARY OF ESTIMATED QUANTITIES

ROAD NUMBER				1950C.2	1950CB	Project Totals
TYPE OF CONSTRUCTION: (C = CONSTRUCTION, R = RECONSTRUCTION)				C	C	
LENGTH OF CONSTRUCTION (MILES)						0.00
LENGTH OF RECONSTRUCTION (MILES)				0.76	0.64	1.40
ITEM NO.	DESCRIPTION	M/M*	UNIT			
15101	Mobilization	LSQ	LS	job	job	job
15211	Construction survey and staking, method III, tolerance C.	DQ	MI	0.76	0.64	1.40
15715	Temporary seeding & fertilizing	DQ	AC	1.37	1.54	2.91
20103	Clearing and grubbing, disposal of tops and limbs E, logs I, stumps E	DQ	AC	3.02	3.25	6.27
20401	Roadway excavation, compaction method C, finishing method A, Includes Haul.	DQ	CY	3135	3543	6678
30103	Aggregate base, grading D, compaction method F	DQ	CY	1152	967	2119
60211	18 Inch Corrugated Steel Pipe 0.064 Inch Thickness	AQ	LF		34	34
62529	Seeding, fertilizing and mulch, dry method	DQ	AC	1.37	1.54	2.91

M/M* = Method of Measurement

General Notes

Section 157:

1. Seed and fertilize all areas of disturbed earth outside roadbed.

Section 170:

1. Water sources are located along roads. 1479 in the NW ¼ Sec 9, T43N, R2W., B.M.
1950 in the NW ¼ Sec 15, T43N, R2W., B.M.

Section 201:

1. Locate log decks beyond toe of fill so as to not interfere with road construction.
2. Do not place embanked material on or against log decks.

Section 203:

1. Remove from project or bury all metal pipe designated for removal.

Section 204:

1. Sidecast waste all excess or unsuitable excavation not utilized along the roadway unless otherwise designated on the plans or as approved by the Contracting Officer.
2. Sidecast waste no material onto slopes within 50 ft. slope distance of live streams.
3. Scarification will not be required.
4. Sidecast waste no material on slopes within 20 ft. of cross-drain culverts.
5. All road construction and reconstruction shall conform to tolerance class I.
6. Shape to drain all turn-outs and turn arounds.

Section 209:

1. Sidecast waste all excess or unsuitable material along the roadway unless otherwise designated on the plans or as approved by the Contracting Officer.
2. Sidecast waste no material onto slopes within 50 ft. slope distance of live streams or within 20' of cross-drains.

CALL BEFORE YOU DIG

No underground utilities are known to exist within the project. It is recommended that the contractor contact local utility companies prior to excavation. The contractor is responsible for damage to utilities caused by excavation.

Section 301:

1. All quantities and depths shown on Plans and the Bid Schedule are compacted in-place quantities and depths.
2. Crushed aggregate is a commercial source item. One possible source is located near State Highway 3 in the NE ¼ section 6, T.43 N., R.1E., B.M.

Section 625:

1. Seed, fertilize and mulch all areas of disturbed earth outside of the roadbed.
2. Seed, fertilize and mulch all waste areas.

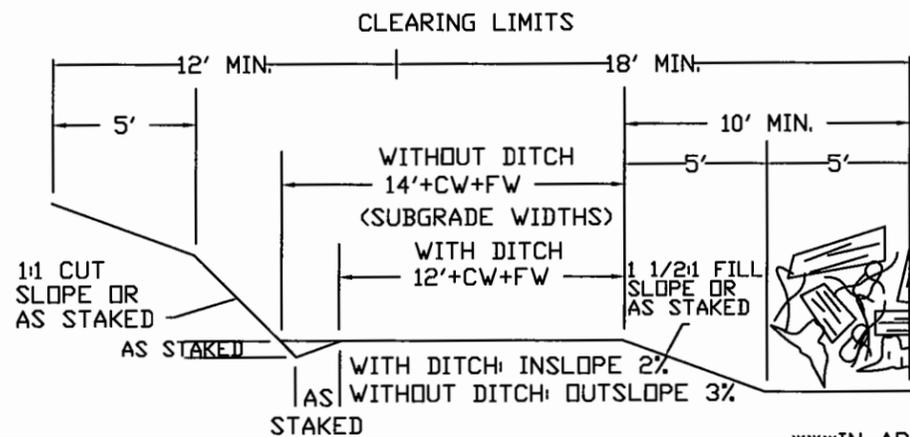
Noxious Weed Control:

In order to prevent the spread of noxious weeds into the Mini-Hume Timber Sale Area, provide certification that all seed or straw/hay on the project is noxious weed free. Furnish the Forest Service with proof of weed free equipment as provided in the contract.

Construction Signing:

All construction signs and installations shall conform to the current M.U.T.C.D. standards.

Typical Sections

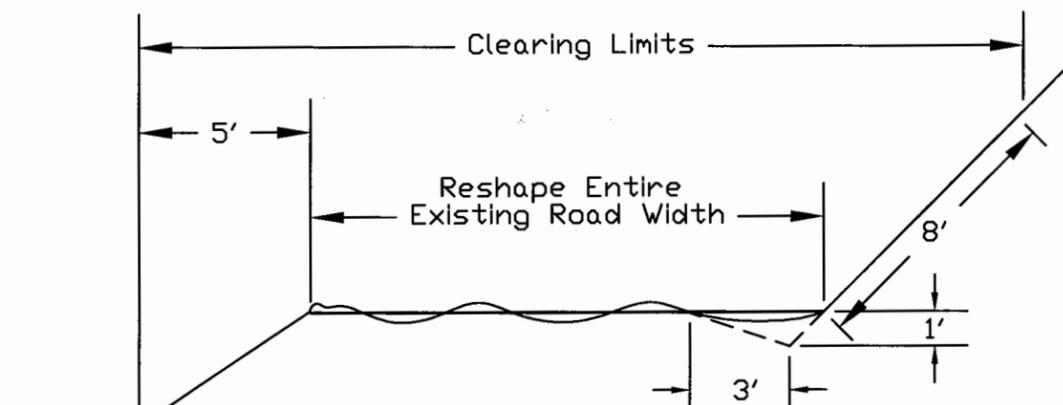


CONSTRUCTION SLASH MAY EXTEND BEYOND THE CLEARING LIMITS INTO NATURAL OPENINGS

CONSTRUCTION TYPICAL SECTION

Rds 1950C.2, 1950CB

***IN AREAS WHERE FILL IS 5' OR LESS, THE HEIGHT OF PILE ABOVE SUBGRADE SHALL NOT EXCEED 10'. IN AREAS WHERE FILL IS GREATER THAN 5' THE HEIGHT OF PILE ABOVE SUBGRADE SHALL NOT EXCEED 5'.



NO SCALE

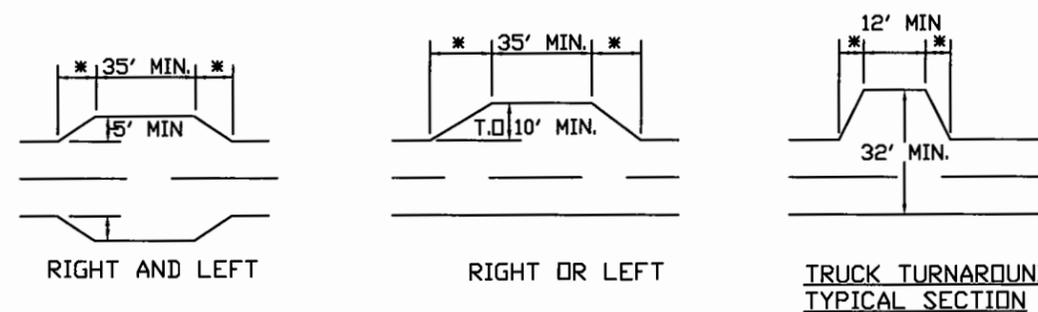
RECONDITIONING TYPICAL SECTION

Use when reconditioning is incidental.

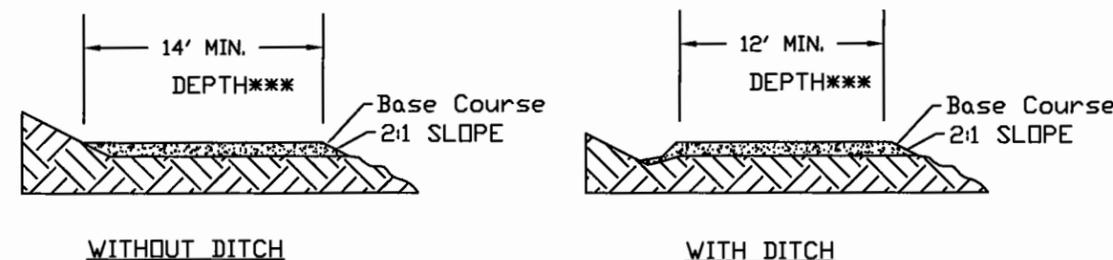
All roads

Design Speed = 10 MPH
Curve Widening = logtruck

TURNOUT TYPICAL SECTION



*AS STAKED



BASE AND SURFACE COURSE TYPICAL

***THE BASE AND SURFACE COURSE TYPICAL DEPTH SHOWN ON THE PLANS IS A COMPACTED IN-PLACE DEPTH. SURFACE THE ENTIRE SUBGRADE, INCLUDING CURVE WIDENING, FILL WIDENING, TURNOUTS AND DITCH, AS SHOWN.

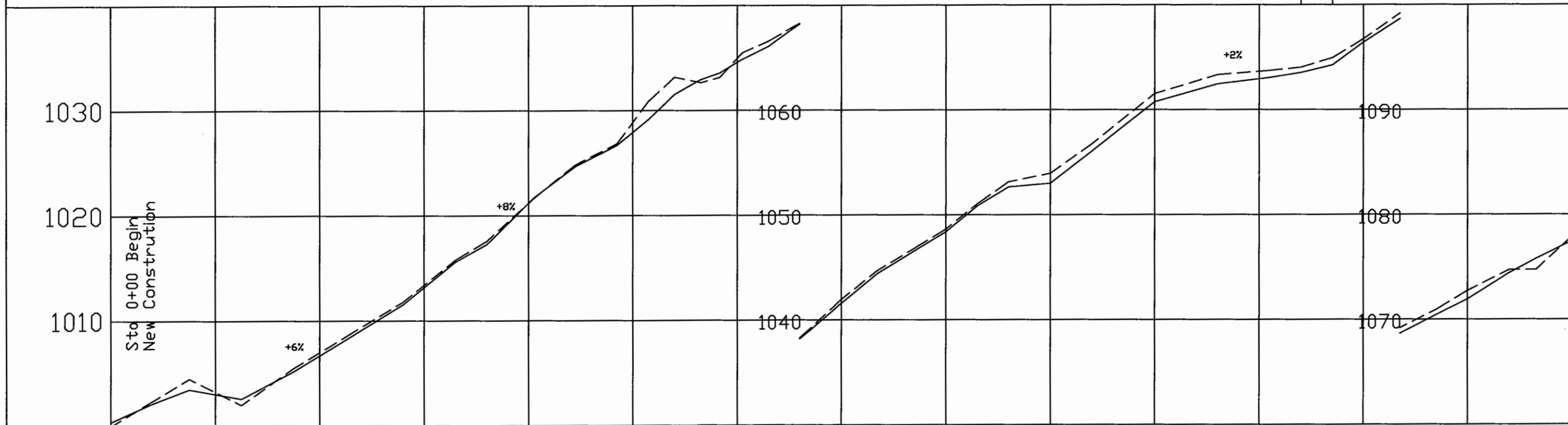
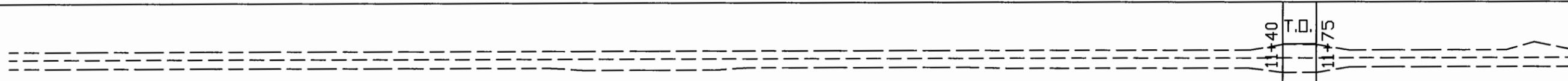
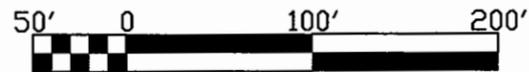
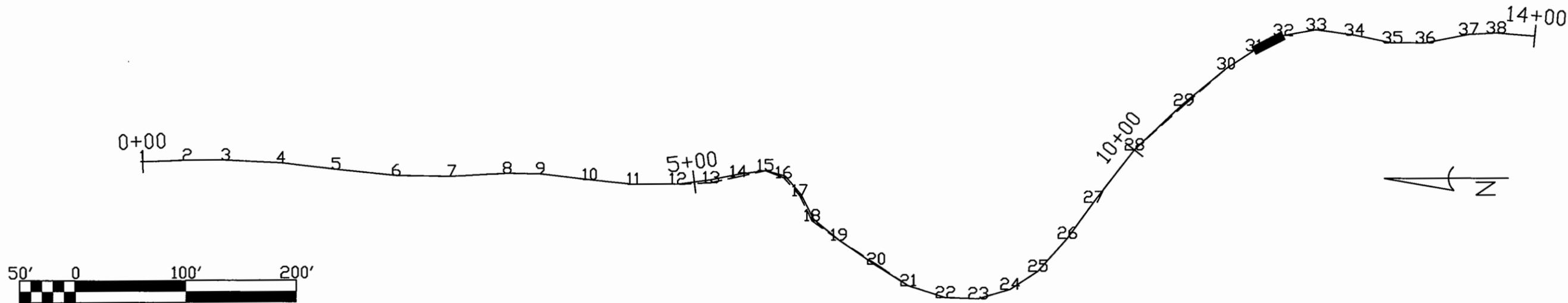
LEGEND

CULVERT	PLAN	
	PROFILE	
TURNOUT		
TURNAROUND		
SEDIMENT BASIN		
GATE		
FULL BENCH CONSTRUCTION	FB	
DITCH		

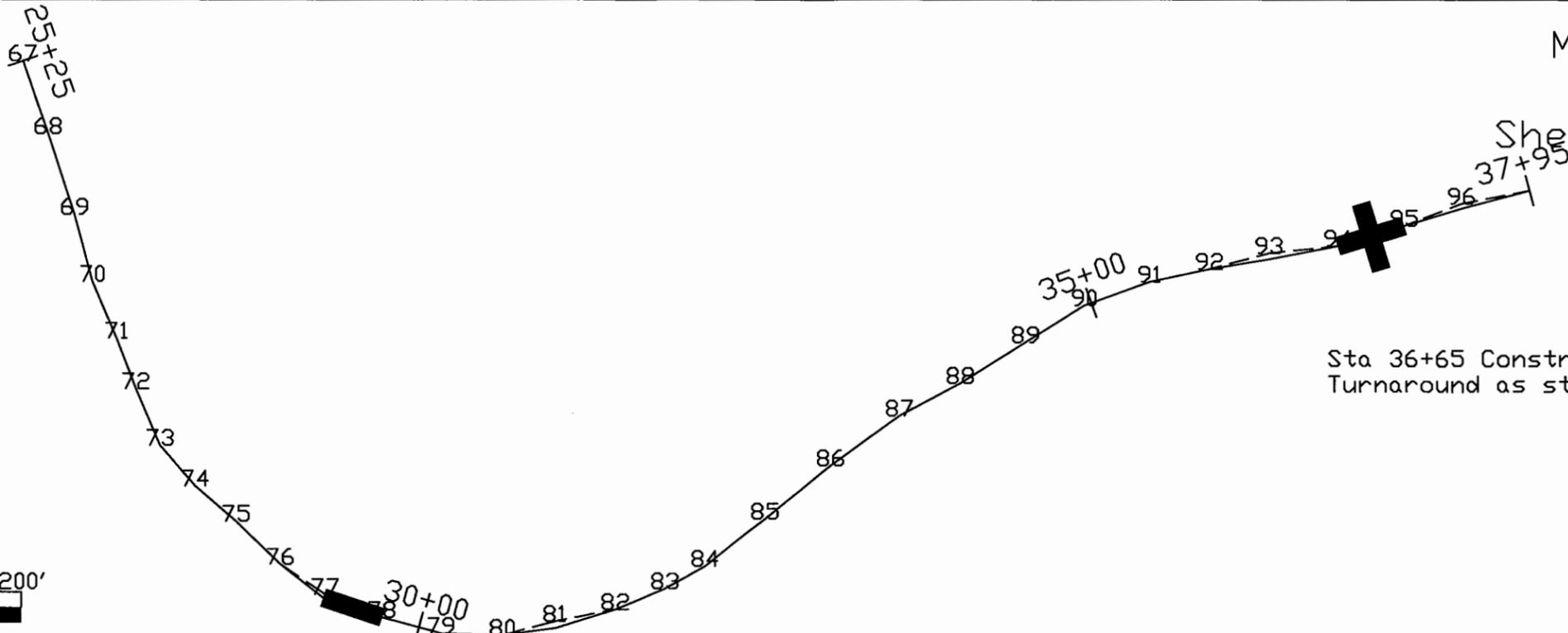
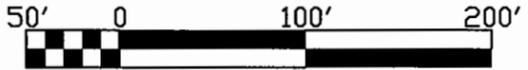
Crushed Aggregate Depths

Road #	Location	Surface Quantity	Item Number 30103
1950C.2	0+00 - 40+05	6" Of aggregate base	
1950CB	0+00 - 33+75	6" Of aggregate base	

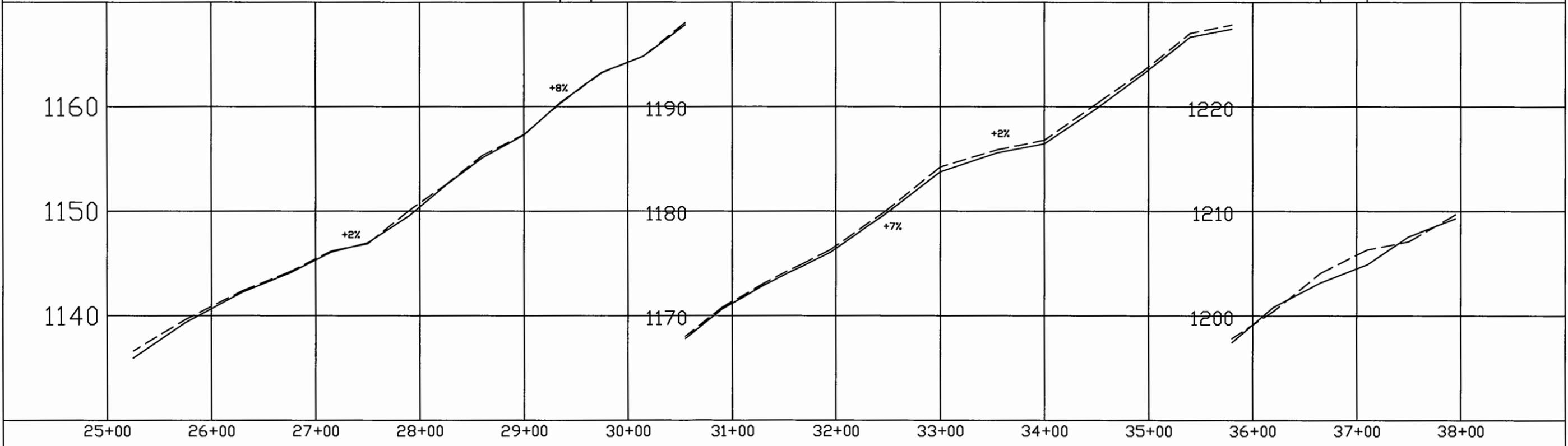
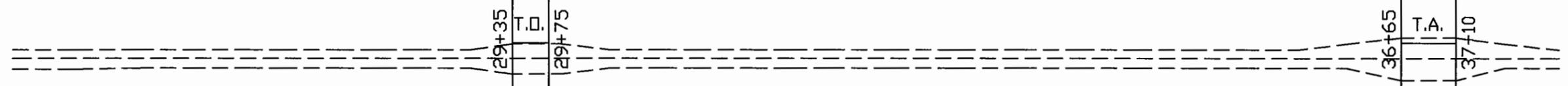
EQ. Sta 0+00 1950C.2
M.P. 1.08 Road 1950C



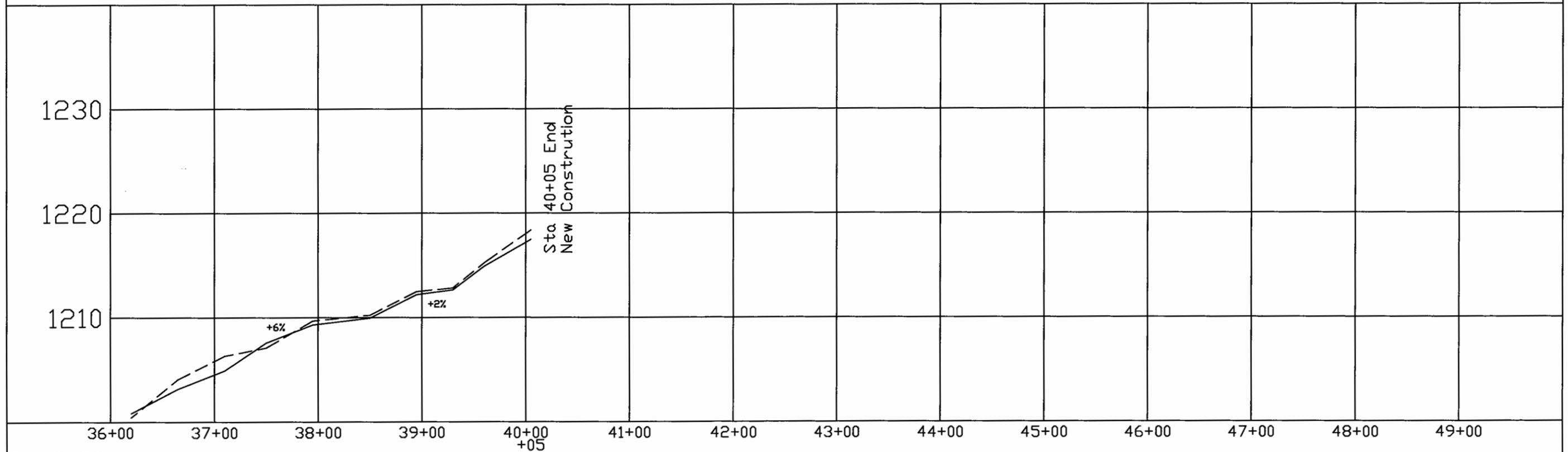
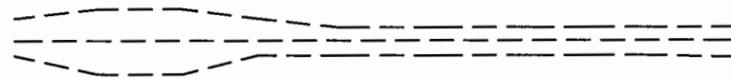
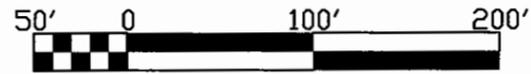
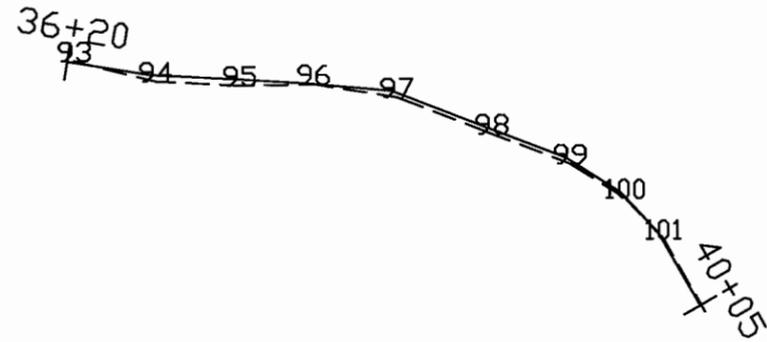
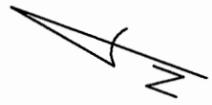
Excavation (CY)	13	81	146	153	577	60
Haul (sta yd)	S.B.	13	SELF BALANCE	36	SELF BALANCE	7
Clear (ac)				1.04		
Seed (ac)				0.47		



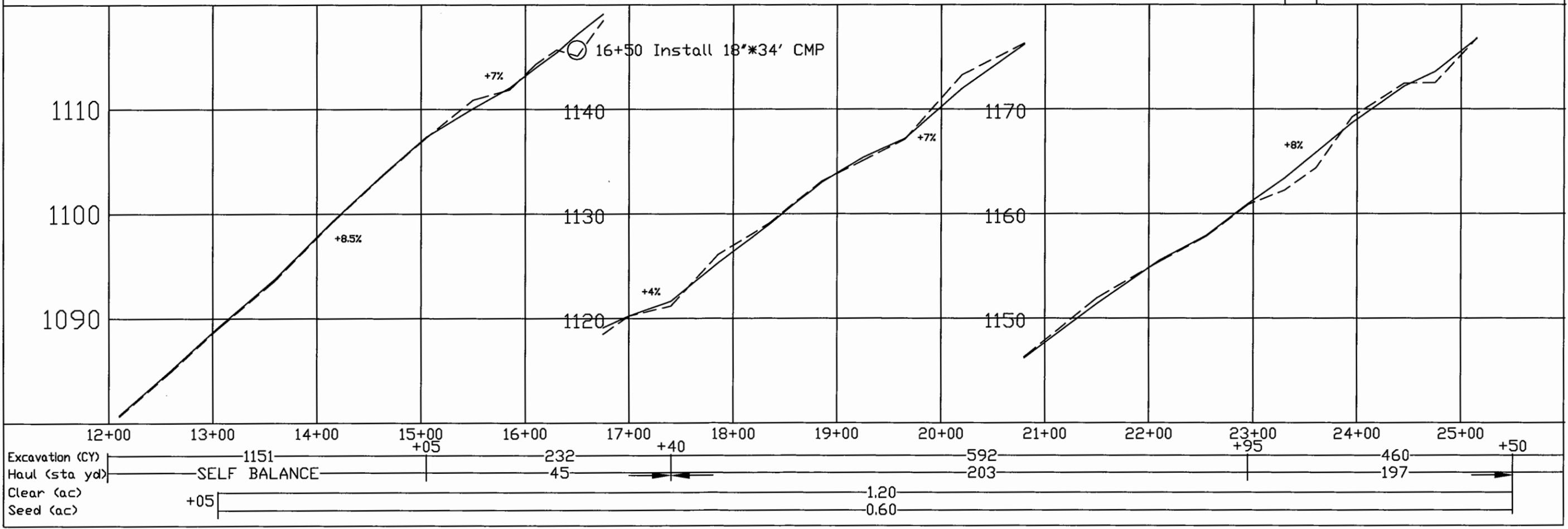
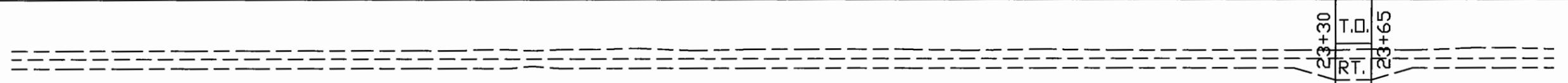
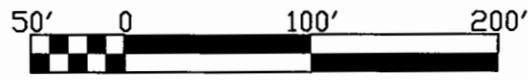
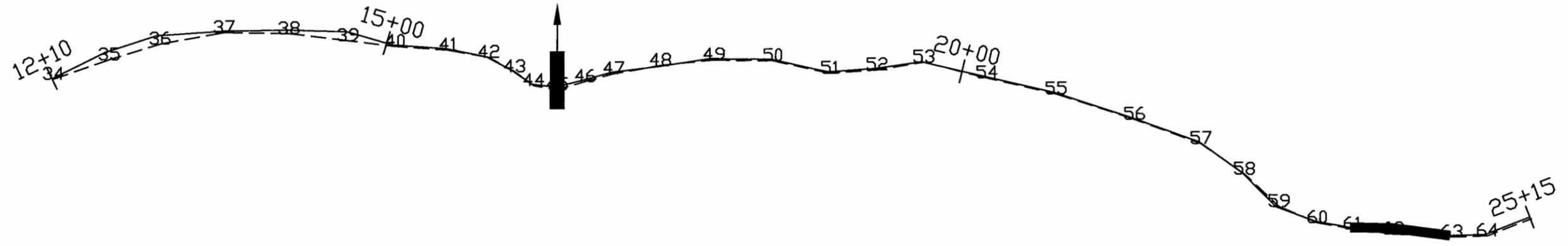
Sta 36+65 Construct Truck Turnaround as staked.

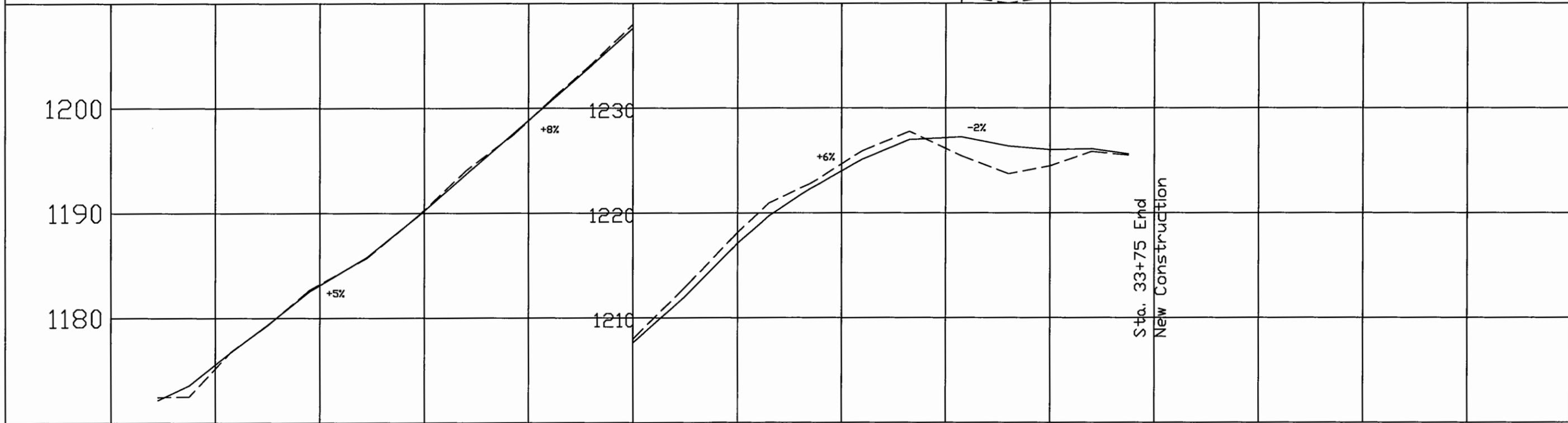
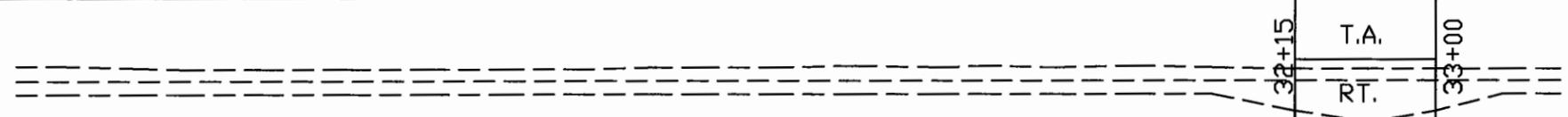
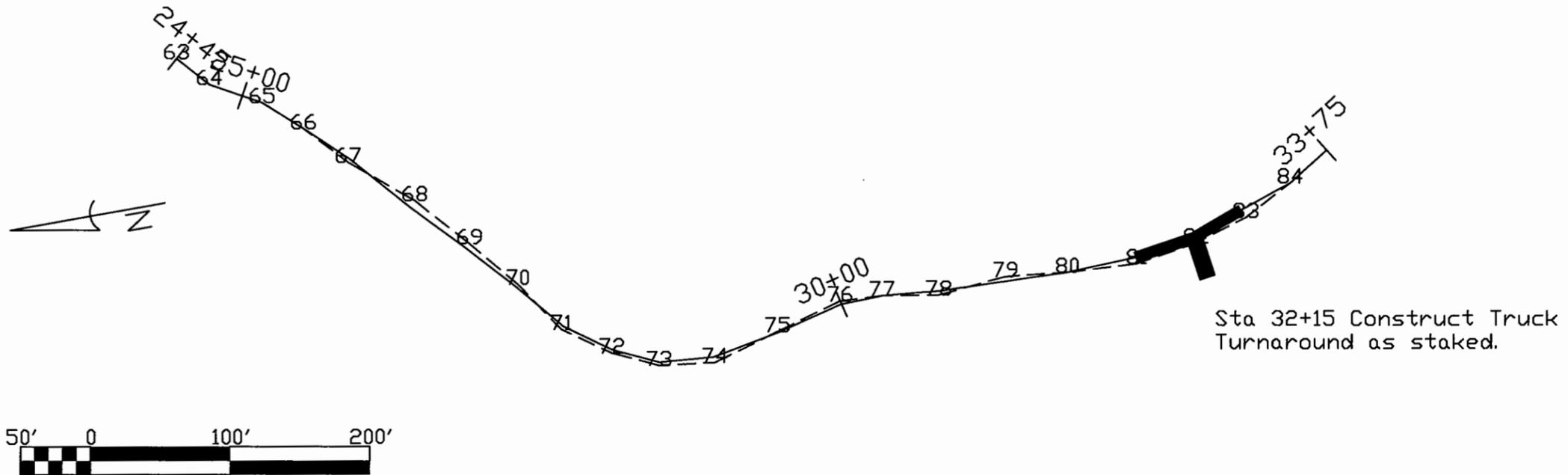


Excavation (CY)	2089	
Haul (sta yd)	SELF BALANCE	
Clear (ac)	+30	+95
Seed (ac)	0.90	0.40

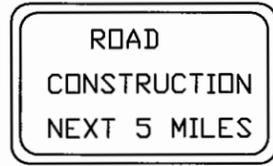


Excavation (CY)	
Haul (sta yd)	+95
Clear (ac)	0.15
Seed (ac)	0.08

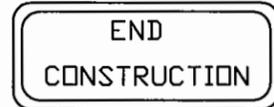




Excavation (CY)	+50	-1044	+75
Haul (sta yd)		SELF BALANCE	
Clear (ac)		0.87	
Seed (ac)		0.45	



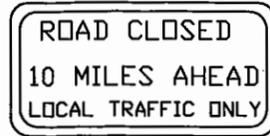
FG20-1 60"x36"



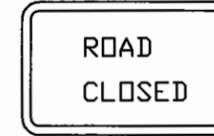
G20-2 60"x24"



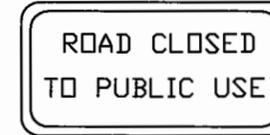
W20-1 48"x48"



R11-3a 60"x30"



R11-2 48"x30"



FR13-1C 60"x30"



W22-1 48"x48"



W22-2 42"x36"



W22-3 42"x36"



FW11-9a 30"x30"



W21-2 30"x30"



W21-1 30"x30"



W21-6 30"x30"



W21-4 36"x36"



W21-3 36"x36"



W21-5 30"x30"

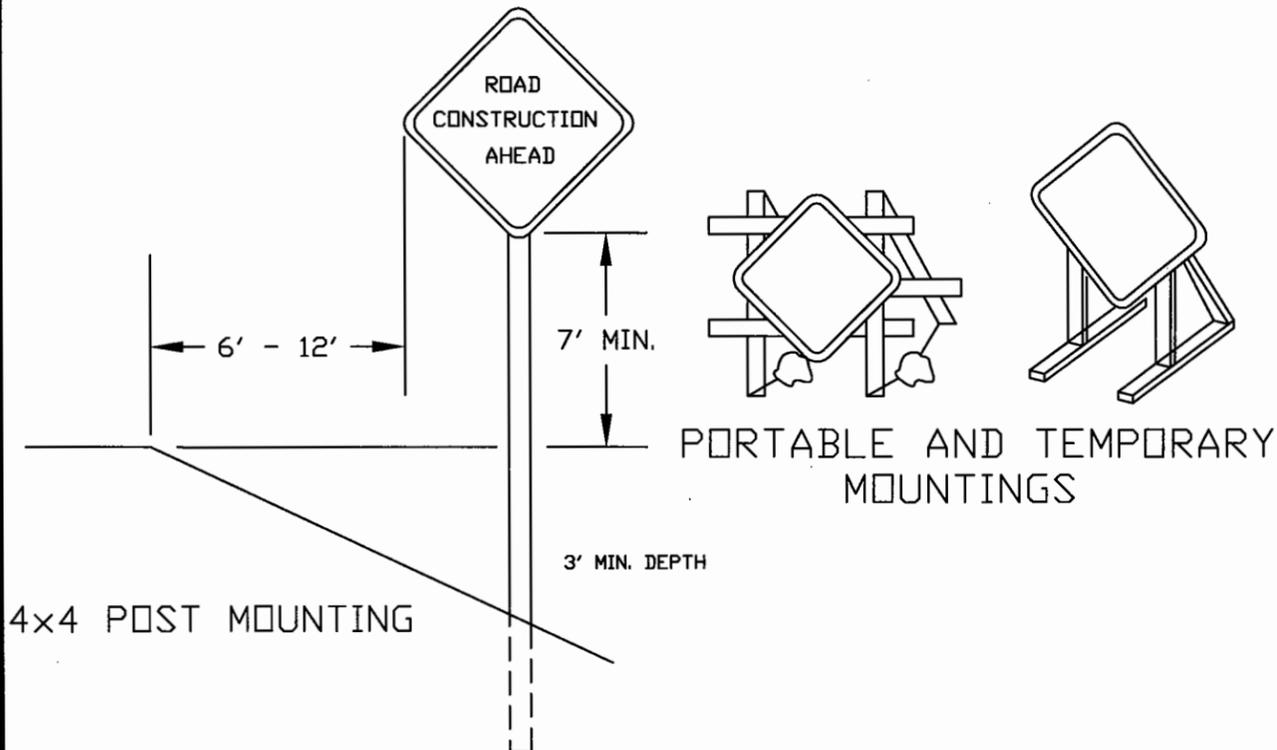
GENERAL NOTES

1. The Purchaser/Contractor shall have the responsibility for furnishing, installing, maintaining, and removing construction warning signs in conformance with the latest revision of the Manual of Uniform Traffic Control Devices (M.U.T.C.D).
2. Warning signs shall be installed at the location shown below prior to beginning of construction or reconstruction. FW11-9a signs shall be installed prior to hauling activities.
3. During periods of non-work (weekends, holidays, end of work day, etc.) all FW11-9a signs shall be covered or removed.
4. Additional warning signs shall be temporarily installed by the Purchaser/Contractor as mutually agreed by the Purchaser/Contractor and engineering representative.
5. All warning signs shall be removed from the project by the Purchaser/Contractor upon completion and acceptance of the project.
6. Payment to the Purchaser/Contractor for furnishing, installing, maintaining, and removing construction warning signs is considered incidental to Pay Item 151 - Mobilization; no separate payment will be made.
7. Construction "Warning Signs" color shall be a black symbol or message on an orange background as per M.U.T.C.D.
8. Regulatory sign color shall be a black legend and border on white background as per M.U.T.C.D.
9. All signs shall be either reflectorized with a material that has a smooth, sealed outer surface, or illuminated to show approximately the same shape and color day and night.

TYPICAL CONSTRUCTION WARNING SIGNS (AS PER M.U.T.C.D)

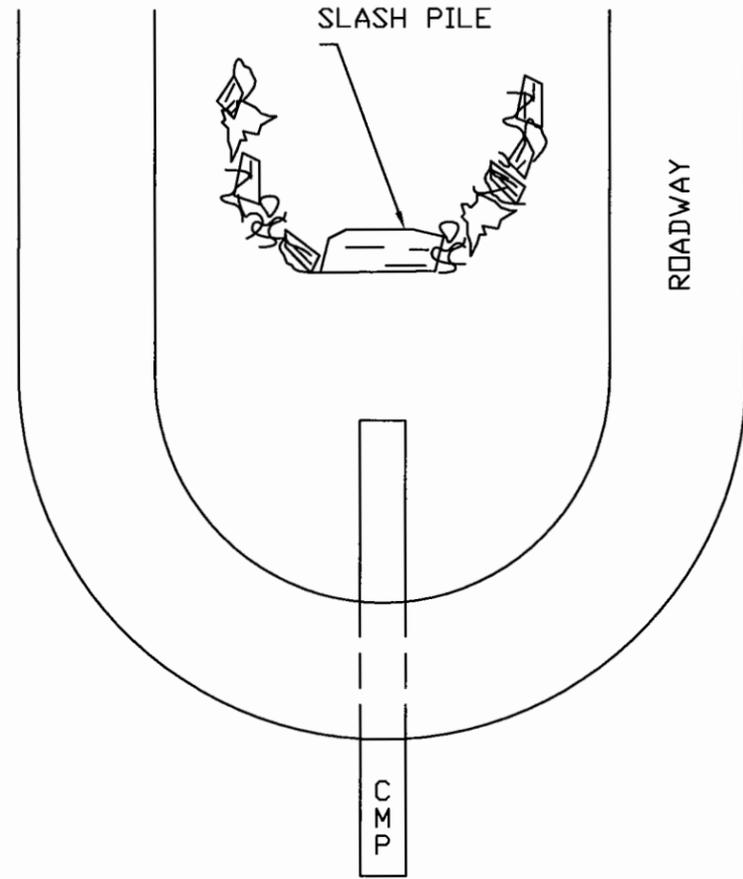
MINIMUM SIGNS REQUIRED FOR THIS PROJECT

ROAD	LOCATION	WARNING SIGN	PERIOD OF USE
1479	299 / 1479	HEAVY TRUCK TRAFFIC FW11-9A	LOG, WATER, OR AGGREGATE HAUL
1950	1479 / 1950	HEAVY TRUCK TRAFFIC FW11-9A	LOG, WATER, OR AGGREGATE HAUL
		ROAD CONSTRUCTION AHEAD W20-1	RECONSTRUCTION ACTIVITIES
1950C	1950 / 1950C	HEAVY TRUCK TRAFFIC FW11-9A	LOG, WATER, OR AGGREGATE HAUL
		ROAD CONSTRUCTION AHEAD W20-1	RECONSTRUCTION ACTIVITIES



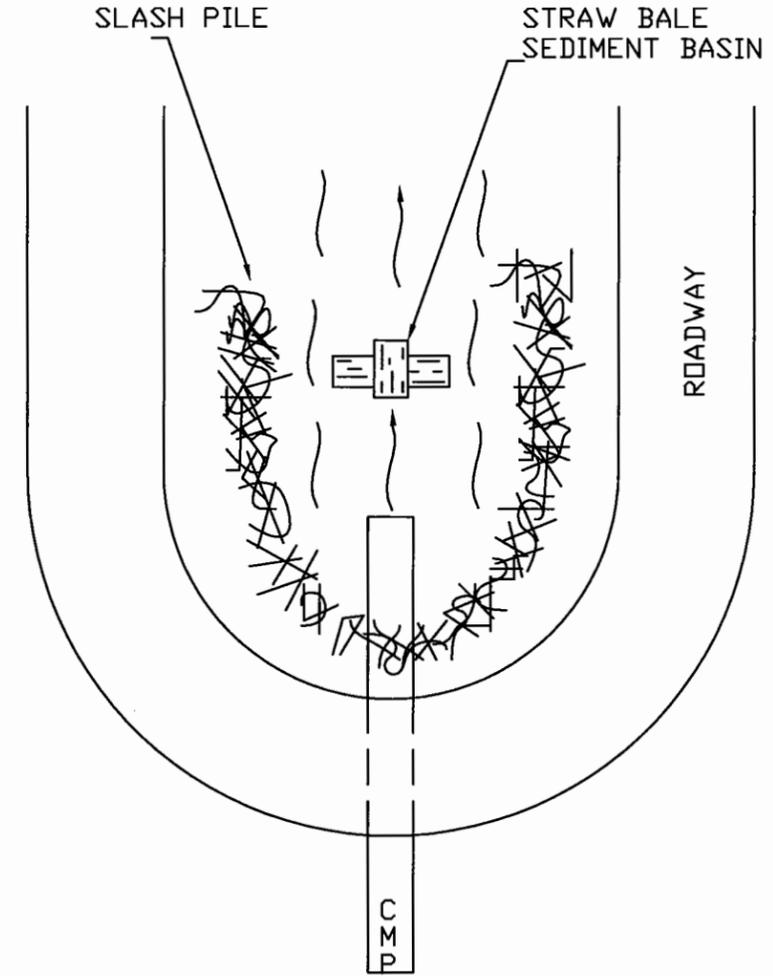
TYPICAL SIGN INSTALLATION (AS PER M.U.T.C.D)

PLAN - DRY DRAW

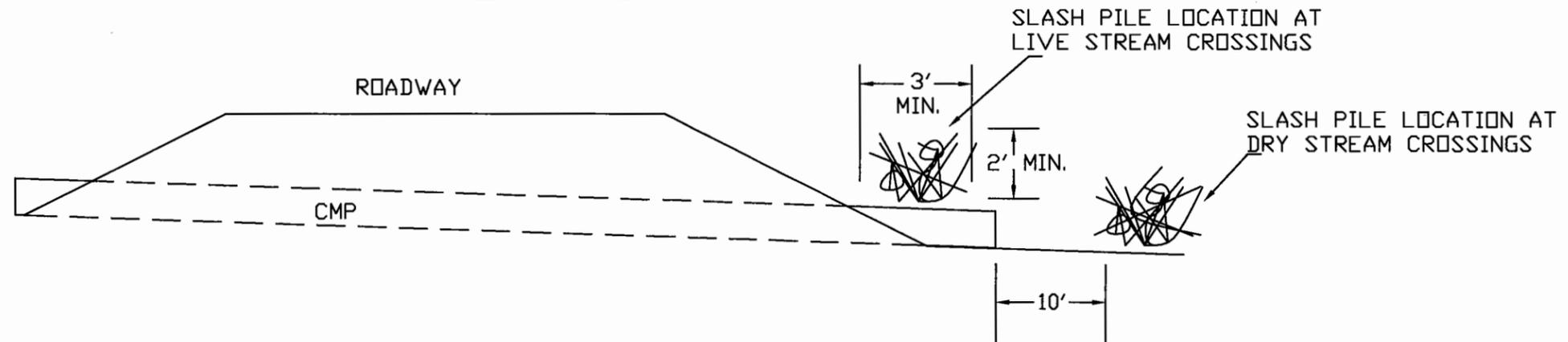


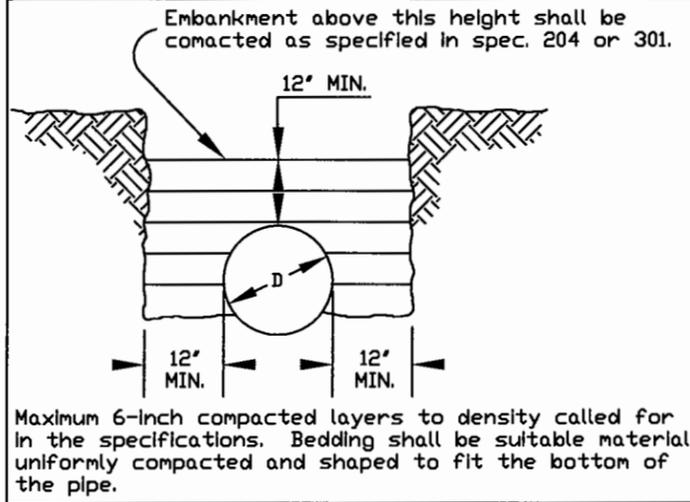
PILING CONSTRUCTION
SLASH TYPICAL SECTION

PLAN - WET DRAW



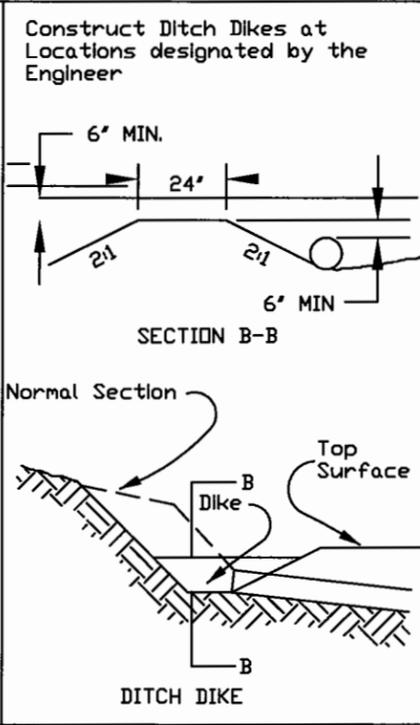
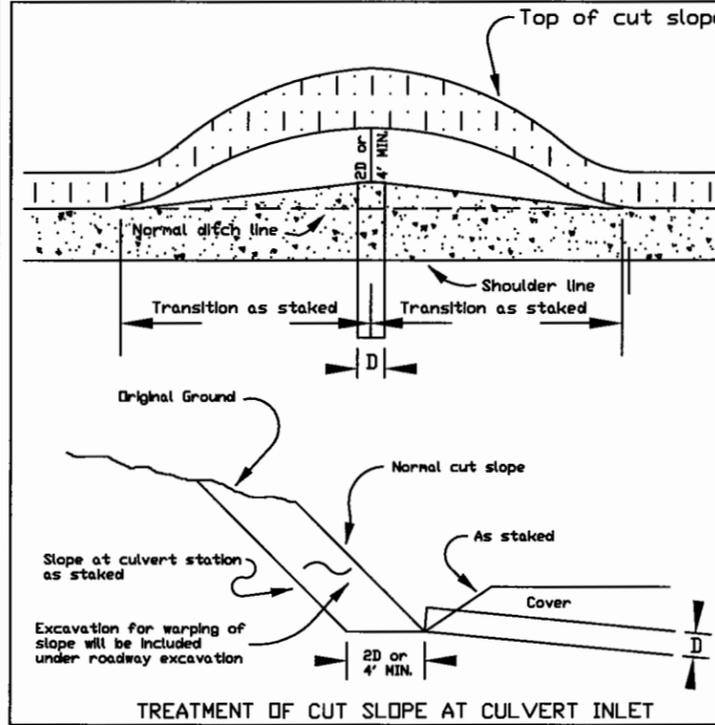
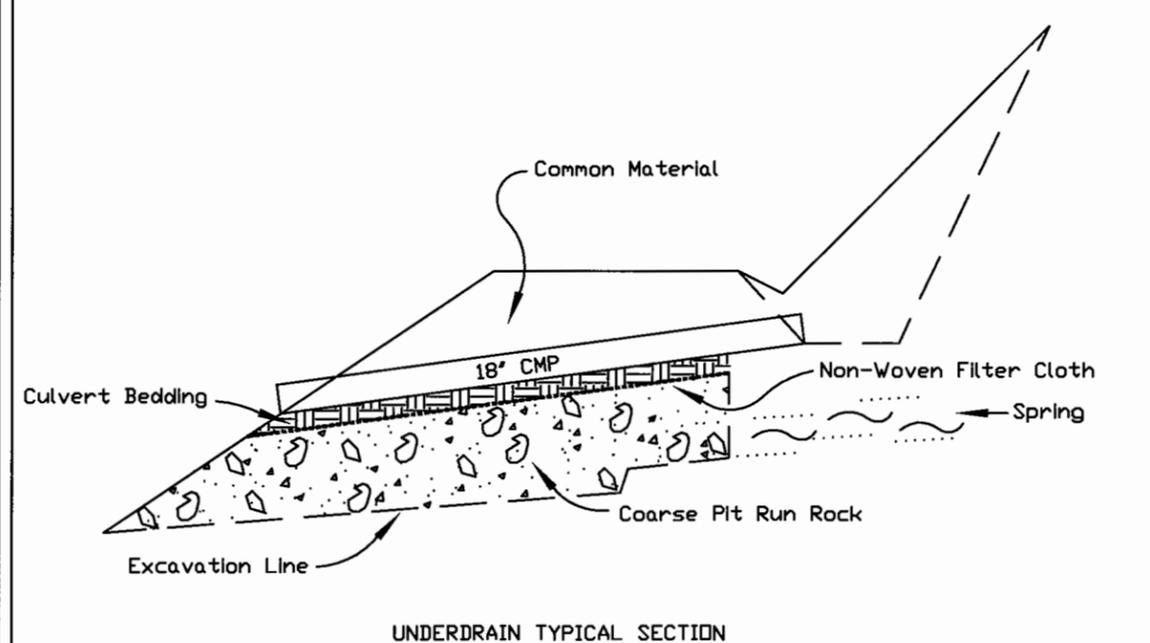
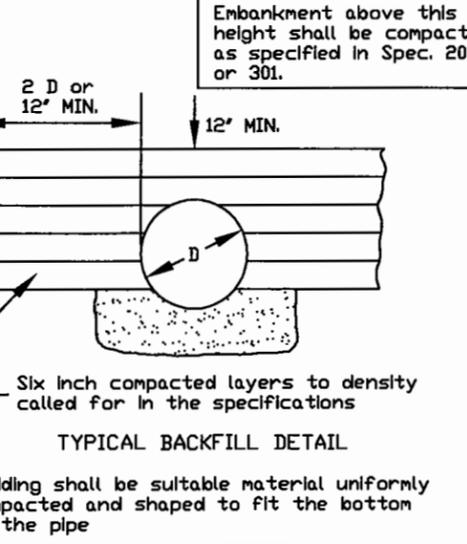
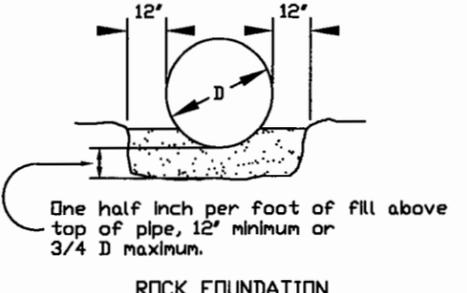
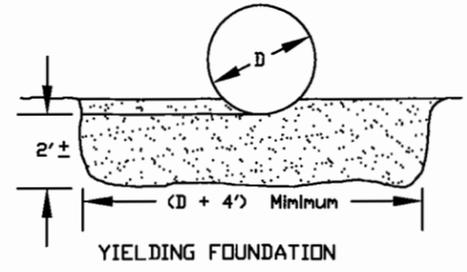
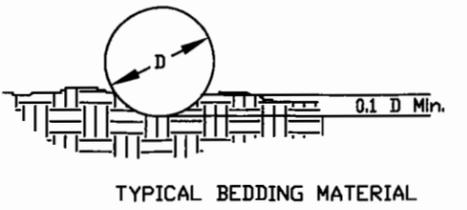
PROFILE





METAL THICKNESS AND GAGE TABLES

Steel			Approx. Gage
Zinc Coated	Un-Coated	Aluminum	
Metal Thickness in Inches			
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8
0.188	0.1838		7
0.218	0.2145		5
0.249	0.2451		3
0.280	0.2758		1



GENERAL NOTES:

TREATMENT OF DAMAGED SPELTER: The damaged or corroded ends of metal pipe to be extended shall be removed. If the damaged end is flame cut, the burned spelter on the galvanized pipe shall be wire brushed to clean metal and the area shall be painted with two coats of paint, high in zinc content, for repair of the galvanized surfaces.

SETTLEMENT AND CAMBER: Pipes shall be cambered as necessary to compensate for any anticipated settlement in the foundation or bed. Camber shall be on a parabolic curve with no point along the invert being higher than the invert at the inlet.

EMBANKMENT AND FOUNDATION SOIL CONDITION
Existing Fills, Regardless of Foundation Soils

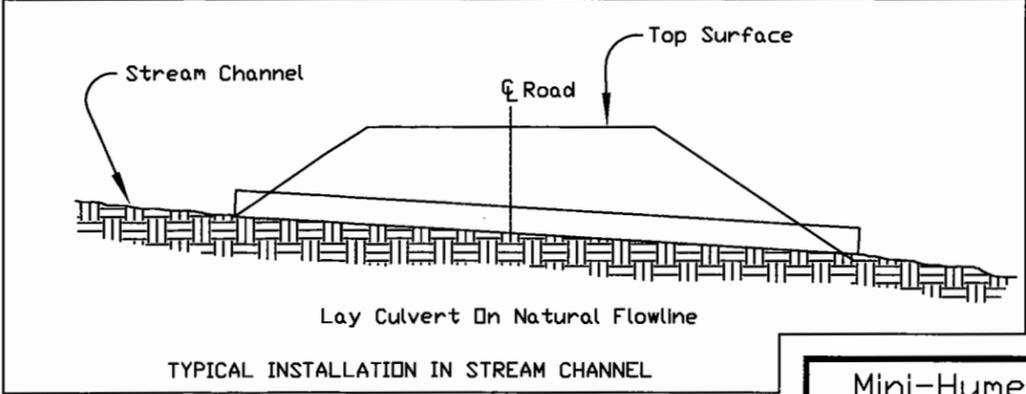
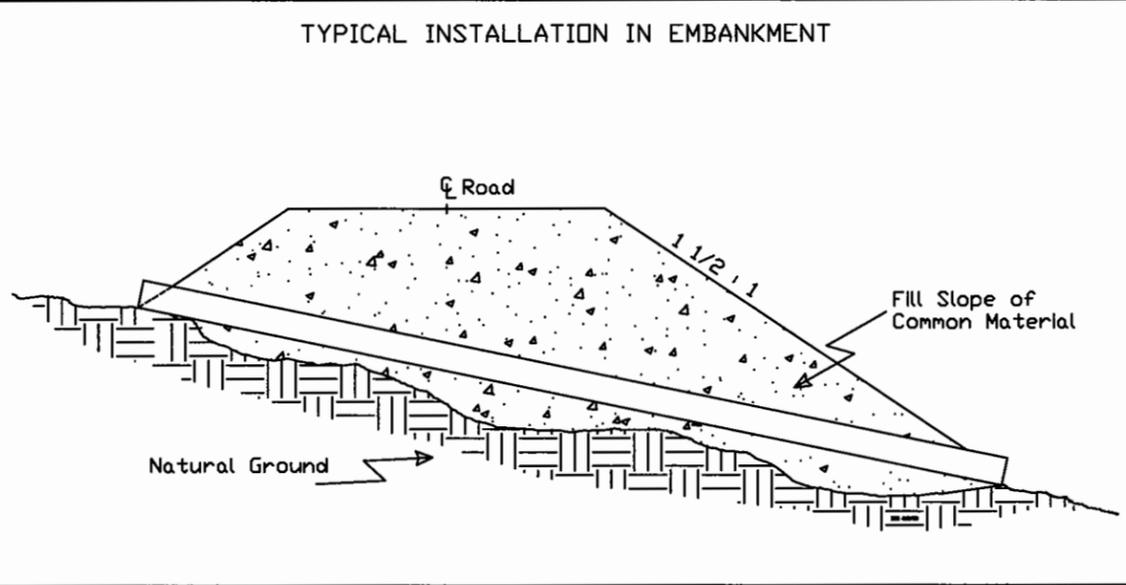
CAMBER
1% of pipe length, not to exceed 3/4 of pipe span.

1% of pipe length, not to exceed 3/4 of pipe span or as determined by the engineer.

☐ Road

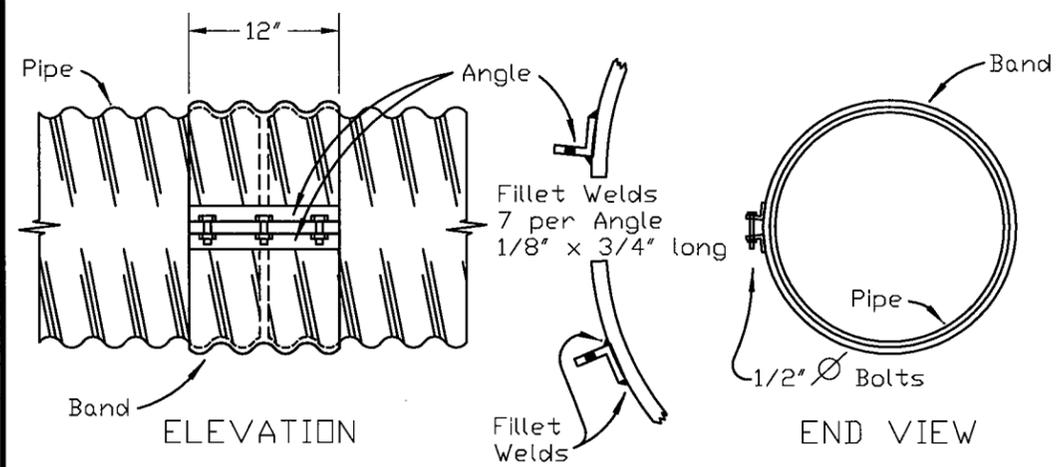
New Embankment

Camber

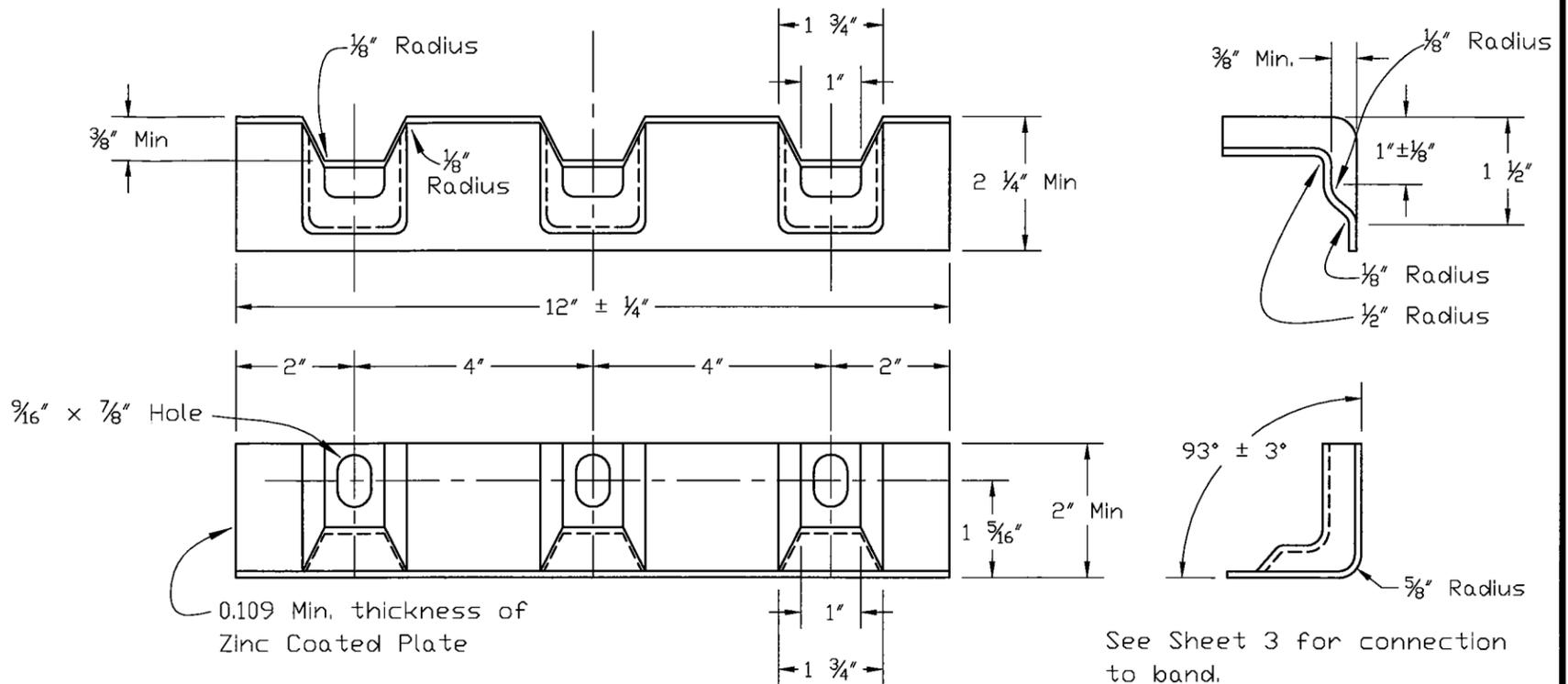


NO SCALE

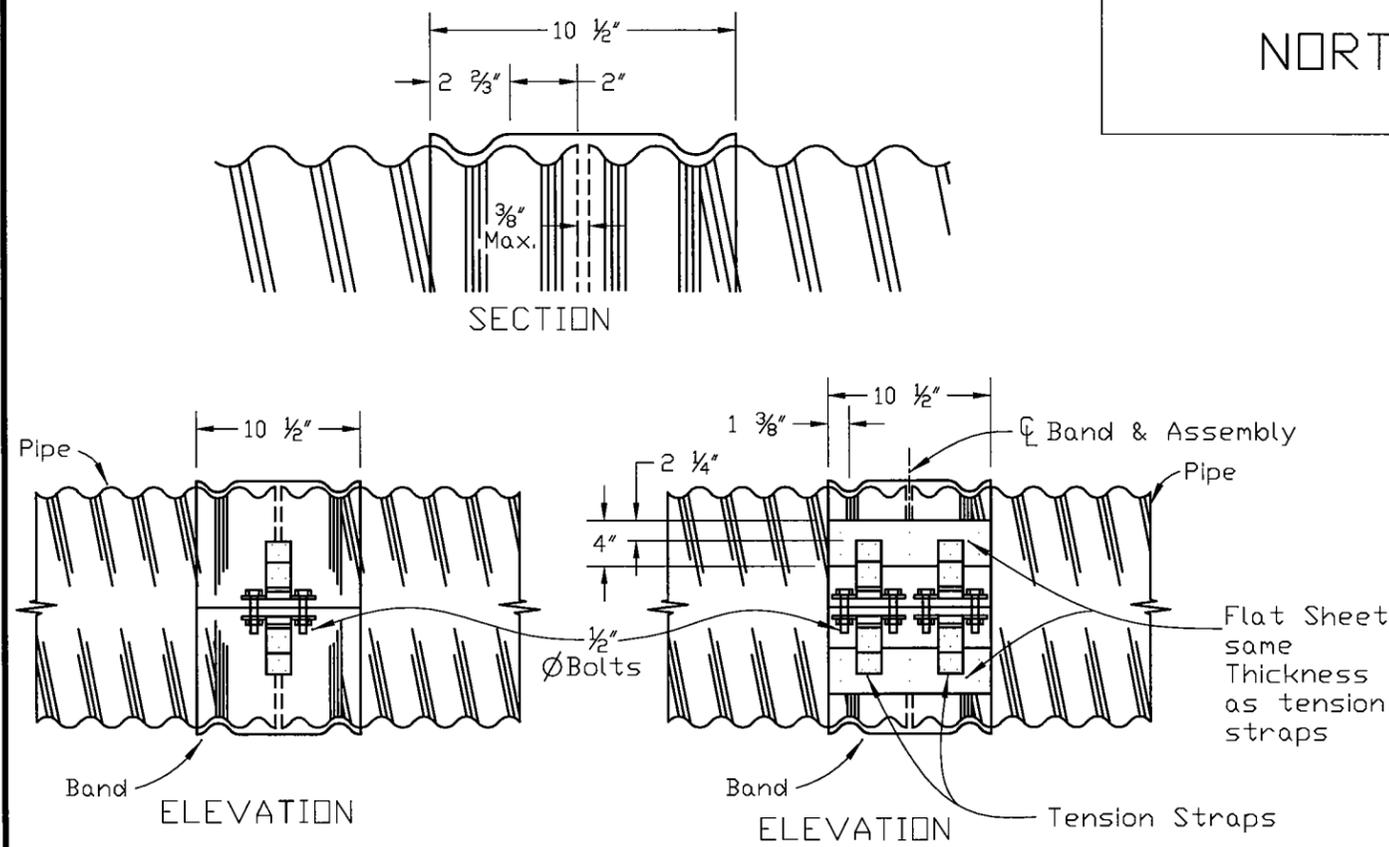
CULVERT DETAILS



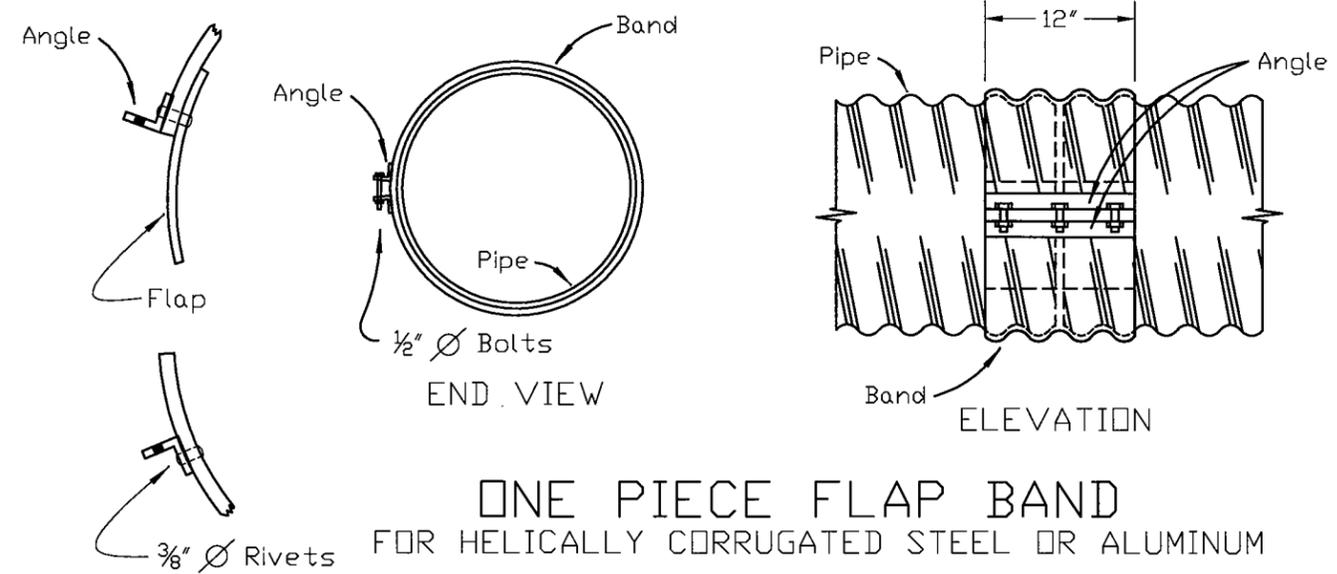
AMERICAN CULVERT BAND
FOR HELICALLY CORRUGATED STEEL PIPE



NORTHWEST CULVERT ANGLE ALTERNATIVE
FOR STEEL PIPE



HUGGER COUPLING BAND
FOR REFORMED END HELICALLY CORRUGATED
WELDED SEAM STEEL PIPE



ONE PIECE FLAP BAND
FOR HELICALLY CORRUGATED STEEL OR ALUMINUM

COUPLING BAND DETAILS FOR
CORRUGATED PIPE AND PIPE ARCH
Submitted CARL CAIN Date 6/7/89
Approved BILL HARPER Date 6/13/89
DRAWING NO. R1690 Sheet 1 of 3
Mini-Hume T.S. Sheet 15 of 17

GENERAL NOTES

						ANGLE - See Note 1-H			
COUPLING TYPE	CORRUGATION Inches	PIPE DIAMETER Inches	WIDTH Inches	SPECIFIED THICKNESS See Note 1-C		DIMENSION	BOLTS NO / DIAMETER	ANGLE TO BAND	
				Pipe Wall	Band			RIVETS	SPOT WELDS
<i>Metal Pipe</i> Annular and Helical	2-2/3x1/2	Thru 36	12	0.064-0.138	0.064-0.079	2x2x3/16	3-1/2	3-3/8	5-1/2
		42-60	12	0.064-0.079	0.064	2x2x3/16	3-1/2	3-3/8	5-1/2
	(Steel or Aluminum)	42-60	12	0.064-0.168	0.064-0.109	2x2x5/16	3-1/2	5-3/8	
		66-84	24	0.109-0.168	0.064-0.109	2x2x5/16	5-1/2	7-3/8	
	3x1 and 5x1 (Steel Only)	36-60	14	0.064-0.079	0.064	2x2x3/16	3-1/2	3-3/8	5-1/2
		42-60	14	0.109	0.064	2x2x5/16	3-1/2	5-3/8	
66-120	25	0.064-0.109	0.064	2x2x5/16	5-1/2	9-3/8			
One Piece Flap Band & Two Piece Integral Flange	2-2/3x1/2 (Steel or Aluminum) see Note 1-I	18-24	12	0.064-0.079	0.064		3-1/2	4-3/8*	* Flap Band Only
								WELDS ANGLE TO BAND	
American Culvert Band	2-2/3x1/2 (Steel Only)	Thru 24	12	0.064-0.109	0.064-0.079	2x2x0.183	3-1/2	7-1/8x3/4 Long Fillet	
		30-36	12	0.064-0.109	0.064	2x2x0.183	3-1/2		
		42-48	12	0.064-0.079	0.064	2x2x0.183	3-1/2		
Northwest Culvert Alternative	2-2/3x1/2 (Steel Only)	Thru 84	12	0.064-0.079	0.064-0.109			5-3/16x3/4 Long Fillet	
		Thru 54	12	0.109	0.064-0.109				
		Thru 42	12	0.138	0.064-0.109			5-1/2 Spot	
		Thru 84	12	0.064-0.168	0.064-0.109				
						BAR AND STRAP			
						NUMBER/THICKNESS	BOLT DIAMETER	BAR DIAMETER	BAR YIELD STRENGTH P.S.I.
Hugger	2-2/3x1/2 (Steel Only)	Thru 48	10-1/2	0.064-0.109	0.064-0.109	One 0.079	1/2	7/8	32,000
		36-48	10-1/2	0.138-0.168	0.079-0.109	One 0.109	1/2	7/8	45,000
		54-60	10-1/2	0.079-0.168	0.064-0.109	Two 0.079	1/2	7/8	32,000
		66-84	10-1/2	0.109-0.168	0.109	Two 0.109	1/2	7/8	45,000
	3x1 (Steel Only)	36-66	10-1/2	0.064-0.109	0.064	Two 0.079	1/2	7/8	32,000
		72-84	10-1/2	0.109	0.079	Two 0.079	1/2	7/8	32,000
61-120	10-1/2	0.109	0.109	Two 0.109	1/2	7/8	45,000		
<i>PE Pipe</i> Split Collar		Thru 24	See Drawing	per AASHTO M-294	per AASHTO M-294				

1. Metal Coupling Bands

- A. These coupling bands meet the strength requirements for special Joint Types under Non-erodible Soil Conditions, Table 2.23.3 of AASHTO's "Standard Specifications for Highway Bridges".
- B. For pipe walls and bands, the Specified Thickness for steel is given. For aluminum, the Specified Thickness is that for steel less the allowance for the zinc coating which is 0.003 to 0.004 of an inch per AASHTO M-36, M-196 and M-197.
- C. The minimum specified Thickness for bands is two Specified Thicknesses less than that for the pipe, but in no case thinner than 0.064 inches, (0.060 for aluminum).
- D. For pipe arches, use the same width band as for round pipe of equal periphery.
- E. A two-piece band is required for pipe greater than 42 inches in diameter.
- F. Tension straps may be connected to bands of plates with either spot or fillet welds that develop minimum required strength of strap.
- G. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- H. Use 1 1/4 inch center to center gauge line dimension on attached angle leg for rivets and spot welds.
- I. The Two Piece Integral Flange coupling band shall not be used on pipe arches.
- J. Culvert bands shall be made of the same metal as the culverts being joined.

2. Polyethylene (PE) Couplings

Testing standards for Corrugated Polyethylene (PE) Pipe couplings have not been established nor have couplings been tested for shear or bending moment. Therefore, until further information is available, PE couplings shall be used only where bending moment and shear requirements are minimal. Typical situations are:

- A. Where the slope of the culvert will not be more than 5%.
- B. Where the fill below the culvert is less than 2 feet.
- C. In areas of firm soils. This excludes marshes unless the bedding is specially designed and approved by the engineer.

3. Other

Couplings other than those shown on this drawing may be used upon submission of testing data (see 1-A above) and approval by the Engineer.

U.S. FOREST SERVICE COUPLING BAND DETAILS FOR CORRUGATED PIPE AND PIPE ARCH Submitted CARL CAIN Date 6/7/89 Approved BILL HARPER Date 6/13/89 DRAWING NO. R1690 Sheet 3 of 3	
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