

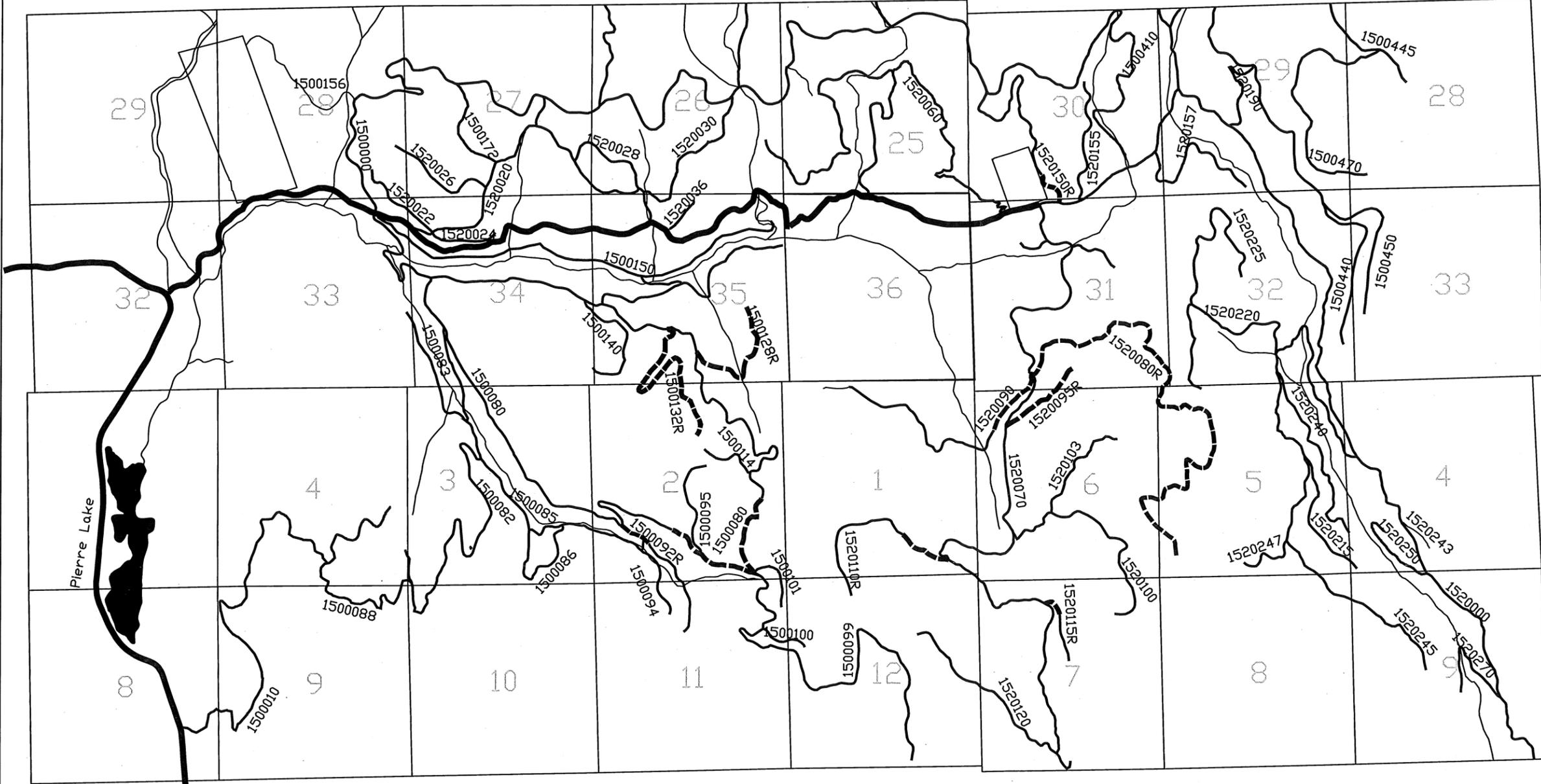
GRIZZ VICINITY MAP

REOFFER

R37E R38E

SUMIT LAKE 1mile

ELBOW LAKE 2miles



T40N
T39N

WATER SOURCE

SUMIT LAKE
ELBOW LAKE

LEGEND

- EXIST. ROADS
- RECONSTRUCTION
- COUNTY ROADS
- CREEK

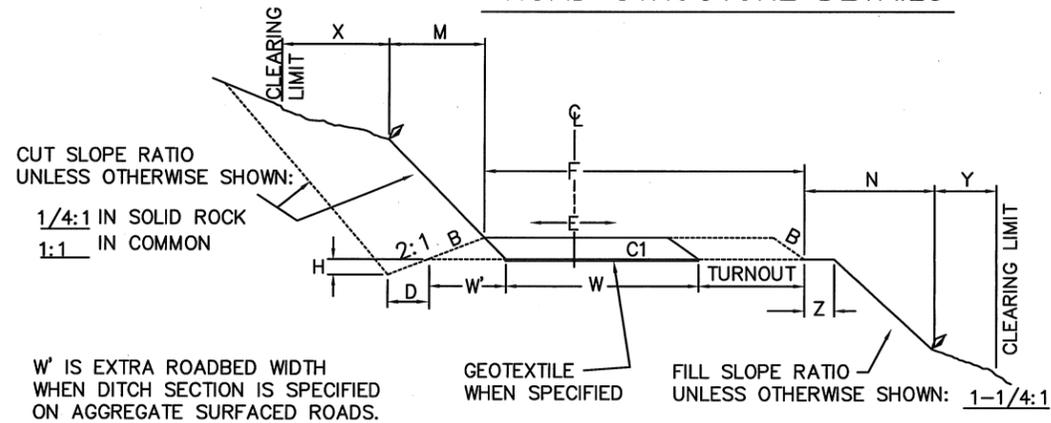
ESTIMATE OF QUANTITIES

Item Number	Description	Unit	1500080R 1.04mi	1500092R .25mi	1500128R .77mi	1500132R 0.83mi	1520080R 2.74mi	1520090R .44mi	1520095R .45mi	1520110R .19mi	1520115R .09mi	1520150R .27mi	Sheet Total	Remarks
15101	Mobilization	ls	All	All	All	All	All	All	All	All	All	All	All	
15219	Establishing clearing limits	mile	1.04	0.25	0.77	0.83	2.74	0.44	0.45	0.19	0.09	0.27	7.07	
20103	Clearing and grubbing, disposal of tops and limbs f,l, logs f, and stumps f.	mile	1.04	0.25	0.77	0.83	2.74	0.44	0.45	0.17	0.09	0.27	7.05	
20402	Roadway excavation, compaction method C finish method C.	mile	1.04									0.27	1.31	
20419	Drainage excavation - drainage ditch	ft			159								159	
20420A	Drainage excavation, type Drain Dip	each			1	1	3		1	1			7	
20420B	Drainage excavation, Outslope Drain	each	1		4	4	12	1	2	2	1		27	
20429	End Haul	ls			1								1.00	
30318	Roadbed Reconditioning, Scarify, Blade & Shape	mile		0.25	0.69	0.83	2.74	0.44	0.45	0.19	0.09		5.68	
32232	Haul and place stockpiled aggregate, compaction method H	cy			127	40	178	8	24	24	8		409	
60201A	18 inch pipe culvert	ft			22								22	
60201C	36 inch pipe culvert	ft			36								36	
62501	Seeding dry method	acre	1.76	0.42	1.30	1.40	4.65	0.74	0.76	0.31	0.15	0.47	11.96	

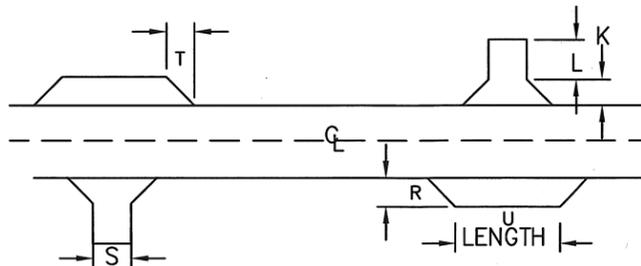
TYPICAL ROADWAY SECTION

(NOT TO SCALE)

ROAD STRUCTURE DETAILS



TURNAROUND & TURNOUT SYMBOLS



NOTES

- CURVE WIDENING, WHEN SPECIFIED, SHALL BE ADDED TO INSIDE OF CURVE.
- TAPER LENGTH ON CURVE WIDENING IS LOCATED IN THE CURVE DATA BOX ON THE PLAN SHEETS.
- SEEDING AND/OR MULCHING AREA INCLUDES SECTIONS SHOWN ON TYPICALS AND ALL OTHER AREAS DISTURBED BY CONTRACTOR.
- TURNOUTS AND CURVE WIDENING SHALL BE SURFACED TO SAME DEPTH AS THE TRAVELED WAY AND TO THE DIMENSIONS SPECIFIED IN THE PLANS.
- CONSTRUCTION STAKES SHALL BE 0.3 in. THICK X 1.5 in. WIDE X 24 in. LONG, +/- 0.1in. THICKNESS AND THE TOP 2in. TO BE PAINTED RED. CLEARING FLAGGING SHALL BE GLO PINK. STAKES SHALL BE SET ON UPHILL SIDE OF CENTERLINE.
- SLOUGH WIDENING "Z" SHALL BE 1ft. WHERE FILLS ARE 5ft. OR LESS AND 2ft. WHERE FILLS ARE GREATER THAN 5ft.
- ALL DITCHES SHALL BE SLOPED TO DRAIN.
- SEEDING IS NOT REQUIRED WHERE SLOPE RATIOS ARE 1/2:1 OR STEEPER.
- ROADWAY FINISHING FOR ALL ROADS IS METHOD C PER FSSS 204.13
- IN AREAS WHERE DD OR OSD FALL WITHIN A DESIGNATED AGGREGATE SPREAD, PLACE AGGREGATE AS SHOWN IN DRAINAGE DETAIL.

ROAD NUMBER	ROAD SEGMENT	STATION of M.P. to	STATION of M.P.	GRADING												AGGREGATE			REVEGETATION				CLEARING					
				CONSTRUCTION TOLERANCE	OUTSLOPE (O) INSLOPE (I) CROWN (C)	ROADBED WIDTH	DITCH DIMENSIONS		TURN AROUND			TURNOUTS			MIN TRAVELED WAY WIDTH	GRADATION	COMPACTED DEPTH	SLOPE RATIO	SEEDING and/or MULCHING AREA				MINIMUM CLEARING WIDTH	FEET BEYOND TOP OF CUT TO TOE OF FILL		MINIMUM ROADWAY BRUSHING WIDTH		
							FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.					FT.	FT.	FT.	FT.		FT.	FT.		FT.	FT.
							E	W	D	H	K	L	S	R					U	T	F	C1		C1	B		M	N
1500080		0+00	54+91	K	1/	12'	2'	1'	15'	15'	14'	8'	50'	25'		5/	2:1	X	X	X	X		26'					
1500092		0+00	13+20																									
1500128		0+00	40+70																									
1500132		0+00	44+00																									
1520080		0+00	144+82			14'																						
1520090		0+00	23+00			12'																						
1520095		0+00	23+80																									
1520110		0+00	9+80																									
1520115		0+00	4+57																									
1520150		0+00	14+55																									

FOOTNOTES

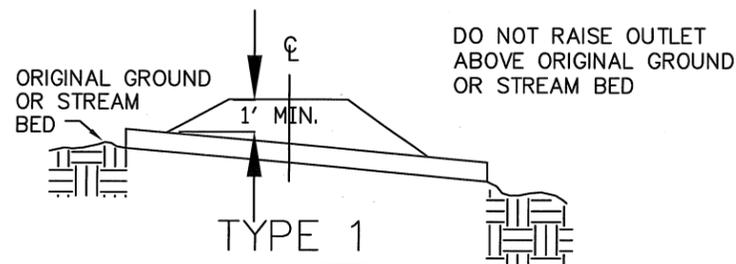
- OUTSLOPE ALL ROADS EXCEPT INSLOPE IN DITCHED AREAS AND CULVERT CATCH BASINS UNLESS OTHERWISE SHOWN ON PLANS.
- AT LOCATIONS SHOWN ON THE DRAWINGS.
- CONSTRUCT ADDITIONAL WIDTH IN ALL AREAS WHERE PLACEMENT OF AGGREGATE IS SHOWN ON THE PLANS
- CLEARING LIMITS SHALL BE ESTABLISHED FROM STAKE NOTES OR 13 FEET FROM CENTERLINE WHICHEVER IS GREATER.
- DEPTHS AS SHOWN IN THE PLANS

ABBREVIATIONS

- DD=DRAIN DIP
- OSD=OUTSLOPE DRAIN
- TOR=TURNOUT RIGHT
- TOL=TURNOUT LEFT
- TAR=TURNAROUND RIGHT
- TAL=TURNAROUND LEFT
- CWR=CURVE WIDENING RIGHT
- CWL=CURVE WIDENING LEFT
- LOD=LEADOUT DITCH
- = GROUND
- - = GRADE

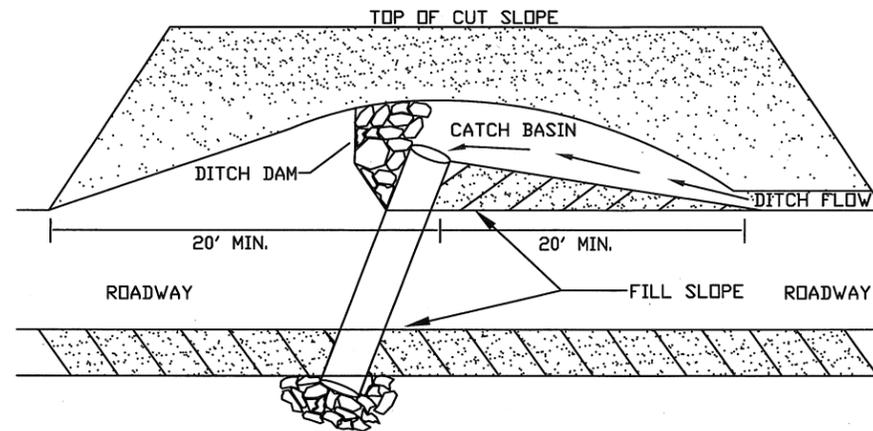
CULVERT DETAILS

CULVERT TYPES

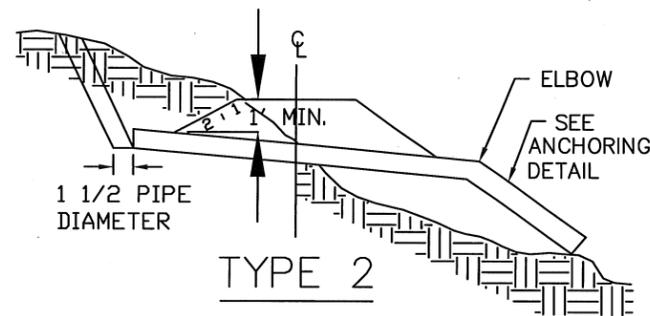
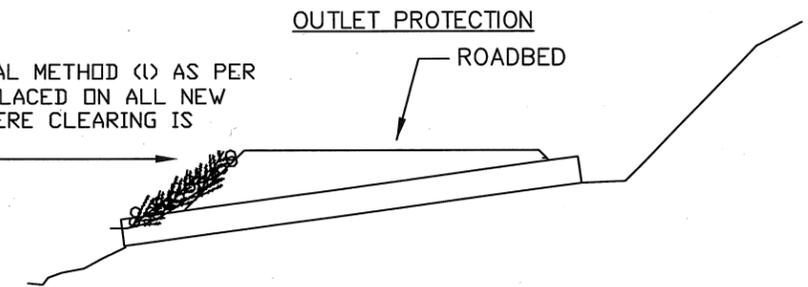


CATCH BASIN DETAIL AND INLET & OUTLET PROTECTION

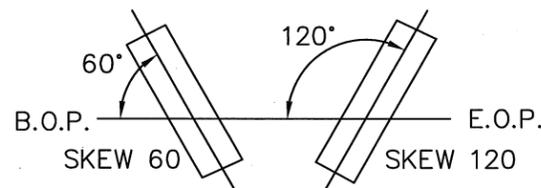
FOR ALL NEW TYPE 1, 2 & 3 CULVERT INSTALLATION



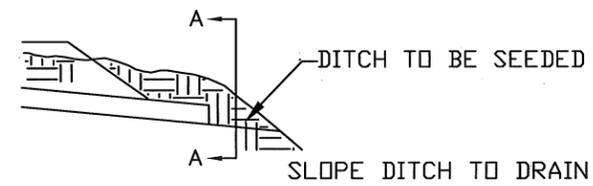
SLASH DISPOSAL METHOD (U) AS PER FSSS 203.05 PLACED ON ALL NEW CULVERTS WHERE CLEARING IS SPECIFIED.



SKEW DIAGRAM

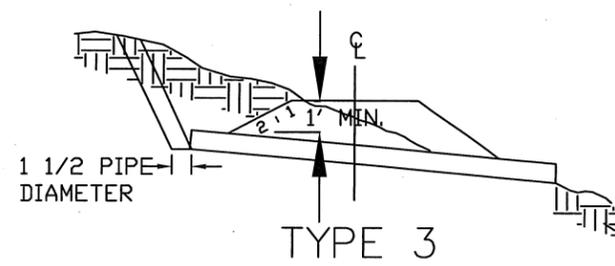
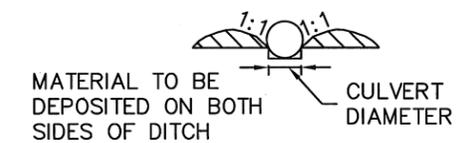


LEADOUT DITCH

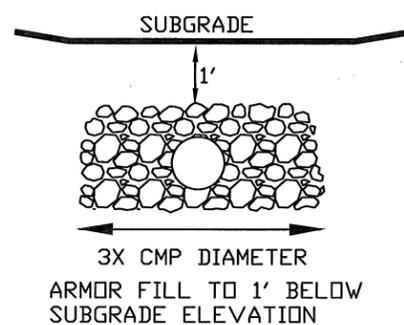


LEADOUT DITCH

SECTION A-A

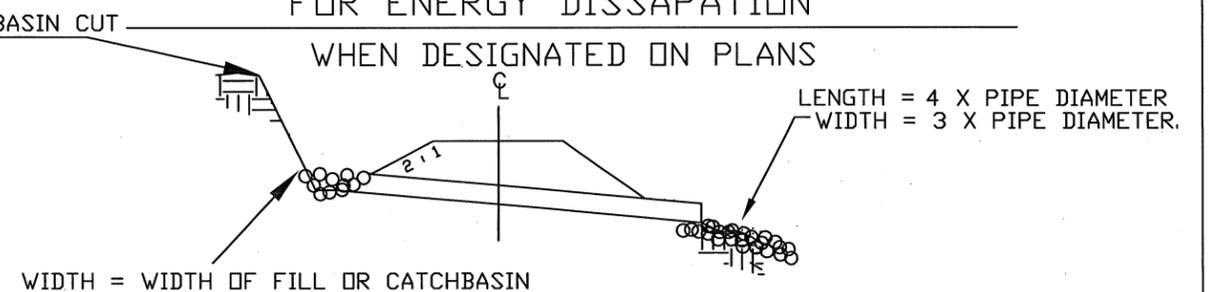


ARMORING CULVERT FILL SLOPES



RIPRAP CULVERT INLET & OUTLET FOR ENERGY DISSIPATION

WHEN DESIGNATED ON PLANS

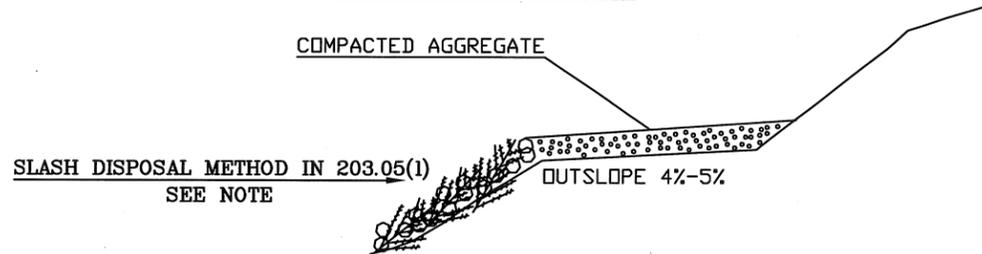


DRAINAGE DETAILS

SHEET 6	OF 11
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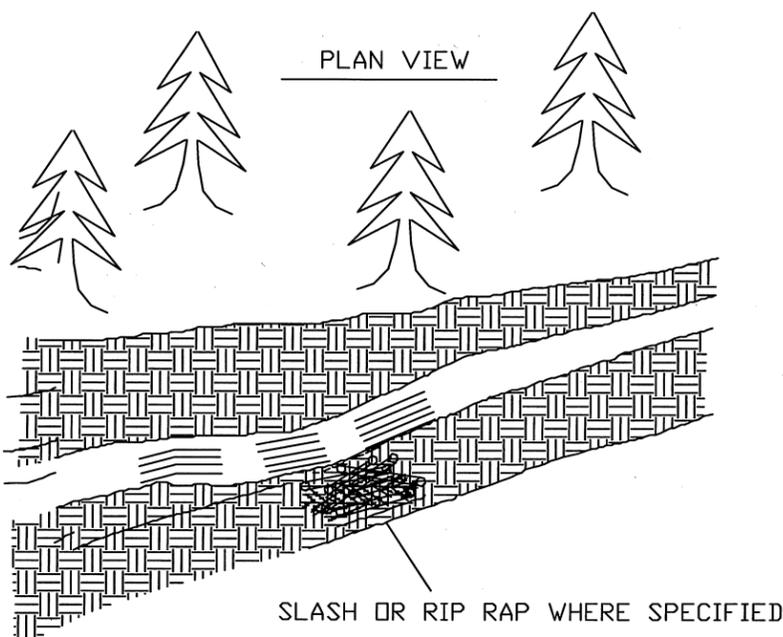
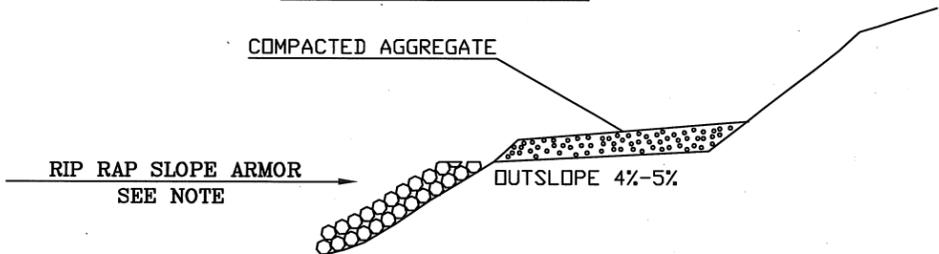
OUTSLOPE DRAIN & DRAIN DIP

SLOPE TREATMENT



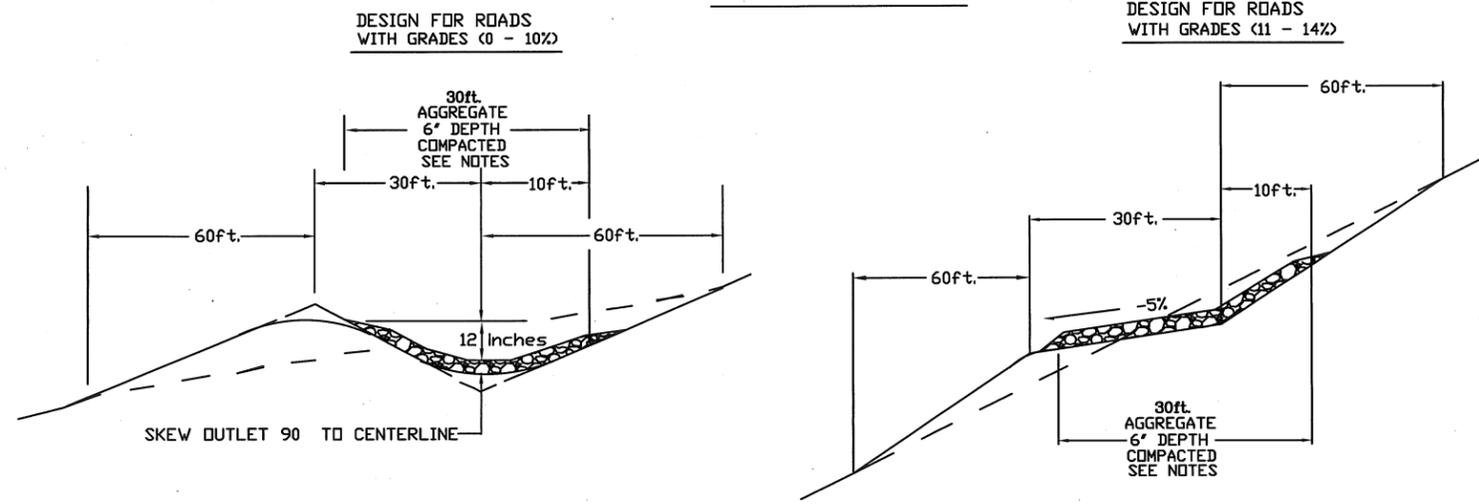
OUTSLOPE DRAIN & DRAIN DIP

SLOPE TREATMENT

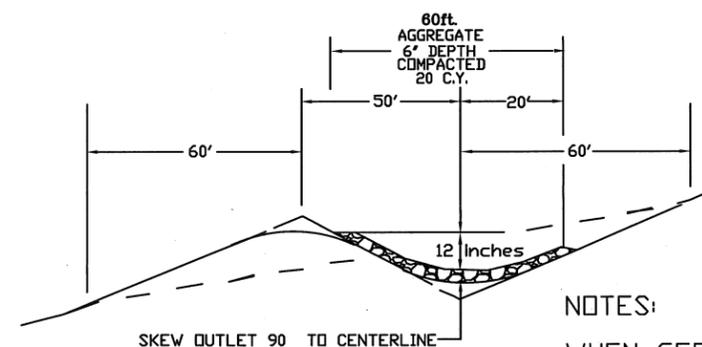


DRAIN DIP DETAILS (DD)

PROFILE VIEW



DESIGN FOR ROADS WHERE
CRITICAL VEHICLE IS A LOWBOY
WITH GRADES (0 - 7%)

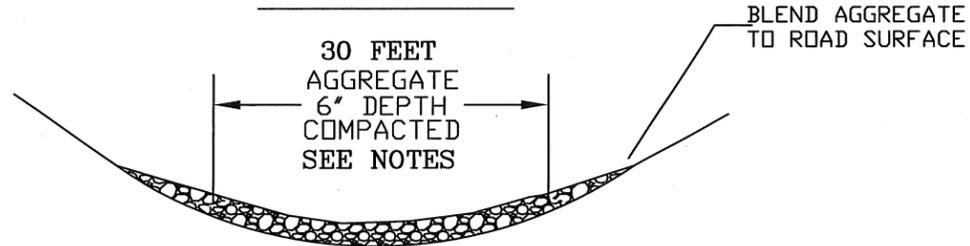


NOTES:

- WHEN GEOTEXTILE IS SPECIFIED IN DRAIN DIPS OR OUT SLOPE DRAINS, SIZE SHALL BE 15'W X 30'L
- DO NOT INTERCEPT DITCH WATER WHERE DRAIN DIPS OR OUT SLOPE DRAINS ARE DESIGNATED IN DITCHED SECTIONS, UNLESS OTHERWISE SPECIFIED.
- SLASH SHALL BE PLACED ON FILL SLOPES TO A DEPTH OF 1' AT THE LOWEST POINT IN DRAIN DIP OR OUTSLOPED DRAIN, AND EXTEND 5' EACH WAY. THIS APPLYS TO ALL NEW AND RESHAPED DRAINS THAT ARE WITHIN ALL CLEARING LIMIT AREAS.
- PLACE RIP RAP ON FILL SLOPES OF DRAIN DIP OR OUTSLOPED DRAINS WHERE SPECIFIED, 1' DEEP, EXTENDING 4' EACHWAY OF LOWEST POINT.
- 12' ROADBEDS REQUIRE 8 C.Y. OF IN PLACE AGGREGATE
14' ROADBEDS REQUIRE 10 C.Y. OF IN PLACE AGGREGATE

OUTSLOPE DRAIN DETAIL (OSD)

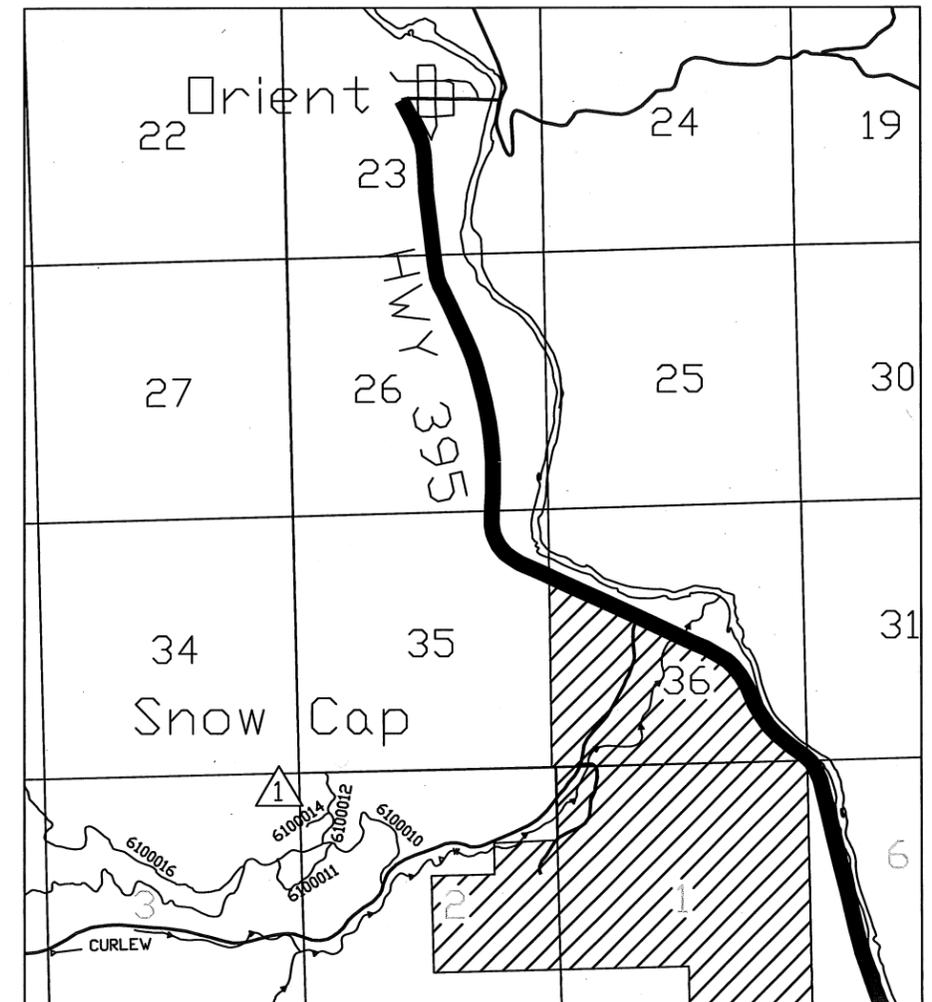
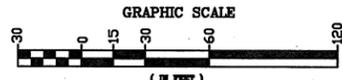
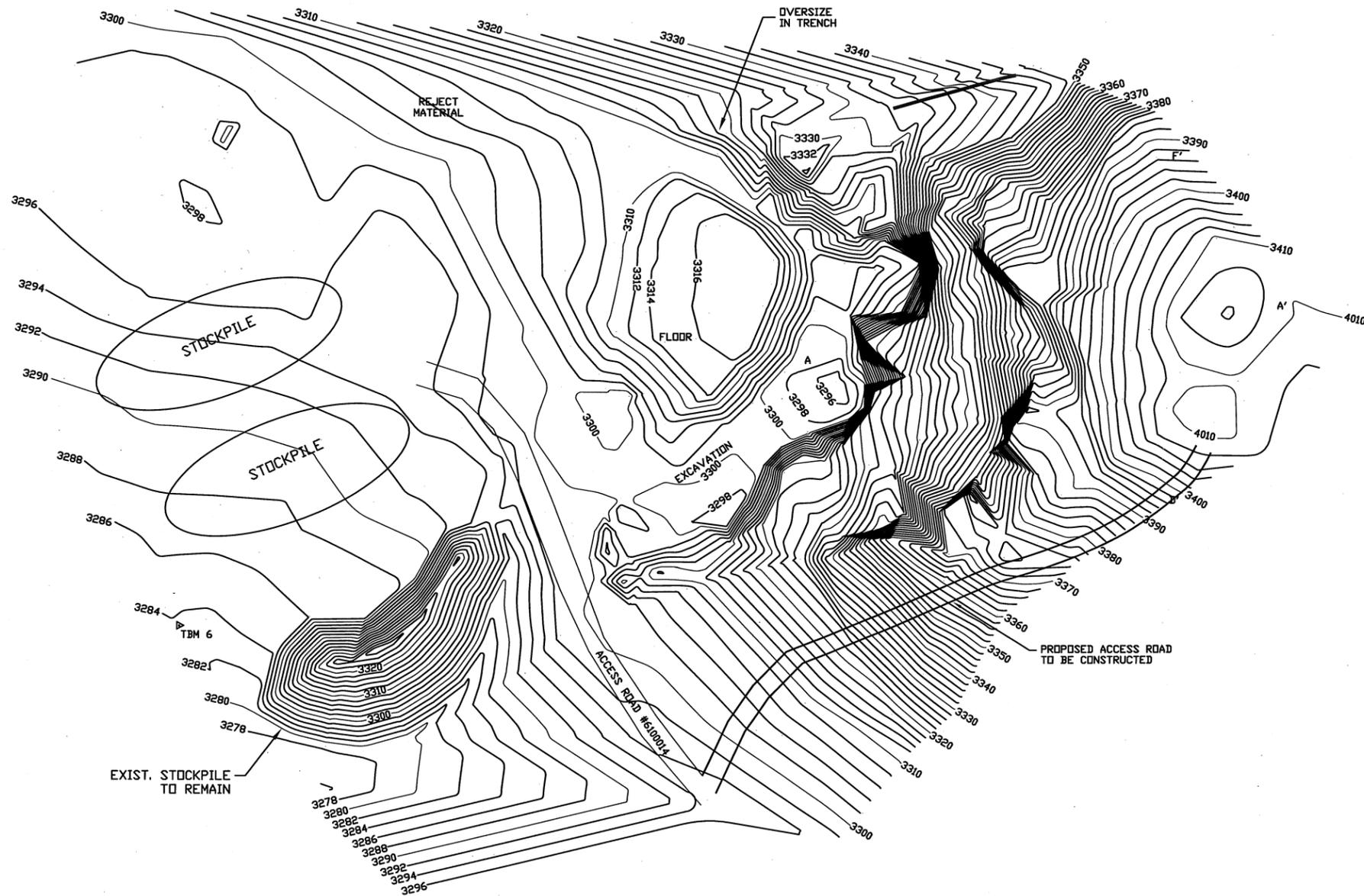
PROFILE VIEW



CULVERT LISTING

DESIGNED			AS BUILT			CORRUGATION & THICKNESS		INSTALLATION DETAILS				GA. - GAUGE AL. - ALUMINUM FE. - STEEL TF. - TO FIT SLASH DISPOSAL METHOD (L) AS PER FSSS 203.05 SHALL BE PLACED ON ALL CULVERT INSTALLATIONS WHERE CLEARING IS SPECIFIED. REMARKS
STATION OR MILE POST	DIAMETER IN INCHES	LENGTH IN FEET	STATION	DIAMETER IN INCHES	LENGTH IN FEET	2 2/3" x 1/2" .064 FE (16 GA.)	TYPE	SKEW	COMPACTION METHOD	STAKING METHOD		
Rd 1500128R												
6+80	18	22				X	1	TF	A	1		
15+60	36	36				X	1	TF	B	1		

SNOW CAP PIT
T.38N., R.36E., SEC 2, W.M.



OPERATION NOTES

- 1) ALL OPERATIONS SHALL BE IN ACCORDANCE WITH M.S.H.A AND OTHER APPLICABLE STATE AND FEDERAL REGULATIONS.
- 2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF HIS ACTIVITIES WITH OTHER USERS.
- 3) EXCAVATION AREA WILL BE STAKED BY THE ENGINEER.
- 4) CUT SLOPES SHALL BE NO STEEPER THAN 1:1 W/OUT APPROVAL OF FOREST SERVICE. STOCKPILES OF OVERBURDEN AND CUT SLOPES IN COMMON MATERIALS SHALL BE SHAPED.
- 5) EXCAVATION SHALL PROCEED UNIFORMLY VERTICALLY AND HORIZONTALLY WITH NO HUMPS OR DIPS CREATED WITHIN THE EXCAVATION AREA.
- 6) SURFACE DAMAGE WHICH CAUSES SOIL MOVEMENT AND/OR WATER POLLUTION MUST IMMEDIATELY BE CORRECTED TO FOREST SERVICE SATISFACTION. ROADS IN THE OPERATION AREA SHALL BE PROTECTED FROM EROSION BY THE PLACEMENT OF WATER CONTROL DEVICES WHEN DIRECTED BY THE FOREST SERVICE.
- 7) FINAL GRADING AND CLEANUP SHALL BE COMPLETED IMMEDIATELY AFTER ROCK REMOVAL. ALL AREAS SHALL BE FREE DRAINING.
- 8) RESHAPING OF ACCESS ROAD TO BE KEPT CURRENT WITH OPERATIONS AND AT END OF OPERATIONS.

SITE MAP COMPILED FROM U.S.F.S. SURVEYS DATED NOV. 1992
CONTOURS AT 2 FT. INTERVALS

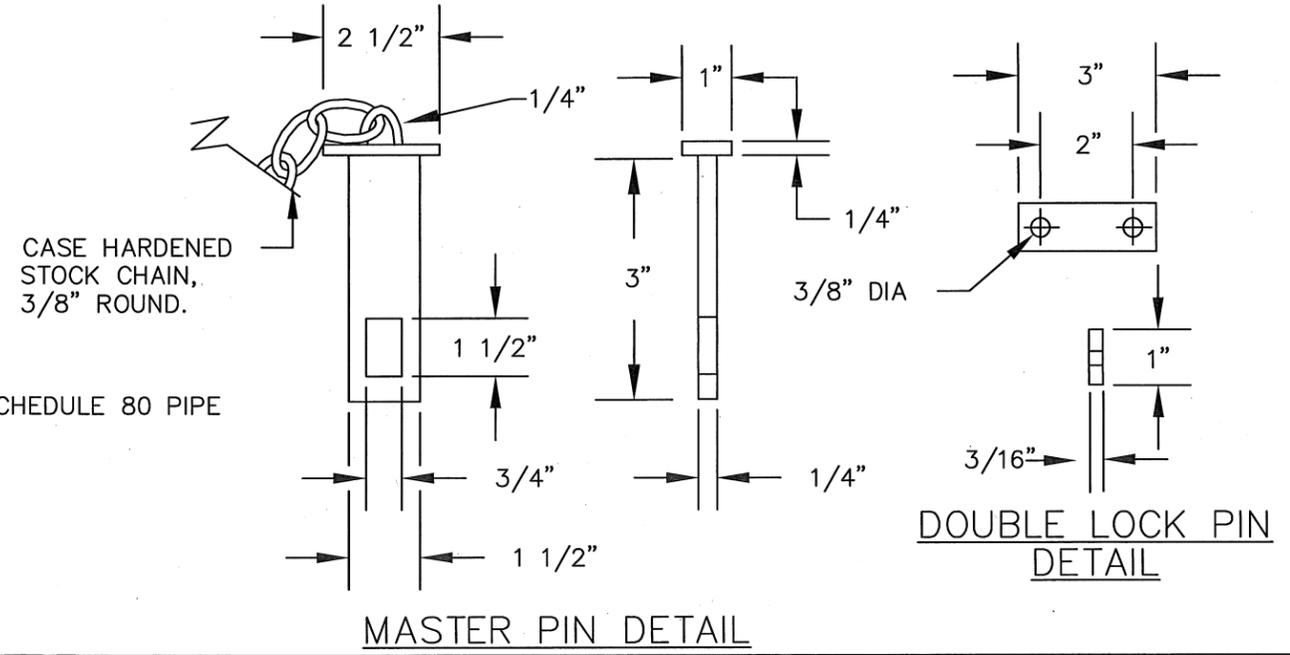
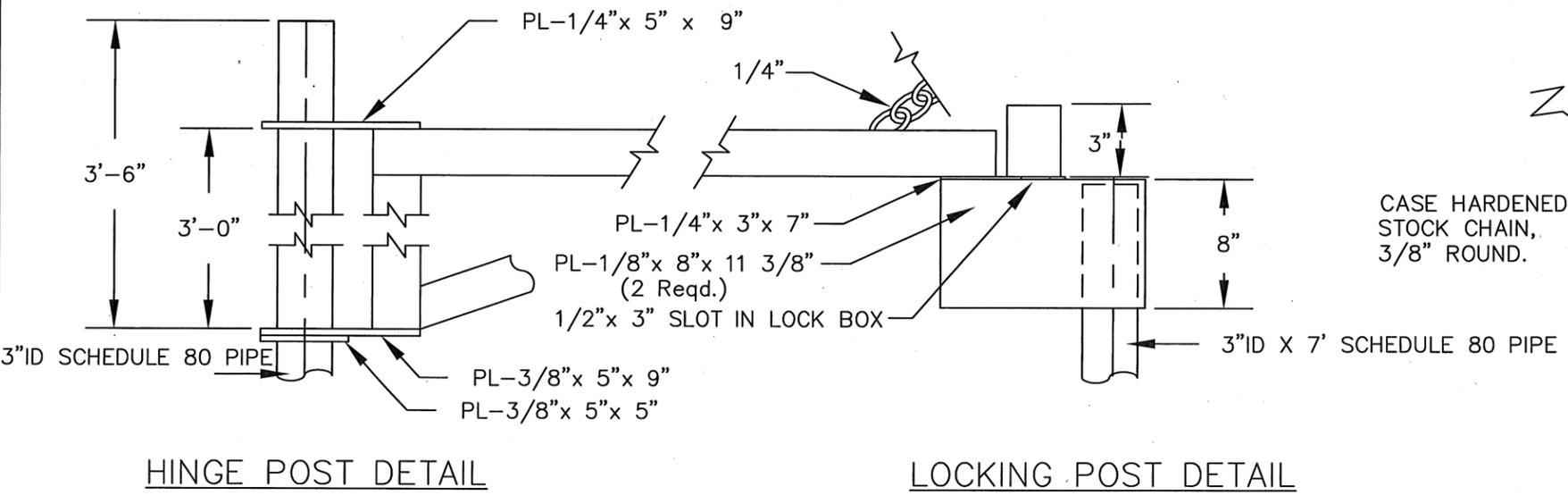
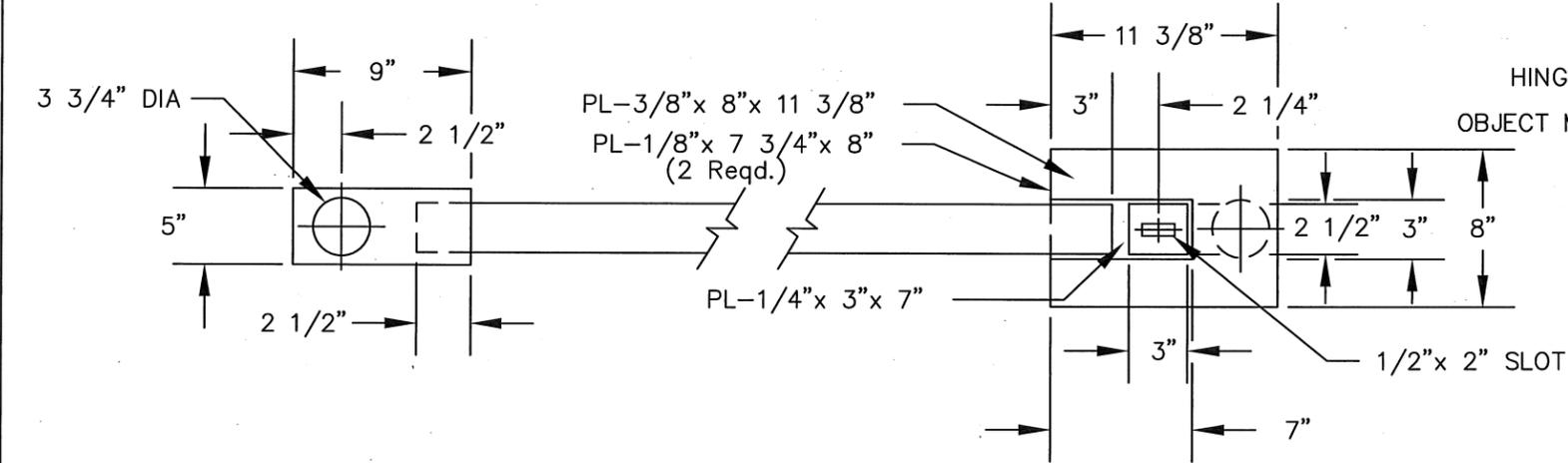
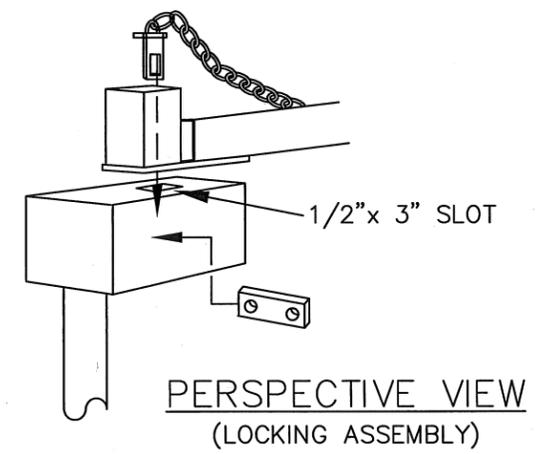
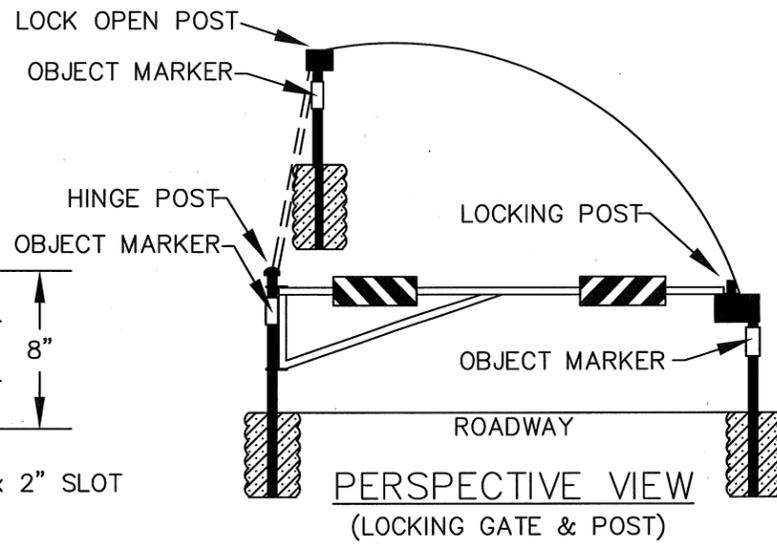
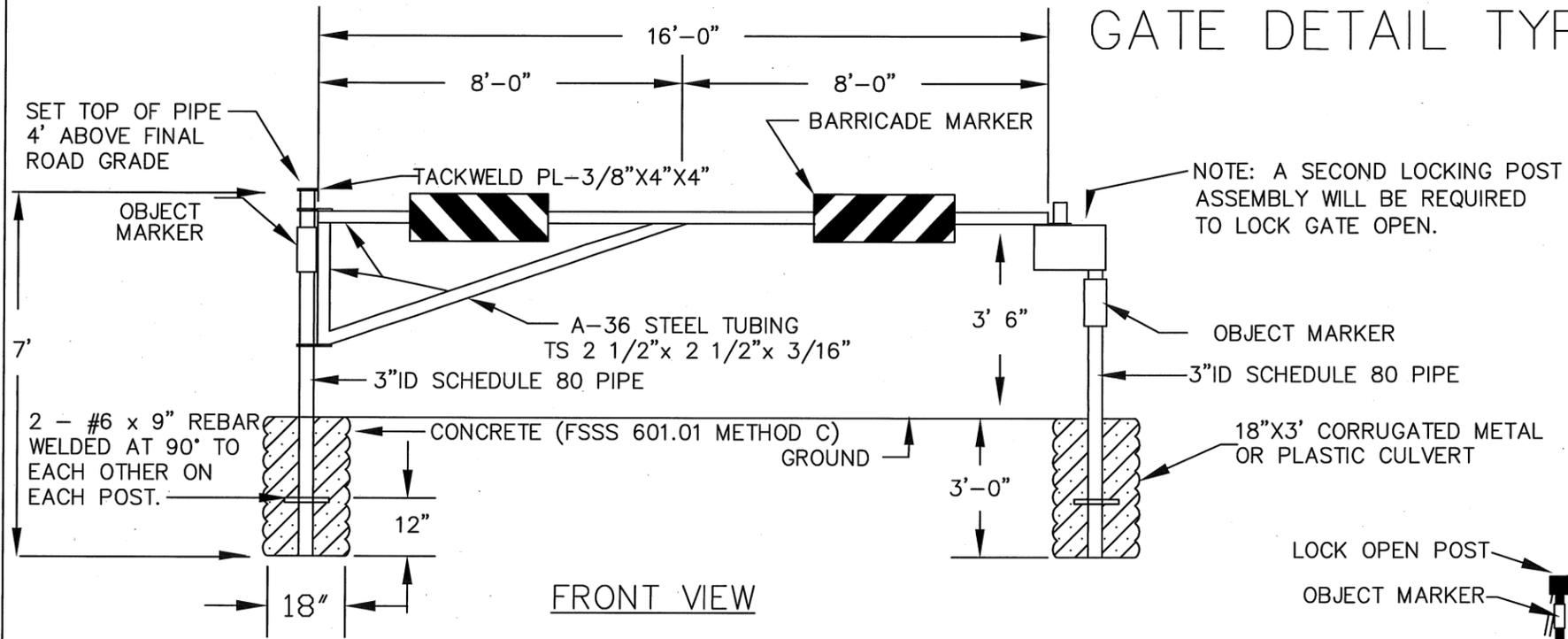
PROJECTS\SITEPLAN\SITE2\SNOWCAP.WG

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		SNOW CAP PIT SITE DEVELOPMENT PLAN KETTLE FALLS R.D. COLVILLE NAT'L FOREST KETTLE FALLS, WA	
THE PACIFIC NORTHWEST REGION	COLVILLE NATIONAL FOREST	DRAWN J.Kennedy DATE: 4/11	
FOREST ENGINEER	MINERAL MGR.	DESIGNED DATE:	SITE PLAN
DISTRICT RANGER		PHOTO DATE:	
		SURVEY DATE:	SHT. 8 OF 11

GATE DETAIL TYPE II

NOTES

1. EXTERIOR METAL EPOXY PAINT, COCOA BROWN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. BARRICADE MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 1 (FBM-L AND FBM-R). COLOR - RED & WHITE. 4 REQUIRED, 2 LEFT SIDE STRIPE, 2 RIGHT SIDE STRIPE.
3. OBJECT MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 2. 6 REQUIRED, 2 ON EACH SIDE OF POSTS DESIGNATED.
4. ALL WELDS REQUIRED TO MANUFACTURE GATE, UNLESS OTHERWISE SHOWN, SHALL BE FILLET AND SHALL BE OF THE SAME SIZE AS THE THICKNESS OF THE SMALLER OF THE TWO PIECES BEING JOINED.
5. ALL MARKERS SHALL MEET MUTCD REQUIREMENTS FOR HIGH INTENSITY PRISMATIC RETROREFLECTIVE SHEETING.



WORK SUMMARY

SHEET	OF
10	11

ROAD 1500080R

STA	WORK ITEMS
MP 3.16	STATION EQUATION - MP 3.16 = 00+00
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING & GRUBBING BEGIN CONSTRUCTING 12' ROADBED
31+15	RECONSTRUCT OSD
54+91	EOP

ROAD 1500092R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING AND GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
13+20	EOP

ROAD 1500128R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING AND GRUBBING
0+40	REMOVE EXISTING BERM
4+21	CONSTRUCT OSD BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
6+27	CONSTRUCT OSD
6+80	INSTALL NEW 18"x22' CMP BEGIN PLACING AGGREGATE 4" DEPTH BEGIN CONSTRUCTING DITCH RT
8+39	END PLACING AGGREGATE 4" DEPTH END CONSTRUCTING DITCH RT CONSTRUCT OSD REMOVE AND DISPOSE EXISTING 24"x20' CMP REMOVE AND DISPOSE EXISTING 24"x20' CMP
15+10	BEGIN PLACING AGGREGATE 6" DEPTH
15+60	INSTALL NEW 36"x36' CMP HAUL AND PLACE 40CY AGGREGATE CMP INSTALL
16+10	END PLACING AGGREGATE 6" DEPTH
20+00	CONSTRUCT TOL
23+70	CONSTRUCT OSD
26+64	CONSTRUCT DD
40+20	CONSTRUCT TAR - TOL
40+70	EOP

ROAD 1500132R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING AND GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE INSTALL TYPE II GATE
0+50	REMOVE EXISTING BERM
5+37	CONSTRUCT OSD
16+20	CONSTRUCT OSD
23+86	CONSTRUCT DD
29+20	CONSTRUCT OSD
38+22	CONSTRUCT OSD
43+25	CONSTRUCT TAR - TOL
44+00	EOP

ROAD 1520080R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING AND GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE REMOVE EXISTING BERMS
4+40	CONSTRUCT OSD
6+10	CONSTRUCT OSD
9+50	RECONSTRUCT EXISTING TOR - TAL
9+90	CONSTRUCT OSD
15+02	CONSTRUCT OSD
18+15	CONSTRUCT OSD
26+60	CONSTRUCT OSD
30+10	CONSTRUCT OSD
32+23	UNIT BOUNDARY
55+22	CONSTRUCT OSD
58+85	CONSTRUCT OSD
64+80	CONSTRUCT DD
71+51	CONSTRUCT DD
81+64	CONSTRUCT DD
96+63	CONSTRUCT TAR
111+76	CONSTRUCT OSD
120+20	CONSTRUCT OSD
125+05	BEGIN PLACING AGGREGATE 6" DEPTH
126+05	END PLACING AGGREGATE 6" DEPTH
136+10	CONSTRUCT OSD
139+16	RECONSTRUCT EXISTING TAR
144+00	CONSTRUCT TAR - TOL
144+82	EOP

WORK SUMMARY

SHEET	OF
11	11

ROAD 1520090R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING & GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
5+50	CONSTRUCT OSD
23+00	EOP

ROAD 1520115R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING AND GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
4+07	CONSTRUCT OSD
4+57	EOP

ROAD 1520095R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING & GRUBBING BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
0+55	REMOVE EXISTING BERM
17+10	CONSTRUCT DD
18+70	CONSTRUCT OSD
21+21	CONSTRUCT OSD
22+40	CONSTRUCT TAR
23+80	EOP

ROAD 1520150R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN CLEARING & GRUBBING BEGIN CONSTRUCTING 12' ROADBED
0+75	REMOVE EXISTING BERM
1+55	REMOVE EXISTING BERM
14+55	UNIT BOUNDARY #77 EOP

ROAD 1520110R

STA	WORK ITEMS
00+00	BEGIN ESTABLISHING CLEARING LIMITS BEGIN ROADBED RECONDITIONING, SCARIFY, BLADE & SHAPE
0+75	REMOVE EXISTING BERMS BEGIN CLEARING & GRUBBING
2+26	CONSTRUCT OSD
2+60	REMOVE EXISTING BERM
3+90	CONSTRUCT TAR
4+74	CONSTRUCT DD
6+40	REMOVE EXISTING BERM
8+00	CONSTRUCT OSD
9+80	EOP