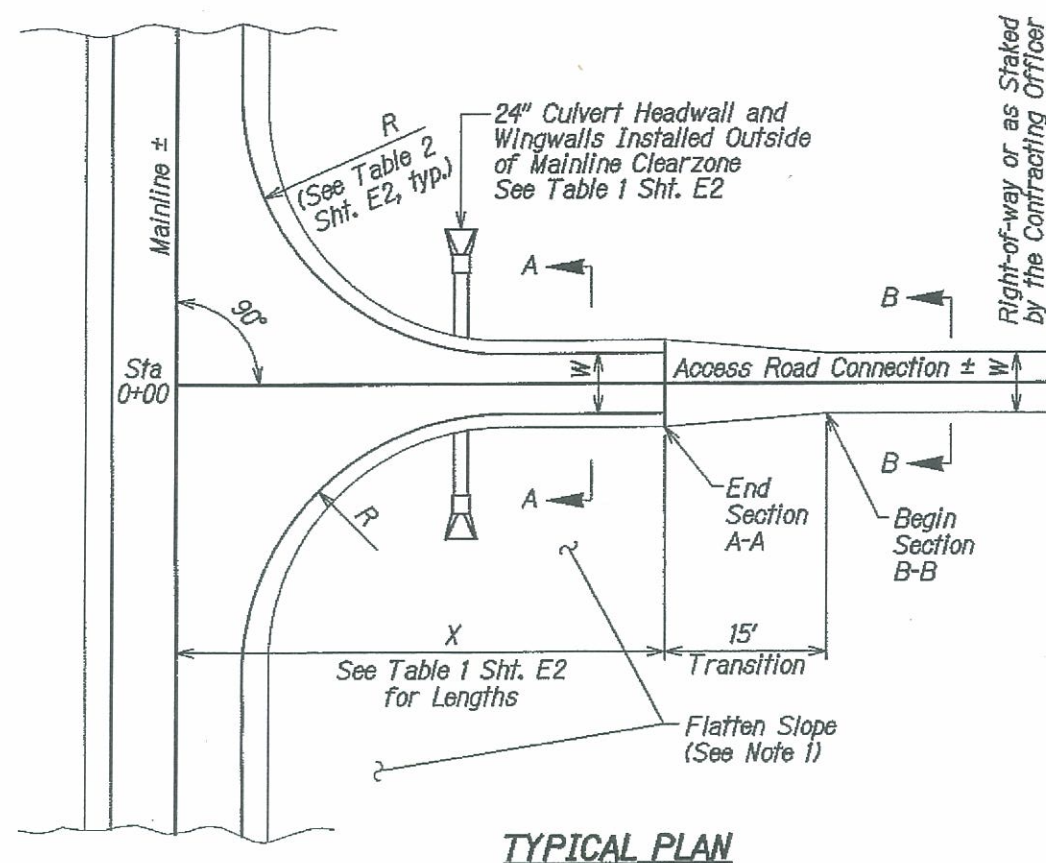
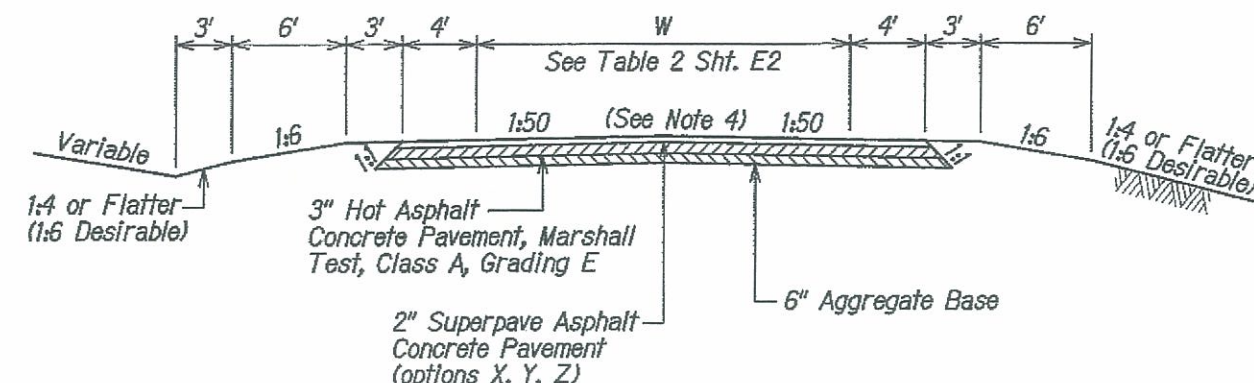


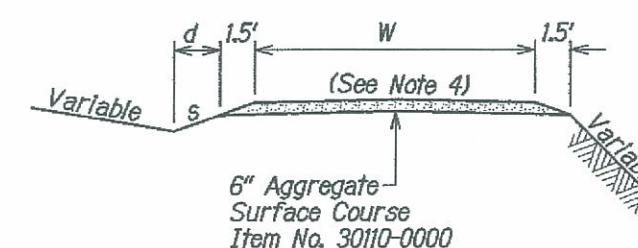
STATE	SADDLE ROAD PROJECT	SHEET NO.	TOTAL SHEETS
HI	HI HP & TI 200(2)	E1	E20



TYPICAL PLAN



TYPICAL SECTION (SECTION A-A)



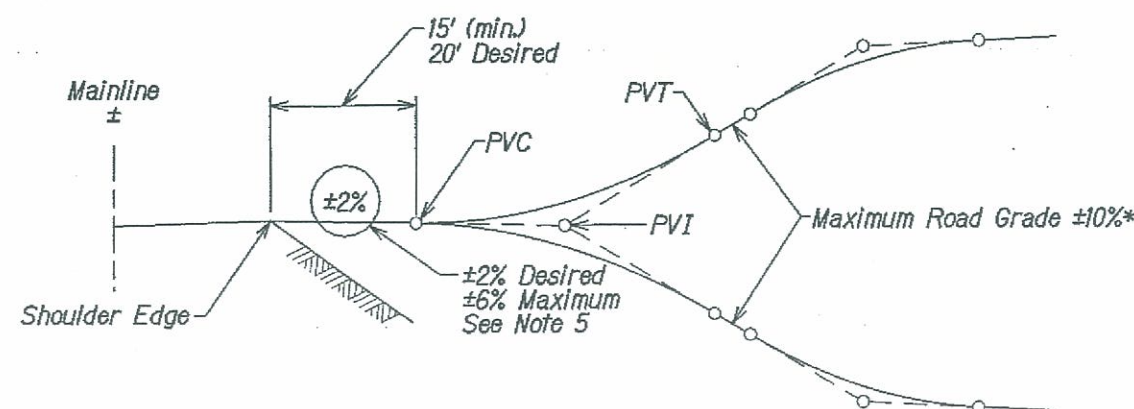
$d = 2'$ for Type 1 Approach $s = 1:3$ for Type 1 Approach
 $d = 3'$ for Type 2 Approach $s = 1:4$ for Type 2 Approach

TYPICAL SECTION (SECTION B-B)

See Table 2 Sht. E2 for Variable Definition

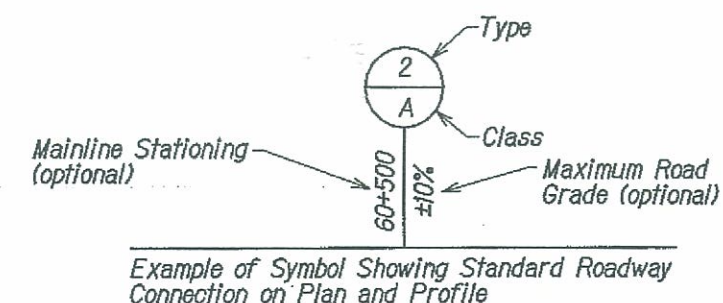
GENERAL NOTES

1. Cut and fill slope ratios and degree of slope finish for road connections shall be compatible with mainline roadway construction. Flatten cut and fill slope ratios at road connections to the maximum extent practical.
2. Under special conditions, the road connection angle shown may be varied $\pm 20^\circ$.
3. If necessary, place 24" culverts at the end of the road connection radius to provide a flatter foreslope and increased mainline recovery area.
4. Apply the normal mainline crown section to road connections with widths greater than 16'. Slope road 2% in direction of the natural terrain for road widths less than 16'.
5. Construct road connections with landing areas having grades within $\pm 2\%$. For highly superelevated roadways, the maximum rollover shall be 6%.
6. Vary radii to fit unusual field conditions. Do not reduce existing radii or widths.

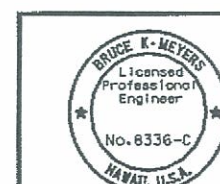


TYPICAL PROFILE

* Where it is necessary for approach roads to have grades $> 10\%$, implement additional erosion control measures.



TYPICAL SYMBOL



The work was prepared by me or under my supervision and construction of this project will be under my observation.
 Expiration Date of License 3/10

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

SPECIAL 20403 APPROACH ROAD CONNECTIONS

Scale: N.T.S.

Date: June 5, 2009

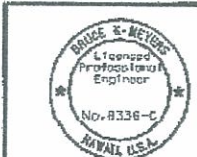
SHEET No. 1 OF 2

STATE	SHOULDER ROAD PROJECT	SHEET NO.	TOTAL SHEETS
HI	HI HP & TI 200X21	E2	E20

AS-BUILT TABLE 1					
ACCESS ROAD CONNECTION SUMMARY					
STATION	TYPE	CLASS	X (ft)	CULV. SIZE	REMARKS
1167+82 LT	1	A	44	24"	Hilo Forset Reserve Access Road
1179+50 LT	1	A	44	-	Tex's Trail Access Road
1183+20 RT	1	A	32	24"	Kaumana Trail Access Area
1243+00 RI	1	A	40	24"	1/-Mile Pullout Area Access Road
1265+00 RT	1	A	32	24"	Upper Waikakea Forest Reserve Access Road No. 1
1303+78 RT	2	A	32	24"	Tree Planting Access Road
1309+78 LT	1	A	44	24"	Hilo Restricted Watershed Access Road No. 1
1309+76 RT	1	A	30	24"	Upper Waikakea Forest Reserve Access Road No. 2
1330+50 LT	1	A	44	24"	Hilo Restricted Watershed Access Road No. 2
1351+65 LT	1	A	44	-	Hilo Restricted Watershed Access Road No. 3
1365+00 RT	1	A	32	24"	Upper Waiakea Forest Reserve Access Road No. 3
1379+78 LT	1	A	44	-	Hilo Restricted Watershed Access Road No. 4
1399+25 RT	1	A	32	24"	Upper Waiakea Forest Reserve Access Road No. 4
1444+13 LT	1	A	44	24"	Hilo Restricted Watershed Access Road No. 5
1471+08 LT	1	A	44	24"	Hilo Restricted Watershed Access Road No. 6
1492+70 RT	1	A	32	24"	Upper Waiakea Forest Reserve Access Road No. 5
1526+68 LT	1	A	45	-	Hilo Restricted Watershed Access Road No. 7
1540+78 RT	1	A	30	-	Upper Waiakea Forest Reserve Access Road No. 6

**UWFR = Upper Waiakea Forest Reserve
 **HRW = Hilo Restricted Watershed

TABLE 2				
TYPE	CLASS	WIDTH W (ft)	RADIUS R (ft)	SAMPLE APPLICATION
1	A	12	16.50	Field Access
1	B	14	26	Minimum 1-Way Use
1	C	16	26	Farm Equipment
1	D	16	40	Logging Truck Use
2	A	18	26	Minimum 2-Way Use
2	B	20	26	ADT > 10
2	C	22	40	ADT > 25
2	D	24	40	ADT > 100
2	E	28	50	ADT > 200



The work was prepared by me or under my supervision and construction of this project will be under my supervision.
 [Signature]
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 Bruce E. Meyers, P.E.
 License No. 8336-C
 Bruce E. Meyers, P.E.

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
SPECIAL 20403 APPROACH ROAD CONNECTIONS	
Scale: N.T.S.	Date: June 5, 2009
SHEET NO. 2 OF 2	

Approach Road: 1167+82 LT
Staking Notes

Description	Station	Elevation	Offset	Northing	Easting
Subgrade elevations:					
Lt Catch Point*	0+44.0	5088.86	-19.40	-14546.42	-81219.10
3' Spacing	0+44.0	5090.03	-12.40	-14546.44	-81212.10
Lt Edge Pvmt2	0+44.0	5090.07	-10.00	-14546.45	-81209.70
Lt Edge Pvmt	0+44.0	5089.15	-10.00	-14546.45	-81209.70
Centerline	0+44.0	5088.74	0.00	-14546.49	-81199.70
Rt Edge Pvmt	0+44.0	5088.33	10.00	-14546.53	-81189.70
Rt Edge Pvmt2	0+44.0	5089.25	10.00	-14546.53	-81189.70
3' Spacing	0+44.0	5089.15	12.43	-14546.54	-81187.26
Rt Catch Point*	0+44.0	5087.07	22.43	-14546.59	-81177.27
The following elevations are to finished grade:					
Lt Catch Point*	0+55.3	5087.44	-17.74	-14538.47	-81218.67
Lt Shoulder	0+55.3	5090.11	-9.23	-14536.96	-81210.28
Centerline	0+55.3	5089.82	0.00	-14535.34	-81201.20
Right Shoulder	0+55.3	5089.53	9.28	-14533.70	-81192.07
Rt Ditch Bottom	0+55.3	5085.86	16.63	-14532.40	-81184.84
Lt Ditch Bottom	0+67.6	5086.61	-16.68	-14527.90	-81219.99
Lt Shoulder	0+67.6	5090.05	-7.50	-14525.33	-81211.18
Centerline	0+67.6	5089.90	0.00	-14523.22	-81203.98
Right Shoulder	0+67.6	5089.75	7.50	-14521.11	-81196.78
Rt Ditch Bottom	0+67.6	5086.39	17.80	-14518.26	-81187.02
Lt Slope Stake	0+83.5				
Lt Ditch Bottom	0+83.5	5088.84	11.50	-14511.14	-81219.49
Lt Shoulder	0+83.5	5090.17	-7.50	-14510.02	-81215.65
Centerline	0+83.5	5090.02	0.00	-14507.91	-81208.46
Right Shoulder	0+83.5	5089.87	7.50	-14505.80	-81201.26
Rt Ditch Bottom	0+83.5	5088.54	11.50	-14504.68	-81197.42
Rt Slope Stake	0+83.5				
Lt Slope Stake	1+00.0				
Lt Ditch Bottom	1+00.0	5089.62	-9.50	-14494.74	-81222.21
Lt Shoulder	1+00.0	5090.29	-7.50	-14494.18	-81220.29
Centerline	1+00.0	5090.14	0.00	-14492.07	-81213.09
Right Shoulder	1+00.0	5089.99	7.50	-14489.97	-81205.89
Rt Ditch Bottom	1+00.0	5089.32	9.50	-14489.41	-81203.97
Rt Slope Stake	1+00.0				

* Catch points are to the mainline cut slope, not original ground.

Note: Raise the ditch bottom at 1168+00 LT to 5085.65

Raise the ditch bottom at 1168+50 LT to 5083.40