Waitsfield BRF 013-4(39)

Given

POB	10+00.00	609 547.8383	1553 216.4086
N 12-40-58.83 W			
AZ 347.316992			
POE	19+14.37		
	914.37	610 439.897	1553 015.652

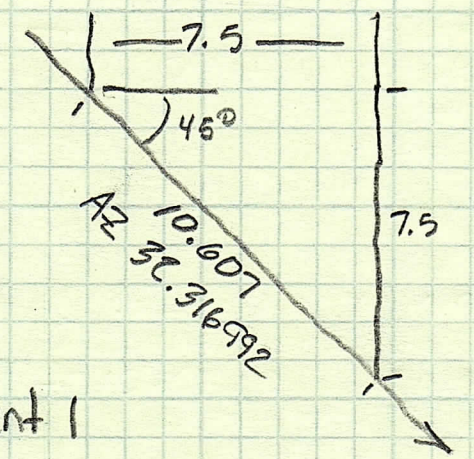
℄ BRG Abut 1	13+56.00	609 895.152	1553 138.246
	172.00		
℄ BRG Abut 2	15+28.00	610 062.955	1553 100.482
		Δ 167.803	Δ 37.764

Span 172.00

AZ 347.316 992
45
392
- 360
℄ BRG AZ 32.316 992

Waitsfield BRF 013-4(39)

Girder Spacing 7'-6"



$\cos 45° = \frac{7.5}{hyp}$

$hyp = 10.607'$

$\tan 45° = \frac{opp}{7.5} = 7.5$

10.607
× spaces 4
42'-5⅛"
close enough

Abutment 1

G1	-21.213	609 877.225	1553 126.905	
		Δ 8.963	Δ 5.670	10.606
G2	-10.607	609 886.188	1553 132.575	
		Δ 8.964	Δ 5.671	
G3	0	609 895.152	1553 138.246	
		Δ 8.964	Δ 5.671	
G4	+10.607	609 904.116	1553 143.917	
		Δ 8.963	Δ 5.670	
G5	+21.213	609 913.079	1553 149.587	

Abutment 2

G1	-21.213	610 045.028	1553 089.141	
		Δ 8.963	Δ 5.670	
G2	-10.607	610 053.991	1553 094.811	
		Δ 8.964	Δ 5.671	
G3	0	610 062.955	1553 100.482	
		Δ 8.964	Δ 5.671	
G4	10.607	610 071.919	1553 106.153	
		Δ 8.963	Δ 5.670	
G5	21.213	610 080.882	1553 111.823	

G1 - G1	Δ 167.803	Δ 37.764	172.000
G2 - G2	Δ 167.803	Δ 37.764	
G3 - G3	Δ 167.803	Δ 37.764	
G4 - G4	Δ 167.803	Δ 37.764	
G5 - G5	Δ 167.803	Δ 37.764	

Waitsfield BRF 013-4(39)

Abutment 1 WP ℄ BRG 13+56.00

609 895.152	1553 138.246

AZ 32.316992

WP_1 -31.229	609 868.760	1553 121.551
	Δ 49.262	Δ 31.162 58.291
WP_2 27.062	609 918.022	1553 152.713
58.291'		

Abutment 2 WP ℄ BRG 15+28

610 062.955	1553 100.482

AZ 32.316992

WP_3 -23.250	610 043.306	1553 088.052
	Δ 41.833	Δ 26.463 49.500
WP_4 26.250	610 085.139	1553 114.515
49.500'		

Waitsfield BRF 031-4(39)

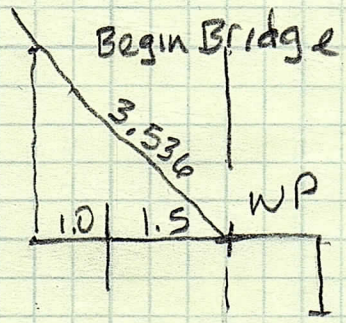
Piles

WP_4	610 085.139	1553 114.515
AZ 32.316992		
P_{10} − 3.5'	610 082.181	1553 112.644
−90.−		
AZ 302.316992		
0.50 →	610 082.448	1553 112.221
P_9 − 4.75 →	610 078.434	1553 109.682
P_8 − 4.375 →	610 074.737	1553 107.343
P_7 − 4.375 →	610 071.040	1553 105.004
P_6 − 4.00 →	610 067.660	1553 102.866
P_5 − 8.75 →	610 060.265	1553 098.188
P_4 − 4.00 →	610 056.885	1553 096.050
P_3 − 4.375 →	610 053.188	1553 093.711
P_2 − 4.375 →	610 049.491	1553 091.372
P_1 − 4.583 →	610 045.618	1553 088.922
WP_3 − 2.417	610 043.575	1553 087.630
AZ 302.316992		
−0.50 →	610 043.308	1553 088.053

Waitsfield BRF 031-4(39)

Approach Slab 1

WP ℄ BRG 13+56.00
609 895.152 1553 138.246



$\cos 45° = \frac{2.5}{hyp} = 3.536'$

Begin Bridge WP H 13+52.46 ✓

AZ 347.316992 −3.536

609 891.702 1553 139.022

WP C
13+27.46 −25.00

609 867.312 1553 144.511

Δ 9.437 Δ 5.970 11.167 ✓

AZ 32.316992 WP B
−11.167

609 857.875 1553 138.541

Δ 9.437 Δ 5.970

WP D
11.167

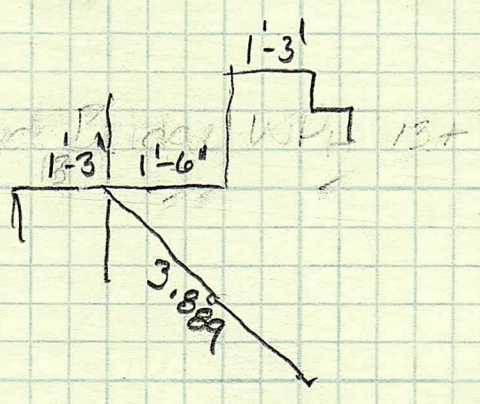
609 876.749 1553 150.481

Waitsfield BRF 013-4(39)

Approach Slab 2

WP ℄ BRG 15+28.00

610 062.955	1553 100.482



$\cos 45^\circ = \frac{2.75}{hyp} = 3.889$

End Bridge 15+31.89 ✓

WP C

610 066.749 1553 099.628

Az 347.316992 3.889

WP H

15+56.89 +25.00 | 610 091.139 | 1553 094.139 |

Az 32.316992 WP G

-11.167 610 081.702 1553 088.169

WP J

11.167 610 100.576 1553 097.331

		ΔN	ΔE	
15+56.89 ✓	End Approach Slab 2			
13+27.46 ✓	Begin Approach Slab 1			
229.43'		223.827	50.372	229.425 ✓

☺