

SURVEYOR	DATE	Y	M	D	IDENTIFICATION NO.
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	MAIN AND SPUR ROADS				FIREGUARDS AND BACKSPAR TRAILS			
				TOTAL				TOTAL
LENGTH (m)								
AVERAGE WIDTH (m)								
STD WIDTH (m)								
NUMBER OF WIDTHS MEASURED								
√ Number of Widths								
CI WIDTH (m): CI _{Width}								
Area (ha)								
AREA ERROR (ha): "AE"								
AE ²								
GCA OR NAR (ha)			GCA (ha)				NAR (ha)	
AREA (%)								
AREA ERROR (%)								
AREA % LCL ₉₀								

CALCULATION PROCEDURE

- Complete separate summaries for:
 - main and spur roads, and
 - fireguards and backspar trails (for areas approved prior to full compliance with the Forest Practices Code).

- Calculate the average and standard deviation (STD) of the widths measured.

- Calculate the road width confidence interval (CI_{Width}): $CI_{Width} = \frac{t \times STD_{Width}}{\sqrt{\text{Number of Widths}}}$ where "t" is from the t Table

- Multiply length (in metres) by average width (in metres) and divide by 10,000 to calculate the road area in hectares. Enter the sum of the road areas in the column labelled "Total".

- Calculate Area Errors (AE) in hectares for each type of road: $AE = \text{Road Area} \times \sqrt{.0025 + \frac{(CI_{Width})^2}{\text{Average Width}^2}}$

where Total Road Area = the total area disturbed by all haul roads, or all fireguards and backspar trails, as appropriate.

- Calculate the squares of the Area Errors (AE) and enter the sum of these squares in the column labelled "Total".

- Calculate the percentage area disturbed: $\text{Area \%} = \frac{\text{Area (ha)}}{\text{GCA or NAR (ha)}} \times 100\%$.

Use Gross Cutblock Area (GCA) for permanent roads, and Net Area to be Reforested (NAR) for fireguards and backspar trails.

- Calculate the Area Error in hectares: $\text{Area Error (ha)} = \sqrt{\text{sum of } AE^2}$

- Calculate the Area Error in percent: $\text{Area Error (\%)} = \frac{\text{Area Error (ha)}}{\text{GCA or NAR (ha)}} \times 100\%$.

- Calculate the lower 90% confidence limit for area % (LCL₉₀): $\text{Area \%} - \text{Area Error \%}$

t TABLE	
90%, one-sided	
n - 1*	t
5	1.476
6	1.440
7	1.415
8	1.397
9	1.383
10	1.372
11	1.363
12	1.356
13	1.350
14	1.345
15	1.341
16	1.337
17	1.333
18	1.330
19	1.328
20	1.325
21	1.323
22	1.321
23	1.319
24	1.318
25	1.316
26	1.315
27	1.314
28	1.313
29	1.311
30	1.310
>30	1.310

where "n" is the number of road widths or grid centres (not transects).