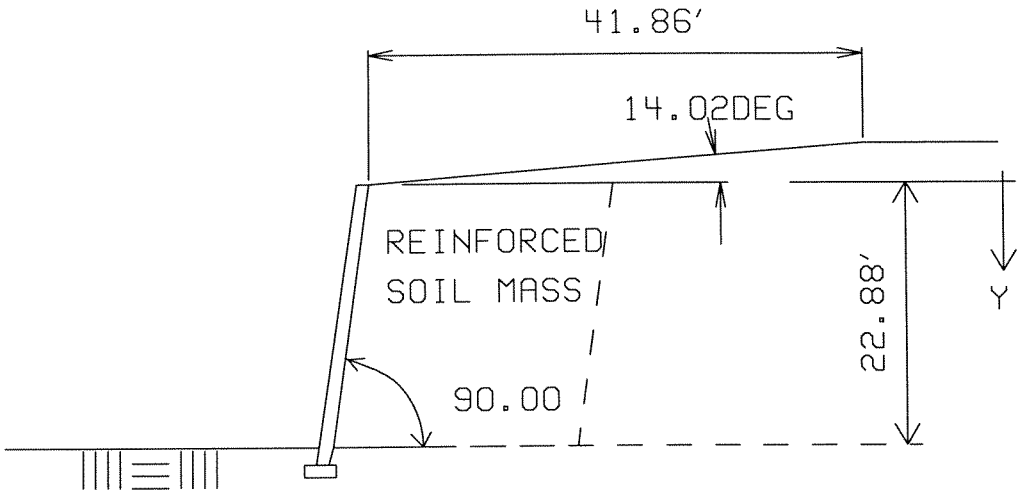
FIRM:Your Firm | JOB NO. | SHEET NO: 1
MADE BY:KJH DATE:05-21-2006 | CHECKED BY: | DATE:
TITLE:Example GLOBSTAB calculation

==========

EMBANKMENT SLOPE STABILITY:STA 300+00 TO 325+00



Design Data:

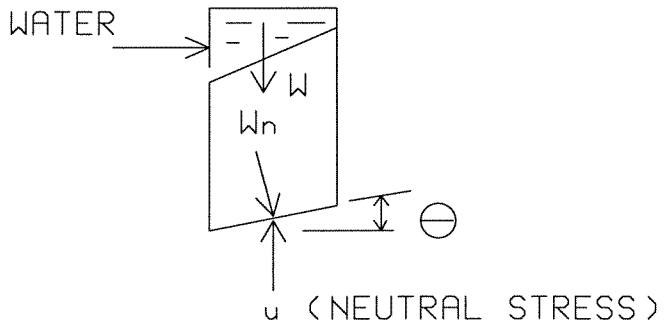
Layer 1 data:

Dry or moist weight= .119 kcf, Saturated weight = .119 kcf

Int. angle of friction, Phi= 30.000 deg., Cohesion, c= 0.000 ksf

==========

EMBANKMENT SLOPE STABILITY:STA 300+00 TO 325+00



Theory:

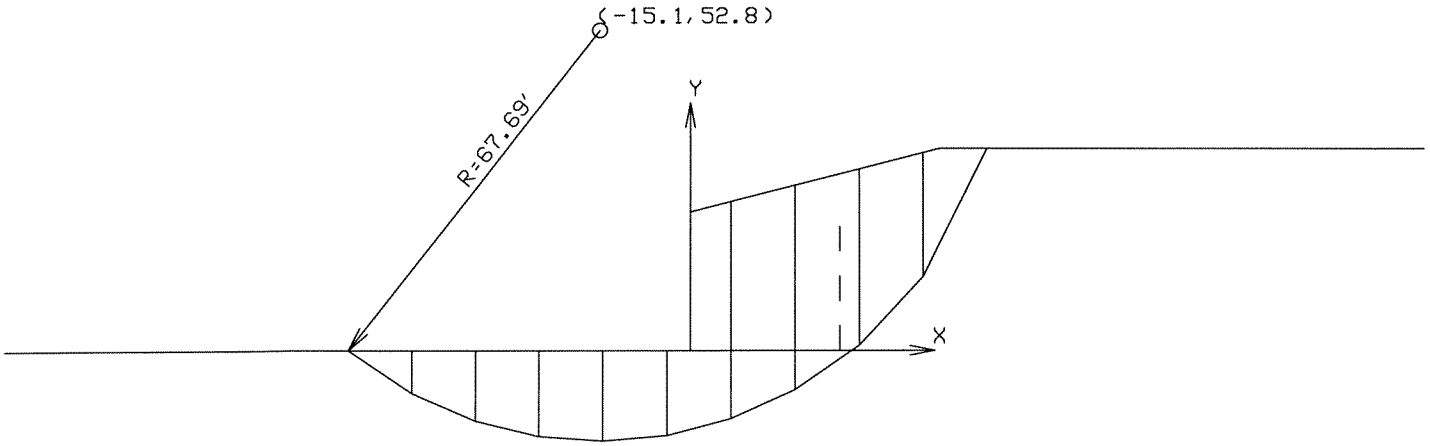
The failure surface will be divided into ten equal slices. The weight of each slice is calculated, including the weight of water, if present.

The friction force is computed based on the normal force component, Wn, of the effective weight. The effective weight is defined as the weight of the slice minus the bouyant force due to displaced water.

Friction Force= C x Length along bottom of slice + Wn * Tan(θ)

FIRM:Your Firm JOB NO. SHEET NO: 3
MADE BY:KJH DATE:05-21-2006 CHECKED BY: DATE:
TITLE:Example GLOBSTAB calculation

EMBANKMENT SLOPE STABILITY:



Failure surface with minimum factor of safety for all trials (below):

(Note: Cartesian (X,Y) coordinates are indicated)

Slice No.	Rt. Side Coordinates X	Y(top)	Y(bot)	Weight (k)	Tangential Force (k)	Effective Weight(k)	Normal Force(k)	Friction Force(k)
1	-46.7	0.0	-7.0	4.52	-2.47	2.16	1.81	1.04
2	-36.0	0.0	-11.5	11.95	-4.65	5.73	5.28	3.05
3	-25.3	0.0	-14.0	16.49	-3.79	7.91	7.70	4.44
4	-14.5	0.0	-14.8	18.61	-1.33	8.93	8.91	5.14
5	-3.8	0.0	-13.9	18.50	1.61	8.88	8.85	5.10
6	6.8	24.5	-11.2	30.87	7.59	22.47	21.78	12.57
7	17.5	27.2	-6.4	40.78	16.52	34.88	31.89	18.41
8	28.2	29.9	.8	33.02	18.64	30.86	25.47	14.70
9	38.9	32.6	12.1	21.05	15.26	21.05	14.50	8.37
10	49.7	33.3	33.3	6.90	6.15	6.90	3.11	1.79
				Total T=	53.54		Total F=	74.67

Overturning moment, Mo = T x R = 53.54 x 67.69 = 3624.88 k'
Righting moment, Mr = F x R = 74.67 x 67.69 = 5055.19 k'
Factor of safety, F.S.= Mr/Mo = 5055.19/ 3624.88
= 1.39 < 1.5 (NG)