

# ENVIROLOK GEOGRID ESTIMATION CHARTS

THESE TABLES ARE PROVIDED FOR ESTIMATING PURPOSES ONLY. THEY SHOULD NOT BE USED OR RELIED UPON FOR ANY APPLICATION WITHOUT VERIFICATION OF ACCURACY, SUITABILITY, AND APPLICABILITY FOR THE PLANNED USE BY THE USER. A FINAL, PROJECT-SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL CIVIL ENGINEER (P.E.) BASED ON ACTUAL SITE CONDITIONS. PREPARATION OF THESE TABLES DID NOT INCLUDE CONSIDERATION OR ANALYSIS OF GLOBAL SLOPE STABILITY OR ALLOWABLE BEARING CAPACITY OF FOUNDATION SOILS. THESE MUST BE REVIEWED FOR EACH PROJECT BY A QUALIFIED GEOTECHNICAL ENGINEER.

THERE ARE THREE TABLES PROVIDED IN THIS GUIDE TO HELP ESTIMATE GEOGRID FOR DIFFERENT WALL LOADING SITUATIONS - LEVEL BACKFILL, SLOPING BACKFILL, AND SURCHARGES. TO ESTIMATE GEOGRID QUANTITIES, FIRST LOOK UNDER THE COLUMN AND APPROPRIATE FOR PROJECT SOILS, DETERMINE THE HEIGHT (H) OF THE PROPOSED WALL AND READ ACROSS THE ROW (UNDER APPROPRIATE SOIL COLUMN) TO APPROXIMATE GEOGRID TYPE, NUMBER OF LAYERS, AND LENGTHS OF EACH LAYER.

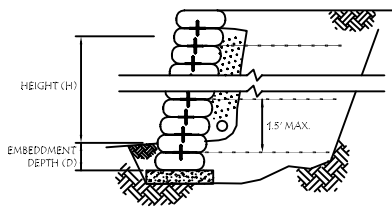
THESE DESIGN CHARTS ASSUME THE FOLLOWING CONDITIONS:

- UNIFORM SOIL CONDITIONS
- STABLE FOUNDATION SOILS
- LEVEL GRADE IN FRONT OF THE WALL
- NO GROUNDWATER/WATER LOADS
- SLOPES AND LOADS BEHIND THE WALL AS SHOWN
- NO ADDITIONAL LOADING BEHIND WALL (SUCH AS TIERED WALLS, BUILDING LOADS, ETC.)

DESIGN STANDARDS AND PROPERTIES USED TO DEVELOP THESE CHARTS WERE:

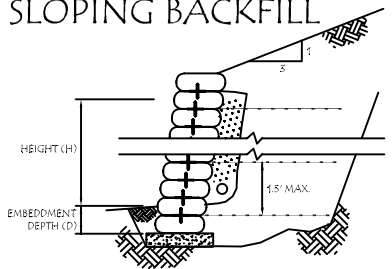
- DESIGN METHODOLOGY IN GENERAL ACCORDANCE WITH NCMA DESIGN MANUAL FOR SRWS.
- UNIT WEIGHT OF SOIL = 120 PCF
- INTERNAL FRICTION ANGLE OF SOIL AS SHOWN ON CHARTS
- LONG TERM DESIGN STRENGTH OF THE GEOGRID (LTDS)
- MIRAFI 3XT = 1250 LB/FT (OR EQUIVALENT)

## LEVEL BACKFILL



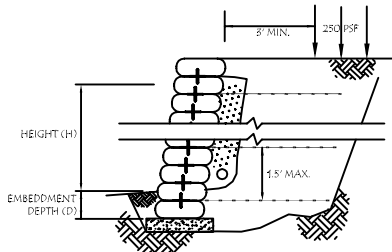
GRAVEL (PHI=34 DEGREES)				SAND (PHI=30 DEGREES)				SILT/CLAY (PHI=28 DEGREES)			
H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS
4	0.5	0	0	4	0.5	4.5	3	4	0.5	5.0	3
5	0.5	4.0	4	5	0.5	5.0	4	5	0.5	5.5	4
6	0.5	5.0	5	6	0.5	5.5	5	6	0.5	6.0	5
7	1.0	5.5	6	7	1.0	6.0	6	7	1.0	6.5	6
8	1.0	6.5	6	8	1.0	7.0	6	8	1.0	7.5	6

## SLOPING BACKFILL



GRAVEL (PHI=34 DEGREES)				SAND (PHI=30 DEGREES)				SILT/CLAY (PHI=28 DEGREES)			
H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS
4	0.5	4.5	3	4	0.5	5.0	3	4	0.5	5.0	3
5	0.5	4.5	4	5	0.5	5.0	4	5	0.5	6.0	4
6	0.5	5.0	5	6	0.5	6.0	5	6	0.5	6.5	5
7	1.0	6.0	6	7	1.0	7.0	6	7	1.0	8.5	6
8	1.0	6.5	6	8	1.0	7.5	6	8	1.0	10.0	6

## SURCHARGE BACKFILL



GRAVEL (PHI=34 DEGREES)				SAND (PHI=30 DEGREES)				SILT/CLAY (PHI=28 DEGREES)			
H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS	H (FEET)	D (FEET)	L (FEET)	GEOGRID LAYERS
4	0.5	4.5	4	4	0.5	5.0	4	4	0.5	6.0	4
5	0.5	5.0	4	5	0.5	6.0	4	5	0.5	6.5	4
6	0.5	6.0	5	6	0.5	6.5	5	6	0.5	7.0	5
7	1.0	6.5	6	7	1.0	7.5	6	7	1.0	8.0	6
8	1.0	7.0	6	8	1.0	8.0	6	8	1.0	8.5	6

THESE DETAILS ARE INTENDED FOR PRELIMINARY DESIGN PURPOSES ONLY. FINAL DETERMINATION OF THE SUITABILITY OF ANY INFORMATION OR MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. A FINAL PROJECT SPECIFIC DESIGN SHOULD BE PREPARED BY A QUALIFIED, LICENSED, PROFESSIONAL ENGINEER.



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ENVIROLOK  
ESTIMATION CHARTS

SCALE AS NOTED  
DRAWN BY PDS  
CHECKED BY  
DATE JUNE, 2008  
DWG. NO. ESTIMATION CHARTS