

SLOPES

Slopes constructed during the placement of compacted fill soil have to be at a flatter angle than slopes cut into native soil.

Why is this?

When soil is compacted even at 95% standard Proctor density, the soil particles are not completely parallel to each other and therefore do not have the maximum shear strength they can attain after the soil has attained a high state of strength. This is particularly true in clay soils that are naturally poorly drained because of the clay particles.

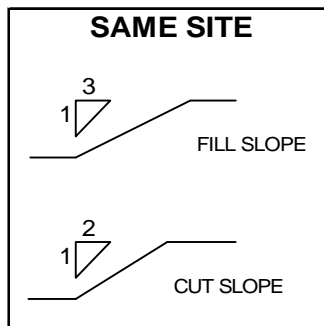
It is common knowledge in the construction industry that a field moisture-density test will find that soil in a cut area will have a lower density than soil that is compacted in a fill nearby. This contradiction is again proof that soils, particularly silts and clays do not attain a high state of strength during the compaction process but must gain this strength over a period of time, usually 2 to 3 years.



H.R. Beaver, P.E.

Typically soil slopes in clay or silt on construction sites can be laid back at a 2:1 slope in cut areas but require a 2 1/2:1 to 3:1 slope in fill areas. This is an accepted estimate for most field conditions. At these angles clays and silts can usually attain a factor of safety of 1.5, which is the desired factor of safety.

Remember, on most construction sites under average conditions, it is necessary to lay compacted fill slopes back at a flatter angle than nearby cuts in undisturbed native soils.



CLAY AND SILT SLOPES

Current Projects



Suntrust Plaza
Geotechnical Engineering

CLIENT: Eakin Properties
ARCHITECT: Hastings Architecture Associates
CONTRACTOR: Brasfield and Gorrie



Highwoods Cool Springs III
Construction Inspection and
Geotechnical Engineering

CLIENT: Highwoods Properties
ARCHITECT: Cooper Carry
CONTRACTOR: Brasfield and Gorrie



St. Henry Catholic Church
Construction Inspection and
Geotechnical Engineering

CLIENT: American Constructors
ARCHITECT: Fowlkes and Associates
CONTRACTOR: American Constructors

CONSTRUCTION WEATHER DATA

LAST QUARTER									
		OCTOBER		NOVEMBER		DECEMBER		YEAR-TO-DATE	
		NORMAL	2005	NORMAL	2005	NORMAL	2005	NORMAL	2005
TEMP	HIGH, °F	71	89	59	83	50	64		
	LOW, °F	49	30	39	26	31	15		
RAIN, inches		2.87	0.02	4.45	3.29	4.54	2.46	48.11	39.31
SNOW, inches		0	0	0	0	0.50	0	9.10	0
SUNRISE/SUNSET*		6:41/6:31		6:09/4:51		6:39/4:32			

* FIRST DAY OF MONTH

THIS QUARTER					
		JANUARY	FEBRARY	MARCH	YEAR-TO-DATE
		NORMAL	NORMAL	NORMAL	NORMAL
TEMP	HIGH, °F	46	51	61	
	LOW, °F	28	31	39	
RAIN, inches		3.97	3.69	4.87	12.53
SNOW, inches		3.9	3.4	1.1	8.4
SUNRISE/SUNSET*		6:58/4:43	6:48/5:13	6:18/5:41	

* FIRST DAY OF MONTH

Need more detail on weather data?

The U.S. Weather Bureau has the following web site:

www.srh.noaa.gov/bna/climate.html



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