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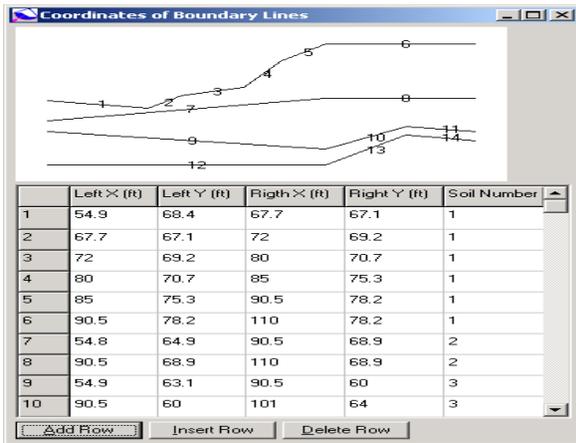
STABLPRO 3.0 for Windows

A Program for the Computations of Slope Stability

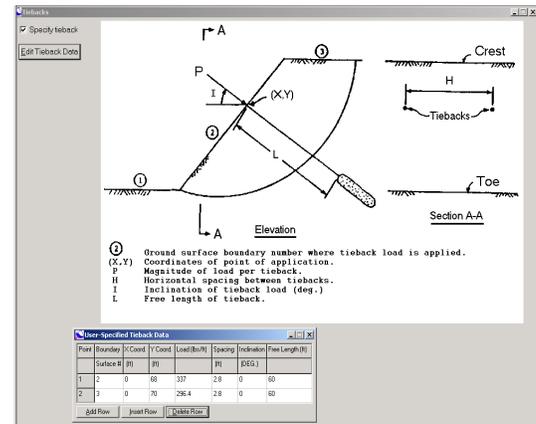
GENERAL DESCRIPTION

Various versions of Program STABL have been well accepted as useful tools for analyzing the stability of slopes. However, the series adopts a command-line format for data entry which is inconvenient for infrequent users. The computer program *STABLPRO* has been developed specifically for users to ease their modeling process and to enhance the graphical observation of slope boundaries and critical slip surfaces. This computer program has been written in 32-bit programming code compatible with Windows 98, 2000 and XP platforms.

STABLPRO thus greatly enhances STABL4, a publicly-available program, and several user-friendly features are presented. *STABLPRO* was written in the Windows platform and uses an enhanced-graphics interface to implement pull-down menus, dialog boxes, option buttons, and grid-cells for data entry. The user may read information on the screen, then type input at the specified entry field. The entered data can be changed freely by moving the mouse to the location of a particular field. The user may select either English units (in. and lb) or S.I. units (m and kN) for input data.



Sample screen for input of slope boundaries and soil profile



Sample input screens for tiebacks

BACKGROUND OF THE STABL SERIES OF COMPUTER PROGRAMS

STABL is a computer program written for the general solution of slope-stability problems using a two-dimensional limiting equilibrium method. The original program was developed by Ronald A. Siegel at Purdue University in 1975. STABL was placed on line for routine use in 1976 by the Indiana Department of Highways, and after being reported in the open literature, the program was adopted by many agencies.

The extensive use of STABL for academic purposes originated requests from users to introduce many improvements to the original STABL program since its introduction. Most of the current versions can handle tieback loading, reinforced-earth layers in embankment, and Spencer's method of analysis.

In general, the STABL programs feature unique, random techniques for generation of potential failure surfaces and the most critical surface is shown in the output as the one with the lowest factor of safety. One technique generates

circular-failure surfaces; another technique generates more general irregular surfaces of random shapes.

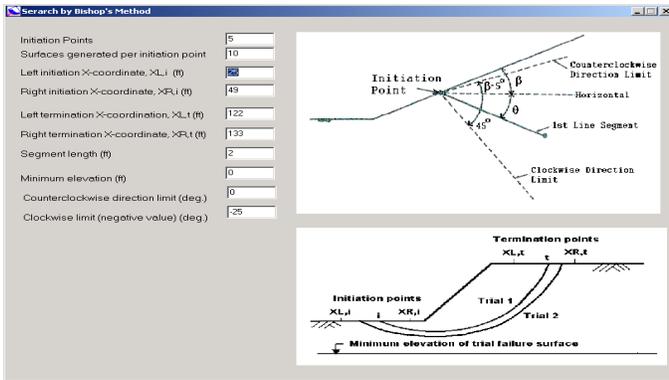
Of note is that many agencies have used STABL for a number of years because the program was developed with governmental support and is available to the public.

PROGRAM FEATURES

STABLPRO integrates the input modules, main computation module, and graphics module into one system. Therefore, the user may freely call each module inside Windows for operation.

The Graphical User Interface in the Windows environment, including icons, dialog boxes, and pull-down menus, makes the program more user friendly in preparation of input data. In many cases, illustrations or sketches are used to help the user understand the definition of the required input variables.

STABLPRO 3.0 for Windows *A Program for Slope Stability Analysis*

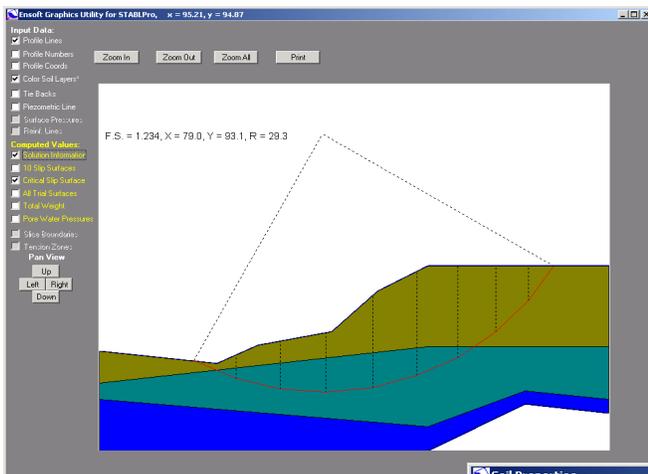


In general, after the input data are entered, the user can call the computation module to execute the input data. The user may also call the graphics module to plot the computed potential failure surfaces.

Options for the observation of output curves are enabled after a successful run has been made. Even after performing successful runs, some options may still be disabled because the amount of output data depends on specifications provided in the input file for each run. Options for plot features that the user may select in STABLPRO include: Profile Line, Profile Numbers, Profile Coordinates, Color of Soil Layers, Tiebacks, Piezometric Lines, Surface Pressures, Reinforced Earth Lines, Solution Information, 10 Most Critical Slip Surfaces, The Most Critical Slip Surface, All Trial Surfaces, Total Weight of Soil, and Pore-water Pressure.

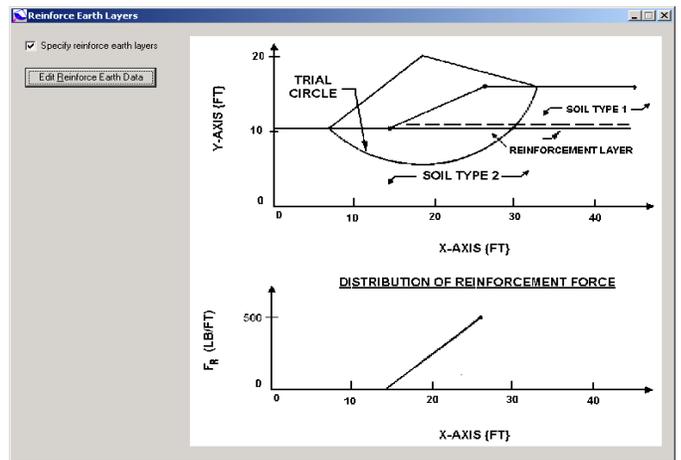
SOFTWARE SUPPORT

All users are strongly supported in technical aspects



Sample set of output graphics

Solution control for potential slip surfaces generated by the random trial method



Option for reinforced earth layers

related to the proper usage of Ensoft software. Customized software designs of the program STABLPRO may also be provided with additional programming fees.

COMPANY BACKGROUND

ENSOFT, INC., uses modern computational techniques and broad experience to obtain fast and reliable solutions to engineering problems. Thousands of private companies, government agencies, and universities from the United States and 35 other countries have selected software developed by ENSOFT, INC. for their engineering departments.

Input screen for soil properties

Layer	Moist unit weight (lbs/ft ³)	Saturated unit weight (lbs/ft ³)	Isotropic strength intercept (lbs/ft ²)	Isotropic strength angle (DEG.)	Pore pressure parameter	Pore pressure constant (lbs/in ²)	Piezometric surface number	Anisotropy (optional)
1	19.6	19.6	47.9	0	1	0.5	1	1: Anisotropy Strength
2	17.3	17.3	23.9	0	1	0.5	1	2: Anisotropy Strength
3	17.3	17.3	36.3	0	1	0.5	1	3: Anisotropy Strength
4	19.6	19.6	0	35	1	0.5	1	4: Anisotropy Strength

Hardware Requirements and Computing Time: This program will run on all personal computers equipped with a minimum of 128 MB of RAM memory running Windows 98/NT/2000/XP or newer. Typical solutions only require 5 to 10 seconds of computing time using personal computers using processors with at least 300 Mhz of clock speed.