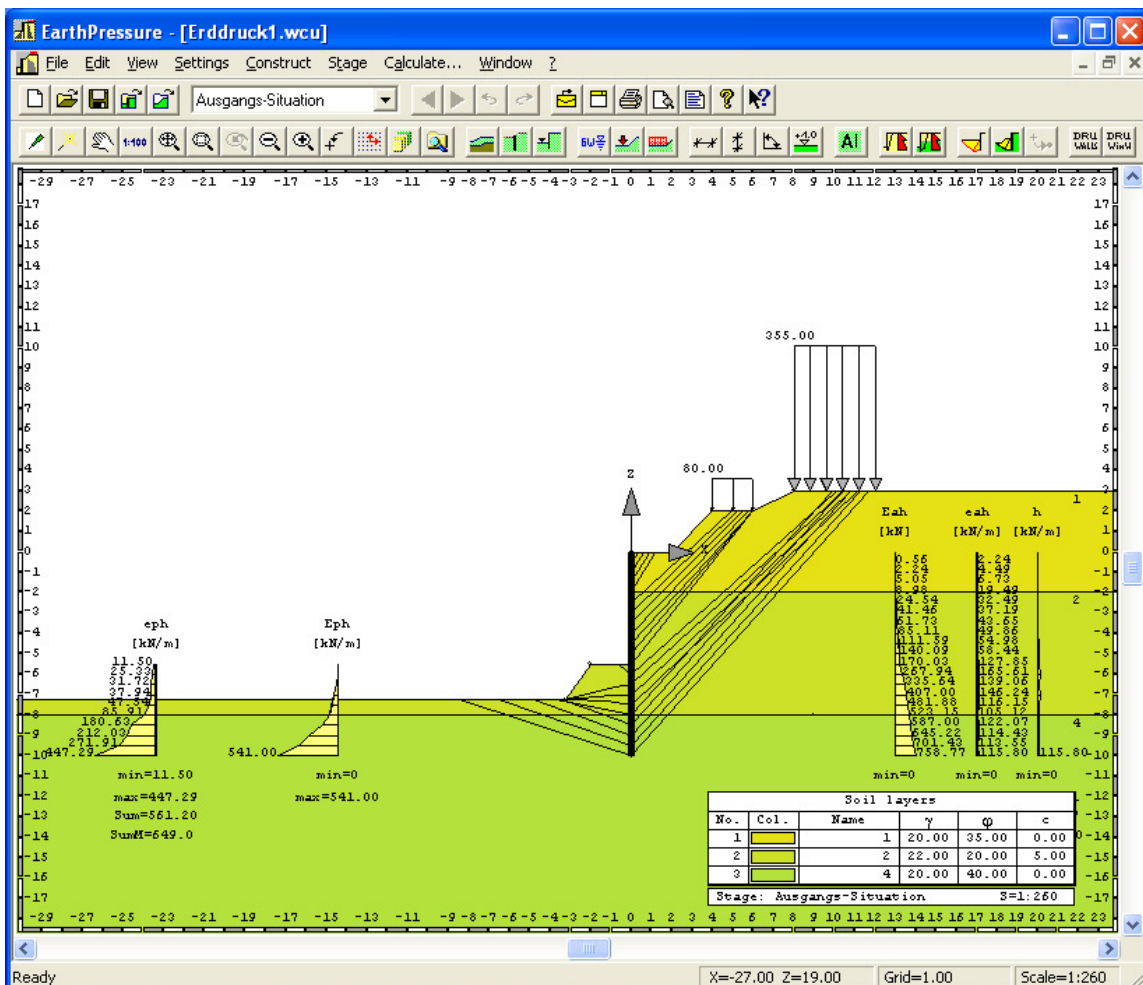


# FIDES-EarthPressure

## Calculation of Earth Pressure According to Culmann/Gudehus

The conventional earth pressure computation according to EAB/EAU can result in unrealistic earth pressure for complicated geometries and in some special cases. The program FIDES-EarthPressure can compute the active/passive earth pressure with an extended Culmann method and/or a 2-body mechanism according to Gudehus.

The formation of slip lines due to banks, concentrated loads, inclined or bended walls and the correct consideration of horizontal and polygonally shaped soil layers and ground water surface occurs automatically due to mathematical optimisation. As an extension to the program WALLS, it can import WALLS input data and return a list of calculated earth pressure values to the WALLS-program for further calculations.



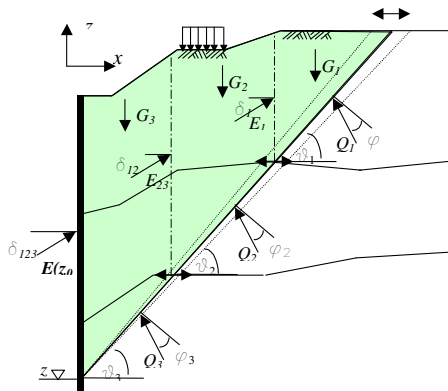
## Performance characteristics

### User interface

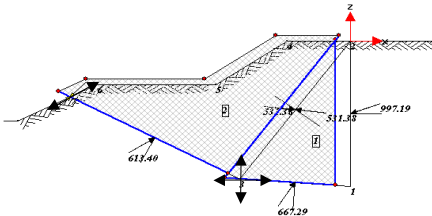
- Object oriented, graphical user interface
- CAD-like input functionality
- Parametric input of polygonal soil layers with support for predefined and expandable soil layer's data base, shared by all FIDES geotechnics series programs
- Same document format for all Fides programs of the geotechnic series
- Detailed online manual with definite explanation of the underlying calculation method.
- Windows standard as e.g. undo and redo for all actions, copy & paste, context menu, system explorer, ...

### Calculation

- The progress of the calculation can be monitored during the calculation
- All automatically generated slip body geometries are updated during calculation
- The model for the active earth pressure calculation is the numerical method due to Culmann



- Model for passive earth pressure calculation: Gudehus (2 kinematic elements)

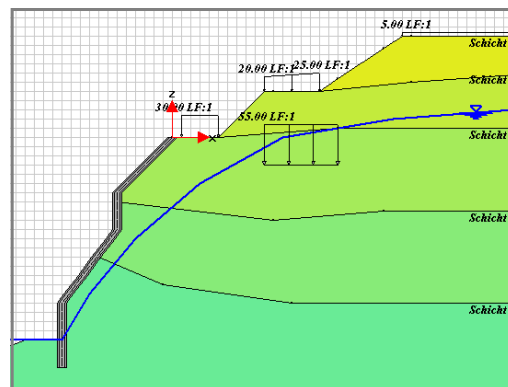


### Output

- Earth pressure file that can be exported to program WALLS
- In conjunction with FIDES-Flow water pressure distribution as a walls-import file
- RTF Format (MS-Office compatible)
- Direct printer output with mixed graphics and text
- Correctly scaled images for easy check

### Application range

- Mathematically correct earth pressure calculations
- Realistic earth pressure distributions for complicated geometries and soil layers
- Utilisation in the programs Walls and FIDES-GeoStability



### Program options

#### FIDES-Flow

- Calculation of ground water flows
- Determination of the free water surface and the water pressures