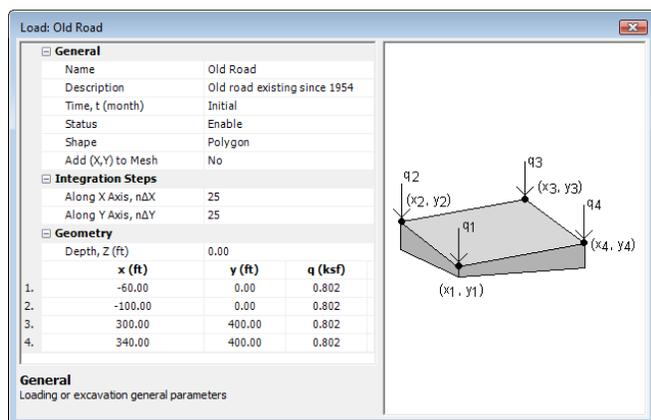
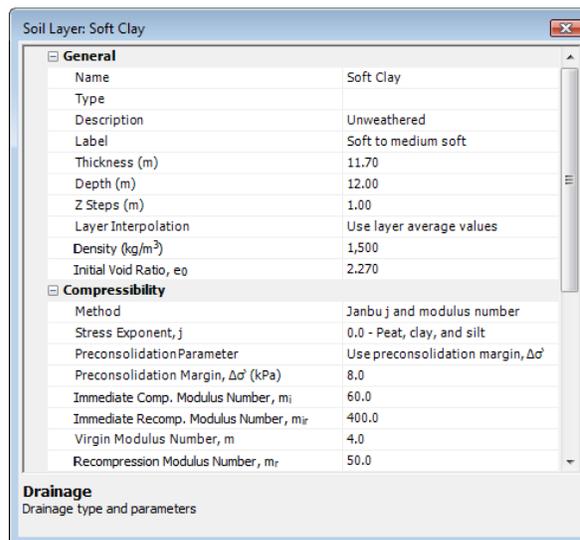


UniSettle 4.0

A software application specifically developed to assist engineers in performing stress and settlement calculations involving complex load combinations and site conditions.

Soil Data

UniSettle 4.0 can have up to 25 soil layers with the soil strength parameters, soil compressibility, as well as pore pressures varying within each layer. Settlement is determined using conventional C_c - e_0 approach, E-modulus, or Janbu tangent modulus method. UniSettle 4.0 Professional supports Terzaghi one-dimensional consolidation theory and vertical drains. Units can be SI or Customary US.



Loads and Excavations

All input data are presented and edited using an Excel-type grid and cell system. Stresses can be from a combination of point, line, circular, triangular, rectangular, polygon, or embankment type loads. The User can specify the time period applicable to each individual load, excavation, and pore pressure profile. This allows for the modeling of real site conditions over time.

UniSettle 4.0 is compatible with Microsoft Windows 7 (32 and 64-bit), Windows Vista, Windows XP SP3, and Windows 2000. It is server-side compatible and can be run within the limited privileges of Microsoft Windows standard user accounts.

Visit www.UniSoftGS.com to download a demo version, documentation, and price list

UniSettle 4.0

UniSettle 4.0 calculates and displays total and effective stress, pore pressure distributions, total and differential settlement, layer compression, consolidation settlement, immediate compression, and secondary settlement versus time. All results are presented in tabular and graphical form that can be exported to Excel format or Tab-delimited text format for further manipulation and reporting. All input and results may be entered in either Customary US or SI-units and be toggled back-and-forth as per User preference at any time.

Effective Stresses

Stress distribution is calculated according to Boussinesq, Westergaard, or 2:1 methods and combines the effects of loading and unloading.

Depth (m)	Initial Condition			6.0 months		
	Total Stress (kPa)	Pore Pressure (kPa)	Effective Stress (kPa)	Total Stress (kPa)	Pore Pressure (kPa)	Effective Stress (kPa)
0.00	0.0	0.0	0.0	50.0	0.0	50.0
0.50	9.5	0.0	9.5	49.0	0.0	49.0
1.00	19.0	0.0	19.0	44.9	0.0	44.9
1.50	28.5	0.0	28.5	39.5	0.0	39.5
2.00	38.0	5.0	33.0	34.7	0.0	34.7
2.50	47.5	10.0	37.5	41.1	5.1	36.0
3.00	57.0	15.0	42.0	50.7	10.2	40.4
3.50	66.5	20.0	46.5	61.9	15.4	46.5
4.00	76.0	25.0	51.0	73.1	20.5	52.6
4.50	85.5	30.0	55.5	83.9	25.6	58.3

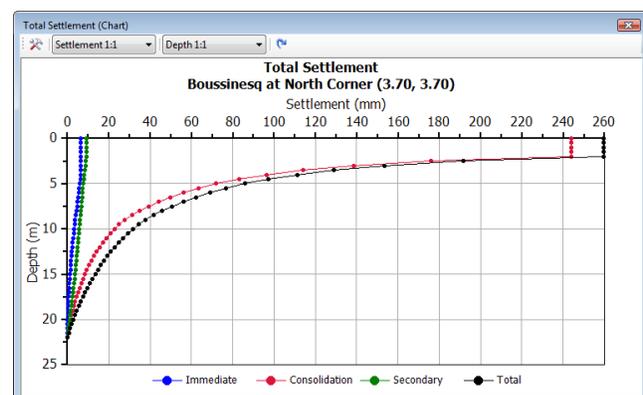
Depth (m)	Effective Stresses		Settlement			Total S (mm)
	Initial (kPa)	Final (kPa)	Immediate (mm)	Consolidation (mm)	Secondary (mm)	
0.00	0.0	50.0	6.3	243.8	9.3	259.4
0.50	9.5	49.0	6.3	243.8	9.3	259.4
1.00	19.0	44.9	6.3	243.8	9.3	259.4
1.50	28.5	39.5	6.3	243.8	9.3	259.4
2.00	33.0	34.7	6.3	243.8	9.3	259.4
2.50	37.5	36.0	6.3	176.1	9.0	191.5
3.00	42.0	40.4	6.4	138.5	8.8	153.7
3.50	46.5	46.5	6.5	114.1	8.5	129.1
4.00	51.0	52.6	6.4	96.6	8.2	111.2
4.50	55.5	58.3	6.3	83.1	7.9	97.3

Total Settlement

The total settlement results are a compilation of the immediate compression, consolidation settlement, and secondary compression at a specific point and for a particular analysis method. Settlement is determined using conventional C_c - e_0 approach, E-modulus, or Janbu tangent modulus method.

Consolidation vs Time

Calculate the immediate compression, consolidation settlement, and secondary compression as a function of time. The time related settlement uses a combination of both the coefficients of vertical (c_v) and horizontal consolidation (c_h) to calculate an average degree of consolidation. UniSettle 4.0 Professional supports Terzaghi one-dimensional consolidation theory and vertical drains.



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