Influence of in situ stress on open pit design

rocscience
software tools for rock and soil

Plane strain - K_0=1.0

$\varphi = 37^{O}$

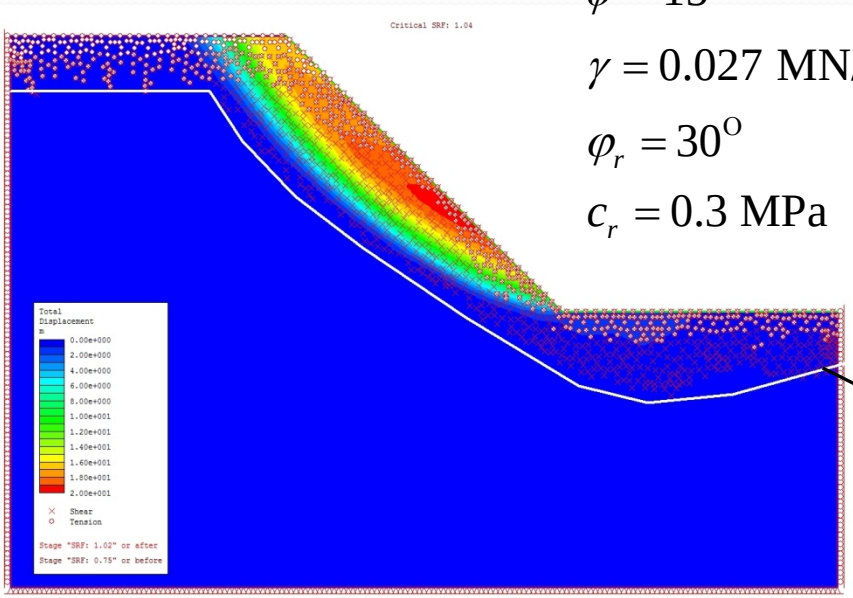
$c = 0.7$ MPa

$\psi = 15^{O}$

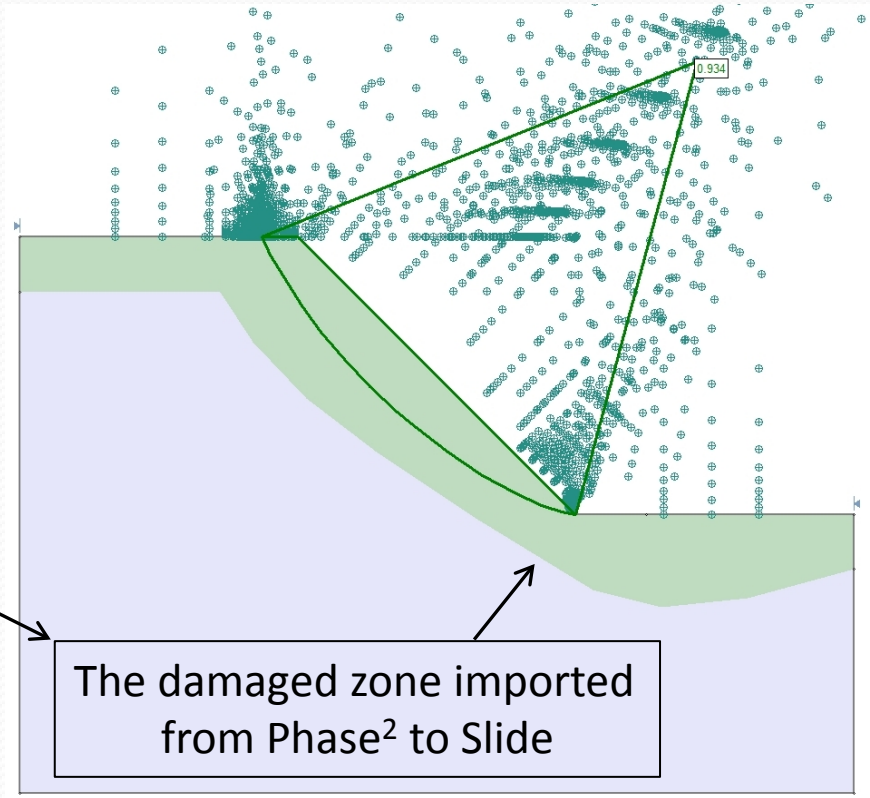
$\gamma = 0.027$ MN/m^3

$\varphi_r = 30^{O}$

$c_r = 0.3$ MPa

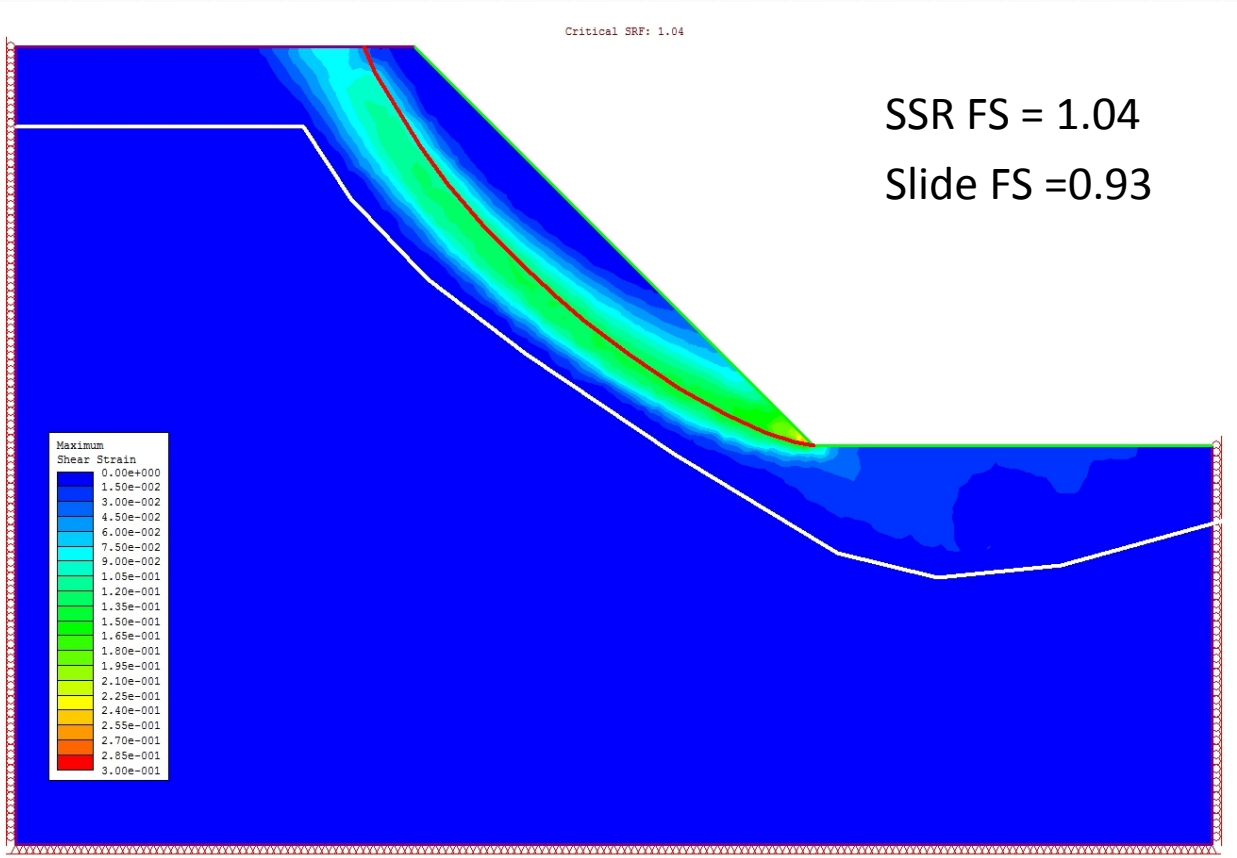


Contours of total displacement and location of yielded elements



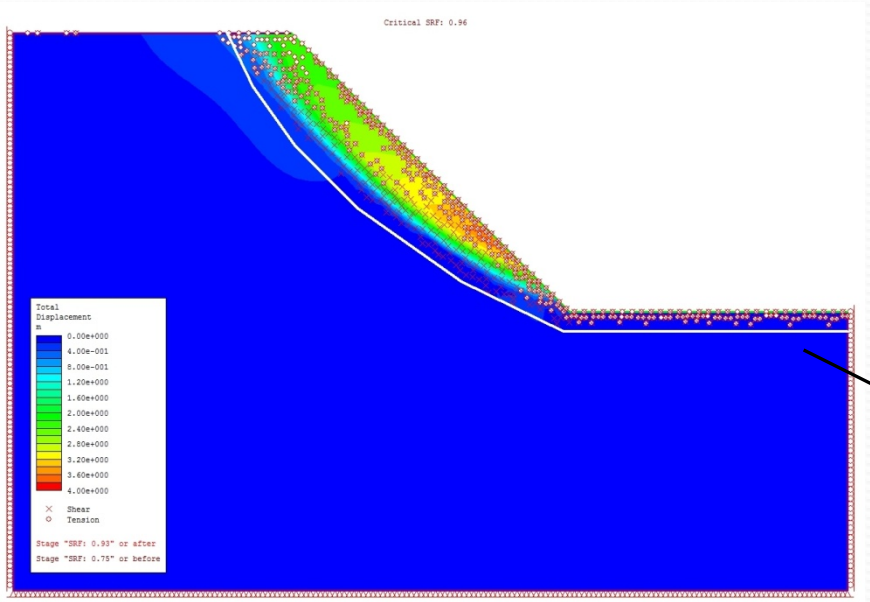
Noncircular slip surface located inside the damaged zone

Plane strain - K_0=1.0

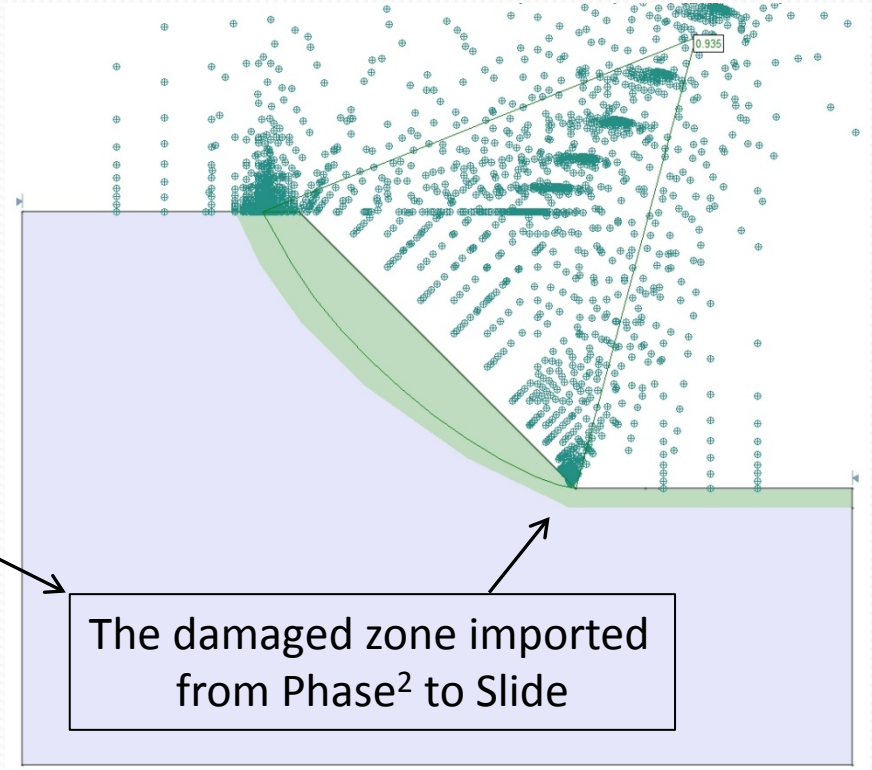


Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis

Plane strain - K_0=0.5

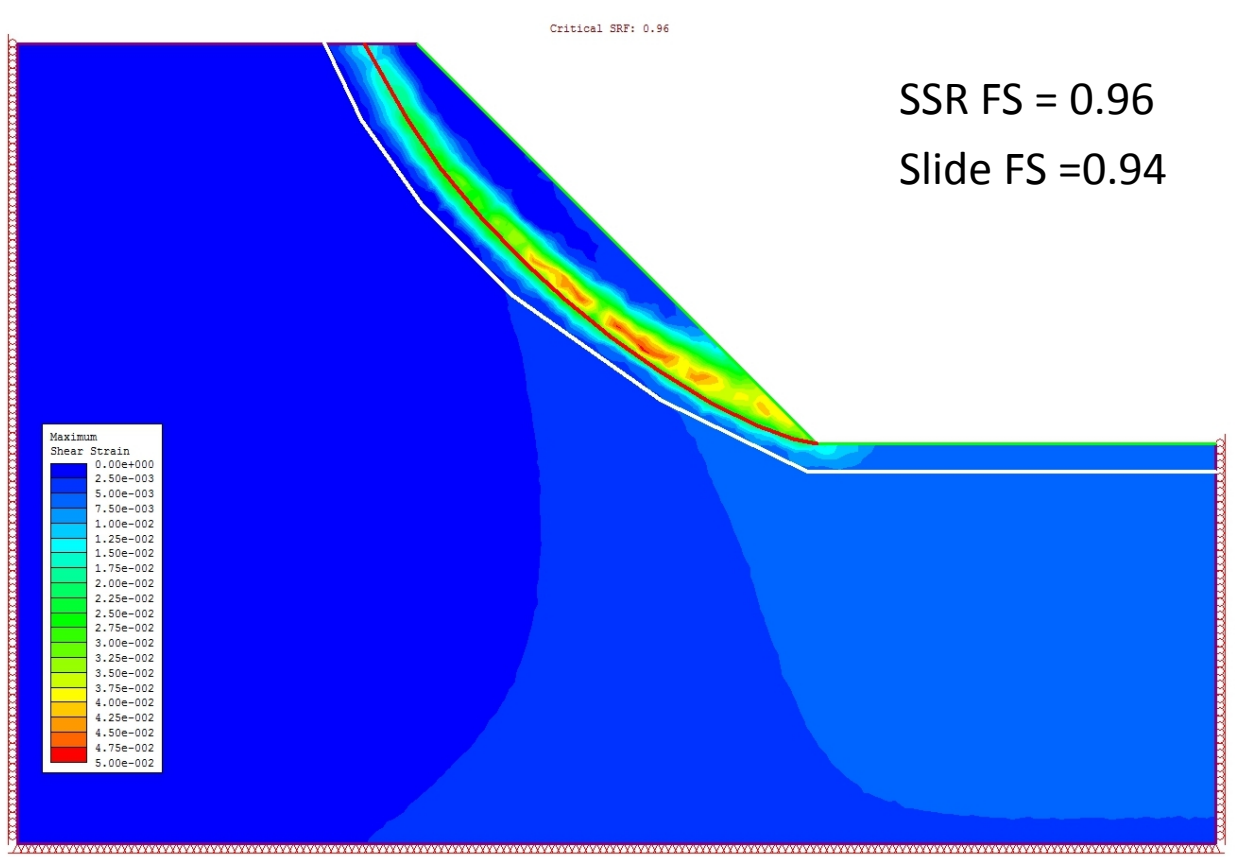


Contours of total displacement and location of yielded elements



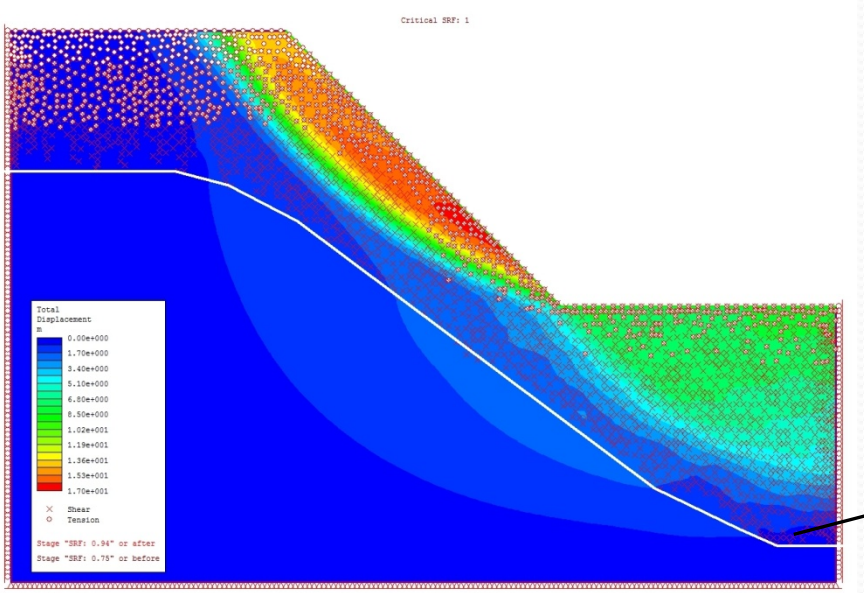
Noncircular slip surface located inside the damaged zone

Plane strain - K_0=0.5

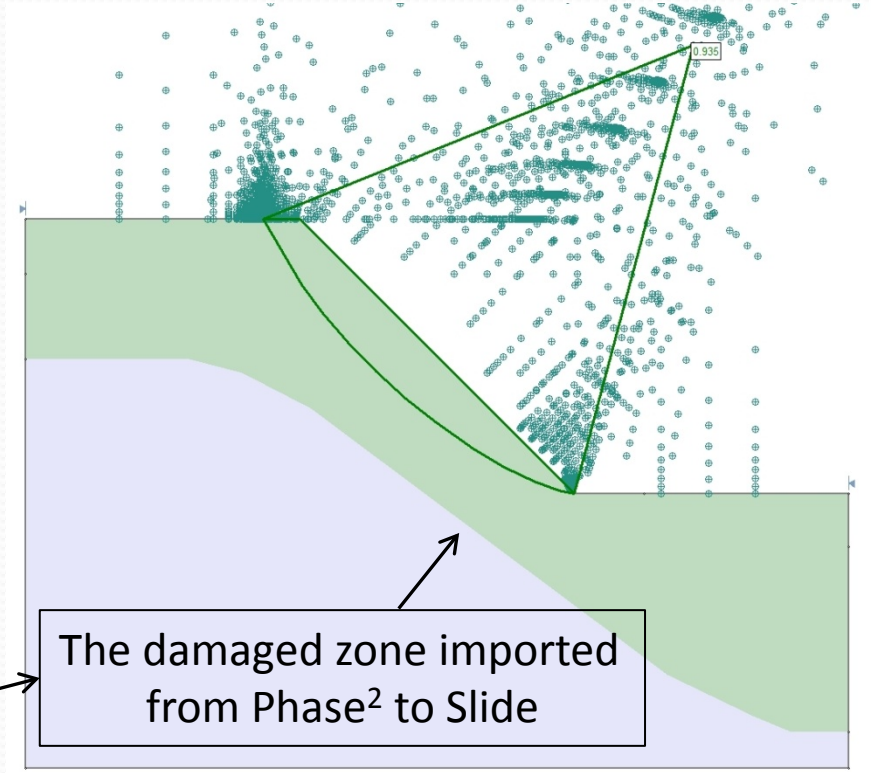


Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis

Plane strain - K_0=2.0

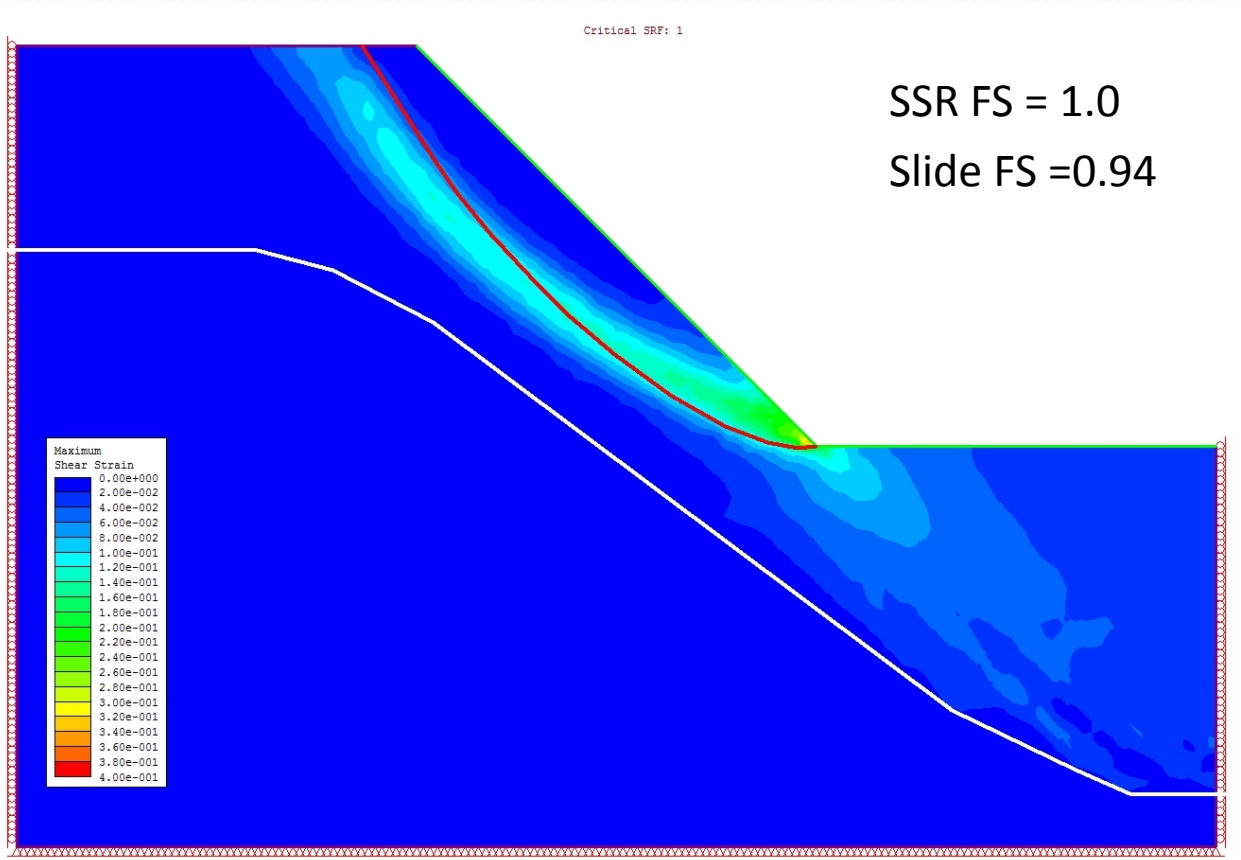


Contours of total displacement and location of yielded elements



Noncircular slip surface located inside the damaged zone

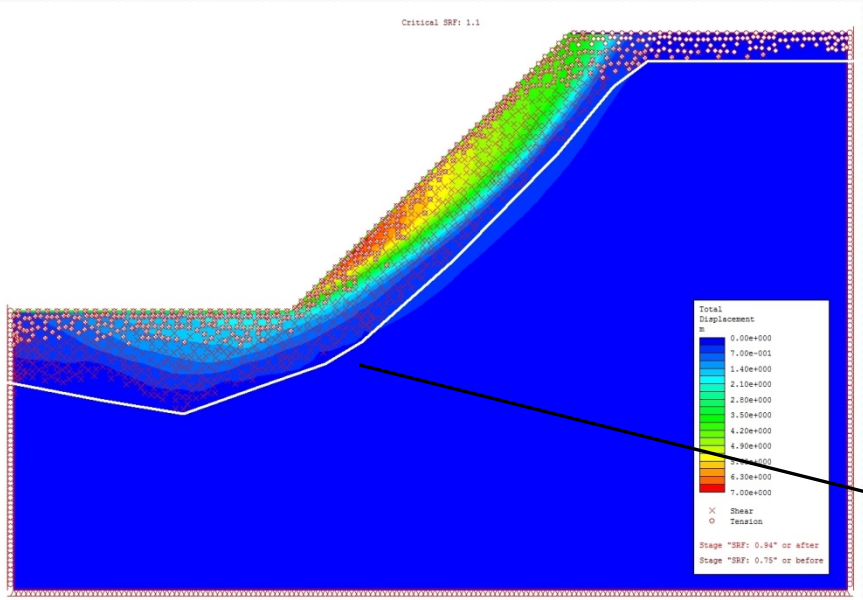
Plane strain - K_0=2.0



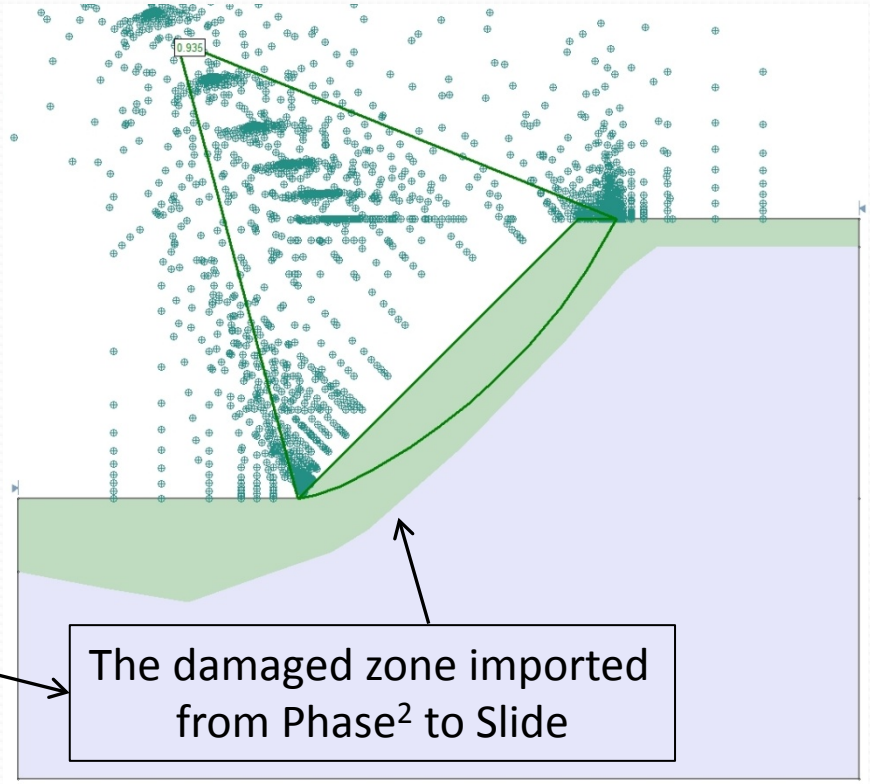
Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis

Axial Symmetric – K_0=1.0, R=1.0

$$R = \frac{\text{Slope Hight}}{\text{Pit Bottom Radius}}$$

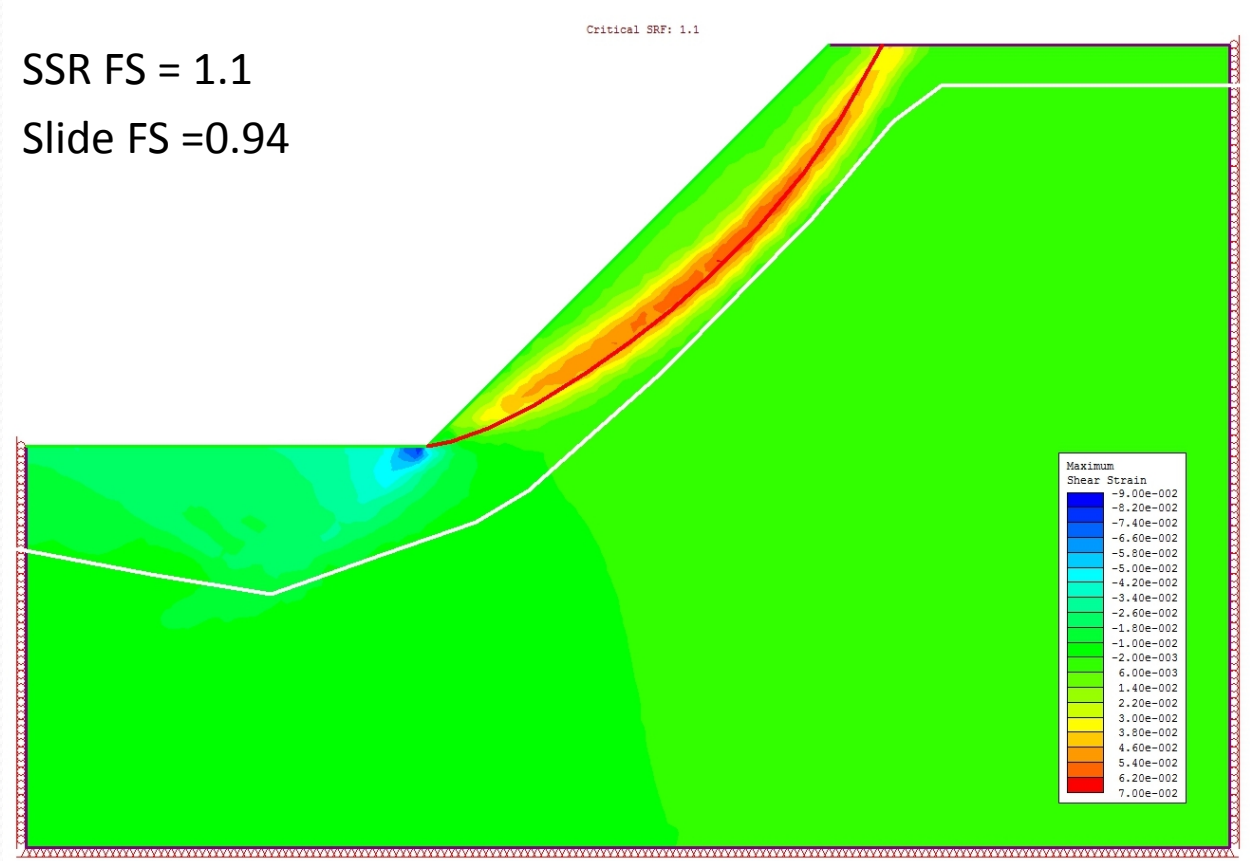


Contours of total displacement and location of yielded elements



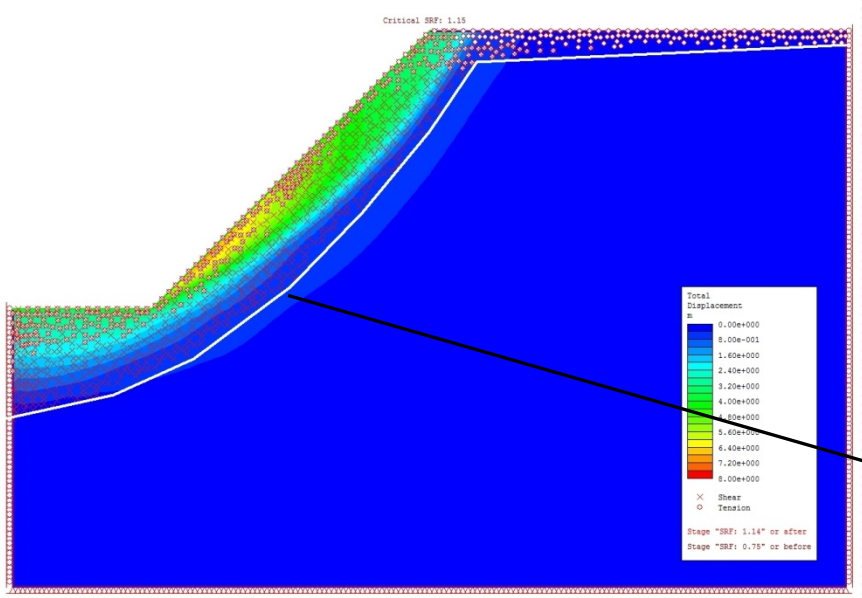
Noncircular slip surface located inside the damaged zone

Axial Symmetric – K_0=1.0, R=1.0

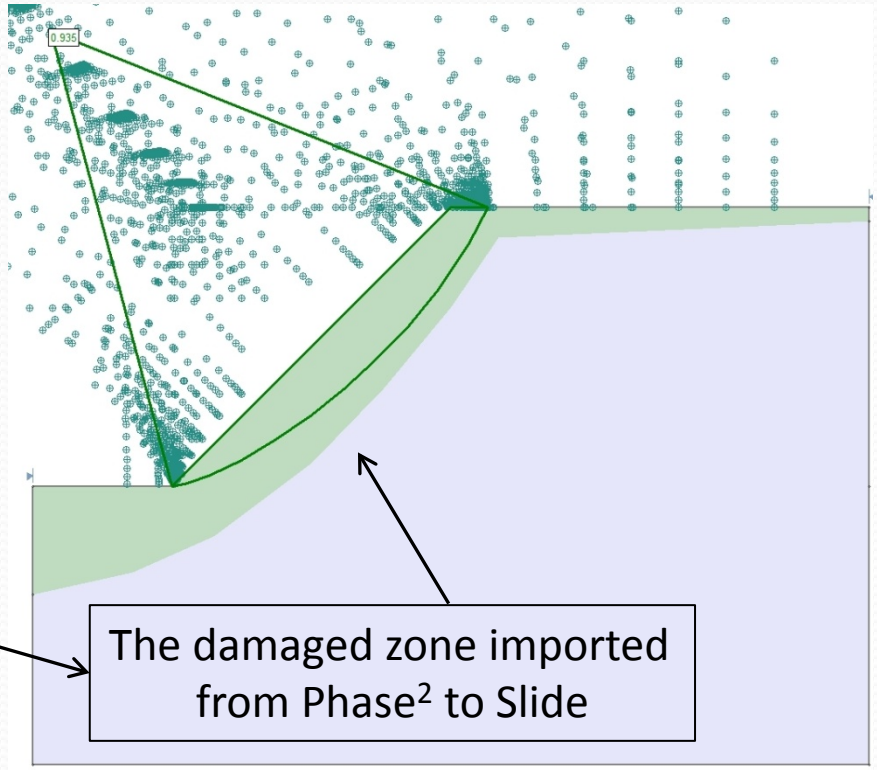


Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis

Axial Symmetric – K_0=1.0, R=0.5

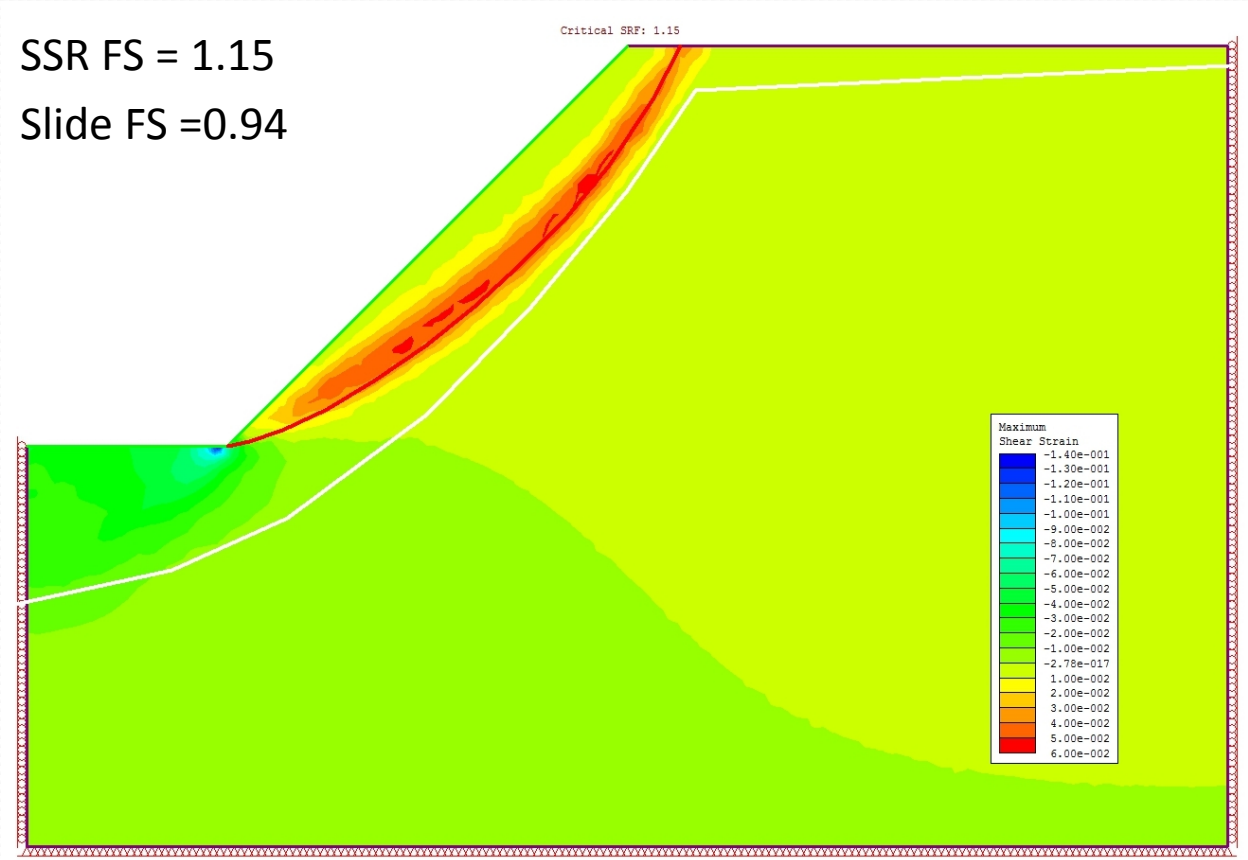


Contours of total displacement and location of yielded elements



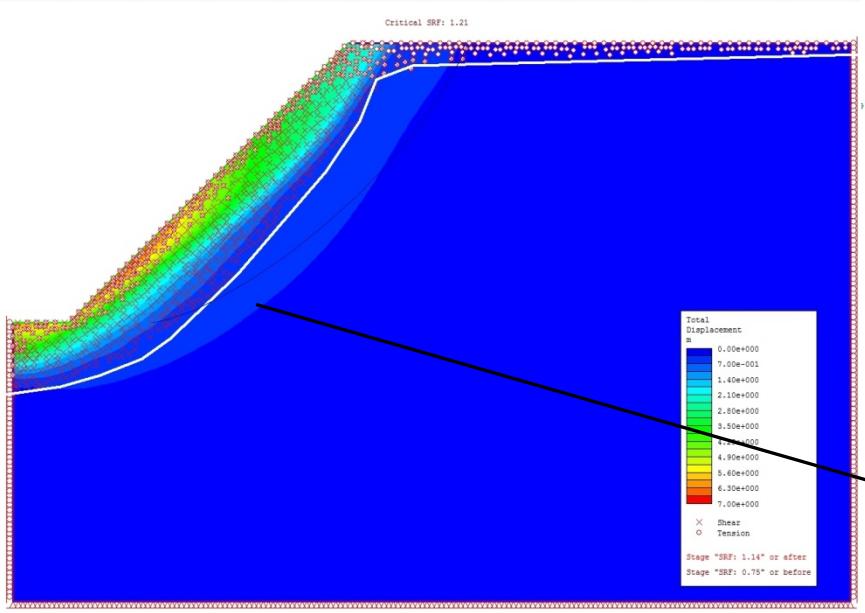
Noncircular slip surface located inside the damaged zone

Axial Symmetric – K_0=1.0, R=0.5

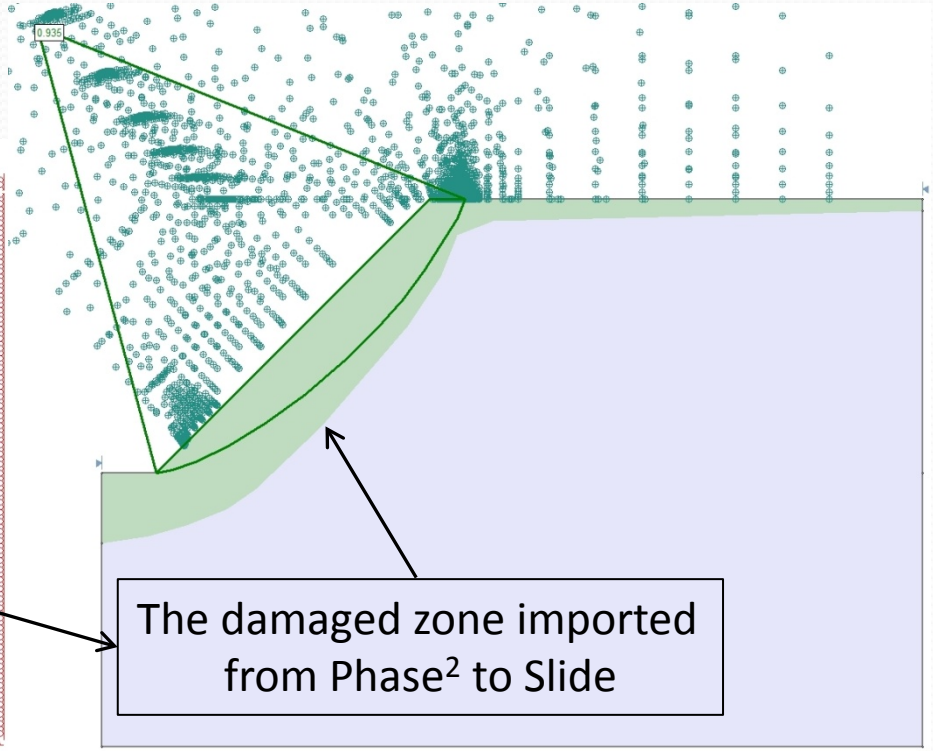


Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis

Axial Symmetric – K_0=1.0, R=0.2

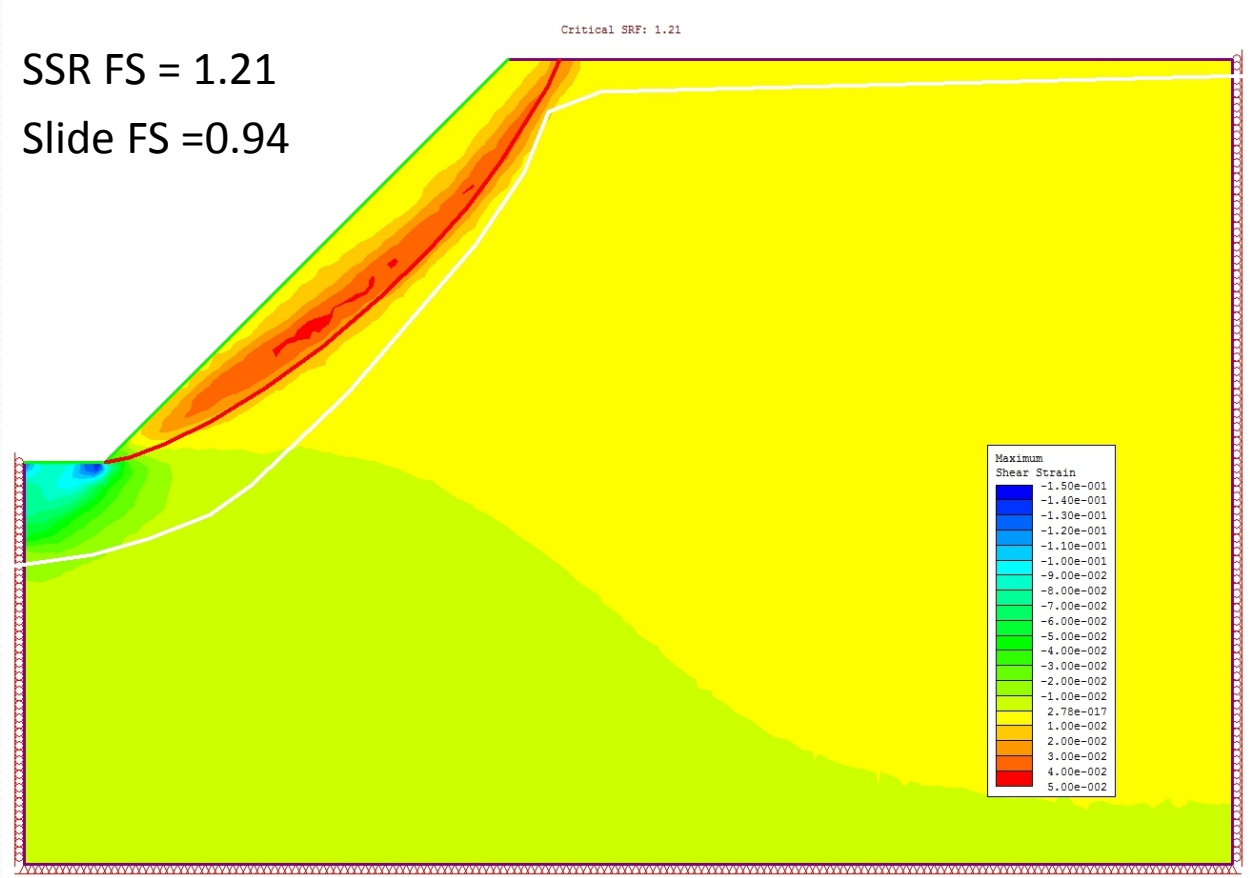


Contours of total displacement and location of yielded elements



Noncircular slip surface located inside the damaged zone

Axial Symmetric – K_0=1.0, R=0.2



Contours of the maximum shear strain from a Phase2 simulation, and the Spencer slip surface from a Slide analysis