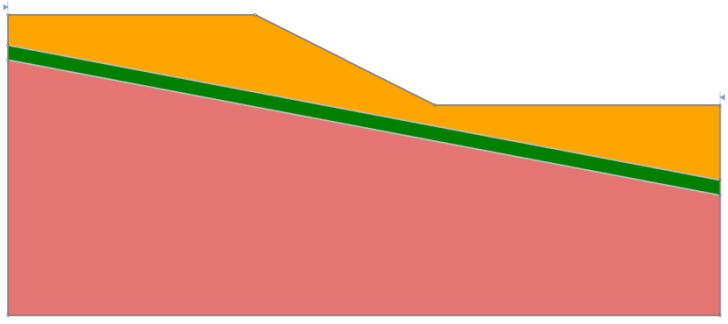
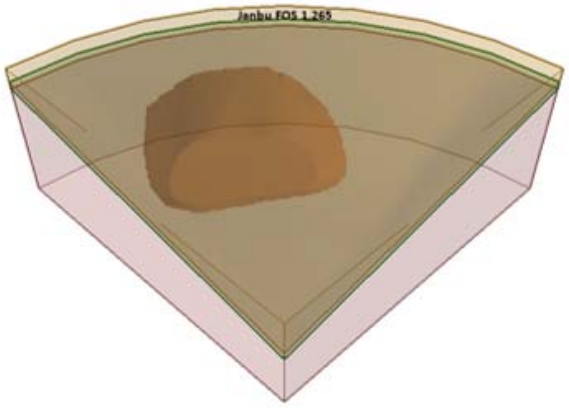
2D Swept Index by File

Slope Stability Verification

Rocscience Inc.





Slope Stability Verification – Index by File – 2D Swept Models

Introduction

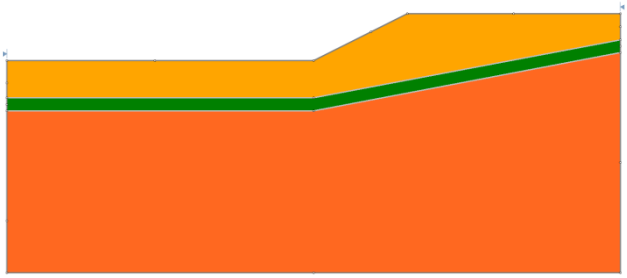
The Slope Stability Verification of programs Slide^3, RS^3, Slide, and RS^2 is separated into three different types of models which create three separate verification documents and their corresponding indexes. These model types are 2D extruded models, 2D swept models, and 3D models. Each example contains its model type as the first part of its keyword description. The verification is separated by model type for easier identification of specific models or specific types of models. This is the index for the 2D swept models.

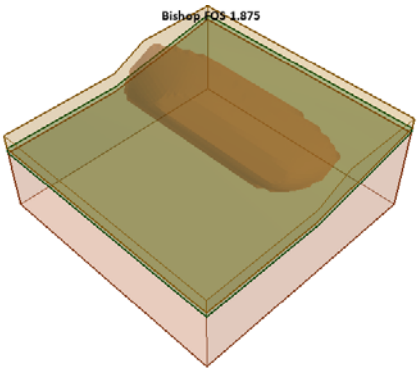
A 2D swept model is a given 2D cross section which has been swept along a polyline to create a 3D shape that is not a simple extrusion. These models are also not considered purely 3D models, since the 2D cross section is consistent throughout the model. Examples of 2D swept models include turning corners of various degrees, both sharp and circular, as well as other shapes, such as an L-shaped sweep. 2D swept models will have the 2D cross section, as well as multiple materials, water tables, and loading swept across the entire model. Elements such as micropile supports will be placed throughout the model, not swept to create a wall of support. These models have mostly been taken from reference material such as journal and conference proceedings; however, some examples are verified by comparing the results of each program.

2D swept models often come in groups that sweep the same cross sections across a number of different corners or polylines. These groups will generally include a 2D extruded baseline slope, to compare the safety factor of the extrusion to other shapes. These ‘extruded baselines’ are shown in this index and directly before a set of 2D swept models in the verification, instead of in the 2D extruded index for the sake of clarity.

This index contains the name of each 2D swept verification example, its keyword description, and two pictures of the example. The keyword description for each of these models will start with ‘2D swept,’ to easily identify the type. The numbers of the verification examples found in this index match the number of the example found in the Verification document. The keyword description generally describes the most important elements of the model, and can also be found in the Table of Contents of the Verification under the name of the given example, and under the title of the example in the main body of the Verification. The verification titles only give their number, not a description of the model, so these keywords are useful for identifying specific models. The pictures given in this index show a preview of the 2D Slide model, which is the original cross section for sweeping, as well as an isometric view of the 3D Slide^3 model with the slip surface. The pictures are useful for matching an example’s appearance with its number and description.

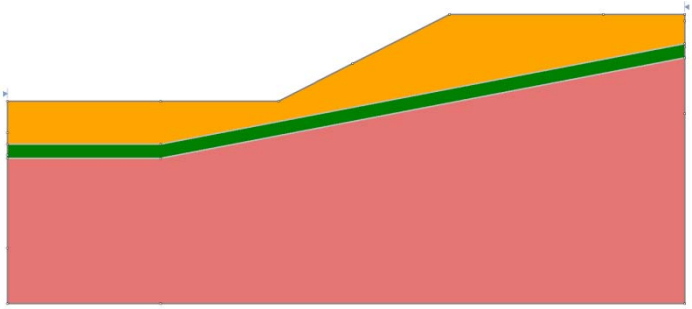
2D Swept Verification #001

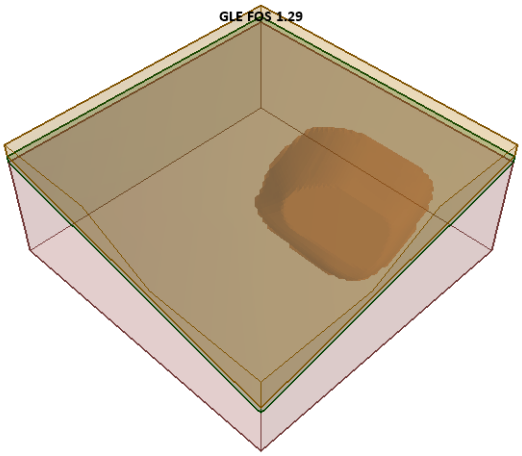




2D swept baseline extruded, weak layer, ellipsoidal with SA

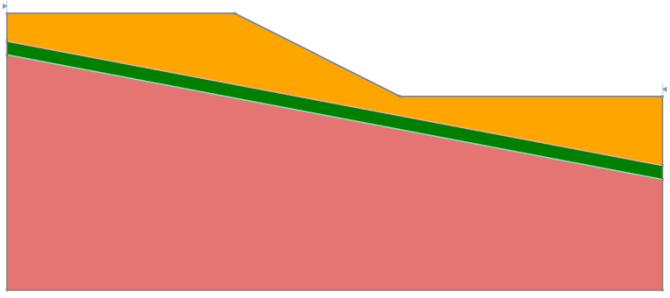
2D Swept Verification #002

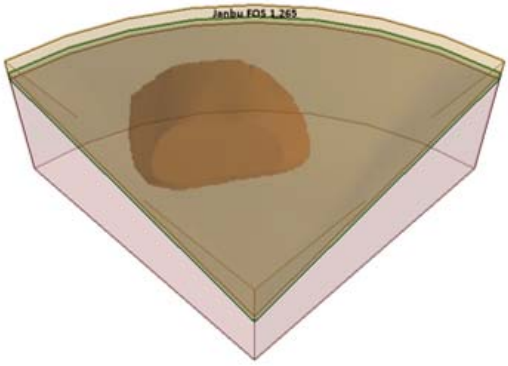




2D swept, 90° turn, concave, weak layer, ellipsoidal with SA

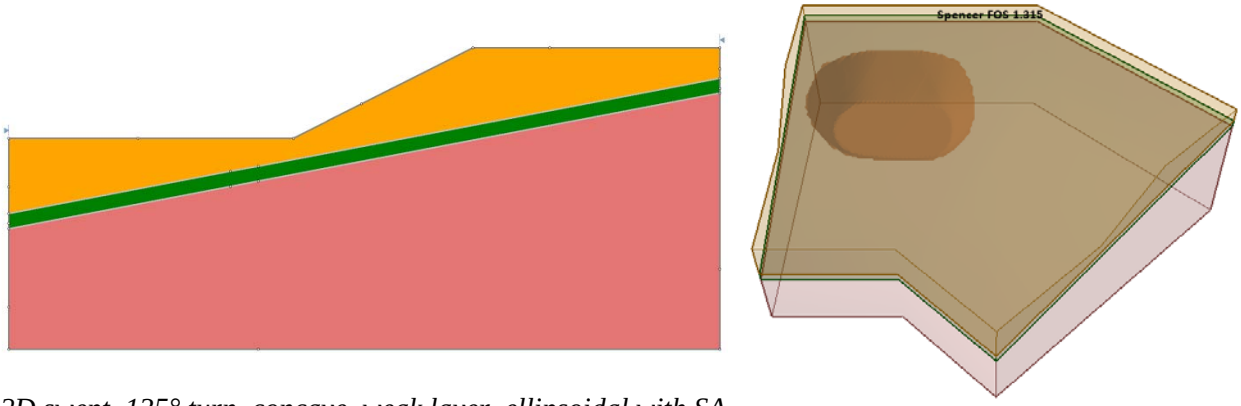
2D Swept Verification #003





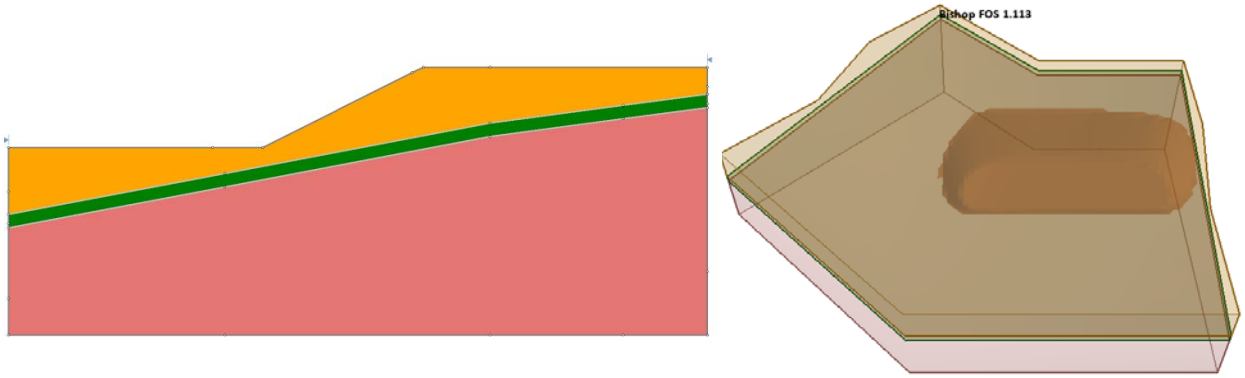
2D swept, 90° circular turn, concave, weak layer, ellipsoidal with SA

2D Swept Verification #004



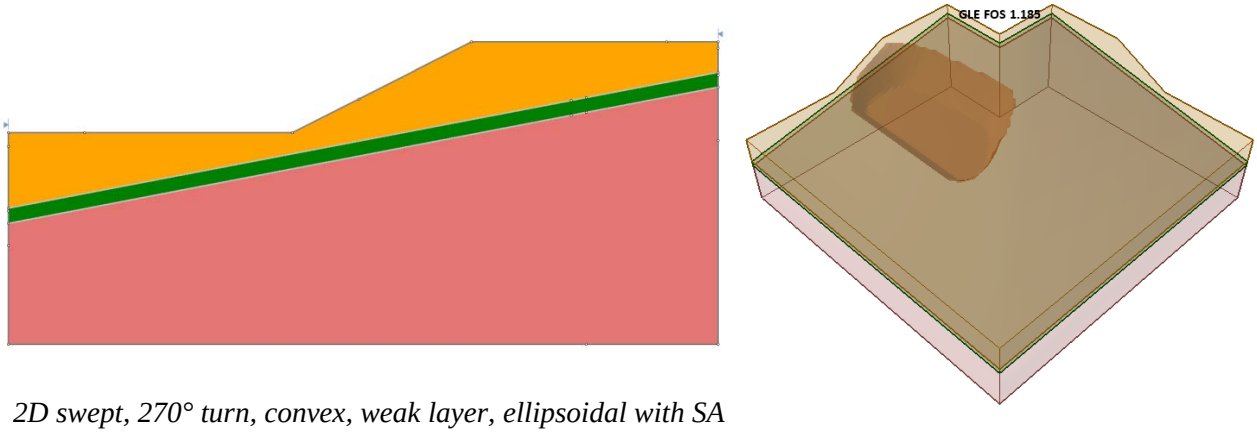
2D swept, 135° turn, concave, weak layer, ellipsoidal with SA

2D Swept Verification #005



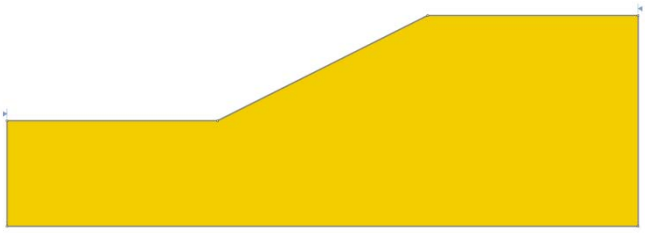
2D swept, 225° turn, convex, weak layer, ellipsoidal with SA

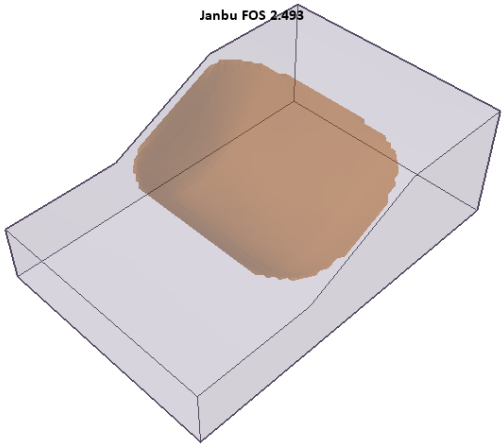
2D Swept Verification #006



2D swept, 270° turn, convex, weak layer, ellipsoidal with SA

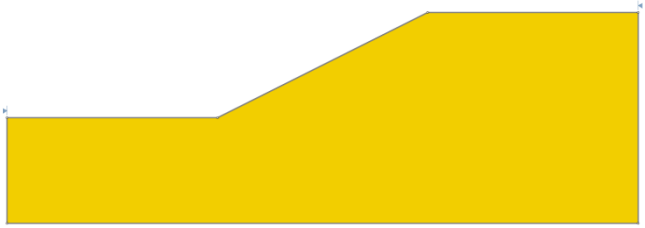
2D Swept Verification #007

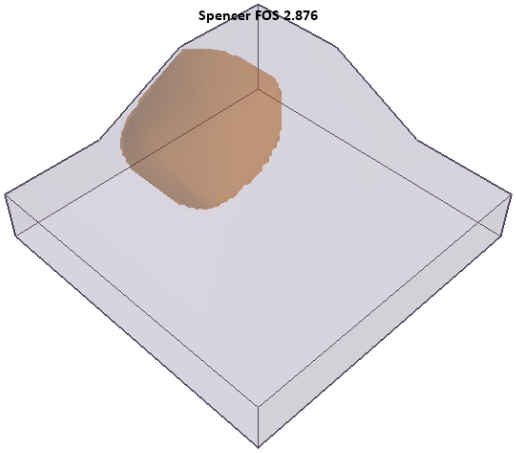




2D swept extruded baseline, homogeneous, ellipsoidal with SA

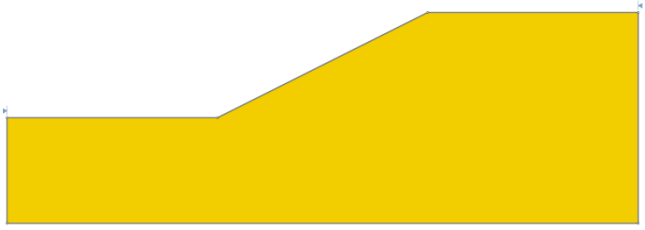
2D Swept Verification #008

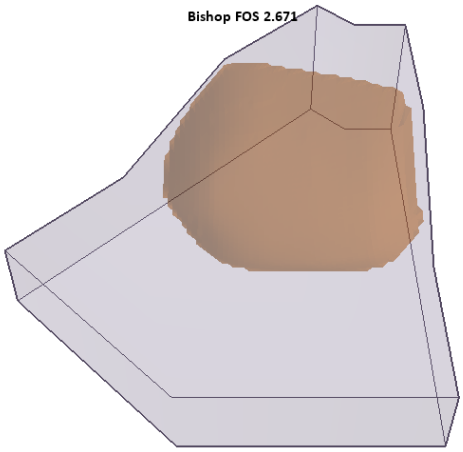




2D swept, 90° turn, convex, homogeneous, ellipsoidal with SA

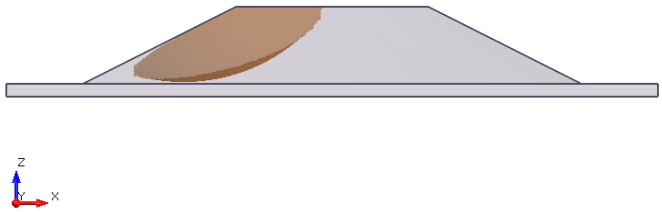
2D Swept Verification #009

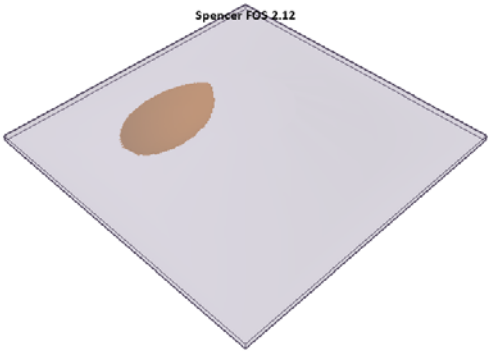




2D Swept, 135° turn, convex, homogeneous, ellipsoidal with SA

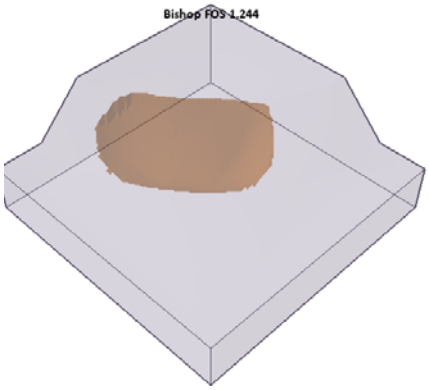
2D Swept Verification #010





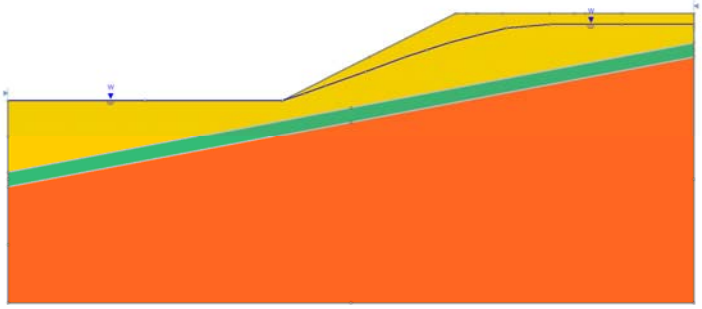
3D truncated cone, homogeneous, slope limits, spherical

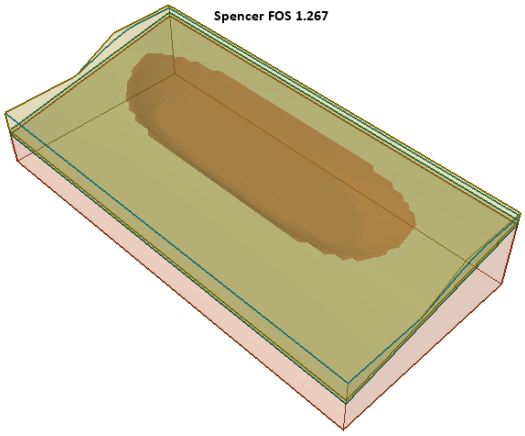
2D Swept Verification #011



2D swept, 90° circular turn, convex, homogeneous, ellipsoidal with SA

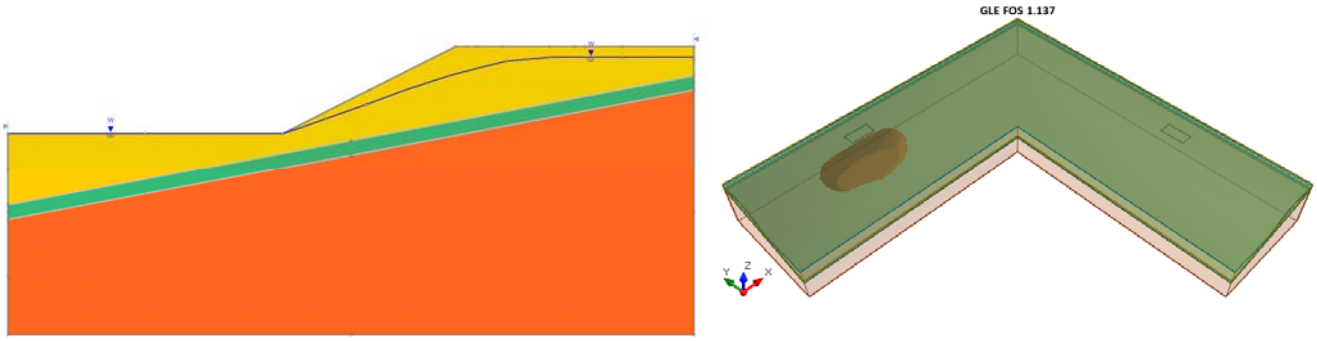
2D Swept Verification #012





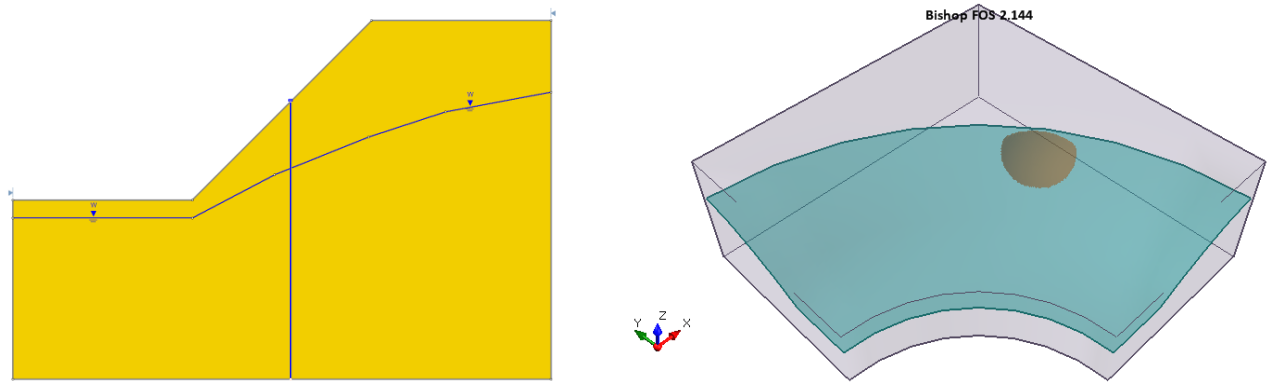
2D swept baseline extruded, weak layer, water table, ellipsoidal with SA

2D Swept Verification #013



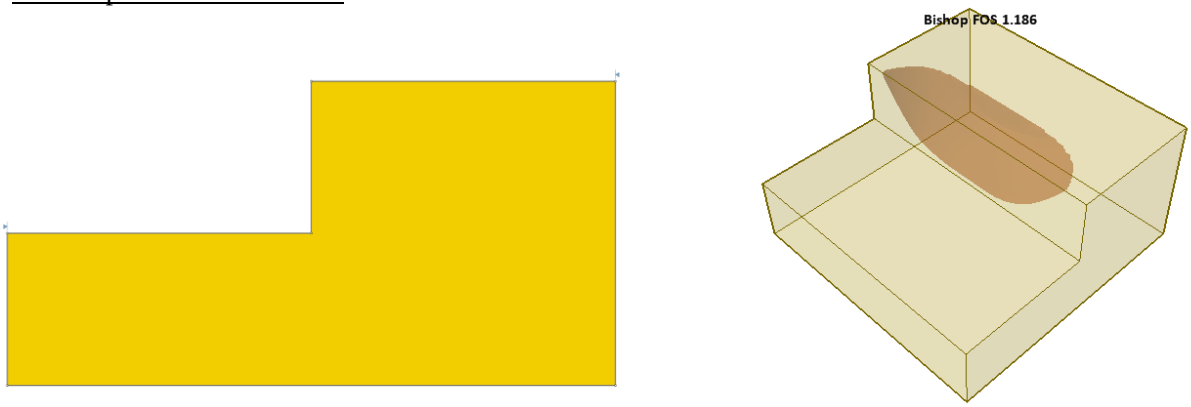
2D swept, L-shape, weak layer, water table, ellipsoidal with SA

2D Swept Verification #014



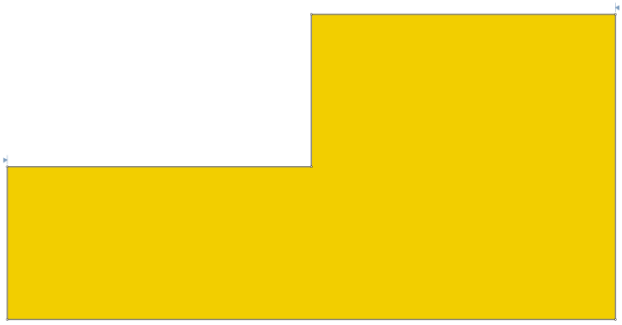
2D swept, 90° circular turn, concave, piles, water table, spherical

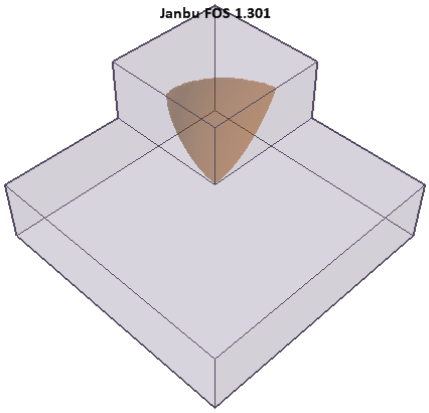
2D Swept Verification #015



2D swept extruded baseline, vertical cut, homogeneous, ellipsoidal with SA

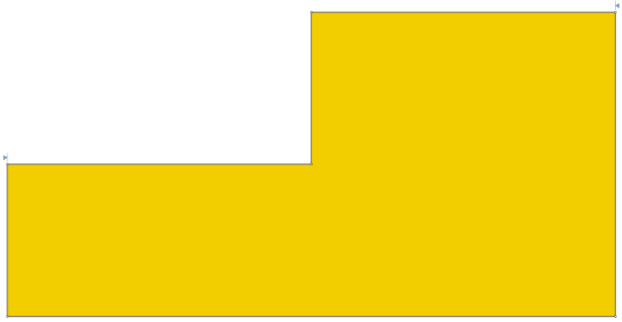
2D Swept Verification #016

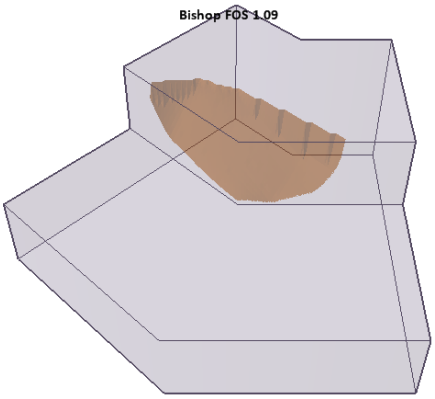




2D swept, 90° turn, convex, vertical cut, homogeneous, ellipsoidal with SA

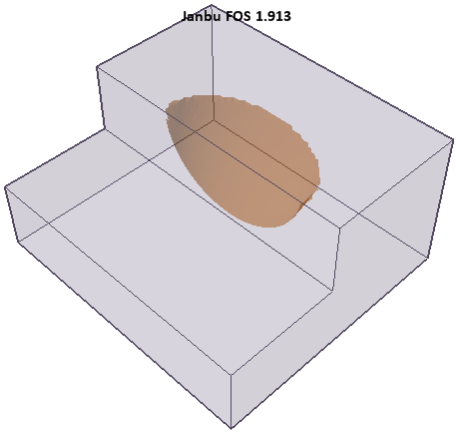
2D Swept Verification #017





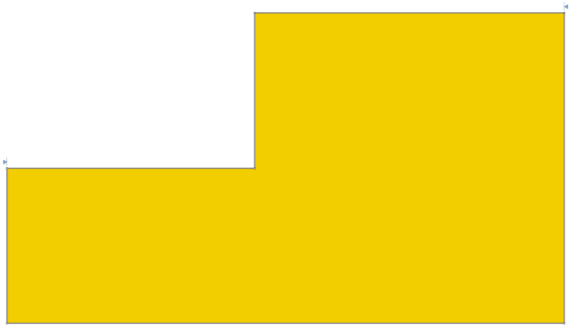
2D swept, 135° turn, convex, vertical cut, homogeneous, ellipsoidal with SA

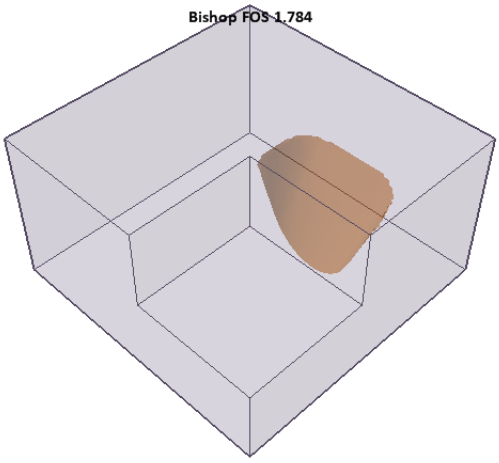
2D Swept Verification #018



2D swept extruded baseline, vertical cut, homogeneous, ellipsoidal with SA

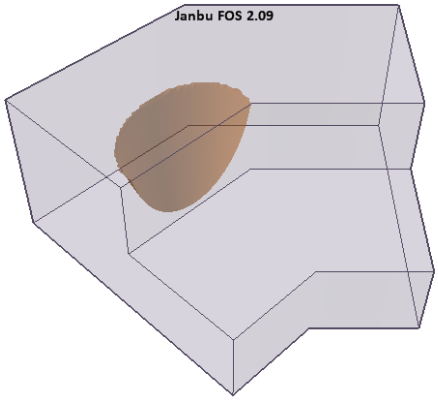
2D Swept Verification #019





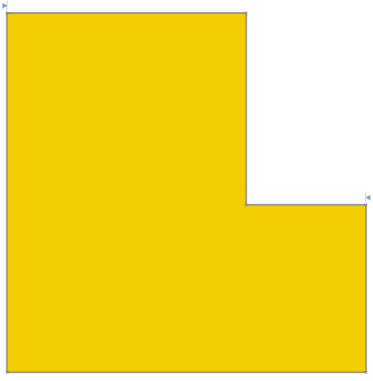
2D swept, 90° turn, concave, vertical cut, homogeneous, ellips

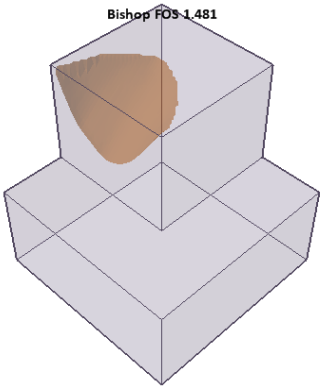
2D Swept Verification #020



2D swept, 135° turn, concave, vertical cut, homogeneous, ellipsoidal with SA

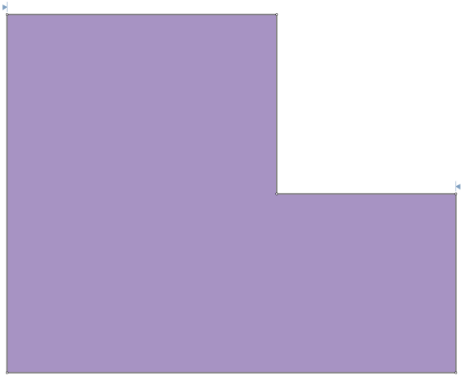
2D Swept Verification #021

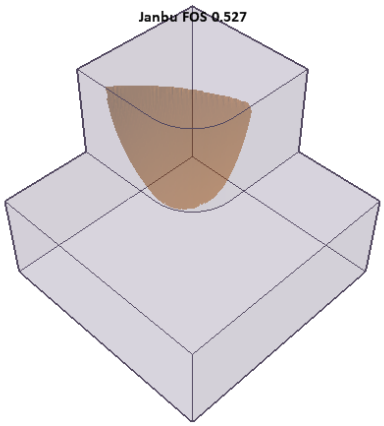




2D swept, 90° turn, convex, seismic, ellipsoidal with SA

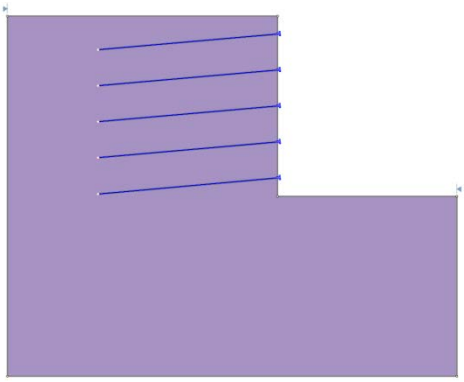
2D Swept Verification #022

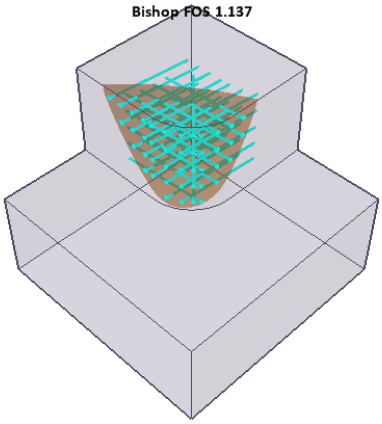




2D swept, 90° turn with circular corner, vertical cut, homogeneous, ellipsoidal with SA

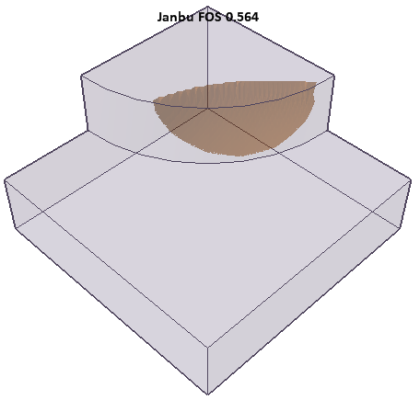
2D Swept Verification #023





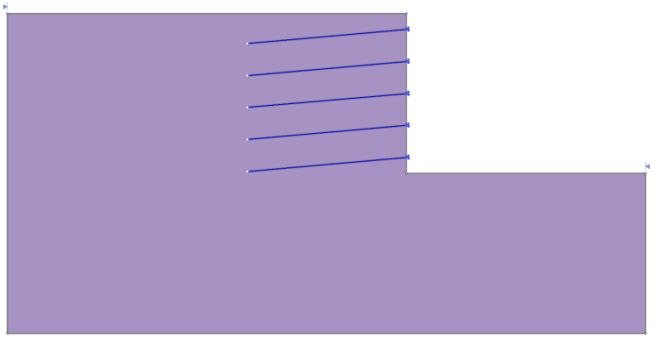
2D swept, 90° turn with circular corner, vertical cut, homogeneous, soil nails ellipsoidal with SA

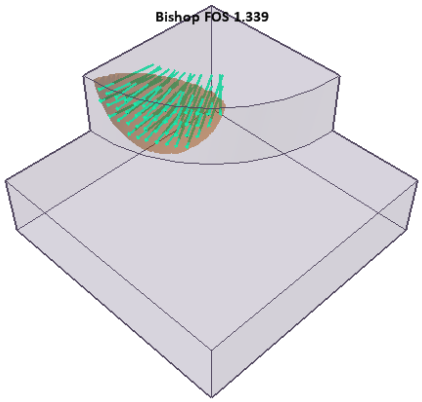
2D Swept Verification #024



2D swept, 90° circular turn, convex, homogeneous, ellipsoidal with SA

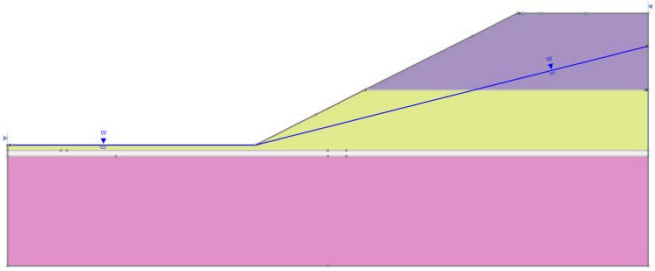
2D Swept Verification #025

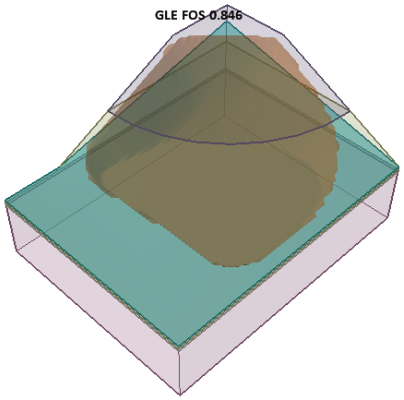




2D swept, 90° circular turn, convex, homogeneous, soil nails, ellipsoidal with SA

2D Swept Verification #026





2D swept, 90° circular turn with foundation, (3) materials + weak layer, water table, ellipsoidal no SA