

## ETAP FAQ # 13

### Create A Cable Pulling Project

**Description:** How to create a cable pulling project using ETAP.

**Version:** ETAP 4.7

**Published:** February 21, 2003

ETAP 4.7.0 includes a completely new Cable Pulling program. This new version has been enhanced with many intelligent features including three-dimensional display of the conduit system, which make it a powerful tool for the design of conduit cable systems.

Create a New Cable Pulling Presentation

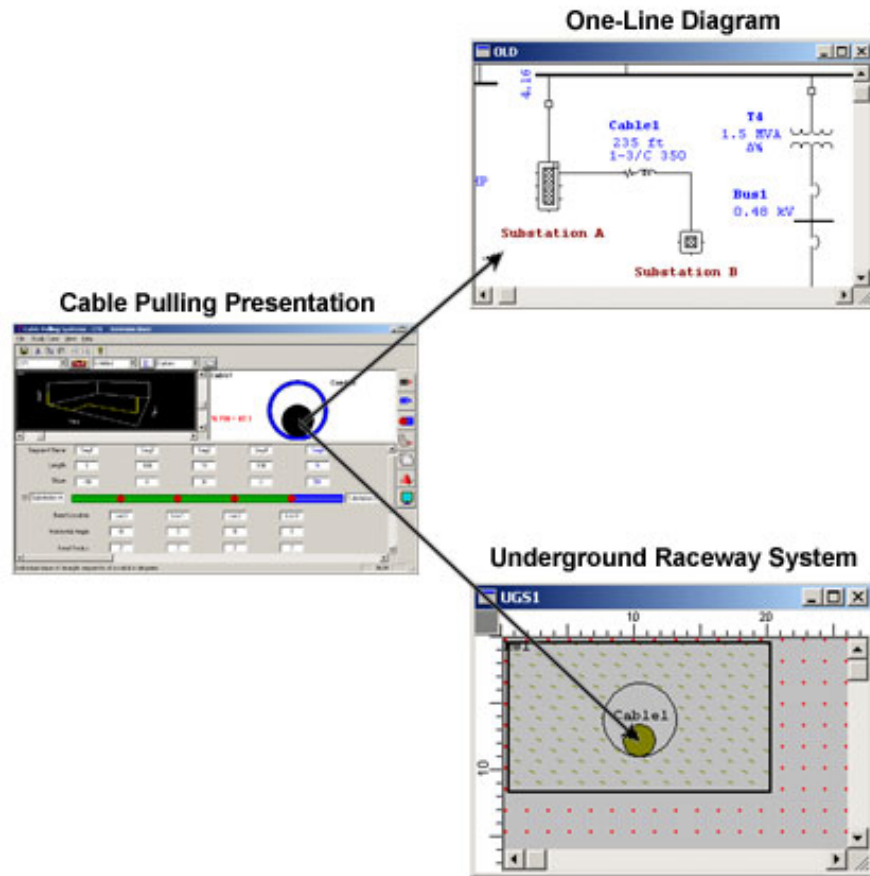


To create a Cable Pulling project right click on the cable pulling systems folder and select “create new”. To open the CP1 presentation, double click on its icon and a blank presentation will open. You can rename the presentation by right clicking on its icon and selecting the properties option.

Insert Cables

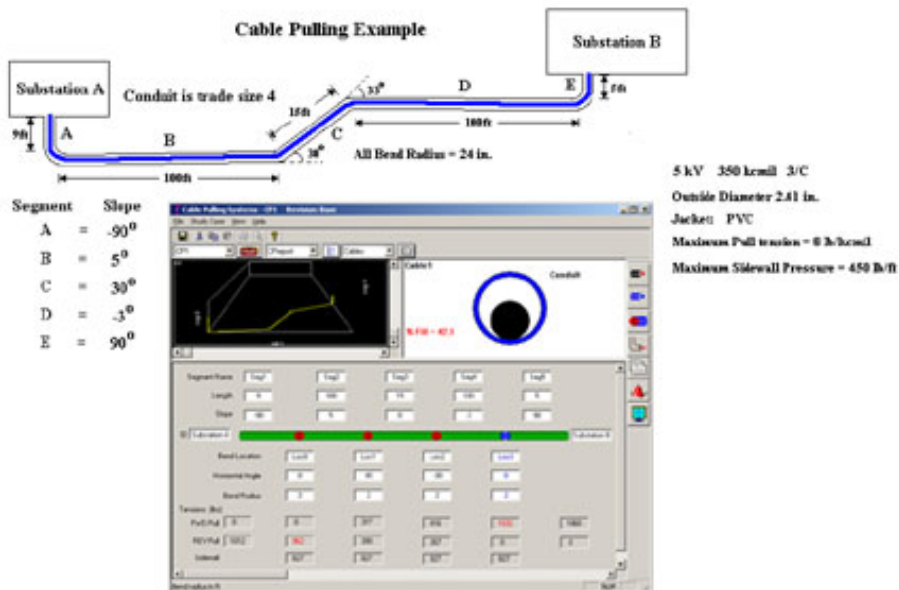
ETAP’s Cable Pulling program is a fully integrated software package and this allows the capability of inserting cables from existing ETAP one-line diagrams and underground raceway systems. You can easily transfer them to your Cable Pulling presentation.

The conduit cross-sectional view allows you to see the conduit percent fill. The program will give automatic warnings if the percent fill is exceeded.



**Pull Path Configuration**

The pull path is described by individual segments and bend locations. You can edit them by entering their corresponding length, slope, and horizontal angle values. Suppose you have the cable pull situation described below. You can easily create it by entering the listed conduit and cable data.



**Results**

When you perform the Cable Pulling calculation, the program displays the calculated forward, reverse and sidewall tensions below each location on the cable pulling presentation. Complete results are shown on the Cable Pulling reports. The program flags violations on the reports, Alert View Window, and the Cable Pulling presentation.

In the following example, the program has detected two sidewall pressure violations. These problems can be corrected by changing the bend radius from 2 ft to 3 ft.

Cable Pulling Results

Segment			Horizontal Bend			Sidewall Pressure	Total Tension	
ID	Length ft	Slope Deg	ID	Factor ft	Angle Deg	Maximum Tension lb	Forward Pull lb	Reverse Pull lb
Seg5	0.0	90.0				0.0	1011.7	
Seg5	100.0	3.0	Loc0	2.0	0.0	827.0	0.0	942.0
Seg5	33.0	0.0	Loc1	2.0	45.0	827.0	317.5	390.1
Seg6	100.0	3.0	Loc2	2.0	-30.0	827.0	416.5	367.9
Seg5	3.0	90.0	Loc3	2.0	0.0	827.0	1012.0	0.0
							1059.8	0.0

- Cable tension at Forward Pull exceeds the allowed pressure limit
- Cable tension at Reverse Pull exceeds the allowed pressure limit

Warning

Max. Allowable Tension [ 800 ] lb

Exceeds length of cable being pulled at the end [ 117 ] ft

Exceeds length of cable [ 128 ] ft

Max. Allowable Tension [ 800 ] lb

Exceeds length of cable being pulled at the end [ 117 ] ft

Exceeds length of cable [ 128 ] ft

Operation Technology, Inc.

