



Intelligent KMZ Files Modern Construction Packages Real Time Construction Status Foundation Load Automation Unique Structures

Presentation By:

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Agenda



Intelligent KMZ

Google Earth file with PLS-Cadd 3-D Model overlay merged with the intelligence in PLS-Cadd. Modernizing Construction Packages, Construction Status and data storage.



Foundation Load Analyzer

Finding the worst case foundation reactions for 241 poles in seconds.

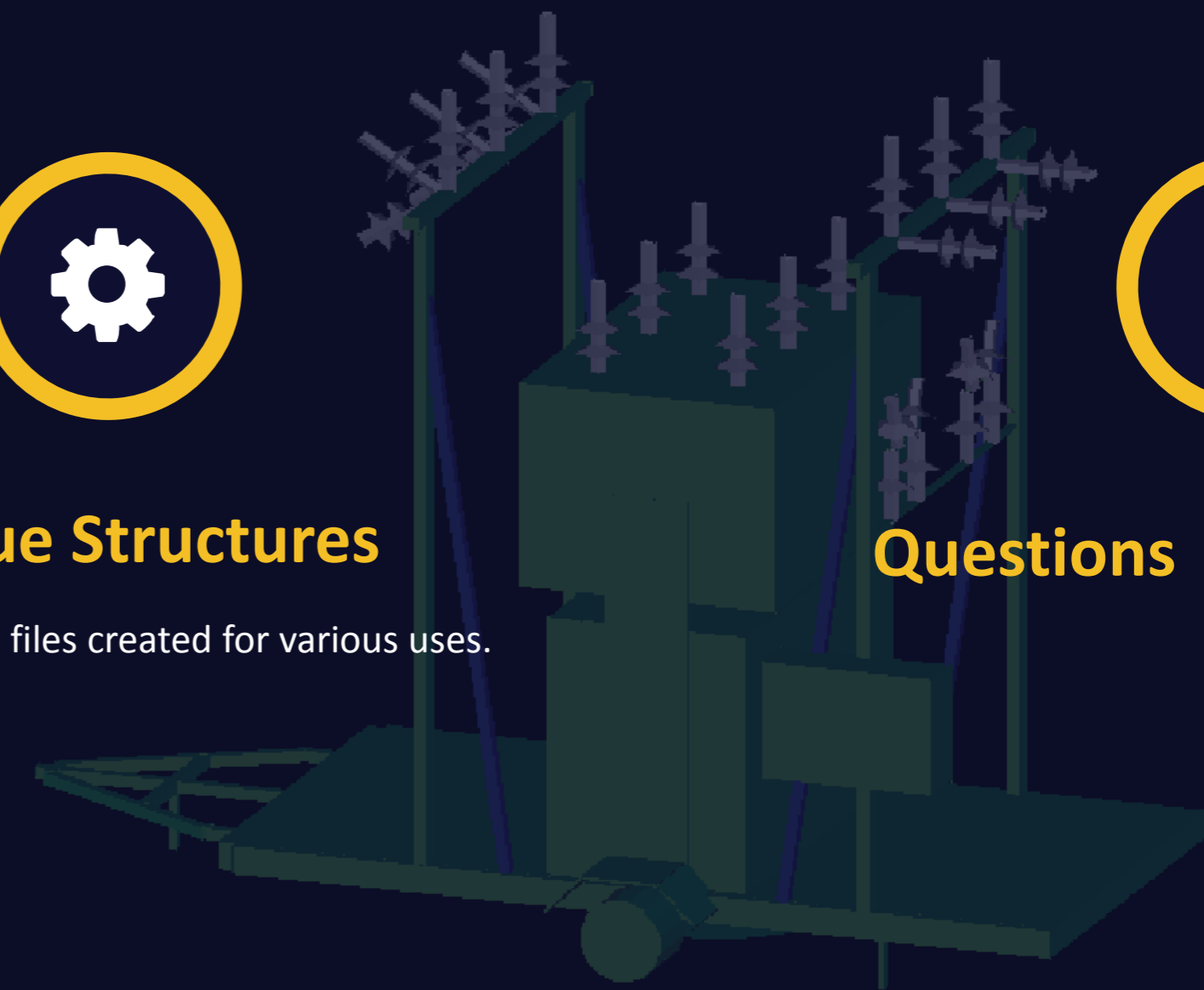


Unique Structures

Unique PLS-Pole files created for various uses.



Questions // Comments



Traditional T-Line Construction Package

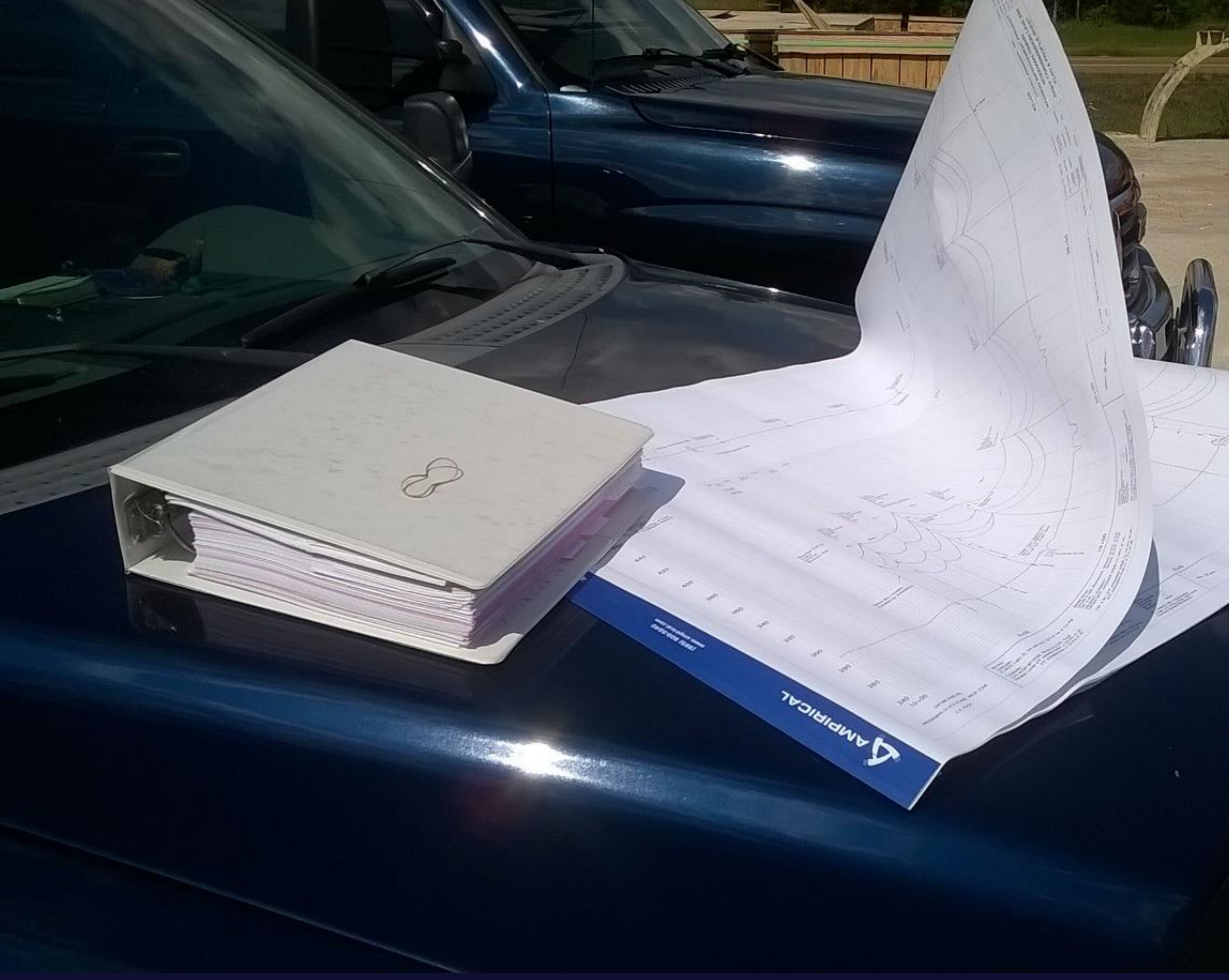
4" thick binder full of paper (537 pages)

Construction packages are typically divided by framing drawings, insulator assembly drawings, phasing drawings, sag charts, steel/concrete detail drawings, etc. This makes it difficult to find what you are looking for on a structure by structure basis.

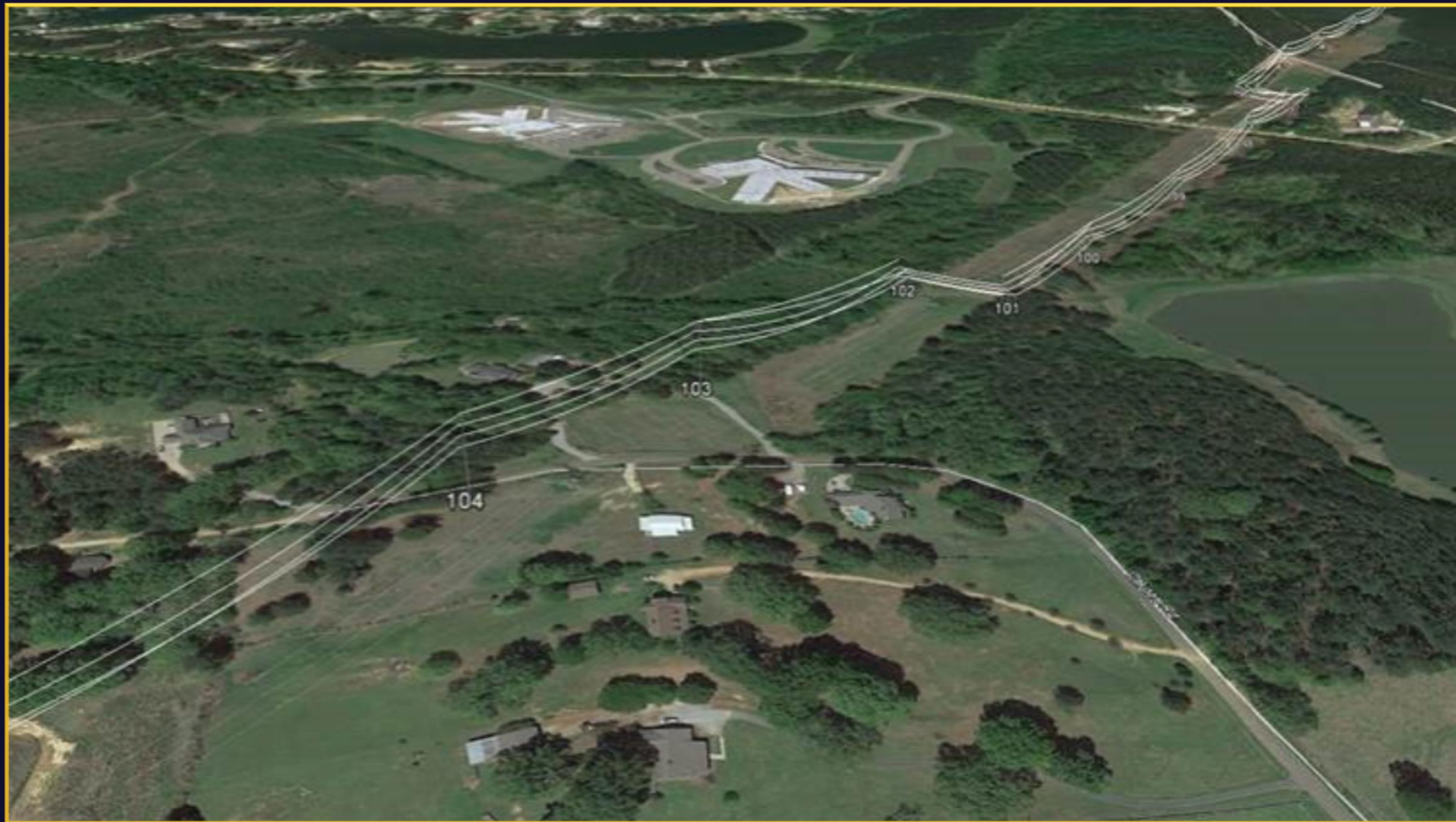
Steel vendor drawings (624 pages) comes in a massive drawing package where structures are grouped therefore not entirely in order.

Plan and profile drawings flapping in the wind on top of a pick-up truck.

Sag charts are grouped together and are in order by section # and can be difficult to find.



Traditional KMZ



KMZ export out of PLS is a great tool to use for estimating purposes, identifying access locations, giving the basic idea of what we want constructed, etc.

However, the simple KMZ export lacks a lot of the intelligent data from PLS-Cadd.

Ampirical has developed a way to combine the PLS-Cadd XML with a KMZ to create an intelligent KMZ model and a modern construction package.

Benefits

Integrating PLS-CADD, Project Information, KMZ into SharePoint Platform



User Friendly

Ease of locating drawings for a specific structure or section of conductor



No Additional Setup

SharePoint is currently used by utilities so it does not require additional setup



Tablet Accessible

On field personnel don't have to carry full size drawings and construction books. Everything is on a tablet



Secure

Secure platform // Permission controls



Real Time

Real time updates // Real time construction notes and pictures



Review and Storage

Review and storage of inspection data and forms

Advantages

What advantages could this have if it was done on a utilities complete system?



Easy to Locate

Easy to locate structure and conductor information during storm restoration



For Construction AND Maintenance

Use of this system is not only for construction, but also for maintenance

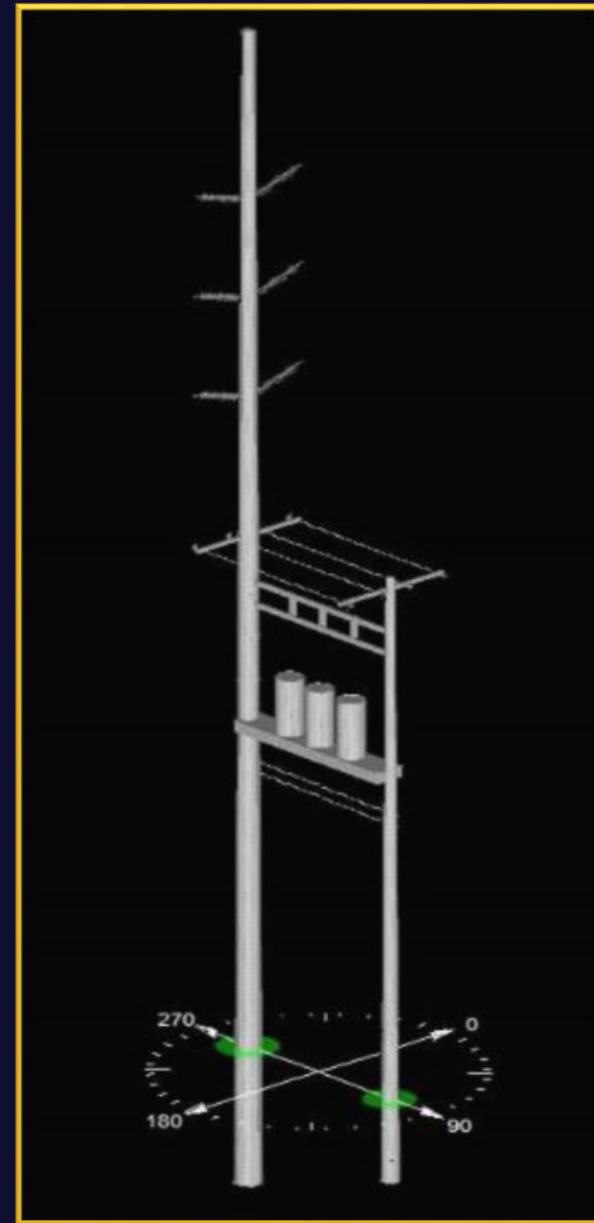
Foundation Tool

	A	B	C	D	E	F	G
1	Str. No.	Max. Vert. Force (kips)	Max. Shear Force (kips)	Max. Bending Moment (ft-k)	Max. Bending NESC Extreme Wind (ft-k)	Max. Bending Load Case	Max. Bending NESC Extreme Wind Load Case
2	1	-13.15	26.54	1578.8	1448.96	NESC Light NA-,I NA-	NESC Extreme Wind NA-,I NA-
3	2	-12.45	29.09	1718.83	1558.04	NESC Light NA-,I NA-	NESC Extreme Wind NA-,I NA-
4	3	-25.08	44.39	3458.74	2895.51	NESC Light NA+,I NA+	NESC Extreme Wind NA+,I NA+
5	4	-10.61	9.3	551.05	548.55	NESC Light NA-,I NA-	NESC Extreme Wind NA-,I NA-
6	5	-12.73	10.15	636.38	614.88	NESC Light NA+,I NA+	NESC Extreme Wind NA+,I NA+
7	6	-12.7	10.2	640.37	618.11	NESC Light NA+,I NA+	NESC Extreme Wind NA+,I NA+
8	7	-12.15	10.09	602.16	592.41	NESC Light NA-,I NA-	NESC Extreme Wind NA-,I NA-
9	8	-16.83	22.71	1551.57	1348.85	NESC Light NA+,I NA+	NESC Extreme Wind NA+,I NA+

Excel used to analyze foundation loads of entire line and give worst case foundation loads at each structure



Unique Structures



3-Phase Voltage Regulator Switch



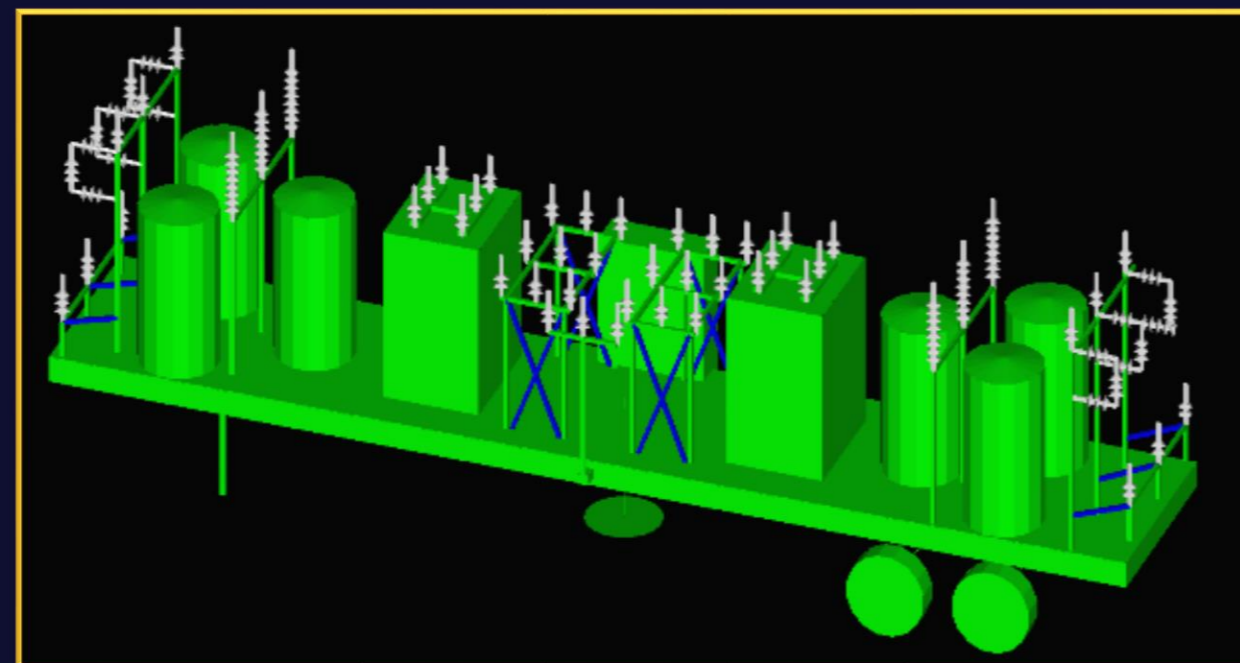
Vertical & Triangular (Delta Type) Switch 69kV



Sound Walls



Mobile Substations



Questions



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