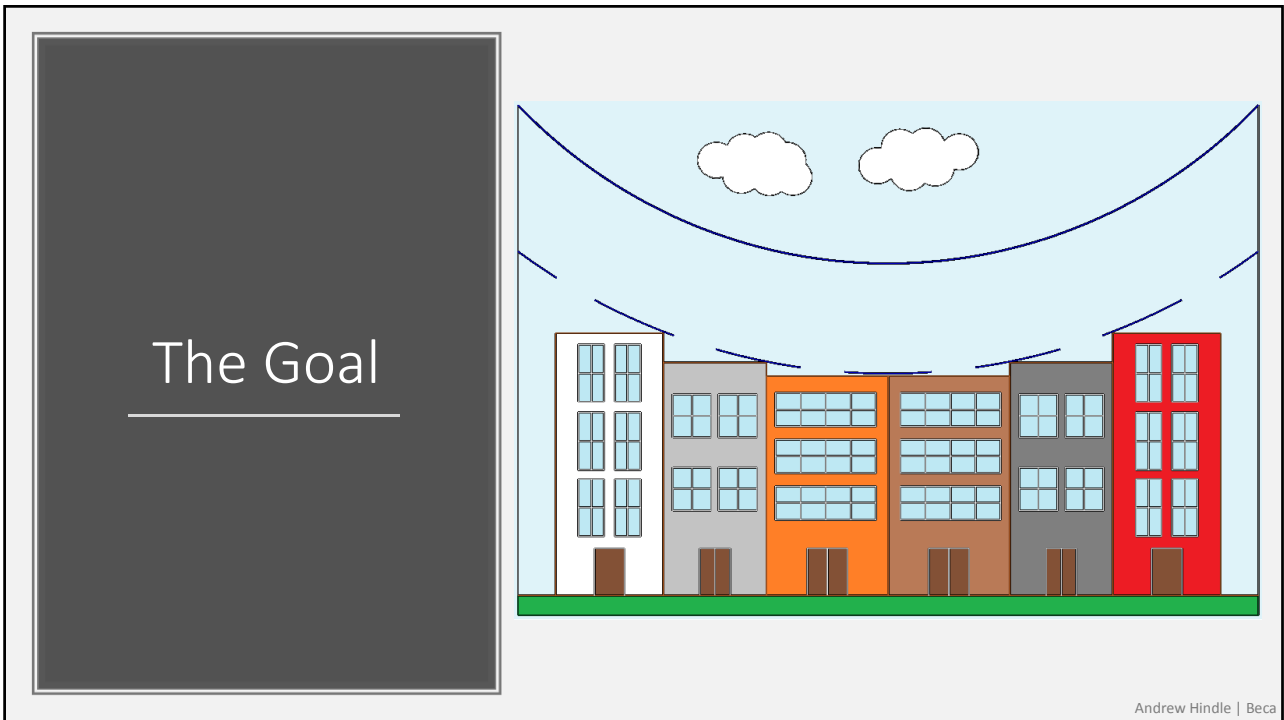


1



2



bUT I MEaSuRed iT AnD iT LoOkS FiNE tO mE?!?

Consider

- Wire temperature
- Windspeed
- Conductor type
- Span length
- Current
- Voltage
- Clearance requirements

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3

Relevant Standards

- NZECP 34 AND AS/ NZS 7000
- Generating weather cases
- Required clearance to ground, buildings and undercrossings
- Clearance values change with weather cases

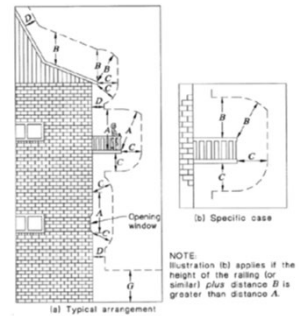
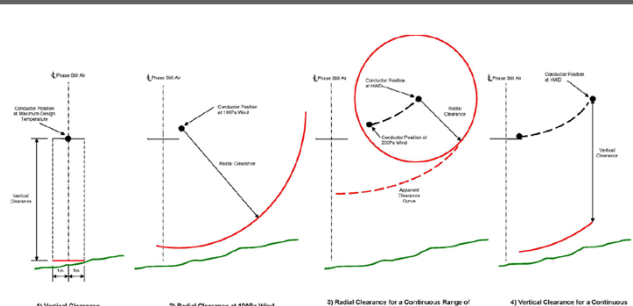


Figure 5: Structure Clearances (Extracted from AS/NZS 7000:2010)

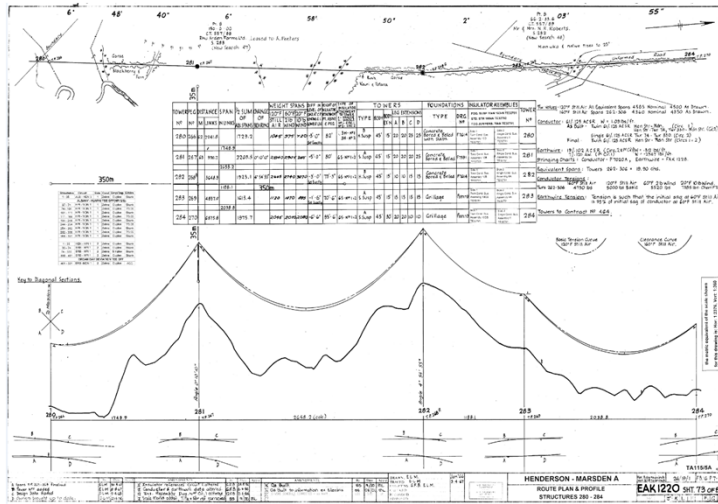
Location	Nominal Voltage (kV)				
	1-5V ≤ 33	33-66V ≤ 110	110-220V ≤ 220	350 d.c.	400 ⁰
A. Vertically above parts normally accessible to persons.	4.5	5.0	6.5	7.0	8.0
B. Vertically above parts not normally accessible, but on which a person can stand.	3.7	4.5	6.0	6.5	7.5
C. Any direction (other than vertically above) from parts normally accessible to persons, or parts where a person can stand, but are not normally accessible.	2.1	3.0	4.5	5.0	6.0
D. Any direction from parts of any structure not normally accessible.	1.5	2.5	3.5	4.0	5.0



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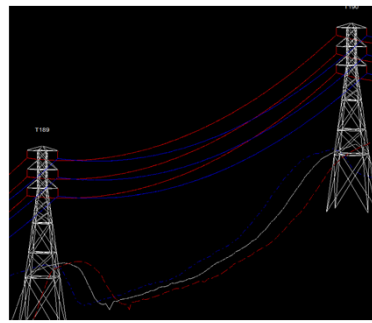
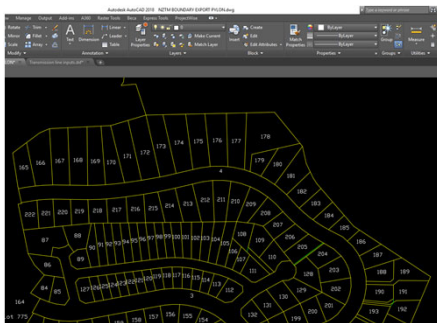
4

What would the old timers have done?



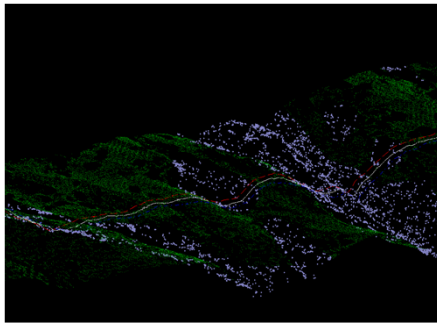
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5



Wind Speeds by direction for input to PLS-CADD

STRUCTURES	WIND SPEEDS		SUBSUMMARY		WIND SPEEDS	
	MAX	AVERAGE	MAX	AVERAGE	MAX	AVERAGE
...
...

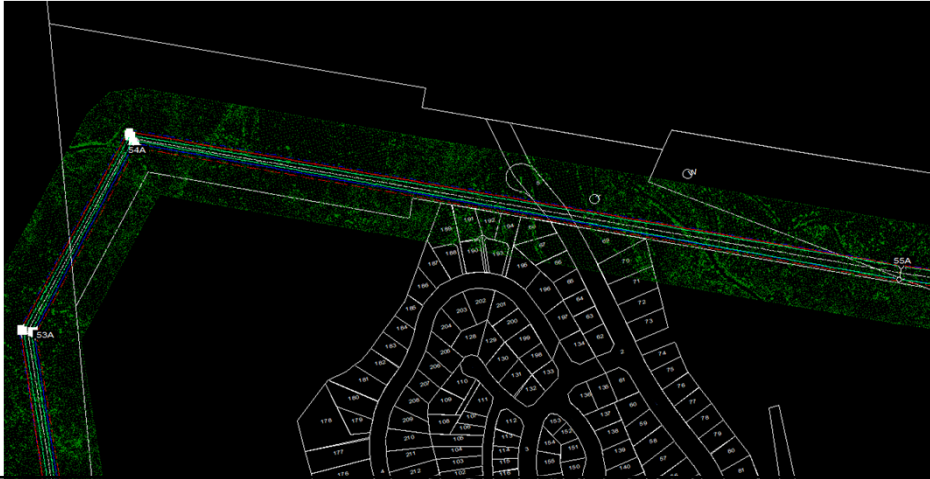


Today's technology

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6

Integration



7



Problem

How do we present a 3D solution to a client on a 2D drawing without leaving them confused?

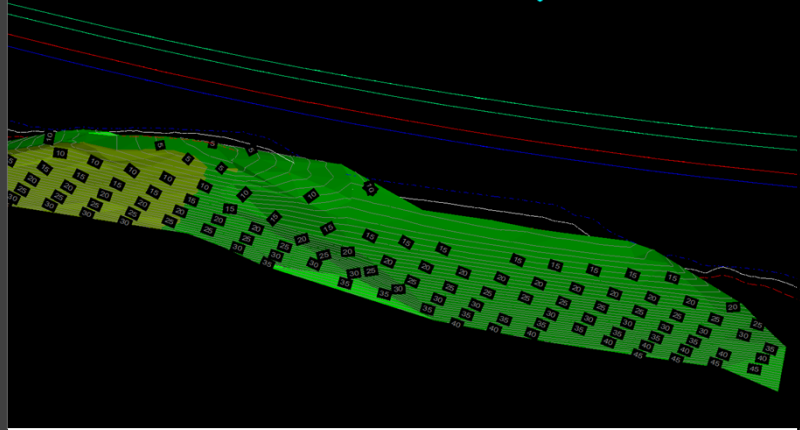


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PLS: A software in development

- Many features still under development
- Regular software updates
- More updates allow us to do more for our clients
- Development comes with bugs

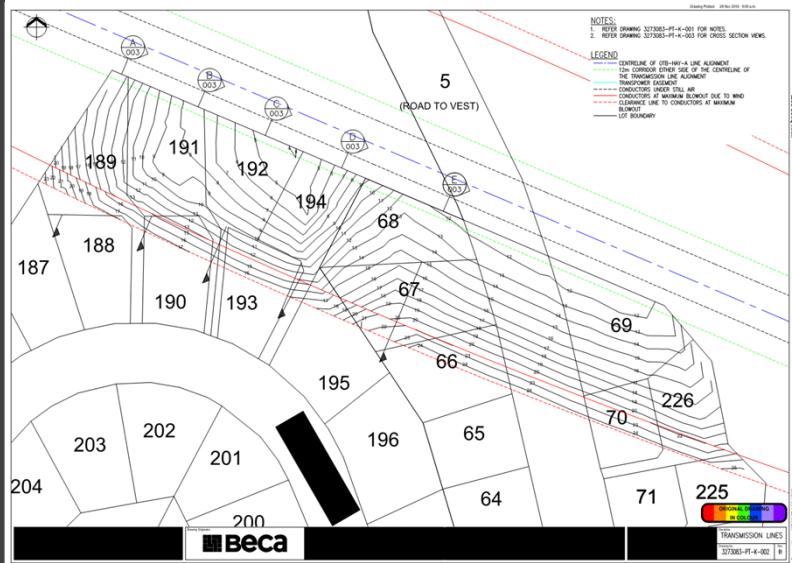


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The Final Product

- 3D solution onto a 2D page
- Usable by both engineers and non-engineers
- Colours and legend for clarity
- Additional cross-section drawings for affected sections
- Generated within a day




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Implications

- Land and housing prices
- Who is responsible?
- Who pays?
- Legally required?



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Thanks for listening!

Any questions?

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