

IOWA STATE UNIVERSITY

Department of Electrical and Computer Engineering



BLACK & VEATCH

115/34.5kV Solar Plant & Substation

Senior Design Project

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| Senior Design Team 41

| 12/5/2024

Agenda

- Safety Moment – Working Safely in Cold Weather Conditions
- Bill of Materials
- AutoCAD Updates

Safety Moment

Working Safely in Cold Weather Conditions

- Recognize symptoms of frostbite and hypothermia: numbness, shivering, fatigue, and disorientation.
- Allow for extra time to handle tasks when wearing heavy gloves.
- Use hand/foot warmers to maintain dexterity and reaction time.
- Keep a well-stocked first aid kit that includes items specifically for cold injuries.
- Wear layers of loose-fitting, lightweight, warm clothing.
- Use water-resistant coats and boots.



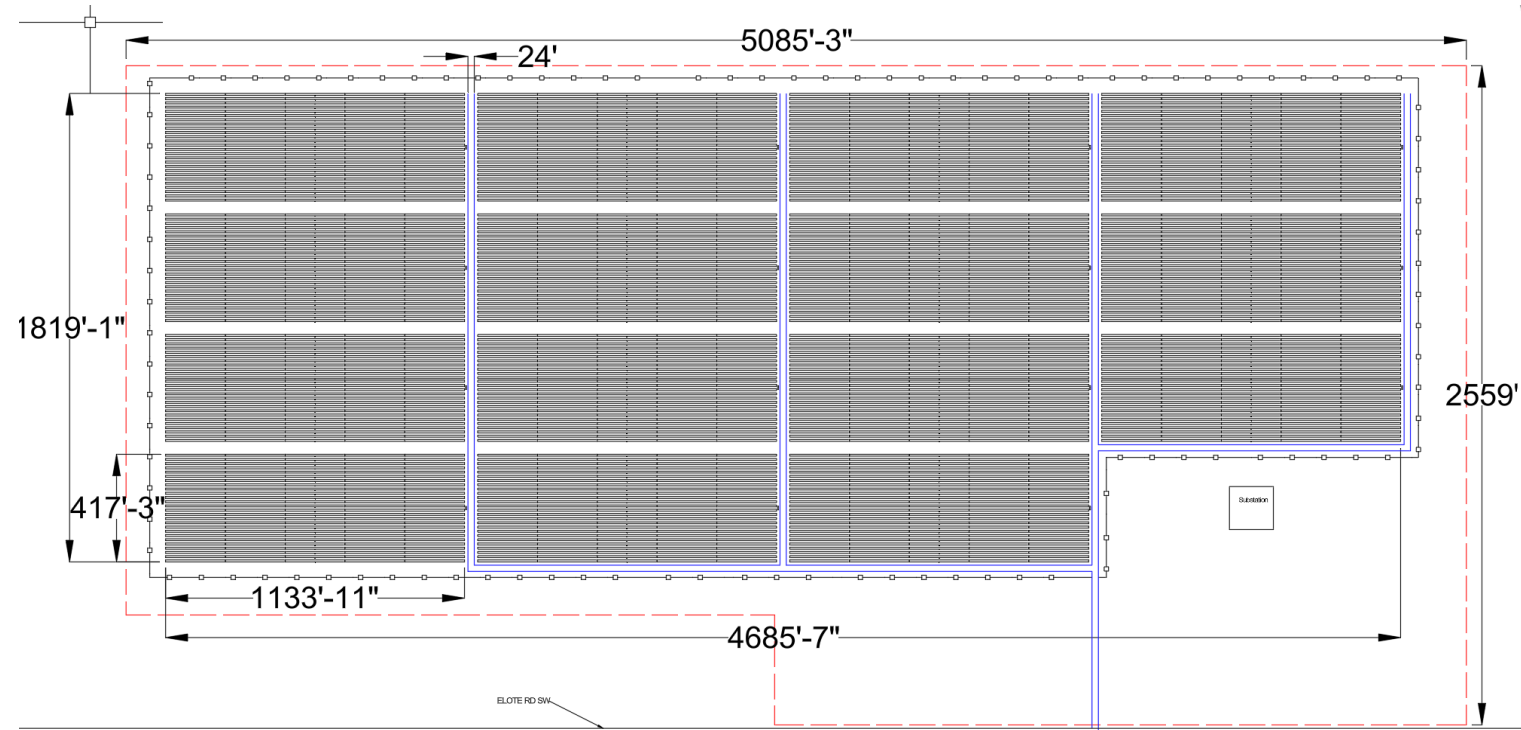
Bill of Materials

	A	B	C	D	E	F	G
1	60 MW Solar Farm Components						
2	Component Type	SKU/Model Number	Quantity	Price	Datasheet	Total Quantity Price	Pricing
3	Canadian Solar PV Modules	TOPBiHiKu7 CS7N-700TB-AG	113,100	\$223	Link	\$25,221,300	Link
4	DC Combiner Boxes	CA1500-24-20S	390	\$2,156.00	Link	\$840,840	Link
5	Inverters	SLG-330-0279	15	\$119,210.14	Link	\$1,788,152	Link
6	600 kcmil					\$0	
7	Land		311 Acres			\$217,700	Link
8	Fencing					\$0	
9	Labor		6+ Months @ \$24/hr., 50 Workers			\$0	Link
10						\$0	
11						\$0	
12						\$0	
13						\$0	
14						\$0	
15						\$0	
16						\$0	
17						\$0	
18					Total Cost	\$28,067,992	

- Will continually update
- Working on implementing this in an AutoCAD BOM sheet

AutoCAD Updates

- All changes from comments are complete
- Working on creating more drawings and adding more details (Roads, feeders, wiring, etc)



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THANK YOU

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