

PV STRING SPECIFICATIONS (NOMINAL DESIGN LENGTH)	
NOMINAL MODULES PER STRING	26 MODULES
Voc ARRAY MAX (715 W)	(26 x 49.1 V) = 1276.6 V
DESIGN MINIMUM TEMPERATURE	-43.4°C (SOURCE; ENVIRONMENT CANADA, EXTREME MINIMUM TEMPERATURE OF 'ESTEVAN' WEATHER STATION)
Pmpp TEMPERATURE COEFFICIENT	-0.290%/°C
Voc TEMPERATURE COEFFICIENT	-0.240%/°C
Isc TEMPERATURE COEFFICIENT	0.040%/°C
CALCULATED ARRAY MAX VOLTAGE PER CSA CEC SECTION 64-202(2)	Vmax ARRAY = Voc ARRAY x (1+(Tmin - Tstc) x Voctempco)
	1276.6 V x (1+(-43.4C - 25C) x -0.24%/C) = 1486.17 V

PS SPECIFICATIONS	
INVERTER MODEL	SUNGROW SG3150UD-MV-US
INVERTER RATED UNIT CAPACITY	4400kVA @ 40°C
MAX DC INPUT VOLTAGE	1500 VDC
DC INPUT FUSE RATING	400A 500A
MAX DC CONTINUOUS CURRENT	4 x 1226 A
MAX DC SHORT CIRCUIT CURRENT	4 x 3528 A
TEMPERATURE RANGE	-40°C TO +60°C WITH ACTIVE POWER DERATING > 40°C
INVERTER AC VOLTAGE	645 V
MV TRANSFORMER	4400kVA 0.645kV / 34.5kV DEADFRONT, LOOP-FED PADMOUNTED TRANSFORMER LOAD BREAK SWITCH W/ INTEGRAL CLF & EXP. FUSING 34.5kV : 645V, Dy1 or Dy11, DELTA PRIMARY WYE-UNGROUNDDED SECONDARY +/-5% IN 5 STEPS HV: 150 KV BIL Z = 8% (ESTIMATED)

COMBINER BOX SPECIFICATIONS		
COMBINER BOX RATING (OUTPUT DISCONNECT)	400 A	500 A
VOLTAGE RATING	1500 VDC	1500 VDC
NUMBER OF INPUTS	14	18
STRING FUSING	14 1500VDC 30A SOLAR PV FINGER-SAFE FUSES ON POSITIVE POLE ONLY	18 1500VDC 30A SOLAR PV FINGER-SAFE FUSES ON POSITIVE POLE ONLY
HOMERUN TERMINATION TEMP RATING	90C	90C
SURGE PROTECTION	REQUIRED	REQUIRED
SMART MONITORING	NONE	NONE

RACKING SPECIFICATIONS	
RACKING MODEL	NEXTRACKER XTR-0.75
ORIENTATION	1 IN PORTRAIT SINGLE HORIZONTAL N-S AXIS
MAX ROTATION	+/- 60 DEGREES
MOTOR CONTROL POWER	WIRED FROM AUX PANEL

FEEDER	SKID	# OF 2 STRING TABLES	# OF 3 STRING TABLES	# OF 4 STRING TABLES	# OF STRINGS	# OF 710W MODULES	# OF 715W MODULES	# OF MODULES TOTAL	# OF COMBINERS	DC (MW)	AC (MW)	INVERTER LOADING RATIO
1	F1-PS01	0	0	64	256	0	6656	6656	17	4.759	4.4	1.082
	F1-PS02	5	38	33	256	6656	0	6656	17	4.726	4.4	1.074
	F1-PS03	0	23	47	257	6682	0	6682	18	4.744	4.4	1.078
	F1-PS04	2	13	54	259	6734	0	6734	17	4.781	4.4	1.087
	F1-PS05	3	10	56	260	6760	0	6760	16	4.800	4.4	1.091
	F1-PS06	26	3	49	257	6682	0	6682	16	4.744	4.4	1.078
	F1-PS07	7	28	40	258	6708	0	6708	16	4.763	4.4	1.082
	SUBTOTAL	43	115	343	1803	40222	6656	46878	117	33.317	30.8	1.082
2	F2-PS08	0	3	62	257	6682	0	6682	16	4.744	4.4	1.078
	F2-PS09	0	3	62	257	0	6682	6682	17	4.778	4.4	1.086
	F2-PS10	0	3	62	257	0	6682	6682	17	4.778	4.4	1.086
	F2-PS11	0	5	61	259	6734	0	6734	16	4.781	4.4	1.087
	F2-PS12	11	20	44	258	6708	0	6708	17	4.763	4.4	1.082
	F2-PS13	0	6	60	258	6708	0	6708	16	4.763	4.4	1.082
	F2-PS14	0	7	59	257	6682	0	6682	17	4.744	4.4	1.078
	SUBTOTAL	11	47	410	1803	33514	13364	46878	116	33.350	30.8	1.083
3	F3-PS15	0	3	62	257	6682	0	6682	17	4.744	4.4	1.078
	F3-PS16	0	31	41	257	6682	0	6682	17	4.744	4.4	1.078
	F3-PS17	0	17	52	259	6734	0	6734	17	4.781	4.4	1.087
	F3-PS18	25	14	41	256	0	6656	6656	17	4.759	4.4	1.082
	F3-PS19	0	7	59	257	6682	0	6682	16	4.744	4.4	1.078
	F3-PS20	0	3	62	257	0	6682	6682	16	4.778	4.4	1.086
	F3-PS21	4	11	54	257	6682	0	6682	17	4.744	4.4	1.078
	SUBTOTAL	29	86	371	1800	33462	13338	46800	117	33.295	30.8	1.081
4	F4-PS22	0	5	61	259	6734	0	6734	17	4.781	4.4	1.087
	F4-PS23	0	3	62	257	0	6682	6682	16	4.778	4.4	1.086
	F4-PS24	0	3	62	257	0	6682	6682	17	4.778	4.4	1.086
	F4-PS25	0	5	61	259	6734	0	6734	16	4.781	4.4	1.087
	F4-PS26	0	3	62	257	0	6682	6682	16	4.778	4.4	1.086
	F4-PS27	1	3	62	259	6734	0	6734	17	4.781	4.4	1.087
	SUBTOTAL	1	22	370	1548	20202	20046	40248	99	28.676	26.4	1.086
TOTAL CAPACITY		84	270	1494	6954	127400	53404	180804	449	128.638	118.8	1.083
GRID LIMIT *										128.638	100.0	1.286
* EXPORTED POWER AT PCC REGULATED BY POWER PLANT CONTROLLER AND LIMITED TO 100 MW												



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

PROJECT LEADER:



Barton Malow
CANADA

BARTON MALOW CANADA
193 STOCKTON AVENUE
OKOTOKS, AB T1S 2C3

ELECTRICAL CONSULTANT:



POWERHAUS CONSULTING
901 GUELPH LINE
BURLINGTON, ON L7R 3N8

REVISION			
#	DATE	DESCRIPTION	BY
01	2025-06-18	ISSUED FOR BID SUBMISSION	RSG
02	2025-08-14	ISSUED FOR REVIEW	BAC
03	2025-08-29	ISSUED FOR PERMITTING	BAC

DRAWING TITLE:

SYSTEM SPECIFICATIONS

PROJECT SITE:

TURNING SUN SOLAR PROJECT

100 MWAC SOLAR (PV)
TRANSMISSION CONNECTED

ESTEVAN, SK
CANADA

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ENGINEER:

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

PROJECT NUMBER:

25_39_TURNINGSUN

DRAWN BY:

BK

DRAWING NUMBER:

CHECKED BY:

BAC

UNITS:

METRIC

SCALE:

N.T.S.

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