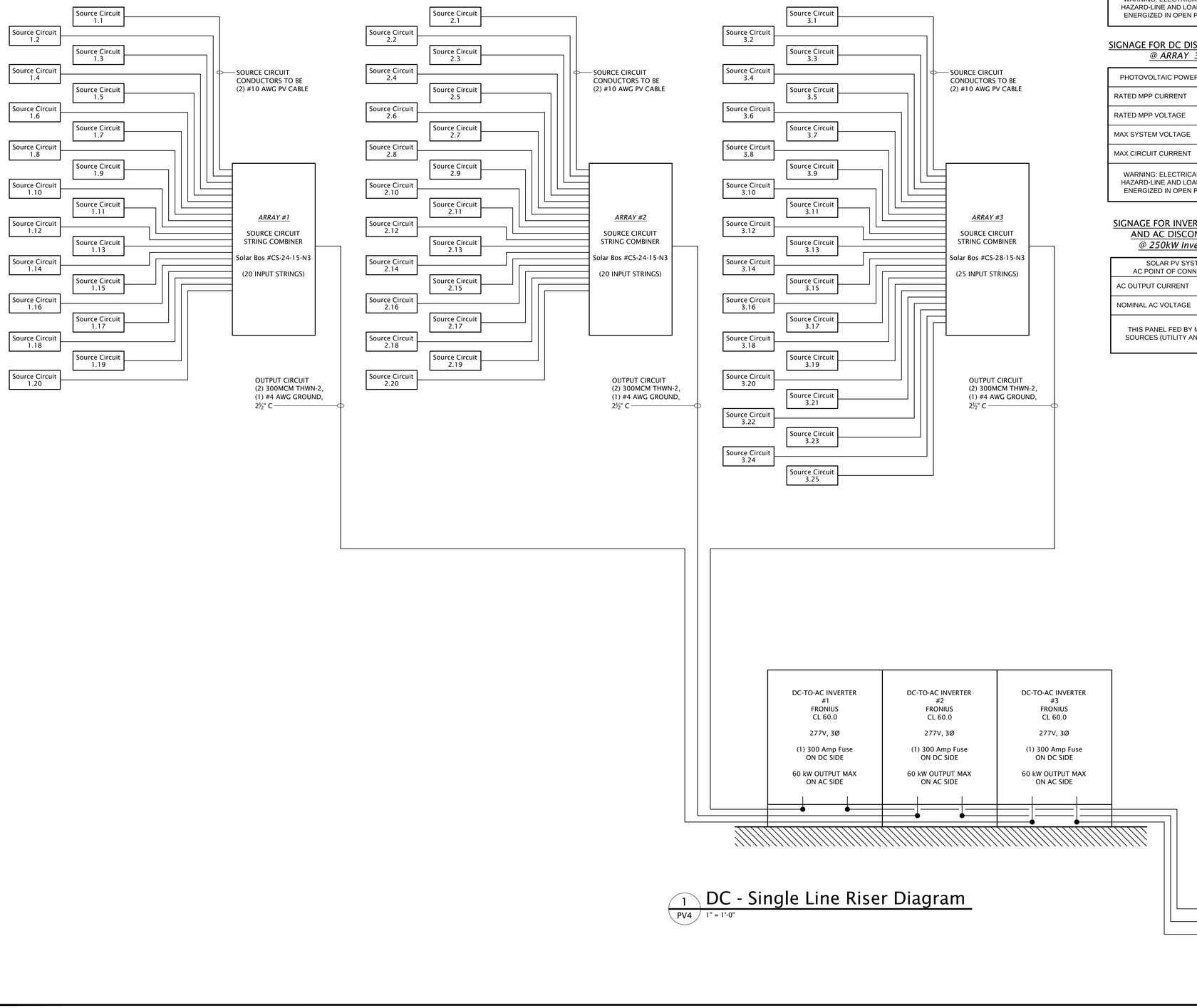
NOTE:
EACH RACKING SYSTEM TO BE GROUNDED WITH A CONTINUOUS GROUNDING SYSTEM SUCH AS WEEB CONNECTORS. RUN COPPER GROUND WIRE BACK TO SYSTEM GROUND.



1 PV4 DC - Single Line Riser Diagram
1" = 1'-0"

SIGNAGE FOR DC DISCONNECT
@ ARRAYS 1 & 2

PHOTOVOLTAIC POWER SOURCE	
RATED MPP CURRENT	166A
RATED MPP VOLTAGE	385V
MAX SYSTEM VOLTAGE	600V
MAX CIRCUIT CURRENT	221A

WARNING: ELECTRICAL SHOCK HAZARD-LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION

SIGNAGE FOR DC DISCONNECT
@ ARRAY 3

PHOTOVOLTAIC POWER SOURCE	
RATED MPP CURRENT	149A
RATED MPP VOLTAGE	437V
MAX SYSTEM VOLTAGE	600V
MAX CIRCUIT CURRENT	201A

WARNING: ELECTRICAL SHOCK HAZARD-LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION

SIGNAGE FOR INVERTER OCPD AND AC DISCONNECT
@ 250kW Inverter

SOLAR PV SYSTEM AC POINT OF CONNECTION	
AC OUTPUT CURRENT	xxxA
NOMINAL AC VOLTAGE	480V

THIS PANEL FED BY MULTIPLE SOURCES (UTILITY AND SOLAR)

ARRAYS 1 & 2

PV MODULE RATINGS

MODULE MANUFACTURER	Yingli
MODULE MODEL NUMBER	YL245P-29b
MAX POWER-POINT CURRENT (Imp)	8.28 A
MAX POWER-POINT VOLTAGE (Vmp)	29.6 V
SHORT-CIRCUIT CURRENT (Isc)	8.83 A
OPEN-CIRCUIT VOLTAGE (Voc)	37.5 V
MAX SERIES FUSE (OCPD)	15A
MAXIMUM POWER (Pmax)	245 W
MAX SYSTEM VOLTAGE	1000 V
Voc TEMP COEFF	-0.32 %/˚C

PV CIRCUIT DESIGN

NUMBER OF MODULES IN SOURCE CIRCUIT	13
NUMBER OF SOURCE CIRCUITS PER ARRAY	20
TOTAL NUMBER OF MODULES PER ARRAY	260
ARRAY VOLTAGE (VOC)	487.5 V
WIRE VOLT REQUIRED	600 V
OPEN CIRCUIT CURRENT (ISC)	176.6 AMP
OPEN CIRCUIT MAXIMUM CURRENT (Imax)	220.75 AMP
AMBIENT TEMPERATURE	32˚C
TEMPERATURE INCREASE (0.5"-3.5" ABOVE ROOF)	22˚C
EFFECTIVE TEMPERATURE	54˚C
CORRECTION FACTOR - TEMPERATURE	0.76
CORRECTION FACTOR - <4 CONDUCTORS	1.00
CALCULATION: 2014 NEC 690.8(B)(1)	
Imax x 125%	275.94 AMP
NEXT FUSE SIZE	300 AMP
CONDUCTOR AMPACITY @ 90˚C	320 AMP
WIRE SIZE NEEDED (THWN-2)	300 kcmil
CALCULATION: 2014 NEC 690.8(B)(2)	
Imax x (1/0.76) =	290.46 AMP
NEXT FUSE SIZE	300 AMP
CONDUCTOR AMPACITY @ 90˚C	320 AMP
WIRE SIZE NEEDED (THWN-2)	300 kcmil

ARRAY 3

PV MODULE RATINGS

MODULE MANUFACTURER	SunPower
MODULE MODEL NUMBER	SPR-435NE-WHT-D
MAX POWER-POINT CURRENT (Imp)	5.97 A
MAX POWER-POINT VOLTAGE (Vmp)	72.9 V
SHORT-CIRCUIT CURRENT (Isc)	6.43 A
OPEN-CIRCUIT VOLTAGE (Voc)	85.6 V
MAX SERIES FUSE (OCPD)	20A
MAXIMUM POWER (Pmax)	435 W
MAX SYSTEM VOLTAGE	1000 V
Voc TEMP COEFF	-0.38 %/˚C

PV CIRCUIT DESIGN

NUMBER OF MODULES IN SOURCE CIRCUIT	6
NUMBER OF SOURCE CIRCUITS PER ARRAY	25
TOTAL NUMBER OF MODULES PER ARRAY	150
ARRAY VOLTAGE (VOC)	513.6 V
WIRE VOLT REQUIRED	600 V
OPEN CIRCUIT CURRENT (ISC)	160.75 AMP
OPEN CIRCUIT MAXIMUM CURRENT (Imax)	200.94 AMP
AMBIENT TEMPERATURE	32˚C
TEMPERATURE INCREASE (0.5"-3.5" ABOVE ROOF)	22˚C
EFFECTIVE TEMPERATURE	54˚C
CORRECTION FACTOR - TEMPERATURE	0.76
CORRECTION FACTOR - <4 CONDUCTORS	1.00
CALCULATION: 2014 NEC 690.8(B)(1)	
Imax x 125%	251.17 AMP
NEXT FUSE SIZE	300 AMP
CONDUCTOR AMPACITY @ 90˚C	320 AMP
WIRE SIZE NEEDED (THWN-2)	300 kcmil
CALCULATION: 2014 NEC 690.8(B)(2)	
Imax x (1/0.76) =	264.39 AMP
NEXT FUSE SIZE	300 AMP
CONDUCTOR AMPACITY @ 90˚C	320 AMP
WIRE SIZE NEEDED (THWN-2)	300 kcmil

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Project No : 2014-301
Design By : CD
Drawn By : TMK

Date	Description
5-6-14	PRELIMINARY DESIGN

CHECK SET
Not for Construction
5-6-2014

Solar Array for
JENNINGS COUNTY PUBLIC LIBRARY
2375 Indiana 3
North Vernon, Indiana

DC Side Diagrams

PV4