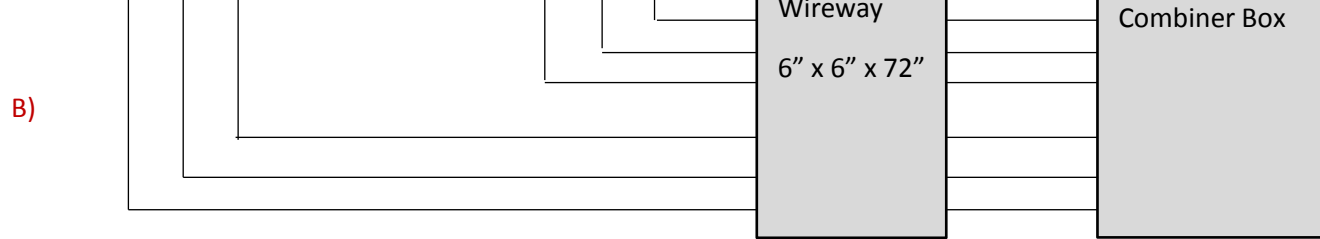
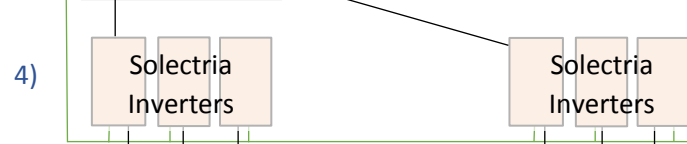
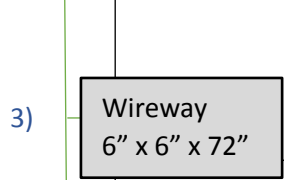
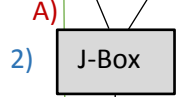


Roof mounted
Solar Modules
Strings series



B) Inverter Output Circuit Current

6600W Current:	27.5A
3800W Current:	15.8A
Wire Gage:	8
Amp Rating:	50
Conduit Fill:	0.93
Temp De-Rate:	0.82
Wire OCPD:	38.13

TEMP SPECS

Ave Ambient Temp:	25°C
Ave Ambient Temp Correction:	1.04
Roof Temp Adder (3.5"):	17°C
Temp Corrected (Roof Top):	42°C
Record Low (Factor 1.16):	-15°C
Conductor Temp Rating:	90°C

Customer: Tanner Electric
Address: 45710 North Bend Way
North Bend, WA 98045
Phone: 425-888-0623
Designer: Forecast Solar LLC
Phone: 425 487-6000
Project Manager: Morgan Zehrung
Phone: 360-860-1129

Size: 48.7 kW
Modules: 96-Itek 280W
80-Itek 285W B
Inverter: 5-Solectria 6.6
1-Solectria 3.8

A

Maximum PV Source Circuit Current

Max 285W mods Isc: 8.7 x 1.25=	10.88
Max 280W mods Isc: 8.6 x 1.25=	10.75

Conductor Ampacity

Max 285W mods Isc: 8.7 x 1.56=	13.57
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Maximum Voltage - Temp Correction

Max string Voltage 12 x 39.5V=	474V
Mod Rated Temp:	48.2°C
Site Record Low:	-15°C
Temp Coeff Voc (-0.32%x63.2°C):	20.23%
Maximum Voltage Corrected For Temp:	568.8

Wire Sizing

WIRE OCP = AMP RATING x TEMP DE-RATE x CONDUIT FILL.
MAX AC & DC Isc TO BE LESS OR EQUAL TO WIRE OCP FOR WIRE TO BE APPROVED BY 2011 NEC

#10 AWG THHN/THWN-2	40A
Ambient Temp Adj for 25°C	1.04
Roof Top Temp Adj for 3.5" Off Roof	0.82
Conduit bundling 31-40 Wires	0.40
A x Temp x Bundle 40Ax1.04x0.82x0.4 =	13.64A

B

Conductor Ampacity

6600W Continuous Current:	27.5A
3800W Continuous Current:	15.8A

Wire Sizing:

WIRE OCP = AMP RATING x TEMP DE-RATE x CONDUIT FILL. MAX AC & DC Isc TO BE LESS OR EQUAL TO WIRE OCP FOR WIRE TO BE APPROVED BY 2011 NEC

Wire Gage:	8
Amp Rating:	55A
Bundling De-rate:	0.5
Temp Correction:	1.04
Wire OCPD:	28.6A

3

Wireway

Wireway Size 6"x6":	36 in ²
Allowable Cable Area:	7.2 in ²
Conduit Bundling De-Rate:	0.4
Corrected Allowable Area:	2.88 in ²

Conductor Sizing

32 #10 AWG = 32 x 0.0211in ² :	0.6752 in ²
12 #8 AWG = 12 x 0.0366in ² :	0.4392 in ²
Total Conductor in ² :	1.1144 in ²

MODULE:

-- Itek 280 HE

Max Power - P _{MAX} (Wp)	280
Max Power V - V _{MPP} (V)	32.3
Max Power C - I _{MPP} (A)	8.6
Open Circuit V - V _{OC} (V)	39.2
Short Circuit C - I _{SC} (A)	9.3
Power Density (W/m ²)	171

-- Itek 285 HE

Max Power - P _{MAX} (Wp)	285
Max Power V - V _{MPP} (V)	32.4
Max Power C - I _{MPP} (A)	8.7
Open Circuit V - V _{OC} (V)	39.5
Short Circuit C - I _{SC} (A)	9.4
Power Density (W/m ²)	174.1

EQUIPMENT SCHEDULE

- PV array. 96 280W and 80 285W Itek modules. Strings of 12 and 10.
- J-Box - Junction from 10/1 UF exterior cable to 10/2 THWN in 2" PVC conduit.
- 6" x 6" x 72" Gutter Box
- 5 Solectria 6600PVI and 1 Solectria 3800 PVI string inverters.
- Combiner Box 200A main breaker 120/240V sub panel. 40A breaker for each inverter.
- Combiner box. 200 amp output.
- Production meter.

WIRE SCHEDULE:

A) 10/1 UF exterior cable, #6 GND/GEC	100'
B) 18(2x#10) THWN in 2" PVC Conduit, #6 GND/GEC	30'
C) Inverter output circuit in 2" PVC, 3x#6 THWN, #6 GND/GEC	12'
D) Combiner box to Pro meter 2" PVC, 2x 4/0 ALU, 2/0 N ALU	3'

INVERTERS:

-- Solectria PVI 6600TL Itek Line Inverter

Rated Output Power	6600W
Continuous Output Current	27.5A
Nominal Output Voltage	240V
Nominal Output Frequency	60Hz
Power Factor	>0.99

-- Solectria PVI 3800TL Itek Line Inverter

Rated Output Power	3800W
Continuous Output Current	15.8A
Nominal Output Voltage	240V
Nominal Output Frequency	60Hz
Power Factor	>0.99

C)

Max/Continuous Isc:	27.5
Wire Gage:	8
Amp Rating:	55
Conduit Fill:	0.93
Temp De-Rate:	0.82
Wire OCPD:	30.5

(A)

Maximum PV Source Circuit Current

Max 285W mods Isc:	$8.7 \times 1.25 =$	10.88
Max 280W mods Isc:	$8.6 \times 1.25 =$	10.75

Conductor Ampacity

Max 285W mods Isc:	$8.7 \times 1.56 =$	13.57
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Maximum Voltage - Temp Correction

Max string Voltage 12 x 39.5V=	474V
Mod Rated Temp:	48.2°C
Site Record Low:	-15°C
Temp Coeff Voc (-0.32% \times 63.2°C):	20.23%
Maximum Voltage Corrected For Temp:	568.8V

WIRE SIZEING

WIRE OCP = AMP RATING \times TEMP DE-RATE \times
CONDUIT FILL. MAX AC & DC Isc TO BE LESS OR
EQUAL TO WIRE OCP FOR WIRE TO BE APPROVED BY
2011 NEC

#10 AWG THHN/THWN-2 40A

Ambient Temp Adj for 25°C 1.05