

**TOWN OF HIGH LEVEL
DEVELOPMENT PERMIT**

PERMIT NO.: **DP25-040**
PROPOSED USE: **Permitted Use – 311.22 ft² Solar Collector (Solar Collectors)**
APPLICANT: **Matthew Callghan, Firefly Solar**
LANDOWNER: **Ken Wassing**
LOCATION: **Lot 12A, Block 17, Plan 402NY**

A development involving Application No. DP25-040 has been Approved with Conditions.

- 1. The site shall be developed in accordance with the site drawings and information attached hereto as Schedule A.**
- 2. The Applicant/Registered Owner shall provide the development authority with a copy of the required approvals from the Alberta Utilities Commission (AUC) and any other provincial or federal agency or utility company prior to the operation of any grid-connected solar energy system.**
- 3. Development must be commenced within one (1) year from the Date of Issue. If at the expiry of this period, the development has not commenced, this Permit shall be null and void.**
- 4. The Applicant/Registered Owner shall ensure there is no damage to municipal property resulting from this permit. Costs for repairs of municipal property will be assessed by the Town of High Level and will be charged back to the applicant.**

You are hereby authorized to proceed with the development specified, provided that any stated conditions are complied with, that all other applicable permits are obtained, and that the appropriate appeal period has been exhausted. Should an appeal be made against this decision to the Subdivision and Development Appeal Board, this Development Permit shall not come into effect until the appeal has been determined and the Permit upheld, modified or nullified.

DATE OF DECISION OF DEVELOPMENT PERMIT: **November 25, 2025**

DATE OF ISSUE OF DEVELOPMENT PERMIT: **December 17, 2025**

DATE OF VALIDITY OF DEVELOPMENT PERMIT: **December 17, 2025**

SIGNATURE OF DEVELOPMENT AUTHORITY:



Viv Thoss

NOTES:

1. If the development is found to be incorrectly placed, the applicant may be required to move or remove the development at the sole expense of the Applicant/Registered Owner. Any changes to the attached plans will require a new development permit.
2. An appeal can be made by filing a written notice of appeal along with payment to the **Subdivision and Development Appeal Board (10511 103rd Street, High Level, AB, T0H 1Z0)** within 21 days from the date of the receipt of this decision. In the case of an appeal made by a person referred to in section 685(2) of the *Municipal Government Act*, within 21 days after the date on which the notice of the issuance of the permit was given.
3. **This is a Development Permit ONLY.** Issuance of this Permit does not excuse the applicant from satisfying all other applicable municipal, provincial and/or federal requirements.

OTHER PERMITS ARE REQUIRED

In the interest of public safety and as required by the Safety Codes Act construction permits must be obtained before commencing any work. Required permits may include building, electrical, gas, plumbing, and private sewage. Additionally, the Town of High Level requires permits for water & sewer connection, new accesses, and driveways.

PLEASE NOTE

The Applicant and/or Registered Owner are responsible for applying for, and receiving, all necessary permits prior to beginning construction. Ensure that you or your contractors obtain all other required permits related to the development. For more information regarding how to obtain the required permits, contact Superior Safety Codes 1-866-999-4777. If you are unsure which additional municipal permits you may need, please contact development@highlevel.ca.

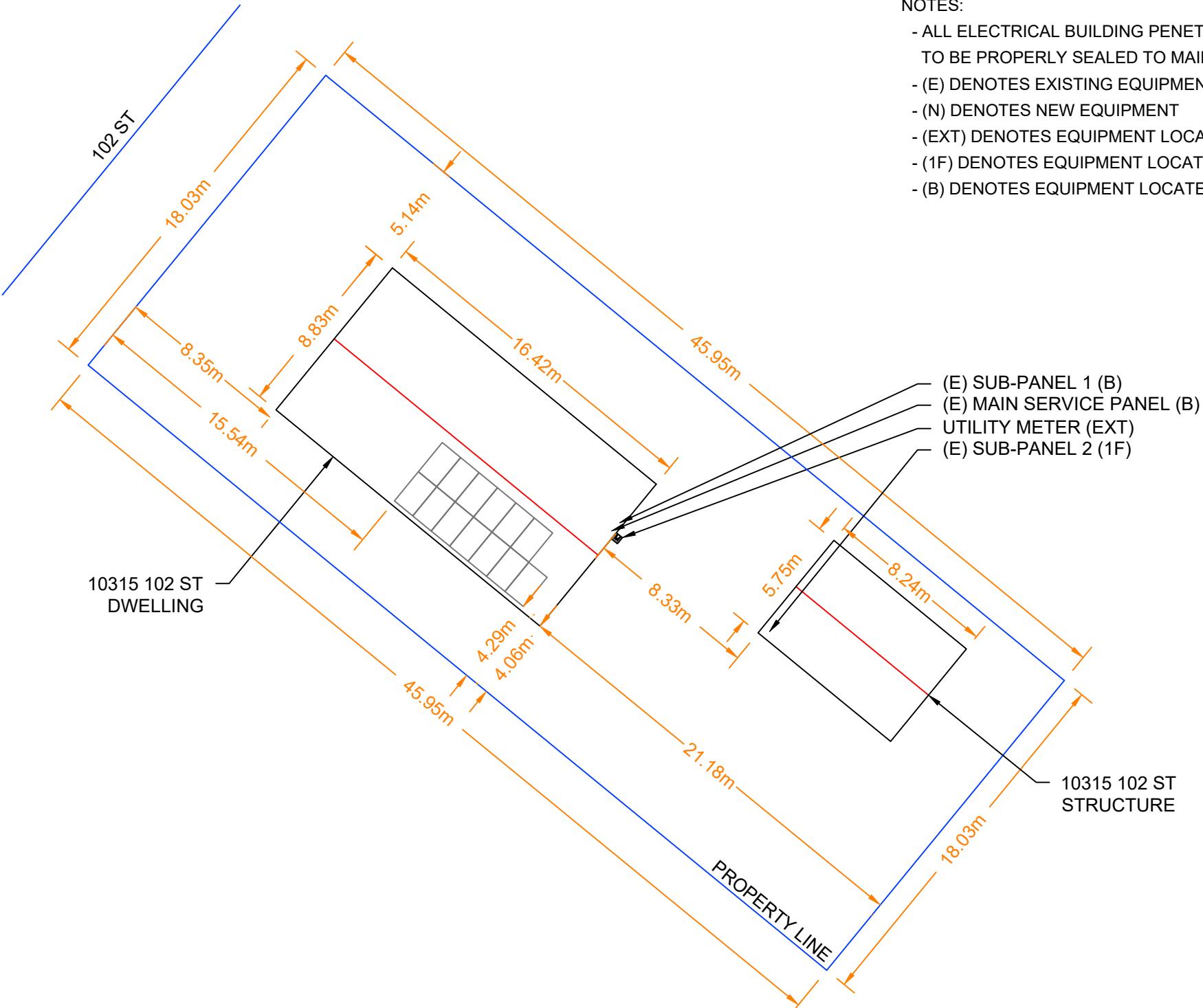
SCHEDULE A

Approved November 25, 2025



(10 pages)

Viv Thoss
Development Authority



SCALE: 1:250

AHJ: TOWN OF HIGH LEVEL, AB

GOVERNING CODE:

NATIONAL FIRE CODE – 2023 ALBERTA EDITION

NATIONAL BUILDING CODE - ALBERTA 2023

2024 CANADIAN ELECTRICAL CODE

NOTES:

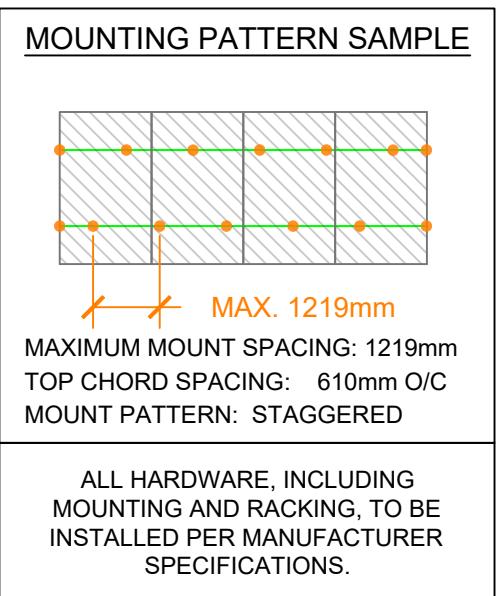
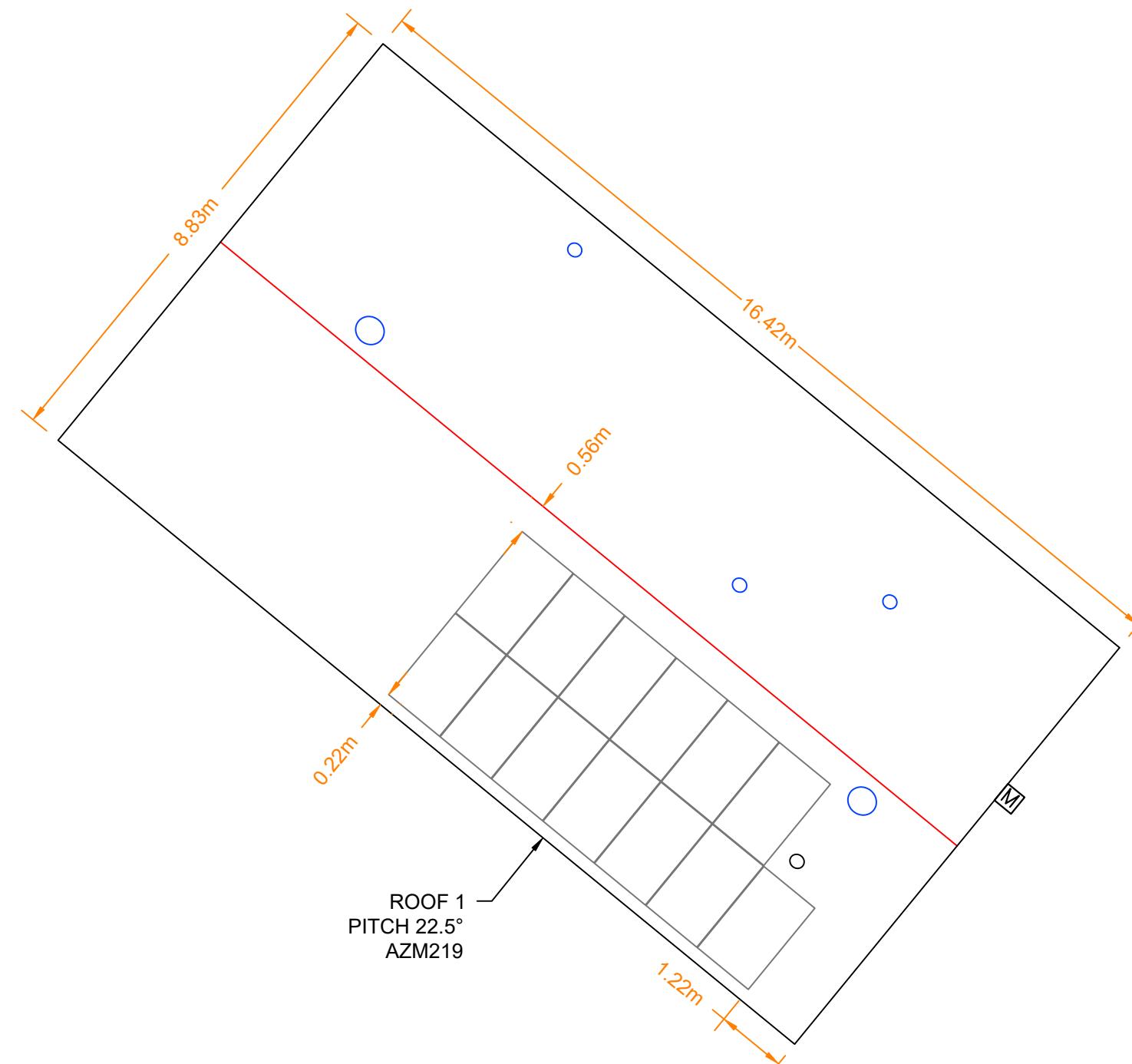
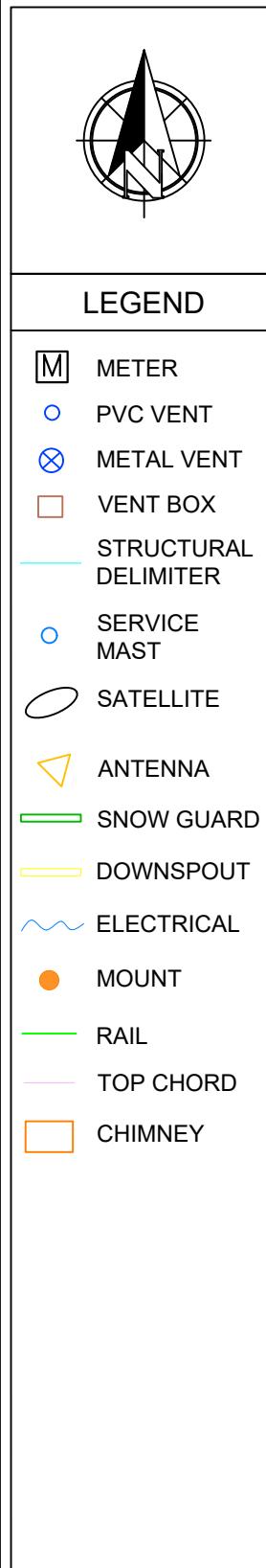
- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

NEAREST URGENT CARE FACILITY

NAME:

ADDRESS:

PHONE NUMBER:

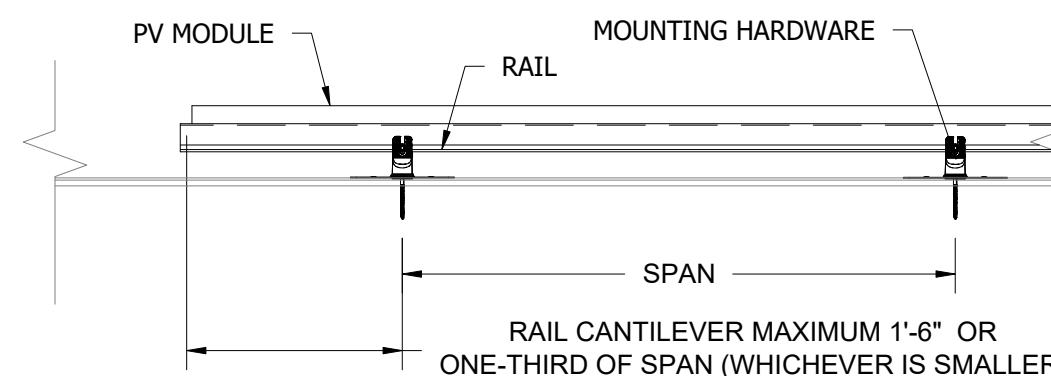
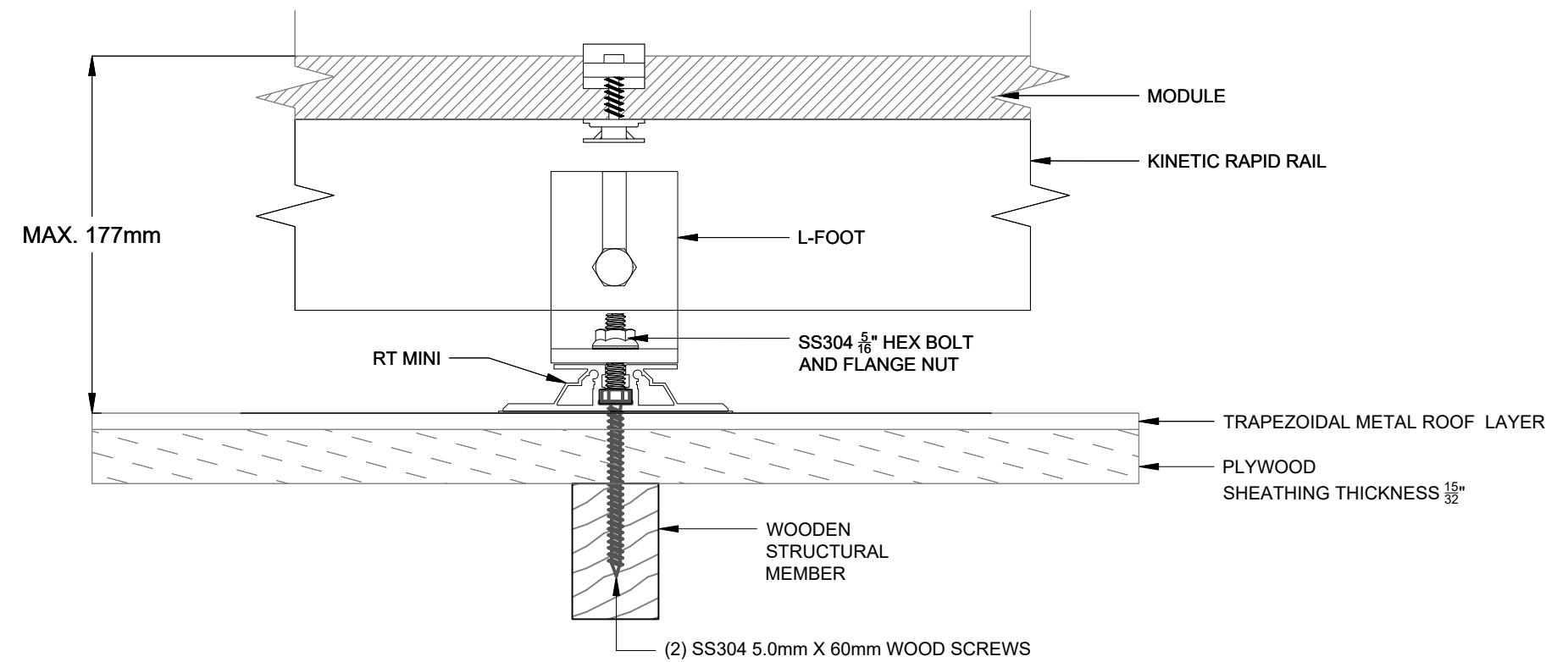
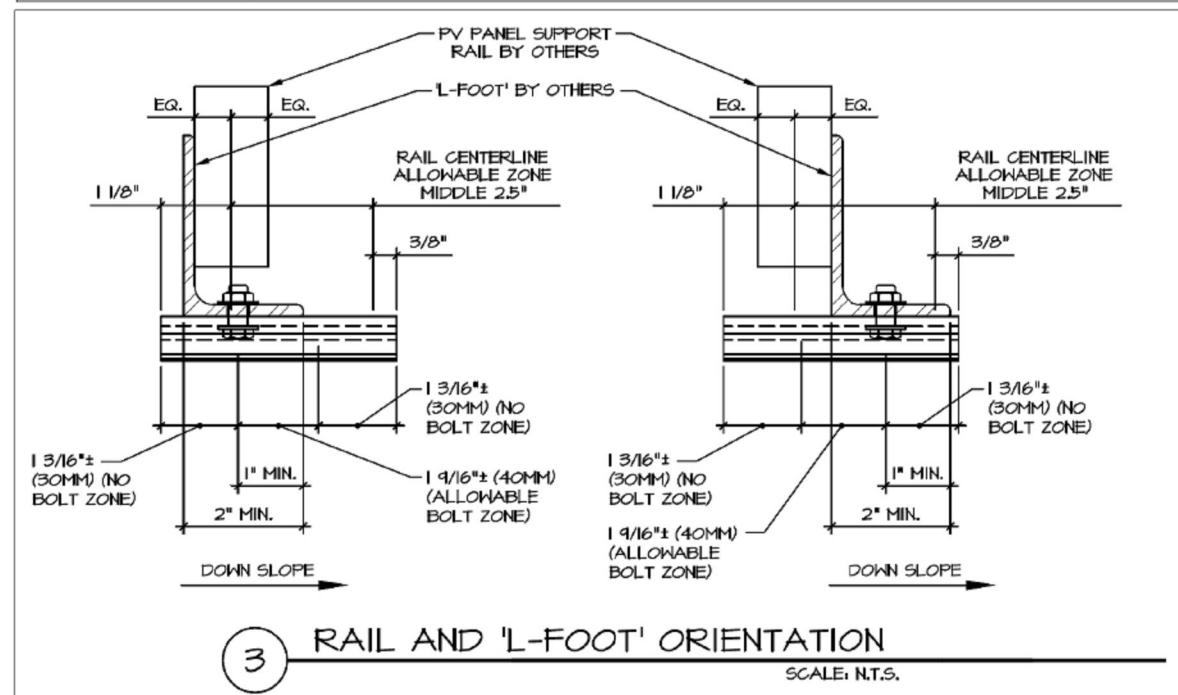
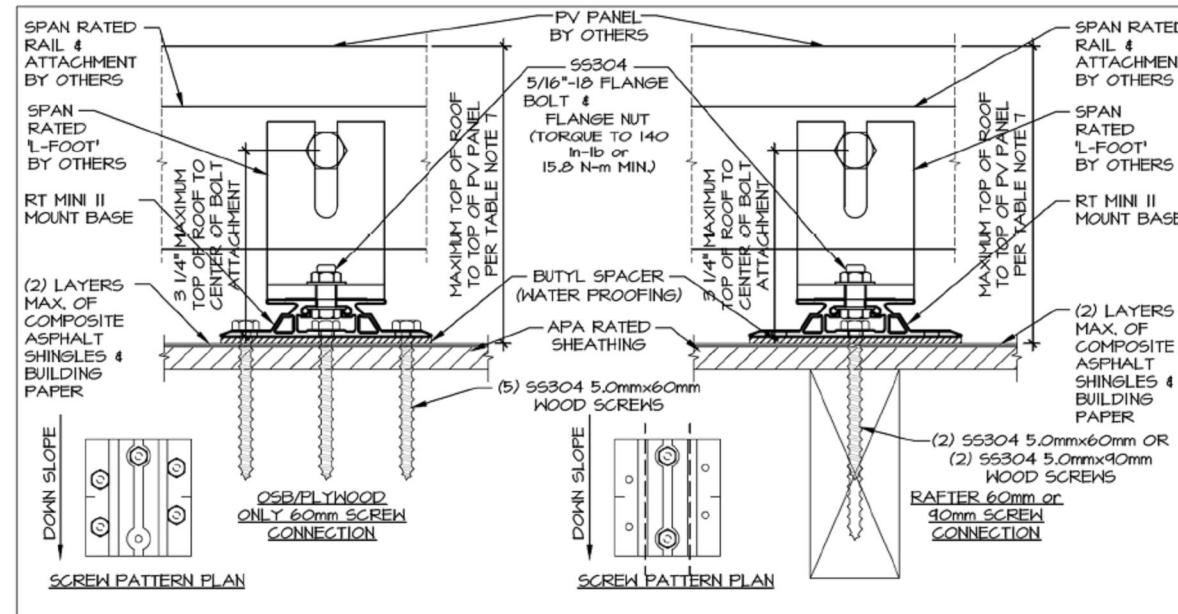


ROOF MATERIAL: TRAPEZOIDAL METAL ROOF
TOTAL ROOF AREA: 157.12 M²
TOTAL ARRAY AREA: 28.91 M²
TOTAL ARRAY PERCENT COVERAGE: 18.40%

MODULE WATTAGE: 500 W
NUMBER OF PANELS: 13
SYSTEM SIZE: 6.500 kW

NOTES:

- SOLAR PANEL LAYOUT SUBJECT TO CHANGE ACCORDING TO EXISTING CONDITIONS
- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED



PANEL TYPE: LONGI LR8-54HGBB-500W

PANEL SIZE: 1961.00mm X 1134.00mm

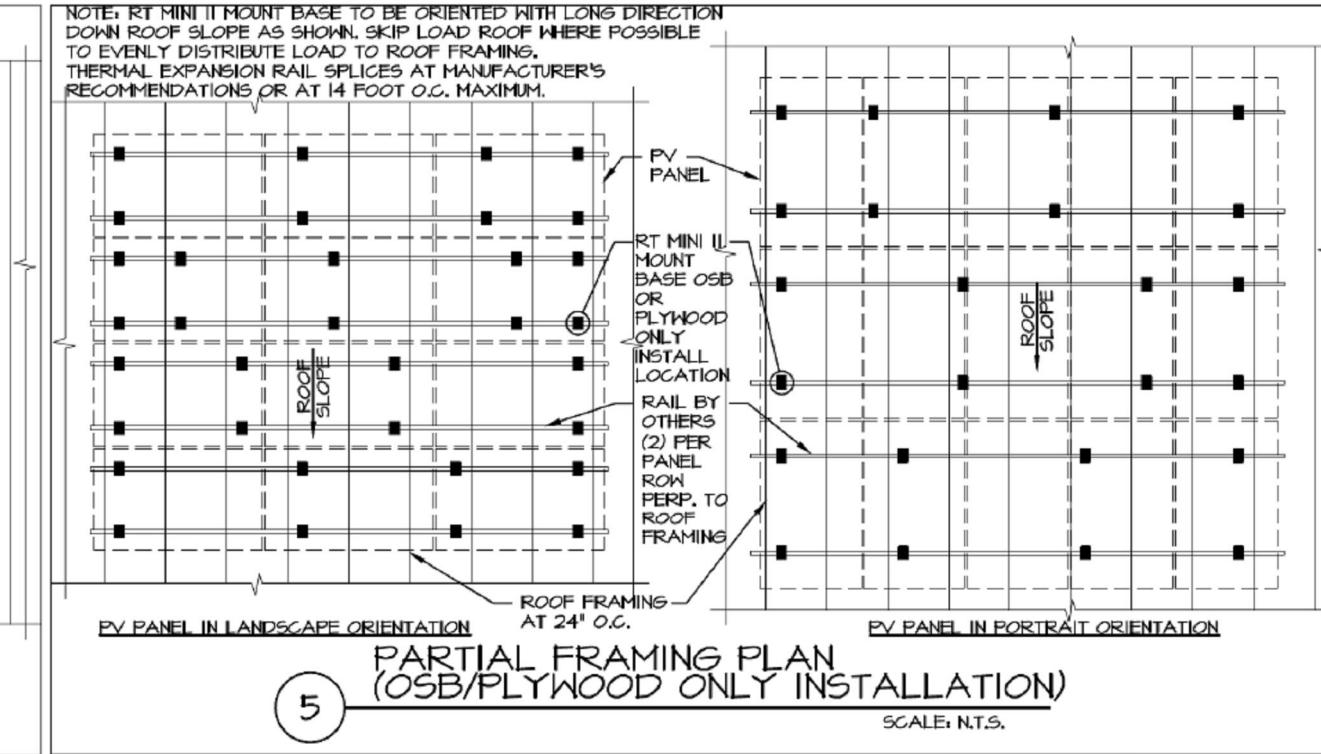
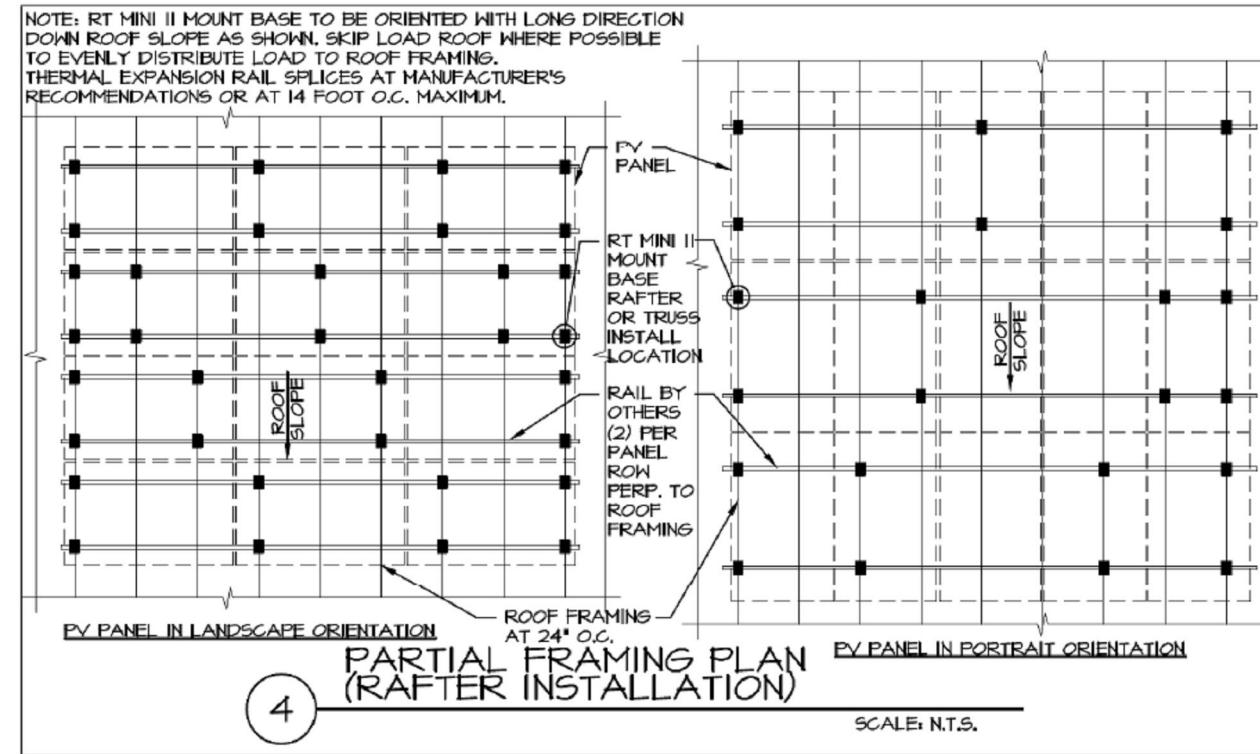
RACKING TYPE: KINETIC RAPID RAIL

MOUNT TYPE: RT MINI II

SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

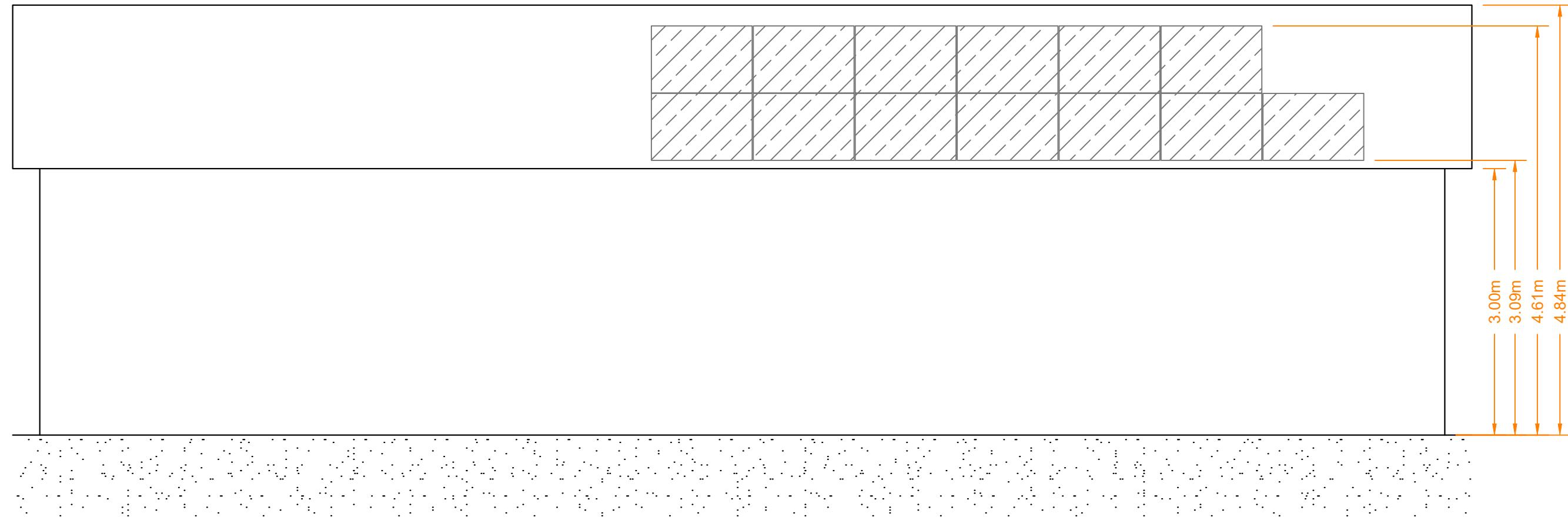
NOTES:

- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED



PANEL TYPE: LONGI LR8-54HGBB-500W
 PANEL SIZE: 1961.00mm X 1134.00mm
 RACKING TYPE: KINETIC RAPID RAIL
 MOUNT TYPE: RT MINI II
 SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

NOTES:
 - SCALE AS SHOWN
 - ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED



SOUTHWEST ELEVATION

SCALE: NTS

PANEL TYPE: LONGI LR8-54HGBB-500W

PANEL SIZE: 1961.00mm X 1134.00mm

RACKING TYPE: KINETIC RAPID RAIL

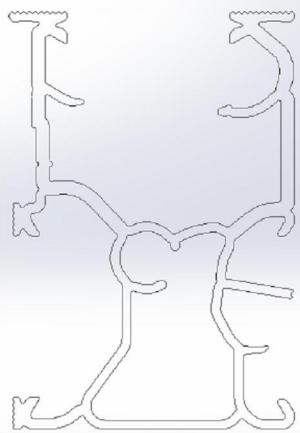
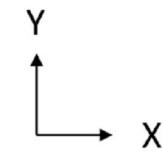
MOUNT TYPE: RT MINI II

SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

NOTES:

- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

Rapid Rail



Properties

Area: 0.5683 in²

Moments of inertia: X: 0.2834 in⁴
Y: 0.1502 in⁴

Product of inertia: XY: 0.0028 in⁴

Radii of gyration: X: 0.7062 in
Y: 0.5140 in

Principal moments of inertia of the area, at the centroid: I: 0.15009 in⁴
J: 0.28353 in⁴

Material: Aluminum



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www.kineticsolar.com

RT-MINI II

A Self-flashing PV Mount Featuring Roof Tech's AlphaSeal®



RT-MINI II is suitable for all systems with any L-Foot

✓ No Caulking or Pre-Drilling Required

✓ Universal Attachment to Any Slope

✓ Metal, EPDM, TPO, SBS, & Asphalt Roofs

✓ Wide Range of Applications & Ultimate Flexibility on the Roof

✓ No Need to Bend Rails
N-S & Rotational Adjustments



Installation Manual

ICC ESR 3575



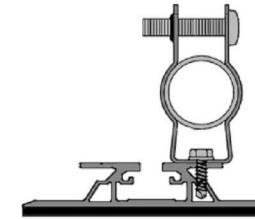
Roof Tech
The Standard for Waterproof Flexible Flashing Since 1994

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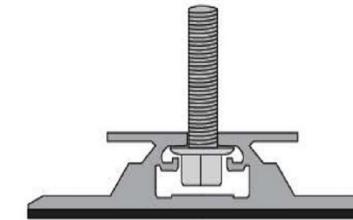
info@roof-tech.us



Conduit Strap Installation



RT2-04-FBN25
Hex Flange Bolt and Nut Set
Required for L-Foot Attachment



Components



RT2-00-MINIBK2

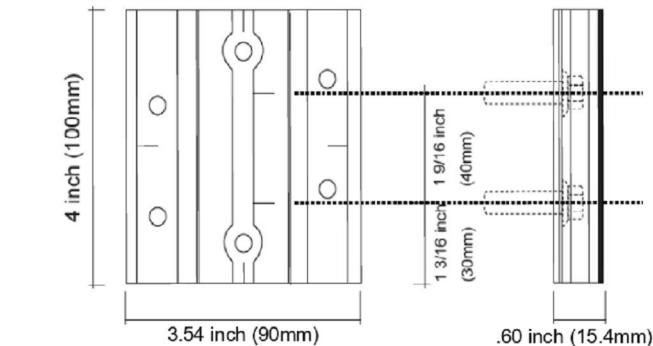


MINI II base : 20 ea.
Screw : 40 ea.
Extra RT-Butyl : 4 ea.

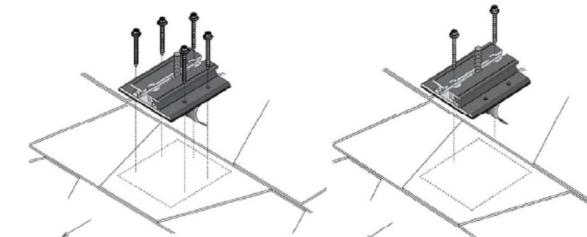
Optional Items:

5 x 60mm Mounting Screw (RT2-04-SD5-60) : 100 ea./Bag
5/16 X 25MM Flange Bolt & Nut (RT2-04-FBN25) : 100 ea./Bag
RT-Butyl (RT2-04-MNBUTYL) : 10 ea./Box

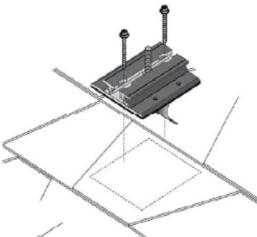
Dimensions in (mm)



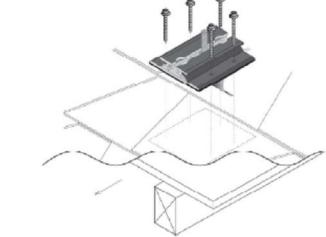
Deck Installation OSB & PLYWOOD ONLY



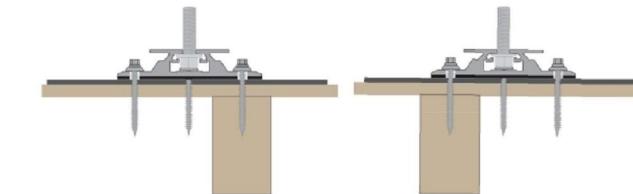
Rafter Installation



Hybrid Installation Rafter and Deck



Offset Rafter Attachment Options



Roof Tech Inc. AlphaSeal™ Technology has been used on over one million residential PV systems since 1994. It is the first PV mounting system with Flexible Flashing certified by the ICC, engineered to withstand wind speeds up to 180 mph and ground snow up to 90 psf.

Engineered to ASTM D 1761
(Standard Test Methods for Mechanical Fasteners in Wood)

ICC ESR-3575

ASTM2140 Testing



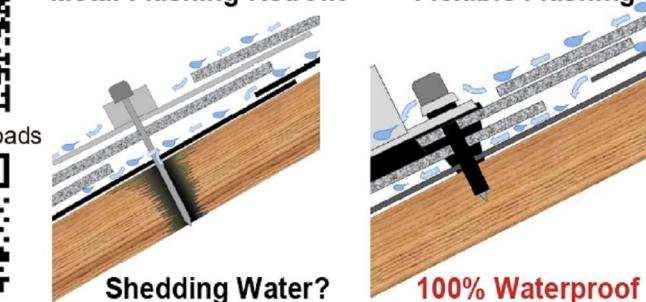
P.E. Letters



Support & Downloads



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Flexible Flashing



Shedding Water?

100% Waterproof

Roof Tech Inc.

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info@roof-tech.us
10620 Treena Street, Suite 230, San Diego, CA 92131
858.935.6064

May 2023



Microinverter Datasheet

HMS-350-1T-NA
HMS-400-1T-NA
HMS-450-1T-NA
HMS-500-1T-NA

Description

Hoymiles new microinverter HMS-500 series are suitable for high-powered solar panels, which rank among the highest for 1-in-1 microinverters.

Each microinverter can be connected to one panel and used in various applications, making it one of the most flexible solar solutions. With a maximum DC voltage of 65 volts, Hoymiles microinverter is a PV Rapid Shutdown Equipment and conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218.

The new Sub-1G wireless solution enables more stable communication with Hoymiles gateway DTU.

Features

01 High-powered microinverter for 1-in-1 series with superior performance

03 With Reactive Power Control, compliant with UL 1741, IEEE 1547, UL 1741 SB, etc.

02 Safer for rooftop solar stations with PV rapid shutdown compliance

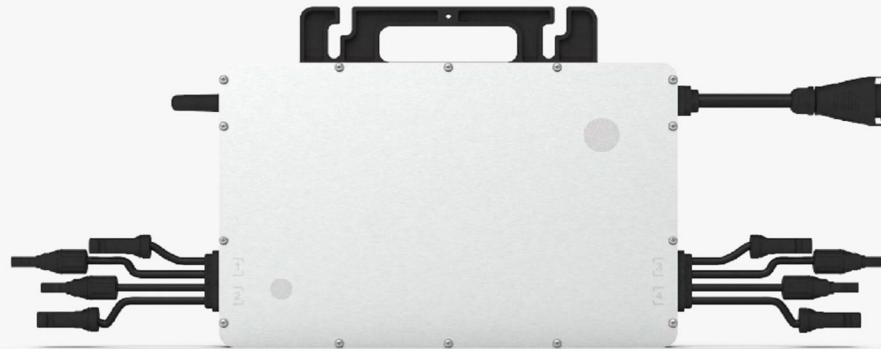
04 1-in-1 design enables most flexible applications

Technical Specifications

Model	HMS-350-1T-NA	HMS-400-1T-NA	HMS-450-1T-NA	HMS-500-1T-NA
Input Data(DC)				
Commonly used module power (W)	280 to 470+	320 to 540+	360 to 600+	400 to 670+
Maximum input voltage (V)	60	65	65	65
MPPT voltage range (V)		16-60		
Start-up voltage (V)		22		
Maximum input current (A)	11.5	12.5	13.3	14
Maximum input short circuit current (A)	16	20	20	20
Number of MPPTs		1		
Number of inputs per MPPT		1		
Output Data(AC)				
Peak output power (VA)	350	400	450	500
Maximum continuous output power (VA)	319	360	410	475
Maximum continuous output current (A)	1.33	1.53	1.50	1.73
Nominal output voltage/range (V)*	240/211-264	208/183-228	240/211-264	208/183-228
Nominal frequency/range (Hz)*			60/55-65	
Adjustable power factor (@nominal power)			> 0.99 default 0.8 leading .. 0.8 lagging	
Total harmonic distortion (@nominal power)			< 3%	
Maximum units per 10 AWG branch**	18	15	16	13
Maximum units per 12 AWG branch**	12	10	10	9
Efficiency				
CEC peak efficiency	96.70%	96.70%	96.50%	96.50%
Nominal MPPT efficiency			99.80%	
Night power consumption (mW)			< 50	
Mechanical Data				
Ambient temperature range (°F)			-40 to +149 (-40°C to +65°C)	
Dimensions (W x H x D [inches])			7.17 x 6.46 x 1.18 (182 x 164 x 30 mm)	
Weight (lbs)			3.86 (1.75 kg)	
Enclosure rating			Outdoor-IP67 (NEMA 6)	
Cooling			Natural convection (no fans)	
Features				
Communication			Sub-1G	
Type of isolation			Galvanically Isolated HF Transformer	
Monitoring			5-Miles Cloud (Hoymiles Monitoring Platform)	
Compliance			UL 1741, IEEE 1547, UL 1741 SB, CA Rule 21, CSA C22.2 No. 107.1-16, FCC 15B, FCC 15C	
PV Rapid Shutdown			Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems.	

* : Nominal voltage/frequency range can vary depending on local requirements.

**: Refer to local requirements for exact number of microinverters per branch.



Microinverter Datasheet

HMS-1600-4T-NA HMS-1800-4T-NA HMS-2000-4T-NA

Description

Hoymiles new microinverter HMS-2000 series are suitable for high-powered solar panels, which rank among the highest for 4-in-1 microinverters. Each microinverter can connect up to 4 panels, with independent MPPT and module-level monitoring maximizing the power production of your installation. With a maximum DC voltage of 65 volts, Hoymiles microinverter is a PV Rapid Shutdown Equipment and conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218. The new Sub-1G wireless solution enables more stable communication with Hoymiles gateway DTU.

Features

01	High-powered microinverter for 4-in-1 series with superior performance
02	Safer for rooftop solar stations with PV rapid shutdown compliance
03	With Reactive Power Control, compliant with UL 1741, IEEE 1547, UL 1741 SB, etc.
04	Independent MPPT and monitoring ensure greater energy harvest and easier maintenance
05	4-in-1 design enables most cost-effective solar solution
06	Sub-1G wireless solution allows stable communication in commercial and industrial settings

Technical Specifications

Model	HMS-1600-4T-NA	HMS-1800-4T-NA	HMS-2000-4T-NA
Input Data(DC)			
Commonly used module power (W)	320 to 540+	360 to 600+	400 to 670+
Maximum input voltage (V)		65	
MPPT voltage range (V)		16-60	
Start-up voltage (V)		22	
Maximum input current (A)	4 x 12.5	4 x 13.3	4 x 14
Maximum input short circuit current (A)		4 x 20	
Number of MPPTs		4	
Number of inputs per MPPT		1	
Output Data(AC)			
Peak output power (VA)	1600	1800	2000
Maximum continuous output power (VA)	1440	1660	1918
Maximum continuous output current (A)	6.00	6.92	6.92
Nominal output voltage/range (V)*	240/211-264	208/183-228	240/211-264
Nominal frequency/range (Hz)*			60/55-65
Adjustable power factor (@nominal power)			> 0.99 default 0.8 leading ... 0.8 lagging
Total harmonic distortion (@nominal power)			< 3%
Maximum units per 10 AWG branch**	4	3	3
Efficiency			
CEC peak efficiency	96.70%	96.50%	96.50%
Nominal MPPT efficiency		99.8%	
Night power consumption (mW)		< 50	
Mechanical Data			
Ambient temperature range (°F)			-40 to +149 (-40 to +65°C)
Dimensions (W x H x D [inch])			13.03 x 8.58 x 1.44 (331 x 218 x 36.6 mm)
Weight (lbs)			10.36 (4.7 kg)
Enclosure rating			Outdoor-NEMA 6 (IP67)
Cooling			Natural convection-No fans
Features			
Communication			Sub-1G
Type of isolation			Galvanically Isolated HF Transformer
Monitoring			S-Miles Cloud (Hoymiles Monitoring Platform)
Compliance			UL 1741, IEEE 1547, UL 1741 SB, CA Rule 21***, CSA C22.2 No. 107.1-16, FCC 15B, FCC 15C
PV Rapid Shutdown			Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems

* : Nominal voltage/frequency range can vary depending on local requirements.

** : Refer to local requirements for exact number of microinverters per branch.

***: The HMS-2000-4T-NA microinverter complies with both CA Rule 21 (240 Vac) and CA Rule 21 (208 Vac).