

0780.00

**TOWN OF HIGH LEVEL  
DEVELOPMENT PERMIT**

**PERMIT NO.:** **DP25-050**  
**PROPOSED USE:** **Permitted Use – 287.28 ft<sup>2</sup> Solar Collector (Solar Collectors)**  
**APPLICANT:** **Matthew Callaghan, Firefly Solar**  
**LANDOWNER:** **Zaiell Robichaud & Jane Jollimore**  
**LOCATION:** **Lot 10, Block 30, Plan 822 2571**

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**A development involving Application No. DP25-050 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 26, 2025**

**DATE OF ISSUE OF DEVELOPMENT PERMIT:** **December 18, 2025**

**DATE OF VALIDITY OF DEVELOPMENT PERMIT:** **December 18, 2025**

**SIGNATURE OF DEVELOPMENT AUTHORITY:**

  
Viv Thoss

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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 103<sup>rd</sup> 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.
4. **Based on the site plan provided with the application, the existing dwelling is noted to be non-compliant as it is located within the south side yard setback. In order to bring the property into compliance, a development permit application for the dwelling can be submitted to the Town requesting a variance to the south side yard setback.**

**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](mailto:development@highlevel.ca).

**SCHEDULE A**

Approved November 26, 2025

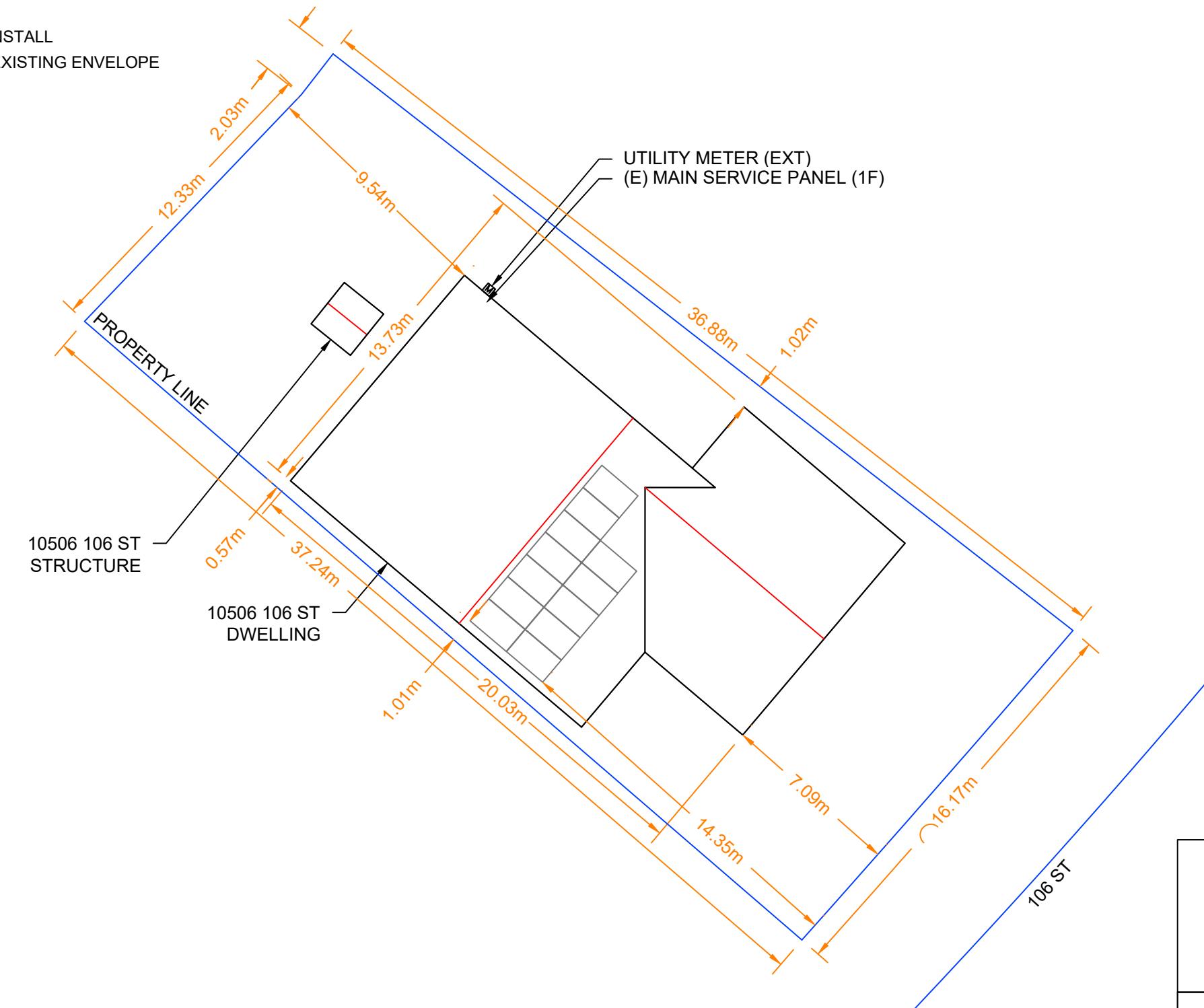


(10 pages)

Viv Thoss  
Development Authority

**NOTES:**

- ALL ELECTRICAL BUILDING PENETRATIONS FOR SOLAR PV INSTALL TO BE PROPERLY SEALED TO MAINTAIN INTEGRITY OF THE EXISTING ENVELOPE
- (E) DENOTES EXISTING EQUIPMENT
- (N) DENOTES NEW EQUIPMENT
- (EXT) DENOTES EQUIPMENT LOCATED OUTSIDE
- (1F) DENOTES EQUIPMENT LOCATED INSIDE ON 1ST FLOOR
- (B) DENOTES EQUIPMENT LOCATED IN THE BASEMENT



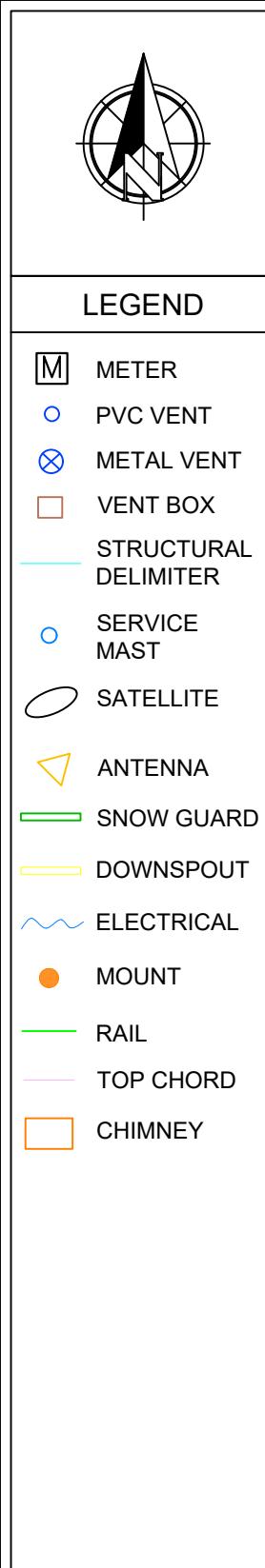
SCALE: 1:200

AHJ: TOWN OF HIGH LEVEL, AB  
GOVERNING CODE:  
NATIONAL FIRE CODE – 2023 ALBERTA EDITION  
NATIONAL BUILDING CODE - ALBERTA 2023  
2024 CANADIAN ELECTRICAL CODE

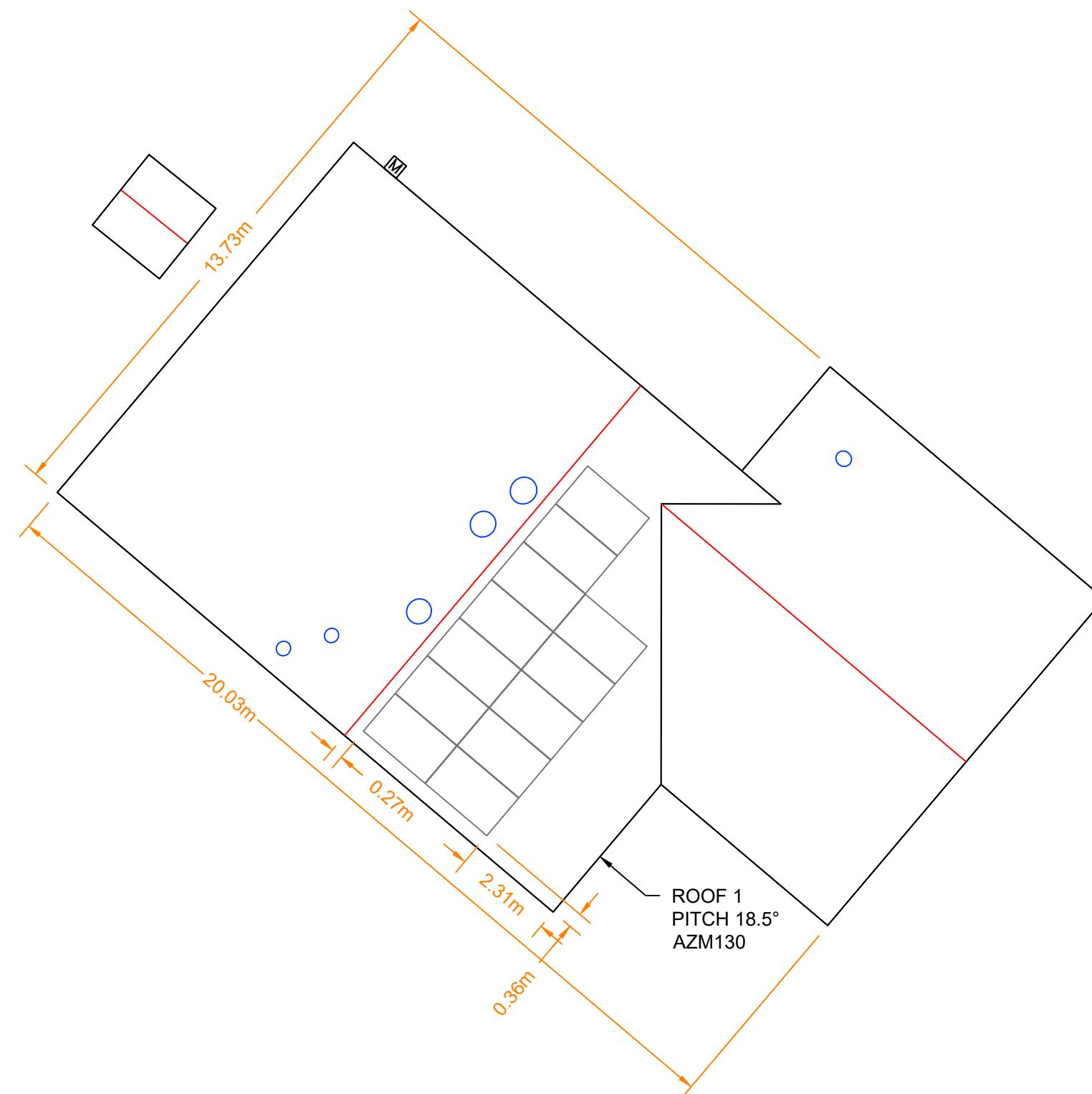
NOTES:

- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED
- Roof edges and the south property line are not completely parallel due to the curved street. 0.65 m gap between the roof and the property line where the solar panels are to be installed.

NEAREST URGENT CARE FACILITY  
NAME:  
ADDRESS:  
PHONE NUMBER:



SCALE: 1:125



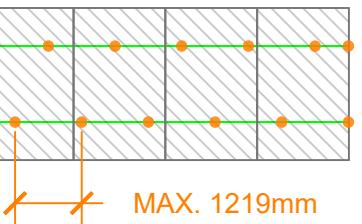
ROOF MATERIAL: SHINGLE  
TOTAL ROOF AREA: 230.91 M<sup>2</sup>  
TOTAL ARRAY AREA: 26.69 M<sup>2</sup>  
TOTAL ARRAY PERCENT COVERAGE: 11.56%

MODULE WATTAGE: 500 W  
NUMBER OF PANELS: 12  
SYSTEM SIZE: 6.000 kW

NOTES:  

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

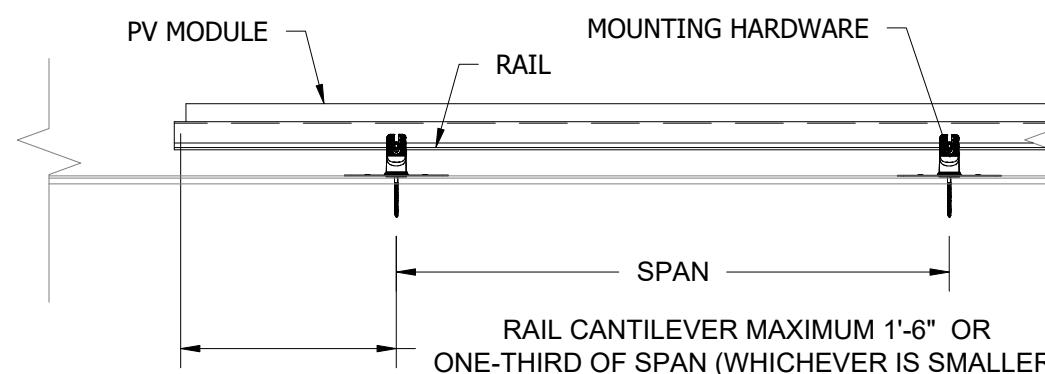
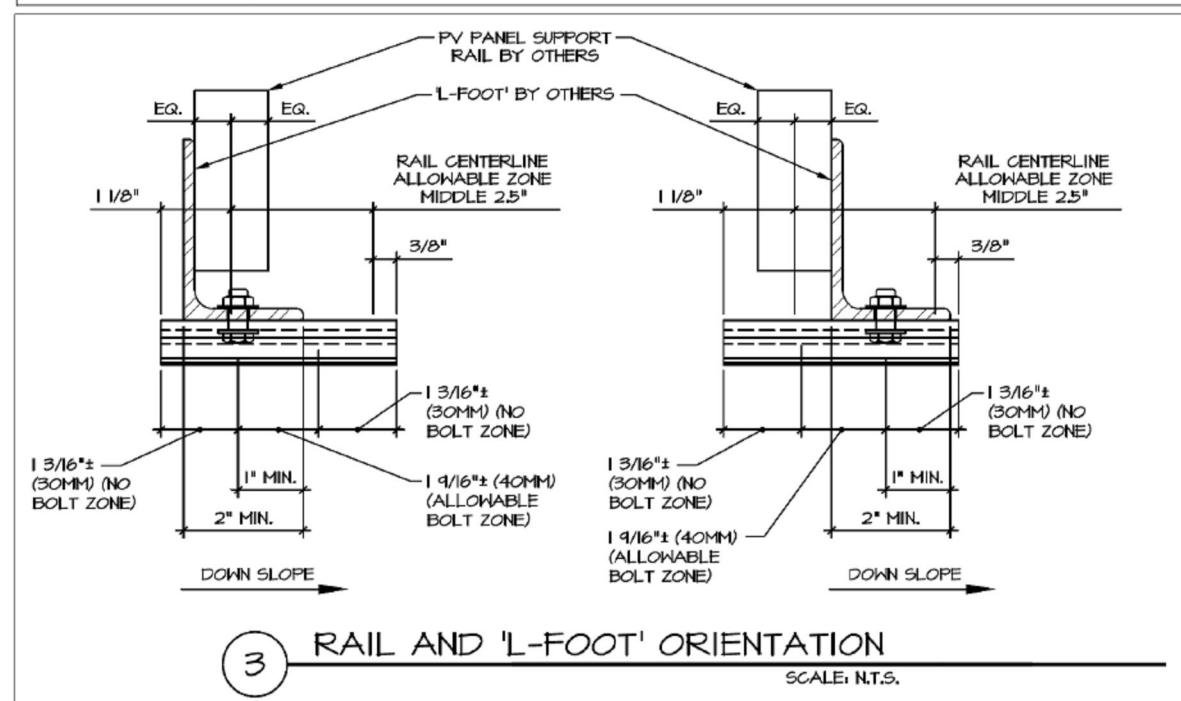
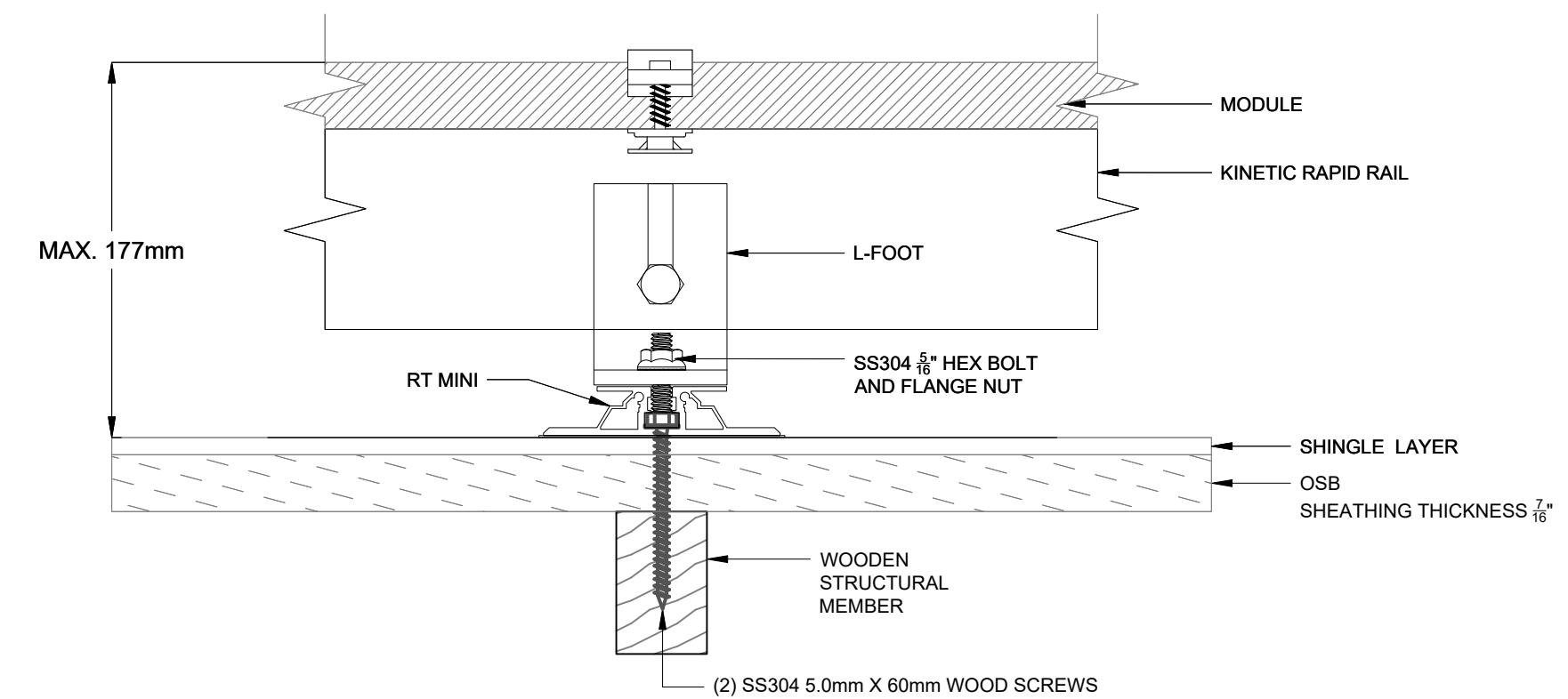
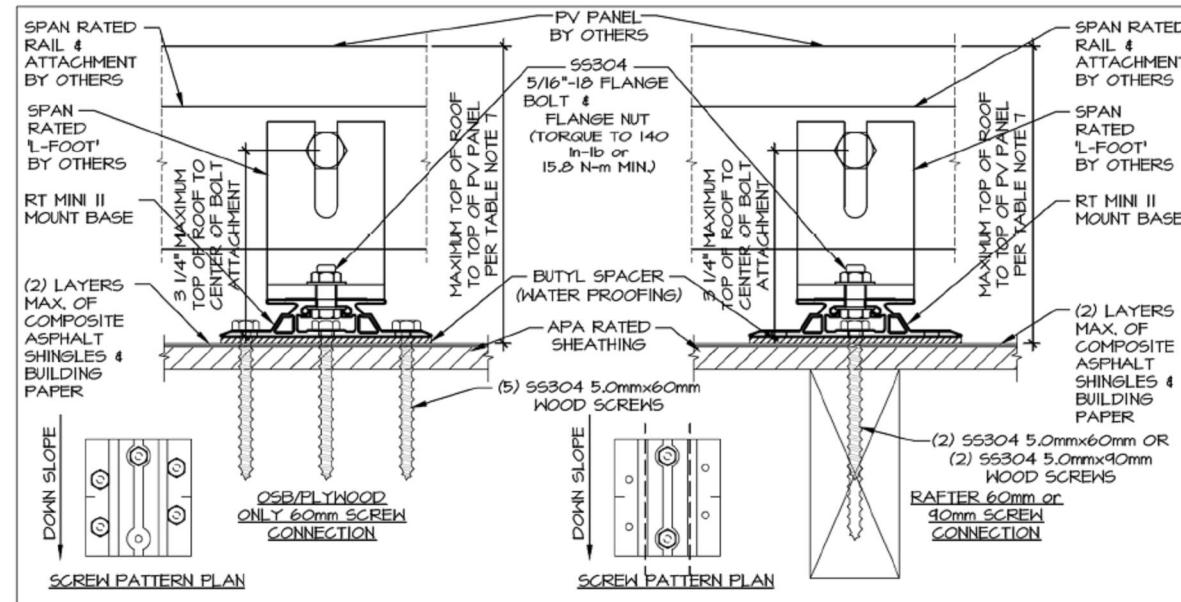
**MOUNTING PATTERN SAMPLE**



MAXIMUM MOUNT SPACING: 1219mm  
TOP CHORD SPACING: 610mm O/C  
MOUNT PATTERN: STAGGERED

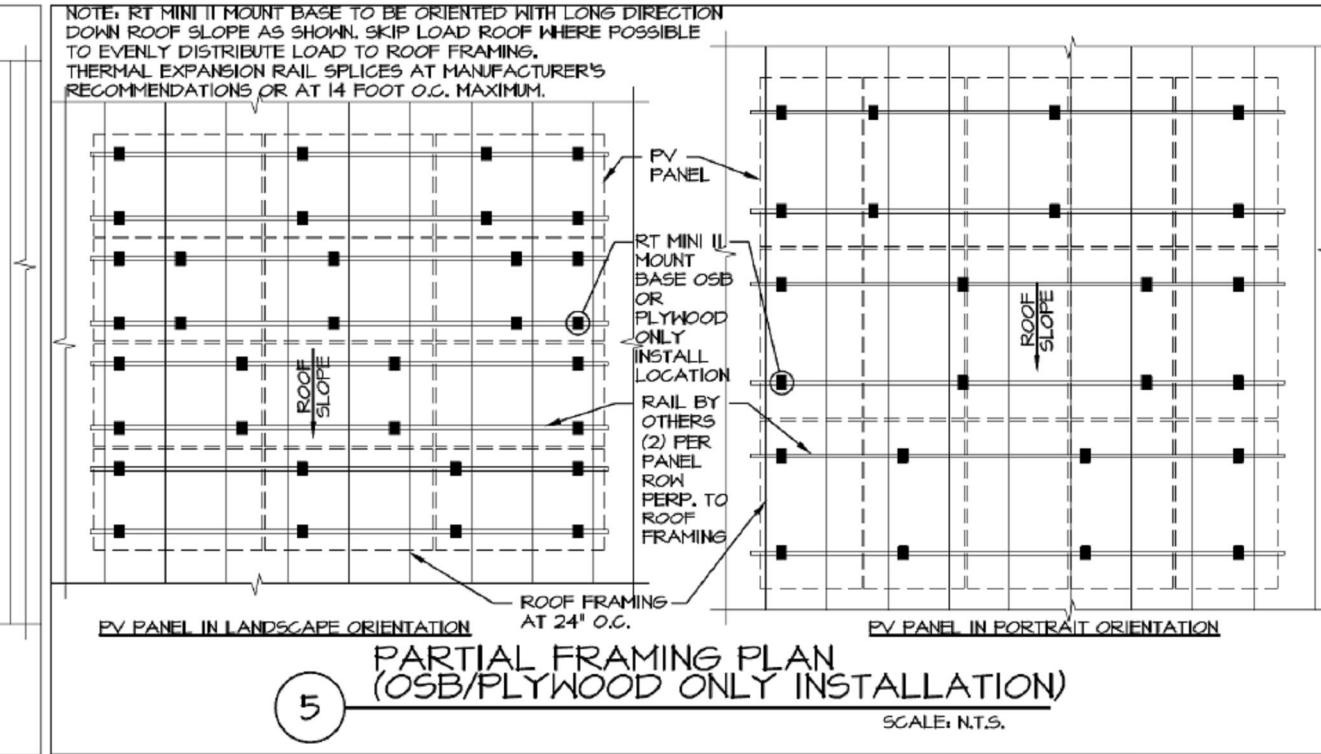
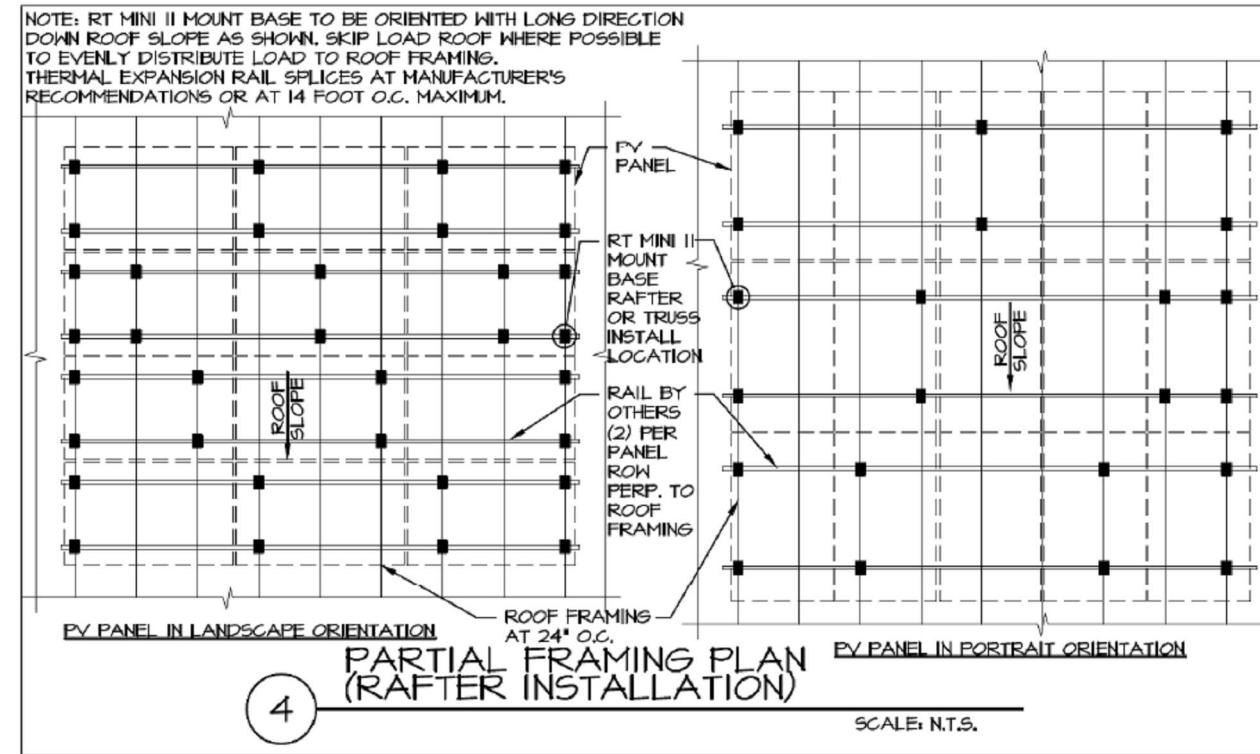
ALL HARDWARE, INCLUDING  
MOUNTING AND RACKING, TO BE  
INSTALLED PER MANUFACTURER  
SPECIFICATIONS.





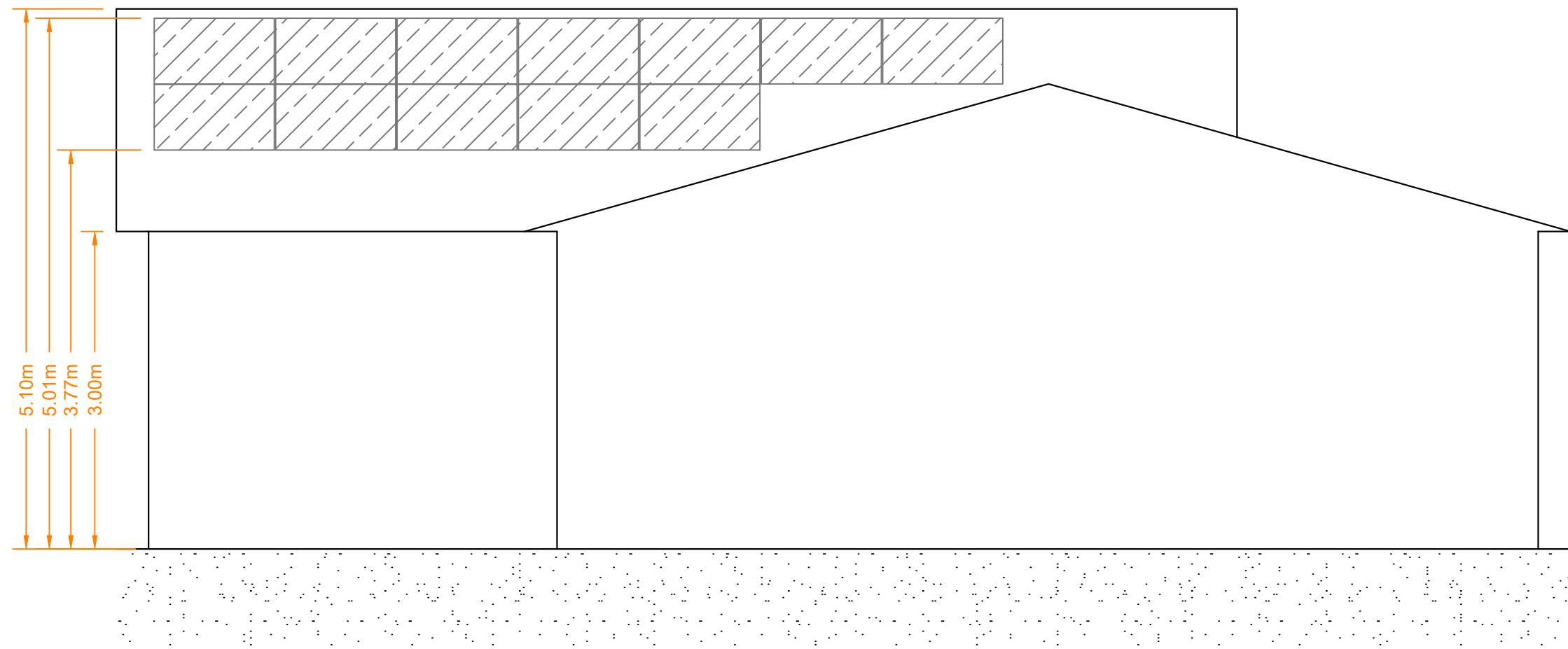
PANEL TYPE: LONGI LR8-54HGBB-500W  
 PANEL SIZE: 1961.00mm X 1134.00mm  
 RACKING TYPE: KINETIC RAPID RAIL  
 MOUNT TYPE: RT MINI II  
 SOLAR SYSTEM DEAD LOAD: 0.14kN/m<sup>2</sup>

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/m<sup>2</sup>

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



SOUTHEAST 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/m<sup>2</sup>

NOTES:

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



# Hi-MO 7

## LR8-54HGBB All Black 495~510W

N-type HPDC High Efficiency Bifacial Dual Glass Module



Advanced HPDC cell technology  
delivers superior module efficiency  
up to 22.9%



Lower temperature coefficient of  
Pmax: -0.28% / °C, more power  
production at higher ambient  
temperatures



Anti-LID, anti-LeTID, and anti-PID  
with low power degradation



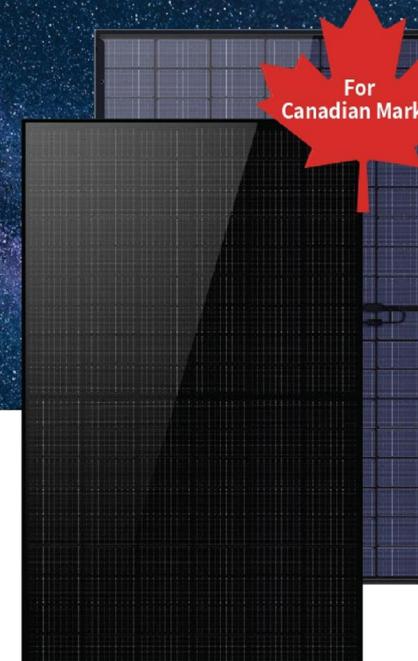
Excellent low irradiance  
performance



Weather resistant and certified to  
withstand rain, hail, wind, and  
snow



LONGi Lifecycle Quality ensures  
high product quality and long-term  
performance



For  
Canadian Market

# Hi-MO 7

22.9%  
MAX MODULE  
EFFICIENCY

0~3%  
POWER  
TOLERANCE

<1%  
FIRST YEAR  
POWER DEGRADATION

0.4%  
YEAR 2-30  
POWER DEGRADATION

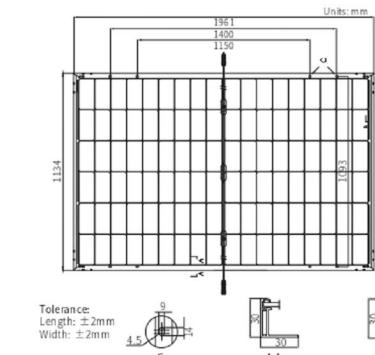
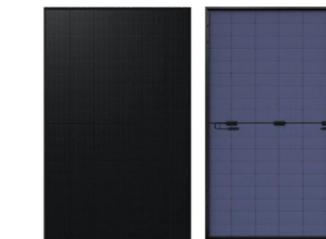
HALF-CELL  
Lower operating temperature

#### Additional Value



#### Mechanical Parameters

Cell Orientation	108 (6 × 18)
Junction Box	IP68
Output Cable	4mm <sup>2</sup> , +400, -200mm/±1200mm length can be customized
Glass	Dual glass, 2.0+2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Weight	28kg
Dimension	1961 × 1134 × 30mm
Packaging	36pcs per pallet / 180pcs per 20' GP / 864pcs per 40' HC



#### Electrical Characteristics

	STC : AM1.5 1000W/m <sup>2</sup> 25°C	NOCT : AM1.5 800W/m <sup>2</sup> 20°C 1m/s	Test uncertainty for Pmax: ±3%
Modul Type	LR8-54HGBB-495W	LR8-54HGBB-500W	LR8-54HGBB-505W
Testing Condition	STC NOCT	STC NOCT	STC NOCT
Max Power(Pmax/W)	495 377	500 380	510 386
Open Circuit Voltage(Voc/V)	39.42 37.47	39.58 37.62	39.75 37.78
Short Circuit Current (Isc/A)	15.90 12.77	15.95 12.81	16.00 12.85
Voltage at Maximum Power (Vmpp/V)	32.98 31.34	33.14 31.49	33.31 31.65
Current at Maximum Power (Impp/A)	15.01 12.02	15.09 12.06	15.16 12.10
Module Efficiency(%)	22.3	22.5	22.7

#### Electrical characteristics with different rear side power gain (reference to 500W front)

Pmax /W	Voc/V	Isc /A	Vmp/V	Impp/A	Pmax gain
525	39.58	16.75	33.14	15.84	5%
550	39.58	17.54	33.14	16.59	10%
575	39.68	18.34	33.24	17.30	15%
600	39.68	19.14	33.24	18.05	20%
625	39.68	19.93	33.24	18.80	25%

#### Operating Parameters

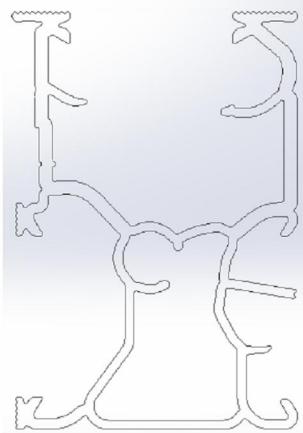
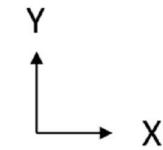
Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	φPmax: 80±10% φVoc: 98±5% φIsc: 80±10%
Fire Rating	UL Type 29 IEC Class C

**LONGi**  
LONGi Solar Technology (Canada) Inc.  
43/F, 5288th Avenue S.W., Calgary, Alberta T2P1G1 | us-info@longi.com | https://www.longi.com/us

Temperature Ratings (STC)	
Temperature Coefficient of Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.230%/°C
Temperature Coefficient of Pmax	-0.280%/°C

Specifications included in this datasheet are subject to change without notice. LONGi reserves the right of final interpretation. (20250429)DG

## Rapid Rail



### Properties

**Area:** 0.5683 in<sup>2</sup>

**Moments of inertia:** X: 0.2834 in<sup>4</sup>  
Y: 0.1502 in<sup>4</sup>

**Product of inertia:** XY: 0.0028 in<sup>4</sup>

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

**Principal moments of inertia of the area, at the centroid:** I: 0.15009 in<sup>4</sup>  
J: 0.28353 in<sup>4</sup>

**Material:** Aluminum



**65 Martin Ross Ave, Toronto, ON**  
**416-665-3755**  
**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



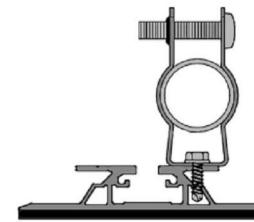
**Roof Tech**  
The Standard for Waterproof Flexible Flashing Since 1994

[www.roof-tech.us](http://www.roof-tech.us)

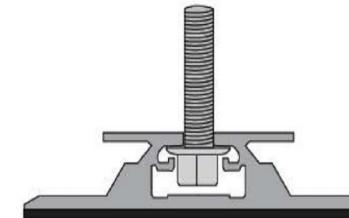
[info@roof-tech.us](mailto:info@roof-tech.us)



## Conduit Strap Installation



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



## Components



RT2-00-MINIBK2

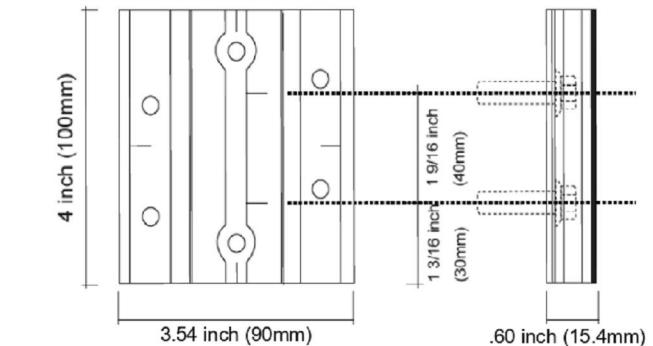


MINI II base : 20 ea.  
Screw : 40 ea.  
Extra RT-Butyl : 4 ea.

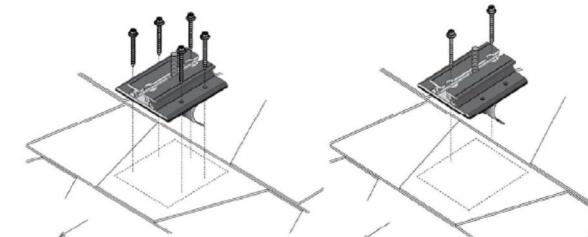
### Optional Items:

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

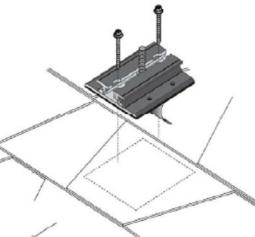
## Dimensions in (mm)



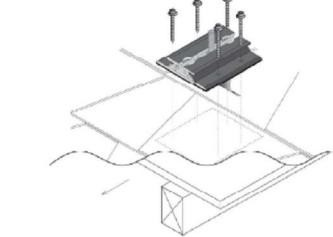
### Deck Installation OSB & PLYWOOD ONLY



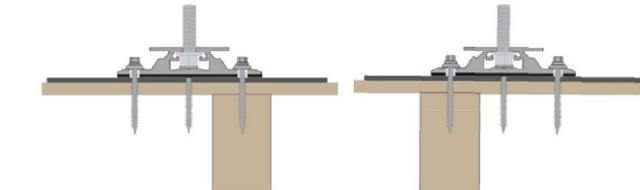
### Rafter Installation



### 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



**Metal Flashing Retrofit**



**Flexible Flashing**



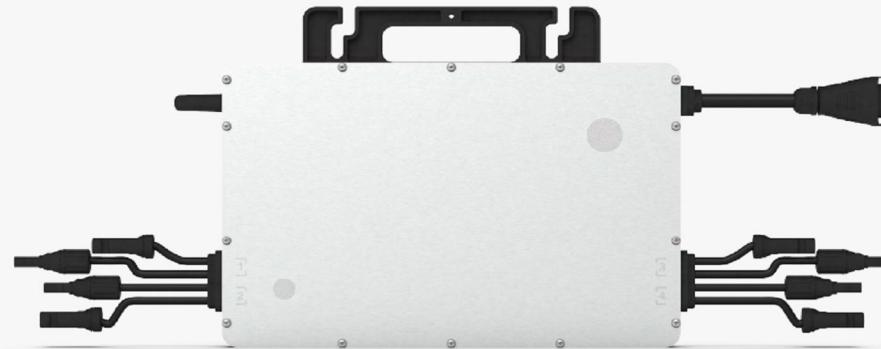
Shedding Water?

100% Waterproof

Roof Tech Inc.

[www.roof-tech.us](http://www.roof-tech.us)  
info@roof-tech.us  
10620 Treena Street, Suite 230, San Diego, CA 92131  
858.935.6064

May 2023



## 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
<b>Input Data(DC)</b>			
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	
<b>Output Data(AC)</b>			
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
<b>Efficiency</b>			
CEC peak efficiency	96.70%	96.50%	96.50%
Nominal MPPT efficiency		99.8%	
Night power consumption (mW)		< 50	
<b>Mechanical Data</b>			
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	
<b>Features</b>			
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).