

**TOWN OF HIGH LEVEL
DEVELOPMENT PERMIT**

PERMIT NO.:	DP25-044
PROPOSED USE:	Permitted Use – 191.52 ft ² Solar Collector (Solar Collectors)
APPLICANT:	Matthew Callaghan, Firefly Solar
LANDOWNER:	Michael Pelensky & Allison Dennis
LOCATION:	Lot 70, Block 30, Plan 982 3385

A development involving Application No. DP25-044 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.
4. Based on the site plan provided with the application, the existing garage is noted to be non-compliant as it is located within the north side yard setback. In order to bring the property into compliance, a development permit application for the garage can be submitted to the Town requesting a variance to the north 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.

SCHEDULE A

Approved November 25, 2025

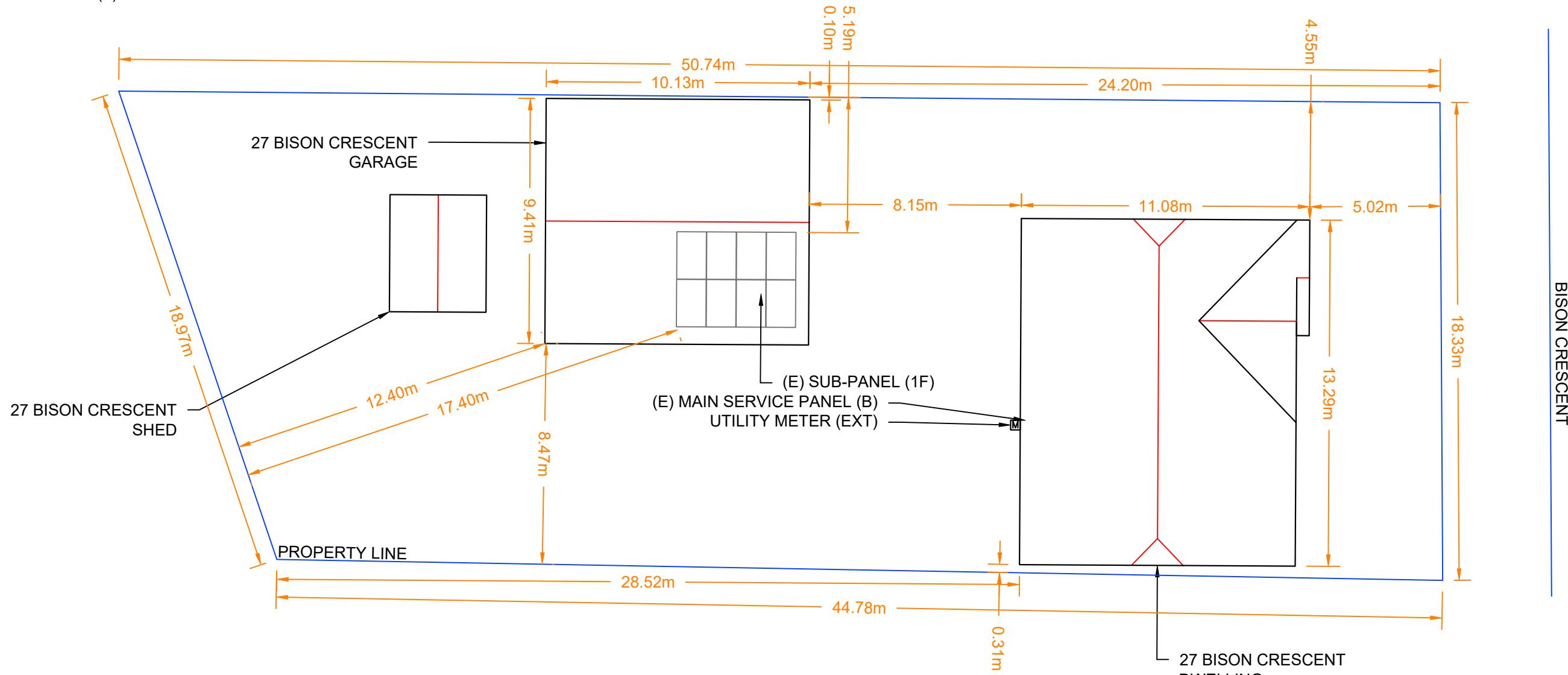


(10 pages)

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: 1:175

AHJ: TOWN OF HIGH LEVEL, AB

GOVERNING CODE:

NATIONAL FIRE CODE – 2023 ALBERTA EDITION

NATIONAL BUILDING CODE - ALBERTA 2023

2024 CANADIAN ELECTRICAL CODE

NOTES:

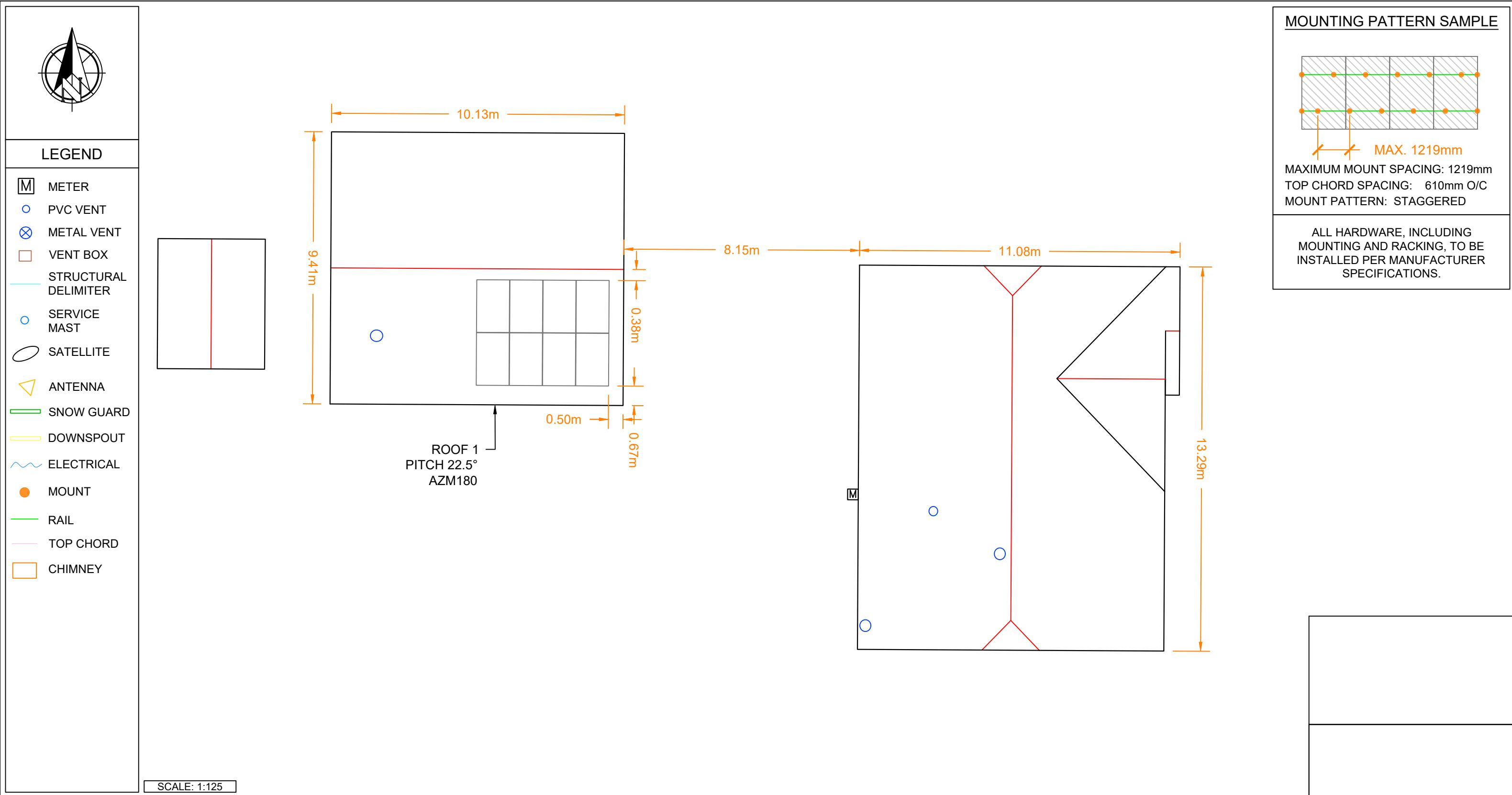
- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

NEAREST URGENT CARE FACILITY

NAME:

ADDRESS:

PHONE NUMBER:



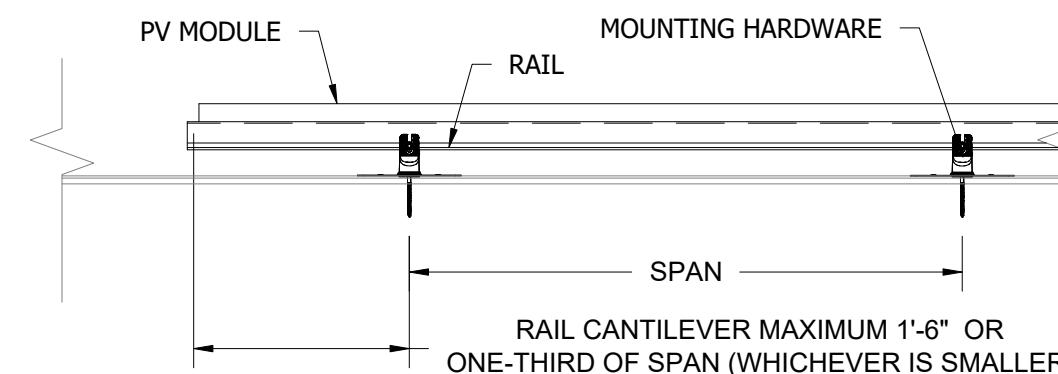
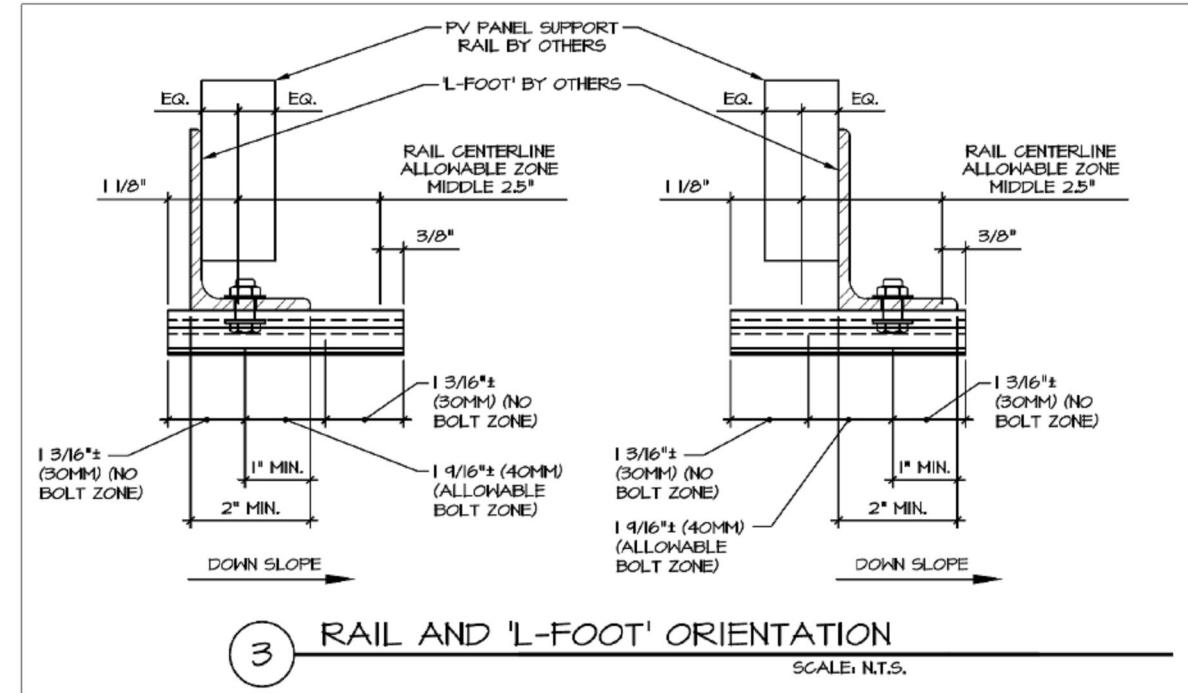
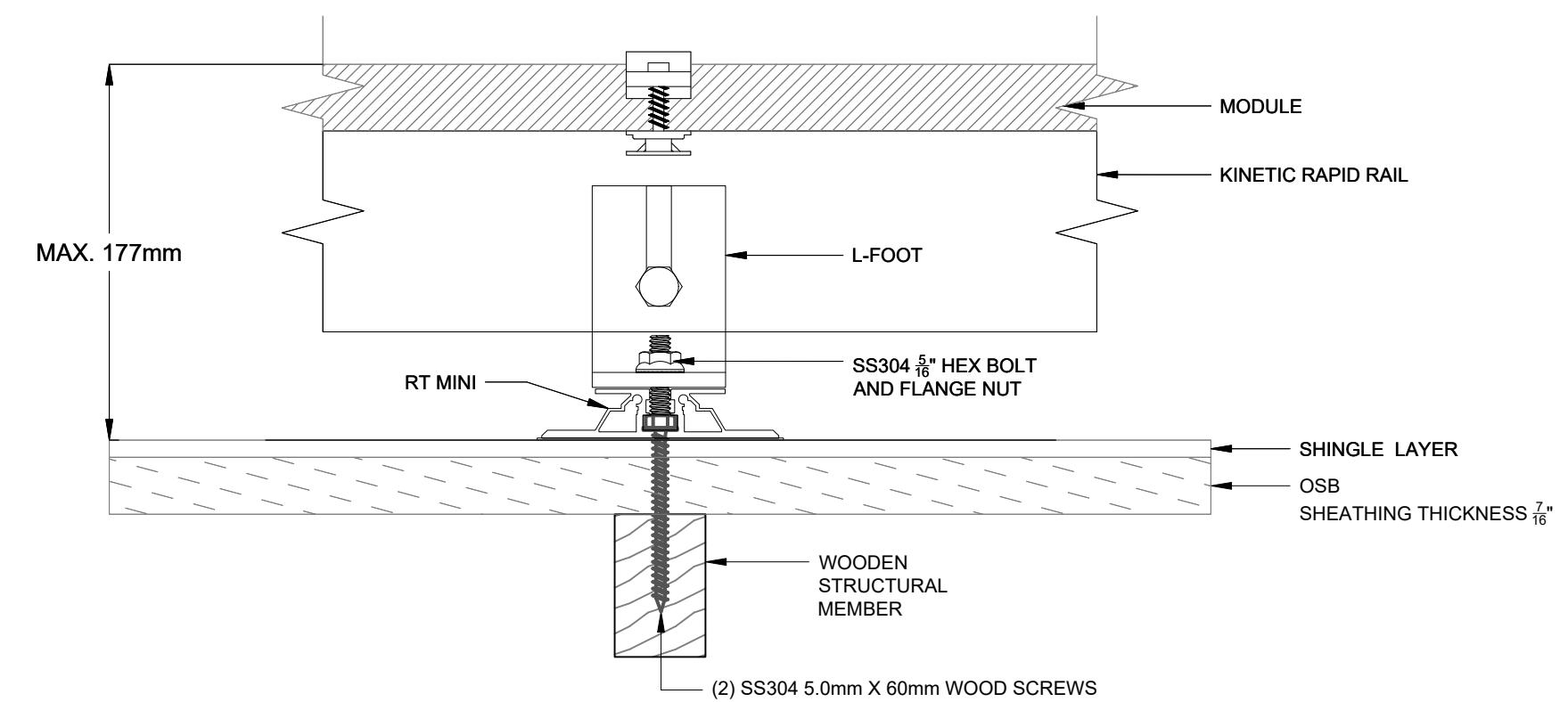
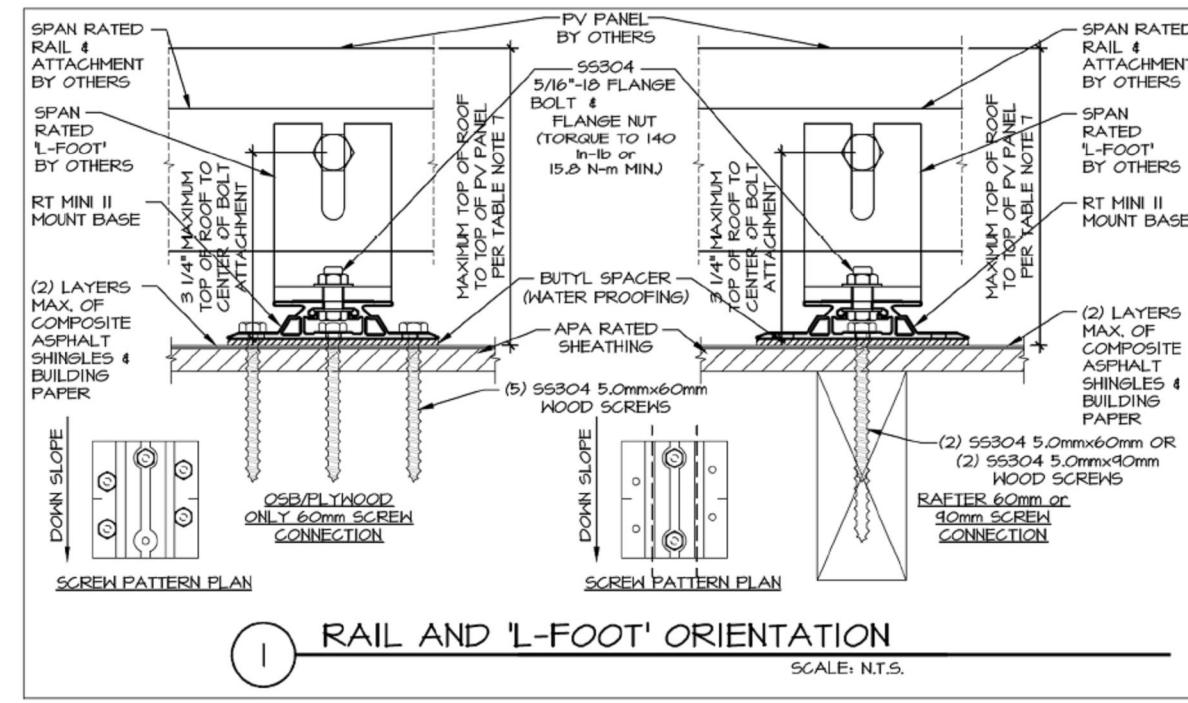
ROOF MATERIAL: SHINGLE
TOTAL ROOF AREA: 102.75 M²
TOTAL ARRAY AREA: 17.79 M²
TOTAL ARRAY PERCENT COVERAGE: 17.31%

MODULE WATTAGE: 500 W
NUMBER OF PANELS: 8
SYSTEM SIZE: 4.000 kW

NOTES:

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

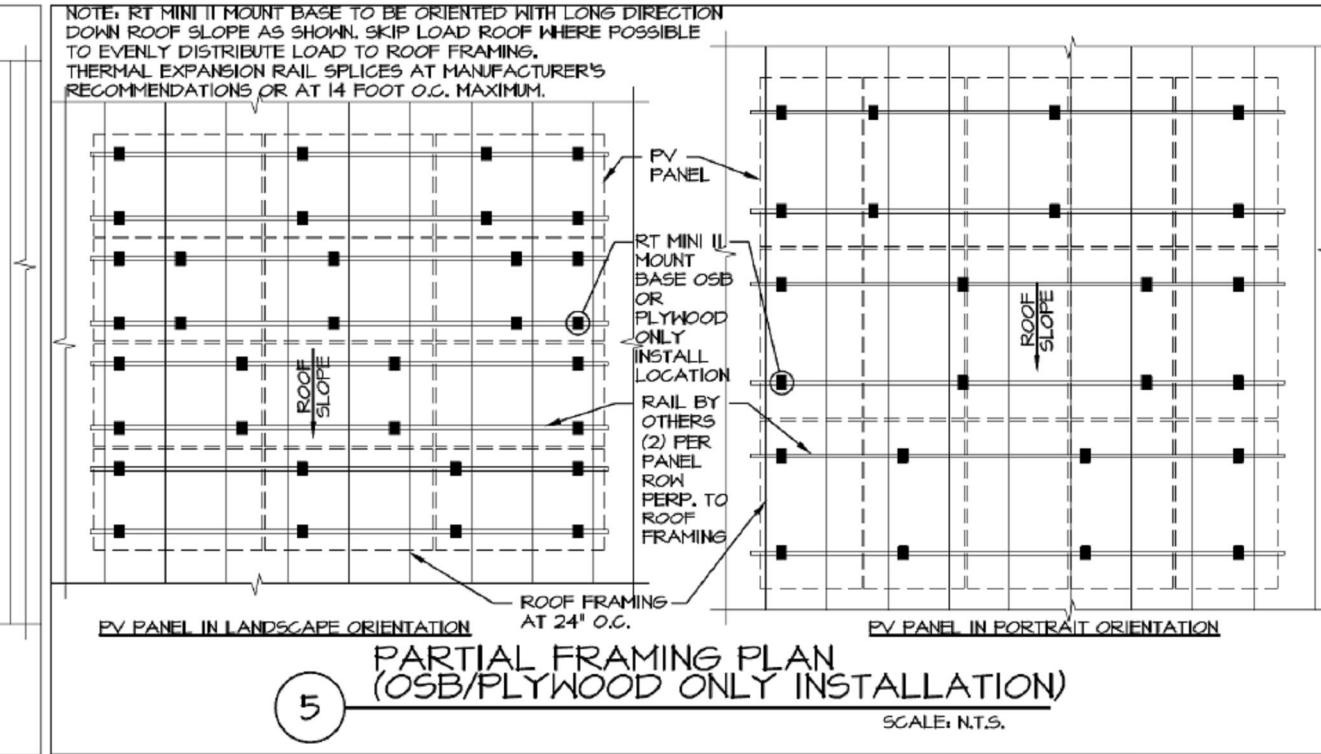
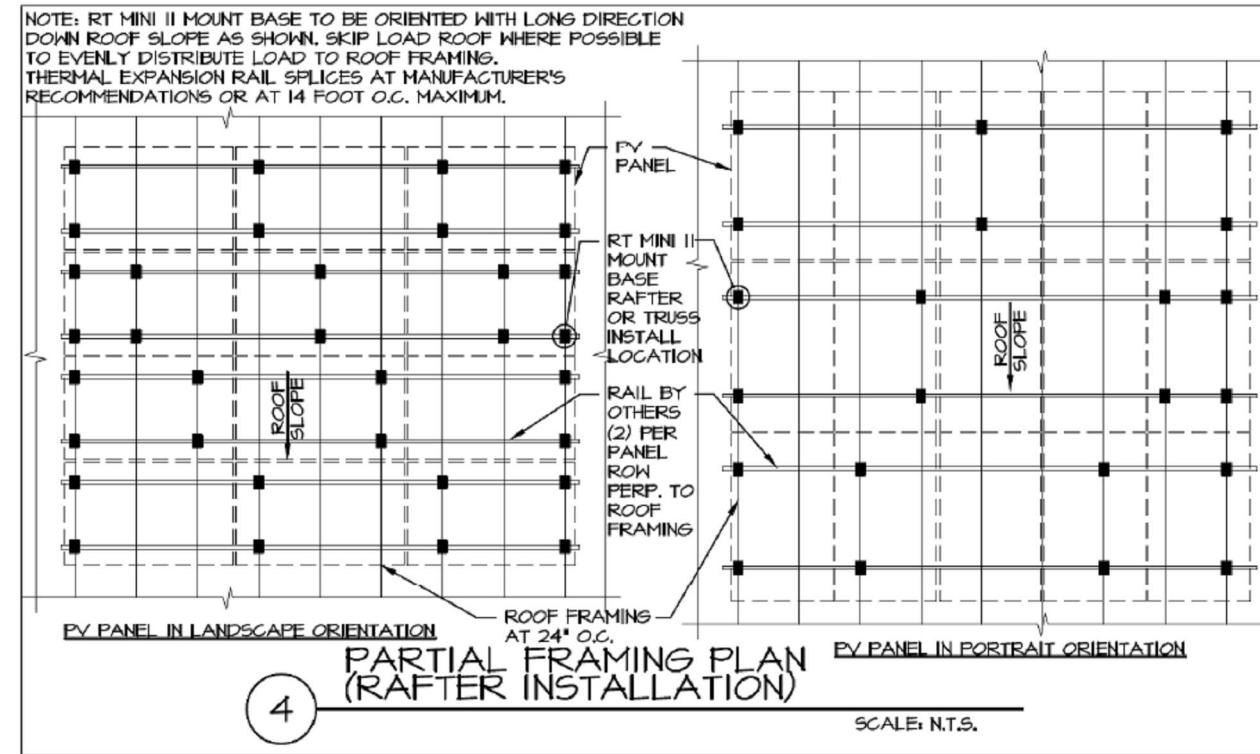




PANEL TYPE: LONGI LR8-54HGBB-500W
 PANEL SIZE: 1961.00mm X 1134.00mm
 RACKING TYPE: KINETIC RAPID RAIL
 MOUNT TYPE: RT MINI II
 SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

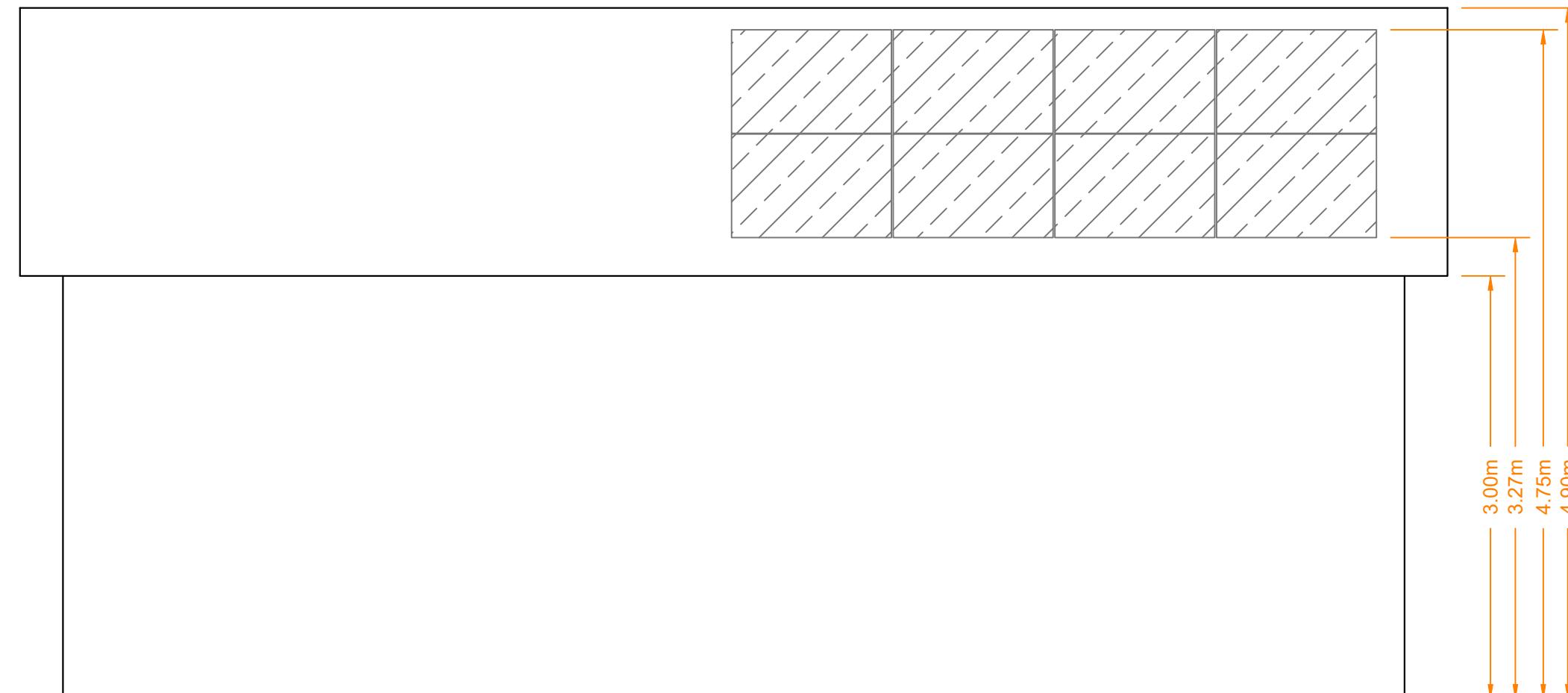
NOTES:

- 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



SOUTH 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



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



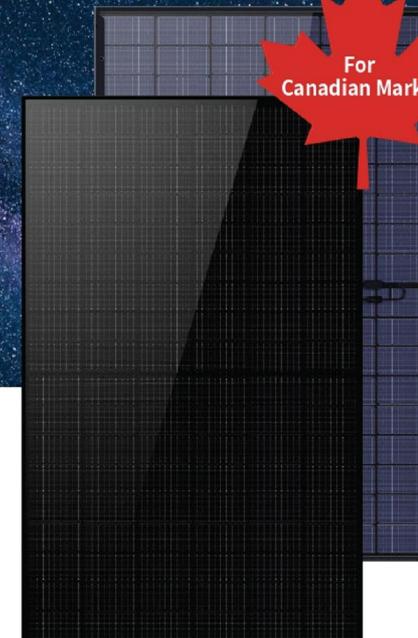
Excellent low irradiance
performance



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

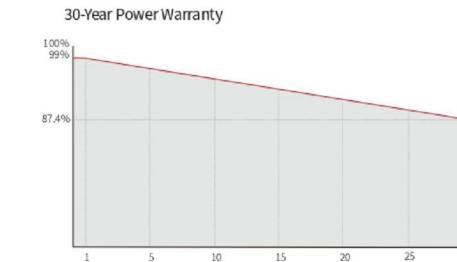
0~3%
POWER
TOLERANCE

<1%
FIRST YEAR
POWER DEGRADATION

0.4%
YEAR 2-30
POWER DEGRADATION

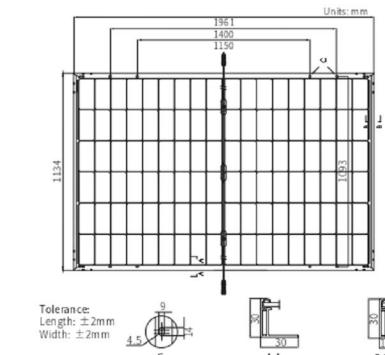
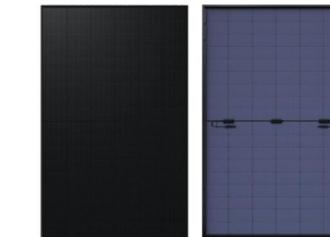
HALF-CELL
Lower operating temperature

Additional Value



Mechanical Parameters

Cell Orientation	108 (6 × 18)
Junction Box	IP68
Output Cable	4mm ² , +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 ² 25°C	NOCT : AM1.5 800W/m ² 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 (Vmp/V)	32.98 31.34	33.14 31.49	33.31 31.65
Current at Maximum Power (Imp/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	Imp /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

Mechanical Loading

Front Side Maximum Static Loading (e.g. snow, wind)	5400Pa
Rear Side Maximum Static Loading (e.g. wind)	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

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

LONGi

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

**FIREFLY
SOLAR**

FIREFLY SOLAR
+1-888-912-9462
FIREFLYSOLAR.CA

PROJECT: 27 BISON CRESCENT
MUNICIPALITY: HIGH LEVEL, AB
ZIP CODE: T0H 1Z0
CLIENT: MICHAEL PELENSKY
4.000 KW DC-STC / 2.880 KW AC

LONGi

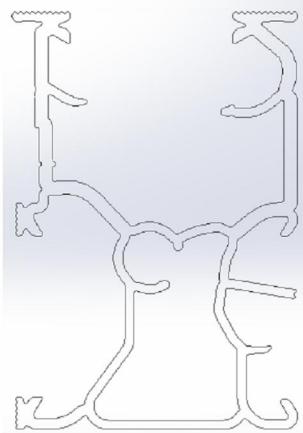
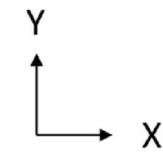
LONGi Solar Technology (Canada) Inc.
43/F, 5288th Avenue S.W., Calgary, Alberta T2P1G1
us-info@longi.com
https://www.longi.com/us

AUTHOR: ----
DATE: 15/SEP/25
REV: -

PANEL SPECIFICATIONS

A1

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

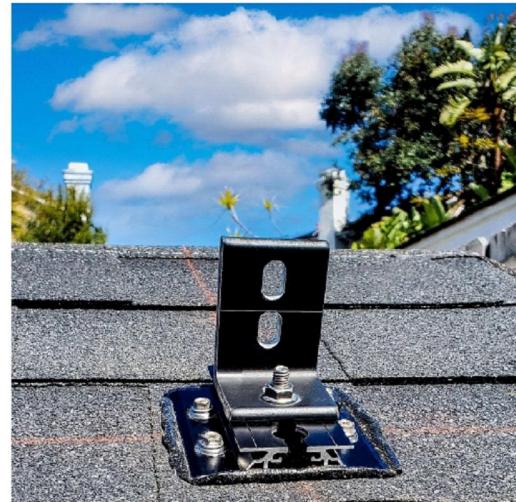
Material: Aluminum



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



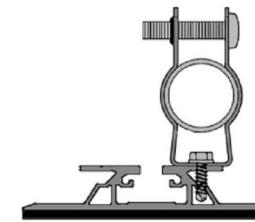
Roof Tech
The Standard for Waterproof Flexible Flashing Since 1994

www.roof-tech.us

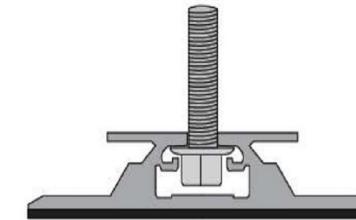
info@roof-tech.us



Conduit Strap Installation



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



Components



RT2-00-MINIBK2

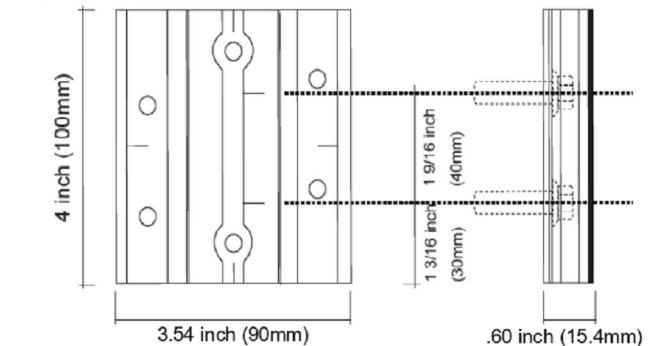


MINI II base : 20 ea.
Screw : 40 ea.
Extra RT-Butyl : 4 ea.

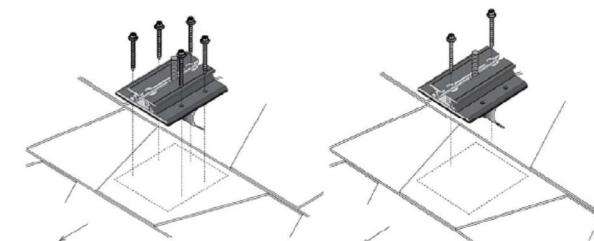
Optional Items:

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

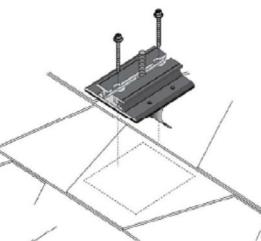
Dimensions in (mm)



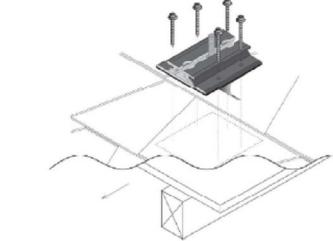
Deck Installation OSB & PLYWOOD ONLY



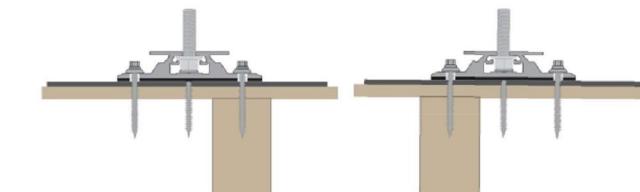
Rafter Installation



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



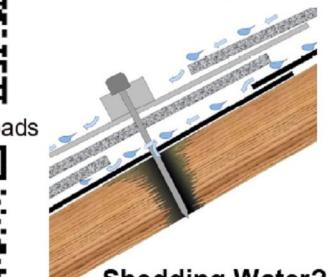
P.E. Letters



Support & Downloads



Metal Flashing Retrofit



Shedding Water?

Flexible Flashing

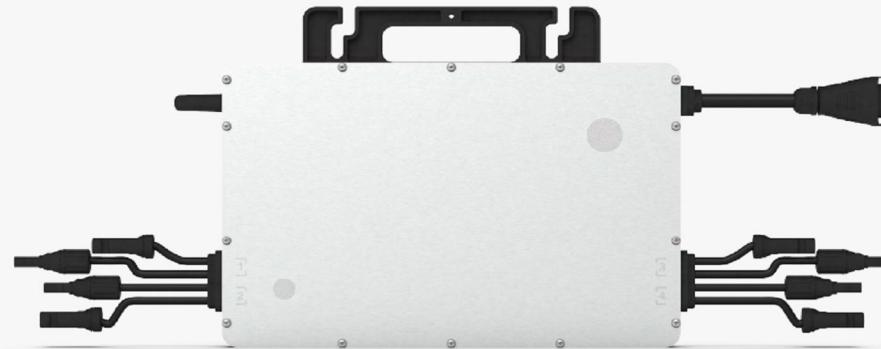


100% Waterproof

Roof Tech Inc.

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
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).