THE MUNICIPAL DISTRICT OF WILLOW CREEK NO. 26
#26-Hwy 520, Claresholm Industrial Area, Box 550, Claresholm, Alberta T0L 0T0
Phone: (403) 625-3351 Fax: (403) 625-3886
Email: development@mdwillowcreek.com

NOTICE OF MUNICIPAL PLANNING COMMISSION MEETING

Form B **Application No.** 024-19

TO: Landowners 1-mile

Notice is hereby given that an application is being made for a development permit with regard to the following:

NAME OF APPLICANT: Corellian Energy Solutions

TYPE OF DEVELOPMENT:

Allow to remain, the installation of 26.28kW roof mount solar system on existing agricultural building.

LEGAL DESCRIPTION OF SITE: SW 23-08-25-W4M

PLACE OF MEETING: Municipal Administration Building, Claresholm

TYPE OF MEETING: Regular Municipal Planning Commission

DATE OF MEETING: **9:30 a.m. on Wednesday, April 24, 2019**

This development application and all associated information are available for viewing at the Municipal Office at the address shown above during normal hours of operation, or on our website at www.mdwillowcreek.com.

Any person affected by the said proposal has the right to present a written brief prior to the hearing and/or to be present and be heard at the meeting. Any information submitted will become available to the public and may also be shared with the applicant and appropriate government/other agencies and is subject to the provisions of the Freedom of Information and Protection of Privacy Act (FOIP). If you have any questions, please contact The Municipal District of Willow Creek No. 26.

Persons requesting to be heard at the meeting shall submit a written request to be heard to the development officer not later than:

April 19, 2019 (10 consecutive days from the date of this notice)

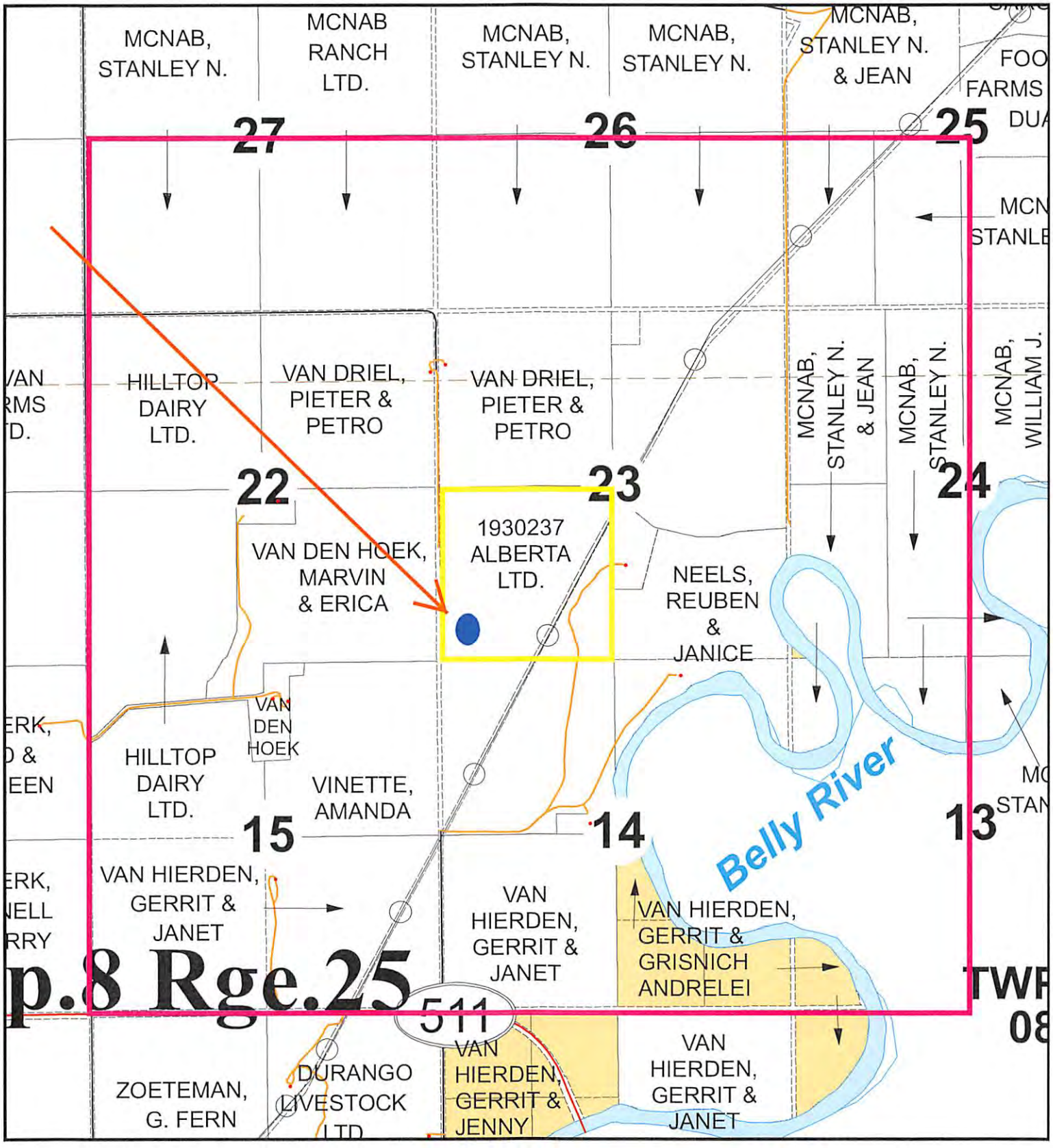
DATE: April 5, 2019 **SIGNED:**

Cindy Claresholm
Development Officer
MD of Willow Creek No. 26

MD of Willow Creek

Development Permit No. 024-19

Location: SW 23-08-25-W4M



Applicant: Corellian Energy Solutions (1930237 AB Ltd)

Alberta Health Services

Environmental Public Health

April 11, 2019

Development Application # 23-19
Applicant: Corellian Energy Solutions

Attention Cindy Chisholm, Development Officer
Municipal District of Willow Creek
Box 550 #26-Hwy 520 West Claresholm,
Claresholm, AB T0L 0T0.

Re: Application to install a solar array on SW 23-08-25 W4M in the MD of Willow Creek

In response to your request for comment on the construction of a solar array at the above noted location, we have reviewed the information provided, and conducted an on-site inspection. We wish to provide the following comments:

- We do not foresee a Public Health Nuisance being created as a result of the above noted development provided that the applicant complies with all pertinent regulations, by-laws and standards.

If you require further clarification please contact me at the Community Health Center in Fort Macleod at 403-553-5351.

Sincerely,

Robert Rippin, B.Tech., B.Sc. CPHI (C)
Executive Officer/ Public Health Inspector
Environmental Public Health

THE MUNICIPAL DISTRICT OF WILLOW CREEK NO. 26
Box 550, Claresholm, AB T0L 0T0
Phone (403) 625-3351 Fax (403) 625-3886 www.mdwillowcreek.com

FOR OFFICE USE ONLY
MPC - Apr 24/19

Application No. 024-19
Fees Submitted: $600.00 + 600.00 ✓
Site Inspection: _____

APPLICATION FOR A DEVELOPMENT PERMIT

IMPORTANT: This information may also be shared with appropriate government/other agencies (e.g. Alberta Agriculture, Food and Rural Development; Alberta Environment; the regional health authority), and may also be kept on file by those agencies. This information may also be used by and for any or all municipal programs and services. The application and related file contents will become available to the public and are subject to the provisions of the Freedom of Information and Protection of Privacy Act (FOIP). If you have any questions about the collection of this information, please contact The Municipal District of Willow Creek No. 26.

Form A

APPLICANT: Corellian Energy Solutions **Telephone** [redacted]

ADDRESS: [redacted] **Fax:** n/a

MUNICIPAL ADDRESS: _____ **Bus/Cell:** [redacted]

REGISTERED OWNER: Amanda Vinette **Telephon** [redacted]

LEGAL DESCRIPTION: Lot(s) _____ Block _____ Plan _____

OR: Quarter SW Section 23 Township 8 Range 25 W 4 M

EXISTING USE: Farm shop

PROPOSED USE: Farm shop / Partial Hay storage, grain storage

PARTICULARS OF PROPOSED DEVELOPMENT:

3 rows of 24 x 365W Solar PV Modules installed on farm shop South facing lower roof

26.28 KW System.

Additional information or clarification can be helpful in processing the application without delay. You may wish to use the back of this form, or attach a separate sheet with such information. **Please fill out the Right of Entry authorization on reverse.**

REGISTERED OWNER OR PERSON ACTING ON BEHALF OF:

I/we agree to the collection and sharing of this information contained in this application, and any other information that may be required to verify and evaluate this application as explained above. I have submitted particulars concerning the completion of the proposed development and agree to comply in all respects with any conditions that may be attached to any development permit that is issued and with any other bylaws that are applicable. I am aware that I may be required to pay for all local improvement costs, which include drainage, sidewalks, road construction, street lighting, water and sewer main extensions, utility connection fees and installation costs at the present established rate.

I have read and understand the terms noted on the reverse side of this form and hereby apply for permission to carry out the development described above and/or on the attached plans and specifications. I further certify that the registered owner(s) of the land described above is aware of this

DATE: 28/03/2019 **SIG** [redacted]

IMPORTANT: See Over

ADDITIONAL INFORMATION: _____

IMPORTANT:

1. Subject to the provisions of the Land Use Bylaw of The Municipal District of Willow Creek No. 26, the term "development" includes any change in the use of buildings or land.

2. Although the Development Officer is in a position to advise on the principle or details of any proposals, such advice must not be taken in any way as an official consent, and is without prejudice to the decision in connection with the formal application. It must be clearly understood that any development by the applicant within 14 days after receipt of a Development Permit is at his own risk.

3. Please submit a plan or drawing showing locations of existing and proposed buildings, roads, services, boundaries, etc. in sufficient detail to ensure proper consideration of the application. Measurements may be metric or imperial units. It is desirable that the plans and drawings should be on scale appropriate to the development, that is:

   Site plans – ratio of 1:1000 or 1:1500
   Other drawings – ratio of 1:100 or 1:200

   or as required by the Development Officer. However, unless otherwise stipulated, it is not necessary for plans and drawings to be professionally prepared.

4. If a decision is not made within 40 days from the date of the receipt of the application in its complete and final form, the applicant may exercise his right of appeal as though he had been mailed a refusal at the end of the 40-day period unless an agreement for a time extension has been entered into with the municipality.

RIGHT OF ENTRY:

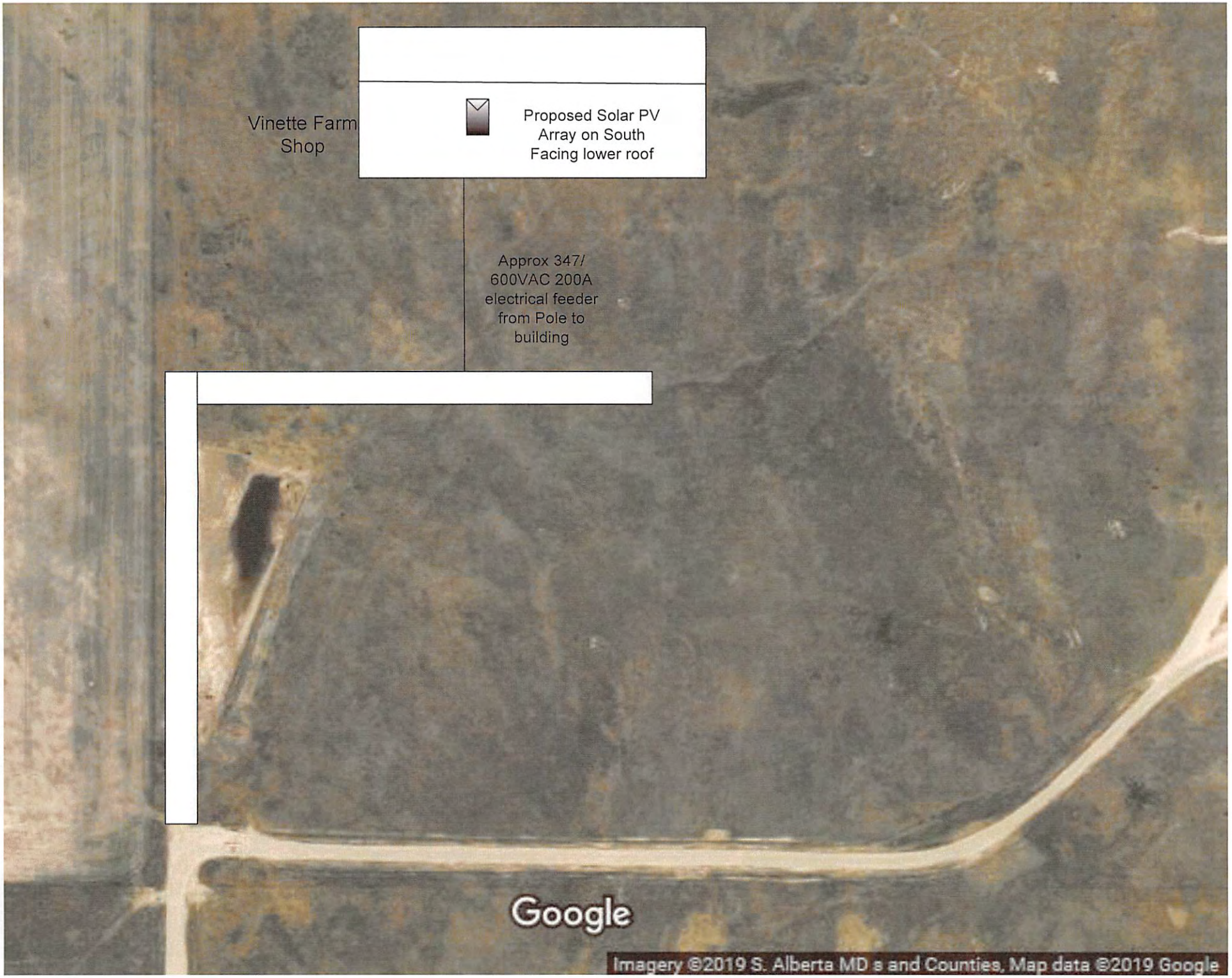
I hereby authorize representatives of The Municipal District of Willow Creek No. 26 to enter my land for the purpose of conducting a site inspection in connection with this application.

This right is granted pursuant to Section 542(1) of the *Municipal Government Act*.

DATE: 28/03/2019 **SIGNE**

Registered Landowner(s)


N To Fort Macleod
S to Cardston
Vinette Shop
location
2
2
511
511
511
Map
Google


Vinette Farm Shop
Proposed Solar PV Array on South Facing lower roof
Approx 347/ 600VAC 200A electrical feeder from Pole to building
Google
Imagery ©2019 S. Alberta MD s and Counties, Map data ©2019 Google

FORTIS ALBERTA

Form A – Micro-Generation Notice

(If you have questions on how to fill in the form, refer to Micro-Generation Notice Submission Guideline posted on the AUC website: www.auc.ab.ca)

Check the appropriate boxes to identify your micro-generation project:

Project meets micro-generation generating unit size requirements (i.e. not to exceed 5 MW)? Yes ☑ No ☐
Are you an existing micro-generation customer? Yes ☐, existing capacity: ____ kW; No ☑
Are you planning to increase or decrease the generation capacity? Yes ☐, capacity change (+/-):_____ kW; No ☑
Is this notice being used for aggregating multiple sites? Yes ☐ No ☑

1. CUSTOMER IDENTIFICATION	
Name: Anne Vinette	Company Name: 1930237 AB Ltd
Address:	Cit
Province / Postal code:	Phone / Fax:
Email address: vinettesalvage@hotmail.com	Preferred method of contact: Email ☑ Mail ☐ Fax ☐
Consultant name: Corellian Energy Solutions	Consultant phone #:
Consultant address/city/province/postal coc	
Other interested parties:	

2. PROJECT DESCRIPTION 25.41 KW Solar PV system

Site Legal Description: (If the project involves aggregated sites, list the sites in the following table. Expand the list in separate sheets of paper if required.)	Site ID:
Legal land description(s): Site 1. SW 23 - 08 - 25 W4 Site 2. Site 3. Site 4.	Site ID(s): Site 1. 0040002167107 Site 2. Site 3. Site 4.
Service address(s): Site 1. Site 2. Site 3. Site 4.	Retailer name(s): Site 1. Site 2. Site 3. Site 4.

Energy source(s) of the Generator(s): Solar ☑ Wind ☐ Hydro ☐ Biomass ☐ Fuel cell ☐ Geothermal ☐ Other ☐
Specify:_____
(If the project involves aggregated sites and consists of generators using different energy sources, list them out in a separate table.)

Type(s) of Generator(s) connected to the utility interface: Inverter based ☑ Induction ☐ Synchronous ☐
(If the project involves aggregated sites and consists of different types of generators, list them out in a separate table.)

Micro-generation Generating Unit(s) total nameplate a.c. capacity (kW):	Estimate a.c. Demand (kVA):	Estimate customer annual energy consumption (kWh):
Site 1: 19.8 Site 2: Site 3: Site 4:	Site 1: Site 2: Site 3: Site 4:	Site 1: 35000 Site 2 Site 3 Site 4:

Projected total net a.c. annual energy production (kWh) from the micro-generation generating unit(s) : 31727

Voltage level of connection: 120/240	Phase: Single ☑ Three ☐
If you have inverter(s) in your micro-generating unit(s), does it comply with "CSA Standard C22.2 107.1 – Power Conversion Equipment" in particular standards respecting "Anti-islanding"? Yes ☑ No ☐ If you have inverter(s), please specify the inverter(s) type(s) used: Line commutated type ☑ or Self commutated type ☐ If you have synchronous-based micro-generating unit(s), does it comply with the owner's technical requirements for connecting generators, in particular requirements regarding "Anti-islanding"? Yes ☑ No ☐	
Requested in service date (YYYY-MM-DD) for connection: 2018-12-20	

3. SUPPORTING DOCUMENTS REQUIRED:

Submit the following supporting documentation:

a) Electric single-line diagram
b) Site Plan
c) Electrical Permit
d) Electrical Inspection Report (to be submitted after installation of the micro-generator(s) is completed and inspected)
e) Other supporting document(s), if any, please specify:_____

Have you met all applicable municipal and zoning requirements, including noise rules and by-laws? Yes ☑ No ☐ Please specify:_____

* Have you completed the participant involvement program stated in AUC Rule 007? Yes ☑ No ☐ Please specify: _____
* Have you met the requirements stated in AUC Rule 012? Yes ☑ No ☐ Please specify: _____
* Have you met all applicable environmental requirements? Yes ☑ No ☐ Please specify:_____
* Are you aware of any outsta ding your project? Yes ☐ Please specify:_____ No ☑

Applicant Signature:	**Submission date:** 26 Nov 2018

4. ELECTRIC DISTRIBU LY:

Owner's notice reference #:	AESO asset ID (if any):
Date received:	Interconnection Line:
Accepted: Yes ☐ No ☐ **Reason(s) for dispute:**	
Interconnection agreement signed? Yes ☐ No ☐ Not Applicable ☐	
Meter type: Interval ☐ Cumulative ☐	Substation Number:
Meter Installed Date:	
Remarks:	

* Notes: The micro-generation customer must ensure that the criteria for an exemption from filing an application with the Commission as stated in Section 2 of this rule are satisfied.

In order to receive electricity generation credits, the micro-generation customer must notify its retailer or regulated rate provider once the notice is accepted by the owner or in the event that the Commission decides that a disputed unit is a micro-generation generating unit.

APPENDIX E – SINGLE LINE DIAGRAM

The following 2 Single Line Diagram forms are for your use. Submit one of the following forms with your MG Application.

SLD #1

Notes:
1. Wiring arrows indicate direction of electrical energy flow.
2. Grid-connection safety requirements are given by the Canadian Electrical Code Section 84, and the Wires Service Provider.
3. All components shall meet Canadian electrical product certification standards.
4. All components shall contain nameplate labels indicating the acceptable Certifying Organization.
5. An inverter with a Canadian Certification Mark thus meets the CSA's standard C22.2 No. 107.1 for utility grid-connection.
6. Separate Grid Disconnect is optional and may or may not be required by the Wires Service Provider.
7. If installed, Grid Disconnect shall comply with Canadian Electrical Code Rule 84-024 (2006).
8. Generator Disconnect and Grid Disconnects may be integral to the inverter.

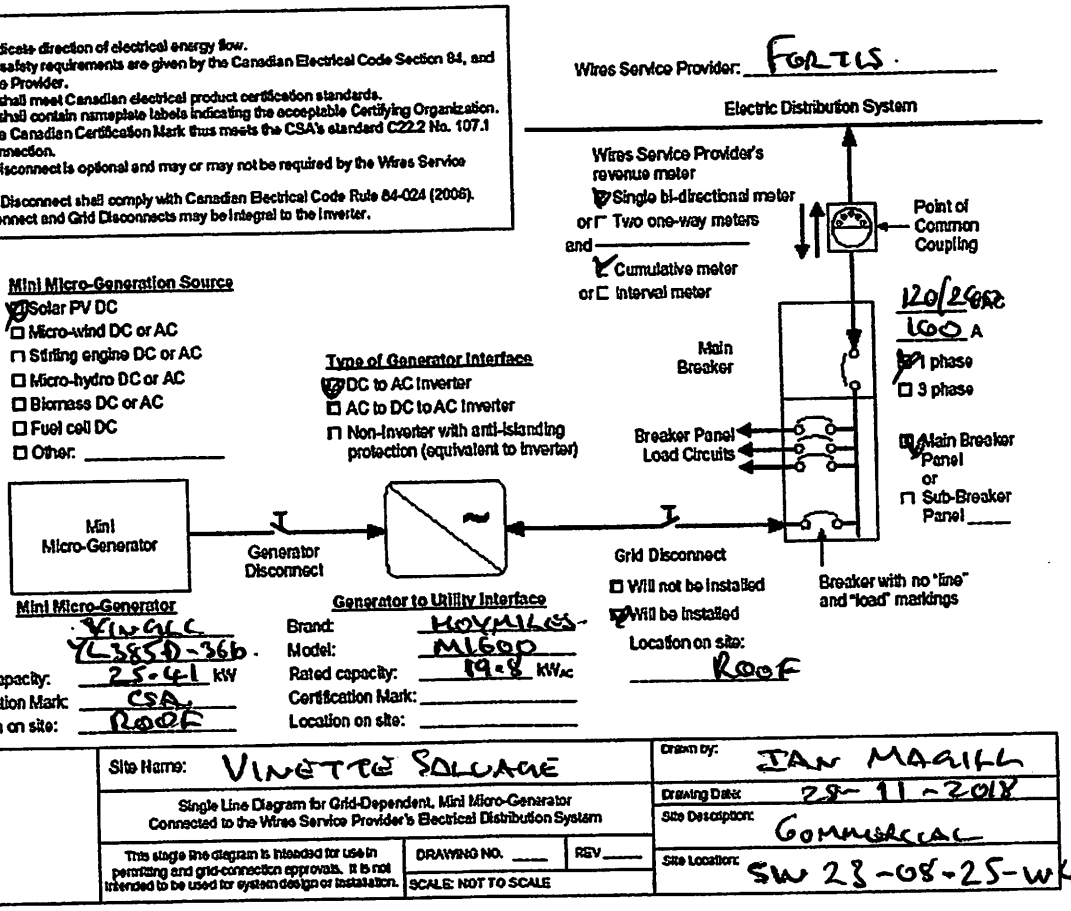


Diagram Courtesy of Howell-Mayhew Engineering

FORTIS ALBERTA

AUTHORIZATION FOR FORTISALBERTA INC. TO RELEASE CUSTOMER INFORMATION TO A THIRD PARTY AND CUSTOMER CONSENT AND APPROVAL FOR A THIRD PARTY TO ACT ON CUSTOMER'S BEHALF

Amanda Vinette (the "Customer"), hereby directs and authorizes FortisAlberta Inc. to provide Customer-related information, (the "Customer Information"), which may include personal information and proprietary business information as the case may be, to:

IAN MAHLE C/O ORECLIAN ENERGY SOLUTIONS. and its employees, consultants, contractors and agents (the "Third Party"), and the Customer furthermore provides its consent and approval for the Third Party to provide instructions on behalf of the Customer to FortisAlberta Inc. relating to the Customer. Unless advised by the Customer in writing the timeframe respecting this authorization shall be for two (2) years from the date of this authorization.

With respect to all of the aforementioned, the Customer hereby agrees to indemnify hold harmless and absolutely and unconditionally release FortisAlberta Inc., its affiliates, officers, directors and employees of and from any liability and any and all form of claim as might arise out of, result from, or in any way relate to the dissemination, sharing or use of the Customer Information by FortisAlberta Inc. with the Third Party pursuant to this authorization.

The Customer understands that the authorization may be revoked by the Customer at any time by providing written notice to FortisAlberta Inc.

UNDERSTOOD, ACCEPTED and AGREED this 26 day of Nov 2018

[redacted]

Signature

Amanda Vinette

Print Name

Owner

Title

1930237 AB Ltd

Company

[redacted]

Address

[redacted]

Phone

Cell

Email

Please Email or Fax this completed form to: FortisAlberta Inc. Attention: Micro-Generation

Email: microgen@fortisalberta.com Fax Number: 403-514-5505

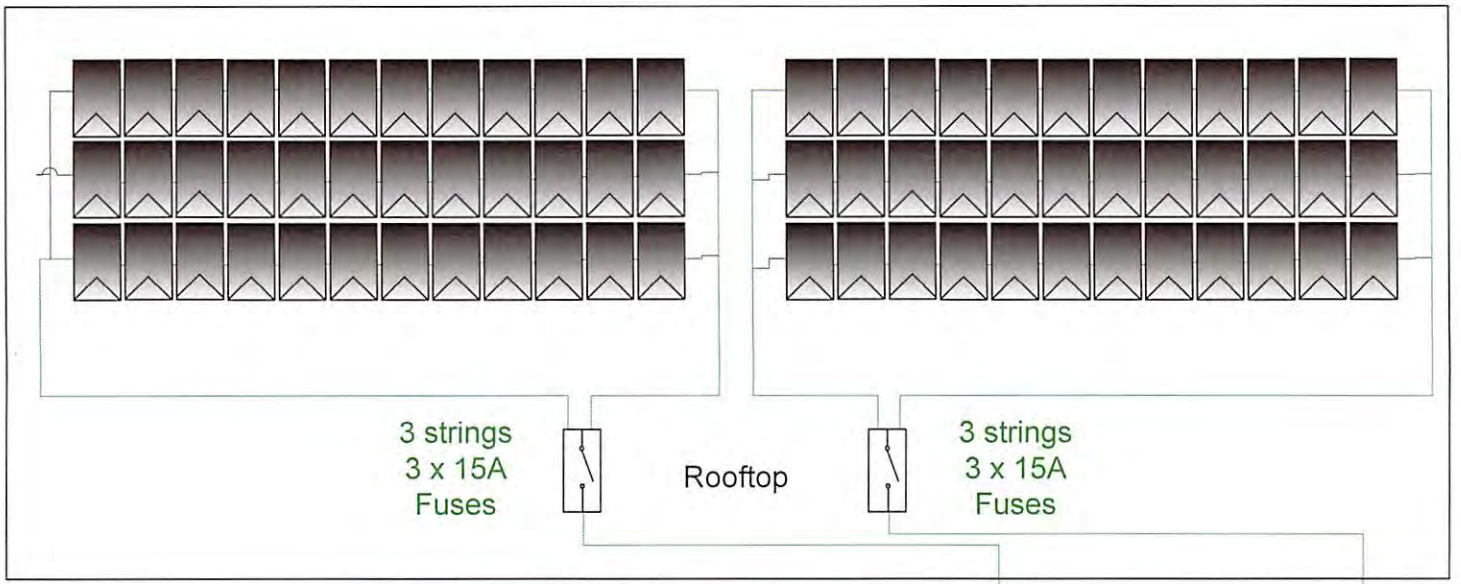
Solar PV system 208VAC Three Phase Supply

26.28KWp Solar PV system

72 x 365W Trina Solar PV Modules model no TSM TSM-DE14A(II)365 with 2 x 14.4KW Solar edge inverters mounted In the mechanical room. Solar Egde Inverter model no SE14.4K-US
2 x 50 Amp AC branch circuits, 3 x DC strings of 12 PV modules per inverter, combiner box for each Array located on roof with 3 x 15A fuses for each Inverter.
72 P370 optomizers located, 1 under each Solar module

CORELLIAN ENERGY SOLUTIONS

Solar PV Array Operating Parameters
Max PV Source Voltage 750Vdc
Max AC output Voltage: 208 Volts AC
Max AC output Current: 80 Amps



RSSD Initiator by Main service disconnect/supply meter located in mechanical room

RSSD initiator by stairs to upper floor and roof Near SW ground floor access stairwell

DC source feed from arrays

120/208VAC 200A Panel

120/208VAC 200A Panel

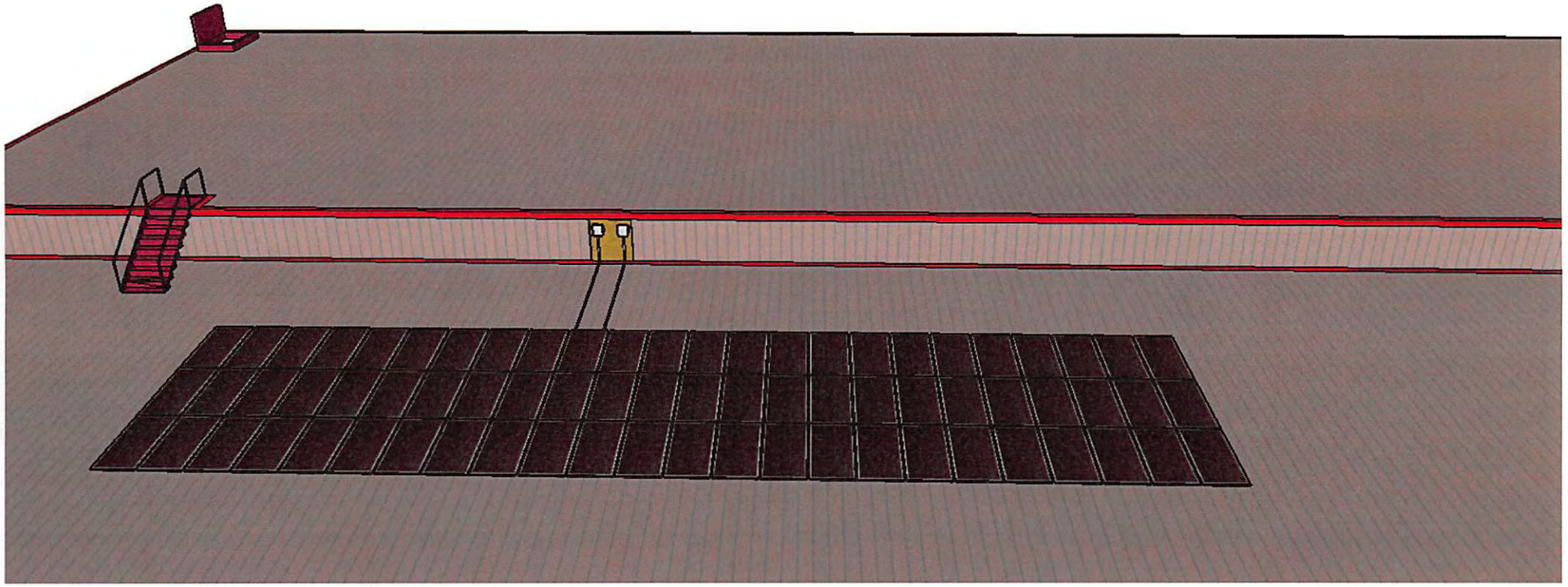
347/600V 200A

347/600VAC Pri 150KVa 120/208VAC Sec

M

SE 14.4K 208VAC inverter x 2

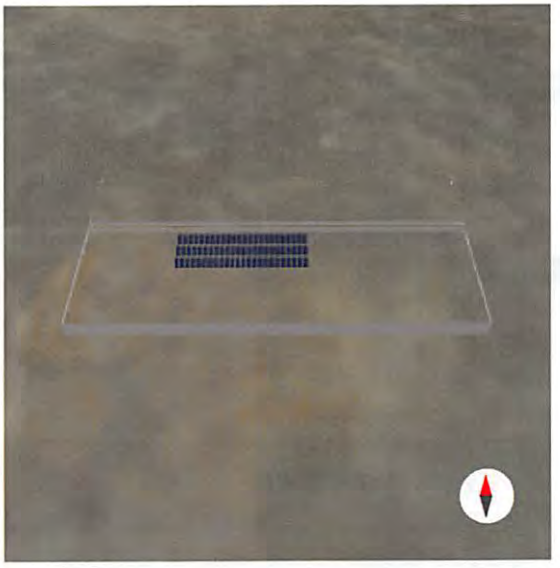
2 x 208V 50A AC branch ccts



VINNETTE SALVAGE SUMMARY REPORT

Alberta 511, Fort MacLeod, Alberta, T0L 0Z0, Canada

solaredge DESIGNER



PROJECT INFORMATION

Customer name	Anne Vinette
PV modules	72
Inverters	2
Power optimizers	72
Orientations	1
Weather station	Lethbridge

SYSTEM DATA

Installed power	Max achieved DC power	DC/AC oversizing	Max active AC power	Annual energy
26.28 kWp	26.12 kW	91 %	26.12 kW	32.33 MWh

ESTIMATED MONTHLY ENERGY

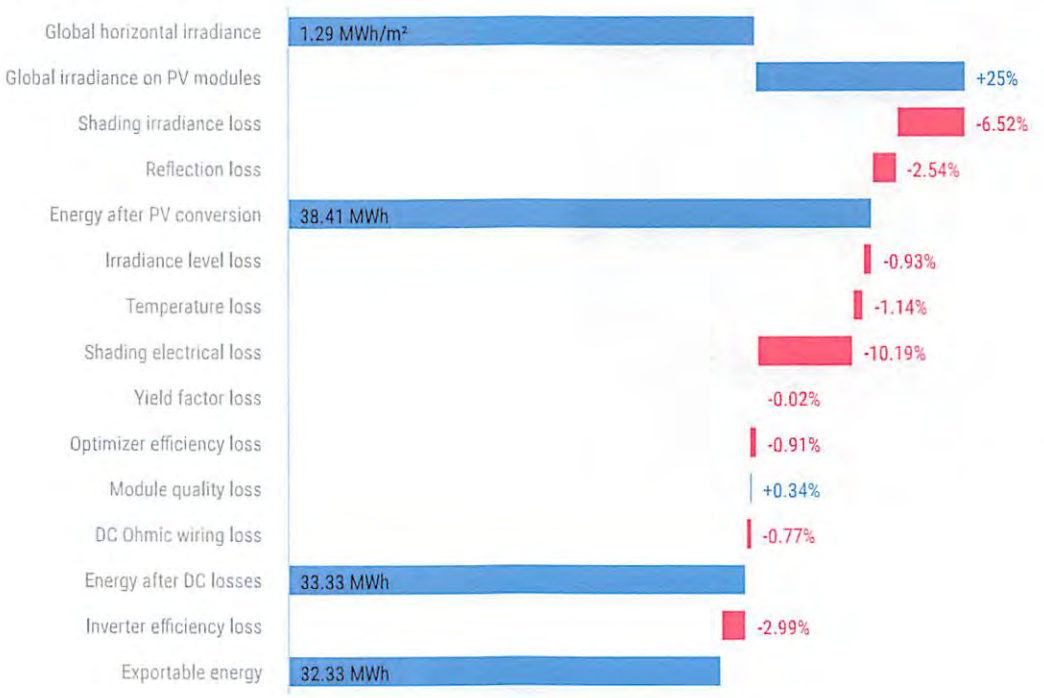
Total clipped energy: 0%

VINNETTE SALVAGE SUMMARY REPORT

Alberta 511, Fort MacLeod, Alberta, T0L 0Z0, Canada

solaredge DESIGNER

SYSTEM LOSS DIAGRAM



PV MODULES

Module #	Module	kWp	Racking type	Module orientation	Azimuth	Tilt
72	Trina Solar Energy, TSM-365DE14A(II) PERC MONO (TALLMAX plus)	26.28			180°	39°

GRID

Electricity grid	208V L-L, 120V L-N

ELECTRICAL DESIGN

2 x SE14.4kUS

3 x strings: 12 x P400 (1:1)

BILL OF MATERIALS (BOM)

Inverter	2 x SE14.4kUS	Power Optimizer	72 x P400

Dave Bernardin, P.Eng.
Suite 104, #5, 8720 Macleod Trail S.
Calgary, Alberta, T2H 0M4
587-899-4485
dave@davebernardin.ca

December 20, 2017

Josh Walker, Project Manager
Kinetic Solar Racking and Mounting Inc.
65 Martin Ross Avenue, Unit 1
Toronto, Ontario, M3J 2L6

RE: Design review of Kinetic Solar Racking and Mounting Inc. Rapid Rail, and Rapid Rail roof mounting hardware for installation into select locations in Alberta.

Attention: Mr. Walker,

At your request, I performed a structural analysis of the Kinetic Solar Rapid Rail, and K-Rack anchorage hardware, to determine their structural capacity and suitability for use in Alberta.

The Rapid Rail is an extruded aluminum rail that is used to support solar panels. The solar panels are bolted to the rail using a profiled nut, and then the rails are bolted to the mounting hardware, which consists of an aluminum L-bracket. The L-bracket is bolted to a base plate, which is then lag screwed to the regularly spaced wood roof framing members.

The solar panel system is designed to be installed on pitched roofs, with slopes varying from 3:12 to 12:12. Two rails are considered per row of panels (module), with a module spacing of 32" (813 mm) for panels mounted in landscape orientation, and a module spacing of 39" (991 mm) for panels mounted in portrait orientation.

Design Assumptions

The following design review overall is in accordance with the Alberta Building Code 2014, with the aluminum design in accordance with CAN/CSA-S157-05, Strength Design in Aluminum, and lag screw capacities based on the Canadian Wood Council Wood Design Handbook. This analysis was setup to determine the maximum allowable service roof snow load, and service wind pressure at the roof, that would satisfy the structural requirements of the rail and anchorage, for roof slopes of 3:12 to 12:12, for a maximum anchor spacing of 48" for simply supported and continuous rails, and a maximum cantilever of 12". Therefore, this is a general analysis, which means that any building with a roof slope in this range, and with a calculated roof snow load and service wind pressure at the roof (based on analysis using the NBCC Structural Commentaries, and local climactic data from the ABC 2014) that are less than the maximum values stated herein may safely use the Rapid Rail and K-Rack anchorage. A more detailed analysis for individual situations with a specific roof slope and anchor combination would allow for the loads to be increased.

Material and geometric properties for the Rapid Rail were provided by Kinetic, and are appended to this report. The maximum allowable span between supports was determined to be 48" (1220 mm) for simply supported and continuous spans, with the maximum cantilever length of 24" (610 mm), based on Sentence 9.1c) of CAN/CSA-S157-05, "Limiting Slenderness for Members."

Design Values:
Dead load of solar panel, per Kinetic = 0.15 kPa = 3.125 psf
Maximum allowable service roof snow load = 1.464 kPa = 30.5 psf
Maximum allowable service wind pressure at roof level = 1.44 kPa = 30 psf
Dead Load Factor of Safety = 1.25
Live Load Factor of Safety = 1. 5
Wind Load Factor of Safety = 1.4
Deflection Limit = L/240, or 6mm maximum allowable defection

Dave Bernardin, P.Eng.
Suite 104, #5, 8720 Macleod Trail S.
Calgary, Alberta, T2H 0M4
587-899-4485
dave@davebernardin.ca

Design findings and safe usage guideline

I performed a design calculation that checked the bending capacity and deflection for the Rapid Rail and L-bracket, and the combined shear and tension capacity of the lag screws, across all noted roof slopes and span conditions, to determine the maximum loads that can be supported by the worst-case span configuration detailed in this letter.

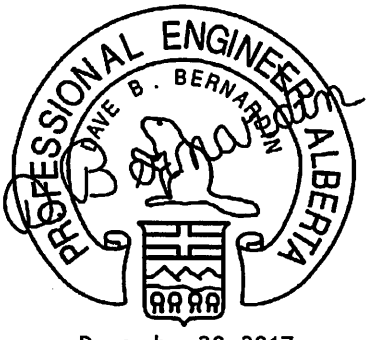
My design calculations indicate that the Rapid Rail, in combination with one of the attached mounting schematics, is suitable to span 48" from mount to mount, with a maximum 12" cantilever, with the larger 39" portrait orientation module spacing, and support a maximum service roof snow load of 30.5 psf, and a maximum service wind pressure of 30 psf at the roof. Therefore, the Rapid Rail system as specified herein is also suitable for use with the noted maximum loads and any combination of a lesser mount spacing, lesser roof snow load, lesser wind pressure, and/or switching to the landscape orientation module spacing, without further engineering review.

Based on the maximum service roof snow load of 30.5 psf and maximum service wind pressure at the roof level of 30 psf, the Rapid Rail system as detailed in this letter (max. spans) is suitable for use without further engineering review on low-rise buildings with a maximum roof ridge height of 12m above grade, in the following locations in Alberta. This is based on calculations using the climactic data found in Appendix C of the ABC 2014, Sentence 4.1.6.2 of the ABC for roof snow load, and Figure I-7 of the NBCC structural commentaries for wind load. My findings are that in these locations, neither the roof snow load, nor wind pressure at the roof level will not exceed the stated maximum loads, for the noted maximum roof height. These are based on an Open Terrain factor and Normal Importance factor, and accounts for the roof surface end zones.

Lethbridge, Alberta
Fort MacLeod, Alberta
Calgary, Alberta
Claresholm, Alberta
Drumheller, Alberta
Edmonton, Alberta
High River, Alberta,
Medicine Hat, Alberta
Taber, Alberta
Brooks, Alberta

I trust this is the info you require, but if you have any questions please don't hesitate to call.

Sincerely
Dave Bernardin, P.Eng.



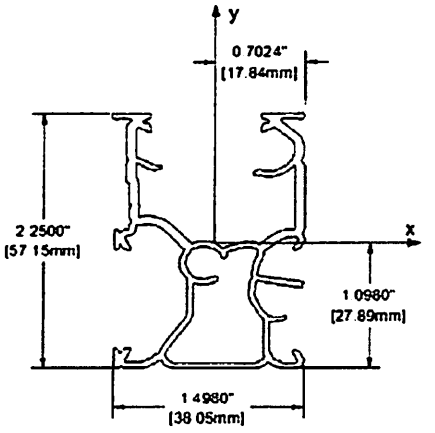
December 20, 2017

Project: Kinetic Solar, Rapid Rail and Roof Mounts Engineering Checks
Project #: 2017-200
-

Designer : DB
Date: 12-20-2017

Rapid Rail Design Properties

Material	=	Extruded Aluminum, 6005-T5			
Ultimate Strength, Fu	=	260	Mpa =	37708	psi
Yield Strength, Fy	=	240	Mpa =	34807	psi
Modulus of Elasticity, E	=	70000	Mpa =	10152156	psi
Shear Modulus, G	=	26000	Mpa =	3770801	psi
Bending Safety Factor, phi	=	0.9			



Area	=	366.64	mm^2 =	0.5683	in^2
Ix	=	117960	mm^4 =	0.2834	in^4
Iy	=	62520	mm^4 =	0.1502	in^4
c x	=	27.89	mm =	1.0980	in
c y	=	17.84	mm =	0.7024	in
Rx	=	17.94	mm =	0.7063	in
Ry	=	13.06	mm =	0.5142	in

Calculate Section Modulus, S

S = I/c, therefore:

Sx = Ix/c x =	4229	mm^3 =	0.2581	in^3
Sy = Iy/c y =	3504	mm^3 =	0.2139	in^3

Strength Design of Aluminum

Per CAN/CSA-S157: Sentence 9.5.2 b) Moment Resistance of Members not subject to L-T Buckling

For a class 2 bending Section, Mr = phi * S * Fy

Therefore, Calculations for Mrx and Mry:

Mrx = phi * Sx * Fy = 0.9 * 4229 mm^3 * 240 Mpa = 0.9135 kN*m
Mry = phi * Sy * Fy = 0.9 * 3504 mm^3 * 240 Mpa = 0.7569 kN*m

Using this value, max roof live loads can be backwards calculated for each roof pitch, and checked for overall capacity using the compatability equation.

Compatability Equation: (Mfx/Mrx) + (Mfy/Mry) < 1.0

First, check max span for slenderness, CAN/SCA-S157-05, Sentence 9.1 c) Limiting Slenderness for Members

Checking simply supported and continuous span:

Project: Kinetic Solar, Rapid Rail and Roof Mounts Engineering Checks
Project #: 2017-200

Designer : DB
Date: 12-20-2017

K = effective length factor.
For ends that are fixed from translation but free to rotate, K = 1

For tubes subject to wind load: K*L/r < 100

Therefore, solving for L:

L = 100 * Least radius of gyration / K = 100 * 0.5142 in / 1 = 51.4 in = 1305.56 mm

Maximum L used will be 48" = 1220 mm, as this is a more acceptable module spacing to work with standard framing systems

Checking free cantilevered end:
K = effective length factor.
For one end that is free to rotate and translate, K = 2

For tubes subject to wind load: K*L/r < 100

Therefore, solving for L:

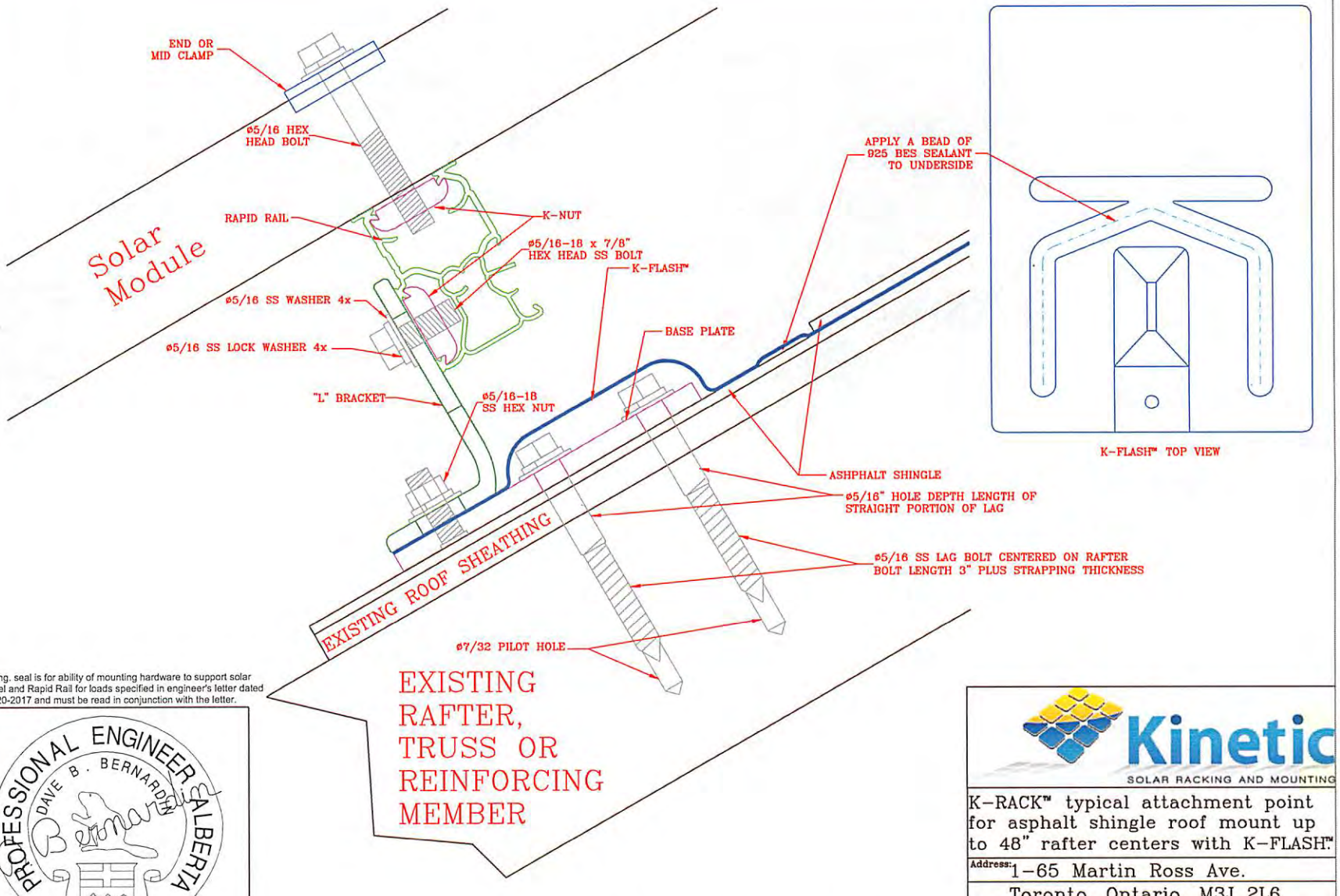
L = 100 * Least radius of gyration / K = 100 * 0.5142 in / 2 = 25.7 in = 652.78 mm

Maximum L used will be half then of continuous span, 24" = 610 mm, to allow regular module design.

<u>Check rail capacity at each roof slope.</u>

Check bending capacity of rail for the following roof slopes:

3 :12 pitch =	14.04 degrees
4 :12 pitch =	18.44 degrees
5 :12 pitch =	22.62 degrees
6 :12 pitch =	26.57 degrees
7 :12 pitch =	30.26 degrees
8 :12 pitch =	33.69 degrees
10 :12 pitch =	39.81 degrees
12 :12 pitch =	45.00 degrees



P.Eng. seal is for ability of mounting hardware to support solar panel and Rapid Rail for loads specified in engineer's letter dated 12-20-2017 and must be read in conjunction with the letter.

PROFESSIONAL ENGINEER ALBERTA
DAVE B. BERNARDIN

December 20, 2017

Note: This assembly sketch is for illustration purposes only.
Please contact your P.Eng for exact number of attachment points.

Kinetic
SOLAR RACKING AND MOUNTING

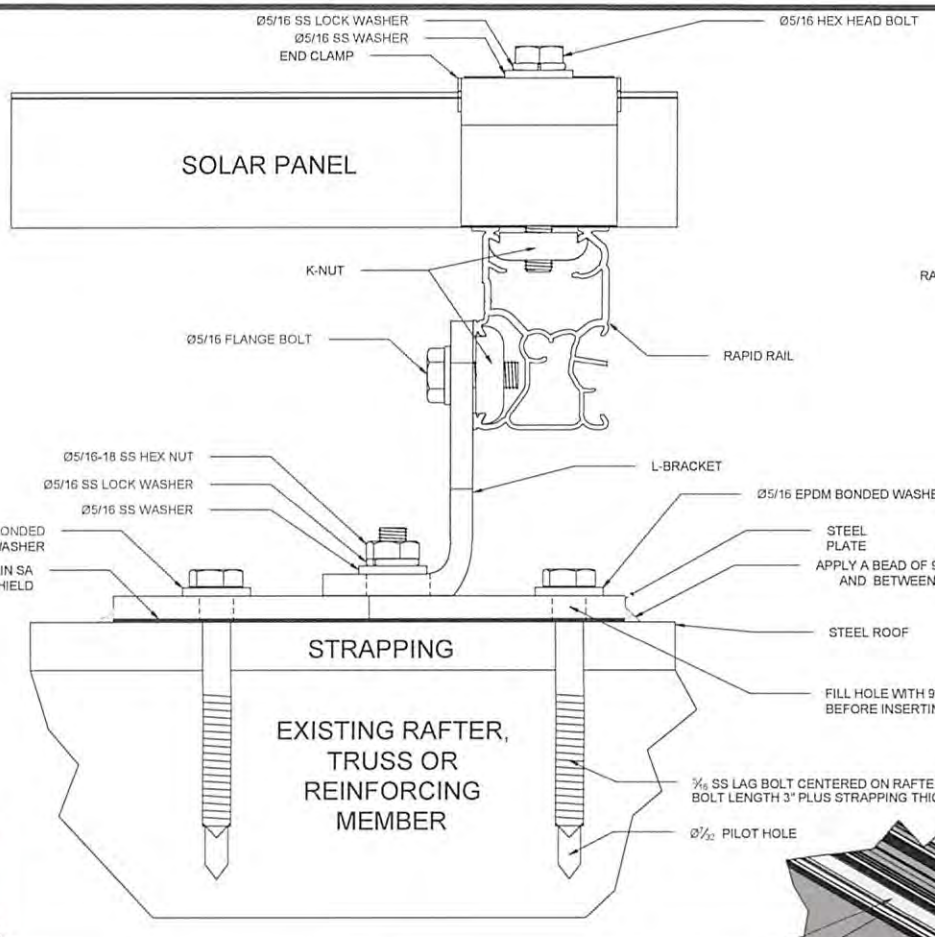
K-RACK™ typical attachment point for asphalt shingle roof mount up to 48" rafter centers with K-FLASH™

Address: 1-65 Martin Ross Ave.
Toronto, Ontario, M3J 2L6
Phone: 416-665-3755

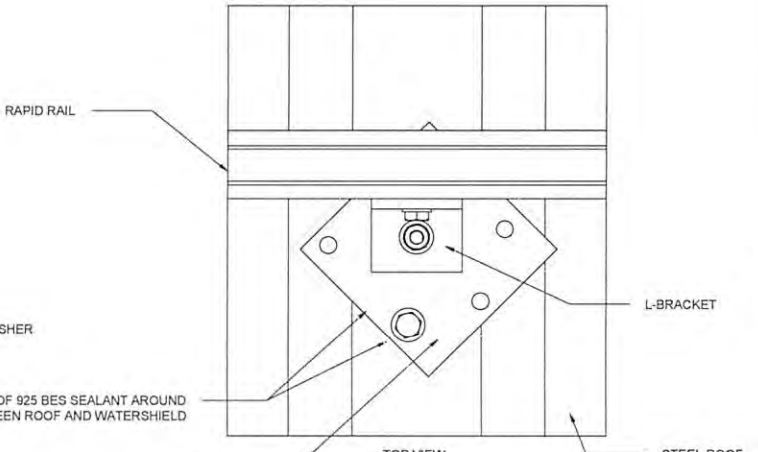
Date: July 2017

Installed by:

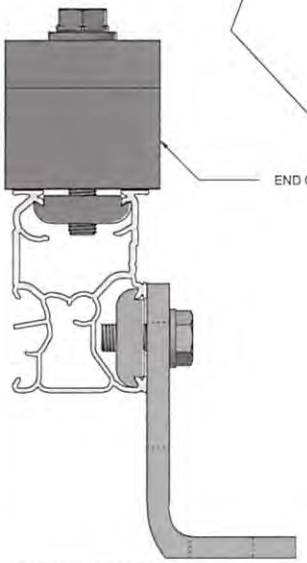
Drawn by: JOSH W.



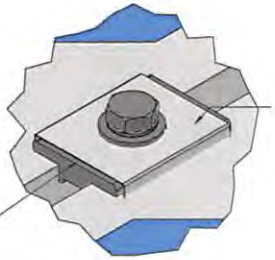
SECTION VIEW
SCALE 6" = 1'-0"



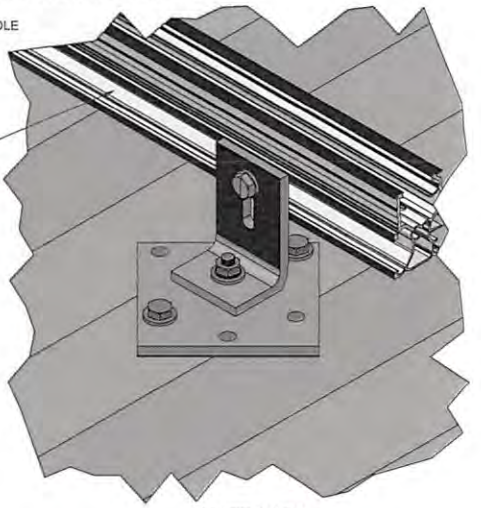
TOP VIEW
SCALE 3" = 1'-0"



RAPID RAIL WITH L-BRACKET AND END CLAMP
LEFT VIEW
SCALE 6"= 1'-0"



MID CLAMP WITH WEEB-M-KR
SCALE 6"= 1'-0"



ISOMETRIC VIEW
SCALE 3"= 1'-0"

NOTE: THIS ASSEMBLY SKETCH IS FOR ILLUSTRATION PURPOSE ONLY. PLEASE CONTACT YOUR P.ENG FOR EXACT NUMBER OF ATTACHMENT POINTS.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

P.Eng. seal is for ability of mounting hardware to support solar panel and Rapid Rail for loads specified in engineer's letter dated 12-20-2017 and must be read in conjunction with the letter.

PROFESSIONAL ENGINEER ALBERTA
DAVE B. BERNARDIN

December 20, 2017

Kinetic
SOLAR RACKING AND MOUNTING

PROJECT
KINETIC RACKING

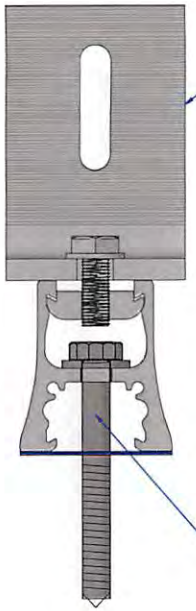
TITLE
TYPICAL ATTACHMENT POINTS FOR PITCHED STEEL ROOF

DESIGN	XXX	20/04/2015	FILE No. 001
CADD	XXX	19/02/2016	SCALE AS SHOWN
REVIEW		19/05/2016	REV. 3
PROJECT No.			

DRAWING: JOSH WALKER

TOP VIEW
SCALE 6"= 1'-0"

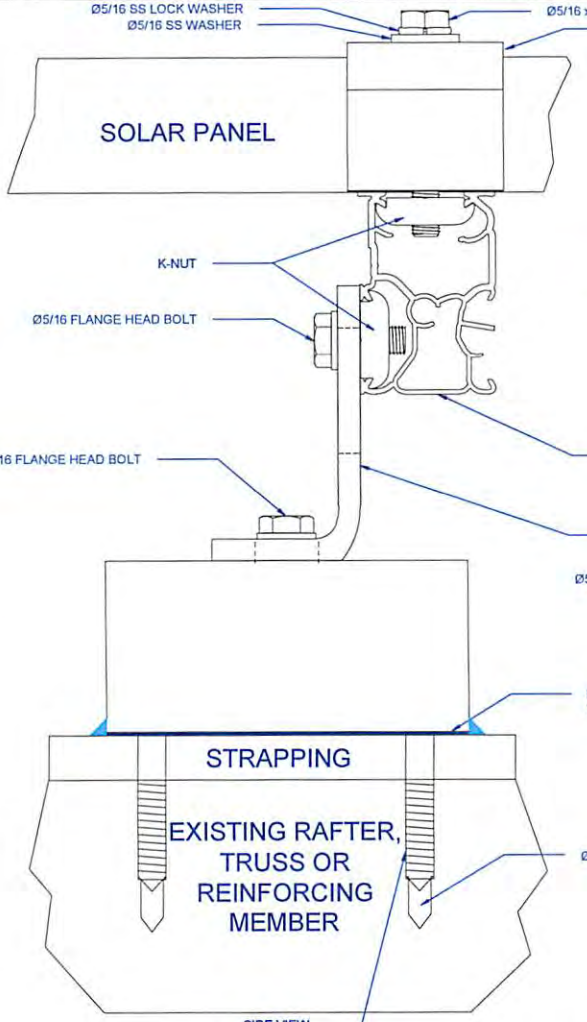
APPLY A BEAD OF 925 BES SEALANT ON TOP AND BOTTOM EDGE OF THE HIPPO MOUNT



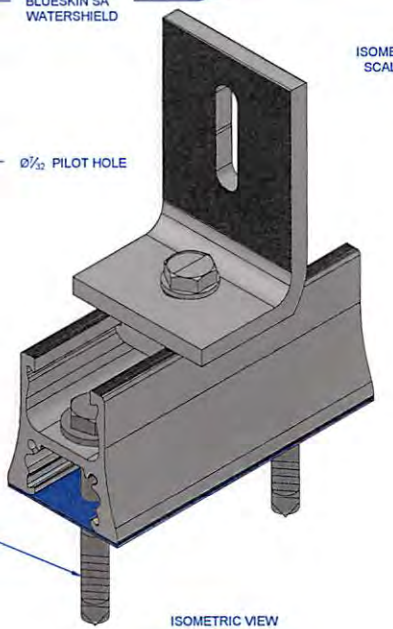
ALUMINUM

PLEASE NOTE THAT EPDM NEOPRENE FOAM (WATER BLOCKAGE) IS NOT SHOWN FOR CONNECTION ILLUSTRATION PURPOSE

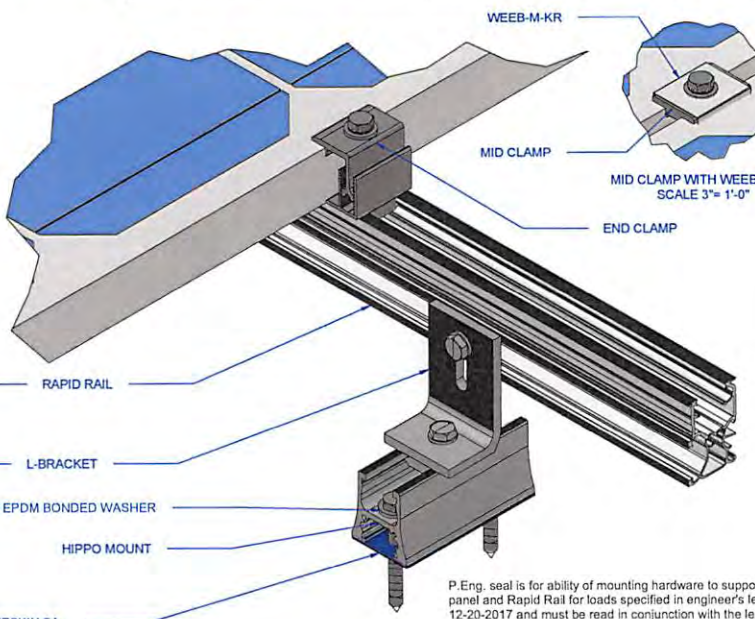
FRONT VIEW
SCALE 6"= 1'-0"



SIDE VIEW
SCALE 6"= 1'-0"



ISOMETRIC VIEW
SCALE 6"= 1'-0"



MID CLAMP WITH WEEB-M-KR
SCALE 3"= 1'-0"

ISOMETRIC VIEW
SCALE 3"= 1'-0"

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
△						

P.Eng. seal is for ability of mounting hardware to support solar panel and Rapid Rail for loads specified in engineer's letter dated 12-20-2017 and must be read in conjunction with the letter.

PROFESSIONAL ENGINEER ALBERTA
DAVE B. BERNARDIN

December 20, 2017

PROJECT
KINETIC RACKING

TITLE
HIPPO MOUNT ATTACHMENT FOR PITCHED STEEL ROOF

DESIGN	XXX	20/04/2015	FILE No. 002
CADD	XXX	02/19/2016	SCALE AS SHOWN
REVIEW		05/19/2016	REV. 3
PROJECT No.			

DRAWING: JOSH WALKER

NOTE: THIS ASSEMBLY SKETCH IS FOR ILLUSTRATION PURPOSE ONLY. PLEASE CONTACT YOUR P.ENG FOR EXACT NUMBER OF ATTACHMENT POINTS.

solaredge

SolarEdge Three Phase Inverters for the 208V Grid for North America

SE9KUS / SE14.4KUS

INVERTERS

The best choice for SolarEdge enabled systems

- Specifically designed to work with power optimizers
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Small, lightweight, and easy to install outdoors or indoors on provided bracket
- Fixed voltage inverter for longer strings
- Integrated Safety Switch
- Supplied with RS485 Surge Protection Device, to better withstand lightning events

solaredge

Three Phase Inverters for the 208V Grid[1] for North America

SE9KUS / SE14.4KUS

	SE9KUS	SE14.4KUS	
OUTPUT			
Rated AC Power Output	9000	14400	VA
Maximum AC Power Output	9000	14400	VA
AC Output Line Connections	4-wire WYE (L1-L2-L3-N) plus PE or 3 wire Delta		
AC Output Voltage Minimum-Nominal-Maximum[2] (L-N)	105-120-132.5		Vac
AC Output Voltage Minimum-Nominal-Maximum[2] (L-L)	183-208-229		Vac
AC Frequency Min-Nom-Max[2]	59.3 - 60 - 60.5		Hz
Max. Continuous Output Current (per Phase)	25	40	A
GFDI Threshold	1		A
Utility Monitoring, Islanding Protection, Country Configurable Set Points	Yes		
INPUT			
Maximum DC Power (Module STC)	12150	19400	W
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage DC to Gnd	250	300	Vdc
Maximum Input Voltage DC+ to DC-	500	600	Vdc
Nominal Input Voltage DC to Gnd	200		Vdc
Nominal Input Voltage DC+ to DC-	400		Vdc
Maximum Input Current	26.5	38	Adc
Maximum Input Short Circuit Current	45		Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	1MΩ Sensitivity	350kΩ Sensitivity[3]	
CEC Weighted Efficiency	96.5	97	%
Night-time Power Consumption	< 3	< 4	W
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional)		
Rapid Shutdown – NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect[4]		
RS485 Surge Protection	Supplied with the inverter		
STANDARD COMPLIANCE			
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07		
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)		
Emissions	FCC part15 class B		
INSTALLATION SPECIFICATIONS			
AC output conduit size / AWG range	3/4" minimum / 12-6 AWG	3/4" minimum / 8-4 AWG	
DC input conduit size / AWG range	3/4" minimum / 12-6 AWG		
Number of DC inputs	2 pairs	3 pairs[5]	
Dimensions (H x W x D)	21 x 12.5 x 10.5 / 540 x 315 x 260		in / mm
Dimensions with Safety Switch (H x W x D)	30.5 x 12.5 x 10.5 / 775 x 315 x 260		in / mm
Weight	73.2 / 33.2	99.5 / 45	lb / kg
Weight with Safety Switch	79.7 / 36.2	106 / 48	lb / kg
Cooling	Fans (user replaceable)		
Noise	< 50	< 55	dBA
Operating Temperature Range	-40 to +140 / -40 to +60[6]		°F / °C
Protection Rating	NEMA 3R		

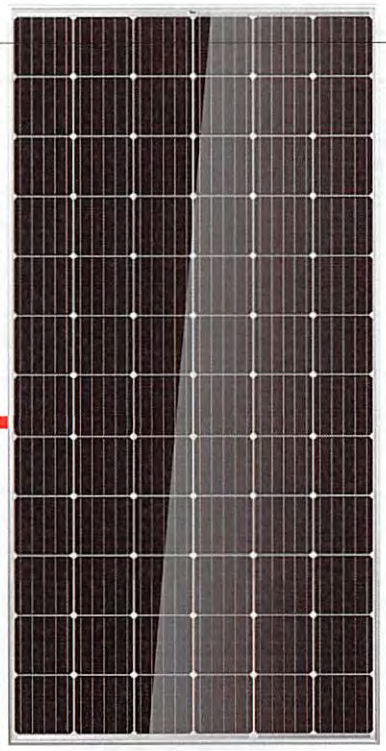
[1] For 277/480V inverters refer to: http://www.solaredge.com/files/pdfs/products/inverters/se-three-phase-us-inverter-datasheet.pdf
[2] For other regional settings please contact SolarEdge support
[3] Where permitted by local regulations
[4] P/N SE9K-US0xxxxxx has Manual Rapid Shutdown for NEC 2014 compliance (NEC 2017 compliance with outdoor installation)
[5] Field replacement kit for 1 pair of inputs P/N: DCD-3PH-1TBK; Field replacement kit for 3 pairs of fuses and holders P/N: DCD-3PH-6FHK-S1
[6] For power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf

ETL RoHS

THE

TALLMAX M PLUS

FRAMED 72-CELL MODULE (1500V)



72 CELL
MONOCRYSTALLINE MODULE

335-365W
POWER OUTPUT RANGE

18.8%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. we believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

Comprehensive Products And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse gases Emissions Verification
OHSAS 18001: Occupation Health and Safety Management System

Trinasolar

Ideal for large scale installations

- Reduce BOS cost by connecting more modules in a string
- 1500V UL/1500V IEC certified

Maximize limited space with top-end efficiency

- Up to 188 W/m² power density
- Low thermal coefficients for greater energy production at high operating temperatures

Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- 100% EL double inspection
- PID Resistant

Certified to withstand the most challenging environmental conditions

- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

LINEAR PERFORMANCE WARRANTY

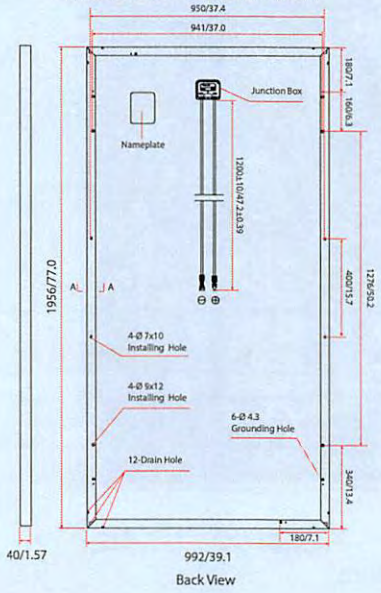
10 Year Product Warranty · 25 Year Linear Power Warranty

TALLMAX M PLUS

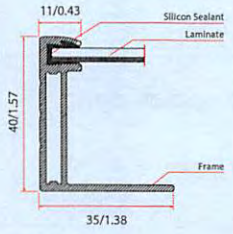
FRAMED 72-CELL MODULE (1500V)

PRODUCTS	POWER RANGE
TSM-DE14A(II)	335-365W

DIMENSIONS OF PV MODULE (mm/inch)

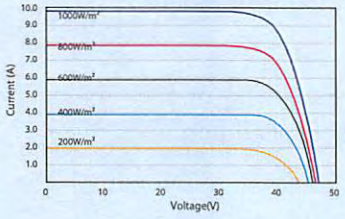


Back View

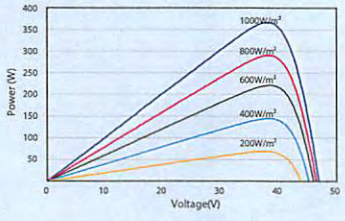


(A-A)

I-V CURVES OF PV MODULE(365W)



P-V CURVES OF PV MODULE(365W)



ELECTRICAL DATA (STC)

Peak Power Watts-P_{MAX} (Wp)*	335	340	345	350	355	360	365
Power Output Tolerance-P_{MAX} (W)	0 ~ +5						
Maximum Power Voltage-V_{MPP} (V)	37.9	38.2	38.4	38.5	38.7	38.9	39.1
Maximum Power Current-I_{MPP} (A)	8.84	8.90	9.00	9.09	9.17	9.26	9.35
Open Circuit Voltage-V_{OC} (V)	46.3	46.5	46.7	46.9	47.0	47.2	47.3
Short Circuit Current-I_{SC} (A)	9.36	9.45	9.50	9.60	9.69	9.79	9.88
Module Efficiency η_m (%)	17.3	17.5	17.8	18.0	18.3	18.5	18.8

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
*Measuring tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Maximum Power-P_{MAX} (Wp)	250	253	257	261	264	268	272
Maximum Power Voltage-V_{MPP} (V)	35.1	35.2	35.5	35.6	35.8	35.9	36.1
Maximum Power Current-I_{MPP} (A)	7.12	7.19	7.25	7.33	7.40	7.47	7.54
Open Circuit Voltage-V_{OC} (V)	43.1	43.2	43.4	43.5	43.7	43.8	43.9
Short Circuit Current-I_{SC} (A)	7.56	7.63	7.67	7.75	7.82	7.88	7.95

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline 156.75 × 156.75 mm (6 inches)
Cell Orientation	72 cells (6 × 12)
Module Dimensions	1956 × 992 × 40 mm (77.0 × 39.1 × 1.57 inches)
Weight	26.0 kg (57.3 lb) with 4.0 mm glass
Glass	4.0 mm (0.16 inches) High Transmission, AR Coated Tempered Glass
Backsheet	White
Frame	Silver Anodized Aluminium Alloy
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), 1200 mm (47.2 inches)
Connector	MC4 or Amphenol H4/UTX (1500V)
Fire Type	Type 1 or Type 2

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	44°C (±2°C)
Temperature Coefficient of P_{MAX}	- 0.39%/°C
Temperature Coefficient of V_{OC}	- 0.29%/°C
Temperature Coefficient of I_{SC}	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	15A

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

10 year Product Workmanship Warranty
25 year Linear Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 27 pieces
Modules per 40' container: 648 pieces

Trinasolar

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

FORTIS ALBERTA

INTERCONNECTION and OPERATING AGREEMENT (MICRO-GEN up to 150kW)

This Agreement between 1930237 Alberta Ltd (the **"MG Customer"**) and FortisAlberta Inc. (the **"Wires Owner"**) is intended to provide for the safe and orderly operation of the electrical facilities interconnecting the MG Customer's generation facility at Site ID: 0040002167107; SW 23-08-25-W4M and the electrical distribution system owned by the Wires Owner. It is the intent of the MG Customer to generate electricity primarily for its own use sized to the customer's load or portion thereof, and to be reimbursed for any excess generation. It is the intent of the Wires Owner to operate its distribution system to maintain a high level of power quality and service for its customers. It is the intent of both parties to operate their respective facilities in a way that ensures the safety of the public and their respective employees.

1. **Relation to Other Documents:**

   This Agreement does not supersede any requirements outlined in any government regulations, including (but not limited to) the Alberta Electric and Communication Utility Code, the Canadian Electrical Code and the Alberta Occupational Health and Safety Act, nor does it supersede the Wires Owner's safety policies and procedures or the terms of any **Electric Service Agreement** between the MG Customer and the Wires Owner or any of its affiliates.

2. **Operating Authority:**

   The Operating Authority for each of the parties hereto is the person identified by name or job title responsible to establish operating procedures and standards within their organization. The Operating Authorities for the MG Customer and for the Wires Owner shall ensure that timely updates are made to this document to reflect any changes to system operating characteristics, disconnect devices and single line diagrams referenced in this Agreement. The Operating Authorities for the MG Customer and for the Wires Owner shall ensure that the operators of the generation facility and the distribution system are competent in the respective operation thereof and are aware of the provisions of any operating agreements, laws, regulations and rules relating to the safe operation of electrical power systems.

The Operating Authority for the MG Customer is;
Amanda Vinette

The Operating Authority for the Wires Owner is;
Mr. Gary Donald, Director System Operations
15 Kingsview Road SE
Airdrie, Alberta T4A 0A8
Office: (403)-514-4261
Email: gary.donald@fortisalberta.com

3. **Operator in Charge:**

The Operator in Charge for each of the parties hereto is the person identified by name or job title responsible for the real time operation of all electrical facilities related to the interconnection between the MG Customer's generation facility and the Wires Owner's distribution system.

The Operator in Charge for the MG Customer is;
Amanda Vinette

The Operator in Charge for the Wires Owner is FortisAlberta's Control Centre System Operator. This individual can be reached via FortisAlberta contact center number.
Phone: 1-855-945-6454
Email: FCCswitching@FortisAlberta.com

4. **Description of Facilities:**

The Point of Common Coupling is designated as **the low voltage side of FortisAlberta's 150 kVA Transformer** and is identified on the attached single line diagram **dated 28-11-2018**

The 2 x Triple Pole 50A will be used as the main disconnect point (visible/lockable) for the MG Customer's generation facility, and is owned and operated by 1930237 Alberta Ltd. This switch **does** have load-break capability and therefore **can** be operated while the generation facility is producing or consuming power.

The MG Customer's generation facility consists of a **28.8 kW AC Solar PV** generator. The MG Customer owns and is responsible for the maintenance and operation of all facilities on the generator side of the Point of Common Coupling.

The Wires Owner's distribution system consists of **25** kV line **15S-428LE** and a **150kVA,** transformer. The Wires Owner owns and is responsible for the operation of all facilities on the distribution side of the Point of Common Coupling.

The MG Customer's generation facility is designed to operate while connected to the Alberta electricity grid, with synchronizing facilities provided on the MG Customer's breaker **Inverters**. In the absence of outstanding clearances between the Operators in Charge, notice will not be required to be given to the Wires Owner prior to synchronization of the MG Customer's generation facility and the Wires Owner's distribution system taking place. It is recognized by the MG Customer that there are no synchronization schemes in place on the Wires Owner's distribution system, and that the **15S Fort Macleod Substation** contains automatic equipment that will provide for voltage regulation or automatic re-closure under some conditions.

5. ***Suspension of Interconnection:***

The operation of the MG Customer's generation facility and the quality of electric energy supplied by the MG Customer shall meet both the standards and anti-islanding requirements as specified in Part 2 of the Alberta Distributed Generation Interconnection Guide and any further standards identified by the Wires Owner. If the operation of the MG Customer's facilities or quality of electric energy supplied does not meet the above standards or, in the event the Wires Owner determines, in its sole opinion, acting reasonably, that the MG Customer's generation facility is or is reasonably likely to: (i) cause damage to; and/or (ii) adversely affect other distribution system customers or the Wires Owner's assets, the Wires Owner will notify the MG Customer of same and the MG Customer shall promptly take all reasonable corrective action at its sole cost and expense. The Wires Owner may, in its sole discretion and without notice, disconnect the MG

Customer's facilities from the Wires Owner's distribution system until all such correction action and/or compliance with the above standards is reasonably demonstrated.

Additionally, the Wires Owner may, in its sole discretion and without notice, disconnect the MG Customer's generation facility from the Wires Owner's distribution system in the event of: (a) a planned or unplanned power outage on the Wires Owner's distribution system, (b) any abnormal operation of the Wires Owner's distribution system, (c) a direction from the Independent System Operator ("**ISO**") or other governmental authority, or (d) any other event that requires such disconnection pursuant to: (i) the Wires Owners' terms and conditions of service (the "**Terms of Service**"), which are filed with, and approved by, the Alberta Utilities Commission from time to time; (ii) applicable law, or (iii) good electricity practice.

6. **Safe Work Planning:**

Safe work planning practices such as pre-job plans and tailboard conference procedures shall be followed whenever both parties are involved in work on the interconnected distribution system. Nothing in this Agreement shall be interpreted as altering the intent of the Wires Owner's safe practices manual or safe operating procedures. Safe work routines described in Division D of the Alberta Electrical and Communication Utility Systems Regulations shall be followed when providing isolation for work on any part of the interconnected system.

7. **Technical Requirements:**

MG Customer covenants and agrees that it will not make any alteration to the design and operation of its generation facility, including, but not limited to, the total generation capacity, voltage and frequency of its generation facility, without the prior written approval of the Wires Owner.

8. **Maintenance Outages:**

Maintenance outages will occasionally be required on the Wires Owner's distribution system and the MG Customer's generation facility. Both parties hereto are required to provide reasonable notice, given the circumstances, and plan to minimize downtime. It is recognized that in some emergency cases, such notice may not be possible. Outages shall be coordinated by the Operators in Charge.

9. **Liabilities:**

The MG Customer will indemnify and hold the Wires Owner harmless from and against all costs, expenses, damages, claims, liabilities and adverse effects resulting from the MG Customer's breach of this agreement, negligence or willful misconduct in connection with the operation of the MG Customer's generation facility or the interconnection between the MG Customer's generation facility and the Wires Owner's distribution system.

Notwithstanding the foregoing, the MG Customer shall not be liable to the Wires Owner under any circumstances whatsoever for any loss of profits or revenues, business interruptions losses, loss of contract or loss of goodwill, or for any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, tort or otherwise. For purposes of this Agreement, damages claimed by third parties shall not be considered indirect, consequential, incidental or special damages, regardless of the type of damages being claimed.

The Wires Owner's liability to the MG Customer, whether pursuant to contract, tort or otherwise, shall be limited to the liability imposed on the Wires Owner pursuant to the Terms of Service. Nothing in this Agreement is intended to abrogate, alter or diminish the statutory liability protection granted to the Wires Owner under the Electric Utilities Act (Alberta) and the Liability Protection Regulation (Alberta).

10. Access:

The Wires Owner shall have access to the MG Customer's generation facilities, including for purposes of inspection, maintenance, operation and meter reading. Access and inspections shall be arranged by the Operators in Charge.

11. Termination:

The MG Customer may terminate this agreement at any time by: (a) disconnecting its generation facility from the Wires Owner's distribution system, and (b) thereafter giving the Wires Owner 30 days written notice of such termination.

The Wires Owner may terminate this agreement on 30 day's notice upon the occurrence of any of the following: (a) the MG Customer's disposition of its generation facility or its interest in the property on which it resides; (b) the MG Customer's breach of this agreement; (c) the retirement of the Wires Owner's distribution system; and (d) any change in law that affects the Wires Owner's rights or obligations under the Micro-Generation Regulation (Alberta) or AUC Rule 024.

12. Assignment:

The MG Customer agrees that this Agreement constitutes an interest in land with respect to the lands on which the MG Customer's generation facility is located, and that the Wires Owner may register this agreement at the appropriate Land Titles Office against title to the lands on which the MG Customer's generation facility is located.

The MG Customer covenants and agrees that it will not sell, assign, transfer, convey or otherwise dispose of its generation facility or its interest in the property on which its generation facility resides without giving:

a) written notice to the Wires Owner of such disposition, and

b) confirmation to the Wires Owner that the new owner of the MG Customer's generation facility, or the MG Customer's interest in the property on which the generation facility resides, has agreed to assume the MG Customer's rights and obligations by entering into a new agreement with the Wires Owner,

each such notice and confirmation to be given prior to the completion of such disposition. The Wires Owner may assign its rights and obligations under this agreement without the MG Customer's consent."

In addition, the MG Customer agrees that if its rights and obligations under this agreement are not assigned to the new owner of its generation facility or its interest in the property on which its generation facility resides, the Wires Owner may send a micro generation decommission notification (GRN transaction) to the MG Customer's retailer prohibiting any further generation credits to be processed with respect to the MG Customer's generation facility until a new agreement is reached between the Wires Owner and the new owner of the MG Customer's generation facility.

ACCEPTED BY:

1930237 Alberta Ltd:

MG Customer Name: Amanda Virette
(please print)

MG Customer Signature _____ Date: March 10/19

APPROVED BY:

FortisAlberta Inc.

Wire Owner Representative: _____
(please print)

Wires Owner Representative: _____ Date: _____

FortisAlberta Reference: CRM # 650001266; 0040002167107

LAND TITLE CERTIFICATE

S
LINC 0021 914 023 | SHORT LEGAL 4;25;8;23;SW | TITLE NUMBER 161 051 387

LEGAL DESCRIPTION
MERIDIAN 4 RANGE 25 TOWNSHIP 8
SECTION 23
QUARTER SOUTH WEST
EXCEPTING THEREOUT ALL MINES AND MINERALS
AND THE RIGHT TO WORK THE SAME
AREA: 64.7 HECTARES (160 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE

MUNICIPALITY: MUNICIPAL DISTRICT OF WILLOW CREEK NO. 26

REFERENCE NUMBER: 141 316 507

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
161 051 387	24/02/2016			

OWNERS

1930237 ALBERTA LTD.

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
5903HL	22/07/1958	UTILITY RIGHT OF WAY GRANTEE - THE ALBERTA GAS TRUNK LINE CO LTD. AS TO PORTION OR PLAN:1396HL "3.5 ACRES, 1.41 HECTARES" (DATA UPDATED BY: 161123787)
021 455 302	31/12/2002	EASEMENT OVER SOUTH HALF OF SEC. 22-8-25-W4M AND THE SOUTH

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		HALF OF SEC. 23-8-25-W4M FOR BENEFIT OF NW 1/4 OF SEC. 22-8-25-W4M
021 455 303	31/12/2002	EASEMENT OVER THE SOUTH HALF OF SEC. 22-8-25-W4M AND THE SOUTH HALF OF SEC. 23-8-25-W4M FOR BENEFIT OF NW 1/4 OF SEC. 15-8-25-W4M AND SW 1/4 OF SEC. 22-8-25-W4M
021 455 304	31/12/2002	EASEMENT OVER THE SE 1/4 OF SEC. 21-8-25-W4M AND THE SOUTH HALF OF SEC. 22-8-25-W4M AND THE SOUTH HALF OF SEC. 23-8-25-W4M FOR BENEFIT OF THE NORTH HALF OF SEC. 21-8-25-W4M
021 455 305	31/12/2002	EASEMENT OVER THE SOUTH HALF OF SEC. 22-8-25-W4M AND THE SOUTH HALF OF SEC. 23-8-25-W4M FOR BENEFIT OF THE SOUTH HALF OF SEC. 21-8-25-W4M
161 051 384	24/02/2016	CAVEAT RE : EASEMENT
161 051 385	24/02/2016	CAVEAT RE : EASEMENT
161 051 386	24/02/2016	CAVEAT
161 051 388	24/02/2016	

TOTAL INSTRUMENTS: 009

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 3 DAY OF APRIL, 2019 AT 03:52 P.M.

ORDER NUMBER: 36987004

CUSTOMER FILE NUMBER:

END OF CERTIFICATE