

HISTORIC AND DESIGN REVIEW COMMISSION

October 05, 2016

Agenda Item No: 19

HDRC CASE NO: 2016-389
ADDRESS: 201 DELAWARE
LEGAL DESCRIPTION: NCB 3004 BLK 2 LOT 1
ZONING: R-6 H
CITY COUNCIL DIST.: 1
DISTRICT: Lavaca Historic District
APPLICANT: Michael Duffey
OWNER: Michael Duffey
TYPE OF WORK: Installation of Solar Panels

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to install 24 solar panels on the left slope of the hipped roof.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

6. Designing for Energy Efficiency

C. SOLAR COLLECTORS

- i. Location*—Locate solar collectors on side or rear roof pitch of the primary historic structure to the maximum extent feasible to minimize visibility from the public right-of-way while maximizing solar access. Alternatively, locate solar collectors on a garage or outbuilding or consider a ground-mount system where solar access to the primary structure is limited.
- ii. Mounting (sloped roof surfaces)*—Mount solar collectors flush with the surface of a sloped roof. Select collectors that are similar in color to the roof surface to reduce visibility.
- iii. Mounting (flat roof surfaces)*—Mount solar collectors flush with the surface of a flat roof to the maximum extent feasible. Where solar access limitations preclude a flush mount, locate panels towards the rear of the roof where visibility from the public right-of-way will be minimized.

FINDINGS:

- a. The Lavaca Historic District was designated June 10, 2004.
- b. The applicant submitted a request for solar panels at 201 Delaware, heard by the HDRC on April 20, 2016. The commission denied the request for 20 solar panels to be installed on the slope facing Staffel Street and four to be installed on the pitch facing the interior of the lot.
- c. The applicant submitted a request for solar panels at 201 Delaware, heard by the HDRC on June 15, 2016. The commission denied the request for 11 panels on the interior slope and 13 panels on the slope facing Staffel Street.
- d. The applicant submitted a request for 20 solar panels at 201 Delaware, heard by the HDRC on August 3, 2016. 11 panels were proposed on the slope facing the interior of the lot and 9 panels were proposed on the slope facing Staffel Street. The commission approved the 11 interior panels and denied the 9 panels facing Staffel Street.
- e. The applicant is proposing to install 24 total solar panels on the standing seam metal roof of the primary structure. All panels will be installed on the slope facing Staffel Street. The applicant noted that the panels cannot be installed on the right slope due to tree coverage. According to the Guidelines for Additions 6.C., installations should be in locations that minimize visibility from the public right-of-way.
- f. Staff visited the site on September 26, 2016, and found that house is on a corner lot interior to the historic district and that the proposed panels would be highly visible from the public right-of-way on the front and side. Staff also found that since the panels are mounted on a hipped roof, the solar panels are more visible than they might be on a different roof form. This is not consistent with the Guidelines.
- g. The applicant is proposing to mount the panels flush with the pitched roof. This is consistent with Guidelines for

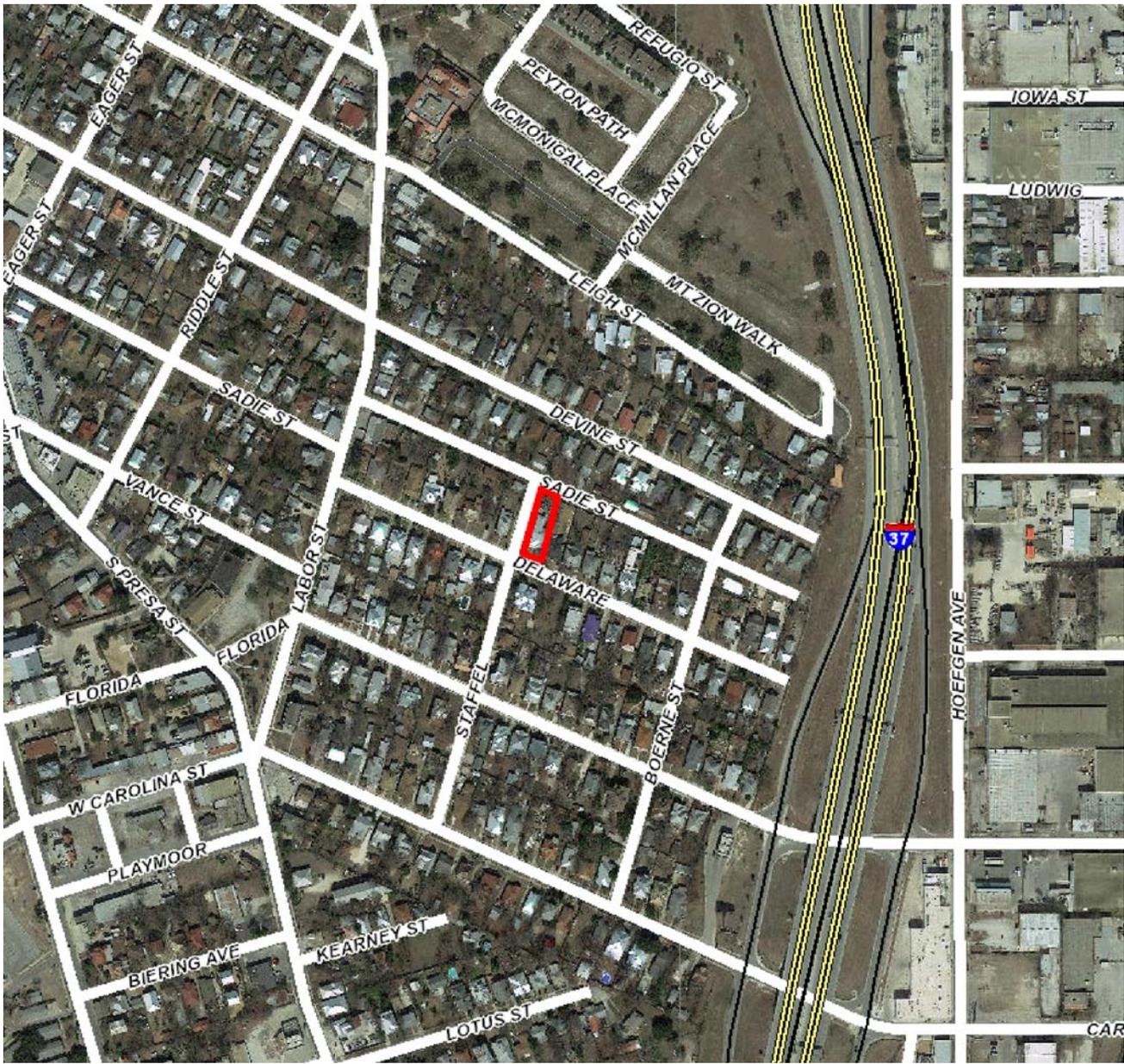
Additions 6.C.ii, which states solar collectors should be flush with the roof surface.

RECOMMENDATION:

Staff recommends denial based on findings a through g.

CASE MANAGER:

Lauren Sage



Flex Viewer

Powered by ArcGIS Server

Printed: Apr 13, 2016

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CITY OF SAN ANTONIO
 NOTICE OF HEARING
 HISTORIC & DESIGN
 REVIEW COMMISSION

ADDRESS: [REDACTED]
 REQUEST: [REDACTED]
 HEARING DATE: [REDACTED]

TIME: 3:00 P.M.
 FOR MORE INFORMATION CONTACT
 (214) 255-3121

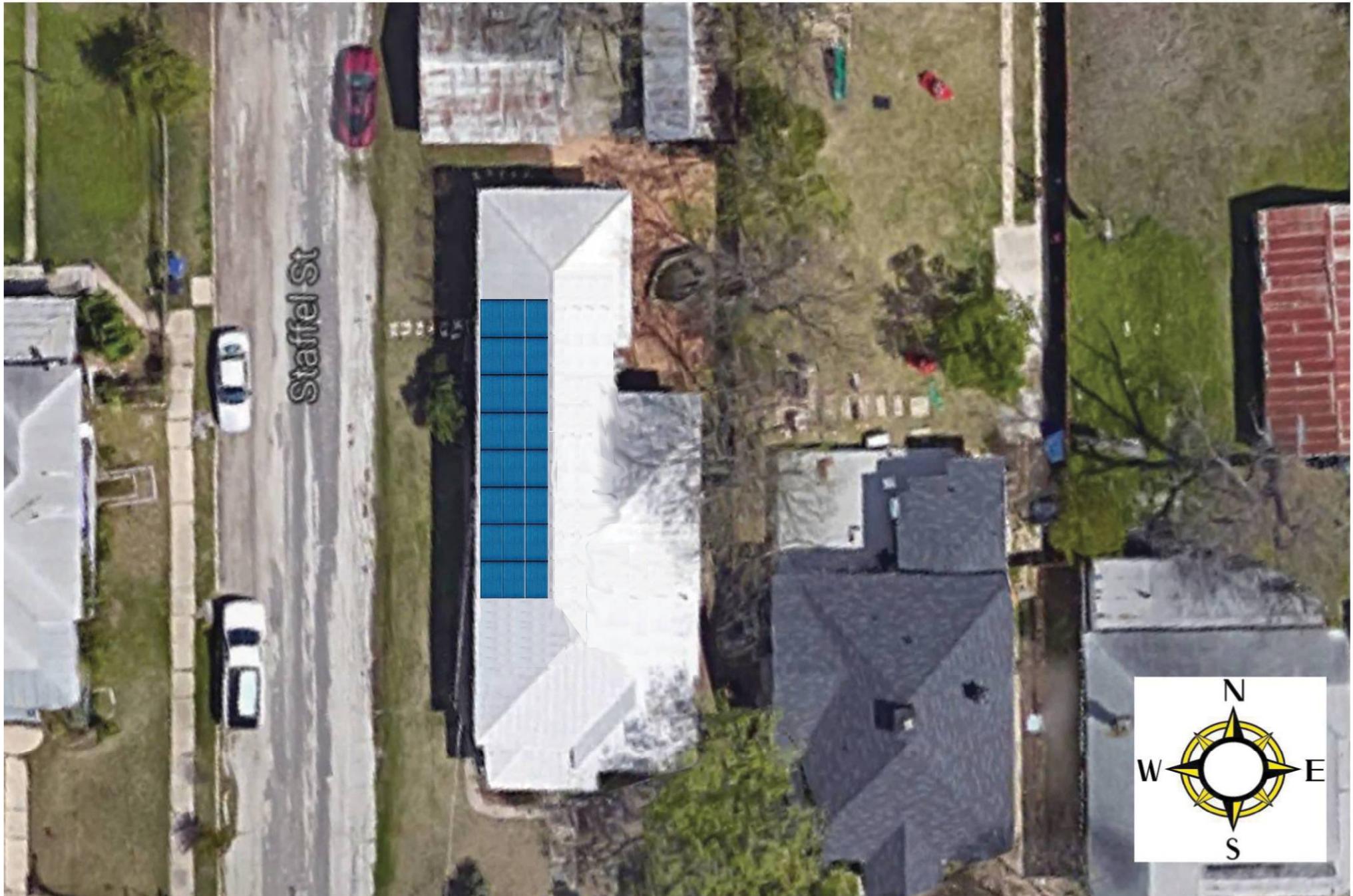
ALL HEARINGS TAKE PLACE AT THE CITY CLERK'S OFFICE





**6.24 KW
Solar PV System**

**Michael and Ariana Duffey
201 Delaware St
San Antonio TX 78210**



**Michael Duffey
201 Delaware St
San Antonio TX 78210**

Solar PV Installation

Location of Solar PV Array.



View from SW of house



View from NW of house

**Michael Duffey
201 Delaware St
San Antonio TX 78210**

Solar PV Installation

**Elevations view
Modules are not visible.**



From SE of house

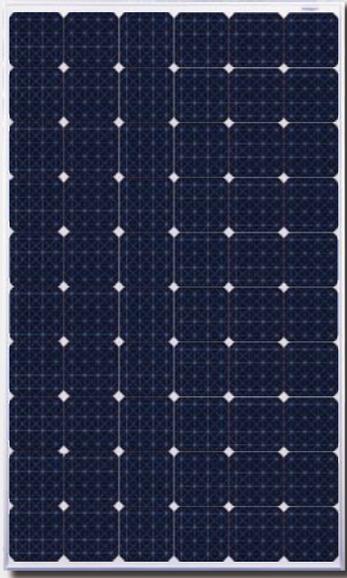


From Front of House



From rear of House

NEW



ELPS Module

CS6P-255/260/265MM

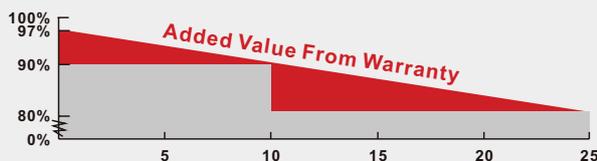
ELPS Cell Technology

Highest cell efficiency up to **21.1%**

Our new breakthrough ELPS technology enables solar cells to collect more light resulting in 21.1% cell efficiency. These new cells feature a metal wrap through (MWT) design which moves the front busbars to the back of the cells allowing for 3% more light absorption per cell. As a result these modules deliver 10% more electricity than conventional solar modules.

ELPS Technology Highlights

- **Delivers More Electricity**
Delivers up to 10% more electricity than conventional solar modules
- **Highest Efficiency Module (P-type)**
The metal wrap through (MWT) design increases light absorption up to 3% for more power output than conventional cells and modules
- **Best Power Tolerance**
Industry leading plus-only power tolerance gives you up to 5 watts extra
- **Excellent Low Light Performance**
Excellent performance in low light conditions (mornings, evenings and cloudy days)
- **Reduces Balance of System Cost**
Get more watts in less space for savings on ground and rooftop, installation time, mounting systems and cables
- **Backed By Our New 10/25 Linear Power Warranty Plus our added 25 year insurance coverage**



- 10 year product warranty on materials and workmanship
- 25 year linear power output warranty

Best Quality

- 235 quality control points in module production
- EL screening to eliminate product defects
- Current binning to improve system performance

Best Warranty Insurance

- 25 years worldwide coverage
- 100% warranty term coverage
- Providing third party bankruptcy rights
- Non-cancellable
- Immediate coverage
- Insured by 3 world top insurance companies

Comprehensive Certificates

- IEC 61215, IEC 61730, UL 1703, CEC Listed, CSA, MCS, CE
- ISO9001: 2008: Quality Management System
- ISO/TS16949:2009: The automotive quality management system
- ISO14001:2004: Standards for Environmental management system
- QC080000 HSPM: The Certification for Hazardous Substances Regulations
- OHSAS 18001:2007 International standards for occupational health and safety



www.canadiansolar.com

ELPS Module

CS6P-255/260/265MM

Electrical Data

STC	CS6P-255MM	CS6P-260MM	CS6P-265MM
Nominal Maximum Power (Pmax)	255W	260W	265W
Optimum Operating Voltage (Vmp)	30.5V	30.7V	30.9V
Optimum Operating Current (Imp)	8.35A	8.48A	8.61A
Open Circuit Voltage (Voc)	37.7V	37.8V	37.9V
Short Circuit Current (Isc)	8.87A	8.99A	9.11A
Module Efficiency	15.85%	16.16%	16.47%
Operating Temperature	-40°C~+85°C		
Maximum System Voltage	1000V (IEC)/600V (UL)		
Maximum Series Fuse Rating	15A		
Application Classification	Class A		
Power Tolerance	0 ~ +5W		

Under Standard Test Conditions (STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

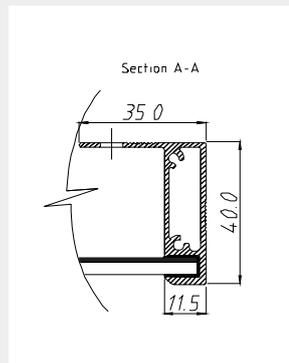
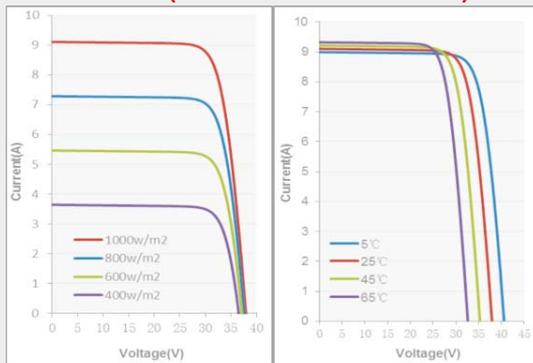
NOCT	CS6P-255MM	CS6P-260MM	CS6P-265MM
Nominal Maximum Power (Pmax)	184W	188W	191W
Optimum Operating Voltage (Vmp)	27.8V	28.0V	28.2V
Optimum Operating Current (Imp)	6.62A	6.70A	6.79A
Open Circuit Voltage (Voc)	34.6V	34.7V	34.8V
Short Circuit Current (Isc)	7.18A	7.28A	7.37A

Under Normal Operating Cell Temperature, Irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s

Mechanical Data

Cell Type	ELPS Mono Cell 156 x 156mm
Cell Arrangement	60 (6 x 10)
Dimensions	1638 x 982 x 40mm (64.5 x 38.7 x 1.57in)
Weight	19.5kg (43.0 lbs)
Front Cover	3.2mm Tempered glass
Frame Material	Anodized aluminium alloy
J-BOX	IP65, 3 diodes
Cable	4mm ² (IEC)/12AWG(UL), 1000mm
Connectors	MC4 or MC4 Comparable
Standard Packaging (Modules per Pallet)	24pcs
Module Pieces per container (40 ft. Container)	672pcs (40'HQ)

I-V Curves (ELPS CS6P-255MM)



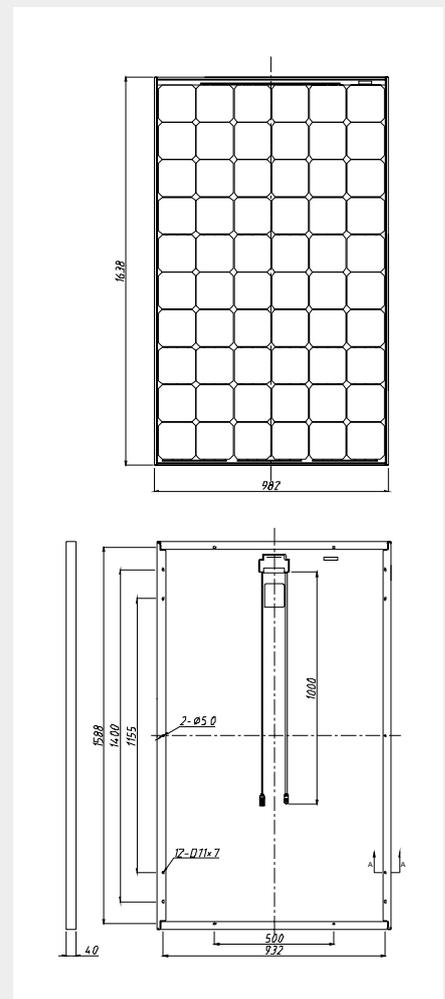
Temperature Characteristics

Temperature Coefficient	Pmax	-0.45%/°C
	Voc	-0.35 %/°C
	Isc	0.060 %/°C
Normal Operating Cell Temperature	45±2°C	

Performance at Low Irradiance

Industry leading performance at low irradiation environment, +95.5% module efficiency from an irradiance of 1000w/m² to 200w/m² (AM 1.5, 25 °C)

Engineering Drawings



*Specifications included in this datasheet are subject to change without prior notice.

About Canadian Solar

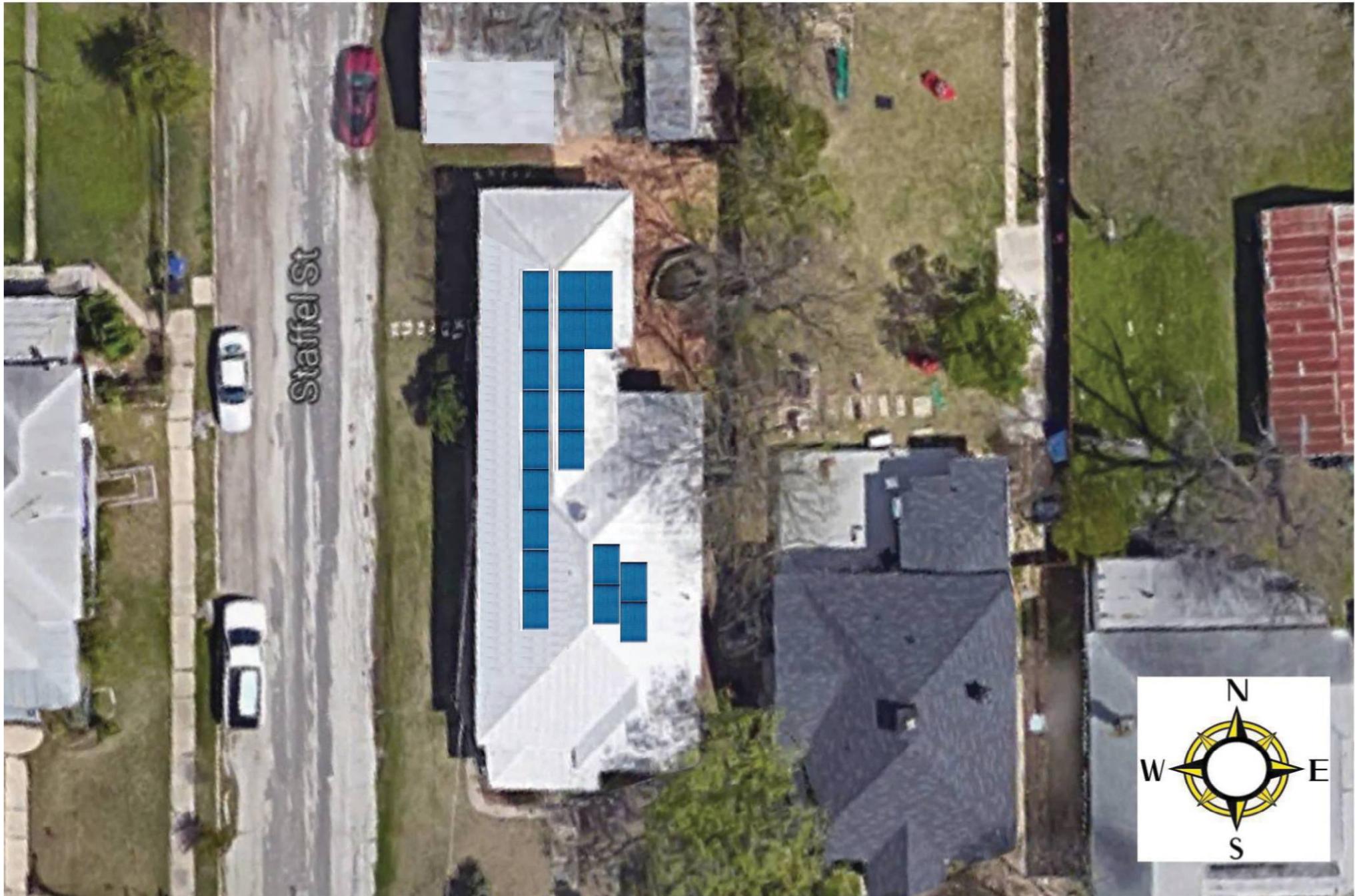
Canadian Solar Inc. is one of the world's largest solar companies. As a leading vertically-integrated manufacturer of ingots, wafers, cells, solar modules and solar systems, Canadian Solar delivers solar power products of uncompromising quality to worldwide customers. Canadian Solar's world class team of professionals works closely with our customers to provide them with solutions for all their solar needs.

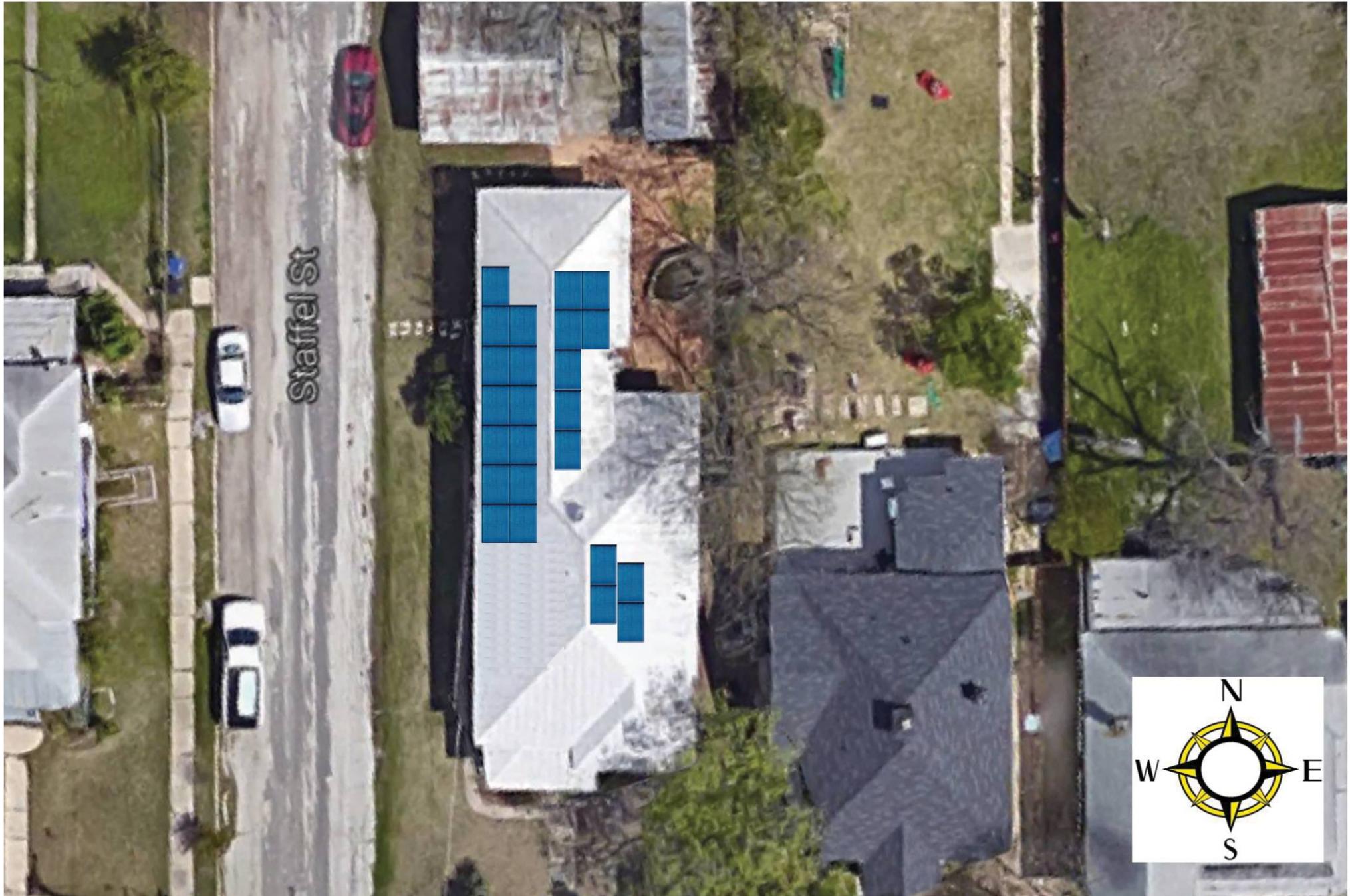
Canadian Solar was founded in Canada in 2001 and was successfully listed on NASDAQ Exchange (symbol: CSIQ) in November 2006. Canadian Solar has module manufacturing capacity of 2.05GW and cell manufacturing capacity of 1.3GW.

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5.6 KW
20 Modules of 280W
Solar PV System

Michael and Ariana Duffey
201 Delaware St
San Antonio TX 78210







Smart People...Smart Ideas...SmartWorld

www.smartworldenergy.com

APRIL 20th SUBMITTAL

6.24 KW
Solar PV System

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