



**NOTICE OF REGULAR MEETING AGENDA  
HISTORIC LANDMARK PRESERVATION COMMITTEE  
MUNICIPAL CENTER CITY COUNCIL CHAMBERS  
211 N. HENRY STREET, LANCASTER, TEXAS**

**Tuesday, March 23, 2021 - 7:00 PM**



The Chair and other Committee Members will attend via video or audio link due to the COVID-19 emergency situation.

**IMPORTANT NOTICE: Due to the COVID-19 (coronavirus) state of emergency and consistent with the Governor's Order regarding modifications to the Texas Open Meetings Act ("TOMA"), the public will not be admitted to the physical meeting location.**

Please click the link below for forms:

<https://www.lancaster-tx.com/1413/Notice-Regarding-Public-Participation>

Please click the link below to join the webinar:

[https://us02web.zoom.us/webinar/register/WN\\_O5CbM4CJQOeX3yNB56bJ4Q](https://us02web.zoom.us/webinar/register/WN_O5CbM4CJQOeX3yNB56bJ4Q)

The meeting will be broadcast live via video at the following address:

<http://www.lancaster-tx.com/324/Watch-Meetings>

**7:00 p.m. Regular Meeting**

**CALL TO ORDER**

**PUBLIC TESTIMONY:**

At this time citizens who have pre-registered before the call to order will be allowed to speak on consent or action items on the agenda, with the exception of public hearings, for a length of time not to exceed three minutes. Anyone desiring to speak on an item scheduled for a public hearing is requested to hold their comments until the public hearing on that item.

**CONSENT AGENDA:**

Items listed under the consent agenda are considered routine and are generally enacted in one motion. The exception to this rule is that a Committee Member may request one or more items to be removed from the consent agenda for separate discussion and action.

1. Consider approval of minutes from the Historic Landmark Preservation Committee regular meeting held on February 23, 2021.

**ACTION:**

2. HLPC21-08 Discuss and consider a Certificate of Appropriateness (COA) for the installation of solar panels on the property addressed as 305 East 4th Street, City of Lancaster, Dallas County, Texas.
3. HLPC21-09 Discuss and consider a Certificate of Appropriateness (COA) to install a wood and metal fence on the property addressed as 615 North Dallas Avenue City of Lancaster, Dallas County, Texas.

## ADJOURNMENT

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ACCESSIBILITY STATEMENT: Meetings of the Lancaster Boards and Commissions are held in municipal facilities that are wheelchair-accessible. For sign interpretive services, call the City Secretary's office, 972-218-1311, or TDD 1-800-735-2989, at least 72 hours prior to the meeting. Reasonable accommodation will be made to assist your needs.

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PURSUANT TO SECTION 30.06 PENAL CODE (TRESPASS BY HOLDER WITH A CONCEALED HANDGUN), A PERSON LICENSED UNDER SUBCHAPTER H, CHAPTER 411, GOVERNMENT CODE (HANDGUN LICENSING LAW), MAY NOT ENTER THIS PROPERTY WITH A CONCEALED HANDGUN.

CONFORME A LA SECCION 30.06 DEL CODIGO PENAL (TRASPASAR PORTANDO ARMAS DE FUEGO CON LICENCIA) PERSONAS CON LICENCIA BAJO DEL SUB-CAPITULO 411, CODIGO DEL GOBIERNO (LEY DE PORTAR ARMAS), NO DEBEN ENTRAR A ESTA PROPIEDAD PORTANDO UN ARMA DE FUEGO OCULTADA.

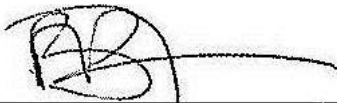
PURSUANT TO SECTION 30.07 PENAL CODE (TRESPASS BY HOLDER WITH AN OPENLY CARRIED HANDGUN), A PERSON LICENSED UNDER SUBCHAPTER H, CHAPTER 411, GOVERNMENT CODE (HANDGUN LICENSING LAW), MAY NOT ENTER THIS PROPERTY WITH A HANDGUN THAT IS CARRIED OPENLY.

CONFORME A LA SECCION 30.07 DEL CODIGO PENAL (TRASPASAR PORTANDO ARMAS DE FUEGO AL AIRE LIBRE CON LICENCIA) PERSONAS CON LICENCIA BAJO DEL SUB-CAPITULO H, CAPITULO 411, CODIGO DE GOBIERNO (LEY DE PORTAR ARMAS), NO DEBEN ENTRAR A ESTA PROPIEDAD PORTANDO UN ARMA DE FUEGO AL AIRE LIBRE.

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### Certificate

I hereby certify the above Notice of Meeting was posted at Lancaster City Hall on March 19, 2021, @ 5:35 p.m. and copies thereof were provided to the Historic Landmark Preservation Committee members.



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**Bester Munyaradzi,**  
**Board Liaison**

## CITY OF LANCASTER BOARDS AND COMMISSIONS

### Historic Landmark Preservation Committee

1.

**Meeting Date:** 03/23/2021

**Policy Statement:** This request supports the City Council 2020-2021 Policy Agenda

**Goal(s):** Healthy, Safe & Engaged Community  
Quality Development

**Submitted by:** Bester Munyaradzi, Senior Planner

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#### **Agenda Caption:**

Consider approval of minutes from the Historic Landmark Preservation Committee regular meeting held on February 23, 2021.

#### **Background:**

Attached for your review and consideration are minutes from the:

- Historic Landmark Preservation Committee regular meeting held on February 23, 2021.

#### **Attachments**

Draft Minutes

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## **MINUTES**

### **HISTORIC LANDMARK PRESERVATION COMMITTEE REGULAR MEETING OF FEBRUARY 23, 2021**

**The Historic Landmark Preservation Committee of the City of Lancaster, Texas, met in a Regular Session in the Council Chambers of City Hall on February 23, 2021 at 7:00 p.m. with a quorum present to-wit:**

**Members Present:** (City Hall and Virtual)

Glenn Hooper, Chair  
Patricia Siegfried-Giles, Vice Chair  
Dee Hinkle  
Paul Laurens Wiseman

**Members Absent:**

Amy Glover

**City Staff:**

Vicki Coleman, Director of Development Services  
Bester Munyaradzi, Senior Planner  
Emma Chetuya, Planner  
Lexie Schrader, Planning Technician

**Call to order:**

Chair Hooper called the meeting to order at 7:00 p.m. on February 23, 2021.

**Public Testimony:**

At this time citizens who have pre-registered before the call to order will be allowed to speak on consent or action items on the agenda, with the exception of public hearings, for a length of time not to exceed three minutes. Anyone desiring to speak on an item scheduled for a public hearing is requested to hold their comments until the public hearing on that item.

There were no speakers.

**CONSENT AGENDA:**

Chair Hooper read the consent agenda.

1. **Consider approval of minutes from the Historic Landmark Preservation Committee regular meeting held on January 26, 2021.**

**MOTION:** Committee Member Hinkle made a motion, seconded by Vice Chair Siegfried-Giles to approve item 1. The vote was cast 4 for, 0 against (Glover absent).

**ACTION:**

2. **HLPC21-08 Discuss and consider a Certificate of Appropriateness (COA) for the installation of solar panels on the property addressed as 305 East 4<sup>th</sup> Street, City of Lancaster, Dallas County, Texas.**

Planner Chetuya gave the staff report and stated that the applicant is requesting to install black solar panels on the front and sides of the roof on the home. The solar panels will be visible from



the street, and the applicant has indicated that it is necessary for the solar panels to be located on the east, west and south sides of the roof in order to obtain optimal sunlight. The proposed solar panels are not in compliance with the Lancaster Historic Residential Design Regulations as the solar panels will be located on the front and sides of the roof and will be visible from the public street. The color of the panels will be black and the color of the home's roof is grayish tan, as such, the solar panels and roof will be contrasting in colors. Staff recommends that the solar panels be placed on the roof where they are not visible from the front street or use panels that have the same color as the roofing material so they are less obtrusive.

Committee Member Hinkle brought up tabling the item in order to receive more information on how other historic districts handle solar panels. Vice Chair Siegfried-Giles agreed.

Chair Hooper stated that the only section of the regulations that could apply was the section on rooftop equipment that requires equipment to be located on the rear of the home.

Committee Member Hinkle stated that the positioning of solar panels is important and limits options on where the panels can be placed. Chair Hooper stated that the panels could be ground mounted near the rear of the property to be less visible.

Committee Member Wiseman agreed with consulting other historic district's regulations on solar panels and stated that the HLPC needed legal guidance on how solar panels could be regulated due to a recent case prohibiting homeowner's associations from disallowing roof solar panels.

Director Coleman stated that staff could further research other district's standards for solar panels but in preliminary research, staff's recommendation was consistent with other district's standards.

Chair Hooper stated that a regulation amendment was needed to address solar panels. Director Coleman stated that only the current standards would apply to this case, and the case cannot be tabled in order to amend the regulations.

Committee Member Wiseman asked how other historic districts handled solar panels. Nicole Nebitsi, applicant with Titan Solar Power, stated that most districts required the panels to be placed to be least visible from the street. She stated that the south facing roof was often the most productive for the customer and relocating panels to the north facing roof could reduce the productivity. Ms. Nebitsi stated that some historic districts require documentation on productivity and price to justify the placement of the panels.

Committee Member Hinkle asked about the feasibility of a ground mounted system. Ms. Nebitsi stated that they could research a ground mounted option and analyze the cost and productivity.

Vice Chair Siegfried-Giles asked if the frames of the panels could be painted. Ms. Nebitsi stated that the panels come in either black or chrome trim.

Committee Member Wiseman stated that the HLPC needed more information to make a determination but if the HLPC could regulate solar panel placement, then he would not support solar panels on the south side of the home due to the visibility.

Chair Hooper asked if there would be exposed conduits. Ms. Nebitsi stated that the conduit is run through the attic and will be exposed on an exterior wall but will be painted to match the home.

Committee Member Wiseman asked why the west side of the home did not have the same amount of panels as the east side. Ms. Nebitsi stated that they could add more panels to the west roof to reduce the amount on the south.

**MOTION:** Committee Member Wiseman made a motion, seconded by Committee Member Hinkle to table item 2 until the March 23, 2021 meeting to receive more information from staff and the City Attorney on other historic district's standards for solar panels. The vote was cast 4 for, 0 against (Glover absent).

**MOTION:** Vice Chair Siegfried-Giles made a motion, seconded by Committee Member Wiseman to adjourn. The vote was cast 4 for, 0 against (Glover absent).

The meeting was adjourned at 7:41 PM.

**ATTEST:**

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Bester Munyaradzi, Senior Planner

**APPROVED:**

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Glenn Hooper, Chair

## CITY OF LANCASTER BOARDS AND COMMISSIONS

### Historic Landmark Preservation Committee

2.

**Meeting Date:** 03/23/2021

**Policy Statement:** This request supports the City Council 2020-2021 Policy Agenda

**Goal(s):** Healthy, Safe & Engaged Community  
Quality Development

**Submitted by:** Bester Munyaradzi, Senior Planner

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#### **Agenda Caption:**

HLPC21-08 Discuss and consider a Certificate of Appropriateness (COA) for the installation of solar panels on the property addressed as 305 East 4th Street, City of Lancaster, Dallas County, Texas.

#### **Background:**

1. **Location and Size:** The subject property is addressed as 305 East 4th Street and is .50 acre in size.
2. **Current Zoning:** The subject property is currently zoned Single-Family Residential (SF-6) and Historic Overlay District (HP) Subdistrict Area E. Single-family homes are permitted in this Overlay District.
3. **Adjacent Properties:**  
North: HP-SF-6, Historic Overlay District, Single-Family Residential (Occupied Residence)  
South: HP-SF-6, Historic Overlay District, Single-Family Residential (Occupied Residence)  
East: HP-SF-6, Historic Overlay District, Single-Family Residential (Occupied Residence)  
West: DOD-LI-HP, Downtown Overlay District, Light Industrial, Historic Overlay District (Vacant)
4. **Comprehensive Plan Compatibility:**  
The Future Land Use Plan of the Comprehensive Plan identifies this site as suitable for single-family homes. The existing home on the property is consistent with the Future Land Use Plan of the Comprehensive Plan.
5. **Case History/Background:**  
The home on the subject site was built in 1920 and is listed on the Dallas Central Appraisal District (DCAD) website as a block foundation and frame building.

Date	Body	Action
02/23/2021	HLPC	Table this item until the March 23, 2021 meeting to receive more information from staff and the City Attorney on other historic district's standards for solar panels.

### **Operational Considerations:**

The applicant is requesting to install black solar panels on the sides of the roof on the home. The original submittal had solar panels on the south, east, and west sides of the roof. The proposed solar panels will now only be on the east and west sides of the home.

Section 3.17.2 of the Lancaster Historic Residential Design Regulations (LHRDR) *Roof Vents, Turbines, Skylights, and Other Equipment* states that, "Roof vents, turbines, skylights and other roof-mounted equipment should be located on the rear side of the house, such that these are not visible from the public street. If this is not possible, or for existing elements, they should be painted the same color as the roofing material so they are less obtrusive." The proposed solar panels are not in compliance with the LHRDR as the solar panels will be located on the sides of the roof and will be visible from the public street. The color of the panels will be black and the color of the home's roof is grayish tan, as such, the solar panels and roof will be contrasting in colors.

The installation of the solar panels will be required to meet certain sections of the 2015 International Residential Code (for residential installations) and the 2017 National Electric Code. This will be evaluated during the permitting process.

### **Research on Solar Panels in Texas Cites:**

At the request of the HLPC, the City Attorney has provided examples of Texas local governments regulating the location and screening options for both roof-mounted and ground-mounted solar energy systems. In the cities of Allen, Argyle, and Highland Park roof-mounted panels may not directly face any public street regardless of screening and/or may not be located within the front yard. In the cities of Allen and Flower Mound, roof-mounted equipment must be screened from the public rights-of-way. In Addison, Burleson, Carrollton, and Highland Park, ground-mounted equipment is not permitted to face a public street and/or be located in the front yard. In Allen, ground-mounted materials are prohibited. A list of cites which govern the location and screening of solar panels is attached. Additionally, research by the National Renewable Energy Laboratory (NREL) in the application of solar panels on historic properties, note that both historic preservation and renewable energy share the important objective of conservation and are therefore not mutually exclusive. Staff recommendation is consistent with the objectives of the City's historic regulations which seek to protect the architecturally significant and character defining features, in particular those facades that face the public rights-of-way.

### **Public Information Considerations:**

This item is being considered at a Regular Meeting of the Historic Landmark Preservation Committee noticed in accordance with the Texas Open Meetings Act.

### **Options/Alternatives:**

1. The Historic Landmark Preservation Committee may approve the request, as presented.
2. The Historic Landmark Preservation Committee may approve the request with conditions, and state those conditions.
3. The Historic Landmark Preservation Committee may deny the request.

### **Recommendation:**

Staff recommends the solar panels be placed on the roof where they are not visible from the front street or use panels that have the same color as the roofing material so they are less obtrusive to meet the LHRDR requirement.

### **Attachments**

Location Map  
DCAD Report

Description of Request  
Staff Photos  
Letter of Intent  
City Attorney's Research

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City of Lancaster

305 E Fourth St  
Zoned: SF-6 & Historic District



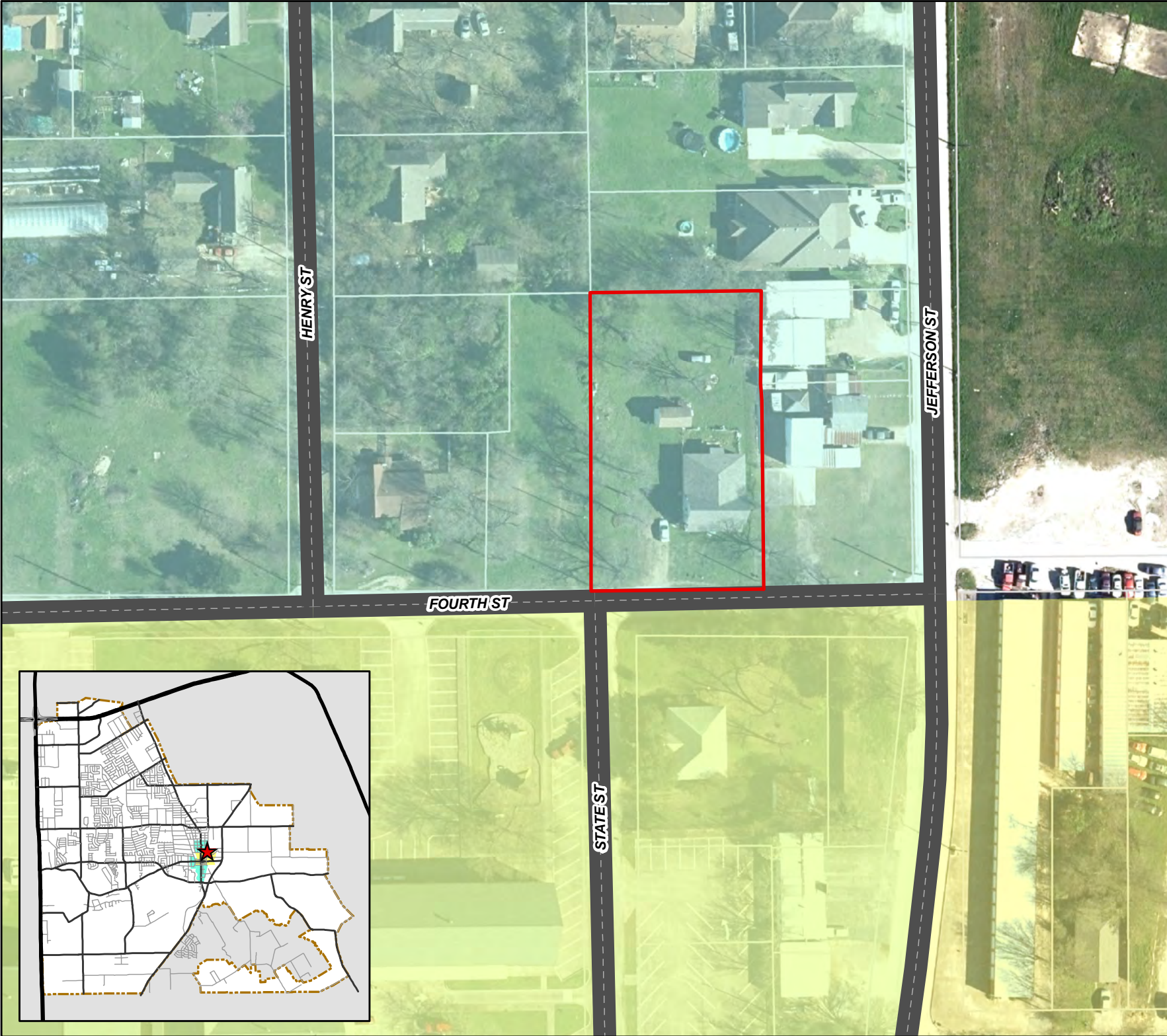
Legend

- Subject Property
- Downtown Districts
- Historic District
- Floodplain
- City Limits
- Parcels



0 20 40 80 Feet

date: 02/04/2021





## Residential Account #36000500700290000

[Location](#)
[Owner](#)
[Legal Desc](#)
[Value](#)
[Main Improvement](#)
[Additional Improvements](#)
[Land](#)
[Exemptions](#)  
[Estimated Taxes](#)
[History](#)

### Property Location (Current 2021)

**Address:** 305 E 4TH ST

**Neighborhood:** 4LSG06

**Mapsc:** 86-C (DALLAS)

**DCAD Property Map**

**2020 Appraisal Notice**

**Electronic Documents (ENS)**

**File Homestead Exemption Online**



**Print Homestead Exemption Form**

### Owner (Current 2021)

ROMINE MARTIN & REBECCA  
 460 JONES ST  
 CEDAR HILL, TEXAS 751042827

### Multi-Owner (Current 2021)

Owner Name	Ownership %
ROMINE MARTIN & REBECCA	100%

### Legal Desc (Current 2021)

- 1: ORIG TOWN LANCASTER
- 2: BLK 70 LT 29
- 3: ACS 0.50
- 4: INT201600186987 DD07012016 CO-DC
- 5: 0005007002900 4CN00050070

**Deed Transfer Date:** 7/12/2016

### Value

2020 Certified Values	
<b>Improvement:</b>	\$80,270
<b>Land:</b>	+ \$49,730
<b>Market Value:</b>	= \$130,000
<b>Revaluation Year:</b>	2019
<b>Previous Revaluation Year:</b>	2017

### Main Improvement (Current 2021)



<b>Building Class</b>	04	<b>Construction Type</b>	FRAME	<b># Baths (Full/Half)</b>	1/ 0
<b>Year Built</b>	1920	<b>Foundation</b>	BLOCK	<b># Kitchens</b>	1
<b>Effective Year Built</b>	1920	<b>Roof Type</b>	GABLE	<b># Bedrooms</b>	3
<b>Actual Age</b>	101 years	<b>Roof Material</b>	COMP SHINGLES	<b># Wet Bars</b>	0
<b>Desirability</b>	AVERAGE	<b>Fence Type</b>	NONE	<b># Fireplaces</b>	0
<b>Living Area</b>	1,584 sqft	<b>Ext. Wall Material</b>	VINYL	<b>Sprinkler (Y/N)</b>	N
<b>Total Area</b>	1,584 sqft	<b>Basement</b>	NONE	<b>Deck (Y/N)</b>	N
<b>% Complete</b>	100%	<b>Heating</b>	CENTRAL FULL	<b>Spa (Y/N)</b>	N
<b># Stories</b>	ONE STORY	<b>Air Condition</b>	CENTRAL FULL	<b>Pool (Y/N)</b>	N
<b>Depreciation</b>	50%			<b>Sauna (Y/N)</b>	N



**Additional Improvements (Current 2021)**

#	Improvement Type	Construction	Floor	Exterior Wall	Area (sqft)
1	STORAGE BUILDING		UNASSIGNED	FRAME	216

**Land (2020 Certified Values)**

#	State Code	Zoning	Frontage (ft)	Depth (ft)	Area	Pricing Method	Unit Price	Market Adjustment	Adjusted Price	Ag Land
1	SINGLE FAMILY RESIDENCES	SINGLE FAMILY RES-3 (7000)	112	194	22,100.0000 SQUARE FEET	STANDARD	\$2.25	0%	\$49,725	N

**\* All Exemption information reflects 2020 Certified Values. \***

**Exemptions (2020 Certified Values)**

	City	School	County and School Equalization	College	Hospital	Special District
<b>Taxing Jurisdiction</b>	LANCASTER	LANCASTER ISD	DALLAS COUNTY	DALLAS CO COMMUNITY COLLEGE	PARKLAND HOSPITAL	UNASSIGNED
<b>VETERANS EXEMPTION</b>	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$0
<b>Taxable Value</b>	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$0

**Exemption Details****Estimated Taxes (2020 Certified Values)**

	City	School	County and School Equalization	College	Hospital	Special District
<b>Taxing Jurisdiction</b>	LANCASTER	LANCASTER ISD	DALLAS COUNTY	DALLAS CO COMMUNITY COLLEGE	PARKLAND HOSPITAL	UNASSIGNED
<b>Tax Rate per \$100</b>	\$0.819736	\$1.4999	\$0.24974	\$0.124	\$0.2661	N/A
<b>Taxable Value</b>	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$0
<b>Estimated Taxes</b>	\$983.68	\$1,799.88	\$299.69	\$148.80	\$319.32	N/A
<b>Tax Ceiling</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total Estimated Taxes:</b>						<b>\$3,551.37</b>

**DO NOT PAY TAXES BASED ON THESE ESTIMATED TAXES.** You will receive an **official tax bill** from the appropriate agency when they are prepared. Please note that if there is an Over65 or Disabled Person **Tax Ceiling** displayed above, **it is NOT reflected** in the Total Estimated Taxes calculation provided. Taxes are collected by the agency sending you the **official** tax bill. To see a listing of agencies that collect taxes for your property. [Click Here](#)

The estimated taxes are provided as a courtesy and should not be relied upon in making financial or other decisions. The Dallas Central Appraisal District (DCAD) does not control the tax rate nor the amount of the taxes, as that is the responsibility of each Taxing Jurisdiction. Questions about your taxes should be directed to the appropriate taxing jurisdiction. We cannot assist you in these matters. These tax estimates are calculated by using the most current certified taxable value multiplied by the most current tax rate. **It does not take into account other special or unique tax scenarios, like a tax ceiling, etc..** If you wish to calculate taxes yourself, you may use the [Tax Calculator](#) to assist you.

**History****History**

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Scott E. Wyssling, PE, PP, CME

**Wyssling Consulting**  
76 North Meadowbrook Drive  
Alpine, UT 84004  
office (201) 874-3483  
swyssling@wysslingconsulting.com

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January 7, 2021  
revised March 17, 2021

CNG Solar Engineers  
1245 San Fernando Road #200  
San Fernando, CA 91340

Re: Engineering Services  
Romine Residence  
305 E 4th Street, Lancaster TX  
12.070 kW System

To Whom it May Concern:

Pursuant to your request, we have reviewed the following information regarding solar panel installation on the roof of the above referenced home:

1. Site Visit/Verification Form prepared by CNG Solar Engineers representative identifying specific site information including size and spacing of rafters for the existing roof structure.
2. Design drawings of the proposed system including a site plan, roof plan and connection details for the solar panels. This information was prepared by CNG Solar Engineers and will be utilized for approval and construction of the proposed system.
3. Photographs of the interior and exterior of the roof system identifying existing structural members and their conditions.

Based on the above information we have evaluated the structural capacity of the existing roof system to support the additional loads imposed by the solar panels and have the following comments related to our review and evaluation:

***Description of Residence:***

The existing residence is typical wood framing construction with the roof system consisting of truss system with all chords constructed of 2 x 4 dimensional lumber at 24" on center. The attic space is unfinished and photos indicate that there was free access to visually inspect the size and condition of the roof rafters. All wood material utilized for the roof system is assumed to be Doug-Fir #2 or better with standard construction components. The existing roofing material consists of composite asphalt shingles. Photos of the dwelling also indicate that there is a permanent foundation.

***A. Loading Criteria Used***

- 115 MPH wind loading based on ASCE 7-16 Exposure Category "B" at a slope of 18 degrees
- 7 PSF = Dead Load roofing/framing      Live Load = 20 PSF      Snow Load = 5 PSF
- 3 PSF = Dead Load solar panels/mounting hardware

*Total Dead Load = 10 PSF*

*The above values are within acceptable limits of recognized industry standards for similar structures in accordance with the 2018 IRC. Analysis performed of the existing roof structure utilizing the above loading criteria indicates that the existing rafters will support the additional panel loading without damage, if installed correctly.*

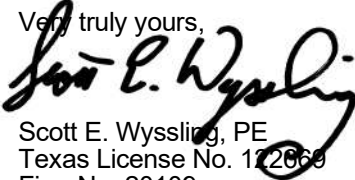
**B. Solar Panel Anchorage**

1. The solar panels shall be mounted in accordance with the most recent "*Everest Solar Systems Installation Manual*", which can be found on the Everest Solar Systems website (<http://everest-solarsystems.com/>). If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.
2. Maximum allowable pullout per lag screw is 235 lbs/inch of penetration as identified in the National Design Standards (NDS) of timber construction specifications for Doug-Fir (North Lumber) *assumed*. Based on our evaluation, the pullout value, utilizing a penetration depth of 2 ½", is less than what is allowable per connection and therefore is adequate. Based on the variable factors for the existing roof framing and installation tolerances, using a thread depth of 2 ½" with a minimum size of 5/16" lag screw per attachment point for panel anchor mounts should be adequate with a sufficient factor of safety.
3. Considering the roof slopes, the size, spacing, condition of roof, the panel supports shall be placed no greater than 72" o/c.
4. Panel supports connections shall be staggered to distribute load to adjacent rafters.

Based on the above evaluation, it is the opinion of this office that with appropriate panel anchors being utilized the roof system will adequately support the additional loading imposed by the solar panels. This evaluation is in conformance with the 2018 IRC, current industry and standards, and based on information supplied to us at the time of this report.

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Very truly yours,

  
Scott E. Wyssling, PE  
Texas License No. 122669  
Firm No. 20109



Plot Plan & Photovoltaic Layout	PV-1.0
Project Notes, Conduit & Grounding Detail	PV-1.1
Racking Details	PV-2.0
Fire Labels & Equipment Elevation	PV-3.0
3 Line Diagram & 1 Line Diagram	PV-4.1 & PV-4.2
Safety Placard	PV-5.0
Manufacture Spec. Sheets	Attached

ONCOR UTILITY

1 Sheet Index

Scale: N/A

OCCUPANCY GROUP: R-3  
TYPE OF CONSTRUCTION: TYPE V-B  
AUTHORITY HAVING JURISDICTION: LANCASTER  
ASSESSORS PARCEL NUMBER: #36000500700290000  
NUMBER OF STORIES: 1-Story  
ROOF PITCH: 18°, 40°

2 Site Information

Scale: N/A

NOTES:  
THE VISIBLE, LOCKABLE, LABELED AC  
DISCONNECT IS LOCATED WITHIN 10 FT OF  
ONCOR METER.

(1) SOLAREdge\_ TECHNOLOGIES SE11400H-US (240V)  
(34) LG LG355N1K-B6  
(34) SOLAREdge P401 [HD] OPTIMIZERS

ADDRESS : 305 E 4TH ST  
CITY-ZIP : LANCASTER, TX 75146  
ESI ID #: 10443720004108031  
METER NUMBER : 128558413

3 AHJ Notes

Scale: N/A

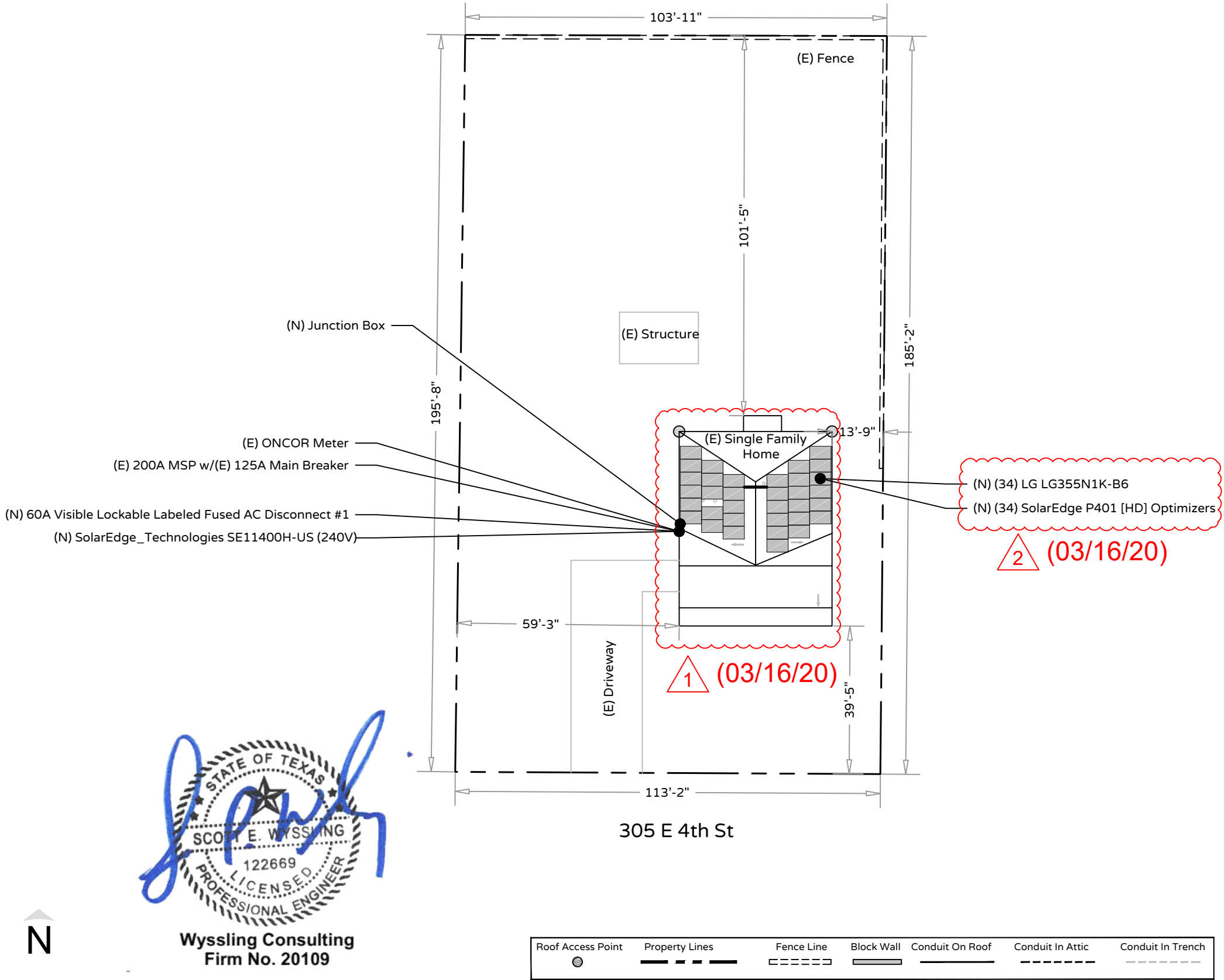


4 Vicinity Map

Scale: NTS

5 Plot Plan

Scale: 1" = 30'



CONTRACTOR INFORMATION



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

SYSTEM INFORMATION

12.07 kW DC System (STC)  
11.40 kW AC System  
(34) LG LG355N1K-B6  
(34) SolarEdge P401 [HD] Optimizers  
SolarEdge\_ Technologies SE11400H-US (240V)

PROJECT INFO.

Tyler Romine  
305 E 4th St  
Lancaster, TX 75146  
(214) 536-3818  
APN #36000500700290000

REVISION BLOCK

DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

Design By: CNG SOLAR ENGINEERING, INC.



SHEET

PV-1.0



## 1 Applicable Codes

Scale: N/A

CODE BOOK:	2017 NEC®
BREAKER SIZES:	NEC 240.6(A)
WIRE AMPACITY TABLE:	NEC 310.15(B)(16)
MAX SYSTEM VOLTAGE CORRECTION:	NEC 690.7(A)
NUMBER OF CONDUCTORS CORRECTION:	NEC 310.15(B)(3)(A)
AMBIENT TEMPERATURE CORRECTION:	NEC 310.15(B)(2)(A)
AMBIENT TEMPERATURE ADJUSTMENT:	NEC 310.15(B)(3)(C)
DC GROUNDING ELECTRODE CONDUCTOR:	UNGROUND DC SYSTEM
AC GROUNDING ELECTRODE CONDUCTOR:	NEC 250.50
RACK GROUNDING ELECTRODE CONDUCTOR:	NEC 690.47(B)
MAXIMUM OCPD (120% RULE):	NEC 705.12

## 2 Electrical Code References

Scale: N/A

- ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS.
- WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE.
- ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
- ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL.
- ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE

## 3 Equipment Location

Scale: N/A

- THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS INPUT MAY NOT EXCEED 120% OF BUSBAR RATING.
- WHEN SUM OF THE PV SOURCES EQUALS >100% OF BUSBAR RATING, PV DEDICATED BACKFFED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD.
- AT MULTIPLE PV OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVER CURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR.
- SUPPLY SIDE TAP INTERCONNECTION WITH SERVICE ENTRANCE CONDUCTORS BACK FEEDING BREAKER FOR UTILITY-INTERACTIVE INVERTER OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING.

## 4 Interconnection Notes

Scale: N/A

- MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
- INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
- DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
- WORKING CLEARANCES AROUND THE ELECTRICAL EQUIPMENT WILL BE MAINTAINED.
- ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/ SERVICE EQUIPMENT.
- ALL CONDUCTORS SHALL BE 600V, 75°C STANDARD COPPER UNLESS OTHERWISE NOTED.
- WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
- ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREES, WIRES OR SIGNS.
- PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING

## 5 General Notes

Scale: N/A

- ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
- DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
- AC CONDUCTORS COLORED OR MARKED AS FOLLOWS:
  - PHASE A OR L1- BLACK
  - PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE
  - PHASE C OR L3- BLUE, YELLOW, ORANGE\*, OR OTHER CONVENTION
  - NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE.

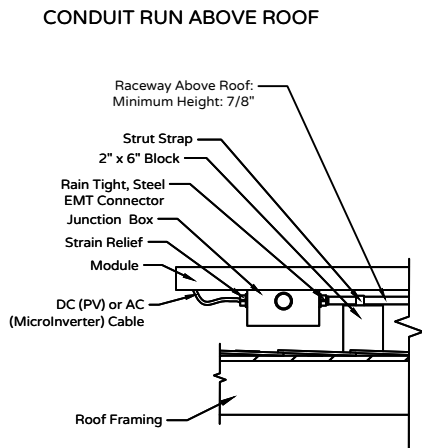
## 6 Wiring & Conduit Notes

Scale: N/A

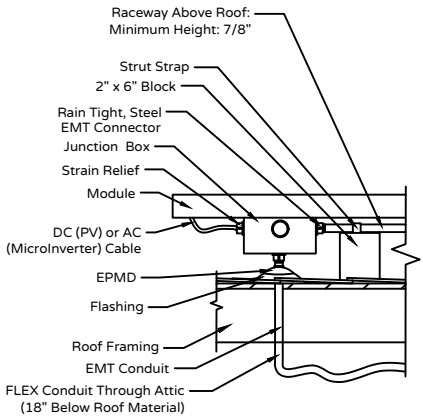
- GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
- PV EQUIPMENT SHALL BE GROUNDED METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES.
- EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO MICRO INVERTER MANUFACTURER'S INSTRUCTIONS.
- THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.
- GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER.
- IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED.

## 7 Grounding Notes

Scale: N/A



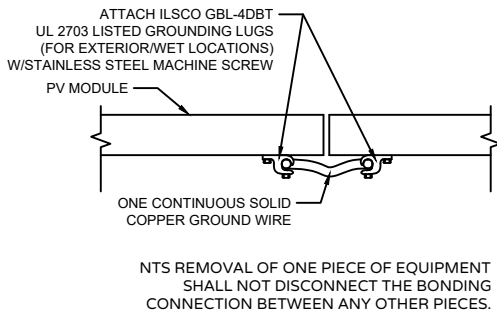
CONDUIT RUN THROUGH ATTIC



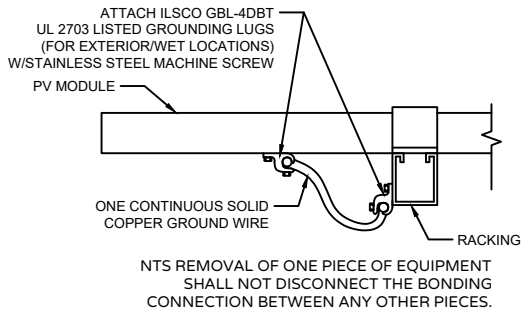
## 8 Conduit Run Details

Scale: NTS

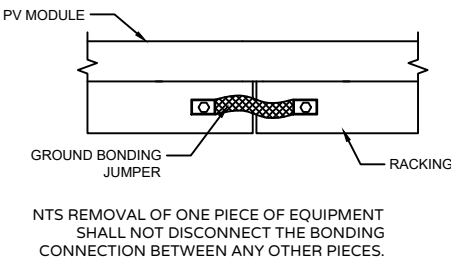
### Module to Module



### Module to Rail



### Rail to Rail



- RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.
- JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.
- ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED WITH APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.
- ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.

## 10 Structural Notes

Scale: N/A

- DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED, THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
- DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
- RAPID SHUTDOWN OF ENERGIZED CONDUCTORS BEYOND 10 FT OF PV ARRAY OR 5 FT INSIDE A BUILDING WITHIN 10 SECONDS. CONTROLLED CONDUCTORS ≤30V AND ≤240VA. LOCATION OF LABEL ACCORDING TO AHJ.
- IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION.

## 11 Disconnection & OCPD Notes

Scale: N/A



ID# TSP61968



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

### SYSTEM INFORMATION

12.07 kW DC System (STC)  
11.40 kW AC System  
(34) LG LG355N1K-B6  
(34) SolarEdge P401 [HD] Optimizers  
SolarEdge\_ Technologies SE11400H-US (240V)

### PROJECT INFO.

Tyler Romine  
305 E 4th St  
Lancaster, TX 75146  
(214) 536-3818  
APN #36000500700290000

### REVISION BLOCK

DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

Design By: CNG SOLAR ENGINEERING, INC.

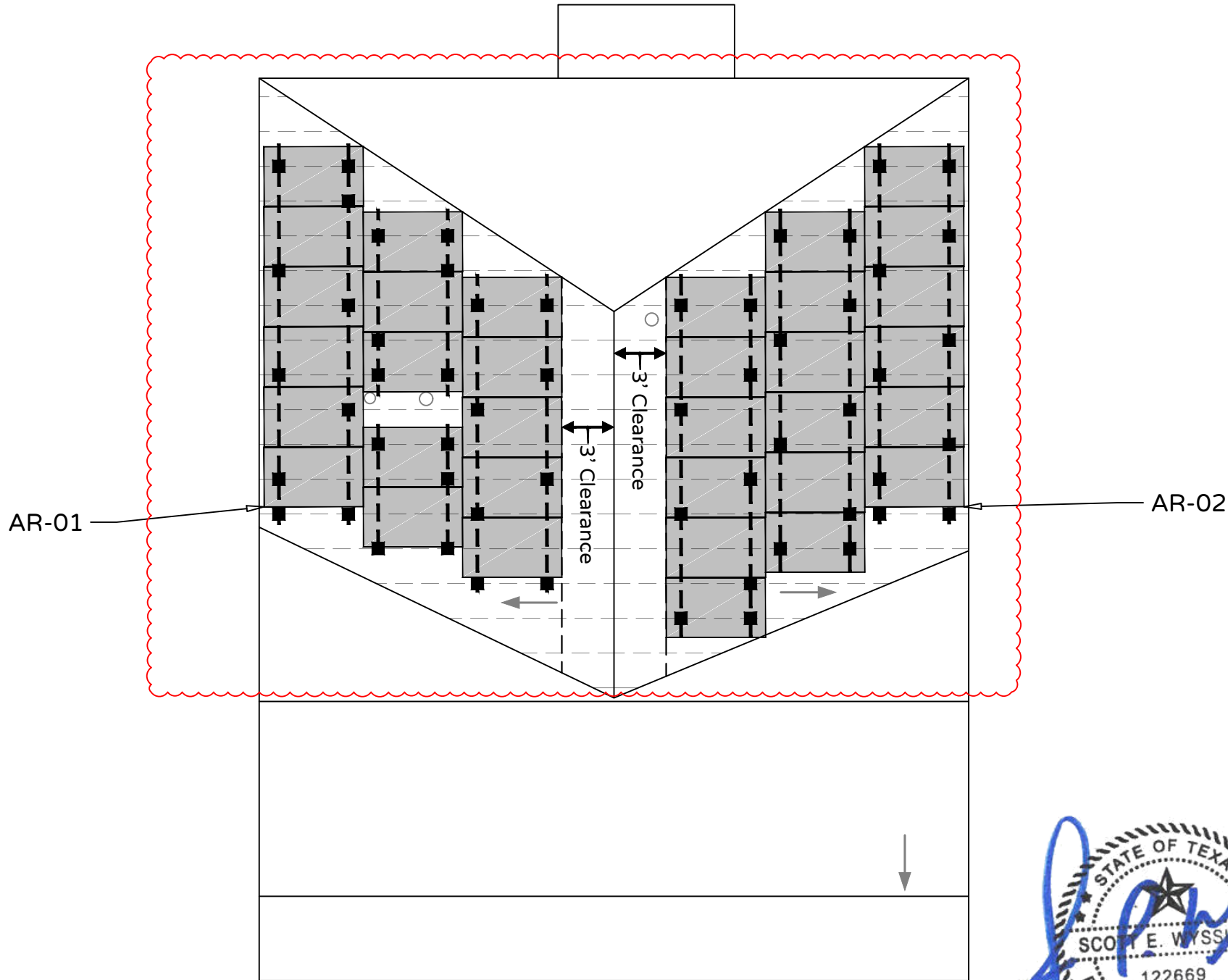


SHEET

PV-1.1

Array	Quantity	Mounting Type	Array Tilt	Azimuth	Att. Spacing	Roof Type
AR-01	16	Flush Mounted	18°	270	72"	Comp. Shingle**
AR-02	18	Flush Mounted	18°	90	72"	Comp. Shingle**

2 (03/16/20)  
1 (03/16/20)



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Firm No. 20109

Roof Material: Comp. Shingle.  
Roof Framing: Engineered Trusses.  
Framing Size & Spacing: 2" x 4", 24" O.C.  
Framing Span & Roof Pitch: 10'-2", 18°, 40° Pitch  
Framing Species & Grade: Douglas Fir Larch #2.

Racking / Rail Manufacture: Everest Crossrail 48-X 14 Ft. Rails  
Attachment Manufacture: Everest EverFlash.  
Number of Attachments: 57 Attachments  
Racking Weight: 3.56 Lbs. / Module

Modules: (40) LG LG355N1K-B6  
Module Dimensions: 68.5" x 41.02" x 1.57"  
Module Weight & Sq.Ft. : 41 Lbs. , 19.51 Sq.Ft.  
Array Sq.Ft. : 780.4 Sq.Ft.

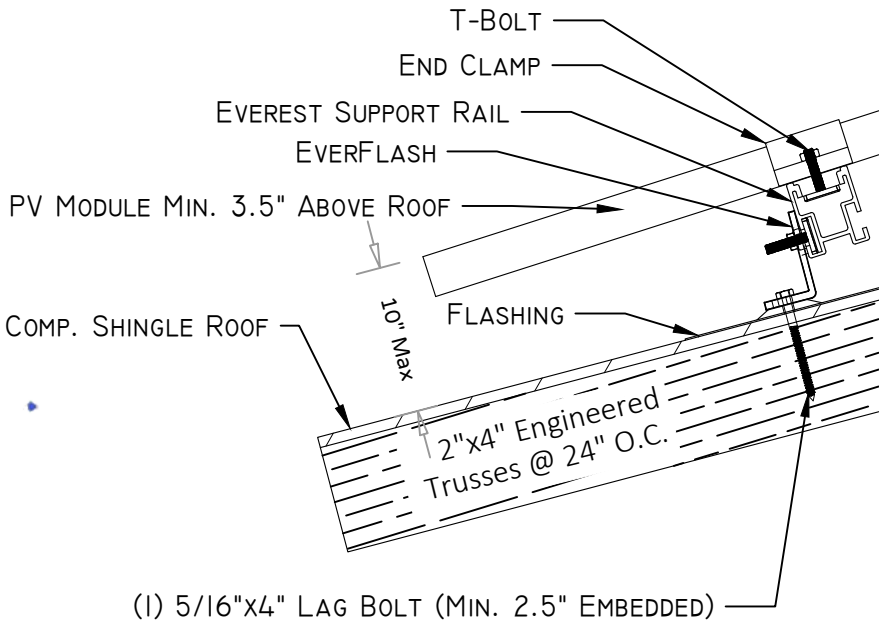
Weight w/Racking & Add Ons: 1862.4 Lbs.  
Weight (Lbs.) / Attachment: 32.67 Lbs. / Attachment.  
Distributed Weight on Roof: 2.39 Lbs. / Square Foot.

### 2 Roof 1 Calculations

Scale: N/A

NOTE: ROOF FRAMING MEMBER'S SIZE, SPAN, AND SPACING TO BE VERIFIED IN FIELD PRIOR TO INSTALL. IF ROOF FRAMING INFORMATION DIFFERS FROM WHAT IS INDICATED ON THE PLANS, CONTACT DESIGN ENGINEER PRIOR TO INSTALL.

Both Roof Pitches Are Used Same Attachments



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SHEET

PV-2.0

### 1 PV Racking & Roof Framing Plan

Scale: 1/8" = 1'-0"



Modules	Fire Clearance	Obstructions	Attachments	Rafters	Rails

### 3 Roof 1 Attachment Detail

Scale: NTS



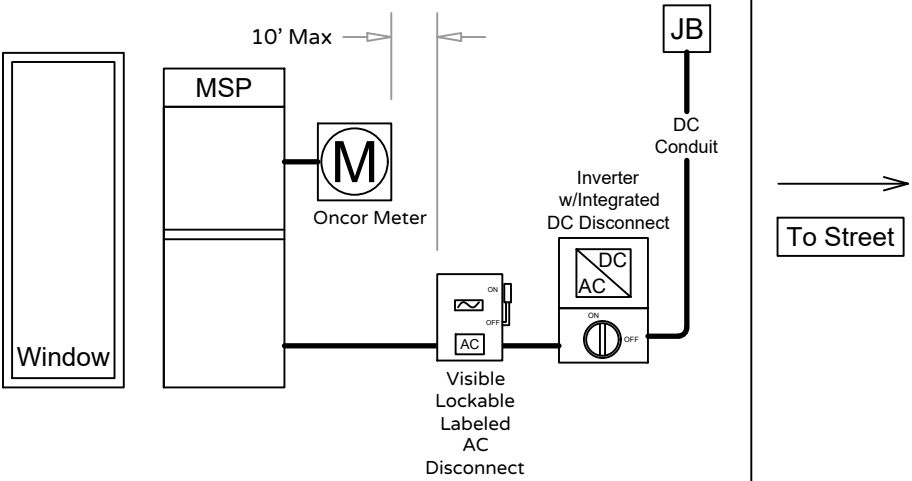
LABEL PLACEMENT	LABELS
JUNCTION BOX	6, 12
DC CONDUIT	12
INVERTER	6, 9, 10
AC DISCONNECT (VLLD)	4, 6, 15, 16, 18, 19
MAIN SERVICE PANEL	1, 2, 4, 5, 11, 13, 14, 16, 17

WARNING

THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR.

FOR LINE-SIDE TAP: THIS LOAD CENTER IS IN COMPLIANCE WITH NEC 2017 ARTICLE 705. 12(A) "THE SUM OF THE RATINGS OF ALL OVER CURRENT DEVICES CONNECTED TO POWER PRODUCTION SOURCES SHALL NOT EXCEED THE RATINGS OF THE SERVICE."

To Backyard



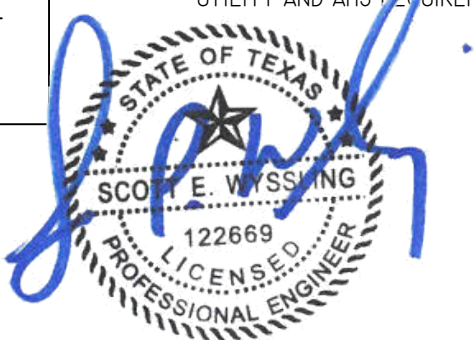
## 1 PV Equipment Location & Fire Label Placement Table

Scale: NTS

- CAUTION**  
PHOTOVOLTAIC SYSTEM CIRCUITS IS BACKRED  
LOCATION : BACKFED BREAKER  
CODE REF. : NEC 705.12(4)
- WARNING**  
INVERTER OUTPUT CONNECTION:  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION : BACKFED BREAKER  
CODE REF. : 2017 NEC 705.12(2)(3)(b)
- WARNING**  
A GENERATION SCOURCE IS CONNECTED TO THE SUPPLY (UTILITY) SIDE OF THE MAIN SERVICE DISCONNECT.FOLLOW THE PROPER LOCK-OUT PROCEDURES TO ENSURE THE PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH IS OPENED PRIOR TO PERFORMING WORK ON THIS DEVICE  
LOCATION : (IF APPLICABLE) SUPPLY SIDE TAP LOAD PANEL  
CODE REF. : UTILITY
- PHOTOVOLTAIC AC DISCONNECT SWITCH**  
RATED OUTPUT CURRENT: 47.5A  
NOMINAL OPERATING VOLTAGE: 240V  
LOCATION : MAIN PANEL AC DISCONNECT(S)  
CODE REF. : NEC 690.54
- RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**  
LOCATION : MAIN PANEL  
CODE REF. : NEC 690.12
- WARNING**  
ELECTRIC SHOCK HAZARD  
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION  
LOCATION : PV SYSTEM DISCONNECT AC DISCONNECT SWITCH  
CODE REF. : NEC 690.17  
UTILITY AND AHJ REQUIREMENTS

- PHOTOVOLTAIC SYSTEM METER**  
LOCATION : DEDICATE KWH METER  
CODE REF. : NEC 690.4(B) UTILITY
- WARNING**  
PHOTOVOLTAIC SYSTEM COMBINER PANEL  
DO NOT ADD LOADS  
LOCATION : AC COMBINER PANEL  
CODE REF. : NEC 690.13(B)
- MAXIMUM VOLTAGE: 480V**  
**MAXIMUM CIRCUIT CURRENT: 15A**  
**MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED): 15A**  
LOCATION : DC DISCONNECT INVERTER  
CODE REF. : UTILITY
- WARNING**  
ELECTRICAL SHOCK HAZARD  
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION  
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT  
LOCATION : DC DISCONNECT COMBINER PANEL  
CODE REF. : NEC 690.13(B)
- SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**  
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY  
LOCATION : MAIN SERVICE  
CODE REF. : NEC 690.12  
NEC 690.56(C)(I)(A)
- WARNING: PHOTOVOLTAIC POWER SOURCE**  
LOCATION : DC CONDUIT JUNCTION BOX (NO MORE THAN 10FT)  
CODE REF. : NEC 690.13(B)

- CAUTION**  
DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC  
LOCATION : SERVICE METER MAIN PANEL  
CODE REF. : UTILITY
- WARNING**  
INVERTER OUTPUT CONNECTION:  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION : (IF APPLICABLE) SERVICE PANEL  
CODE REF. : NEC 705.12(D)(7)
- PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH**  
LOCATION : AC DISCONNECT  
CODE REF : UTILITY
- WARNING**  
ELECTRIC SHOCK HAZARD  
IF A GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED  
LOCATION :AC DISCONNECT,COMBINER PANEL SERVICE METER  
CODE REF. : NEC 690.5(C)
- PV SOLAR BREAKER**  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION : MAIN PANEL,DEAD FRONT  
CODE REF : NEC 705.12(B)(2)(3)(B)
- CAUTION**  
POWER TO THE SERVICE IS ALSO SUPPLIED FROM ON SITE SOLAR/WIND GENERATION AC SYSTEM DISCONNECT.  
LOCATION : AC DISCONNECT
- CAUTION**  
ALTERNATIVE POWER SUPPLY AC SYSTEM DISCONNECT  
LOCATION : AC DISCONNECT



Wyssling Consulting  
Firm No. 20109

## 2 Fire Labels

Scale: NTS

ID# TSP61968

CONTRACTOR INFORMATION



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CR11 #284331

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11.40 kW AC System  
(34) LG LG355N1K-B6  
(34) SolarEdge P401 [HD] Optimizers  
SolarEdge\_ Technologies SE11400H-US (240V)

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SHEET

PV-3.0



Wire Tag	Conductor Qty. Size & Type	Neutral Qty. Size & Type	Ground Qty., Size & Type	Raceway Size & Type	Raceway Location	Raceway Height Above Roof	Output Current	125% of Output Current	Min. OCPD	Wire De-Rate Calculation				Dist. (Ft)	Voltage	Voltage Drop %	Conduit Fill %
										Wire Rating	Ambient Temp	# of Cond.	Final Ampacity				
DC.1	(6) #10 AWG PV Wire		(1) #10 AWG Bare Copper	Not Applicable	Under Array	1"	15A	18.8A	20A	40A	X 0.91	X 1	= 36.4A	10 Ft.	400V	0.09%	
DC.2	(6) #10 AWG THWN-2		(1) #10 AWG THWN-2	3/4" EMT Conduit	Above Roof	1"	15A	18.8A	20A	40A	X 0.91	X 0.8	= 29.1A	20 Ft.	400V	0.19%	27.8%
AC.1	(2) #6 AWG THWN-2	(1) #6 AWG THWN-2	(1) #8 AWG THWN-2	3/4" EMT Conduit	Exterior Wall	"N/A"	47.5A	59.4A	60A	75A	X 0.91	X 1	= 68.3A	5 Ft.	240V	0.1%	35.5%

PV Module 1	PV Optimizer 1
(34) LG LG355N1K-B6 Power at STC: 355W Power at PTC: 328.7W V-oc: 41.5V V-mp: 35V I-sc: 10.72A I-mp: 10.15A V-oc Temp Coefficient: -0.26%/°C Output (I-sc x 1.25 x 1.25): 16.8A	(34)SolarEdge P401 [HD] Max I-sc Input: 11.75A Max V-oc Input: 60V Max Power Per String: 6000W Inverter 1 (4260W/400V) = 10.7A

Inverter 1
SolarEdge_Technologies SE11400H-US (240V) Max Output Current: 47.5A Safety Rating: (47.5A x 1.25) = 59.4A Minimum OCPD: 60A Max Number of Strings: 3 Number of MPPT's: 1 Maximum Input Voltage: 480V Transformerless (Y/N): Yes

AC Disconnect #1
60A Visible Lockable Labeled Fused AC Disconnect #1, 2 Pole, W/60A Fuses, FUSED VISIBLE OPEN 60A 120/240V 2P 10KAIC EATON CAT# DG222NRB.

Main Service Panel 1
Existing 200A MSP, Main Breaker Only 1Ø, 3W, 120/240V Utility: Oncor Interconnection: Line-Side Tap Main Breaker De-Rated:No

Operating Current:	10.7A
Operating Voltage:	400V
Maximum System Voltage:	480V
Short Circuit Current:	15A

2 (03/16/20)

#### ONCOR UTILITY

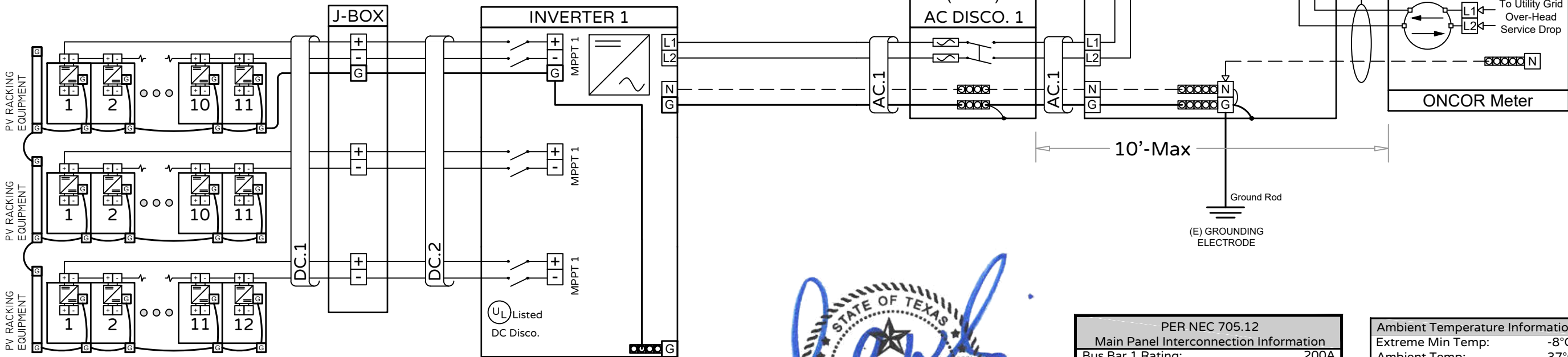
NOTES:  
THE VISIBLE, LOCKABLE, LABELED AC  
DISCONNECT IS LOCATED WITHIN 10 FT OF  
ONCOR METER.

(1) SOLAREEDGE\_TECHNOLOGIES SE11400H-US (240V)  
(34) LG LG355N1K-B6  
(34) SOLAREEDGE P401 [HD] OPTIMIZERS

ADDRESS : 305 E 4TH ST  
CITY-ZIP : LANCASTER, TX 75146  
ESI ID #: 10443720004108031  
METER NUMBER : 128558413

MSP NOTE: "AN ELECTRIC POWER PRODUCTION  
SOURCE SHALL BE PERMITTED TO BE CONNECTED TO  
THE SUPPLY SIDE OF THE SERVICE DISCONNECTING  
MEANS AS PERMITTED IN 230.82(6). THE SUM OF THE  
RATINGS OF ALL OVERCURRENT DEVICES CONNECTED  
TO POWER PRODUCTION SOURCES SHALL NOT  
EXCEED THE RATING OF THE SERVICE."

ILSCO IPC-1/0-2 K0451



Wyssling Consulting  
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PER NEC 705.12 Main Panel Interconnection Information	
Bus Bar 1 Rating:	200A
Main Breaker 1 Rating:	125A
PV Back Feed (Actual Load):	N/A
PV OCPD:	N/A
Interconnection Calculation: 120% Rule	
Not Applicable	

Ambient Temperature Information	
Extreme Min Temp:	-8°C
Ambient Temp:	37°C
Ambient Temp. Adjustments	
0" to 7/8" Above Roof:	70°C
Voltage Drop Information	
DC Voltage Drop:	0.28%
AC Voltage Drop:	0.1%
Total System Voltage Drop:	0.38%

ID# TSP61968

#### CONTRACTOR INFORMATION



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SHEET

PV-4.1

Wire Tag	Conductor Qty. Size & Type	Neutral Qty. Size & Type	Ground Qty., Size & Type	Raceway Size & Type	Raceway Location	Raceway Height Above Roof	Output Current	125% of Output Current	Min. OCPD	Wire De-Rate Calculation				Dist. (Ft)	Voltage	Voltage Drop %	Conduit Fill %
										Wire Rating	Ambient Temp	# of Cond.	Final Ampacity				
DC.1	(6) #10 AWG PV Wire		(1) #10 AWG Bare Copper	Not Applicable	Under Array	1"	15A	18.8A	20A	40A	X 0.91	X 1	= 36.4A	10 Ft.	400V	0.09%	
DC.2	(6) #10 AWG THWN-2		(1) #10 AWG THWN-2	3/4" EMT Conduit	Above Roof	1"	15A	18.8A	20A	40A	X 0.91	X 0.8	= 29.1A	20 Ft.	400V	0.19%	27.8%
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2 (03/16/20)

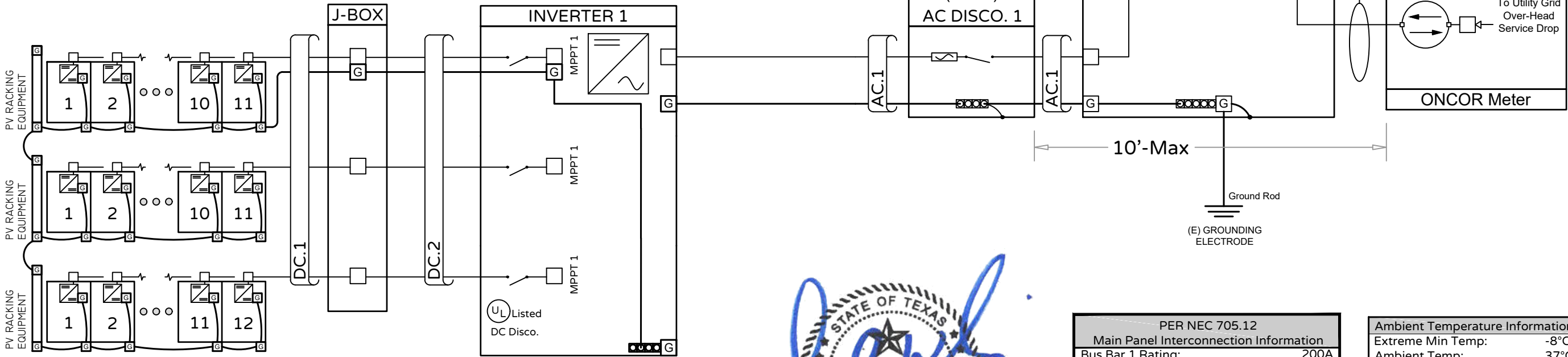
ONCOR UTILITY

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(1) SOLAREEDGE\_TECHNOLOGIES SE11400H-US (240V)  
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THE SUPPLY SIDE OF THE SERVICE DISCONNECTING  
MEANS AS PERMITTED IN 230.82(6). THE SUM OF THE  
RATINGS OF ALL OVERCURRENT DEVICES CONNECTED  
TO POWER PRODUCTION SOURCES SHALL NOT  
EXCEED THE RATING OF THE SERVICE."



Wyssling Consulting  
Firm No. 20109

PER NEC 705.12 Main Panel Interconnection Information	
Bus Bar 1 Rating:	200A
Main Breaker 1 Rating:	125A
PV Back Feed (Actual Load):	N/A
PV OCPD:	N/A
Interconnection Calculation: 120% Rule	
Not Applicable	

Ambient Temperature Information	
Extreme Min Temp:	-8°C
Ambient Temp:	37°C
Ambient Temp. Adjustments	
0" to 7/8" Above Roof:	70°C
Voltage Drop Information	
DC Voltage Drop:	0.28%
AC Voltage Drop:	0.1%
Total System Voltage Drop:	0.38%

ID# TSP61968

CONTRACTOR INFORMATION



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

SYSTEM INFORMATION

12.07 kW DC System (STC)  
11.40 kW AC System  
(34) LG LG355N1K-B6  
(34) SolarEdge P401 [HD] Optimizers  
SolarEdge\_Technologies SE11400H-US (240V)

PROJECT INFO.

Tyler Romine  
305 E 4th St  
Lancaster, TX 75146  
(214) 536-3818  
APN #36000500700290000

REVISION BLOCK

DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

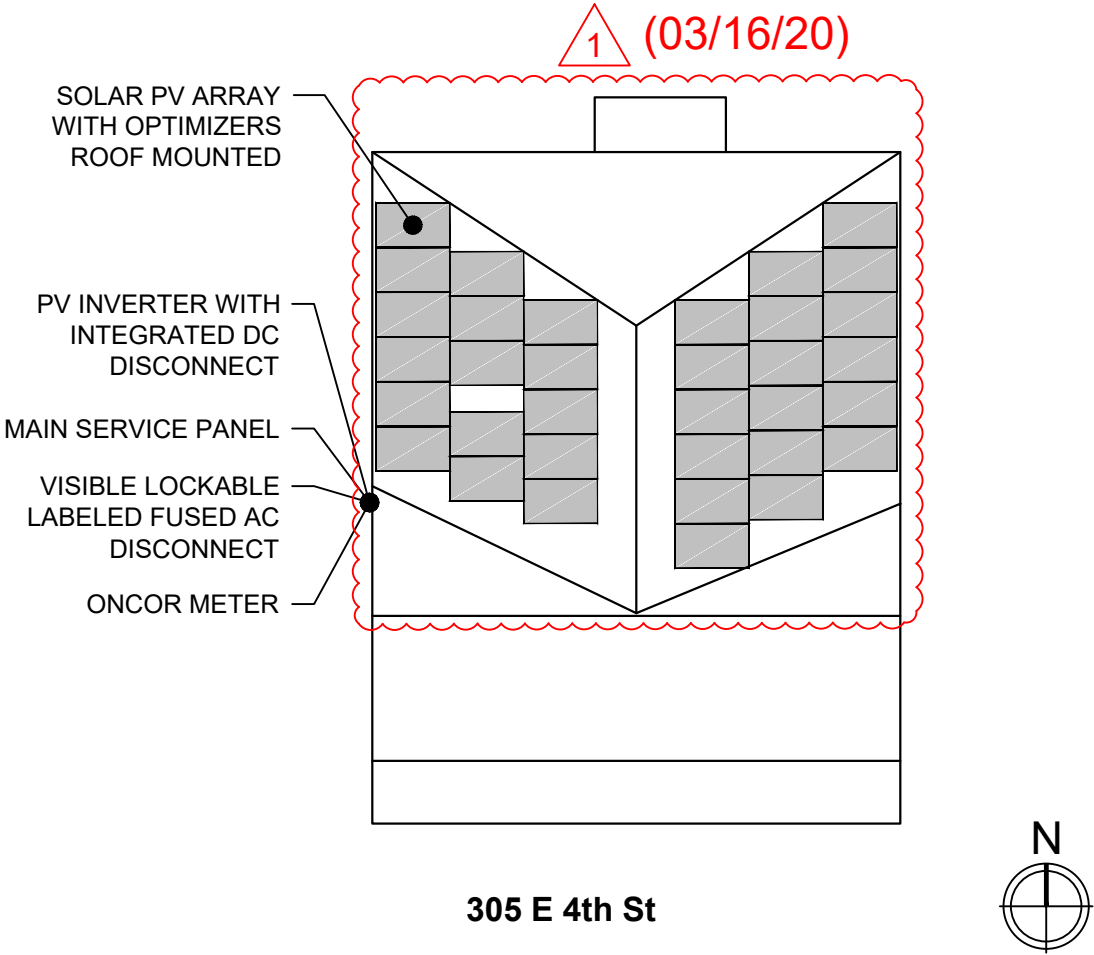
Design By: CNG SOLAR ENGINEERING, INC.



SHEET

PV-4.2

NOTES: INSTALLERS SHALL DRAW IN DESIGNATED SAFETY AREA AROUND HOME. INSTALLERS SHALL UPDATE NAME, ADDRESS, AND PHONE NUMBER OF NEAREST URGENT CARE FACILITY RELATIVE TO THE SITE BEFORE STARTING WORK.



LOCATION OF NEAREST URGENT CARE FACILITY

NAME:  
ADDRESS:  
PHONE NUMBER:



Wyssling Consulting  
Firm No. 20109

**CAUTION**  
POWER TO THE SERVICE IS ALSO SUPPLIED FROM ON SITE SOLAR/WIND GENERATION AC SYSTEM DISCONNECT.

LOCATION : AC DISCONNECT

**CAUTION**  
ALTERNATIVE POWER SUPPLY AC SYSTEM DISCONNECT

LOCATION : AC DISCONNECT

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SHEET

PV-5.0



# LG NeON<sup>®</sup> 2 Black

The LG NeON<sup>®</sup> 2 Black is one of the most powerful and versatile modules on the market today, combining LG's Cello technology and monocrystalline N-type solar cells with a stunning black design. The LG NeON<sup>®</sup> 2 Black includes a 25-year product and 90.1% performance warranty for higher performance and reliability.

## FEATURES

**90.1%**  
in year 25

### Enhanced Performance Warranty

LG NeON<sup>®</sup>2 Black comes with an enhanced performance warranty. After 25 years of use, the LG NeON<sup>®</sup>2 Black is guaranteed to provide at least 90.1% of initial performance.

**25**  
YEARS  
WARRANTY

### Industry-Leading Product Warranty

LG offers an industry-leading 25 year product warranty on the NeON<sup>®</sup>2 Black.



### Reliable Quality

LG NeON<sup>®</sup>2 Black offers reliable and proven quality through rigorous testing.



### Sleek Rooftop Design

The LG NeON<sup>®</sup>2 Black is designed to make the entire module look black, providing a sleek, modern design that blends in seamlessly with the rooftop.

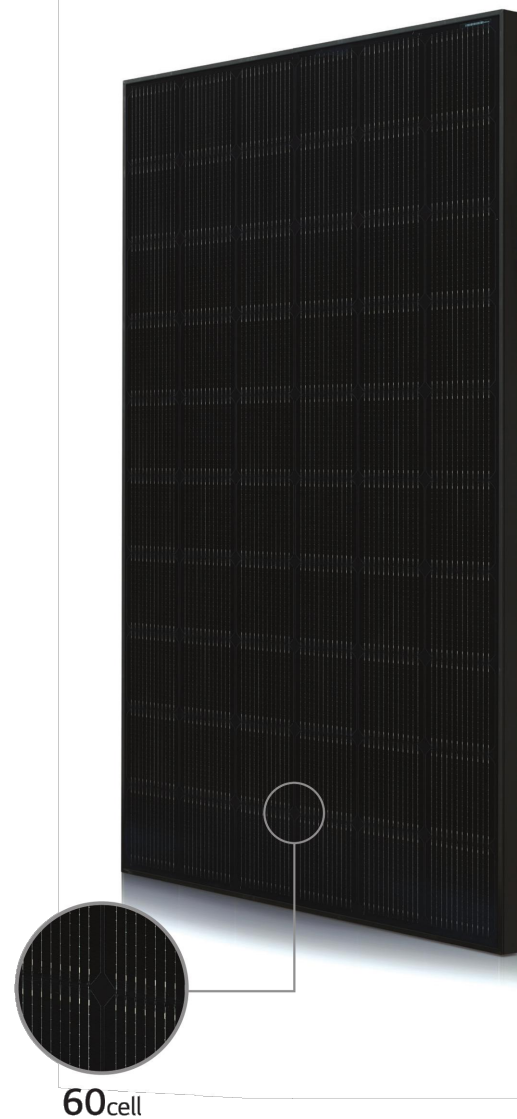


#### About LG Electronics

LG is transforming today's solar landscape, offering high-efficiency solar panels for customers who demand high performance, reliability and consistently strong energy yield from a brand they can trust. LG's modules feature high power outputs, outstanding durability, appealing aesthetics and high-efficiency technology.



## LG355N1K-B6



60cell

## LG NeON<sup>®</sup> 2 Black

LG355N1K-B6

### General Data

Cell Properties (Material / Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Number of Busbars	12 EA
Module Dimensions (L x W x H)	1,740 x 1,042 x 40mm
Weight	18.6 kg
Glass (Material)	Tempered Glass with AR coating
Backsheet (Color)	Black
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)	1,100 mm x 2 EA
Connector (Type / Maker)	MC4 / MC

### Certifications and Warranty

Certifications	IEC 61215-1 / -1-1 / 2:2016, IEC 61730-1 / 2:2016, UL 61730-1:2017, UL 61730-2:2017, ISO 9001, ISO 14001, ISO 50001, OHSAS 18001
Salt Mist Corrosion Test	IEC 61701 : 2011 Severity 6
Ammonia Corrosion Test	IEC 62716 : 2013
Module Fire Performance	Type 2 (UL 61730)
Fire Rating	Class C (UL 790)
Solar Module Product Warranty	25 Years
Solar Module Output Warranty	Linear Warranty*

\* 1) First years : 98%, 2) After 1st year : -0.33%/year, 3) 90.1% for 25 years

### Temperature Characteristics

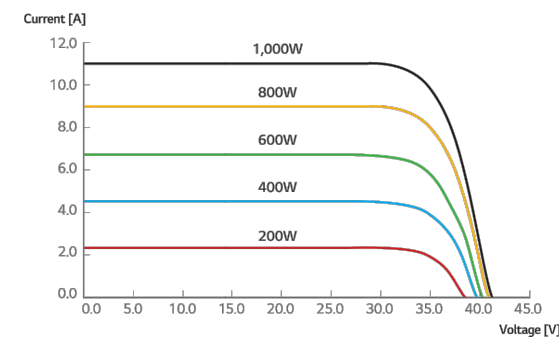
NMOT*	[°C]	42 ± 3
Pmax	[%/°C]	-0.35
Voc	[%/°C]	-0.26
Isc	[%/°C]	0.03

\* NMOT (Nominal Module Operating Temperature)  
: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind speed 1m/s, Spectrum AM 1.5

### Electrical Properties (NMOT)

Model	LG355N1K-B6	
Maximum Power (Pmax)	[W]	266
MPP Voltage (Vmpp)	[V]	32.9
MPP Current (Impp)	[A]	8.10
Open Circuit Voltage (Voc)	[V]	39.1
Short Circuit Current (Isc)	[A]	8.61

### I-V Curves



Preliminary

### Electrical Properties (STC\*)

Model	LG355N1K-B6	
Maximum Power (Pmax)	[W]	355
MPP Voltage (Vmpp)	[V]	35.0
MPP Current (Impp)	[A]	10.15
Open Circuit Voltage (Voc, ± 5%)	[V]	41.5
Short Circuit Current (Isc, ± 5%)	[A]	10.72
Module Efficiency	[%]	19.6
Power Tolerance	[%]	0 ~ +3

\* STC (Standard Test Condition)  
: Irradiance 1,000 W/m<sup>2</sup>, Cell temperature 25°C, AM 1.5, Measure tolerance of Pmax : ±3%

### Operating Conditions

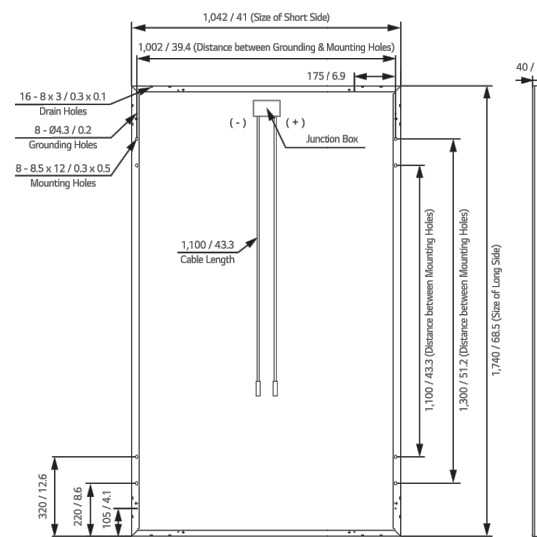
Operating Temperature	[°C]	-40 ~ +85
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load* (Front)	[Pa]	5,400
Mechanical Test Load* (Rear)	[Pa]	4,000

\* Based on IEC 61215-2 : 2016 (Test Load = Design Load x Safety Factor(1.5))  
※ Mechanical Test Loads 6,000 Pa / 5,400 Pa based on IEC 61215 : 2005

### Packaging Configuration

Number of Modules Per Pallet	[EA]	25
Number of Modules Per 40ft HQ Container	[EA]	650
Packaging Box Dimensions (L x W x H)	[mm]	1,790 x 1,120 x 1,213
Packaging Box Gross Weight	[kg]	500

### Dimensions (mm/inch)



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LG Electronics Inc.  
Energy Business Division  
LG Twin Towers, 128 Yeouido-daero, Yeongdeungpo-gu, Seoul 07336, Korea  
www.lg-solar.com

Product specifications are subject to change without notice.  
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# Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US



12-25  
YEAR  
WARRANTY

INVERTERS

## Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- 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
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

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## Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 <sup>(1)</sup>							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, Adjustable - 0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V <sup>(2)</sup>	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V <sup>(2)</sup>	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k $\Omega$ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

<sup>(1)</sup> For other regional settings please contact SolarEdge support

<sup>(2)</sup> A higher current source may be used; the inverter will limit its input current to the values stated

ID# TSP61968

### CONTRACTOR INFORMATION



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(34) SolarEdge P401 [HD] Optimizers  
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### PROJECT INFO.

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305 E 4th St  
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APN #36000500700290000

### REVISION BLOCK

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Design By: CNG SOLAR ENGINEERING, INC.



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/ Single Phase Inverter  
with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/  
SE7600H-US / SE10000H-US / SE11400H-US

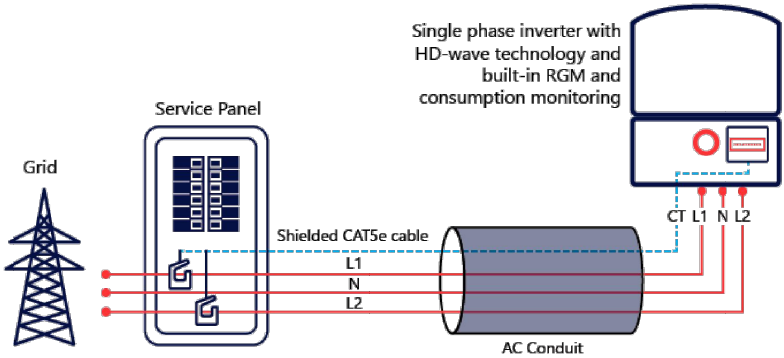
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)						
Revenue Grade Metering, ANSI C12.20	Optional <sup>(3)</sup>						
Consumption metering							
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection						
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect						
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 Part 15 Class B						
INSTALLATION SPECIFICATIONS							
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG				1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG				1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174				21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9		38.8 / 17.6 lb / kg
Noise	< 25				<50		dBA
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(4)</sup>						°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)						

<sup>(3)</sup> Inverter with Revenue Grade Meter P/N: SExxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxH-US000BNI4 . For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box

<sup>(4)</sup> Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills



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RoHS



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# Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505



POWER OPTIMIZER

## PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge.com



## Power Optimizer For North America

P370 / P400 / P401 / P485 / P505

Optimizer model (typical module compatibility)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96- cell modules)	P401 (for high power 60 and 72 cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
INPUT						
Rated Input DC Power <sup>(1)</sup>	370	400		485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	60	125 <sup>(2)</sup>	83 <sup>(2)</sup>	Vdc
MPPT Operating Range	8 - 60	8 - 80	8-60	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11	10.1	11.75	11	14	Adc
Maximum Efficiency			99.5			%
Weighted Efficiency			98.8			%
Overvoltage Category			II			
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)						
Maximum Output Current	15					Adc
Maximum Output Voltage	60			85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer	1 ± 0.1					Vdc
STANDARD COMPLIANCE						
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020			NEC 2014, 2017 & 2020	NEC 2014, 2017 & 2020	
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741					
Material	UL94 V-0 , UV Resistant					
RoHS	Yes					
INSTALLATION SPECIFICATIONS						
Maximum Allowed System Voltage	1000					Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters					
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	655 / 1.4	750 / 1.7	655 / 1.4	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4 <sup>(3)</sup>			Single or dual MC4 <sup>(3)(4)</sup>	MC4 <sup>(3)</sup>	
Input Wire Length	0.16 / 0.52, 0.9 / 2.95 <sup>(4)</sup>	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95 <sup>(4)</sup>	0.16 / 0.52	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	1.2 / 3.9					m / ft
Operating Temperature Range <sup>(5)</sup>	-40 to +85 / -40 to +185					°C / °F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed

(2) NEC 2017 requires max input voltage be not more than 80V

(3) For other connector types please contact SolarEdge

(4) For dual version for parallel connection of two modules use P485-4NMMDRM. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals

(5) For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a SolarEdge Inverter <sup>(6)(7)</sup>	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P370, P400, P401 P485, P505	8	10	18	
		6	8	14	
Maximum String Length (Power Optimizers)		25	25	50	
Maximum Nominal Power per String	5700 <sup>(8)</sup> (6000 with SE7600-US - SE11400-US)	5250 <sup>(8)</sup>	6000 <sup>(9)</sup>	12750 <sup>(10)</sup>	W
Parallel Strings of Different Lengths or Orientations	Yes				

(6) For detailed string sizing information refer to: [http://www.solaredge.com/sites/default/files/string\\_sizing\\_na.pdf](http://www.solaredge.com/sites/default/files/string_sizing_na.pdf)

(7) It is not allowed to mix P485/P505 with P370/P400/P401 in one string

(8) If the inverters rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to: <https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf>

(9) For 208V grid: it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W

(10) For 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

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RoHS

Intertek

ID# TSP61968

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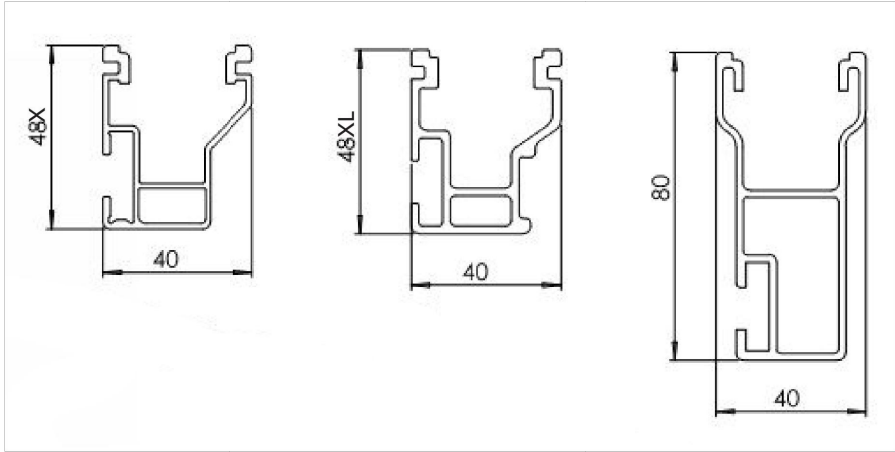
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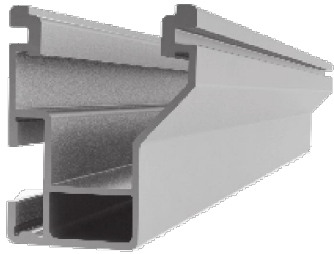


Technical data

	CrossRail System
Roof Type	Composition shingle, tile, standing seam
Material	High corrosion resistance stainless steel and high grade aluminum
Flexibility	Modular construction, suitable for any system size, height adjustable
PV Modules	For all common module types
Module Orientation	Portrait and landscape
Roof Attachment	Screw connection into rafter
Structural Validity	IBC compliant, stamped engineering letters available for all solar states
Warranty	25 years



CrossRail 48-X

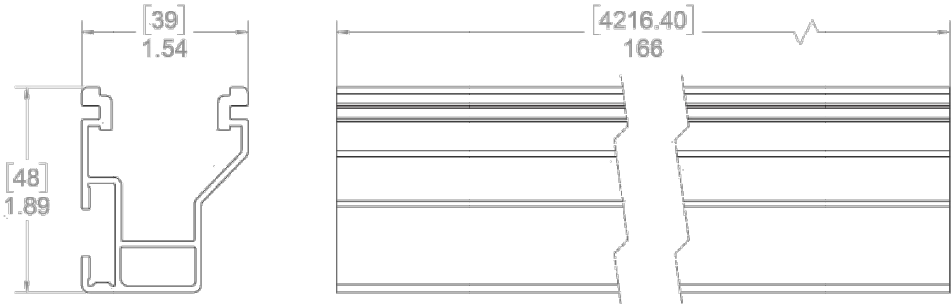


Mechanical Properties

	CrossRail 48-X
Material	6000 Series Aluminum
Ultimate Tensile Strength	37.7 ksi (260 MPa)
Yield Strength	34.8 ksi (240 MPa)
Weight	0.56 lbs/ft (0.833 kg/m)
Finish	Mill or Dark Anodized

Section Properties

	CrossRail 48-X
Sx	0.1980 in³ (3.245 cm³)
Sy	0.1510 in³ (2.474 cm³)
A (X-Section)	0.4650 in² (2.999 cm²)



Dimensions in [mm] Inches

- Notes:
- ▶ Structural values and span charts determined in accordance with Aluminum Design Manual and ASCE 7-16
  - ▶ UL2703 Listed System for Fire and Bonding

[www.everest-solarsystems.com](http://www.everest-solarsystems.com)

[www.everest-solarsystems.com](http://www.everest-solarsystems.com)

ID# TSP61968

CONTRACTOR INFORMATION



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

SYSTEM INFORMATION

12.07 kW DC System (STC)  
11.40 kW AC System  
(34) LG LG355N1K-B6  
(34) SolarEdge P401 [HD] Optimizers  
SolarEdge\_Technologies SE11400H-US (240V)

PROJECT INFO.

Tyler Romine  
305 E 4th St  
Lancaster, TX 75146  
(214) 536-3818  
APN #36000500700290000

REVISION BLOCK

DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

Design By: CNG SOLAR ENGINEERING, INC.

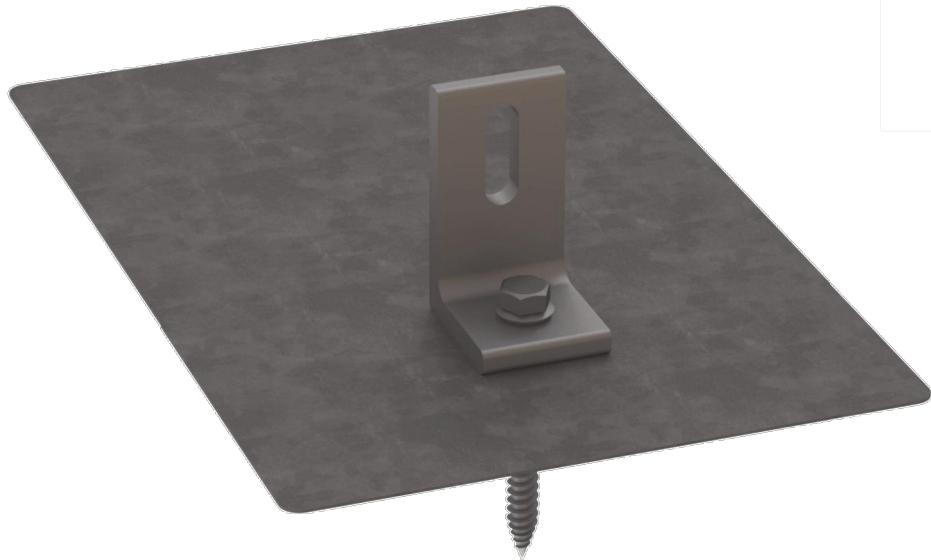


DATA SHEET





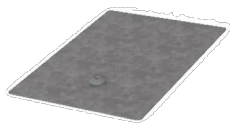
# EverFlash eComp Kit



Part Number	Description
4000366	EverFlash eComp Kit, Black
4000679	EverFlash eComp Kit, Mill LF, Dark Flash
4000367	EverFlash eComp Kit, Silver

- ▶ High quality, patented design to ensure watertight seal
- ▶ Included as part of a UL 2703 Listed System
- ▶ Easy installation, can be retrofitted without removing shingles
- ▶ Meets or exceeds all known building codes
- ▶ Aluminum base with stainless steel hardware for high corrosion resistance
- ▶ Compatible with all our CrossRails

## Components



**EverFlash eComp, 8x12"**  
▶ Material: aluminum  
▶ Finish: silver, black



**L-Foot and Hardware**  
▶ Material: aluminum and stainless steel  
▶ Finish: mill, dark



**5/16" Sealing Washer**  
▶ Material: stainless steel, EPDM insert



**5/16" Lag Bolt**  
▶ Material: stainless steel

[www.everest-solarsystems.com](http://www.everest-solarsystems.com)

EverFlash eComp Kit Product Sheet US04 | 1019 · Subject to change · Product illustrations are exemplary and may differ from the original.

### CONTRACTOR INFORMATION



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

### SYSTEM INFORMATION

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SolarEdge\_Technologies SE11400H-US (240V)

### PROJECT INFO.



Tyler Romine  
305 E 4th St  
Lancaster, TX 75146  
(214) 536-3818  
APN #36000500700290000

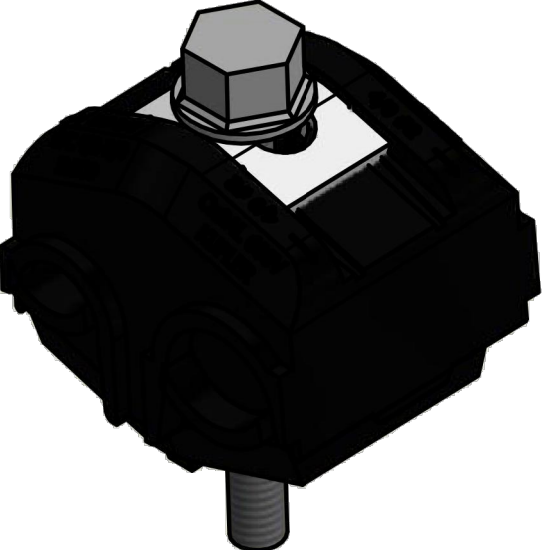
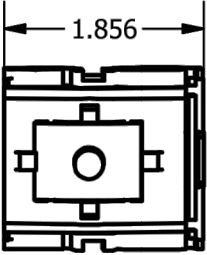
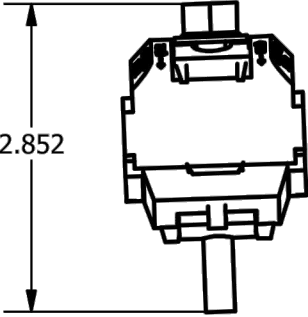
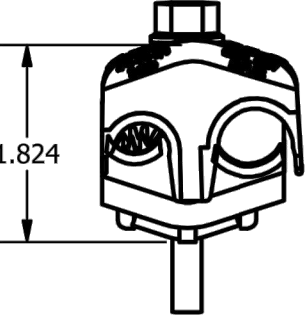
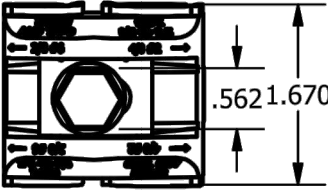
### REVISION BLOCK

DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

Design By: CNG SOLAR ENGINEERING, INC.



SCREW: 130051	MATERIAL: SEE NOTES 1 & 2	REV: M	 connections matter	
CAT. NO.: IPC-4/0-2/0 & IPC-4/0-2/0-B	PLATING: NONE	DRAWN BY: JG	SCALE: 1:2	800-776-9775    www.ilsco.com
INFORMATION SHEET: FORM 73	MARKING: MAIN 4/0-2, TAP 2/0-6 	DATE: 2/8/2008	SIZE: A	
			DWG. NO.	K0451
			SHEET: 1 OF 1	



NOTES:  
1. NYLON BODY  
2. TIN PLATED COPPER TEETH  
3. WIRE RANGE: MAIN - 4/0 - 2  
TAP - 2/0 - 6

THE INFORMATION CONTAINED WITHIN THIS DOCUMENT IS PROPRIETARY TO ILSCO AND MAY NOT BE DISCLOSED WITHOUT PRIOR WRITTEN CONSENT



Titan Solar Power TX, Inc.  
525 W. Baseline Rd  
Mesa, AZ 85210  
(480) 830-9290  
CR11 #284331

12.07 kW DC System (STC)  
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REVISION BLOCK	
DESCRIPTION	DATE
Initial Draft of Plans	6/1/20
Revisions Per Customer	3/16/21

Design By: CNG SOLAR ENGINEERING, INC.



DATA SHEET



East

South







Southwest Corner



# TITAN

S O L A R P O W E R

03.18.2021

## Project Information:

TSP61968 Tyler Romine

305 east 4th street Lancaster Texas 75146

## Comments:

The following changes have been made to reduce the visibility of the solar from the street:

- The solar array that was on the front (south facing) roof plane was relocated to the east and west facing roof sections.
- The system was downsized with a module count from 40 to 34 and the module type updated from Q.PEAK 290w to LG 355w. Which are more sleek, black on black modules.

No Further Changes.

Nicole Nebitsi  
Head of Design  
C: 424.248.8386

## Titan Solar Power

[www.titansolarpower.com](http://www.titansolarpower.com)

525 W. Baseline Rd. Mesa, 85210 AZ 85233

AZ # 284331 | NM # 393719 | TX # 32912 | NV # 84903 | FL #  
EC13009924 CA # 1062072 | CO # EC.0101592 | NC # U.33714 | SC #  
115504 UT # 11674728-5501 | GA # EN217911 | MO # 2020006346

# **Texas Municipalities which have Provisions for Solar Energy Systems**

Addison

Allen

Argyle

Austin

Burleson

Cedar Hill

Carrollton

Flower Mound

Highland Park

Kingsville

Mansfield North

Richland Hills

Rockwall

San Marcos

Waxahachie

West Lake Hills

## Guidance from the National Renewable Energy Laboratory (NREL) in the application of solar panels on historic properties.

1. **Locate solar panels on the site of a historic resource.** If possible, use a ground-mounted solar panel array. Consider solutions that respect the building's historic setting, locating the solar panel arrays in an inconspicuous location, such as a rear or side yard, low to the ground and sensitively screened to further limit visibility.
2. **Locate solar panels on new construction. In cases where** new buildings or new additions to historic buildings are proposed and approvable, encourage the placement of solar panels on the new construction. To achieve overall compatibility with the historic building and its setting, consider solutions that integrate the solar panel system in **less visible areas of the new design.**
3. **Locate solar panels on non-historic buildings and additions.** If the site cannot accommodate solar panels, and the project does not include new construction, consider placing solar panels on an existing, non-historic addition or accessory structure, thereby minimizing the impact of the solar installation on the significant features of the **historic resource as well as specifically protecting historic fabric against alteration.**
4. **Place solar panels in areas that minimize their visibility from a public thoroughfare.** The primary façade of a historic building is often the most architecturally distinctive and publicly-visible, and thus the most significant and character-defining. To the greatest extent possible, avoid placing solar panels on street-facing walls or roofs, **including those facing side streets. Installations below and behind parapet walls and dormers, or on rear-facing roofs, are often good choices.**
5. **Avoid installations that would result in the permanent loss of significant, character-defining features of historic resources.** Solar panels should not require alterations to significant or character-defining features of a historic resource, such as altering existing roof lines or dormers. Avoid installations that obstruct views of significant architectural features, such as overlaying windows or decorative detailing, or intruding on views of neighboring historic properties in an historic district.
6. **Avoid solutions that would require or result in the removal or permanent alteration of historic fabric.** Solar panel installations should be reversible. Use of solar roof tiles, laminates, glazing and other technologies that require the removal of historic fabric or would permanently damage such fabric must be avoided. Consider the type and condition of the material upon which installation is proposed as well as the method of installation and removal down the road. For example, metal and slate roofs may be able to accommodate solar panels better than other types of materials. It may also be possible, through the use of brackets, to minimize the points of attachment to a structure.
7. **Require low profiles.** Solar panels should be flush or mounted no higher than a few inches above the roofing surface and should not be visible above the roofline of a primary façade.
8. **On flat roofs, set solar panels back from the edge.** Flat roofs often provide an ideal surface for solar arrays. To minimize visibility, ensure that the panels are set back from the edge and adjust the angle and height of the panels as necessary.



9. **Avoid disjointed and multi-roof solutions.** Panels should be set at angles consistent with the slope of the supporting roof. For example, avoid solutions that would set panels at 70 degree angles when the roof slopes at a 45 degree angle. In addition, panels should be located on a single roof and arranged in a pattern that matches the configuration of the roof upon which they are mounted.
10. **Ensure that solar panels, support structures and conduits blend into the resource.** The visibility of solar panels and support structures can be substantially reduced if the color matches the historic resource and reflectivity is minimized.

**Figure 5. National Trust for Historic Preservation guidance in the application of solar panels on historic properties<sup>41</sup>**

According to the National Alliance of Preservation Commissions (NAPC), there are a handful of local jurisdictions that have adopted detailed application review guidelines for the installation of solar panels in historic districts.<sup>42</sup> The National Trust for Historic Preservation collected examples of municipalities and their solar guidelines relating to historic properties as a component to a policy guide: *Practical Approaches to Installing Solar Technology on Historic Properties*. See Table 3 for a summary of guidelines used across the United States.<sup>43</sup>

**Table 3. Local Solar Panel Guidelines in Use across the United States<sup>44</sup>**

Jurisdiction	Description	Contact Information
Alexandria, Virginia	Alexandria provides guidance on the use of solar collectors as part of its Design Guidelines for the Old and Historic Alexandria District and the Parker Gray District, adopted in 1993.	Planning and Zoning Department City of Alexandria 301 King Street, Rm. 2100 Alexandria, VA 22314  Tel: 703-746-3833  Website: <a href="http://www.alexandriava.gov">www.alexandriava.gov</a>
Boulder, Colorado	Along with developing a "Green Points System" for new development projects, Boulder has adopted guidelines on using solar collectors and improving overall energy efficiency as part of its Design Guidelines for Historic Districts and Landmarks. See § 3.1 and 8.3.4. It has also prepared a "Historic Building Energy Efficiency Guide."	Planning & Development Services/ Long Range Planning City of Boulder 1739 Broadway Boulder, CO 80302  Tel: 706-542-4731  Website: <a href="http://www.bouldercolorado.gov">www.bouldercolorado.gov</a>

<sup>41</sup> National Trust for Historic Preservation. "Practical Approaches to Installing Solar Technology on Historic Properties." 2011.

<sup>42</sup> The Alliance Review, National Alliance of Preservation Commissions. Athens, GA. "Going Green: Solar Panels in Historic Districts." March/April 2008.

<sup>43</sup> National Trust for Historic Preservation. "Practical Approaches to Installing Solar Technology on Historic Properties." 2011.

<sup>44</sup> Ibid.

## CITY OF LANCASTER BOARDS AND COMMISSIONS

### Historic Landmark Preservation Committee

3.

**Meeting Date:** 03/23/2021

**Policy Statement:** This request supports the City Council 2020-2021 Policy Agenda

**Goal(s):** Healthy, Safe & Engaged Community  
Quality Development

**Submitted by:** Bester Munyaradzi, Senior Planner

---

#### **Agenda Caption:**

HLPC21-09 Discuss and consider a Certificate of Appropriateness (COA) to install a wood and metal fence on the property addressed as 615 North Dallas Avenue City of Lancaster, Dallas County, Texas.

#### **Background:**

1. **Location and Size:** The subject property is addressed as 615 North Dallas Avenue and is .75 acre in size.
2. **Current Zoning:** The subject property is currently zoned Historic Overlay District (HP) Area E Sub-district and Single-Family Residential (SF-6).
3. **Adjacent Properties:**  
North: HP-SF-6 - Historic Overlay District and Single-Family Residential (Occupied Residence)  
South: HP-SF-6 - Historic Overlay District and Single-Family Residential (Church of Christ)  
East: HP-SF-6 - Historic Overlay District and Single-Family Residential (Occupied Residence)  
West: HP-SF-6 - Historic Overlay District and Single-Family Residential (Occupied Residence)
4. **Comprehensive Plan Compatibility:**  
The Future Land Use Plan of the Comprehensive Plan identifies this site as suitable for single-family residential uses. Therefore, the existing residential use is consistent with the Future Land Use Plan of the Comprehensive Plan.
5. **Case History/Background:**  
The home on the subject site was built in 1930 and is listed on the Dallas Central Appraisal District (DCAD) website as a post foundation and frame building.

#### **Operational Considerations:**

The applicant is proposing to remove the existing chain link fence on the property and install a wood and metal fence. The proposed wood fence will be eight (8) feet in height on the rear and sides of the property. The wood fence will be stained with a clear coat and will be setback at least five (5) feet from the front facade of the home. The metal fence will be located towards the front of the property, 48 inches in height, and at least 50% open. There will be pedestrian and vehicular metal gates towards the front of the property that will match the proposed metal fence. The location of the fences are illustrated on the document titled Fence Exhibit.

The Lancaster Historic Residential Design Regulations (LHRDR) Section 3.16.2 New Fences states that, "Fences shall be constructed of wood, twisted wire, and metal or other appropriate materials; these

materials are consistent with the historic fence materials in Lancaster.....Fences should not exceed eight (8) feet in height at the rear property line. Fences at side yards or front-facing portion of front yards should not exceed six (6) feet in height...A fence in a corner side yard located adjacent to a public right-of-way shall be located a minimum of (six) 6 feet from the curb or edge of street where there is no curb.” The applicant stated that they are proposing eight (8) feet high fences on the sides to prevent their dog from jumping over the fence and to ensure privacy from the church parking lot that is directly south of the property. The 48 inches metal fence at the front and the eight (8) feet wood fence at the rear are in compliance with the LHRDR. The proposed eight (8) feet side yard fences are not in compliance with the LHRDR.

The Code Compliance Division has sent out a Notice of Violation (NOV) for the outdoor storage that is visible from West 5th Street.

**Public Information Considerations:**

This item is being considered at a meeting of the Historic Landmark Preservation Committee noticed in accordance with the Texas Open Meetings Act.

**Options/Alternatives:**

1. The Historic Landmark Preservation Committee may recommend approval of the requests, as presented.
2. The Historic Landmark Preservation Committee may recommend approval of the requests with conditions, and state those conditions.
3. The Historic Landmark Preservation Committee may recommend denial of the requests.

**Recommendation:**

Staff recommends approval of the 48 inches high metal fence that will be in the front yard and approval of the 8 (eight) feet wood fence that will be in the rear yard. Staff recommends denial of the proposed 8 (eight) feet side yard fences.

**Attachments**

Location Map  
Letter of Intent  
DCAD Report  
Fence Exhibit  
Fence Samples  
Staff Photos

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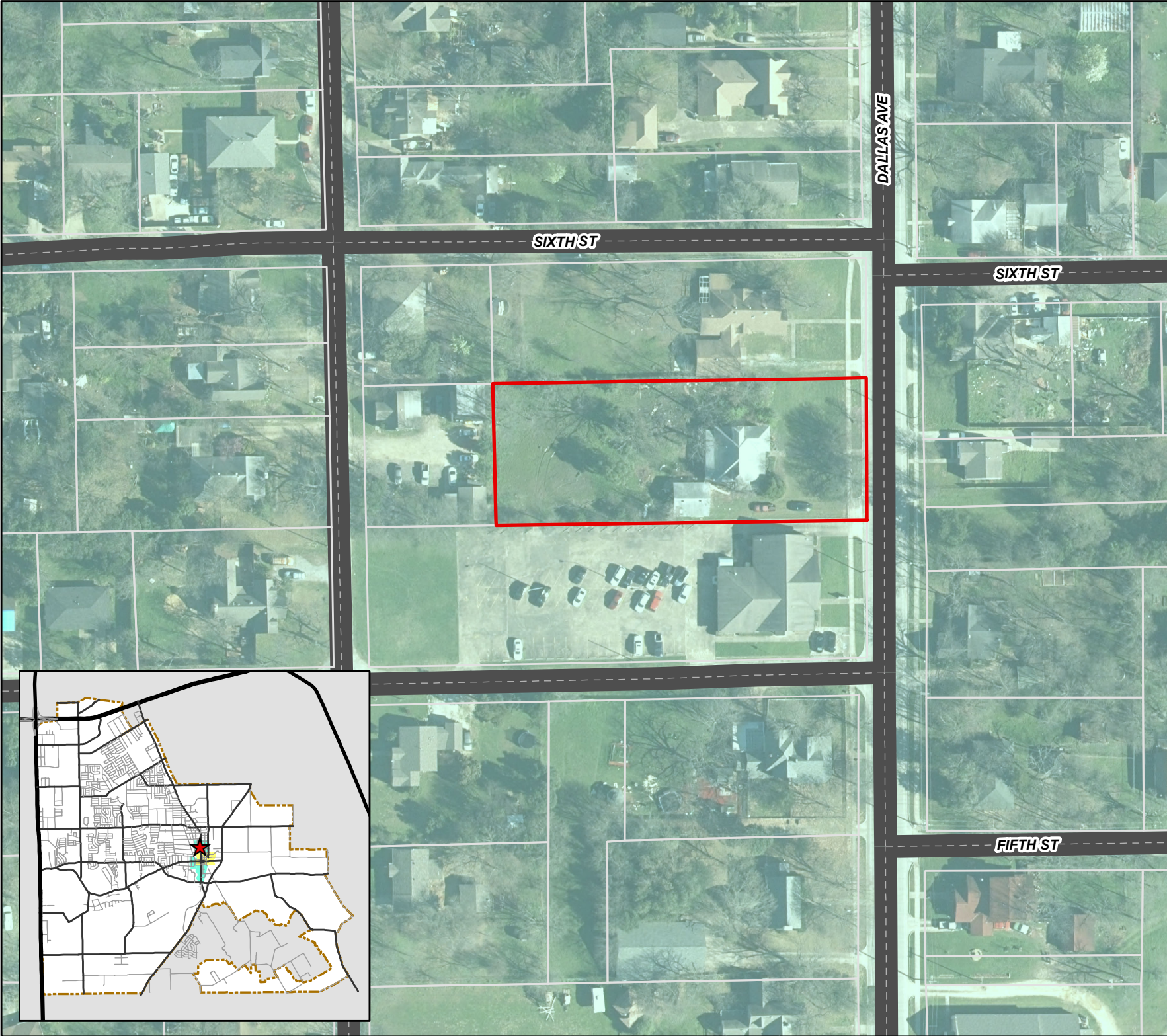
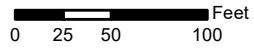


615 N Dallas Ave  
Zoned: SF-6 (in Historic District)



Legend

- Parcels
- Subject Property
- Downtown Districts
- Historic District
- Floodplain
- City Limits





Planning Division  
972-218-1300 phone  
972-227-7220 fax

City of Lancaster  
HLPC APPLICATION  
[www.lancaster-tx.com](http://www.lancaster-tx.com)

City of Lancaster 211  
N. Henry Street  
Lancaster, Texas 75146

Proposed Location

Address: 615. N Dallas Ave Lancaster TX 75146  
or Subdivision: \_\_\_\_\_ Block#: \_\_\_\_\_ Lot#: \_\_\_\_\_

Proposed Work

Please describe your proposed work simply and accurately. PLEASE TYPE AND SIGN OR SUBMIT A SEPARATE TYPED AND SIGNED WORD DOCUMENT.

RePLacing chain Fence with 8FT h 6FT between post on The  
Back Yard between house and neighbor and ~~church~~ Church,  
The Front Yard will be 4FT high 6FT between post, metal  
Fence with 50% Visibility with 2 Gate For Entry.

\* on North side of the house The wooded Fence  
will be 5FT backed From The house Line AS Required

REQUIRED ATTACHMENTS: 3 COPIES

- ☒ Site Plan (existing and proposed, if applicable) 24" x 36"
- ☒ Elevations (New structures only) 24" x 36"
- ☒ Pictures (existing and proposed, if applicable)
- ☒ Renderings (New structures only)

ALL ATTACHMENTS SHOULD BE 11" x 17"



## Residential Account #36000500780020000

[Location](#)
[Owner](#)
[Legal Desc](#)
[Value](#)
[Main Improvement](#)
[Additional Improvements](#)
[Land](#)
[Exemptions](#)  
[Estimated Taxes](#)
[History](#)

### Property Location (Current 2021)

**Address:** 615 N DALLAS AVE  
**Neighborhood:** 4LSG06  
**Mapsc:** 86-C (DALLAS)

**DCAD Property Map**

**2020 Appraisal Notice**

### Electronic Documents (ENS)



**Print Homestead Exemption Form**

### Owner (Current 2021)

ELBAWWAB ASHRAF OMAR &  
 ELBAWWAB MUSTAFA  
 615 N DALLAS AVE  
 LANCASTER, TEXAS 751462415

### Multi-Owner (Current 2021)

Owner Name	Ownership %
ELBAWWAB ASHRAF OMAR &	50%
ELBAWWAB MUSTAFA	50%

### Legal Desc (Current 2021)

- 1: ORIG TOWN LANCASTER
- 2: PT LT 0002
- 3: 110X296 BLK
- 4: INT202000213186 DD08052020 CO-DC
- 5: 0005007800200 4CN00050078

**Deed Transfer Date:** 8/13/2020

### Value

2020 Certified Values	
<b>Improvement:</b>	\$54,260
<b>Land:</b>	+ \$73,580
<b>Market Value:</b>	= \$127,840
<b>Revaluation Year:</b>	2020
<b>Previous Revaluation Year:</b>	2019

## Main Improvement (Current 2021)

<b>Building Class</b>	04	<b>Construction Type</b>	FRAME	<b># Baths (Full/Half)</b>	1/ 0
<b>Year Built</b>	1930	<b>Foundation</b>	POST	<b># Kitchens</b>	1
<b>Effective Year Built</b>	1930	<b>Roof Type</b>	HIP	<b># Bedrooms</b>	3
<b>Actual Age</b>	91 years	<b>Roof Material</b>	COMP SHINGLES	<b># Wet Bars</b>	0
<b>Desirability</b>	FAIR	<b>Fence Type</b>	NONE	<b># Fireplaces</b>	0
<b>Living Area</b>	1,230 sqft	<b>Ext. Wall Material</b>	FRAME	<b>Sprinkler (Y/N)</b>	N
<b>Total Area</b>	1,230 sqft	<b>Basement</b>	NONE	<b>Deck (Y/N)</b>	N
<b>% Complete</b>	100%	<b>Heating</b>	GAS HEATERS	<b>Spa (Y/N)</b>	N
<b># Stories</b>	ONE STORY	<b>Air Condition</b>	WINDOW	<b>Pool (Y/N)</b>	N
<b>Depreciation</b>	60%			<b>Sauna (Y/N)</b>	N

**Additional Improvements (Current 2021)**

#	Improvement Type	Construction	Floor	Exterior Wall	Area (sqft)
1	UNFINISHED SPACE		UNASSIGNED	FRAME	210
2	DETACHED GARAGE		UNASSIGNED	FRAME	360

**Land (2020 Certified Values)**

#	State Code	Zoning	Frontage (ft)	Depth (ft)	Area	Pricing Method	Unit Price	Market Adjustment	Adjusted Price	Ag Land
1	SINGLE FAMILY RESIDENCES	SINGLE FAMILY RES-3 (7000)	110	296	32,700.0000 SQUARE FEET	STANDARD	\$2.25	0%	\$73,575	N

**\* All Exemption information reflects 2020 Certified Values. \***

**Exemptions (2020 Certified Values)**

No Exemptions

**Estimated Taxes (2020 Certified Values)**

	City	School	County and School Equalization	College	Hospital	Special District
<b>Taxing Jurisdiction</b>	LANCASTER	LANCASTER ISD	DALLAS COUNTY	DALLAS CO COMMUNITY COLLEGE	PARKLAND HOSPITAL	UNASSIGNED
<b>Tax Rate per \$100</b>	\$0.819736	\$1.4999	\$0.24974	\$0.124	\$0.2661	N/A
<b>Taxable Value</b>	\$127,840	\$127,840	\$127,840	\$127,840	\$127,840	\$0
<b>Estimated Taxes</b>	\$1,047.95	\$1,917.47	\$319.27	\$158.52	\$340.18	N/A
<b>Tax Ceiling</b>					N/A	N/A
<b>Total Estimated Taxes:</b>						<b>\$3,783.39</b>

**DO NOT PAY TAXES BASED ON THESE ESTIMATED TAXES.** You will receive an **official tax bill** from the appropriate agency when they are prepared. Please note that if there is an Over65 or Disabled Person **Tax Ceiling** displayed above, **it is NOT reflected** in the Total Estimated Taxes calculation provided. Taxes are collected by the agency sending you the **official** tax bill. To see a listing of agencies that collect taxes for your property. [Click Here](#)

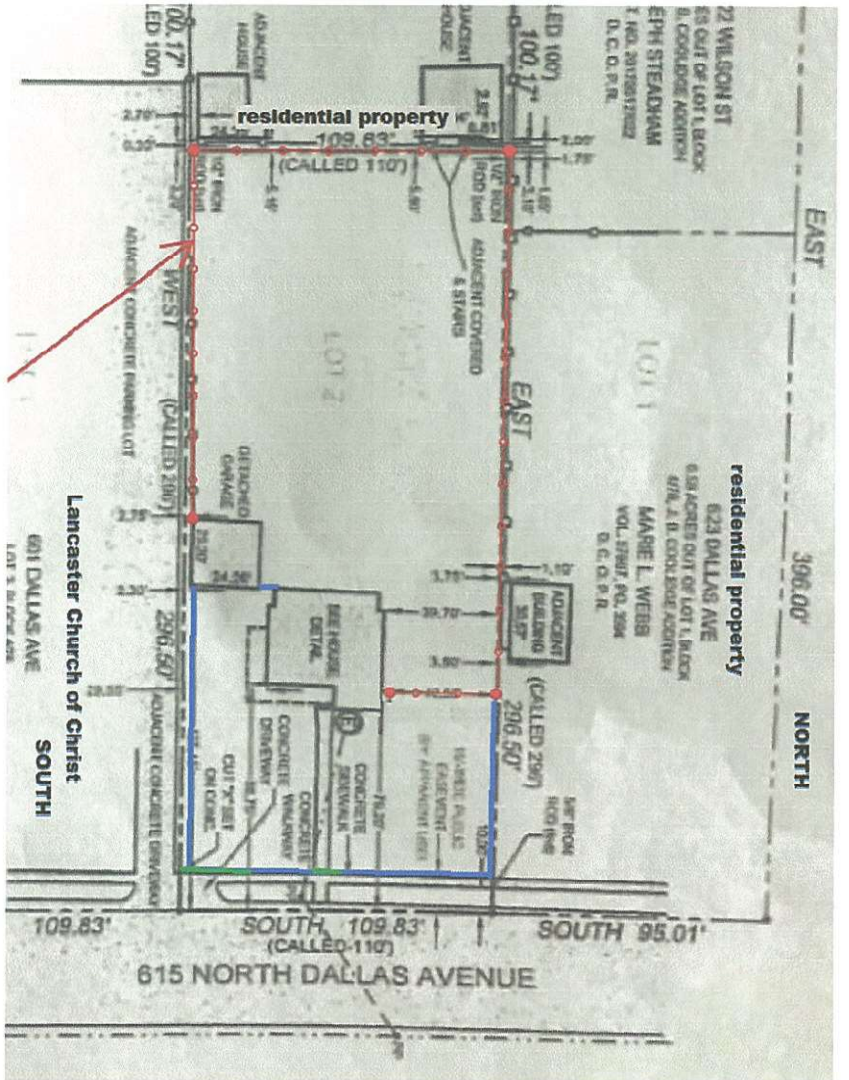
The estimated taxes are provided as a courtesy and should not be relied upon in making financial or other decisions. The Dallas Central Appraisal District (DCAD) does not control the tax rate nor the amount of the taxes, as that is the responsibility of each Taxing Jurisdiction. Questions about your taxes should be directed to the appropriate taxing jurisdiction. We cannot assist you in these matters. These tax estimates are calculated by using the most current certified taxable value multiplied by the most current tax rate. **It does not take into account other special or unique tax scenarios, like a tax ceiling, etc.** If you wish to calculate taxes yourself, you may use the [Tax Calculator](#) to assist you.

History

[History](#)

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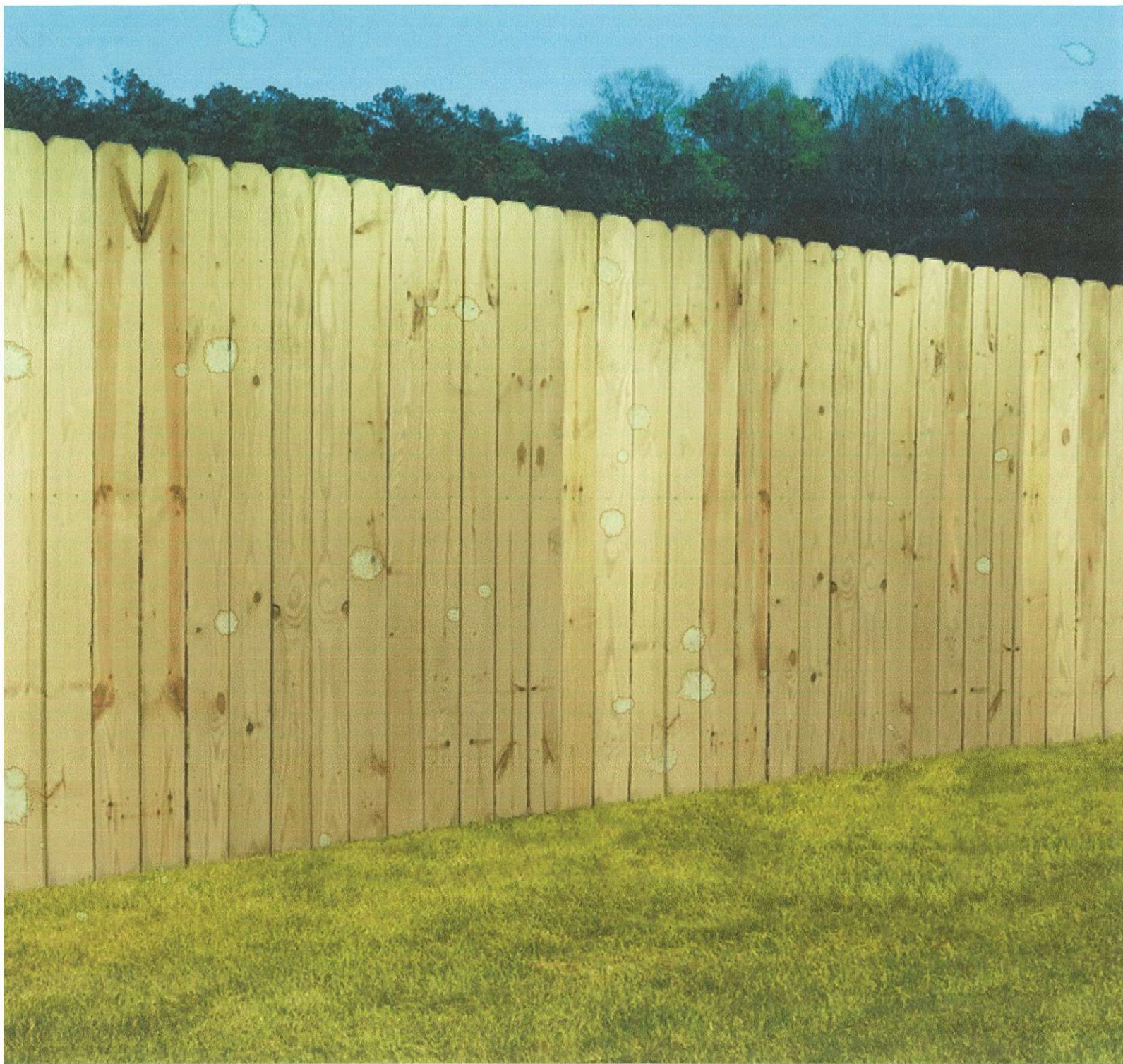


8 ft wooden privacy fence 8 ft between posts  
 \*\* wood fence will be 5 ft back from house line  
 on the north side

4 FT H WITH 50% VISIBILITY OPEN SIMPLE METAL  
 FENCE FACING THE FRONT YARD

ENTRY GATE













**Fence from South Side**





**Fence from South Side**





**East Side from North  
Dallas Avenue**