Amended Agenda **Tolland Green Historic District Commission** 21 Tolland Green, Tolland, Connecticut Wednesday, February 21, 2024 at 7:00 p.m., via Zoom **Remote Participation Only**

- 1. Call to Order
- 2. Election of Officers for the new calendar year
- **3.** Seating of Alternate(s)
- 4. Additions to Agenda
- **5. Public Comment** Any person wishing to ask a question, make a comment or put forward a suggestion for any item or matter other than a public hearing item. (Two minute limit)

6. Public Hearing(s)

- 6.1. HDC #24-01 Certificate of Appropriateness- Request to install PV solar panels, roof-mounted installation 13.60kW- 32 panels- not structural upgrades.
- 7. Old Business
- 8. New Business
 - 7.1 Consideration of the COA HDC #24-01 at 95 Tolland Green by the Commission, and vote thereon
- 9. Other Business
- **10.** Correspondence
- 11. Approval of Minutes November 29, 2023 Special Meeting
- 12. Adjournment

To join the Zoom meeting, either click: https://us06web.zoom.us/j/83900638828?pwd=bYwqVekq6NjhG6r7p7IN530pfxvsa9.1 **One tap mobile:** +13092053325,,83900638828#,,,,*02212024# US **Or call:** 1-646-876-9923 and input: Meeting ID: 839 0063 8828 Passcode: 02212024

Public Hearing

Legal Notice Public Hearing

Tolland Green Historic District Commission

The Tolland Green Historic District Commission will hold a Public Hearing on Wednesday, February 21, 2024, commencing at 7:00 p.m., to hear and discuss the following:

<u>95 Tolland Green</u> – Request to install PV solar panels, roof-mounted installation 13.60kW-32 panels- not structural upgrades.

A copy of these applications are on file and available for review online: https://www.tollandct.gov/historic-district-commission/pages/applications-pending

To be advertised twice in the Journal Inquirer: Thursday, February 8, 2024 and Thursday, February 15, 2024



TOLLAND GREEN HISTORIC DISTRICT COMMISSION Application for a Certification of Appropriateness

Property Information	
Property Address:	95 Tolland Green, Tolland, Connecticut 06084
Property Owner:	John Hughes
Phone Number:	

Applicant Information

Applicant Name:	Venture Home solar - Marilu Medina (permit coordinator)
Applicant Address:	327 Captain Lewis Dr. Southington CT 06489
Phone Number:	Email Address:

Project Information

Type of Building: Res

Residential - Single house

Nature and description of work to be done as it affects exterior appearance. Attach appropriate drawing or plans giving the position of the house or structure on the site, ground plan of house with proposed addition, and all pertinent elevations showing size and style of windows, dormers, doors, exterior wall finishes, roofing material, chimneys, vents and ornamentation. (If more space needed, attach sheet to application.)

PV Solar panels roof mounted installation 13.60kw - 32 panels- Not structural upgrades

Estimated Start and Completion Dates:

Start:

_ Complete:

1. Attach a photograph of the existing structure or place to be changed as viewed from the street showing that portion of the structure to be altered, together with a drawing of the proposed alteration or change.

- 2. Application fee of \$75.00 must accompany application (make checks payable to Town of Tolland).
- 3. Application form, fee, plans, photograph and drawing must be submitted to <u>*Planning & Building Department*</u>. Public Hearings will be scheduled within not more than sixty-five days after the filing of an application.

Certificate of Appropriateness will expire 1 year from date of approval.

This application form and all a Applicant Signature: Property Owner Signature:	John Hughes	Date:	and complete: 02/05/24 02/05/24	DE 5 5 6 2024
-OFFICE-USE ONLY				ВҮ:
Received & Fee Paid: ∂ 0	24	Hearing Scheduled:	2/21/2	- Frank
Hearing Advertised:	a18/24+2/15/2	Action:	13101	1.
Notice of Action to Applicant:		HDC Due Date:	- 4	04/11/2024

Aurora Shade Report

Customer John Hughes

Address 95 Tolland Grn Tolland, CT 06084, USA

Annual irradiance

Designer Doug Finkbiner

Coordinates (41.874286, -72.370815) Organization Venture Solar LLC

Date 31 January 2024



kWh/m²/year 2,450 or more

2,100 1,750 1,400 1,050 700 350

∲ Summary

Array	Panel Count	Azimuth (deg.)	Pitch (deg.)	Annual TOF (%)	Annual Solar Access (%)	Annual TSRF (%)
1	32	162	43	99	85	84
Weighted average by panel count	-		-	-	85.2	84.4
Monthly solar acce	ess (%) across a	rrays				

Arr	ay Ja	n Fe	eb N	/lar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	84	4 8	5 8	82	84	88	90	89	84	82	84	84	85



Customer

John Hughes

Address 95 Tolland Grn Tolland, CT 06084, USA Designer Doug Finkbiner

Coordinates (41.874286, -72.370815) Organization Venture Solar LLC

Date 31 January 2024

Zoomed out satellite view

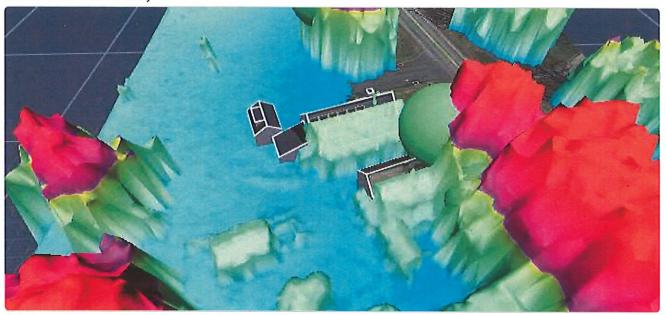




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3D model with LIDAR overlay

19 ft





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Customer

John Hughes

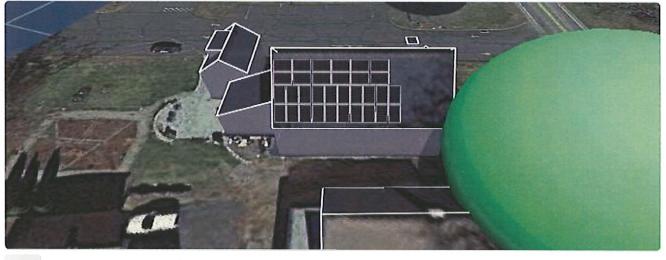
Address 95 Tolland Grn Tolland, CT 06084, USA Designer Doug Finkbiner

Coordinates (41.874286, -72.370815) Organization Venture Solar LLC

Date 31 January 2024

Street view and corresponding 3D model





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I, Doug Finkbiner, certify that I have generated this shading report to the best of my abilities, and I believe its contents to be accurate.



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Service Report Prepared for: Prepared By: Work Order 00074211 Name Venture Home Solar Number Venture Home Solar Venture Home Solar



Service Report

Prepared for:

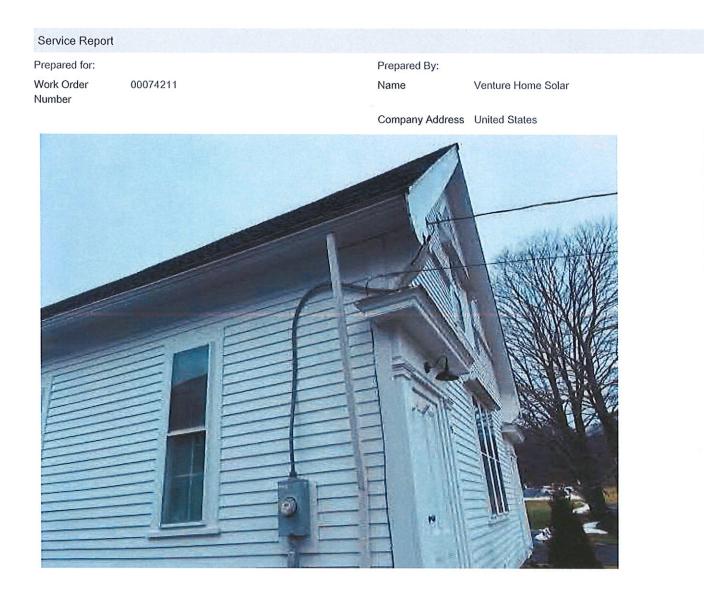
Work Order Number 00074211

Prepared By:

Name

Venture Home Solar









Service Report

Prepared for:

Work Order Number 00074211

Prepared By: Name

Venture Home Solar



Service Report Prepared for: Prepared By:

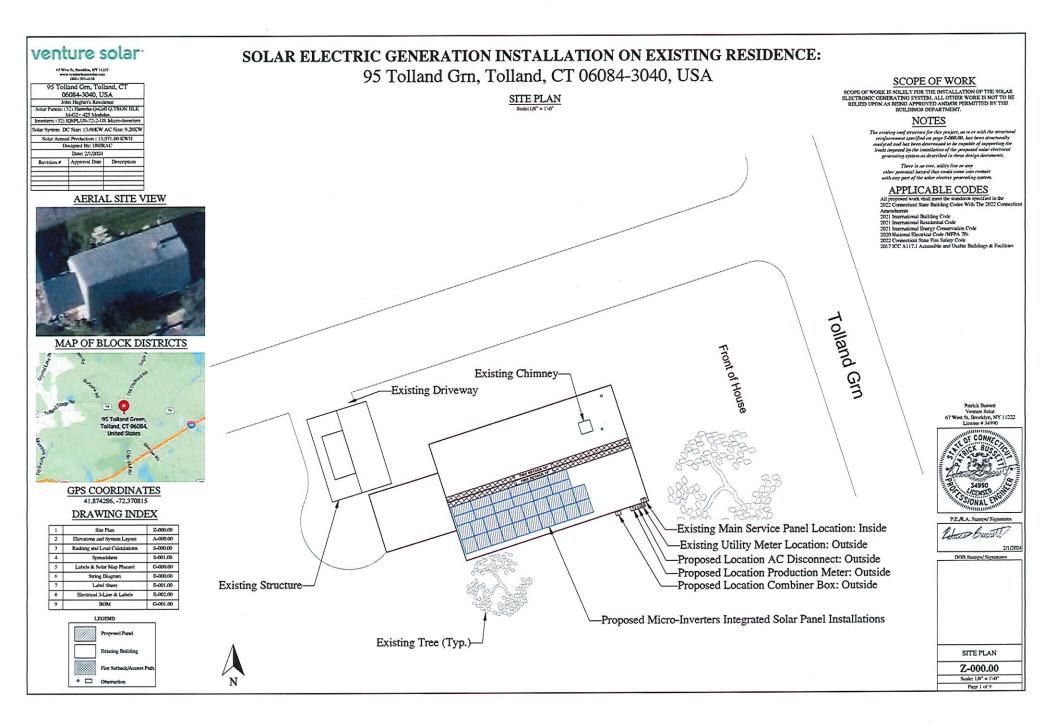
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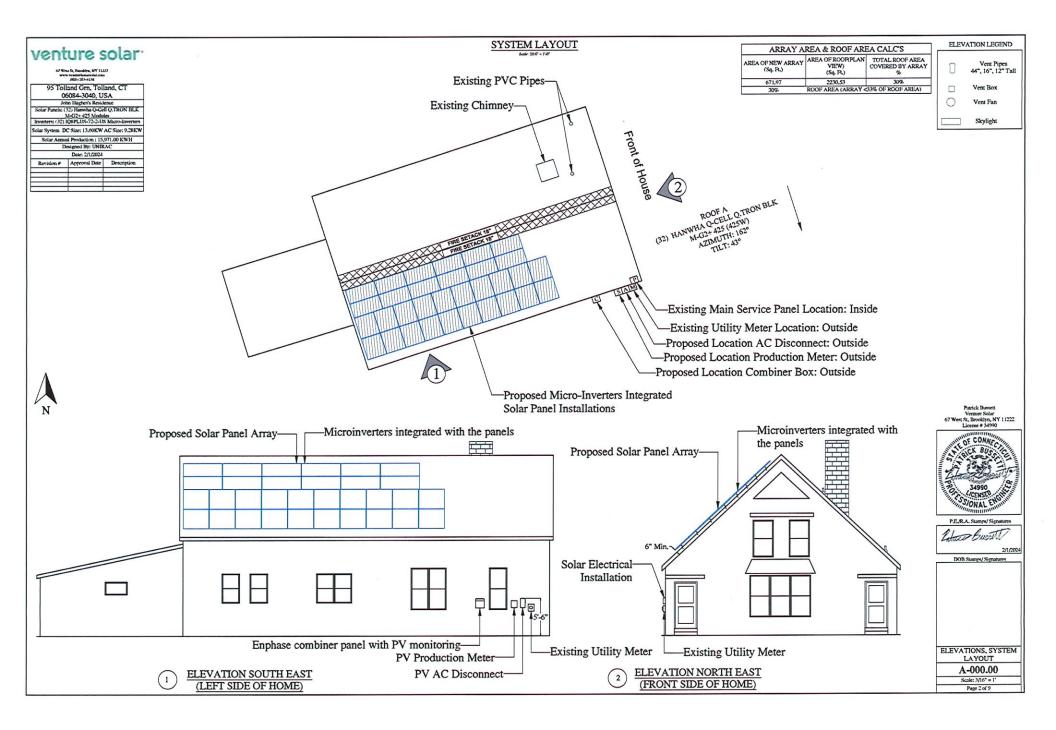
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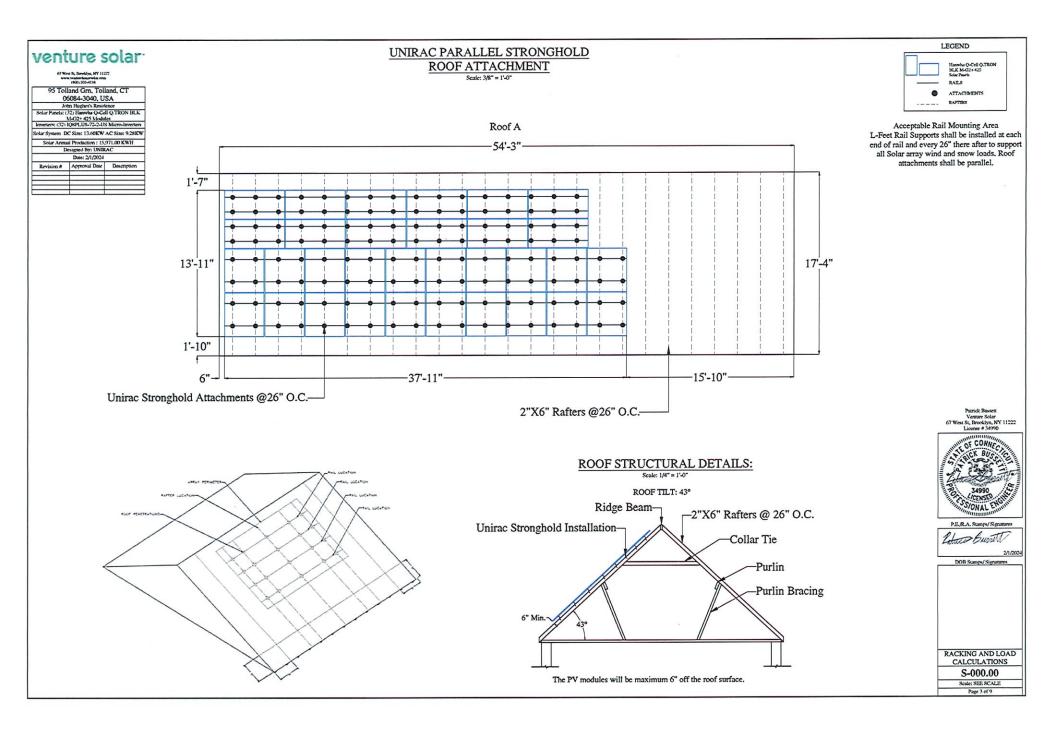
Venture Home Solar





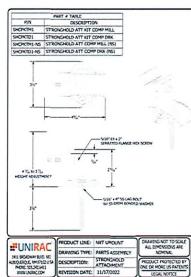






venture solar NXT UMOUNT RAIL 67 West St, Beveldys, NY 11222 www.vesterbourselar.com (800) 203-4158 NXT) UMOUNT **UNIRA** 95 Tolland Grn, Tolland, CT 06084-3040, USA John Hugher's Residence Solar Panels: (32) Hanwha O'Call Q:TRON BLK M-02+ 425 Modules Inverters: (32) 108PLUS-72-2-US Micro-Inverters DISCOVER YOUR NXT UMOUNT e of aver had therabit of even he details, develop measure bit, world cla pound and available toget must be from Solar System DC Size: 13.60KW AC Size: 9.28KW Solar Annual Production : 15,971.00 KWH Designed By: UNIRAC Date: 2/1/2024 Revision # Approval Date Description *= }=

FOR DEESTIONS ON CUSTOMER SERVICE VISIT UNIRACIDIM DR CALL 505-242 641



STRONGHOLD INSTALLATION

NXT UMOUNT RAILS MAX. SPAN

Maximum Continuous Spliced Rail Length for NXT UMOUNT Rail with <u>Stronghold Attachments</u> (ft.)/Maximum Reaction Force (lbs)

	Attachment Spacing					
ΔT (*F)	24*	48"	72"			
40	67/155	94/218	117/272			
50	59/171	86/250	105/305			
60	55/191	78/272	93/324			
70	51/207	70/285	81/329			
80	47/218	62/288	80/372			
90	43/225	62/324	69/361			
100	43/250	54/314	64/372			
120	39/272	53/369	53/369			
140	35/285	45/366	45/366			

Maximum Continuous Spliced Rall Length for NXT UMOUNT Rail with <u>Flashkit Pro Attachments</u> (ft.)/Maximum Reaction Force (lbs)

	Att	achment Spacin	g
ΔT (°F)	24"	48"	72"
40	75/139	102/189	129/239
50	67/155	94/218	117/271
60	63/175	86/239	105/292
70	55/178	78/253	93/302
80	51/189	70/259	93/345
90	51/213	70/308	31/338
100	47/218	62/287	30/371
120	43/239	62/345	56/367
140	39/253	54/350	57/370

INVERTER IQ8 PLUS SPEC-SHEET

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PV MODULE SPEC-SHEET

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SHET

Mechar	nical Specification	
Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)	
Weight	47.2 lbs (21.4 kg)	
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology	
Back Cover	Composite film	
Frame	Black anodised aluminium	
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells	
Junction box	2.09-3.98 in × 1.26-2.36 in× 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes	
Cable	4 mm ² Solar cable; (+) ≥ 59.4 in (1510 mm), (-) ≥ 59.4 in (1510 mm)	
Connector	Stäubli MC4; IP68	





DOB Stamps/Signatures

SPREADSHEET S-001.00 Scale: SEE SCALE Page 4 of 9

venture solar

67 West St, Basokiya, NY 11272

	(800) 203-4158	
95 Tol	land Grn, Tolli	and, CT
0	6084-3040, US	SA
Jo	hn Hughes's Reside	inot
	32) Hanwha Q-Cel M-O2+ 425 Modul	
Inverters: (32)	IQSPLUS-72-2-US	Micro-Inverters
Solar System D	C Size: 13.60KW	AC Size: 9.28KW
Solar Annu	al Production : 15,5	971.00 KWH
Ē	esigned By: UNIR.	AČ
	Date: 2/1/2024	
Revision #	Approval Date	Description

AWARNING

ELECTRICAL SHOCK HAZARD TERMINALS ON LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION: INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE), PER CODE(S); NEC 2020; NEC 690,15 (C) & NEC 690,13(B)

RAPID SHUTDOWN FOR SOLAR PV SYSTEM

LABEL LOCATION: UTILITY SERVICE ENTRANCE/METER (MITHIN 3 FEET). INVERTER/DC DISCONNECT IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS REQUIRED BY LOCAL AHJ, 690,12(D)(2)

∧ WARNING

LABEL LOCATION: SERVICE PANEL IF SUM OF BREAKERS EXCEEDS PANEL RATING NEC 690,12 (B)(3)(2)

WARNING DUAL POWER SOURCE COND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL LOCATION PRODUCTION METER NEC 705.12(D)(3) & NEC 600.59

NOTES AND SPECIFICATIONS: • SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE 2020 ARTICLE SIGN AND LABLES SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 600, OR IF REQUESTED BY THE LOCAL AND, SIGNS AND LABLES SHALL ADEQUATELY WARN OF HAZARDS USING SING YAND LADRES SINCE ADDRESS OF THE TARGET SOLUTION
 SINCE ADDRESS OF THE SINCE ADD ENVIRONMENT INVOLVED. • SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS SHALL COMPLY WITH ANSIZED SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
 DO NOT COVER EXISTING MANUFACTURER LABELS.

PHOTOVOLTAIC AC DISCONNECT JOMINAL OPERATING AC VOLTAGE: 240 VAC LABEL LOCATION: AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF

INTERCONNECTION. PER CODE(S): NEC 2020: 690.54

PHOTOVOLTAIC POWER SOURCE LABEL LOCATION; CONDUIT, COMBINER BOX (PER CODE: NEC600.31(D)(2)

PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION: EMT/ CONDUIT RACEWAYS (PER CODE: NEC 690.31(O)(2)

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

LABEL LOCATION: MAIN SERVICE DISCONNECT / UTILITY METER (PER CODE: NEC 690.13(B))

PHOTOVOLTAIC

AC DISCONNECT 2020 NEC CODE 690.13(B)

WARNING THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT LABEL LOCATION: INVERTER PER CODE: NEC 690.31(E)

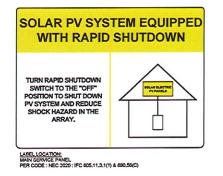


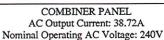
IN THE OPEN POSITION LABEL LOCATION: COMBINER BOX / CIRCUITS / CONDUIT COMBINER BOX / ENCLOSURES / EMT ENCLOSURES PER CODE: NEC 706,15(C)(4) and NEC 690,13(B)

A WARNING TURN OFF PHOTOVOLTAIC

AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

LABEL LOCATION: COMBINER BOX/CIRCUITS/ CONDUIT COMBINER BOX/ ENCLOSURES / EMT ENCLOSURES PER CODE: NEC 110,27(C) & OSHA 1910,145(f)(7)





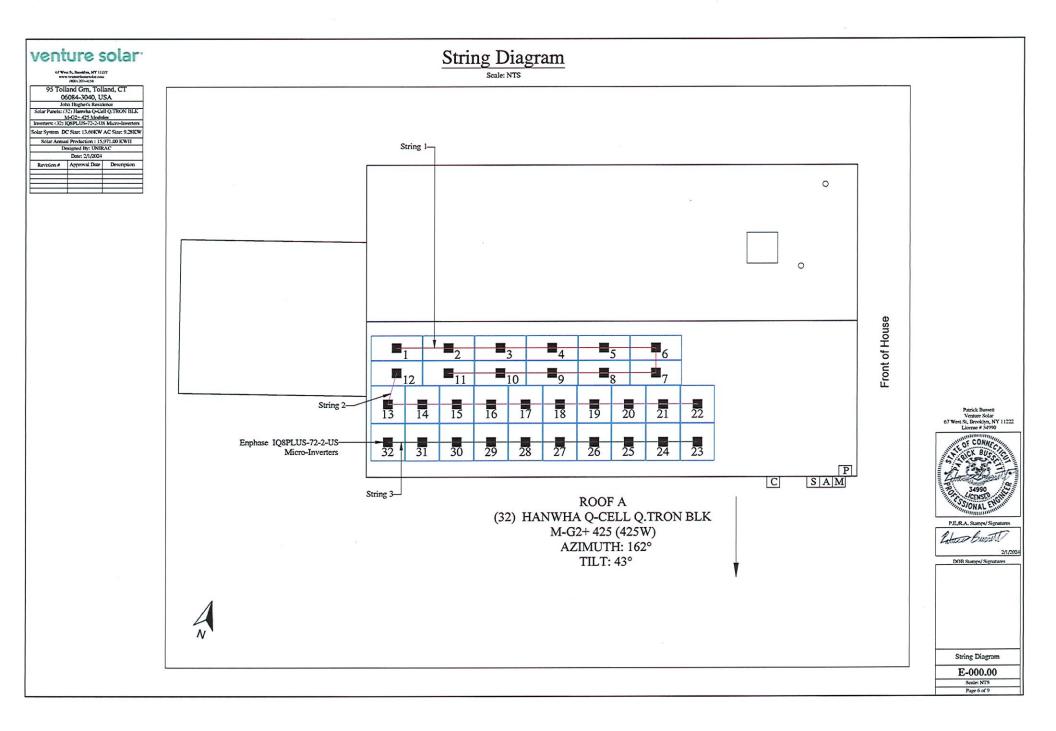
COMBINER PANEL

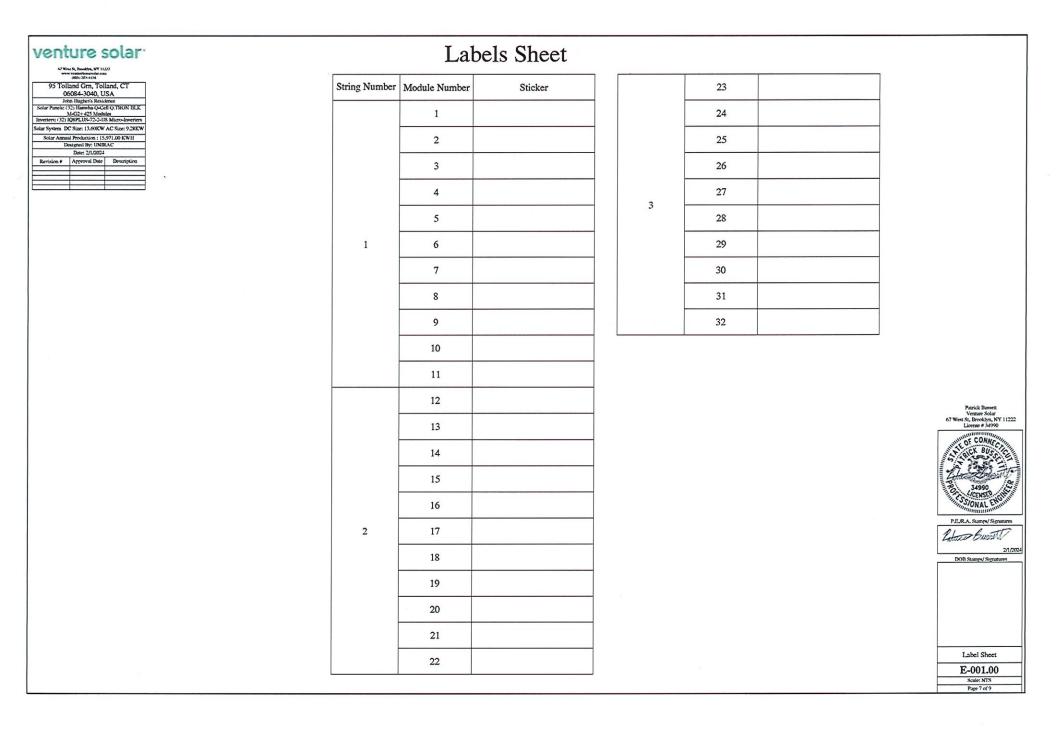
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECT(S) LOCATED AS SHOWN: GRN AND PHOTOVOLTAIC ARRAY ON ROOF MAIN SERVICE PANEL

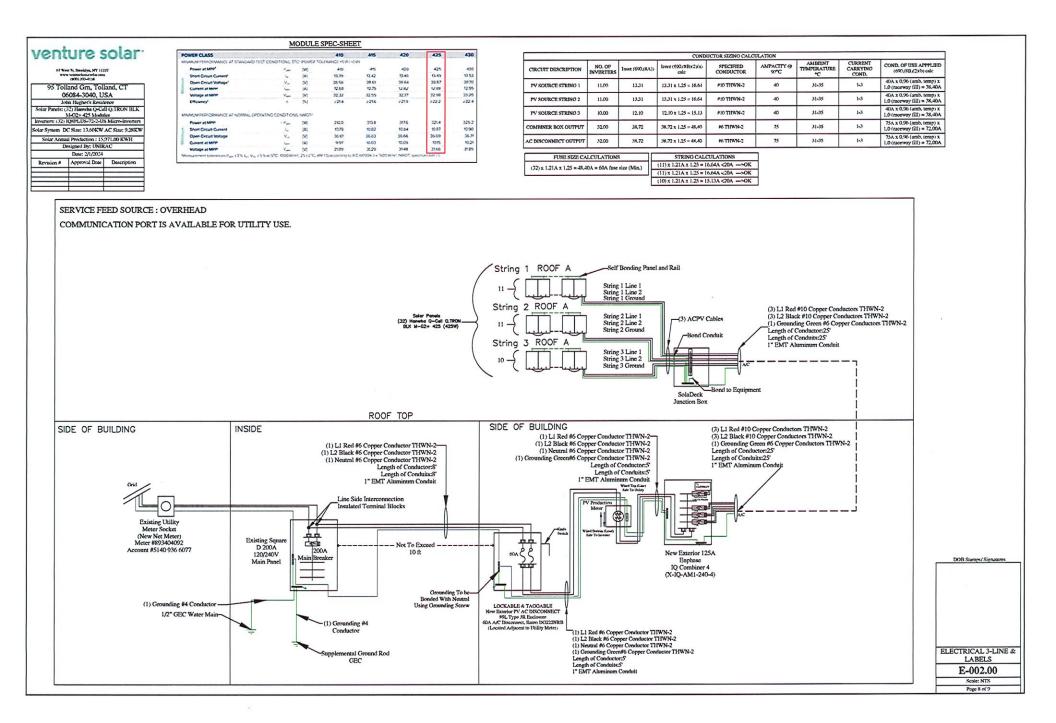
COMBINER PANEL



LABELS G-000.00 Scale: NTS Page 5 of 9







venture solar

67 West St, Brooklyn, NY 11222 www.venmerketer.org

	(\$00) 203-4158	
95 Tol	land Grn, Toll	and, CT
0	6084-3040, US	SA
Jo	hn Hughes's Reside	nce
	32) Hanwha Q-Cel M-O2+ 425 Modul	
Inverters: (32)	IQSPLUS-72-2-US	Micro-Inverters
Solar System D	C Size: 13.60KW	AC Size: 9.28KW
Solar Annu	al Production : 15,5	071.00 KWH
D	esigned By: UNIR.	AC
	Date: 2/1/2024	
Revision #	Approval Date	Description
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		VENTURE	SOLAR		
Customer Name John	n Hughes			ALL CALL	
Customer Address 95 T		CT 06084-3040, USA			
Team UNI		Level 2 Billing St. 7			iks of the second
ROOF		ELECTRICAL	ELECTRICAL		
Description	Qty.	Bar Code	Description	Qty.	Bar Code
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Portrait Q Cable - #Conn	24		Enphase Mobile Connect	1	
Landscape Q Cable- #Conn	14		Enphase IQ7 + Micro	0	
Q Term	3		Enphase IQ7X Micro	0	
Q Seal	G		Eaton 20 A Breaker	з	
Q-Conn 10M	2		IPC - 4/0 - #6 (Taps)	2	
Q-Conn 10F	2		60 A Disconnect	1	
Micro Inverter T Bolt	34		60A Set of Fuses	1	
Wire Restraints	3		100 AMP Disconnect	0	
Ground Lug	4		100A Set of Fuses	0	
Pitc	hed ROOF	ALL SALES STATES	125 A Solar Load Center	0	
Strong Hold Box (Qty.20)	4		Square D 100 A Main Breaker	0	
Unirac Rail	22		Square D 20 A Breaker	0	
Unirac Splice	6		Square D 15 A Breaker	0	
Unirac Ends	17		Enphase IQ Envoy	0	
Unirac Mids	4		Enphase IQ7A Micro	0	
Solar Seal	4		Enphase IQ8 Micro	0	
Solar Deck	1		Enphase IQ8+ Micro	32	
Consumption CT x 1Sets	200		Enphase IQ8MC Micro	0	
and Smoke detector x 1 No	No		Enphase IQ8H Micro	0	
	e Singlese Products	Battery De	tails		
Manufacturer	Тур)e	Mfr. Part No. & Description		Qty
Enphase Energy Inc	Batte	ery	Enphase Encharge 10		0
Enphase Energy Inc	Oth	er	ENCHARGE-10-1P-NAAC Batter	Y	0
Enphase Energy Inc	Moni	ter	COMMS-KIT-01 (Ensemble)		0
FLAT ROOF		CONFIRMATIO	N		
Chemlink 6" E-curb Kit	0				
Foot Box w/ Nut & Bolt (Qty.24)	0				
4" Stand Off	0				
Unirac Tilt 18 - 30"	0				
Unirac Tillt 26 - 44"	0				
Unirac Tilit 40 - 72"	0		Procurement Team Signature		
Silver Unirac Rail	0				
Silver Unirac Splice	0				
Silver Unirac End	0				
Silver Unirac Mid	0				
4" Lag	0				
			Crew Foreman Signature		

Agenda Item 10

From: Jeffrey Gallagher <jgallagher@ucctolland.org>
Sent: Tuesday, February 20, 2024 9:30 AM
To: Jim Paquin <jpaquin@Tollandct.gov>; Town Council <<u>TownCouncil@Tollandct.gov</u>>
Subject: [EXTERNAL]Letter in Support of 95 Tolland Green

To the Members of the Tolland Green Historic District Commission,

I am the Senior Pastor of the United Congregational Church of Tolland, located at 45 Tolland Green, and I am writing in support of the application of John Hughes (95 Tolland Green) to install solar panels on his home.

When I was called to UCCT back in 2014, one of the things that appealed to me was serving a church on the town Green. My prior church, in Maine, was a little more "off the beaten path" and so I loved the idea of serving an historic church right in the heart of so much history. And over the past 10 years I have only come to appreciate, even more, the history that surrounds the church up and down the Green.

It is important to honor this history and tradition, and yet, I believe, to also not stand in the way of progress – especially progress which is intended to not only preserve the Green, but the fragile planet on which we live and all call home. Solar energy is one big way in which, I believe, we can all do our part to mitigate the impact of climate change so that our historic district – and all historic districts – will be around for generations and generations to come.

It is clear to me that the Hughes want to be a part of helping our environment. Yet in their proposal, I believe the Hughes' plan also takes into consideration the impact that the energy collecting panels will have on the appearance of the district. The panels lie flat on their already-existing roof and they are placed as far back on the roof as possible. It appears that they will only be minimally visible from the street, which seems like a win-win for the Hughes family and the district.

I would urge the Tolland Green Historic District Commission to approve the Hughes' application.

Thank you for your time and consideration.

Sincerely, Rev. Dr. Jeffrey M. Gallagher 419 Buff Cap Road, Tolland

Rev. Dr. Jeffrey M. Gallagher, Senior Pastor United Congregational Church of Tolland United Church of Christ 45 Tolland Green Tolland, CT 06084 860-875-4160 www.ucctolland.org

Laura Smith

From:	Jodie Coleman-Marzialo <				
Sent:	Tuesday, February 20, 2024 8:24 PM				
То:	Laura Smith; Cassandra Santoro; Jim Paquin; Kathy Bach; Celeste Senechal; Ann Deegan;				
	Mariah B; Michael McGee (Construction of the Construction of the C				
	; Katie Stargardter				
Subject:	[EXTERNAL]TGHDC mtg packet pictures				
Attachments:	PXL_20240219_225835054.NIGHT.jpg;				

Hi Cassandra & Laura,

Would you please include the attached pictures from the neighbor's view in the meeting packet since I don't have the ability to share my screen in Zoom. I will be forwarding more pictures for the packet in a separate email.

Thanks, Jodie











Laura Smith

From:	Jodie Coleman-Marzialo <				
Sent:	Tuesday, February 20, 2024 8:33 PM				
То:	Cassandra Santoro; Laura Smith; Jim <u>Paquin; Kathy Bach; Celeste</u> Senechal; Ann				
	Deegan; Maria <u>h B; Michael McGee (</u>); Fred Day-Lewis;			
	John Hughes (ie Stargardter			
Subject:	[EXTERNAL]More pics for the TGHDC mtg packet				
Attachments:	IMG_20240220_152103097~2.jpg; IMG_20240220_152031190.jpg; IMG_20240220_ 152018605~2.jpg; IMG_20240220_151958781~2.jpg				

Hi,

Please include these pictures as well since I don't have the ability to share my screen in Zoom. I don't see a picture of the actual proposed solar panel or an existing residence with this type of solar panel installed either. Can you please ask the applicant to provide them.

Thanks for your help, Jodie

From: Jodie Coleman-Marzialo < Sent: Tuesday, February 20, 2024 7:30 PM To: Home < > > Subject: TGHDC mtg packet









Q.TRON BLK M-G2+ SERIES



410-430 Wp | 108 Cells 22.4 % Maximum Module Efficiency





High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.4 %.



A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty $\!\!\!\!\!\!\!\!\!\!$



Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology², Hot-Spot Protect.



Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3600 Pa).



Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

¹See data sheet on rear for further information.
² APT test conditions according to IEC/TS 62804-t2015, method A (-1500 V, 96h)

The ideal solution for:

Eno



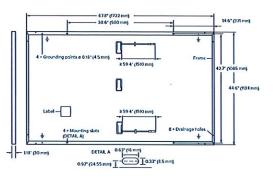




Q.TRON BLK M-G2+ SERIES

Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	47.2 lbs (21.4 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98in × 1.26-2.36in× 0.59-0.71in (53-101mm × 32-60mm × 15-18mm), Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 59.4 in (1510 mm), (-) ≥ 59.4 in (1510 mm)
Connector	Stäubli MC4; IP68



Electrical Characteristics

PC	WER CLASS			410	415	420	425	430
MIN	NIMUM PERFORMANCE AT STANDARD	TEST CONDITIONS, ST	CI (POWER TO	LERANCE +5W/-0	W)			
	Power at MPP ¹	PMpp	[W]	410	415	420	425	430
-	Short Circuit Current ¹	Isc	[A]	13.39	13.42	13.46	13.49	13.53
h	Open Circuit Voltage ¹	V _{oc}	[V]	38.58	38.61	38.64	38.67	38.70
	Current at MPP	IMab	[A]	12.68	12.75	12.82	12.88	12.95
-	Voltage at MPP	VMPP	[V]	32.32	32.55	32.77	32.98	33.20
	Efficiency ¹	η	[%]	≥21.4	≥21.6	≥21.9	≥22.2	≥22.4

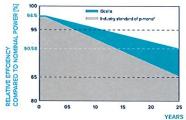
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

	Power at MPP	PMPP	[W]	310.0	313.8	317.6	321.4	325.2
Minimum	Short Circuit Current	I _{sc}	[A]	10.79	10.82	10.84	10.87	10.90
	Open Circuit Voltage	V _{oc}	[V]	36.61	36.63	36.66	36.69	36.71
	Current at MPP	IMAD	[A]	9.97	10.03	10.09	10.15	10.21
	Voltage at MPP	VMAP	[V]	31.09	31.29	31.48	31.66	31.85

8

¹Measurement tolerances P_{M≫}±3%; I_{sc}; V_{oc}±5% at STC: 1000W/m², 25±2°C, AM 1.5 according to IEC 60904-3 + ²800W/m², NMOT, spectrum AM 1.5

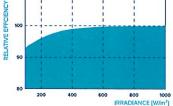
Qcells PERFORMANCE WARRANTY



At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal power up to 10 years. At least 90.58% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

TEMPERATURE COFFEICIENTS

TEMPERATORE COEFFICIENTS							
Temperature Coefficient of Isc	a	[%/K]	+0.04	Temperature Coefficient of V _{oc}	β	[%/K]	-0.24
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.30	Nominal Module Operating Temperature	NMOT	[°F]	109±5.4 (43±3°C)

Properties for System Design

Maximum System Voltage	Vsys	[V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	20	Fire Rating based on ANSI/UL 61730	C / TYPE 2
Max. Design Load, Push/Pull ³		[lbs/ft ²]	75 (3600 Pa)/50 (2400 Pa)	Permitted Module Temperature	-40°F up to +185°F
Max. Test Load, Push/Pull ³		[lbs/ft ²]	113 (5400 Pa)/75 (3600 Pa)	on Continuous Duty	(-40°C up to +85°C)
3 Cas Installation Manual					

³ See Installation Manual

Qualifications and Certificates

Quality Controlled PV -TÜV Rheinland; IEC 61215:2016; IEC 61730:2016. This data sheet complies with DIN EN 50380.









ocells

Agenda Item 11

SPECIAL MEETING MINUTES TOLLAND GREEN HISTORIC DISTRICT COMMISSION Wednesday, November 29, 2023 at 7:00 p.m. REMOTE MEETING

Public Hearing

1. Call to Order by the chair at 7:00.

2. Roll Call

Commissioners: Jodie Coleman-Marzialo, Chair; Ann Deegan, substitute clerk; Celeste Senechal, alternate: John Hughes Katie Murray, town council liaison Guests: Mr. Bailey Brenn (applicant), Reverend Doctor Jeffrey Gallagher, pastor of the UCCT, Dr. Fred Day-Lewis, Ms. Cindy Minchune, Rep from AE Solar, Ms. Cheryl Randino. Mrs. Tonja Kelly

3. Continued discussion of Application for a COA at 45 Tolland Green to install black non reflective solar energy collection panels to the south facing roofs on the main church and daycare building (on the rear property of church).

Mr. Brenn discussed the new configuration of the panels as seen in the revised material included in the Special agenda meeting packet for the November 29, 2023, meeting of the TGHDC. It states that there would no longer be panels installed on the main church building. According to Ms. Cindy Minchune, there will be 75 panels on a freestanding structure at the rear of the church property. It is beyond the purview of the historic district and will not be seen from the road. There will be a fence around this structure and a buffer zone with foliage added. There will also be 26 solar panels located on the backside west-facing roofs and one south-facing roof that will not be visible from the street.

4. Neighbor Comments:

Mrs. Tonja Kelly 64 Tolland Green, spoke in support of the solar project at the UCCT. She stated that she has lived in town for 44 years and on the Green for 32. Mrs. Kelly wrote a letter declaring her support for the solar project, which was to be included in the October minutes and was not. I will now be added.

Alternate commissioner, Mr. Hughes stated that he was hopeful that the Commission would now be able to accommodate the church in this project.

The letters received since the November 15th meeting that are in the revised meeting packet for the special meeting of the TGHDC on November 29th should be included in the minutes of the November 29, 2023, special meeting. There were 15 letters received, 10 in support and 5 opposed.

5. Motion to close the public hearing at 7:14 by C. Senechal, 2nd A. Deegan. Vote: unanimous.

The Regular meeting was called to order at 7:14.

1. Roll Call: Same as above.

2. Motion to accept the UCCT proposal as presented in the revised special meeting packet to place a solar free-standing structure on the rear of their property outside the TGHD which will not be visible from the road and will be fenced in with plantings to further obscure view from the street. There will also be 26 additional panels on west facing roofs and one south facing roof, none of which will be visible. There will be no panels placed on the main roof of the church per material found in the updated agenda of the special public hearing of the TGHDC. By C. Senechal 2nd A. Deegan Vote: unanimous

3. Old Business

3.1 proposed sidewalk on the Green. According to our liaison, the preliminary findings seem to indicate that there is no problem with the project going forward as proposed by the town manager and town council as the archeological study did not find anything problematic.

4. Miscellaneous:

4.1 Vice chair will be retiring. New officers will be discussed and voted on at a later meeting. This retirement will create a vacancy and the commission was reminded by our liaison that the Town Council is in charge of appointing and approving all new members.

5. Motion to approve the revised minutes of the October 18, 2023, TGHDC meeting with the letters in support and against the solar panels to be included. The letter from Mrs. Tonja Kelly in support of the panels should be included. By C. Senechal, 2nd A. Deegan vote unanimous.

6. Motion to approve the minutes of the November 15, 2023, TGHDC. By C. Senechal, 2nd A. Deegan vote unanimous.

7. Motion to adjourn at 7:24 by C. Senechal, 2nd A. Deegan vote unanimous

Respectfully submitted,

Ann Deegan, Substitute Clerk

From:	Jodie Coleman-Marzialo
Sent:	Saturday, November 25, 2023 12:04 PM
To:	Laura Smith; Celeste Senech <u>al; Ann Deegan</u>
Cc:	Jim Paquin; Michael McGee ; John Hughes
); Mariah B; Kathy Bach
Subject:	[EXTERNAL]Fw: Solar panel on UCCT
Hi Laura,	
Can you please update	our Nov. 29 th meeting packet to include this neighbor response.
Thank you,	
Jodie	

From: Hollie Barnas <	>
Sent: Friday, November 24, 2023 12:47 PM	-
To: Jodie Coleman-Marzialo <	>
Subject: Re: Solar panel on UCCT	

Hi Jodie - we would approve of solar panels on the back roof of the church <u>ONLY</u> if the church replants *large* trees that were removed along the parking lot perimeter. Prior to removal, the trees obstructed the view of the backside of the church and daycare building from my home and when driving on Tolland Green road thereby maintaining the historic ambience. Since tree removal our home and road drivers have a clear line of sight to the parking lot which includes the back roof of the church. Therefore, without plantings, the solar panels would be seen from our home and the road and they would not appear consistent with a registered historic area and designated scenic road. My hope is that a win-win situation can be negotiated so that the church can have the eco-benefits of solar while they also take responsibility for maintaining the historic area ambience they reside in.

Thank you for allowing me the opportunity to comment, Hollie (31 Tolland Green)

On Thu, Nov 23, 2023 at 10:38 AM Jodie Coleman-Marzialo < > wrote:
Hi Hollie and Dave,
The United Congregational Church would like to install solar panels on the main roof of the church toward
the back. Do you have a neighbor comment please. We referred to the comments from 2018 and are
reaching out to those to comment again. Our continued PH is next Wednesday Nov. 29th. Please let

me know. Happy Thanksgiving, Jodie

From: Sent:	Jodie Coleman-Marzialo < > > Monday, November 27, 2023 8:07 PM	
То:	Laura Smith; Celeste Senechal; Ann Deegan; Michael McGee (Paquin	; Jim
Cc: Subject:	Kathy Bach; Mariah B [EXTERNAL]Fw: solar panels	

Hi Laura,

I have a few more neighbor letters to add to our Special Meeting packet in addition to the one I sent you Saturday from Hollie Barna.

Thanks for help,

Jodie

From: Stella Demand Sent: Sunday, November 26, 2023 4:32 PM To: Subject: solar panels

As residents of the Tolland Green, we hope to preserve the historicity of our neighborhood. We are encouraging the Historic District Commission to decline any request that would degrade the historic aesthetic, the degree to which we feel would be acceptable if the installation were limited to the less prominent parts of the structure. We believe the church is a beautiful building, and is perhaps the most iconic component of our neighborhood. We hope the parties can come to an agreement by which the historical integrity of the neighborhood is preserved far into the future.

Thank you for considering our input.

Phil and Stella Demand

81 Tolland Green

From: Sent:	Jodie Coleman-Marzialo Monday, November 27, 2023 8:08 PM
To:	Laura Smith; Jim Paquin; Ann Deegan; Celeste Senechal; Michael McGee
	(; John Hughes)
Cc:	Mariah B; Kathy Bach
Subject:	[EXTERNAL]Fw: UCCT solar panels

Here is another letter for our packet. Jodie

From: Craig Surber Sent: Sunday, November 26, 2023 7:50 PM To: Jodie Coleman-Marzialo Subject: Re: UCCT solar panels

As a former resident of the historic district I do not like the idea. I believe it will take away from the historical feel of the green. All these types of proposal will eventually ruin the historic feel of the green. I feel it is important to maintain and preserve the green before we have gone to far. Craig Surber

[Sent from the all new AOL app for iOS]Sent from the all new AOL app for iOS

>

On Saturday, November 25, 2023, 3:54 PM, Jodie Coleman-Marzialo <

> wrote:

The United Congregational Church would like to install solar panels on the main roof of the church toward the back. As a previous resident of the HD do you have a comment please. We referred to the comments from 2018 and are reaching out for comments again. Our continued PH is next Wednesday Nov. 29th. Please let me know. Happy Thanksgiving, Jodie

> 1 39

From: Sent:	Jodie Coleman-Marzialo < > > Monday, November 27, 2023 8:13 PM
To:	Laura Smith; Jim Paquin; Ann Deegan; Celeste Senechal; Michael McGee (); John Hughes
Cc: Subject:	Mariah B; Kathy Bach [EXTERNAL]Fw: Solar Panels for UCCT

And here is another please for our meeting packet. I believe we have 24 hours to post the agenda and materials for a Special Meeting. Thanks for your help. Jodie

From: Denis Deegan	
Sent: Monday, November 27, 2023 2:12 PM	
To: >	
Subject: Solar Panels for UCCT	

Jodie,

Please allow me to express my absolute objection to "any" use of visible solar panels on "any" property located on or adjacent to the historically designated Tolland Green. Just because one Tolland Green resident played the delay game to side step the Historic District Commission's purview, doesn't then make that outcome precedent for all other property owners.

This is a very pivotal point in terms of preserving the intentions of prior generations to maintain Tolland as an aesthetically traditional old New England town. If the creation of the Tolland Historic Commission and its chartered intentions to protect the integrity of the Tolland Green can no longer be maintained because of demographic new-comers who fail to understand its purpose, then it's time for everyone to admit that Tolland is ready to walk away from its historical identity. Placing solar panels on the main structure of UCCT as they have proposed will create an extreme eyesoar in addition to significantly degridating the historical value of the Town Green.

While I am committed to supporting steps to allow the environment to overcome the proliferation of hydrocarbon pollutants, let's take into consideration the full perspective. First and foremost, what steps are all of these concerned individuals taking to minimize their own personal carbon footprint. What type of vehicle(s) do they drive? How many miles a day / week / year do they drive? Do they take mass transportation? How efficient are their heating systems? Do they operate wood burning stoves or fireplaces? Have their homes been brought up to the highest efficiency standards? It's extraordinarily easy for "concerned individuals" to support measures that either shift the burden upon others and / or directly benefit their own pocketbooks.

It is also critical to keep in mind that advancements in alternative energy are dramatically evolving with each passing year. We can simply compare the solar panels of a few years ago with those of today to see both the aesthetic and energy generation improvements that have occurred. One can only imagine what advancements will transpire over the next 5 to 10 years that may potentially render today's solar panels obsolete. Why is it so critical for UCCT to take this action now?

In closing, two final thoughts. Only "residents" of Tolland should have any involvement in decisions relating to the maintenance of The Green's historical purity. And, when part of a property owner's argument / solution

involves enhancing or maintaining trees or other plantings to mitigate a proposal that violates the intent of The Tolland Green's historical designation, then they must be legally bound to that solution. Allowing property owners to later walk away from their commitment, as at least one other Tolland Green resident has, should place them in violation of Town Ordinance and thus forfeiture of their CofO.

Thank you,

Denis J. Deegan 689 Tolland Stage Road

From: Sent: To:	Jodie Coleman-Marzialo <
Cc:	(Mariah B; Kathy Bach
Subject:	[EXTERNAL]Fw: Solar panels
Hi Laura, Here is one more neighbor comment for the HDC Special Meeting packet. Thanks,	
Jodie	
From: Heather & Matt	
Sent: Monday, November 27, 2023 9:20 PM	

To:

Subject: Solar panels

Hi Jody - Here's a statement you can include for the meeting about the solar panels on the Congregational church:

In considering the installation of solar panels on the Congregational church, we believe any decision should prioritize preserving the visual integrity of our historic neighborhood. Any placement should be discreet and not only maintain the historical appearance of the Green, but consider the potential impact on neighboring properties.

Heather and Matt Ferretti