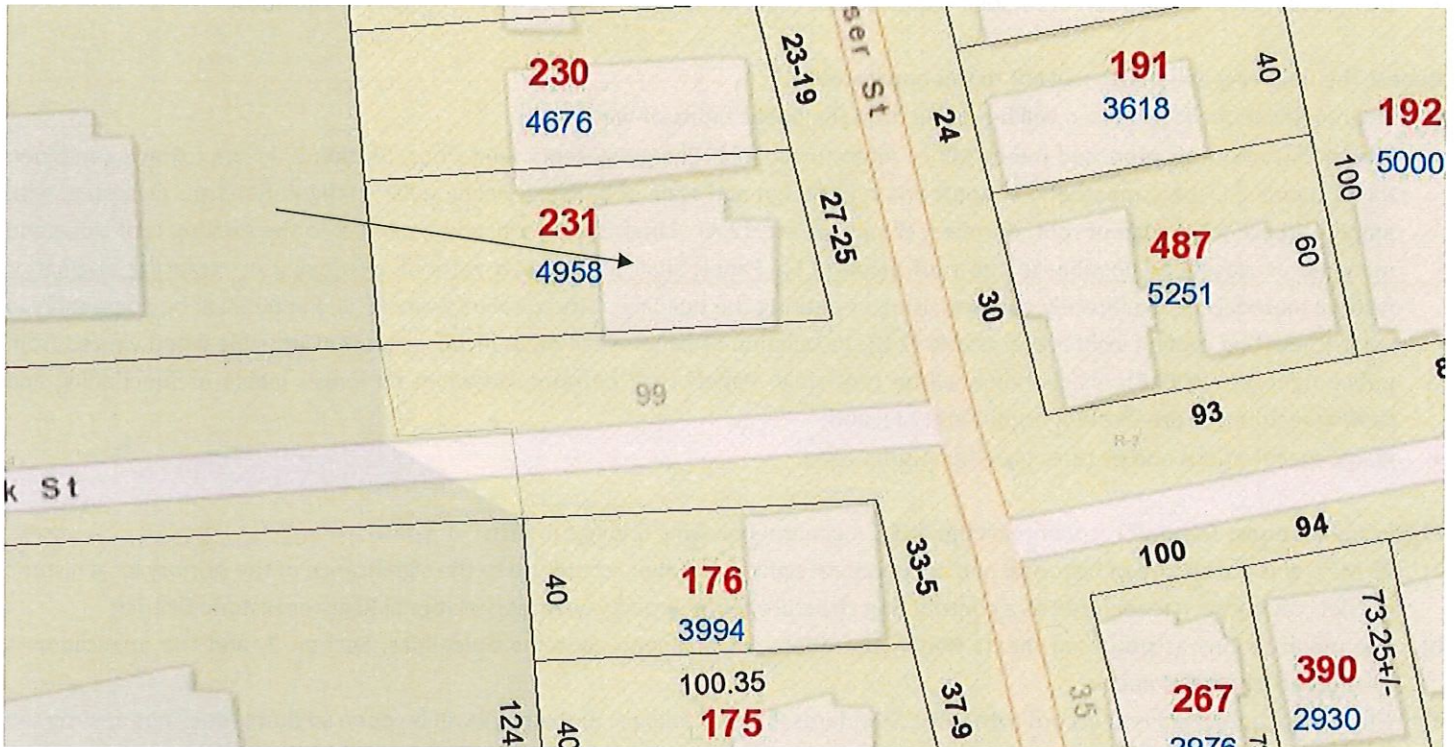


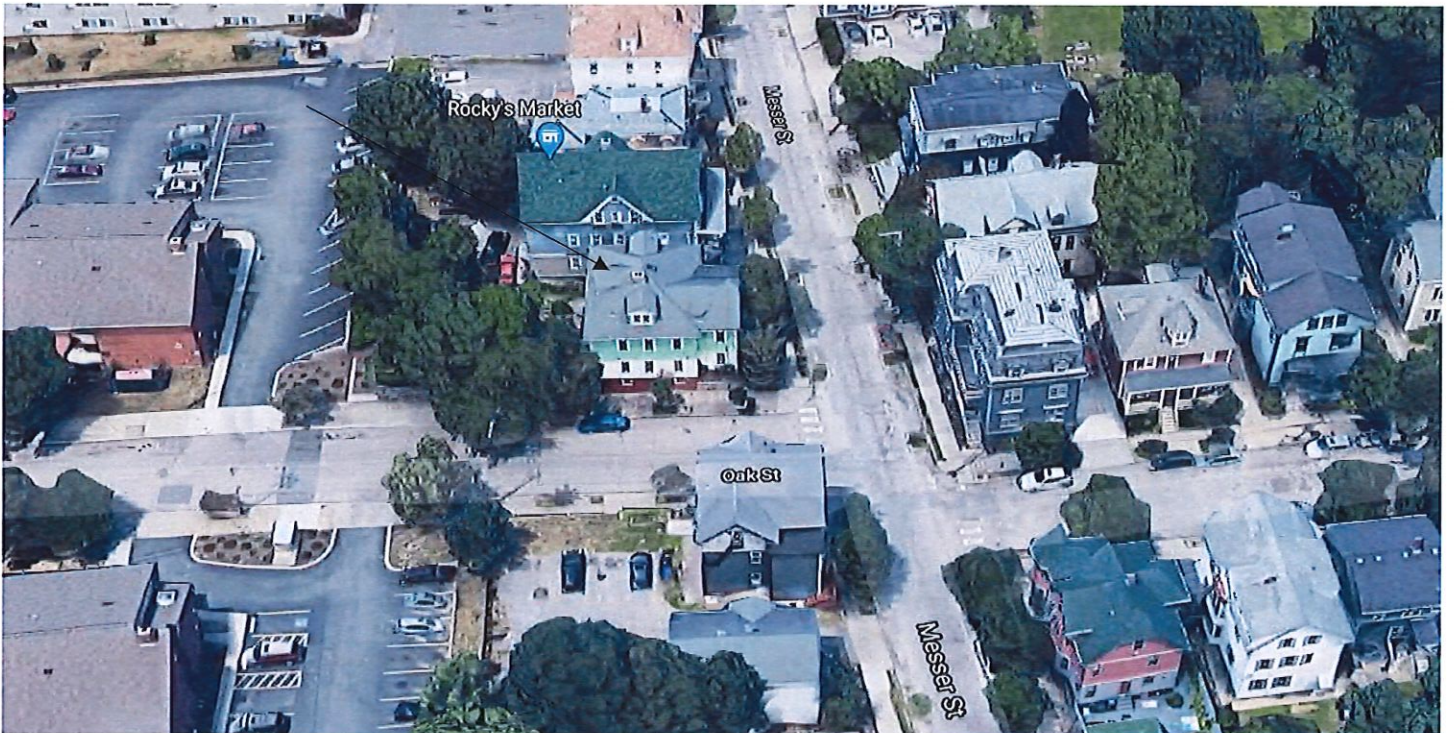
2. CASE 21.068, 25 MESSER STREET, House, c1890 (ARMORY)

2½-story; hipped; clapboard-and-shingle dwelling; with pedimented dormers and L-shaped plan with entrance at angle under Italianate porch.

CONTRIBUTING



Arrow indicates 25 Messer Street.



Arrow indicates project location, looking north.

**Applicant/ Owner:** Alex & Molly Ellis, 25 Messer Street, Providence, RI 02909

**Contractor:** Eric Breecher, SOL Power Solar, 803 Kings Factory Road, Charlestown, RI 02813

**Proposal:** The scope of work proposed consists of Minor Alterations and includes

- the installation of installation of 27 solar panels to the east-, west- and south-facing roof slopes of the house.

**Issues:** The following issues are relevant to this application:

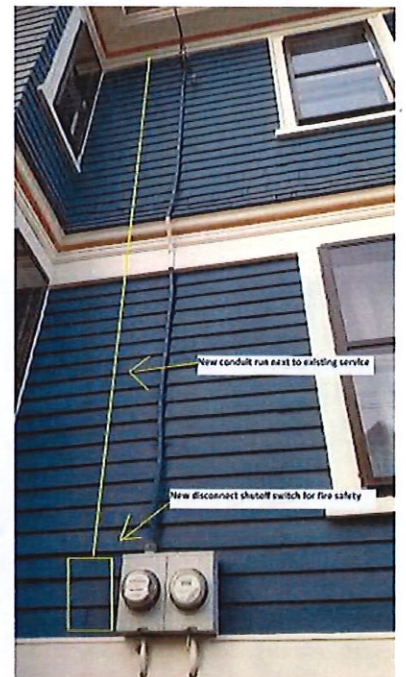
- The modifications as proposed will be visible from the public rights-of-way;
- The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, in the following manner: Panel layout shall be sympathetic or appropriate to design and scale of building. Rectangular configurations are preferred, with ample setback from edge of roof, dormers, chimneys, etc. (2.A); Panels shall be installed parallel to the existing roof slope and matched as closely as possible to the roof plane (2.B); Panels shall be installed without destroying or replacing original or historic materials or significantly compromising or altering the building's structural integrity (2.C); Panels shall be compatible in color to existing roofing insofar as possible (2.D); Installation of panels shall be as inconspicuous as possible when viewed from public right-of-way (2.E); Installation shall be reversible. Panels shall be removed when no longer viable or functioning and roofing restored to pre-existing conditions (2.F); and,
- Plans, specifications and pictures have been submitted.

**Recommendations:** The staff recommends the PHDC make the following findings of fact:

- a) 25 Messer is a structure of historical and architectural significance that contribute to the significance of the Armory local historic district, having been recognized as a contributing structure to the Broadway/Armory National Register Historic District;
- b) The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, and the application is considered complete; and,
- c) The work as proposed is in accord with PHDC Standards 8 & 9 as follows: 8) the work will be done so that it does not destroy the historic character of the property or the district being not visible from the public rights-of-way; and, 9) Whenever possible... alterations to structures shall be done in such a manner that if removed in the future, the essential form and integrity of the structure and the site will be unimpaired.

**Staff recommends a motion be made stating that:** The application is considered complete. 25 Messer is a structure of historical and architectural significance that contribute to the significance of the Armory local historic district, having been recognized as a contributing structure to the Broadway/Armory National Register Historic District. The Commission grants Final Approval of the proposal as submitted as the proposed alteration is appropriate having determined that the proposed alteration does not destroy the historic character of the property or the district and are historically and architecturally compatible with the property and district as the proposed alteration meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, is not visible from the public rights-of-way, is reversible and will not have an adverse effect on the property or district, and the recommendations in the staff report, with staff to review any additional required details.









A

B



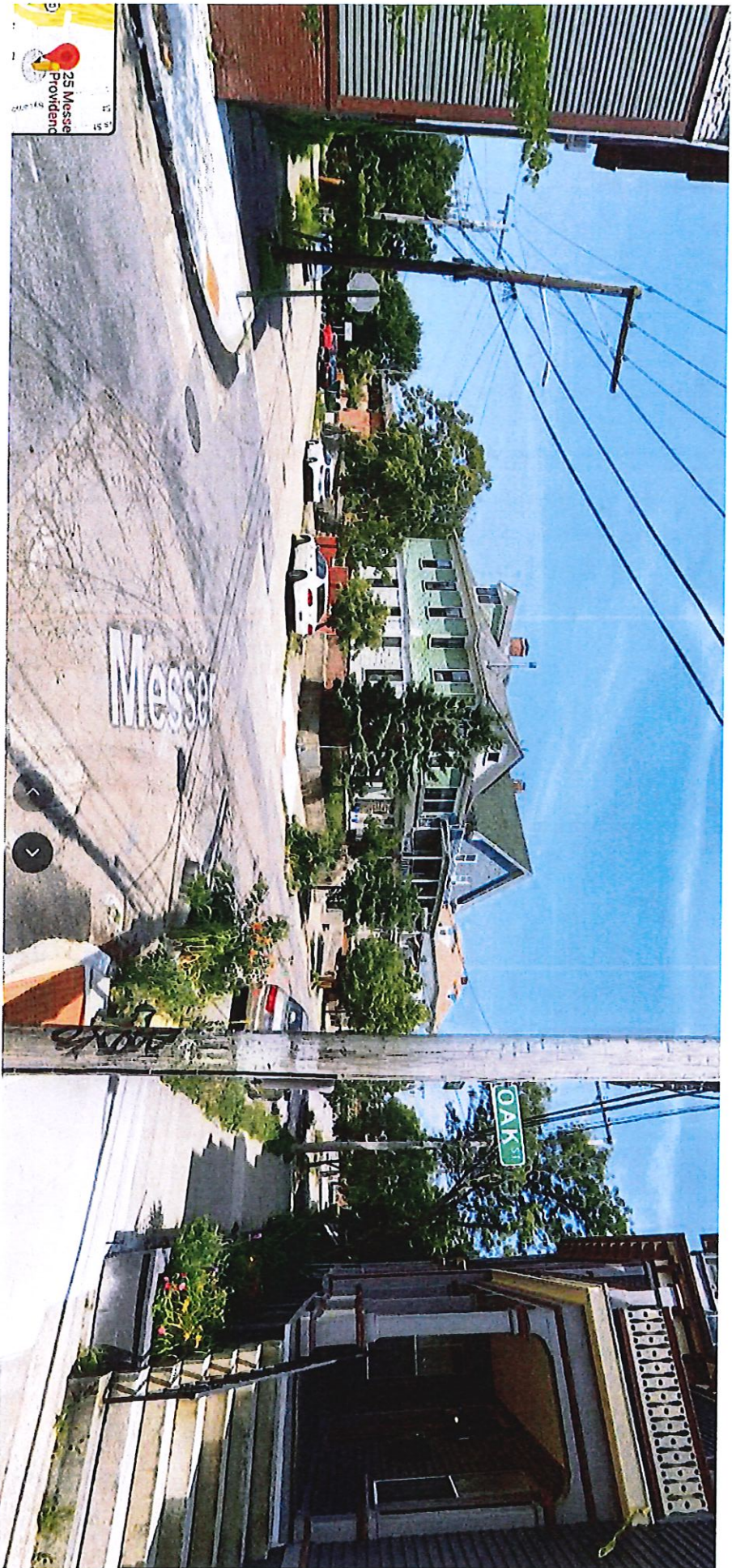
C

D





25 Messer St - looking NHW from Messer @ Oak Sts



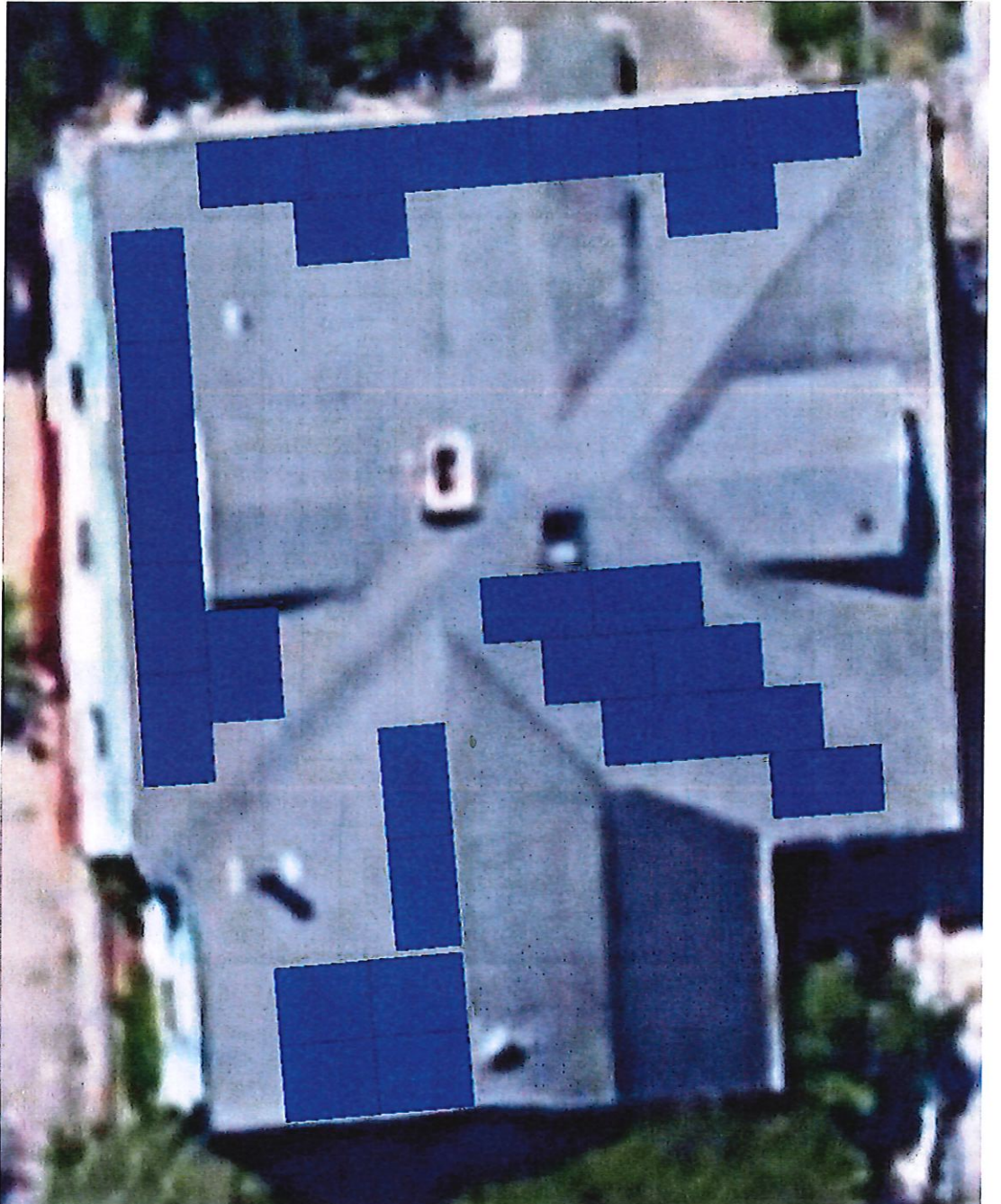


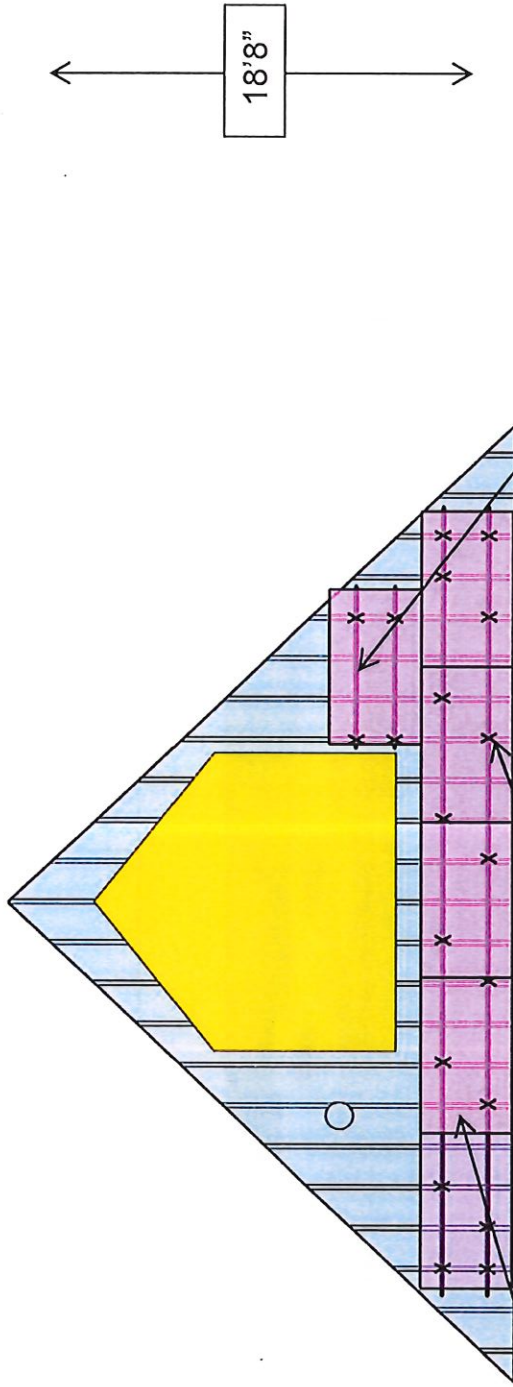


Site Location: Alex Ellis  
25 Messer Street  
Providence, RI. 02909

Structural Layout Drawing  
Created By: Abel Collins  
Date: 7/15/2021

Sol Power  
11 Almy Street  
Providence, RI. 02909





Hanwha 340 Watt solar panels (32mm frame)

3 x 5/16 Lag Bolts into Rafters  
IronRidge Flashings

IronRidge XR100 Rails

Array area (square ft): 117.3  
Hurricane ties present: No  
Flush Roof Mount PV Array  
Roof Type: Asphalt Shingle  
Roof Rafters: 2x6" rafters 18" OC  
Roof Pitch: 33 degrees  
Roof Orientation: 176  
Mean Roof Height: 28'

Loading, 120mph wind, 30 psf snow:  
Total Weight (lbs): 355  
Weight/Attachment (lbs): 17.7  
Distributed Weight (psf): 3.0  
Max Downforce at Attachment (lbs): 128  
Max Uplift at Attachment (lbs): -95  
Lateral Reaction at Attachment (lbs): 55  
Max Cantilever: 1'7"  
Max attachment span: 4'  
Total # of Attachments: 20



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Reaction Forces:

Reaction Forces	Down (lbs)	Uplift (lbs)	Lateral (lbs)
Zone 1	128	77	55
Zone 2	128	95	55
Zone 3	128	95	55

Rafter Span: 11'2" longest

Wind Zone: 3

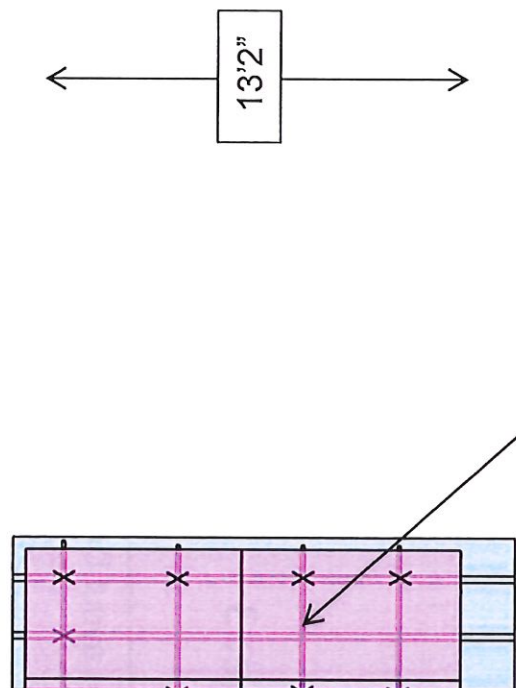


Notes: Alex Ellis  
25 Messer Street  
Providence, RI. 02909

Structural Layout Drawing

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Hanwha 340 Watt solar panels (32mm frame)

3 x 5/16 Lag Bolts into Rafters  
IronRidge Flashings

IronRidge XR100 Rails

Array area (square ft): 128.8  
 Hurricane ties present: No  
 Flush Roof Mount PV Array  
 Roof Type: Asphalt Shingle  
 Roof Rafters: 2x6" rafters 18" OC  
 Roof Pitch: 33 degrees  
 Roof Orientation: 176  
 Mean Roof Height: 28'

Loading, 120mph wind, 30 psf snow:  
 Total Weight (lbs): 348.9  
 Weight/Attachment (lbs): 19.4  
 Distributed Weight (psf): 2.9  
 Max Downforce at Attachment (lbs): 162  
 Max Uplift at Attachment (lbs): -121  
 Lateral Reaction at Attachment (lbs): 69  
 Max Cantilever: 1'7"  
 Max attachment span: 4'  
 Total # of Attachments: 18



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Reaction Forces:

Landscape

Reaction Forces	Down (lbs)	Uplift (lbs)	Lateral (lbs)
Zone 1	128	77	55
Zone 2	128	95	55
Zone 3	128	95	55

Portrait

Reaction Forces	Down (lbs)	Uplift (lbs)	Lateral (lbs)
Zone 1	162	98	69
Zone 2	162	121	69
Zone 3	162	121	69

Rafter Span: 12'2"

Wind Zone: 3

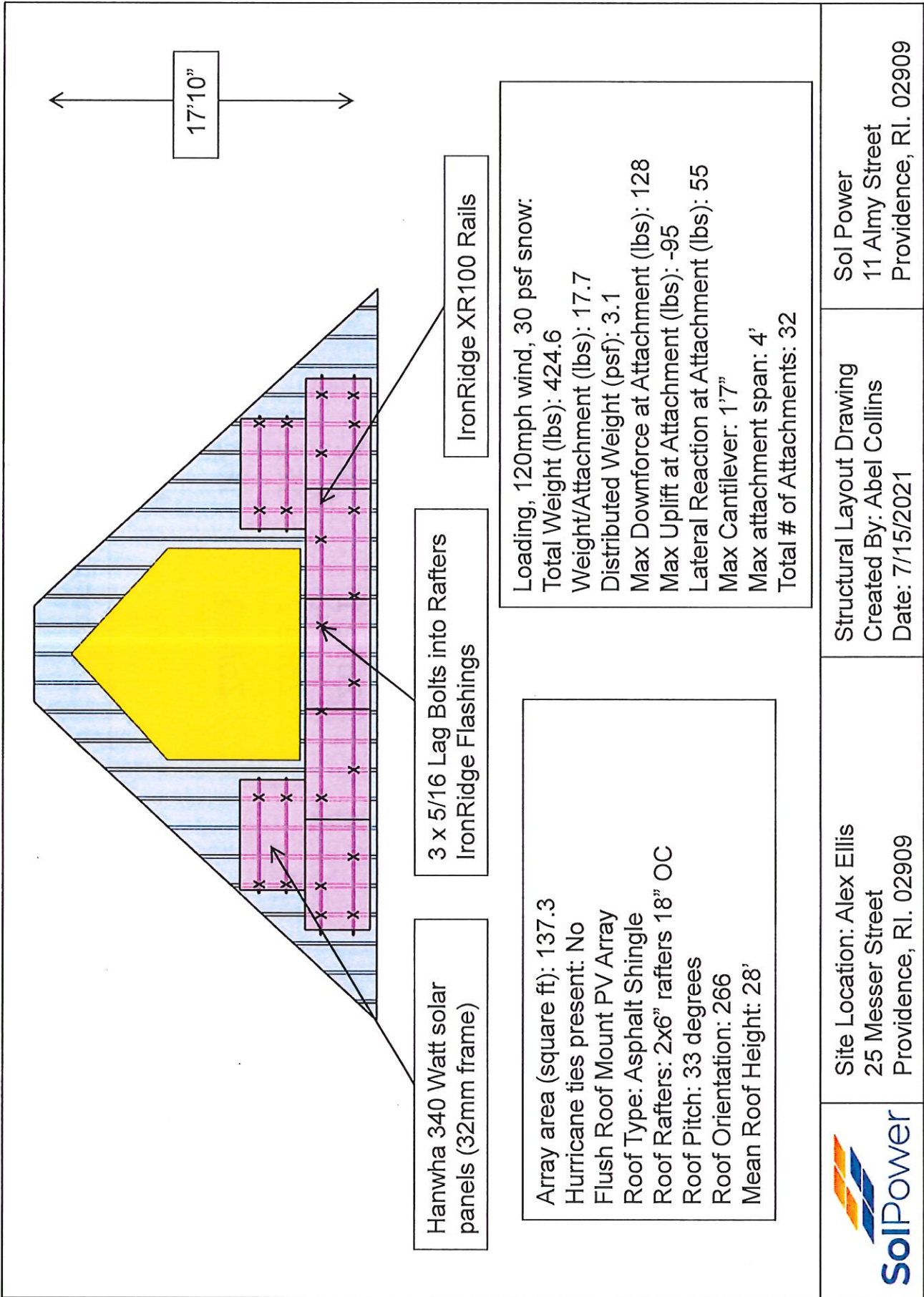


Notes: Alex Ellis  
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Providence, RI. 02909

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17'10"

Hanwha 340 Watt solar panels (32mm frame)

3 x 5/16 Lag Bolts into Rafters  
IronRidge Flashings

IronRidge XR100 Rails

Array area (square ft): 137.3  
Hurricane ties present: No  
Flush Roof Mount PV Array  
Roof Type: Asphalt Shingle  
Roof Rafters: 2x6" rafters 18" OC  
Roof Pitch: 33 degrees  
Roof Orientation: 266  
Mean Roof Height: 28'

Loading, 120mph wind, 30 psf snow:  
Total Weight (lbs): 424.6  
Weight/Attachment (lbs): 17.7  
Distributed Weight (psf): 3.1  
Max Downforce at Attachment (lbs): 128  
Max Uplift at Attachment (lbs): -95  
Lateral Reaction at Attachment (lbs): 55  
Max Cantilever: 1'7"  
Max attachment span: 4'  
Total # of Attachments: 32



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Reaction Forces:

Reaction Forces	Down (lbs)	Uplift (lbs)	Lateral (lbs)
Zone 1	128	77	55
Zone 2	128	95	55
Zone 3	128	95	55

Rafter Span: 11'4" longest

Wind Zone: 3

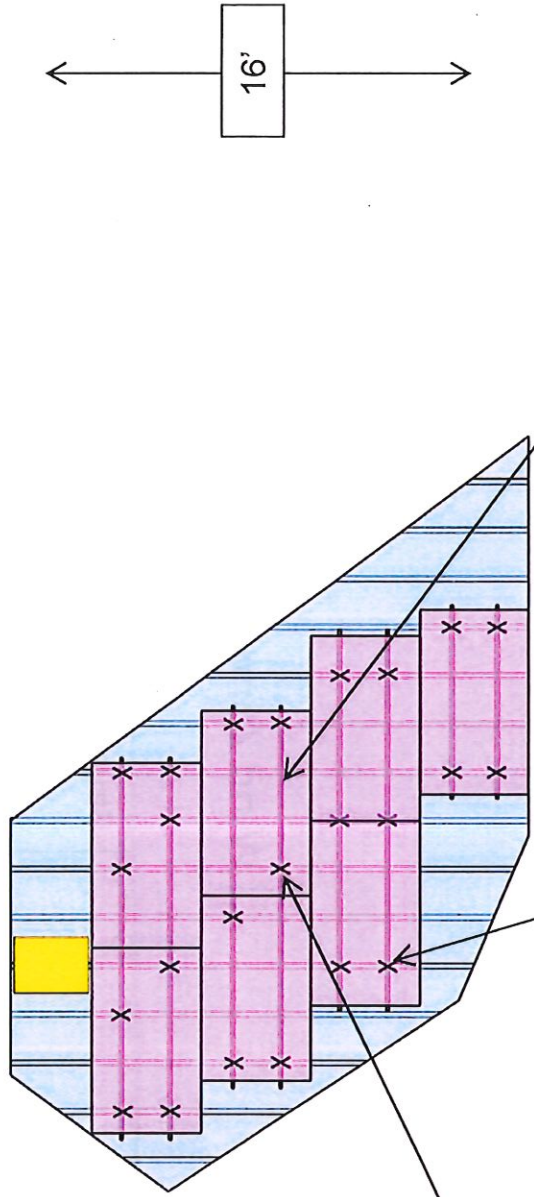


Notes: Alex Ellis  
25 Messer Street  
Providence, RI. 02909

Structural Layout Drawing

Sol Power  
11 Almy Street  
Providence, RI. 02909





Hanwha 340 Watt solar panels (32mm frame)

3 x 5/16 Lag Bolts into Rafters  
IronRidge Flashings

IronRidge XR100 Rails

Array area (square ft): 138.3  
Hurricane ties present: No  
Flush Roof Mount PV Array  
Roof Type: Asphalt Shingle  
Roof Rafters: 2x6" rafters 18" OC  
Roof Pitch: 33 degrees  
Roof Orientation: 86  
Mean Roof Height: 28'

Loading, 120mph wind, 30 psf snow:  
Total Weight (lbs): 420.5  
Weight/Attachment (lbs): 17.5  
Distributed Weight (psf): 3.0  
Max Downforce at Attachment (lbs): 125  
Max Uplift at Attachment (lbs): -93  
Lateral Reaction at Attachment (lbs): 54  
Max Cantilever: 2'2"  
Max attachment span: 5'4"  
Total # of Attachments: 24



Site Location: Alex Ellis  
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Sol Power  
11 Almy Street  
Providence, RI. 02909