MEETING OF
THE HISTORIC DISTRICT COMMISSION

PORTSMOUTH, NEW HAMPSHIRE
CONFERENCE ROOM "A"

Members of the public also have the option to join the meeting over Zoom
*(See below for more details) **

6:30 p.m. **February 13, 2024**

AGENDA (revised on February 09, 2024)

The Board's action in these matters has been deemed to be quasi-judicial in nature.
If any person believes any member of the Board has a conflict of interest,
that issue should be raised at this point or it will be deemed waived.

I. APPROVAL OF MINUTES

1. January 03, 2024

II. ADMINISTRATIVE APPROVALS

1. 466 Marcy Street- **Request to Postpone**
2. 182 Market Street- **Request to Postpone**
3. 425 Islington Street
4. 95 Court Street
5. 33 Deer Street, Unit 511
6. 93 Pleasant Street
7. 238 Deer Street
8. 100 Islington Street
9. 565 Islington Street
10. 420 Islington Street
11. 202 Court Street
12. 34 Ceres Street

III. CERTIFICATE OF APPROVAL- EXTENSION REQUEST

1. Request by, **43 Holmes Court, LLC, owner,** for property located at **43 Holmes Court,** wherein permission is requested for a one-year extension of the Certificate of Approval originally granted on March 01, 2023, to allow the demolition of the existing home and the new construction of a single-family home of similar design as per plans on file in the Planning Department. Said property is shown on Assessor Map 101 as Lot 14 and lies within the Waterfront Business (WB) and Historic Districts.

IV. CERTIFICATE OF APPROVAL- REHEARING

1. **REQUEST TO POSTPONE-** Rehearing of **Michael B. Myers and Stephanie G. Taylor, owners,** for property located at **700 Middle Street,** wherein permission is requested to

allow the installation of rooftop mechanical equipment (solar panels) as per plans on file in the Planning Department. Said property is shown on Assessor Map 148 and Lot 29 and lies within the General Residence A (GRA) and Historic Districts.

V. PUBLIC HEARINGS (OLD BUSINESS)

A. **REQUEST TO POSTPONE-** Petition of **Joseph Cunningham, owner, and Jane Myers Vanni, perspective buyer,** for property located at **195 Washington Street,** wherein permission is requested to allow renovations to an existing structure (repair rot on the front entryway, siding and trim, remove and replace stairs, replace roofing, and install gutters) as per plans on file in the Planning Department. Said property is shown on Assessor Map 103 as Lot 78 and lies within the General Residence B (GRB) and Historic Districts.

B. Petition of **Anne F. Moody Living Trust, Anne F. Moody Trustee, owner,** for property located at **180 New Castle Avenue,** wherein permission is requested to allow the installation mechanical equipment (solar panels) as per plans on file in the Planning Department. Said property is shown on Assessor Map 101 as Lot 23 and lies within the Single Residence B (SRB) and Historic Districts.

VI. PUBLIC HEARINGS (NEW BUSINESS)

1. Petition of, **Novocure, Inc., owner,** for property located at **64 Vaughan Street,** wherein permission is requested to allow new construction to an existing structure (construction of a rooftop pavilion) as per plans on file in the Planning Department. Said property is shown on Assessor Map 126 as Lot 1 and lies within Character District 5 (CD5), Downtown Overlay and Historic Districts.

2. Petition of, **Debra Patsky & Cynthia Woods, owners,** for property located at **37 South School Street,** wherein permission is requested to allow new construction to an existing structure (construct single story addition to the right of the home and a new rear porch) as per plans on file in the Planning Department. Said property is shown on Assessor Map 101 as Lot 72 and lies within the General Residence B (GRB) and Historic Districts.

3. Petition of, **James Sparrell & K. Towler, owners,** for property located at **125 South Street,** wherein permission is requested to allow the installation of mechanical equipment (rooftop solar panels) as per plans on file in the Planning Department. Said property is shown on Assessor Map 110 as Lot 9 and lies within the General Residence B (GRB) and Historic Districts.

VII. ADJOURMENT

**Members of the public also have the option to join this meeting over Zoom, a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this into your web browser:*
https://us06web.zoom.us/webinar/register/WN_Wr-UkIomR6GsfvA-kzT1og

MINUTES OF
THE HISTORIC DISTRICT COMMISSION

PORTSMOUTH, NEW HAMPSHIRE
EILEEN DONDERO FOLEY COUNCIL CHAMBERS

6:30 p.m. **January 3, 2024**

MEMBERS PRESENT: Chair Jon Wyckoff; Vice-Chair Margot Doering; City Council Representative Rich Blalock; Members Reagan Ruedig, Martin Ryan, Dr. Dan Brown, Dave Adams, and Alternate Larry Booz (via Zoom)

MEMBERS EXCUSED: None.

ALSO PRESENT: Izak Gilbo, Planner 1, Planning Department

Chair Wyckoff called the meeting to order at 6:30 p.m.

City Attorney Susan Morrell reviewed and summarized the NH Right-to-Know law and how it affects the HDC as a quasi-judicial body. There was also a question and answer period. [Video timestamp 4:56]

Chair Wyckoff apprised the Commission that former HDC member Heinz Sauk-Schubert passed away in October, and the Commission had a moment of silence in his memory. Chair Wyckoff stated that Alternate Karen Bouffard resigned from the Commission.

I. APPROVAL OF MINUTES

1. **December 06, 2023**

*Ms. Ruedig and Councilor Blalock recused themselves. Mr. Adams moved and Dr. Brown seconded to **approve** the minutes as submitted. The motion **passed** unanimously.*

2. **December 13, 2023**

Councilor Blalock recused himself. Ms. Ruedig asked that a correction be made on the 66 South Street, Unit 2 petition by changing the 36'x36' (36 ft x 36 ft) granite landing to 36"x 36" (36 inches x 36 inches) to read as follows:

"The request was to remove the existing entry door and replace the two windows to the right of it, and to remove the picture windows and replace them with a single 36" French door that would lead down to a 36"x36" granite landing with stairs."

*Ms. Ruedig moved to **approve** the minutes as amended, seconded by Mr. Ryan. The motion **passed** unanimously.*

II. ADMINISTRATIVE APPROVALS

1. 466 Marcy Street- Request to Postpone
2. 425 Islington Street- Request to Postpone
3. 95 Court Street- Request to Postpone
4. 182 Market Street- Request to Postpone

*Mr. Adams moved to **postpone** Items 1 through 4, seconded by Councilor Blalock. The motion **passed** unanimously.*

Item 5 was reviewed and voted on separately from the other administrative items.

5. 140 Court Street

Mr. Ruedig recused herself. Mr. Gilbo said the proposal was to add eight HVAC units at four locations on the roof, with one installed on the ground, and to install eight line sets with four on each side. Vice-Chair Doering said the photo showed eight line sets running on each side as well as the ends instead of four. She asked if the applicant planned to use the same coloring on the line sets as shown in the photo of the Derry, NH project. Mr. Gilbo said the applicant wanted a bronze aluminum cover on the line sets. Vice-Chair Doering said it was difficult to imagine what it would look like without a sample. She asked if there would be screening for the ground unit. Mr. Gilbo said it wasn't discussed but could be stipulated. Vice-Chair Doering said she had an aesthetic concern about how the lines were running on the building, and it was further discussed [timestamp 45:13]. Several Commissioners agreed that the vertical lines would help the building and the dark bronze would work well. They discussed stipulating that the metal on the sides would be coped to the building to take care of the floor slabs and extra brick that projected out.

*Councilor Blalock moved to **approve** the administrative item, seconded by Vice-Chair Doering, with the following **stipulation**: The bronze aluminum exterior chases shall be coped to the building.*

*The motion **passed** unanimously.*

6. 179 Pleasant Street

Mr. Gilbo said the applicant had been before the Commission previously for the extensive renovation project. He reviewed the rear yard landscape plan and the proposed features that included a pool, stairs, a few walls, and other hardscape features. [Timestamp 51:30]

7. 385 Islington Street, Unit #3

The proposal was to install a Tesla EV charging setup. Dr. Brown asked if the charging station was just for a Tesla. The applicant was present and said there would be an adapter for other cars.

8. 72 Islington Street, Unit #1

The proposal was for two material changes on the property: 1) changing the failing current tin roofing material to a rubber roofing material on the flat piece of the roof, and 2) replacing the details of the damaged trim, soffit, and so on with an Azek or composite material instead of wood. It was further discussed. [Timestamp 58:23]

Stipulation: All the details on the trim, soffit, fascia, and so on will match existing.

9. 28 New Castle Avenue

Mr. Gilbo said there were two changes proposed to the original petition: 1) install matching windows to replace the two windows over the left garage door that are six inches higher than the ones on the right, and 2) keep the door leading to the basement area instead of filling it in. He said the applicant also did the vegetative planting screen for the HVAC systems.

*Councilor Blalock moved to **approve** Items 6 through 9, including the stipulation on Item 8. Ms. Ruedig seconded. The motion **passed** unanimously.*

III. REQUEST FOR REHEARING

1. Request for Rehearing of **Michael B. Myers and Stephanie G. Taylor, owners,** for property located at **700 Middle Street,** wherein permission is requested to allow the installation of rooftop mechanical equipment (solar panels) as per plans on file in the Planning Department. Said property is shown on Assessor Map 148 and Lot 29 and lies within the General Residence A (GRA) and Historic Districts.

DECISION OF THE COMMISSION

The applicant Michael Myers was present and said he was requested the rehearing because he wanted to present better plans. He noted that he was out of town the previous time. Mr. Ryan said it was a good idea to rehear the petition and asked Mr. Myers to bring more architectural drawings. Mr. Myers agreed and said he would present the petition at the March 6 meeting.

*Ms. Ruedig moved to **grant** the request for rehearing, seconded by Councilor Blalock. The motion **passed** unanimously.*

IV. PUBLIC HEARINGS (OLD BUSINESS)

A. REQUEST TO POSTPONE- Petition of **Joseph Cunningham, owner, and Jane Myers Vanni, perspective buyer,** for property located at **195 Washington Street,** wherein permission is requested to allow renovations to an existing structure (repair rot on the front entryway, siding and trim, remove and replace stairs, replace roofing, and install gutters) as per plans on file in the Planning Department. Said property is shown on Assessor Map 103 as Lot 78 and lies within the General Residence B (GRB) and Historic Districts.

DECISION OF THE COMMISSION

*Dr. Brown moved to **postpone** the petition, seconded by Vice-Chair Doering. The motion **passed** unanimously.*

B. Petition of **Anne F. Moody Living Trust, Anne F. Moody Trustee, owner,** for property located at **180 New Castle Avenue,** wherein permission is requested to allow the installation mechanical equipment (solar panels) as per plans on file in the Planning Department. Said property is shown on Assessor Map 101 as Lot 23 and lies within the Single Residence B (SRB) and Historic Districts.

SPEAKING TO THE PETITION

The applicant Anne Moody was present and asked that the petition be postponed because her solar panel contractor wasn't present.

DECISION OF THE COMMISSION

*Vice-Chair Doering moved to **postpone** the petition to the February 7 meeting, seconded by Ms. Ruedig. The motion **passed** unanimously.*

V. PUBLIC HEARINGS (NEW BUSINESS)

1. (Work Session/Public Hearing) requested by **Zachary Dombrowski & Meghan Black, owners,** for property located at **111 Gates Street,** wherein permission is requested to allow new construction to an existing structure (remove rear porch, add new rear 2-story addition with walkout basement, and reconfigure existing side addition) as per plans on file in the Planning Department. Said property is shown on Assessor Map 103 as Lot and lies within the General Residence B (GRB) and Historic Districts.

WORK SESSION

[Timestamp 11:42] Architect Amy Dutton was present on behalf of the owners, with the applicant Zachary Dombrowski. Ms. Dutton said they would keep the addition on the right, with the same footprint and roofline, and that they wanted to raise the roof on the left side where the mud room entrance was. She said it made more sense to leave the addition in the existing footprint instead of centering it, so they proposed a shed dormer off the back married into a gable dormer on the rear elevation.

Councilor Blalock said he was fine with it, and Vice-Chair Doering said she liked what was done with the dormer and thought it was subtle. Mr. Ryan said the proportions were more appropriate for the house but thought the pediment should match the ridgeline to be more in keeping with the rest of the house. He also suggested spreading the space out more between the door to the balcony and the two side windows. Chair Wyckoff asked how the rain water coming off the second-story deck would be controlled. Ms. Dutton said it would be a sloped rubber roof system

with no gutters. Mr. Ryan suggested a cornice that could contain a gutter, and it was further discussed. Chair Wyckoff noted that the City's tax map showed that the building appeared to be wider on the street and narrower toward the back, and it was further discussed. Mr. Ryan asked if new front windows would be put only on one side. Ms. Dutton said the new windows were for the living room and main bedroom, and the other windows were already new.

There was no public comment.

*Ms. Ruedig moved to **close** the work session and **open** the public hearing, seconded by Mr. Ryan. The motion **passed** unanimously.*

PUBLIC HEARING

Chair Wyckoff reread the petition into the record.

SPEAKING TO THE PETITION

Ms. Dutton summarized the changes to the petition and said she would return for an administrative approval for the water runoff and gutter redesign. [Timestamp 1:33:20]

Chair Wyckoff opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one was present, and Chair Wyckoff closed the public hearing.

DECISION OF THE COMMISSION

*Councilor Blalock moved to **grant** the Certificate of Approval for the petition, with the following **stipulations**:*

1. *The applicant shall use ½ screens.*
2. *The applicant shall return for Administrative Approval for the final gutter design.*

Mr. Adams seconded.

Councilor Blalock said the project would conserve and enhance property values and would be compatible with the design of surrounding properties.

*The motion **passed** unanimously.*

Mr. Adams recused himself from the following petition.

2. Petition of **Novocure, Inc., owner,** for property located at **64 Vaughan Street,** wherein permission is requested to allow the installation of animated direct illumination signage as per plans on file in the Planning Department. Said property is shown on Assessor Map 126 and Lot 1 and lies within the Downtown Overlay, Character District 5 (CD5), and Historic Districts.

Mr. Gilbo stated that the petition's description was incorrect and that the request was for a rooftop penthouse. Dean Smith, Associate Director of Facilities for Novocure, was present and confirmed that they were there just to discuss the pavilion and did not plan to do the illumination signage. Mr. Gilbo said the petition would have to be postponed and readvertised with the correct project description.

DECISION OF THE COMMISSION

*Ms. Ruedig moved that the Commission **would not vote** on the incorrectly advertised description, seconded by Vice-Chair Doering. The motion **passed** unanimously.*

The applicant said he would present the petition at the February 7 meeting.

3. Petition of **95 Daniel Street, LLC, owner,** for properties located at **95 & 99 Daniel Street,** wherein permission is requested to allow exterior renovations and construction to both structures (replace or repair exterior features and construct new rear addition at 95 Daniel Street) and (replace or repair exterior features and construct new rear deck and stairs at 99 Daniel Street) as per plans on file in the Planning Department. Said properties are shown on Assessor Map 107 as Lots 6 & 7 and lie within the Character District 4 (CD4) and Historic Districts.

Mr. Adams resumed his voting seat.

SPEAKING TO THE PETITION

Project architect Mark Gianniny was present on behalf of the applicant, along with the applicant Sean Peters. Relating to the 95 Daniel Street building, Mr. Gianniny said the changes were that the 1st floor windows were taller and narrower to be more in proportion with the Gothic window, the shutter sizes were in equal proportions in width to their windows, the window hardware was simplified, and a door was added on the rear elevation for basement access. He said the siding material was wood all the way around. He said the siding exposure and trim on the 99 Daniel Street building was simplified and wall exhaust vents were added. [Timestamp 1:45:23]

Dr. Brown asked why there was a fiberglass door on the 95 Daniel Street building. Mr. Gianniny said they were re-using the existing wood door and the door on 99 Daniel Street would be a fiberglass door. He said the front doors on both buildings would be wood. Mr. Adams suggested that the applicant replicate the scarf-jointed clapboards with modern tools. He asked if the cove casings on the original windows would be reproduced. Mr. Gianniny said they would be on the front of the building. Mr. Adams asked what the foundation material would be. Mr. Gianniny said the foundation was in good condition except for the porch and stair on the left side of the property that he didn't think had a foundation. He said they would examine what was there, however. He said there was no cross basement from the inside and that he would match the existing brick. Vice-Chair asked if Mr. Gianniny would return with a color for the roof shingles, and Mr. Gianniny said he could. Vice-Chair Doering confirmed that the decking would be dark hickory and the shutters would be black. She said she hoped there would be no structural degradation or demolition to the building. Mr. Gianniny said a contractor would ensure that the building would be supported when the foundations were looked at, Mr. Ryan said he hoped Mr.

Gianniny would still be part of the process, Mr. Adams said he wanted to stipulate that scarf joints would be used because it was an important detail for the story of the structure.

Chair Wyckoff opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one spoke, and Chair Wyckoff closed the public hearing.

DECISION OF THE COMMISSION

*Mr. Adams moved to **grant** the Certificate of Approval for the application, with the following **stipulations**:*

1. *The clapboards shall be scarf-jointed, and*
2. *The pre-existing large sill window frame shall be utilized with a cove back band for the front of the 95 Daniel Street building.*

Ms. Ruedig seconded.

Mr. Adams said the project would maintain architectural values and the historic architecture of the community.

Mr. Gianniny was asked to submit interior photos of the barbershop to the Athenaeum.

*The motion **passed** unanimously.*

VI. WORK SESSIONS (NEW BUSINESS)

A. Work Session requested by, **Debra Patsky & Cynthia Woods, owners,** for property located at **37 South School Street,** wherein permission is requested to allow new construction to an existing structure (construct single-story addition to the right of the property and a new rear porch as per plans on file in the Planning Department. Said property is shown on Assessor Map 101 as Lot 72 and lies within the General Residence B (GRB) and Historic Districts.

WORK SESSION

[Timestamp 2:09:55] Project architect Scott Brown was present on behalf of the applicants, along with the applicants Debra Patsky and Cynthia Woods. Mr. Brown said they proposed a single-story addition with the entire living space on the first floor and a covered porch on the back side. He said the property was a large parcel and could accommodate the addition. He reviewed the existing and proposed conditions.

Mr. Brown said the existing gable would be partially taken away by the addition and would be a shuttered window. Mr. Adams said it looked awkward and suggested making a full exterior casing and just having glass in the upper part and structural panel fill for the rest of it. Mr. Adams said the 10” columns on the one-story porch seemed robust. It was further discussed and

Mr. Brown said the columns could be narrowed. Vice-Chair Doering said she was concerned about the effect of an addition of that size in that space relating to the streetscape and the other buildings around it. Mr. Brown said the addition was located where it would have the least impact on the house and the backyard. He said the property had a lot of frontage and thought it could handle a lateral addition without compromising the neighborhood's integrity. Ms. Ruedig said she thought it was a logical place for the addition but wondered about its overall width. She asked if the sidewall could be brought in to match up with the bathroom to help with the rhythm of the windows and all the proportions. Mr. Brown said the two windows on the front elevation were a bed wall and it was a struggle to get them as close together as they could. He said the addition of the shutters helped with the spacing. He said it was essential to have a jog on the right side of the addition to help break down the massing and to have a few rooflines. He said the garage's placement would help take the eye away from the back half and wouldn't be as visible from the street. He said they could probably shrink it a bit by a few inches but wasn't sure it would be a big improvement. Mr. Adams asked if the stone wall at the edge of the driveway would be retained. Mr. Brown said the wall would be pushed toward the house because the driveway would be widened. Mr. Adams said he was less bothered by the addition's massing than the driveway's widening. Mr. Ryan said he liked the massing and the fact that the small garage was being added into the composition of the rest of the property. He said he'd like to see it in the proposed front elevation to confirm it. He said the jog did break up the mass a bit and thought the hefty columns were a nice shape. He said his only concern was the little porch roof and suggested that a vinyl roof might look better.

Public Comment

Sheryl and Jonathan Booth of 19 South School Street said they were the next-door neighbors. Ms. Booth said she didn't know why the addition couldn't be on the back of the house. She said she was concerned about the double driveway that went toward their house and the retaining wall that reached her foundation. She asked what would be done to the flood table and to her foundation if the ledge was dug up. She said three trees would be killed by the excavation.

Chair Wyckoff said the Commission didn't have purview over the size of the driveway, the groundwater, and the trees. He suggested that the Booths work it out with the applicant. Mr. Gilbo said the applicant would have to go before other land boards and the Department of Public Works for the driveway enlargement and permit, setback reliefs, and so on. Chair Wyckoff said there was a way to get rid of the ledge with chemicals instead of digging it up.

Mr. Brown said the intent was to extend the driveway to the left side and away from the Booths' property. He said the home's aesthetics would be ruined if the addition was built off the back, and there would be a drop-off at the edge of the property due to the ledge. Chair Wyckoff said he thought the side addition was appropriate. Vice-Chair Doering asked if the applicant considered tearing down the garage and incorporating it into the addition instead. Mr. Brown said they considered other garage options but decided to keep it due to zoning issues. Ms. Ruedig said the small chimney on the right wasn't on the floor plan and asked if it would be removed. Mr. Brown said it would not be removed and that he would address the discrepancy on the floor plan.

DECISION OF THE COMMISSION

*Ms. Ruedig moved to **close** the work session, seconded by Mr. Ryan, and to **go into a public hearing** at a future meeting. The motion **passed** unanimously, 7-0.*

VII. ELECTION OF OFFICERS

1. Chair

*Chair Wyckoff said he was stepping down as Chair and moved to **nominate** Ms. Ruedig as the new Chair. Vice-Chair Ruedig seconded the motion.*

Several Commissioners said Ms. Ruedig's experience and leadership would work very well. Mr. Ryan said Mr. Wyckoff had done a great job in managing the chairmanship for several years but thought it was good to have term limits and new people in fresh positions.

*The motion **passed** unanimously.*

Ms. Ruedig thanked Mr. Wyckoff for his service as Chair and said she looked forward to hearing his voice more regularly in the Commission's future discussions because she relied on his expertise and knowledge of building.

2. Vice-Chair

*Ms. Ruedig moved to **nominate** Ms. Doering as returning Vice-Chair, seconded by Councilor Blalock. The motion **passed** unanimously.*

VIII. ADJOURNMENT

The meeting adjourned at 9:34 p.m.

Respectfully submitted,

Joann Breault
HDC Recording Secretary

HDC

ADMINISTRATIVE APPROVALS

February 13, 2024

1.	**466 Marcy Street**	**-Request to Postpone**
2.	**182 Market Street**	**- Request to Postpone**
3.	**425 Islington Street**	**-TBD**
4.	**95 Court Street**	**-Recommended Approval**
5.	**33 Deer Street, Unit #511**	**-Recommended Approval**
6.	**93 Pleasant Street**	**-Recommended Approval**
7.	**238 Deer Street**	**-Recommended Approval**
8.	**100 Islington Street**	**-Recommended Approval**
9.	**565 Islington Street**	**-Recommended Approval**
10.	**420 Pleasant Street**	**-Recommended Approval**
11.	**202 Court Street**	**-TBD**
12.	**34 Ceres Street**	**-TBD**

3. 425 Islington Street -TBD

Background: The applicant is seeking approval for the replacement of (21) vinyl windows with new vinyl windows.

Staff Comment: TBD

Stipulations:

1. _____
2. _____
3. _____

LUHD-696

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 10/20/2023

Primary Location

425 ISLINGTON ST

Portsmouth, NH 03801

Owner

Daniel McGreevy

Islington St 425 Portsmouth, Nh 03870

Applicant

Daniel McGreevy

603-498-3545

dmcgreevy13@gmail.com

425 Islington St

Unit 3

Portsmouth, NH 03801

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

Updating windows

Description of Proposed Work (Planning Staff)

replacement of the second floor vinyl windows with new vinyl windows

Project Representatives

Relationship to Project

Owner

If you selected "Other", please state relationship to project.

Job # 11266833
Customer Name: M/M Dan Mcgreevy
Customer Phone #: 6034983545

Living Room - Floor 1
Line Item: 1

Living Room - Floor 1
Line Item: 2

Living Room - Floor 1
Line Item: 11

Bathroom - Floor 1
Line Item: 3
Bathroom - Floor 1
Line Item: 6

Kitchen - Floor 1
Line Item: 4
Kitchen - Floor 1
Line Item: 5

Kitchen - Floor 1
Line Item: 7
Kitchen - Floor 1
Line Item: 8

Bedroom 1 - Floor 1
Line Item: 9

Bedroom 1 - Floor 1
Line Item: 10

Hall/Stairwell - Floor 2
Line Item: 12

Living Room - Floor 2
Line Item: 13

Living Room - Floor 2
Line Item: 14
Living Room - Floor 2
Line Item: 20

Living Room - Floor 2
Line Item: 21
Kitchen - Floor 2
Line Item: 15

Kitchen - Floor 2
Line Item: 16
Kitchen - Floor 2
Line Item: 18

Kitchen - Floor 2
Line Item: 19

Home Services Exteriors Change Order - EXHIBIT "A"
(Amend Scope of Work)

Windows and Patio Doors

Add/Delete/ Change	Room/Floor	Line Item	Style	Series	Color		Opening Size		Grids									Hinges/Handings								Window & Glass Options	$ Increase/ Decrease
					Interior	Exterior	Width	Height	Type	Int. Color	Ext. Color	Pattern	1st Location	Vertical	Horizontal	2nd Location	Vertical	Horizontal	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8		
Add	Liv	1	Dh	6100	Wh	Wh	37	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Add	Liv	2	Dh	6100	Wh	Wh	37	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Add	Bath	3	Dh	6100	Wh	Wh	20	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Add	Kitch	4	Dh	6100	Wh	Wh	37	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Add	Kitch	5	Dh	6100	Wh	Wh	37	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Add	Kitch	6	Dh	6100	Wh	Wh	20	68	F,Gb g	Wh	Wh	C	All	1		All	1										$
Miscellaneous Change (Do not use for CSAT)																											$
																											$
																											$
Reason for Change																											

Entry Doors

DESCRIPTION OF CHANGE	REASON FOR CHANGE	$ Increase/ Decrease
		$
		$

Original Contract Amount: $ _____

Change to Scope of Work Amount: $ _____

Change to Promo (if applicable): $ _____

Sales Tax (if applicable): $ _____

New Contract Amount: $ _____

Less Original Deposit: $ _____

Balance Due: $ _____

Customer Initial

02/02/2024, 11:43:44 163.116.135.114

Home Services Exteriors Change Order - EXHIBIT "A"
(Amend Scope of Work)

Windows and Patio Doors

Add/Delete/ Change	Room/Floor	Line Item	Style	Series	Color		Opening Size		Grids									Hinges/Handings								Window & Glass Options	$ Increase/ Decrease
					Interior	Exterior	Width	Height	Type	Int. Color	Ext. Color	Pattern	1st Location	Vertical	Horizontal	2nd Location	Vertical	Horizontal	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8		
Add	Bed1	9	Dh	6100	Wh	Wh	32	48	F,Gbg	Wh	Wh	C	All	1		All	1											$
Add	Bed1	10	Dh	6100	Wh	Wh	32	48	F,Gbg	Wh	Wh	C	All	1		All	1											$
Add	Liv	11	Dh	6100	Wh	Wh	37	68	F,Gbg	Wh	Wh	C	All	1		All	1											$
Add	Liv	13	Dh	6100	Wh	Wh	32	59	F,Gbg	Wh	Wh	C	All	1		All	1											$
Add	Liv	14	Dh	6100	Wh	Wh	32	59	F,Gbg	Wh	Wh	C	All	1		All	1											$
Add	Kitch	16	Dh	6100	Wh	Wh	32	55	F,Gbg	Wh	Wh	C	All	1		All	1											$
Miscellaneous Change (Do not use for CSAT)																												$
																												$
																												$
Reason for Change																												

Entry Doors

DESCRIPTION OF CHANGE	REASON FOR CHANGE	$ Increase/ Decrease
		$
		$

Original Contract Amount: $ _____

Change to Scope of Work Amount: $ _____

Change to Promo (if applicable): $ _____

Sales Tax (if applicable): $ _____

New Contract Amount: $ _____

Less Original Deposit: $ _____

Balance Due: $ _____

Customer Initial [signature]

02/02/2024, 11:43:44 163.116.135.114

Generated Date 21/1/2024 Lead/PO# 1126683 v 0.1.21

Home Services Exteriors Change Order - EXHIBIT "A"
(Amend Scope of Work)

Windows and Patio Doors

Add/Delete/ Change	Room/Floor	Line Item	Style	Series	Color		Opening Size		Grids									Hinges/Handings								Window & Glass Options	$ Increase/ Decrease
					Interior	Exterior	Width	Height	Type	Int. Color	Ext. Color	Pattern	1st Location	Vertical	Horizontal	2nd Location	Vertical	Horizontal	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8		
Add	Kitch	18	Dh	6100	Wh	Wh	32	55	F,gbg																			$
Add	Kitch	19	Dh	6100	Wh	Wh	32	55	F,gbg																			$
Add	Liv	20	Dh	6100	Wh	Wh	32	59	F,Gbg																			$
Add	Liv	21	Dh	6100	Wh	Wh	32	59																				$
																												$
																												$
Miscellaneous Change (Do not use for CSAT)																												$
																												$
																												$
Reason for Change																												

Entry Doors

DESCRIPTION OF CHANGE	REASON FOR CHANGE	$ Increase/ Decrease
		$
		$

Original Contract Amount: $	9,271.40
Change to Scope of Work Amount: $	1,020.00
Change to Promo (if applicable): $	0
Sales Tax (if applicable): $	0
New Contract Amount: $	10,291.40
Less Original Deposit: $	3,453.11
Balance Due: $	6,838.29

Customer Initial

02/02/2024, 11:43:44 163.116.135.114

Generated Date 2/1/2024

Lead/PO# 1126683

Home Services Exteriors Change Order
(Amend Scope of Work)

Home Depot License #'s

Home Depot license numbers are listed below, and at www.homedepot.com/licensenumbers

AL: 05972, 06238, 51289, 1924, 16036, EMP-5701; **AK:** CONE25084; **AZ:** ROC092581, ROC252435; **AR:** 228160519, MP6616; **CA:** 602331; **CO:** ME-30122, EC-7930, PC.0003126, MP.00190074; **CT:** HIC.533772, ELC.0203352-E1, HTG.0406972-D1, PLM.0288547-P1 **DE:** HM-0000772, PL-0002473; **DC:** 410517000372, DRM300281, PL-0002473; **FL:** EC0001440, EC13007199, CGC1514813, CGC1522717, CGC061641, CRC046858, CAC1813767, CAC1818831, CFC1426021, CCC1331113, CCC1331130, CCC058300; **GA:** GCCO005540, RBCO005730, EN216765, GAREGCN208589; **GU:** CLB-08-0124, R-0514-0062; **HI:** CT-22120; **ID:** 005190, RCE-19683, 022877, 024086, 024087, 022876; **IL:** 104017473; **IN**: PL11700034; **IA:** C091302, 24602, 24602; **KS:** 16-009627; **KY:** CE65260, ME65140, HM05813, M7838; **LA:** 883162, 43690, 43690, 557308, 43960, 883162, LMP 6987, LMNGF9285; **ME:** See link above; **MD:** 13793, 85434 42144, 76141, 404011589; **MA:** 9875, 112785, CS-107774; **MI:** 2102119069, 2101089942; **MN:** BC147263, EA731567, MB732457, PC147263, PM-093715, PM-093716; **MS:** 22222-MC; **MO:** See link above; **MT:** 37730, ELE-EM-LIC-31718, PLU-PM-LIC-13784; **NE:** 26085, 33118; **NV:** 38686, 84011, 84052, 82439, 82440, 82441, 82442; **NH:** 4324, GFE0802907, MBE1801069; **NJ:** 13VH09277500, 34EB0158400, 34EI0158400; **NM:** C86302; **NY:** See link above; **NC:** 31521, U.30834, 34277, 33747; **ND:** 29073, M-3759, 1634, 1636, 1638; **OH:** 46992, 46992; **OK:** 106339, 0135514, 80003095; **OR:** 95843; **PA:** PA142212; **PR:** SJ-14328-CN; **RI:** 9480, 8422; **SC:** GLG110120, CLG.110120 , M104779; **SD:** EC3363, Wal-MD-R1104-16-1963-C, FLM-TX-R1108-16-1965C; **TN:** 47781, 47781, 47781, 3899, 3877; **TX:** TECL24447, TICL113, TACLA1574C, TACLB14980C, M16451; REGULATED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION, P. O. BOX 12157, AUSTIN, TEXAS 78711, 1-800-803-9202, 512-463-6599; WEBSITE: WWW.TDLR.TEXAS.GOV; RESPONSIBLE MASTER PLUMBER RICHARD W. MOORE, JR., LICENSE M16451 STATE BOARD OF PLUMBING EXAMINERS, 919 EAST 41ST STREET P.O. BOX 4200 AUSTIN, TEXAS 78745 1-800-845-6584; WT4195; DALLAS BU120698;**VI:** See link above; **UT:** 286936-5501, 286936-5501; **VT:** PM04663; **VA:** 2705068841; **WA:** HOMED088RH, MOOREJR934LN, HOMEDDU825KQ, WASHICR849P6; **WV:** WV036104, WV036104, WV036104; **WI:** 1046796, 1375416, DC-030700030; **WY:** C-40136

Mcgreevy	Dan	2663	1126683	dmcgreevy13@gmail.com
Customer Last Name	Customer First Name	Store #	Lead or PO #	Email

425 Islington st #4	Portsmouth	Nh	03801
Customer Address	City	State	Zip

THIS CHANGE ORDER ("**Change Order**") amends and changes (as described below) the Home Improvement Agreement between Customer and Home Depot dated 12/2/2023 (the "**Customer Agreement**"). Customer acknowledges that by signing below: **(i)** Customer authorizes the changes to the Scope of Work listed on **Exhibit "A"**, including any changes to plans and specifications; **(ii)** the Services will not continue until payment of additional charges (if applicable) has been received by Home Depot; and **(iii)** all terms and conditions of the Customer Agreement remain in full force and effect and apply to this Change Order.

	James Burke
Customer's Signature	Service Provider Full Personal Name (Print)
The Home Depot	
Service Provider Full Business/Trade Name	Service Provider Signature
Service Provider License Number (if applicable)	

Generated Date 2/1/2024 Lead/PO# 1126683

4. 95 Court Street -Recommended Approval

Background: The applicant is seeking approval for the installation of HVAC venting (through the existing chimneys). Previously, the applicant proposed replacement windows for the structure. They have since decided to repair all windows after meeting with restoration professionals.

Staff Comment: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-731

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 2/1/2024

Primary Location

95 COURT ST

Portsmouth, NH 03801

Owner

105 COURT ST LLC

45 FW HARTFORD DR

PORTSMOUTH, NH 03801

Applicant

Joanne Spinney

603-362-0020

jspinney@arc-fire.com

Architectural Fireplaces, Inc.

15 Colonial Drive

East Hampstead, NH 03826

Application Type

Please select application type from the drop down menu below

Administrative Approval

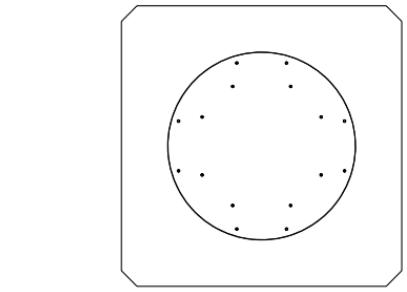
Alternative Project Address

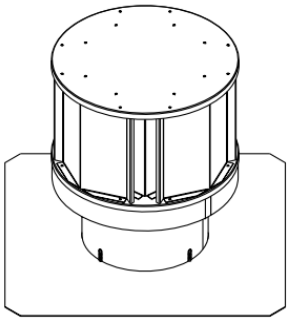
Project Information

Brief Description of Proposed Work*

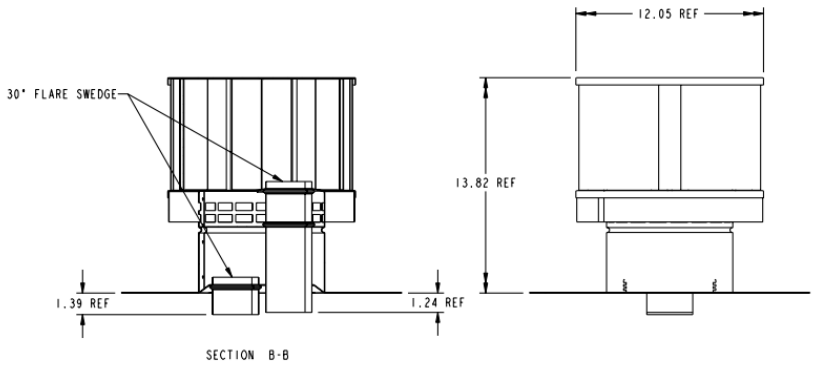
We will be installing 7 gas fireplaces/inserts, venting and terminations that will be venting out through the top of the chimney and all caps can be painted black.

Description of Proposed Work (Planning Staff)

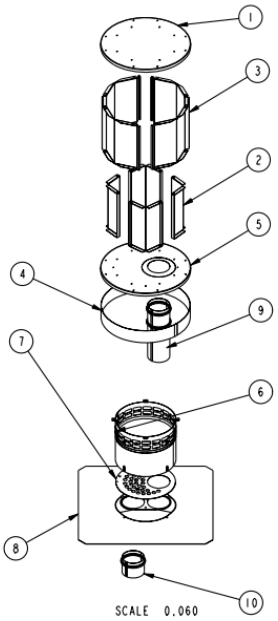




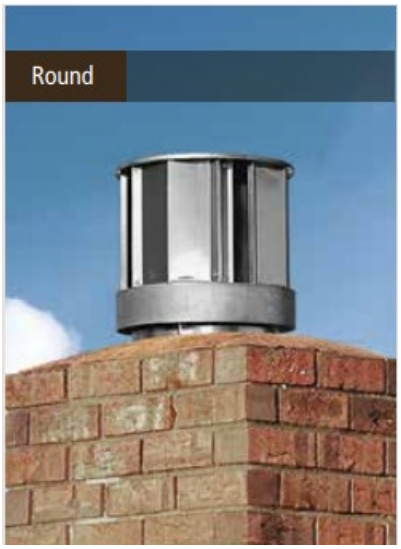
1	4071-101	TOP DISH	1
2	4071-102	INSIDE SUPPORT LOUVER LOUVER	4
3	4071-103	OUTSIDE SUPPORT LOUVER LOUVER	4
4	4071-105	LOWER BAND	1
5	4071-111	BOTTOM DISH	1
6	4071-112	OUTER COLLAR	1
7	4071-113	INSIDE TUBE SUPPORT	1
8	4071-114	FLASHING PLATE	1
9	4071-115	EXHAUST COLLAR	1
10	4071-116	INTAKE COLLAR	1
N/S	32214	UL LABEL	1
N/S	22112A	EXHAUST LABEL	1



SECTION B-B



SCALE 0.060



5. 33 Deer Street, Unit 511 -Recommended Approval

Background: The applicant is seeking approval for (5) replacement windows, with the same appearance, but different brand. Several brands of windows have been approved on other units.

Staff Comment: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-725

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 1/18/2024

Primary Location

33 DEER ST

Portsmouth, NH 03801

Owner

ADE RICHARD C & ADE LISA M

33 DEER ST UNIT 511

PORTSMOUTH, NH 03801

Applicant

Sandy Dewing

603-430-9091

mlths@aol.com

95 Brewery Lane

Portsmouth, NH 03801

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

Replace 5 existing windows with Anderson 400 Double hungs to match existing

Description of Proposed Work (Planning Staff)

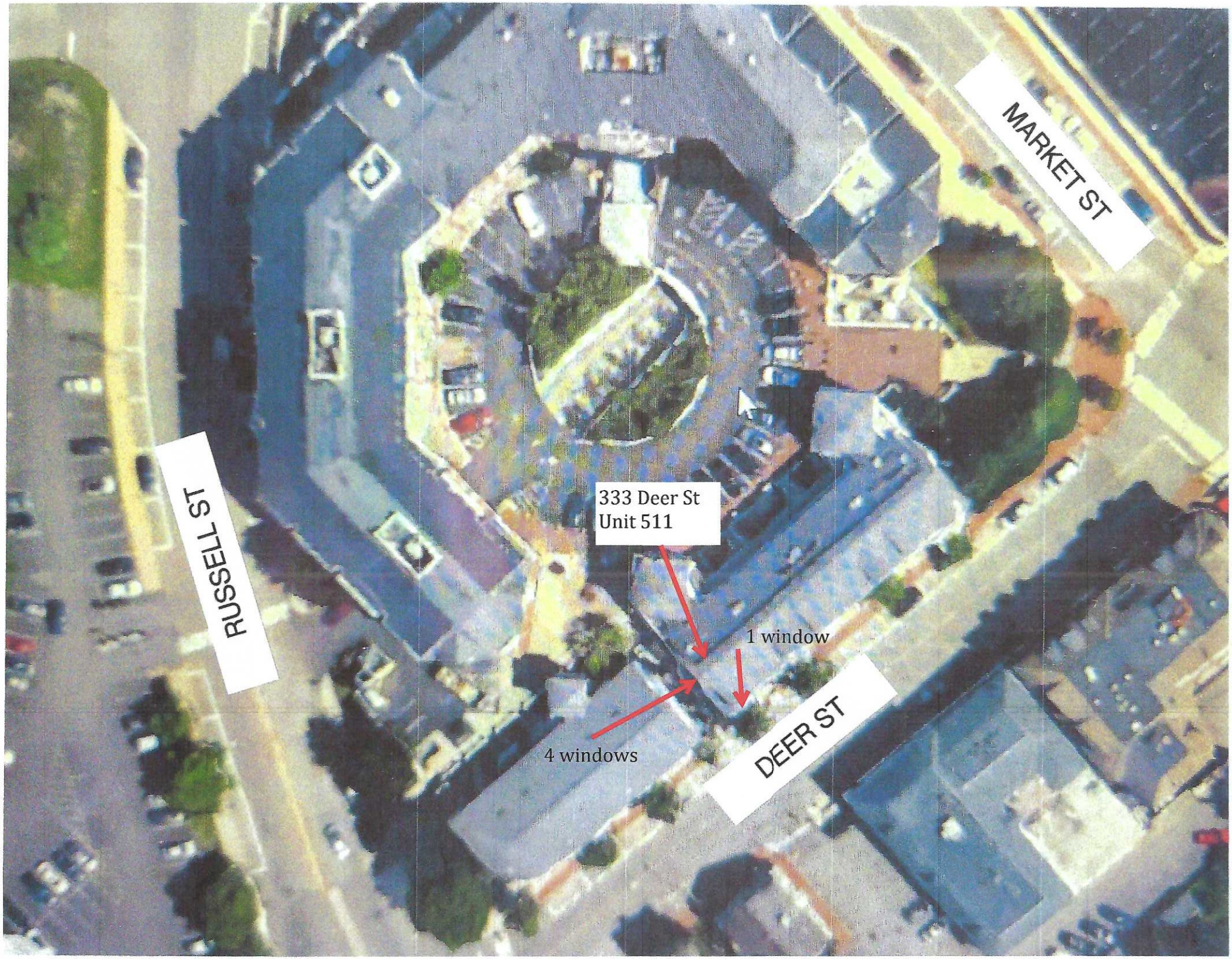
Project Representatives

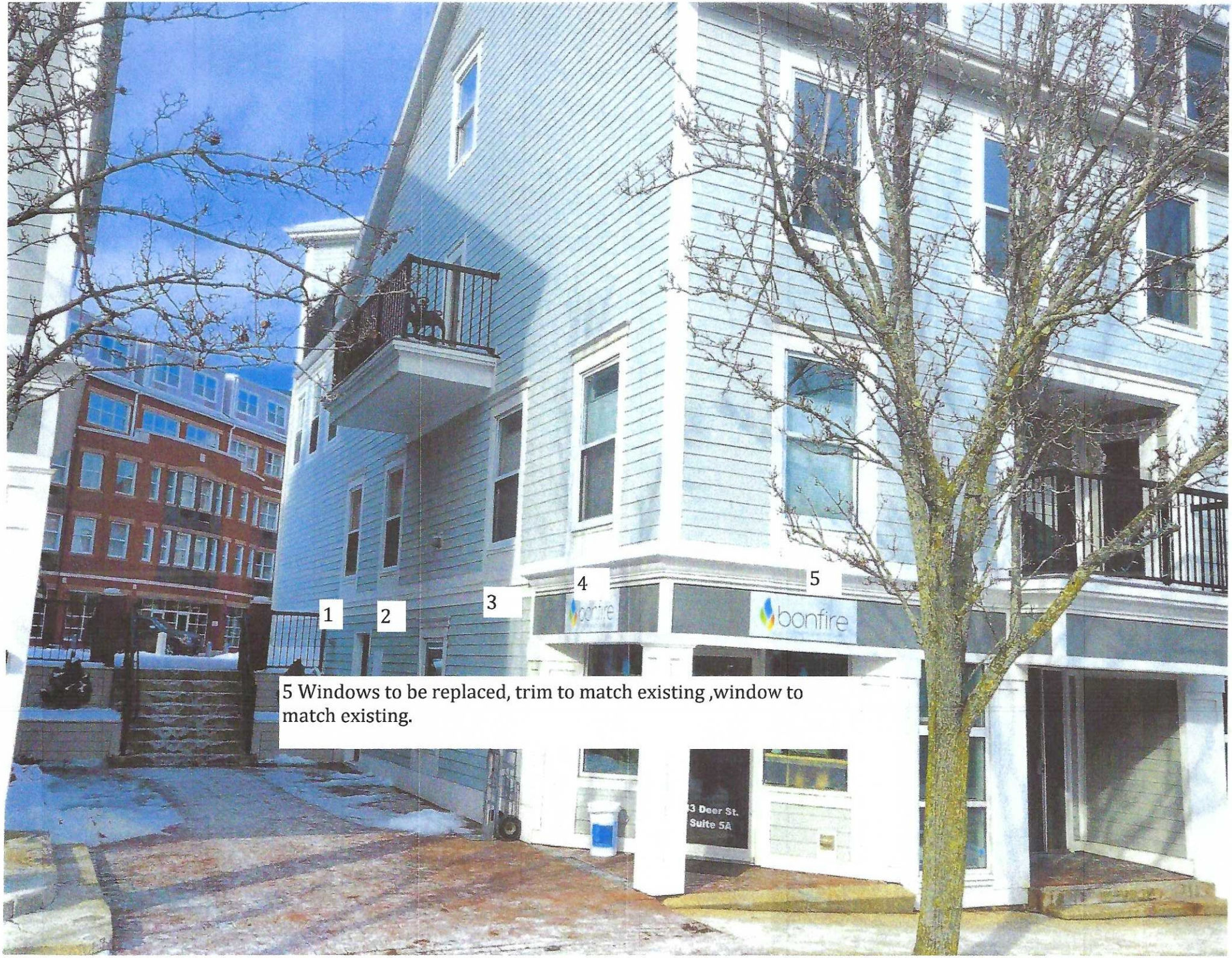
Relationship to Project

Other

If you selected "Other", please state relationship to project.

Contractor

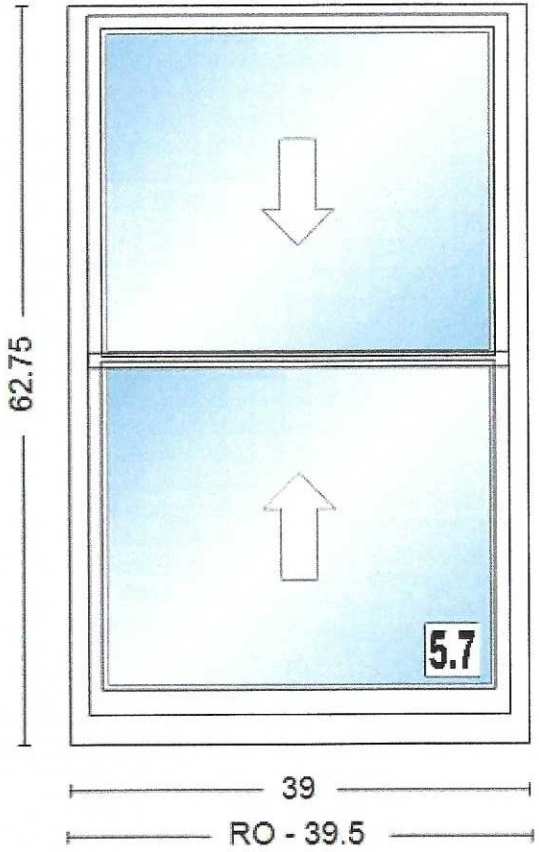

MARKET ST
RUSSELL ST
333 Deer St
Unit 511
1 window
4 windows
DEER ST



5 Windows to be replaced, trim to match existing ,window to match existing.

Unit Spec Report - Large Image

QUOTE NAME	PROJECT NAME	QUOTE NUMBER	CUSTOMER PO#	TRADE ID
ADE RES	SHERATON UNIT 511	4417044		



Room: None Assigned

Item	Qty	Operation
100-1	5	AA

RO Size = 39 1/2" x 62 3/4"

Unit Size = 39" x 62 3/4"

Comments:

400 Series Double-Hung, Interior Extension Jamb 6 9/16" Complete Unit Extension Jambs Job Site Applied, Low-E4, Standard , Grilles: None

Instructions to Manufacturer:

Unit #	U-Factor	SHGC	ENERGY STAR
A1	0.3	0.31	NO

Clear Opening/Unit #	Width	Height	Area (Sq. Ft)
A1	35.2960	26.6440	6.53070

6. 93 Pleasant Street -Recommended Approval

<u>Background</u>: The applicant is seeking approval for a new railing design for the front stairs.

<u>Staff Comment</u>: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-726

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 1/19/2024

Primary Location

93 PLEASANT ST

Portsmouth, NH 03801

Owner

TREADWELL LLC

3 PLEASANT ST 400

PORTSMOUTH, NH 03801

Applicant

Tracy Kozak

603-731-5187

tracyskozak@gmail.com

3 Congress Street, Suite 1

Portsmouth, New Hampshire 03801

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

New railing at existing front steps

Description of Proposed Work (Planning Staff)

Project Representatives

Relationship to Project

Architect

If you selected "Other", please state relationship to project.

93 PLEASANT STREET RENOVATIONS

DRAWING LIST

HDC ADMINISTRATIVE APPLICATION: REVISIONS TO PREVIOUSLY APPROVED APPLICATION:

- INSTALL NEW HANDRAIL AT FRONT STEPS

P0.1

COVER

93 PLEASANT STREET

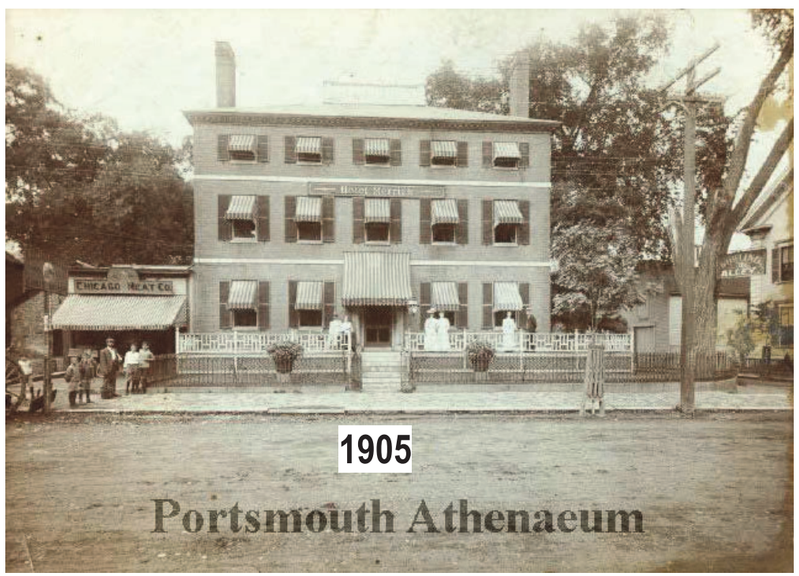
HDC REVISION 6
01.19.2024

ARCOVE ARCHITECTS

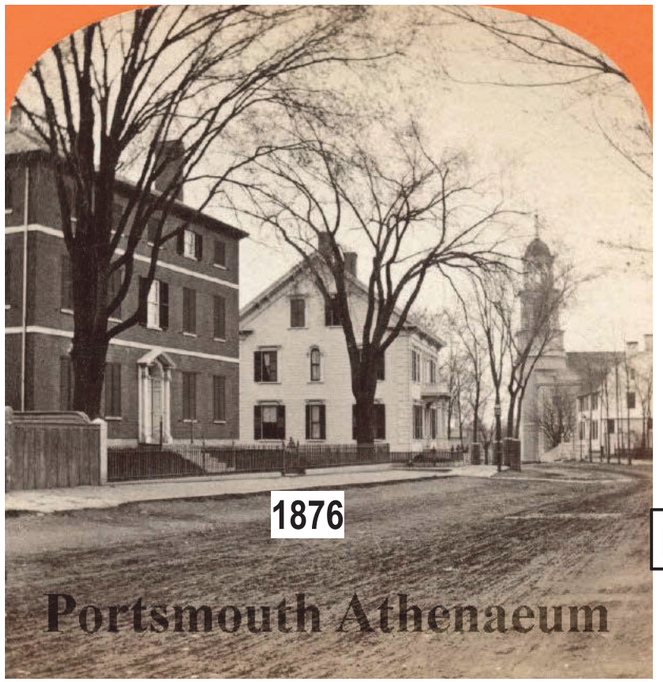
93 PLEASANT STREET

1925

1982



1905



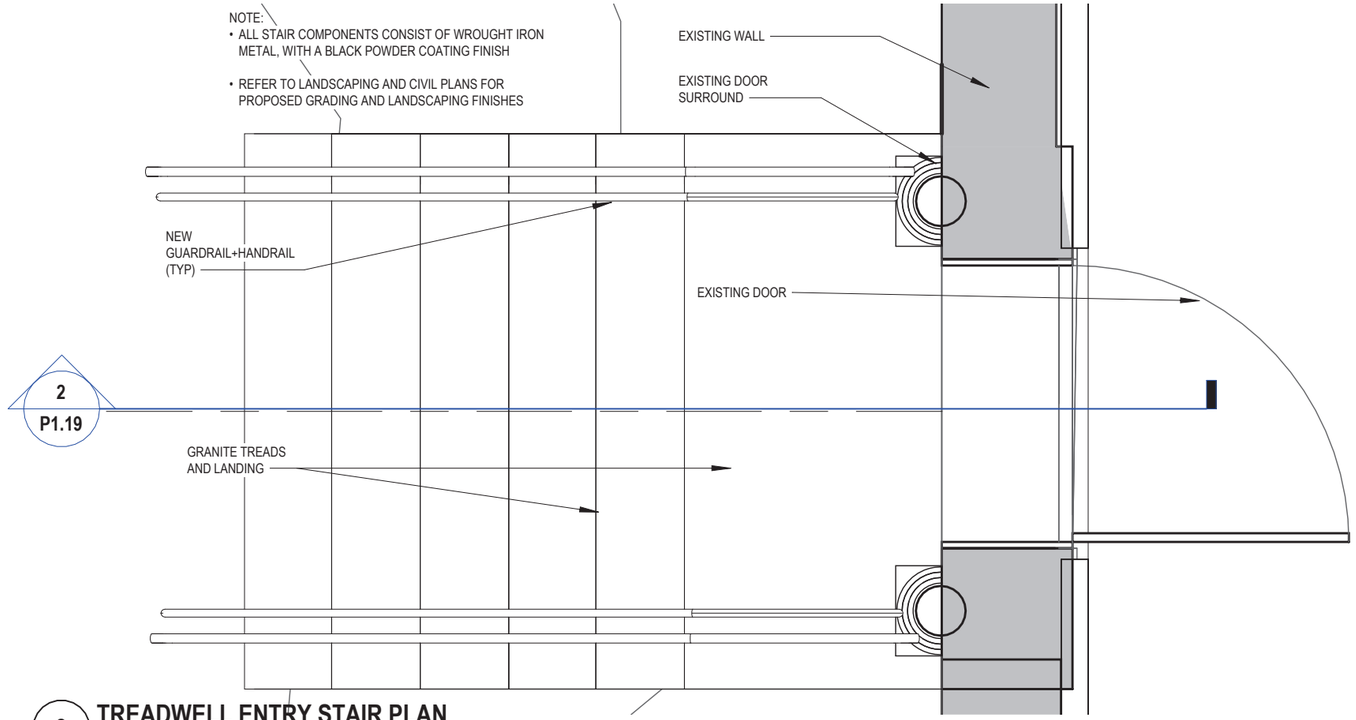
1876


2022

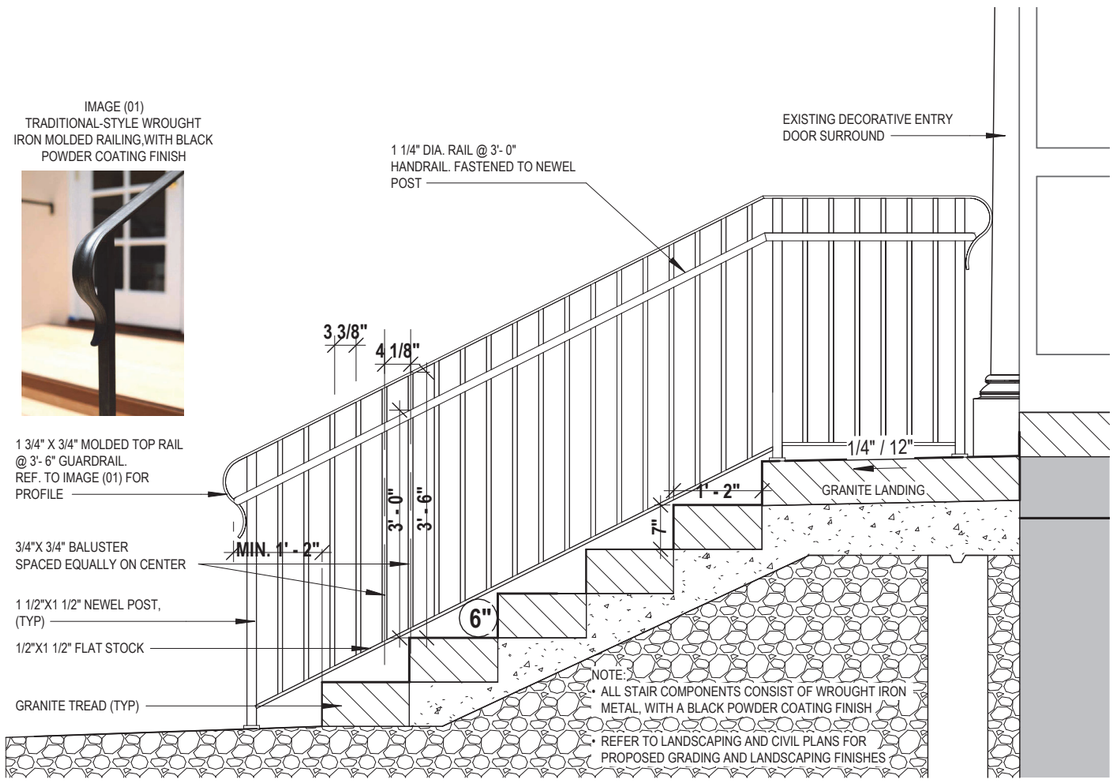
P1.4

TREADWELL HISTORIC CONDITIONS
93 PLEASANT STREET
HDC REVISION 6
01.19.2024

ARCOVE ARCHITECTS



3 TREADWELL ENTRY STAIR PLAN
1/2" = 1'-0"



2 TREADWELL ENTRY STAIR SECTION
1/2" = 1'-0"

1 TREADWELL ENTRY STAIR AXO VIEW

P1.19 TREADWELL ENTRY RAILING
93 PLEASANT STREET

1/2" = 1'-0"

01.19.2024

ARCOVE ARCHITECTS

7. 238 Deer Street -Recommended Approval

Background: The applicant is seeking approval for a change in siding, additional mechanical louvers and condensers, relocating (2) windows, remove the fixed access stair and replace with a fixed access hatch, and removable screening at the gas meter.

Staff Comment: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-727

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 1/25/2024

Primary Location

238 DEER ST

Portsmouth, NH 03801

Owner

238 DEER STREET LLC

238 DEER ST PORTSMOUTH, NH 03801

Applicant

Richard Desjardins

603-430-0274

richard@mchenryarchitecture.com

4 Market Street

Portsmouth, NH 03801

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

- PROPOSED ALTERATIONS AND ADDITIONS FROM PREVIOUSLY APPROVED APPLICATION ON 11/10/2021 AND ADMINISTRATIVE APPROVAL ON 07/06/2022:
- CHANGE IN SIDING SELECTION
- ADDITION OF MECHANICAL LOUVERS, COLOR TO MATCH SIDING
- ADDITION OF (4) CONDENSER UNITS AT ROOF
- TWO PREVIOUSLY APPROVED WINDOWS AT THE FOURTH FLOOR TO BE RELOCATED DUE TO INTERIOR PLAN MODIFICATIONS
- FIXED ACCESS STAIR IS BEING REMOVED AND REPLACED WITH A FIXED ROOF ACCESS HATCH.
- PROVIDE REMOVABLE SCREENING AT GAS METER

Description of Proposed Work (Planning Staff)

238 DEER STREET: MIXED-USE BUILDING

HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL- FEBRUARY 2024 PORTSMOUTH, NEW HAMPSHIRE

GENERAL PROJECT DESCRIPTION (ZONING BOARD OF ADJUSTMENT APPROVAL 09/28/2021, HISTORIC DISTRICT COMMISSION APPROVAL 11/10/2021, PLANNING BOARD APPROVAL 03/17/2022):

- PROPOSED ALTERATIONS AND ADDITIONS FROM PREVIOUSLY APPROVED APPLICATION ON 11/10/2021 AND ADMINISTRATIVE APPROVAL ON 07/06/2022:
  - CHANGE IN SIDING SELECTION
  - ADDITION OF MECHANICAL LOUVERS, COLOR TO MATCH SIDING
  - ADDITION OF (4) CONDENSER UNITS AT ROOF
  - TWO PREVIOUSLY APPROVED WINDOWS AT THE FOURTH FLOOR TO BE RELOCATED DUE TO INTERIOR PLAN MODIFICATIONS
  - FIXED ACCESS STAIR IS BEING REMOVED AND REPLACED WITH A FIXED ROOF ACCESS HATCH.
  - PROVIDE REMOVABLE SCREENING AT GAS METER

SHEET LIST - HDC	
Sheet Number	Sheet Name
C	COVER
A1	DEER STREET ELEVATION
PA-A1	PREVIOUSLY APPROVED DEER STREET ELEVATION
A2	BRIDGE STREET ELEVATION
PA-A2	PREVIOUSLY APPROVED BRIDGE STREET ELEVATION
A3	PUBLIC WALKWAY ELEVATION
PA-A3	PREVIOUSLY APPROVED PUBLIC WALKWAY ELEVATION
A4	REAR ELEVATION
PA-A4	PREVIOUSLY APPROVED REAR ELEVATION
A5	SIDING ALTERATIONS
A6	PRODUCT SELECTIONS
APPENDIX	SELECTION CUT SHEETS

PA: PREVIOUSLY APPROVED SHEET FROM 07/06/2022 HDC PACKAGE

238 DEER STREET
PORTSMOUTH, NH 03801

DEER ST. MIXED-USE BUILDING
238 DEER STREET
PORTSMOUTH, NH 03801

COVER
HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

C

01/22/2024
McHA: RD / MG
NOT TO SCALE

Z:\Active Project Files\20062-238 DEER STREET\Dwgs\5-CA\238 DEER STREET - CA.rvt

(4) ROOF MOUNTED CONDENSER UNITS ON 18" SNOW STAND

FIXED ACCESS LADDER TO BE REMOVED

RELOCATED PREVIOUSLY APPROVED WINDOW

LP SMARTSIDE, SMOOTH, 13" EXPOSURE BOARD AND BATTEN

24"x4.75" EXHAUST LOUVER, COLOR TO MATCH ADJACENT BRICK

LP SMARTSIDE, SMOOTH, 6 3/4" EXPOSURE CLAPBOARDS

REMOVABLE LOW ALUMINUM SCREEN TO ENCLOSE BOLLARDS AND GAS METER, BLACK

1 NORTH ELEVATION (DEER STREET)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING 238 DEER STREET PORTSMOUTH, NH 03801	DEER STREET ELEVATION HISTORIC DISTRIC COMMISSION, FEBRUARY 2024	McHENRY ARCHITECTURE 4 Market Street Portsmouth, New Hampshire	A1	01/22/2024 McHA: RD / MG Scale: 1/8" = 1'-0"

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PREVIOUSLY APPROVED DURING HDC ADMIN APPROVAL 07/06/22

1 NORTH ELEVATION (DEER STREET)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

DEER STREET ELEVATION

HISTORIC DISTRICT COMMISSION, JULY 2022

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A1

07/06/2022
McHA: RD / MG
Scale: 1/8" = 1'-0"

1 WEST ELEVATION (BRIDGE STREET)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

BRIDGE STREET ELEVATION

HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A2

01/22/2024
McHA: RD / MG
Scale: 1/8" = 1'-0"

PREVIOUSLY APPROVED DURING HDC ADMIN APPROVAL 07/06/22

1 WEST ELEVATION (BRIDGE STREET)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING 238 DEER STREET PORTSMOUTH, NH 03801	BRIDGE STREET ELEVATION HISTORIC DISTRICT COMMISSION, JULY 2022	McHENRY ARCHITECTURE 4 Market Street Portsmouth, New Hampshire	A2	07/06/2022 McHA: RD / MG Scale: 1/8" = 1'-0"

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1 EAST ELEVATION (PUBLIC WALKWAY)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

PUBLIC WALKWAY ELEVATION

HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A3

01/22/2024
McHA: RD / MG
Scale: 1/8" = 1'-0"

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PREVIOUSLY APPROVED DURING HDC ADMIN APPROVAL 07/06/22

1 EAST ELEVATION (PUBLIC WALKWAY)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

PUBLIC WALKWAY ELEVATION

HISTORIC DISTRICT COMMISSION, JULY 2022

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A3

07/06/2022
McHA: RD / MG
Scale: 1/8" = 1'-0"

1 SOUTH ELEVATION (REAR)
1/8" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

REAR ELEVATION

HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A4

01/22/2024
McHA: RD / MG
Scale: 1/8" = 1'-0"

PREVIOUSLY APPROVED DURING HDC ADMIN APPROVAL 07/06/22

1 SOUTH ELEVATION (REAR)
1/8" = 1'-0"

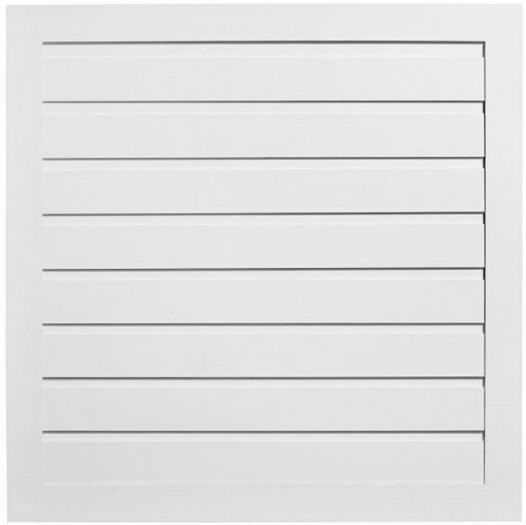
DEER ST. MIXED-USE BUILDING
238 DEER STREET
PORTSMOUTH, NH 03801

REAR ELEVATION
HISTORIC DISTRICT COMMISSION, JULY 2022

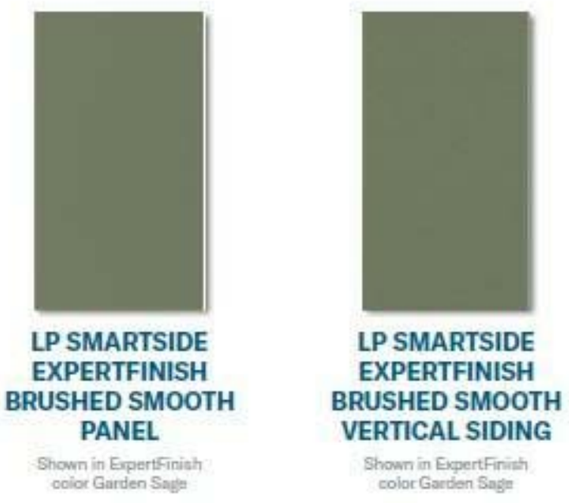
McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A4

07/06/2022
McHA: RD / MG
Scale: 1/8" = 1'-0"



PREVIOUSLY APPROVED SIDING: PAINTED TRUE EXTERIOR CHANNEL SIDING



LP SMARTSIDE, BRUSHED SMOOTH, 6 3/4" EXPOSURE CLAPBOARDS
LP SMARTSIDE, BRUSHED SMOOTH, 13" EXPOSURE BOARD AND BATTEN

PROPOSED SIDING CHANGE: REFER TO ELEVATIONS FOR LOCATIONS

PROPOSED SIDING CHANGE: COLOR SELECTIONS
CLAPBOARDS: CAVERN STEEL
BOARD AND BATTEN: TUNDRA GRAY
TRIM: TUNDRA GRAY

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

SIDING ALTERATIONS

HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

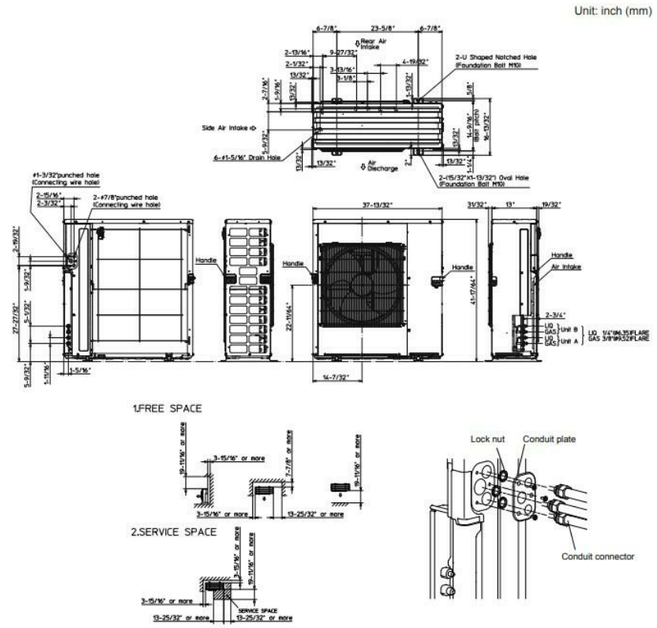
McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A5

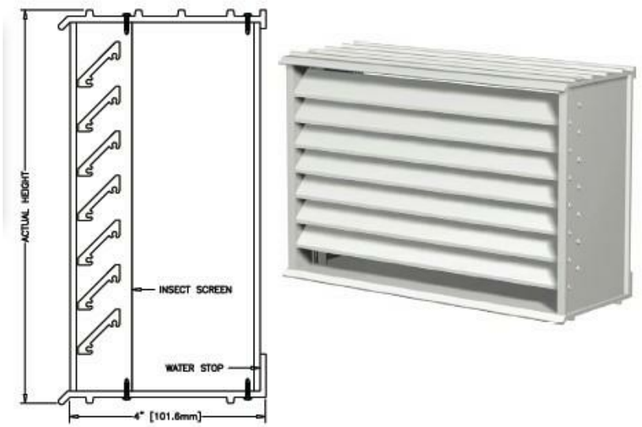
01/22/2024
McHA: RD / MG
NOT TO SCALE

STAINLESS STEEL ROOF ACCESS HATCH WITH ADJACENT PERSONAL FALL ARREST ANCHOR

Outdoor Unit: MXZ-2C20NAHZ2



(4) ROOF MOUNTED CONDENSER UNITS ON 18" SNOW STANDS



LOUVER SELECTION (AIROLITE), COLOR TO MATCH ADJACENT SIDING,
LOUVERS ABOVE WINDOWS TO BE 24" X 4.75", LARGER LOUVER SIZES PER ELEVATIONS

DESIGN INTENT OF REMOVABLE ALUMINUM GAS METER SCREEN, BLACK

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

PRODUCT SELECTIONS

HISTORIC DISTRIC COMMISSION, FEBRUARY 2024

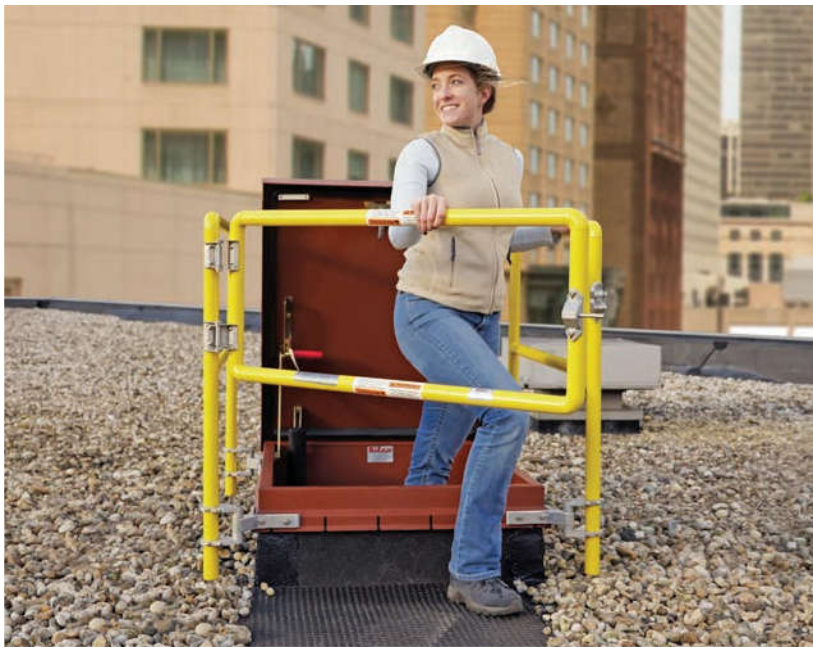
McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

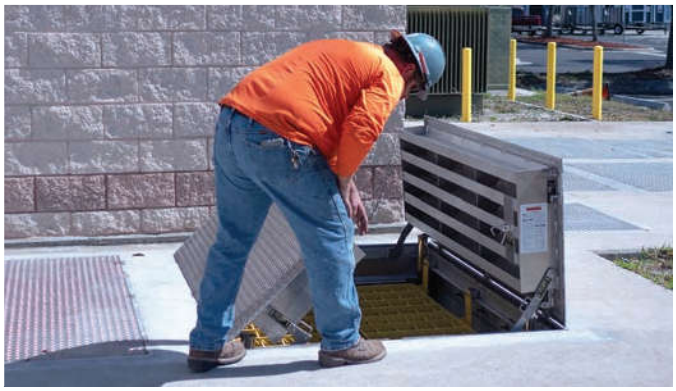
A6

01/22/2024
McHA: RD / MG
NOT TO SCALE

Bilco®

TYMAN group





Designed to Perform. Built to Last.

Commercial Products

- Roof Hatches
- Automatic Smoke Vents
- Floor Access Doors

Experience. Innovation.

BILCO.com 800.366.6530

Type S
Type E

Type S-TB
Type E-TB
Thermally Broken
R-20+ Insulation

BASIS OF DESIGN ROOF HATCH, OR EQUAL

Ladder Access

The easy one-hand-only operation to the fully opened or closed position provides the user the security of having the other hand firmly on the ladder at all times. Available in galvanized steel, aluminum or stainless steel construction. Aluminum products are also available in a thermally broken design that offers superior energy efficiency and resists condensation.

Material

- Steel: 14 gauge (1.9mm) galvanneal steel
- Aluminum: 11 gauge (2.3mm)
- Stainless Steel: 14 gauge (1.9mm) Type 304 stainless

Insulation

- 1" (25mm) fiberglass insulation in cover and 1" fiberboard insulation in curb
- 3" (75mm) Polyisocyanurate (R = 20.3) in cover and curb (Thermally Broken Models)

Finish

- Steel: Alkyd base red oxide primer
- Aluminum: Mil finish
- Stainless Steel: Bead blast finish
- See page 18 for custom finish options

Hardware

- Zinc plated/chromate sealed
- Type 316 stainless steel

Specialty Roof Hatches *(see pages 10-11 for more information)*

- Daylighting with polycarbonate skylight
- Retrofit mounting
- Security Series

See pages 18-19 for a complete list of curb, finish and other special options.

MIAMI-DADE COUNTY APPROVED
Florida Product Approval
Type S-20 and S-50 Only

TYPE	INCHES	MM	MATERIAL	INSULATION	THERMALLY BROKEN
S-20	36 x 30	914 x 762	Steel	1" (25mm)	No
S-50	36 x 30	914 x 762	Aluminum	1" (25mm)	No
S-50-TB	36 x 30	914 x 762	Aluminum	3" (75mm)	Yes
S-90	36 x 30	914 x 762	Stainless Steel	1" (25mm)	No
E-20	36 x 36	914 x 914	Steel	1" (25mm)	No
E-50	36 x 36	914 x 914	Aluminum	1" (25mm)	No
E-50-TB	36 x 36	914 x 914	Aluminum	3" (75mm)	Yes
E-90	36 x 36	914 x 914	Stainless Steel	1" (25mm)	No

Type S-40 and E-40 models are available in steel curb and aluminum cover
Type S-70 and Type E-70 are also available in copper construction

SPEC SHEET

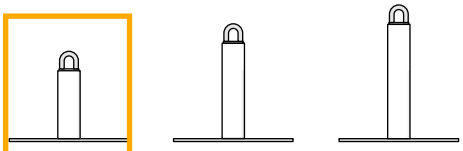
Commercial Roof Anchor

RO

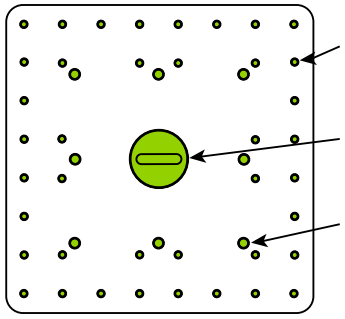
Features
Welded Steel Galvanized Anchorage Device
The Anchor is of high strength, rugged and reusable
Great for exterior or indoor use
Fasteners included

Design Specifications			
U-rod Cross Section	0.625”		
User Maximum Capacity	420 lbs		
Application	Metal, wood or concrete structures		
Tensile Strength	5,000-lbf/22kN		
Base Dimension	16” x 16” Square		
Available Heights	12”	18”	24”
Material	ASTM A36 Rated Steel		
Finish	Hot dip galvanized		

Relevant Standards	
ANSI	Z359.18
	A10.32
OSHA	1926
	1910



Part Number	RO12	RO18	RO24
Weight	29.3 Lbs	34.4 Lbs	53.6 Lbs
Base Thickness	3/8”	3/8”	1/2”
Post Diameter	2.8”	3.5”	4.5”



M-SERIES

SUBMITTAL DATA: MXZ-2C20NAHZ2
MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

MITSUBISHI ELECTRIC

Job Name:	
System Reference:	Date:

Outdoor Unit: MXZ-2C20NAHZ2

ACCESSORIES
- □ 3/8" x 1/2" Port Adapter (MAC-A454JP; for use with 15,000 Btu/h Indoor units)
- □ M-NET Adapter (PAC-IF01MNT-E)
- □ Airflow Guide (PAC-SH96SG-E)

(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)

Specifications			Model Name
Unit Type			MXZ-2C20NAHZ2
Cooling* (Non-ducted / Ducted)	Rated Capacity	Btu/h	18,000 / 20,000
	Capacity Range	Btu/h	6,000 - 20,000
	Rated Total Input	W	1,334 / 1,819
Heating at 47°F* (Non-ducted / Ducted)	Rated Capacity	Btu/h	22,000 / 22,000
	Capacity Range	Btu/h	7,400 - 25,500
	Rated Total Input	W	1,612 / 1,748
Heating at 17°F* (Non-ducted/Ducted)	Rated Capacity	Btu/h	13,700 / 13.700
	Maximum Capacity	Btu/h	22,000 / 22,000
	Rated Total Input	W	1,450 / 1,588
Heating at 5°F*	Maximum Capacity	Btu/h	22,000
Energy Star® (ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.)			Yes
Electrical Requirements	Power Supply	Voltage, Phase, Hertz	208 / 230V, 1-Phase, 60 Hz
	Recommended Fuse/Breaker Size	A	40
	MCA	A	29.5
Voltage	Indoor - Outdoor S1-S2	V	AC 208 / 230
	Indoor - Outdoor S2-S3	V	DC ±24
Compressor			DC INVERTER-driven Twin Rotary
Fan Motor (ECM)		F.L.A.	2.43
Sound Pressure Level	Cooling	dB(A)	54
	Heating		58
External Dimensions (H x W x D)		In / mm	41-9/32 x 37-13/32 x 13 1048 x 950 x 330
Net Weight		Lbs / kg	187 / 85
External Finish			Munsell No. 3Y 7.8/11
Refrigerant Pipe Size O.D. — Eight Ports	Liquid (High Pressure)	In / mm	1/4 / 6.35
	Gas (Low Pressure)		A,B: 3/8 / 9.52
Max. Refrigerant Line Length		Ft / m	164 / 50
Max. Piping Length for Each Indoor Unit		Ft / m	82 / 25
Max. Refrigerant Pipe Height Difference	If IDU is Above ODU	Ft / m	49 / 15
	If IDU is Below ODU		49 / 15
Connection Method			Flared/Flared
Refrigerant			R410A

*** Rating Conditions per AHRI Standard:**

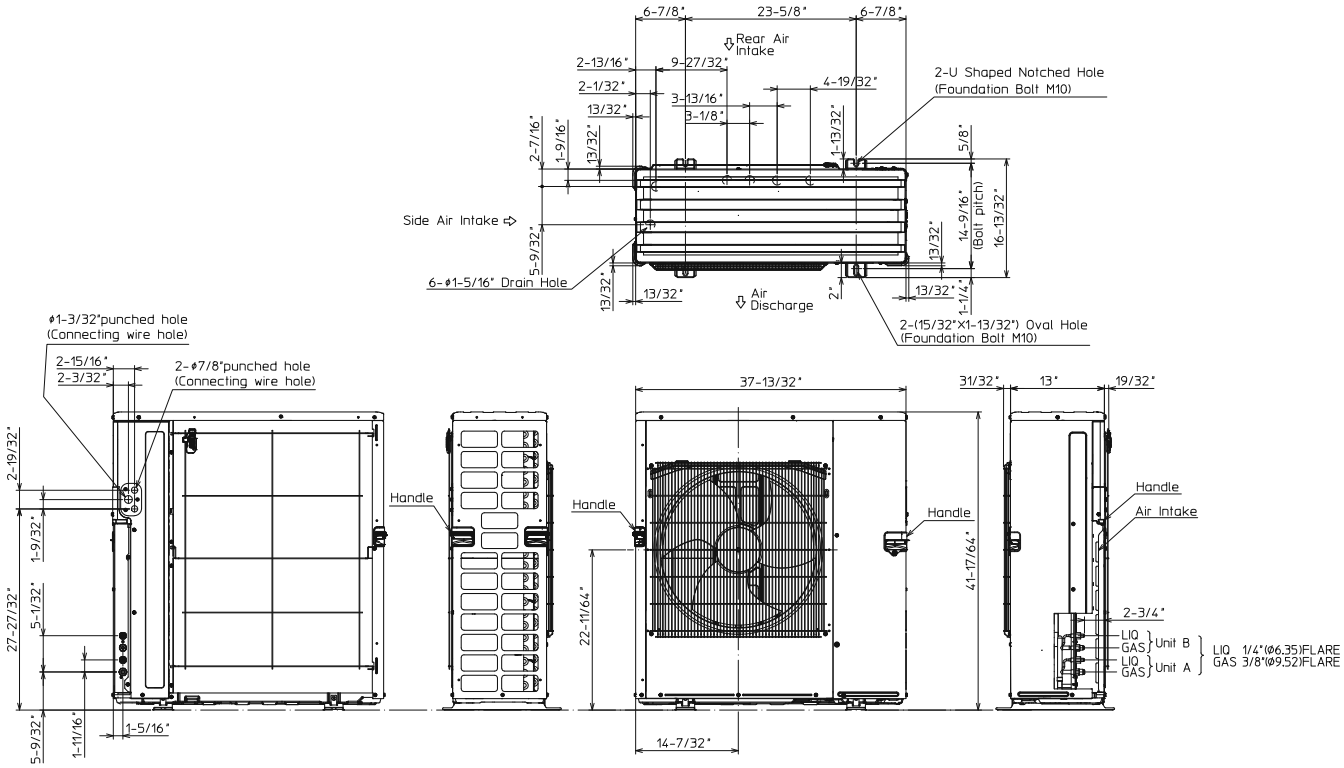
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB
Cooling | Outdoor: 95° F (35° C) DB / W.B. 23.9° C (75° F)

Heating at 47°F | Indoor: 70° F (21° C) DB / 60° F (16° C) WB
Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

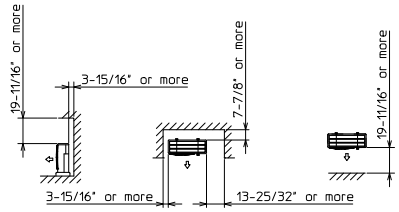
Heating at 17° F | Indoor: 70° F (21° C) DB
Heating at 17° F | Outdoor: 17° F (-8° C) DB / 15° F (-9° C) WB

DIMENSIONS: MXZ-2C20NAHZ2

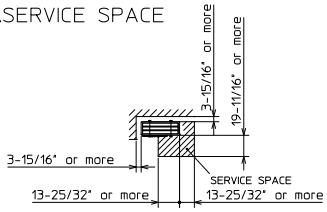
Unit: inch (mm)

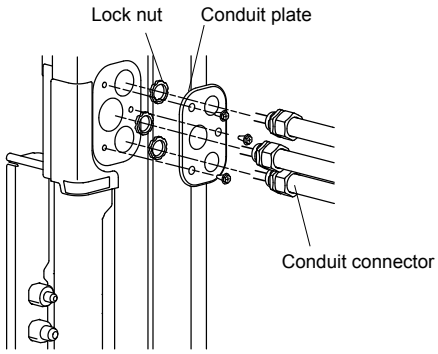


1.FREE SPACE



2.SERVICE SPACE





MITSUBISHI ELECTRIC
COOLING & HEATING

1340 Satellite Boulevard. Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com

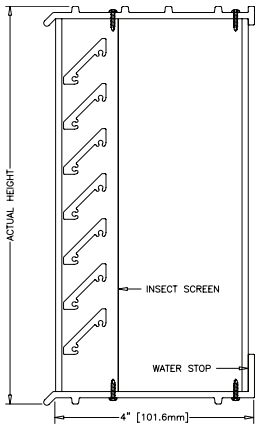
FORM# MXZ-2C20NAHZ2 for Multiple Indoor Unit Styles - 201605

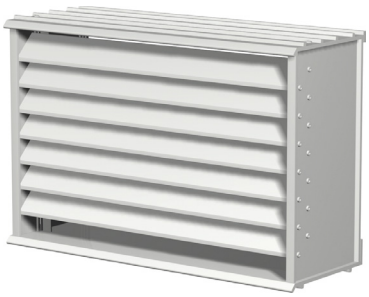
AIROLITE®
The look that works.™

Brick Vent
BVE

EXTRUDED ALUMINUM BRICK VENT

Brick Vent Type	BVE
Material	Extruded Aluminum (6063T5 Alloy)
Thickness	0.125 in. (3.20 mm)
Brick Vent Depth	4 in. (101.6 mm)





RECOMMENDED SPECIFICATION

Airolite BVE Brick Vents are used for ventilating crawl spaces, ceiling plenums, chimney flumes, foundations, pipe spaces and other conditions. BVE Brick Vents are the answer where a fine finish is a prerequisite, where a superior brick vent is required at a minimum cost. The brick vents are designed with a deep louvered overlapping blade and incorporate a 7 x 7 mesh insect screen. The blade itself has a storm stop at the rear, with a high waterstop at the rear of the brick vent. All materials are available in Airolite's broad array of acrylic enamel, fluoropolymer and clear or color anodize coatings for durability and compatibility with adjacent components. Please contact your local Airolite representative or the factory for assistance with the layout and design when required.

GENERAL
Where indicated on plan drawings or described in schedules, furnish and install BVE Brick Vents as supplied by The Airolite Company LLC, Schofield, Wisconsin. Brick vents shall be furnished in the configurations represented on the plan drawings with finishes as specified.

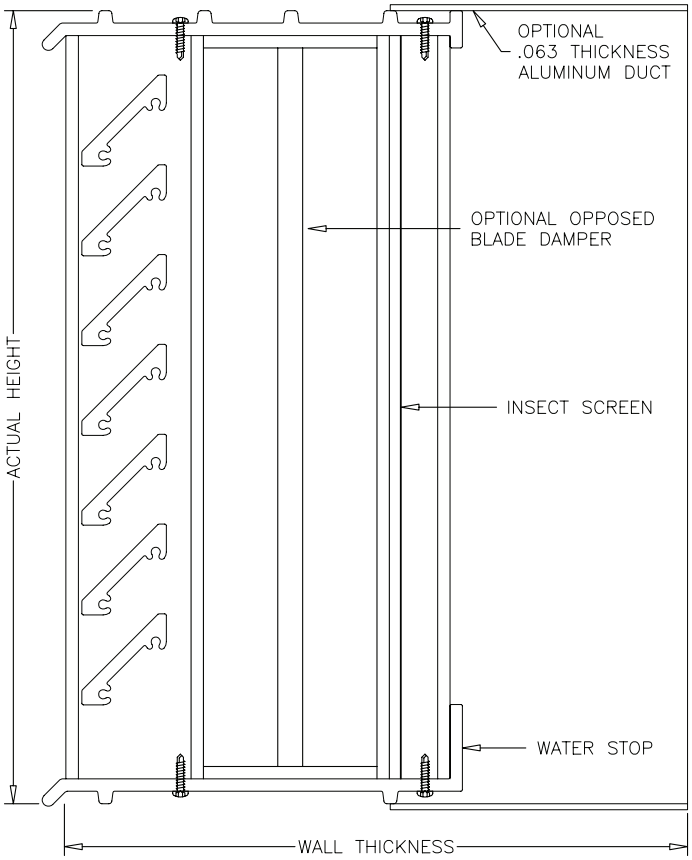
SUBMITTALS
Manufacturer shall submit shop drawings incorporating sections and details showing profiles, angles and spacing of components and frames; and, unit dimensions related to wall openings and construction. Provide samples of manufacturer's finish and color charts showing the full range of finishes and colors available.

PRODUCTS
Extruded aluminum brick vents shall be Airolite BVE available in the following sizes:

- 8.125 in. (206 mm) W x 2.375 in. (60 mm) H
- 8.125 in. (206 mm) W x 4.75 in. (121 mm) H
- 8.125 in. (206 mm) W x 7.75 in. (197 mm) H
- 12 in. (305 mm) W x 2.375 in. (60 mm) H
- 12 in. (305 mm) W x 4.75 in. (121 mm) H
- 12 in. (305 mm) W x 7.75 in. (197 mm) H
- 12 in. (305 mm) W x 11.75 in. (298 mm) H
- 15.625 in. (397 mm) W x 7.75 in. (197 mm) H
- 15.625 in. (397 mm) W x 15.75 in. (400 mm) H
- 16.5 in. (419 mm) W x 2.375 in. (60 mm) H
- 16.5 in. (419 mm) W x 4.75 in. (121 mm) H
- 16.5 in. (419 mm) W x 7.75 in. (197 mm) H
- 16.5 in. (419 mm) W x 15.75 in. (400 mm) H
- 24 in. (610 mm) W x 2.375 in. (60 mm) H
- 24 in. (610 mm) W x 4.75 in. (121 mm) H
- 24 in. (610 mm) W x 7.75 in. (197 mm) H
- 32 in. (813 mm) W x 7.75 in. (197 mm) H
- 48 in. (1,219 mm) W x 7.75 in. (197 mm) H

See page 2 for complete finish options

BRICK VENT TYPE BVE DETAILS & FINISH OPTIONS



FINISHES

Finish Type	Description/Application	Color Selection	Standard Warranty (Aluminum)
AAMA 2605 100% Fluoropolymer (FEVE) 2-Coat 70% Kynar® (PVDF) 3-Coat 70% Kynar® (PVDF) 4-Coat 70% Kynar® (PVDF)	**"Best."** The premier finish for extruded aluminum. Tough, long-lasting coating has superior color retention and abrasive properties. Resists chalking, fading, chemical abrasion and weathering.	**Standard Colors:** Any of the 27 standard colors shown can be furnished in 70% or 50% Kynar®, 100% Fluoropolymer or Baked Enamel. **Mica Colors:** Airolite offers 6 standard Mica colors for 70% Kynar® or 100% Fluoropolymer. **Custom Colors:** Custom color matching is available. Consult your Airolite representative for cost and/or lead-time implications if a custom color is required.	10 Years (20 Years Optional)
AAMA 2603 Baked Enamel	**"Good."** Provides good adhesion and resistance to weathering, corrosion and chemical stain.		1 Year
AA-M10C22A42 Integral Color Anodize	"Two-step" anodizing is produced by following the normal anodizing step with a second, colorfast process.	Light, Medium, Dark or Extra Dark Bronze; Champagne; Black	5 years
AA-M10C22A41 Clear Anodize 215 R-1	Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack.	Clear	5 years
AA-M10C22A31 Clear Anodize 204	Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack.	Clear	1 Year
Prime Coat	Louvers or architectural products shall be cleaned, pre-treated and receive a prime coat finish suitable for field painting. Airolite does not recommend prime coat or field painting of materials.		n/a
Mill	Materials may be supplied in natural aluminum or galvanized steel finish when normal weathering is acceptable and there is no concern for color or color change.		n/a

Finishes meet or exceed AAMA 2605, AAMA 2604, and AAMA 2603 requirements. Please consult www.airolite.com for complete information on standard and extended paint warranties. Paint finish warranties are not applicable to steel products.

AIROLITE®
The look that works.™
P.O. Box 410, 525 Western Road, Schofield, WI 54476-0410 USA
715.841.8757 • fax 715.841.8773 • www.airolite.com

Submittal BVE February 2020

8. 100 Islington Street -Recommended Approval

Background: The applicant is seeking approval for the removal and rebuilding of the existing rear deck, to use Timbertech Pro Decking and white radiance railings.

Staff Comment: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-728

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 1/26/2024

Primary Location

100 ISLINGTON ST

Portsmouth, NH 03801

Owner

ONE HUNDRED ISLINGTON ST CONDO MASTER

Applicant

Tyler Thomson

603-550-9227

lily@doverroofingcontractors.com

120 Durham Rd.

Dover, NH 03820

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

We will remove existing back deck and install new pressure treated framing with Timbertech Pro decking. Building new deck to same footprint as current deck. We will adhere new ledger board to secure deck to house and install white radiance railings. Deck measures 288sq ft and does not have steps.

Description of Proposed Work (Planning Staff)

Project Representatives

Relationship to Project

Other

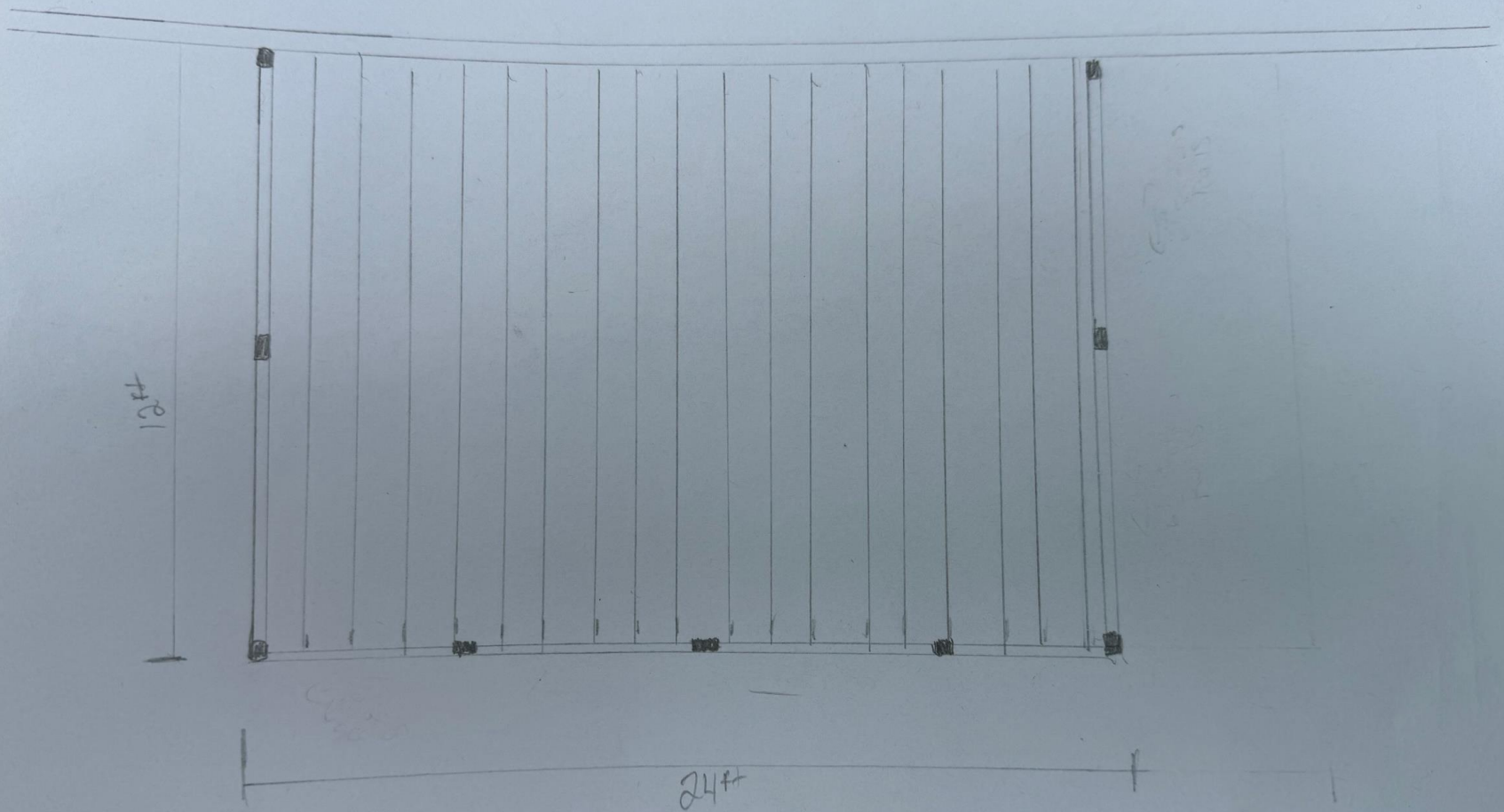
If you selected "Other", please state relationship to project.

Contractor

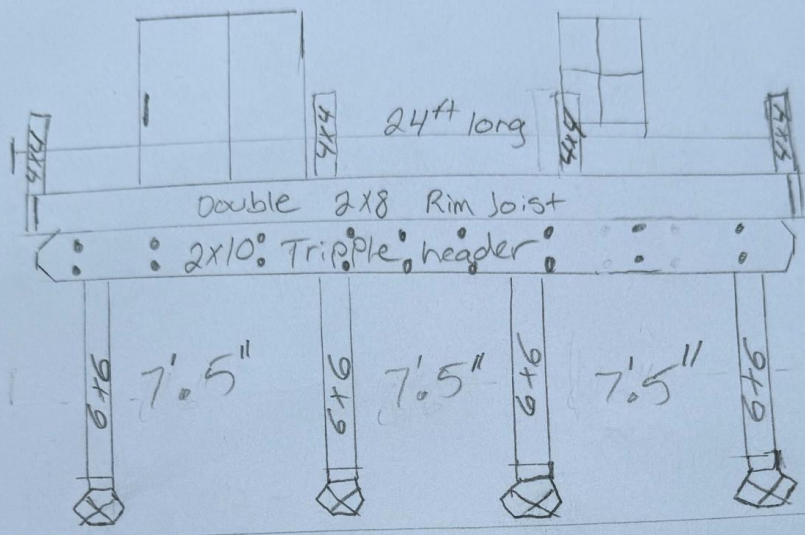

Islington St
Islington St
Islington St
Islington St
Summer St
138-16
137-24
137-25
137-26
137-27
137-31
67.1'
101.1'
101.45'
10.4'
43.2'
65.2'
54.2'
16'
123.6'
123.60'
129.44'
146'
12'
24'
23.25'
21.8'
60.17'
18'
45.5'
41.3'
95'
61.7'
41.95'
19.0'
68.25'
24.3'
33.76'
51'
11.55'
80.28'

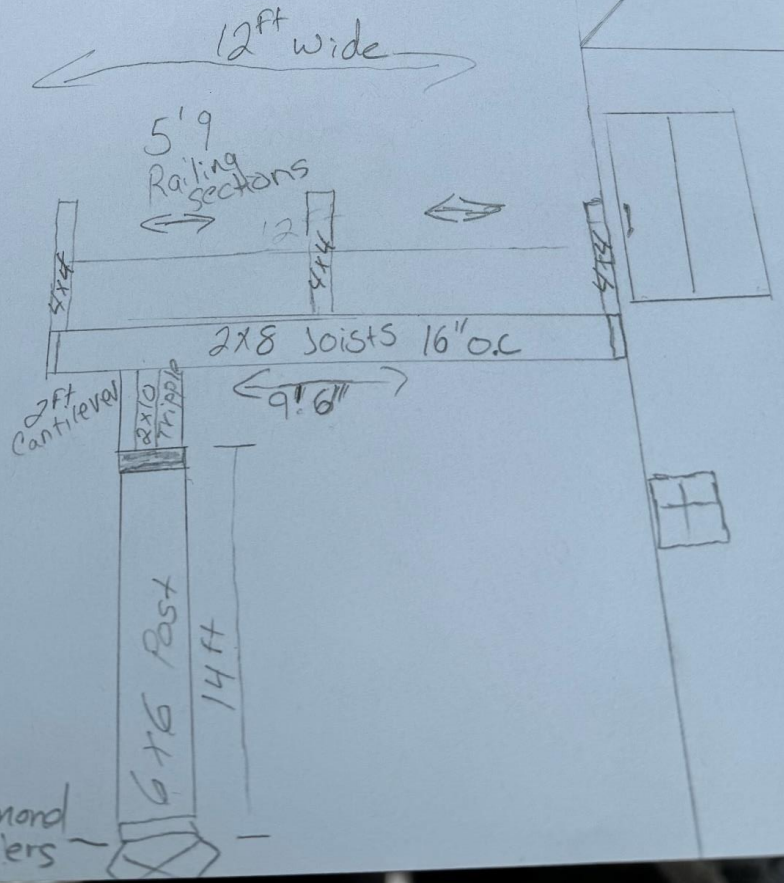
100 islington st portsmouth NH

706 Sherwood glen



100 islington St portsmouth NH





Decking: Timbertech Composite - Terrain® Collection – Brown Oak

Description: Get a timeless, traditional wood look without the rigorous maintenance of wood. Featuring a character-rich hand-scraped texture, our premium polymer capped composite boards deliver real wood aesthetics you'll never have to sand, stain, or seal.

Deck Boards

– Actual dimensions: 5.36" x 0.94"

– Lengths available:

Square-shoulder 16' and 20'

Grooved 12', 16' and 20'

Rails: Timbertech Pro RadianceRail Express - White

Description: Made from a mix of recycled wood and plastic fibers, TimberTech composite railing boasts superior durability to wood, while being extremely low maintenance. Enjoy easy ordering and installation with the Smart Set Kit — it has everything you need to build the railing in one kit.

Smart Set Rail Kit

Includes: Top and bottom rails, 4"x4" post sleeve, 4" post cap and skirt, hardware, footblocks, and composite balusters

– Rail Height: 36"

– Available in 6' or 8' sections

– Color: Available in White ONLY

9. 565 Islington Street -Recommended Approval

Background: The applicant is seeking approval for the replacement of the canopy banding and signage.

Staff Comment: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

LUHD-733

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 2/8/2024

Primary Location

565 ISLINGTON ST
Portsmouth, NH 03801

Owner

ARANOSIAN OIL CO
557 N STATE ST CONCORD, NH 03301

Applicant

Mark Jackson
203-491-8297
jarkmackson@gmail.com
855 Hanover Street
168
Manchester, New Hampshire 03104

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

Refresh Signage at the Sunoco Station

Description of Proposed Work (Planning Staff)

Project Representatives

Relationship to Project

Other

If you selected "Other", please state relationship to project.

Sign Company Representative

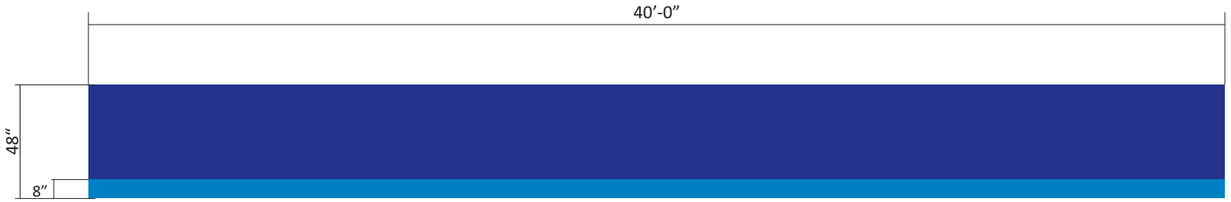
Premium Image Gas Canopy

40’-0” x 48’-0” x 44.5”
To Be Re-Framed To 48”
Qty: 4 columns

Existing Gas Canopy

Flat - NON Illuminated Fascia

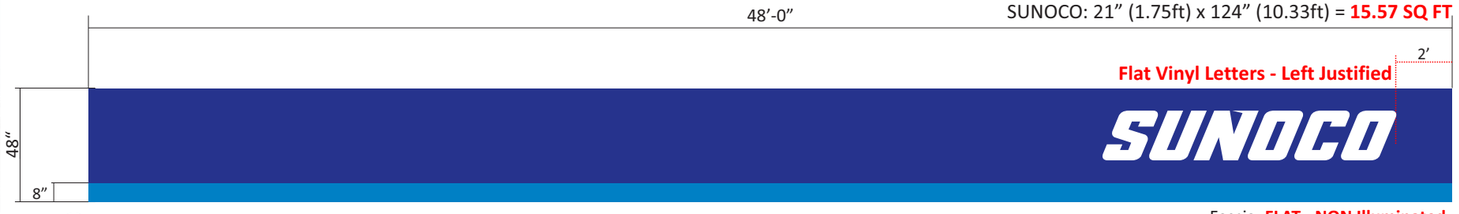
1 Front Elevation



1 Front Elevation

Fascia: **FLAT - NON Illuminated**

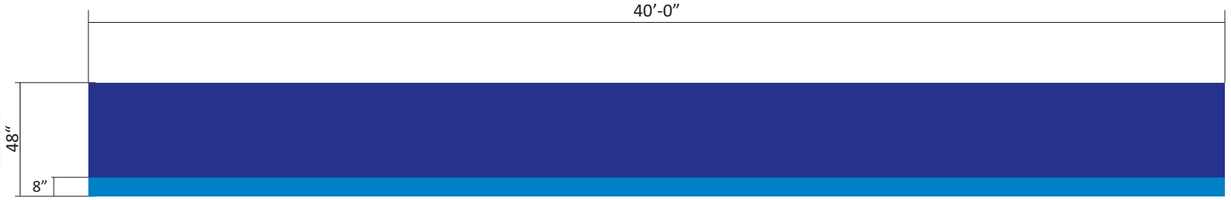
2 Left Elevation



2 Left Elevation

Fascia: **FLAT - NON Illuminated**

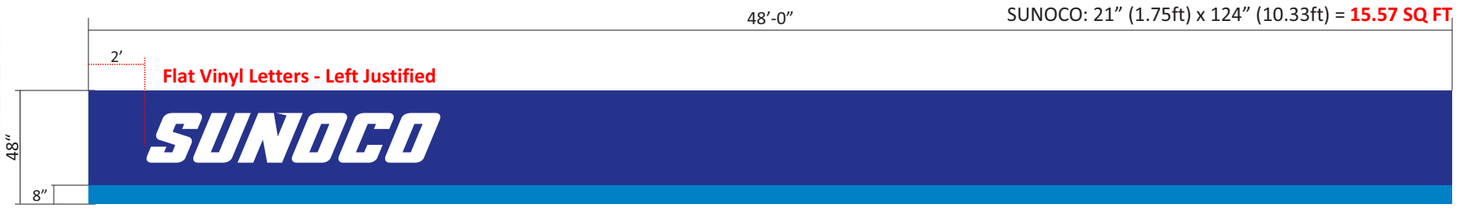
3 Rear Elevation



3 Rear Elevation

Fascia: **FLAT - NON Illuminated**

4 Right Elevation



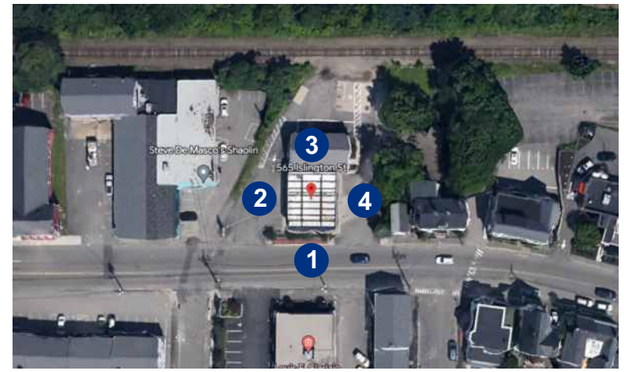
4 Right Elevation

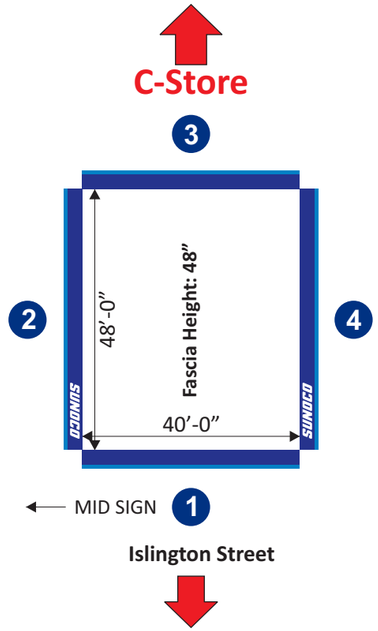
Fascia: **FLAT - NON Illuminated**

Scope of Work:

Remove existing fascia & dispose. Re-frame to 48”
Install square corner kits provided by Fed Heath.
Install 48” pre-imaged Sunoco Blue/Lt Blue fascia panels.
Fascia to be FLAT - NON-ILLUMINATED on ALL elevations.
Install Qty: 1 set of Sunoco Channel Letters on left elevation
Install Qty: 1 set of Sunoco Channel Letters on right elevation

NOTE: Electrical for Channel Letters to NOT be connected. Signs to be NON ILLUMINATED.





TOTAL IMAGING

IMAGING THE PETROLEUM INDUSTRY FOR OVER 30 YEARS

Revisions:

Rev. 0 - Original Drawing	07/18/2023
Rev. 1 - 48” fascia.	07/27/2023
Rev. 2 - Removed wordmark/arrow & diamonds. Added channel letters.	09/19/2023
Rev. 3 - Flat non illuminated fascia. Non illuminated signs.	01/31/2024

Address: **565 Islington Street**
Portsmouth, NH 03801

Customer: NH SIGNS

Drawn by: EG

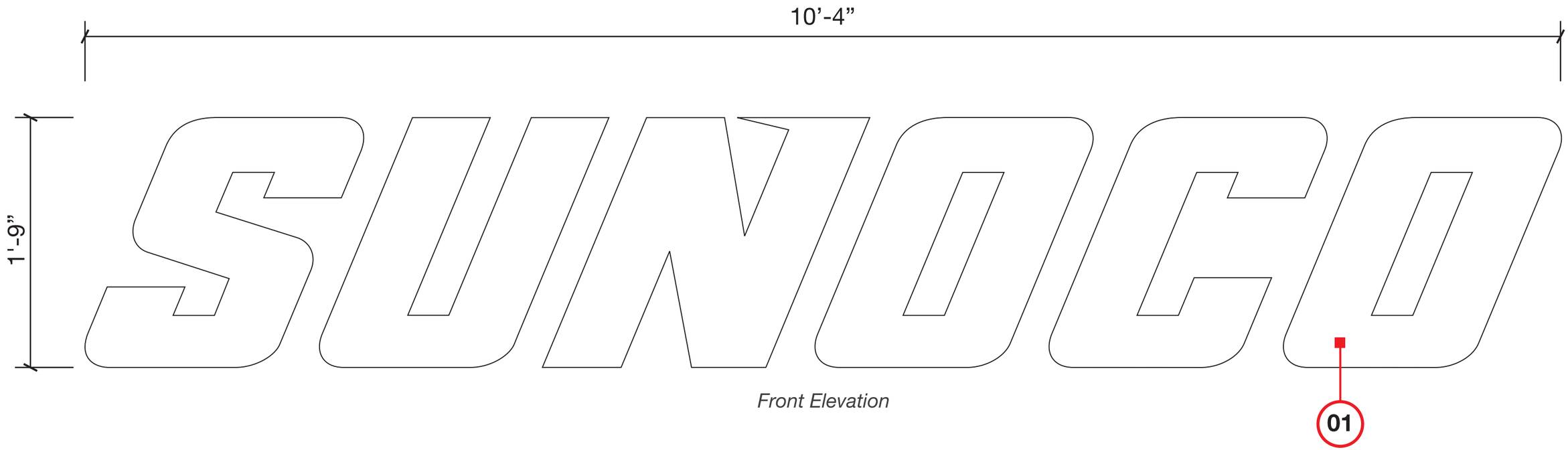
Job Number: SUN-29704-SR

Date: 07/18/2023

Customer Approval: _____

<---------- Please initial here

VINYL LETTERS



Front Elevation

2D Flat Vinyl Lettering

IMAGING THE PETROLEUM INDUSTRY FOR OVER 30 YEARS

Revisions:

Rev. 0 - Original Drawing	07/18/2023
Rev. 1 - 48” fascia.	07/27/2023
Rev. 2 - Removed wordmark/arrow & diamonds. Added channel letters.	09/19/2023
Rev. 3 - Flat non illuminated fascia. Non illuminated signs.	01/31/2024

Address: **565 Islington Street**
Portsmouth, NH 03801

Customer: NH SIGNS

Drawn by: EG

Job Number: SUN-29704-SR

Date: 07/18/2023

Customer Approval: _____

<---------- Please initial here

10. 420 Pleasant Street -Recommended Approval

<u>Background</u>: The applicant is seeking approval for the addition of a wall mounted scupper and downspout, previously approved windows to be changed for egress compliance, the removal of (1) window and exterior lighting selection.

<u>Staff Comment</u>: Recommended Approval

Stipulations:

1. _____
2. _____
3. _____

City of Portsmouth, NH

2/9/2024

LUHD-723

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 1/8/2024

Primary Location

420 PLEASANT ST

Portsmouth, NH 03801

Owner

NEAL PLEASANT ST PROPERTIES LLC

420 PLEASANT ST APT 5

PORTSMOUTH, NH 03801

Applicant

Richard Desjardins

603-430-0274

richard@mchenryarchitecture.com

4 Market Street

Portsmouth, NH 03801

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

PROPOSED ALTERATIONS:

- ADDITION OF WALL MOUNTED SCUPPER AND DOWNSPOUT
- PREVIOUSLY APPROVED GREEN MOUNTAIN DOUBLE HUNG WINDOW TO BE CHANGED TO A GREEN MOUNTAIN EGRESS COMPLIANT DOUBLE HUNG WINDOW (CASEMENT WINDOW)
- REMOVAL OF A PREVIOUSLY APPROVED DOUBLE HUNG WINDOW LOCATED ON THE EAST ELEVATION
- EXTERIOR LIGHTING SELECTION

Description of Proposed Work (Planning Staff)

420 PLEASANT STREET - ADDITION & RENOVATIONS

HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL
PORTSMOUTH, NEW HAMPSHIRE

LAND USE APPROVALS:

1. HISTORIC DISTRICT COMMISSION CERTIFICATE OF APPROVAL: 07/20/2021
   - A. EXTENDED: 06/17/2022
   - B. EXTENDED: 08/07/2023

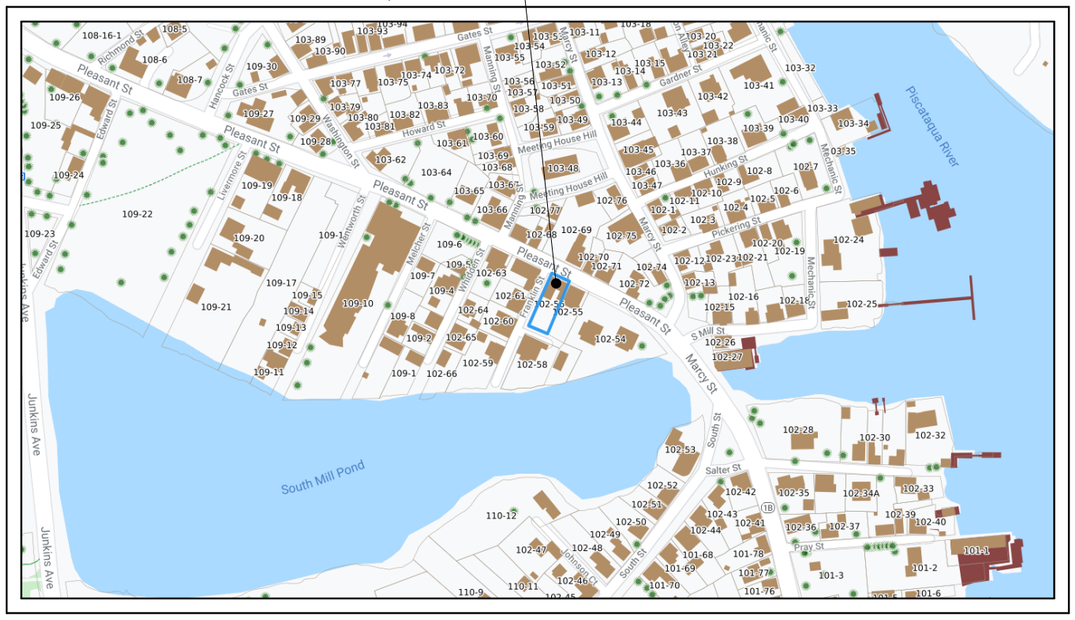
2. ZONING BOARD OF ADJUSTMENT CERTIFICATE OF APPROVAL: 10/04/2021
   - A. EXTENDED: 06/27/2023

PROPOSED ALTERATIONS:

- ADDITION OF WALL MOUNTED SCUPPER AND DOWNSPOUT
- PREVIOUSLY APPROVED GREEN MOUNTAIN DOUBLE HUNG WINDOW TO BE CHANGED TO A GREEN MOUNTAIN EGRESS COMPLIANT DOUBLE HUNG WINDOW (CASEMENT WINDOW)
- REMOVAL OF A PREVIOUSLY APPROVED DOUBLE HUNG WINDOW LOCATED ON THE EAST ELEVATION
- EXTERIOR LIGHTING SELECTION

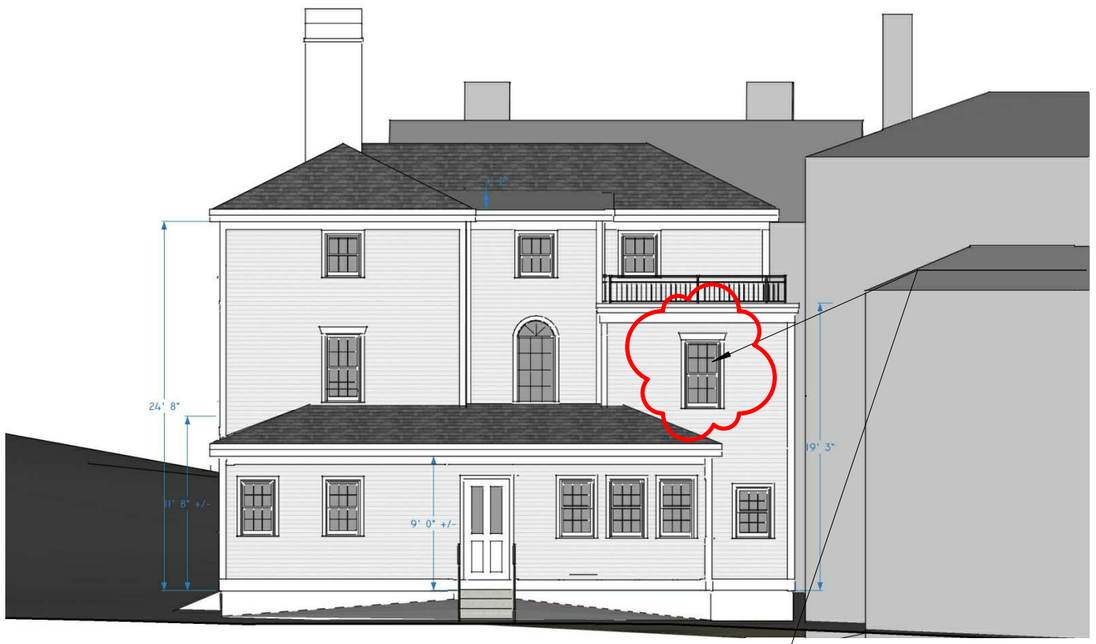
SHEET LIST - HDC	
Sheet Number	Sheet Name
C	COVER
A1	PREVIOUSLY APPROVED
A2	PROPOSED CONDITIONS
A3	PRODUCT SELECTIONS

420 PLEASANT STREET PORTSMOUTH, NH 03801



420 PLEASANT STREET PORTSMOUTH, NEW HAMPSHIRE 03801	COVER HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL	McHENRY ARCHITECTURE 4 Market Street Portsmouth, New Hampshire	C	12/21/2023 McHA: RD / MG AS INDICATED

Z:\Active Project Files\21022-420 PLEASANT STREET\Dwgs\4-CD\420 PLEASANT STREET - CD.rvt

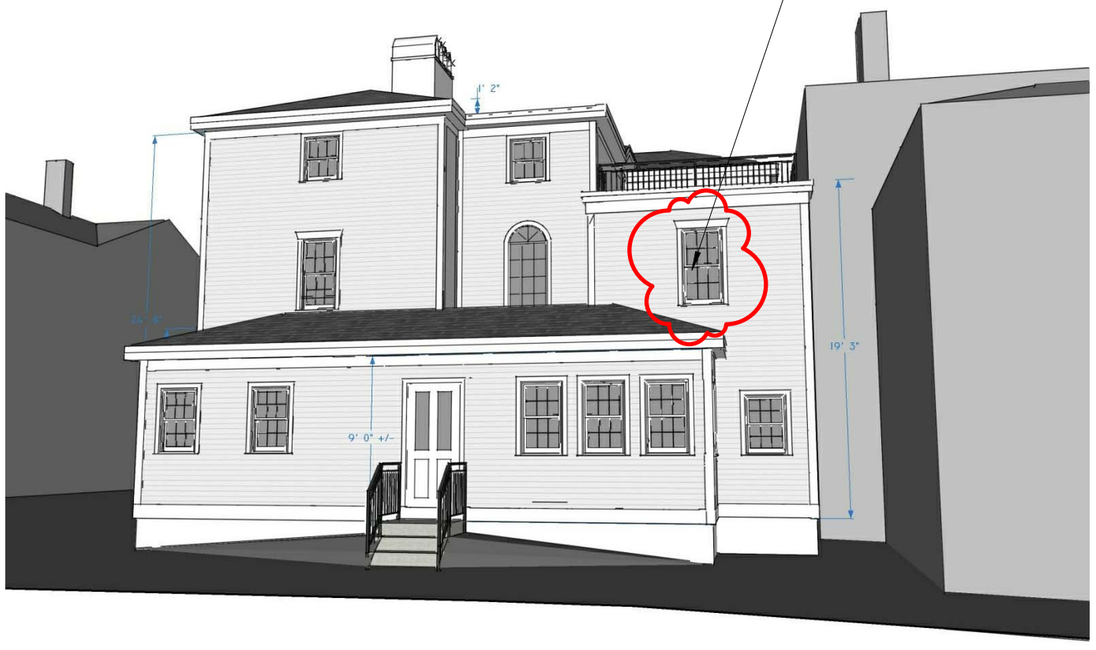


REAR ELEVATION - REVISED ROOFING AND SIDING

PREVIOUSLY APPROVED GREEN MOUNTAIN DOUBLE HUNG WINDOW TO BE CHANGED TO A GREEN MOUNTAIN EGRESS COMPLIANT DOUBLE HUNG WINDOW (CASEMENT WINDOW)

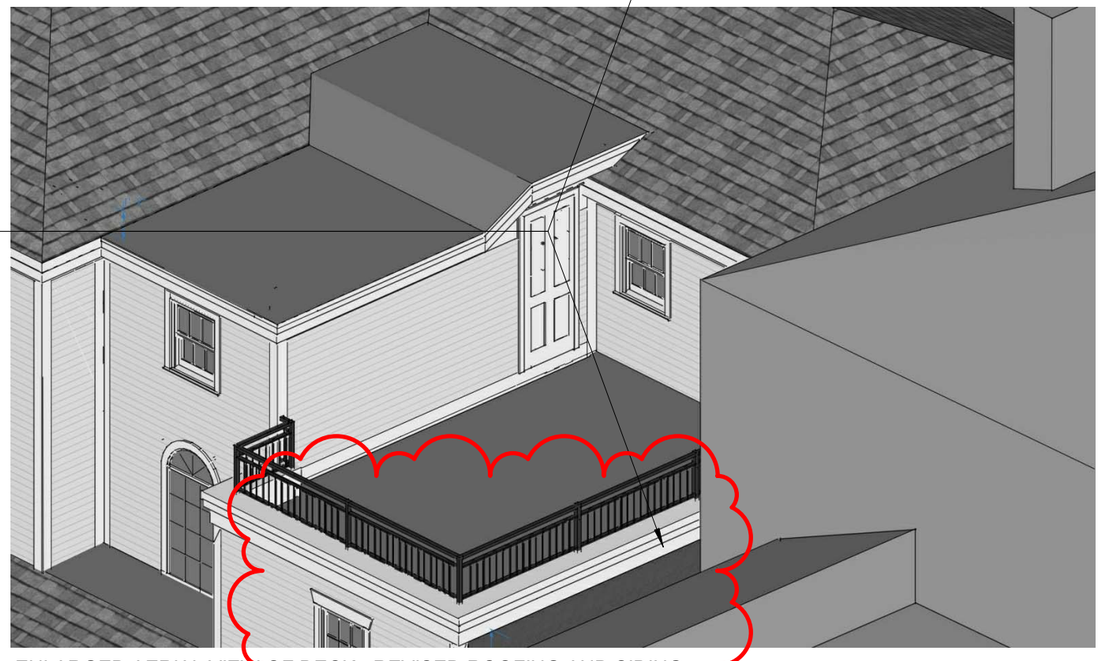
PREVIOUSLY APPROVED WINDOW TO BE REMOVED. NO OPENINGS ALLOWED IN WALLS PARALLEL AND WITHIN 10'-0" OF PROPERTY LINE ALLOWED PER BUILDING CODE

AERIAL VIEW FROM SOUTH - REVISED ROOFING AND SIDING



VIEW FROM SOUTHWEST - REVISED ROOFING AND SIDING

ADDITION OF WALL MOUNTED ALUMINUM SCUPPER AND DOWNSPOUT. WHITE TO MATCH TRIM.



ENLARGED AERIAL VIEW OF DECK - REVISED ROOFING AND SIDING

420 PLEASANT STREET
PORTSMOUTH, NEW HAMPSHIRE 03801

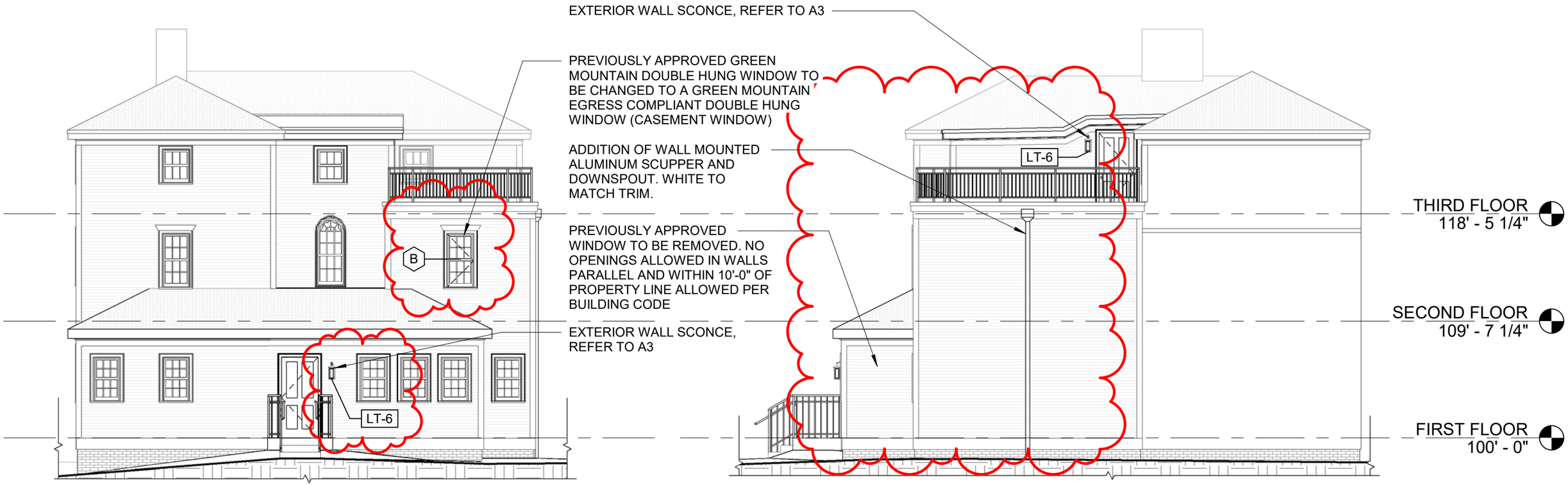
PREVIOUSLY APPROVED

HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A1

12/21/2023
McHA: RD / MG
AS INDICATED



1 SOUTH BUILDING ELEVATION
1/8" = 1'-0"

2 EAST BUILDING ELEVATION
1/8" = 1'-0"

420 PLEASANT STREET
PORTSMOUTH, NEW HAMPSHIRE 03801

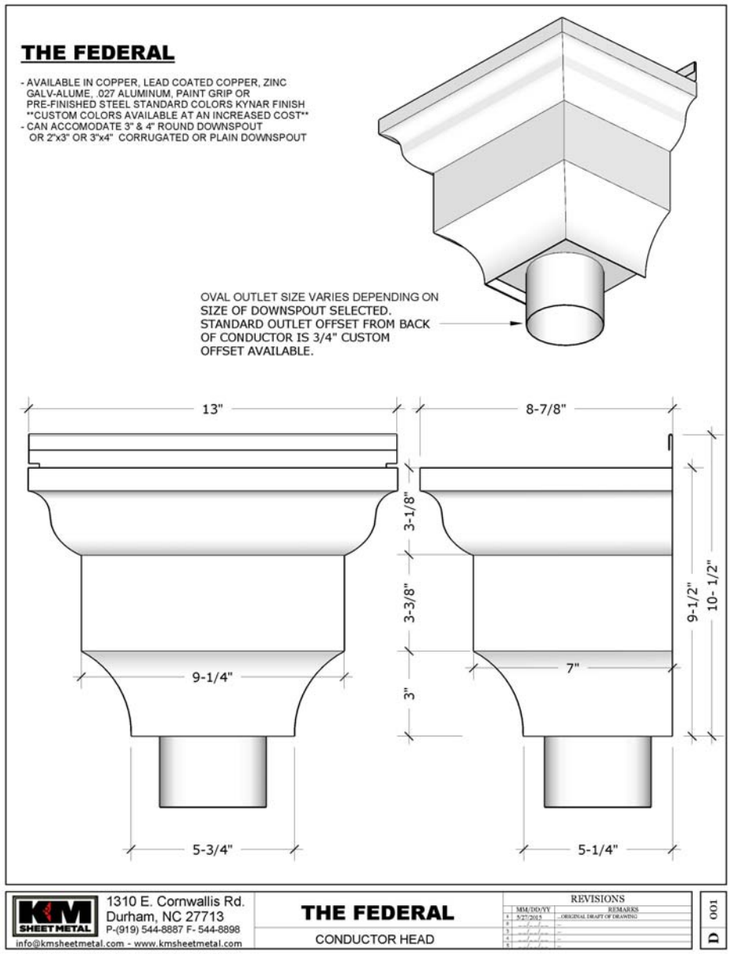
PROPOSED CONDITIONS

HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A2

12/21/2023
McHA: RD / MG
AS INDICATED



WALL MOUNTED KYNAR ALUMINUM SCUPPER CONDUCTOR HEAD, WHITE TO MATCH TRIM WITH MATCHING ROUND DOWNSPOUT.
K&M SHEET METAL: THE LARGE FEDERAL CONDUCTOR HEAD

LT-6: WALL SCONCES AT REAR ENTRY DOOR AND DOOR TO ROOF DECK

TYPE "B" WINDOW: GREEN MOUNTAIN MILESTONE WINDOW TO MATCH PREVIOUSLY APPROVED GREEN MOUNTAIN WINDOWS. DOUBLE HUNG STYLE EGRESS WINDOW

420 PLEASANT STREET
PORTSMOUTH, NEW HAMPSHIRE 03801

PRODUCT SELECTIONS

HISTORIC DISTRICT COMMISSION ADMINISTRATIVE APPROVAL

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A3

12/21/2023
McHA: RD / MG
NOT TO SCALE

11. 202 Court Street -TBD

Background: The applicant is seeking approval for final fencing, omission of gas lighting, and other miscellaneous field changes. Final solar panel layout will return at a future meeting.

Staff Comment: TBD

Stipulations:

1. _____
2. _____
3. _____

City of Portsmouth, NH

2/9/2024

LUHD-736

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 2/9/2024

Primary Location

202 COURT ST

Portsmouth, NH 03801

Owner

202 COURT STREET PROPERTY GROUP LLC

ONE MIDDLE ST SUITE 4

PORTSMOUTH, NH 03801

Applicant

Matt Silva

603-765-6648

matt@profilehomesnh.com

31 County Farm Rd

Dover, NH 03820

Application Type

Please select application type from the drop down menu below

Administrative Approval

Alternative Project Address

Project Information

Brief Description of Proposed Work*

Confirmation of Project revisions

Description of Proposed Work (Planning Staff)

Acknowledgement

I certify that the information given is true and correct to the best of my knowledge.*

☑

By checking this box, I agree that this is equivalent to a handwritten signature and is binding for all purposes related to this transaction*

☑

Date: 8/18/23

Profile Homes of NH
953 Islington St, Unit 22C
Portsmouth, NH 03801
603-433-2464

City of Portsmouth Historical District Commission

RE: 202 Court St Request for Public Hearing or Administrative Approval

Dear Members of the Historical District Commission,

Please see the attached request for administrative approval dated 2/8/24

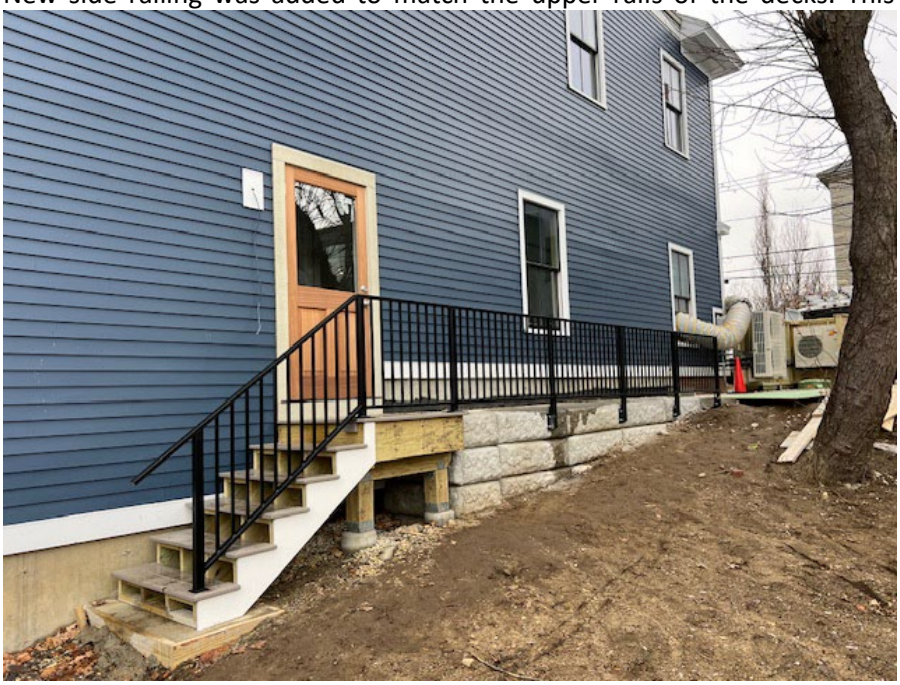
In an effort to provide updated requests to the commission we are applying for additional changes to the exterior of the building and to clarify the existing requests in place. These are as follows:

HVAC

1- The notation from the inspection report done by Vincent Hayes noted that the HVAC items were a TBC. It was our understanding that this was approved in our last meeting We are requested the confirmation of this. Current photo shows the

Side Railing:

New side railing was added to match the upper rails of the decks. This is required by code.



FENCING

The Application wishes to also clarify the fencing to be used on the building. Where a Cedar or similar building fencing will be installed on the north side of the building corner to hide the HVAC equipment and owner waste and recycling bins. HDC requested that we show photos of install. This was built to match the existing fence of 206 Court Street original fence approval. This was painted black as seen in the photo. HDC to have choice of final color of fence. Owners' preference is black.

Bishop Caps:

Removal of the bishop caps to place a stone cap on chimney. Bishop cap was noted on architectural plans but not intended on the building. These are non-working fireplaces now in the design.

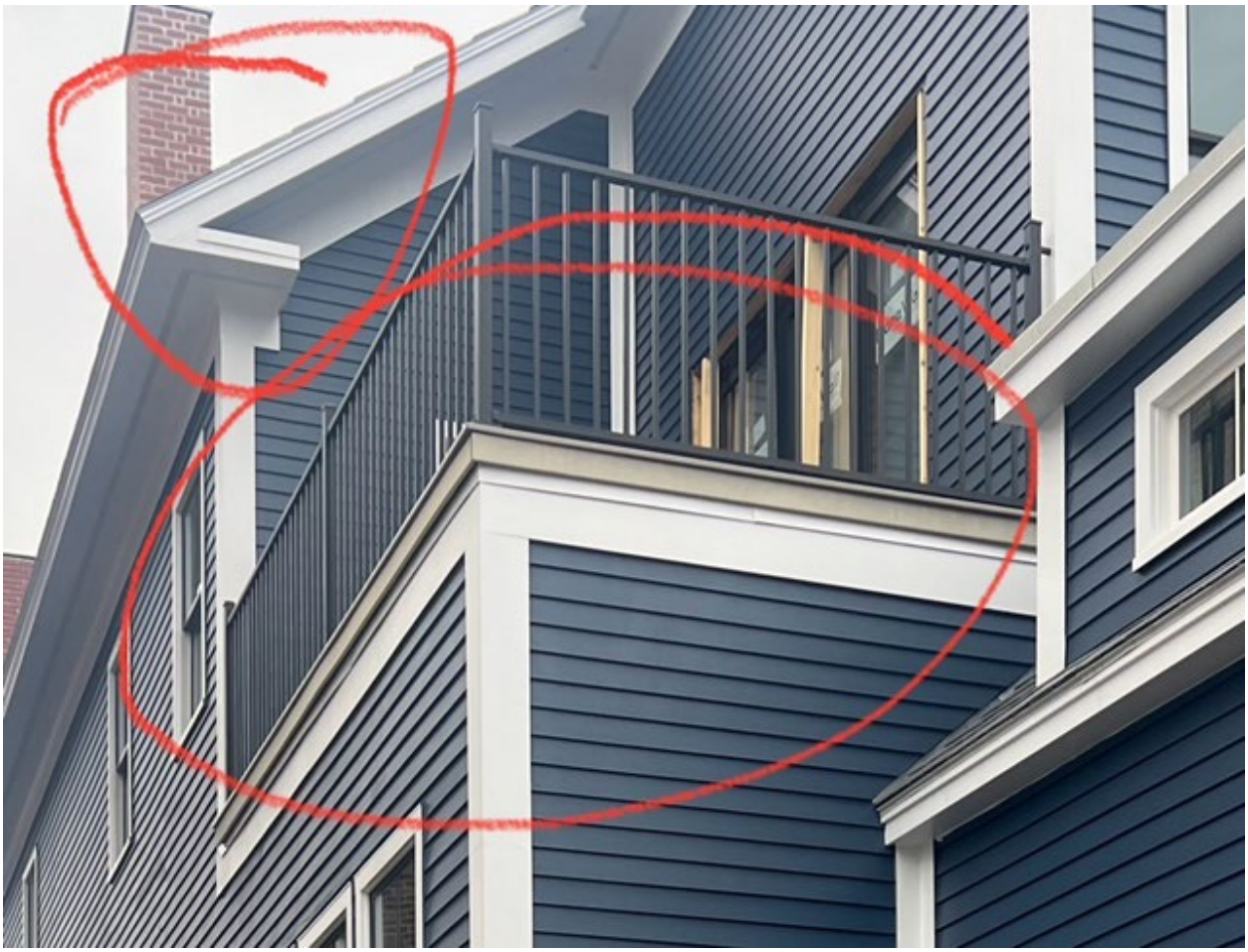
Garage Doors:

Panels were changed to omit the lower half of the glass. Only the top 2 rows exist.

GAS LANTERN LIGHTING:

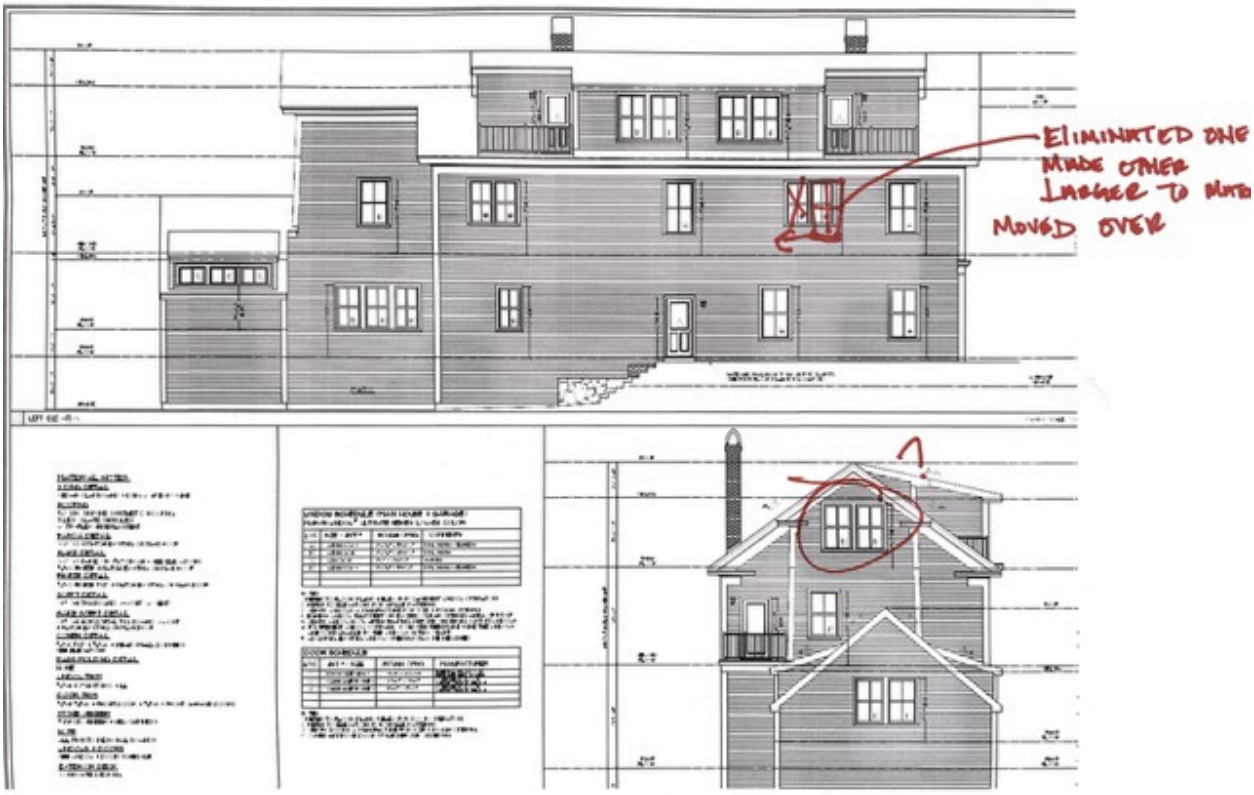
Request has been omitted since last HDC meeting.

Deck Trim and Crown:
Noted on the inspection report was that the deck trim in crown is not complete. As noted in the photo the deck trim is installed, but not painted. The crown is, and has been installed, and we wish to clarify this with the board.



Rear Door:
Installed new access do. To be painted blue to match building or white to match trim. HDC Preference requested

Side Elevation Window Change:



12. 34 Ceres Street -TBD

Background: The applicant is seeking approval for the installation of HVAC equipment (condenser) with a wood slat screening.

Staff Comment: TBD

Stipulations:

1. _____
2. _____
3. _____

City of Portsmouth, NH

2/9/2024

LUHD-735

Historic District Commission Work Session or Administrative Approval Application

Status: Active

Submitted On: 2/8/2024

Primary Location

34 CERES ST

Portsmouth, NH 03801

Owner

PORTSMOUTH NAVIGATION CORP

100 OLIVER ST SUITE 1840

BOSTON, MA 02110

Applicant

Kevin Hart

603-235-8828

khartx5@gmail.com

35 Riverside Drive

Greenland, NH 03840

Application Type

Please select application type from the drop down menu below

–

Alternative Project Address

Project Information

Brief Description of Proposed Work*

Heat pump installation

Description of Proposed Work (Planning Staff)

Acknowledgement

I certify that the information given is true and correct to the best of my knowledge.*

☑

By checking this box, I agree that this is equivalent to a handwritten signature and is binding for all purposes related to this transaction*

☑

34 Ceres Street

Property Information

Property ID	0106-0045-0000
Location	34 CERES ST
Owner	PORTSMOUTH NAVIGATION CORP

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 08/24/2023
Data updated 3/9/2022

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

Job Name/Location: CREESE ST

Date: 02/08/2024

PO No.:

Architect:

Engr:

Rep: API OF NH
(Company)

Tag #:

For: ☐ File ☐ Resubmit ■ Approval ☐ Other

GC:

Mech: HART P & H

(Project Manager)

LMU300HHV
Multi F with LGRED® Heat Pump Outdoor Unit

LG
Life's Good

Performance:

Cooling (Min-Rated-Max, Btu/h)	8,400 ~ 28,400 ~ 34,080
Heating (Min-Rated-Max, Btu/h)	10,248 ~ 28,600 ~ 34,320
Max Heating at 5°F (Btu/h)	28,600
Cooling Power Input (Min-Rated-Max, kW)	0.95 ~ 2.27 ~ 3.18
Heating Power Input (Min-Rated-Max, kW)	1.30 ~ 2.33 ~ 3.26

Cooling Nominal Test Conditions: Indoor: 80°F DB/67°F WB Outdoor: 95°F DB/75°F WB

Heating Nominal Test Conditions: Indoor: 70°F DB/60°F WB Outdoor: 47°F DB/43°F WB

Electrical:

Power Supply (V[1]/Hz/Ø)	208-230/60/1
MOP (A)	30
MCA (A)	19.4
Recommended Fuse Size (A)	25
Cooling Rated Amps (A)	16.13
Heating Rated Amps (A)	16.13
Compressor (A)	13
Fan Motor (A)	0.73

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Piping:

Refrigerant Charge (lbs.)	7.05
Liquid Line (in, OD)	Ø1/4 x 4
Vapor Line (in, OD)	Ø3/8 x 4
Max Total Piping[2] (ft)	246.1
Max ODU to IDU Piping (ft)	82
Piping Length (no add'l refrigerant, ft)	98.4
Max Elevation between ODU and IDU (ft)	49.2
Max Elevation between IDU and IDU (ft)	24.6

ODU - Outdoor Unit IDU - Indoor Unit

Controls Features:

- •Auto operation
- •Auto restart
- •Defrost/Deicing
- •Inverter (variable speed compressor)
- •Low ambient operation to 14F (cooling mode)
- •Restart delay (3-minutes)
- •Self diagnosis
- •Soft start
- •Factory installed Drain Pan Heater

Optional Accessories:

- ☐ PI-485 Integration Board - PMNFP14A1
- ☐ AC Smart IV - PACS4B000
- ☐ ACP IV - PACP4B000
- ☐ Power Distribution Indicator - PQNUD1541
- ☐ MultiSITE™ CM - PBACNBTR0A
- ☐ LonWorks® Gateway - PLNWKB100
- ☐ AC Smart IV BACnet® Gateway - PBACNA000
- ☐ ACP IV BACnet Gateway - PQNFB17C2
- ☐ Low Ambient Wind Baffle (Cooling operation to -4°F) - ZLABGP04A

For a complete list of available accessories, contact your LG representative.

Operating Range:

Cooling (°F DB)	14 to 118
Heating (°F WB)	-13 to +75

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure[3] (Cool/Heat) ±3 dB(A)	52 / 55
Net/Shipping Weight (lbs)	152.1 / 165.3
Heat Exchanger Coating	GoldFin™
Min Number of Indoor Units	2
Max Number of Indoor Units	4

Compressor:

Quantity	1
Type	Twin Rotary
Oil/Type	FVC68D

Fan:

Type	Propeller
Quantity	1
Fan Motor/Drive	Brushless Digitally Controlled/Direct
Airflow Rate (CFM)	2,295

Notes:

1. Acceptable operating voltage: 187V ~ 253V.
2. Piping lengths are equivalent.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All power/communication cable to be minimum 18 American wire gage (AWG), 4-conductor, stranded, shielded or unshielded wire and must comply with applicable local and national code. If shielded, the wire must be grounded to the chassis at the outdoor unit only.
5. Power wiring cable size must comply with the applicable local and na. onal code.
6. This data is rated 0 ft above sea level, with 25 ft of refrigerant line and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95 ~ 105%.
7. Must follow installation instructions in the applicable LG installation manual.
8. Refer to the Combination Data Manual for combination capacity tables.
9. See Performance Data Manual for sensible and latent capacities.

ENERGY STAR

Intertek

AHRI CERTIFIED

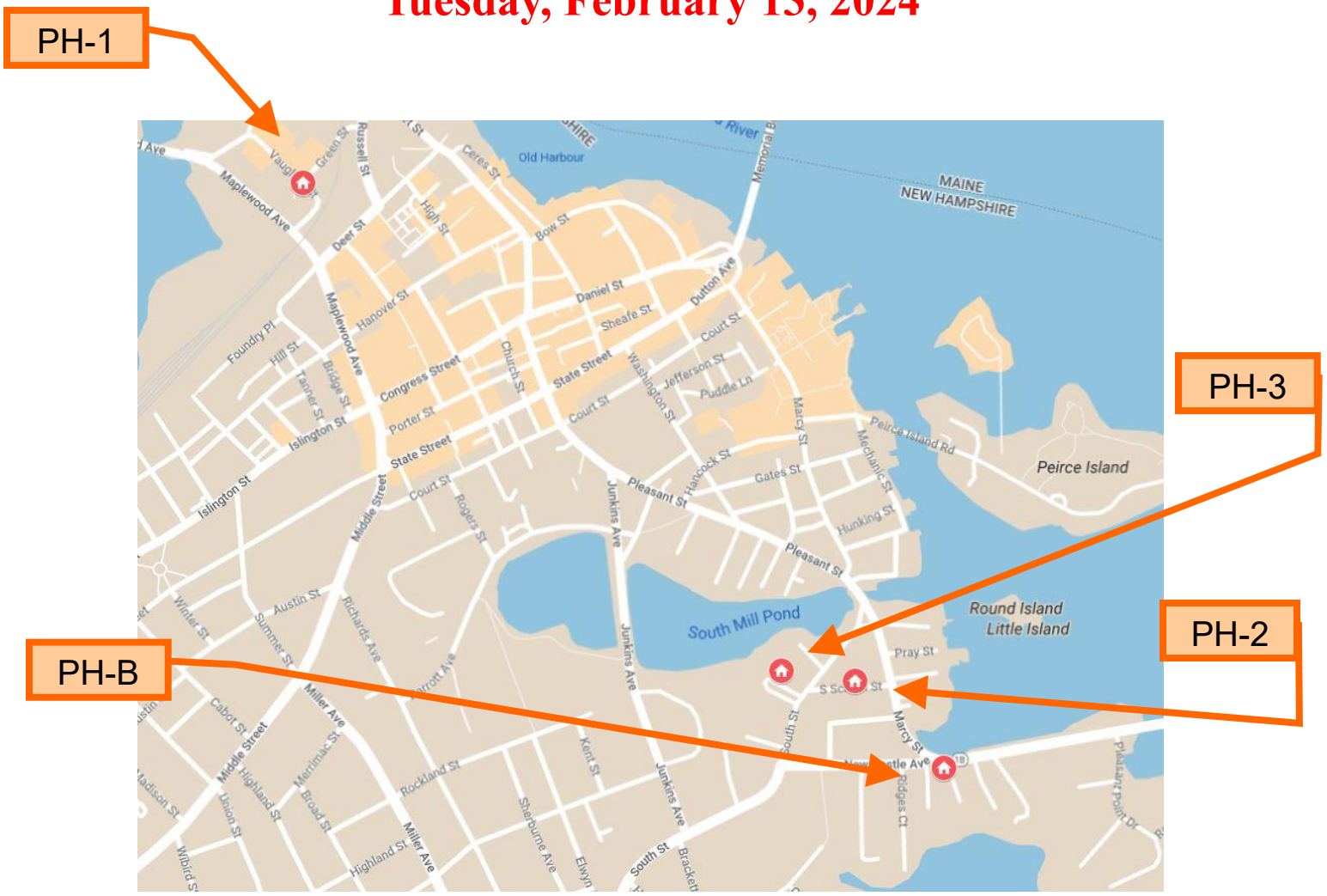
BACnet® is a registered trademark of ASHRAE. LonWorks is a trademark of Echelon Corporation. Energy Star rating at least for Non-Ducted combinations; refer to AHRI directory for complete list.

For continual product development, LG reserves the right to change specifications without notice.

Historic District Commission

Staff Report

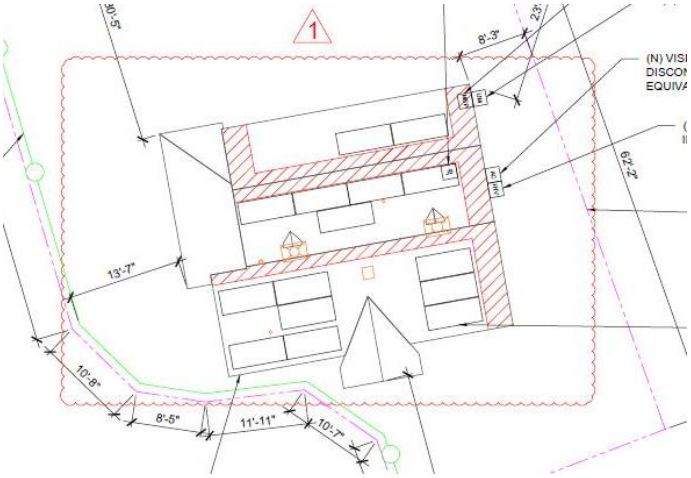
Tuesday, February 13, 2024



Project Address: **180 NEW CASTLE AVENUE**

Permit Requested: **CERTIFICATE OF APPROVAL**

Application: **PUBLIC HEARING B**



A. Property Information - General:

Existing Conditions:

- Zoning District: Single Residence B (SRB)
- Land Use: Residential
- Land Area: 4,260 SF +/-
- Estimated Age of Structure: c.1810
- Building Style: Federal
- Number of Stories:2.5
- Historical Significance: C
- Public View of Proposed Work: View from New Castle Avenue and Ball Street
- Unique Features: NA
- Neighborhood Association: South End

B. Proposed Work: To add roof-mounted solar panels.

C. Staff Comments and/ or Suggestions for Consideration:

The project proposal includes the following:

- Install roof mounted solar panels

HISTORIC SURVEY RATING

C

D. Purpose and Intent:

1. Preserve the integrity of the District
2. Assessment of the Historical Significance
3. Conservation and enhancement of property values
4. Maintain the special character of the District
5. Complement and enhance the architectural and historic character
6. Promote the education, pleasure and welfare of the District and the city residents and visitors

E. Review Criteria/Findings of Fact:

1. Consistent with special and defining character of surrounding properties
2. Compatibility of design with surrounding properties
3. Relation to historic and architectural value of existing structures
4. Compatibility of innovative technologies with surrounding properties

Freedom Forever
Planset Revision Letter

11/13/2023
REV #2

Attn. City of Portsmouth (NH):

The changes outlined in Revision Details have been applied to the plans corresponding to the following customer:

ANNE MOODEY
180 NEW CASTLE AVE , PORTSMOUTH, NH 03801

Revision Details:
1.Elevation updated.

All corresponding changes are notated on the plans by revision clouds.

Thank you for your time in reviewing these plans. Please reach out if you have any additional questions or concerns.

Construction Engineering
Freedom Forever
engineering@freedomforever.com

ROOF MOUNT PHOTOVOLTAIC SYSTEM

CODES:

THIS PROJECT COMPLIES WITH THE FOLLOWING:
2020 NH STATE BUILDING CODE
2020 NH STATE FIRE CODE
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
"2018 NFPA 1, FIRE CODE AS AMENDED BY SAF-FMO 300"
2018 NFPA 101 LIFE SAFETY CODE AS AMENDED BY SAF-FMO 300
2023 NATIONAL ELECTRICAL CODE
AS ADOPTED BY CITY OF PORTSMOUTH (NH)

VICINITY MAP:

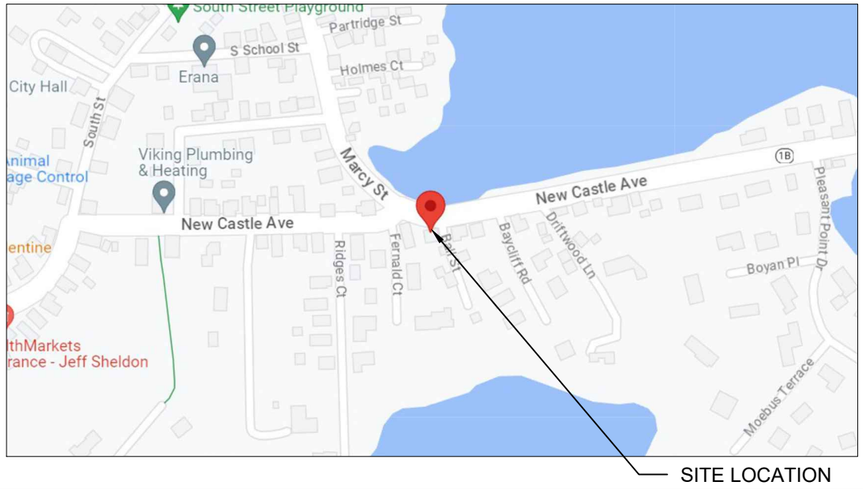


TABLE OF CONTENTS:

CONSTRUCTION NOTES:

CONDUIT AND CONDUCTOR SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS.
ALL SOLAR ENERGY SYSTEM EQUIPMENT SHALL BE SCREENED TO THE MAXIMUM EXTENT POSSIBLE AND SHALL BE PAINTED A COLOR SIMILAR TO THE SURFACE UPON WHICH THEY ARE MOUNTED.
MODULES SHALL BE TESTED , LISTED AND INDENTIFIED WITH FIRE CLASSIFICATION IN ACCORDANCE WITH UL 2703. SMOKE AND CARBON MONOXIDE ALARMS ARE REQUIRED PER SECTION R314 AND 315 TO BE VERIFIED AND INSPECTED BY INSPECTOR IN THE FIELD.
DIG ALERT (811) TO BE CONTACTED AND COMPLIANCE WITH EXCAVATION SAFETY PRIOR TO ANY EXCAVATION TAKING PLACE
PHOTOVOLTAIC SYSTEM GROUND WILL BE TIED INTO EXISTING GROUND AT MAIN SERVICE FROM DC DISCONNECT/INVERTER AS PER 2023 NEC SEC 250.166(A).
SOLAR PHOTOVOLTAIC SYSTEM EQUIPMENT WILL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF ART. 690 OF THE 2023 NEC
THE MAIN SERVICE PANEL WILL BE EQUIPPED WITH A GROUND ROD OR UFER
UTILITY COMPANY WILL BE NOTIFIED PRIOR TO ACTIVATION OF THE SOLAR PV SYSTEM
SOLAREDGE OPTIMIZERS ARE LISTED TO IEC 62109-1 (CLASS II SAFETY) AND UL 1741 STANDARDS
INSTALL CREW TO VERIFY ROOF STRUCTURE PRIOR TO COMMENCING WORK. EMT CONDUIT ATTACHED TO THE ROOF USING CONDUIT MOUNT.

THIS SYSTEM DESIGNED WITH:
WIND SPEED: 121
WIND EXPOSURE: B
SNOW LOAD: 50

CLIENT:
ANNE MOODEY
180 NEW CASTLE AVE, PORTSMOUTH, NH 03801
AHJ: CITY OF PORTSMOUTH (NH)
UTILITY: EVERSOURCE ENERGY (EASTERN MA)
METER: 72329222
APN: PRSM-000101-000023
PHONE: (603) 361-7031
EMAIL: AMOODEY1@GMAIL.COM

SYSTEM:
SYSTEM SIZE (DC): 15 X 385 = 5.775 kW
SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 15 X JINKO SOLAR: JKM385M-72HBL
OPTIMIZERS: 15 X SOLAREDGE P505
INVERTER: SOLAREDGE SE5000H-USRGM [SI1]

1

	REVISIONS	
NO.	REVISED BY	DATE
1	S.K.	11/8/2023
2	S.G.	11/13/2023
-	-	-

freedom FOREVER

FREEDOM FOREVER LLC
43445 BUSINESS PARK DR #110, TEMECULA, CA 92590
Tel: (800) 385-1075
GREG ALBRIGHT

CONTRACTOR LICENSE:
ELECTRICAL CONTRACTOR 0512C

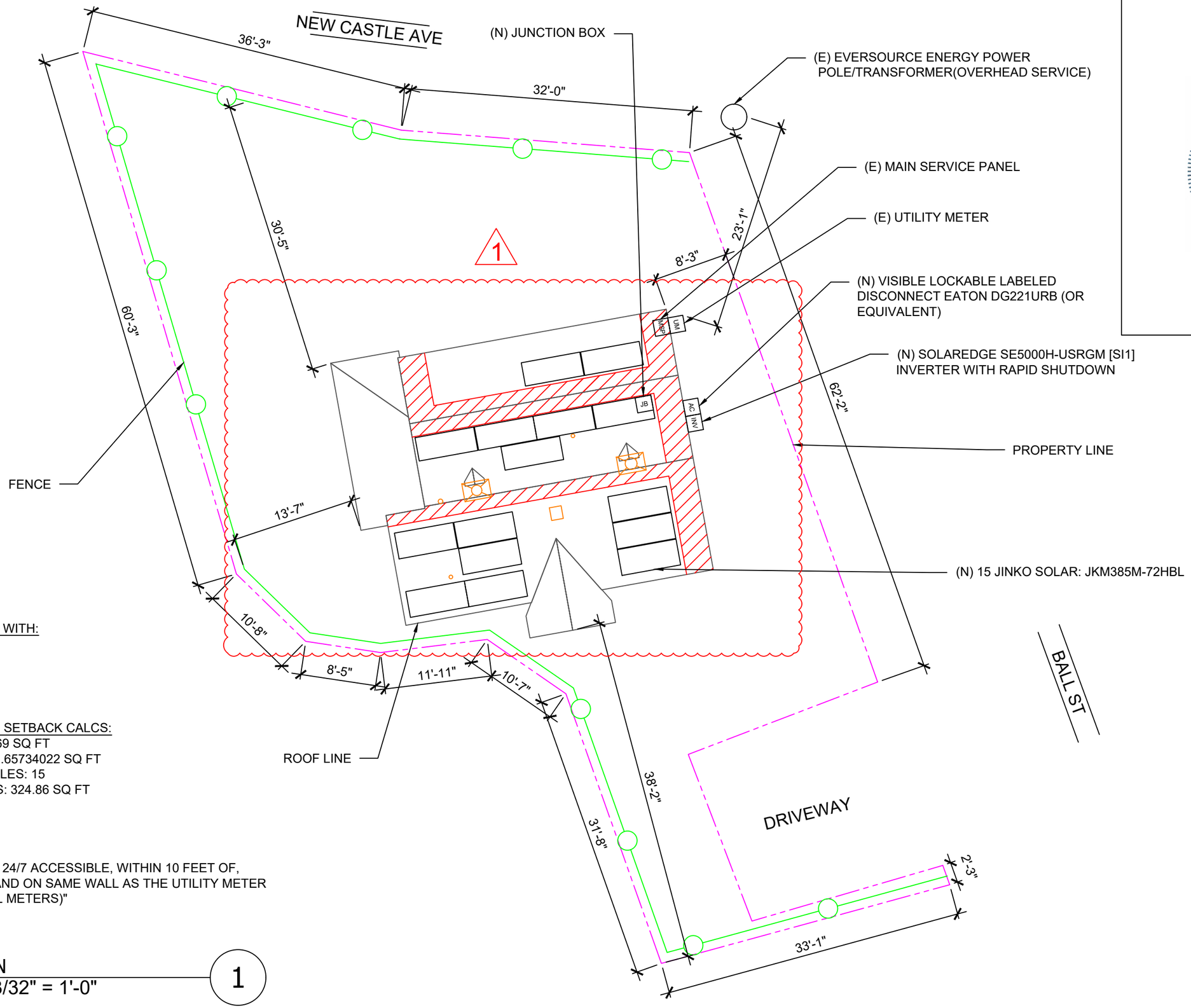
SITE LOCATION

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-1

LEGEND:

- CHIMNEY
- PIPE VENT
- MODULES
- CONDUIT
- SETBACK
- AC — AC DISCONNECT
- UM — UTILITY METER
- JB — JUNCTION BOX
- INV — INVERTER
- MSP — MAIN SERVICE PANEL

PV SYSTEM
5.775 kW-DC
5.000 kW-AC



THIS SYSTEM DESIGNED WITH:
WIND SPEED: 121
WIND EXPOSURE: B
SNOW LOAD: 50

TOTAL ROOF AREA RIDGE SETBACK CALCS:
TOTAL ROOF AREA: 1311.69 SQ FT
SINGLE MODULE AREA: 21.65734022 SQ FT
TOTAL NUMBER OF MODULES: 15
TOTAL AREA OF MODULES: 324.86 SQ FT
ROOF COVERAGE: 24.77%
FIRE SPRINKLERS : NO

"AC DISCONNECT SHALL BE 24/7 ACCESSIBLE, WITHIN 10 FEET OF, WITHIN VISIBLE SIGHT OF, AND ON SAME WALL AS THE UTILITY METER (EXCEPTION FOR PEDESTAL METERS)"

SITE PLAN
SCALE: 3/32" = 1'-0"
1

Structural Only

STATE OF NEW HAMPSHIRE
XIAOJIAN XIE
No. 17011
LICENSED
PROFESSIONAL ENGINEER

ROOF AREA: 1311.69 SQ FT

CLIENT:
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180 NEW CASTLE AVE, PORTSMOUTH, NH 03801
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CONTRACTOR LICENSE:
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SITE PLAN

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-2

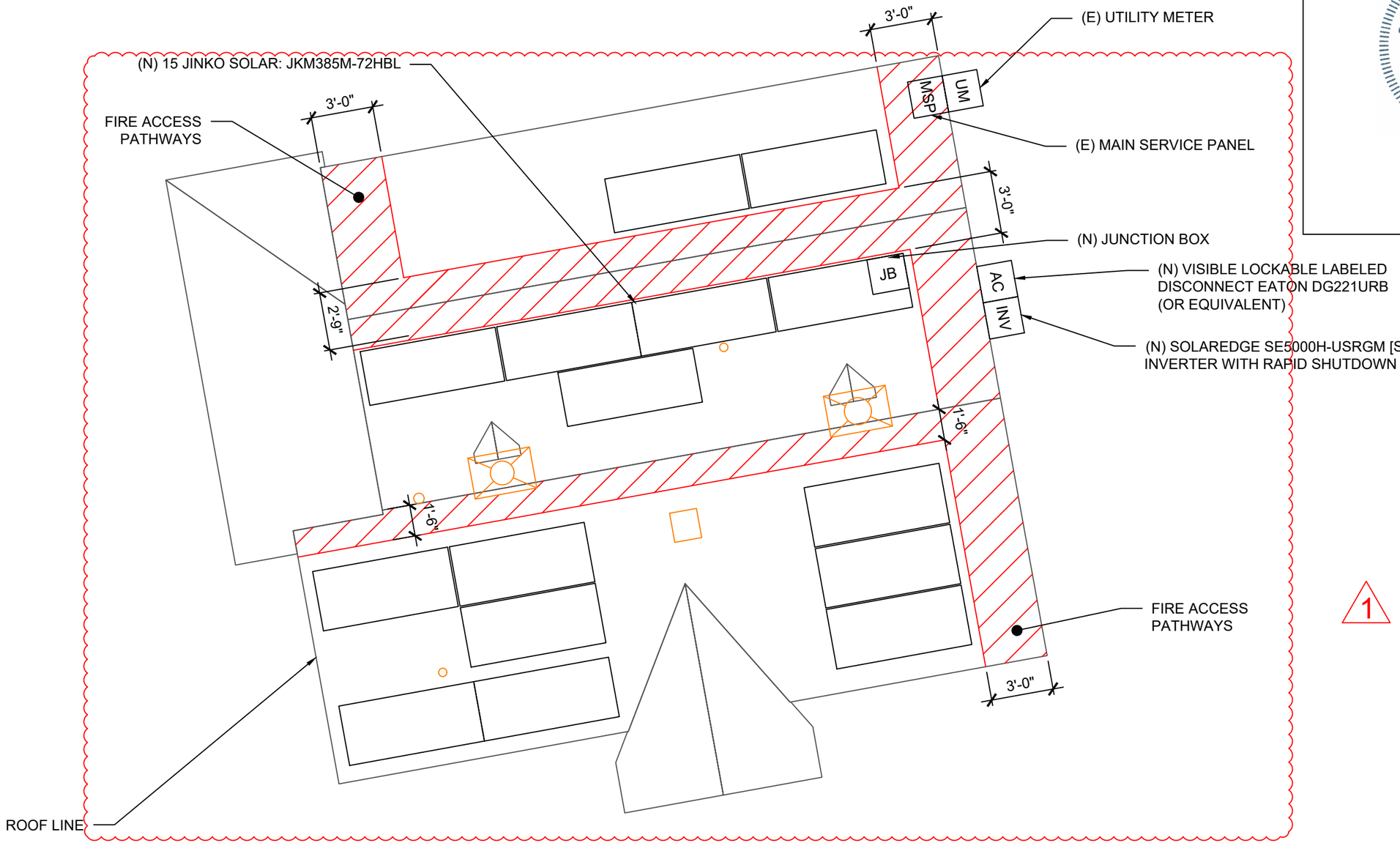
LEGEND:

- CHIMNEY
- PIPE VENT
- MODULES
- CONDUIT
- SETBACK
- AC — AC DISCONNECT
- UM — UTILITY METER
- JB — JUNCTION BOX
- INV — INVERTER
- MSP — MAIN SERVICE PANEL

PV SYSTEM
5.775 kW-DC
5.000 kW-AC

THIS SYSTEM DESIGNED WITH:
WIND SPEED: 121
WIND EXPOSURE: B
SNOW LOAD: 50

TOTAL ROOF AREA: 1311.69 SQ FT
TOTAL ARRAY AREA: 324.86 SQ FT
ARRAY COVERAGE: 24.77%
SYSTEM DISTRIBUTED WEIGHT: 2.29 LBS
UNIRAC: FLASHKIT PRO POINT-LOAD: 18.15 LBS



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ROOF PLAN
SCALE: 3/16" = 1'-0"

1

NOTES:
1. EMT CONDUIT ATTACHED TO THE ROOF USING CONDUIT MOUNTS
2. ATTACHED CLAMPS AT 25% FROM THE EDGE AND 50% FROM THE CENTER OF THE MODULES
3. JUNCTION BOX IS MOUNTED TO THE RAIL.

Structural Only
STATE OF NEW HAMPSHIRE
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No. 17011
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PROFESSIONAL ENGINEER

ROOF AREA: 1311.69 SQ FT

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CONTRACTOR LICENSE:
ELECTRICAL CONTRACTOR 0512C

ROOF PLAN WITH MODULES LAYOUT

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-2A

ROOF DETAILS:

TOTAL ROOF AREA: 1311.69 SQ FT
TOTAL ARRAY AREA: 324.86 SQFT
ARRAY COVERAGE: 24.77%
SYSTEM DISTRIBUTED WEIGHT: 2.29 LBS
UNIRAC: FLASHKIT PRO POINT-LOAD: 18.15 LBS

ROOF AREA STATEMENT						
ROOF	MODULE QUANTITY	ROOF PITCH	ARRAY PITCH	AZIMUTH	ROOF AREA	ARRAY AREA
ROOF 1	8	28	28	170	462.46 SQ FT	173.26 SQ FT
ROOF 2	5	37	37	170	345.37 SQ FT	108.29 SQ FT
ROOF 3	2	37	37	350	280.45 SQ FT	43.31 SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT
----	----	----	----	----	SQ FT	SQ FT

1

Structural Only

STATE OF NEW HAMPSHIRE
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XIE
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CONTRACTOR LICENSE:
ELECTRICAL CONTRACTOR 0512C

ROOF DETAILS

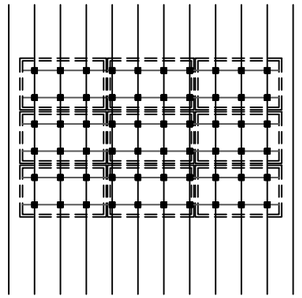
JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-2B

TABLE 1 - ARRAY INSTALLATION

	ROOF PITCH	ROOFING TYPE	ATTACHMENT TYPE	FRAMING TYPE	MAX UNBRACED LENGTH(FT.)	STRUCTURAL ANALYSIS RESULT	PENETRATION PATTERN	MAX ATTACHMENT SPACING (IN.)	MAX RAIL OVERHANG(IN.)
ROOF 1	28	Comp Shingle	Unirac Flashkit Pro	2x8 RAFTER @ 32" O.C.	7.1	PASS	STAGGERED	32	10.66667
ROOF 2	37	Comp Shingle	Unirac Flashkit Pro	2x8 RAFTER @ 32" O.C.	7.1	PASS	STAGGERED	32	10.66667
ROOF 3	37	Comp Shingle	Unirac Flashkit Pro	2x8 RAFTER @ 32" O.C.	7.1	PASS	STAGGERED	32	10.66667

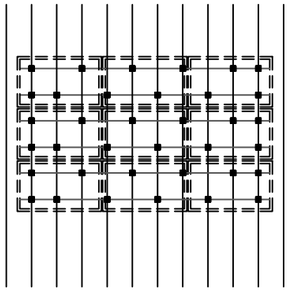
1. CONTRACTOR TO VERIFY FRAMING TYPE AND MAX UNBRACED LENGTH PRIOR TO INSTALLATION. IF THE ABOVE INFORMATION DOES NOT MATCH FIELD CONDITIONS, NOTIFY ENGINEER OF RECORD IMMEDIATELY.
2. WHERE COLLAR TIES OR RAFTER SUPPORTS EXIST, CONTRACTOR SHALL USE RAFTERS WITH COLLAR TIES AS ATTACHMENT POINTS.
3. MAX RAIL OVERHANG APPLICABLE FOR RAILED ATTACHMENT INSTALLATIONS.

1



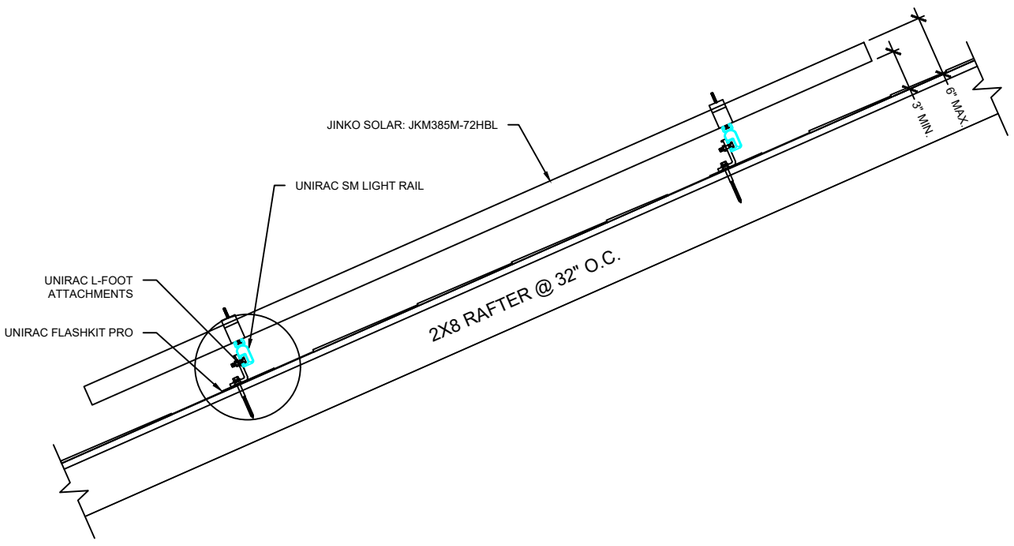
STACKED DETAIL

For Illustration purposes only



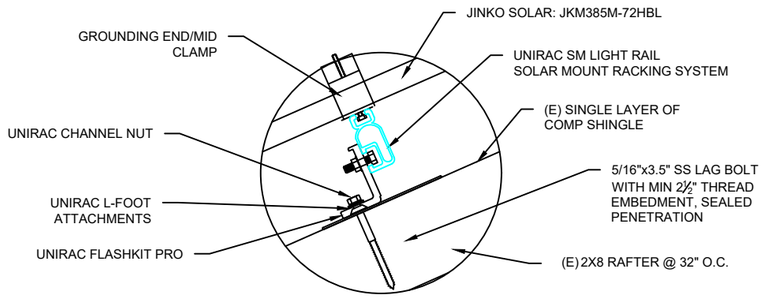
STAGGERED DETAIL

For Illustration purposes only



SOLAR PV ARRAY SECTION VIEW

Scale: NTS



ATTACHMENT DETAIL

Scale: NTS

Structural Only

STATE OF NEW HAMPSHIRE
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SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 15 X JINKO SOLAR: JKM385M-72HBL
OPTIMIZERS: 15 X SOLAREDGE P505
INVERTER: SOLAREDGE SE5000H-USRGM
[SI1]

	REVISIONS	
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freedom FOREVER

FREEDOM FOREVER LLC
43445 BUSINESS PARK DR #110, TEMECULA, CA 92590
Tel: (800) 385-1075

GREG ALBRIGHT

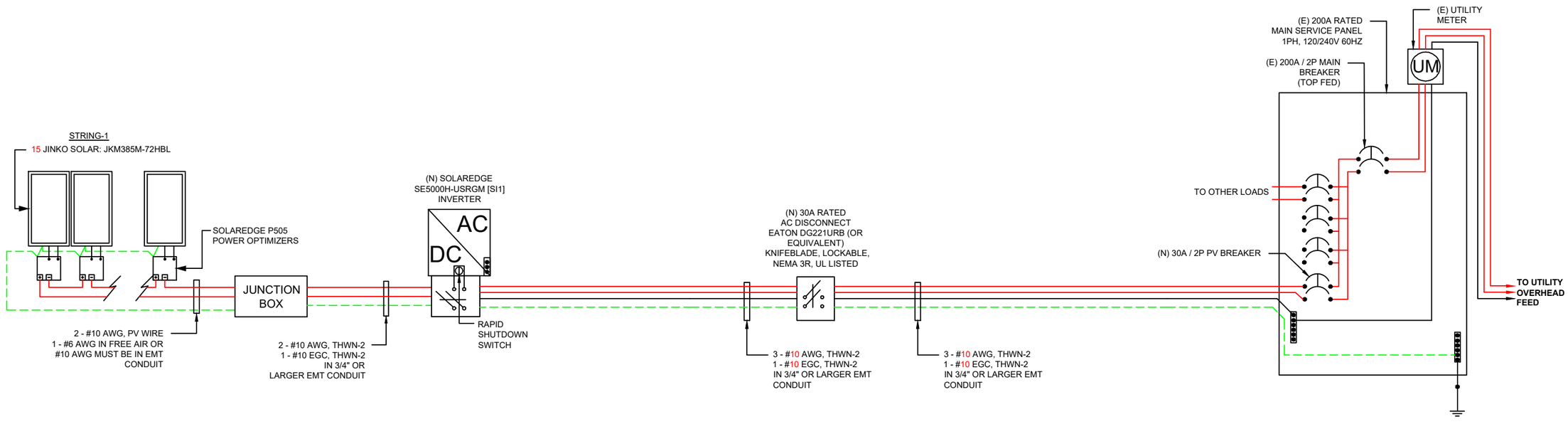
CONTRACTOR LICENSE:
ELECTRICAL CONTRACTOR 0512C

MOUNTING DETAILS

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-3

BACKFEED BREAKER SIZING						
MAX. CONTINUOUS OUTPUT 21.00A @ 240V						
21.00	X	1.25	=	26.25AMPS		30A BREAKER - OK
SEE 705.12 OF 2023 NEC						
200	X	1.20	=	240		
240	-	200	=	40A ALLOWABLE BACKFEED		

PV SYSTEM
5.775 kW-DC
5.000 kW-AC



NOTE:
CONDUIT AND CONDUCTORS SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS

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THREE LINE DIAGRAM

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-4

WIRE SCHEDULE												
RACEWAY #	EQUIPMENT				CONDUCTOR QTY.	AWG WIRE SIZE	STARTING ALLOWABLE AMPACITY @ 90°C 310.15(B)(16)	STARTING CURRENT APPLIED TO CONDUCTORS IN RACEWAY	TEMPERATURE CORRECTION FACTOR 310.15(B)(2)(a)	ADJUSTMENT FACTOR FOR MORE THAN 3 CONDUCTORS 310.15(B)(3)(a)	ADJUSTED CONDUCTOR AMPACITY @ 90°C	MAXIMUM CURRENT APPLIED TO CONDUCTORS IN RACEWAY
1	DC	MODULE	TO	OPTIMIZER	2	10	40	12.40	0.91	1	36.40	15.50
2	DC	OPTIMIZER	TO	JUNCTION BOX	2	10	40	15.00	0.91	1	36.40	18.75
3	DC	JUNCTION BOX	TO	INVERTER	2	10	40	15.00	0.91	1	36.40	18.75
4	AC	INVERTER	TO	AC DISCONNECT	3	10	40	21.00	0.91	1	36.40	26.25
5	AC	AC DISCONNECT	TO	POI	3	10	40	21.00	0.91	1	36.40	26.25

CONDUCTOR AMPACITY CALCULATIONS IN ACCORDANCE WITH NEC 690.8.

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[SI1]

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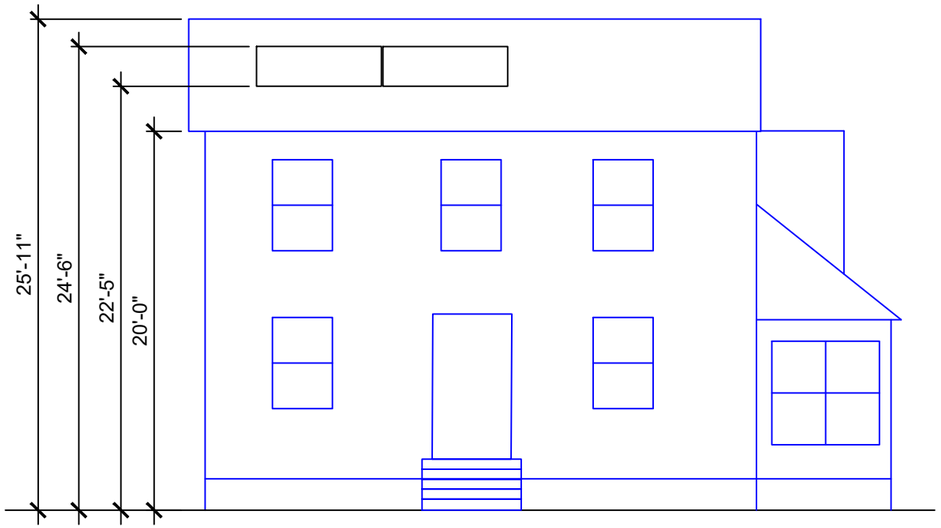
CONDUCTOR CALCULATIONS

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-5



FRONT OF HOUSE ELEVATION

BACK OF HOUSE ELEVATION

2

CLIENT:
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ELECTRICAL CONTRACTOR 0512C

BUILDING ELEVATION

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-5C

OCPD SIZES:

30A BREAKER

SERVICE LIST:

NONE

MATERIAL LIST:

QTY.	PART	PART #	DESCRIPTION
15	MODULES	PV-118-385	JINKO SOLAR: JKM385M-72HBL
15	OPTIMIZERS	OPT-130-505	SOLAREDGE P505 POWER OPTIMIZER - FRAME MOUNTED MODULE ADD-ON
1	JUNCTION BOX	RAC-261-527	600VDC NEMA 3R UL LISTED JUNCTION BOX
2	ELECTRICAL ACCESSORIES	EA-350-326	STAUBLI / MULTI-CONTACT MC4 CONNECTORS (FEMALE)
2	EQUIPMENT ACCESSORIES	EA-350-327	STAUBLI / MULTI-CONTACT MC4 CONNECTORS (MALE)
1	INVERTERS	INV-120-508	SE5000H-US [SI1] RGM 240V INVERTER UL1741 SA CERTIFIED INTEGRATED ARC FAULT PROTECTION AND RAPID SHUTDOWN
1	MONITORING EQUIPMENT	ME-180-502	SOLAREDGE CELL MODEM
1	DISCONNECTS	EE-321-030	30A RATED 240VAC NEMA 3R UL LISTED
41	FITTINGS/ANCHORS	RAC-241-250	UNIRAC: FLASHKIT PRO
15	RAILS	RAC-211-100	UNIRAC SM LIGHT RAIL 168 INCH (TOTAL 198 FEET NEEDED)
15	FITTINGS/ANCHORS	RAC-261-517	BND T-BOLT AND NUT SS
16	ENDS/MIDS	RAC-221-101	SM MIDCLAMP PRO DRK
16	ENDS/MIDS	RAC-221-209	SM ENDCLAMP PRO W/ END CLAMP
6	FITTINGS/ANCHORS	RAC-261-600	BND SPLICE BAR PRO SERIES MILL
16	FITTINGS/ANCHORS	RAC-261-510	MICRO MNT BND TBOLT SS
5	RAILS	RAC-211-209-NS	E-BOSS CONDUIT MOUNT COMP KIT
9	RAILS	RAC-211-200	E-BOSS RAIL TRAY
3	RAILS	RAC-211-206	E-BOSS BRIDGE TRAY
5	RAILS	RAC-211-207	E-BOSS BRIDGE CLIPS
30	FITTINGS/ANCHORS	RAC-260-300	BURNDY GROUND WEEB-LUG
26	FOOTINGS	RAC-241-100	UNIRAC L-FOOT SERRATED W/T-BOLT CLEAR (KIT)

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

690.13(B)

DO NOT DISCONNECT UNDER LOAD

NEC 690.15 (B) & NEC 690.33(D)(2)

⚠ WARNING

SINGLE 120-VOLT SUPPLY
DO NOT CONNECT
MULTIWIRE BRANCH CIRCUITS

NEC 710.15(C) & 692.9 (C)

⚠ WARNING DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

NEC 705.12(D) & NEC 690.59

⚠ WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 110.27(C) & OSHA 1910.145(F)(7)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

706.15(C)(4) & 690.13(B)

⚠ WARNING

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

NEC 705.12(B)(3)(3)

⚠ WARNING

THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT

NEC 690.31(E)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

690.56(C)(3)

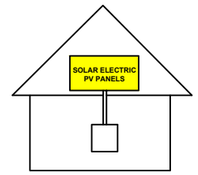
M

AC

INVERTER

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



IFC 605.11.3.1(1) & 690.56(C)

⚠ CAUTION

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

NEC 705.12(D) & NEC 690.59

⚠ WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

NEC 705.12(C) & NEC 690.59

⚠ WARNING

ARC FLASH AND SHOCK HAZARD
APPROPRIATE PPE REQUIRED

24 INCH FLASH HAZARD BOUNDARY
3 CAL/CM^2 FLASH HAZARD AT 18 INCHES
480 VAC SHOCK HAZARD WHEN COVER IS REMOVED
42 INCH LIMITED APPROACH
12 INCH RESTRICTED APPROACH - 500 V CLASS 00 GLOVES
1 INCH PROHIBITED APPROACH - 500 V CLASS 00 GLOVES

LOCATION: 180 NEW CASTLE AVE,PORTSMOUTH, NH 03801

NEC 706.15(C) AND NEC 110.16

PHOTOVOLTAIC AC DISCONNECT

NEC 690.13(B)

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT: 21.00A
NOMINAL OPERATING AC VOLTAGE: 240V

NEC 690.54

SOLAR PV DC CIRCUIT

EVERY 10' ON CONDUIT AND ENCLOSURES
NEC 690.31

PHOTOVOLTAIC POWER SOURCE

EVERY 10' ON CONDUIT AND ENCLOSURES
NEC 690.31(D)(2)

MAXIMUM VOLTAGE	480	V
MAXIMUM CIRCUIT CURRENT	13.5	A
MAX DC-DC CONVERTER OUTPUT CURRENT	15	A

DC

J/B

PHOTOVOLTAIC DC DISCONNECT

NEC 690.13(B)

MAXIMUM DC VOLTAGE OF PV SYSTEM

NEC 690.53

⚠ 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

706.15(C)(4) & 690.13(B)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

706.15(C)(4) & 690.13(B)

⚠ WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 110.27(C) & OSHA 1910.145(F)(7)

ARRAY

NEC 690.31(G)(3) & (4)

NOTES:

1. NEC ARTICLES 690 AND 705 AND IRC SECTION R324 MARKINGS SHOWN HEREON.
2. ALL MARKING SHALL CONSIST OF THE FOLLOWING:
   - A. UV RESISTANT SIGN MATERIAL WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PLATING.
   - B. RED BACKGROUND COLOR WHITE TEXT AND LINE WORK.
   - C. ARIAL FONT.
3. ALL SIGNS SHALL BE SIZED APPROPRIATELY AND PLACED IN THE LOCATIONS SPECIFIED. SIGNAGE CANNOT BE HAND-WRITTEN.
4. SIGNS SHALL BE ATTACHED TO THE SERVICE EQUIPMENT WITH POP-RIVETS OR SCREWS

CLIENT:
ANNE MOODEY
180 NEW CASTLE AVE, PORTSMOUTH, NH 03801
AHJ: CITY OF PORTSMOUTH (NH)
UTILITY: EVERSOURCE ENERGY (EASTERN MA)
METER: 72329222
APN: PRSM-000101-000023
PHONE: (603) 361-7031
EMAIL: AMOODEY1@GMAIL.COM

SYSTEM:
SYSTEM SIZE (DC): 15 X 385 = 5.775 kW
SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 15 X JINKO SOLAR: JKM385M-72HBL
OPTIMIZERS: 15 X SOLAREDGE P505
INVERTER: SOLAREDGE SE5000H-USRGM
[SI1]

REVISIONS		
NO.	REVISED BY	DATE
1	S.K.	11/8/2023
2	S.G.	11/13/2023
-	-	-

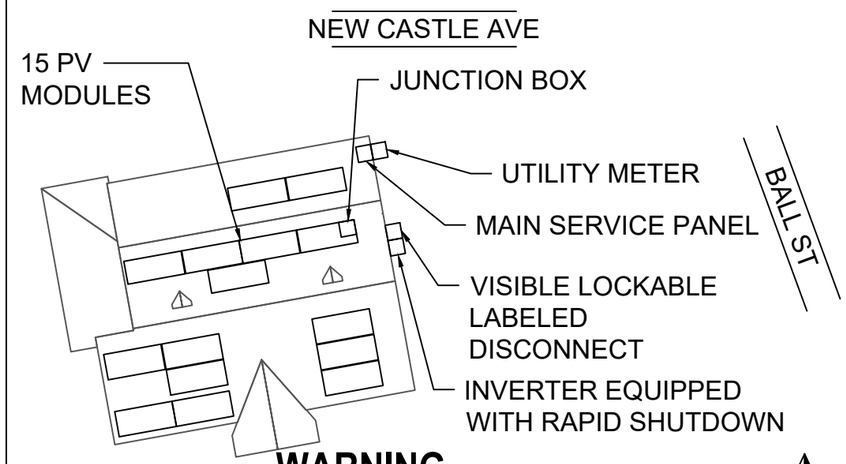
freedom FOREVER
FREEDOM FOREVER LLC
43445 BUSINESS PARK DR #110, TEMECULA, CA 92590
Tel: (800) 385-1075
GREG ALBRIGHT
CONTRACTOR LICENSE:
ELECTRICAL CONTRACTOR 0512C

LABELS

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-7

CAUTION:

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS AS SHOWN



WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

1

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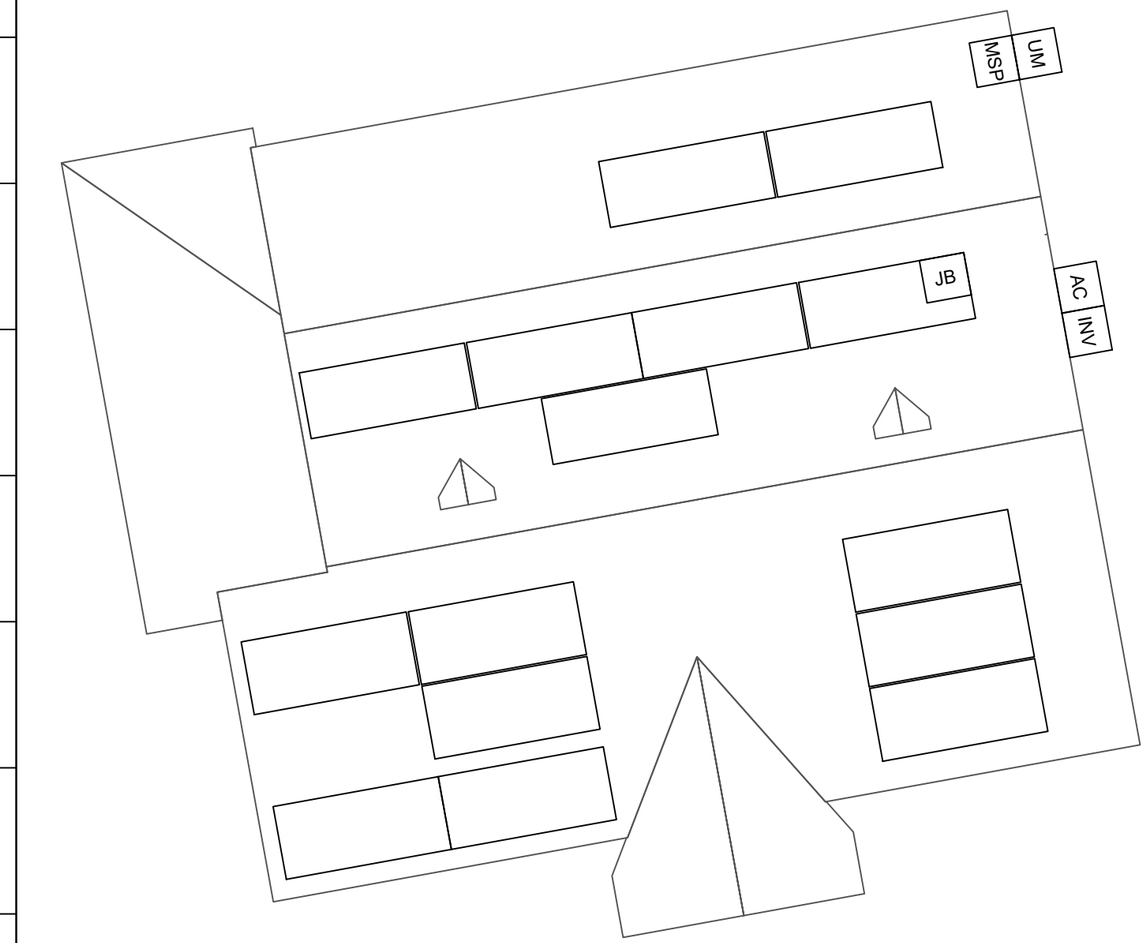
SITE PLACARD

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-7A

SOLAREDGE OPTIMIZER CHART

	1-10	11-20	21-30	31-40	41-50	51-60
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						



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OPTIMIZER CHART

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-8

SAFETY PLAN

INSTRUCTIONS:

1. USE SYMBOLS IN KEY TO MARK UP THIS SHEET.
2. SAFETY PLAN MUST BE MARKED BEFORE JOB STARTS AS PART OF THE PRE-PLAN
3. DOCUMENT ALL ADDITIONAL HAZARDS ON THIS PAGE & MAKE NOTES ON THE JHA SHEET

INCIDENT REPORTING:

INJURIES - CALL INJURY HOTLINE

(855) 400-7233

**If injury is life threatening, call 911 first THEN the Injury Hotline*

NON-INJURIES - USE MOBILE INCIDENT REPORTING
(Auto, Property Damage, Near Miss)

NEAREST OCCUPATIONAL/INDUSTRIAL CLINIC:

NAME: _____

ADDRESS: _____

NEAREST HOSPITAL:

NAME: _____

ADDRESS: _____

SAFETY COACH CONTACT INFORMATION:

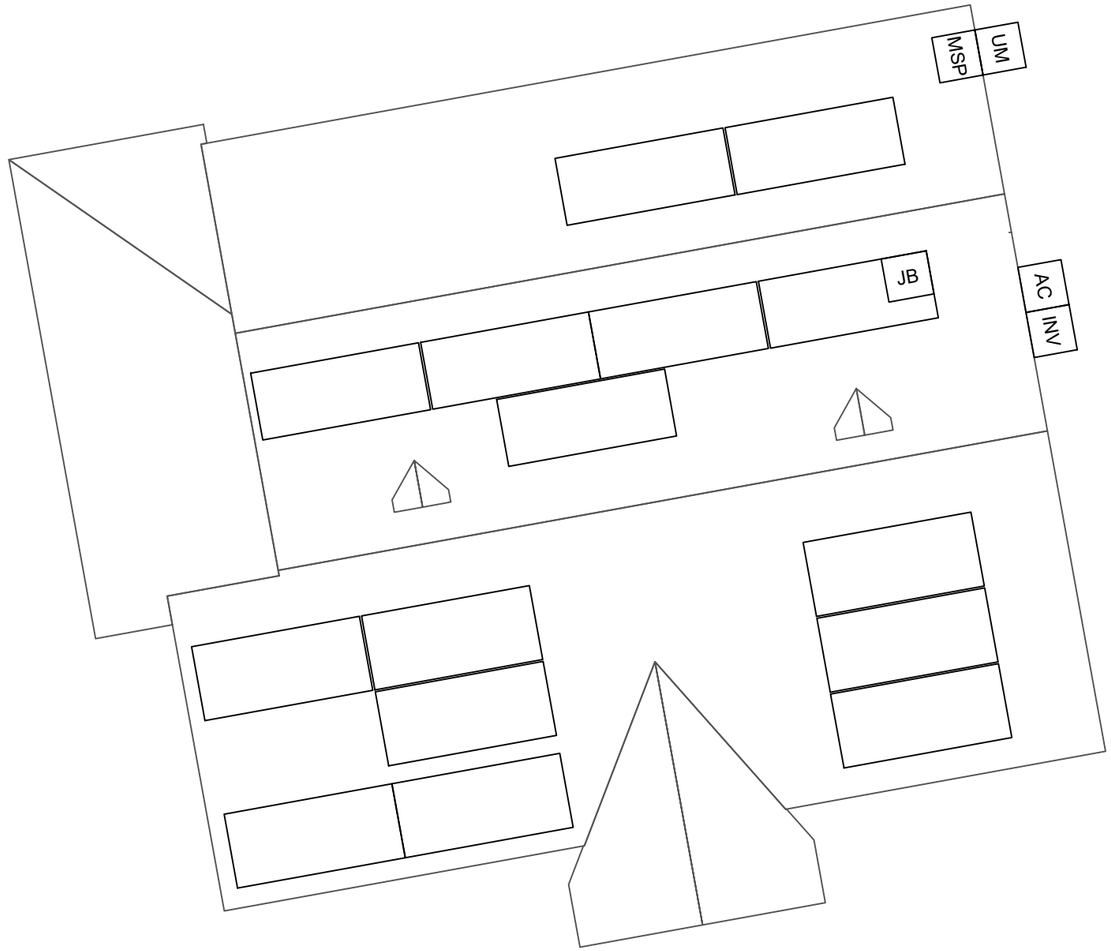
NAME: _____

PHONE NUMBER: _____

ALL EMPLOYEES ON SITE SHALL BE MADE AWARE OF THE SAFETY PLAN AND SIGN INDICATING THAT THEY ARE AWARE OF THE HAZARDS ON-SITE AND THE PLAN FOR WORKING SAFELY.

NAME	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DATE: _____ TIME: _____



MARK UP KEY

- (P) PERMANENT ANCHOR
- (T) TEMPORARY ANCHOR
- IL INSTALLER LADDER
- B JUNCTION / COMBINER BOX
- S STUB-OUT
- SKYLIGHT
- NO LADDER ACCESS (STEEP GRADE OR GROUND LEVEL OBSTRUCTIONS)
- RESTRICTED ACCESS
- CONDUIT
- (GAS) GAS SHUT OFF
- (H_2O) WATER SHUT OFF
- (7) SERVICE DROP
- (Z) POWER LINES

BREAK AND WATER LOG

THIS LOG IS TO BE FILLED OUT ANY TIME THE TEMP EXCEEDS **90** DEGREES. THE CREW LEAD AND ROOF LEAD ARE RESPONSIBLE FOR ENSURING THIS IS COMPLETED AND UPLOADED AT THE END OF EVERYDAY WHEN TEMPS EXCEED **90** DEGREES

NAME	0800HRS	0900HRS	1000HRS	1100HRS	1200HRS	1300HRS	1400HRS	1500HRS	1600HRS

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SAFETY PLAN

JOB NO:	DATE:	DESIGNED BY:	SHEET:
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JOB HAZARD ANALYSIS

Crew leader to fill out all sections below, hold a pre-job safety meeting with all personnel, and upload this completed document and the Safety Plan to Site Capture

Ladder Access

- Ladders must be inspected before each use.
- Extension ladders must be set up on a firm and level surface at a 4-to-1 rise to run angle (or 75 degrees) and the top must be secured to the structure. Extension style ladders placed on uneven, loose or slippery surfaces must additionally have the base firmly anchored or lashed so the base will not slip out.
- Extension ladders must be used with walk-through devices or the ladder must extend 36" above the stepping off point.
- A-frame ladders must only be climbed with the ladder spreader bars locked in the open position; A-frame ladders shall not be climbed while in the closed position (ex, closed and used while leaned against a structure).
- Additional notes:

Mobile Equipment

- Only Qualified operators will operate equipment; operators must maintain a certification on their person for the equipment being operated.
- Type(s) of mobile equipment (Type/Make/Model):
- Qualified operator(s):

Material Handling and Storage

- Materials will be staged/stored in a way that does not present a hazard to client, personnel or public. Materials stored on the roof will be physically protect from failing or sliding off.

Fall Protection

- A site-specific plan for fall prevention and protection is required prior to starting work and must remain onsite at all times until work is complete; a fall rescue plan must be outlined and discussed among the crew prior to work start.
- First-person-Up (FPU) must install their anchor and connect before any other task, including installing other anchors. The Last-Person-Down (LPD) must be the only person on a roof uninstalling fall protection.
- FPCP (name and title):
- FPU and LPD (name and title):

Electrical Safety

- The Electrical Qualified Person (EQP) is required onsite to perform electrical work.
- All electrical work will be performed with equipment in an electrically safe condition (de-energized) unless approval has been granted prior to work.
- Service drops and overhead electrical hazards will be indentified and protected from contact, as neccessary.
- EQP (name and tile):

Public Protection

- The safety of the Client and Public must be maintained at all times.
- The Client and the Public shall be prevented from entering the work zone through the use of barriers and/or signage, as required.
- Company, Client and Public property shall be protected from falling objects.
- Pets (including dogs) shall be secured by their owners prior to work start.
- The Client should not leave pets, family members, or others in charge or care of Employees, Contractors, or Temporary Workers.

- Crew leader responsible for communication with the client:
- Client and public is excluded from work area by barricades (N/A, Yes, No):

Training and Pre-Job Safety Briefing

- All employees onsite shall be made aware of the specific hazards of this project and review this HJA during a pre-job briefing, and their signature indicates awareness of site conditions and the plan to eliminate any hazards identified prior to and during the project.

- Crew leader (name/title):
- Crew member (name/title):
- Crew member (name/title):
- Crew member (name/title):
- Crew member (name/title):
- Crew member (name/title):

Airborne Contaminants:

- Asbestos-containing (Transite) piping (ACP) - Do not disturb (move, drill, cut fracture, etc.)
- Asbestos-containing thermal insulation (ACI) and Asbestos-containing duct wrapping (ACW) - do not disturb, no attic or crawlspace access is allowed if work to be performed could cause exposure to personnel, client or public.

- If yes, list specific tasks and protection in place:

Weather and Environment

- The site supervisor shall forecast the weather conditions at the job site, prior to crew arrival, in order to mitigate any hazards associated with inclement weather (heat, cold, wind, rain, etc.)
- The site supervisor will utilized a portable wind meter (anemometer) to verify actual onsite wind conditions, by checking at the ground and on any elevated work surface (ex, rooftop) prior to work start, at midday and prior to solar panel staging on a roof.
- Elevated work involving the moving or maneuvering of solar panels shall cease at 25mph (sustained wind) until wind subsides.
- Forecasted weather maximum temp (degrees f):

Heat Related Illness Prevention

- Employees shall have access to potable drinking water that is fresh, pure, and suitably cool. The water shall be located as close as practicable to the areas where employees are working. Water shall be supplied in sufficient quantity at the beginning of the work shift to provide at least one quart per employee per hour for drinking for the entire shift. Employees may begin the shift with smaller quantities of water if they identify the location and have effective means for replenishment during the shift to allow employees to drink on quart or more per hour. The frequent drinking of water shall be encouraged.
- Shade shall be present when temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work exceeds 80 degrees Fahrenheit, employees shall have and maintain one or more areas with shade at all times.
- New employees must be acclimatized. New employees will be monitored by their Crew Leader (site supervisor) for the first two (2) weeks of employment or longer when necessary.
- Employees will be allowed and encouraged to implement scheduled breaks during each shift. Employees must take cool-down breaks in the shade any time they feel the need to do so to protect them from overheating. Supervisors are REQUIRED to allow employees any break period they need during high heat conditions.
- Cool Vests are encouraged for all employees at all times during periods of high heat.
- Identify the location of the closet Occupational/Industrial Clinic or Hospital in case a crew member becomes ill.

What is the specific plan to provide and replenish sufficient water for all employees on site?

- If offsite replenish is necessary, where will you go to replenish water (location/address):
- Who will replenish the drinking water (name):

Restroom facilities

- Employees shall have access to restroom facilities with hand-washing stations. Use of onsite restroom is at the client's discretion (location is annotated below). If client does not give permission, location of suitable restroom facilities with hand-washing stations offsite will be provided. The onsite supervisor will identify location and make arrangements to ensure all employees have access at any point.
- Restroom facilities will be (circle one): Onsite - Offsite
- If Offsite, add location name and address:

Incident Reporting Procedure

- Contact your Site Supervisor
  - Name:
  - Phone:
- Contact your Manager
  - Name:
  - Phone:
- Contact your Site Supervisor
  - Name:
  - Phone:

With: Your full name, phone number, office location, brief description of what happen and when.

NOTE ADDITIONAL HAZARDS NOT ADDRESSED ABOVE
(add as many as necessary by using additional sheets)

Define the Hazard:	Method/steps to prevent incident:
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SAFETY PLAN

JOB NO:	DATE:	DESIGNED BY:	SHEET:
369950	11/13/2023	S.G.	PV-10

FOR INSTALLATION REFERENCE ONLY

SCAN QR CODE TO ACCESS REFERENCE LINK

FREEDOM REFERENCES

INSTALL HOTLINE

PV INSTALLATION REFERENCES

ENPHASE

SOLAREDGE

TESLA

BATTERY INSTALLATION REFERENCES

Enphase Storage Systems

SOLAREDGE Storage Systems

TESLA Storage Systems

NON-BACKUP Battery Systems

Misc. Quick Guide

V1.4

EAGLE 72HM G2 Black

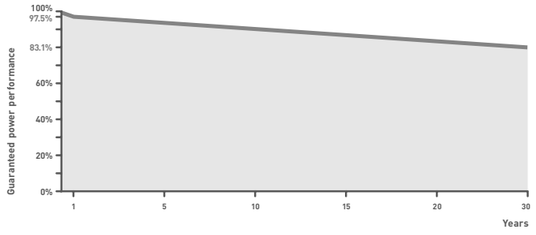
380-400 WATT • HALF CELL MONO PERC MODULE

Positive power tolerance of 0~+3%

- NYSE-listed since 2010, Bloomberg Tier 1 manufacturer
- Best-selling module globally for last 4 years
- Top performance in the strictest 3rd party labs
- 99.9% on-time delivery to the installer
- Automated manufacturing utilizing artificial intelligence
- Vertically integrated, tight controls on quality
- Premium solar panel factories in USA and Malaysia

LINEAR PERFORMANCE WARRANTY

25-Year Performance Warranty



Nomenclature:

JKM400M-72HBL

Code	Cell	Code	Backsheet	Code	Cell
null	Full	null	White	null	Normal
H	Half	B	Black	L	Diamond

- ISO9001:2008 Quality Standards
- ISO14001:2004 Environmental Standards
- IEC61215, IEC61730 certified products
- OHSAS18001 Occupational Health & Safety Standards
- UL1703 certified products

KEY FEATURES

Diamond Half Cell Technology
World-record breaking efficient mono PERC half cut solar cells deliver high power in a small footprint.

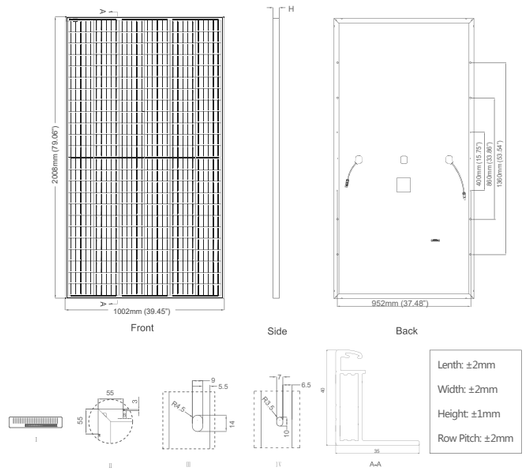
Designed for Long Life
Uses the same DuPont protective film as the Space Station, Mars Lander, and jetliners. 25-year warranty.

Shade Tolerant
Twin array design allows continued performance even with shading by trees or debris.

Power Boost in Cloudy Conditions
A special film diffuses light, boosting performance even with shading by trees or debris.

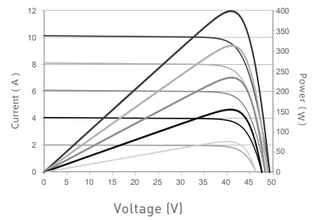
Protected Against All Environments
Certified to withstand humidity, heat, rain, marine environments, wind, hailstorms, and packed snow.

ENGINEERING DRAWINGS

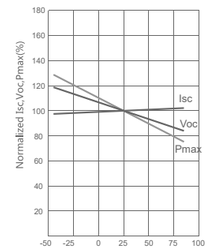


ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE

Current-Voltage & Power-Voltage Curves (400W)



Temperature Dependence of Isc, Voc, Pmax



MECHANICAL CHARACTERISTICS

Cells	Mono PERC Diamond Cell (158.75x158.75mm)
No. of Cells	144 (6x24)
Dimensions	2008x1002x40mm (79.06x39.45x1.57in)
Weight	22.5kg (49.6lbs)
Front Glass	3.2mm, Anti-Reflection Coating High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP67 Rated
Output Cables	12AWG, 2286mm (90in) or Customized Length
Fire Type	Type 1
Pressure Rating	5400Pa (Snow) & 2400Pa (Wind)
Connector	MC4

TEMPERATURE CHARACTERISTICS

Temperature Coefficients of Pmax	-0.35%/°C
Temperature Coefficients of Voc	-0.29%/°C
Temperature Coefficients of Isc	0.048%/°C
Nominal Operating Cell Temperature (NOCT)	45±2°C

MAXIMUM RATINGS

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage	1000VDC (UL/IEC)
Maximum Series Fuse Rating	20A

PACKAGING CONFIGURATION

(Two pallets = One stack)

27pcs/pallets, 54pcs/stack, 594pcs/40' HQ Container

ELECTRICAL CHARACTERISTICS

Module Type	JKM380M-72HBL		JKM385M-72HBL		JKM390M-72HBL		JKM395M-72HBL		JKM400M-72HBL	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	380Wp	286Wp	385Wp	290Wp	390Wp	294Wp	395Wp	298Wp	400Wp	302Wp
Maximum Power Voltage (Vmp)	40.5V	38.6V	40.8V	38.8V	41.1V	39.1V	41.4V	39.3V	41.7V	39.6V
Maximum Power Current (Imp)	9.39A	7.42A	9.44A	7.48A	9.49A	7.54A	9.55A	7.60A	9.60A	7.66A
Open-circuit Voltage (Voc)	48.9V	47.5V	49.1V	47.7V	49.3V	48.0V	49.5V	48.2V	49.8V	48.5V
Short-circuit Current (Isc)	9.75A	7.88A	9.92A	7.95A	10.12A	8.02A	10.23A	8.09A	10.36A	8.16A
Module Efficiency STC (%)	18.89%		19.14%		19.38%		19.63%		19.88%	

***STC:** Irradiance 1000W/m² Cell Temperature 25°C AM = 1.5
NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM = 1.5 Wind Speed 1m/s

*Power measurement tolerance: +/- 3%

JKM380-400M-72HBL-A3.1-US

BUILDING YOUR TRUST IN SOLAR. JINKOSOLAR.US

Power Optimizer

For North America

S440, S500

POWER OPTIMIZER

PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

* Expected availability in 2022

solaredge.com

solaredge

Power Optimizer

For North America

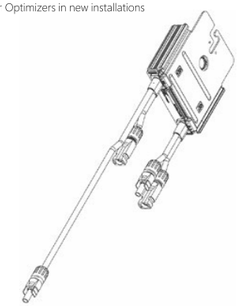
S440, S500

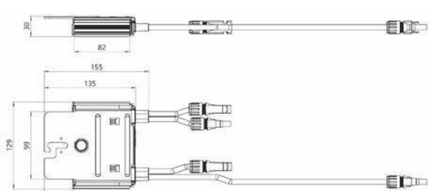
	S440	S500	Unit
INPUT			
Rated Input DC Power(1)	440	500	W
Absolute Maximum Input Voltage (Voc)	60		Vdc
MPPT Operating Range	8 - 60		Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5	15	Adc
Maximum Efficiency	99.5		%
Weighted Efficiency	98.6		%
Overvoltage Category	II		
OUTPUT DURING OPERATION			
Maximum Output Current	15		Adc
Maximum Output Voltage	60		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1+/-0.1		Vdc
STANDARD COMPLIANCE			
Photovoltaic Rapid Shutdown System	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		
Fire Safety	VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Maximum Allowed System Voltage	1000		Vdc
Dimensions (W x L x H)	129 x 153 x 30 / 5.07 x 6.02 x 1.18		mm / in
Weight (including cables)	655 / 1.5		gr / lb
Input Connector	MC4(2)		
Input Wire Length	0.1 / 0.32		m / ft
Output Connector	MC4		
Output Wire Length	(+) 2.3, (-) 0.10 / (+) 7.54, (-) 0.32		m / ft
Operating Temperature Range(3)	-40 to +85		°C
Protection Rating	IP68 / Type6B		
Relative Humidity	0 - 100		%

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed
(2) For other connector types please contact SolarEdge
(3) For ambient temperature above +70°C / +158°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		Single Phase HD-Wave	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	S440, S500	8	14	18	
Maximum String Length (Power Optimizers)		25		50(4)	
Maximum Nominal Power per String		5700 (6000 with SE7600-US-SE11400-U)	6000	12750	W
Maximum Allowed Connected Power per String (5) (Permitted only when the difference in connected power between strings is 1,000W or less)		Refer to Footnote 5	One String 7200W	15,000W	
			Two strings or more 7800W		
Parallel Strings of Different Lengths or Orientations		Y			

(4) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
(5) 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
(6) It is not allowed to mix S-series and P-series Power Optimizers in new installations





Intertek

RoHS

Single Phase Inverter with HD-Wave Technology

for North America

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

INVERTERS

12-25 YEAR WARRANTY

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, NEC 2017 and NEC 2020 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)

solaredge.com

solaredge

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(1)							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(2)	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V(2)	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

(1) For other regional settings please contact SolarEdge support
(2) A higher current source may be used; the inverter will limit its input current to the values stated

/ Single Phase Inverter with HD-Wave Technology

for North America

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

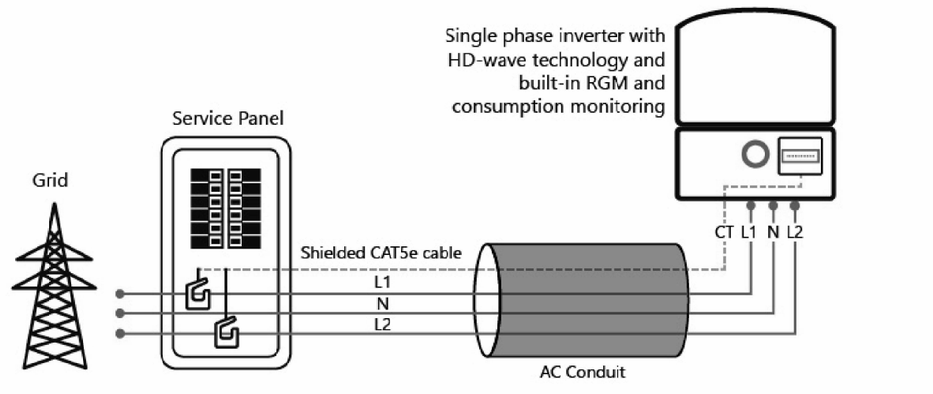
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Metering, ANSI C12.20	Optional[3]							
Consumption metering								
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection							
Rapid Shutdown - NEC 2014, NEC 2017 and NEC 2020, 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[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

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

(4) 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



RoHS

Eaton DG221URB

Catalog Number: DG221URB

Eaton General duty non-fusible safety switch, single-throw, 30 A, 240 V, NEMA 3R, Rainproof, Painted galvanized steel, Two-pole, Two-wire

General specifications

Product Name Eaton general duty non-fusible safety switch	Catalog Number DG221URB
	UPC 782113120232
Product Length/Depth 6.88 in	Product Height 10.81 in
Product Width 6.38 in	Product Weight 6 lb
Warranty Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.	Certifications UL Listed
	Catalog Notes WARNING! Switch is not approved for service entrance unless a neutral kit is installed.

Product specifications

Product Category
General duty safety switch

Enclosure material
Painted galvanized steel

Type
Non-fusible, single-throw

Fuse configuration
Non-fusible

Number of wires
2

Enclosure
NEMA 3R

Voltage rating
240V

Amperage Rating
30A

Number Of Poles
Two-pole

Resources

Catalogs
Eaton's Volume 2—Commercial Distribution

Multimedia
Double Up on Safety

Switching Devices Flex Center

Specifications and datasheets
Eaton Specification Sheet - DG221URB

Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

Eaton.com/socialmedia

FLASHKIT PRO

UNIRAC®
FEATURING SHED & SEAL TECHNOLOGY

FLASHKIT PRO is the complete attachment solution for composition shingle roofs. Featuring Unirac's patented **SHED & SEAL** technology, a weather proof system which provides the ultimate protection against roof leaks. Kitted in 10 packs for maximum convenience, flashings and hardware are available in Mill or Dark finishes. With **FLASH**KIT pro, you have everything you need for a quick, professional installation.

UNIRAC 25 YEAR FULL-SYSTEM WARRANTY

TRUSTED WATER SEAL FLASHINGS
FEATURING SHED & SEAL TECHNOLOGY

YOUR COMPLETE SOLUTION
Flashings, lags, continuous slot L-Feet and hardware

CONVENIENT 10 PACKS
Packaged for speed and ease of handling

THE COMPLETE ROOF ATTACHMENT SOLUTION

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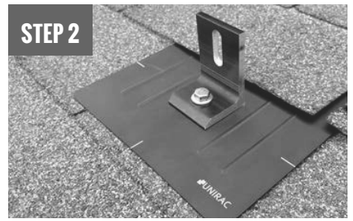
FLASHKIT PRO

INSTALLATION GUIDE

UNIRAC®
FEATURING SHED & SEAL TECHNOLOGY

FLASHKIT PRO IS THE COMPLETE FLASHING AND ATTACHMENT SOLUTION FOR COMPOSITION ROOFS.

INSTALL **FLASH**KIT PRO FLASHING



INSTALL L-FOOT

ATTACH L-FOOT TO RAIL

PRE-INSTALL

- Locate roof rafters and snap chalk lines to mark the installation point for each roof attachment.
- Drill a 7/32" pilot hole at each roof attachment. Fill each pilot hole with sealant.

STEP 1 INSTALL **FLASH**KIT PRO FLASHING

- Add a U-shaped bead of roof sealant to the underside of the flashing with the open side of the U pointing down the roof slope. Slide the aluminum flashing underneath the row of shingles directly up slope from the pilot hole as shown. Align the indicator marks on the lower end of the flashing with the chalk lines on the roof to center the raised hole in the flashing over the pilot hole in the roof. When installed correctly, the flashing will extend under the two courses of shingles above the pilot hole.

STEP 2 INSTALL L-FOOT

- Fasten L-foot and Flashing into place by passing the included lag bolt and pre-installed stainless steel-backed EPDM washer through the L-foot EPDM grommet, and the raised hole in the flashing, into the pilot hole in the roof rafter.
- Drive the lag bolt down until the L-foot is held firmly in place. It is normal for the EPDM on the underside of the stainless steel backed EPDM washer to compress and expand beyond the outside edge of the steel washer when the proper torque is applied.

TIP:

- Use caution to avoid over-torqueing the lag bolt if using an impact driver.
- Repeat Steps 1 and 2 at each roof attachment point.

STEP 3 ATTACH L-FOOT TO RAIL

- Insert the included 3/8"-16 T-bolts into the lower slot on the Rail (sold separately), spacing the bolts to match the spacing between the roof attachments.
- Position the Rail against the L-Foot and insert the threaded end of the T-Bolt through the continuous slot in the L-Foot. Apply anti-seize to bolt threads to prevent galling of the T-bolt and included 3/8" serrated flange nut. Place the 3/8" flange nut on the T-bolt and finger tighten. Repeat STEP 3 until all L-Feet are secured to the Rail with a T-bolt. Adjust the level and height of the Rail and torque each bolt to 30ft-lbs.

FASTER INSTALLATION. 25-YEAR WARRANTY.

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SOLARMOUNT

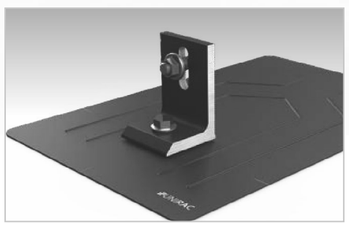
UNIRAC

SOLARMOUNT is the professionals' choice for residential PV mounting applications. Every aspect of the system is designed for an easier, faster installation experience. **SOLAR**MOUNT is a complete solution with revolutionary universal clamps, **FLASHKIT** PRO, full system UL 2703 certification and 25-year warranty. Not only is **SOLAR**MOUNT easy to install, but best-in-class aesthetics make it the most attractive on any block!

New & Improved:

THE PROFESSIONALS' CHOICE

With Superior Aesthetics



NOW FEATURING FLASHKIT PRO

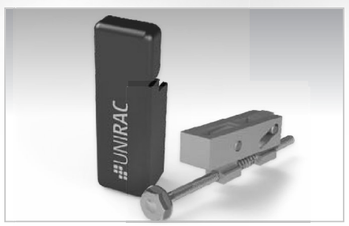
The Complete Roof Attachment Solution

FEATURING SHED & SEAL TECHNOLOGY

NOW WITH UNIVERSAL MIDCLAMPS

Accommodates 30mm-51mm module frames

One tool, one-person installs are here!



REVOLUTIONARY NEW ENDCLAMPS

Concealed design and included End Caps

THE PROFESSIONALS' CHOICE FOR RESIDENTIAL RACKING

BEST INSTALLATION EXPERIENCE • CURB APPEAL • COMPLETE SOLUTION • UNIRAC SUPPORT

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Start the design process for every project in our U-Builder on-line design tool. It's a great way to save time and money.

BETTER SYSTEMS

ONE SYSTEM - MANY APPLICATIONS

Quickly set modules flush to the roof on steep pitched roofs. Orient a large variety of modules in Portrait or Landscape. Tilt the system up on flat or low slow roofs. Components available in mill, clear, and dark finishes to optimize your design financials and aesthetics.

BETTER RESULTS

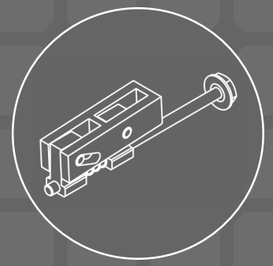
MAXIMIZE PROFITABILITY ON EVERY JOB

Trust Unirac to help you minimize both system and labor costs from the time the job is quoted to the time your teams get off the roof. Faster installs. Less Waste. More Profits.

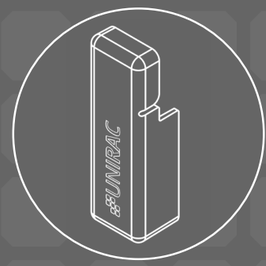
BETTER SUPPORT

WORK WITH THE INDUSTRIES MOST EXPERIENCED TEAM

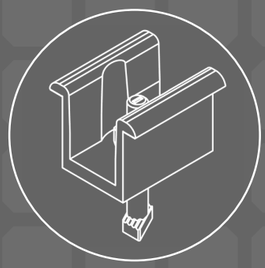
Professional support for professional installers and designers. You have access to our technical support and training groups. Whatever your support needs, we've got you covered. Visit Unirac.com/solarmount for more information.



CONCEALED UNIVERSAL ENDCLAMPS



END CAPS INCLUDED WITH EVERY ENDCLAMP



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U-BUILDER ONLINE DESIGN TOOL SAVES TIME & MONEY

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LISTED **UL2703**

BONDING & GROUNDING
MECHANICAL LOADING
SYSTEM FIRE CLASSIFICATION

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UNMATCHED EXPERIENCE | CERTIFIED QUALITY | ENGINEERING EXCELLENCE | BANKABLE WARRANTY | DESIGN TOOLS | PERMIT DOCUMENTATION

TECHNICAL SUPPORT

Unirac's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.

CERTIFIED QUALITY PROVIDER

Unirac is the only PV mounting vendor with ISO certifications for 9001:2008, 14001:2004 and OHSAS 18001:2007, which means we deliver the highest standards for fit, form, and function. These certifications demonstrate our excellence and commitment to first class business practices.

BANKABLE WARRANTY

Don't leave your project to chance, Unirac has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are providing products of exceptional quality. SOLARMOUNT is covered by a 25 year limited product warranty and a 5 year limited finish warranty.

ENHANCE YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

PUB2018AUG31 - PRINTED UPDATE

FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR CALL (505) 248-2702

Certificate of Compliance

Certificate: 70131735 **Master Contract:** 266909

Project: 80082031 **Date Issued:** 2021-06-02

Issued To: **Unirac**
1411 Broadway NE
Albuquerque, New Mexico, 87102
United States

Attention: Klaus Nicolaedis

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: Michael Hoffnagle
Michael Hoffnagle

C US

PRODUCTS

CLASS - C531302 - POWER SUPPLIES - PHOTOVOLTAICS-PV Racking and clamping systems
CLASS - C531382 - POWER SUPPLIES - PHOTOVOLTAICS-PV Racking and clamping systems - Certified to US Standards

Models:	SM	-	SOLARMOUNT Flush-to-Roof is an extruded aluminum rail PV racking system that is installed parallel to the roof in landscape or portrait orientations.
	ULA	-	Unirac Large Array is a ground mount system using the SolarMount (SM) platform for the bonding and grounding of PV modules.

Solarmount

The system listed is designed to provide bonding/grounding, and mechanical stability for photovoltaic modules. The system is secured to the roof with the L-Foot components through the roofing material to building structure. Modules are secured to the racking system with stainless steel or aluminum mid clamps and Aluminum end clamps. The modules are bonded to the racking system with the stainless-steel bonding mid clamps with piercing points. The system is grounded with 10 AWG copper wire to bonding/grounding lugs. Fire ratings of Class A with Type 1, 2, 3, 10, 19, 22 or 25 for steep slope. Tested at 5" interstitial gap which allows installation at any stand-off height.

The grounding of the system is intended to comply with the latest edition of the National Electrical Code, to include NEC 250 & 690. Local codes compliance is required, in addition to national codes. All grounding/bonding connections are to be torqued in accordance with the Installation Manual and the settings used during the certification testing for the current edition of the project report.

The system may employ optimizers/micro-inverters and used for grounding when installed per installation instructions.

UL 2703 Mechanical Load ratings:

Downward Design Load (lb/ft²)	113.5
Upward Design Load (lb/ft²)	50.7
Down-Slope Load (lb/ft²)	16.13

Test Loads:

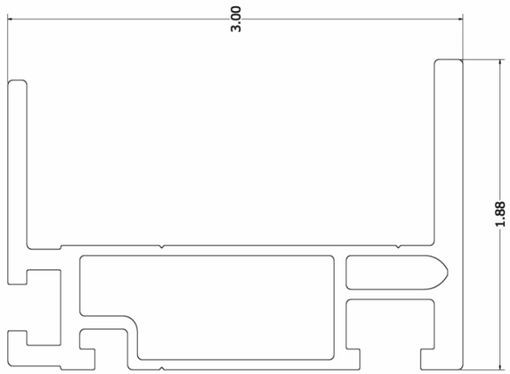
Downward Load (lb/ft²)	170.20
Upward Load (lb/ft²)	76.07
Down-Slope Load (lb/ft²)	24.2

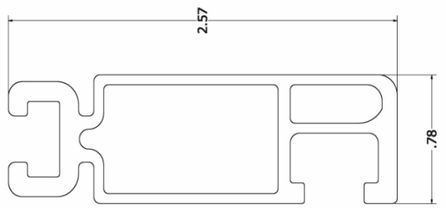
Unirac Large Array

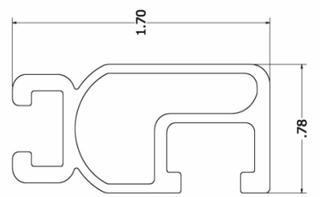
ULA is a ground mount system using the SolarMount (SM) platform for the bonding and grounding of PV modules. ULA aluminum components merge with SM rails and installer-supplied steel pipe. The SM rail system is secured to the horizontal Pipe using the Rail Bracket components. The Rear and Front cap secures the horizontal Pipe to the vertical Pipe. The Front cap is also used to secure the Cross brace. A Slider is attached to the vertical Pipe to secure the Cross brace. The SM rails, caps, slider, rail brackets, and cross braces materials are 6105-T5 aluminum extrusion. Fasteners materials are 304 stainless steel. Horizontal and vertical pipe materials meet the minimum requirements of ASTM A53 for galvanized steel pipe in 2" and 3" diameter.

The mechanical load ratings from the SM test data will be applied to the ULA model.

Fire Testing is not applicable due to being a ground mount system.







Properties	SOLARMOUNT Light	SOLARMOUNT Rail Profile 2	SOLARMOUNT HD	Units
BEAM HEIGHT	1.70	2.57	3.00	in
APPROX WEIGHT	0.491	0.728	1.271	plf
CROSS SECTION AREA	0.409	0.625	1.059	in^2
SECTION MODULUS (X-AXIS)	0.15	0.363	0.898	in^3
SECTION MODULUS (Y-AXIS)	0.067	0.113	0.221	in^3
MOMENT OF INERTIA (X-AXIS)	0.13	0.467	1.45	in^4
MOMENT OF INERTIA (Y-AXIS)	0.026	0.045	0.267	in^4
RADIUS OF GYRATION (X-AXIS)	0.564	0.865	1.17	in
RADIUS OF GYRATION (Y-AXIS)	0.254	0.269	0.502	in

TÜV Rheinland PTL

Certificate

Certificate no. US 82160015 01

License Holder:
Unirac Inc.
1411 Broadway NE
Albuquerque NM 87102
USA

Manufacturing Plant:
Unirac Inc.
1411 Broadway NE
Albuquerque NM 87102
USA

Test report no.: USA- 31440029 005
Tested to: UL 2703:2015

Client Reference: Tom Young

Certified Product: Module Rack Mounting System — **License Fee - Units**

Model Designation: SolarMount (SM) — 7

Max System Voltage of PV Module: 1000 VDC
Max Size of PV Module: 20.8 sq.ft. surface area
Max Overcurrent Protection Rating of PV Module:
30 A when using the qualified grounding lugs;
20 A when using the Enphase micro inverter EGC.

Fire Rating: Class A when installed with
Type 1, Type 2, Type3, or Type 10 fire rated modules.

(continued)

7

Appendix: 1,1-5

Licensed Test mark:

TÜVRheinland US

Date of Issue (day/mo/yr)
27/07/2016

March 31, 2020

Unirac
1411 Broadway Blvd. NE
Albuquerque, NM 87102

Attn.: Unirac - Engineering Department

Re: Engineering Certification for the Unirac U-Builder 2.0 SOLARMOUNT Flush Rail

PZSE, Inc. - Structural Engineers has reviewed the Unirac SOLARMOUNT rails, proprietary mounting system constructed from modular parts which is intended for rooftop installation of solar photovoltaic (PV) panels; and has reviewed the U-builder Online tool. This U-Builder software includes analysis for the SOLARMOUNT LIGHT rail, SOLARMOUNT STANDARD rail, and SOLARMOUNT HEAVY DUTY rail with Standard and Pro Series hardware. All information, data and analysis contained within are based on, and comply with the following codes and typical specifications:

1. Minimum Design Loads for Buildings and other Structures, ASCE/SEI 7-05 and ASCE/SEI 7-10
2. 2006-2015 International Building Code, by International Code Council, Inc.
3. 2006-2015 International Residential Code, by International Code Council, Inc.
4. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES.
5. 2015 Aluminum Design Manual, by The Aluminum Association, 2015

Following are typical specifications to meet the above code requirements:

Design Criteria: Ground Snow Load = 0 - 100 (psf)
Basic Wind Speed = 85 - 190 (mph)
Roof Mean Height = 0 - 60 (ft)
Roof Pitch = 0 - 45 (degrees)
Exposure Category = B, C & D

Attachment Spacing: Per U-builder Engineering report.

Cantilever: Maximum cantilever length is L/3, where "L" is the span noted in the U-Builder online tool.

Clearance: 2" to 10" clear from top of roof to top of PV panel.

Tolerance(s): 1.0" tolerance for any specified dimension in this report is allowed for installation.

Installation Orientation: See SOLARMOUNT Rail Flush Installation Guide.
Landscape - PV Panel long dimension is parallel to ridge/eave line of roof and the PV panel is mounted on the long side.
Portrait - PV Panel short dimension is parallel to ridge/eave line of roof and the PV panel is mounted on the short side.

Components and Cladding Roof Zones:
The Components and Cladding Roof Zones shall be determined based on ASCE 7-05 and ASCE 7-10 Component and Cladding design.

Notes:
1) U-builder Online tool analysis is only for Unirac SM SOLARMOUNT Rail Flush systems only and do not include roof capacity check.
2) Risk Category II per ASCE 7-10.
3) Topographic factor, kzt is 1.0.
4) Average parapet height is 0.0 ft.
5) Wind speeds are LRFD values.
6) Attachment spacing(s) apply to a seismic design category E or less.

Design Responsibility:
The U-Builder design software is intended to be used under the responsible charge of a registered design professional where required by the authority having jurisdiction. In all cases, this U-builder software should be used under the direction of a design professional with sufficient structural engineering knowledge and experience to be able to:

- Evaluate whether the U-Builder Software is applicable to the project, and
- Understand and determine the appropriate values for all input parameters of the U-Builder software.

This letter certifies that the Unirac SM SOLARMOUNT Rails Flush, when installed according to the U-Builder engineering report and the manufacture specifications, is in compliance with the above codes and loading criteria.

This certification excludes evaluation of the following components:

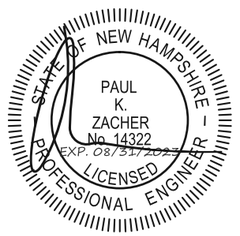
1) The structure to support the loads imposed on the building by the array; including, but not limited to: strength and deflection of structural framing members, fastening and/or strength of roofing materials, and/or the effects of snow accumulation on the structure.
2) The attachment of the SM SOLARMOUNT Rails to the existing structure.
3) The capacity of the solar module frame to resist the loads.

This requires additional knowledge of the building and is outside the scope of the certification of this racking system.

If you have any questions on the above, do not hesitate to call.

Prepared by:
PZSE, Inc. – Structural Engineers
Roseville, CA

DIGITALLY SEALED



Project Address: **64 VAUGHAN STREET**

Permit Requested: **CERTIFICATE OF APPROVAL**

Application: **PUBLIC HEARING 1**

A. Property Information - General:

Existing Conditions:

- Zoning District: CD5
- Land Use: Commercial
- Land Area: 15,242 SF +/-
- Estimated Age of Structure: c.1900
- Building Style: Vernacular Commercial
- Historical Significance: C
- Public View of Proposed Work: View from Vaughan Mall and Hanover Streets
- Unique Features: NA
- Neighborhood Association: Downtown

B. Proposed Work: To add a roof top pavilion.

C. Staff Comments and/ or Suggestions for Consideration:

The project proposal includes the following:

- To add a rooftop pavilion

HISTORIC SURVEY RATING

C

D. Purpose and Intent:

1. Preserve the integrity of the District
2. Assessment of the Historical Significance
3. Conservation and enhancement of property values
4. Maintain the special character of the District
5. Complement and enhance the architectural and historic character
6. Promote the education, pleasure and welfare of the District and the city residents and visitors

E. Review Criteria/Findings of Fact:

1. Consistent with special and defining character of surrounding properties
2. Compatibility of design with surrounding properties
3. Relation to historic and architectural value of existing structures
4. Compatibility of innovative technologies with surrounding properties

JSA
ARCHITECTS
INTERIORS
PLANNERS

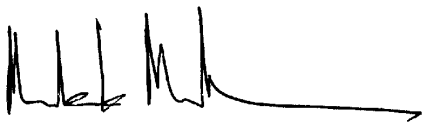
January 4, 2024

City of Portsmouth
Planning Department
1 Junkins Avenue
Portsmouth, NH 03801

Attn: Historic District Commission
Re: 64 Vaughan mall (LU-20-214)

The applicant (Novocure) for the renovation/addition to 64 Vaughan Mall is requesting a public hearing at the February 7, 2024 HDC meeting for the proposed penthouse addition. The Penthouse is noted on the attached drawings dated 12/15/23.

Respectfully Submitted,



Mark K. Moeller, AIA LEED AP
Principal

cc: Dean Smith, Novocure

HDC-1

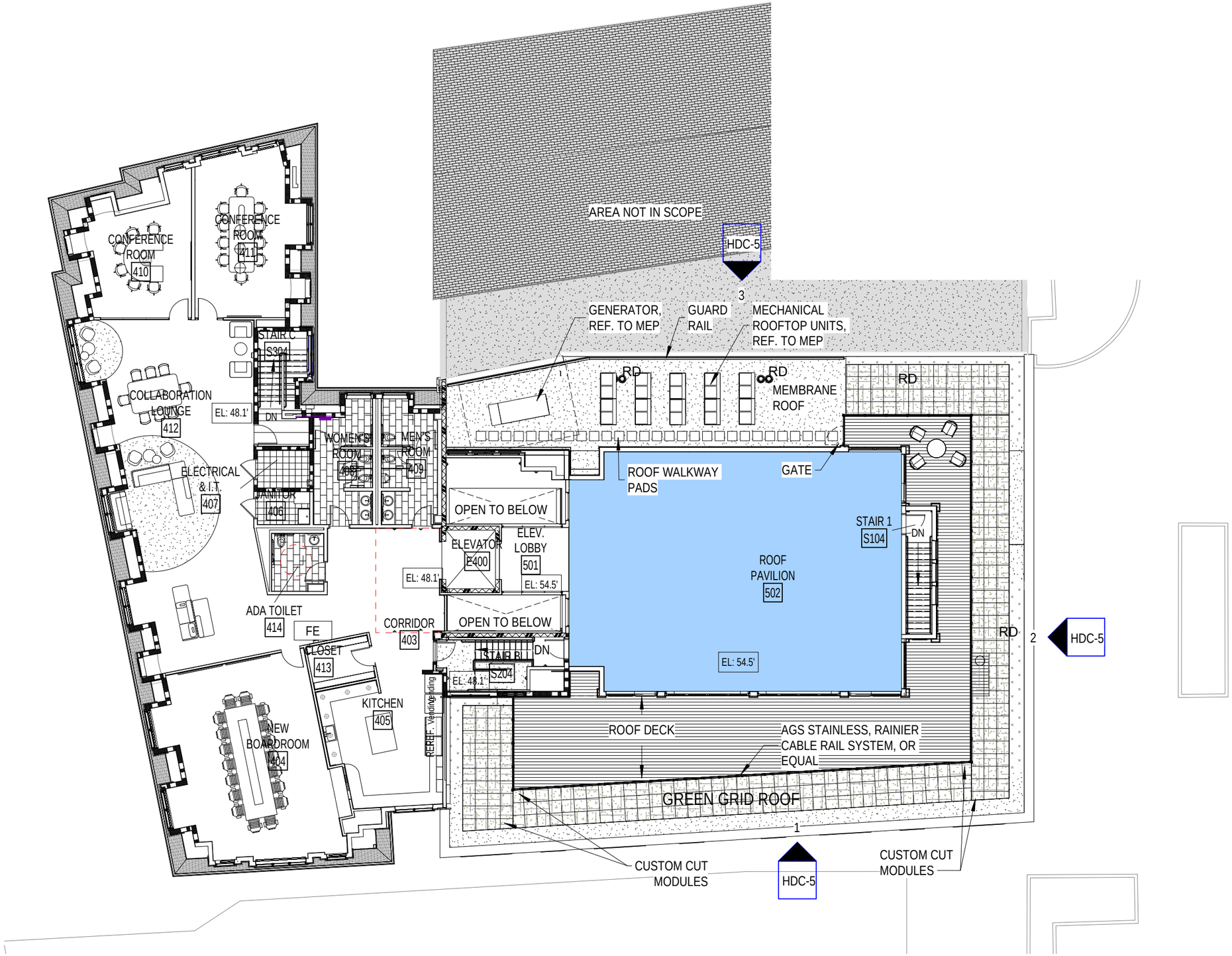
Aerial Perspective

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

JSA
ARCHITECTS
INTERIORS
PLANNERS



HDC-2

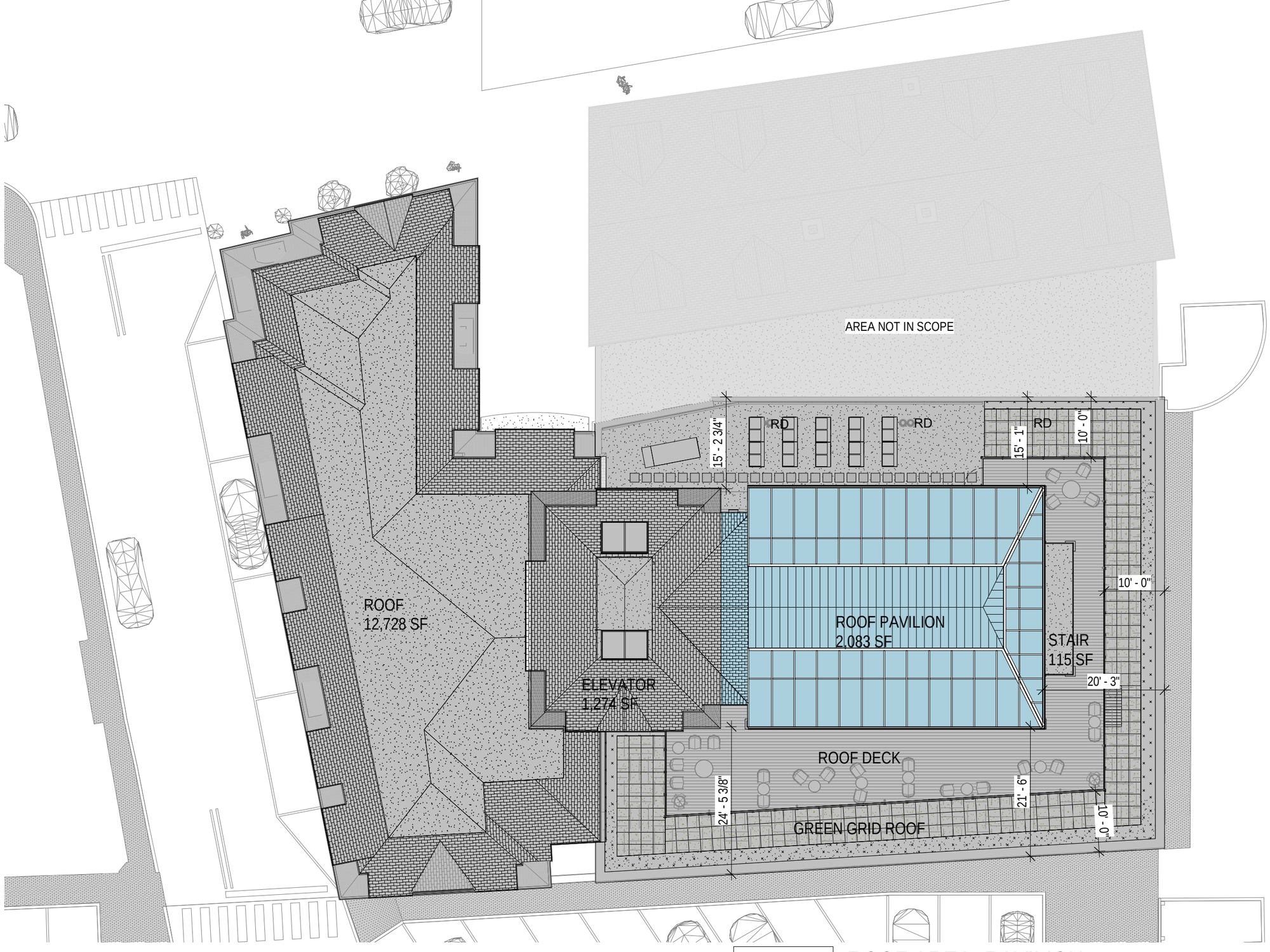
FOURTH FLOOR PLAN

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE: 1/16" = 1'-0"

JSA ARCHITECTS INTERIORS PLANNERS



HDC-3

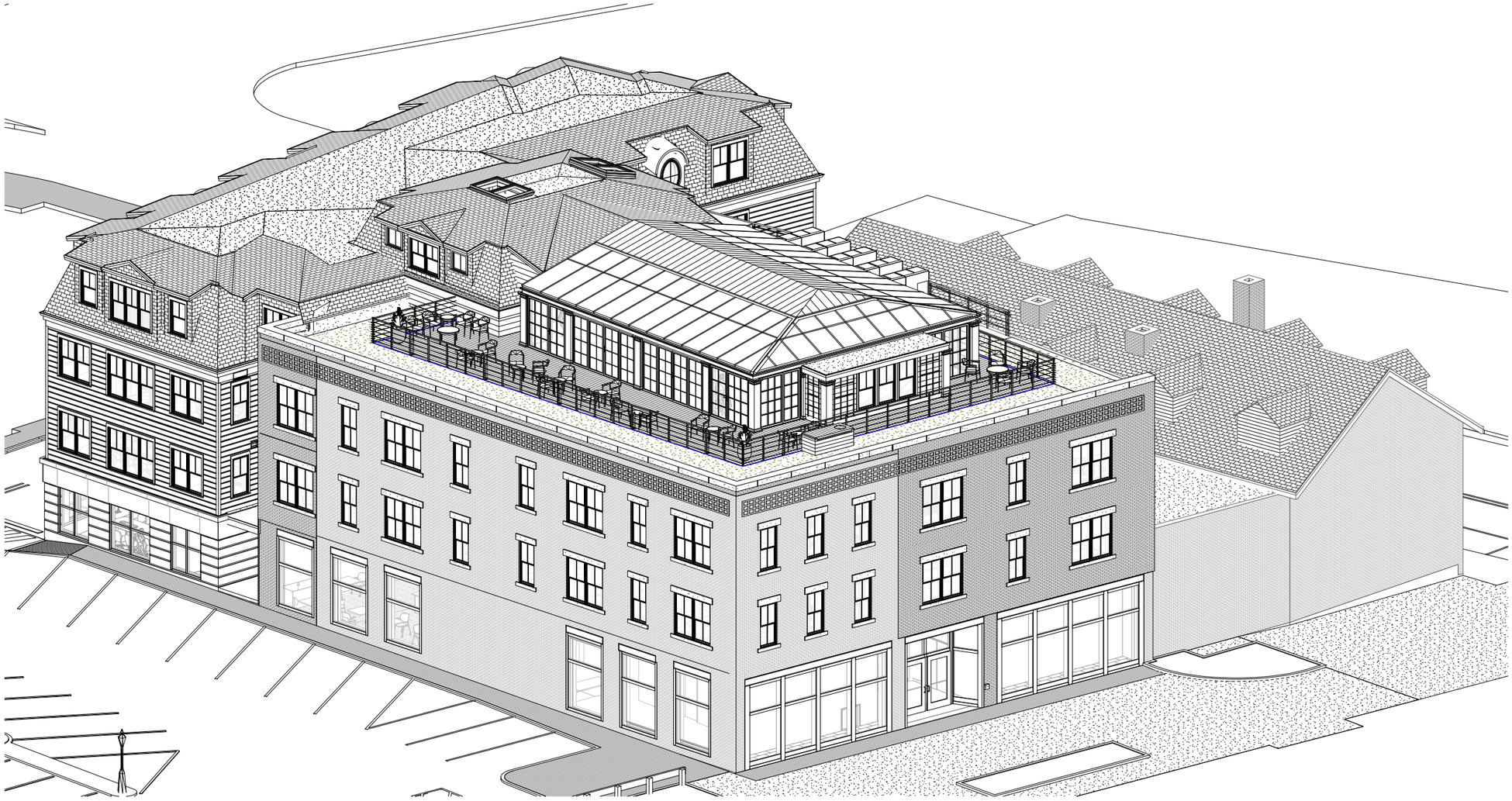
ROOF AREA- PAVILION

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE: 1/16" = 1'-0"

JSA ARCHITECTS INTERIORS PLANNERS



HDC-4

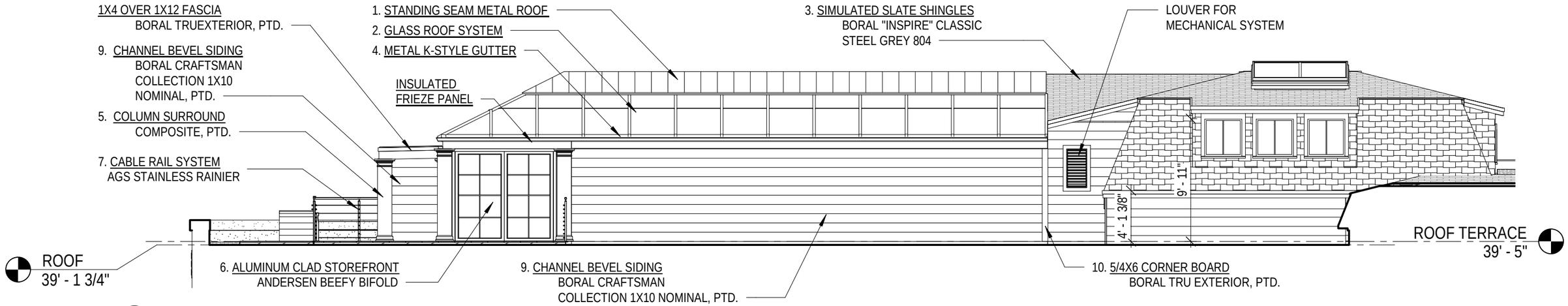
SOUTHEAST AXONOMETRIC - PROPOSED PAVILLION

Novocure Flagship at 64 Vaughan Mall

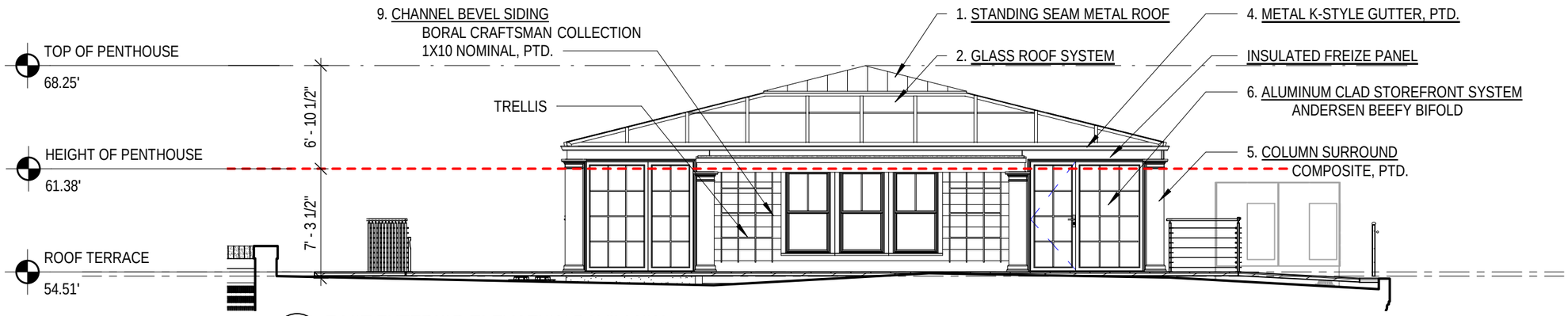
12/15/2023

SCALE:

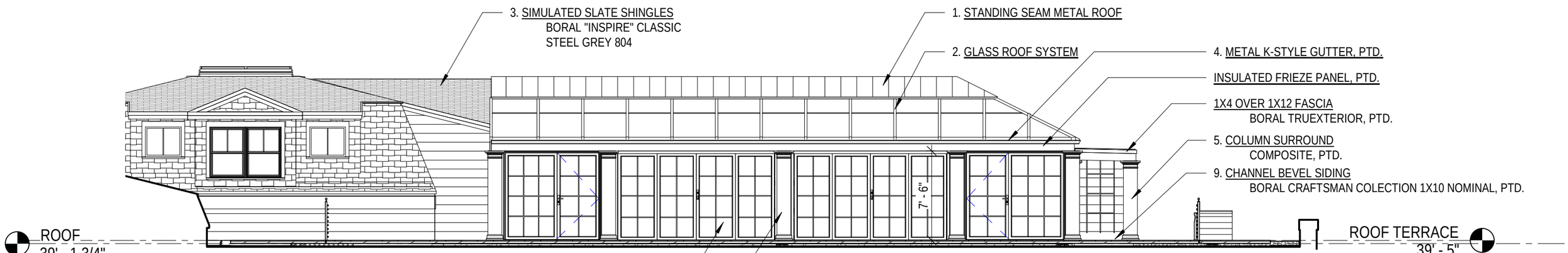
JSA ARCHITECTS INTERIORS PLANNERS



3 NORTH EXTERIOR ELEVATION PAVILLION
1/8" = 1'-0"



2 EAST EXTERIOR ELEVATION PAVILLION
1/8" = 1'-0"



1 SOUTH EXTERIOR ELEVATION PAVILLION
1/8" = 1'-0"

HDC-5

PAVILION ELEVATIONS

Novocure Flagship at 64 Vaughan Mall

12/15/2023
SCALE: 1/8" = 1'-0"

JSA
ARCHITECTS
INTERIORS
PLANNERS

1 NORTH EXTERIOR ELEVATION PAVILLION - COLOR
1/8" = 1'-0"

2 EAST EXTERIOR ELEVATION PAVILLION - COLOR
1/8" = 1'-0"

3 SOUTH EXTERIOR ELEVATION PAVILLION - COLOR
1/8" = 1'-0"

HDC-5.5

PAVILION COLOR ELEVATIONS

Novocure Flagship at 64 Vaughan Mall

12/15/2023
SCALE: 1/8" = 1'-0"

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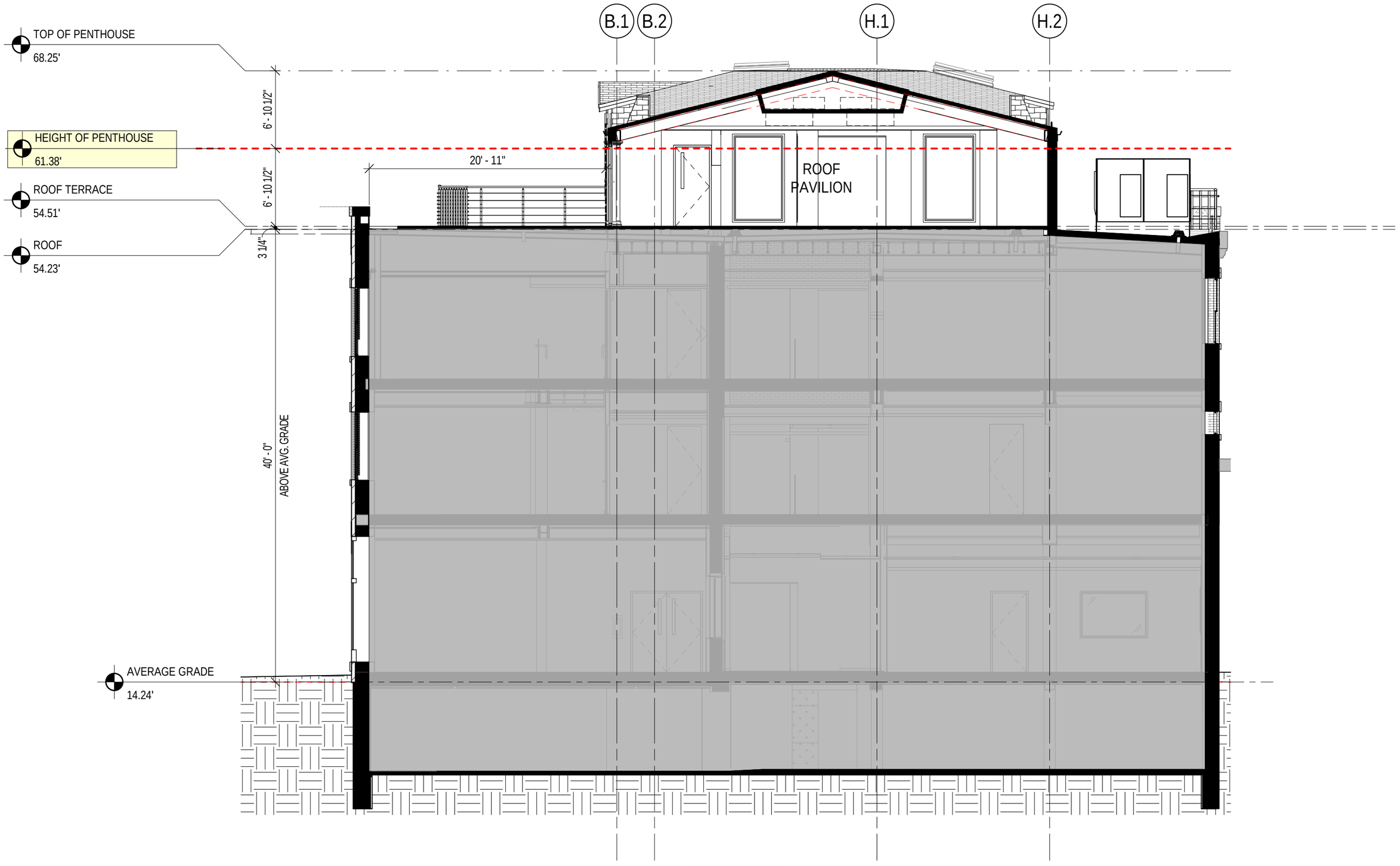
INTERIORS
PLANNERS



HDC-6

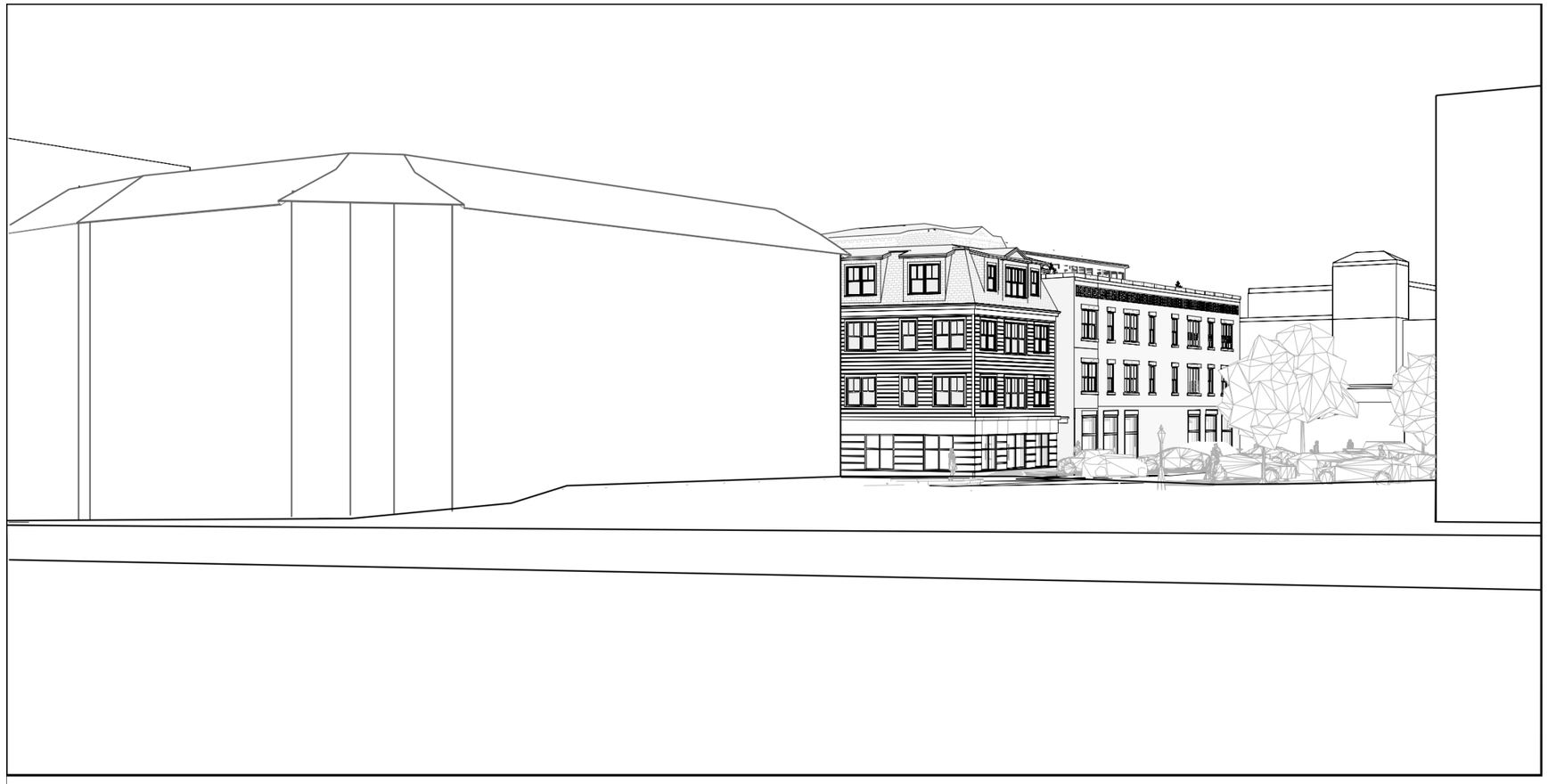
ENLARGED BUILDING SECTION

Novocure Flagship at 64 Vaughan Mall

12/15/2023

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

JSA
ARCHITECTS
INTERIORS
PLANNERS



HDC-7

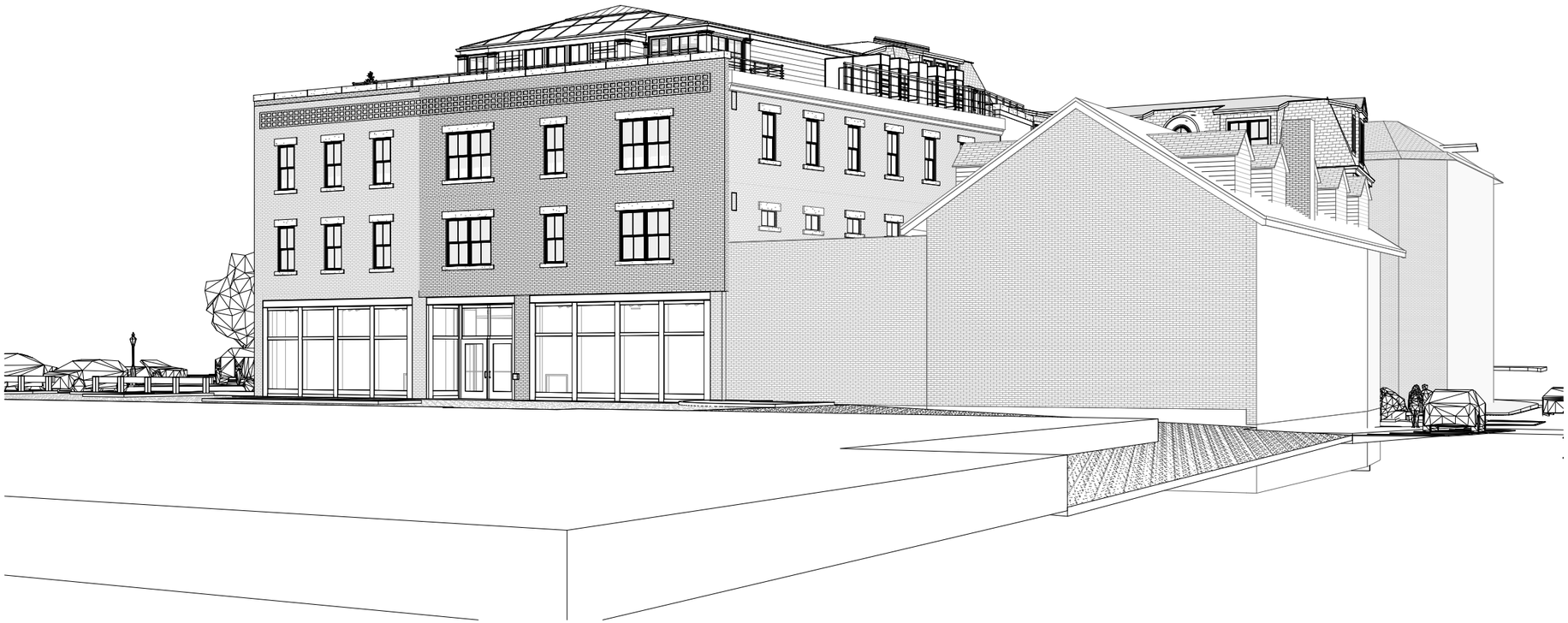
BRIDGE STREET PARKING LOT

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

JSA ARCHITECTS INTERIORS PLANNERS



HDC-8

HANOVER AND FLEET STREET

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

JSA
ARCHITECTS
INTERIORS
PLANNERS

HDC-9

WORTH LOT VIEW 01

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

JSA
ARCHITECTS
INTERIORS
PLANNERS

HDC-10

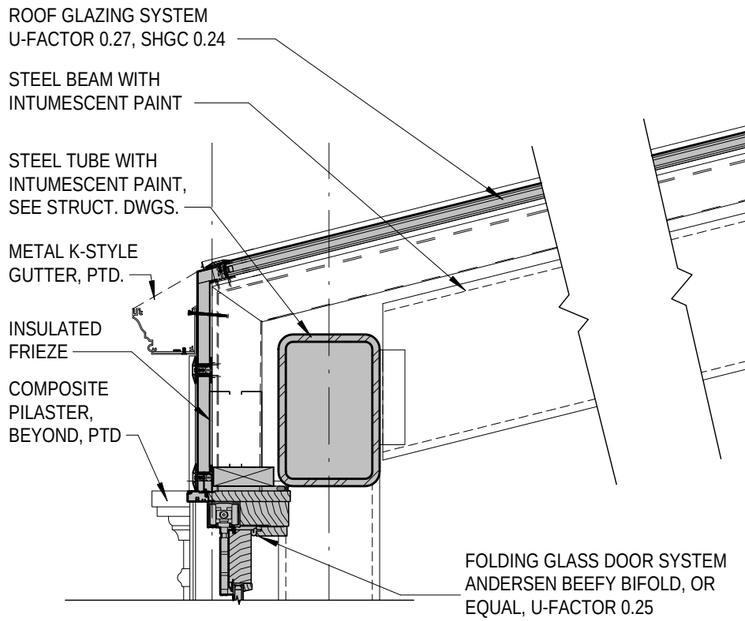
WORTH LOT VIEW 02

Novocure Flagship at 64 Vaughan Mall

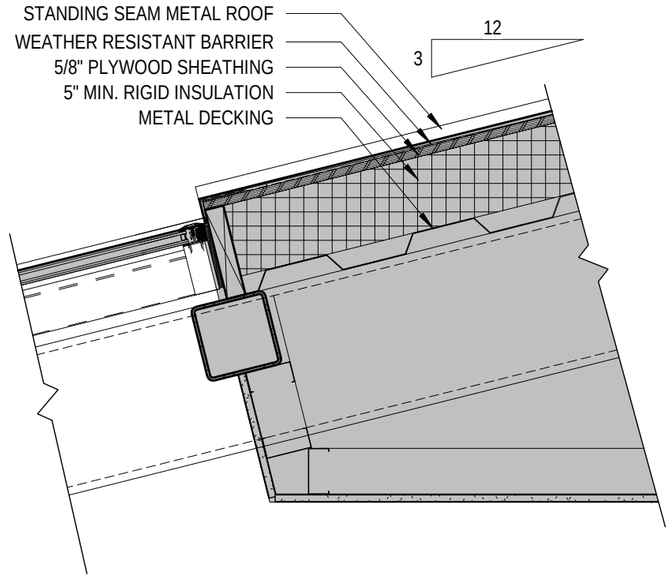
12/15/2023

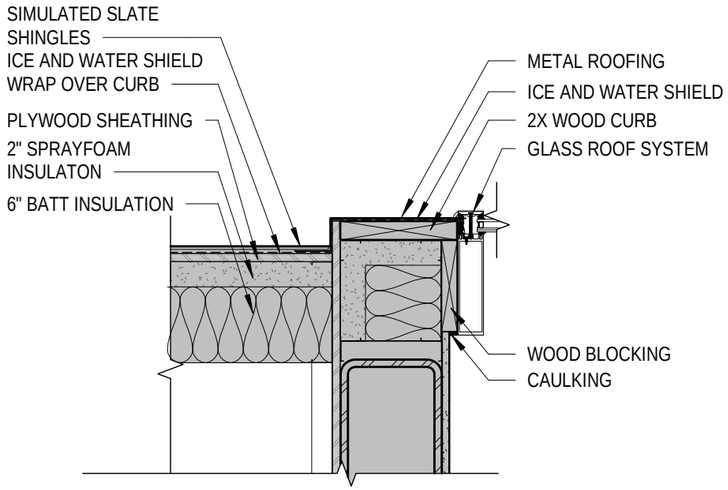
SCALE:

JSA ARCHITECTS INTERIORS PLANNERS

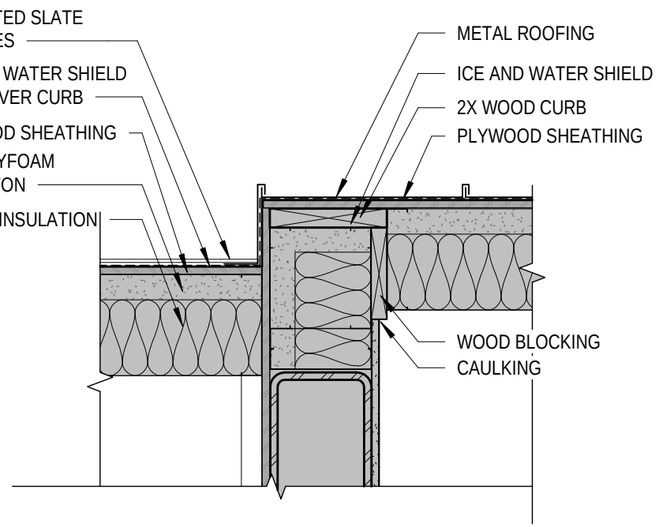


1 ROOF DETAIL -TYPICAL EAVE-Andersen
1" = 1'-0"

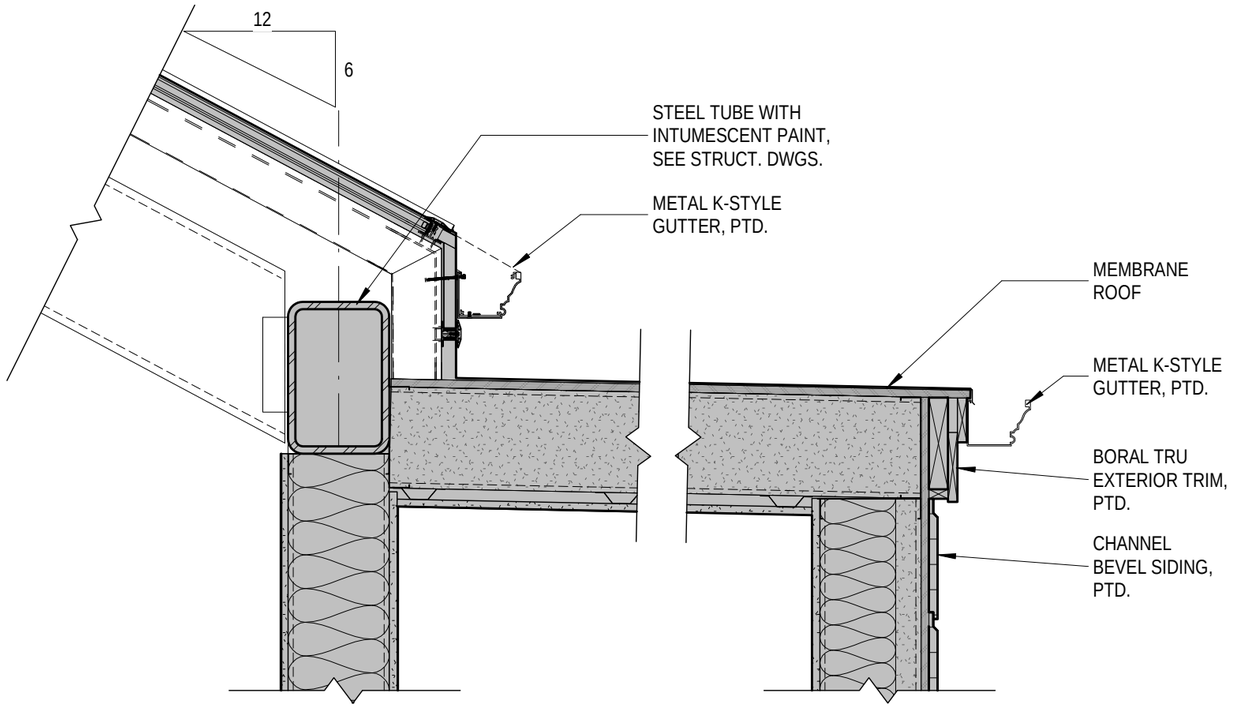




4 PAVILION ROOF GABLE END DETAIL- HDC
1" = 1'-0"



3 PAVILION ROOF GABLE END DETAIL- Standing Seam- HDC
1" = 1'-0"



2 ROOF DETAIL -Eave over Stair 1
1" = 1'-0"

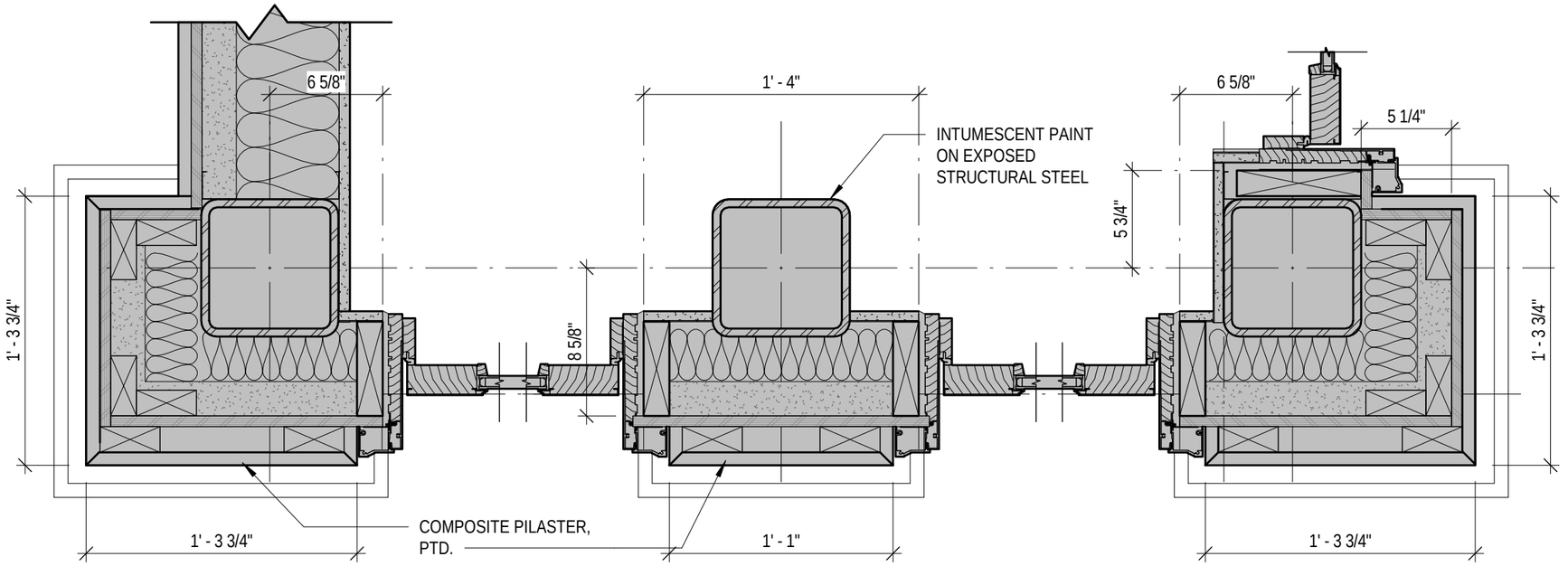
HDC-11

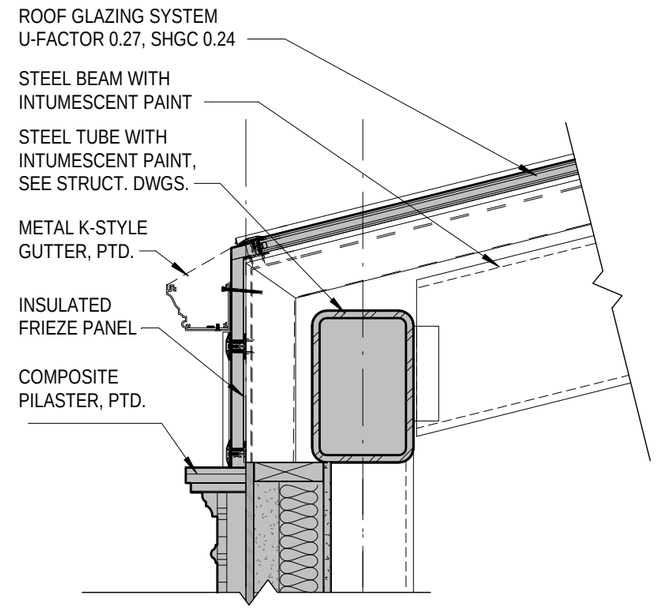
DETAILS

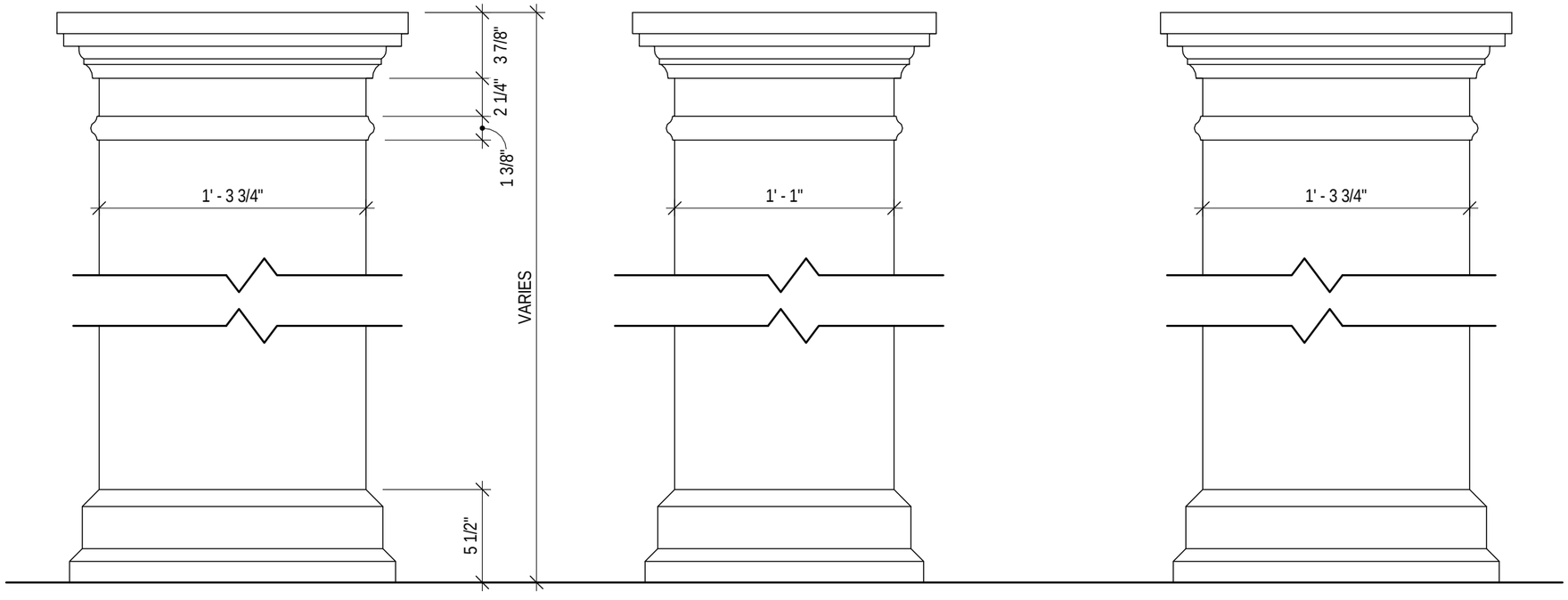
Novocure Flagship at 64 Vaughan Mall

12/15/2023
SCALE: 1" = 1'-0"

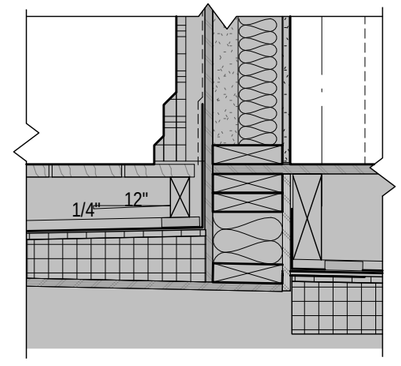
JSA
ARCHITECTS
INTERIORS
PLANNERS







1 PAVILION DOOR JAMB AND PILASTER DETAIL- Andersen
1 1/2" = 1'-0"



2 ROOF DETAIL -TYPICAL EAVE @ COLUMN
1" = 1'-0"

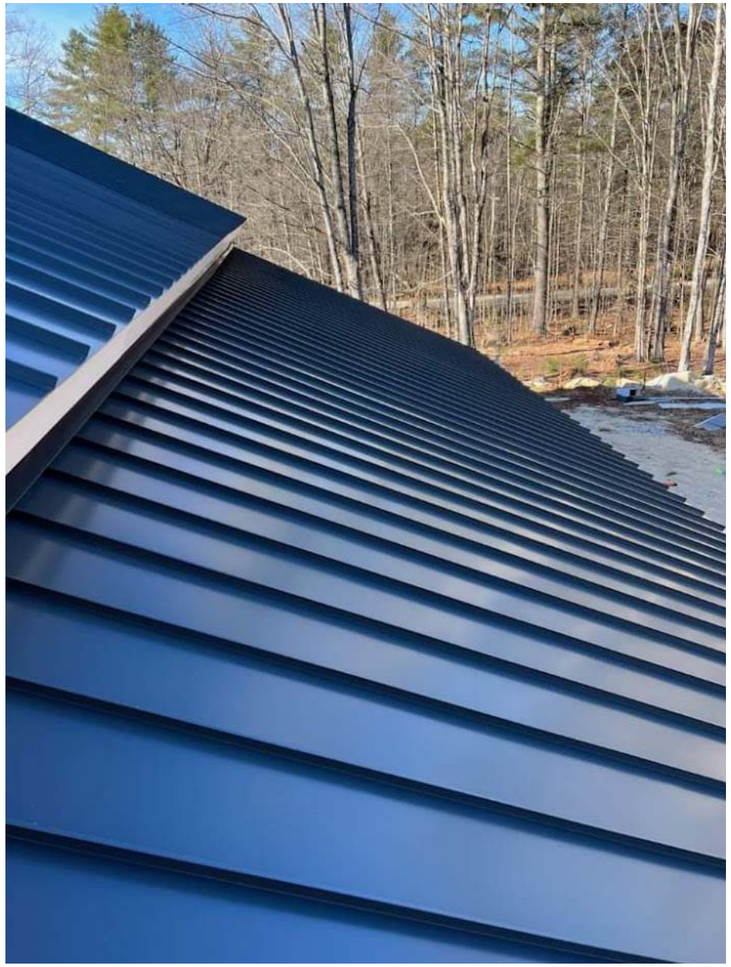
HDC-12

DOOR JAMB AND PILASTER DETAIL

Novocure Flagship at 64 Vaughan Mall

12/15/2023
SCALE: As indicated

JSA ARCHITECTS INTERIORS PLANNERS



1. STANDING SEAM METAL ROOFING

2. ALUMINUM/GLASS STRUCTURE

HDC-13

MATERIALS

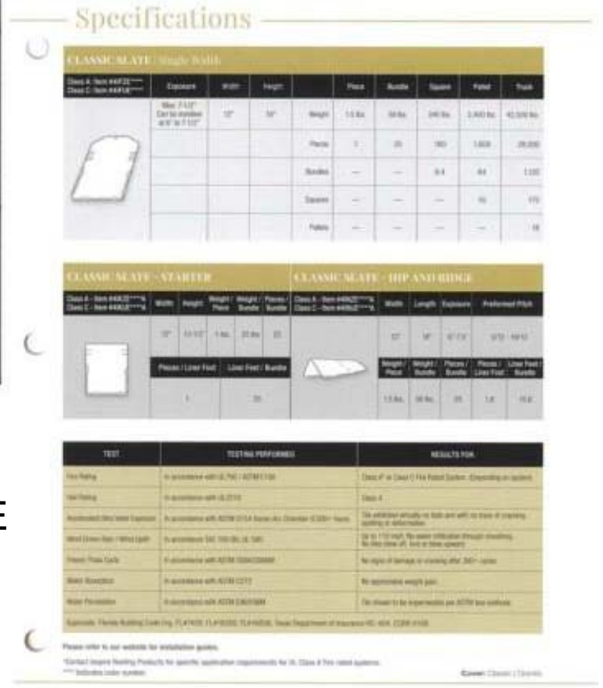
Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

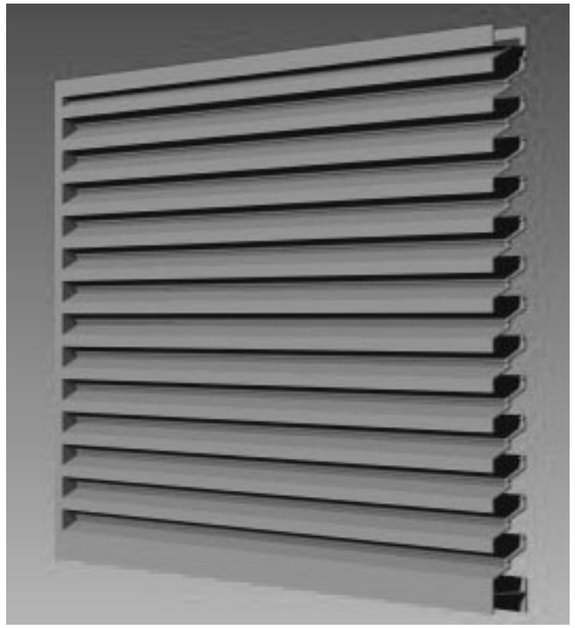
JSA ARCHITECTS INTERIORS PLANNERS

Steel Grey



3. SIMULATED SLATE SHINGLE
BORAL INSPIRE CLASSIC SLATE
STEEL GREY 804

4. PAINTED METAL K STYLE GUTTER



LOUVER FOR MECHNANICAL SYSTEM

5. CORNER POST COLUMN SURROUND

INSULATED ALUMINUM PANEL-BLACK

ANDERSEN WINDOWS & DOORS

BEEFY BIFOLD DOORS

Architectural Collection

BRING THE OUTDOORS IN

Maximize large openings with Beefy Bifold doors from Andersen. With a robust design, their heavy-duty hardware system supports larger door panels without sacrificing ease of operation, opening a space to the outdoors effortlessly.

KEY FEATURES

- Up to 40' wide and 13' 6" tall, with panels up to 5' wide
- Wood, aluminum or aluminum wood-clad construction
  - All aluminum and aluminum wood-clad panels have rails and stiles that are 3 ½" wide and a thickness of 3 ⁹⁄₁₆"
  - All wood panels up to 10' tall have stiles that are 3 ⅛" wide with a bottom rail height of 7 ¼" and a thickness of 2 ⅛"
- Center-pivoting design with internal shoot-bolt locking hardware
- Panels stack perpendicular to the wall to maximize the size of the opening
- Door jamb is less than 4" wide and can fit into almost all existing wall conditions
- Variety of glass options
- High-quality AAMA 2605 finish

FLUSH SILL

Flush sill with a built-in drainage system allows for a seamless transition while offering protection from the weather. The track is a corrosion-resistant stainless steel U-channel that only sits ⅛" above the finished floor.

CONFIGURATIONS

- Vary the number of panels to fit any opening
- Use as a pass-through window for a kitchen or bar area
- Corner bifold without a meeting post creates a dramatic design
- Individually-operable doors can be built into most door configurations for more exit options. Operable doors are great for frequent entries and exits, without needing to unlock the entire system.

6. FOLDING DOORS

ANDERSEN- ALUMINUM CLAD WOOD

HDC-15

MATERIALS

Novocure Flagship at 64 Vaughan Mall

12/15/2023

SCALE:

JSA ARCHITECTS INTERIORS PLANNERS

RAINIER

Cable Railing

- Choose from an array of fitting options
- Factory prepared cable/fitting assemblies available for quick installation

7. CABLE RAILING

POWDER COATED ALUMINUM- BLACK

dassoXTR

dassoXTR Fused Bamboo® is manufactured using dasso's patented process, creating an extremely dense, durable solid product for several different types of exterior applications. dassoXTR Fused Bamboo® has a Class A Fire Rating and zero VOCs. It's the sustainable, natural alternative to traditional wood.

END MATCHED – Tongue & Grooved Ends
Allows installation on or off the joists

REVERSIBLE FACES – unlimited design possibilities
Install smooth or reeded face up

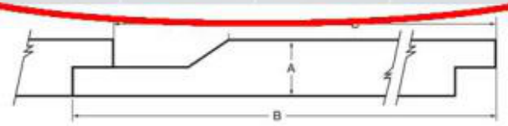
- Dimensionally stable (no expand & contract)
- No VOCs
- Class A Fire Rated
- Installs 35% faster
- Over 100 million SqFt installed worldwide

2 COLORS AVAILABLE

8. DECKING

FUSED BAMBOO- CLASSIC ESPRESSO COLOR

Nominal Size	Actual Thickness (A)	Actual Width (B)	Reveal (C)
1 x 6	11/16"	5-1/2"	4-31/32"
1 x 8	11/16"	7-1/2"	6-31/32"
1 x 10	11/16"	9-1/2"	8-31/32"



5/8 Trim Sizes		1X Trim Sizes		5/4 Trim Sizes		2X Trim Sizes	
Nominal	Actual	Nominal	Actual	Nominal	Actual	Nominal	Actual
–	–	–	–	–	–	2 x 2	1-1/2" x 1-1/2"
–	–	1 x 3	3/4" x 2-1/2"	5/4 x 3	1" x 2-1/2"	–	–
5/8 x 4	5/8" x 3-1/2"	1 x 4	3/4" x 3-1/2"	5/4 x 4	1" x 3-1/2"	2 x 4	1-1/2" x 3-1/2"
–	–	1 x 5	3/4" x 4-1/2"	5/4 x 5	1" x 4-1/2"	–	–
5/8 x 6	5/8" x 5-1/2"	1 x 6	3/4" x 5-1/2"	5/4 x 6	1" x 5-1/2"	2 x 6	1-1/2 x 5-1/2"
5/8 x 8	5/8" x 7-1/4"	1 x 8	3/4" x 7-1/4"	5/4 x 8	1" x 7-1/4"	2 x 8	1-1/2" x 7-1/4"
5/8 x 10	5/8" x 9-1/4"	1 x 10	3/4" x 9-1/4"	5/4 x 10	1" x 9-1/4"	2 x 10	1-1/2" x 9-1/4"
5/8 x 12	5/8" x 11-1/4"	1 x 12	3/4" x 11-1/4"	5/4 x 12	1" x 11-1/4"	2 x 12	1-1/2" x 11-1/4"

TruExterior® Trim is reversible with woodgrain on one side and a smooth finish on the reverse. Available in a 16' length.

Reversible Smooth/Woodgrain Finish

*Please see TruExterior® Siding & Trim Limited Warranties and Product Data Sheets for proprietary test results, located at TruExterior.com.

9. HORIZONTAL SIDING AND TRIM- PAINTED
BORAL TRU EXTERIOR CRAFTSMANS COLLECTION
CHANNEL BEVEL 1X10

10. BORAL TRU EXTERIOR TRIM

Design

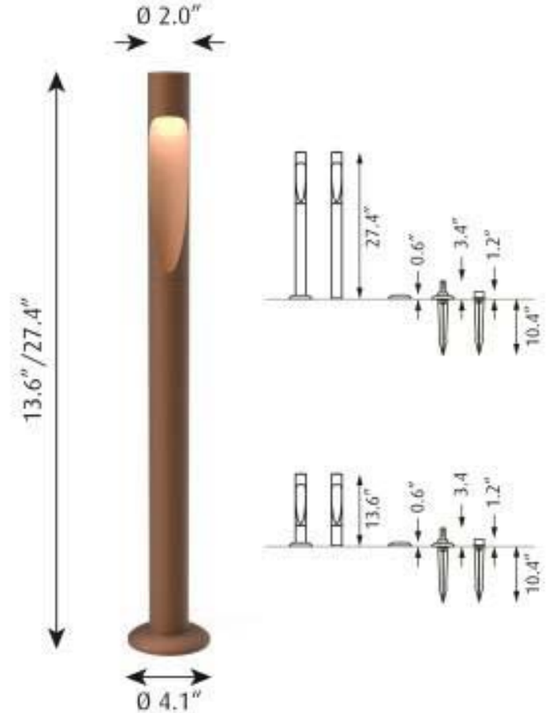
Christian Flindt

Product description

Beautifully crafted slender post with a carved surface that is gently illuminated. Top section conceals downward facing LED . A horizontal connection line underline the two parts of the bollard. Available in two heights, 13.6 IN and 27.4 IN. Available in three
different mounting methods: with a base plate for anchoring onto decks; an anchor for casting in new concrete pad; or a spike for placing in soil or gravel. Part of a family.

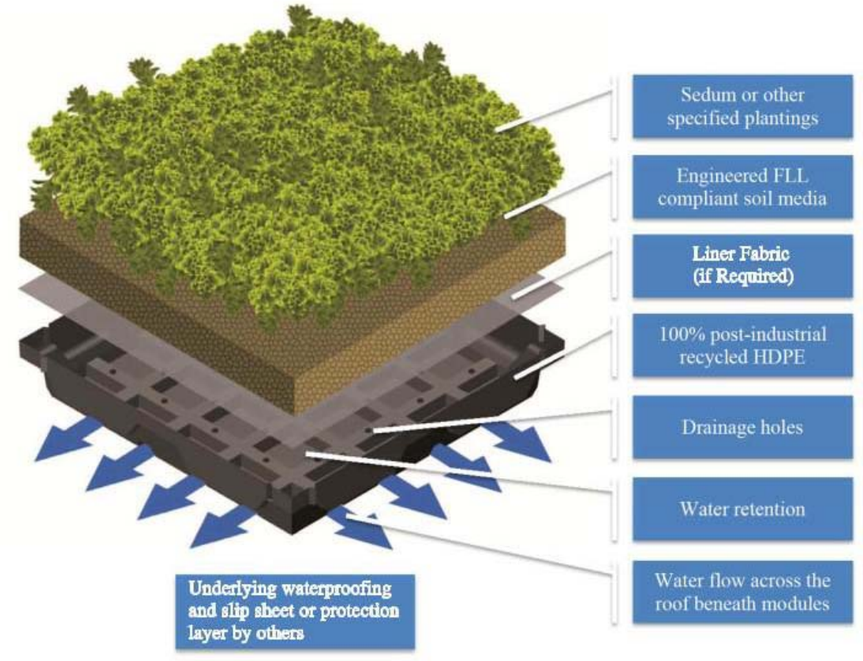
Variant options

Dimension	Color	Mounting	Light source	Lumen	Voltage frequency	Class
LONG	Black texture	Anchor w/o power supply	LED 2700K	-	24V	-
SHORT	Corten color	Base w/o power supply	LED 3000K	215		III
	Natural paint aluminum	Spike w/o power supply	LED 4000K	248		
				252		
				291		



12. DECK LIGHTING BOLLARD

11. GREEN GRID VEGETATIVE ROOF SYSTEM



Project Address: **37 SOUTH SCHOOL STREET**

Permit Requested: **CERTIFICATE OF APPROVAL**

Application: **PUBLIC HEARING 2**

A. Property Information - General:

Existing Conditions:

- Zoning District: General Residence B (GRB)
- Land Use: Residential
- Land Area: 8,360 SF +/-
- Estimated Age of Structure: c.1810
- Building Style: Federal
- Number of Stories:2.5
- Historical Significance: C
- Public View of Proposed Work: South School Street
- Unique Features: NA
- Neighborhood Association: South End

B. Proposed Work: to add a single-story side addition with new rear porch.

C. Staff Comments and/ or Suggestions for Consideration:

The project proposal includes the following:

- Construct 1-story addition to the right side of the structure
- Construct new rear porch.

HISTORIC SURVEY RATING

C

D. Purpose and Intent:

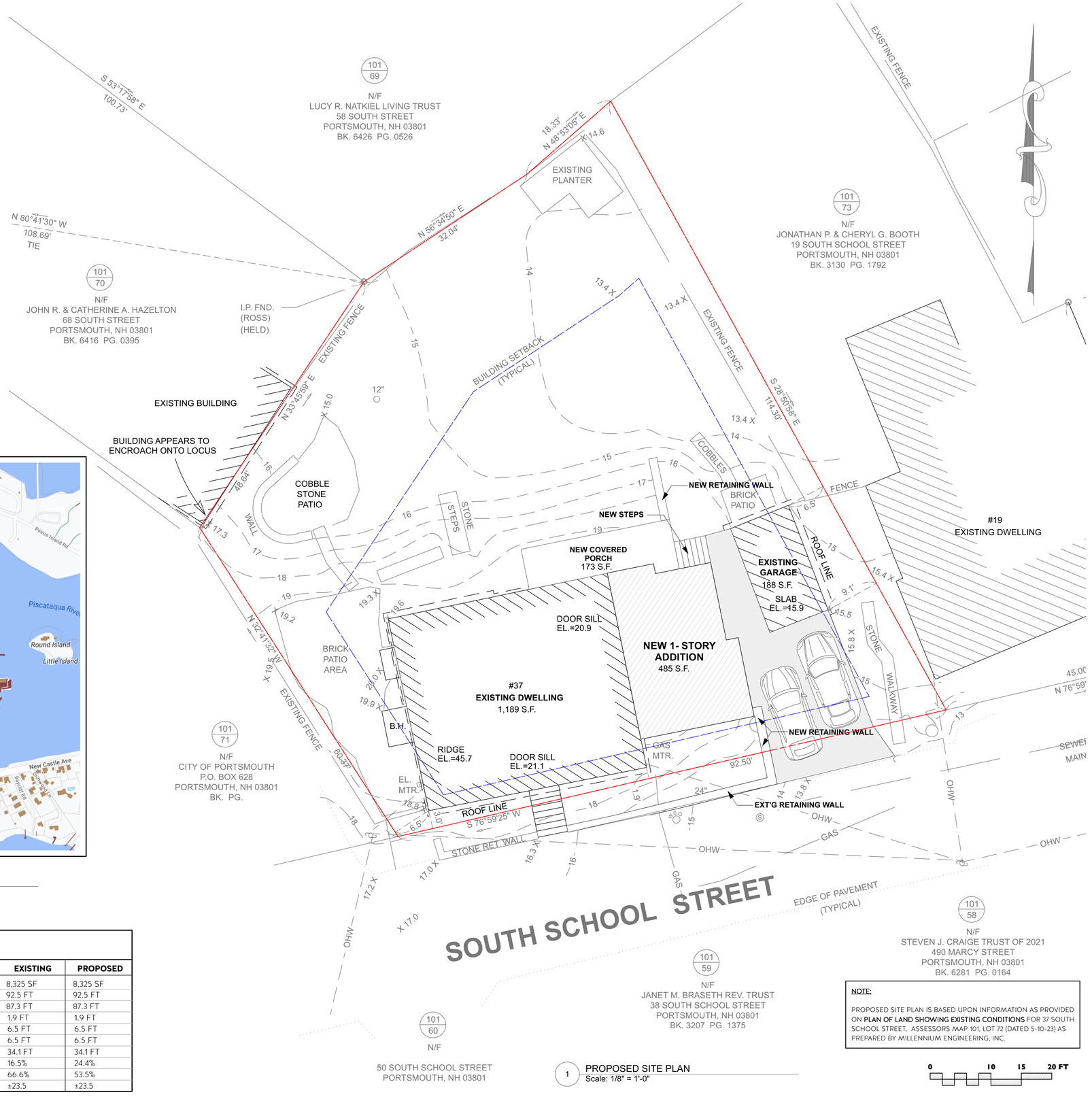
7. Preserve the integrity of the District
8. Assessment of the Historical Significance
9. Conservation and enhancement of property values
10. Maintain the special character of the District
11. Complement and enhance the architectural and historic character
12. Promote the education, pleasure and welfare of the District and the city residents and visitors

E. Review Criteria/Findings of Fact:

5. Consistent with special and defining character of surrounding properties
6. Compatibility of design with surrounding properties
7. Relation to historic and architectural value of existing structures
8. Compatibility of innovative technologies with surrounding properties

DRAWING LIST	
A0.0	COVER SHEET/SITE PLAN
A0.1	EXISTING PHOTOS
A0.2	NEIGHBORHOOD CONTEXT PHOTOS
A1.1	PROPOSED/EXISTING FIRST FLOOR PLANS
A1.2	PROPOSED/EXISTING SECOND FLOOR PLANS
A2.1	PROPOSED/EXISTING FRONT ELEVATION
A2.2	PROPOSED/EXISTING RIGHT SIDE ELEVATION
A2.3	PROPOSED/EXISTING REAR ELEVATION
A2.4	PROPOSED/EXISTING LEFT SIDE ELEVATION
A3.1	PROPOSED DETAILS/SPECIFICATIONS
A3.2	PROPOSED DETAILS/SPECIFICATIONS

2 LOCATION MAP
Scale: NOT TO SCALE



NOTE:

PROPOSED SITE PLAN IS BASED UPON INFORMATION AS PROVIDED ON **PLAN OF LAND SHOWING EXISTING CONDITIONS** FOR 37 SOUTH SCHOOL STREET, ASSESSORS MAP 101, LOT 72 (DATED 5-10-23) AS PREPARED BY MILLENNIUM ENGINEERING, INC.

1 PROPOSED SITE PLAN
Scale: 1/8" = 1'-0"

0 10 15 20 FT

ZONING MATRIX RESIDENCE GRB - Single Family			
ITEM	**REQUIRED**	**EXISTING**	**PROPOSED**
LOT AREA	5,000 SF	8,325 SF	8,325 SF
LOT FRONTAGE	80 FT	92.5 FT	92.5 FT
LOT DEPTH	60 FT	87.3 FT	87.3 FT
FRONT YARD	5 FT	1.9 FT	1.9 FT
SIDE YARD A	10 FT	6.5 FT	6.5 FT
SIDE YARD B	10 FT	6.5 FT	6.5 FT
REAR YARD	25 FT	34.1 FT	34.1 FT
BUILDING COVERAGE	30%	16.5%	24.4%
OPEN SPACE	25%	66.6%	53.5%
HEIGHT	35	±23.5	±23.5

CAD File Name
37SouthSchoolSt_APP_CoverSheet.vwx

SCOTT M. BROWN
ESTD | ARCHITECTS | 2007
48 MARKET STREET
NEWBURYPORT, MA 01950
T. 978.465.3535
WWW.SCOTTBROWNARCHITECT.COM

ADDITIONS/ALTERATIONS TO THE:

PATSKY-WOODS RESIDENCE

37 SOUTH SCHOOL STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES		
No.	Date	Notes
A	12/15/23	HDC SUBMISSION
B	1/16/24	HDC REVISIONS

Project #	Project Manager	Date
2023-11	X.X.	1-16-24

Scale: AS NOTED

COVER SHEET/PROPOSED SITE PLAN

A0.0

EAVE DETAIL

NORTHEAST VIEW

SOUTHEAST VIEW

WINDOW SILL DETAIL

NORTHWEST VIEW

SOUTHWEST VIEW

CAD File Name:
37 South School St_APP_Plans.vwx

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2023-11	X.X.	1-16-24

Scale: AS NOTED

EXISTING PHOTOS

A0.1

(7) : SOUTH STREET PLAYGROUND

(8) : 19 SOUTH SCHOOL ST

(9) : 478 MARCY STREET

(3) : 50 SOUTH SCHOOL STREET

(4) : 38 SOUTH SCHOOL STREET

(5) : 490 MARCY STREET GARAGE

(6) : 490 MARCY STREET

(1) : 86 SOUTH SCHOOL STREET

(2) : 76 SOUTH SCHOOL STREET

KEY PLAN

CAD File Name
37 South School SI_APP_Plans.vwx

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PORTSMOUTH, NH 03801

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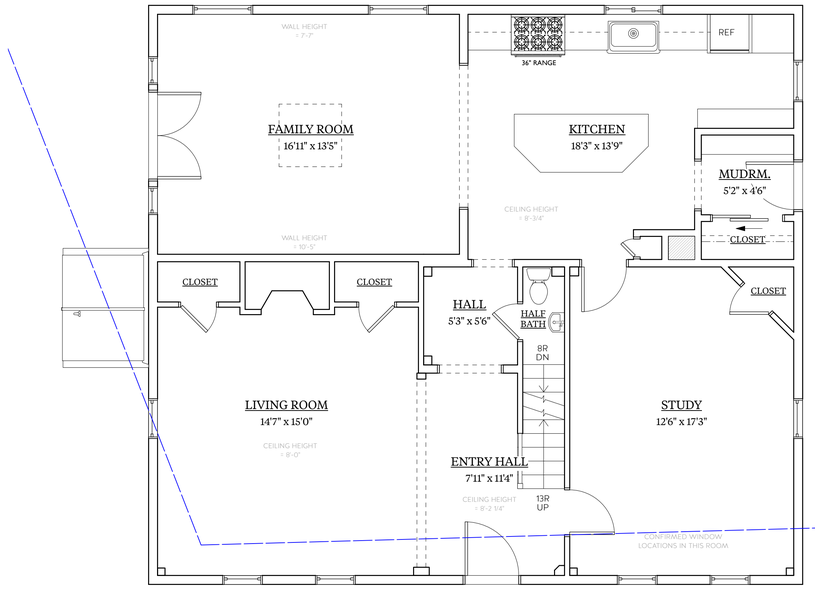
2023-11	X.X.	1-16-24

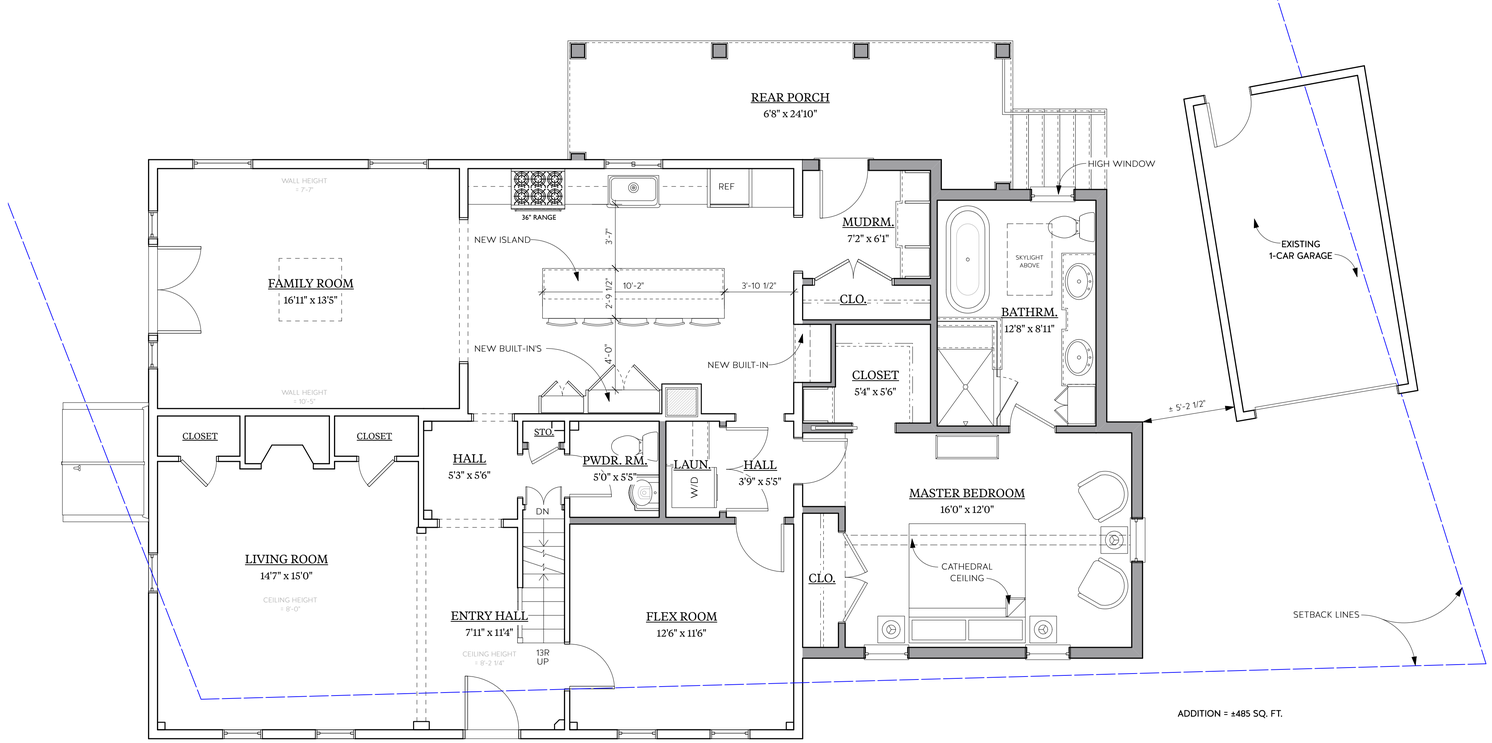
Scale: AS NOTED

NEIGHBORHOOD CONTEXT PHOTOS

A0.2



2 EXISTING FIRST FLOOR PLAN
Scale: 1/4" = 1'-0"



1 PROPOSED FIRST FLOOR PLAN
Scale: 1/4" = 1'-0"

CAD File Name
37 South School SL_APP_Plans.vwx

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PORTSMOUTH, NH 03801

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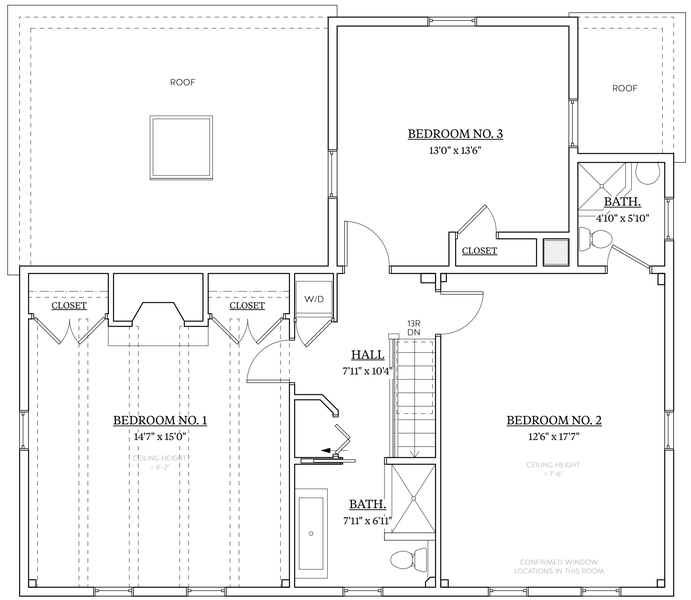
2023-11	X.X.	1-16-24

Scale: AS NOTED

FIRST FLOOR PLANS

A1.1



2 EXISTING SECOND FLOOR PLAN
Scale: 1/4" = 1'-0"

1 PROPOSED SECOND FLOOR PLAN
Scale: 1/4" = 1'-0"

CAD File Name:
37 South School St_APP_Plans.vwx

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PORTSMOUTH, NH 03801

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2023-11	X.X.	1-16-24

Scale: AS NOTED

SECOND FLOOR PLANS

A1.2

2 EXISTING SOUTH (FRONT) ELEVATION
Scale: 1/4" = 1'-0"

1 PROPOSED SOUTH (FRONT) ELEVATION
Scale: 1/4" = 1'-0"

CAD File Name
37 South School SL_APP_Plans.vwx

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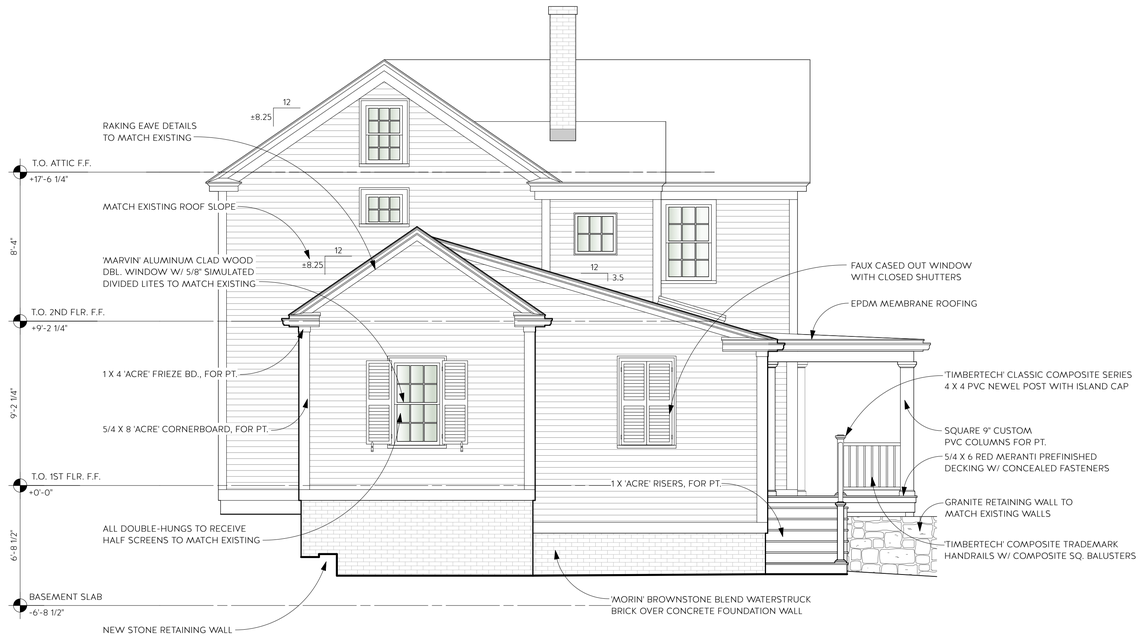
2023-11	X.X.	1-16-24

Scale: AS NOTED

ELEVATIONS

A2.1

2 EXISTING EAST (RIGHT SIDE) ELEVATION
Scale: 1/4" = 1'-0"



1 PROPOSED EAST (RIGHT SIDE) ELEVATION
Scale: 1/4" = 1'-0"

CAD File Name:
37 South School SL_APP_Plans.vwx

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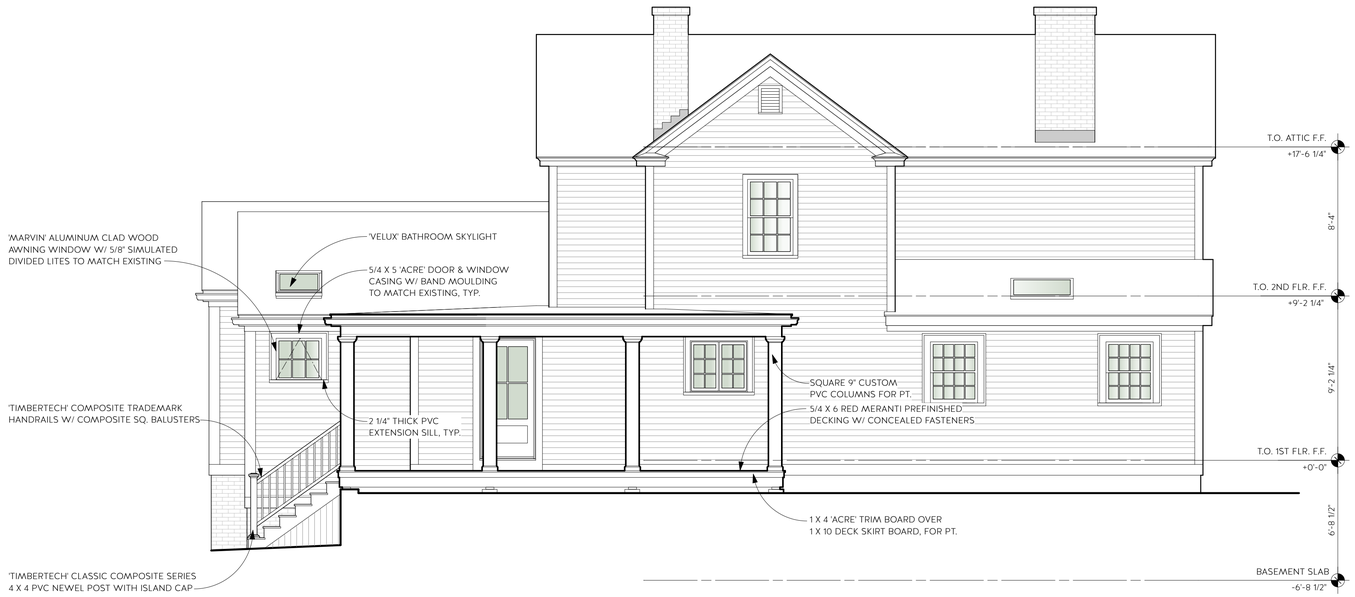
Project #	Project Manager	Date
2023-11	X.X.	1-16-24

Scale: AS NOTED

ELEVATIONS

A2.2

2 EXISTING NORTH (REAR) ELEVATION
Scale: 1/4" = 1'-0"



1 PROPOSED NORTH (REAR) ELEVATION
Scale: 1/4" = 1'-0"

CAD File Name
37 South School St_APP_Plans.vwx

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Project #	Project Manager	Date
2023-11	X.X.	1-16-24

Scale: AS NOTED

ELEVATIONS

A2.3

2 EXISTING WEST (LEFT SIDE) ELEVATION
Scale: 1/4" = 1'-0"

1 PROPOSED WEST (LEFT SIDE) ELEVATION
Scale: 1/4" = 1'-0"

CAD File Name
37 South School St_APP_Plans.vwx

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PORTSMOUTH, NH 03801

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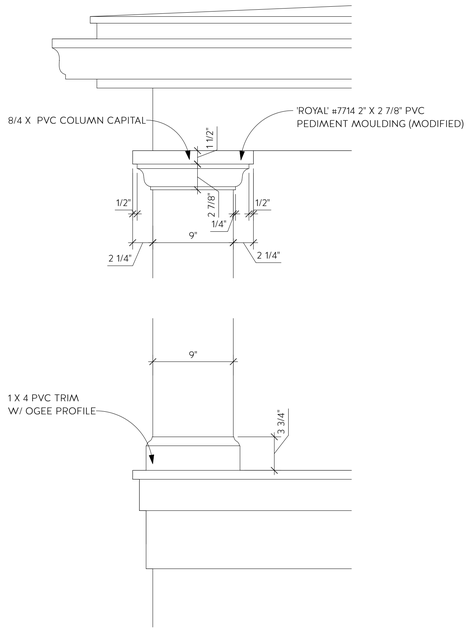
Project #	Project Manager	Date
2023-11	X.X.	1-16-24

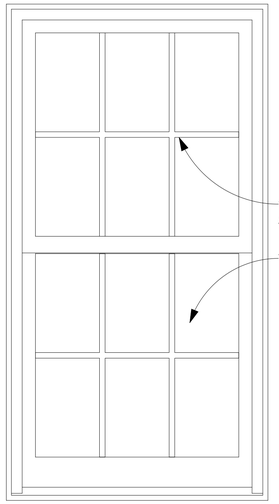
Scale: AS NOTED

ELEVATIONS

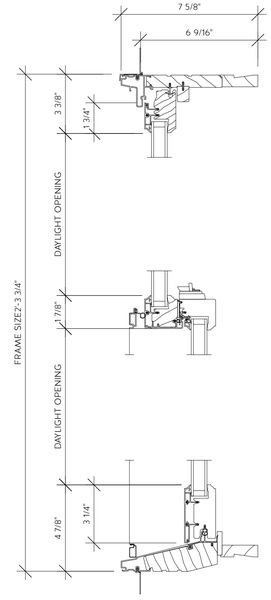
A2.4



5 COLUMN DETAIL
Scale: 1 1/2" = 1'-0"

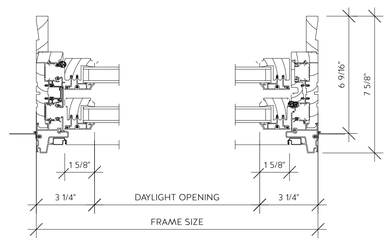


4 MARVIN SIGNATURE DOUBLE HUNG ELEVATION
Scale: 1 1/2" = 1'-0"



2 MARVIN SIGNATURE DOUBLE HUNG HEAD JAMB TO SILL
Scale: 3" = 1'-0"

3 MARVIN SIGNATURE DOUBLE HUNG WINDOW
PRODUCT REFERENCE:
Window Lites and Colors Not Accurate



1 MARVIN SIGNATURE DOUBLE HUNG FRAME WIDTH
Scale: 3" = 1'-0"

3" = 1'-0" 0 2 4 6 8 IN

1 1/2" = 1'-0" 0 4 8 12 16 IN

CAD File Name:
37 South School SL_APP_Plans.vwx

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PORTSMOUTH, NH 03801

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2023-11	X.X.	1-16-24

Scale: AS NOTED

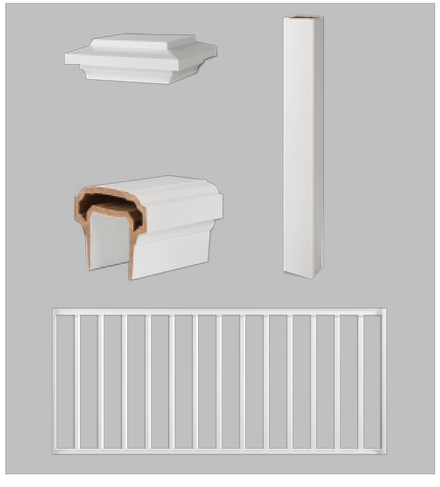
EXTERIOR DETAILS/ SPECIFICATIONS

A3.1

SHUTTERS
INTEX MILLWORK SOLUTIONS, CPVC
LOUVERED SHUTTERS, IN BLACK

SHUTTER HARDWARE
NEW ENGLAND STYLE SHUTTER HINGE SET,
GEORGETOWN STYLE SHUTTER TIEBACKS

RAILING REFERENCE
4X4 ISLAND CAP NOT SHOWN

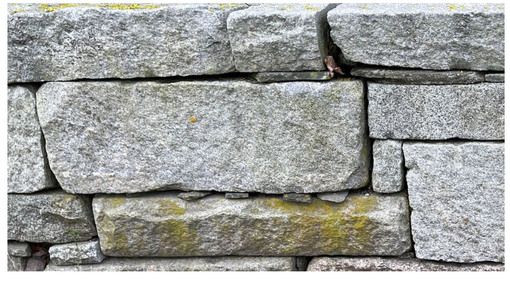


RAILING MATERIALS
TIMBERTECH CLASSIC COMPOSITE SERIES, PREMIER TOP RAIL,
COMPOSITE BALUSTERS, 4X4 POST, 4X4 ISLAND CAP, WHITE

COMPOSITE TRIM BOARD
ACRE COMPOSITE TRIM

DECKING MATERIAL
BOSTON CEDAR - OUTBACK DECKING

BRICK TYPE
MORIN BRICK - BROWNSTONE BLEND



STONE MATERIAL
RECLAIMED GRANITE BLOCK WALLSTONE-SPLIT BLOCK MIX

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ADDITIONS/ALTERATIONS TO THE:

PATSKY-WOODS RESIDENCE

37 SOUTH SCHOOL STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
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Project #	Project Manager	Date
2023-11	X.X.	1-16-24

Scale: AS NOTED

EXTERIOR DETAILS/ SPECIFICATIONS

A3.2

CAD File Name:
37 South School St_APP_Plans.vwx

Project Address: **125 SOUTH STREET**

Permit Requested: **CERTIFICATE OF APPROVAL**

Application: **PUBLIC HEARING 3**

A. Property Information - General:

Existing Conditions:

- Zoning District: General Residence B (GRB)
- Land Use: Residential
- Land Area: 13,939 SF +/-
- Estimated Age of Structure: c.1961
- Building Style: Cape
- Number of Stories:1.5
- Historical Significance: Not listed in Historical Survey
- Public View of Proposed Work: Johnson Court
- Unique Features: NA
- Neighborhood Association: South End

B. Proposed Work: to add roof mounted solar panels.

C. Staff Comments and/ or Suggestions for Consideration:

The project proposal includes the following:

- Add roof top mounted solar panels.

D. Purpose and Intent:

13. Preserve the integrity of the District
14. Assessment of the Historical Significance
15. Conservation and enhancement of property values
16. Maintain the special character of the District
17. Complement and enhance the architectural and historic character
18. Promote the education, pleasure and welfare of the District and the city residents and visitors

E. Review Criteria/Findings of Fact:

9. Consistent with special and defining character of surrounding properties
10. Compatibility of design with surrounding properties
11. Relation to historic and architectural value of existing structures
12. Compatibility of innovative technologies with surrounding properties

PROJECT DESCRIPTION:

(18) 415W ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
SYSTEM SIZE: 7.47 kW DC STC

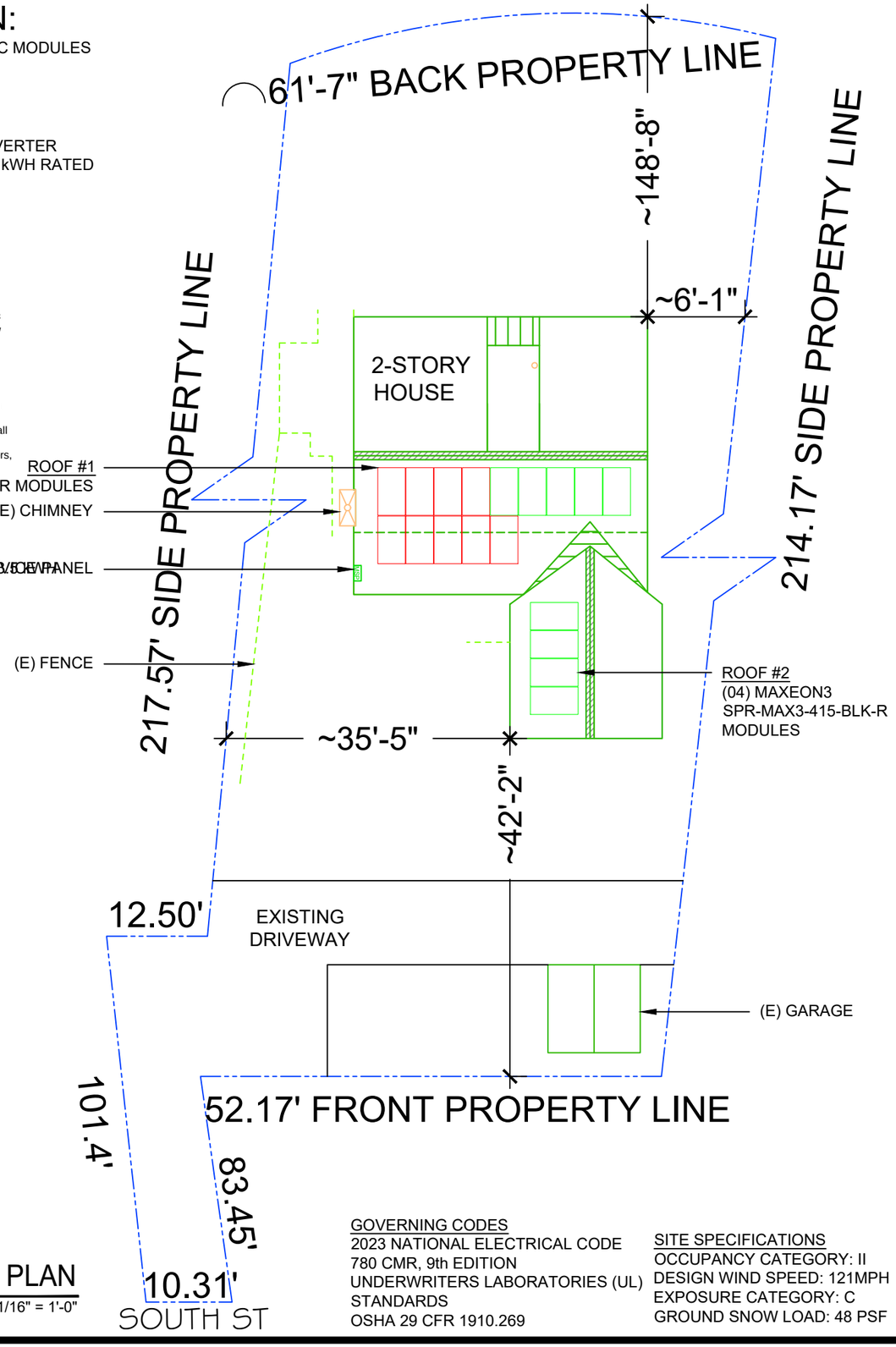
EQUIPMENT SUMMARY
(18) MAXEON3 SPR-MAX3-415-BLK-R MODULES
(1) SOLAREDGE HOME HUB SE7600H-US (240) INVERTER
(1) TESLA POWERWALL ESS UNIT, 5.0 kW AC, 13.5 kWH RATED

VECTOR ENGINEERS®
651 W. GALENA PARK BLVD. STE. 101
DRAPER, UTAH 84020
PHONE (801) 990-1775
WWW.VECTORSE.COM

Firm License Number: COA 01838

VSE Project Number: U1883-1948-231

Vector Structural Engineering has reviewed the existing structure with loading from the solar array and screw connections to the existing framing. The design of the racking system, racking connections, and all other structural is by others. Mechanical, architectural, and all other nonstructural aspects of the design are by others. Electrical is by others, unless stamped by Dean Levorsen.



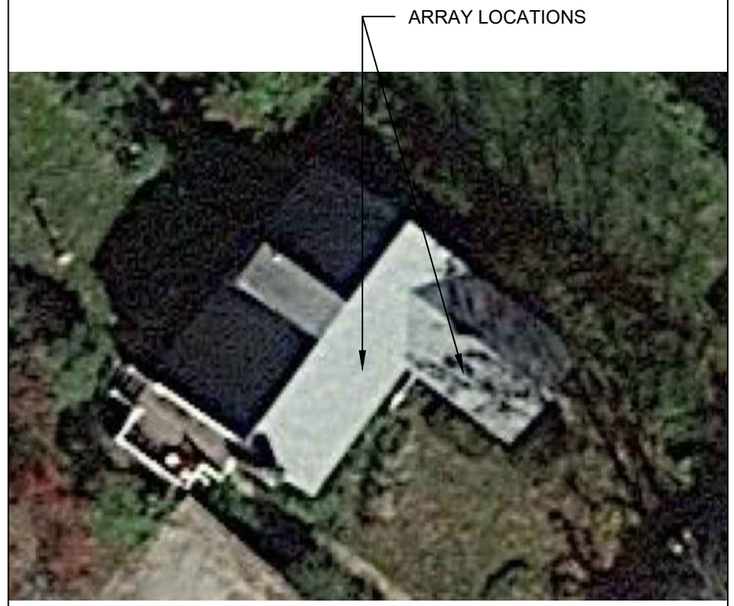
ROOF DESCRIPTION		
ROOF	ROOF TILT	AZIMUTH
#1	40°	126°
#2	36°	216°

SHEET INDEX

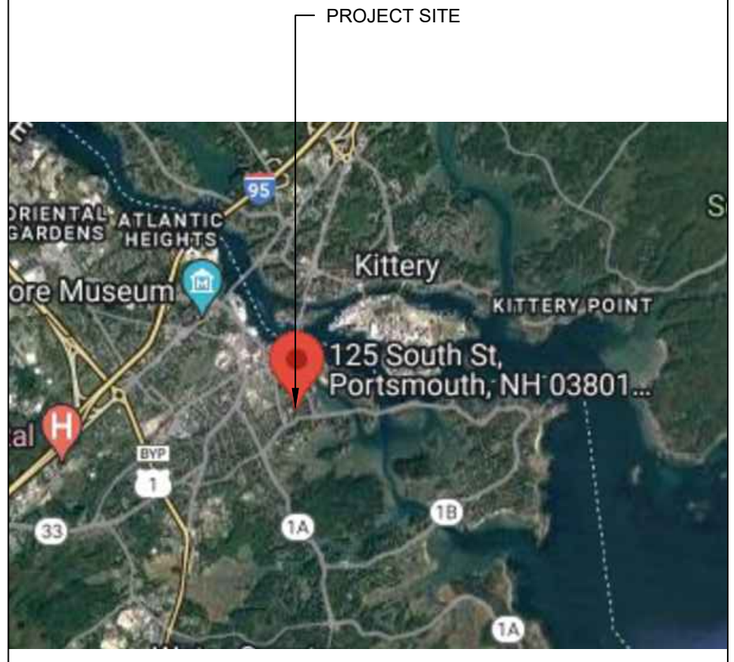
1 SITE PLAN WITH ROOF PLAN
PV-1
SCALE: 1/16" = 1'-0"

GOVERNING CODES
2023 NATIONAL ELECTRICAL CODE
780 CMR, 9th EDITION
UNDERWRITERS LABORATORIES (UL) STANDARDS
OSHA 29 CFR 1910.269

SITE SPECIFICATIONS
OCCUPANCY CATEGORY: II
DESIGN WIND SPEED: 121MPH
EXPOSURE CATEGORY: C
GROUND SNOW LOAD: 48 PSF



HOUSE PHOTO
SCALE: NTS



VICINITY MAP
SCALE: NTS

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

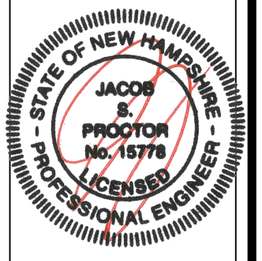
SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME
JAMES SPARRELL & KATHERINE TOWLER
125 SOUTH STREET
PORTSMOUTH, NH 03801
JOB#: MA02-24-0004
APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL



12/05/2023

SHEET NAME
SITE PLAN & VICINITY MAP

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

MODULE TYPE, DIMENSIONS & WEIGHT

MODULE TYPE = MAXEON3 SPR-MAX3-415-BLK-R
MODULE WEIGHT = 46.7 LBS
MODULE DIMENSIONS = 71.34"x 41.18" = 20.40 SF

ROOF DESCRIPTION

ROOF TYPE - COMP SHINGLE ROOF
TOTAL ROOF AREA = 1609.22
367.2/1609.22 = 23% OF ROOF
FACE AREA COVERED BY ARRAY

VECTOR ENGINEERS®
651 W. GALENA PARK BLVD. STE. 101
DRAPER, UTAH 84020
PHONE (801) 990-1775
WWW.VECTORSE.COM

Firm License Number: COA 01838

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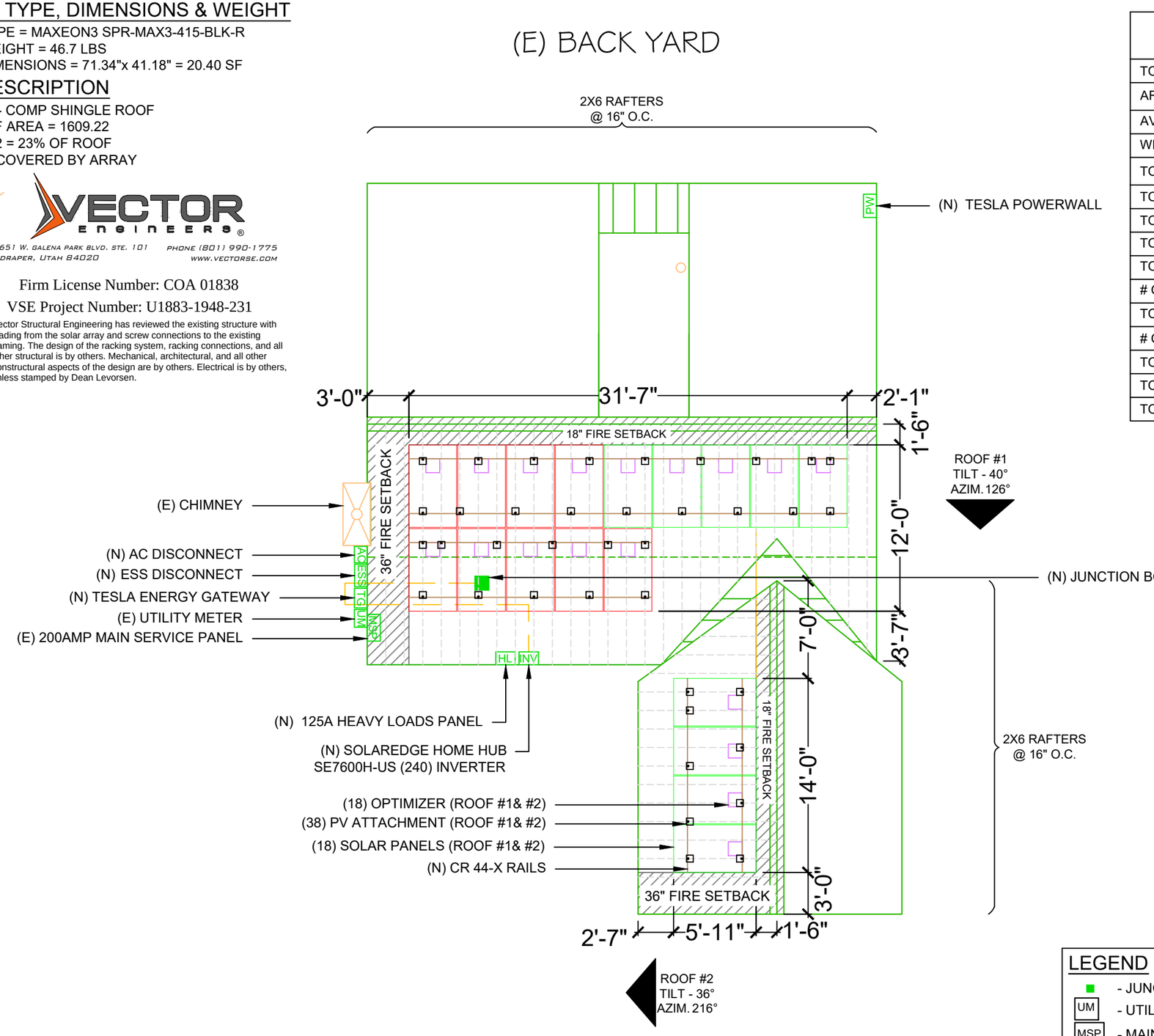
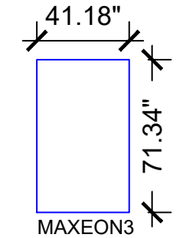


LOAD CALCULATION

TOTAL # OF PANELS	18
AREA COVERED (SQ. FT.)	350.46
AVG. LOAD PER CONNECTION POINT (LBS)	21.30
WEIGHT PER SQ. FT. OF SOLAR ARRAY (PSF)	2.31
TOTAL WEIGHT OF MODULES	734.58
TOTAL WEIGHT OF OPTIMIZERS	37.80
TOTAL WEIGHT OF RACKING COMPONENTS	36.92
TOTAL SYSTEM WEIGHT (LBS)	809.30
TOTAL RAIL LENGTH (FT.)	124
# OF 13'-10" CR-44-X RAILS (166")	9
TOTAL RAIL LENGTH FIELD (FT)	124.50
# OF CR-44-X RAIL SPLICES	6
TOTAL # OF MID-CLAMPS	30
TOTAL # OF END-CLAMPS	12
TOTAL # OF L-FOOT ASSEMBLIES	38



MAXEON3
SPR-MAX3-415-BLK-R
MODULE

LEGEND

- JUNCTION BOX
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- INV - INVERTER
- HL - HEAVY LOADS PANEL
- AC - AC DISCONNECT
- RAFTER
- ¾" EMT CONDUIT
- ROOF OBSTRUCTION
- EXTERIOR CONDUIT
- CHIMNEY
- PW - TESLA POWERWALL
- GW - TESLA ENERGY GATEWAY
- ED - ESS DISCONNECT

1 ROOF PLAN & MODULES
PV-2
SCALE: 1/8" = 1'-0"

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
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3 ELECTRONICS AVENUE | DANVERS
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WWW.SOLARISRENEWABLES.COM
MA REG #178137

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PORTSMOUTH, NH 03801
JOB#: MA02-24-0004
APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

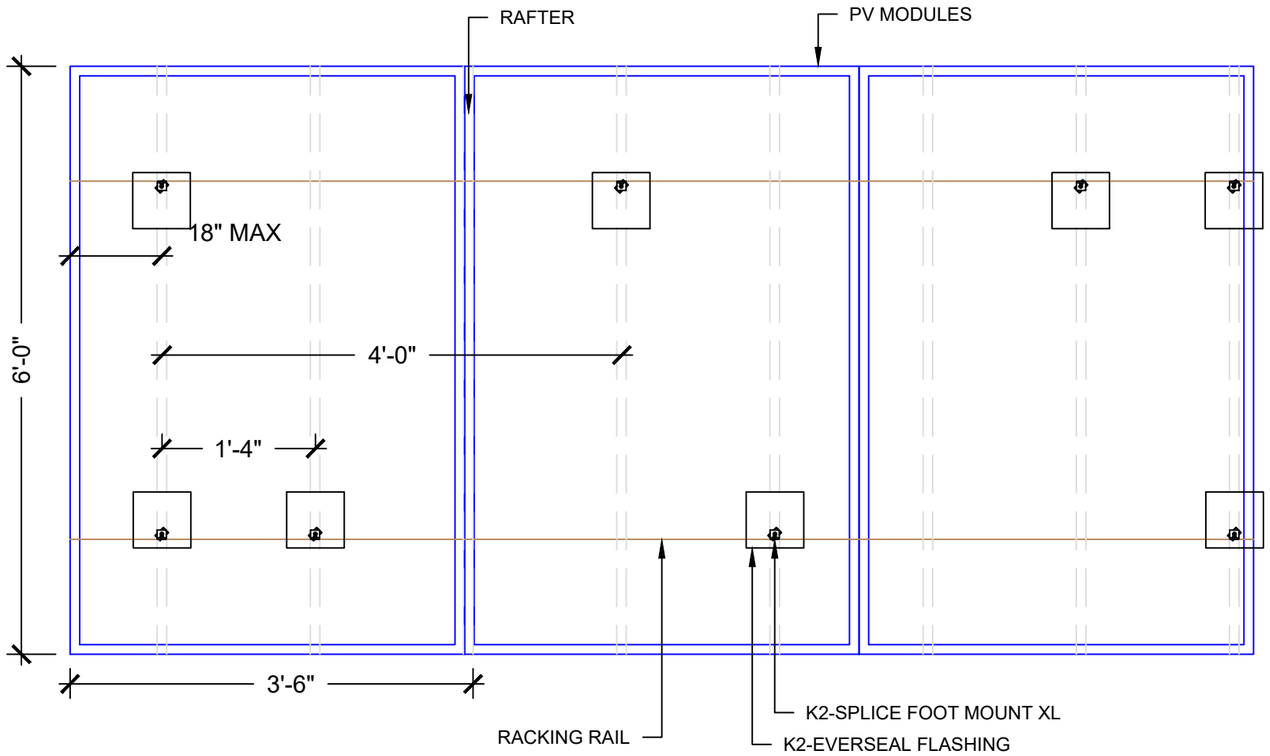
STATE OF NEW HAMPSHIRE – JACOB S. PROCTOR No. 15778 LICENSED PROFESSIONAL ENGINEER

12/05/2023

SHEET NAME
ROOF PLAN & MODULES

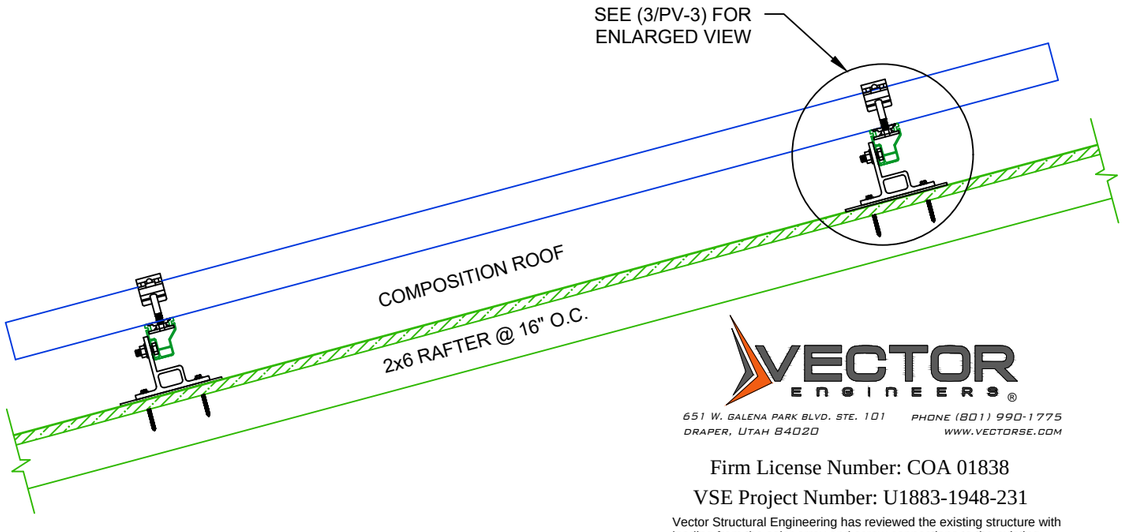
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2



1 MOUNTING PLAN VIEW

PV-3 SCALE: NTS



2 MOUNTING METHOD

PV-3 SCALE: NTS

VECTOR ENGINEERS®
651 W. GALENA PARK BLVD. STE. 101
DRAPER, UTAH 84020
PHONE (801) 990-1775
WWW.VECTORSE.COM

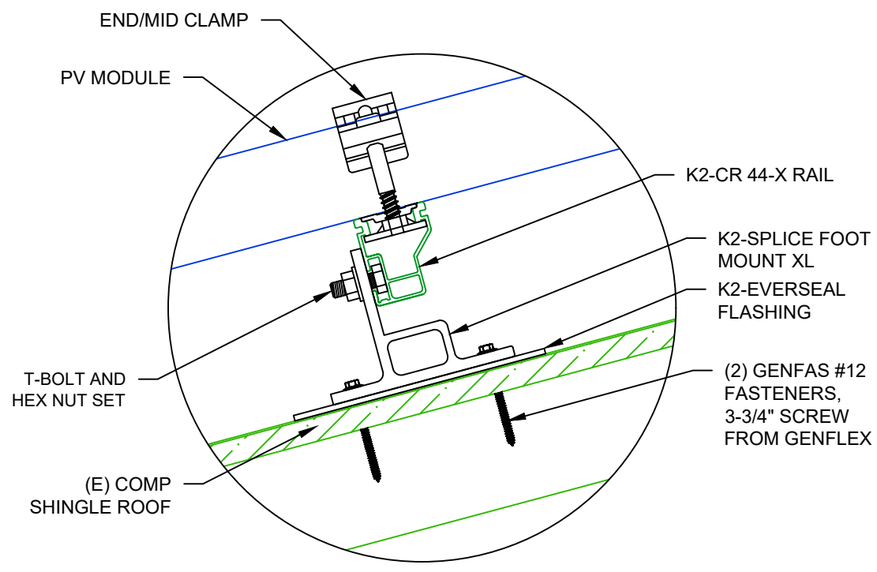
Firm License Number: COA 01838

VSE Project Number: U1883-1948-231

Vector Structural Engineering has reviewed the existing structure with loading from the solar array and screw connections to the existing framing. The design of the racking system, racking connections, and all other structural is by others. Mechanical, architectural, and all other nonstructural aspects of the design are by others. Electrical is by others, unless stamped by Dean Levorsen.

CONSTRUCTION NOTES

1.) CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATING CONSTRUCTION.
2.) CONTRACTOR SHALL REVIEW ALL MANUFACTURER INSTALLATION DOCUMENTS PRIOR TO INITIATING CONSTRUCTION.
3.) ALL EQUIPMENT SHALL BE LISTED BY U.L. (OR EQUAL) AND LISTED FOR ITS SPECIFIC APPLICATION.
4.) ALL EQUIPMENT SHALL BE RATED FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED.
5.) ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6.) ACCESS TO ELECTRICAL COMPONENTS OVER 150 VOLTS TO GROUND SHALL BE RESTRICTED TO QUALIFIED PERSONNEL.
7.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 VOLTS AND 90°C WET ENVIRONMENT, UNLESS OTHERWISE NOTED.
8.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, CONTRACTOR SHALL SIZE THEM ACCORDING TO APPLICABLE CODES.
9.) PV MODULE FRAMES SHALL BE BONDED TO RACKING RAIL OR BARE COPPER G.E.C. PER THE MODULE MANUFACTURER'S LISTED INSTRUCTION SHEET.
10.) PV MODULE RACKING RAIL SHALL BE BONDED TO BARE COPPER G.E.C. VIA WEEB LUG, ILSCO GBL-4DBT LAY-IN LUG, OR EQUIVLENT LISTED LUG.
11.) GROUNDING ELECTRODE CONDUCTOR (G.E.C.) SHALL BE CONTINUOUS AND/OR IRREVERSIBLY SPLICED/WELDED.
12.) ALL JUNCTION BOXES, COMBINER BOXES, AND DISCONNECTS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
13.) ROOF ACCESS POINTS SHALL BE AT A STRONG POINT ON THE BUILDING AND NOT REQUIRE THE PLACEMENT OF LADDERS OVER EXTERIOR WALL OPENINGS.
14.) WORKING SPACE AROUND ELECTRIAL EQUPMENT SHALL COMPLY WITH NEC 110.26



3 MOUNTING METHOD

PV-3 SCALE: NTS

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME

JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL

7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

STATE OF NEW HAMPSHIRE - JACOB S. PROCTOR No. 15778 LICENSED PROFESSIONAL ENGINEER -

12/05/2023

SHEET NAME

MOUNTING & POC DETAIL

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-3

ARRAY CONFIGURATION	
SYSTEM: 7.47 KWSTC, 7.6 KW AC	
TOTAL PV MODULE QTY: 18	
INVERTER I.D. #	INV#1
INVERTER AC POWER (KW):	7.6
PV POWER (KW STC)	7.47
MODULE TOTAL QTY	18
DC:AC RATIO	0.98

INPUT 'A' & 'B'	
STRING QTY:	2
STRING LENGTH	9
MAX. OPEN CIRCUIT VOLTAGE	480
OPERATING VOLTAGE	380
MAX. SHORT CIRCUIT CURRENT	37.5
OPERATING CURRENT	30

PV MODULE SPECIFICATIONS	
MODEL NO.	MAXEON3 SPR-MAX3-415-BLK-R
WEIGHT:	46.7 LBS
DIMENSIONS:	71.34"X41.18"X1.57" INCH
MODULE POWER @ STC:	415 W
VOC (OPEN-CIRCUIT VOLTAGE):	40.7 V
VMP (MAX-POWER VOLTAGE):	35.3 V
ISC (SHORT-CIRCUIT CURRENT):	12.64 A
IMP (MAX-POWER CURRENT):	11.75 A

INVERTER SPECIFICATIONS	
MODEL NO.	SOLAREDGE HOME HUB: SE7600H-US
POWER RATING:	7.6 KW AC
NOMINAL VOLTAGE:	240 V
MAX OUTPUT CURRENT:	32A
CEC WEIGHTED EFFICIENCY:	99%
MAXIMUM DC VOLTAGE:	480 V
INVERTER QUANTITY:	1

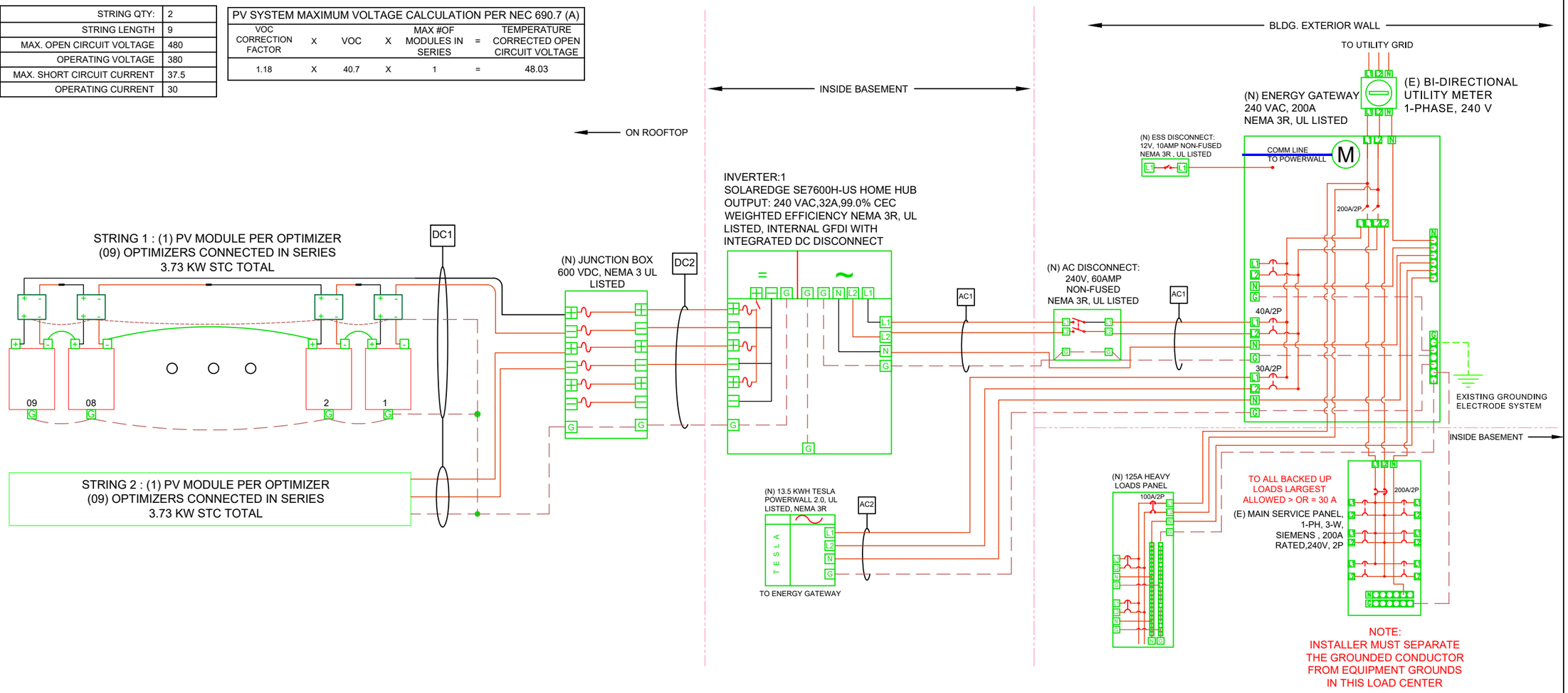
POWER OPTIMIZER SPECIFICATIONS	
MODEL NO.	SOLAREDGE: S440
MAX INPUT POWER:	440 W
MAX VOC:	60 V
OUTPUT CURRENT:	15 A
OUTPUT VOLTAGE:	60 V
MIN. STRING LENGHT:	8
MAX. STRING LENGHT:	25
MAX. STRING POWER:	6800 W

PV SYSTEM MAXIMUM VOLTAGE CALCULATION PER NEC 690.7 (A)						
VOC CORRECTION FACTOR	X	VOC	X	MAX #OF MODULES IN SERIES	=	TEMPERATURE CORRECTED OPEN CIRCUIT VOLTAGE
1.18	X	40.7	X	1	=	48.03

WIRE AND CONDUIT SCHEDULE						
TAG	COND QTY	COND SIZE	COND TYPE	GND QTY	GND SIZE	GND TYPE
DC1	2/STRINGS	AWG#10	PV-WIRE	1	AWG#6	BARE CU
DC2	4	AWG#10	THWN-2	1	AWG#10	THWN-2
AC1	3	AWG#8	THWN-2	1	AWG#10	THWN-2
AC2	3	AWG#8	THWN-2	1	AWG#10	THWN-2

AC SYSTEM SUMMARY	
NOMINAL SYSTEM VOLTAGE:	240 VOLTS AC
MAX.CURRENT PER 690.8(A)(3):	32 A
MAX.CURRENT PER 690.8(B)(1):	40.00 A

NOTE:
STORAGE CHARGING CAPABILITY:
GENERATION ONLY STORAGE
DISCHARGING CAPABILITY:ONSITE LOAD ONLY



TAG	CIRCUIT ORIGIN	CIRCUIT DESTINATION	CONDUCTOR SPECIFICATIONS				REQUIRED CONDUCTOR AMPACITY							AMPACITY CHECK #1		
			MATERIAL	TEMP. RATING	TRADE SIZE	AMPACITY @ 30°C PER 310.15(B)(16)	OPTIMIZER OUTPUT CURRENT	X	#OF PARALLEL STRINGS	=	MAX CURRENT PER 690.8(A)(3)	X 125% PER 690.8(B)(1)	= MAX CURRENT PER 690.8(B)(1)	MAX CURRENT PER 690.8(B)(1)	<	CONDUCTOR AMPACITY
DC1	PV STRING	JUNCTION BOX	COPPER	90°	AWG#10	40 AMPS	15.0	X	1	=	15.0 AMPS	X 1.25	= 18.75	18.75 AMPS	<	40 AMPS
DC2	JUNCTION BOX	INVERTER	COPPER	90°	AWG#10	40 AMPS	15.0	X	1	=	15.0 AMPS	X 1.25	= 18.75	18.75 AMPS	<	40 AMPS

AMPACITY CHECK FOR AC DISCONNECT CONDUCTORS	
CONDUCTOR # of c.c.c 's	3
AMPACITY	DERATE PER 310.15(B)(3)(a) 1.00
55 AMPS	
55 AMPS X 1.00 = 55A	
55 A X .94(temp) = 51.70A > 40.00A	

TAG	CIRCUIT ORIGIN	CIRCUIT DESTINATION	CONDUCTOR SPECIFICATIONS				REQUIRED CONDUCTOR AMPACITY							AMPACITY CHECK #1			CORRECTED AMPACITY CALCULATION					AMPACITY CHECK #2		
			MATERIAL	TEMP. RATING	TRADE SIZE	AMPACITY @ 30°C PER 310.15(B)(16)	INVERTER OUTPUT CURRENT	X	#OF INVERTERS	=	MAX CURRENT PER 690.8(A)(3)	X 125% PER 690.8(B)(1)	= MAX CURRENT PER 690.8(B)(1)	MAX CURRENT PER 690.8(B)(1)	<	CONDUCTOR AMPACITY	CONDUCTOR AMPACITY	X	TEMP DERATE	X CONDUIT FILL DERATE	=	DERATED CONDUCTOR AMPACITY	MAX CURRENT PER 690.8(B)(1)	<	DERATED CONDUCTOR AMPACITY
AC1	INVERTER	TESLA ENERGY GATEWAY	COPPER	90°	AWG#8	55 AMPS	32	X	1	=	32.0 AMPS	X 1.25	= 40.00	40.00 AMPS	<	55 AMPS	55	X	0.94	X 1.00	=	51.70	40.00 AMPS	<	51.70 AMPS

PROJECT ENGINEER
BROCK NOYES

REVISIONS		
DESCRIPTION	DATE	REV

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CONTRACTOR INFORMATION

SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME
JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

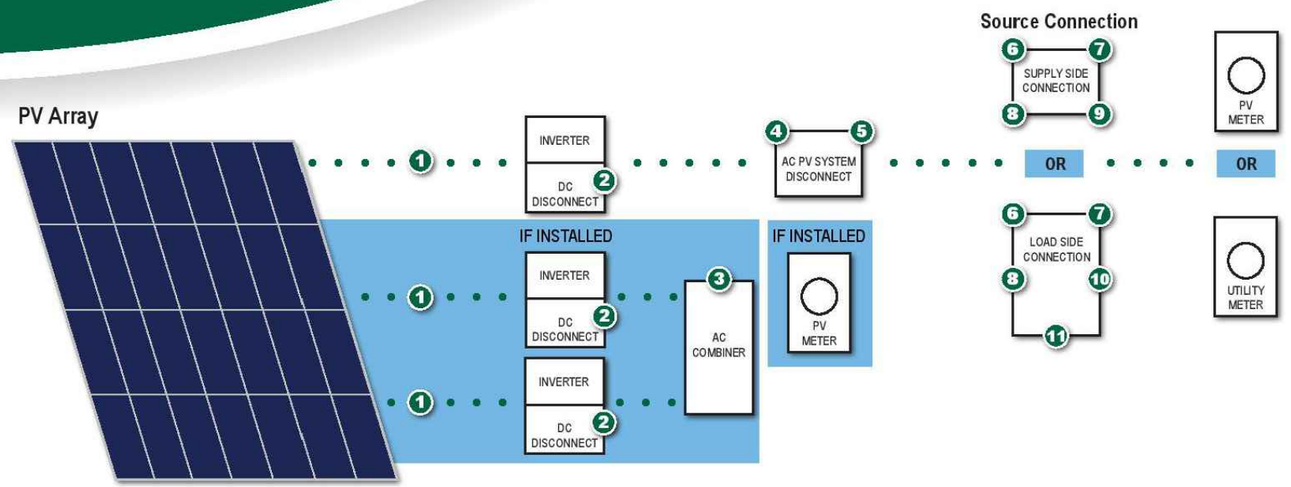
SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

PV SYSTEM **LABELING**

Requirements for the 2020 Massachusetts Electrical Code[1]



General Labeling Guidance

There are several marking and labeling requirements for PV systems and a variety of interpretations. This document provides a summary of the most common requirements and an example of each location. Because of the wide range of installations, systems may require fewer labels, or additional labels not outlined here.

When providing code-required markings, consideration should be given to environmental conditions and overall clarity of the content relative to its location. Excessive labeling may be confusing. Red and white labels should only be used when required by a specific code or ANSI standard. Section 110.21(B) requires permanent labels, not handwritten, and suitable for the environment in which they are installed. It also recommends the labels to follow ANSI Z535.4-2011 Product Safety Signs and Labels.

DANGER | WARNING | CAUTION | NOTICE

Example of ANSI Z535.4-2011 markings

Although placards are generally the most durable option, they need to be designed for exposure

Excessive labeling may be confusing

[1]The Massachusetts Electrical Code (MEC) is based on the National Electrical Code (NEC), with specific amendments. All code references in this document are to the 2020 edition of the MEC unless otherwise noted.

1 DC Raceway Label
Section 690.31(D)(2)
- On or in a building, unless location/purpose is evident
- Raceways, enclosures, every 10', suitable for environment
- Minimum 3/8" CAPS White on Red, Reflective

PHOTOVOLTAIC POWER SOURCE
OR
SOLAR PV DC CIRCUIT

2 DC PV Circuits
Section 690.53
- Maximum system voltage calculated in accordance with 690.7
- At one of the following locations:
  - DC PV system disconnect
  - PV system electronic power conversion equipment
  - Distribution equipment associated with the PV system

PV MAX SYSTEM VOLTAGE ☐ Vdc

3 Section 705.12(B)(3)(3) "AC Combiner Panel"
- Sum of ampere ratings, excluding source OCPD
- Label applied adjacent to distribution equipment
- The following or equivalent wording:

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

4 PV System Disconnect
Section 690.13(B):
- See Figure 690.1(b) diagrams for location in system
- Disconnects PV from all other wiring systems
- Installed in a readily accessible location
- Permanently marked: PV SYSTEM DISCONNECT, or equivalent
- Where line/load may be energized in open (off) position:
  - Marked with the following or equivalent:

PV SYSTEM DISCONNECT
Example of PV System Disconnect Identification

WARNING
ELECTRICAL SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
Example of Line/Load Energized marking

5 Buildings with Rapid Shutdown
Section 690.56(C)(2)
- Switch label that includes the following:
  - Minimum 3/8" CAPS, White on Red, Reflective
- *Required for all system types!*

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

6 AC Power Source
Section 690.54
- "All interactive system(s) points of interconnection with other sources shall be marked…"
- Accessible location at disconnecting means, as a power source:
  - Rated AC output current
  - Nominal operating AC voltage

PHOTOVOLTAIC POWER SOURCE
RATED AC OUTPUT CURRENT 40.00 Aac
NOMINAL OPERATING VOLTAGE 240 Vac

7 Identification of Power Sources
Section 690.56 (Informational Note)
- MA Fire Code (527 CMR 1) requires signage:
  - Adjacent to building or service disconnect
  - Identifies responsible party for operation of system
  - Provides contact information

PV SYSTEM INSTALLATION BY:
ABC SOLAR
CONTACT PHONE: 857-600-8995
IN CASE OF EMERGENCY DIAL 911

8 Buildings with Rapid Shutdown
Section 690.56(C)
- Located at each service equipment location where PV is connected "or approved readily visible location"
- Shall indicate location of initiation device
- Shall include simple diagram of building and roof

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

9 Service Disconnect Directory
Sections 690.56(B)/705.10/712.10
- Permanent plaque or directory installed at either:
  - Each service equipment location
  - Approved readily visible location
- Marked with the following wording:
- Denote location of each power source disconnect
- Grouped with other plaques or directories
- Correctly oriented with respect to diagram's location

CAUTION
THIS BUILDING IS POWERED BY MULTIPLE SOURCES. UTILITY AND SOLAR PHOTOVOLTAIC SYSTEM. DISCONNECT LOCATIONS ARE SHOWN BELOW

10 Load-Side Source Connections
Section 705.12(C) Power Source Identification
- Equipment containing overcurrent devices supplying power to busbar or conductor
- Supplied from multiple sources
- "Marked to indicate the presence of all sources"

WARNING DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

11 Section 705.12(B)(3)(2) "Do Not Relocate"
- Two sources, opposite ends of busbar
- Label applied adjacent to back-fed breaker
- The following or equivalent wording:

WARNING
POWER SOURCE OUTPUT CONNECTION
DO NOT RELOCATE
THIS OVERCURRENT DEVICE.

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME
JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

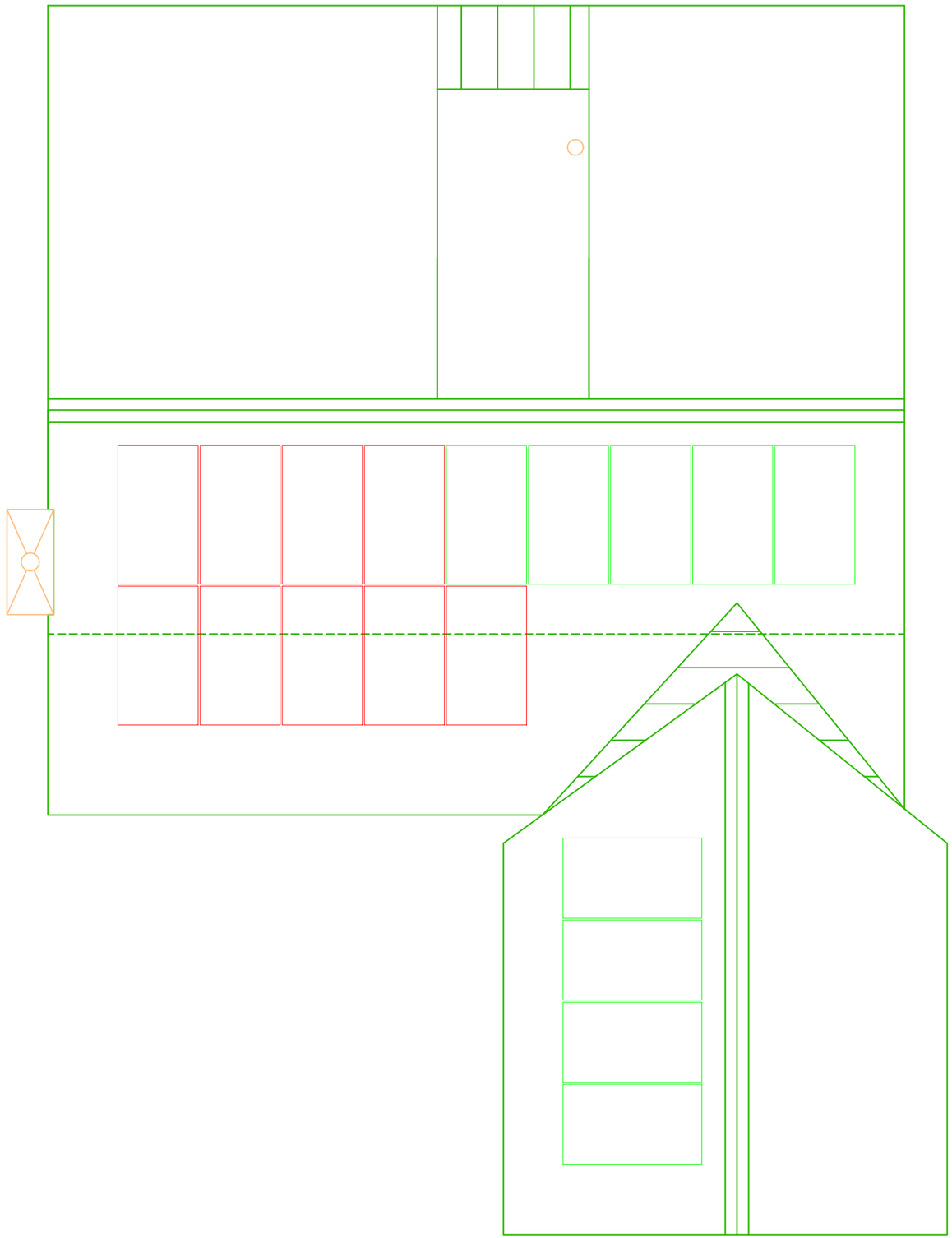
PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
PLACARDS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5



ROOF DESCRIPTION		
ROOF	ROOF TILT	AZIMUTH
#1	40°	126°
#2	36°	216°

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

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JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL

7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
LAYOUT MAP

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

maxeon

PRELIMINARY DATASHEET

MAXEON 3 SOLAR PANEL

410–420 W | Up to 22.2% Efficient

Ideal for residential applications

Black backsheet, black frame

More Lifetime Energy

Designed to maximise energy generation through leading efficiency, enhanced performance in high temperatures, and higher energy conversion in low-light conditions like mornings, evenings and cloudy days.

Uncompromising Durability

Engineered to power through all types of weather conditions with crack-resistant cells and reinforced connections that protect against fatigue and corrosion, to an electrical architecture that mitigates the impact of shade and prevents hot-spot formation.

HOT-SPOT PROTECTED

Superior Sustainability

Clean ingredients, responsible manufacturing, and lasting energy production for 40 years make Maxeon panels the most sustainable choice in solar.

maxeon 40 YEAR WARRANTY Power | Product | Service

The Industry's Longest Warranty

Maxeon panels are covered by a 40-year warranty[1] backed by extensive third-party testing and field data from more than 33 million panels deployed worldwide.

Product and power coverage	40 Years
Year 1 minimum warranted output	98.0%
Maximum annual degradation	0.25%

Learn more about the SPR-MAX3-XXX-BLK-R
maxeon.com/us

MAXEON 3 POWER: 410–420 W | EFFICIENCY: Up to 22.2%

PRELIMINARY DATASHEET

Electrical Data

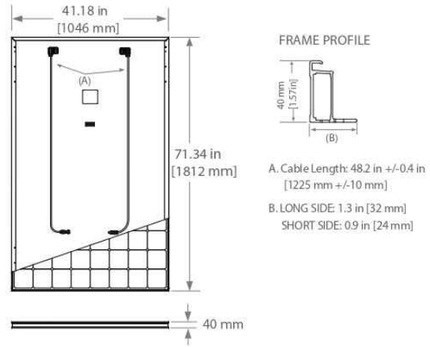
	SPR-MAX3-420-BLK-R	SPR-MAX3-415-BLK-R	SPR-MAX3-410-BLK-R
Nominal Power (Pnom)[2]	420 W	415 W	410 W
Power Tolerance	+5/0%	+5/0%	+5/0%
Panel Efficiency	22.2%	21.9%	21.6%
Rated Voltage (Vmpp)	35.5 V	35.3 V	35.1 V
Rated Current (Impp)	11.82 A	11.75 A	11.68 A
Open-Circuit Voltage (Voc)	40.7 V	40.7 V	40.7 V
Short-Circuit Current (Isc)	12.65 A	12.64 A	12.63 A
Max. System Voltage	1000 V UL		
Maximum Series Fuse	20 A		
Power Temp Coef.	−0.27% / °C		
Voltage Temp Coef.	−0.236% / °C		
Current Temp Coef.	0.058% / °C		

Warranties, Certifications and Compliance

Standard Tests[3]	UL1703 (Type 2 Fire Rating) (Pending)
Quality Management Certs	ISO 9001:2015, ISO 14001:2015
Ammonia Test	IEC 62716 (Pending)
Desert Test	IEC 60068-2-68, MIL-STD-810G (Pending)
Salt Spray Test	IEC 61701 (maximum severity) (Pending)
PID Test	1000 V: IEC 62804 (Pending)
Available Listings	UL (Pending)
IFLI Declare Label	First solar panel labeled for ingredient transparency and LBC-compliance.[4]
Cradle to Cradle Certified™ Bronze	First solar panel line certified for material health, water stewardship, material reutilization, renewable energy & carbon management, and social fairness.[5]
Green Building Certification Contribution	Panels can contribute additional points toward LEED and BREEAM certifications.
EHS Compliance	RoHS, OHSAS 18001:2007, Recycle Scheme, REACH SVHC-163

Operating Condition And Mechanical Data

Temperature	−40°F to +185°F (−40°C to +85°C)
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)
Solar Cells	112 Monocrystalline Maxeon Gen 3
Tempered Glass	High-transmission tempered anti-reflective
Junction Box	IP-68, Stäubli (MC4), 2 bypass diodes
Weight	46.7 lbs (21.2 kg)
Max. Load[6]	Wind: 50 psf, 2400 Pa, 244 kg/m² back Snow: 112 psf, 5400 Pa, 550 kg/m² front
Frame	Class 1 black anodized (highest AAMA rating)



LEAD FREE RoHS COMPLIANT

Declare.

CERTIFIED cradle to cradle BRONZE

Please read the safety and installation instructions.
Visit Visit www.maxeon.com/us/InstallGuideUL.
Paper version can be requested through
techsupport.ROW@maxeon.com.

1 40-year warranty is not available in all countries or all installations and requires registration, otherwise our 25-year warranty applies. Service availability varies by country and installation provider.
2 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25° C). NREL calibration Standard: SOMS current, LACCS FF and Voltage.
3 Type 2 fire rating per UL1703:2013, Class C fire rating per UL1703:2002.
4 Maxeon DC panels first received the International Living Future Institute Declare Label in 2016.
5 Maxeon DC panels are Cradle to Cradle Certified™ Bronze - www.c2ccertified.org. Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute.
6 Safety factor 1.5 included.

Made in Philippines (Cells)
Assembled in Mexico (Module)
Specifications included in this datasheet are subject to change without notice.

maxeon

545906 REV A / LTR_US
Publication Date: June 2022

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

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125 SOUTH STREET
PORTSMOUTH, NH 03801
JOB#: MA02-24-0004
APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
MODULE SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-7

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

HOME BACKUP

Optimized battery storage with HD-Wave technology

- Record-breaking 99% weighted efficiency with 200% DC oversizing
- Small, lightweight, and easy to install
- Modular design, future ready with optional upgrades to:
  - DC-coupled storage for full or partial home backup
  - Built-in consumption monitoring
  - Direct connection to the SolarEdge Home EV Charger
- Multi-inverter, scalable storage solution, with enhanced battery power up to 10kW
- Integrated arc fault protection and rapid shutdown for NEC 2014 – 2023, per article 690.11 and 690.12
- Embedded revenue grade production data, ANSI C12.20 Class 0.5

solaredge.com

solaredge

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

Applicable to inverters with part number	SEXXXXH-USMNBBXXX / SEXXXXH-USSNBBXXX						
	SE3800H-US	SE5700H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – AC ON GRID							
Rated AC Power	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	W
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208	W
AC Output Voltage (Nominal)	208 / 240						Vac
AC Output Voltage (Range)	183 – 264						Vac
AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5[2]						Hz
Maximum Continuous Output Current @ 240V	16	24	25	32	42	47.5	A
Maximum Continuous Output Current @ 208V	16	24	24	-	-	48	A
GFDI Threshold	1						A
Total Harmonic Distortion (THD)	< 3						%
Power Factor	1, adjustable -0.85 to 0.85						
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes						
Charge Battery from AC (if allowed)	Yes						
Typical Nighttime Power Consumption	< 2.5						W
OUTPUT – AC BACKUP[3]							
Rated AC Power in Backup Operation[4]	7600	5760	6000	7600 11400*	10000 11400*	11400	W
AC L-L Output Voltage Range in Backup	211 – 264						Vac
AC L-N Output Voltage Range in Backup	105 – 132						Vac
AC Frequency Range in Backup (min - nom - max)	55 – 60 – 65						Hz
Maximum Continuous Output Current in Backup Operation	32	24	25	32 47.5	42 47.5	47.5	A
GFDI	1						A
THD	< 5						%
OUTPUT – SOLAREDGE HOME EV CHARGER AC							
Rated AC Power	9600						W
AC Output Voltage Range	211 – 264						Vac
On-Grid AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5						Hz
Maximum Continuous Output Current @240V (grid, PV and battery)	40						Aac
INPUT – DC (PV AND BATTERY)							
Transformer-less, Ungrounded	Yes						
Max Input Voltage	480						Vdc
Nom DC Input Voltage	380						Vdc
Reverse-Polarity Protection	Yes						
Ground-Fault Isolation Detection	600kΩ Sensitivity						
INPUT – DC (PV)							
Maximum DC Power @ 240V	7600	11520	12000	15200	20000	22800	W
Maximum DC Power @ 208V	6600	10000	10000	-	-	20000	W
Maximum Input Current[5] @ 240V	20	16	16.5	20 30	30	30	Adc
Maximum Input Current[5] @ 208V	9	13.5	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45						
Maximum Inverter Efficiency	99.2						%
CEC Weighted Efficiency	99					99 @ 240V 98.5 @ 208V	%
2-pole Disconnection	Yes						

* Supported with P/N SExxxxH-USMNxxxxxx.

(1) These specifications apply to inverters with part numbers SExxxxH-USMNxxxxx or SExxxxH-USSNxxxxxx and connection unit model number DCD-1PH-US-PxH-F-x.

(2) For other regional settings please contact SolarEdge support.

(3) Not designed for standalone applications and requires AC for commissioning. Backup functionality is only supported for 240V grid.

(4) Rated AC power in Backup Operation is valid for installations with multiple inverters. For a single backup inverter operation, rated AC power in Backup is 90% of the value stated.

(5) A higher current source may be used; the inverter will limit its input current to the values stated.

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME

JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL

7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
INVERTER SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

Applicable to inverters with part number	SEXXXXH-USMNBBXXX / SEXXXXH-USSNBBXXX						
	SE3800H-US	SE5700H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – DC (BATTERY)							
Supported Battery Types	SolarEdge Home Battery, LG RESU Prime						
Number of Batteries per Inverter	Up to 3 SolarEdge Home Battery, up to 2 LG RESU Prime						
Continuous Power[6]	7600 @ 240V 3800 @ 208V	5760 @ 240V 5000 @ 208V	6000	11400		11400 @ 240V 10000 @ 208V	W
Peak Power[6]	7600 @ 240V 3800 @ 208V	5760 @ 240V 5000 @ 208V	6000	11400		11400 @ 240V 10000 @ 208V	W
Max Input Current	20	26.5					Adc
2-pole Disconnection	Up to inverter rated backup power						
SMART ENERGY CAPABILITIES							
Consumption Metering	Built-in[7]						
Backup & Battery Storage	With Backup Interface (purchased separately) for service up to 200A; up to 3 inverters						
EV Charging	Direct connection to SolarEdge Home EV Charger						
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, Cellular[8,9], Wi-Fi[8], SolarEdge Home Network						
Revenue Grade Metering, ANSI C12.20	Built-in[7]						
Integrated AC, DC and Communication Connection Unit	Yes						
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi Access Point for local connection						
DC Voltage Rapid Shutdown (PV and Battery)	Yes, according to NEC 2014 – 2023 per article 690.11 and 690.12						
STANDARD COMPLIANCE							
Safety	UL1741, UL1741 SA, UL1741 SB, UL1741 PCS, UL1699B, UL1998, UL9540, CSA 22.2						
Grid Connection Standards	IEEE1547-2018, Rule 21, Rule 14H, CSA C22.3 No. 9						
Emissions	FCC part 15 class B						
INSTALLATION SPECIFICATIONS							
AC Output and EV AC Output Conduit Size / AWG Range	1" maximum / 14-4 AWG						
DC Input (PV and Battery) Conduit Size / AWG Range	1" maximum / 14-6 AWG						
Dimensions with Connection Unit (H x W x D)	17.7 x 14.6 x 6.8 / 450 x 370 x 174			17.7 x 14.6 x 6.8 / 450 x 370 x 174**	21.06 x 14.6 x 7.3 / 535 x 370 x 185**	21.06 x 14.6 x 8.2 / 535 x 370 x 208***	in / mm
				21.06 x 14.6 x 8.2 / 535 x 370 x 208***			
Weight with Connection Unit	30.8 / 14			30.8 / 14**	41.7 / 18.9**	44.9 / 20.3***	lb / kg
				44.9 / 20.3***			
Noise	< 50						dBA
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60[10]						°F / °C
Protection Rating	NEMA 4X						

** Supported with PN SEXXXXH-USSNBBXX4 or SEXXXXH-USMNBBXX4.
*** Supported with PN SEXXXXH-USSNBBXX5 or SEXXXXH-USMNBBXX5.
(6) Discharge power is limited up to the inverter rated AC power for on-grid and backup applications, as well as up to the installed batteries' rating.
(7) For consumption metering current transformers should be ordered separately: SECT-SPL-225A-T-20 or SEACT0750-400NA-20 units per box. Revenue grade metering is only for production metering.
(8) Information concerning the Data Plan's terms & conditions is available in the following link: SolarEdge Communication Plan Terms and Conditions.
(9) The part number SEXXXXH-USXNBB**X**XX only supports the Wi-Fi communication interface, and the part number SEXXXXH-USXNBB**L**XX only supports the cellular communication interface.
(10) Full power up to at least 50°C / 122°F; for power de-rating information refer to the Temperature Derating Technical Note for North America.

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

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MA REG #178137

DATE: 11/21/2023

PROJECT NAME

JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL

7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
INVERTER SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8.1

Residential Power Optimizer

For North America

S440 / S500B / S650B

POWER OPTIMIZER

PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

solaredge.com

solaredge

Residential Power Optimizer

For North America

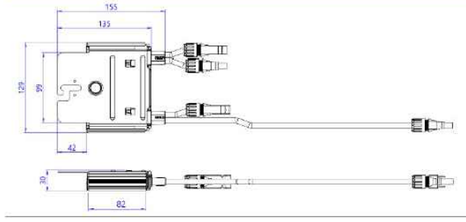
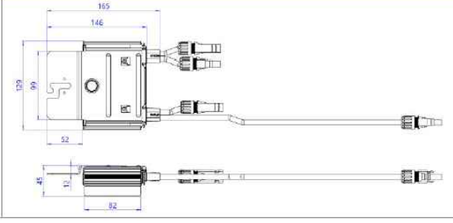
S440 / S500B / S650B

	S440	S500B	S650B	
INPUT				
Rated Input DC Power(1)	440	500	650	W
Absolute Maximum Input Voltage (Voc)	60	125	85	Vdc
MPPT Operating Range	8 – 60	12.5 – 105	12.5 – 85	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5	15		Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)				
Maximum Output Current	15			Adc
Maximum Output Voltage	60	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR INVERTER OFF)				
Safety Output Voltage per Power Optimizer	1 ± 0.1			Vdc
STANDARD COMPLIANCE				
Photovoltaic Rapid Shutdown System	NEC 2014 – 2023			
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			
Fire Safety	VDE-AR-E 2100-712:2013-05			
INSTALLATION SPECIFICATIONS				
Maximum Allowed System Voltage	1000			Vdc
Dimensions (W x L x H)	129 x 155 x 30 / 5.07 x 6.10 x 1.18	129 x 165 x 45 / 5.07 x 6.49 x 1.77		mm / in
Weight	720 / 1.6	790 / 1.74		gr / lb
Input Connector	MC4[2]			
Input Wire Length	0.1 / 0.32			m / ft
Output Connector	MC4			
Output Wire Length	(+) 2.3; (-) 0.10 / (+) 7.54; (-) 0.32			m / ft
Operating Temperature Range(3)	-40 to +85			°C
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 – 100			%

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For other connector types please contact SolarEdge.
(3) Power de-rating is applied for ambient temperatures above +85°C / +185°F for S440, and for ambient temperatures above +75°C / 167°F for S500B. Refer to the Power Optimizers Temperature Derating Technical Note for more details.

PV System Design Using a SolarEdge Inverter(4)		SolarEdge Home Wave/Hub Single Phase	Three Phase for 208V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440	8	10	18	
	S500B, S650B	6	8	14	
Maximum String Length (Power Optimizers)		25		50(5)	
Maximum Nominal Power per String		5700	6000	12,750	W
Maximum Allowed Connected Power per String(6) (In multiple string designs, the maximum is permitted only when the difference in connected power between strings is 1,000W or less)		6800(7)	One string: 7200	15,000	W
			Two strings or more: 7800		
Parallel Strings of Different Lengths or Orientations		Yes			

(4) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.
(5) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement.
(6) If the inverter's rated AC power ≤ maximum nominal power per string, then the maximum connected power per string will be able to reach up to the inverters maximum input DC power. Refer to the Single String Design Guidelines Application Note for more details.
(7) For inverters with a rated AC power ≥ 7600W that are connected to at least two strings.

S440 (Flat Bracket)	S500B, S650B (Bent Bracket)
	

Intertek RoHS

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
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3 ELECTRONICS AVENUE | DANVERS MA 019234
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MA REG #178137

DATE: 11/21/2023

PROJECT NAME

JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

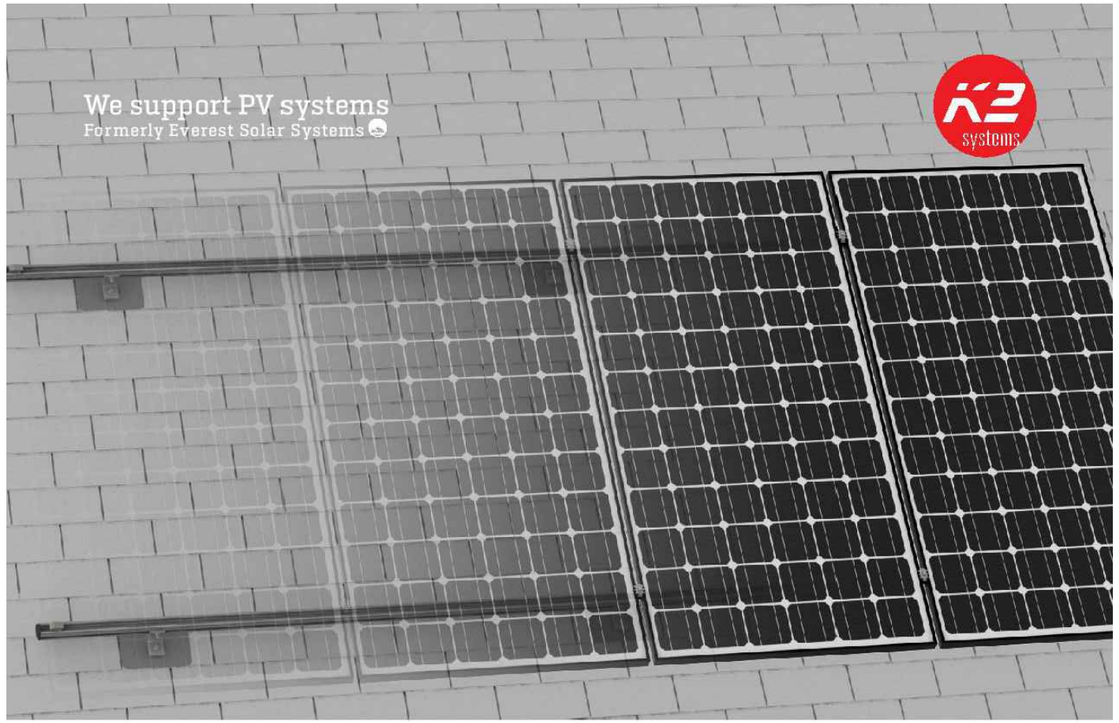
PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
OPTIMIZER SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

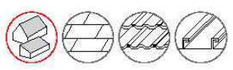
SHEET NUMBER
PV-9



CrossRail System

PRODUCT SHEET

- High quality, German-engineered system for residential and commercial installations
- 4 rail sizes available to suit all structural conditions
- Universal components for all rail types
- Use 2 innovative components to turn this system into Shared Rail or Tilt Up
- MK3 technology provides highest rail engagement
- Roof attachments for all roof types
- 100% code compliant, structural validation for all solar states
- Fast installation with minimal component count result in low total installed cost



Components

CrossRail 44-X

Part Number	Description
4000019	CrossRail 44-X, 166", Mill
4000020	CrossRail 44-X, 166", Dark
4000021	CrossRail 44-X, 180", Mill
4000022	CrossRail 44-X, 180", Dark

CrossRail 48-X

Part Number	Description
4000662	CrossRail 48-X, 166", Mill
4000663	CrossRail 48-X, 166", Dark

CrossRail 48-XL

Part Number	Description
4000695	CrossRail 48-XL, 166", Mill
4000705	CrossRail 48-XL, 166", Dark

CrossRail 80

Part Number	Description
4000508	CrossRail 80 168" Rail Mill

CrossRail Mid Clamp

Part Number	Description
4000601-H	CR MC Silver, 30-47mm, Shared RL 30-37mm 13mm Hex
4000602-H	CR MC Dark, 30-47mm, Shared RL 30-37mm 13mm Hex
4000688-H	SR MC Silver, 38-50mm, Shared RL 28-46mm 13mm Hex
4000689-H	SR MC Silver, 38-50mm, Shared RL 28-46mm 13mm Hex

CrossRail End Clamp

Part Number	Description
4000429	CR EC Silver 35-50mm, SR 33-40mm
4000430	CR EC Dark 35-50mm, SR 33-40mm
4000003	SR EC Silver 46-50mm
4000004	SR EC Dark 46-50mm

Yeti Clamp

Part Number	Description
4000050-H	Yeti Hidden EC for CR, 13mm Hex Set

Aluminum End Clamp

Part Number	Description
4005344	CrossRail EC Silver, AL 32-33mm
4005169	CrossRail EC Silver, AL 34-36mm
4005290	CrossRail EC Silver, AL 37-38mm
4005170	CrossRail EC Silver, AL 39-41mm
4005291	CrossRail EC Silver, AL 42-44mm
4005171	CrossRail EC Silver, AL 45-47mm
4005292	CrossRail EC Silver, AL 48mm
4005172	CrossRail EC Silver, AL 49-50mm

CrossRail Rail Connector

Part Number	Description
4000051	Rail Connector CR 44-X, Set, Mill
4000052	Rail Connector CR 44-X, Set, Dark
4000385	RailConn CR48-X,48-XL Struct Set, Mill
4000386	RailConn CR48-X,48-XL Struct Set, Dark
4001196	Rail Connecctor UL 2703 Set, CR80, Mill

L-Foot & T-Foot

Part Number	Description
4000630	L-Foot Slotted Set, Mill
4000631	L-Foot Slotted Set, Dark
4000080	T-Foot X 6" Kit, Mill

Tile Hooks

Part Number	Description
4000034	Flat Tile Hook Set, w/Lags
4001294	Tile Hook 3S Wide Base w/Hardware

Standing Seam PowerClamps

Part Number	Description
4000016	Standing Seam PowerClamp, Mini, Set
4000017	Standing Seam PowerClamp, Standard, Set

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

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PROJECT NAME

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125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
RAIL SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

EverFlash Flashings

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

Everest Ground Lug

Part Number	Description
4000006-H	Everest Ground Lug, 13mm Hex

CR Microinverter & Opt Mounting Kit

Part Number	Description
4000629-H	CR Microinverter & Opt, 13mm Hex Kit

Wire Management

Part Number	Description
4000069	Wire Management Clip, TC
4000382	HEYClip SunRunner Cable Slip SS, S6404
4005394	Wire Mangement Clip, Omega, Black

End Caps

Part Number	Description
4000176	EndCap 44-X, K2
4000431	CrossRail Flat EndCap, CR 48-X, 48-XL
4001221	EndCap, Black, CR80

CR 48-X/48-XL Sleeve

Part Number	Description
4000177	Sleeve CR 44-X
4000583	CrosRail 3" Black Sleeve 48-X, 48-XL

PROJECT ENGINEER
BROCK NOYES

REVISIONS

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7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
RAIL SPECIFICATION

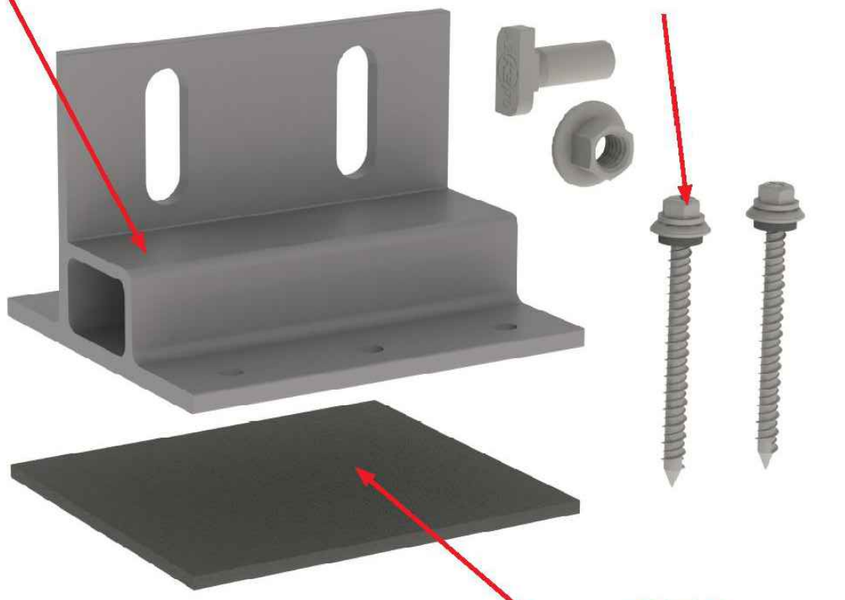
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10.1

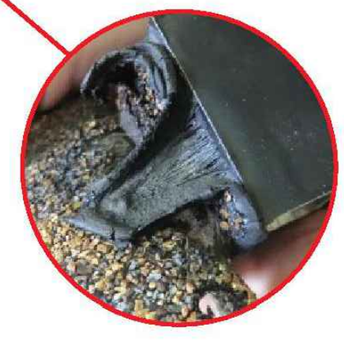
We support PV systems
Formerly Everest Solar Systems

Rail Shelf
- Allows for easier rail support
- Aligns CrossRail T-Bolt channel

Self-Tapping Screws
- Self-sealing; no sealant required
- Self-tapping; no pilot holes required
- 2 screws included per mount



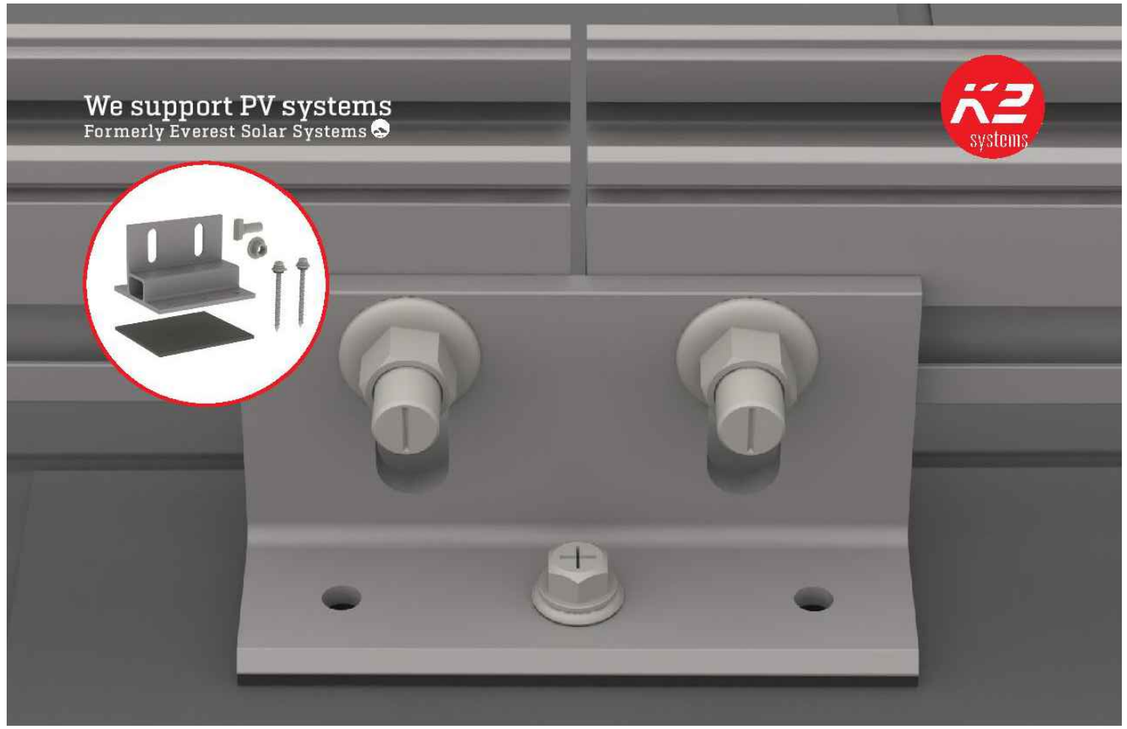
K2 EverSeal
- Pre-installed butyl flexible flashing
- 20+ years of proven water sealing technology
- TAS 100(A) and Wind Driven Rain tested and approved



Splice Foot X & XL

Patent Pending

PRODUCT SHEET



Splice Foot X & XL

Patent Pending

PRODUCT SHEET

Part Number	Description
4000113	Splice Foot X Kit,Mill
4000162	Splice Foot XL Kit, Mill

- All-in-one mount and splice foot
- K2 EverSeal technology
- 20+ years of proven water sealing technology on asphalt
- Self drilling lag screws = less tools needed
- Optimized for CrossRail systems and components
- No L-Foot needed
- T-Bolt hardware included

PROJECT ENGINEER
BROCK NOYES

REVISIONS

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APN NO: M0110 B0009L

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7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
ATTACHMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

GENFLEX Roofing Systems

Effective July 1, 2012
Replaces All Previous

Fastening Accessories Product List

Fasteners (Stocked)

Description	Product Number	Size	Unit Quantity	Ship Wt (lb)
GenFast™ #12 Fastener (For Insulation Attachment Only)	W590051200	1-5/8"	1000/bkt	11
	W590051201	2-1/4"	1000/bkt	15
	W590051202	2-7/8"	1000/bkt	19
	W590051203	3-1/4"	1000/bkt	21
	W590051204	3-3/4"	1000/bkt	24
	W590051205	4-1/2"	1000/bkt	28
	W590051206	5"	1000/bkt	32
	W590051207	6"	1000/bkt	38
	W590051208	7"	1000/bkt	44
	W590051209	8"	1000/bkt	50
GenFast™ #14 Fastener	W590051412	1-1/4"	1000/bkt	12
	W590051413	1-3/4"	1000/bkt	16
	W590051401	2"	1000/bkt	18
	W590051402	3"	1000/bkt	26
	W590051403	4"	1000/bkt	34
	W590051415	5"	**500/bkt**	22
	W590051416	6"	**500/bkt**	26
	W590051406	7"	500/bkt	30
	W590051407	8"	500/bkt	34
	W590051408	10"	500/bkt	40
	W590051419	12"	**250/bkt**	25
	W590051420	14"	**250/bkt**	29
	W590051411	16"	250/bkt	37
GenFast™ #15 WH (Washer Head) Fastener	W590051500	1-1/4"	1000/bkt	14
	W590051501	2"	1000/bkt	20
	W590051502	3"	1000/bkt	30
	W590051503	4"	1000/bkt	38
	W590051504	5"	500/bkt	24
	W590051505	6"	500/bkt	29
	W590051506	7"	500/bkt	34
	W590051507	8"	500/bkt	38
	W590051508	10"	500/bkt	47
	W590051509	12"	500/bkt	56
GenFast™ #12 Preassembled Fastener & Plate	W590055114	2-1/4"	250/ctn	13
	W590055115	2-7/8"	250/ctn	14
	W590055116	3-1/4"	250/ctn	15
	W590055117	3-3/4"	250/ctn	16
	W590055118	4-1/2"	250/ctn	17
	W590055119	5"	250/ctn	18
	W590055120	6"	250/ctn	19
	W590055121	7"	250/ctn	21
	W590055122	8"	250/ctn	22
	W590055123	9"	250/ctn	26
	W590055124	10"	200/ctn	23
	W590055125	11"	200/ctn	25
	W590055126	12"	200/ctn	27
	W590055127	14"	150/ctn	23
GenFast™ #15 Preassembled Fastener & Plate	W590055141	2"	250/ctn	19
	W590055142	3"	250/ctn	21
	W590055143	4"	250/ctn	24
	W590055144	5"	250/ctn	26
	W590055145	6"	250/ctn	28
	W590055146	7"	250/ctn	30
	W590055147	8"	250/ctn	32
	W590055148	10"	200/ctn	30
	W590055149	12"	200/ctn	37

PROJECT ENGINEER
BROCK NOYES

REVISIONS

DESCRIPTION	DATE	REV

solaris RENEWABLES

CONTRACTOR INFORMATION

SOLARIS RENEWABLES
781.270.6555 OFFICE
3 ELECTRONICS AVENUE | DANVERS MA 019234
WWW.SOLARISRENEWABLES.COM
MA REG #178137

DATE: 11/21/2023

PROJECT NAME
JAMES SPARRELL & KATHERINE TOWLER
125 SOUTH STREET
PORTSMOUTH, NH 03801
JOB#: MA02-24-0004
APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
ATTACHMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12

GENFAST™ #12 FASTENER

Item Description	Item Number
1⅝"	W590051200
2¼"	W590051201
3"	W590051210
4"	W590051211
5"	W590051206
6"	W590051207
7"	W590051208
8"	W590051209

Product Information

Description

GenFast #12 Fasteners may be used in any GenFlex system for attachment of roofing insulation using GenFlex 3" Insulation Plates to steel and wood roof decks. GenFast #12 Fasteners can not be used to secure or attach membrane systems to approved decks.

GenFlex GenFast Insulation Fasteners are manufactured to conform to the physical property requirements of Factory Mutual Speecification #4470.

Method of Application

1. GenFast #12 Fasteners can be installed using a #3 Phillips tip provided with every bucket and a variable speed drill. Each fastener must be installed in combination with a FenFlex 3" Round Insulation Plate taking care not to over or under drive the fastener. Threads from the fastener must engage and penetrate the decking material per current GenFlex Technical Specifications. Fastener length can be determined by using the following deck penetration requirements:
   - Steel Deck: Minimum of ¾" (19.1 mm) required penetration
   - Wood Deck: Minimum of 1" (25 mm) required penetration
   - Concrete Deck: Not Acceptable
2. Each fastener must be installed in combination with the appropriate plate taking care not to over or under drive the fastener.
3. Threads from the fastener must engage and penetrate the decking material per GenFlex current Technical Specifications.
4. Check current GenFlex specifications for exceptions and/or changes.

Storage

Fasteners should be protected from moisture and kept dry at all times. If stored out of doors, place on skids in a dry area and cover with a breathable tarp.

Product Data Sheets

Precautionary Data

- Eye protection is recommended when installing the fasteners.
- Refer to Safety Data Sheet (SDS) for additional information.

*LEED® Information

Post Consumer Recycled Content: 25%
Pre Consumer Recycled Content: 0%
*NOTE: LEED® is a registered trademark of the U.S. Green Building Council.

FM APPROVED

Product Data

Typical Properties	
Property	**Typical Values**
Material	SAE 1022 Heat Treated Steel
Diameter	Nominal 0.2135" (5.42 mm): Major Dia., 15½" Thread
Thread	Modified Buttress
Head Style	Deep #3 Phillips Pan Head
Head Outside Diameter	0.448" (11.4 mm)
Corrosion Coating	CR-10
Fastener Tip	Drill Point Design

Packaging

Screw Length	Thread Length	Pieces/Bucket
1⅝" (41.3 mm)	1⅜" (35 mm)	1000
2¼" (57 mm)	1⅞" (47.6 mm)	1000
3" (76 mm)	3" (76 mm)	1000
4" (101.6 mm)	3" (76 mm)	1000
5" (127 mm)	3½" (88.9 mm)	1000
6" (152 mm)	3½" (88.9 mm)	1000
7" (178 mm)	3½" (88.9 mm)	1000
8" 203 mm)	3½" (88.9 mm)	1000

Please contact Quality Building Services Technical Department at 1-800-443-4272 option 1, for further information.

PROJECT ENGINEER
BROCK NOYES

REVISIONS

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125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL
7.47 KW STC
7.6 KW AC

ENGINEERING APPROVAL

SHEET NAME
ATTACHMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12.1

POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.

PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy	14 kWh[1]
Usable Energy	13.5 kWh[1]
Real Power, max continuous	5 kW (charge and discharge)
Real Power, peak (10 s, off-grid/backup)	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Continuous Current	24 A
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Load Start Capability	88 - 106 A LRA[2]
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/- 1.0 adjustable
Power Factor Range (full-rated power)	+/- 0.85
Internal Battery DC Voltage	50 V
Maximum Supply Fault Current	10 kA
Round Trip Efficiency	90%[1,3]
Warranty	10 years

[1]Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
[2]Load start capability may vary.
[3]AC to battery to AC, at beginning of life.

COMPLIANCE INFORMATION

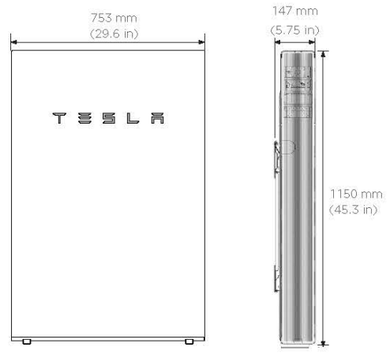
Certifications	UL 1642, UL 1741, UL 1741 SA, UL 1741 SB, UL 1973, UL 9540, IEEE 1547-2018, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)
Fire Testing	Meets the unit level performance criteria of UL 9540A

TESLA

MECHANICAL SPECIFICATIONS

Dimensions	1150 x 753 x 147 mm (45.3 x 29.6 x 5.75 in)[4]
Weight	114 kg (251.3 lbs)[4]
Mounting options	Floor or wall mount

[4]Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)[5]
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

[5]Performance may be de-rated at operating temperatures below 10°C (50°F) or greater than 43°C (109°F).

PROJECT ENGINEER
JORDON HALL

REVISIONS

DESCRIPTION	DATE	REV

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CONTRACTOR INFORMATION

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781.270.6555 MAIN
103 ELECTRONICS AVENUE
DANVERS, MA 01923
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JAMES SPARRELL & KATHERINE TOWLER
125 SOUTH STREET
PORTSMOUTH, NH 03801
JOB#: MA02-24-0004
APN NO: M0110 B0009L

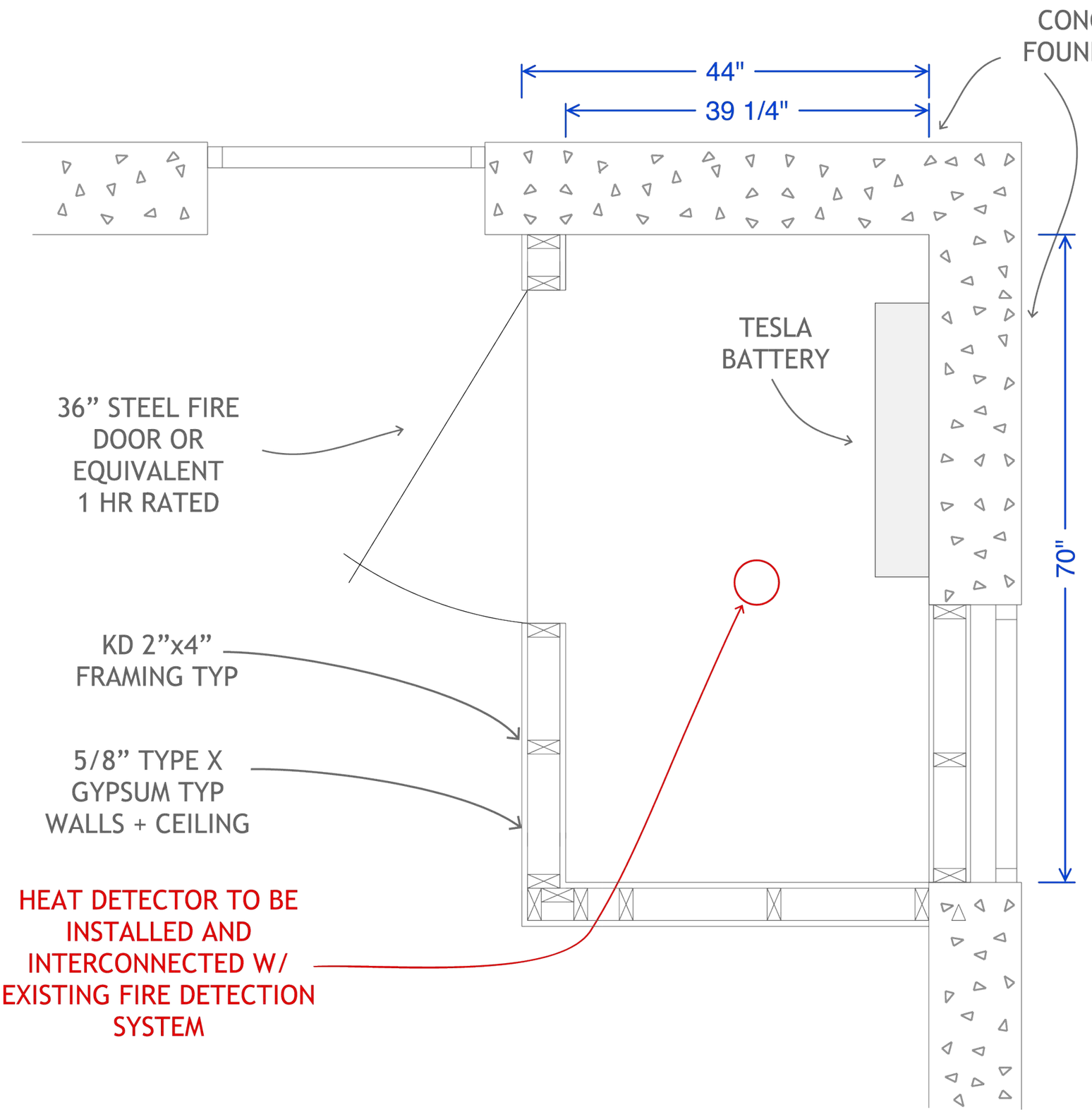
PROJECT DETAIL
5.0 KW AC

ENGINEERING APPROVAL

SHEET NAME
ESS SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13



PROJECT ENGINEER
JORDON HALL

REVISIONS

DESCRIPTION	DATE	REV

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DATE: 11/21/2023

PROJECT NAME

JAMES SPARRELL & KATHERINE TOWLER

125 SOUTH STREET
PORTSMOUTH, NH 03801

JOB#: MA02-24-0004

APN NO: M0110 B0009L

PROJECT DETAIL

5.0 KW AC

ENGINEERING APPROVAL

SHEET NAME
FIRE ROOM DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

Rooftop Solar Array Mock-up photos

SPARRELL James & TOWLER Katherine • 125 South Street, Portsmouth, NH

Fig. 1: Aerial view

Fig. 2: Ground view

Arrays shown are not to scale.