

**City of Poughkeepsie
Historic District and Landmarks Preservation Commission
Meeting Agenda**

Common Council Chambers
Thursday, November 14, 2024
6:00 PM

I. ROLL CALL

II. APPROVAL OF MEETING MINUTES

1. Approval of October 12 meeting minutes

III. NOMINATION FOR LOCAL LANDMARK DESIGNATION PUBLIC HEARING - CANCELED

1. VASSAR WARNER HOME

52 South Hamilton Street

Owner: Vassar-Warner Home

Nomination Form Prepared By: Save Vassar-Warner

IV. APPLICATIONS FOR CERTIFICATE OF APPROPRIATENESS

1. 106 ACADEMY STREET

Applicant: Theodore & Brenda Johnson

Project: New Stairs

2. 113 ACADEMY STREET

Applicant: Aneek Sindhir

Project: Install Solar Panels

V. COMMISSION BUSINESS

1. UPDATES ON BREAKOUT GROUPS

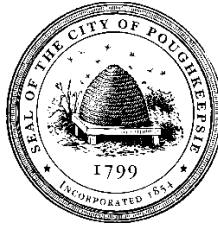
2. 2025 STATEWIDE CONFERENCE

3. APPROVE 2025 MEETING DATES

VI. ADJOURNMENT

1. Adjourn meeting to December 12, 2024

Approved
Motion:
Second:
Carried:



**City of Poughkeepsie
Historic District and Landmarks Preservation Commission
Meeting Minutes**

Thursday, October 10, 2024 6:00 PM

DRAFT

ATTENDANCE

Tim McQueen
Brian Hooper
John Bartelstone
Anthony LaRocca
Elisa Li
Thomas Parise
Kyle Neiswender

STAFF

Tyler Maegerle, City Junior Planner
Lori Garcia, Board Administrative Assistant

CALL TO ORDER

APPROVE MINUTES

Approve September 12, 2024 Minutes
Motion: Anthony LaRocca
Second: Tom Parise
Carried: 7:0:0

PUBLIC HEARING FOR DESIGNATION NOMINATION

VASSAR WARNER HOME

52 South Hamilton Street
Owner: Vassar-Warner Home
Nomination Form Prepared By: Save Vassar-Warner

Presenting: Holly Wahlberg, Historian

A motion was made for a public hearing November 12, 2024
Motion: Kyle Neiswender
Second: Anthony LaRocca
Carried: 7:0:0

ADJOURNMENT

Motion was made to adjourn the meeting to November 14, 2024

Motion: Brian Hooper

Second: Anthony LaRocca

Carried: 7:0:0

Motion was made to re-open the meeting

A motion was made to re-open the meeting

Motion: Anthony LaRocca

Second: Kyle Neiswender

Carried: 7:0:0

COMMISSION BUSINESS

John Bartelstone asked to comment on the potential changes to the Zoning Code

ADJOURNMENT

Motion was made to adjourn the meeting to November 14, 2024

Motion: Brian Hooper

Second: Anthony LaRocca

Carried: 7:0:0

For more details regarding the meeting, please visit the [Meeting Webcast](#) or the [Agendas and Minutes](#) page on the [City of Poughkeepsie](#) website.



CITY OF POUGHKEEPSIE, NEW YORK
BUILDING DEPARTMENT
(845) 451-4007
(845) 451-4006 (FAX)

HISTORIC DISTRICT & LANDMARKS NOMINATION FORM

LOCATION (For District nominations, attach list of all properties)

Street and Number: 52 S. Hamilton Street

NAME OF PROPERTY

Historic Name (if any): Old Ladies Home

Other Names (if any): Vassar-Warner Home

CLASSIFICATION

Ownership of Property	Category of Property
☒ Private	☒ Building(s)
Owner: <u>Vassar-Warner Home</u>	☐ District
Address: <u>same</u>	☐ Site
City: _____	☐ Structure
State/Zip: _____	☐ Object
☐ Public	
Owner: _____	
Address: _____	
City: _____	
State/Zip: _____	

FUNCTION OR USE

Historic Functions or Uses:
Independent and Assisted Living Facility for Women Seniors

Current Functions or Uses:
Independent and Assisted Living Facility for Seniors

NAME OF ARCHITECT (if known): 1898 Rear Addition by Corydon Wheeler

ATTACHMENTS

NARRATIVE DESCRIPTION: Describe the historic and current conditions of the property on one or more continuation sheets, and attach the sheets to the application.

MAPS: Please attach a map of the subject property or properties.

PHOTOGRAPHS: Please attach photographs of the property or properties.

Nomination Form

Page 2

Statement of Significance: Mark "X" in all of the applicable boxes below for the criteria qualifying the property for local register listing.

- ☒ Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☒ Property is associated with the lives of person significant in our past.
- ☒ Property embodies the distinctive characteristics of a type, period or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ Property has yielded, or is likely to yield, information important in prehistory or history.
- ☒ Property is listed, or is eligible for listing, on the State and/or National Registers of Historic Places.

Narrative Statement of Significance: Explain the significance of the property, in terms of the boxes checked above, on one or more continuation sheets, and attach the sheet(s) to the application.

Bibliography: Cite any books, articles or other sources used in preparing this form on one or more continuation sheets, and attach the sheet(s) to the application.

Form Prepared by:

Name/Title: Applicant: Save Vassar-Warner

Organization: Richard J. Schuster, Chairman

Street: (Researched by: Holly Wahlberg, Historian)

City/State/Zip: _____

Telephone: 203-885-9285 richardjschuster@gmail.com

Date: October 1, 2024

HDLPC RECOMMENDATION

The HDLPC hereby certifies that this application ☐ does ☐ does not meet the criteria for designation as a local historic district, landmark or landmark site, and recommends approval of the application to the Common Council in accordance with the provisions of Section 19-4.5(3) of the Zoning Ordinance.

Motion: _____

Second: _____

Votes: _____

Ayes Nays Abstentions

Signature of Chairman

Date:

Vassar-Warner Home: 52 South Hamilton – Local Register Nomination (2024)

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Description:

Monumental Greek Revival-style structure; three stories plus raised basement; brick; classical pediment, entablature, and full-height Ionic columns; porches at each story; sandstone belt course; 6/6, 4/4 windows; double, glazed doors; similar turn of the century wing at rear by Corydon Wheeler. (description taken from the National Register of Historic Places listing for “South Hamilton Street Row,” 1982)

Significance Statement:

- Possesses special character or historic or aesthetic interest or value as part of the cultural, political, economic or social history of the locality, region, state, or nation
- Represents an established and familiar visual feature of the neighborhood
- Is identified with historic personages
- Embodies the distinguishing characteristics of an architectural style

Once a Boys Boarding School:

Vassar-Warner was built in 1835 as the second site of Dutchess County Academy, a prestigious private school for boys founded in 1791. By 1834, the school had outgrown its simple four room schoolhouse on the corner of Cannon and Academy Streets. A hilltop parcel on the village outskirts along S. Hamilton Street was purchased as the site for a new Greek Revival style school building whose stately presence and towering columns became the embodiment of the school’s well-respected classical curriculum.

But by the close of the Civil War, several of Dutchess County Academy’s key faculty members had died, and competition from public schools was steadily increasing. In 1869, the Academy closed its doors and sold its grand school building at auction for \$14,000. The Academy’s Board of Trustees then donated the entire \$14,000 to the construction of a new public high school and city library on Washington Street.

The “Old Ladies Home”:

The building’s new owner was Jonathan Rowland Warner, an elderly gentleman with a substantial fur trading fortune. With little more than a year to live, Warner decided to bestow some of his fortune on his childhood hometown by converting the old Dutchess County Academy into an “Old Ladies Home.” His generosity included \$25,000 for remodeling the old school building and an additional \$10,000 for the establishment of an endowment fund.

Despite ill-health, or perhaps because of it, Warner threw himself into the project. He died three months before the Home opened in 1871, but his efforts were remembered by a speaker at the Home’s opening ceremony who described Warner as “feeble in health, and with disease flooding his heart strings, sick, weary, fainting, unable to sit or walk; yet with an energy disease could not subdue, he seemed to recuperate by the mere force of will, and gave his personal supervision to all details...”

But Warner was by no means working alone. A small band of 20 local women had already been planning to establish what they referred to as an “Old Ladies Retreat.” Their leader was 57 year old quaker, Miss Alice M. Fowler of 137 Academy Street. By 1870, the women had achieved state approval for their new

non-profit venture and had even accepted the donation of a plot of land. But despite this success, Fowler's band of women could not raise enough capital to construct a building or establish an endowment without the help of a male philanthropist. Unable to continue moving forward, Alice Fowler turned to Jonathan Rowland Warner, someone she probably had met when her family had lived in Utica where Rowland had spent much of his life as a well-known hatter, fur trader and banker before returning in poor health to his native Poughkeepsie.

Perhaps Alice Fowler met with Warner at her home at 137 Academy Street or went to visit him at Poughkeepsie's Northern Hotel where Warner was a boarder – as was Fowler's cousin, Joseph Smart. But wherever they met, Fowler's entreaties for Warner's help had phenomenal impact. Warner agreed to purchase the grand but defunct Dutchess Academy building on S. Hamilton Street and pay for its transformation from a school into an "Old Ladies Retreat."

His generosity was conditional, however, on three things: only *protestant* indigent women were to be admitted, the facility would be overseen by an all male board of trustees and the community would have to raise enough money to match Warner's endowment fund. Over the following year, Fowler led a successful community fund drive, and the "Old Ladies Home" opened in 1871 with Fowler as the first president of the Home's "Board of Lady Managers." While the all male Board of Trustees saw to investing the endowment and maintaining the Home's exterior, the Lady Managers raised funds, furnished rooms and saw to the needs of residents.

Philanthropy and Expansion:

By 1897, the "Old Ladies Home" was fully occupied but with such a long waiting list that local philanthropist and cough drop manufacturer W. W. Smith approached the Board of Trustees with an offer to fund a rear addition of 27 new rooms. The addition, designed by Poughkeepsie architect Corydon Wheeler, was completed one year later in 1898, giving the building its present T-shaped configuration.

At a standing room only dedication ceremony for the new rear wing, Smith moved with simple modesty among those gathered – one reporter noting that a stranger observing the crowd would not even be able to recognize Smith as "the man of the hour." Residents of the Home shook his hand and simply said, "God bless you." By the time Smith died in 1913, he had contributed \$140,000 in cash and building improvements to the Home he referred to as the "Vestibule of Heaven."

A Special Sense of Place:

In 1974, the "Old Ladies Home" merged with another of Poughkeepsie's finest Victorian institutions, the "Home for Aged Men" founded by the Vassar family in 1881; and in 1986, these male seniors began sharing 52 S. Hamilton with female residents. With both sexes now under one institutional umbrella, a new name was needed for the facility. To recognize the original financial benefactors of both the men's home and the women's home (but unfortunately, not recognizing Alice Fowler), the building at 52 S. Hamilton was renamed, "Vassar-Warner Home."

Over the years, Poughkeepsie churches as well as individual donors provided furnishings for Vassar-Warner's parlors, bedrooms, dining room and infirmary. Residents themselves added to the facility's strong sense of character by bringing with them some of their own furnishings and unique treasures. This produced a distinctly non-institutional atmosphere, unusually rich in history and charm. In service

to the community for almost 8 generations, Vassar-Warner offered seniors the opposite of a cold “cookie cutter” medical/senior care environment. A warm, historic atmosphere of vintage charm became the Home’s signature feature along with an exterior of striking Greek-Revival style.

Summary:

The origins of Vassar-Warner illustrate the way in which 19th century women, with few opportunities outside marriage and child rearing, began building leadership skills through philanthropy – banding together to take care of each other, even when men controlled the financial resources necessary to build charitable institutions designed for the needs of women and children. When New York State women finally won the right to vote in 1917, jubilant suffragists made their way to the “Old Ladies Home” where they stood on the sidewalk and shouted, “In the Name of Our Grandmothers!” to the “old ladies” cheering and waving from the balcony above.

Vassar-Warner is also a distinguished Greek Revival architectural survivor from a period in the city’s history where little has survived. As a former private boarding school, this building also links us to the era when Poughkeepsie was renowned as the “city of schools” filled with educational institutions (almost all now demolished) that attracted numerous families and teachers throughout much of the 19th century. The building is associated with one of Poughkeepsie’s most important citizens, W. W. Smith who took a particularly keen interest in helping the “Old Ladies Home” expand and thrive. Once limited to helping protestant women only, Vassar-Warner’s evolution into a community anchor welcoming seniors of both sexes, all races and any religion or income level reflects 20th century progress toward social, racial and religious equality.

Bibliography:

“Death of Jonathan R. Warner” Syracuse Standard August 9, 1871; Poughkeepsie Telegraph August 12, 1871.

“Jonathan R. Warner’s Will” Daily Press August 19, 1871.

“Death of a Female Philanthropist” Evening Enterprise January 17, 1893; Eagle-News January 18, 1893.

“Alice M. Fowler, Prominent Friend” Eagle-News July 13, 1895.

Obituary: Alice M. Fowler Daily Eagle January 18, 1893.

“Miss Fowler Forms Association” Daily Eagle January 10, 1870.

“Old Ladies Home Opens” Telegraph November 8 and 11, 1871.

“Old Ladies Home Celebrates 65 Years” Star-Enterprise November 7, 1936.

“Comfortable Home Where Aged Ones Find Rest” News-Telegraph September 24, 1898.

“Breaking Ground – Addition to Old Ladies Home” Daily Eagle September 24, 1897.

“Silver Anniversary of Old Ladies Home” News-Telegraph November 7, 1896.

“Old Ladies Home” Courier July 22, 1894.

“Old Dutchess County Academy” Courier April 24, 1892; December 24, 1876, January 7, 1877; January 14, 1877, January 21, 1877,

“Old Ladies Home” Dutchess Farmer December 27, 1870.

“Old Ladies Home” Eagle January 12, 1870.

“Dutchess Academy Sold at Auction” Telegraph March 19, 1870.

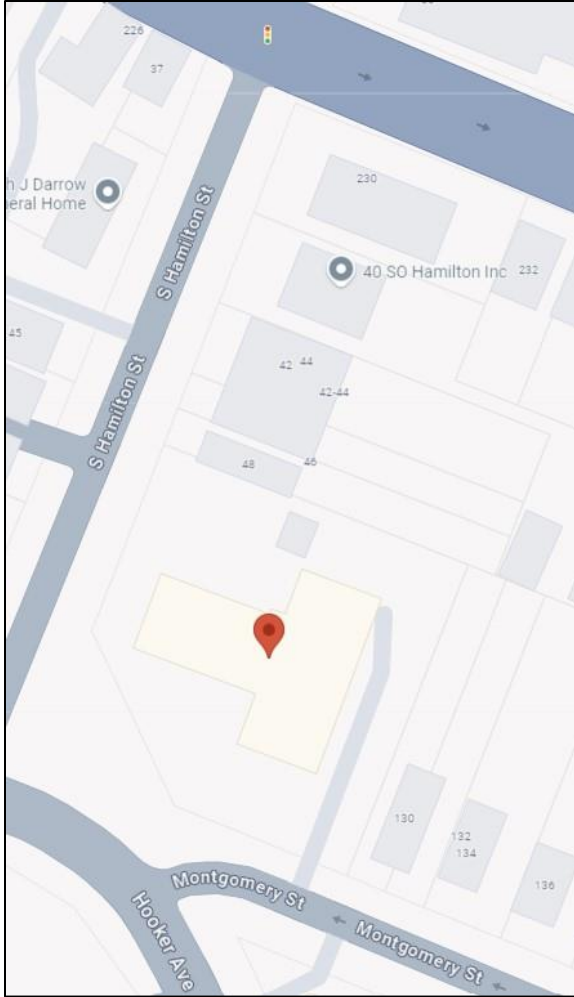
“Old Ladies Home Dedicated” Telegraph November 11, 1871.

“Old Ladies Home Anniversary” Daily Eagle October 29, 1879, October 30, 1879.

“Cemetery Plot Purchased” Daily Eagle November 2, 1883.

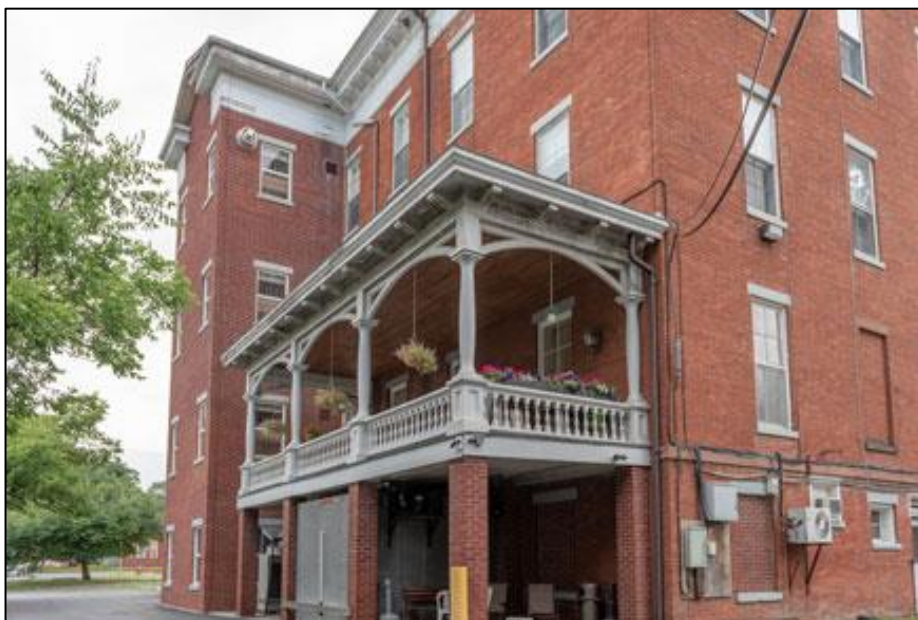
“Annual Report, Old Ladies Home” Daily Eagle December 31, 1884; Daily Eagle January 25, 1893.

"Facts about the Old Ladies Home" Daily Eagle January 16, 1886.
 "Flag Walk Installed and Fence Removed" Daily Eagle April 26, 1889; November 10, 1896.
 "To Be Enlarged" Daily Eagle April 1, 1892; April 7, 1892.
 "A Magnificent Gift from W. W. Smith" Daily Eagle May 22, 1894; June 18, 1897; July 3, 1897; March 30, 1898; September 14, 1898; September 21, 1898; November 17, 1898; December 7, 1898; November 26, 1898; Courier September 25, 1898; News- Telegraph March 19, 1898; News-Press September 21, 1898; Daily Eagle September 21, 1898; February 4, 1903 Daily Eagle; Evening Enterprise February 6 and 10, 1906; Courier August 13, 1911; Daily Eagle August 9, 1911.
 "Rooms Furnished" News-Telegraph October 1, 1898; November 12, 1898; Daily Eagle February 5, 1903.
 "Old Ladies Home Does Not Want Fountain in Trinity Square" New-Telegraph November 11, 1899; Daily Eagle November 22 and 29, 1899.
 "26th Anniversary of Old Ladies Home: Daily Eagle November 11, 1897.
 "Old Ladies Fair and Anniversary" Daily Eagle November 16, 1899; November 22, 1900; News -Telegraph November 16, 1901; Daily Eagle November 9 and 14, 1901; Daily Eagle November 13, 1902; Daily Eagle November 12, 1903; October 30, 1907 Evening Enterprise; Daily Eagle November 15, 1917.
 "Heat for the Old Ladies Home" Daily Eagle December 17 and 23, 1897.
 "A Pleasant Occasion: Entertaining the Old Ladies" Daily Eagle February 16, 1898.
 "Old Ladies Home Sidewalk" News-Telegraph February 26, 1898.
 "Old Ladies Home Infirmary" Daily Eagle October 18, 1898.
 "Lawn Party and Sail for Old Ladies" News-Telegraph June 9, 1900.
 "Funds Needed for Old Ladies Home" Courier February 3, 1901.
 "Smith Has Dinner at Old Ladies Home" Daily Eagle June 13, 1902.
 "Old Ladies Home an Attractive Spot" Daily Eagle September 6, 1904.
 "Treasurer's Report for Old Ladies Home" News-Press November 6, 1908.
 "Annual Report of Old Ladies Home" Daily Eagle November 8, 1913; November 11, 1916.
 "Suffrage Parade Stops at Old Ladies Home" News-Telegraph July 12, 1913.
 "Many Gifts for Old Ladies Home" Eagle-News November 16, 1920.
 "Hanging of Portrait of Vassar" Courier May 10, 1931.
 "Poughkeepsie Old Ladies Home" Courier December 7, 1941.
 "Old Ladies Home Brightened through Remodeling Projects" Poughkeepsie Journal August 21, 1960.
 "Old Ladies Home Keeps Name" Poughkeepsie Journal January 23, 1966.
 "The Old Ladies Home: 100 Years of Service" Poughkeepsie Journal October 10, 1971.
 "Renovations Show Commitment to City" Poughkeepsie Journal May 3, 1995.
 "Closure Announced" Poughkeepsie Journal September 6, 7, 8, 11, 20, 28, 2001; October 12, 13, 17, 2001.
 "Seniors' Facility to Stay Open" Poughkeepsie Journal October 18 and 20, 2001.



Map: 52 S. Hamilton, Vassar Warner Home

Front West Facade



Rear East Facade

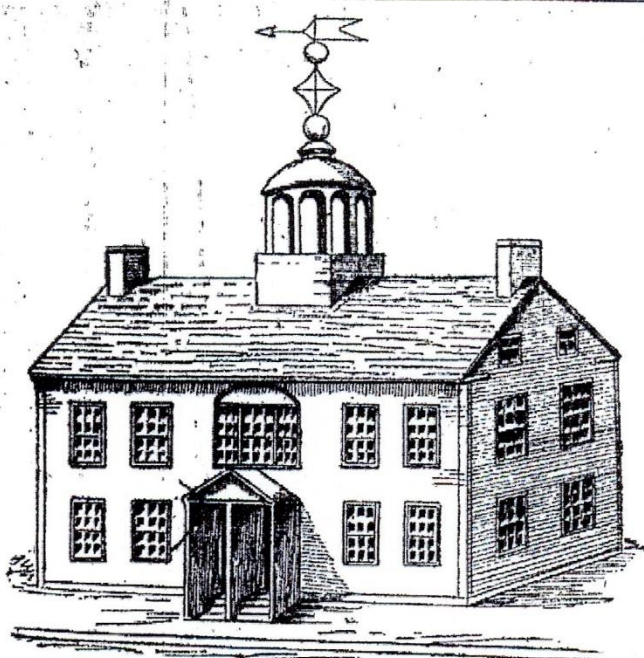


North Façade

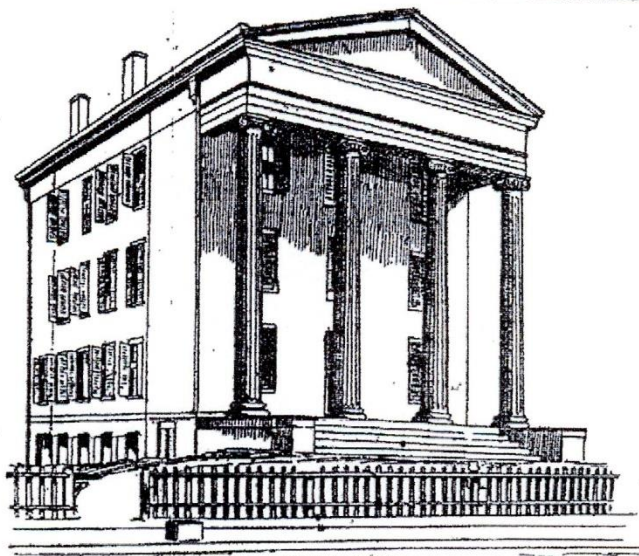


South Façade

1791 and 1835 views of Dutchess County Academy



**THE OLD ACADEMY, ERECTED ON THE CORNER OF
ACADEMY AND CANNON STREETS**



**THE NEW ACADEMY, (NOW OLD LADIES' HOME),
CORNER MONTCOMERY AND SOUTH
HAMILTON STREETS.**



Vassar-Warner Home by Nestor Madalengoitia 2003



THE CITY OF POUGHKEEPSIE NEW YORK

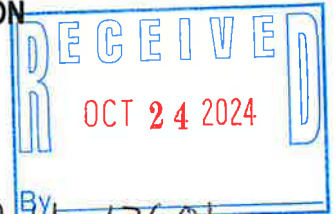
BUILDING DEPARTMENT

62 CIVIC CENTER PLAZA, POUGHKEEPSIE, NY
12602 Phone: (845) 451-4263 Fax: (845) 451-4006

Office Use Only
Application # ID#

HISTORIC DISTRICT AND LANDMARKS PRESERVATION COMMISSION APPLICATION

(Type or print neatly. Illegible applications will not be accepted.)



Project Address: 106 Academy St. Poughkeepsie, N.Y. 12601

Applicant Name: Theodore & Brenda Johnson

Applicant's Address: 106 Academy St.

City: Poughkeepsie State: N.Y. Zip: 12601

Phone Number(s): (845) 473-2877 Email: Theosbag2@aol.com

Property Owner (if not the applicant): _____
(If applicant is not the property owner, a letter of authorization from the owner **MUST** accompany the application.)

PROJECT CLASSIFICATION (Check all boxes that apply to the proposed project):

- ☐ New construction (construction of a new building, addition, garage, shed, swimming pool, etc.)
- ☐ Exterior alteration (includes, but is not limited to, all exterior changes to windows, doors, roof, paint colors, etc.)
- ☐ Landscaping (removing or adding significant plantings or landscape features such as driveways, sidewalks, fencing, retaining walls, patios, etc., that will alter the appearance of the property)
- ☒ Repair or replacement
- ☐ Restoration (railings, balconies, cornices, porches, etc.)
- ☐ Relocation
- ☐ Demolition
- ☐ Other: _____

WORK DESCRIPTION: Describe in detail all proposed work and indicate all materials to be used. Attach additional sheets as necessary.

See attached sheet.

REQUIRED ATTACHMENTS TO SUBMIT WITH THE APPLICATION (Submit "hard" copies of the following attachments. Each page must be labeled and dated):

- ✓ **Recent Color Photos:** Include photos of each side of the building and site when landscaping changes are proposed.
- ✓ **Color chips, charts or color samples:** Describe both existing color(s) and proposed color(s). Include details regarding color placement and paint chips with the manufacturer's name and color number.
- ✓ **Material Samples/Manufacturer's Brochures:** Material samples (when practical) and/or manufacturer's brochures, product literature or catalog pages.
- ✓ **Plot Plan:** A plot plan (drawn to scale, indicating property lines, existing structures and/or landscaping) must be included for new construction, additions, demolition, fencing and major landscaping projects and any proposed changes.
- ✓ **Elevation drawings for new constructions/additions:** Drawings at a scale necessary to show building detail. Elevations should be accurately labeled with cardinal directions and showing the relationship between new and old structures.

A DIGITAL COPY OF THE ENTIRE SUBMISSION IS REQUIRED.

OWNER/APPLICANT CERTIFICATION:

I hereby certify this application will not be reviewed until all required information has been submitted. I understand that this application may require a site visit and/or public hearing by the Historic District and Landmarks Preservation Commission, and that the HDLPC may request additional information.

Brenda Johnson
Signature of Owner

Date: 10/24/24

Signature of Agent/Applicant

Date: _____

OFFICE USE ONLY

- ☐ Application requires approval by the HDLPC, pursuant to the provisions of Section 19-4.5(5)
- ☐ Application does not require approval by the HDLPC, pursuant to the provisions of Section 19-4.5(13)(a)
- ☐ Work will require issuance of a building permit, pursuant to the provisions of Section 19-7.2
- ☐ Work will not require issuance of a building permit, pursuant to the provisions of Section 19-7.2

Eric Philipp
Building Inspector/Zoning Administrator

Date

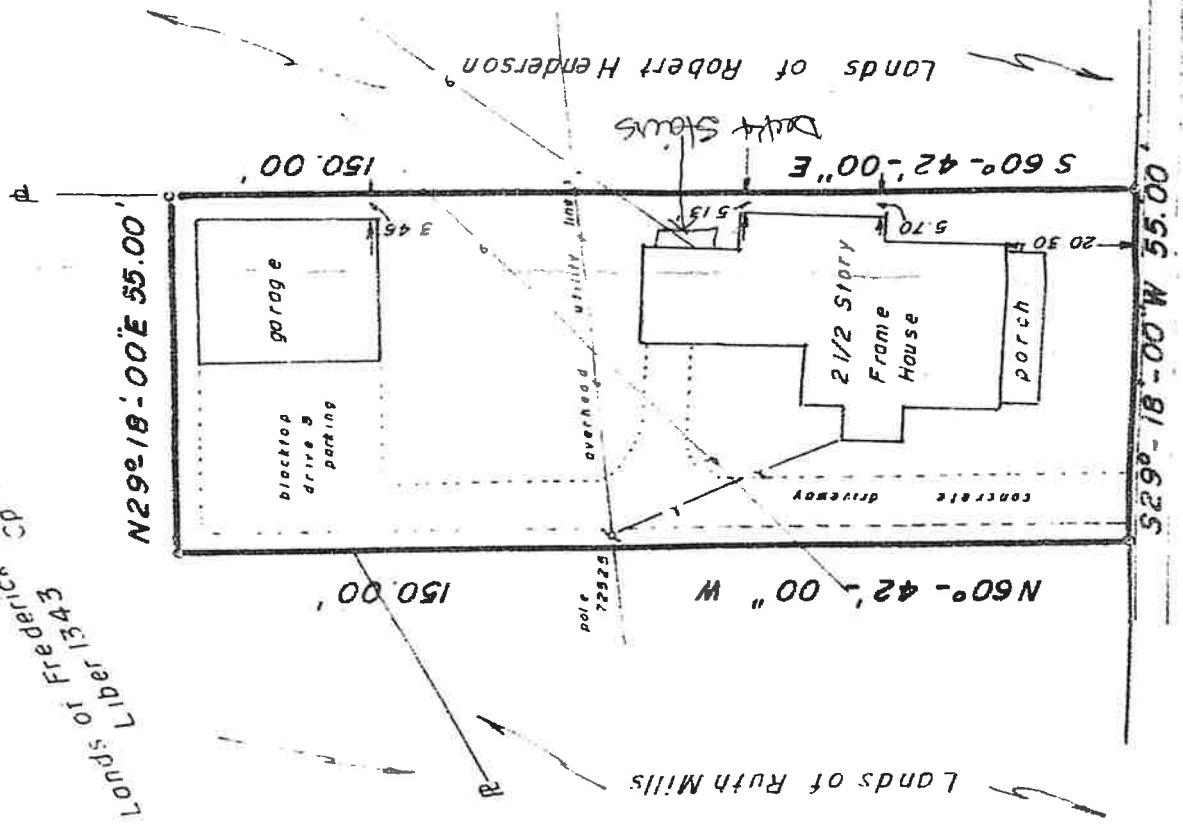
SPECIFICATIONS:

DESCRIPTIONS OF SCOPE OF WORK, PRODUCTS TO BE USED
TO BE PERFORMED.

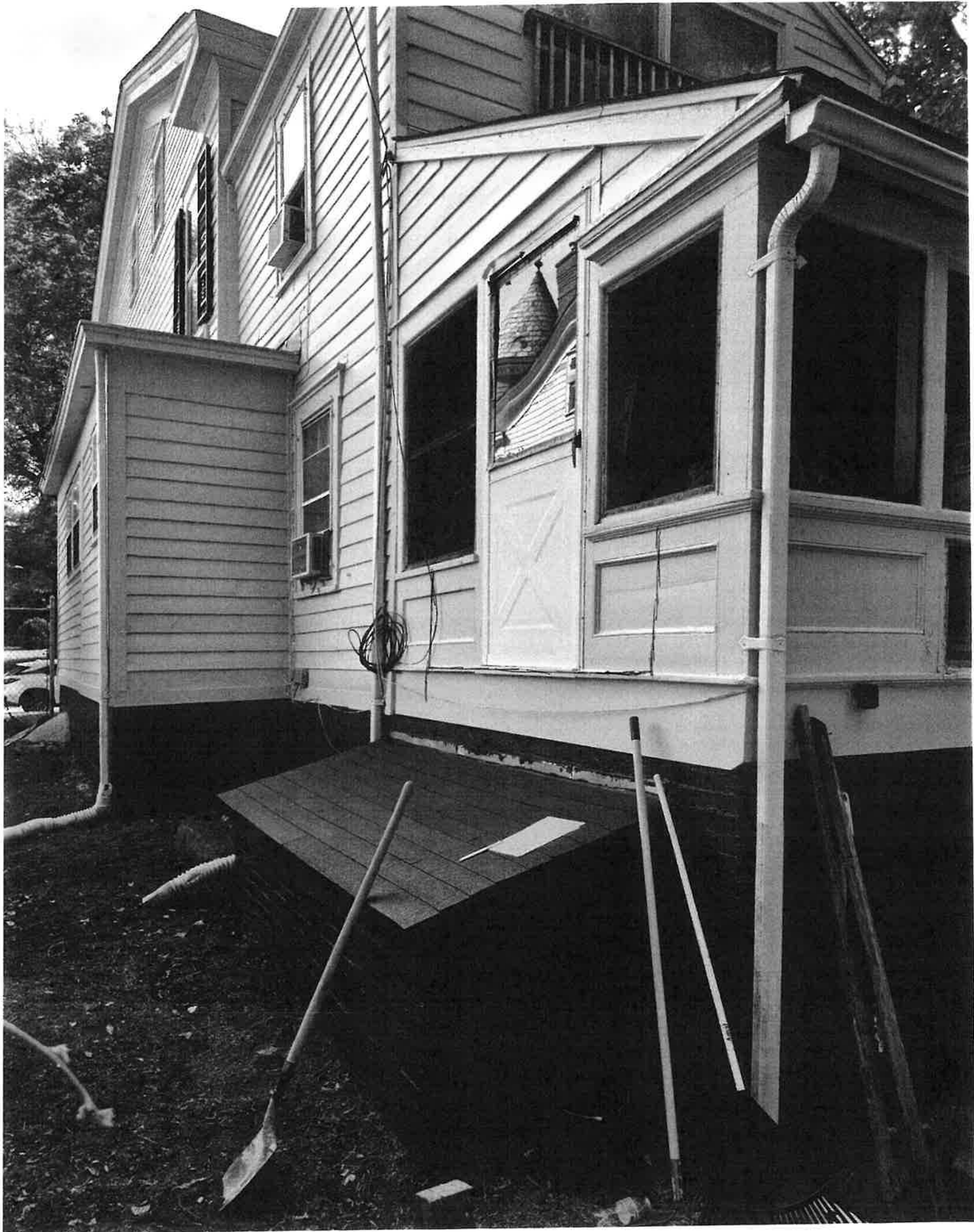
STAIRCASE & LANDINGS:

CONTRACTOR WILL BUILD A 4x6 LANDING WITH STAIRCASE. A STAIRCASE WILL BE ALL PRESSURE TREATED LUMBER. 2x8 LUMBER WILL BE USED FOR FRAMING AND 6x6 PRESSURE TREATED LUMBER WILL BE USED FOR THE POST 48-INCH CONCRETE TUBES WILL BE INSTALLED IN THE GROUND AND STEEL REBAR WITH BRACKETS WILL BE PUT IN UPON COMPLETION OF CONCRETE. AT THE BOTTOM OF THE STAIRS WILL BE A 4x4 CONCRETE LANDING. LANDING WILL BE 4 INCHES THICK WITH 1/2 INCH STEEL REBAR INSTALLED THROUGHOUT. PRESSURE TREATED RAILINGS WILL BE INSTALLED WITH SPINDLES SPACE 3 INCHES APART.


 Lands of Frederick R. Bernhard
 Liber 1343
 Cd 423



1" to 30'



A hand-drawn architectural sketch of a house. The house has a gabled roof and a front porch with a railing. A deck is attached to the back of the house, with a door labeled "6-0" and "DECK". A set of stairs leads down from the deck to the ground level. The ground level is labeled "BRICK". The sketch is drawn on a grid background. In the top right corner, there is handwritten text: "(C) 845-47" and "H)". In the bottom right corner, there is handwritten text: "FIN DE FL" and "K".

GRADE 2

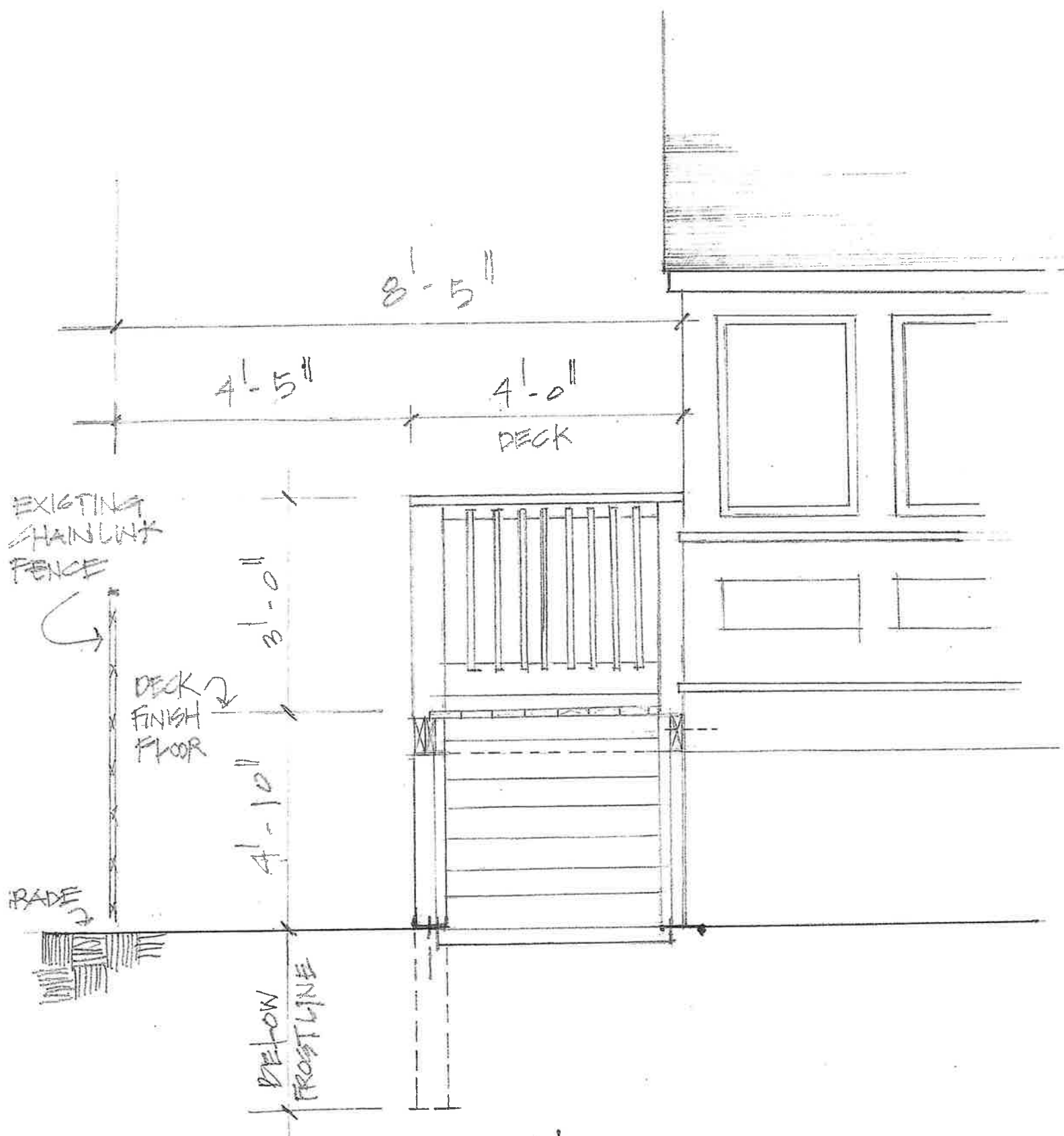
- PRICK -

FINISH
DECK
FL.

BELOW
FROST LINE

RIGHT SIDE HOUSE ELEVATION
REAR CORNER 106 ACADEMY STREET
PROPOSED DECK STAIRCASE

N.T.S.



REAR of HOUSE ELEVATION N.T.S.
LEFT SIDE CORNER 106 ACADEMY ST.
PROPOSED DECK STAIRCASE

SPECIFICATIONS:

DESCRIPTIONS OF SCOPE OF WORK, PRODUCTS TO BE USED
TO BE PERFORMED.

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Poughkeepsie, New York

Google Street View

Sep 2024 [See more dates](#)

Image capture: Sep 2024 © 2024 Google





THE CITY OF POUGHKEEPSIE NEW YORK

BUILDING DEPARTMENT

62 CIVIC CENTER PLAZA, POUGHKEEPSIE, NY
12602 Phone: (845) 451-4263 Fax: (845) 451-4006

Office Use Only
Application # ID#

HISTORIC DISTRICT AND LANDMARKS PRESERVATION COMMISSION APPLICATION

(Type or print neatly. Illegible applications will not be accepted.)

Project Address: 113 Academy St, Poughkeepsie, NY 12601

Applicant Name: Aneek Sindhr

Applicant's Address: 1143 Dryden Road

City: Ithaca State: NY Zip: 14850

Phone Number(s): 6072169439 Email: aneek.s@intelligentgreensolutions.com

Property Owner (if not the applicant): Fiona Woods
(If applicant is not the property owner, a letter of authorization from the owner **MUST** accompany the application.)

PROJECT CLASSIFICATION (Check all boxes that apply to the proposed project):

- ☐ New construction (construction of a new building, addition, garage, shed, swimming pool, etc.)
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- ☐ Repair or replacement
- ☐ Restoration (railings, balconies, cornices, porches, etc.)
- ☐ Relocation
- ☐ Demolition
- ☒ Other: Solar PV Installation on Roof

WORK DESCRIPTION: Describe in detail all proposed work and indicate all materials to be used. Attach additional sheets as necessary.

Solar PV Installation on Roof

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A DIGITAL COPY OF THE ENTIRE SUBMISSION IS REQUIRED.

OWNER/APPLICANT CERTIFICATION:

I hereby certify this application will not be reviewed until all required information has been submitted. I understand that this application may require a site visit and/or public hearing by the Historic District and Landmarks Preservation Commission, and that the HDLPC may request additional information.

Fiona Woods
Signature of Owner

Date: 9.30.24

Aneek Sindhr
Signature of Agent/Applicant

Date: 9/30/2024

OFFICE USE ONLY

- ☐ Application requires approval by the HDLPC, pursuant to the provisions of Section 19-4.5(5)
- ☐ Application does not require approval by the HDLPC, pursuant to the provisions of Section 19-4.5(13)(a)
- ☐ Work will require issuance of a building permit, pursuant to the provisions of Section 19-7.2
- ☐ Work will not require issuance of a building permit, pursuant to the provisions of Section 19-7.2

Eric Philipp
Building Inspector/Zoning Administrator

Date



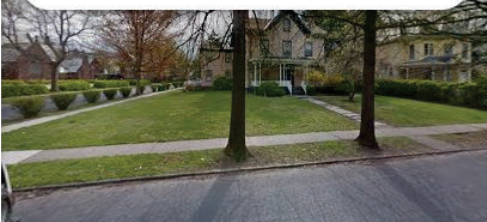






- Menu icon
- Saved
- Recents
- 113 Academy...
- Sidney
- Ithaca & Cayuga...
- Utica

← 113 Academy St 🔍 ✕



113 Academy St

Directions

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Nearby

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113 Academy St, Poughkeepsie, NY 12601, USA

📍

M3XC+4V Poughkeepsie, New York, USA

🔧

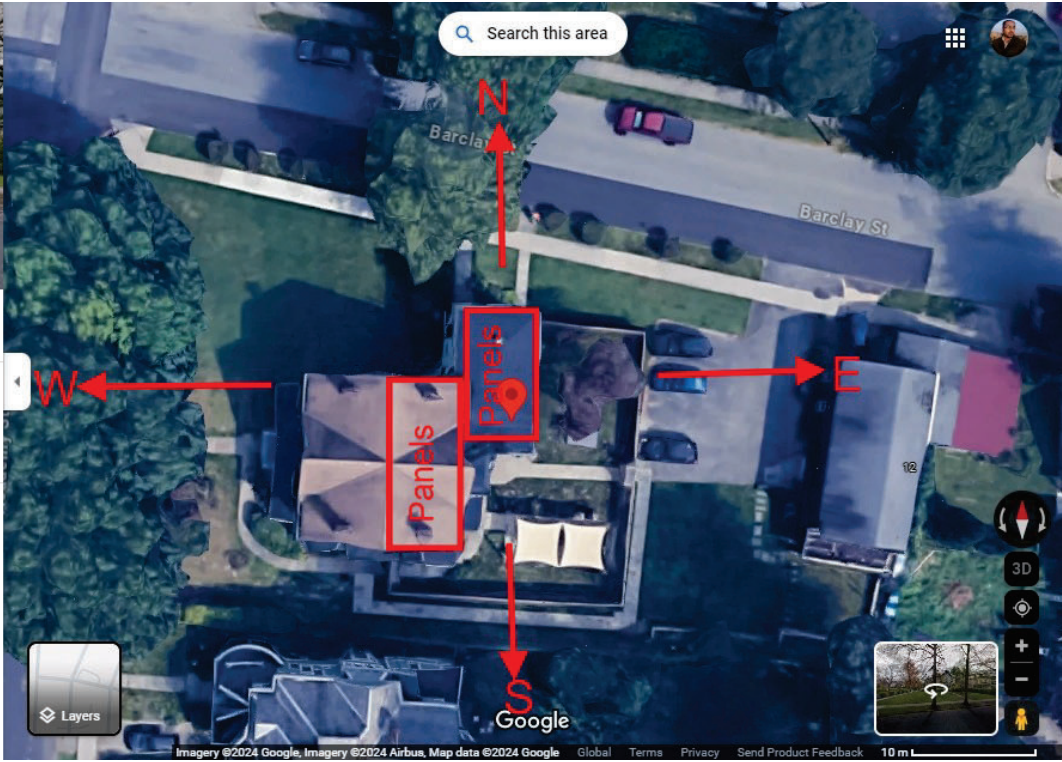
Suggest an edit on 113 Academy St

📍

Add a missing place

🏢

Add your business



11
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TABLE 101: CUSTOMER INFORMATION	
CUSTOMER NAME	Fiona Woods
CUSTOMER ADDRESS	113 Academy St, Poughkeepsie, NY 12601
CUSTOMER PHONE #	+1 914-804-8466
OCCUPANCY TYPE	RESIDENTIAL GROUP R

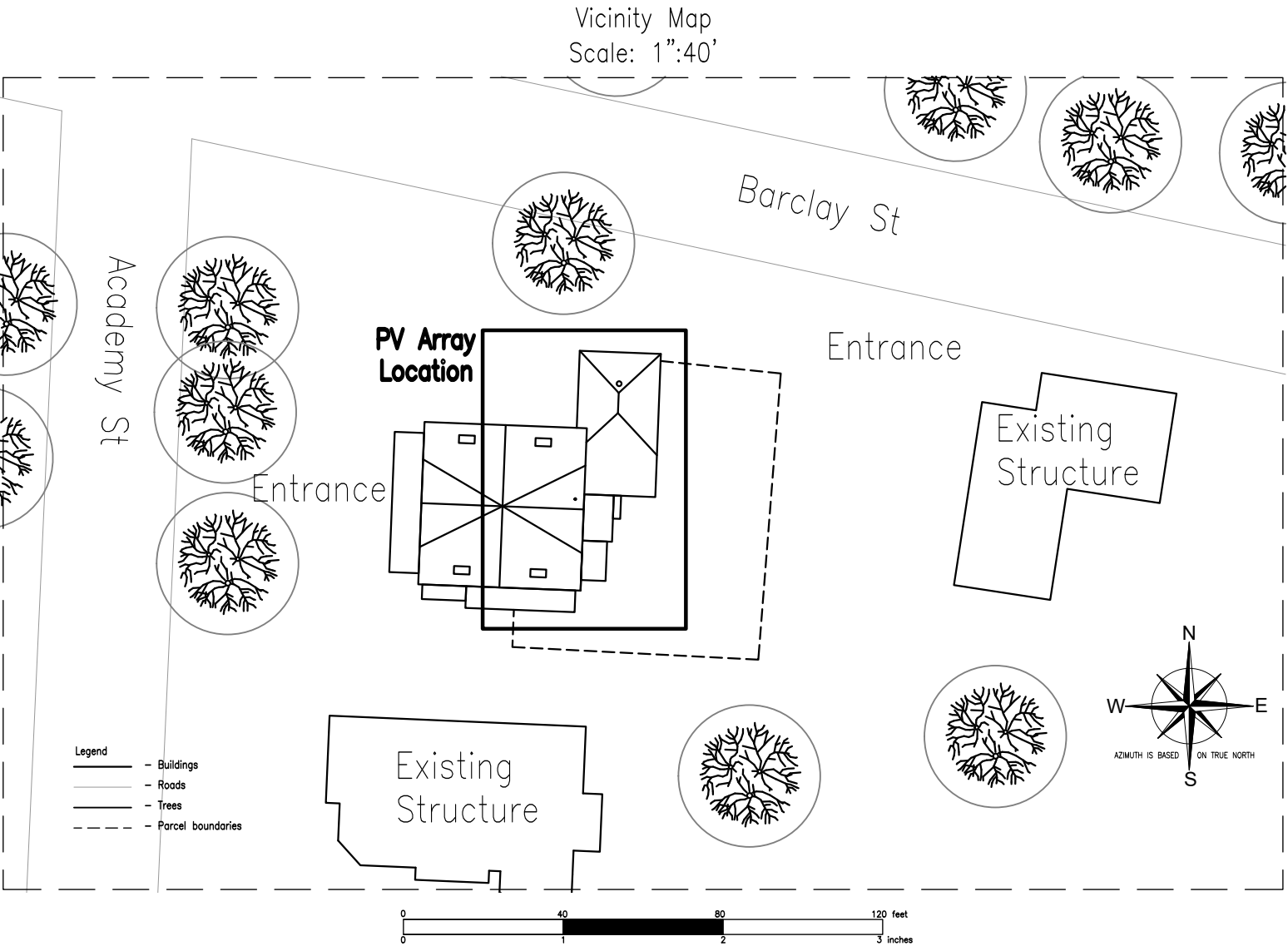
TABLE 102: PV SYSTEM INFORMATION	
PV SYSTEM SIZE: DC STC	9.84 kW
PV MODULES	Q.PEAK DUO BLK G10+ 410
MODULE MAX POWER	410 Wp
NUMBER OF MODULES	24
OPTIMIZER	Enphase IQ8A
ARRAY TILT	30°
AZIMUTH	92°

TABLE 103: INVERTER INFORMATION	
TOTAL NAMEPLATE CAPACITY AC	8.784 kW
MANUFACTURER	Enphase
MODEL	IQ8A
MICROINVERTER POWER RATING	366 W
QUANTITY	24

TABLE 104: EXISTING ELECTRICAL SYSTEM	
CAPACITY	100 A
VOLTAGE	240 V
GRID CONFIGURATION	Single Phase

TABLE 105: BATTERY INFORMATION	
BATTERY BANK	Enphase IQ Battery 5P
BATTERY SIZE	5 kWh
BATTERY CELL TECHNOLOGY	Lithium Iron Phosphate (LFP)
NOMINAL DC VOLTAGE	76.8 V DC
MAX PEAK POWER (10s)	7.68 kW
WEIGHT	174.0 lb
DIMENSIONS (H x W x D)	38.6" x 21.7" x 7.4"
QUANTITY	1
OPERTAING TEMPERATURE	-4 °F to 122 °F
ESS CONFIGURATION	Backup only

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GENERAL NOTES

- DO NOT SCALE DRAWINGS. IF UNABLE TO LOCATE DIMENSIONS FOR ANY ITEM OF WORK, CONSULT ENGINEER FOR DIRECTIONS BEFORE PROCEEDING.
- IF EXACT ROOF DIMENSIONS WERE NOT PROVIDED, THE DRAWING WILL BE BASED ON GOOGLE MAP, AND THEREFORE THE ROOF SLOPE DIMENSIONS MAY NOT BE ACCURATE. CONTRACTOR TO SITE VERIFY ALL ROOF OBSTACLES AND ALL REQUIRED CLEARANCES WITH AHJ(S) PRIOR TO INSTALLATION, ORDERING OR FABRICATING ANY MATERIAL.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO INSTALLATION AND SHALL COORDINATE ALL INSPECTIONS, TESTING COMMISSIONING AND ACCEPTANCE WITH THE CLIENT, UTILITY CO. AND CITY INSPECTORS AS NEEDED.
- ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER TRADES.
- IF THE ROOF MATERIAL OR ROOF STRUCTURE IS FOUND TO BE INADEQUATE OR OTHER THAN THE PLANS INDICATE, CALL ENGINEER PRIOR TO INSTALL. THE CONTRACTOR IS RESPONSIBLE TO VERIFY THAT ROOF IS CAPABLE OF WITHSTANDING THE EXTRA WEIGHT.
- WHENEVER A DISCREPANCY IN QUANTITY OF EQUIPMENT ARISES ON THE DRAWING OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO ENSURE COMPLETE COMPLIANCE AND LONGEVITY OF THE OPERABLE SYSTEM REQUIRED BY ENGINEERS.
- THE WORKING CLEARANCE AROUND THE EXISTING ELECTRICAL EQUIPMENT AS WELL AS NEW ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH (NEC 110.26)

CODE SUMMARY
THIS PROJECT SHALL COMPLY WITH:
2017 NEC;
2020 Residential Code of New York State (adopts the IRC 2018 with amendments);
2020 Fire Code of New York State (adopts the IFC 2018 with amendments);
2020 Building Code of New York State (adopts the IBC 2018 with amendments);

ALL OTHER ORDINANCES ADOPTED BY
LOCAL GOVERNING AGENCIES

SHEET INDEX:
01 Title Page
02 Site Plan
03 Detailed Layout
04 Mounting Details
05 Single Line Diagram
06 Electrical & Conduit Notes
07 Elevation
09 Detail Master Sheets

01 Title Page			
CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		Photovoltaic residential system	INSTALLED POWER kWDC 9.84 kWp
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS 41.930797, -74.022426	
DESIGN ENGINEER D.Piszczyk	LAST UPDATE 01 Oct, 2024	PAGE 1 / 9	
TECHNICAL REVIEWER A.Jedrzejewski	REVISION 1.1		

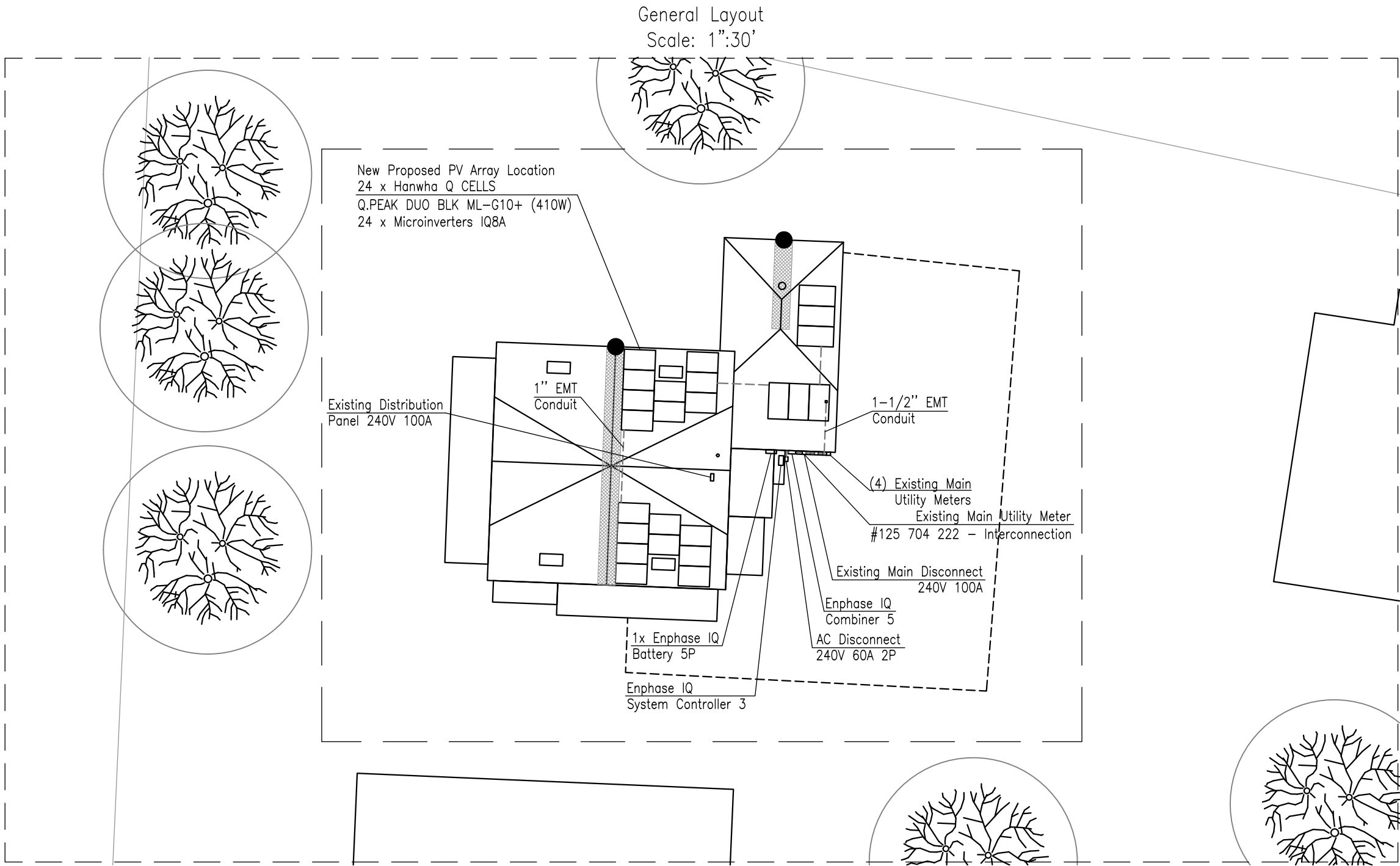


TABLE 201: STRUCTURAL SPECIFICATION	
Number of PV Panels	24
Total array area	507 sqft
Weight of panel	48.5 lb
Weight of optimizer	2.38 lb
Number of attachments	66
Weight per attachment	17.6 lb/att
Total array weight	1164 lb
Distributed Weight	2.3 lb/sqft

TABLE 202: LOCATION DATA	
Wind Speed ASCE 7-10	115 mph
Exposure Category	B
Ground Snow Load	40 psf
Risk Category	II

TABLE 203: WIND LOAD CALCULATION	
Internal Pressure Coefficient	±0.18
Wind Pressure	20 psf
	- 44 psf

TABLE 204: EXISTING ROOF CONSTRUCTION DETAIL	
Truss Spacing	2 ft on center
Truss Type	2x4 Wood
Roof Material	Asphalt
Roof Pitch	30°

TABLE 205: ROOF LOAD ANALYSIS		
Load Type	Item	PSF
Dead Load	Roof (Truss, Sheathing, Purlins)	1.00
	PV Panels*	2.65
Collateral Load		8.00
Total Dead & Collateral Load for 30° Tilted Roof		12.06
Snow Load		28.00
Live Load		20 0*
Total Load		40.06

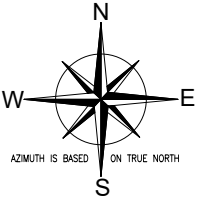
*PV panel dead load replaces live load as no live load above solar panels

- Legend
- Buildings
 - Roads
 - Trees
 - Parcel boundaries
 - PVC/EMT/LMFC Conduit
 - Fire Path 3'
 - Detailed Layout Border (see sheet 03 Detailed Layout)

TABLE 200: UTILITY INFORMATION	
Account #	-
Meter #	125 704 222

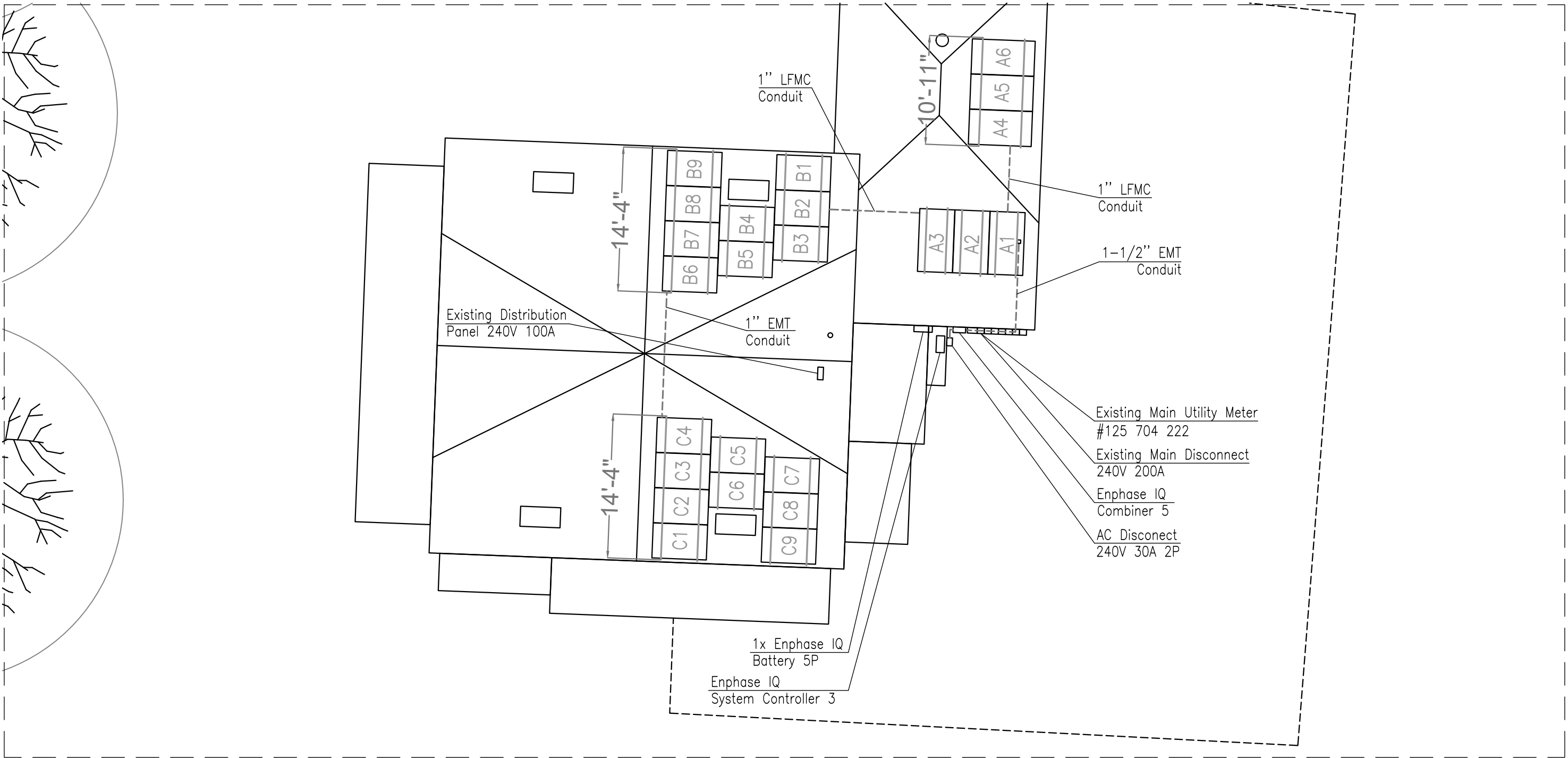
Proposed roof access point

Roof access point shall be located in areas that do not require the placement or ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs (R331.2.1 of the 2016 CRC). Damage to gutters by ladder placement is to be avoided.



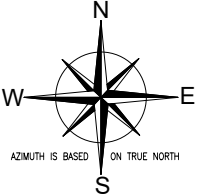
02 Site Plan		
Fiona Woods		
CUSTOMER NAME		
PROJECT'S TYPE		INSTALLED POWER kWDC
Photovoltaic residential system		9.84 kWp
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS 41.930797, -74.022426
DESIGN ENGINEER D.Piszcze	LAST UPDATE 01 Oct, 2024	PAGE 2 / 9
TECHNICAL REVIEWER A.Jedrzejewski	REVISION 1.1	

Detailed Layout
Scale: 1":10'



- Legend
- Buildings
 - Roads
 - Trees
 - - - - - PVC/EMT/LMFC Conduit
 - ⊕ ⊖ Positive/Negative PV Wire
 - ⊕ Grounding Lug

For ground mount systems:
Ballast block plan available on sheet
09 Ballast and Trenching Details



03a Detailed Layout			
CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		INSTALLED POWER kWDC	
Photovoltaic residential system		9.84 kWp	
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS	41.930797, -74.022426
DESIGN ENGINEER	D.Piszczek	LAST UPDATE	01 Oct, 2024
		PAGE	3a / 9
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1
		 INTELLIGENT GREEN SOLUTIONS	

Table 301: Mounting Dimensions		
X	Panel width	41.1"
Y	Panel length	74"
A	Array max. Length	14'-4"
B	Array max. Height	18'-6"
C	Attachment max. Span	5'-6"

Table 302: Part Schedule		
185"	Full Rails	20
	Splice bar	0
	Estimated End-clamps	40
	Estimated Mid-clamps	28

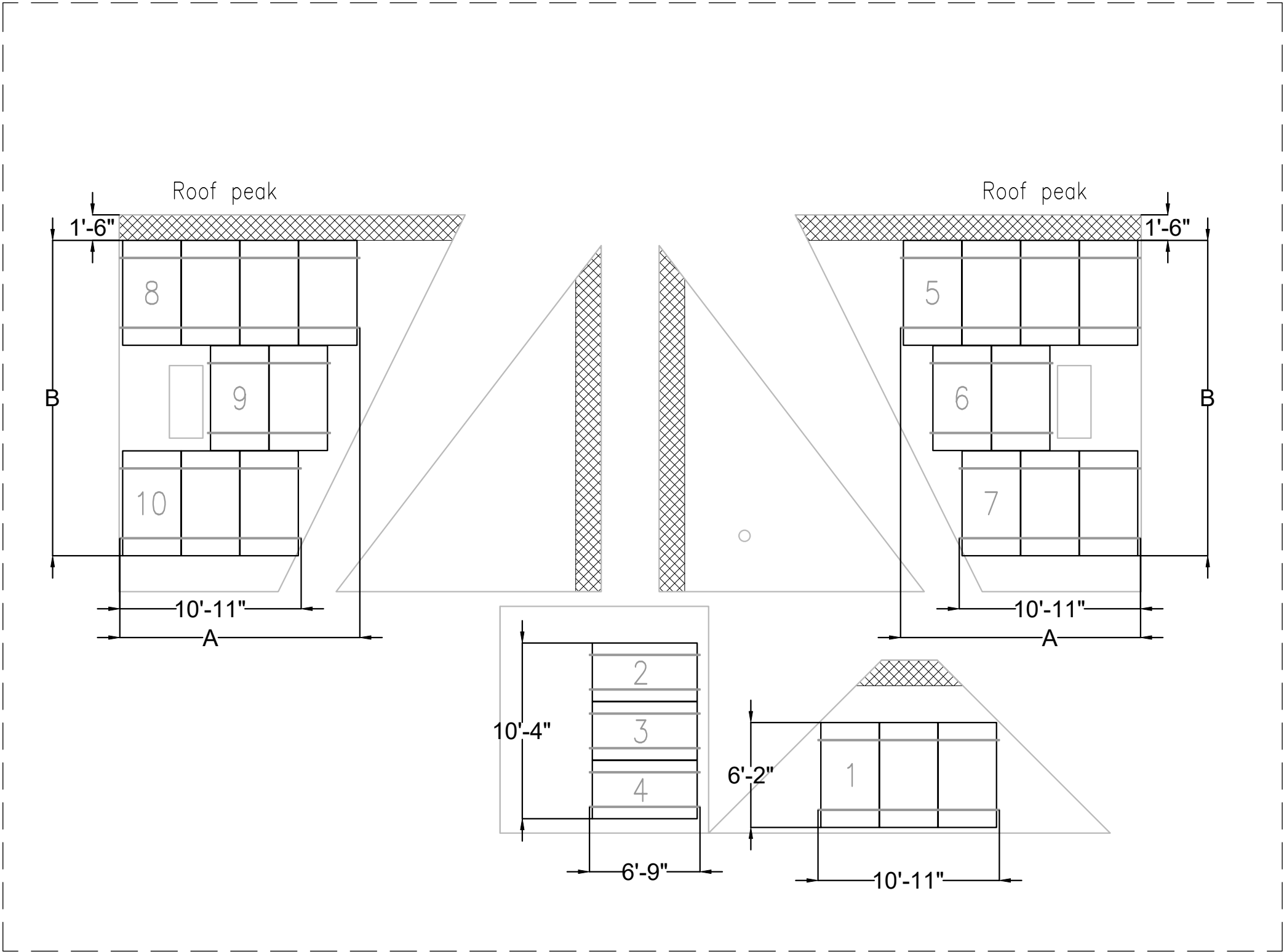
Table 303: Rail Schedule	
Bank #	Bank length
1	10'-11"
2	6'-9"
3	6'-9"
4	6'-9"
5	14'-4"
6	7'-5"
7	10'-11"
8	14'-4"
9	7'-5"
10	10'-11"

Note:
For minimum and maximum rail spacing see Mounting Details sheet.

Note:
Rafter spacing may vary on site, flashing screws require full embedment in structural member.
Roof attachment notes on Mounting Details sheet.

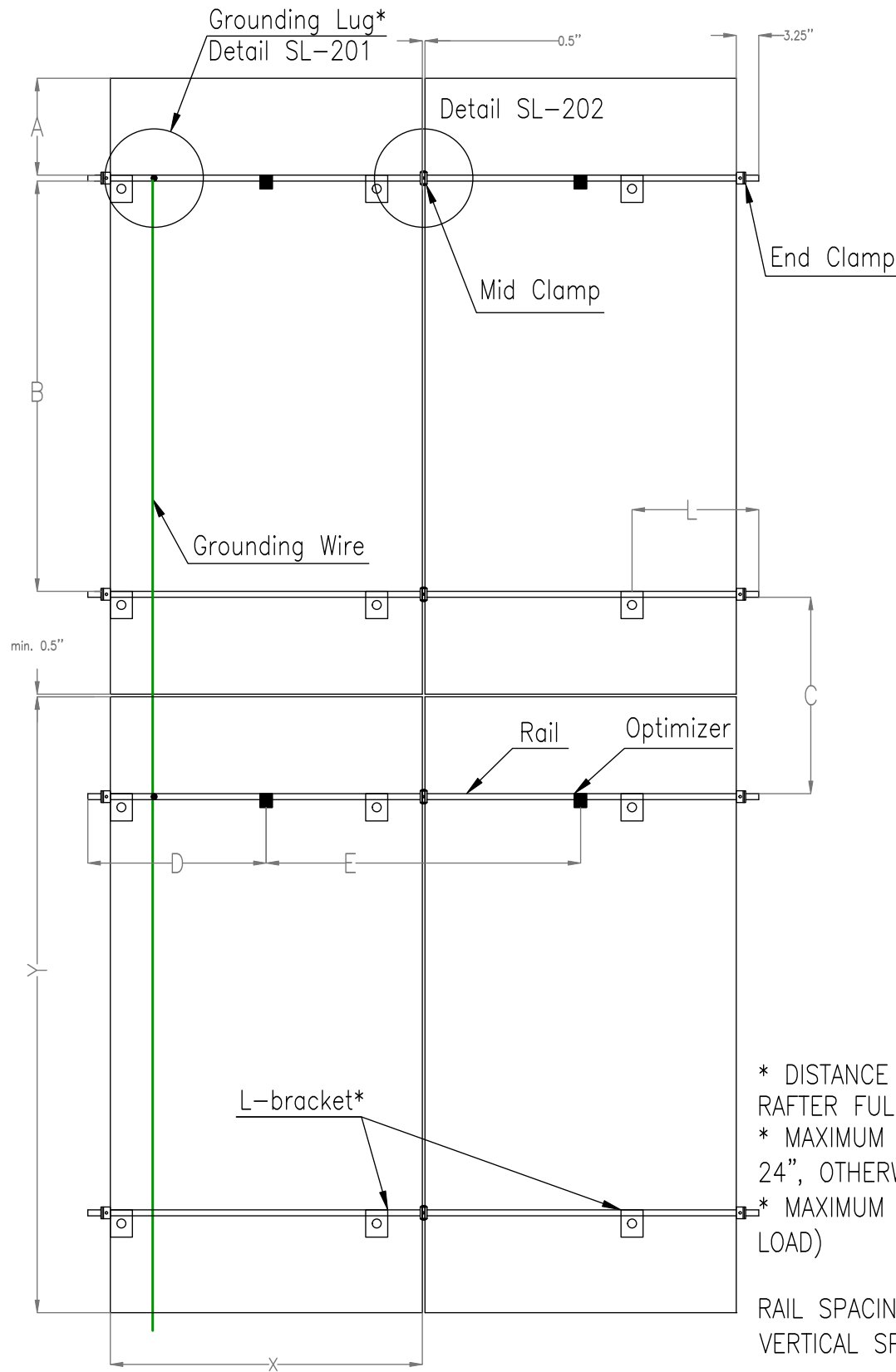
Note:
For roof mount systems:
At both bank ends top and bottom rail attachment point installation is required, between them attachments will be installed every other rafter in zigzag shape.

- Legend
- Buildings
 - Roads
 - PVC/EMT/LMFC Conduit
 - Roof edge setback

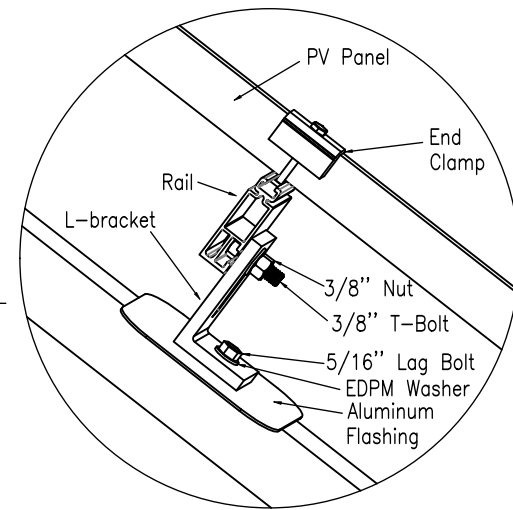


03b Zero-degree Roof		
CUSTOMER NAME		Fiona Woods
PROJECT'S TYPE		INSTALLED POWER kWDC
Photovoltaic residential system		9.84 kWp
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS 41.930797, -74.022426
DESIGN ENGINEER	D.Piszczek	LAST UPDATE 01 Oct, 2024
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION 1.1
		PAGE 3b / 9

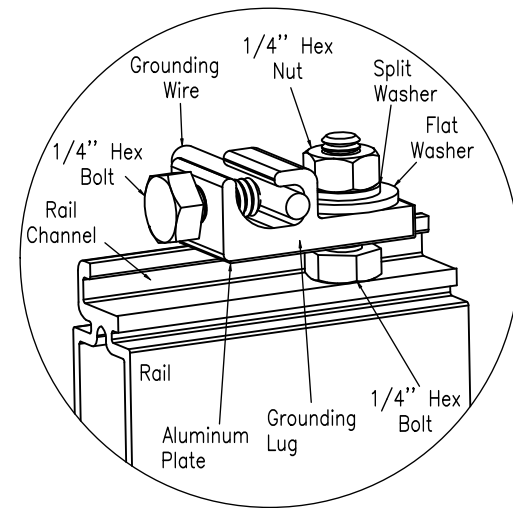
FRONT VIEW OF PV PANELS



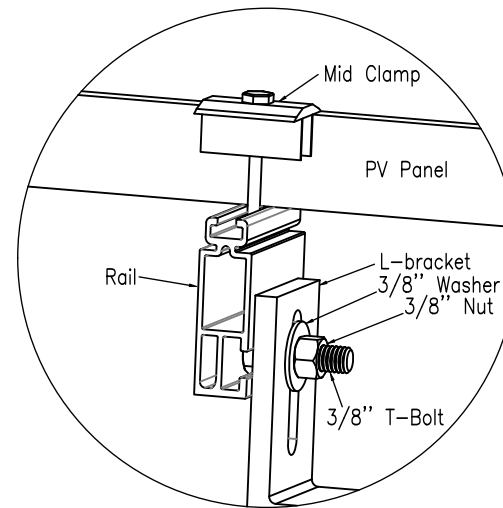
DETAIL SL-203
MOUNTING TO ASPHALT /
METAL ROOF



DETAIL SL-201
GROUNDING LUG MOUNTING



DETAIL SL-202
MID CLAMP MOUNTING



SIDE VIEW OF PV PANEL

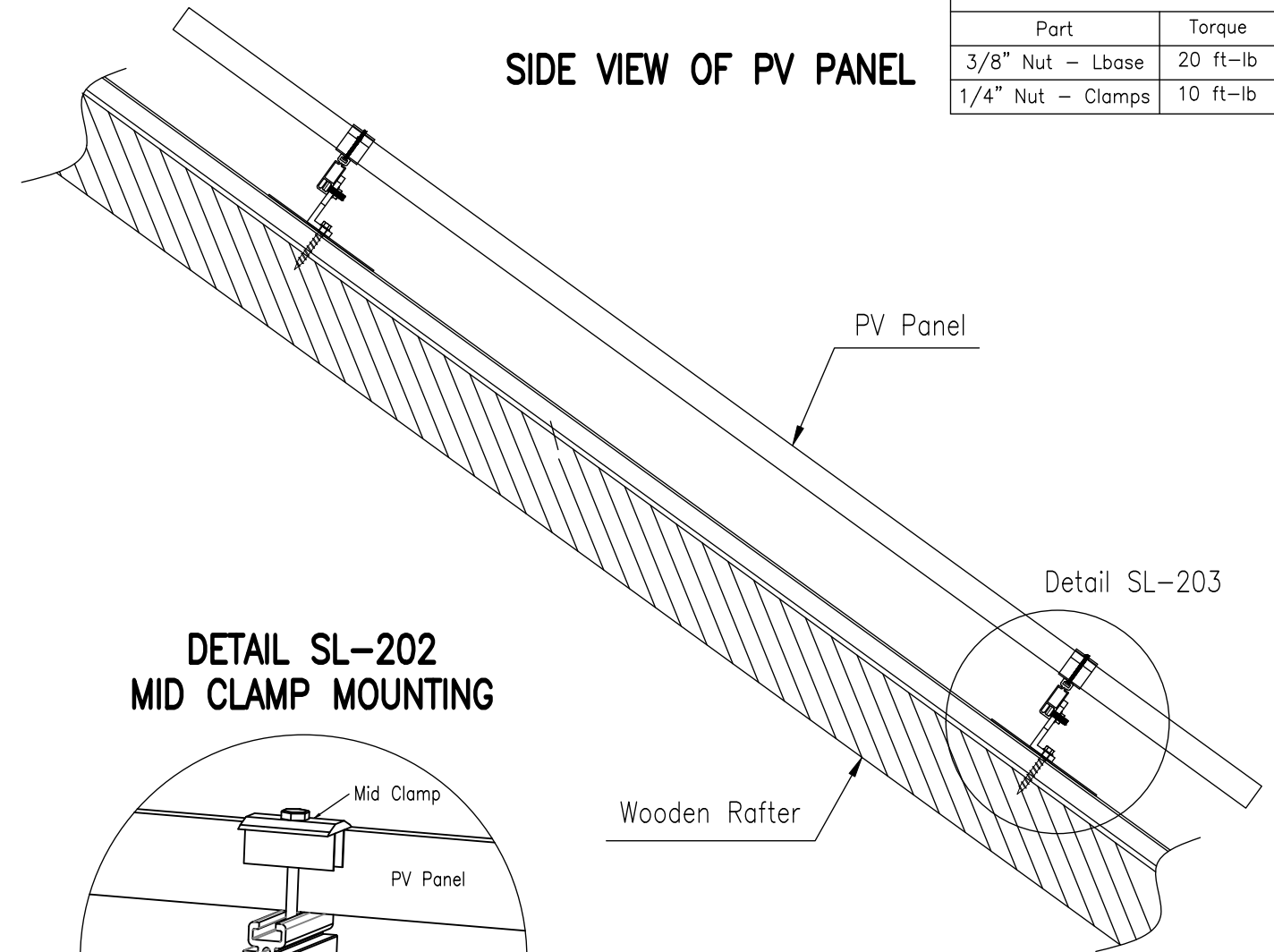


Table 402: Torque Settings	
Part	Torque
3/8" Nut – Lbase	20 ft-lb
1/4" Nut – Clamps	10 ft-lb

- * DISTANCE BETWEEN L-BRACKETS DEPENDS ON RAFTER SPACING, ALL L BRACKETS REQUIRE RAFTER FULL STRUCTURAL EMBEDMENT
- * MAXIMUM SPACING FOR FIRST AND LAST ATTACHMENT ON EACH ROW SHOULD NOT EXCEED 24", OTHERWISE 48" BETWEEN ATTACHMENTS IS ACCEPTABLE.
- * MAXIMUM SPACING BETWEEN L BRACKETS IS 4'-0" (DEPENDS ON ROOF STYLE AND SNOW LOAD)

RAIL SPACING VALUE (A) SHOULD BE BETWEEN 15 AND 23% OF PANEL VERTICAL DIMENSION (Y)
VERTICAL SPACE BETWEEN RAILS TOLERANCE IS UP TO 5"

* GROUNDING LUGS HAVE TO BE LOCATED AT LEAST ON ONE OF EACH BANK'S RAILS PER RACKING SYSTEM MANUFACTURER REQUIREMENTS.
GROUNDING LUG LOCATION ON THE RAIL IS REFERENCED ON 03 DETAILED LAYOUT SHEET.

Table 401: Module Dimensions

Module Manufacturer and Model #:		Q.PEAK DUO BLK G10+ 410	
#	Dimension	Value	
X	Panel width	41.1"	
Y	Panel length	74"	
L	Maximum overhang length	12.00"	
#	Distance	Min.	Max.
A	Distance form the rail to end of the panel	10"	14"
B	Distance between bank rails	48"	52"
C	Distance to next bank rail	22.3"	26.3"
D	Distance between first optimizer and rail	19"	23"
E	Distance between optimizers	39"	43"

04 Mounting Details

CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		INSTALLED POWER KWDC	
Photovoltaic residential system		9.84 kWp	
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS 41.930797, -74.022426	
DESIGN ENGINEER	D.Piszczyk	LAST UPDATE	01 Oct, 2024
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1
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PV MODULES RATINGS @ STC
MODULE MFR: Q Cells
MODEL: Q.PEAK DUO BLK G10+ 410
Power = 410 W
Voc = 45.31 V
Voc (max) = 45.31 V * 1.25 = 56.638 V
Vmpp = 38.48 V
Isc = 11.11 A
Impp = 10.65 A

PV ARRAY INFORMATION
OF MODULES IN STRING: A-6, B-9, C-9,

IQ CABLE
MIN TEMPERATURE -15°C
AMBIENT TEMPERATURE 25°C
MICROINVERTER TO IQ COMBINER = 100'
(2) #12 (L1 and L2) RATED @ 90°C
#12 AWG COPPER WIRE AMPACITY PER
NEC 2017 TABLE 310.15(B)(16) = 25 A
PV CABLE IS < 1/2" ABOVE THE ROOF
AMB. TEMP. PER NEC 2017 310.15(B)(3)(C) = 58°C
TEMP. CORRECTION FACTOR @ 58°C PER NEC 2017
310.15(B)(2)(a) = 0.71
25 A * 0.71 = 17.75A > 16A (20A OCPD)
V_RISE @ 100' < 2%
OK TO USE #12 THWN-2 IQ CABLE

GROUNDING EGC
#8 THHN-THWN WIRE RATED @ 75°C
PER TABLE 250.122 EGC = 100A > 20A (OCPD)
OKAY TO INSTALL #8 THHN-THWN Cu WIRE

GROUNDING LUG IS MOUNTED ON ONE RAIL PER BANK

MICROINVERTER RATINGS
MODEL: Enphase IQ8A
MAX OUTPUT POWER: 366Wac
MAX INPUT VOLTAGE: 60Vdc
MAX OUTPUT CURRENT: 1.45Aac
RATED OUTPUT VOLTAGE: 240Vac

MAX CONTINUOUS OUTPUT CURRENT FROM MICROINVERTER
CIRCUIT
1.45A * 9 * 1.25
13.05A * 1.25 = 16.3125A < 20A
OKAY TO USE 20A DOUBLE POLE CIRCUIT BREAKERS

DESIGNER NOTES
Microinverter power optimizer is grounded with the star
washer per the manufacturer's instruction.

JUNCTION BOX
J-box is to be made of PVC, valox, IPEX gasket and it is
NEMA 3R rated. Equipment grounding #10 Cu conductor
using any CEC approved method for bonding and joining
EGC such as a grounding bar.

IQ COMBINER
MODEL: Enphase IQ Combiner 5
BUS BAR RATING: 125A
MAX CONTINUOUS OUTPUT CURRENT: 64A @ 240Vac
MAX OUTPUT CURRENT: 90A @ 240Vac

MAX CONTINUOUS OUTPUT CURRENT FROM COMBINER #1
20A * 3 Circuits = 60A

IQ COMBINER TO INTERCONNECTION
3 #6 THHN-THWN WIRE (L1, L2, N)
TEMPERATURE RATING 75°C
#6 AMPACITY PER 310.15(B)(16) = 65A ≥ 60A (OCPD)
OK TO USE #6 THHN-THWN Cu WIRE

GROUNDING ELECTRODE CONDUCTOR
#8 THHN-THWN WIRE
TEMPERATURE RATING 75°C
SIZE OF LARGEST UNGROUNDED SERVICE-ENTRANCE
CONDUCTOR = #6
PER TABLE 250.66 GEC = #8
OKAY TO USE #8 THHN-THWN Cu WIRE

IQ BATTERY
MODEL: Enphase IQ Battery 5P
RATED POWER: 3.84kW
RATED OUTPUT CURRENT: 16A @ 240Vac
USABLE ENERGY: 5kWh
OF BATTERIES: 1

MAX CONTINUOUS OUTPUT CURRENT FROM BATTERY CIRCUIT
16A * 1 Units = 16A < 20A
OKAY TO USE 20 DOUBLE POLE CIRCUIT BREAKER

IQ BATTERY TO INTERCONNECTION
2 #12 (L1 and L2) THHN-THWN WIRE (L1, L2)
TEMPERATURE RATING 75°C
#12 AMPACITY PER 310.15(B)(16) = 25A > 20A (OCPD)
OK TO USE #12 EGC THHN-THWN Cu WIRE

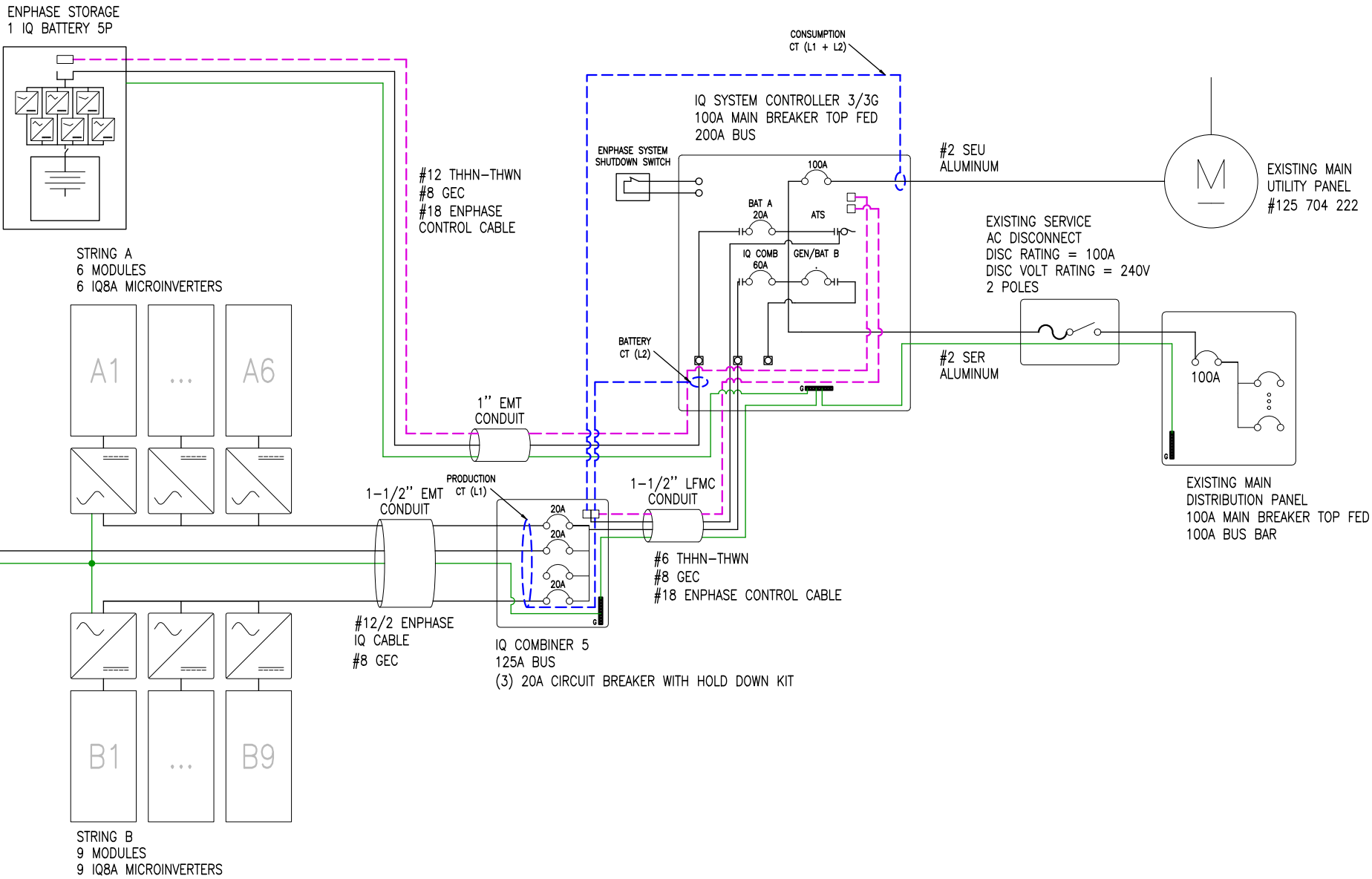
IQ SYSTEM CONTROLLER
MODEL: Enphase IQ System Controller 3
BUS BAR RATING: 200A
MAX CONTINUOUS INPUT CURRENT: 160A @ 240Vac
OF IQ COMBINER CIRCUITS: 1
OF IQ BATTERY CIRCUITS: 2
OF GENERATOR CIRCUITS: 0

MAIN SERVICE BOX RATING 100A
EXISTING SPLIT PHASE 3W 120/240V
BUS BAR RATING = 100A
MAIN SERVICE BREAKER = 100A TOP FED

Modules frames are bonded together using a UL 2703
CERTIFIED grounding mid clamp modules and rails are in
contact with EGC using a UL 467 certified & UL 2703
recognized DR-GBS-P6 grounding lay in lug. Conductive
conduits are bonded to EGC using grounding bushing. EGC
complies with [690.43],[690.45]&[690.46]"

05 Single Line Diagram

CUSTOMER NAME Fiona Woods		
PROJECT'S TYPE Photovoltaic residential system		INSTALLED POWER KWDC 9.84 kWp
ADDRESS 113 Academy St, Poughkeepsie, NY 12601	GPS 41.930797, -74.022426	
DESIGN ENGINEER D.Piszczyk	LAST UPDATE 01 Oct, 2024	PAGE 5 / 9
TECHNICAL REVIEWER A.Jedrzewski	REVISION 1.1	



	A	B	C	D	E	F	G	H	I	
11	ELECTRICAL NOTES									11
10	1. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY RECOGNIZED ELECTRICAL TESTING LABORATORY. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY.			19. OUTDOOR EQUIPMENT SHALL BE AT LEAST NEMA 3R RATED.						10
	2. PV EQUIPMENT, SYSTEMS AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED BY QUALIFIED PERSONS (NEC 690.4 E).			20. WIRING MATERIALS SHALL BE SUITABLE FOR THE SUN EXPOSURE AND WET LOCATIONS. FIELD APPLIED PROTECTIVE COATINGS ARE NOT ACCEPTABLE.						
	3. THE PHOTOVOLTAIC SYSTEM CONDUCTORS SHALL BE IDENTIFIED AND GROUPED, THE MEANS OF IDENTIFICATION SHALL BE PERMITTED BY SEPARATE COLOR CODING, MARKING TAPE, TAGGING OR OTHER APPROVED MEANS. (NEC 690.4 B).			21. ALL SPECIFIC WIRING IS BASED ON USE OF COPPER UNLESS NOTED OTHERWISE.						
9	4. ALL METALLIC RACEWAY AND EQUIPMENT SHALL BE BONDED AND ELECTRICALLY CONTINUOUS AND GROUNDED. (NEC 250.96)			22. NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION AND POWER DISTRIBUTION SWITCH BOARDS, PANEL BOARDS, DISCONNECTING SWITCHES, TERMINAL CABINETS, ETC. ALL NAMEPLATES SHALL BE PERMANENTLY ATTACHED.						9
	5. GROUNDING BUSHINGS ARE REQUIRED AROUND PRE–PUNCHED CONCENTRIC KNOCKOUTS ON THE DC SIDE OF THE SYSTEM (NEC 250.97).			23. JUNCTION BOXES, PULL AND OUTLET LOCATED BEHIND MODULES SHALL BE SO INSTALLED THAT WIRING CONTAINED IN THEM CAN BE RENDERED ACCESSIBLE FASTENERS AND CONNECTED BY A FLEXIBLE WIRING SYSTEM. (NEC 690.34)						
8	6. GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AT BUSBARS WITH IN LISTED EQUIPMENT (NEC 250.64 C).			24. ALL PHOTOVOLTAIC MODULES AND ASSOCIATED EQUIPMENT AND WIRING MATERIAL SHALL BE PROTECTED FROM ANY PHYSICAL DAMAGE.						8
	7. MODULES AND SUPPORT SHALL BE GROUNDED.			25. SEE PROVIDED CUT SHEETS FOR ADDITIONAL EQUIPMENT SPECIFICATIONS.						
7	8. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF SERVICE POINTS AND SERVICE SIZES WITH THE SERVING UTILITY COMPANY AND COMPLY WITH ALL THE UTILITY COMPANIES REQUIREMENTS. IF THE SOLAR BACK FEED BREAKER IS OVER THE BUS SIZE 20% LIMIT, CONTRACTOR SHALL INCLUDE THE COST TO REPLACE MAIN BREAKER OR ENLARGE THE MAIN CAPACITY.			26. WIDTH OF WORKING SPACE SHALL BE THE WIDTH OF THE EQUIPMENT OR 30”, WHICHEVER IS GREATER (NEC 2017 110.32).						7
	9. IF THE DISTANCES FOR CABLE RUNS ARE DIFFERENT THAN SHOWN, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL ENGINEER TO VALIDATE THE WIRE SIZE. FINAL DRAWINGS WILL BE RED–LINED AND UPDATED AS APPROPRIATE.			27. HEIGHT OF WORKING SPACE SHALL BE CLEAR AND EXTEND FROM THE GRADE, FLOOR, OR PLATFORM TO A HEIGHT OF 6–1/2’ OR THE HEIGHT OF THE EQUIPMENT, WHICHEVER IS GREATER (NEC 2017 110.32).						
6	10. ALL BROCHURES, OPERATION MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE HANDED OVER TO OWNER’S REPRESENTATIVE AT THE COMPLETION OF WORK			28. THE BACKFEED SOLAR BREAKER SHOULD BE INSTALLED AT THE OPPOSITE END FROM THE MAIN BREAKER						6
	11. ROOF TOP MOUNTED PHOTOVOLTAIC MODULES SHALL BE TESTED, LISTED AND IDENTIFIED UL 1703.									
5	12. SOLAR SYSTEM SHALL NOT COVER ANY PLUMBING VENTS.									5
	13. SOLAR INVERTER MUST HAVE A MANUFACTURE INSTALLED DISCONNECTING MEANS "ANTI–ISLANDING" THAT PREVENTS PARALLEL FEEDING UTILITY LINES DURING POWER OUTAGE.									
4	14. REMOVAL OF AN INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BONDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR AND THE PHOTOVOLTAIC SOURCE AND/OR OUTPUT CIRCUIT GROUNDED CONDUCTORS.									4
	15. OVERCURRENT PROTECTION FOR BOTH ALTERNATING AND DIRECT CURRENT MUST BE INSTALLED IN THE INVERTER OR FIELD AT THE TIME OF INSTALLATION.									
3	16. ALL EXTERIOR ELECTRICAL METALLIC TUBING (EMT) CONDUIT FITTING SHALL BE RAIN–TIGHT THREADLESS COMPRESSION TYPE STRAIN RELIEF POSITIONED FOR APPROPRIATE WATER RUN OFF.									3
	17. THE CONNECTORS SHALL BE OF THE LATCHING OR LOCKING TYPE. CONNECTORS THAT ARE READILY ACCESSIBLE AND THAT ARE USED IN CIRCUITS OPERATING AT OR EVER 30 VOLTS AC OR DC, SHALL REQUIRE A TOOL FOR OPENING AND ARE REQUIRED TO BE MARKED "DO NOT DISCONNECT UNDER LOAD" OR "NOT FOR CURRENT INTERRUPTING " 690.33 (C) & (E). THERE IS AN EXACT MATCH WITH THE SOURCE CONDUCTOR CONNECTORS AND THE MODULE MANUFACTURER’S CONNECTORS.									
2	18. CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT WEATHERPROOF PULL BOXES OF JUNCTION BOXES/COMBINER BOXES PER NEC 2017 CHAPTER 3 ARTICLE 342.26 REQUIREMENTS (360 DEGREE RULE).									2
1										1
	CONFIDENTIAL AND PROPRIETARY INFORMATION OF Intelligent Green Solutions LLC. (C) 2019. All rights reserved. This work contains information that is confidential and proprietary information to Intelligent Green Solutions LLC. Removal of this notice, and use, examination, disclosure, transfer and copying of all or part of this work are prohibited, except with the express written consent of Intelligent Green Solutions LLC.									
	A	B	C	D	E	F	G	H	I	

06a Electrical & Conduit Notes

CUSTOMER NAME

Fiona Woods

PROJECT'S TYPE

Photovoltaic residential system

INSTALLED POWER kWDC

9.84 kWp

ADDRESS 113 Academy St,
Poughkeepsie, NY 12601

GPS 41.930797, –74.022426

DESIGN ENGINEER D.Piszczek

LAST UPDATE 01 Oct, 2024

PAGE 6a /9

TECHNICAL REVIEWER A.Jedrzejewski

REVISION 1.1

 INTELLIGENT GREEN SOLUTIONS

Page 40 of 61

06a Electrical & Conduit Notes

CUSTOMER NAME

Fiona Woods

PROJECT'S TYPE

Photovoltaic residential system

INSTALLED POWER KWDC

9.84 kWp

ADDRESS

113 Academy St,
Poughkeepsie, NY 12601

GPS

41.930797, –74.022426

DESIGN ENGINEER

D.Piszczek

LAST UPDATE

01 Oct, 2024

PAGE

6a /9

TECHNICAL REVIEWER

A.Jedrzejewski

REVISION

1.1

 INTELLIGENT GREEN SOLUTIONS

CONDUIT NOTES

1. EMT CONDUIT SHALL BE SECURED AT MINIMUM EVERY 10'
2. FIRST EMT SUPPORT POINT SHALL BE LOCATED WITHIN 3' FROM THE TRANSITION POINT
3. CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT WEATHERPROOF PULL BOXES OF JUNCTION BOXES/COMBINER BOXES PER APPROPRIATE NEC REQUIREMENTS.
4. PER NEC CODE 2017, 352.30 SECURING AND SUPPORTING. PVC CONDUIT SHALL BE INSTALLED AS A COMPLETE SYSTEM AS PROVIDED IN 300.18 AND SHALL BE FASTENED SO THAT MOVEMENT FROM THERMAL EXPANSION OR CONTRACTION IS PERMITTED. PVC CONDUIT SHALL BE SECURELY FASTENED AND SUPPORTED IN ACCORDANCE WITH 352.30(A) AND (B).
5. PVC CONDUIT SHALL BE SECURELY FASTENED WITHIN 900 MM (3 FT) OF EACH OUTLET BOX, JUNCTION BOX, DEVICE BOX, CONDUIT BODY, OR OTHER CONDUIT TERMINATION. CONDUIT LISTED FOR SECURING AT OTHER THAN 900 MM (3 FT) SHALL BE PERMITTED TO BE INSTALLED IN ACCORDANCE WITH THE LISTING.
6. ALL RACEWAYS REQUIRE PROTECTIVE BUSHING INSTALLATION PER NEC 2017 300.4(G)
7. NON-METALLIC CONDUITS DO NOT REQUIRE GROUNDING BUSHINGS INSTALLED
8. WHEN INSTALLING PVC CONDUIT FROM ENERGY METER CABINET TO ANY ELECTRICAL EQUIPMENT IT SHOULD BE SCHEDULE 80 PVC

INSTALLING A JUNCTION BOX

1. REMOVE THE COVER. NOTE: LATER NO CONNECTIONS CAN BE MADE THAT PREVENT COVER FROM BEING OPENED AS NEEDED FOR SERVICE.
2. DRILL THE NUMBER OF HOLES IN THE SIDES OF THE ELECTRICAL J-BOX THAT ARE NEEDED, IN THE SIZES NEEDED FOR THE CONDUIT YOU ARE USING. MAKE SURE TO LINE UP CORRECTLY SO EMT OR OTHER FITTINGS WILL BE ABLE TO BE SECURED IN LINE WHEN DONE. REMEMBER: CONNECTIONS CAN ONLY BE MADE ON 4 SIDES (NEITHER "TOP" – COVER NOR "BOTTOM" – OPPOSITE SIDE TO COVER)
3. ANCHOR THE BOX TO THE WALL/RAIL WITH SCREWS THROUGH THE FACTORY-MADE HOLES IN THE BACK OR SIDE OF THE BOX (IF APPLICABLE).
4. ATTACH THE NECESSARY PVC/EMT CONNECTION FITTINGS. FOR A WATERTIGHT CONNECTION USE MALE TERMINAL ADAPTERS AND WASHERS.
5. ATTACH THE CONDUIT TO THE BOX ADAPTER
6. PUSH WIRES THROUGH THE CONDUIT INTO THE JUNCTION BOX AND THEN TO NEXT CONDUIT. A REMINDER: J-BOX WIRING SHOULD ALWAYS HAVE SLACK IN IT, SO THAT YOU CAN ALWAYS ADD OR CHANGE ANYTHING WITHOUT HAVING TO REWIRE ANYTHING. (A LOOP WOULD BE GOOD -> SHOWN IN PHOTO)
7. ATTACH THE COVER WITH THE SCREWS.

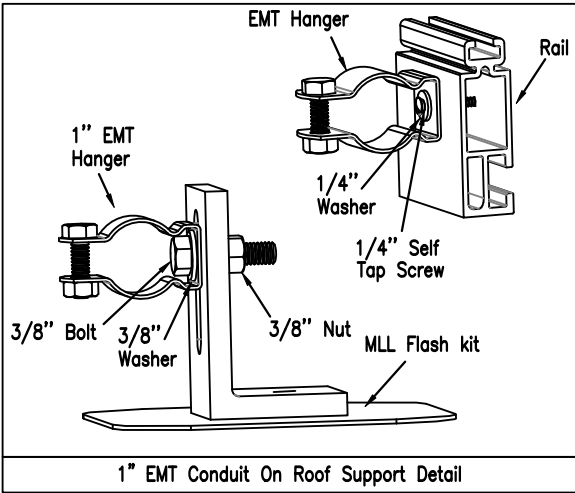
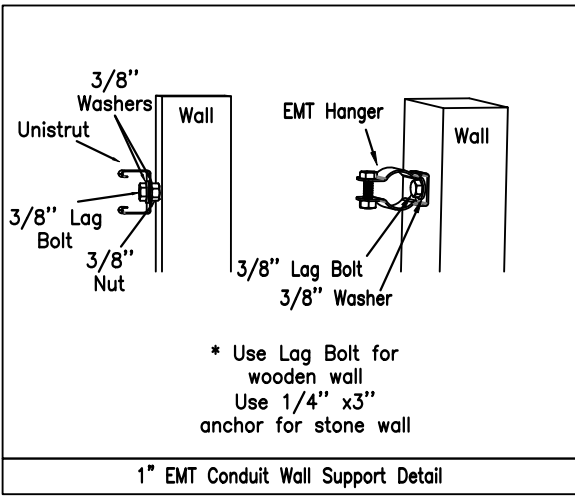
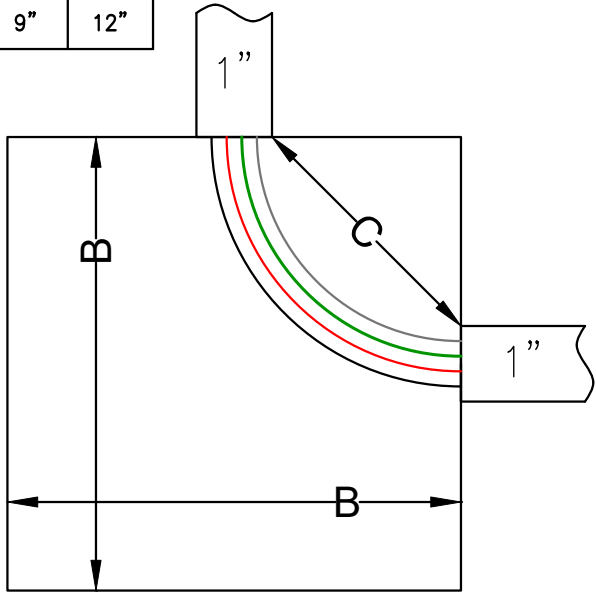
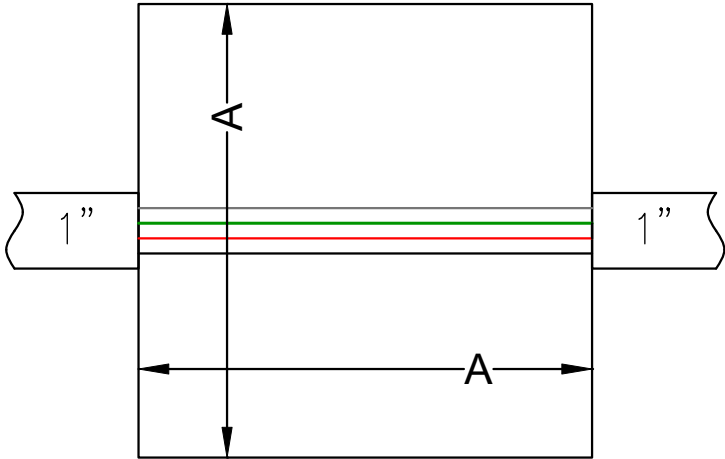
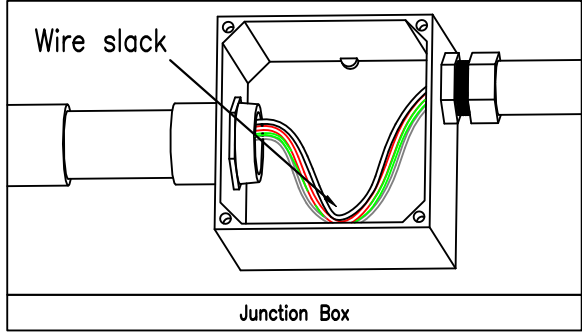


Table 610: Junction box sizing table for 4AWG or larger conductors per NEC 2020 314.28(A)(1) and 314.28(A)(2)					
#	Pull type	Largest raceway			
		3/4"	1"	1-1/2"	2"
A	Straight pull	6"	8"	12"	16"
B	Angle Pull	4.5"	6"	9"	12"
C	Same conductor conduit distance	4.5"	6"	9"	12"

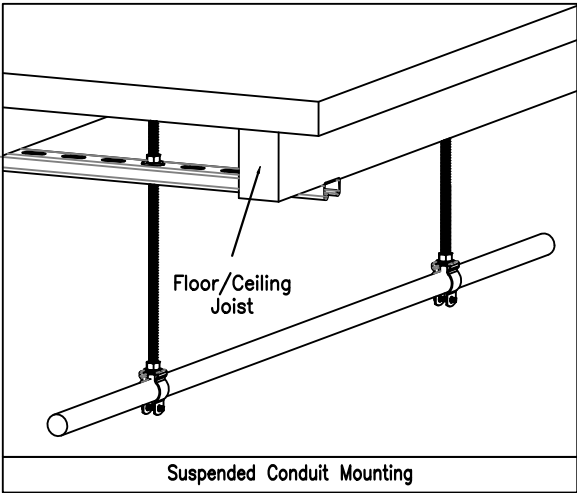
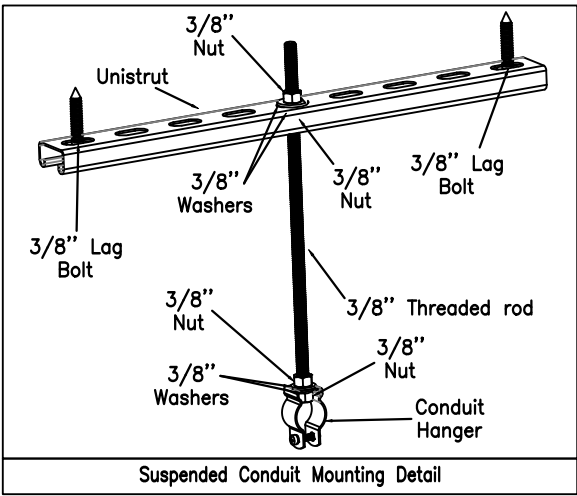
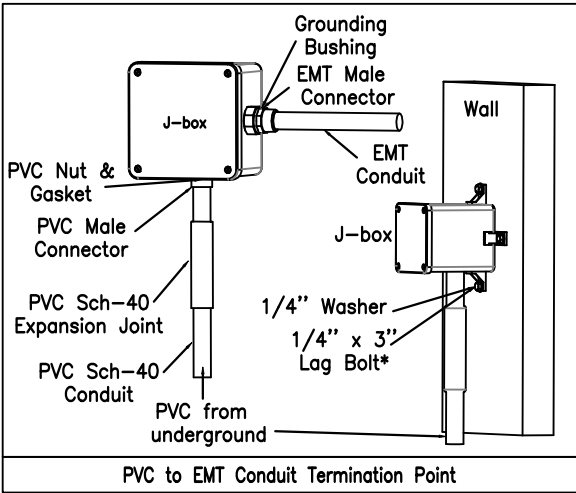
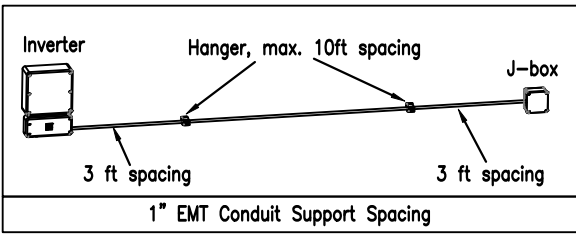
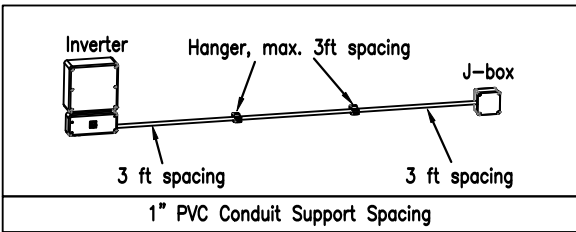
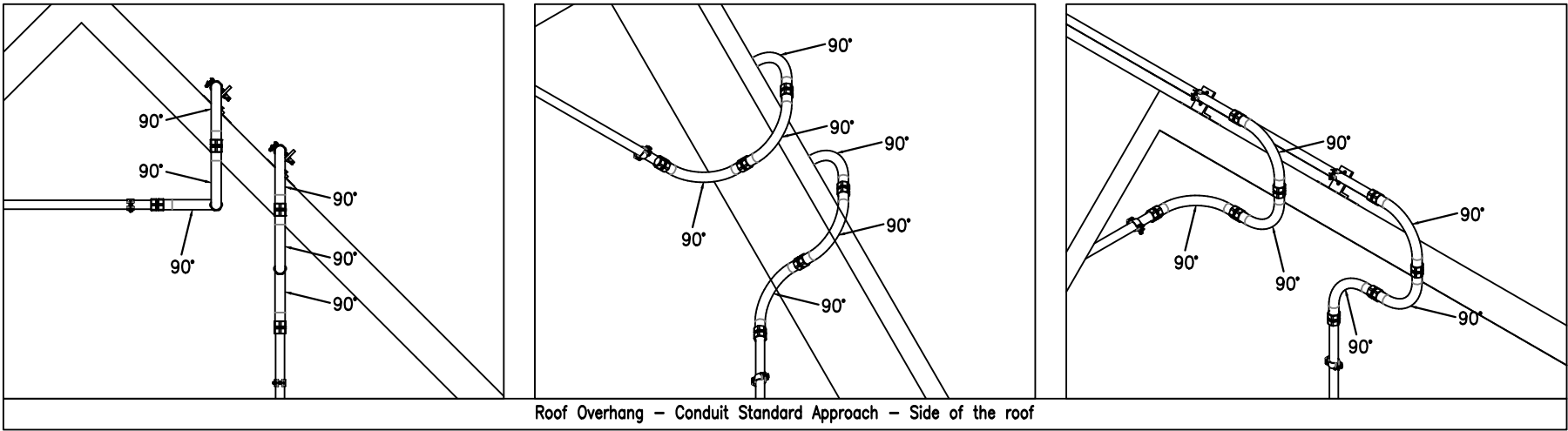
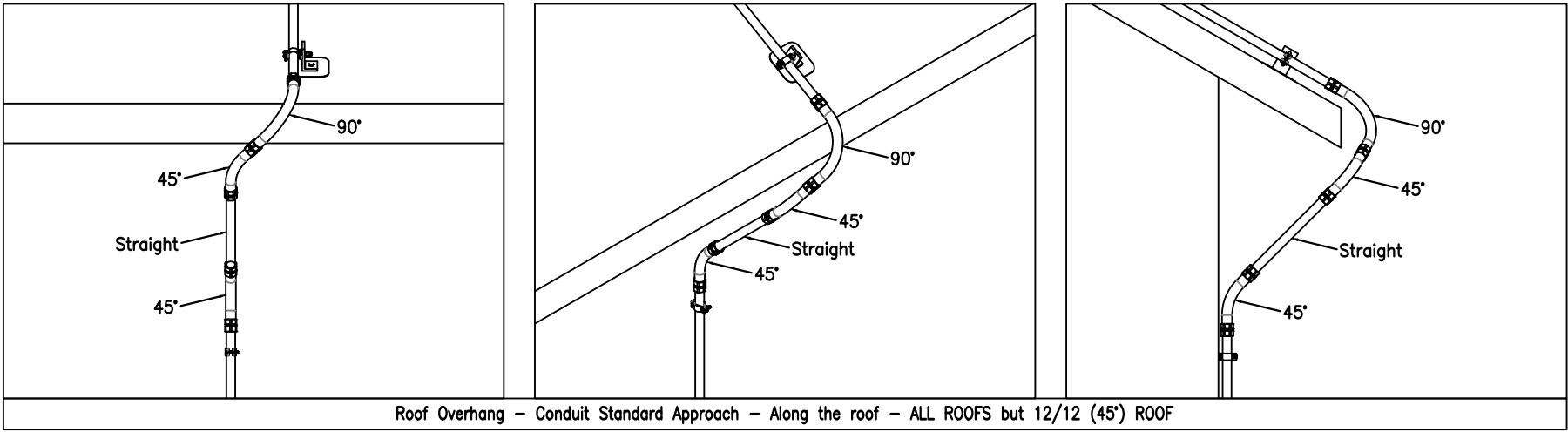
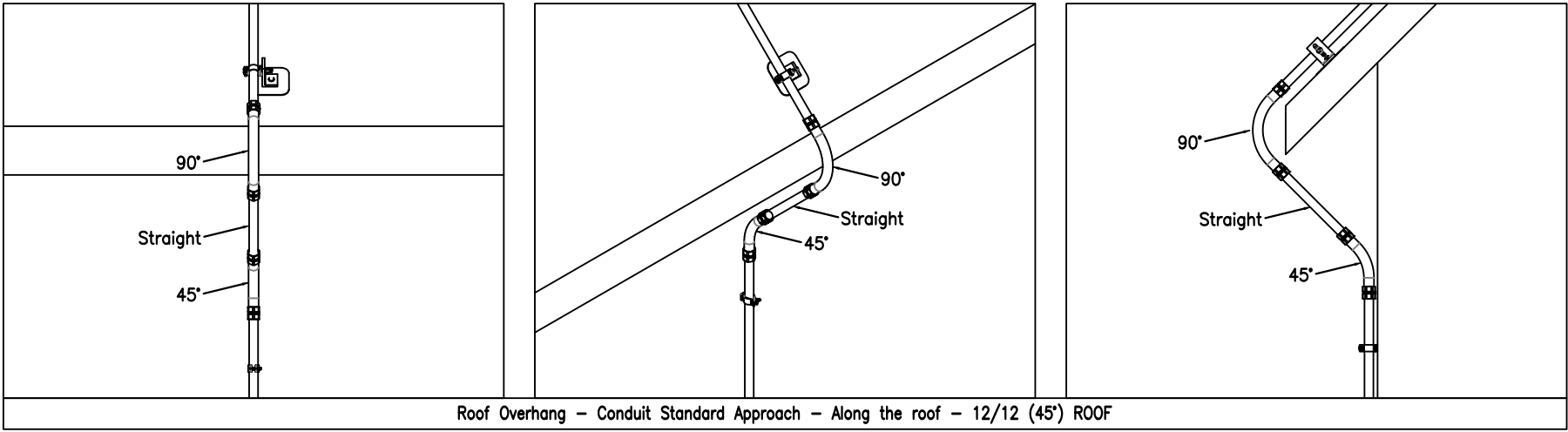


Table 611: Junction box fill table per NEC 2020 314.16(A)				
Wire Size	Allowable conductors			
	Box size			
	4"x4"x4"	6"x6"x4"	12"x12"x6"	12"x12"x10"
18 AWG	37	96	576	1706
16 AWG	32	82	493	1462
14 AWG	28	72	432	1280
12 AWG	24	64	384	1137
10 AWG	22	57	345	1024
8 AWG	18	48	288	853
6 AWG	11	28	172	512

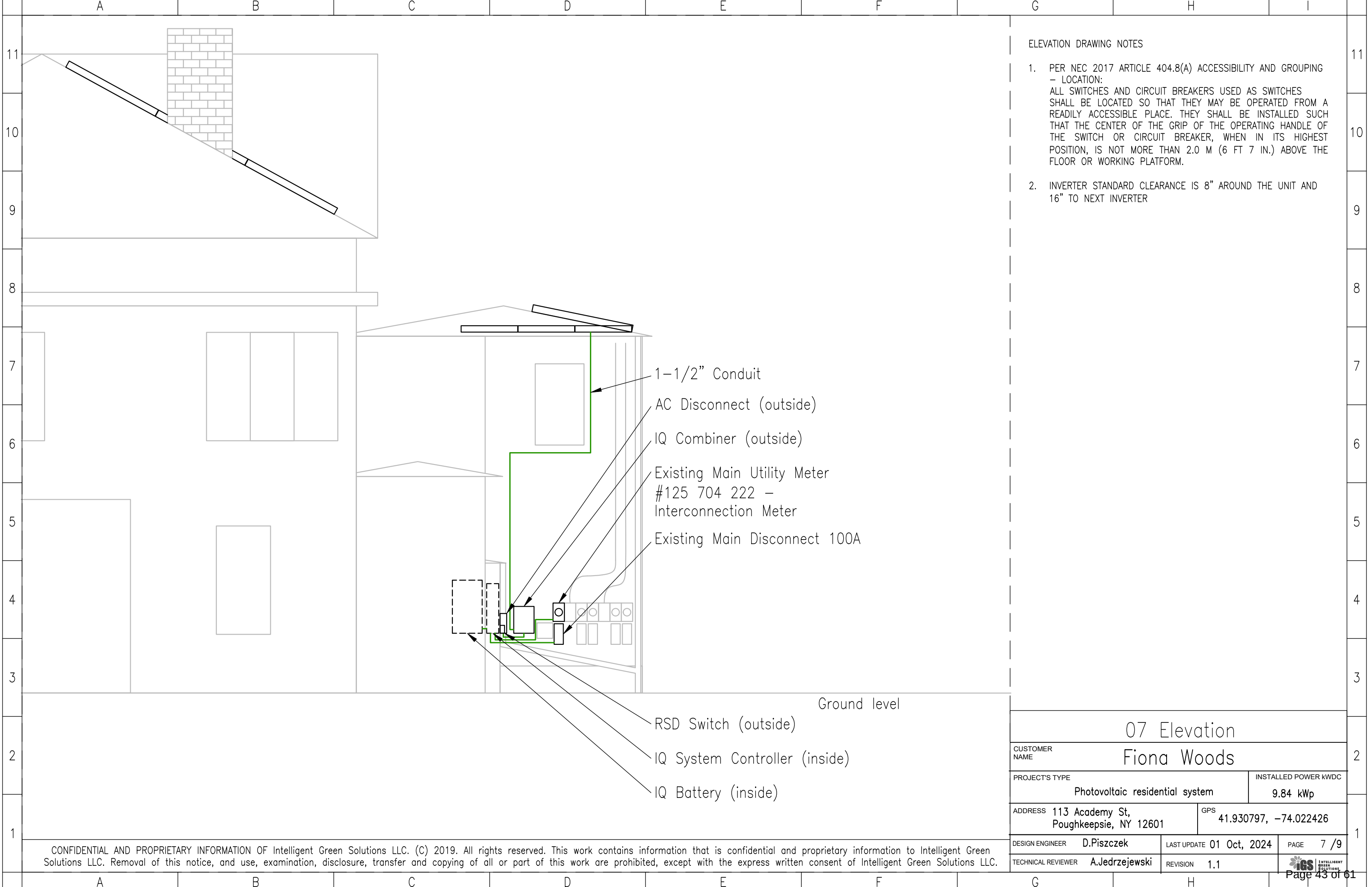
06c Electrical & Conduit Notes

CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		Photovoltaic residential system	INSTALLED POWER KWDC 9.84 kWp
ADDRESS		113 Academy St, Poughkeepsie, NY 12601	GPS 41.930797, -74.022426
DESIGN ENGINEER	D.Piszcze	LAST UPDATE	01 Oct, 2024
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1
		PAGE	6c / 9

Table 612: Along the roof – Estimated straight EMT pipe length				
		Overhang length		
		12"	16"	24"
Slope	3:12 (15°)	9	15	26
	5:12 (22.5°)	9	14.5	25.5
	7:12 (30°)	8.5	14	25.5
	12:12 (45°)	7.5	13	24.5
	20:12 (60°)	5.5	11.5	22.5



06d Electrical & Conduit Notes			
CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		Photovoltaic residential system	INSTALLED POWER kWDC 9.84 kWp
ADDRESS		113 Academy St, Poughkeepsie, NY 12601	GPS 41.930797, -74.022426
DESIGN ENGINEER	D.Piszczyk	LAST UPDATE	01 Oct, 2024
TECHNICAL REVIEWER	A.Jedrzewski	REVISION	1.1
		PAGE	6d / 9



- ELEVATION DRAWING NOTES
- PER NEC 2017 ARTICLE 404.8(A) ACCESSIBILITY AND GROUPING – LOCATION:
ALL SWITCHES AND CIRCUIT BREAKERS USED AS SWITCHES SHALL BE LOCATED SO THAT THEY MAY BE OPERATED FROM A READILY ACCESSIBLE PLACE. THEY SHALL BE INSTALLED SUCH THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER, WHEN IN ITS HIGHEST POSITION, IS NOT MORE THAN 2.0 M (6 FT 7 IN.) ABOVE THE FLOOR OR WORKING PLATFORM.
 - INVERTER STANDARD CLEARANCE IS 8” AROUND THE UNIT AND 16” TO NEXT INVERTER

07 Elevation
Fiona Woods

CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		Photovoltaic residential system	INSTALLED POWER KWDC 9.84 kWp
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS 41.930797, -74.022426	
DESIGN ENGINEER	D.Piszczek	LAST UPDATE	01 Oct, 2024
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1
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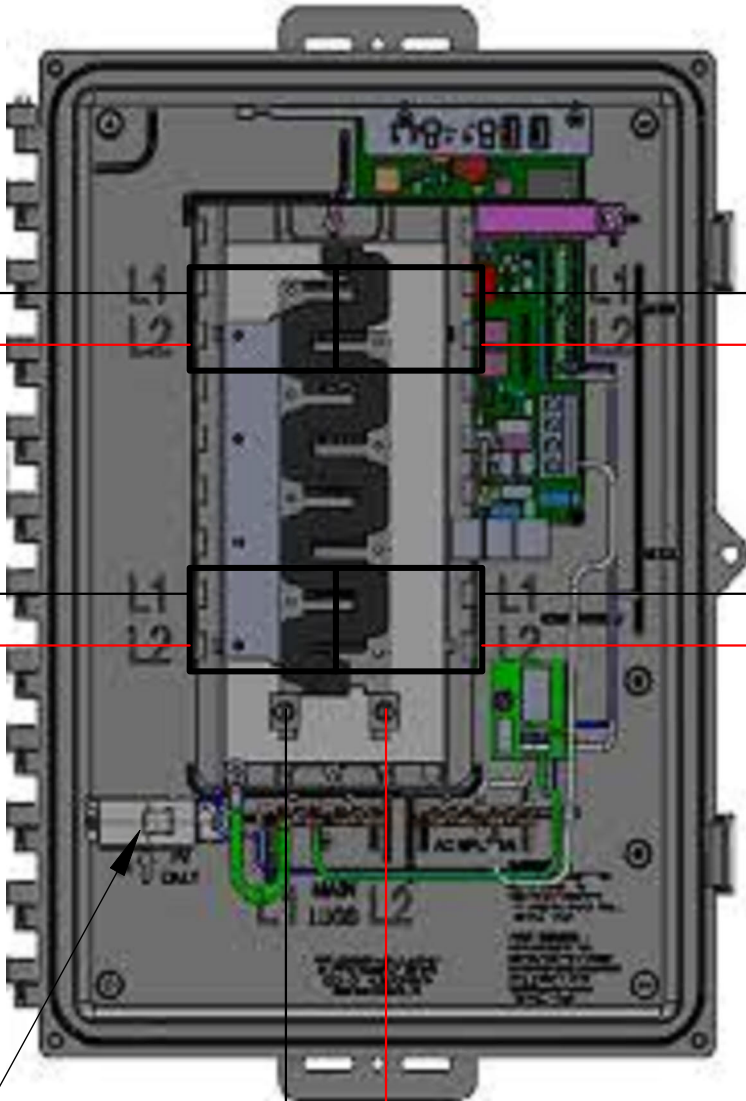
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BREAKER 3 – L1
BREAKER 3 – L2

BREAKER 4 – L1
BREAKER 4 – L2

BREAKER 1 – L1
BREAKER 1 – L2

BREAKER 2 – L1
BREAKER 2 – L2



OUTPUT - L1

OUTPUT - L2

PRODUCTION CT
ALL L1 CONDUCTORS SHOULD
BE PULLED THROUGH CT RING

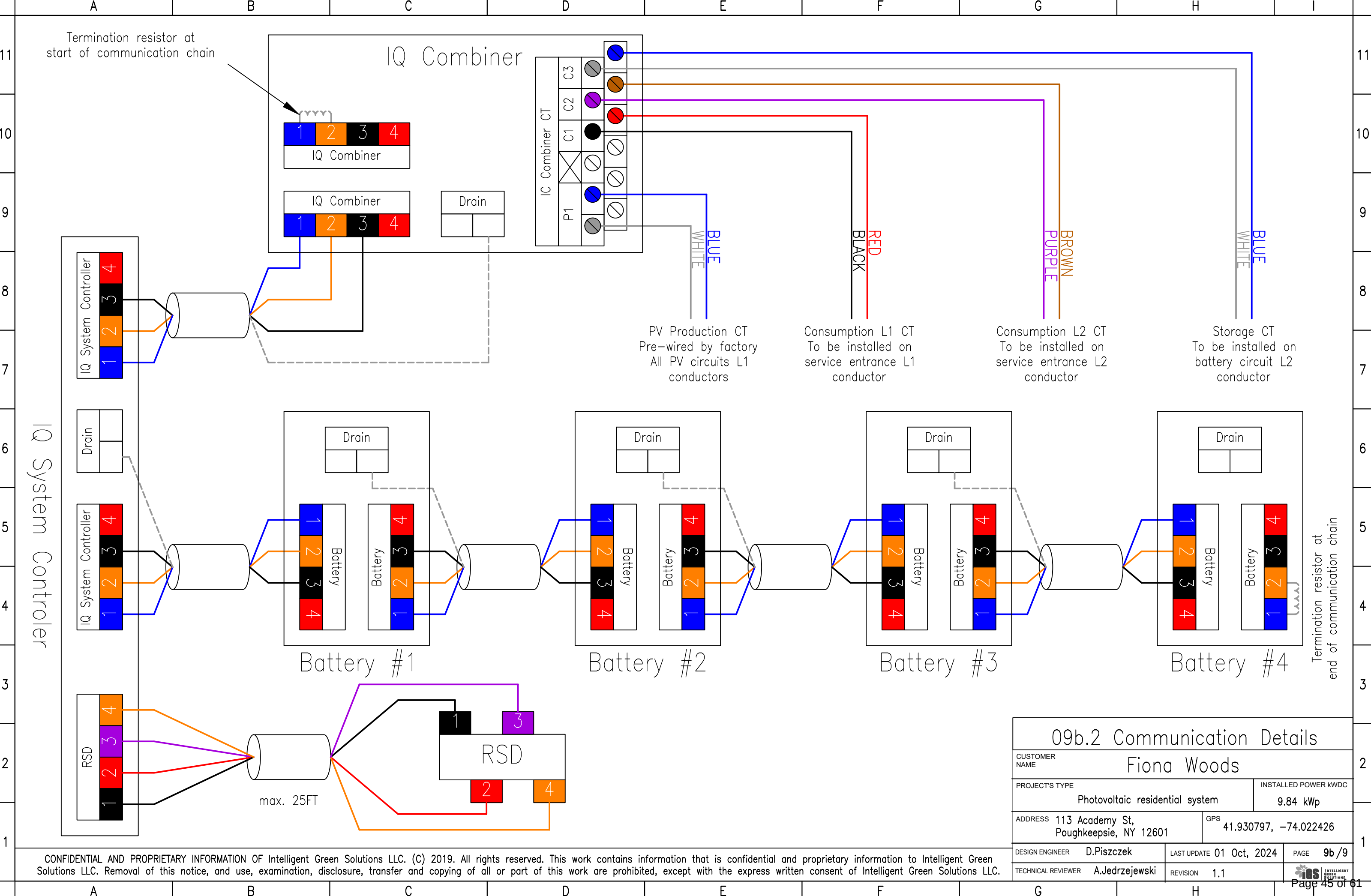
09a IQ Combiner Details

CUSTOMER NAME Fiona Woods

PROJECT'S TYPE	INSTALLED POWER KWDC
Photovoltaic residential system	9.84 kWp

ADDRESS	113 Academy St, Poughkeepsie, NY 12601	GPS	41.930797, -74.022426
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DESIGN ENGINEER	D.PiszczeK	LAST UPDATE	01 Oct, 2024	PAGE	9a/9
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1		



09b.2 Communication Details			
CUSTOMER NAME		Fiona Woods	
PROJECT'S TYPE		INSTALLED POWER KWDC	
Photovoltaic residential system		9.84 kWp	
ADDRESS 113 Academy St, Poughkeepsie, NY 12601		GPS	41.930797, -74.022426
DESIGN ENGINEER	D.Piszczek	LAST UPDATE	01 Oct, 2024
		PAGE	9b/9
TECHNICAL REVIEWER	A.Jedrzejewski	REVISION	1.1
		 IGS INTELLIGENT GREEN SOLUTIONS	



City of Poughkeepsie
62 Civic Center Plaza
Poughkeepsie, NY 12601

Subject: Calculations Cover Letter

Dear Sir/Madam

The attached calculations were completed for the photovoltaic system at 113 Academy St,
Poughkeepsie, NY 12601.

These detailed calculations on the following pages ensure that Solar PV Design meets all structural requirements; and that the structure provides adequate support for PV panel loads, with wind and snow load taken into account.

Thank you and kind regards,

Dawid P

Encl: Site Data
 Wind Load Analysis
 Roof Load Analysis

Site Data

Exposure Category	B	
Risk Category	II	
Wind Speed	115 mph	per ASCE 7-10
Ground Snow Load	40.00 psf	

Wind Load Analysis

Wind pressure for Cladding and Components for buildings ≤ 60ft according to ASCE 7-10

$$P = q_h \cdot (GC_p - GC_{pi})$$

$q_h =$	20.14 psf
$GC_p - =$	-2
$GC_p + =$	0.8
$GC_{pi} - =$	-0.18
$GC_{pi} + =$	0.18

Downward Pressure for Zone 3

$$P + = 19.74 \text{ psf}$$

Uplift Pressure for Zone 3

$$P - = -43.91 \text{ psf}$$

Area of panel	$A =$	19.31 sqft
---------------	-------	------------

Number of attachments per panel		66.00
---------------------------------	--	-------

Wind Downward Load		151.62 lb/attachment
--------------------	--	----------------------

Wind Uplift Load		-337.28 lb/attachment
------------------	--	-----------------------

Allowable Loads for Quick Mount PV attachments

Tension		984 lbs
---------	--	---------

Compression		700 lbs
-------------	--	---------

Mouting hardware is going to withstand wind loads.

Roof Load Analysis

As-Built Roof without solar panels

Roof and truss system		1.00 psf	
Collateral Load	+	8.00 psf	
		9.00 psf	non-projected load
Roof slope	÷	cos(30°)	
		9.32 psf	projected load
Snow Load for 30°	+	28.00 psf	
Live load	+	20.00 psf	
Total load		57.32 psf	

As-Built Roof with solar panels

Roof and truss system		1.00 psf	
Collateral Load		8.00 psf	
Solar Panels	+	2.65 psf	
		11.65 psf	non-projected load
Roof slope	÷	cos(30°)	
		12.06 psf	projected load
Projected load		12.06 psf	
Snow Load for 30°	+	28.00 psf	
Live load	+	0.00 psf	solar dead load replaces live load
Total load		40.06 psf	

Decrease of 17.25 psf from original total load

Q.PEAK DUO BLK ML-G10+ SERIES



385-410 Wp | 132 Cells
20.9% Maximum Module Efficiency

MODEL Q.PEAK DUO BLK ML-G10+



6 busbar
cell technology



12 busbar
cell technology



Breaking the 20% efficiency barrier

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.



A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty¹.



Enduring high performance

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



Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



Innovative all-weather technology

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



The most thorough testing programme in the industry

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

¹ See data sheet on rear for further information.

² APT test conditions according to IEC/TS 62804-1:2015, method A (~1500 V, 96 h)

The ideal solution for:



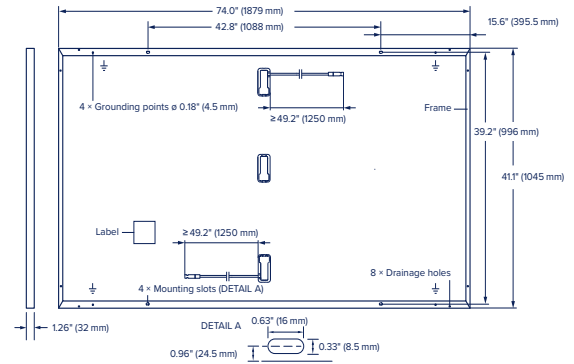
Rooftop arrays on
residential buildings



Q.PEAK DUO BLK ML-G10+ SERIES

Mechanical Specification

Format	74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight	48.5 lbs (22.0 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)
Connector	Stäubli MC4; IP68

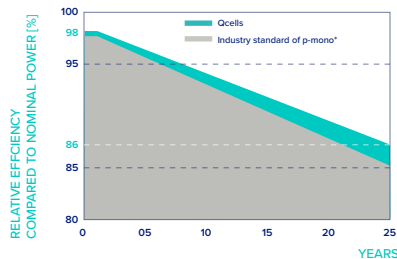


Electrical Characteristics

POWER CLASS			385	390	395	400	405	410
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W/-0 W)								
Minimum	Power at MPP ¹	P _{MPP} [W]	385	390	395	400	405	410
	Short Circuit Current ¹	I _{SC} [A]	11.04	11.07	11.10	11.14	11.17	11.20
	Open Circuit Voltage ¹	V _{OC} [V]	45.19	45.23	45.27	45.30	45.34	45.37
	Current at MPP	I _{MPP} [A]	10.59	10.65	10.71	10.77	10.83	10.89
	Voltage at MPP	V _{MPP} [V]	36.36	36.62	36.88	37.13	37.39	37.64
	Efficiency ¹	η [%]	≥ 19.6	≥ 19.9	≥ 20.1	≥ 20.4	≥ 20.6	≥ 20.9
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²								
Minimum	Power at MPP	P _{MPP} [W]	288.8	292.6	296.3	300.1	303.8	307.6
	Short Circuit Current	I _{SC} [A]	8.90	8.92	8.95	8.97	9.00	9.03
	Open Circuit Voltage	V _{OC} [V]	42.62	42.65	42.69	42.72	42.76	42.79
	Current at MPP	I _{MPP} [A]	8.35	8.41	8.46	8.51	8.57	8.62
	Voltage at MPP	V _{MPP} [V]	34.59	34.81	35.03	35.25	35.46	35.68

¹Measurement tolerances P_{MPP} ± 3%; I_{SC}; V_{OC} ± 5% at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

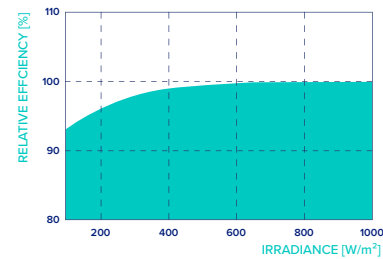


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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

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

PERFORMANCE AT LOW IRRADIANCE



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

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.27
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.34	Nominal Module Operating Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V _{sys} [V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI/UL 61730	TYPE 2
Max. Design Load, Push/Pull ³	[lbs/ft ²]	75 (3600 Pa)/55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push/Pull ³	[lbs/ft ²]	113 (5400 Pa)/84 (4000 Pa)		

³ See Installation Manual

Qualifications and Certificates

UL 61730, CE-compliant,
Quality Controlled PV - TÜV Rheinland,
IEC 61215:2016, IEC 61730:2016,
U.S. Patent No. 9,893,215 (solar cells),



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

Harwha Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL hqc-inquiry@qcells.com | WEB www.qcells.com



IQ8M and IQ8A Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

Note:

IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.

*Only when installed with IQ System Controller 2, meets UL 1741.
**IQ8M and IQ8A support split-phase, 240V installations only.

IQ8M and IQ8A Microinverters

INPUT DATA [DC]		I08M-72-2-US	I08A-72-2-US
Commonly used module pairings ¹	W	260 – 460	295 – 500
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell	
MPPT voltage range	V	30 – 45	32 – 45
Operating range	V	16 – 58	
Min. / Max. start voltage	V	22 / 58	
Max. input DC voltage	V	60	
Max. continuous input DC current	A	12	
Max. input DC short-circuit current	A	25	
Max. module I _{sc}	A	20	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA [AC]		I08M-72-2-US	I08A-72-2-US
Peak output power	VA	330	366
Max. continuous output power	VA	325	349
Nominal (L-L) voltage / range ²	V	240 / 211 – 264	
Max. continuous output current	A	1.35	1.45
Nominal frequency	Hz	60	
Extended frequency range	Hz	47 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max. units per 20 A (L-L) branch circuit ³		11	
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.8	97.7
CEC weighted efficiency	%	97.5	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (H x W x D)		212 mm (8.3”) x 175 mm (6.9”) x 30.2 mm (1.2”)	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer’s instructions.		

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://link.enphase.com/module-compatibility>. (2) Nominal voltage range can be extended beyond nominal if required by the utility.

(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



X-IQ-AM1-240-5
X-IQ-AM1-240-5C

IQ Combiner 5/5C

The IQ Combiner 5/5C consolidates interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications. IQ Combiner 5/5C uses wired control communication and is compatible with IQ System Controller 3/3G and IQ Battery 5P.

The IQ Combiner 5/5C, along with IQ Series Microinverters, IQ System Controller 3/3G, and IQ Battery 5P provides you with a complete grid-agnostic Enphase Energy System.



IQ Series Microinverters

The high-powered smart grid-ready IQ Series Microinverters (IQ6, IQ7, and IQ8 Series) dramatically simplify the installation process



IQ System Controller 3/3G

Provides microgrid interconnection device (MID) functionality by automatically detecting grid failures and seamlessly transitioning the home energy system from grid power to backup power



IQ Battery 5P

Fully integrated AC battery system. Includes six field-replaceable IQ8D-BAT Microinverters



IQ Load Controller

Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect (CELLMODEM-M1-06-SP-05), only with IQ Combiner 5C
- Supports flexible networking: Wi-Fi, Ethernet, or cellular
- Provides production metering (revenue grade) and consumption monitoring

Easy to install

- Mounts to one stud with centered brackets
- Supports bottom, back, and side conduit entry
- Supports up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80 A total PV branch circuits
- Bluetooth based Wi-Fi provisioning for easy Wi-Fi setup

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- 5-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKUs
- UL1741 listed



5-year
limited
warranty



IQ Combiner 5/5C

MODEL NUMBER	
IQ Combiner 5 (X-IQ-AM1-240-5)	IQ Combiner 5 with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSIC12.20 $\pm 0.5\%$), consumption monitoring ($\pm 2.5\%$) and IQ Battery monitoring ($\pm 2.5\%$). Includes a silver solar shield to deflect heat
IQ Combiner 5C (X-IQ-AM1-240-5C)	IQ Combiner 5C with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 $\pm 0.5\%$), consumption monitoring ($\pm 2.5\%$) and IQ Battery monitoring ($\pm 2.5\%$). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05) ¹ . Includes a silver solar shield to deflect heat
WHAT'S IN THE BOX	
IQ Gateway printed circuit board	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance and management of the Enphase IQ System
Busbar	125A busbar with support for 1 x IQ Gateway breaker and 4 x 20A breaker for installing IQ Series Microinverters and IQ Battery 5P
IQ Gateway breaker	Circuit breaker, 2-pole, 10 A/15 A
Production CT	Prewired revenue-grade solid core CT, accurate up to 0.5%
Consumption CT	Two consumption metering clamp CTs, shipped with the box, accurate up to 2.5%
IQ Battery CT	One battery metering clamp CT, shipped with the box, accurate up to 2.5%
CTRL board	Control board for wired communication with IQ System Controller 3/3G and the IQ Battery 5P
Enphase Mobile Connect (only with IQ Combiner 5C)	4G-based LTE-M1 cellular modem (CELLMODEM-M1-06-SP-05) with a 5-year T-Mobile data plan
Accessories kit	Spare control headers for CTRL board
ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, ORDER SEPARATELY)	
CELLMODEM-M1-06-SP-05	4G-based LTE-M1 cellular modem with a 5-year T-Mobile data plan
CELLMODEM-M1-06-AT-05	4G-based LTE-M1 cellular modem with a 5-year AT&T data plan
Circuit breakers (off-the-shelf)	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers Supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with hold-down kit
Circuit breakers (provided by Enphase)	BRK-10A-2-240V, BRK-15A-2-240V, BRK-20A-2P-240V, BRK-15A-2P-240V-B, and BRK-20A-2P-240V-B (More details in "Accessories" section)
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 5/5C
XA-ENV2-PCBA-5	IQ Gateway replacement printed circuit board (PCB) for Combiner 5/5C
X-IQ-NA-HD-125A	Hold-down kit compatible with Eaton BR-B series circuit breakers (with screws)
ELECTRICAL SPECIFICATIONS	
Rating	80 A
System voltage	120/240 VAC, 60 Hz
Busbar rating	125 A
Fault current rating	10 kAIC
Maximum continuous current rating (input from PV/storage)	64 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series distributed generation (DG) breakers only (not included)
Maximum total branch circuit breaker rating (input)	80 A of distributed generation/95 A with IQ Gateway breaker included
IQ Gateway breaker	10 A or 15 A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-CLAMP)	A pair of 200 A clamp-style current transformers is included with the box
IQ Battery metering CT	200 A clamp-style current transformer for IQ Battery metering, included with the box

¹ A plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)

MECHANICAL DATA	
Dimensions (WxHxD)	37.5 cm x 49.5 cm x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40°C to 46°C (-40°F to 115°F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors • Always follow local code requirements for conductor sizing
Communication (In-premise connectivity)	Built-in CTRL board for wired communication with IQ Battery 5P and IQ System Controller 3/3G. Integrated Power Line Communication for IQ Series Microinverters
Altitude	Up to 2,600 meters (8,530 feet)
COMMUNICATION INTERFACES	
Integrated Wi-Fi	802.11b/g/n (dual band 2.4 GHz/5 GHz), for connecting the Enphase cloud via the internet
Wi-Fi range (recommended)	10 m
Bluetooth	BLE4.2, 10 m range to configure Wi-Fi SSID
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included), for connecting to the Enphase Cloud via the internet
Mobile Connect	CELLMODEM-M1-06-SP-05 or CELLMODEM-M1-06-AT-05 (included with IQ Combiner 5C)
Digital I/O	Digital input/output for grid operator control
USB 2.0	For Mobile Connect
Access point (AP) mode	For connection between the IQ Gateway and a mobile device running the Enphase Installer App
Metering ports	Up to two Consumption CTs, one IQ Battery CT, and one Production CT
Power line communication	90–110 kHz
Web API	Refer to https://developer-v4.enphase.com
Local API	Refer to guide for local API
COMPLIANCE	
IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, Title 47 CFR, Part 15, Class B, ICES 003
IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1, IEEE 1547: 2018 (UL 1741-SB, 3 rd Ed.) IEEE 2030.5/CSIP Compliant Production metering: ANSI C12.20 accuracy class 0.5 (PV production)
COMPATIBILITY	
IQ System Controller 3/3G	SC200D111C240US01, SC200G111C240US01
IQ Battery 5P	IQBATTERY-5P-1P-NA
Microinverter	IQ6, IQ7, and IQ8 Series Microinverters

Accessories



Enphase Mobile Connect

4G-based LTE-M1 cellular modem with a 5-year data plan
(CELLMODEM-M1-06-SP-05 for Sprint and
CELLMODEM-M1-06-AT-05 for AT&T)



Circuit breakers

BRK-10A-2-240V Circuit breaker, 2-pole, 10 A, Eaton BR210
BRK-15A-2-240V Circuit breaker, 2-pole, 15 A, Eaton BR215
BRK-20A-2P-240V Circuit breaker, 2-pole, 20 A, Eaton BR220
BRK-15A-2P-240V-B Circuit breaker, 2-pole, 15 A, Eaton BR215B
with hold-down kit support
BRK-20A-2P-240V-B Circuit breaker, 2-pole, 20 A, Eaton
BR220B with hold-down kit support



CT-200-SOLID

200 A revenue grade solid core Production CT
with <0.5% error rate (replacement SKU)



CT-200-CLAMP

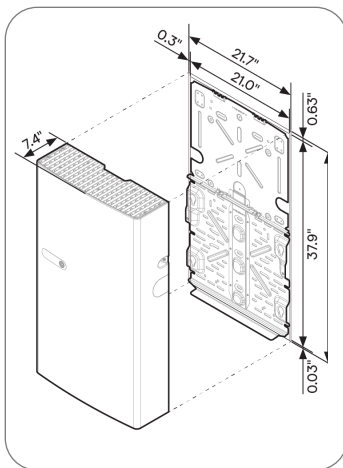
200 A clamp-style consumption and battery
metering CT with <2.5% error rate (replacement
SKU)



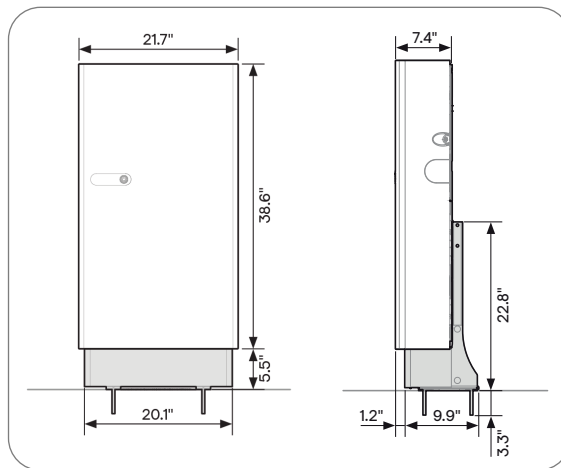
IQ Battery 5P

The IQ Battery 5P all-in-one AC-coupled system is powerful, reliable, simple, and safe. It has a total usable energy capacity of 5.0 kWh and includes six embedded grid-forming microinverters with a 3.84 kVA continuous power rating. It provides backup capability, and installers can quickly design the right system size to meet the customer needs.

Dimensions in inches



Wall mounted



Floor mounted with pedestal
(sold separately)



LISTED



UL 9540A
Certified

Powerful

- Provides 3.84 kVA continuous and 7.68 kVA peak power
- Doubles the available power per kWh of prior generations of IQ Battery
- Includes six embedded IQ8D-BAT Microinverters

Reliable

- 15 years limited warranty
- Cools passively with no moving parts or fans
- Uses wired communication for fast and consistent connection
- Updates software and firmware remotely

Simple

- Fully integrated AC battery system
- Installs and commissions easily
- Supports Backup, Self-Consumption, and time-of-use (TOU) modes
- Offers homeowners remote monitoring and control from the Enphase App
- Field replaceable components

Safe

- Evaluated to UL 9540A for large scale fire testing and reduced separation distance as required in 2021 IRC R328.3.1, 2021 IFC 1207.1.5, and 2023 NFPA 855 15.3.1 and 9.1.5.¹
- Uses lithium iron phosphate (LFP) chemistry for maximum safety and longevity

¹Follow all installation instructions and local codes and requirements of the Authority Having Jurisdiction (AHJ) when installing Enphase ESS.

IQ Battery 5P

MODEL NUMBER	
IQBATTERY-5P-1P-NA	The IQ Battery 5P system with integrated IQ Microinverters and battery management system (BMS) with battery controller
WHAT'S IN THE BOX	
IQ Battery 5P unit	IQ Battery 5P unit (B05-T02-US00-1-3)
ID cover and conduit cover	IQ Battery 5P cover with two conduit covers for the left and right sides of the unit
Bottom mounting bracket and top shield	Bottom mounting bracket for mounting the battery on the wall. One top shield is required for UL9540A
M5 seismic screws	Two M5 seismic screws for securing the battery unit on the bottom mounting bracket
M4 grounding screws	Two M4 grounding screws for securing the top shield on the bottom mounting bracket
M5 ID cover grounding screws	Two M5 ID cover grounding screws for the EMI/EMC requirement
Cable ties	Six cable ties for securing field cables to the unit
Control (CTRL) connector	Spare CTRL connector without resistor for CTRL wiring
Control (CTRL) connector with resistor	Spare CTRL connector with resistor for CTRL wiring
Quick Install Guide (QIG)	QIG for IQ Battery unit installation instructions
OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
IQ8D-BAT-RMA	IQ8D-BAT Microinverter for field replacement
B05-T02-US00-1-3-RMA	IQ Battery 5P Battery unit for field replacement
B05-CX-0550-O	IQ Battery 5P cover for field replacement
B05-PI-0550-O	IQ Battery 5P pedestal mount
B05-CP-096-O	IQ Battery 5P conduit plates for field replacement. Includes one left-side and one right-side conduit plate
B05-WB-0543-O	IQ Battery 5P wall bracket for field replacement. Includes one bottom mounting bracket and one top shield
IQBATTERY-HNDL-5	IQ Battery 5P lifting handles. Includes one left-side and one right-side lifting handle
B05-ACFB-080-O	IQ Battery 5P AC filter board for field replacement
B05-BMSNA-0490-O	IQ Battery 5P BMS board for field replacement
B05-CANB-063-O	IQ Battery 5P control communication board for field replacement
B05-NICS-0524-O, B05-NUCS-0524-O	IQ Battery 5P control switch is preinstalled on the wiring cover for field replacement
OUTPUT (AC)	
Rated (continuous) output power	3.84 kVA
Peak output power	7.68 kVA (3 seconds), 6.14 kVA (10 seconds)
Nominal voltage/range	240/211–264 VAC
Nominal frequency/range	60/57–63 Hz
Rated output current (@240 VAC)	16 A
Peak output current (@240 VAC)	32 A (3 seconds), 25.6 A (10 seconds)
Power Start capability	Up to 48 A LRA ³
Power factor (adjustable)	0.85 leading...0.85 lagging
Maximum units per 20 A branch circuit	One unit (single-phase)
Maximum conductor size supported	3 AWG
Overcurrent protection device (OCPD) for 3 AWG cable	80 A
Interconnection	Single-phase
AC round-trip efficiency ⁴	90%

²Supported in both grid-connected and backup/off-grid operation.

³Power Start capability may vary.

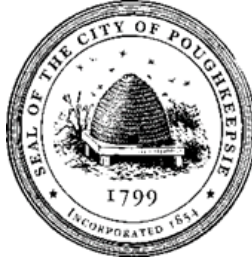
⁴AC to the battery to AC at 50% power rating.

IQ Battery 5P

BATTERY	
Total capacity	5.0 kWh
Usable capacity	5.0 kWh
DC round-trip efficiency	96%
Nominal DC voltage	76.8 V
Maximum DC voltage	86.4 V
Ambient operating temperature range (charging)	-20°C to 50°C (-4°F to 122°F) non-condensing
Ambient operating temperature range (discharging)	-20°C to 55°C (-4°F to 131°F) non-condensing
Optimum operating temperature range	0°C to 30°C (32°F to 86°F)
Chemistry	Lithium iron phosphate (LFP)
MECHANICAL DATA	
Dimensions (HxWxD)	980 mm x 550 mm x 188 mm (38.6 in x 21.7 in x 7.4 in)
Lifting weight	66.3 kg (146.1 lbs)
Total installed weight	78.9 kg (174 lbs)
Enclosure	Outdoor-NEMA 3R
IQ8D-BAT Microinverter enclosure	NEMA type 6
Cooling	Natural convection
Altitude	Up to 2,500 meters (8,202 feet)
Mounting	Wall-mount or pedestal-mount (sold separately)
FEATURES AND COMPLIANCE	
Compatibility	Compatible with IQ and M Series Microinverters, IQ System Controller 3/3G, IQ Combiner 5/5C, and IQ Gateway for grid-tied and backup operation
Communication	Wired control communication
Services	Backup, Self-Consumption, TOU, and NEM integrity
Monitoring	Enphase Installer Platform and Enphase App monitoring options; API integration
Compliance	CA Rule 21 (UL 1741-SA), IEEE 1547:2018 (UL 1741-SB, 3rd Ed.) CAN/CSA C22.2 No. 107.1-16 UL 9540 ⁵ , UL 9540A, UN 38.3, UL 1998, UL 991, NEMA Type 3R, AC156 EMI: 47 CFR, Part 15, Class B, ICES 003 Cell module: UL 1973, UN 38.3 Inverters: UL 62109-1, IEC 62109-2
LIMITED WARRANTY	
Limited warranty	>60% capacity, up to 15 years or 6,000 cycles ⁶

⁵ Following local standards, choose a well-ventilated, non-habitable, indoor location (like a 2-car garage) or in an outdoor location, which is out of direct sunlight and where the ambient temperature and humidity are within -4°F to 113°F (-20°C to 45°C) and 5% to 95% RH, non-condensing.

⁶ Whichever occurs first. Restrictions apply.



**CITY OF POUGHKEEPSIE
HISTORIC DISTRICT & LANDMARK PRESERVATION COMMISSION
2025 MEETING DATES*P**

City Hall – Common Council Chambers – 6:00 P.M.

The agenda will be posted on the city's website one (1) week prior to the scheduled meeting. Applications to be considered must be submitted two (2) weeks prior to the scheduled meeting.

THURSDAY, JANUARY 9

THURSDAY, FEBRUARY 13

THURSDAY, MARCH 13

THURSDAY, APRIL 10

THURSDAY, MAY 8

THURSDAY JUNE 12

THURSDAY, JULY 10

THURSDAY, AUGUST 14

THURSDAY, SEPTEMBER 11

THURSDAY, OCTOBER 9

THURSDAY, NOVEMBER 13

THURSDAY, DECEMBER 11

Motion to approve the 2025 HDLPC meeting schedule

Motion:

Second:

Carried:

*Meeting dates may change as necessary. Updates to dates and times can be found on the [Agenda & Minutes](#) page of the website.