



DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT Ben Gardner	PROJECT NO(S). HDR-23-04	PRE-APPLICATION NO. PA-23-15
NON-REFUNDABLE FEE(S) \$100	REFUNDABLE DEPOSIT(S)	TOTAL \$100

Type of Review (Please check all that apply):

- | | | |
|--|--|---|
| <input type="checkbox"/> Annexation (ANX)
<input type="checkbox"/> Appeal (AP)
<input type="checkbox"/> CDC Amendment (CDC)
<input type="checkbox"/> Code Interpretation (MISC)
<input type="checkbox"/> Conditional Use (CUP)
<input type="checkbox"/> Design Review (DR)
<input type="checkbox"/> Tree Easement Vacation (MISC)
<input type="checkbox"/> Expediated Land Division (ELD)
<input type="checkbox"/> Extension of Approval (EXT) | <input type="checkbox"/> Final Plat (FP)
<input type="checkbox"/> Flood Management Area (FMA)
<input checked="" type="checkbox"/> Historic Review (HDR)
<input type="checkbox"/> Lot Line Adjustment (LLA)
<input type="checkbox"/> Minor Partition (MIP)
<input type="checkbox"/> Modification of Approval (MOD)
<input type="checkbox"/> Non-Conforming Lots, Uses & Structures
<input type="checkbox"/> Planned Unit Development (PUD)
<input type="checkbox"/> Street Vacation | <input type="checkbox"/> Subdivision (SUB)
<input type="checkbox"/> Temporary Uses (MISC)
<input type="checkbox"/> Time Extension (EXT)
<input type="checkbox"/> Right of Way Vacation (VAC)
<input type="checkbox"/> Variance (VAR)
<input type="checkbox"/> Water Resource Area Protection/Single Lot (WAP)
<input type="checkbox"/> Water Resource Area Protection/Wetland (WAP)
<input type="checkbox"/> Willamette & Tualatin River Greenway (WRG)
<input type="checkbox"/> Zone Change (ZC) |
|--|--|---|

Pre-Application, Home Occupation, Sidewalk Use, Addressing, and Sign applications require different forms, available on the website.

Site Location/Address: 1611 6th Ave, West Linn, OR 97068	Assessor's Map No.: 31E02BC
	Tax Lot(s): 31E02BC01102
	Total Land Area: 6500 sqft

Brief Description of Proposal:

4.8 kW grid-tied rooftop photovoltaic solar system to be installed on the roof of the detached garage located at the rear of the property. 12 400 Watt modules will be mounted on the rear roof of the garage, facing the alley. This property is located in the Willamette Historic District.

Applicant Name*: Sara Pavey / ProStat Solar Group	Phone:
Address: 1721 NE 64th Ave #120, Vancouver, WA 98661	Email: 805.440.6678
City State Zip:	saraprostat@gmail.com

Owner Name (required): Kathy Selvaggio	Phone:
Address: 1611 6th Ave, West Linn, OR 97068	Email: 301.653.0750
City State Zip:	kathy.selvago@gmail.com

Consultant Name:	Phone:
Address:	Email:
City State Zip:	

1. Application fees are non-refundable (excluding deposit). Applications with deposits will be billed monthly for time and materials above the initial deposit. ***The applicant is financially responsible for all permit costs.**
2. The owner/applicant or their representative should attend all public hearings.
3. A decision may be reversed on appeal. The decision will become effective once the appeal period has expired.
4. Submit this form, application narrative, and all supporting documents as a single PDF through the [Submit a Land Use Application](https://westlinnoregon.gov/planning/submit-land-use-application) web page: <https://westlinnoregon.gov/planning/submit-land-use-application>

The undersigned property owner authorizes the application and grants city staff the **right of entry** onto the property to review the application. Applications with deposits will be billed monthly for time and materials incurred above the initial deposit. The applicant agrees to pay additional billable charges.

Applicant's signature

9/26/2023
Date

Owner's signature (required)

Sept. 26, 2023
Date

Proposed Rooftop Photovoltaic Solar Installation

Narrative

1611 6th Ave, West Linn, OR 97068

Owner: Kathy Selvaggio

This proposed solar project is a rooftop solar installation on an accessory structure, a detached garage, located on a residential property listed as a historic resource in the Willamette Falls Neighborhood Historic District.

The project was originally anticipated to be a larger array on the home, however the original rafters of the home would not have met the requirements for rafter spans in OSSC 2022: 2308.7.2 Rafter Spans. The detached garage has Engineered Trusses which are compliant with OSSC structural requirements.

The garage is located at the rear of the property and the solar panels would be mounted on the rear of the garage, facing the alley, as shown in Figure 1.

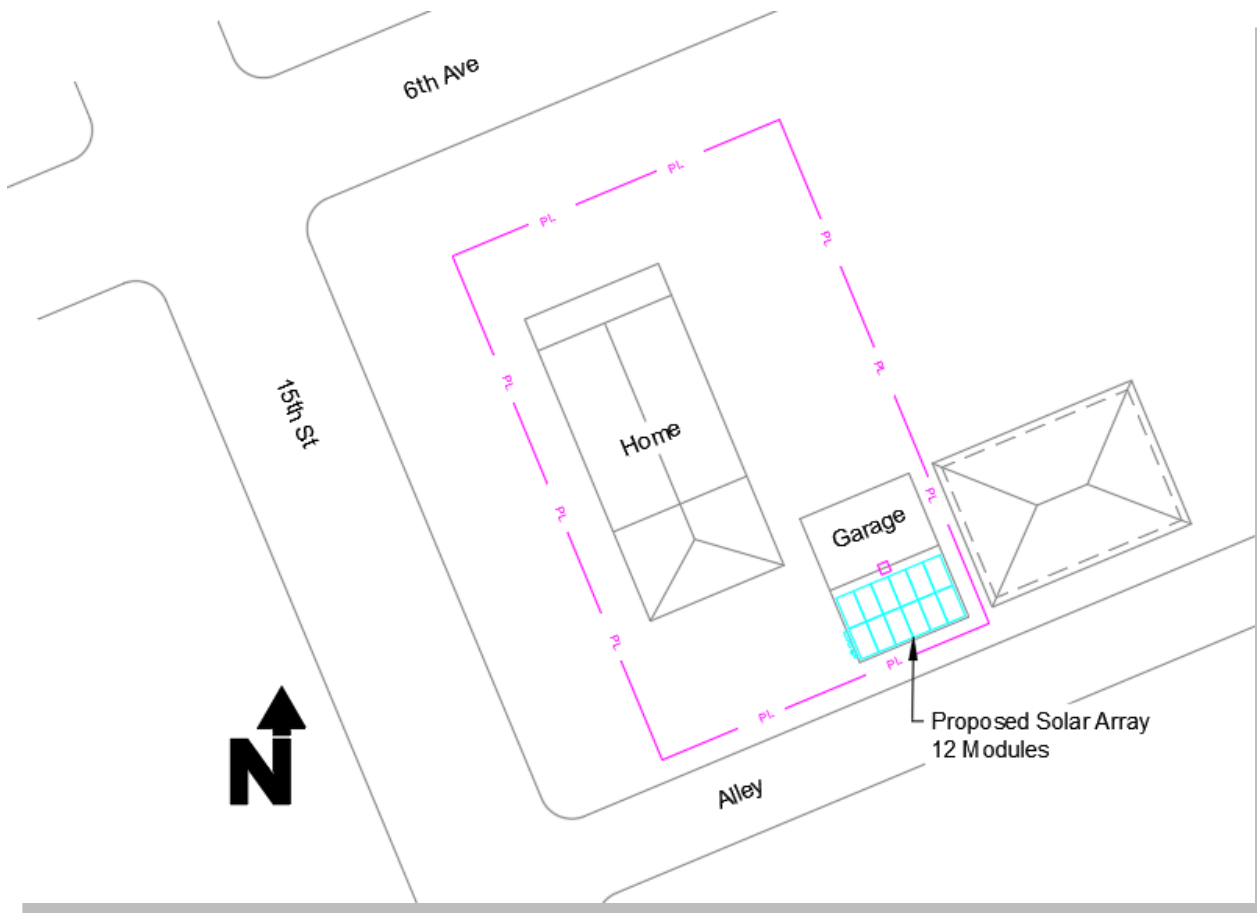


Figure 1: Location of Proposed Solar Array on Detached Garage



Figure 2: Garage roof as visible from the end of the Alley at 15th Street, looking northeast



Figure 3: Garage roof as visible from the alley, with the 12 module array drawn on the roof. Note that the neighboring property has solar modules on the rear-facing roof plane.

Solar systems exempt from West Linn Historical Review meet the following criteria:

- On a pitched roof facing a rear lot line or on a section of pitched roof facing within 45 degrees of the rear lot line.
 - The proposed system will face the rear lot line.
- The system must be mounted flush, with the plane of the system parallel with the roof surface.
 - The system will be mounted parallel to the roof plane.
- The system must be no more than 12 inches from the surface of the roof at any point.
 - The system will be approximately 6 inches from the roof surface at all points.
- The system must be set back three feet from the roof edge and ridgeline.
 - The system will be approximately 1 foot 9 inches from the ridge and 6 inches from each side.

This system is not exempt from historical review because it is too close to the ridge and roof edges for exemption, however it meets all of the other criteria.

Figure 4 & Figure 5 illustrate the locations that a person would have to be standing in order to see the array from the front of the home. A tall person with eyes 6 feet from the ground would need to be standing in the grass in front of the fence of the home across the street. A person with eyes 5 feet from the ground would need to be standing behind the fence of the home across the street.

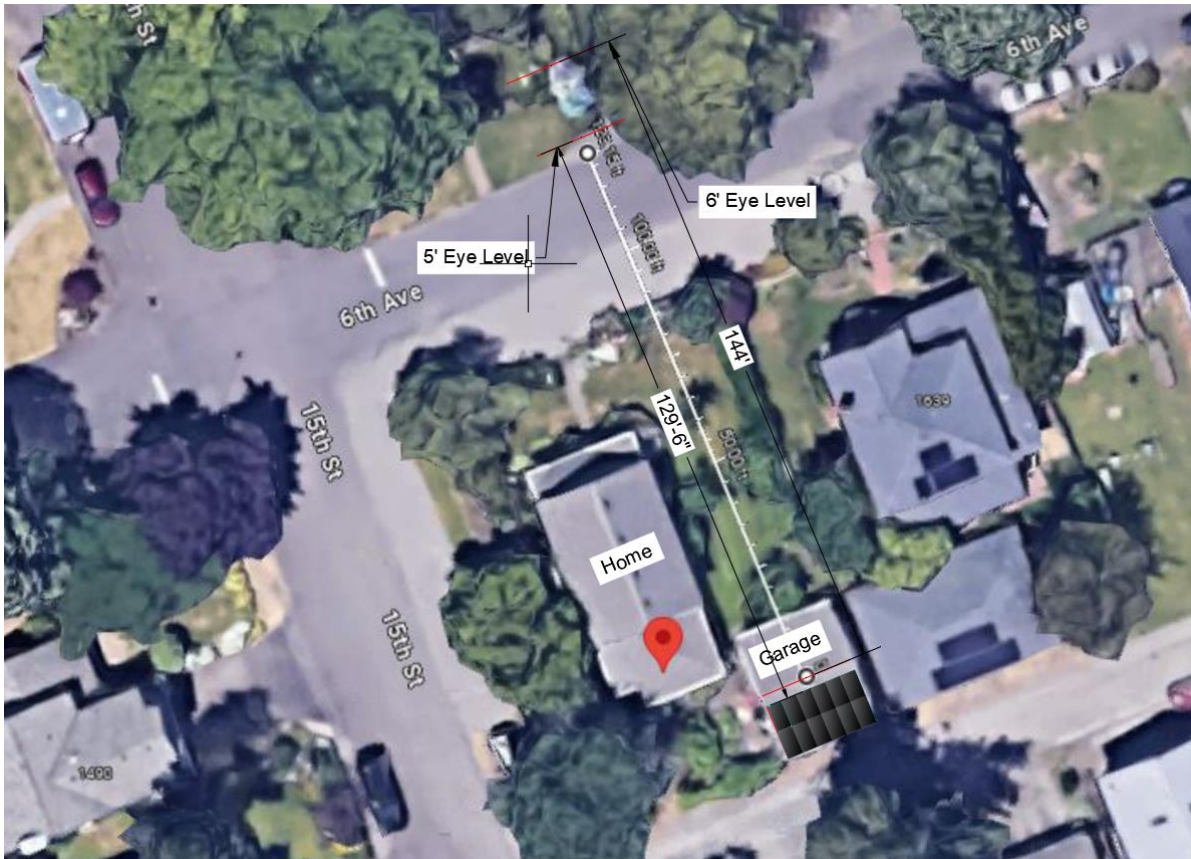


Figure 4: Aerial View of the Property with distances to points on the property facing the subject property where a person could potentially see the upper edge of the modules. Note that the modules will only be visible from the public right-of-way from the alley.

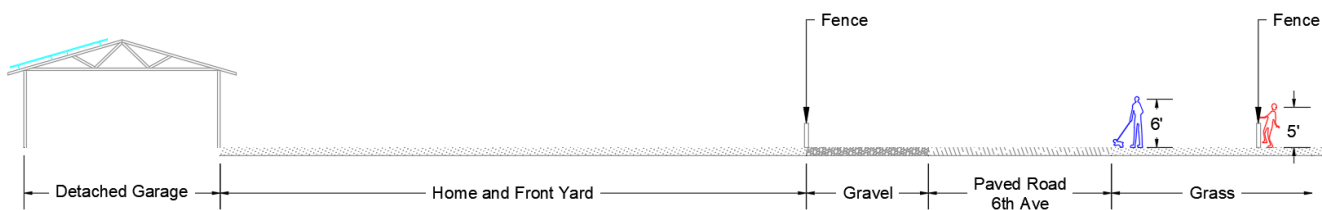


Figure 5: Locations where solar modules may be visible for eyes at 6 ft and 5 ft from the ground. A person would have to be taller than 6'6" to see the array from the road. A person in the yard of the home across the street may see the upper edges of the modules.

The array will consist of 12 Silfab Solar modules, Sil400HC+, which have black frames, black cells, and a black backsheet, making the module appear all-black, as seen in Figure 6. Similar to the existing array on the neighboring garage, as seen in Figure 3, these modules will blend into the roof and will not stand out.



Figure 6: Silfab Solar Module Image – Module is all black with a black frame

Responses to Community Development Code

West Linn, OR

1611 6th Ave, West Linn, OR 97068

Owner: Kathy Selvaggio

Several Community Development Codes will apply to the proposed rooftop solar installation at the home of Ms. Kathy Selvaggio, located at 1611 6th Ave, West Linn, OR 97068. The solar modules will be mounted on the rear roof of the detached garage, an accessory structure, located at the rear of the residential property. The Property is located in the Willamette Falls Neighborhood Historic District.

The following Community Development Codes will apply to this project:

- Chapter 13: Residential, R-5
 - 13.030 This property is a single-family detached residential unit which is a permitted use.
- Chapter 25: Overlay Zones – Historic District
 - Notes relating to Chapter 25's requirements are provided below, under each relevant code section.
- Chapter 34: Accessory Structures, Accessory Dwelling Units, and Accessory Uses
 - 34.020 This accessory structure is a detached garage which is currently used as a garage and will continue to be used as a garage after completion of the proposed solar installation.
- Chapter 99: Procedures for Decision Making: Quasi-Judicial
 - The requirements of this chapter will be followed to the best of our abilities. We have completed the Pre-application Conference. This document is part of the Land Use Application.

Chapter 25: Overlay Zones – Historic District

Comments & Responses regarding the proposed solar project are in Blue

25.020 USE OF THIS CHAPTER

A. Applicability. This chapter shall apply to all properties designated as historic resources as shown on the City's zoning map and properties listed on the National Register. Specific sections apply as noted in subsections B and C of this section.

B. Hierarchy of regulation. The provisions of this chapter shall supersede any conflicting standards or criteria elsewhere in the CDC. The underlying zoning provisions for the applicable zone still apply.

1. Exemptions. The items listed in CDC 25.040(A), Exemptions from Historic Design Review, are exempt from historic review; provided, that they comply with any applicable requirements in CDC 25.040(A).

[This proposed project is not exempt from the historic review. See the additional comments in 25.040.13 b.](#)

2. Design standards. CDC 25.060, Design standards applicable to historic resources, applies to historic reviews for designated properties, except for CDC 25.060(B), Standards for accessory structures, which applies only to accessory structures on sites containing historic resources.

[This project complies with all relevant design standards. See the additional comments in 25.060.](#)

3. Additional design standards. CDC 25.070, Additional design standards applicable to historic districts, provides additional standards that are applicable to Historic Design Review for historic district properties.

[This project complies with all relevant design standards. See the additional comments in 25.070.](#)

- a. CDC 25.070(A), Standards for alterations and additions, applies only to Historic Design Review in a historic district.

Pro-Stat Solar Group | www.prostatgroup.com

1721 NE 64th Ave #120, Vancouver, WA 98661 | Phone: (360) 667-1017 | Fax: (360) 818-7081

CCB # 189902 | WA Business License # PROST*8900N

- b. CDC 25.070(B), Standards for new construction, applies only to new development or construction in a historic district beyond alterations and additions, and including accessory structures.
- c. CDC 25.070(C), Willamette Historic District general standards, applies only to alterations and additions, new construction, and accessory structure construction in the Willamette Historic District.

C. Applicability of historic design standards. Development subject to this chapter must comply with applicable Historic Design Review standards unless otherwise approved through the modifications process under CDC 25.080. The "X" in the following chart indicates which standards are applicable to different types of development.

[No alternatives are needed for this proposed project to comply with existing design standards.](#)

25.030 PERMITTED USES

Unless otherwise provided for in this chapter, uses permitted by the base zoning district that are in accordance with the CDC are allowed on sites containing historic resources. (Ord. 1614 § 6, 2013; Ord. 1735 § 3 (Exh. B), 2022)

[This proposed solar installation would be permitted by the base zoning district.](#)

25.040 HISTORIC DESIGN REVIEW PROCESSES

Proposed changes to historic resources that are not exempted by subsection A of this section, Exemptions from Historic Design Review, are subject to subsection B of this section, Class I Historic Design Review, or subsection C of this section, Class II Historic Design Review. Class I Historic Design Review addresses significant changes that warrant staff review. Class II Historic Design Review addresses major changes including additions and new construction, subject to Historic Review Board approval. The processes for conducting Class I and Class II Historic Design Review are in Chapter 99 CDC.

A. Exemptions from Historic Design Review. The following are exempt from Historic Design Review:

[This project is not exempt from the historic review. See the additional comments in 25.040.13 b.](#)

1. Ordinary maintenance. Ordinary maintenance or repair including a change of facade colors, unless the color is specifically listed in the historic resource inventory, historic resource nomination, or National Register nomination as an attribute that contributes to the resource's historic significance.
2. Gutters and downspouts. Replacement or addition of gutters and downspouts that are rectangular, ogee, half-round or K-shaped and composed of wood or metal material, or styles and materials that match those that were typically used on similar style buildings of the era, or the era the building style references.
3. Foundation. Repair of a foundation with the same material or construction of a foundation in the same location that does not result in raising or lowering the building elevation.
4. Building material. Replacement of building material, when such material is beyond repair, with building material that matches the original material.
5. Roof material. Repair or replacement of roof material with material comparable to the existing roof, or replacement of the roof in its entirety with cedar shingles, three tab asphalt shingles, or architectural composition shingles.
6. Storm windows. Storm windows made of painted wood, a material with a baked enamel finish, anodized aluminum, or other materials with forms that complement or match the color, detail, and proportions of the building.
7. Egress windows. Addition of egress windows on secondary facades with wood windows or windows that are consistent with subsection (A)(6) of this section.

8. Landscaping. Landscaping changes unless the landscaping is identified in the historic resource inventory, historic resource nomination, or National Register nomination, as an attribute that contributes to the resource's historic value.

9. Fences. Construction of fences that meet the following requirements in addition to the requirements of Chapter 44 CDC:

a. Traditional fences. Any fence along a front lot line or along the portion of a side lot line between the street and the primary structure (see Figures 1 and 2) which:

- 1) Consists of pickets, each of which are between one and three inches wide and spaced equally;
- 2) Does not have solid portions exceeding 50 percent; and
- 3) Is no greater than 36 inches in height.

b. General fences. Any fence that is not located along a front lot line or along the portion of a side lot line between the street and the primary structure that is:

- 1) Constructed of wood fence boards, rails, posts, and associated hardware only; and
- 2) No greater than 72 inches in height.



Figure 1: Example of Exempt Interior Lot Fence Locations

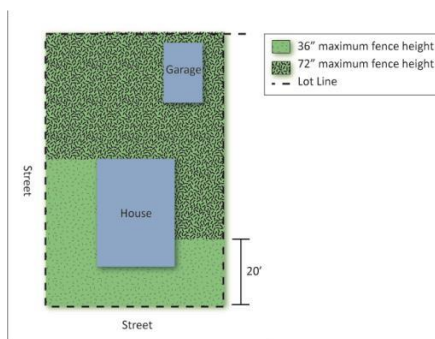


Figure 2: Example of Exempt Corner Lot Fence Locations

10. Retaining walls. Construction of retaining walls that meet the following requirements:

- a. No greater than three feet high; and
- b. Project above upper grade no more than 12 inches.

11. Swimming pools. Construction of in-ground swimming pools in rear yards.

12. Mechanical equipment. Replacement or installation of mechanical equipment, if 100 percent screened by a permitted building, fence, or landscaping that precludes visibility from any street.
13. Solar energy systems. Replacement or installation of solar energy systems that are not part of a project that includes other elements subject to Historic Design Review, provided the following requirements are met:
 - a. On a flat roof, the horizontal portion of a mansard roof, or roofs surrounded by a parapet that is at least 12 inches higher than the highest part of the roof surface:
 - 1) The solar energy system must be mounted flush or on racks with the system or rack extending no more than five feet above the top of the highest point of the roof.
 - 2) The solar energy system must be screened from view from all streets by an existing parapet along the street-facing facade that is as tall as the tallest part of the solar energy system, or by setting the solar energy system back from the roof edges facing the street four feet for each foot of solar energy system height.
 - b. On a pitched roof, solar energy systems may be located on a section of pitched roof facing a rear lot line or on a section of pitched roof facing within 45 degrees of the rear lot line. (See the example on the right side of Figure 3.) The system must be mounted flush, with the plane of the system parallel with the roof surface, with the system no more than 12 inches from the surface of the roof at any point, and set back three feet from the roof edge and ridgeline.

This solar system will be mounted on a rear-facing roof of an accessory structure.

It will be mounted parallel to the roof plane.

It will be no more than 12 inches from the roof surface. Our installations are typically about 6 inches above the roof surface.

It will NOT be set back 3 feet from the ridgeline of the structure, as that would reduce the number of solar modules that would fit on this roof by 25%, and the system is already less than the target size for offsetting the home's energy consumption.

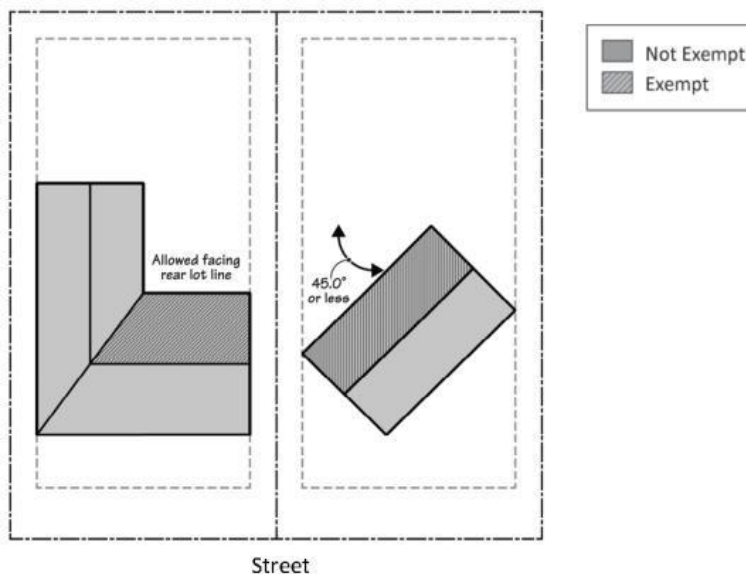


Figure 3: Exempt Solar Energy System Locations

14. Skylights. Replacement or installation of skylights that are not part of a project that includes other elements subject to Historic Design Review, provided the following requirements are met:

a. For skylights that are on a flat roof, the horizontal portion of a mansard roof, or roofs surrounded by a parapet that is at least 12 inches higher than the highest part of the roof surface, the skylight must be screened from view from all streets by:

- 1) An existing parapet along the street-facing facade that is as tall as the tallest part of the skylight; or
- 2) Setting the skylight back from the roof edges facing the street four feet for each foot of skylight height.

b. For skylights that are on a pitched roof, the skylight must be flat and must face a side or rear lot line or be located on a section of a pitched roof that faces within 45 degrees of a rear lot line. (See the right side of Figure 3.)

15. Utilities, street infrastructure, and street furniture. Replacement or installation of utilities, street infrastructure, or street furniture except for streetlights, utility boxes, benches, receptacles, and the installation of curbs where there are none. Replacement and new sidewalks shall not exceed four feet in width except as required to comply with the Americans with Disabilities Act and shall be compatible in location, pattern, spacing, dimensions, and materials with existing sidewalks.

16. Accessory structures. Construction of accessory structures under 120 square feet and 10 feet in height (greenhouses, storage sheds, jacuzzis, spas, structures, gazebos, etc.) in a side or rear yard.

B. Class I Historic Design Review. The following are subject to Class I Historic Design Review to determine their compliance with the applicable approval standards:

1. Nonexempt. Items listed in CDC 25.040(A)(1) through (16) that do not qualify for an exemption;

[The solar installation will fall into this category.](#)

2. Facade alteration. Alteration of a facade when 100 square feet or less of the structure's facade is being altered;
3. Ingress/egress. Revised points of ingress/egress to a site;
4. Americans with Disabilities Act. Proposals seeking compliance with the Americans with Disabilities Act, not including the public right-of-way; and
5. Art and statuary. Construction of freestanding art and statuary over 10 feet tall.

C. Class II Historic Design Review. All proposed new construction, alterations, and additions, not identified as exempt under subsection A of this section, or subject to Class I Historic Design Review under subsection B of this section, are subject to Class II Historic Design Review and must meet the applicable approval standards. (Ord. 1614 § 6, 2013; Ord. 1735 § 3 (Exh. B), 2022)

25.050 APPLICATION REQUIREMENTS

A. Historic Design Review. Applications for Historic Design Review shall include the following:

1. Narrative. Written narrative explaining the proposal and how it meets the approval criteria in CDC 25.060 and 25.070, as applicable;

[Please see separate Narrative document.](#)

2. Existing plan and elevation drawings. Plan and elevation drawings of the existing structure, if applicable, including materials;

[Please see the solar plan set for the elevation drawing of the accessory structure.](#)

3. Proposed plan and elevation drawings. Plan and elevation drawings of the proposed changes, including materials;

[Please see the solar plan set for the elevation drawing of the accessory structure with solar modules mounted on the south-facing roof.](#)

4. Current photographs. Current photographs of the existing structure with adjacent properties for context, including all elevations and features proposed for modification;

[Please see the included photographs of the accessory structure which include the neighboring garage that has a roof-mounted solar array.](#)

5. Historic photographs. Historic photographs and/or drawings of the existing structure, if available; and

[No historic photos were available](#)

6. Supplementary. For additions that increase the gross square footage of the structures on the site by more than 50 percent, and/or new construction in a historic district:

[This does not apply. We are not increasing the square footage of the structure.](#)

- a. Plan and elevation drawings of adjacent properties; and
- b. A rendering and/or photo-simulation showing the proposal in context.

B. Designation of a historic resource. Applications for designation as a historic resource shall include the following:

[N/A – We do not seek to make changes to the historic resource designation of the property.](#)

1. Narrative. Written narrative description of the proposed historic resource and how it meets one or more of the approval criteria in CDC 25.090(A);
2. Site plan. Site plan depicting the property boundaries and all structures and features on the site;
3. Current photographs. Current photographs of all elevations of the existing structure and any significant features;
4. Historic photographs. Historic photographs, plans, or maps, if available;
5. Supplementary documentation. Any other documentation demonstrating the significance of the proposed historic resource; and
6. Owner consent. Owner consent as follows:

- a. Historic landmarks. The property owner must consent, in writing, to a proposed historic landmark designation with the exception that properties listed on the National Register shall be regulated as historic landmarks regardless of the owner's consent.
- b. Historic districts. A property owner may refuse to consent to historic district designation at any point during the designation process. Properties in historic districts listed on the National Register shall be regulated as historic properties regardless of the owner's consent.

C. Removal of historic resource designation. Applications for removal of historic resource designation shall include the following:

N/A – We do not seek to make changes to the historic resource designation of the property.

1. Narrative. Written narrative description of the historic resource proposed for removal of designation that addresses the considerations identified in CDC 25.100;
2. Site plan. Site plan depicting the property boundaries and all structures and features on the site;
3. Current photographs. Current photographs of all elevations of the existing structure and any significant features;
4. Historic photographs. Historic photographs, plans, or maps, if available; and
5. Supplementary documentation. Documentation that the property owner objected, on the record, at the time of designation, if applicable.

D. Relocation of a historic resource. Applications for relocation of a historic resource shall include the following:

N/A – We do not propose to relocate the historic resource.

1. Examination of alternatives. Documentation that all reasonable alternatives to relocation have been explored and that relocation is the preferred alternative.
2. Structure and site documentation. Documentation of the historic structure and site conditions prior to relocation, including detailed photography, notes, drawings, and reference measurements.
3. Moving procedures. Clearly stated moving procedures that will be utilized to protect historic elements and document the relocation, including: plans for minimizing damage to historic materials, labeling system for dismembered elements to assure accurate reconstruction in the new location, and plans for protecting the historic resource until reconstruction is complete.

E. Demolition of a historic resource.

N/A – We do not propose to demolish the historic resource.

1. Historic landmark or contributing primary structure. An application for the demolition of a historic landmark or contributing primary structure shall include:
 - a. A statement of the historic significance of the structure or resource to the community, taking into consideration its designation as a historic landmark or its contributing status in a historic district.
 - b. A statement demonstrating good faith efforts of the property owner to sell or relocate the structure or resources, including property documentation, but not limited to:
 - 1) Real estate taxes for the two years immediately preceding the application;
 - 2) Assessed value for the two years immediately preceding the application;
 - 3) Current fair market value of the structure or resource as determined by an appraiser;

- 4) All listings for the structure or resource for the past two years including prices asked and offers received; and
 - 5) Documentation of all attempts to relocate the structure or resource.
- c. Documentation of the historic structure and site conditions prior to demolition, including detailed photography, notes, drawings, and reference measurements.
 - d. A report from a structural engineer on the condition of the structure or resource.
 - e. The estimated cost of rehabilitation of the structure or resource.
 - f. A report from a real estate or other market professional identifying potential alternative uses for the structure or resource permitted within the existing zoning classification.
 - g. A report identifying available economic incentives for adaptive reuse of the structure or resource.
 - h. A proposed plan for redevelopment of the site on which the structure or resource is located.
2. Non-contributing or not in period primary structure and accessory structure. An application for the demolition of a non-contributing or not in period primary structure or an accessory structure shall include:
- a. A statement of the historic significance of the structure or resource to the community, taking into consideration its location on the site of a historic landmark or within a historic district.
 - b. A site plan depicting the property boundaries and all structures and features on the site.
 - c. A proposed plan for redevelopment of the site on which the structure or resource is located. (Ord. 1614 § 6, 2013; Ord. 1735 § 3 (Exh. B), 2022)

25.060 DESIGN STANDARDS APPLICABLE TO HISTORIC RESOURCES

The following design standards apply to all changes, including alterations, additions, and new construction proposed on a designated historic resource. These standards are intended to preserve the features that made the resource eligible for historic designation. Development must comply with all applicable standards, or be approved through the modifications process specified in CDC 25.080.

A. Standards for alterations and additions. This section applies to historic reviews for alteration of and additions to designated historic resources:

1. Retention of original exterior construction and overall structural integrity. The original exterior construction and structural integrity shall be maintained or restored to the greatest extent practicable. Stylistic features of original construction that shall be preserved include, but are not limited to: a line of columns, decorative shingles, projecting bays, windows and doors including their related functional and decorative features, other primary structural elements, spatial relationships that characterize the property, examples of skilled craftsmanship that characterize the building, and architectural details defining the structure's character and historic significance.

The proposed solar installation will not change the exterior elements of the accessory structure. The existing structure will be unchanged.

2. Retention of exterior historic material. Removal or alteration of historic exterior materials and features shall be avoided during the construction of new additions or alterations. Deteriorated materials and architectural features shall be repaired rather than replaced, unless the material is beyond repair. In the event replacement of an existing feature is necessary, new materials shall match those of the original building in terms of composition, design, color, texture, and other visual features.

The proposed solar installation will not remove the exterior elements of the accessory structure. The existing structure will be unchanged.

3. Time period consistency. Buildings shall be recognizable as a physical record of their time and place. Alterations which have no historical basis or which seek to create a false sense of historical development are not allowed.

The proposed solar installation will not create a false sense of history.

4. Significance over time. Changes to a property that have acquired historic significance in their own right, and during the period of significance, shall be retained and preserved.

The proposed solar installation will not change the existing historical elements of the property.

5. Differentiate old from new. Alterations, additions, and related new construction shall be differentiated from the original buildings to avoid creating a false sense of history, and shall be compatible with the historic materials, features, size, scale, proportion, and massing to protect the integrity of the property. Additions and alterations shall be done in accordance with the Secretary of the Interior's Standards for new exterior additions to historic buildings.

The proposed solar installation will not create a false sense of history. The alteration will consist of solar modules that will align with the slope of the existing roof and fit within the boundaries of the existing roof.

6. Reversibility. Additions and alterations shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its context would be unimpaired.

The proposed solar installation will be mounted as a permanent modification. However, if the solar system is removed in the future, the existing structure will generally appear unchanged from its original condition.

7. Building additions. Building additions shall be subordinate to the original building, smaller in scale, and attached to the rear or set back along the side. Features of building additions, including the proportions of window and door openings, shall be consistent with those of the existing building. Dimensional and other requirements in the underlying zone, as applicable, shall apply.

The proposed solar installation will be smaller than the roof of the structure and it will be mounted on the rear roof plane of the structure.

8. Building height and roof pitch. Existing or historic building heights and roof pitch shall be maintained.

The proposed solar installation will not change the building height or roof pitch. The solar panels will be parallel to the roof plane.

9. Roof materials. Replacement of a roof or installation of a new roof with materials other than cedar shingles, three tab asphalt shingles, or architectural composition shingles must be demonstrated, using photographic or other evidence, to be in character with those of the original roof, or with materials that are consistent with the original construction.

The proposed solar installation will not include changes to the existing roof material.

10. Existing exterior walls and siding. Replacement of the finish materials of existing walls and siding must be with building materials consistent with the original construction.

The proposed solar installation will not include changes to the existing walls and siding.

11. New exterior walls and siding. Wood siding or shingles shall be used unless the applicant demonstrates that an alternative material has a texture and finish typically used on similar style buildings of the era, or the era the building style references. Vinyl or other materials that do not match those that were typically used on similar style buildings of the era, or the era the building style references, are not permitted.

The proposed solar installation will not include changes to the existing walls and siding.

12. Gutters and downspouts. Replacement or new gutters and downspouts shall be rectangular, ogee, half-round or K-shaped and comprised of wood or metal material, or styles and materials that match those that were typically used on similar style buildings of the era, or the era the building style references. Vinyl or other materials and styles that do not match those that were typically used on similar style buildings of the era, or the era the building style references, are not permitted.

The proposed solar installation will not include changes to the existing gutters or downspouts.

13. New windows. New windows shall be located on rear or secondary facades, unless required for a new use. New windows shall match the appearance and size of the original windows as closely as possible. Wood window frames and sashes shall be used unless the applicant demonstrates that the non-wood windows are consistent with the original historic appearance and material, including profile and proportion of the sash, sill, trim, light patterns, glass color, and profile of mullions and muntins. Replacement of existing windows shall meet standards for window replacement.

The proposed solar installation will not incorporate any windows.

14. Storm windows. Storm windows shall be made of painted wood, a material with a baked enamel finish, anodized aluminum, or another material that is consistent with the color, detail, and proportions of the building.

The proposed solar installation will not incorporate any windows.

15. Window replacement. Replacement of windows or window sashes shall be consistent with the original historic appearance and material, including the profile of the sash, sill, trim, window plane relative to the building wall plane, light pattern, glass color, profile of mullions and muntins, and color, method of operation and related features, such as shutters.

The proposed solar installation will not incorporate any windows.

16. Doors. Doors shall be painted or stained wood, fiberglass clad, or metal clad, or another material that is consistent with the original historic appearance.

The proposed solar installation will not incorporate any doors.

17. Porches. Front porches are allowed on new construction. No front porch shall be added to a structure if there was not one originally. Existing front porches shall not be enclosed or enlarged. Alterations to existing front porches and side yard porches that face a street shall:

The proposed solar installation will not incorporate any porches.

- a. Maintain the shape, width, and spacing of the original columns; and
- b. Maintain the height, detail, and spacing of the original balustrade.

18. Decks. Decks shall be located in the rear yard or the portion of the side yard behind the front 50 percent of the primary structure.

The proposed solar installation will not incorporate any decks.

19. Foundations. Repair or construction of a foundation that results in raising or lowering the building elevation must demonstrate that:

The proposed solar installation will not incorporate any foundation changes.

- a. The proposal is consistent with the original design and, if applicable, is consistent in the context of adjacent and other structures on the block, based on photographic or other evidence; or
- b. It is necessary to satisfy a requirement of the building code and/or floodplain regulations (Chapter 27 CDC).

20. Lighting. Residential lighting shall be shielded to prevent glare and compatible with the architectural character of the building. Blinking, flashing, or moving lighting is not permitted.

The proposed solar installation will not incorporate any lighting changes.

B. Standards for accessory structures. The following standards apply to accessory structures on properties designated as historic resources in addition to the regulations in Chapter 34 CDC:

The proposed solar installation will not change the location, height, size, or use of the existing accessory structure.

1. All accessory structures.
 - a. Location.
 - 1) Accessory structures in the Willamette Historic District are subject to the setback requirements of CDC 25.070(C)(1) through (4);
 - 2) Accessory structures on historic landmark properties must meet the setback requirements of the underlying zone and Chapter 34 CDC;
 - 3) Detached accessory structures shall be in the rear yard; and
 - 4) Two-story accessory structures shall be at least 10 feet from the house; and one-story accessory structures shall be at least three feet from the house.
 - b. Height. Accessory structures in the Willamette Historic District are subject to CDC 25.070(C)(7). Accessory structures on historic landmark properties must meet the height requirements of the underlying zone and Chapter 34 CDC.
2. Conversions and additions. Existing detached, unheated structures including, but not limited to, workshops and garages, may be converted into other allowable accessory uses under the following conditions:
 - a. The structure is located behind the house's front building line;
 - b. A structure in the front yard cannot be converted to a heated accessory structure;
 - c. A story may be added to an existing non-contributing garage or similar accessory structure; provided, that the final design meets the setback standards of this chapter for a two-story accessory structure (see CDC 25.070(C)(1) through (4)) for the historic district, or the setbacks in Chapter 34 CDC for a historic landmark; and
 - d. The conversion of an existing structure is not required to meet the design standards in CDC 34.030, but it must conform to all applicable requirements of this chapter. (Ord. 1614 § 6, 2013; Ord. 1735 § 3 (Exh. B), 2022)

25.070 ADDITIONAL STANDARDS APPLICABLE TO HISTORIC DISTRICTS

This section provides additional standards that are applicable to properties within a historic district.

A. Standards for alterations and additions.

1. Compatibility with nearby context. Alterations and additions shall be:
 - a. Similar in scale and mass to adjacent properties, and constructed such that they maintain the privacy of the residents of adjacent properties through window placement, orientation or landscaping.

This proposed solar installation will look similar to the solar installation on the neighboring detached garage. It will have similar coloring and dimensions and will be mounted parallel to the roof plane, just like the adjacent property's solar system.

2. Not in period buildings. Alterations to compatible, not in period buildings shall follow all applicable standards of this chapter to avoid creating a false sense of history.

Solar panels are not likely to be mistaken for a false sense of history.

3. Not in period noncompatible buildings. Alterations to not in period, noncompatible buildings shall be consistent with applicable standards in CDC 25.060 and 25.070. Such buildings do not contribute to the historic value of the district and are not subject to standards pertaining to siding, windows, and other materials listed in CDC 25.060(A); however, such buildings shall not be so stylistically different from adjacent buildings that they detract from the district's historic character.

This project will make the structure more like the adjacent property.

B. Standards for new construction. The standards in this section apply only to new construction, including new accessory structures, in a historic district. The standards for new construction do not apply to alterations and additions to existing structures. These standards shall apply in addition to any other applicable standards (see the Standards Applicability Matrix in CDC 25.020).

No new construction is proposed with this project. It is an alteration of an existing structure.

1. New construction shall complement and support the district. The historic district's defining characteristics include a discernible aesthetic rhythm of massing, scale, and siting. Infill buildings shall not deviate in a detracting manner from these elements, but appear as complementary members of the district, by conforming to the following:
 - a. Massing, scale, proportion, form, siting, floor area ratio, window patterns, building divisions, and height shall correspond to the contributing buildings within the district, and any specific historic district standards and the applicable requirements of the underlying zone.
 - b. Infill buildings shall relate to and strengthen the defining characteristics, including architectural style, without replicating the historic buildings. Buildings shall differentiate by use of materials, mechanical systems, construction methods, and, if applicable, signage. Architectural style shall not be the primary indicator of differentiation.
 - c. Mechanical and automobile infrastructure must be appropriately concealed when not consistent with the district's character.
2. Reconstruction. Reconstruction of buildings that existed within the district during the period of significance is allowed. Reconstructions shall be done in accordance with the Secretary of the Interior's Standards for Reconstruction.

3. Archaeological resources shall be preserved in place or mitigated. When new construction must disturb archaeological resources, mitigation measures shall be carried out consistent with applicable state and federal laws. As appropriate, information yielded from archaeological mitigation shall be interpreted in the new building or site.

C. Willamette Historic District general design standards. This subsection applies only to alterations and additions, new construction, and accessory structure construction of residential and historically residential properties in the Willamette Historic District. Other buildings are subject to the requirements in Chapter 58 CDC. Dimensional and other requirements of the underlying zone, as applicable, shall apply.

1. Front yard setback.

N/A – This solar project does not propose any changes to the front yard setback.

a. The front yard setback shall equal the average of the front setbacks of adjacent homes on the block face. For corner lots, the setback shall be the average between the adjacent house to the side and 20 feet. The setback shall be the distance measured from the front property line to the dominant vertical face of the building, exclusive of any porches or front landings.

b. Unenclosed porches with no living space above may encroach into the front yard setback six feet from the dominant vertical face of the building.

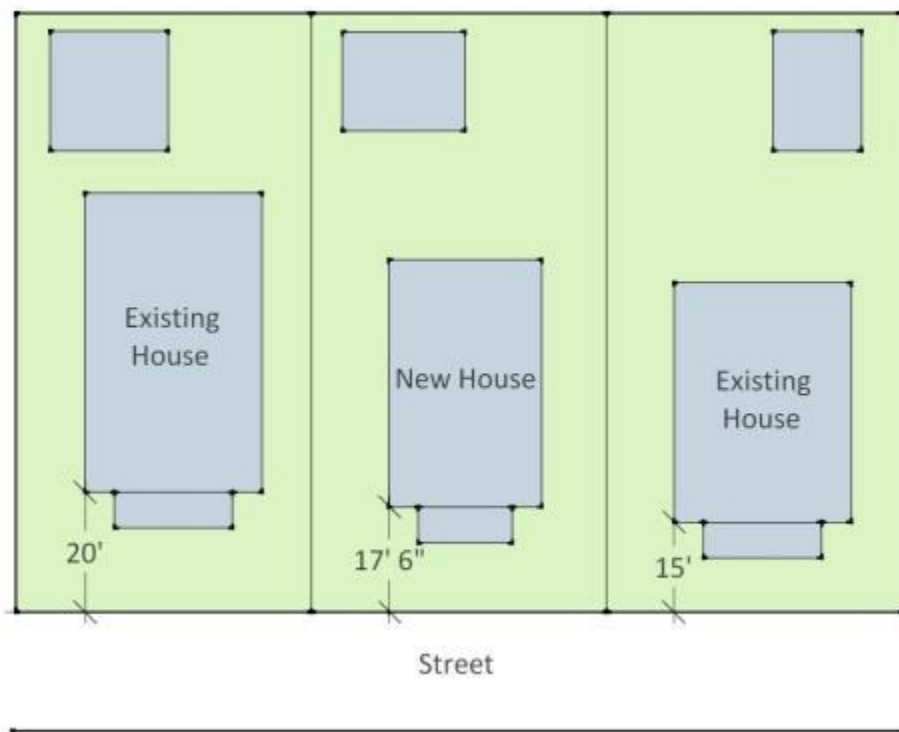


Figure 4: Front Yard Setback

2. Side yard setback. Side yard setbacks shall be five feet, except:

N/A – This solar project does not propose any changes to the side yard setback.

a. Bays, porches and chimneys and other projections that are cumulatively no more than 20 percent of the overall respective building wall length may intrude 18 inches into the side yard setback; and

b. One-story accessory structures may be sited within three feet of the side property line and two-story accessory structures shall be a minimum of 15 feet from the side property line.

3. Side street setback. Setbacks from side streets shall be 10 feet for both developed and undeveloped streets, except:

N/A – This solar project does not propose any changes to the side street setback.

a. Bays, porches and chimneys and other projections may intrude two feet into side street yard setback; and

b. One- and two-story accessory structures may be sited within five feet of the side street property line.

4. Rear yard setback. The rear yard setback shall be a minimum of 20 feet, except for accessory structures, which may be sited to within three feet of the rear property lines.

N/A – This solar project does not propose any changes to the rear yard setback.

5. Orientation. New home construction on corner lots shall be oriented the same direction as the majority of homes on the street with the longest block frontage.

N/A – This solar project does not propose any new home construction.

6. *Repealed by Ord. 1675.*

7. Building height.

a. Residential structures are limited to 28 feet in height. Cupolas and towers shall not exceed 50 feet in height.

N/A – This solar project is not proposed on a residential structure.

b. *Repealed by Ord. 1735.*

c. *Repealed by Ord. 1735.*

d. Accessory structures shall not exceed the height of the primary dwelling.

N/A – This solar project is proposed on a single story detached garage accessory structure which is shorter than the existing 2-story residence on the property.

8. Building shapes and sizes. No building shall exceed 35 feet in overall width. Front facade gables shall not exceed 28 feet in overall width.

N/A – This solar project will not change the shape or size of any buildings.

9. Roof pitch. Roofs shall have a pitch of at least 6:12.

N/A – This solar project will not change the shape or size of any roofs.

10. Garage access and parking areas.

This solar project will be mounted on the roof of a garage which has a door that opens onto an alley. No changes will be made to the property's parking access as a result of the solar installation.

a. Garages shall be accessed from an alley, if present. No garage door may face or have access onto a street except when alley access is not available.

b. Parking areas.

- 1) No residential lot shall be converted solely to parking use.
- 2) No rear yard area shall be converted solely to parking use.
- 3) When a lot is adjacent to an alley, all parking access shall be from the alley. (Ord. 1614 § 6, 2013; Ord. 1636 § 23, 2014; Ord. 1675 § 33, 2018; Ord. 1735 § 3 (Exh. B), 2022)

25.080 MODIFICATIONS TO DESIGN STANDARDS

This section provides for deviation from site development standards in this chapter to enable flexibility and innovation consistent with the purposes of this chapter while ensuring that the features that historic designations are intended to preserve are maintained.

[N/A – No alternatives are needed for this proposed project to comply with existing design standards.](#)

- A. Applicability. The provisions of Chapter 75 CDC, Variance, shall not apply to the standards in this chapter.
- B. Assessment of modification. When an applicant proposes an alternative to the standards of this chapter the approval authority shall grant a modification when:
 1. Historical records. The applicant demonstrates by review of historical records or photographs that the proposed alternative is consistent with and appropriate to the architecture in the historic district, or is appropriate to the applicable style of architecture;
 2. Consistency. The resulting development of the proposal would be consistent with the intent of the standards for which the modification is requested, as determined by the approval authority;
 3. Negative impacts. Negative impacts to adjacent homes and/or a historic district will be minimized. These include, but are not limited to, loss of solar access, light, or air to an adjacent structure, and scale or mass that visually overwhelm or are not deferential to an adjacent landmark or contributing structure; and
 4. Exceptional architecture. The proposal incorporates exceptional and appropriate architectural elements into the building.
 5. Material substitution. The substitute material conveys the form, design, scale, detailing, and overall appearance of the historic material, and the application of the substitute does not damage, destroy, or obscure historic features. (Ord. 1614 § 6, 2013; Ord. 1735 § 3 (Exh. B), 2022)

25.090 DESIGNATION OF A HISTORIC RESOURCE

[N/A – We do not propose to add to or change the historic resource designation.](#)

25.100 REMOVAL OF HISTORIC RESOURCE DESIGNATION

[N/A – We do not propose to remove the historic resource designation.](#)

25.110 RELOCATION OF A HISTORIC RESOURCE

[N/A – no relocation proposed](#)

25.120 DEMOLITION OF A HISTORIC RESOURCE

N/A – no demolition proposed

25.130 DEMOLITION BY NEGLECT

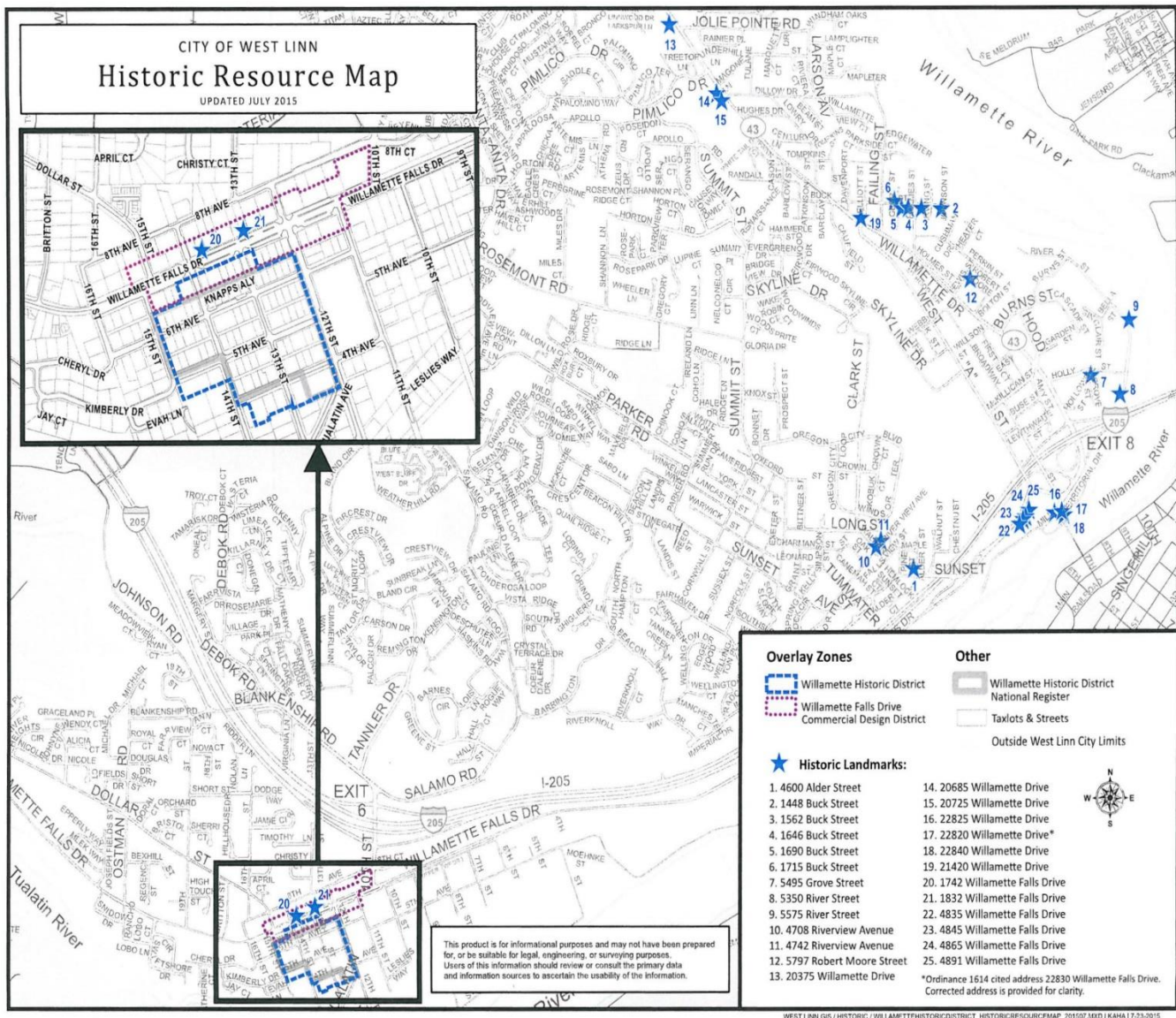
N/A – no demolition proposed

25.140 HISTORIC RESOURCE MAP

The Historic Resource Map, shown in Figure 1 below, identifies the Willamette Historic District, as shown on the Zoning Map; the Willamette Falls Drive Commercial Design District, as identified in CDC 58.030(C); and the historic landmarks identified on the Zoning Map.

The proposed solar project will be located on the rear roof of the detached garage accessory structure on a residential property located within the boundaries of the Willamette Historic District. The property is located at the southeast corner of the intersection of 6th Avenue and 15th Street.

FIGURE 1



(Ord. 1638 § 1, 2015; Ord. 1735 § 3 (Exh. B), 2022)

Site Photos

1611 6th Ave, West Linn, OR 97068
Owner: Kathy Selvaggio



Figure 1: View of Selvaggio Property from the yard directly across the street.

The solar panels will be mounted on the far side of the garage which is behind the tree with red leaves.



Figure 2: View of Selvaggio Property from the path leading to the front door of the home directly across the street.

The solar panels will be mounted on the far side of the garage which is behind the tree with red leaves and to the left of the patio of the home.



Figure 3: View of the rear of the garage from the Alley off of 15th Street



Figure 4: View of neighboring solar installation on the rear roof of the neighboring detached garage accessory structure



Figure 5: View of the rear of the garage from the Alley off of 15th Street



Figure 6: View of the rear roof of the garage from a garage on the opposite side of the alley



Figure 7: View of the rear of the garage from a position directly across the alley from the garage

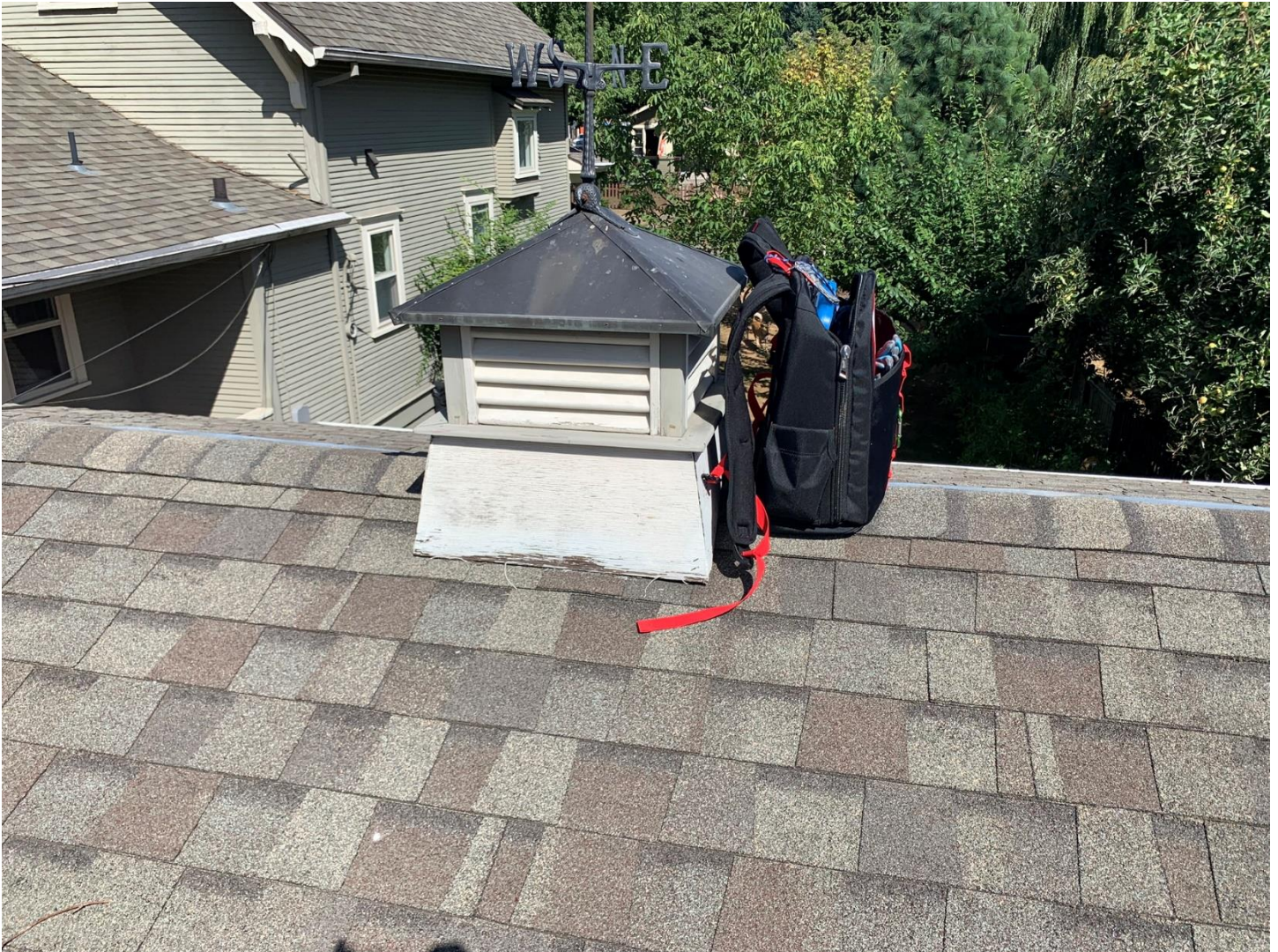


Figure 8: The decorative feature on the roof will not be modified or moved



Figure 9: The rear roof of the garage with the neighboring garage and home's solar panels visible

System Information

PV Modules: (12) Silfab Solar SIL-400 HC+ Modules

Inverters: (12) Enphase Energy IQ8PLUS-72-2-US Microinverters

4.8 kW PV System

15th St

6th Ave

Property Line

Adjacent Property
Detached Garage
6' between the two garages

Home

Garage

Alley

12 Modules
Tilt 16°, Azimuth 165°

Utility Meter

PV AC Disconnect
(within 10ft of Utility Meter)

PV AC Combiner

Site Plan

Scale: 1/32" = 1'-0"



Kathy Selvaggio

1611 6th Ave, West Linn, OR 97068

PNW0771A

ProStat Solar Group, License: CCB # 189902

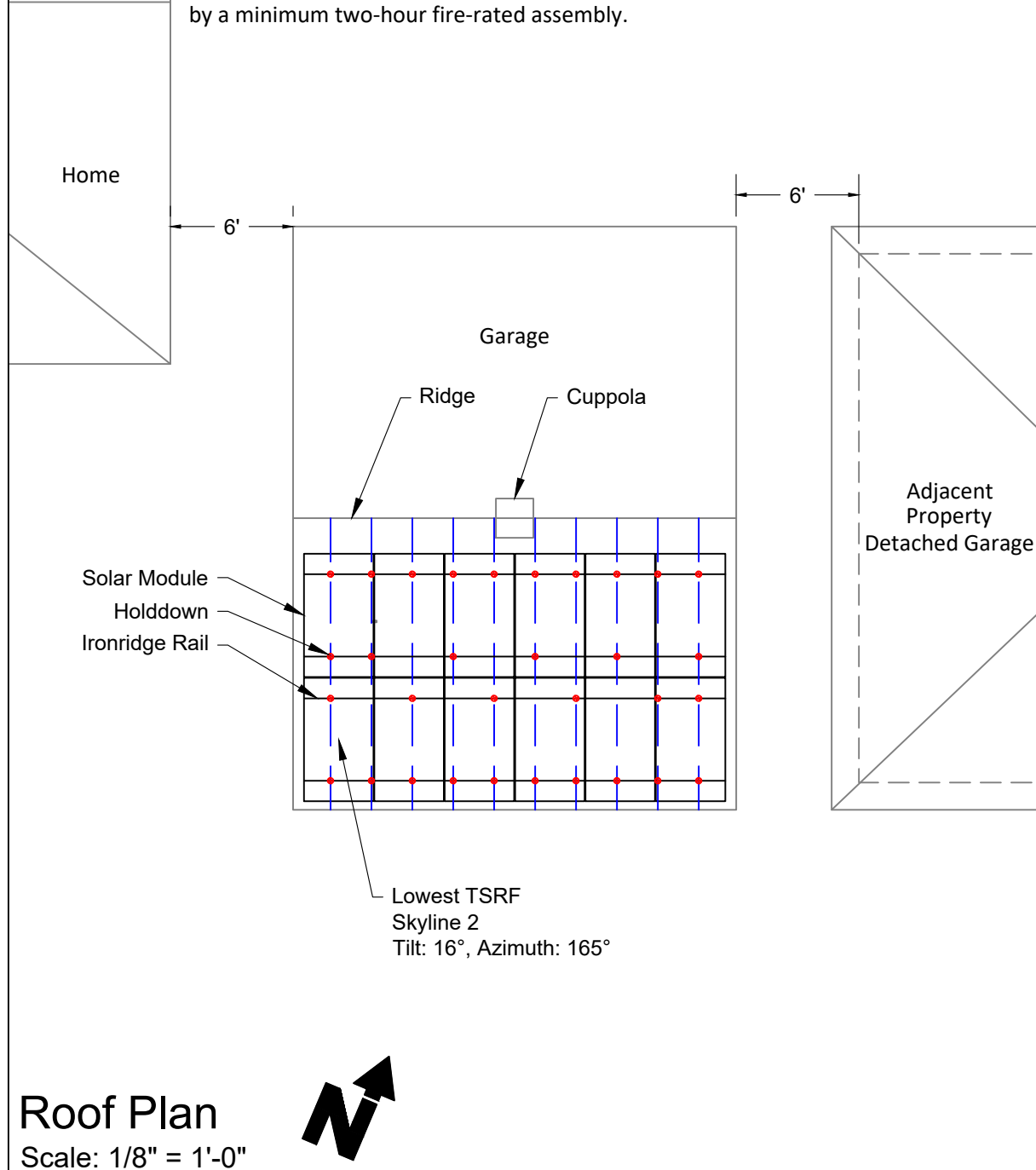
1721 NE 64th Ave #120 Vancouver, WA 98661

(360) 859-3749

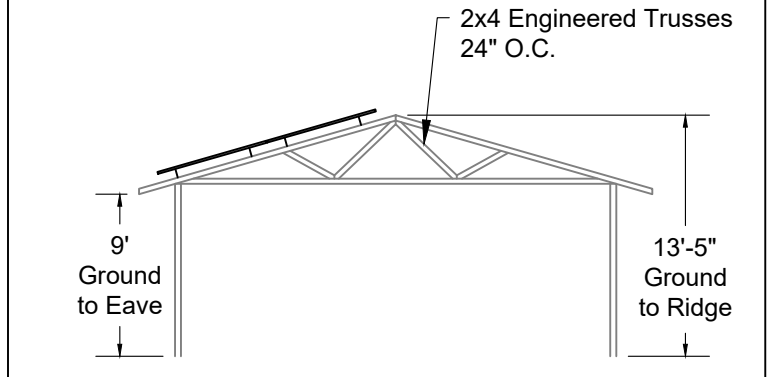
Designed By: S Pavey, 8/16/23

3111.3.4.8.1 Pathway Requirements (2022 OSSC)

Ex. 2. Pathways are not required on nonoccupied accessory structures, provided that they are separated from occupied structures by not less than 60 inches (3048 mm) or by a minimum two-hour fire-rated assembly.



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



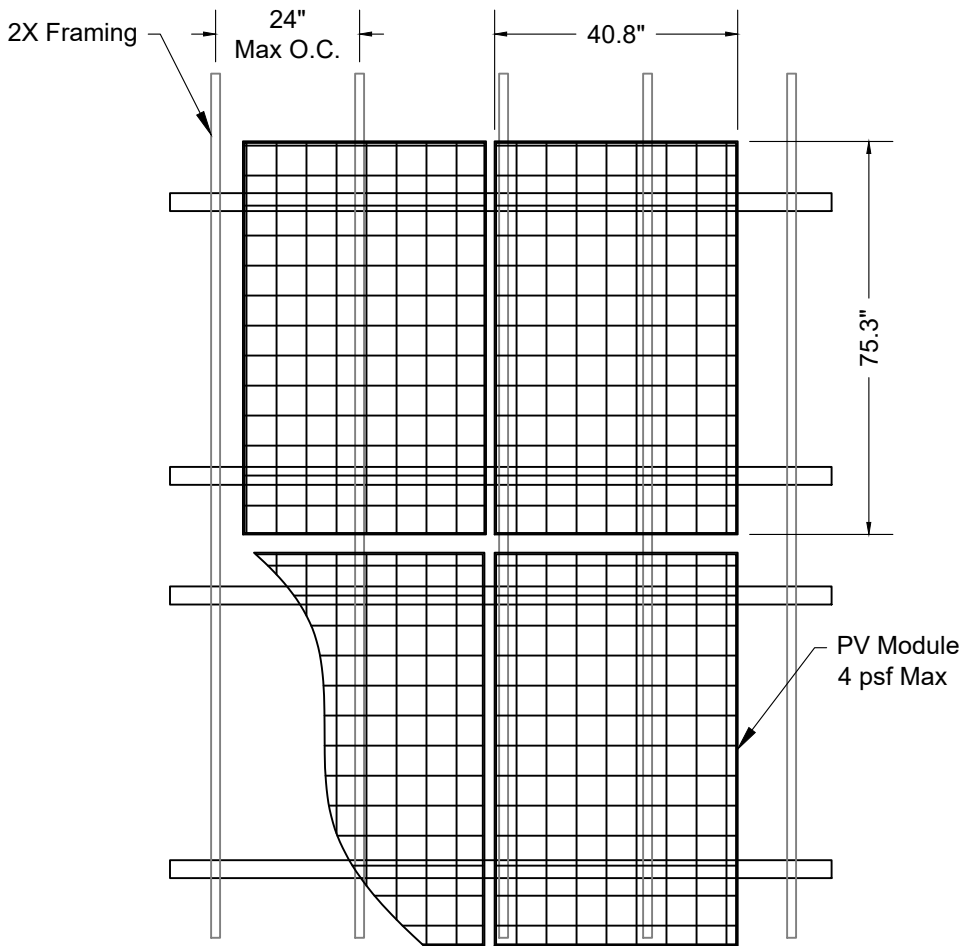
Roof Elevation | Scale: 3/32" = 1'-0"

NOTES:

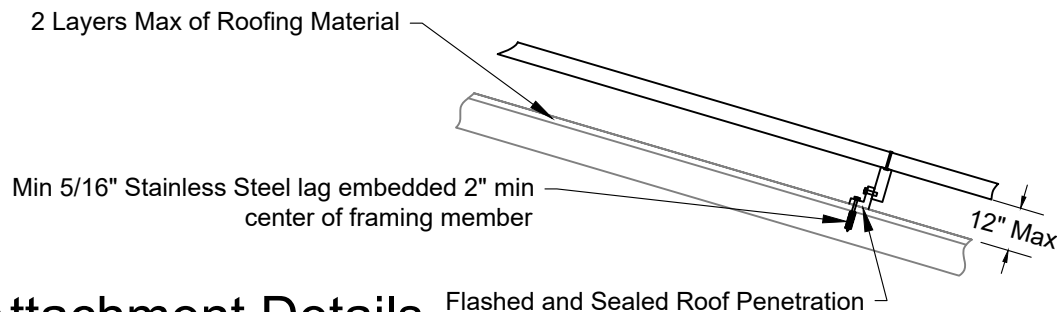
- 1) Attachments must be spaced not greater than 48 inches on center in any direction. Attachments shall be spaced not greater than 24 inches on center in any direction where located within 3 feet of a roof edge, hip, eave or ridge.
- 2) Solar weight is less than 4.5 lbs/sqft
- 3) Roof material: Composite Asphalt Shingle
- 4) Spans comply with OSSC 2308.7.2
- 5) Array complies with 2022 OSSC 3111.3.4.8

Array Coverage	
Roof Area (Plan View)	618 SqFt
Array Area (Plan View)	246.1 SqFt
Array Area / Roof Area	40%

Kathy Selvaggio
 1611 6th Ave, West Linn, OR 97068
 PNW0771A
 ProStat Solar Group, License: CCB # 189902
 1721 NE 64th Ave #120 Vancouver, WA 98661
 (360) 859-3749
 Designed By: S Pavey, 8/16/23



Mounting Details



Attachment Details

Mounting Specifications

Racking Manufacturer	IronRidge
Racking Model	XR100
Attachment Manufacturer	IronRidge
Attachment Model	FlashFoot 2
Roof Area (Plan View)	618 SqFt
Array Area (Plan View)	246.1 SqFt
Array Area / Roof Area	40%
Roof Material	Composite Asphalt Shingle
Roof Structure	2x4 Engineered Trusses, 24" On Center

NOTES:

- 1) Attachments spaced so that no point load exceeds 50 lb.
- 2) Module connected to rails with 1 connector per 8 sqft or less, per racking manufacturer's specifications.
- 3) Aluminum rails to be mounted to alternate roof framing, 4 ft O.C. max. Two rails per Module, min.
- 4) 2x joist/truss to meet Oregon Solar code span requirements.

Kathy Selvaggio

1611 6th Ave, West Linn, OR 97068

PNW0771A

ProStat Solar Group, License: CCB # 189902

1721 NE 64th Ave #120 Vancouver, WA 98661

(360) 859-3749

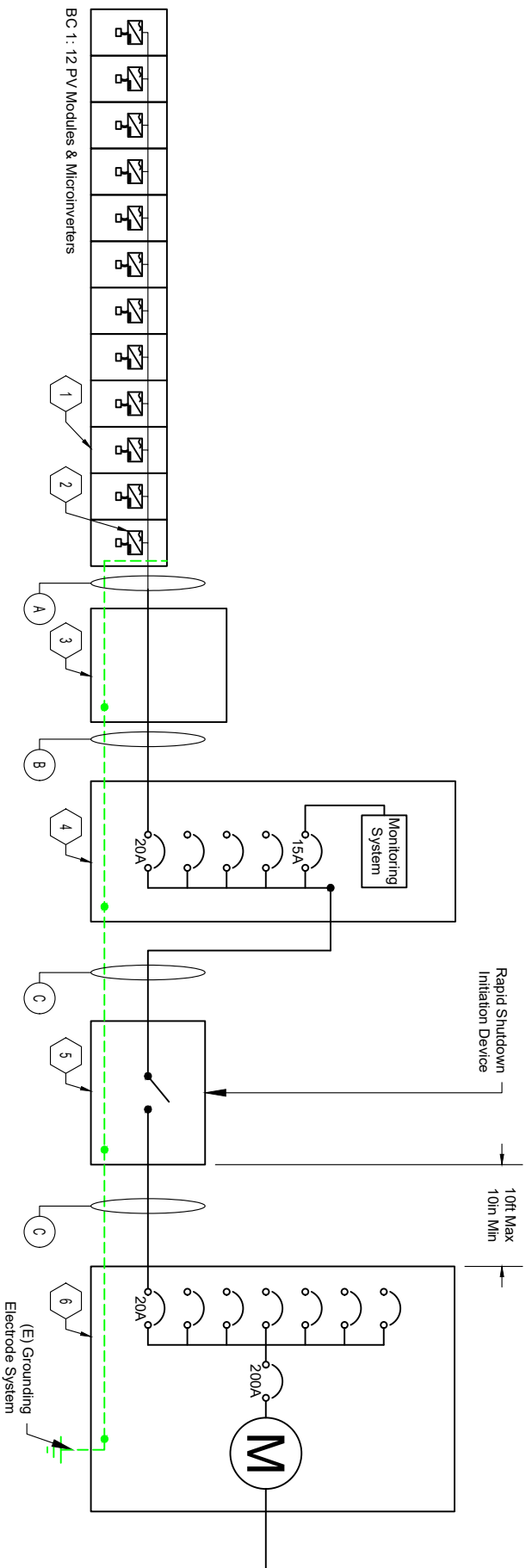
Designed By: S Pavey, 8/16/23

System Information

PV Modules: (12) Sifab Solar SIL-400 HC+ Modules
Inverters: (12) Enphase Energy IQ8PLUS-72-2-US Microinverters
4.8 kW PV System

Equipment Schedule

Tag	Qty	Description
1	12	New Sifab Solar SIL-400 HC+ .400 W Photovoltaic Modules
2	12	New Enphase Energy IQ8PLUS-72-2-US Microinverters
3	1	New NEMA 4X Junction Box
4	1	New Enphase AC Combiner, X-IQ-AM1-240-4, 125A, 240V, NEMA 3R
5	1	New Cutler Hammer DG221URB 30A Unfused AC Disconnect, Located adjacent to Utility Meter
6	1	Existing Meter Main Panel, 200A, 200A Main Breaker, 120/240V, 1 Phase, 3 Wire



Conduit & Conductor Schedule

Tag	Conductor Type	Conductor Quantity	Conductor Size	Neutral Size	EGC Size	Conduit Type	Conduit Size	Conduit Fill
A	Q CABLE	(1) 2-Wire #12 Cable per Branch Circuit	#10		Bare Copper #6	FREE AIR	3/4"	N/A
B	THWN-2	2	#10		#12	EMT	3/4"	11%
C	THWN-2	2	#10	#10	#10	EMT	3/4"	16%

Single Line Diagram

Kathy Salvaggio
 1611 6th Ave, West Linn, OR 97068
 PNW0771A
 ProStat Solar Group, License: CCB # 189902
 1721 NE 64th Ave #120 Vancouver, WA 98661
 (360) 859-3749
 Designed By: S Pavey, 8/16/23

PV Module Specifications	
Module Make	Silfab Solar
Module Model	SIL-400 HC+
Max. Power Point Current (Imp)	11.1 A
Max. Power Point Voltage (Vmp)	36.05 VDC
Open-Circuit Voltage (Voc)	43.02 VDC
Short-Circuit Current (Isc)	11.58 A
Max. Series Fuse (OCPD)	20 A
Max. Power (Pmax)	400 Watts DC
Max. Voltage	1000 Volts DC

Inverter Specifications	
Inverter Make	Enphase Energy
Inverter Model	IQ8PLUS-72-2-US
Max. DC Volt Rating	60 VDC
Nominal AC Voltage	240 VAC
Max Continuous Output Power	290 W
Max. AC Current ARMS	1.21 A
Max. OCPD	20 A

Voltage Drop Calculations - 240VAC, 1 Phase								
Tag	Description	V Drop (V)	V Drop (%)	Inverter Qty / Circuit	Max Circuit Current (A)	AWG	Ω/ 1000 ft	1-Way Distance (ft)
A	Enphase Q Cable to Roof-Mounted J-Box	2.43	1.01%	12	14.52	N/A	N/A	N/A
B	Junction Box to AC Combiner	0.72	0.30%	12	14.52	#10	1.24	20
C	AC Combiner to AC Disconnect	0.36	0.15%	12	14.52	#10	1.24	10
C	AC Disconnect to Service Panel	0.36	0.15%	12	14.52	#10	1.24	10
Totals		3.87 V	1.61%	✓	1.61% < 2.0%			

Electrical Calculations & Equipment Specifications

Kathy Selvaggio
 1611 6th Ave, West Linn, OR 97068
 PNW0771A
 ProStat Solar Group, License: CCB # 189902
 1721 NE 64th Ave #120 Vancouver, WA 98661
 (360) 859-3749
 Designed By: S Pavey, 8/16/23

WARNING

THIS EQUIPMENT FED BY MULTIPLE SOURCES

TOTAL RATING OF ALL OVERCURRENT DEVICES,
EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE,
SHALL NOT EXCEED AMPACITY OF BUSBAR.

PV AC DISCONNECT

PHOTOVOLTAIC POWER SOURCE

RATED AC OUTPUT CURRENT: 14.52 A

RATED AC OPERATING VOLTAGE: 240 VAC

CAUTION

DUAL POWER SOURCE
SECOND SOURCE IS PV SYSTEM

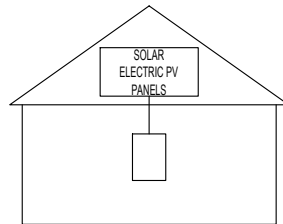
PV SYSTEM DISCONNECT LOCATED:
ADJACENT TO UTILITY METER

RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM

PV SOLAR BREAKER
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

SOLAR PV SYSTEM IS EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN
SWITCH TO THE "OFF"
POSITION TO SHUT DOWN
PV SYSTEM AND REDUCE
SHOCK HAZARD IN THE
ARRAY



Labels & Markings

Kathy Selvaggio

1611 6th Ave, West Linn, OR 97068

PNW0771A

ProStat Solar Group, License: CCB # 189902

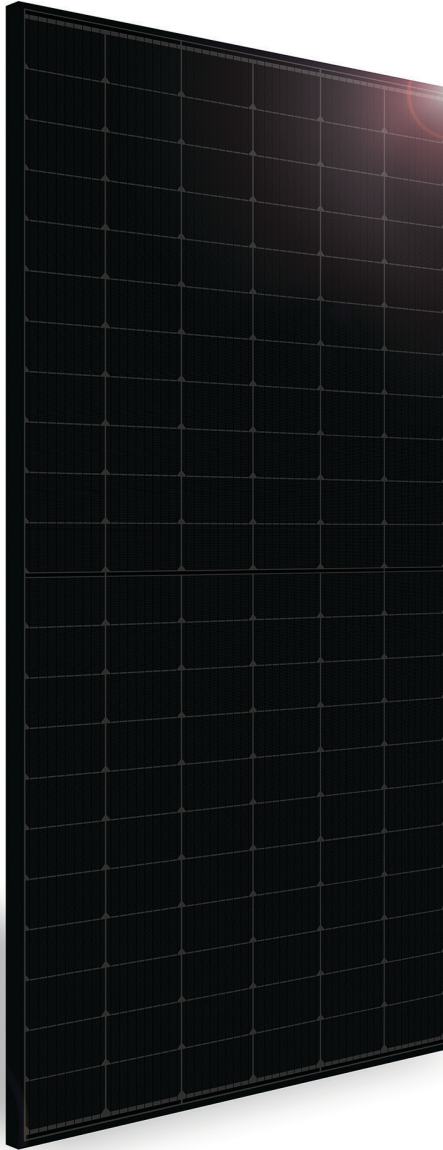
1721 NE 64th Ave #120 Vancouver, WA 98661

(360) 859-3749

Designed By: S Pavey, 8/16/23

SILFAB PRIME

SIL-400 HC+



RELIABLE ENERGY. DIRECT FROM THE SOURCE.

Designed to outperform.

Dependable, durable, high-performance solar panels engineered for North American homeowners.



SILFABSOLAR.COM



CHUBB®

* Chubb provides error and omission insurance to Silfab Solar Inc.

ELECTRICAL SPECIFICATIONS		400	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	400	298
Maximum power voltage (Vpmax)	V	36.05	33.50
Maximum power current (Ipmax)	A	11.10	8.90
Open circuit voltage (Voc)	V	43.02	40.35
Short circuit current (Isc)	A	11.58	9.34
Module efficiency	%	20.2%	18.8%
Maximum system voltage (VDC)	V		1000
Series fuse rating	A		20
Power Tolerance	Wp		0 to +10

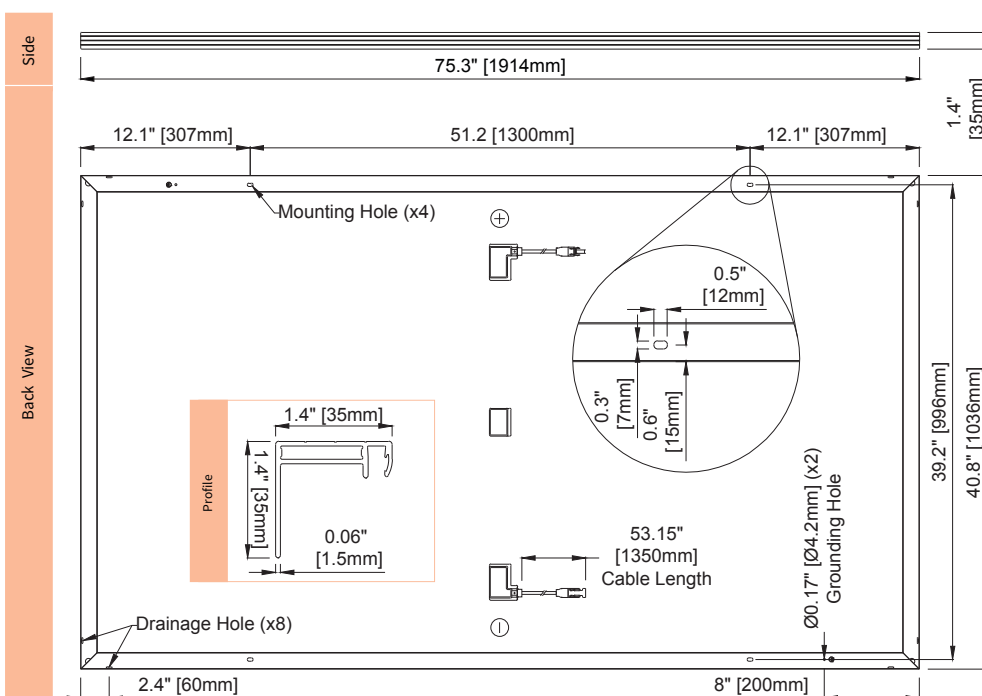
Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	21.3kg ±0.2kg	47lbs ±0.4lbs
Dimensions (H x L x D)	1914 mm x 1036 mm x 35 mm	75.3 in x 40.8 in x 1.37 in
Maximum surface load (wind/snow)*	5400 Pa rear load / 5400 Pa front load	112.8 lb/ft ² rear load / 112.8 lb/ft ² front load
Hail impact resistance	Ø 25 mm at 83 km/h	Ø 1 in at 51.6 mph
Cells	132 Half cells - Si mono PERC 9 busbar - 83 x 166 mm	132 Half cells - Si mono PERC 9 busbar - 3.26 x 6.53 in
Glass	3.2 mm high transmittance, tempered, DSM antireflective coating	0.126 in high transmittance, tempered, DSM antireflective coating
Cables and connectors (refer to installation manual)	1350 mm, Ø 5.7 mm, MC4 from Staubli	53 in, Ø 0.22 in (12AWG), MC4 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized Aluminum (Black)	
Bypass diodes	3 diodes-30SQ045T (45V max DC blocking voltage, 30A max forward rectified current)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated	

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	+0.064 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.28 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.36 %/°C		≥ 97.1% end 1st yr ≥ 91.6% end 12th yr ≥ 85.1% end 25th yr ≥ 82.6% end 30th yr
NOCT (± 2°C)	45 °C		
Operating temperature	-40/+85 °C		

CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215-1:2017 Ed.1***, UL 61215-2:2017 Ed.1***, UL 61730-1:2017 Ed.1***, UL 61730-2:2017 Ed.1***, CSA C22.2#61730-1:2019 Ed.2***, CSA C22.2#61730-2:2019 Ed.2***, IEC 61215-1:2016 Ed.1***, IEC 61215-2:2016 Ed.1***, IEC 61730-1:2016 Ed.2***, IEC 61730-2:2016 Ed.2***, IEC 61701:2020 (Salt Mist Corrosion), IEC 62716:2013 (Ammonia Corrosion), UL Fire Rating: Type 2, CEC Listing***	Modules Per Pallet:	26 or 26 (California)
Factory	ISO9001:2015	Pallets Per Truck	34 or 31 (California)
		Modules Per Truck	832 or 806 (California)

- * ⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.
- ** 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com.
- PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads.
- *** Certification and CEC listing in progress. December 2022, expected completion.



SILFAB SOLAR INC.

800 Cornwall Ave
Bellingham WA 98225 USA
T +1 360.569.4733
info@silfabsolar.com

SILFABSOLAR.COM

1770 Port Drive
Burlington WA 98233 USA
T +1 360.569.4733

240 Courtneypark Drive East
Mississauga ON L5T 2Y3 Canada
T +1 905.255.2501
F +1 905.696.0267

Silfab - SIL-400-HC+-20220906

No reproduction of any kind is allowed without permission. Data and information is subject to modifications without notice. © Silfab Solar Inc., 2022. Silfab Solar® is a registered trademark of Silfab Solar Inc.



IQ8 and IQ8+ 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 super-fast 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 Enphase IQ Battery, Enphase 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 Shut Down 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) requirements

* Only when installed with IQ System Controller 2, meets UL 1741.

** IQ8 and IQ8Plus supports split phase, 240V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings ¹	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current ² [module Isc]	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range ³	V	240 / 211 – 264	
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	50 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max units per 20 A (L-L) branch circuit ⁴		16	13
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	%	97.5	97.6
CEC weighted efficiency	%	97	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 (HxWxD)		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, UL1741/IEEE1547, 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 Shut Down 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) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility>

(2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2022-03-17

The Strongest Attachment in Solar

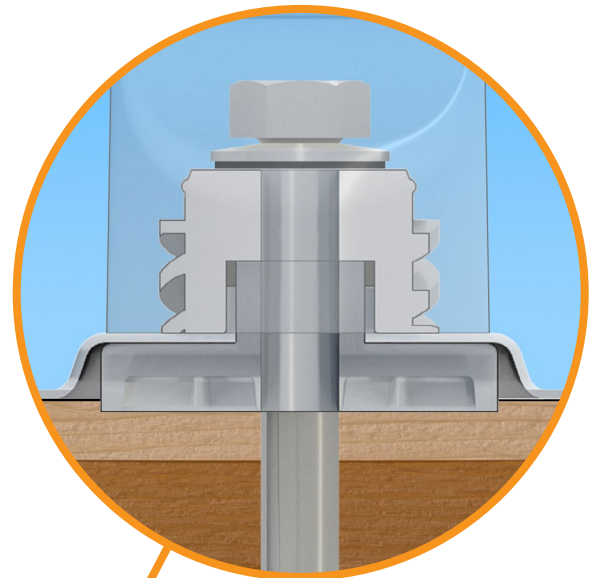
IronRidge FlashFoot2 raises the bar in solar roof protection. The unique water seal design is both elevated and encapsulated, delivering redundant layers of protection against water intrusion. In addition, the twist-on Cap perfectly aligns the rail attachment with the lag bolt to maximize mechanical strength.

Twist-On Cap

FlashFoot2's unique Cap design encapsulates the lag bolt and locks into place with a simple twist. The Cap helps FlashFoot2 deliver superior structural strength, by aligning the rail and lag bolt in a concentric load path.

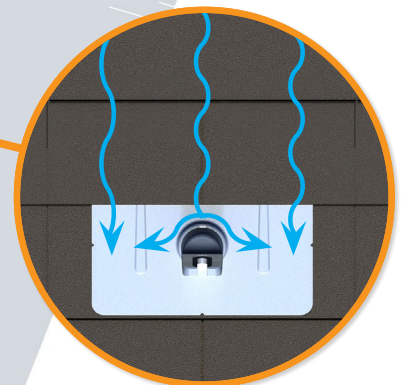
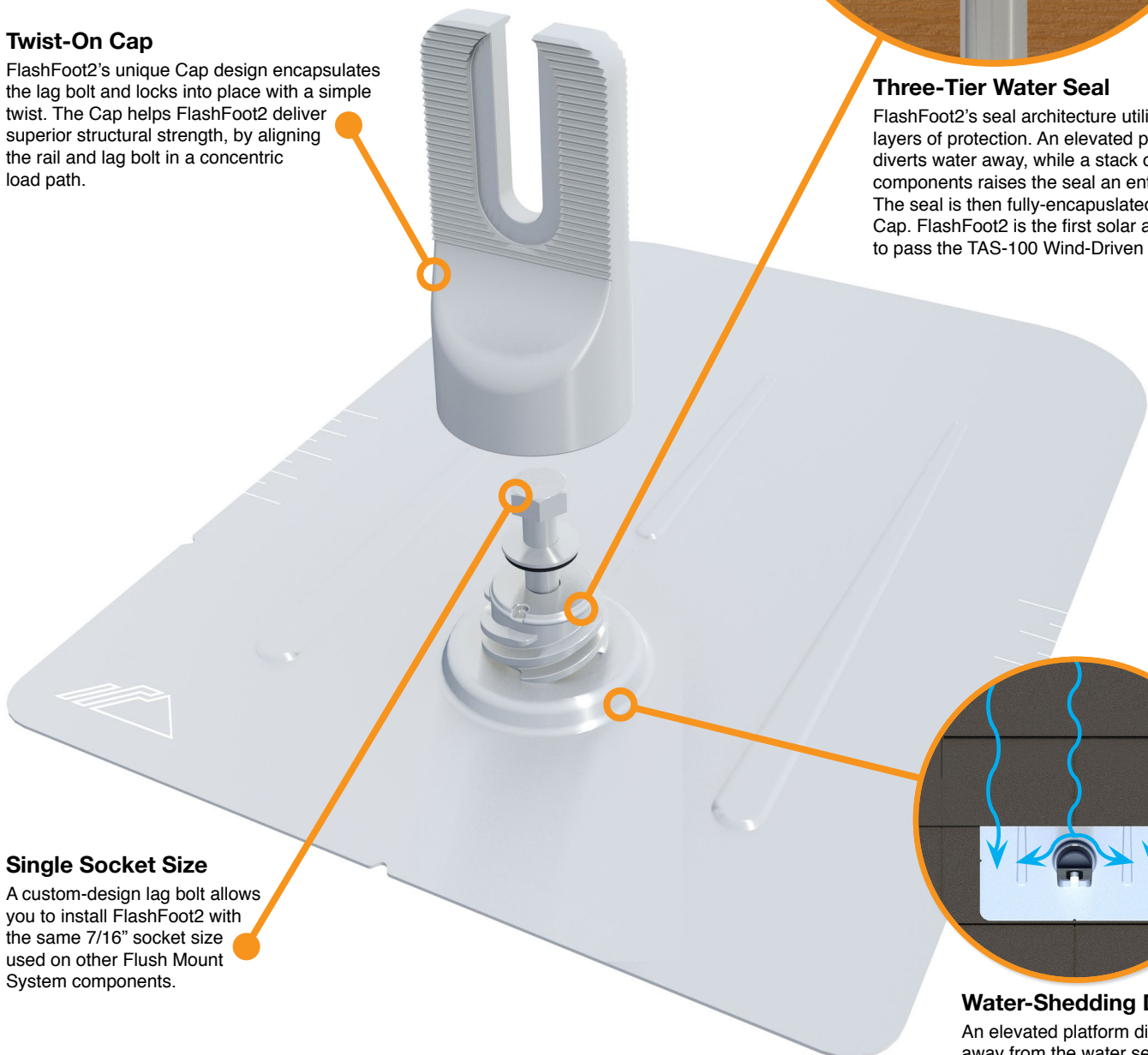
Single Socket Size

A custom-design lag bolt allows you to install FlashFoot2 with the same 7/16" socket size used on other Flush Mount System components.



Three-Tier Water Seal

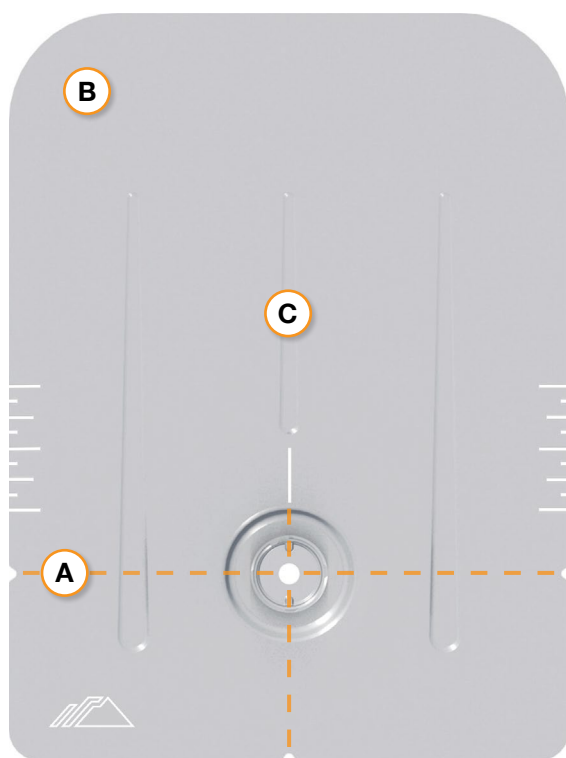
FlashFoot2's seal architecture utilizes three layers of protection. An elevated platform diverts water away, while a stack of rugged components raises the seal an entire inch. The seal is then fully-encapsulated by the Cap. FlashFoot2 is the first solar attachment to pass the TAS-100 Wind-Driven Rain Test.



Water-Shedding Design

An elevated platform diverts water away from the water seal.

Installation Features



A Alignment Markers

Quickly align the flashing with chalk lines to find pilot holes.

B Rounded Corners

Makes it easier to handle and insert under the roof shingles.

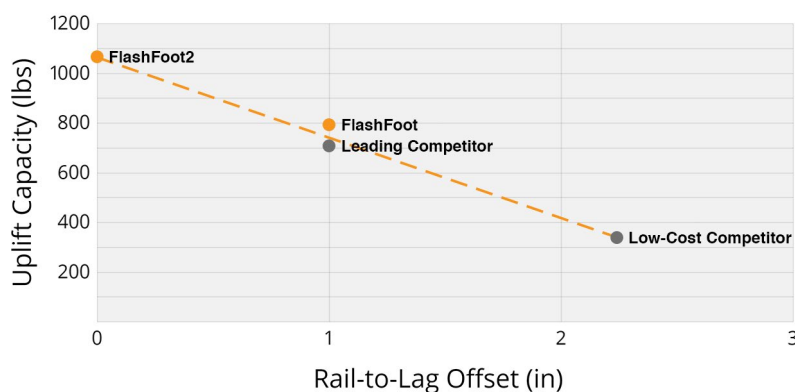
C Reinforcement Ribs

Help to stiffen the flashing and prevent any bending or crinkling during installation.

Benefits of Concentric Loading

Traditional solar attachments have a horizontal offset between the rail and lag bolt, which introduces leverage on the lag bolt and decreases uplift capacity.

FlashFoot2 is the only product to align the rail and lag bolt. This concentric loading design results in a stronger attachment for the system.



Testing & Certification

Structural Certification

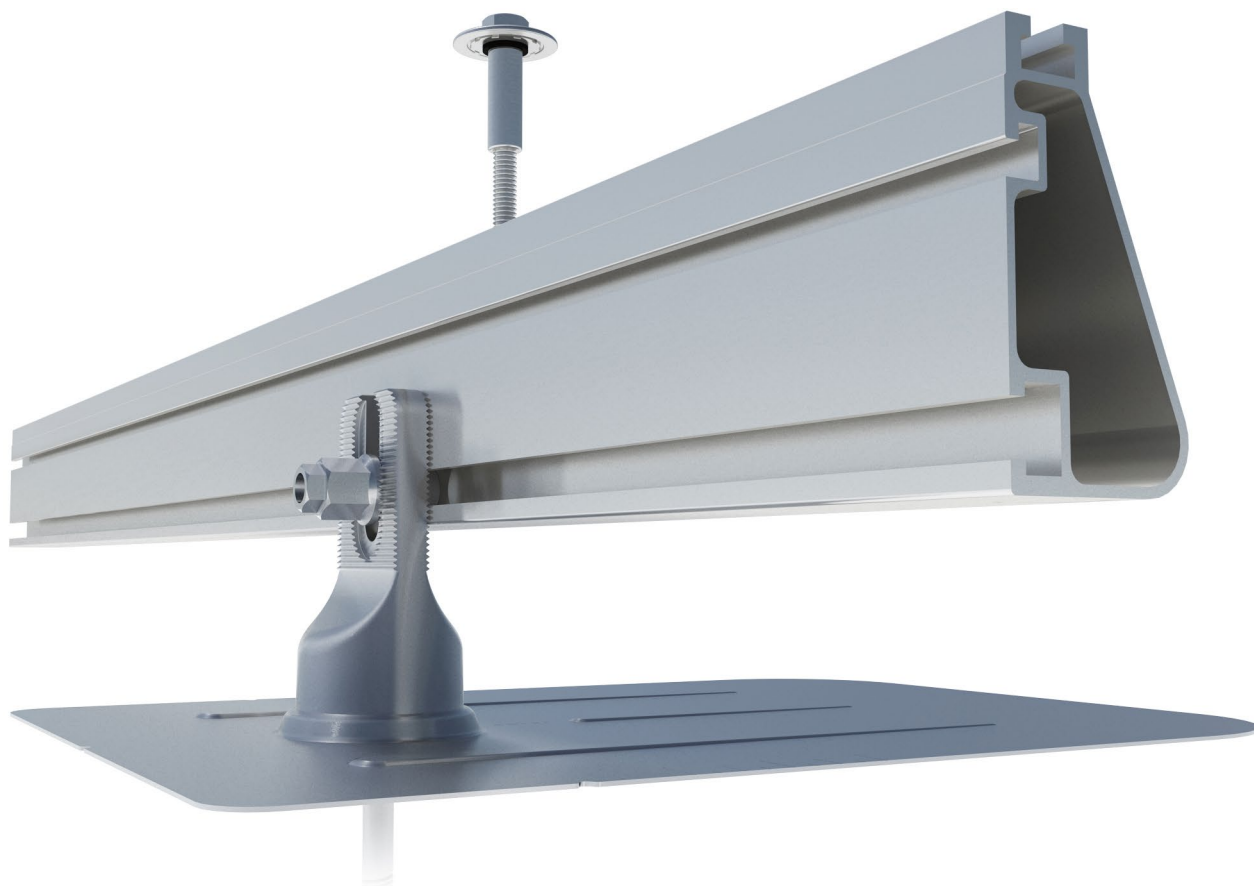
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings

Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100-95 "Wind Driven Rain Test" by Intertek. Ratings applicable for composition shingle roofs having slopes between 2:12 and 12:12.

UL 2703

Conforms to UL 2703 Mechanical and Bonding Requirements. See Flush Mount Install Manual for full ratings.



Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Every component has been tested to the limit and proven in extreme environments.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 20-year warranty.



Strength Tested

All components evaluated for superior structural performance.



PE Certified

Pre-stamped engineering letters available in most states.



Class A Fire Rating

Certified to maintain the fire resistance rating of the existing roof.



Design Assistant

Online software makes it simple to create, share, and price projects.



UL 2703 Listed System

Entire system and components meet newest effective UL 2703 standard.



25-Year Warranty

Products guaranteed to be free of impairing defects.

XR Rails ☺

XR10 Rail



A low-profile mounting rail for regions with light snow.

- 6' spanning capability
- Moderate load capability
- Clear and black finish

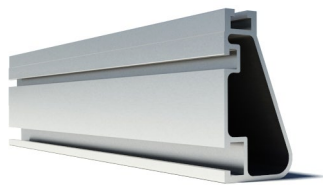
XR100 Rail



The ultimate residential solar mounting rail.

- 8' spanning capability
- Heavy load capability
- Clear and black finish

XR1000 Rail



A heavyweight mounting rail for commercial projects.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish

Bonded Splices



All rails use internal splices for seamless connections.

- Self-drilling screws
- Varying versions for rails
- Forms secure bonding

Clamps & Grounding ☺

UFOs



Universal Fastening Objects bond modules to rails.

- Fully assembled & lubed
- Single, universal size
- Clear and black finish

Stopper Sleeves



Snap onto the UFO to turn into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

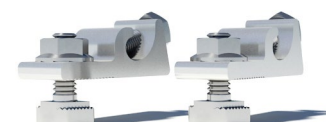
CAMO



Bond modules to rails while staying completely hidden.

- Universal end-cam clamp
- Tool-less installation
- Fully assembled

Grounding Lugs



Connect arrays to equipment ground.

- Low profile
- Single tool installation
- Mounts in any direction

Attachments ☺

FlashFoot2



Flash and mount XR Rails with superior waterproofing.

- Twist-on Cap eases install
- Wind-driven rain tested
- Mill and black finish

Conduit Mount



Flash and mount conduit, strut, or junction boxes.

- Twist-on Cap eases install
- Wind-driven rain tested
- Secures 3/4" or 1" conduit

Slotted L-Feet



Drop-in design for rapid rail attachment.

- Secure rail connections
- Slot for vertical adjusting
- Clear and black finish

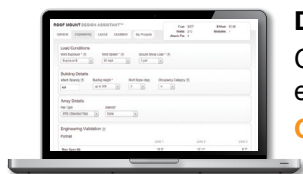
Bonding Hardware



Bond and attach XR Rails to roof attachments.

- T & Square Bolt options
- Nut uses 7/16" socket
- Assembled and lubricated

Resources



Design Assistant

Go from rough layout to fully engineered system. For free.

[Go to IronRidge.com/design](http://IronRidge.com/design)



NABCEP Certified Training

Earn free continuing education credits, while learning more about our systems.

[Go to IronRidge.com/training](http://IronRidge.com/training)