A. CASE ITEMS FOR CONSIDERATION
   1. INSTALLATION OF FENCE
      Amendment to HP-0529-2023 approved by the Tulsa Preservation Commission on January 11, 2024

B. BACKGROUND
   DATE OF CONSTRUCTION: 1928
   ZONED HISTORIC PRESERVATION: 1995
   NATIONAL REGISTER LISTING: YORKTOWN HISTORIC DISTRICT, 2002
   CONTRIBUTING STRUCTURE: YES
   PREVIOUS ACTIONS:
   HP-0529-2023 – January 11, 2024 – TPC APPROVAL

B. ISSUES AND CONSIDERATIONS
   1. The applicant proposes the installation of a metal fence at the front (south), east, and west sides of the residence. A metal swing gate would also be installed in the side yard. On January 11, 2024, the Tulsa Preservation Commission approved of the proposed fence with the condition it be no taller than thirty-six inches (3’0”). The applicant now proposes the alteration of approved fence height be forty-eight inches (4’-0”). The proposed footprint of the fence remains the same at 29’ x 38’ x 22’.

   2. Reference: Tulsa Zoning Code
      SECTION 70.070-F Standards and Review Criteria
      In its review of HP permit applications, the preservation commission must use the adopted design guidelines to evaluate the proposed work and must, to the greatest extent possible, strive to affect a fair balance between the purposes and intent of HP district regulations and the desires and need of the property owner. In addition, the preservation commission must consider the following specific factors:
      1. The degree to which the proposed work is consistent with the applicable design guidelines;
      2. The degree to which the proposed work would destroy or alter all or part of the historic resource;
      3. The degree to which the proposed work would serve to isolate the historic resource from its surroundings, or introduce visual elements that are out of character with the historic resource and its setting, or that would adversely affect the physical integrity of the resource;
      4. The degree to which the proposed work is compatible with the significant characteristics of the historic resource; and
5. The purposes and intent of the HP district regulations and this zoning code.

   SECTION A – GUIDELINES FOR REHABILITATION OF EXISTING STRUCTURES
   A.1 General Requirements
   A.1.1 Retain and preserve the existing historic architectural elements of your home.
   A.1.2 If replacement of historic architectural elements is necessary, match the size, shape, pattern, texture, and directional orientation of the original historic elements.
   A.1.3 Ensure that work is consistent with the architectural style and period details of your home.
   A.1.4 Return the structure to its original historic appearance using physical or pictorial evidence, rather than conjectural designs.

   G.1 Landscape Features
   G.1.1 Retain and preserve original historic walls, fencing, lighting, planters, and other landscape features through repair.
   G.1.2 Removal of historic landscape features will be considered on a case-by-case basis. Removal of non-historic landscape features can be staff-approved.
   G.1.3 Ensure that new landscape features are appropriate to the style of your home and consistent with the historic elements found along the same street and within the district.
   G.1.4 Use fencing materials that are consistent with the historic fencing found along the same street and within the district. Chain-link fencing, wire fencing (12 gauge or less), vinyl fencing, or any fencing that blocks the view of structures is not allowed.
   G.1.5 Use wall materials that are consistent with the historic walls found along the same street and within the district. Cinder block, segmental retaining wall systems, corrugated metal, and railroad ties are not allowed. Historically styled cast concrete block will be considered on a case-by-case basis.
   .1 Elmwood – dry-stack retaining walls are not allowed

Survey photo 2001
Neighbor's fence at 2212 E 19th Street
Neighbor’s fence at 2212 E 19th Street

Proposed style of fence
Proposed style of fence

DOUBLE PICKET
The Independence Aluminum Fencing Double Picket line is a great option to increase safety and security for small children and pets.

Available in Independence grade only, all Double Picket panels feature twice the number of pickets and a tighter 1½” picket spacing.
To: fgood@cityoftulsa.org
https://tulsapreservationcommission.org/application/

Subject: Request for Reconsideration of Fence Height Approval

Dear Tulsa preservation commission,

I hope this letter finds you in good health and high spirits. I am writing to express my gratitude for your previous approval concerning the installation of a 3.6-foot fence in my front yard at 2119 E 20th St. Your understanding and support in maintaining the historical integrity of our community are greatly appreciated.

After careful consideration and consultation with my fencing specialist, I wish to request a reassessment of the approved fence height. Specifically, I propose an adjustment to a 4-foot height, which, as per our analysis, aligns more harmoniously with the landscape and overall aesthetic of the property and its surroundings.

Enclosed, please find an illustration [pic 1] that visually represents the proposed modification. This depiction aims to highlight the enhanced suitability of a 4-foot fence, emphasizing its seamless integration into the landscape, thereby contributing positively to the visual appeal and historical ambiance of the area.
Furthermore, I have taken the initiative to prepare the area for the seamless transition between the existing cement fence and the proposed front addition. This preparation ensures an even corner and continuity in the fence line, which further underscores the aesthetic and functional benefits of adjusting a fence height to 4 feet. [See pics 2 and 3 below]

Furthermore, Chris Wedel, my fence specialist, who possesses extensive experience and expertise in this field, is prepared to accompany me to a future committee meeting. He will assist me in providing a detailed explanation and address any questions or concerns the committee may have regarding the proposed adjustment.
I understand and respect the committee's commitment to preserving the historical essence of our community. It is with this respect in mind that I seek your approval for this slight modification, I am hopeful for the opportunity to discuss this proposal further and would be grateful for the chance to be invited again to present our case to the committee.

Your consideration of this request is deeply appreciated, and I look forward to your favorable response.

Thank you for your time and attention to this matter.

Sincerely,

Danielle Gurevitch

gurevid65@gmail.com #918-619-2676
HP PERMIT NUMBER: HP-0548-2024

PROPERTY ADDRESS: 1225 EAST 19TH STREET

DISTRICT: NORTH MAPLE RIDGE

APPLICANT: KEVIN KIRBY

REPRESENTATIVE:

A. CASE ITEMS FOR CONSIDERATION
   1. Construction of retaining wall and planter on east side of property along sidewalk
      Project initiated without an historic preservation permit

B. BACKGROUND
   DATE OF CONSTRUCTION: 1919
   ZONED HISTORIC PRESERVATION: 1993; ORDINANCE AMENDMENT 2005
   NATIONAL REGISTER LISTING: MAPLE RIDGE HISTORIC RESIDENTIAL DISTRICT, 1983
   CONTRIBUTING STRUCTURE: NO, but identified as a contributing structure in the 2023 survey of
      the Maple Heights Addition.

PREVIOUS ACTIONS:
HP-0547-2021 – FEBRUARY 22, 2024 – TPC APPROVAL
Construction of carport/port cochere – Amendment to HP-0331-2021 approved by Tulsa
Preservation Commission January 13, 2022; Permit expired January 15, 2024

HP-0540-2024 – JANUARY 18, 2024 – TPC APPROVAL
Removal of driveway on east side of property
Construction of retaining wall segment on east side of property
Construction of wall along north property line
Construction of seat wall & planter on east side of property
Installation of paving in street yard on north side of property

HP-0331-2021 – JANUARY 13, 2022 – TPC APPROVAL
Construction of carport/port cochere
Expansion of driveway
Construction of steps
C. ISSUES AND CONSIDERATIONS
The applicant would like to install a retaining wall and planter outside of the east perimeter wall between the city sidewalk and the new wall segment that was built in the previous second driveway location. The applicants’ first option would be a 24-foot wide by 5-foot deep by 2-foot-6 inches high planter with the north facing side of the planter serving as a retaining wall between the neighbors retaining wall segment and driveway. The proposed planter includes a series of (6) six weep holes that punch through the front face of the planter and are capped with a 3” diameter brass drain grille.

As a secondary option the applicant proposes a single East/West short retaining wall segment wall between the neighbors retaining wall segment and driveway. In both planter/retaining wall options will have a stucco finish applied and stucco clad masonry cap to match the existing perimeter wall. In both instances the applicant will also remake curbs and sidewalk per city standards. Applicant also provided examples of combined retaining walls and planters in the area.

a. Reference: Tulsa Zoning Code

SECTION 70.070-F Standards and Review Criteria
In its review of HP permit applications, the preservation commission must use the adopted design guidelines to evaluate the proposed work and must, to the greatest extent possible, strive to affect a fair balance between the purposes and intent of HP district regulations and the desires and need of the property owner. In addition, the preservation commission must consider the following specific factors:
1. The degree to which the proposed work is consistent with the applicable design guidelines;
2. The degree to which the proposed work would destroy or alter all or part of the historic resource;
3. The degree to which the proposed work would serve to isolate the historic resource from its surroundings, or introduce visual elements that are out of character with the historic resource and its setting, or that would adversely affect the physical integrity of the resource;
4. The degree to which the proposed work is compatible with the significant characteristics of the historic resource; and
5. The purposes and intent of the HP district regulations and this zoning code.


SECTION A – GUIDELINES FOR REHABILITATION OF EXISTING STRUCTURES

A.1 General Requirements
A.1.1 Retain and preserve the existing historic architectural elements of your home.
A.1.2 If replacement of historic architectural elements is necessary, match the size, shape, pattern, texture, and directional orientation of the original historic elements.
A.1.3 Ensure that work is consistent with the architectural style and period details of your home.
A.1.4 Return the structure to its original historic appearance using physical or pictorial evidence, rather than conjectural designs.

A.2 Exterior Walls
A.2.1 Retain and preserve the original historic wall materials and character-defining details, including, but not limited to, window and door trim, eave brackets, and embedded porch columns.
A.2.2 To return the home to its original historic appearance, remove non-historic siding and trim. Repair and restore the underlying historic siding, trim, and details. Removal of non-historic siding is encouraged (and may be staff approved).
A.2.3 If replacement of deteriorated wall materials is necessary, use matching materials (wood, brick, etc.) that maintain the size, shape, pattern, texture, and directional orientation of the original historic material.
A.2.4 When proposing to use materials different from the original historic wall materials, replacement materials that maintain the character of the structure and the size, shape, pattern, texture, and directional orientation of the original historic siding will be considered on a case-by-case basis.
A.2.5 In order to maintain the historic appearance of the structure, do not apply paint to unpainted brick or stone walls. Staff can approve the removal of paint from brick or stone surfaces to return the structure to its original historic appearance. Repainting previously painted surfaces does not require HP Permit review.

G.1 Landscape Features
G.1.1 Retain and preserve original historic walls, fencing, lighting, planters, and other landscape features through repair.
G.1.2 Removal of historic landscape features will be considered on a case-by-case basis. Removal of non-historic landscape features can be staff-approved.
G.1.3 Ensure that new landscape features are appropriate to the style of your home and consistent with the historic elements found along the same street and within the district.
G.1.4 Use fencing materials that are consistent with the historic fencing found along the same street and within the district. Chain-link fencing, wire fencing (12 gauge or less), vinyl fencing, or any fencing that blocks the view of structures is not allowed.
G.1.5 Use wall materials that are consistent with the historic walls found along the same street and within the district. Cinder block, segmental retaining wall systems, corrugated metal, and railroad ties are not allowed. Historically styled cast concrete block will be considered on a case-by-case basis. 
.1 Elmwood – dry-stack retaining walls are not allowed.
TULSA PRESERVATION COMMISSION
HISTORIC PRESERVATION PERMIT SUBCOMMITTEE STAFF REPORT
March 7, 2024
HP-0548-2024

HP PERMIT NUMBER: HP-0548-2024
PROPERTY ADDRESS: 1225 EAST 19TH STREET
DISTRICT: NORTH MAPLE RIDGE
APPLICANT: KEVIN KIRBY

REPRESENTATIVE:

A. CASE ITEMS FOR CONSIDERATION
  1. Construction of retaining wall and planter on east side of property along sidewalk
     Project initiated without an historic preservation permit

B. BACKGROUND
   DATE OF CONSTRUCTION: 1919
   ZONED HISTORIC PRESERVATION: 1993; ORDINANCE AMENDMENT 2005
   NATIONAL REGISTER LISTING: MAPLE RIDGE HISTORIC RESIDENTIAL DISTRICT, 1983
   CONTRIBUTING STRUCTURE: NO, but identified as a contributing structure in the 2023 survey of
      the Maple Heights Addition.
   PREVIOUS ACTIONS:
      HP-0540-2024 – JANUARY 18, 2024 – TPC APPROVAL
      Removal of driveway on east side of property
      Construction of retaining wall segment on east side of property
      Construction of wall along north property line
      Construction of seat wall & planter on east side of property
      Installation of paving in street yard on north side of property

      HP-0331-2021 – JANUARY 13, 2022 – TPC APPROVAL
      Construction of carport/port cochere
      Expansion of driveway
      Construction of steps

C. ISSUES AND CONSIDERATIONS
   The applicant would like to install a retaining wall and planter outside of the east perimeter wall
   between the city sidewalk and the new wall segment that was built in the previous second
   driveway location. The applicants’ first option would be a 24-foot wide by 5-foot deep by 2-foot-6
   inches high planter with the north facing side of the planter serving as a retaining wall between
   the neighbors retaining wall segment and driveway. The proposed planter includes a series of (6)
   six weep holes that punch through the front face of the planter and are capped with a 3”
   diameter brass drain grille.
As a secondary option the applicant proposes a single East/West short retaining wall segment wall between the neighbors retaining wall segment and driveway. In both planter/retaining wall options will have a stucco finish applied and stucco clad masonry cap to match the existing perimeter wall. In both instances the applicant will also remake curbs and sidewalk per city standards. Applicant also provided examples of combined retaining walls and planters in the area.

a. Reference: *Tulsa Zoning Code*

**SECTION 70.070-F Standards and Review Criteria**

In its review of HP permit applications, the preservation commission must use the adopted design guidelines to evaluate the proposed work and must, to the greatest extent possible, strive to affect a fair balance between the purposes and intent of HP district regulations and the desires and need of the property owner. In addition, the preservation commission must consider the following specific factors:

1. The degree to which the proposed work is consistent with the applicable design guidelines;
2. The degree to which the proposed work would destroy or alter all or part of the historic resource;
3. The degree to which the proposed work would serve to isolate the historic resource from its surroundings, or introduce visual elements that are out of character with the historic resource and its setting, or that would adversely affect the physical integrity of the resource;
4. The degree to which the proposed work is compatible with the significant characteristics of the historic resource; and
5. The purposes and intent of the HP district regulations and this zoning code.

b. Reference: *Unified Design Guidelines – Residential Structures*

**SECTION A – GUIDELINES FOR REHABILITATION OF EXISTING STRUCTURES**

**A.1 General Requirements**

A.1.1 Retain and preserve the existing historic architectural elements of your home.
A.1.2 If replacement of historic architectural elements is necessary, match the size, shape, pattern, texture, and directional orientation of the original historic elements.
A.1.3 Ensure that work is consistent with the architectural style and period details of your home.
A.1.4 Return the structure to its original historic appearance using physical or pictorial evidence, rather than conjectural designs.

**A.2 Exterior Walls**

A.2.1 Retain and preserve the original historic wall materials and character-defining details, including, but not limited to, window and door trim, eave brackets, and embedded porch columns.
A.2.2 To return the home to its original historic appearance, remove non-historic siding and trim. Repair and restore the underlying historic siding, trim, and details. Removal of non-historic siding is encouraged (and may be staff approved).
A.2.3 If replacement of deteriorated wall materials is necessary, use matching materials (wood, brick, etc.) that maintain the size, shape, pattern, texture, and directional orientation of the original historic material.
A.2.4 When proposing to use materials different from the original historic wall materials, replacement materials that maintain the character of the structure and the size, shape, pattern, texture, and directional orientation of the original historic siding will be considered on a case-by-case basis.
A.2.5 In order to maintain the historic appearance of the structure, do not apply paint to unpainted brick or stone walls. Staff can approve the removal of paint from brick or stone surfaces to return the structure to its original historic appearance. Repainting previously painted surfaces does not require HP Permit review.

G.1 Landscape Features
G.1.1 Retain and preserve original historic walls, fencing, lighting, planters, and other landscape features through repair.
G.1.2 Removal of historic landscape features will be considered on a case-by-case basis. Removal of non-historic landscape features can be staff-approved.
G.1.3 Ensure that new landscape features are appropriate to the style of your home and consistent with the historic elements found along the same street and within the district.
G.1.4 Use fencing materials that are consistent with the historic fencing found along the same street and within the district. Chain-link fencing, wire fencing (12 gauge or less), vinyl fencing, or any fencing that blocks the view of structures is not allowed.
G.1.5 Use wall materials that are consistent with the historic walls found along the same street and within the district. Cinder block, segmental retaining wall systems, corrugated metal, and railroad ties are not allowed. Historically styled cast concrete block will be considered on a case-by-case basis.
.1 Elmwood – dry-stack retaining walls are not allowed.
Site Visit Image - Dec 2023

Site Visit Image - Dec 2023
ATTACHMENT A: SUBMITTAL MATERIALS.

PROJECT DESCRIPTION

Give a detailed description and justification for each repair, alteration, new construction, or demolition planned. Include description and condition of affected existing materials. Attach additional pages as needed.

FOR ADDITIONS AND NEW CONSTRUCTION, THE FOLLOWING ARE REQUIRED IN ADDITION TO THE ABOVE:

✓ Site Plan, Floor Plans, and Elevations should be at a scale of 1 inch = 20 feet, or greater
✓ Architectural rendering (optional)
✓ Legal description of the property as recorded on the deed
✓ Location of all existing and proposed structure(s), with front and side setback distances indicated
✓ Percentage of slope on lot
✓ Location of existing and proposed retaining walls, sidewalks, and driveways with front and side setbacks indicated
✓ An additional site plan showing approximate height, width and front setback of proposed project and all adjacent structures to show relationship to neighborhood
✓ Floor plan to scale with dimensions required for additions and new construction

FOR ADDITIONS AND NEW CONSTRUCTION, THE FOLLOWING ARE REQUIRED IN ADDITION TO THE ABOVE:

✓ Site Plan, Floor Plans, and Elevations should be at a scale of 1 inch = 20 feet, or greater
✓ Architectural rendering (optional)
✓ Legal description of the property as recorded on the deed
✓ Location of all existing and proposed structure(s), with front and side setback distances indicated
✓ Percentage of slope on lot
✓ Location of existing and proposed retaining walls, sidewalks, and driveways with front and side setbacks indicated
✓ An additional site plan showing approximate height, width and front setback of proposed project and all adjacent structures to show relationship to neighborhood
✓ Floor plan to scale with dimensions required for additions and new construction

ATTACHMENT B: WINDOW SURVEY FORM (if applicable—see Window Repair and Replacement Guide)
Heavy cast brass round grill
Reference: #511E

Ventilation grill is cast in solid brass with solid brass finials. It is weather resistant and looks to its influence. It will last for many years upon itself.
Option 2: Retaining wall only
Property site
↑
north
Heavy cast brass round grill
Reference 04955.A
Ventilation grille is solid muntin brass with total diameter 160mm. It will allow for ventilation of the engine compartment and thanks to its robustness, it will last many years for your boat.

3/4" Weep Hole Cover

Elevation looking west

New Stucco Clad + Stucco Clad Masonry
Cap to match existing Stucco (over brick) Masonry Site Walls

24'-0" New Planter

Through Wall Weep Holes (3/4"

Walls (16") Rep. Paint Exteriors

Plan & New Site Walls
10'-0"
Heavy cast brass round grill

Reference 81643YLA

Ventilation grills in solid marine brass with total diameter 108mm.

It allows to ventilate the engine compartment and thanks to its robustness, it will last for many years your boat.
EAST SHORT RETAINING WALL (OPTION 3)

EXISTING STUCCO WALLS

EXISTING STUCCO WALLS W/ RAIL FENCING

EAST WEST SHORT RETAINING WALL W/ STUCCO DETAILS TO MATCH EXISTING SITE WALLS

REMAKE CURB & SIDEWALK CASEMENTED CEMENT TO PEAK.
Existing Stucco Walls

Remake, Carb Out, Land

Existing

East/West Short Retaining Wall w/Stucco Details

Existing Stucco Walls & Rail Fencing
HP PERMIT NUMBER: HP-0556-2024

PROPERTY ADDRESS: 1615 SOUTH OWASSO AVENUE

DISTRICT: NORTH MAPLE RIDGE

APPLICANT: SHANE HOOD

REPRESENTATIVE: N/A

A. CASE ITEMS FOR CONSIDERATION
   Application of stucco finish to concrete block wall

B. BACKGROUND
   DATE OF CONSTRUCTION: 1915
   ZONED HISTORIC PRESERVATION: 1993; ORDINANCE AMENDMENT 2005
   NATIONAL REGISTER LISTING: MAPLE RIDGE HISTORIC RESIDENTIAL DISTRICT, 1983
   CONTRIBUTING STRUCTURE: NO. But identified as contributing structure in 2021 survey of the
   Morningside addition.

PREVIOUS ACTIONS:
   HP-0537-2023 - January 25, 2024 - TPC
   Replacement of railing on front porch
   Replacement of handrail on front steps
   Replacement of railing around roof of rear sunroom
   Installation of wood decking atop rear sunroom
   Replacement of door hardware
   Removal and replacement of light fixtures

   HP-17-006 February 9, 2017 - TPC
   Construct addition on second story according to documents submitted.

   COA-1997-08-14 August 14, 1997 - TPC
   Replace existing entrance steps.

B. ISSUES AND CONSIDERATIONS
   The applicant proposes the application of a stucco finish to an existing concrete block wall
   along the Southern property line.

1. Reference: Tulsa Zoning Code
   SECTION 70.070-F Standards and Review Criteria
   In its review of HP permit applications, the preservation commission must use the adopted
design guidelines to evaluate the proposed work and must, to the greatest extent possible,
strive to affect a fair balance between the purposes and intent of HP district regulations and
the desires and need of the property owner. In addition, the preservation commission must consider the following specific factors:

1. The degree to which the proposed work is consistent with the applicable design guidelines;
2. The degree to which the proposed work would destroy or alter all or part of the historic resource;
3. The degree to which the proposed work would serve to isolate the historic resource from its surroundings, or introduce visual elements that are out of character with the historic resource and its setting, or that would adversely affect the physical integrity of the resource;
4. The degree to which the proposed work is compatible with the significant characteristics of the historic resource; and
5. The purposes and intent of the HP district regulations and this zoning code.

2. Reference: *Unified Design Guidelines – Residential Structures*

**SECTION A – GUIDELINES FOR REHABILITATION OF EXISTING STRUCTURES**

**A.1 General Requirements**

A.1.1 Retain and preserve the existing historic architectural elements of your home.

A.1.2 If replacement of historic architectural elements is necessary, match the size, shape, pattern, texture, and directional orientation of the original historic elements.

A.1.3 Ensure that work is consistent with the architectural style and period details of your home.

A.1.4 Return the structure to its original historic appearance using physical or pictorial evidence, rather than conjectural designs.

**A.2 Exterior Walls**

A.2.1 Retain and preserve the original historic wall materials and character-defining details, including, but not limited to, window and door trim, eave brackets, and embedded porch columns.

A.2.2 To return the home to its original historic appearance, remove non-historic siding and trim. Repair and restore the underlying historic siding, trim, and details. Removal of non-historic siding is encouraged (and may be staff approved).

A.2.3 If replacement of deteriorated wall materials is necessary, use matching materials (wood, brick, etc.) that maintain the size, shape, pattern, texture, and directional orientation of the original historic material.

A.2.4 When proposing to use materials different from the original historic wall materials, replacement materials that maintain the character of the structure and the size, shape, pattern, texture, and directional orientation of the original historic siding will be considered on a case-by-case basis.

A.2.5 In order to maintain the historic appearance of the structure, do not apply paint to unpainted brick or stone walls. Staff can approve the removal of paint from brick or stone surfaces to return the structure to its original historic appearance. Repainting previously painted surfaces does not require HP Permit review.

**G.1 Landscape Features**

G.1.1 Retain and preserve original historic walls, fencing, lighting, planters, and other landscape features through repair.

G.1.2 Removal of historic landscape features will be considered on a case-by-case basis. Removal of non-historic landscape features can be staff-approved.

G.1.3 Ensure that new landscape features are appropriate to the style of your home and consistent with the historic elements found along the same street and within the district.

G.1.4 Use fencing materials that are consistent with the historic fencing found along the same street and within the district. Chain-link fencing, wire fencing (12 gauge or less), vinyl fencing, or any fencing that blocks the view of structures is not allowed.
G.1.5 Use wall materials that are consistent with the historic walls found along the same street and within the district. Cinder block, segmental retaining wall systems, corrugated metal, and railroad ties are not allowed. Historically styled cast concrete block will be considered on a case-by-case basis. .1 Elmwood – dry-stack retaining walls are not allowed.

G.2 Paving
G.2.1 Retain and preserve original historic paving, steps, and bulkheads through repair.
G.2.2 Ensure that the design of new paving is consistent with historic elements found along the same street and within the same neighborhood.
G.2.3 Use paving materials that are consistent with the historic paving found along the same street and within the same neighborhood. Asphalt and stained concrete are not allowed.
G.2.4 Surface parking lots do not support the historic character of the district. Construction of parking lots is strongly discouraged, but will be considered on a case-by-case basis provided that the following guidelines are met:
   .1 Match the front setback pattern of the historic structures on the same side of the street. On corner lots, match the setback pattern of the historic structures on all adjoining streets. When the setback pattern of the historic structures on the same side of the street varies, locate the parking lot between the minimum and maximum of the prevailing setbacks.
   .2 The screening that is required by the Zoning Code shall meet the conditions of G.1.4 and G.1.5. Ensure that screening is of sufficient height and density to obscure the view of the parking lot from the street and adjacent historic structures.
   .3 When possible, provide vehicular access to the parking lot from an alley or arterial street to minimize the traffic impact on residential streets.
ATTACHMENT A: SUBMITTAL MATERIALS

PROJECT DESCRIPTION
Give a detailed description and justification for each repair, alteration, new construction, or demolition planned. Include description and condition of affected existing materials. Attach additional pages as needed.
On the south side of the house on 1615 S Owasso Ave, dividing this property and the parking lot of B'nai Emunah, they have recently erected a new wall. The wall is brick on the side facing the parking lot, but unfinished on the side towards our house.
It is currently CMU block and we would like to apply stucco.

PROJECT CHECKLIST
X  Digital color photographs of each elevation of the site, building(s), and project area(s) provided by email or memory device only. No external storage account invitations.
X  Product brochures, color photographs, and/or material samples when new or replacement materials are proposed.
X  Site plan, no larger than 11x17, to scale with dimensions and north arrow showing location of structures and project area or landscape features in respect to building line, property line, and adjacent structures on all sides.
Elevation sketches or renderings to scale with dimensions showing location of work required for changes on exterior walls, additions, and new construction
Window Survey Form for proposed window repair or replacement (see Attachment B)

FOR ADDITIONS AND NEW CONSTRUCTION, THE FOLLOWING ARE REQUIRED IN ADDITION TO THE ABOVE:
_____ Site Plan, Floor Plans, and Elevations should be at a scale of 1 inch = 20 feet, or greater
_____ Architectural rendering (optional)
_____ Legal description of the property as recorded on the deed
_____ Location of all existing and proposed structure(s), with front and side setback distances indicated
_____ Percentage of slope on lot
_____ Location of existing and proposed retaining walls, sidewalks, and driveways with front and side setbacks indicated
_____ An additional site plan showing approximate height, width and front setback of proposed project and all adjacent structures to show relationship to neighborhood
_____ Floor plan to scale with dimensions required for additions and new construction

ATTACHMENT B: WINDOW SURVEY FORM (if applicable- see Window Repair and Replacement Guide)
Notes:
- Verify all materials are installed in accordance with installation instructions and applicable code.
- StuccoBase min. 3/8" thickness to max. 5/8" thickness. Thicknesses greater than 5/8" require the use of Permalath 1000 or acceptable metal plaster base.

Proposed color for stucco: 601 Dynasty
HP PERMIT NUMBER: HP-0560-2024

PROPERTY ADDRESS:  1225 EAST 19TH STREET

DISTRICT: NORTH MAPLE RIDGE

APPLICANT: BRAHK HADICK

REPRESENTATIVE:

A. CASE ITEMS FOR CONSIDERATION
   Installation of solar panel system on roof

B. BACKGROUND
   DATE OF CONSTRUCTION:  1919
   ZONED HISTORIC PRESERVATION:  1993; ORDINANCE AMENDMENT 2005
   NATIONAL REGISTER LISTING: MAPLE RIDGE HISTORIC RESIDENTIAL DISTRICT, 1983
   CONTRIBUTING STRUCTURE: NO, but identified as a contributing structure in the 2023 survey of the Maple Heights Addition.

PREVIOUS ACTIONS:
HP-0547-2021 – FEBRUARY 22, 2024 – TPC APPROVAL
Construction of carport/port cochere – Amendment to HP-0331-2021 approved by Tulsa Preservation Commission January 13, 2022; Permit expired January 15, 2024

HP-0540-2024 – JANUARY 18, 2024 – TPC APPROVAL
Removal of driveway on east side of property
Construction of retaining wall segment on east side of property
Construction of wall along north property line
Construction of seat wall & planter on east side of property
Installation of paving in street yard on north side of property

HP-0331-2021 – JANUARY 13, 2022 – TPC APPROVAL
Construction of carport/port cochere
Expansion of driveway
Construction of steps
C. ISSUES AND CONSIDERATIONS
The applicant would like to install a solar panel system on the roof of the main house and garage. The residence has a flat roof with a parapet railing extending 24"-27" tall. The proposed racking detail of the solar panel array is 17" tall. Due to the limited project scope this project was forwarded directly to the Tulsa Preservation Commission for review.

a. Reference: Tulsa Zoning Code
SECTION 70.070-F Standards and Review Criteria
In its review of HP permit applications, the preservation commission must use the adopted design guidelines to evaluate the proposed work and must, to the greatest extent possible, strive to affect a fair balance between the purposes and intent of HP district regulations and the desires and need of the property owner. In addition, the preservation commission must consider the following specific factors:
1. The degree to which the proposed work is consistent with the applicable design guidelines;
2. The degree to which the proposed work would destroy or alter all or part of the historic resource;
3. The degree to which the proposed work would serve to isolate the historic resource from its surroundings, or introduce visual elements that are out of character with the historic resource and its setting, or that would adversely affect the physical integrity of the resource;
4. The degree to which the proposed work is compatible with the significant characteristics of the historic resource; and
5. The purposes and intent of the HP district regulations and this zoning code.

SECTION A – GUIDELINES FOR REHABILITATION OF EXISTING STRUCTURES
A.1 General Requirements
A.1.1 Retain and preserve the existing historic architectural elements of your home.
A.1.2 If replacement of historic architectural elements is necessary, match the size, shape, pattern, texture, and directional orientation of the original historic elements.
A.1.3 Ensure that work is consistent with the architectural style and period details of your home.
A.1.4 Return the structure to its original historic appearance using physical or pictorial evidence, rather than conjectural designs.

A.5 Roofs
A.5.1 Retain and preserve the original historic roof form (hipped, gabled, etc.) and pitch.
A.5.2 Do not remove character-defining architectural features of your roof, including, but not limited to, dormers, chimneys, cupolas, eaves, soffits, fascia boards, and decorative details, such as eave brackets, exposed rafter tails, or corbels.
A.5.3 If replacement of deteriorated architectural roof features is necessary, use materials that maintain the character of the structure and the size, shape, pattern, texture, dimensions, and directional orientation of the original historic roof features.
A.5.4 To return the home to its original historic appearance, use physical or pictorial evidence. If no evidence exists, select architectural roof features which are consistent with the architectural style of your home.
A.5.5 Replacement of existing roof covering—wood shingles, asphalt shingles, clay tile, etc.—with the same material does not require HP Permit review (for example,
replacing an asphalt-shingled roof with asphalt shingles). Architectural shingles are encouraged.

A.5.6 When proposing to change the materials of your roof covering, replacement materials that maintain the character of the structure and the size, shape, pattern, texture, and directional orientation of the original historic roof covering will be considered on a case-by-case basis.

.1 Yorktown – Metal roofing is not allowed.

A.5.7 When replacing your roof covering, replace an entire roof section if it is visible from the street.

A.7 Awnings, Shutters, Mailboxes, Mechanical Systems, Etc.
A.7.1 Select awnings that are consistent with the architectural style of your home.
A.7.2 Select window shutters that are consistent with the architectural style of your home. Plastic shutters and door shutters are not historically accurate and are not allowed.
A.7.3 Attach mailboxes to the front of the porch or house.
A.7.4 Install engineering systems and their associated elements such as, but not limited to, air conditioning and heating units, package units, flues, conduits, cables, electrical boxes, ventilators, and louvers, on the side or rear façade of the structure.
A.7.5 Install utility meters on the side or rear façade of the house, or underground in a subterranean vault.
A.7.6 Install systems requiring exterior components, such as solar panels or devices, where they will have minimal impact, preferably at the rear of your house or yard or on an outbuilding. Install exterior components on a historic building in a manner that does not damage the historic roofing material or negatively impact the building's historic character and is reversible. These considerations will be made on a case-by-case basis.
A.7.7 Installation of radio or television antennas, including satellite dishes and similar devices, not visible from abutting streets, as determined by staff, is exempt from HP Permit review.
Historic Preservation
Permit
APPLICATION FORM

ATTACHMENT A: SUBMITTAL MATERIALS

PROJECT DESCRIPTION
Give a detailed description and justification for each repair, alteration, new construction, or demolition planned. Include description and condition of affected existing materials. Attach additional pages as needed.
Install 21 kW solar PV system on existing roof.

PROJECT CHECKLIST
_____ Digital color photographs of each elevation of the site, building(s), and project area(s) provided by email or memory device only. No external storage account invitations.
_____ Product brochures, color photographs, and/or material samples when new or replacement materials are proposed.
_____ Site plan, no larger than 11x17, to scale with dimensions and north arrow showing location of structures and project area or landscape features in respect to building line, property line, and adjacent structures on all sides.
_____ Elevation sketches or renderings to scale with dimensions showing location of work required for changes on exterior walls, additions, and new construction
_____ Window Survey Form for proposed window repair or replacement (see Attachment B)

FOR ADDITIONS AND NEW CONSTRUCTION, THE FOLLOWING ARE REQUIRED IN ADDITION TO THE ABOVE:
_____ Site Plan, Floor Plans, and Elevations should be at a scale of 1 inch = 20 feet, or greater
_____ Architectural rendering (optional)
_____ Legal description of the property as recorded on the deed
_____ Location of all existing and proposed structure(s), with front and side setback distances indicated
_____ Percentage of slope on lot
_____ Location of existing and proposed retaining walls, sidewalks, and driveways with front and side setbacks indicated
_____ An additional site plan showing approximate height, width and front setback of proposed project and all adjacent structures to show relationship to neighborhood
_____ Floor plan to scale with dimensions required for additions and new construction

ATTACHMENT B: WINDOW SURVEY FORM (if applicable- see Window Repair and Replacement Guide)
NEW PV SYSTEM: 21.000 kWp
MALLOY RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
ASSESSOR’S #: 24975921206740

PROJECT INFORMATION

OWNER
NAME: MICHAEL MALLOY
PROJECT MANAGER
NAME: ADAM THORNBRUGH
PHONE: 918-519-0112
CONTRACTOR
NAME: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
AUTHORITIES HAVING JURISDICTION
BUILDING: TULSA CITY
ZONING: RESIDENTIAL
UTILITY: PSO

DESIGN SPECIFICATIONS
OCCUPANCY: SINGLE-FAMILY
CONSTRUCTION: RESIDENTIAL
GROUND SNOW LOAD: 10 PSF
WIND EXPOSURE: B
WIND SPEED: 108 MPH

APPLICABLE CODES & STANDARDS
IBC 2020, IRC 2018
ELECTRICAL: NEC 2020
FIRE: NEC 2017

SHEET LIST TABLE
Sheet Number Sheet Title
T-001 COVER PAGE
G-001 NOTES
A-101 SITE PLAN
A-102 ELECTRICAL PLAN
A-103 SOLAR ATTACHMENT PLAN
E-601 LINE DIAGRAM
E-602 DESIGN TABLES
E-603 PLACARDS
S-001 ASSEMBLY DETAILS
R-001 RESOURCE DOCUMENT
R-002 RESOURCE DOCUMENT
R-003 RESOURCE DOCUMENT
R-004 RESOURCE DOCUMENT
R-005 RESOURCE DOCUMENT
R-006 RESOURCE DOCUMENT
R-007 RESOURCE DOCUMENT
R-008 RESOURCE DOCUMENT
R-009 RESOURCE DOCUMENT

COVER PAGE

DATE: 02.13.2024
DESIGN BY: D.T.
CHECKED BY: A.L.
REVISIONS

PAPER SIZE: 11” x 17” (ANSI B)

PROJECT NOTES:
1.1.1 PROJECT NOTES:
1.1.2 THE PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION’S (AHJ) APPLICABLE CODES.
1.1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSTALLED PRIOR TO PARALLEL OPERATION.
1.1.4 GROUND FAULT DETECTION AND INTERRUPTION (GFDI) DEVICE IS INTEGRATED WITH THE MICROWIRE/INVERTER IN ACCORDANCE WITH NEC 690.41(B).
1.1.5 ALL PV SYSTEM COMPONENTS: MODULES, UTILITY INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4.
1.1.6 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
1.1.7 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING [NEC 110.3).
1.1.8 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.
1.1.9 SCOPE OF WORK:
1.1.10 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.
1.1.11 WORK INCLUDES:
1.1.12 PV ROOF ATTACHMENTS - ECOLIBRUM ECOFOOT 5D
1.1.13 PV RACKING SYSTEM INSTALLATION - RAILLESS
1.1.14 PV MODULE AND IN-EXTERIOR INSTALLATION - SILTAB SL-420 BG / ENPHASE IQM PLUS-72-2-US
1.1.15 PV EQUIPMENT GROUNDING
1.1.16 PV SYSTEM WIRING TO A ROOF MOUNTED JUNCTION BOX
1.1.17 PV LOAD CENTERS (IF INCLUDED)
1.1.18 PV METERING/MONITORING (IF INCLUDED)
1.1.19 PV DISCONNECTS
1.1.20 PV GROUNDING ELECTRODE & BONDING TO (E) GEC
1.1.21 PV FINAL COMMISSIONING
1.1.22 PV ROOF ATTACHMENTS - ECOLIBRUM ECOFOOT 5D
1.1.23 PV RACKING SYSTEM INSTALLATION - RAILLESS
1.1.24 PV MODULE AND IN-EXTERIOR INSTALLATION - SILTAB SL-420 BG / ENPHASE IQM PLUS-72-2-US
1.1.25 PV EQUIPMENT GROUNDING
1.1.26 PV SYSTEM WIRING TO A ROOF MOUNTED JUNCTION BOX
1.1.27 PV LOAD CENTERS (IF INCLUDED)
1.1.28 PV METERING/MONITORING (IF INCLUDED)
1.1.29 PV DISCONNECTS
1.1.30 PV GROUNDING ELECTRODE & BONDING TO (E) GEC
1.1.31 PV FINAL COMMISSIONING
1.1.32 PV SYSTEM SIZE:
STC: 50 X 420W = 21.000 kWp
PTC: 50 X 397.13W = 19.857 kWp
STC: 50 X 420W = 21.000 kWp

ATTACHMENT TYPE: ECOLIBRUM ECOFOOT 5D
WISP UPGRADE: NO
2.1.1 SITE NOTES:
2.1.2 A LADDER WILL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2.1.3 THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THE SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH STORAGE BATTERIES.
2.1.4 THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
2.1.5 PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.22.
2.1.6 ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE.
2.1.7 STRUCTURAL NOTES:
2.1.8 RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RACK MANUFACTURER'S INSTRUCTIONS.
2.1.9 JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATION TYPE, IT SHALL BE FLA Shed AND SEALED PER LOCAL REQUIREMENTS.
2.1.10 WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.
2.1.11 WIRING & CONDUIT NOTES:
2.1.12 ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
2.1.13 CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 890.7.
2.1.14 VOLTAGE DROP LIMITED TO 1.5%.
2.1.15 DC WIRING LIMITED TO MODULE FOOTPRINT. MICROINVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY W/ SUITABLE WIRING CLIPS.
2.1.16 AC CONDUCTORS COLORED OR MARKED AS FOLLOWS:
- PHASE A OR L1 - BLACK
- PHASE B OR L2 - RED, OR OTHER CONVENTION IF THREE PHASE
- PHASE C OR L3 - BLUE, YELLOW, ORANGE*, OR OTHER CONVENTION
- NEUTRAL - WHITE OR GRAY
- IN-AIR DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE (NEC 110.15)
2.1.17 GROUNDING NOTES:
2.1.18 GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
2.1.19 PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122
2.1.20 METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORDANCE WITH 250.134 AND 250.136(A).
2.1.21 EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45 AND GROUNDED IN ACCORDANCE WITH 250.134 AND 250.136(A).
2.1.22 ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.28.
2.1.23 WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31(A)(1)(A) AND NEC TABLE 310.15(B)(2)(A).
2.1.24 JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
2.1.25 ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
2.1.26 ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPL ICABLE CODES.
2.1.27 ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.
2.5.1 EQUIPMENT LOCATIONS:
2.5.2 GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31(A)(1)(A) AND NEC TABLE 310.15(B)(2)(A).
2.5.3 PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122
2.5.4 METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORDANCE WITH 250.134 AND 250.136(A).
2.5.5 EQUIPMENT LOCATIONS:
2.5.6 EQUIPMENT LOCATIONS:
2.5.7 THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPTION GROUNDING CONDUCTOR TO ANOTHER MODULE.
2.5.8 GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLOR CODED OR MARKED GREEN OR MARKED GREEN IF ANG OR LARGER (NEC 250.106). THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250.50.6 AND AHU.
2.5.9 GROUND-Fault DETECTION SHALL COMPLY WITH NEC 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS.
2.5.10 GROUND-Fault DETECTION SHALL COMPLY WITH NEC 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS.
2.5.11 DE-CONNECTING SWITCHES SHALL BE CONNECTED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
2.5.12 DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.
2.5.13 PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK RESPONSES TO EMERGENCY RESPONSORS IN ACCORDANCE WITH 690.12(A)(2) THROUGH (D).
2.5.14 ALL CPR RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 680.8, 680.9, AND 240.
2.5.15 MICROINVERTER BRANCHES CONNECTED TO A SINGLE BREAKER OR GROUPED FUSES IN ACCORDANCE WITH NEC 110.38.
2.5.16 IF REQUIRED BY AHU, SYSTEM WILL INCLUDE ARC-Fault CIRCUIT PROTECTION ACCORDING TO NEC 680.71, AND UL1699B.
2.5.17 INTERCONNECTION NOTES:
2.5.18 LONG-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12(B)]
2.5.20 AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPLITUDE OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12(B)(2)(3)(C).
2.5.21 FEEDER TAP INTERCONNECTION (LOAD SIDE) ACCORDING TO NEC 705.12(B)(2)(C)(1) SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12(A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 250.42 BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12(B)(5)].
2.5.22 INTERCONNECTION NOTES:
2.5.23 LONG-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12(B)]
2.5.25 AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPLITUDE OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12(B)(2)(3)(C).
2.5.26 FEEDER TAP INTERCONNECTION (LOAD SIDE) ACCORDING TO NEC 705.12(B)(2)(C)(1) SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12(A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 250.42 BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12(B)(5)].
GENERAL NOTES
1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

A MODULE STRINGING
B MODULE STRINGING
C MODULE STRINGING
D MODULE STRINGING
E MODULE STRINGING

CONDUIT IN TRENCH:
-Length 50 ft.
-Min. 18 in. deep

CONDUIT:

CONDUIT

ARRAY 1 - 17.220 kW
36 (N) MODULES
FLAT ROOF
AZIMUTH: 180 DEGREES

(A) (A) (A)
(A) (A) (A)
(A) (A) (A)

N (N) JUNCTION BOX
1

ARRAY 2 - 3.780 kW
14 (N) MODULES
FLAT ROOF
AZIMUTH: 180 DEGREES

B (B) (B)
B (B) (B)
B (B) (B)

N (N) JUNCTION BOX
2

NEW PV SYSTEM: 21,000 kWp

EQUIPMENT LOCATIONS
NEW PV METER AND
AC DISCONNECT TO BE LOCATED ADJACENT
TO EXISTING UTILITY METER.
NEW AC COMBINER PANEL AND BATTERIES/
SYSTEM CONTROLLER (IF INCLUDED) TO BE
LOCATED EITHER ADJACENT TO EXISTING
UTILITY METER OR ADJACENT TO EXISTING
MAIN ELECTRICAL PANEL.

CONTRACTOR
EIGHTTEEN OKLAHOMA, LLC
PHONE: (405)256-2087
ADDRESS: 1225 N WALNUT AVE, SUITE G,
OKLAHOMA CITY, OK 73120
Lic. No.: 003662
INC. No.: 
ELE. No.: 

RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

ENGINEER OF RECORD

DATE: 02.13.2024
DESIGN BY: D.T.
CHECKED BY: A.L.
REVISIONS
A-102.00
(SHEET 4)
SOLAR ATTACHMENT PLAN

01

MODULE: SILFAB
SIL-420 BG
420 WATTS

GENERAL NOTES
1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

FLUSH MOUNT SOLAR MODULES ATTACHED TO ROOF SURFACE (SEE SHEET S-501 FOR MOUNTING DETAILS)

ROOF MATERIAL IS TPO

FLUSH MOUNT SOLAR MODULES ATTACHED TO ROOF SURFACE (SEE SHEET S-501 FOR MOUNTING DETAILS)

ROOF MATERIAL IS TPO

008415

A-103.00
(SHEET 1)
CAUTION!
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM ROOF MOUNTED SOLAR ARRAYS WITH SAFETY DISCONNECTS AS SHOWN:

FRONT

PV ARRAY

MAIN DISTRIBUTION
UTILITY DISCONNECT

BACK

PV ARRAY

FRONT

WARNING: PHOTOVOLTAIC POWER SOURCE

LABEL 1
AT EACH AC DISCONNECTING MEANS
(1" X 4")
[NEC 690.13(B)]

WARNING: PHOTOVOLTAIC POWER SOURCE

LABEL 3
AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS (3 5/8" X 1 1/8")
[NEC 690.31(C)]
LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE

[IFC 605.11.1, 1]

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

LABEL 5
AT RAPID SHUTDOWN DISCONNECT SWITCH (5 1/4" X 2")
[NEC 690.56(B)]

WARNING

LABEL 2
AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (3" X 4")
[NEC 690.17]

DO NOT TOUCH TERMINALS
TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

WARNING

LABEL 4
AT POINT OF INTERCONNECTION
(2 3/4" X 1 1/2")
[NEC 705.12(D)(3)]

WARNING

LABEL 6
AT POINT OF INTERCONNECTION
(2" X 1")
[NEC 705.12(D)(3)]

PV SYSTEM DISCONNECT

LABEL 8
AT RAPID SHUTDOWN DISCONNECT SWITCH (5 1/4" X 2")
[NEC 690.56(B)]

WARNING

LABEL 7
AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS (3 5/8" X 1 1/8")
[NEC 690.31(C)]
LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE

[IFC 605.11.1, 1]

ELE. NO.: 095963

ADDRESS:
1825 N WALNUT AVE, SUITE G,
OKLAHOMA CITY, OK 73105

PHONE:
(405)256-2087

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC

APN: 24975921206740

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp

MALLOY RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120

DATE: 02.13.2024

DESIGN BY: D.T.
CHECKED BY: A.L.

PLACARDS

PAPER SIZE: 11" x 17" (ANSI B)

REVISIONS
E-602.00

(SHEET 1)
1. ROOF MATERIAL: TPO
2. ROOF STRUCTURE: SINGLE SPAN RAFTER
3. ATTACHMENT TYPE: BALLASTED
4. MODULE MANUFACTURER: SILFAB
5. MODULE MODEL: SIL-420 BG
6. MODULE LENGTH: 73.4 IN.
7. MODULE WIDTH: 40.5 IN.
8. MODULE WEIGHT: 45.8 LBS.
9. SEE SHEET A-103 FOR DIMENSIONS
10. MIN. FIRE OFFSET: NO FIRECODE ENFORCED
11. TOTAL # OF ATTACHMENTS: 75
12. TOTAL AREA: 1032.19 SQ. FT.
13. TOTAL WEIGHT: 2409 LBS.
14. WEIGHT PER ATTACHMENT: 32.12 LBS.
15. DISTRIBUTED LOAD: 2.33 PSF.
16. STANDOFF STAGGERING: NO
17. RACKING MANUFACTURER (OR EQUIV.): ECOLIBRIUM
18. RACKING MODEL: ECOFOOT5D
19. RACKING WEIGHT: TYPICAL 2.4 - 7.7 PSF
20. MAX. RAIL SPAN: 48 IN.
21. MAX. RAIL SPAN: 8 FT.
**ENGINEER OF RECORD**

MALLOY RESIDENCE
1225 EAST 19TH STREET, TULSA, OK 74120
APN: 24975921206740

**CONTRACTOR**

EIGHTTWENTY OKLAHOMA, LLC

PHONE: (405)256-2087
ADDRESS: 1225 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

**NEW PV SYSTEM: 21.000 kWp**

**NOT JUST ANOTHER SOLAR PANEL.**

Silfab Elite

Back-contact technology with an innovative conductive backsheet and integrated cell design delivers the highest performance, durability and beautiful aesthetics.

Manufactured exclusively in the United States.

**SILFAB SOLAR INC.**

**DESIGN BY:**

**DATE:** 02.13.2024

**CHECKED BY:** AL

**REVISIONS**

R-001.00

**PAPER SIZE: 11” x 17” (ANSI B)**

**UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.**
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 using advanced 50-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, eliminating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, GridWatch, 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.

IQ8 Series Microinverters are IL Listed as PV rated shutdown equipment and conform with various regulations, when installed according to the manufacturer's instructions.

Easy to install:
- Lightweight and compact with plug-and-play connectors.
- Power line communication (PLC) between inverter pairs.
- Factor 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:
- Can operate in parallel with the utility and a solar grid support
- Remote automatic-updates for the latest grid requirements.
- Corrigible to support a wide range of grid profiles.
- Meet CA Rule 21 (UL 1741-SA) and the IEE 1547.2015, NFPA 70-2017.

Notes:
- IQ8 Microinverters can be combined with either a generation of Enphase microinverters (IQ Series, IQ6, and IQ6s) or a series of the new IQ8 Microinverters.
- Connect PV modules directly to the IQ8 Microinverters using the included DC-DC+2 adapter cable with plug and play MC4 connectors.
### Enphase IQ Envoy

**Model Numbers**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| EnphaseIQEnvoy | Enphase IQ Envoy communications gateway with integrated revenue grade PV production monitoring (ANSI 309.20-4.1.5) and optional consumption monitoring (≤ 2.5%)
| CT-2-SPLIT  | Enphase Mobile Connect® CT 2-LINK CT-2 (5-year data plan)                    |
| COMBO-KIT-01 | Enphase Communication Kit COMBO-KIT-01: Includes USB cable for connection to IQ Envoy to provide Custom Email and Target Email. |

**Power Requirements**

- 120/240VAC split-phase
- Max 20 A overcurrent protection required

**MECHANICAL DATA**

<table>
<thead>
<tr>
<th>Dimension (Width x Depth x Height)</th>
<th>Weight (lbs)</th>
<th>Ambient temperature range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 x 13.5 x 4.5 inches</td>
<td>17.6 lbs</td>
<td>-40° to 80° F (-40° to 140° F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40° to 110° F (40° to 110° F)</td>
</tr>
</tbody>
</table>

**Environment**

- Indoor: 40°F to 104°F (4°C to 40°C)
- Outdoor: 14°F to 140°F (-10°C to 60°C)
- Humidity: 95% relative humidity max

**Compliance**

- UL 61724-1
- CAN/CSA C22.2 No. 61010-1
- 47 CFR Part 15, Class B, 7 10, 10,11
- IEC 61724-1, IEC 61010-1
- IEC 61724-1

**To learn more about Enphase offerings, visit enphase.com**

© 2021 Enphase Energy, Inc. All rights reserved. Enphase, the Enphase logo, IQ Envoy, and other trademarks or service names are the trademarks of Enphase Energy, Inc. Data subject to change. 09.04.2021
**IQ System Controller 3/3G**

The Enphase IQ System Controller 3/3G connects the home’s home power load, the battery system, and solar PV. It provides microgrid interconnection device (MGID) functionality by automatically detecting and seamlessly transitioning the home’s power system to grid power to backup power in the event of a grid failure. It consolidates interconnection equipment into a single enclosure and streamlines grid-independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.

**Easy to Install**
- Connects to service entrance or main load center
- Includes neutral-breaking transformer
- Mounts on single stud/flush centered brackets
- Provides conduit entry from bottom, left, right
- Includes color-coded labels for easy wiring System Shutdown Switch
- Integrates load down functionality to eliminate the need for load down kits and special breakers

**Flexible**
- Can be used for Sunlight Backup, Home Essentials Backup, or Full Energy Independence
- IQ System Controller 3G integrates with IQ Battery SP
- IQ System Controller 3G integrates with IQ Battery SP
- IQ System Controller 3G integrates with IQ Battery SP
- Provides a seamless transition to backup

**Safe and Reliable**
- System Shutdown Switch can be used to disconnect PL battery and generator systems
- It acts as a rapid shutdown initiator of grid-tying IQ PV Microinverters for safety of maintenance technicians first responders
- 10-year limited warranty

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC2000KRD00G3000</td>
<td>IQ System Controller 3G system-independent capabilities of PV and storage installations, requires dedicated I/O capacity. Supports up to 300 kW (30 x 10 kW 3G PV Microinverters)</td>
</tr>
<tr>
<td>SC2000KRD00G5000</td>
<td>IQ System Controller 3G system-independent capabilities of PV and storage installations, requires dedicated I/O capacity. Supports up to 500 kW (50 x 10 kW 3G PV Microinverters)</td>
</tr>
<tr>
<td>SC2000KRD00G1000</td>
<td>IQ System Controller 3G system-independent capabilities of PV and storage installations, requires dedicated I/O capacity. Supports up to 1000 kW (100 x 10 kW 3G PV Microinverters)</td>
</tr>
</tbody>
</table>

**Technical Specifications**

- **Nominal voltage range**: 240 V ±10%
- **Frequency range**: 60 Hz ±1 Hz
- **Power rating**: 300 A
- **Input current range**: 200 A
- **Input voltage range**: 240 V ±10%
- **Input power factor**: 0.95

**Engineer of Record**

EIGHTVENTY OKLAHOMA, LLC

**New PV System**: 21,000 kWp

**Malloy Residence**

1225 East 19th Street,
Tulsa, OK 74120

**Contractor**

EIGHTVENTY OKLAHOMA, LLC

**APN**: 2497592120674

**PHONE**: (405)256-2877

**ADDRESS**: 1225 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

**LICENSE**: G00682

**ELE. NO.**: 095963

**Resource Document**

**Size**: 11" x 17" (ANSI B)

**DATE**: 02.13.2024

**DESIGN BY**: D.T.

**CHECKED BY**: A.L.

**REVISIONS**

R-004.00

**ISSN**: 0289-1687-12-09-12
<table>
<thead>
<tr>
<th>SHEET 13</th>
</tr>
</thead>
</table>

### DESIGN BY:

ACDEGH

### DATE:

02.13.2024

### CHECKED BY:

A.L.

### REVISIONS

R-005.00

---

### RESOURCE DOCUMENT

NEW PV SYSTEM: 21,000 kWp

MALLOY RESIDENCE

1225 EAST 19TH STREET,

TULSA, OK 74120

APN: 24975921206740

ENGINEER OF RECORD

EIGHTTWENTY OKLAHOMA, LLC

PHONE: (405)256-2087

ADDRESS: 1825 N WALNUT AVE, SUITE G,

OKLAHOMA CITY, OK 73105

### CONTRACTOR

EIGHTTWENTY OKLAHOMA, LLC

PHONE: (405)256-2087

ADDRESS: 1825 N WALNUT AVE, SUITE G,

OKLAHOMA CITY, OK 73105

LIC. NO.: 005862

ELE. NO.: 

CONTRACTOR USES THE DRAWINGS SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS VIOLATION OF U.S. COPYRIGHT LAWS AND WILL SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

---

### RESOURCE DOCUMENT

NEW PV SYSTEM: 21,000 kWp

MALLOY RESIDENCE

1225 EAST 19TH STREET,

TULSA, OK 74120

APN: 24975921206740

ENGINEER OF RECORD

EIGHTTWENTY OKLAHOMA, LLC

PHONE: (405)256-2087

ADDRESS: 1825 N WALNUT AVE, SUITE G,

OKLAHOMA CITY, OK 73105

LIC. NO.: 005862

ELE. NO.: 

CONTRACTOR USES THE DRAWINGS SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS VIOLATION OF U.S. COPYRIGHT LAWS AND WILL SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

---

### RESOURCE DOCUMENT

NEW PV SYSTEM: 21,000 kWp

MALLOY RESIDENCE

1225 EAST 19TH STREET,

TULSA, OK 74120

APN: 24975921206740

ENGINEER OF RECORD

EIGHTTWENTY OKLAHOMA, LLC

PHONE: (405)256-2087

ADDRESS: 1825 N WALNUT AVE, SUITE G,

OKLAHOMA CITY, OK 73105

LIC. NO.: 005862

ELE. NO.: 

CONTRACTOR USES THE DRAWINGS SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS VIOLATION OF U.S. COPYRIGHT LAWS AND WILL SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

---
IQ Battery 5P

The IQ Battery 5P all-in-one AC-coupled system is powerful, reliable, simple, and safe. It has a total available energy capacity of 3,000 kWh and includes six Embbeded grid-forming microinverters with 1,584 kilowatt continuous power rating. Ramping up capability and resistors can quickly adjust the light system to meet the customer's needs.

Dimensions

Powerful
- Provides 2,844kVA continuous and 3,091kVA peak power
- Enables the available power per kWh of prior generation of IQ Battery 5P
- Includes an embedded IQS-5047 Microinverters

Reliable
- 15-year limited warranty
- Cools passively with no moving parts or fans
- Users added communication for fast and consistent connection
- Updates software and firmware remotely

Simple
- Fully-integrated AC battery system
- Installs and commisions easily
- Supports grid, self-consumption, and time of use (TOU) modes
- Offers communication, monitoring, and control from the MyMyApp app

Safe
- Tested to meet UL 9540A, the highest industry standard for battery safety
- Uses lithium iron phosphates (LiFePO4) chemistry for maximum safety and longevity

Bottom mounting bracket

© 2023 Enphase Energy. All rights reserved. Enphase, the E and QZ logos, IQ, and certain other marks listed at https://enphase.com/terms-of-service are trademarks of Enphase Energy Inc. in the US and other countries. Data subject to change.
**IQ Battery 5P**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total capacity</td>
<td>5.0 kWh</td>
</tr>
<tr>
<td>Usable capacity</td>
<td>4.8 kWh</td>
</tr>
<tr>
<td>DC round-trip efficiency</td>
<td>95%</td>
</tr>
<tr>
<td>Nominal DC voltage</td>
<td>74.8V</td>
</tr>
<tr>
<td>Maximum DC voltage</td>
<td>84.4V</td>
</tr>
<tr>
<td>Ambient operating temperature range</td>
<td>-25°C to 50°C (-4°F to 122°F) non-condensing</td>
</tr>
<tr>
<td>Ambient operating temperature range</td>
<td>-25°C to 50°C (-4°F to 122°F) non-condensing</td>
</tr>
<tr>
<td>Optimum operating temperature range</td>
<td>-5°C to 30°C (-23°F to 68°F)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Lithium iron phosphate (LiFePO4)</td>
</tr>
</tbody>
</table>

**MECHANICAL DATA**

- **Dimensions (Inside)**: 980 mm (38.6 in) x 980 mm (38.6 in) x 380 mm (15 in) (2.7 to 5.4 in)
- **Weight**: 96.3 kg (213 lbs)
- **Enclosure**: Outdoor - NEMA-2X

**COMPATIBILITY AND INTERFACE**

- **Compatibility**: Designed for grid-tied and off-grid operation
- **Communication**: Modbus TCP/IP, NMEA 2000
- **Services**:charAt SKIP Conservation, TCU and NMEA Integrity
- **Monitoring**: 50-32, 12.5-50, 12.5-30, 25-60, 12.5-60

**COMPLIANCE**

- UL 62413, UL 62413A, UL 507, UL 62109, UL 62109A, UL 62413, UL 62413A
- NEMA Type 4X, NEMA Type 4X, NEMA Type 4X, NEMA Type 4X
- California: UL 507, UL 62109

**LIMITED WARRANTY**

- Limited warranty: 10 years from the date of installation or 5,000 cycles, whichever occurs first.

*This model is designed to operate at a rate of 1,000 cycles per year.*
The Simplest Way to

Elegant Installation, Right Out of the Box.

Organized Work Flow and Preassembled Parts
When you’re on the roof, you need ready-to-go components and a simple install. That’s why installers prefer the EcoFoot Modular Platform. Bases self-align and parts are preassembled so no PV panel preparation is required, which enables non-stop installation from box to roof.

Only with EcoFoot Modular
Now, EcoFoot5D delivers the elegant installation process only EcoFoot modular systems provide and packs the array with 18.4% more power than a 10 kW system. Installer-centric design provides unsurpassed advantages:
- Simple, pre-assembled parts
- Self-aligning Bases fail in line as modules are placed
- Low-effort roof layout, just two chok lines required
- No racking prep, non-stop install from box to roof
- Six simple installation steps
- No training required – 5-minute learning curve

290kW of Bases Delivered on
1 Standard Pallet.

Efficient Logistics On
and Off the Roof
Increase Your Bottom Line
From shipping to deployment, the EcoFoot5D System reduces your shipping, storage and roof loading needs significantly. The result?
- More profit per job.
- Stackable Bases and low part count streamline logistics
- 290kW of Bases delivered on 1 standard pallet
- Small footprint minimizes contact with roof
- Skip steel costs are low, drive-away is excellent
- Lightweight and roof-friendly
- Ideal for residential and commercial flat roofs
- Suits for mild or extreme roof conditions

Streamline logistics with up to 290kW of Bases per pallet.

Resource Document

New PV System: 21,000 kWp
Malloy Residence
1225 East 19th Street,
Tulsa, OK 74120
APN: 24975921206740

Engineer of Record

EcoFoot5D™
The New High Density 5° Racking System

Small Footprint. Big Power.

Now you can build more powerful rooftop solar systems faster and easier than ever before with the new high density EcoFoot5D™ Racking System.

Built on the Industry-Preferred EcoFoot® Platform, with More than 200MW Installed.

18.4% More Power
Small 7”x16.7” roof-friendly modular Base and dense 9.9° inter-row spacing enables a tightly-packed solar array that delivers 18.4% more power than 10° systems. Whether your roof is small or large, EcoFoot5D provides more power, lowering roof cost per watt.

Elegantly Simple Installation
EcoFoot5D delivers preassembled parts and an out-of-the-box, ready-to-go installation that is unlike any other flat roof racking. The result is a seamless installation process from start to finish, saving time and minimizing job-site impact.

Grid-Saving Logistics & Support
Stackable bases enable a huge per-pallet shipping capacity. Fewer pallets are required, minimizing shipping, storage and onsite crane use. Dedicated engineering support prevents issues before they happen and provides quick solutions if obstacles arise.

Creating Unbeatable Solar Racking for Commercial and Residential
Since 2010, EcoBillium Solar has revolutionized Solar Racking with the Fast & Simple EcoFoot Modular Platform for flat arrays and EcoX for flat roof racking for pitched roofs. With 600kW installed on flat and pitched roofs nationwide, we bring the beauty of simplicity to solar.

EcoBillium Solar
Contact: 740.249.1877 | sales@ecobiliumsolar.com | www.ecobiliumsolar.com
Max Out Your Roof

Unbeatable EcoFoot5D

5 Simple Components. 1 Sweet System.

Wire Management in a Snap.
Accessible & Permanent
Simply snap wire clips into Base to route wires between rows.
- No UV exposure: row to row wires covered by Ballast Tray
- Easy access to wires during install and throughout the life of the system with removable Wind Deflector and in row ballast placement

Ballast Placement that Beats All.
Ergonomic, Cost-Saving and Easy
Place ballasts between rows for easy reach.
- No walkway under module access
- Rapid Ballast Tray install, sliding into Base retention clips
- Ballast Tray strong enough to walk on, even when loaded with ballast blocks
- Minimal roof contact means smaller slip sheets, lowering cost.

6 Simple Installation Steps.

Step 1
Install Clamps in Basex. No Tools Required.
Drop preassembled Clamps into Base, push in Clevis Pins, Base is ready to install.

Step 2
Only Tiny-Chip Screws, Handheld.
Measure & mark 2 chalk lines, Bases self-align as modules drop into place.

Step 3
Secure PV modules onto Baseex.
Space modules using alignment marks on Clamps, torque fastened to 34 ft-lbs.

Step 4
Install Mid-Base Support.
Press the Upper and Lower Mid-Supports onto the module frame.

Step 5
Install Ballast Tray and plate bolted blocks.
Slide Tray into retention clips on Base, rest/wash. Place ballast blocks without reaching standing, wash down, wash out provided.

Step 6
Install Wind Deflector
Place Wind Deflector into slot on Base, attach using Becker Nut provided.

Technical Specifications.
Low Slope System: Ballasted, attached, or hybrid
Clamping range: 30–50mm
Dimensions: 16.7” L x 7” W x 0.2” H
Typical system weight: 2.4–7.7 lb
Module orientation: Landscape
Tilt angle: 5° Landscape

Module inter-row spacing: 9.9°
Roof pitch: 0°–7°
Ballast requirements: 4” x 6” x 16”
Wind tunnel tested: 150 mph
Warranty: 25 years
Slip sheets: not required by Ecolibrium Solar. If required by roofer, use 10” x 10” under Base; 6” x 16” under Mid-Support.

Validation Summary.
- Certified to UL2703 Fire Class A for Type I and II modules
- Certified to UL2703 Grounding and Bonding
- SEACO seismic compliant

Get the EcoFoot5D Advantage.
Ecolibrium Solar provides engineering support for your project from concept to completion. Contact us for a specific project bid, to schedule a product demo, or to learn more about simple, fast and cost-effective EcoFoot5D High Density 5° Racking.

Call 740.249.1977 or email Sales@EcolibriumSolar.com

Ecolibrium Solar Inc. | Boulder, CO | Athens, OH
©2019 Ecolibrium Solar Inc. | EcoFoot5D is a trademark of Ecolibrium Solar Inc. Registration pending.
EcoFlex and Ecolibrium Solar are registered trademarks of Ecolibrium Solar, Inc.

NEW PV SYSTEM: 21,000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD
NEW PV SYSTEM: 21.000 kWp
MALLOY
RESIDENCE
1225 EAST 19TH STREET,
TULSA, OK 74120
APN: 24975921206740

CONTRACTOR
EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)526-2087
ADDRESS: 1825 N WALNUT AVE, SUITE G, OKLAHOMA CITY, OK 73116

ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087
ELE. NO.: 095963
ADDRESS: EIGHTTWENTY OKLAHOMA, LLC
PHONE: (405)256-2087

ENGINEER OF RECORD