Department of Community Development
820 Mercer Street, Cherry Hill, NJ 080002
856-488-7870 (Phone) 856-661-4746 (Fax)
www.Cherryhill-NJ.com

LAND USE DEVELOPMENT APPLICATION

Submission Date: 3/31/2025 Application No.: 25-Z-0009

☐ PLANNING BOARD ☒ ZONING BOARD OF ADJUSTMENT

FOR OFFICE USE ONLY
TAXES PAID YES/NO_____ (INITIAL)
FEES $600.00 PROJ. # _____
ESCROW $2,000.00 ESCR. # 10255

1. APPLICANT

Name: Solar Landscape LLC
Address: 522 Cookman Avenue Unit 3
City: Asbury Park State: NJ Zip: 07712
Phone: (732) 855-6039* Fax: (732) 726-6560
Email: djennings@wilentz.com* *Applicant's Attorney
Interest in Property: Lessee

2. OWNER

Name: Cherry Umbrella LLC
Address: 4 Radnor Corp Ctr Ste 105
Radnor, PA 19087
City: Radnor State: PA Zip: 19087
Phone: (484) 320-7810 Fax: ( )
Email: bskelly@endurance-re.com

3. TYPE OF APPLICATION (check all that apply)

- ☐ Minor Subdivision
- ☐ Preliminary Major Subdivision [1]
- ☐ Final Major Subdivision
- ☐ Minor Site Plan
- ☐ Preliminary Major Site Plan [1]
- ☐ Final Major Site Plan
- ☐ Amended Plan
- ☒ Site Plan Waiver
- ☐ Concept Plan
- ☐ Interpretation [1]
- ☐ Appeal of Administrative Officer's Decision
- ☐ Certificate of Non-Conformity
- ☒ Use (d) Variance [1]
- ☐ Bulk (c) Variance [1]
- ☐ Conditional Use [1]
- ☐ Street Vacation Request
- ☐ Rezoning Request [1]
- ☐ Other: _____

[1] Legal advertisement and notice is required to all property owners within 200 feet.

4. ZONE (check all that apply)

RESIDENTIAL		COMMERCIAL	OFFICE	OTHER	OVERLAY
RA	RA/PC	B1	O1	IR	FP
R1	R7	B2	O2	IN	SBC
R2	R10	B3	O3		IR/B
R3	R20	B4			A-H/C

5. ATTORNEY (A corporation, partnership, limited liability company or partnership must be represented by a New Jersey Attorney)

Name: Donna M. Jennings, Esq.
Address: 90 Woodbridge Center Drive Suite 900
City: Woodbridge State: NJ Zip: 07095
Phone: (732) 855-6039 Fax: (732) 726-6560
Email: djennings@wilentz.com

6. APPLICANT'S PROFESSIONALS (Engineer, Surveyor, Planner, etc.)

Name: Kevin Shelly, PE
Profession: Engineer
Address: 1985 Highway 34, Suite A7
City: Wall State: NJ Zip: 07719
Phone: (732) 924-8100 Fax: (732) 924-8110
Email: kshelly@shorepointengineering.com

Name: Planner TBD
Profession:
Address:
City: State: Zip:
Phone: ( ) Fax: ( )
Email:

7. LOCATION OF PROPERTY

Street Address: 2020 Springdale Road
Block(s): 494.01
Tract Area: 3.525 acres
Lot(s): 1

8. LAND USE

Existing Land Use: Commercial/Retail
Proposed Land Use (be specific): Rooftop community solar panels with associated ground-mounted equipment.

9. PROPERTY

Number of Existing Lots: 1
Number of Proposed Lots: 1
Are there Existing Deed Restrictions or Easements? ☒ No ☐ Yes (please attach copies)
Are there Proposed Deed Restrictions or Easements? ☒ No ☐ Yes (please attach copies)

Proposed Form of Ownership:
☐ Fee Simple ☐ Condominium *Lessee
☒ Rental ☐ Cooperative

10. UTILITIES (check all that apply)

N/A ☐ Public water ☐ Public sewer ☐ Private well ☐ Private septic system

11. APPLICATION SUBMISSION MATERIALS

List all plans, reports, photos, etc. (use additional sheets if necessary): See attached cover letter.

12. PREVIOUS OR PENDING APPLICATIONS

List all previous or pending applications for this parcel (use additional sheets if necessary): See attached cover letter.

13. ZONING SCHEDULE (complete all that apply)

	REQUIRED	EXISTING	PROPOSED
Minimum Lot Requirements			
Lot Area	20,000 sf	140,400 sf	No change
Frontage	120 ft	270 ft	No change
Lot Depth	120 ft	270 ft	No change
Minimum Yard Requirements			
Front Yard	30 ft	81.2 ft	No change
Secondary Front Yard	30 ft	85.8 ft	No change
Rear Yard	20 ft	85.8 ft	No change
Side Yard	10 ft	103.4 ft	No change
Aggregate Side Yard	25 ft	NA	NA
Building Height	35 ft	18 ft	<19 ft*
Lot Requirements			
Residential Buffer Strip	NA	NA	NA
Open Space	25%	21.4%	No change
Parking Setbacks			
Parking Setback to non-residential	5'	NA	NA
Parking Setback to residential	15'	NA	NA
Parking Setback to Right-of-Way	20'	NA	NA

*Solar panels add approximately 9.5 inches

	REQUIRED	EXISTING	PROPOSED
Accessory Uses			
Garage Area	NA	NA	NA
Garage Height	NA	NA	NA
Fence Height	NA	NA	NA
Pool Depth	NA	NA	NA
Shed Area	NA	NA	NA
Shed Height	NA	NA	NA
Signage Requirements			
Façade Sign area 1	NA	NA	NA
Façade Sign area 2	NA	NA	NA
Freestanding Sign area	NA	NA	NA
Freestanding Sign height	NA	NA	NA
Functional Sign(s) area	NA	NA	NA
Building Façade area	NA	NA	NA
Distance from Driveway	NA	NA	NA
Distance from R.O.W.	NA	NA	NA

Is the proposed site on a inside or corner lot?

Inside (Corner)

14. PARKING & LOADING REQUIREMENTS

Number of Parking Spaces REQUIRED: NA

Number of Parking Spaces PROVIDED: NA

Number of Loading Spaces REQUIRED: NA

Number of Loading Spaces PROVIDED: NA

15. RELIEF REQUESTED (check all that apply)

☒ Zoning Variances are requested.

☐ Exceptions from Municipal Requirements are requested *(N.J.S.A. 40:55D-51).*

☐ Exceptions from New Jersey Residential Site Improvement Standards (R.S.I.S.) are requested *(N.J.A.C. 5:21-3.1).*

☐ Waivers from New Jersey Residential Site Improvement Standards (R.S.I.S.) are requested *(N.J.A.C. 5:21-3.2).* Requires application to and approval of the New Jersey Site Improvement Advisory Board.

For any type of the above relief requested, a separate exhibit should be attached stating the factual basis, legal theory, and/or previously granted relief.

16. SIGNATURE OF APPLICANT

I certify that the foregoing statements and the materials submitted are true. I further certify that I am the individual applicant, or that I am an Officer of the Corporate applicant and authorized to sign the application for the Corporation, or a General Partner of the partnership application.

SWORN & SUBSCRIBED to before me this 22nd day of January, 2025 (year)

Lisa Haak (notary)

Lisa Haak
Notary Public, State of New Jersey
I.D. No. 50163068
My Commission Expires June 26, 2026

1/24/2025

SIGNATURE (applicant) DATE

Donna M. Jennings, Esq.*

PRINT NAME

*WGS on behalf of Applicant

17. CONSENT OF OWNER

I certify that I am the Owner of the property which is the subject of this application, hereby consent to the making of this application and the approval of the plans submitted herewith. I further consent to the inspection of this property in connection with this application as deemed necessary by the municipal agency (if owned by a Corporation, a resolution must be attached authorizing the application and officer signature).

Bernadette Skelly — 12/23/24
SIGNATURE (owner) — DATE

Bernadette Skelly
PRINT NAME

SWORN & SUBSCRIBED to before me this 23rd day of December, 2024 (year)
Kristie T. Radcliffe (notary)

Commonwealth of Pennsylvania - Notary Seal
Kristie T. Radcliffe, Notary Public
Delaware County
My commission expires February 26, 2028
Commission number 1240065
Member, Pennsylvania Association of Notaries

18. DISCLOSURE STATEMENT (circle all that apply)

Pursuant to N.J.S.A. 40:55D-48.1 & 48.2, please answer the following questions:

Is this application to subdivide a parcel of land into six (6) or more lots?	Yes	(No)
Is this application for a variance to construct a multiple dwelling of twenty-five (25) or more units?	Yes	(No)
Is this application for approval of a site (or sites) for non-residential purposes?	(Yes)	No
Is the applicant a corporation?	Yes	(No)
Is the applicant a limited liability corporation?	(Yes)	No
Is the applicant a partnership?	Yes	(No)

If you responded YES to any of the above, please answer the following (use additional sheets if necessary):

List the names and addresses of all stockholders or individual partners owing at least 10% in stock of any class or at least 10% of the interest in partnership (whichever is applicable).

Does a corporation or partnership own 10% or more of the stock in this corporation or partnership? If yes, list the names and addresses of stockholders of that corporation holding 10% or more of the stock or 10% or greater interest in that partnership (whichever is applicable). This requirement is to be followed by every corporate stockholder or partnership, until the names and addresses of the non-corporate stockholders and individual partners with 10% or more ownership have been listed.

[signature] — 1/12/2025
SIGNATURE (applicant) — DATE

19. SURVEY WAIVER CERTIFICATION

As of the date of this application, I hereby certify that the survey submitted with this application, under the date of April 16, 2018 last revised May 14, 2018 shows and discloses the premises in its entirety, described as Block(s) 494.01 Lot(s) 1; and I further certify that no buildings, fences, or other facilities have been constructed, installed, or otherwise located on the premises after the date of the survey with the exception of the structures shown.

State of New Jersey; County of Camden:

Bernadette Skelly of full age, being duly
PRINT NAME

Bernadette Skelly — 12/23/24
SIGNATURE (applicant/owner) — DATE

SWORN & SUBSCRIBED to before me this 23rd day of December, 2024 (year)
Kristie T. Radcliffe (notary)

Commonwealth of Pennsylvania - Notary Seal
Kristie T. Radcliffe, Notary Public
Delaware County
My commission expires February 26, 2028
Commission number 1240065
Member, Pennsylvania Association of Notaries

FOR OFFICE USE ONLY

The application was reviewed in accordance with the rules of the applicable Board and Ordinances of the Township of Cherry Hill and determined that all the checklist items are in order and this application has been deemed complete. The time within which the applicable Board must act on this application pursuant to *N.J.S.A. 40:55d-1 et seq.*, has commenced from this date.

SIGNATURE (administrative officer) — DATE

WILENTZ
—ATTORNEYS AT LAW—
WILENTZ GOLDMAN & SPITZER P.A.

DONNA M. JENNINGS, ESQ.

T: 732.855.6039
F: 732.726.6560
djennings@wilentz.com

90 Woodbridge Center Drive
Suite 900 Box 10
Woodbridge, NJ 07095-0958
732.636.8000

January 30, 2025

VIA EMAIL
Jacob Richman, Zoning Board of Adjustment Secretary
Cherry Hill Township
820 Mercer Street
Chery Hill, NJ 08002

RE: Solar Landscape LLC
2020 Springdale Road
Block 494.01, Lot 1
Minor Site Plan and Use Variance

Dear Mr. Richman:

This office represents Solar Landscape LLC (the "Applicant") in this matter. Enclosed, for filing, please find the following:

1. Photographs of Existing Building; and
2. Structural Feasibility Report, prepared by Exactus Energy Inc., dated October 3, 2024.

Additionally, in response to your e-mail correspondence dated January 24, 2025, the Applicant proposes to install 601 modules, and the energy production is 288.48 kW DC.

Should you require any additional information, please do not hesitate to contact this office. Thank you for your attention to this matter.

Very truly yours,

DONNA M. JENNINGS

w/encl.
cc: Solar Landscape LLC
Kevin Shelly, PE

WILENTZ
—ATTORNEYS AT LAW—
WILENTZ GOLDMAN & SPITZER P.A.

DONNA M. JENNINGS, ESQ.

T: 732.855.6039
F: 732.726.6560
djennings@wilentz.com

90 Woodbridge Center Drive
Suite 900 Box 10
Woodbridge, NJ 07095-0958
732.636.8000

March 7, 2025

VIA EMAIL
Jacob Richman, Zoning Board of Adjustment Secretary
Cherry Hill Township
820 Mercer Street
Chery Hill, NJ 08002

RE: Solar Landscape LLC
2020 Springdale Road
Block 494.01, Lot 1
Site Plan Waiver with Variances

Dear Mr. Richman:

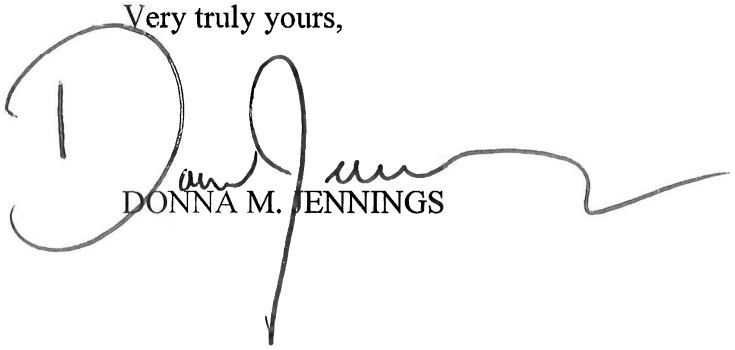
This office represents Solar Landscape LLC (the "Applicant") in this matter. Enclosed, for filing, please find the following:

1. Amended Application Form Pages with Amended Rider.
2. Amended Fee Schedule.
3. Site Plan Waiver Layout, entitled "Site Plan Waiver Community Solar Rooftop System – 2020 Springdale Road," prepared by Shore Point Engineering, dated February 21, 2025, consisting of three (3) sheets.

In furtherance of your request for additional information regarding the Applicant's compliance with the requirements of the New Jersey Community Solar Energy Program ("CSEP"), please accept this correspondence as the Applicant's statement that they will adhere to all applicable requirements. The Applicant's participation in the CSEP is contingent on adhering to these standards. Importantly, Community Solar Projects in the program are required to serve a majority of low-and-moderate-income customers.

Should you require any additional information, please do not hesitate to contact this office. Thank you for your attention to this matter.

Very truly yours,



DONNA M. JENNINGS

cc: Applicant
Kevin Shelly, PE
Luke H. Policastro, Esq.

RIDER
Solar Landscape LLC
Site Plan Waiver and Use Variance
2020 Springdale Road
Block 494.01, Lot 1

Solar Landscape LLC ("Applicant") submits this application for site plan waiver and a use variance to install rooftop community solar panels on the existing commercial structure with associated wall-mounted equipment located at 2020 Springdale Road and identified as Block 494.01, Lot 1 on the Township's tax maps. The property is located in the Industrial Restricted (IR) Zone and is approximately 153,600 square feet.

The Applicant proposes to sell the power generated as part of the New Jersey Community Solar Energy Program. Solar energy systems are permitted in every zone so long as the system provides power for the principal use of the property and the power is not generated for commercial purposes pursuant to Ordinance Section 432-C(1)(a). Therefore, the proposed use is not permitted, and the Applicant requires a d(1) use variance.

Checklist Item 15. Required Approvals.

- Camden County Planning Board
- New Jersey Community Solar Energy Program Acceptance
- JCP&L Utility Interconnection
- Department of Community Affairs Building, Electrical, and Fire

Checklist Item 16. Summary of Proposed Operations.

Once installed, employees will be on site regularly other than for routine maintenance. No truck traffic, noise, glare, odors or other hazards are anticipated, as the effect of the solar panels on the Property is de minimis.

SHORE POINT ENGINEERING

Solar Rooftop System – 2020 Springdale Road
Block 494.01, Lot 1
Cherry Hill Township, Camden County, New Jersey

Completeness Checklist Waiver Request

The Applicant is requesting the following submission waivers.

- *Number 35 - Building Plans. Proposed structures and uses on the tract, i.e., size, height, location, arrangement, an architect's scaled elevation of the front, side and rear of any structure to be modified, with building lighting details and attached signs.*
  The application is for roof mounted solar panels and no additional structures are proposed.

- *Number 36 - Floor Plans where multiple dwelling units or more than one use is proposed that have different parking standards.*
  The application is for roof mounted solar panels that will have no impact on the floor plans.

- *Number 37 - Signs. Existing and proposed signs, including the location, size, height and necessary measurements and a Sign Location Plan.*
  The application is for roof mounted solar panels and has no impact on existing signage.

- *Number 38 - Streets. Existing and proposed street and lot layout, with dimensions correct to scale, showing that portion proposed for development in relation to the entire tract.*
  The application is for roof mounted solar panels and has no impact on existing roadways and is not proposing any roadways.

- *Number 39 - Easements & ROW. Name, width, and location of existing and proposed easements, right-of-ways, deed restrictions or covenants with reference source. The plans should note if none exist.*
  The application is for roof mounted solar panels and has no impact on existing easements or ROW.

- *Number 50 - Existing elevations and contour lines over the entire area of the proposed development and two (2) permanent bench marks based upon U.S.G.S. datum.*
  The application is for roof mounted solar panels and has no impact on existing topography.

- *Number 51 - Contours shall be shown at not more than two (2) foot intervals for areas with less than twenty (20%) percent slope, five (5) foot intervals for areas in excess of twenty (20%) percent slope.*
  The application is for roof mounted solar panels that will have no impact on existing topography.

- *Number 52 - Proposed grades in sufficient numbers to illustrate the proposed grading scheme.*
  The application is for roof mounted solar panels and has no impact on existing topography.

- *Number 53 - Locations and dimensions of artificial and/or natural features such as railroad rights-of-way, bridges, dams, soil types, wooded areas, etc.*
  The application is for roof mounted solar panels and has no impact on existing landscape.

1985 Highway 34, Suite A7, Wall, NJ 07719
T: 732-924-8100 F: 732-924-8110
Shorepointengineering.com

- *Number 55 - Locations of all existing and proposed water courses (i.e. lakes, streams, ponds, swamps or marsh areas, or underdrain) within 500 feet of the development, show the location and water level elevations.*
  The application is for roof mounted solar panels and has no impact on existing waterways.

- *Number 56 - Flood Plain limits as determined by most recent FEMA FIRM maps and onsite evaluations by a licensed professional engineer.*
  The application is for roof mounted solar panels and has no impact on existing floodplain.

- *Number 57 - Freshwater Wetlands & transition area boundaries, and stream buffer with NJDEP or accepted reference.*
  The application is for roof mounted solar panels and has no impact on existing freshwater wetlands.

- *Number 58 - Landscaping Plan showing number, size, species, and location.*
  The application is for roof mounted solar panels and has no impact on existing landscaping.

- *Number 61 - Utilities. Plans and profiles for all storm lines, underdrains and ditches whether onsite or off-tract, affected by the development including:*
  a. Location of each inlet, manhole or other appurtenance.
  b. Slope of line.
  c. Pipe material type.
  d. Strength, class or thickness.
  e. Erosion control and soil stabilization methods.
  The application is for roof mounted solar panels and has no impact on existing stormwater utilities.

- *Number 62 - Septic System infrastructure.*
  The application is for roof mounted solar panels and has no impact on existing septic system infrastructure.

- *Number 63 - Names, locations and dimensions of all existing streets and existing driveways, and any connections by the development to existing streets, sidewalks, bike routes, water, sewer, or gas mains within 200'*
  The application is for roof mounted solar panels and has no impact on surrounding properties or utilities.

- *Number 64 - Streets. Plans for all proposed streets or road improvements, whether onsite or off-tract, showing:*
  c. Fire lanes.
  d. Driveway aisle and dimensions.
  e. Parking spaces with size, number, location, and ADA spaces.
  f. Loading areas.
  g. Curbs.
  h. Radii of curb line.
  i. ADA ramps, signage, striping, etc.
  j. Sidewalks and bicycle routes.
  k. Any related facility for the movement and storage of goods, vehicles, persons, etc.

l. Directional and traffic signs with scaled drawings.
q. Fencing, railroad ties, bollards, and parking bumpers.
t. Center line profiles at a horizontal scale not less than 1"=50' for all existing adjoining streets and proposed streets. Standard details for curbing, sidewalks, bike paths, paving, stoned, or graveled surfaces, bollards, railroad ties and fences.

The application is for roof mounted solar panels and no additional streets, road improvements, or parking are proposed.

- *Number 65 - Lighting Plan showing photometric patterns, isolux, footcandles, etc.*
  The application is for roof mounted solar panels and no additional lighting is proposed.

- *Number 66 - Sewer & Water. Plans and profiles of water, and sewer layouts whether onsite, offsite or off-tract showing:*
  a. Size and types of pipes and mains.
  The application is for roof mounted solar panels and has no impact on existing sewer and water profiles.

- *Number 67 - If service is to be provided by an existing water or sewer utility company, a letter from that company shall be submitted, indicating that service shall be available before occupancy of any proposed structures.*
  The application is for roof mounted solar panels and has no impact on existing utilities.

CHERRY HILL township

You couldn't pick a better place.

Department of
Community Development

TO:	Cherry Hill Township Zoning Board Members
FROM:	Kathy Cullen, Director Jacob Richman, PP, AICP, Deputy Director Samuel Opal, Assistant Planner
RE:	**COMPLETENESS REVIEW** **Solar Landscape, LLC** **2020 Springdale Road** **Cherry Hill, New Jersey 08003** **Block 494.01 Lot(s) 1** **Application No. 25-Z-0009**
DATE:	April 24, 2025

I. GENERAL INFORMATION

A. **Applicant & Owner.** Solar Landscape, LLC, 522 Cookman Avenue, Unit 3, Asbury Park, NJ 07712; Cherry Umbrella, LLC, 4 Radnor Corp, Center Suite 105, Radnor, PA 19087.

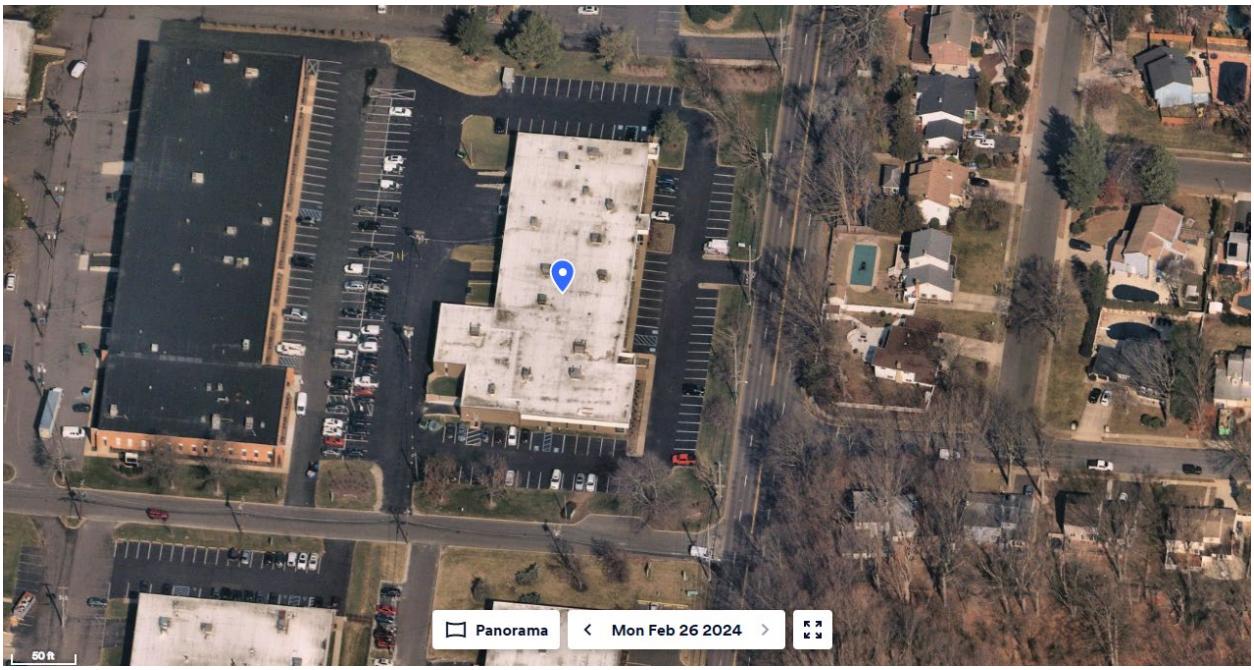
B. **Proposal.** Site Plan Waiver with a Use d(1) Variance to install a 288.48 kW-DC rooftop solar photovoltaic (PV) system containing 601 panels on top of an existing commercial building along with associated wall-mounted equipment. The system would fall under the NJ Community Solar Energy Program (CSEP) and would supply renewable energy back into the grid for prospective customers to purchase. The Zoning Ordinance only permits solar energy systems to provide power for the principal use of the property as opposed to off-site users.

C. **Zone.** Industrial Restricted (IR).

D. **Site Area.** The subject site is a 3.53-acre sized lot containing a multi-tenant industrial building located on the corner of Springdale Road, to the east and Keystone Avenue, to the south, which is a private road. The access on the site consists of two (2) separate driveways, one being located along Springdale road and one being located along Keystone Avenue. The site is surrounded by other IR & IR-RB zoned properties containing various industrial uses (warehousing, manufacturing and storage) to the north, south and west. To the south is the Limited Office (O1) zoned section of the Deer Park industrial area, which houses mixture of uses from offices to various forms of residents. Further to the east is residentially zoned (RAPC) Point of woods Neighborhood. Nearby major roadways include Springdale Road (CR-673) to the east, Greentree Road (CR-674) and Marlton Pike East (SR-70).

E. **History.** According to Township Tax Assessor records, the building was constructed around 1970 with the current owner of the property taking ownership in 2008. In January of 1989, the planning board issued preliminary and final major site plan approval (#3988-P&F & V) to construct a 3,690 square foot warehouse addition. In July of 1993, the zoning board issued Use D(1) variance approval (#6437-93) to permit the retail sale and warehousing of furniture at the site. In April of 2010, the zoning board issued Use D(1) variance approval (#10-Z-0012) to permit a martial arts training and fitness facility to be located within the building. In May of 2015, the zoning board issued Site Plan waiver and Use D(1) variance approval (#15-Z-0004) to permit an after-school learning center to be located in the building. Numerous zoning permits for certificates of occupancy approvals have been issued for various industrial uses over the years. In November of 2023 a zoning permit (ZP-23-01300) was issued for roof mounted solar panels. In October of 2024, the aforementioned zoning permit (ZP-23-01300) was rescinded, due to the fact that the department of Community Development was made aware that the previously approved solar panels were intended for the use of "Community Solar" which is not permitted per §432.C.1.a of the Zoning Ordinance

F. **Jurisdiction Determination.** Per §432.C.1.a of the Zoning Ordinance, the general requirements for solar energy systems are as follows: *"The solar energy system shall provide power for the principal use of the property whereon said system is to be located and shall not be for the generation of power for commercial purposes, although this provision shall not be interpreted to prohibit the sale of excess power generated from time to time from a wind or solar energy system designed to meet the energy needs of the principal use."* In receiving an application for a Community Solar project, the Department reviewed and determined that a Use (D) Variance would be required as the applicant's project description did not conform to the general requirements governing solar energy systems. Specifically, the Department determined that the project did not comply with the following key phrase: "*shall not be for the generation of power for commercial purposes...*" As the intention of this project is to sell all energy generated from the solar energy system to community solar members in the local area, the applicant is utilizing the solar energy system primarily to sell and provide power to off-site users (i.e. for commercial purposes) as opposed to providing: "*power for the principal use of the property…"* While the Ordinance does allow for: *"the sale of excess power generated from time to time"* the solar energy system shall be primarily designed to: *"meet the energy needs of the principal use."* Again, in this instance, the primary purpose of this project is to sell all energy generated from the system to people in the local area as opposed to primarily powering the underlying building (At Home and Big Lots). Therefore, the Department affirms that the Zoning Board of Adjustment has jurisdiction to consider the requested Use (D) Variance and associated Site Plan Waiver request.



II. COMPLETENESS REVIEW

A. **Submitted Items.** The following information has been submitted in support for this application and reviewed by the Cherry Hill Township Department of Community Development for conformance to the Zoning Ordinance:

1. Community Solar Site Plan Waiver Plan prepared by *Kevin E. Shelly, PE* of *Shore Point Engineering* dated *February 21, 2025*:
   a. Title Sheet, Sheet 1 of 3;
   b. Site Plan, Sheet 2 of 3; and
   c. Construction Details, Sheet 3 of 3.
2. Structural Feasibility Report prepared by *J. Trampe* of *Exactus Energy, Inc.* dated *April 1, 2024.*
3. Site and Aerial Photographs.
4. Submission Waivers Request Letter.
5. Application Overview Rider with List of Variances.
6. Cover Letter with Solar Installation Overview dated January 30, 2025.
7. Cover Letter with CSEP Compliance Statement dated March 7, 2025.
8. Land Use Development Application.

B. **Checklist.** Waivers requested and recommended for residual checklist items (items reviewed are the only checklist items applicable to the application):

14. *Photographs of the site showing area in question.* **Utilizing the provided aerial and site photographs, the applicant shall provide testimony regarding the existing site conditions and signify which areas will be impacted by the development footprint (i.e. roof areas and areas where electrical infrastructure will be installed).**
15. *Required Approvals.* List and provide applications and permits of regulatory agencies (NJDOT, NJDEP, CCSC, etc.). **Waiver requested and the Department <u>does not object</u> as no additional outside agency approvals are required for the proposed change of use.**
16. *Summary. A written description of the proposed use(s) and operation(s) of the building(s), i.e., the number of employee or users of non-residential buildings, the proposed number of shifts to be worked, the maximum number of employees on each shift, expected truck traffic, noise, glare, radiation, heat, odor, safety hazards, air and water pollution.* **The applicant shall**

provide detailed testimony to the Board regarding the proposed solar installation and related improvements including but not limited to the following: 1) The CSEP details; 2) The total number of panels; and 3) The proposed roof and wall-mounted electrical infrastructure (i.e. inverters, meters, utility cabinets, utility pole connections and electrical wiring [above and below ground]). Please also provide testimony regarding the differences, if any, between a solar installation whose primary purpose is to generate electricity for the underlying use and one whose primary purpose is to send energy back out to the grid. Lastly, the applicant shall address whether any tree removal is necessary to accommodate the proposed solar installation.

32. *Zoning Schedule showing required, existing, and proposed lot & yard requirements for relevant zone(s) including, area, frontage, depth, setbacks, height, etc.* **Please review the zoning schedule provided in Section III.A below and confirm to the Board the accuracy of the indicated requirements.**
35. *Building Plans. Proposed structures and uses on the tract, i.e., size, height, location, arrangement, an architect's scaled elevation of the front, side and rear of any structure to be modified, with building lighting details and attached signs.* **The applicant shall verify that the only changes to the exterior of the building are the installation of the rooftop panels and the associated electrical infrastructure that is to be wall-mounted.**
36. *Floor Plans where multiple dwelling units or more than one use is proposed that have different parking standards.* **Waiver requested and the Department <u>does not object</u> to the granting of this waiver as no building additions are proposed.**
37. *Signs. Existing and proposed signs, including the location, size, height and necessary measurements and a Sign Location Plan.* **Waiver requested and the Department <u>does not object</u> to the granting of this waiver as no signage is proposed.**

C. **Determination.** This application has been **<u>deemed technically complete</u>**. The above-referenced items shall be addressed on revised plans and items submitted for conformance review.

III. DEPARTMENT OF COMMUNITY DEVELOPMENT COMMENTS

A. **Zoning Requirements.** Community Solar Energy projects are not a permitted principal use in the Industrial Restricted (IR) zone per §432.C.1.a via §419.D.12 of the Zoning Ordinance. The zoning requirements for solar energy systems (for roof-mounted systems only) are found in §432.C as well as the coverage requirements for the Industrial Restricted (IR) zone (§419.F.1) are noted below:

CODE SECTION	MINIMUM REQUIREMENTS	REQUIRED	EXISTING	PROPOSED	CONFORM
§419.F.1	Building Coverage	30%	21.8%	No Change	C
§419.F.1	Lot Coverage	70%	73.7%	No Change	ENC
§419.F.1	Open Space	25%	26.3%	No Change	C
§432.C.1.a	Power Generation for Principal Use	Shall not to be used for Commercial Purposes	N/A	For Sale to Local Area (Commercial Purposes)	**V (Use)**

§432.C.1.c	Glare	Shall not create glare that poses a nuisance or danger to surroundings	N.A	Testimony to be provided	TBD
§432.C.2.a	Roof-Mounting Height	<3' from finished roof	N/A	9.5"	C
§432.C.2.b	Placement on Roof	Shall not extend beyond the edge or pitch of the roof	N/A	Contained within edge of roof	C

[V] Variance

[ENC] Existing Non-conformance

[C] Conforms

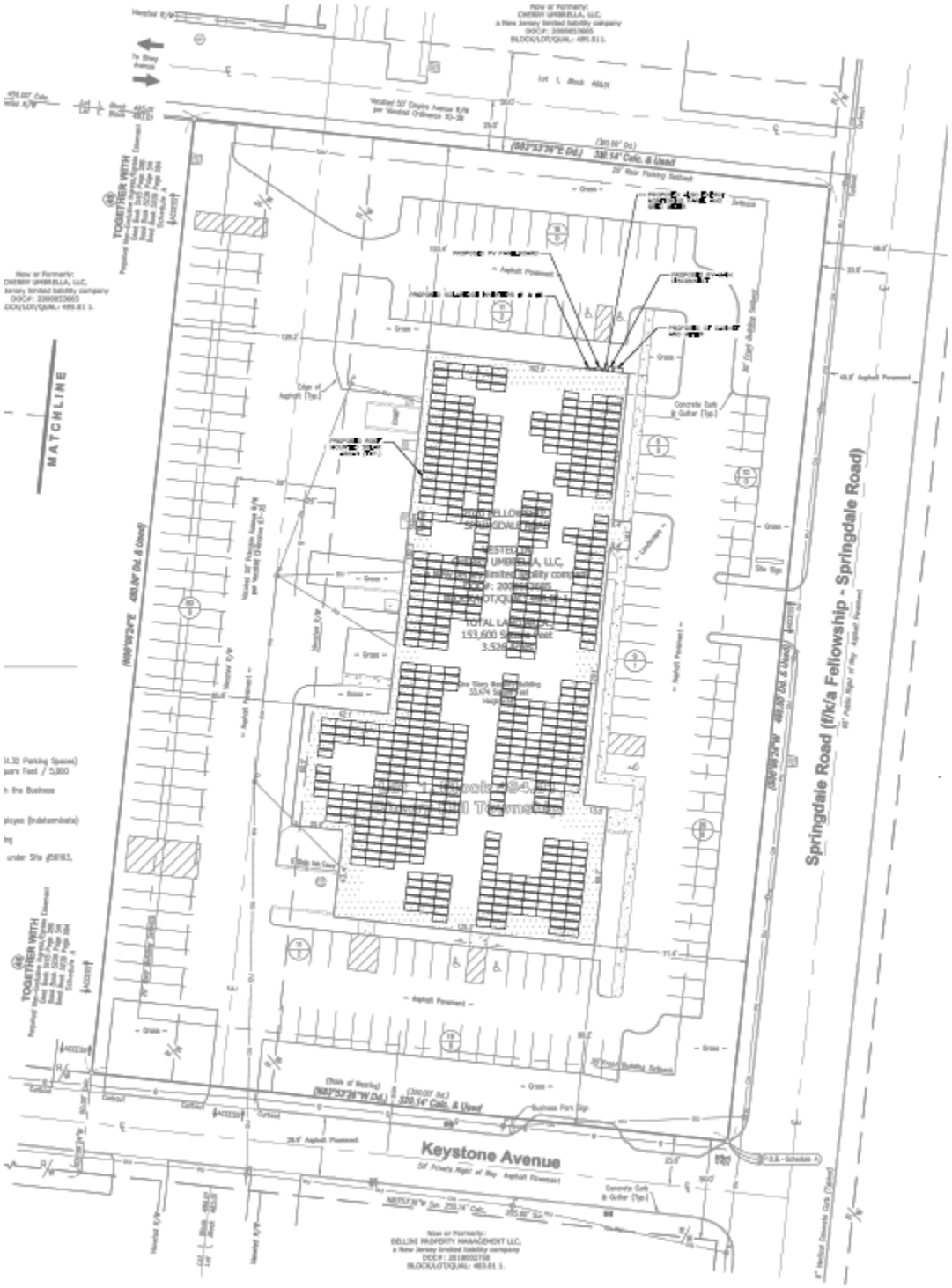
B. **Use (D) Variance.** A use d(1) variance is necessary from §432.C.1.a via §419.D.12 of the Zoning Ordinance to permit the installation of a solar energy system that is principally designed to send all energy generated back to the grid and then, for commercial purposes, sold to the community, where such use is not specifically permitted (NJSA 40:55D-70(d)(1)). Justification should be provided for the requested variance in accordance with N.J.S.A. §40:55D-70(d)(1), where the Township recommends that the burden of proof be provided by a licensed New Jersey Professional Planner (P.P.). In considering a request for a use (d) variance(s), the Zoning Board of Adjustment must be assured that the Applicant has demonstrated either that:
   1. The positive criteria are met if at least one of the following is proven by the applicant:
      a. The proposed use inherently serves the public good; or
      b. The project advances one or more of the purposes of the municipal land use law (N.J.S.A. 40:55D-2); or
      c. The property owner would suffer "undue hardship" if compelled to use the property in conformity with the permitted uses in the zone (zoned into inutility); or
      d. The proposed site is particularly suitable for the proposed use.
   2. To meet the negative criteria the applicant must show that the proposed use can be granted without:
      a. Substantial detriment to the public good.
      b. Substantially impairing the intent and purpose of the zone plan and zoning ordinance.

C. **Bulk (C) Variances.** No new bulk variances are required, however, the following is noted as legal nonconforming conditions that are unaffected by the proposed application.
   1. From §419.F.1, to permit a lot coverage of 73.7%, where a maximum lot coverage of 70% is permitted. ***This represents a pre-existing nonconforming condition that is unaffected by the proposed application as the proposal only involves roof and wall-mounted infrastructure (no ground-mounted infrastructure is proposed).***
   2. Any other variances deemed necessary by the Zoning Board of Adjustment.

D. **Design Waivers.** No design waivers are requested or required as part of this application.

E. **Standards of Review.** The following standards for review apply for Site Plan Waivers, per §804, "Where site plans are required, the Administrative Officer may determine that the purposes of this Ordinance and the public interest can be served by approval of a site plan waiver. A site plan waiver may be requested provided that such change in use or modification of an existing conforming use would not involve any of one or more of the following:

1. A significant structural improvement that would alter the exterior of the building (**Not Applicable – The improvements will be located on top of the roof with the exception of wall-mounted equipment**).
2. Drainage modifications, including but not limited to:
    a. Major storm drainage installations (**Not Applicable**).
    b. An increase of stormwater runoff of more than one cubic foot per second during a twenty-five year rainfall event (**Not Applicable**).
    c. Redirecting of stormwater runoff (**Not Applicable**).
3. Any change in vehicular traffic circulation patterns or intensity of use **(Not applicable as the improvements are primarily contained to the roof with electrical infrastructure contained on the side of the building).**
4. No approval for the proposal is required by outside agencies, such as the County or State (**Not Applicable**)**.**
5. The requirement for a major or minor site plan would not forward the purposes of this Ordinance or otherwise serve the public interest (**Not Applicable as excepting for the rooftop solar infrastructure, no major physical changes are being proposed for the property**).



F. **Comments.** The applicant shall address the following comments:

1. The applicant shall provide testimony regarding the proposed solar installation including but not limited to the total number of panels, the power generation of the installation, the associated electrical infrastructure/wall-mounted equipment, and compliance with the Community Solar Energy Program (CSEP) requirements.

2. Per the requirements of §432.C.2 of the Zoning Ordinance, the solar panel system shall not extend beyond the edge or pitch of the roof, nor shall the system be mounted more than three (3') feet higher than the finished roof to which it is mounted upon. Per §432.C.1.c, the installation of solar panels shall not create glare that is a nuisance or pose a danger to surrounding properties and the general public. The applicant shall affirm that the proposed solar energy system will comply with said requirements.
    a. Furthermore, utilizing the performance standards established in §502.A, testimony shall be provided regarding any applicable impacts as it relates to: air quality, emissions, drainage, glare, heat, noise, odor, waste, ventilation, vibration and sight triangle visibility.
3. While 2018 Master Plan does not specifically indicate a position on Community Solar Energy systems, the Land Use Element does state the following: *"It is recommend to comprehensively review the standards for ground-mounted and roof-mounted solar systems to ensure that they meet the needs of industry providers. Additional alternative energy systems (e.g., small wind energy, electric vehicle charging stations) should also be considered for inclusion in the Zoning Ordinance, where appropriate."*
    a. Furthermore, the NJ MLUL Section 40:55D-4 indicates that solar energy systems are classified as an inherently beneficial use which establishes the positive criteria. However, in order to determine whether the negative criteria is satisfied, the Zoning Board shall consider the whether there is any perceived or apparent negative impact with respect to sending renewable energy back into the grid -- as opposed to just allowing power generation for the underlying principal use -- for purchase.
4. Please see Checklist item #16 above. Testimony shall be provided by the applicant in regard to the purpose of the proposed solar facility and the scope of work necessary in order to accommodate said facility.
5. The applicant shall be advised that the project shall comply with the Cherry Hill Tree Ordinance. If any trees require removal, such trees shall be replaced in-kind or be subject to a fee submission into the Cherry Hill Tree Fund in the amount of $300.00 per tree. **This shall be a condition of approval.**
6. The applicant shall provide testimony regarding the findings/analyses contained with the submitted Structural Analysis. The applicant and the Board shall be advised that the submitted Structural Analysis will be reviewed for UCC compliance by the Township's Construction Office during building permit review (following the issuance of a zoning permit once plans are deemed compliant). The applicant shall comply with all UCC requirements with respect to the solar energy system installation. **This shall be a condition of approval.**
7. While not explicitly required for solar installations, in general all rooftop mechanical and electrical equipment shall be screened to the greatest extent possible from view at ground level by a parapet wall, within the roof structure itself, or properly screened. Wall-mounted mechanical and electrical equipment shall also be screened with landscaping and/or fencing (if not already screened from the ROW by the building), where feasible. The applicant shall address whether any screening measures are proposed. **This shall be a condition of approval.**
8. The application may be subject to additional comments by members Zoning Board, the Cherry Hill Department of Community Development, the Township's zoning board consultants, and/or the public.
9. The statements, opinions, and conclusions contained within this Completeness Review are based upon the information, plans, and other documents provided to the Department as of the date of its issuance. The Department reserves the right to supplement or amend any of the statements, opinions, and/or conclusions contained herein at any time up to, and including, at the time of the hearing of this application.

E. **Conditions.** Should the Zoning Board consider and grant the requested relief to permit the proposed improvements, they may impose reasonable conditions, as they deem necessary, in addition to the following recommended conditions of approval:

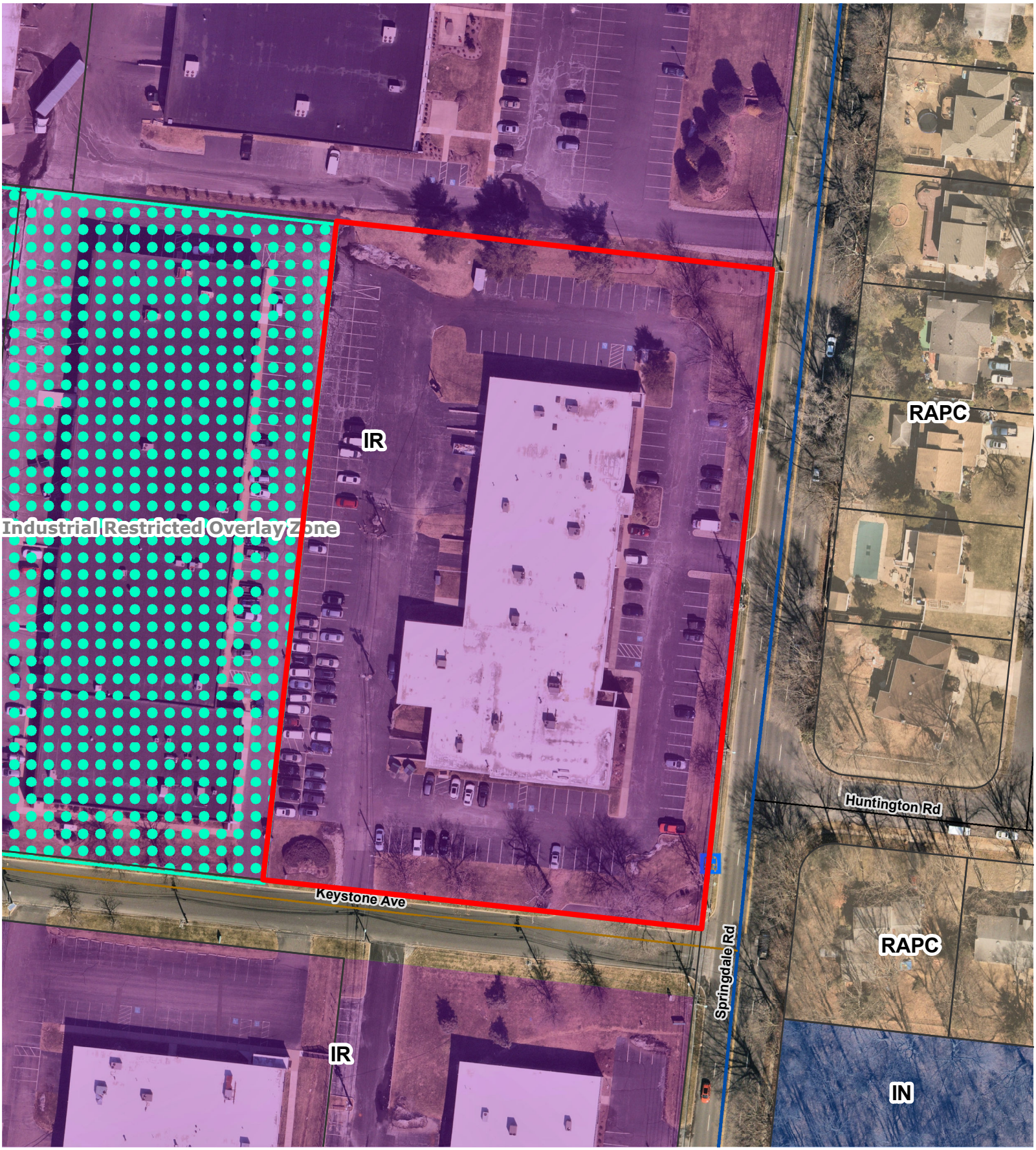
1. All taxes and assessments shall be paid on the property for which this application is made. The Applicant shall submit proof that no taxes or assessments for local improvements are due or delinquent on the property for which the application is made.
2. Any and all conditions made a part of any approval, including those noted by reference in this or any other reports of any consultants to the Zoning Board, or as set forth on the record at the Zoning Board hearing, must be satisfied.
3. The Applicant shall pay all required escrows, costs and professional fees associated with the application to the Department of Community Development within fourteen (14) days of receipt of a written request for payment of escrow funds. The failure to pay the required escrow funds within the fourteen (14) day period after receipt of written notice may result in the voiding of this approval. Negative escrow account balances shall incur interest at the rate of 1.5% per month.
4. Any and all outside agency reviews and/or approvals shall be obtained, if applicable.
5. The failure of the Applicant to comply with any of the conditions contained in this Resolution will permit the Zoning Officer to withhold or rescind any zoning permits issued to the Applicant, pursue any other enforcement actions permitted by the Cherry Hill Township Zoning Ordinance, and/or refer the matter back to the Zoning Board where it may, at its sole option, revoke the approval being granted by any Resolution of Approval.

IV. APPROVAL PROCESS

If approved, the following items are required to complete the approval process (notwithstanding any other needed items due to the unique nature of the application):

1. After the resolution is memorialized, a **Notice of Decision** will be published in the Courier Post by the Department of Community Development.
2. If applicable, **two (2) copies of revised site plans along with an electronic copy**, which provide completeness items and all conditions of approval, shall be submitted to the Department of Community Development for review.
3. Submit any **draft legal documents** (agreements, deeds, easements, etc.) for review by the Zoning Board Engineer and Solicitor. Revise as necessary.
4. If applicable, **a**fter comments from the Department of Community Development and the Board Engineer have been provided, **revise (if needed), and submit six (6) copies of finalized plans for signature along with an electronic copy**.
5. Payment of any outstanding **Review Escrow**.
6. Complete and submit a **Zoning Permit** for the proposed solar energy system. *To learn about how to submit a zoning, please visit the following webpage:* http://www.chnj.gov/203/Zoning *or contact our Zoning Officer at* zoning@chnj.gov with any questions.

cc: *Solar Landscape, LLC (via email)*
Cherry Umbrella, LLC (via email)
Kevin Shelly, PE (via email)
Fred Kuhn (via email)
Kathleen Gaeta (via email)
Mike Raio (via email)
Donna M Jennings, Esq. (via email)
Luke Policastro, Esq. (via email)
Allen Zeller, Esq. (via email)
Sharon Walker (via email)
Kathy Cullen (via email)
Danielle Hammond (via email)



2020 SPRINGDALE RD

BLOCK 494.01 LOT 1

1 inch = 90 feet

N

0 55 110 220 Feet

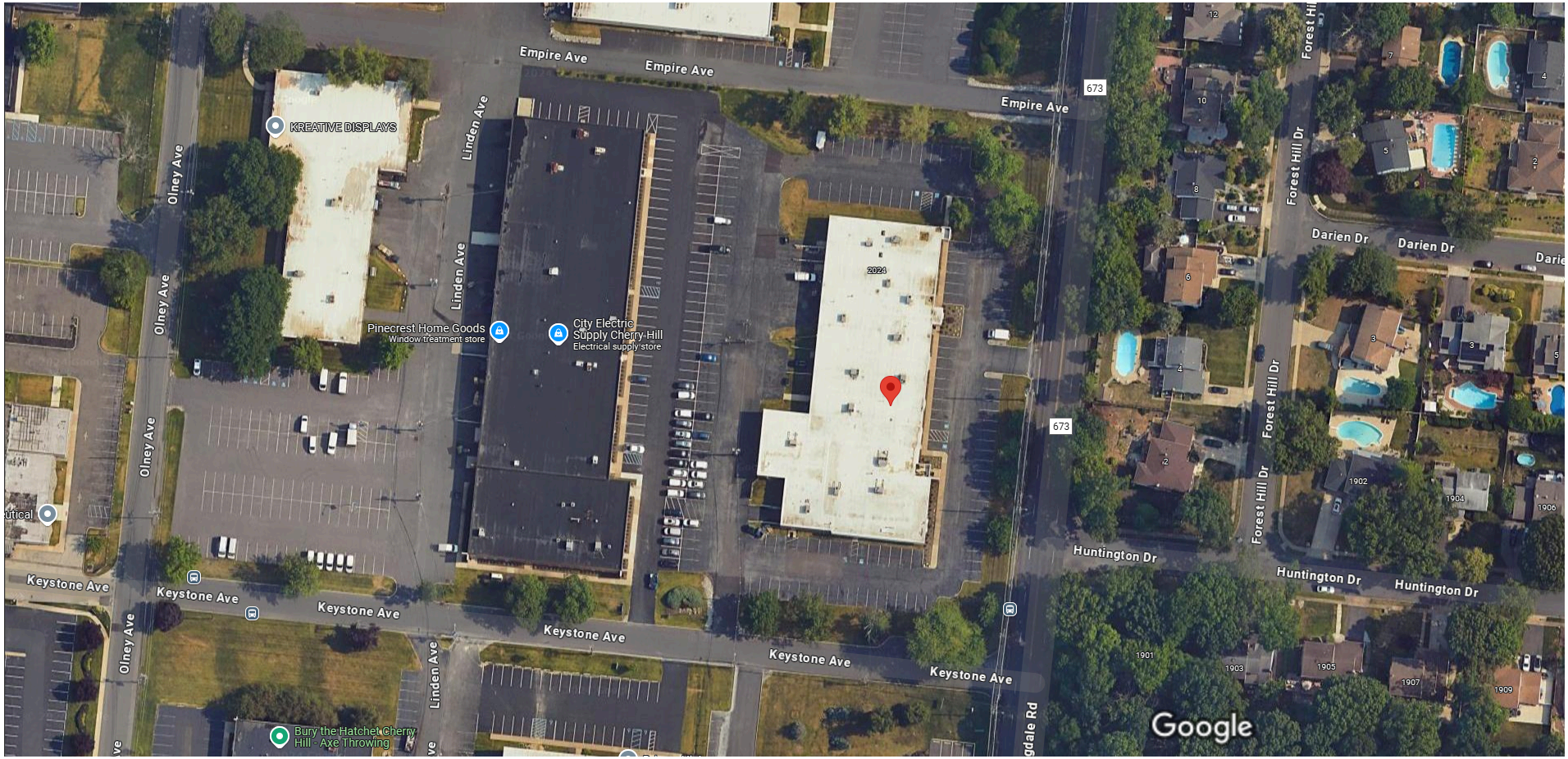
Legend

- Parcels selection
- Parcels
- Bus Stops
- Rail Lines

CHERRY HILL Township
You couldn't pick a better place.

PREPARED BY:
JACOB RICHMAN, PP, AICP, SENIOR PLANNER
DEPARTMENT OF COMMUNITY DEVELOPMENT
LICENSE NO. 33LI00629000

Google Maps 2020 Springdale Rd



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CABINET SALES
• COUNTER TOPS • APPLIANCES • CLOSETS
NOTICE
GROUND MOUNTED EQUIPMENT


500

STRUCTURAL FEASIBILITY REPORT

Prepared By

V. Benedicto
October 3, 2024

Reviewed By

David C. Hernandez, PE
October 3, 2024

Site

2020 Springdale Rd, Cherry Hill, NJ 08003

Prepared For

Solar Landscape
601 Bangs Ave, Unit 3, Asbury Park, NJ 07712
Attention: Lucas Titolo

Exactus Energy Inc.
New Age Engineering
14 Neilor Crescent, Toronto, ON, M9C 1K4
1-833-392-2887 | www.exactusenergy.com

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Table of Contents

Re: Structural feasibility report for installation of a solar PV system at

2020 Springdale Rd, Cherry Hill, NJ 08003

Exactus Energy Inc. has been retained to review the structural condition for the site: 2020 Springdale Rd, Cherry Hill, NJ 08003. The roof of this building was assessed to determine its capacity to support additional loads imposed by the installation of a solar PV system. The conclusions and findings of this investigation are summarized in this technical document.

The feasibility assessment for the site concludes:

- Roof 1 has additional structural capacity for up to 4 psf.

1. Background

1.1. Report Scope

A site inspection of the roof structure to obtain structural specifications was conducted on January 16, 2024. Structural specifications are detailed in site inspection documentation. Architectural/structural drawings or existing documentation was not provided.

The plan view of the site is provided in Figure 1. The roofs included in this assessment are highlighted.

Figure 1: Roof structure included in this assessment.

1.2. Roof System Compositions and Structures

Upon review, Roof 1 was determined to consist of built-up TPO roofing membrane atop steel decking and are supported by systems of steel beams, and steel columns. Photographs of the structural members of the roof are provided in Figure 2

Figure 1: Roof A steel beams, and steel columns.

2. Assumptions

The following assumptions have been made for this assessment:

- The roof surfaces are not expected to support any other additional loading for the life of the solar PV system.
- The solar PV system installation will not cause an increase in the snow load.
- Steel deck assumed to have reserve capacity.
- All connections of structural members impacted by additional PV system weight have sufficient reserve capacity to withstand the system weight.

The structural analysis and assessment are based upon visual inspection and measurements collected on site. The loading capacity was established in accordance with the requirements of

- ASCE 7-16
- International Building Code (2021) – New Jersey Edition

3. Analysis and Methodology

3.1. Design Loads and Criteria

The governing design loads used in this assessment are detailed in Table 1. Mechanical loads and accumulated snow have also been considered. The structure has also been checked for ponding in accordance with IBC Sec. 1607.14.4.5 IBC Sec. 1604.4, IBC Sec. 1604.3.6, NSPC NJ ED Section 13.1.10.1 and IBC Section 1611.

The structures have been checked for possible occurrence of snowdrift and it is found that the snow drift will not occur at the structures. The roof live load is to be applied to areas such as the Fire Access paths and areas not covered with PV.

Table 1: Design loads

		Current Analysis (2024)	Description
All Roofs	Risk Category	II	2021 IBC – NJ Ed. Sec. 1604.5
	Exposure Category	C	2021 IBC – NJ Ed. Sec. 1609.4.3
	Dead Load	15 psf	Roof System
	Live Load	20 psf	Roof Live Load
	Concentrated Live Load	300 lbs	2021 IBC – NJ Ed. Table 1607. 1
	Exposure Factor (C_e)	1.0	ASCE Table 7.3-1
	Thermal Factor (C_t)	1.0	ASCE Table 7.3-2
	Snow Load	25 psf	Ground Snow Load
	Wind Load	115 mph	Wind Speed

3.2. Existing Structure Condition

The assessed condition of each roofs' structural components and roof system is given in Table 2.

Table 2: Condition Assessment

Roof	Condition Assessment
1	• Thermoplastic membrane system appears well-sealed. • No indication of significant leakage or damage to structural members. • Overall, the roof system and structure are in acceptable condition.

4. Results

4.1. Loading Capacity

It is determined that the capacity of each roof area to support additional loads imposed by the installation of a solar PV system is as follows:

Roof 1:

- 4 psf (Green)

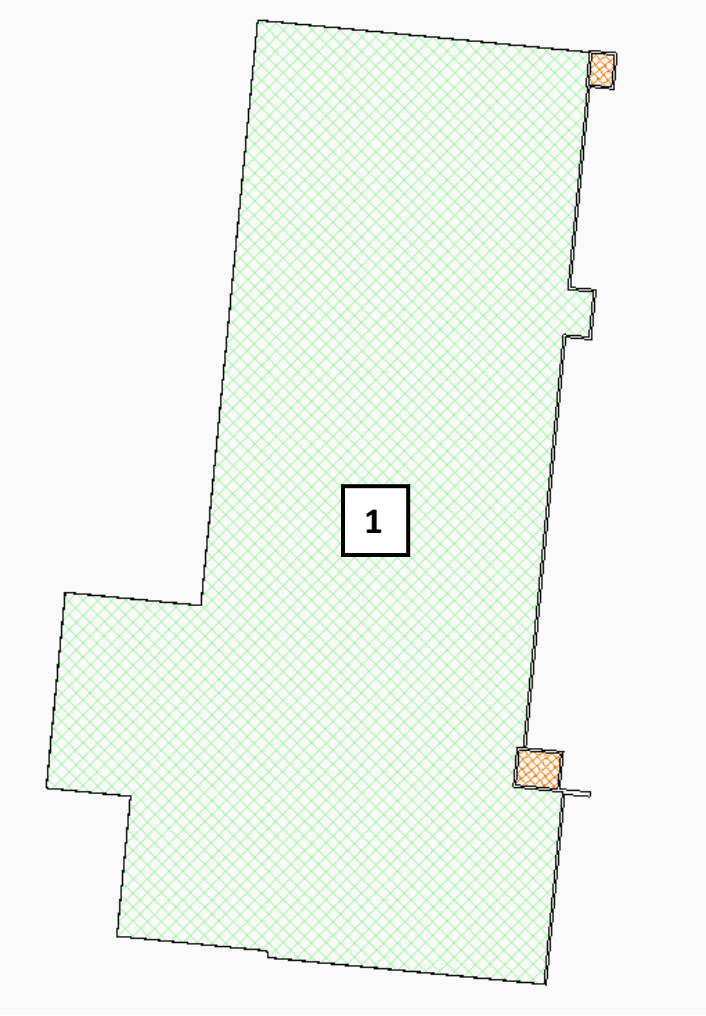
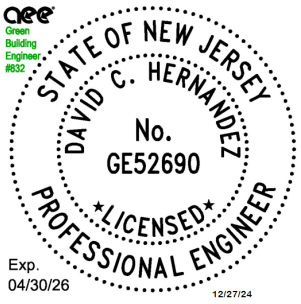


Figure 3: Allowable Capacity Map

4.2. Conclusions

This assessment has been conducted to evaluate the additional loading capacity of each roof structure as labelled in Figure 1 to support additional loads imposed by the installation of a solar PV system. The additional loading capacities and other information given in this report should not be used for any other purposes. The engineer must be contacted for any other type of equipment installation.

Acknowledged by:



_____

David C. Hernandez, PE

Appendix A

A1 – ASCE 7-16 Table 7.3-1 and Table 7.3-2

Table 7.3-1 Exposure Factor, C_e

Surface Roughness Category	Exposure of Roof[a]		
	Fully Exposed	Partially Exposed	Sheltered
B (see Section 26.7)	0.9	1.0	1.2
C (see Section 26.7)	0.9	1.0	1.1
D (see Section 26.7)	0.8	0.9	1.0
Above the tree line in windswept mountainous areas	0.7	0.8	NA
In Alaska, in areas where trees do not exist within a 2-mi (3-km) radius of the site	0.7	0.8	NA

Table 7.3-2 Thermal Factor, C_t

Thermal Condition[a]	C_t
All structures except as indicated below	1.0
Structures kept just above freezing and others with cold, ventilated roofs in which the thermal resistance (R-value) between the ventilated space and the heated space exceeds $25°F \times h \times ft^2/Btu$ $(4.4\ K \times m^2/W)$	1.1
Unheated and open air structures	1.2
Freezer building	1.3
Continuously heated greenhouses[b] with a roof having a thermal resistance (R-value) less than $2.0°F \times h \times ft^2/Btu$ $(0.4\ K \times m^2/W)$	0.85

A2 – AISC 360-16 Equation H1.2, H1-1b

H1. DOUBLY AND SINGLY SYMMETRIC MEMBERS SUBJECT TO FLEXURE AND AXIAL FORCE

1. Doubly and Singly Symmetric Members Subject to Flexure and Compression

The interaction of flexure and compression in doubly symmetric members and singly symmetric members constrained to bend about a geometric axis (x and/or y) shall be limited by Equations H1-1a and H1-1b.

User Note: Section H2 is permitted to be used in lieu of the provisions of this section.

(a) When $\frac{P_r}{P_c} \geq 0.2$

$$\frac{P_r}{P_c} + \frac{8}{9}\left(\frac{M_{rx}}{M_{cx}} + \frac{M_{ry}}{M_{cy}}\right) \leq 1.0 \qquad \text{(H1-1a)}$$

(b) When $\frac{P_r}{P_c} < 0.2$

$$\frac{P_r}{2P_c} + \left(\frac{M_{rx}}{M_{cx}} + \frac{M_{ry}}{M_{cy}}\right) \leq 1.0 \qquad \text{(H1-1b)}$$

A3 – ASCE Chapter 8.3 Design Rain Loads

8.3 DESIGN RAIN LOADS

Each portion of a roof shall be designed to sustain the load of all rainwater that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow.

$$R = 5.2(d_s + d_h) \qquad \text{(8.3-1)}$$

$$R = 0.0098(d_s + d_h) \qquad \text{(8.3-1.si)}$$

If the secondary drainage systems contain drain lines, such lines and their point of discharge shall be separate from the primary drain lines. Rain loads shall be based on the total head (static head [d_s] plus hydraulic head [d_h]) associated with the design flow rate for the specified secondary drains and drainage system. The total head corresponding to the design flow rate for the specified drains shall be based on hydraulic test data.

A4 – NSPC NJ ED Section 13.1.10.1 and IBC Section 1611

13.1.10.1 Primary Roof Drainage
Roof areas of buildings shall be drained by roof drains or scuppers unless gutters and downspouts or other non-plumbing drainage is provided. The location and sizing of roof drains and scuppers shall be coordinated with the structural design and slope of the roof. Rainfall rates shall be applied so that the applicable rainfall rate for Burlington and Ocean counties and all counties south shall be six inches per hour and for Mercer and Monmouth counties and all counties north, the applicable rainfall rate shall be five inches per hour.

Section 1611 Rain Loads

1611.1 Design Rain Loads

Each portion of a roof shall be designed to sustain the *load* of rainwater as per the requirements of Chapter 8 of ASCE 7. The design rainfall rates shall be based on the plumbing subcode, *N.J.A.C. 5:23-3.15*.

$$R = 5.2(d_s + d_h) \qquad \textbf{(Equation 16-19)}$$

For SI: $R = 0.0098(d_s + d_h)$

where:

d_h = Additional depth of water on the undeflected roof above the inlet of secondary drainage system at its design flow (in other words, the hydraulic head), in inches (mm).

d_s = Depth of water on the undeflected roof up to the inlet of secondary drainage system when the primary drainage system is blocked (in other words, the static head), in inches (mm).

R = Rain load on the undeflected roof, in psf (kN/m^2). Where the phrase "undeflected roof" is used, deflections from *loads* (including *dead loads*) shall not be considered when determining the amount of rain on the roof.

1611.2 Ponding Instability

Susceptible bays of roofs shall be evaluated for ponding instability in accordance with Chapters 7 and 8 of ASCE 7.

1611.3 Controlled Drainage

Roofs equipped with hardware to control the rate of drainage shall be equipped with a secondary drainage system at a higher elevation that limits accumulation of water on the roof above that elevation. Such roofs shall be designed to sustain the *load* of rainwater that will accumulate on them to the elevation of the secondary drainage system plus the uniform *load* caused by water that rises above the inlet of the secondary drainage system at its design flow determined from Section 1611.1. Such roofs shall be checked for ponding instability in accordance with Section 1611.2.

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A5 – Structural Calculations in compliance with NJAC 5:23-6.6(c)

The following calculations below are determined to be in compliance with NJAC 5:23-6.6(c).

(c) The work shall not cause any diminution of existing structural strength, system capacity or mechanical ventilation below that which exists at the time of application for a permit or that which is required by the applicable subcodes of the Uniform Construction Code, whichever is lower. The replacement or addition of fixtures, equipment or appliances shall not increase loads on these systems unless the system is upgraded in accordance with the applicable subcode of the UCC to accommodate the increased load.

1. Newly introduced fixed loads shall not exceed the uniformly distributed live loads or concentrated live load criteria of Table 1607.1 of the building subcode or Table R301.5 of the one- and two-family dwelling subcode, as applicable, and shall not create deflection that exceeds the standards set forth below. As used in this section, fixed loads shall mean uniform or concentrated loads and shall include, but not be limited to, equipment, files, library stacks, or similar loading conditions. (Building)

i. For wood frame construction, deflection shall not exceed L/180 for roofs with a slope of 3 in 12 or less or L/120 for roofs with a slope of greater than 3 in 12 and for floors.

ii. For steel frame construction, deflection shall not exceed L/240 for roofs with a slope of 3 in 12 or less or L/180 for roofs with a slope of greater than 3 in 12 and for floors.

iii. For concrete construction, deflection shall not exceed L/180 for roofs or L/240 for floors.

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Appendix B

ROOF WARRANTY INFO

CARLISLE
SYNTEC SYSTEMS

Thank you for selecting Carlisle SynTec Systems as the provider of your new roofing system. We are confident you've purchased a roof that will protect your building and its assets for years to come.

Enclosed is the owner's manual for your new roof. The manual includes your roofing system warranty, along with care and maintenance information that will ensure long-term system performance.

Carlisle SynTec Systems is unsurpassed in its commitment to providing quality commercial roofing systems, products and services. These services include:

- **Carlisle authorized applicators** - This network of professionally trained roofing contractors ensures quality installation of our products and systems. In addition, they are a valuable resource if rooftop conditions change and modifications or revisions to your roofing system are required.
- **Service departments** - There are several departments within Carlisle SynTec Systems available to answer questions and provide information regarding:
    - Roof maintenance programs
    - Revisions, alterations and/or modifications to your roof
    - Roof restoration
    - Warranty service

To properly safeguard your roof – and your warranty – please consult the enclosed care and maintenance information prior to making any changes to your roofing system. For questions regarding your warranty, or to report a roof leak, please call us at 1-800-233- 0551.

If you wish to see the latest innovations in commercial roofing, please visit www.carlislesyntec.com. Once again, thank you for choosing Carlisle SynTec Systems.

Sincerely,

Mark J Long

Mark J. Long
Director, Technical & Warranty Services

CARLISLE

GOLDEN SEAL TOTAL ROOFING SYSTEM WARRANTY

SERIAL NO. 10167074 **10I** **DATE OF ISSUE: July 31, 2018**

BUILDING OWNER: CHERRY HILL UMBRELLA LLC
NAME OF BUILDING: CHERRY HILL UMBRELLA LLC 2020 SPRINGDALE AVE CHERRY HILL NJ
BUILDING ADDRESS: 2020 SPRINGDALE AVE, CHERRY HILL, NJ
DATE OF COMPLETION OF THE CARLISLE TOTAL ROOFING SYSTEM: 07/30/2018
DATE OF ACCEPTANCE BY CARLISLE: 07/31/2018 **(EB Warranty)** **CMD1245074**

Carlisle Roofing Systems, Inc., (Carlisle) warrants to the Building Owner **(Owner)** of the above described building, that; subject to the terms, conditions, and limitations stated in this warranty, Carlisle will repair any leak in the Carlisle Golden Seal™Total Roofing System **(Carlisle Total Roofing System)** installed by a Carlisle Authorized Roofing applicator for a period of **20** years commencing with the date of Carlisle's acceptance of the Carlisle Total Roofing System installation. However, in no event shall Carlisle's obligations extend beyond **20.5** years subsequent to the date of substantial completion of the Carlisle Total Roofing System. See below for exact date of warranty expiration.

The Carlisle Total Roofing System is defined as the following Carlisle brand materials: Membrane, Flashings, Adhesives and Sealants, Insulation, Cover Boards, Fasteners, Fastener Plates, Fastening Bars, Insulation Adhesives, and any other Carlisle brand products utilized in this installation.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Carlisle with written notice via letter, fax or email within thirty (30) days of the discovery of any leak in the Carlisle Total Roofing System. Owner should send written notice of a leak to Carlisle's Warranty Services Department at the address set forth at the bottom of this warranty. By so notifying Carlisle, the Owner authorizes Carlisle or its designee to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owner.
2. If, upon inspection, Carlisle determines that the leak is caused by a defect in the Carlisle Total Roofing System's materials, or workmanship of the Carlisle Authorized Roofing Applicator in installing the same, Owner's remedies and Carlisle's liability shall be limited to Carlisle's repair of the leak.
3. This warranty shall not be applicable if, upon Carlisle's inspection, Carlisle determines that any of the following has occurred:
   (a) The Carlisle Total Roofing System is damaged by natural disasters, including, but not limited to, lightning, fire, insect infestations, earthquake, tornado, hail, hurricanes, and winds of (3 second) peak gust speeds of fifty-five mph or higher measured at 10 meters above ground; or
   (b) Loss of integrity of the building envelope and, or structure including, but not limited to partial or complete loss of roof decking, wall siding, windows, doors or other envelope components or from roof damage by wind-blown objects, or:
   (c) The Carlisle Total Roofing System is damaged by any intentional or negligent acts, accidents, misuse, abuse, vandalism, civil disobedience, or the like.
   (d) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, non-Carlisle brand metal work, etc., occurs and causes a leak, or otherwise damages the Carlisle Total Roofing System; or
   (e) Acids, oils, harmful chemicals and the like come in contact with the Carlisle Total Roofing System and cause a leak, or otherwise damage the Carlisle Total Roofing System.
   (f) The Carlisle Total Roofing System encounters leaks or is otherwise damaged by condensation resulting from any condition within the building that may generate moisture.
4. This Warranty shall be null and void if any of the following shall occur:
   (a) If, after installation of the Carlisle Total Roofing System by a Carlisle Authorized Roofing Applicator there are any alterations or repairs made on or through the roof or objects such as, but not limited to, structures, fixtures, solar panels, wind turbines, roof gardens or utilities are placed upon or attached to the roof without first obtaining written authorization from Carlisle; or
   (b) Failure by the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not be limited to, those items listed on Carlisle's Care & Maintenance Information sheet which accompanies this Warranty.
5. Only Carlisle brand insulation products are covered by this warranty. Carlisle specifically disclaims liability, under any theory of law, for damages sustained by or caused by non-Carlisle brand insulation products.
6. During the term of this Warranty, Carlisle shall have free access to the roof during regular business hours.
7. Carlisle shall have no obligation under this Warranty while any bills for installation, supplies, service, and warranty charges have not been paid in full to the Carlisle Authorized Roofing Applicator, Carlisle, or material suppliers.
8. Carlisle's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.
9. Carlisle shall not be responsible for the cleaniness or discoloration of Carlisle Total Roofing System caused by environmental conditions including, but not limited to, dirt, pollutants or biological agents.
10. Carlisle shall have no liability under any theory of law for any claims, repairs, restoration, or other damages including, but not limited to, consequential or incidental damages relating, directly or indirectly, to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land, or water serving the building.
11. This warranty shall be transferable upon a change in ownership of the building when the owner has completed certain procedures including a transfer fee and an inspection of the Roofing System by a Carlisle representative.

CARLISLE DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED; AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY CARLISLE OR THE PRIOR EXISTING ROOFING MATERIAL OVER WHICH THE CARLISLE ROOFING SYSTEM HAS BEEN INSTALLED.

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE CARLISLE TOTAL ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF. CARLISLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

SEE ENCLOSED REFLECTIVITY ADDENDUM FOR FURTHER TERMS, CONDITIONS, AND LIMITATIONS.

Mark J Long

BY: Mark J. Long
AUTHORIZED SIGNATURE
TITLE: Director, Technical and Warranty Services
This Warranty Expires: July 30, 2038

SERIAL NO. 10167074 101 DATE OF ISSUE: July 31, 2018
NAME OF BUILDING: CHERRY HILL UMBRELLA LLC 2020 SPRINGDALE AVE CHERRY HILL NJ
BUILDING ADDRESS: 2020 SPRINGDALE AVE, CHERRY HILL, NJ

REFLECTIVITY PERFORMANCE AMENDMENT

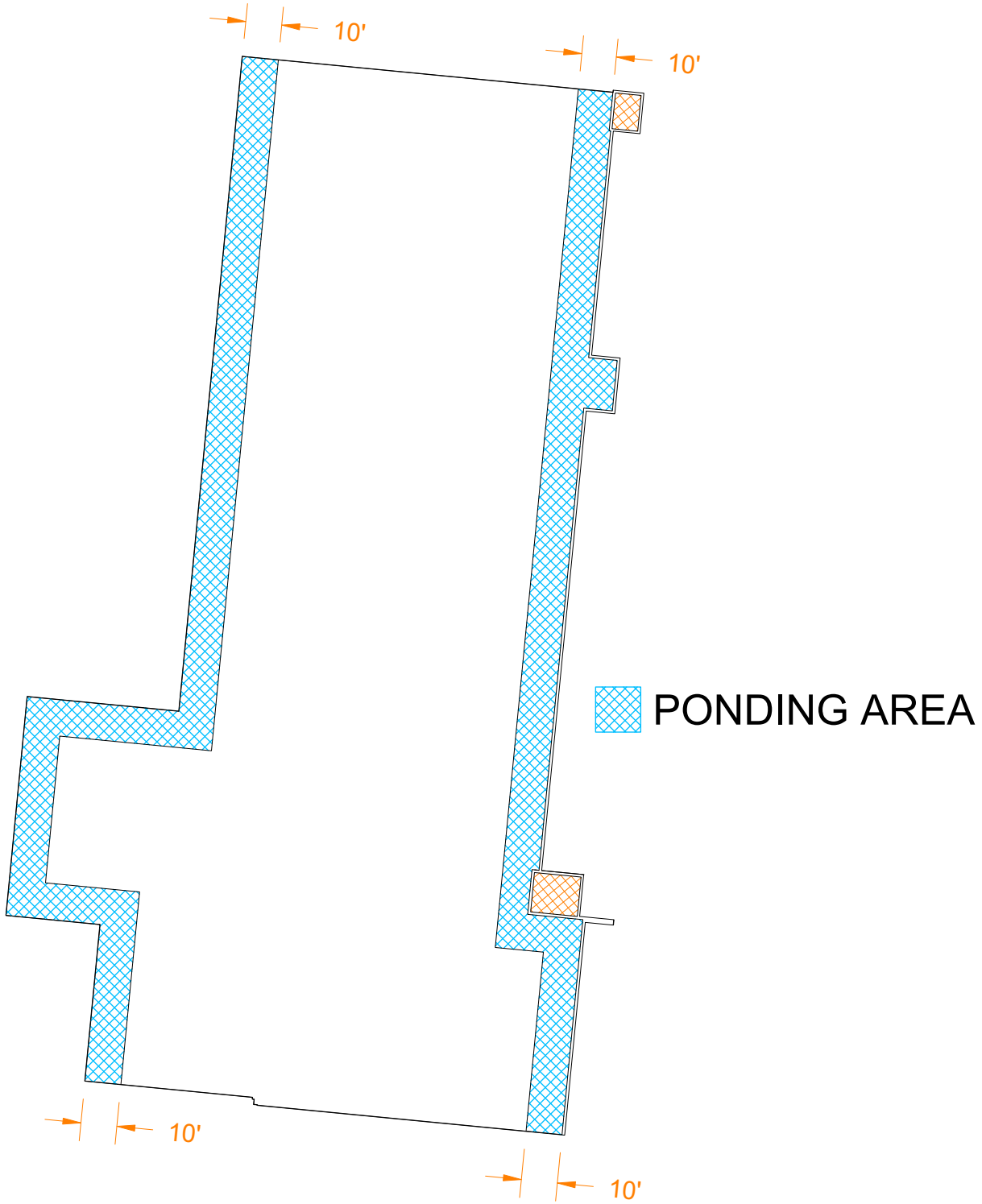
Subject to all of the warranty terms of the Carlisle System Warranty, Carlisle warrants that the Carlisle brand white Sure-Weld (TPO) membrane utilized in this installation will meet the "Energy Star" reflectivity rating of .65 when originally installed and a .50 reflectivity rating thereafter for a total period of ten (10) years from the date of installation. During this ten (10) year amendment period, the roof must positively drain and be free of pollutants, grease, oil, and the like. The owner must follow all membrane cleaning recommendations made by Carlisle in the care and maintenance sheet, which accompanies this warranty. Any change in the use of this building, which adversely affects the cleanliness of the membrane, will nullify this amendment.

In order to make a claim under this warranty amendment, the Owner must thoroughly clean the membrane and send a representative sample to Carlisle. If, upon inspection by Carlisle, the membrane reveals a reflectivity rating below the warranted level, Carlisle will attempt to restore the membrane to its warranted reflectivity rating. Should Carlisle be unable to restore the warranted reflectivity rating, Carlisle's liability and Owner's remedy is limited to a credit to be applied towards the purchase of a new membrane; the value of that credit being determined by Carlisle based upon the number of remaining months of this warranty amendment used to pro-rate at the current price for the membrane. The maximum pro-rated value of the credit shall not exceed the original purchase price of the membrane.

Roof 1 Design Rain Load

I (water depth)	6	in/hr	N.J.A.C. 13.1.10.1
A(tributary area)	33957	sq.ft	
ds	2	inches	
dh	2.5	inches	ASCE Table C8-1
Q=0.0104 x A x i		Rain water flow	ASCE 7-16 Equation C8.3-1
R= 5.2(ds+dh)		Design Rain Load	ASCE 7-16 Equation 8.3-1
Q	2118.92	gal/min	Rain water flow
R1	**23.4**	**psf**	**Design Rain Load**

2020 Springdale Rd,
Cherry Hill, NJ 08003



ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B20	47	120	DStlS2	Ordinary Moment Frame	W10X19	Compact

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
240.0000	1	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
-0.001	-0.001	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
5.62	0.23	96.3	4.29	3.18	2.55

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
18.88	2.13	21.6	3.35	4.1395	0.8737	102.79

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
120	0.173	13.5584	0	0.52	0	0

Axial Force & Biaxial Moment Design Factors (H1.2,H1-1b)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	1	1	1	1	1	1
Minor Bending	1	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
1	1	1.179

Demand/Capacity (D/C) Ratio Eqn.(H1.2,H1-1b)

D/C Ratio =	$(P_r/2P_c) + (M_{r33}/M_{c33}) + (M_{r22}/M_{c22})$
0.896 =	0.001 + 0.895 + 0

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
0.173	11.195	168.263

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	13.5584	15.1459	53.8922	12.8436
Minor Bending	0	8.3583		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	0.52	51	0.01
Minor Shear	0	57.05	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
3.171	DStlS3	4.212	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B44	64	120	DStlS2	Ordinary Moment Frame	W10X30	Compact

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
240.0000	1	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
-0.001	-4.788E-04	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
8.84	0.62	170	16.7	5.93	3.15

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
32.38	5.75	36.6	8.84	4.3853	1.3745	415.93

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
120	0.253	11.4558	0	-0.529	0	0

Axial Force & Biaxial Moment Design Factors (H1.2,H1-1b)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	1	1	1	1	1	1
Minor Bending	1	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
1	1	1.222

Demand/Capacity (D/C) Ratio Eqn.(H1.2,H1-1b)

D/C Ratio =	$(P_r/2P_c) + (M_{r33}/M_{c33}) + (M_{r22}/M_{c22})$
0.218 =	4.776E-04 + 0.217 + 0

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
0.253	43.579	264.671

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	11.4558	52.708	91.3174	43.1329
Minor Bending	0	22.0559		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	0.529	63	0.008
Minor Shear	0	106.459	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
4.33	DStlS3	3.271	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B52	72	216	DStlS2	Ordinary Moment Frame	W18X65	Compact

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.9	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
-0.001	-0.001	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
19.1	2.73	1070	54.8	11.39	8.28

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
116.3	14.44	133	22.5	7.4847	1.6938	4256.62

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
216	0.691	39.635	0	0.461	0	0

Axial Force & Biaxial Moment Design Factors (H1.2,H1-1b)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	1	1	1	1	1	1
Minor Bending	1	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
1	1	1.204

Demand/Capacity (D/C) Ratio Eqn.(H1.2,H1-1b)

D/C Ratio =	$(P_r/2P_c) + (M_{r33}/M_{c33}) + (M_{r22}/M_{c22})$
0.424 =	0.001 + 0.423 + 0

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
0.691	35.75	571.856

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	39.635	93.7082	331.8363	77.8152
Minor Bending	0	56.1377		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	0.461	165.6	0.003
Minor Shear	0	204.521	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
4.909	DStlS3	7.024	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B60	82	264	DStlS2	Ordinary Moment Frame	W21X57	Slender

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.9	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
-0.001	-0.001	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
16.7	1.77	1170	30.6	8.53	8.55

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
110.9	9.33	129	14.8	8.3702	1.3536	3197.42

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check Message - l/r > 300

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
264	0.517	39.0278	0	-0.618	0	0

Axial Force & Biaxial Moment Design Factors (H1.2,H1-1b)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	1	1	1	1	1	1
Minor Bending	1	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
1	1	1.204

Demand/Capacity (D/C) Ratio Eqn.(H1.2,H1-1b)

D/C Ratio =	$(P_r/2P_c) + (M_{r33}/M_{c33}) + (M_{r22}/M_{c22})$
0.684 =	0.001 + 0.684 + 0

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
0.517	19.963	500

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	39.0278	57.0698	321.8563	47.3877
Minor Bending	0	36.9261		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	0.618	170.91	0.004
Minor Shear	0	153.198	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
7.002	DStlS3	4.604	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B48	68	240	DStlS2	Ordinary Moment Frame	W24X55	Slender

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.513	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
0.023	0.013	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
16.2	1.18	1350	29.1	7.08	9.32

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
114.41	8.3	134	13.3	9.1287	1.3403	3866.07

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
240	-10.647	278.5015	0.0013	-7.013	-1.257E-04	0.0021

Axial Force & Biaxial Moment Design Factors (H1.3b,H1-2,M)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	0.971	1	1	1	1	1
Minor Bending	0.167	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
0.167	1	1.018

Demand/Capacity (D/C) Ratio Eqn.(H1.3b,H1-2,M)

D/C Ratio =	$(M_{r33}/C_b M_{c33})$
0.894 =	0.894

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
10.647	335.677	485.03

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	278.5015	311.4633	334.3313	305.855
Minor Bending	0.0013	33.1434		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	7.013	167.461	0.042
Minor Shear	1.257E-04	127.187	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
36.891	DStlS3	36.891	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Strength Summary)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section	Classification
Story1	B41	61	240	DStlS2	Ordinary Moment Frame	W18X35	Slender

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.632	0.95

Analysis and Design Parameters

Provision	Analysis	2nd Order	Reduction
ASD	Direct Analysis	General 2nd Order	Tau-b Fixed

Stiffness Reduction Factors

$\alpha P_r/P_y$	$\alpha P_r/P_e$	τ_b	EA factor	EI factor
0.014	0.01	1	0.8	0.8

Design Code Parameters

Ω_b	Ω_c	Ω_{TY}	Ω_{TF}	Ω_V	$\Omega_{V\text{-}RI}$	Ω_{VT}
1.67	1.67	1.67	2	1.67	1.5	1.5

Section Properties

A (in²)	J (in⁴)	I_{33} (in⁴)	I_{22} (in⁴)	A_{v3} (in²)	A_{v2} (in²)
10.3	0.51	510	15.3	5.1	5.31

Design Properties

S_{33} (in³)	S_{22} (in³)	Z_{33} (in³)	Z_{22} (in³)	r_{33} (in)	r_{22} (in)	C_w (in⁶)
57.63	5.1	66.5	8.06	7.0367	1.2188	1141.48

Material Properties

E (lb/in²)	f_y (lb/in²)	R_y	C_{pr}	α
29000000	50000	1.1	1.4	NA

Stress Check forces and Moments

Location (in)	P_r (kip)	M_{r33} (kip-ft)	M_{r22} (kip-ft)	V_{r2} (kip)	V_{r3} (kip)	T_r (kip-ft)
240	-4.048	135.4385	0.0001	4.09	7.184E-05	-0.0028

Axial Force & Biaxial Moment Design Factors (H1.3b,H1-2,M)

	L Factor	K_1	K_2	B_1	B_2	C_m
Major Bending	0.98	1	1	1	1	1
Minor Bending	0.167	1	1	1	1	1

Parameters for Lateral Torsion Buckling

L_{ltb}	K_{ltb}	C_b
0.167	1	1.022

Demand/Capacity (D/C) Ratio Eqn.(H1.3b,H1-2,M)

D/C Ratio =	$(M_{r33}/C_b M_{c33})$
0.903 =	0.903

Axial Force and Capacities

P_r Force (kip)	P_{nc}/Ω (kip)	P_{nt}/Ω (kip)
4.048	205.933	308.383

Moments and Capacities

	M_r Moment (kip-ft)	M_n/Ω (kip-ft)	M_n/Ω No LTB (kip-ft)	M_n/Ω Cb=1 (kip-ft)
Major Bending	135.4385	150.037	165.9182	146.8304
Minor Bending	0.0001	20.1098		

Shear Design

	V_r Force (kip)	V_n/Ω (kip)	Stress Ratio
Major Shear	4.09	106.2	0.039
Minor Shear	7.184E-05	91.617	0

End Reaction Major Shear Forces

Left End Reaction (kip)	Load Combo	Right End Reaction (kip)	Load Combo
17.07	DStlS3	17.07	DStlS3

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Deflection Details)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section
Story1	B20	47	120	DStlD1	Ordinary Moment Frame	W10X19

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
240.0000	1	0.95

DEFLECTION DESIGN (Combo DStlD1)

Type	Consider	Deflection in	Limit in	Ratio	Status
Dead Load	Yes	0.1421	2	0.071	OK
Super DL + Live Load	Yes	0	2	0	OK
Live Load	Yes	0	0.6667	0	OK
Total Load	Yes	0.1421	1	0.142	OK
Total - Camber	Yes	0.1421	1	0.142	OK

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Deflection Details)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section
Story1	B22	49	120	DStlD1	Ordinary Moment Frame	W10X19

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
240.0000	1	0.95

DEFLECTION DESIGN (Combo DStlD1)

Type	Consider	Deflection in	Limit in	Ratio	Status
Dead Load	Yes	0.0369	2	0.018	OK
Super DL + Live Load	Yes	0	2	0	OK
Live Load	Yes	0	0.6667	0	OK
Total Load	Yes	0.0369	1	0.037	OK
Total - Camber	Yes	0.0369	1	0.037	OK

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Deflection Details)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section
Story1	B52	72	216	DStlD1	Ordinary Moment Frame	W18X65

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.9	0.95

DEFLECTION DESIGN (Combo DStlD1)

Type	Consider	Deflection in	Limit in	Ratio	Status
Dead Load	Yes	0.1515	4	0.038	OK
Super DL + Live Load	Yes	0	4	0	OK
Live Load	Yes	0	1.3333	0	OK
Total Load	Yes	0.1515	2	0.076	OK
Total - Camber	Yes	0.1515	2	0.076	OK

ETABS Steel Frame Design

AISC 360-16 Steel Section Check (Deflection Details)

Element Details

Level	Element	Unique Name	Location (in)	Combo	Element Type	Section
Story1	B60	82	264	DStlD1	Ordinary Moment Frame	W21X57

LLRF and Demand/Capacity Ratio

L (in)	LLRF	Stress Ratio Limit
480.0000	0.9	0.95

DEFLECTION DESIGN (Combo DStlD1)

Type	Consider	Deflection in	Limit in	Ratio	Status
Dead Load	Yes	0.1345	4	0.034	OK
Super DL + Live Load	Yes	0	4	0	OK
Live Load	Yes	0	1.3333	0	OK
Total Load	Yes	0.1345	2	0.067	OK
Total - Camber	Yes	0.1345	2	0.067	OK

SITE PLAN WAIVER
COMMUNITY SOLAR
SOLAR ROOFTOP SYSTEM - 2020 SPRINGDALE ROAD

BLOCK 494.01, LOT 1

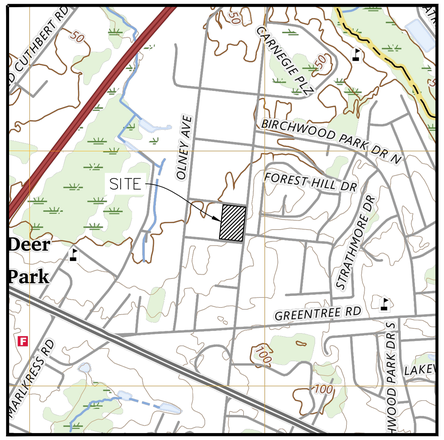
TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY

GENERAL NOTES:

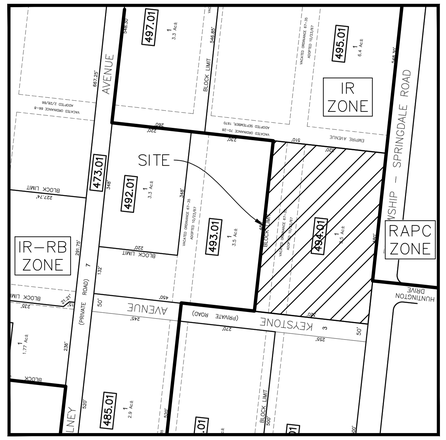
1. APPLICANT
   SOLAR LANDSCAPE, LLC
   522 COOKMAN AVE – UNIT 3
   ASBURY PARK, NJ 07712

   OWNER
   CHERRY UMBRELLA LLC
   4 RADNOR CORP CTR STE 105
   RADNOR, PA 19087

2. SITE IS KNOWN AND DESIGNATED AS BLOCK 494.01, LOT 1 AS SHOWN ON THE CURRENT TAX ASSESSMENT MAP OF THE TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY (SHEET 329).
3. EXISTING BOUNDARY AND STRUCTURES INFORMATION SHOWN ON PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY PREPARED FOR: CHERRY UMBRELLA, LLC; 2020 SPRINGDALE ROAD; TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY; BLOCK 494.01, LOT 1", PREPARED BY MILLMAN NATIONAL LAND SERVICES, DATED 04/16/2018.
4. SITE COORDINATES: 561,783' N, 504,455' E
5. HORIZONTAL DATUM: NAD 83 VERTICAL DATUM: NAVD 88
6. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR IS REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM OR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION.
7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. ADDITIONALLY, ALL WORK SHALL ALSO COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER/DEVELOPER. CONTRACTOR HAS SOLE RESPONSIBILITY FOR SITE SAFETY AND TO CONFORM TO AND ABIDE BY ALL CURRENT OSHA STANDARDS OR REGULATIONS. SAFE CONSTRUCTION PRACTICES REMAIN THE OBLIGATION OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES HAVING JURISDICTION AT LEAST 72 HOURS IN ADVANCE OF ANY WORK.
9. UNLESS OTHERWISE INDICATED, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
10. ALL TRAFFIC CONTROL DEVICES WITHIN THE RIGHT OF WAY TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
11. THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF THE WORK ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTS CONCERNING THE LOCATION OF THESE UTILITIES OR OTHER POTENTIAL CONFLICT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY AFFECT THE PROJECT DESIGN. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND ALL OTHER SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
12. THE PROPOSED SOLAR PANEL APPLICATION IS PART OF NEW JERSEY'S COMMUNITY SOLAR PROGRAM.
13. ONCE THE SYSTEM IS INSTALLED AND OPERATIONAL, THERE IS NO IMPACT ON THE CURRENT SITE OPERATIONS. THERE IS NO ON-SITE STAFF FOR MAINTENANCE OR OPERATIONS. SOLAR LANDSCAPE HAS A MAINTENANCE AND INSPECTION SCHEDULE FOR THEIR PROJECTS, WHICH TYPICALLY INCLUDES A 2-MAN INSPECTION TEAM THAT WOULD VISIT THE SITE TWICE PER YEAR TO PERFORM INSPECTIONS AND ROUTINE MAINTENANCE OF THE SYSTEM.
14. ALL CONSTRUCTION IS TO BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL AND FIRE CODES.
15. ALL SIGNAGE RELATED TO THE PROPOSED SOLAR PANELS WILL BE PROVIDED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
16. THE APPLICANT WILL OBTAIN APPROVAL FROM THE CHERRY HILL FIRE OFFICIAL FOR THE PROPOSED DEVELOPMENT.
17. SIGNED AND SEALED FINAL DESIGN PLANS, ENGINEERING UPLIFT CALCULATIONS AND ROOFING ANALYSIS WILL BE PROVIDED.
18. NO ADDITIONAL SITE IMPROVEMENTS BEYOND THE ROOF MOUNTED SOLAR PANELS AND THE GROUND MOUNTED ELECTRICAL EQUIPMENT ARE PROPOSED AS PART OF THIS APPLICATION.
19. THE PROPOSED SITE IMPROVEMENTS WILL HAVE NO IMPACT ON SITE SECURITY, CIRCULATION, PARKING OR OPERATIONS.
20. AS ASBUILT DRAWING FOR THE GROUND-MOUNTED EQUIPMENT AND UNDERGROUND UTILITIES WILL BE PROVIDED ONCE CONSTRUCTION IS COMPLETED.
21. ACCORDING TO THE NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL ACT, A PROJECT IS DEFINED AS "ANY DISTURBANCE OF MORE THAN 5,000 SQUARE FEET OF THE SURFACE AREA OF LAND". THEREFORE, NO SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED ON THIS PROJECT SINCE WE ARE DISTURBING LESS THAN 5,000 SF.



LOCATION MAP
MOORESTOWN QUADRANGLE
NAD 83
800 400 0 1000 2000 3000
1000 600 200
GRAPHIC SCALE
1 INCH = 1000 FEET



KEY MAP
TAX MAP SHEET 329
NAD 83
200 100 0 200 400 600
150 50
GRAPHIC SCALE
1 INCH = 200 FEET

AERIAL MAP
NAD 83
400 200 0 500 1000 1500
500 300 100
GRAPHIC SCALE
1 INCH = 500 FEET

Variances Requested
• D Use Variance. Although Solar energy infrastructure is a permitted accessory use in the IR zone (§Section 419.D) they are not permitted when not powering the principal building. (Section §432.C.1.a)
Pre-Existing Non-Conforming Conditions
• The maximum permitted impervious coverage for the lot is 70%. The current lot coverage is 73.7%. (Section §419-F.1.)

INDUSTRIAL RESTRICTED (IR) ZONING SCHEDULE
BLOCK 494.01, LOT 1
PROPOSED USE: COMMUNITY SOLAR ENERGY PROJECT[1]

	REQUIRED	EXISTING	PROPOSED	COMPLIES
MIN. LOT AREA	20,000 SF	153,600 SF	NO CHANGE	YES
MIN. LOT FRONTAGE	120 FT	320.1 FT	NO CHANGE	YES
MIN. LOT DEPTH	120 FT	320.1 FT	NO CHANGE	YES
MIN. FRONT YARD SETBACK				
Springdale Road	30 FT	77.4 FT	NO CHANGE	YES
Keystone Avenue	30 FT	90.2 FT	NO CHANGE	YES
MIN. REAR YARD SETBACK	20 FT	85.8 FT	NO CHANGE	YES
MIN. SIDE YARD SETBACK	10 FT	103.4 FT	NO CHANGE	YES
MAX. BUILDING HEIGHT**	35 FT	14 FT	NO CHANGE***	YES
MAX. LOT COVERAGE	70 %	73.7 %	NO CHANGE	NO*
MIN. OPEN SPACE	25 %	26.3 %	NO CHANGE	YES
MAX. BUILDING COVERAGE	30 %	21.8 %	NO CHANGE	YES

[1]D Use Variance Requested
**Existing Non-Conformity*
***BUILDING HEIGHT - The vertical distance from finished grade to the top of the highest roof beams on a flat or shed roof, the deck level on a mansard roof, and the average distance between the eaves and the ridge level for gable, hip, and gambrel roofs.*
****Solar Panels will add about 9.55 inches to building height thus not significantly affecting overall height.*

DRAWING INDEX

200' PROPERTY OWNERS LIST

BLOCK	LOT	QUALIFIER	OWNER	OWNER ADDRESS	CITY	STATE	ZIP
469.04	43		HARNISH WILLIAM	14 FOREST HILL DR	CHERRY HILL	NJ	08003
469.04	44		LEE GEON H	12 FOREST HILL DRIVE	CHERRY HILL	NJ	08003
469.04	45		LUMA EDWIGE & JOEL	10 FOREST HILL DR	CHERRY HILL	NJ	08003
469.04	46		BITGUE LYLE E.	8 FOREST HILL DRIVE	CHERRY HILL	NJ	08003
469.04	47		ISKANDAR ANDREW S & RIDGWAY FORREST	6 FOREST HILL DRIVE	CHERRY HILL	NJ	08003
469.04	48		GODOFSKY REBECCA & WARREN KENNETH S	4 FOREST HILL DR	CHERRY HILL	NJ	08003
469.04	49		JACKSON, MICHAEL & JANICE	2 FOREST HILL DR	CHERRY HILL	NJ	08003
469.07	1		BARFORD M & ALEXANDER R	1901 HUNTINGTON DRIVE	CHERRY HILL	NJ	08003
469.07	2		MARTIN, PAUL & MARY	1903 HUNTINGTON DR	CHERRY HILL	NJ	08003
469.2	1		ST MARY'S R C CHURCH	2001 SPRINGDALE RD	CHERRY HILL	NJ	08003
483.01	1		BELLINI PROPERTY MANAGEMENT LLC	2010 SPRINGDALE ROAD	CHERRY HILL	NJ	08003
484.01	1		CHERRY UMBRELLA LLC	4 RADNOR CORP CTR STE 105	RADNOR	PA	19087
493.01	1		CHERRY UMBRELLA LLC	4 RADNOR CORP CTR STE 105	RADNOR	PA	19087
495.01	1		CHERRY UMBRELLA LLC	4 RADNOR CORP CTR STE 105	RADNOR	PA	19087
497.01	1		CHERRY UMBRELLA LLC	4 RADNOR CORP CTR STE 105	RADNOR	PA	19087

APPROVED BY THE TOWNSHIP OF CHERRY HILL ZONING BOARD OF ADJUSTMENT AS A SITE PLAN WAIVER:

CHAIRMAN DATE

SECRETARY DATE

TOWNSHIP ENGINEER DATE

DATE	REVISIONS	BY

SHORE POINT ENGINEERING
Certificate of Authorization No. 24GA28317800
Kevin E. Shelly P.E. PE No. GE05031300
PO Box 257, Manasquan, NJ 08736
T: 732-924-8100 | F: 732-924-8110
www.shorepointengineering.com

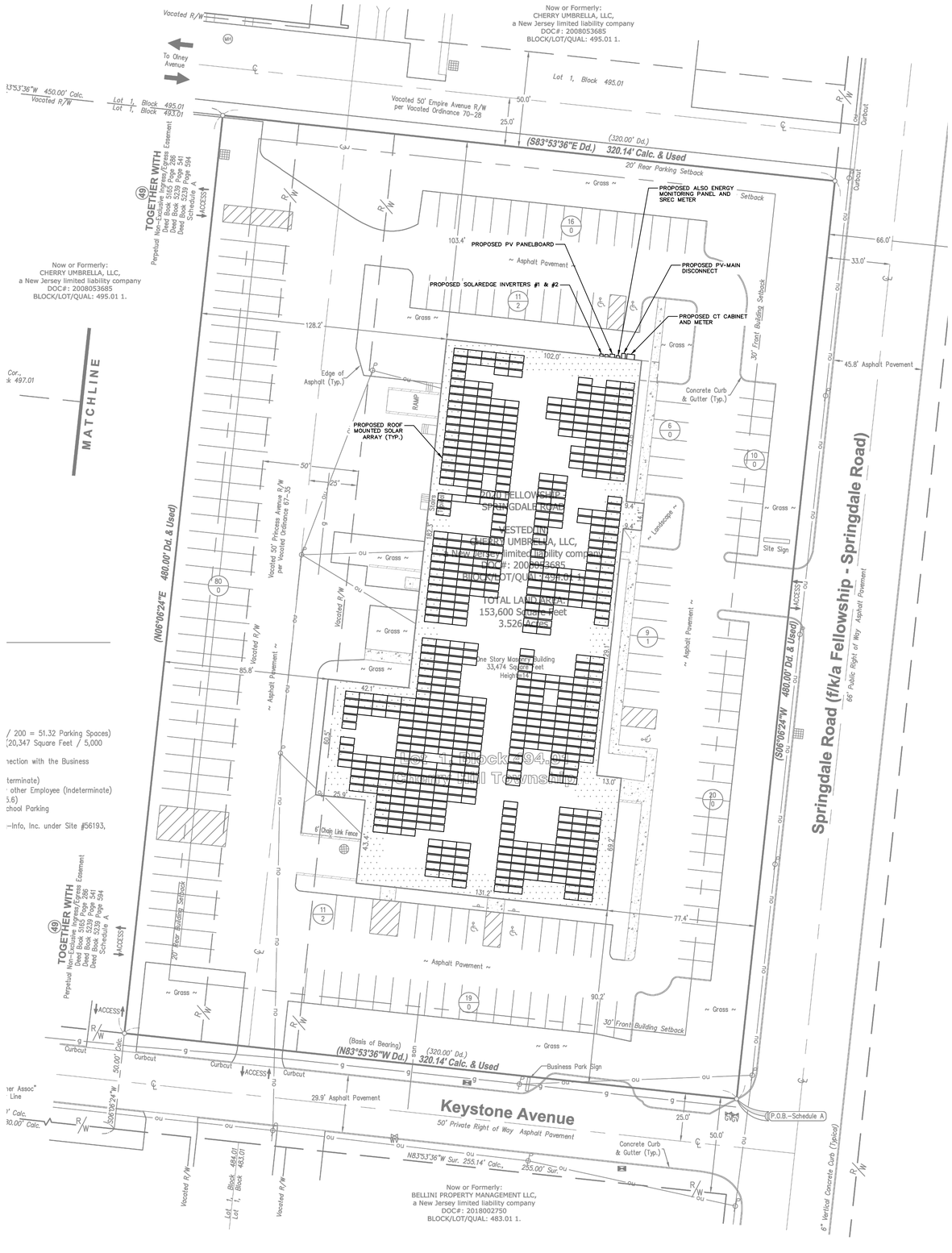
Date
Kevin E. Shelly, P.E.
PROFESSIONAL ENGINEER
N.J. Lic. No. GE05031300

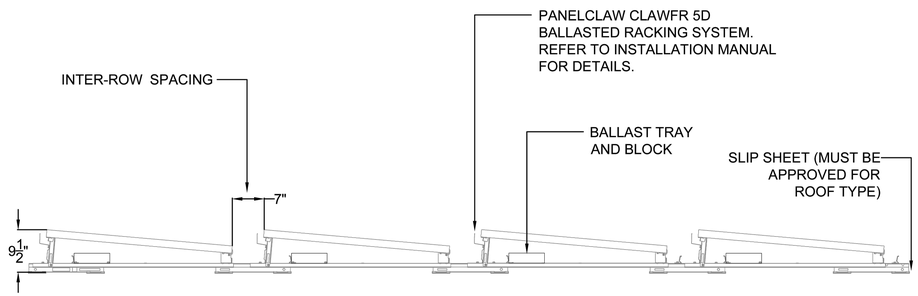
SITE PLAN WAIVER
COMMUNITY SOLAR
SOLAR ROOFTOP SYSTEM - 2020 SPRINGDALE ROAD
BLOCK 494.01, LOT 1
SITUATED IN
TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY

TITLE SHEET

SCALE: AS SHOWN	PROJECT No.: SLA-2418
RELEASED BY: KES	DATE: 02/21/25
CHECKED BY: RZH	Sheet Number 1 OF 3
DRAWN BY: MJW	

File Name: C:\Users\rhall\OneDrive - Shore Point Engineering\Clients\Solar Landscape\Jobs\SLA-2418 - 2020 Springdale Road - Cherry Hill\DWG\Site Plan.dwg
Plot time: Feb 27, 2025 - 3:44pm





0 / E-41 PANEL CLAW RM5 RACKING DETAIL
SCALE: NTS

/ 200 = 51.32 Parking Spaces)
(20,347 Square Feet / 5,000

rection with the Business

terminate)
other Employee (Indeterminate)
5.6)
chool Parking

-Info, Inc. under Site #56193,

INDUSTRIAL RESTRICTED (IR) ZONING SCHEDULE				
BLOCK 494.01, LOT 1				
PROPOSED USE: COMMUNITY SOLAR ENERGY PROJECT[1]				
	REQUIRED	EXISTING	PROPOSED	COMPLIES
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[1] Use Variance Requested

**Existing Non-Conformity*

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****Solar Panels will add about 9.55 inches to building height thus not significantly affecting overall height.*

LAYOUT NOTES

1. APPLICANT: SOLAR LANDSCAPE, LLC
2. SITES ARE KNOWN AND DESIGNATED AS BLOCK 494.01, LOT 1 AS SHOWN ON THE CURRENT TAX ASSESSMENT MAP OF THE TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY (SHEET 329).
3. EXISTING BOUNDARY AND STRUCTURES INFORMATION SHOWN ON PLAN ENTITLED "ALTA/NSPS SURVEY; 2020 SPRINGDALE ROAD; TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY; BLOCK 494.01, LOT 1", PREPARED BY MILLMAN NATIONAL LAND SERVICES, DATED 04/16/2018.
4. SITE COORDINATES: 561,783' N, 504,455' E
5. HORIZONTAL DATUM: NAD 83 VERTICAL DATUM: NAVD 88
6. UNLESS OTHERWISE INDICATED, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
7. ACCORDING TO THE NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL ACT, A PROJECT IS DEFINED AS "ANY DISTURBANCE OF MORE THAN 5,000 SQUARE FEET OF THE SURFACE AREA OF LAND". THEREFORE, NO SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED ON THIS PROJECT SINCE WE ARE DISTURBING LESS THAN 5,000 SF.

20 0 30 60 90
30 10
GRAPHIC SCALE
1 INCH = 30 FEET

DATE	REVISIONS	BY

SHORE POINT ENGINEERING
Certificate of Authorization No. 24GA28317800
Kevin E. Shelly P.E. PE No. GE05031300
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Date
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PROFESSIONAL ENGINEER
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SITE PLAN WAIVER
COMMUNITY SOLAR
SOLAR ROOFTOP SYSTEM - 2020 SPRINGDALE ROAD
BLOCK 494.01, LOT 1
SITUATED IN
TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY

SITE PLAN

SCALE: 1"=30'	PROJECT No.: SLA-2418
RELEASED BY: KES	DATE: 02/21/25
CHECKED BY: RZH	Sheet Number 2 OF 3
DRAWN BY: MJW	

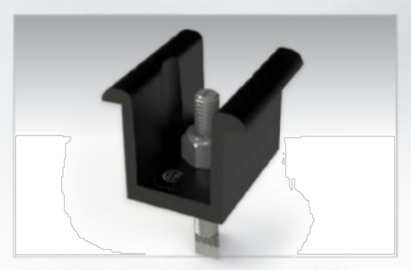
File Name: C:\Users\MichaelWasko\OneDrive - Shore Point Engineering\Clients\Solar Landscape\Jobs\SLA-2418 - 2020 Springdale Road - Cherry Hill\DWG\Site Plan.dwg
Plot time: Feb 21, 2025 - 12:28pm

SOLARMOUNT — UNIRAC

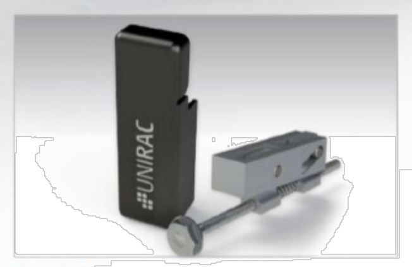
SOLARMOUNT is the professionals' choice for residential PV mounting applications. Every aspect of the system is designed for an easier, faster installation experience. SOLARMOUNT is a complete solution with revolutionary universal clamps, FLASHKIT PRO, full system UL 2703 certification and 25-year warranty.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

New & Improved:
THE PROFESSIONALS' CHOICE
With Superior Aesthetics

NOW FEATURING FLASHKIT PRO
The Complete Roof Attachment Solution
FEATURING EcoFasten Solar TECHNOLOGY



NOW WITH UNIVERSAL MIDCLAMPS
Accommodates 30mm-51mm module frames
One tool, one-person installs are here!



REVOLUTIONARY NEW ENDCLAMPS
Concealed design and included End Caps

THE PROFESSIONALS' CHOICE FOR RESIDENTIAL RACKING

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

AlsoEnergy

The operating system for the grid of the future

PowerLogger Commercial Solution 600 (PLCS 600)

AlsoEnergy now offers a convenient standardized monitoring solution for small to mid-sized commercial PV systems. This solution combines our standard commercial datalogger with a revenue grade meter, a weatherproof NEMA 4 enclosure, and other supporting hardware. Customers may choose to add weather sensors and/or a cellular modem. The PLCS 600 is recommended for 3-phase systems with up to 20 external inverters. Performance data is uploaded to the web-based PowerTrack Platform which provides a suite of analytic and diagnostic tools for O&M and asset managers.

Standardized PLCS 600 includes:

- Datalogger with LCD touchscreen display
- Revenue grade energy meter compatible with all 5A CTs (sold separately)
- Optional weather station choices (2) may add data for irradiance, back-of-module panel temperature, ambient temperature, and wind speed
- 5 port Ethernet Switch
- NEMA4 weatherproof enclosure
- Optional 4G Cell Modem (requires the addition of a cellular plan to utilize the cell modem)

Solution Features

- Up to 20 external inverters
- Modbus via RS-485 or TCP connections to inverters
- Cellular or Ethernet connectivity
- Remote firmware updates
- Up to 1 minute data granularity
- Uploads at 5 minute intervals
- Suitable for demand meter, relay, other non-PV use cases
- For systems with a single metering point; direct metering or PT secondary voltage up to 600VAC
- Satisfies reporting requirements for most US electricity sector agencies
- All parts except weather sensors and cell modem covered with standard AlsoEnergy 5-year warranty
- Supported on PowerTrack only

PLCS-600-CM-PLUS	+ cell modem, + reference cell, BOM panel temperature, ambient temperature, wind speed
PLCS-600-CM-BASE	+ cell modem, + reference cell, BOM panel temperature
PLCS-600-CM-00	+ cell modem, no environmental sensors
PLCS-600-00-PLUS	no cell modem, + reference cell, BOM panel temperature, ambient temperature, wind speed
PLCS-600-00-BASE	no cell modem, + reference cell, BOM panel temperature
PLCS-600-00-00	no cell modem, no environmental sensors

v21.1 © AlsoEnergy, Inc / 5400 Airport Bvd. Ste. 100 Boulder, CO 80301 USA / 866.303.5668

To find out more or schedule a demo, contact us at alsoenergy.com

Exclusive 3-in-1 design

Significant savings in cost and space... plus quicker installation. Three individual components combined into a single unit.

Contemporary electrical distribution systems are required to do more in less space, while at the same time being cost-effective.

Eaton provides a solution to these requirements with the proven mini-power center. It occupies considerably less space and can save up to 31 percent of the installation costs normally required when individual components are used.

The solution is possible because a mini-power center combines three individual components into one NEMA® enclosure, rated either 3R or 4X for harsh environments (corrosion, dust, hose-directed water): a main breaker, an encapsulated single-phase or three-phase dry-type transformer, and a secondary distribution loadcenter with main breaker. Interconnecting wiring is completed at the factory.

A mini-power center is delivered ready for installation. It's also suitable for use as service entrance equipment.

NEMA enclosure

Surge protective devices

Eaton's SPD Series

For integration into electrical distribution equipment

Introduction

Eaton's SPD Series surge protective devices

Eaton's SPD Series surge protective devices are the latest and most advanced UL® 1449 4th Edition certified surge protectors. Units are available integrated within Eaton electrical assemblies, including panelboards, switchboards, motor control centers, switchgear and bus plugs. Application of SPD Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available.

SPD Series units are available in all common voltages and configurations, and also in a variety of surge current capacity ratings from 50 kA through 400 kA. Three feature package options are also available to choose from.

Applications

The increasing necessity for facility-wide surge protection

The ever-increasing use of microprocessors and other sensitive electronic equipment has increased the necessity for facility-wide surge protection. These sensitive electronic components are used within many pieces of equipment, including computers, programmable logic controllers, and other commonly used electrical and electronic equipment. Surges can wreak havoc on equipment, causing catastrophic failures, process interruptions and premature aging leading to failure. The application of surge protective devices (SPDs) can mitigate problems with sensitive electronic equipment, keeping the equipment and the related processes up and running reliably without disruption or damage due to surge-related events.

In addition to externally generated surge events, such as lightning and grid switching, equipment is also susceptible to damage by internally generated surges. In fact, the majority of surges are generated internally by commonly used items, such as fluorescent lighting ballasts, light dimmers, photocopiers, fax machines and variable frequency drives. This further reinforces the necessity for facility-wide surge protection applied at all stages of the electrical distribution system, from the electrical service entrance down to the single-phase loads.

Standards and certifications

- UL 1449 4th Edition recognized component for the United States and Canada, covered by Underwriters Laboratories certification and follow-up service

c UL us

Features

- Uses thermally protected metal oxide varistor (MOV) technology
- 20 kA nominal discharge current (In) rating (maximum rating assigned by UL)
- 50 through 400 kA surge current capacity ratings
- Three feature package options
- 200 kA short-circuit current rating (SCCR)
- Available integrated within the following Eaton electrical assemblies: panelboards, switchboards, motor control centers, switchgear, automatic transfer switches and bus plugs
- Can be used for UL 96A compliance
- Can be used for NFPA 780 compliance
- Can be used for RoHS compliance
- 10-year warranty

The breadth of the SPD Series' features, options and configurations ensures that the correct unit is available for all electrical applications, including service entrances, distribution switchboards, panelboards and point-of-use applications.

EATON Powering Business Worldwide

SOLARMOUNT — UNIRAC

BETTER DESIGNS

TRUST THE INDUSTRY'S BEST DESIGN TOOL
Start the design process for every project in our U-Builder on-line design tool. It's a great way to save time and money.

BETTER SYSTEMS

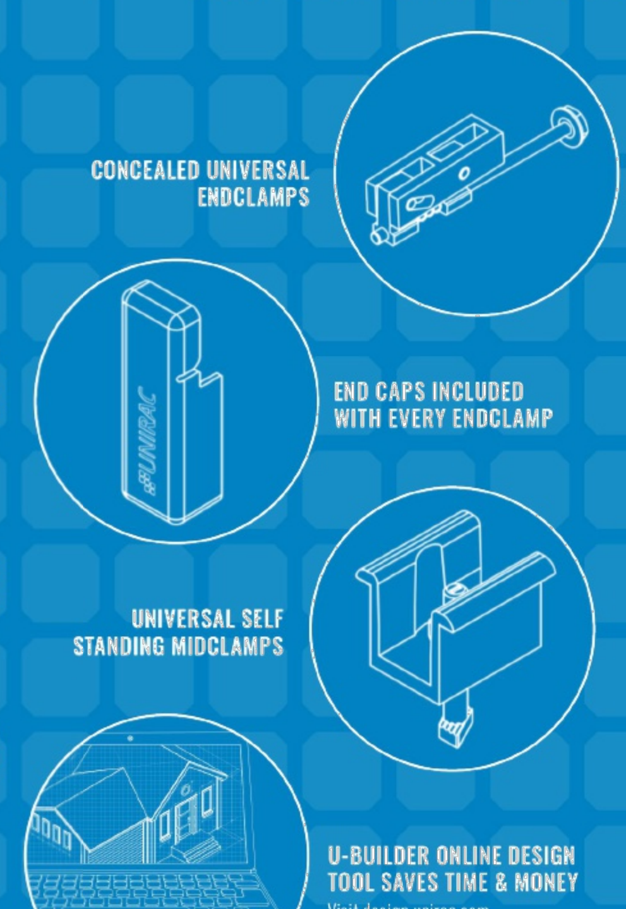
ONE SYSTEM - MANY APPLICATIONS
Quickly set modules flush to the roof on steep pitched roofs. Orient a large variety of modules in Portrait or Landscape. Tilt the system up on flat or low slow roofs. Components available in mill, clear, and dark finishes to optimize your design financials and aesthetics.

BETTER RESULTS

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

BETTER SUPPORT

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



LISTED UL2703 BONDING & GROUNDING / MECHANICAL LOADING / SYSTEM FIRE CLASSIFICATION

UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT

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

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

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

BANKABLE WARRANTY
Dont leave your project to chance, Unirac has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are providing products of exceptional quality. SOLARMOUNT is covered by a 25 year limited product warranty and a 5 year limited finish warranty.

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

PUB2016MAY16 - PRINTED UPDATE

AlsoEnergy

The operating system for the grid of the future

Specifications — PLCS-600

Assembly

Enclosure dimensions	15.7" x 15.7" x 7.9" (400mm x 400mm x 200mm)
Enclosure rating	NEMA4
Operating temperature	-13° to 158°F (-25° to 70°C), <95% relative humidity non-condensing
Power supply	120-277VAC
Communication Ports	Three available 10/100 Ethernet ports, two half-duplex rs485 ports
Regulatory	UL listed 508A

Datalogger

Devices supported	Up to 40 connected Modbus RTU enabled devices (20 per rs485 port) / *Recommended limit 32*
Storage	Removable 2GB industrial rated micro SD card
Serial	RS-485 with integrated 120 ohm termination resistor
Primary protocols	Modbus TCP, Modbus RTU, most proprietary inverter protocols
Touch screen	Color, resistive touch screen 2" by 2.75"
Warranty	Standard 5 year warranty

Meter

Voltage inputs	90-600VAC
Accuracy	Meter 0.2% (see CT datasheet for CT accuracy information)
CTs	Any CT with 5A secondary current ratio (sold separately)
CT accuracy	Refer to CT datasheet
Warranty	Standard 5 year warranty

Irradiance Sensor (included with Base and Plus weather station option)

Irradiance sensor type	Monocrystalline Silicon reference cell with mounting bracket and 3m twisted pair shielded cable
Absolute accuracy	±5W/m² ± 2.5% of reading
Dimensions	Width x Height x Depth: 3.34 inches x 6.10 inches x 1.54 inches (85mm x 155mm s 39mm)
Warranty	1 year against defects in materials and workmanship

Back of Module Panel Temperature Sensor (included with Base and Plus weather station option)

Form	3m cable with 3-pin connector compatible with paired reference cell - sensor cable cannot be extended
Sensor type	PT1000 Class A
Mounting	Self-adhesive for attaching to a solar module
Warranty	1 year against defects in materials and workmanship

Wind Speed Sensor (included with Plus weather station option)

Form	Cup star anemometer with 5m 2-pin connector compatible with paired reference cell
Sensor type	Reed relay
Mounting	Mounting bracket for pole or surface mounting included
Accuracy	0.5 m/s or 5% of reading
Sensor range	0.9 – 40m/s (2 – 90 mph)
Warranty	1 year against defects in materials and workmanship

Ambient Temperature Sensor (included with Plus weather station option)

Form	Pt1000 1/3 Class B with integrated modbus RTU digitizer
Dimensions	Width x Height x Depth: 3.34" x 6.10" x 1.54" (85mm x 155mm x 39mm)
Wiring	Includes 3 meters of twisted-pair, shielded cable
Warranty	1 year against defects in materials and workmanship

Cell Modem

Cellular data	4G LTE
Warranty	1 year

ETL — Windows Embedded — RoHS — FC

v21.1 © AlsoEnergy, Inc / 5400 Airport Bvd. Ste. 100 Boulder, CO 80301 USA / 866.303.5668

To find out more or schedule a demo, contact us at alsoenergy.com

Compare the space savings... 30 inches instead of 72 inches! Specify the mini–power center

Compare the installation cost savings—31 percent less

Because we knew that putting three components in one enclosure dramatically cuts installation time, we asked an electrical contractor to estimate the job two ways:

- Using a separate breaker, transformer and loadcenter, including the connecting cable and hardware
- Using a mini–power center

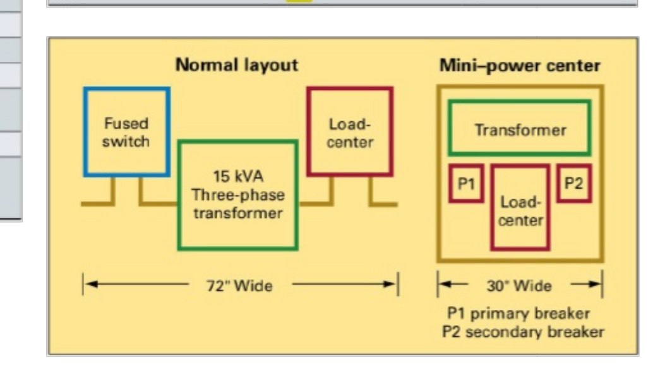
Here are the estimates:

Installation	15 kVA		25 kVA	
	Three-component system	Mini–power center	Three-component system	Mini–power center
	Hours ❶			
Switch and fuse layout	4	0	4	0
Switch and fuse mount	1	0	1	0
Transformer layout, remove knockout, etc.	16	16	24	24
Transformer fastened to wall	4	0	4	0
Loadcenter layout, mount and connect source	4	4	6	4
Total hours	29	20	39	28
% time saved with Eaton's mini–power center	31% savings		28% savings	

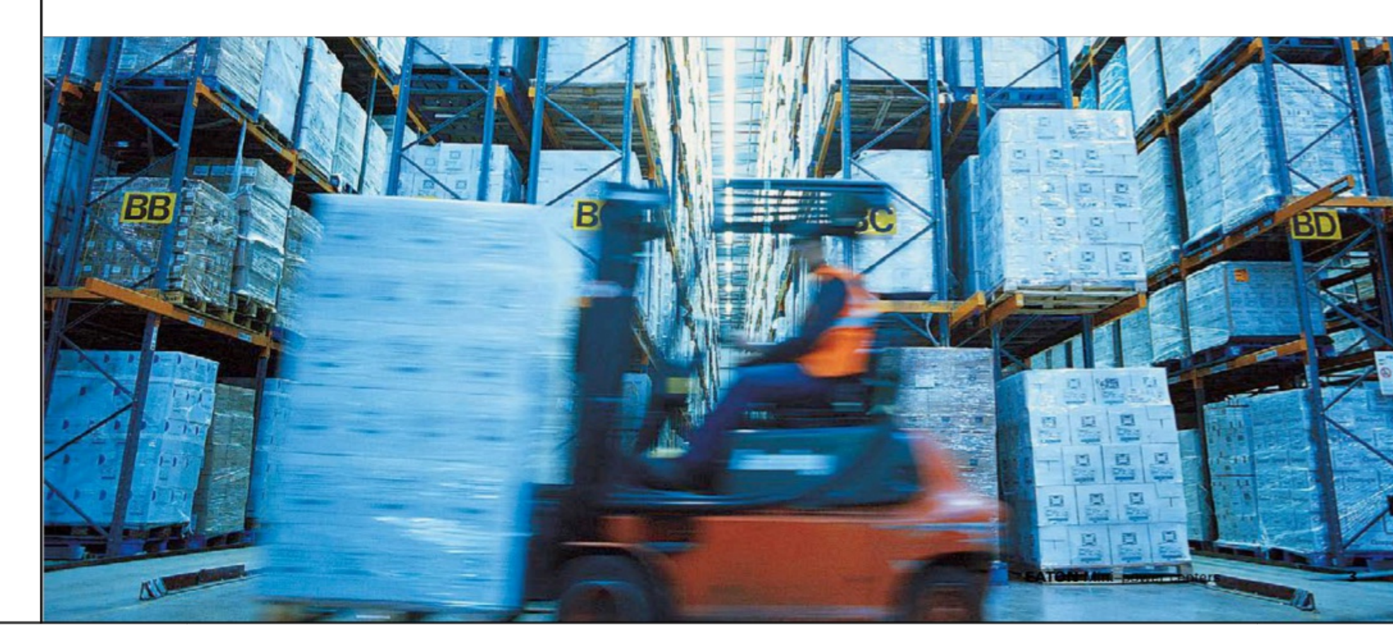
❶ Time estimates are typical and will vary by geographical area.

Optional primary main circuit breakers for plug-in chassis

Primary main breaker	480 V kAIC	600 V kAIC
EHD/FDB	14/14	–/14
FD	25	18
HFD	65	25
FDC	100	35



Note: Comparison made on a typical 15 kVA three-phase MPC Type 3R.



Specifications

Description	Ratings
Surge current capacity per phase	50, 80, 100, 120, 160, 200, 250, 300 and 400 kA ratings available
Nominal discharge current (I_n)	20 kA
Short-circuit current rating (SCCR)	200 kA
SPD type	Basic feature package = Type 1 (can also be used in Type 2 applications) Standard and standard with surge counter feature packages = Type 2
System voltages available (Vac)	
Single split-phase (three-wire plus ground)	120/240
Three-phase wye (four-wire plus ground)	120/208, 127/220, 230/400, 277/480, 347/600
Three-phase delta (three-wire plus ground)	240, 480, 600
Three-phase high leg delta (four-wire plus ground)	120/240
Input power frequency	50/60 Hz
Protection modes	
Single split-phase	L-N, L-G, L-L, N-G
Three-phase wye	L-N, L-G, L-L, N-G
Three-phase delta	L-G, L-L
Three-phase high leg delta	L-N, L-G, L-L, N-G
Operating temperature	–40 °F to +122 °F (–40 °C to +50 °C)
Operating humidity	5% through 95%, noncondensing
Agency certifications and approvals	UL 1449 4th Edition recognized component for the United States and Canada UL 1283 7th Edition (Type 2 SPDs only)
Warranty	10 years

SPD Series catalog number configuration for units integrated into electrical distribution equipment

SPD 250 480D 2 J

Series
SPD = Surge protective device

kA Rating
50 = 50 kA per phase
80 = 80 kA per phase
100 = 100 kA per phase
120 = 120 kA per phase
160 = 160 kA per phase
200 = 200 kA per phase
250 = 250 kA per phase
300 = 300 kA per phase
400 = 400 kA per phase

Voltage code
240S = 120/240 single split-phase
208Y = 120/208 wye (4W + G)
220Y = 127/220 wye (4W + G)
400Y = 230/400 wye (4W + G)
480Y = 277/480 wye (4W + G)
600Y = 347/600 wye (4W + G)
240D = 240 delta (3W + G)
480D = 480 delta (3W + G)
600D = 600 delta (3W + G)
240H = 240 delta high leg (4W + G) on 'B' phase ❶

Feature package
1 = Basic
2 = Standard
3 = Standard + surge counter

Application
Integrated units ❷
A = Panelboards (PRL1a, 2a, 3a, 3E), direct bus mounted
B = Switchgear (includes remote display)
C = Panelboards (PRL1a, 2a, 3a, 3E, 4), switchboards, busway
J = Motor control centers

Example: SPD250480D2J = SPD Series, 250 kA per phase, 480D voltage, standard feature package, motor control center application

❶ Please consult the factory for 240 delta high leg (4W + G) applications with high leg on 'C' phase.
❷ Units used in PRL1a, 2a, 3a and 3E panelboard applications are available in 50–200 kA ratings only. Use the 'C' option for PRL1a, 2a, 3a and 3E panelboard applications when unit is connected through a circuit breaker.

EATON Powering Business Worldwide

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

DATE	REVISIONS	BY

SHORE POINT ENGINEERING
Certificate of Authorization No. 24GA28317800
Kevin E. Shelly P.E. PE No. GE05031300
PO Box 257, Manasquan, NJ 08736
T: 732-924-8100 | F: 732-924-8110
www.shorepointengineering.com

Date

Kevin E. Shelly, P.E.
PROFESSIONAL ENGINEER
N.J. Lic. No. GE05031300

SITE PLAN WAIVER
COMMUNITY SOLAR
SOLAR ROOFTOP SYSTEM - 2020 SPRINGDALE AVE
BLOCK 494.01, LOT 1
SITUATED IN
TOWNSHIP OF CHERRY HILL, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS

SCALE: AS SHOWN	PROJECT No.: SLA-2418
RELEASED BY: KES	DATE: 02/21/25
CHECKED BY: RZH	Sheet Number 3 OF 3
DRAWN BY: MJW	