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June 5, 2023

**-VIA ELECTRONIC FILING-**

Mr. Adam Teitzman  
Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, FL 32399-0850

**Re: Docket No. 20230001-EI**

Dear Mr. Teitzman:

Dear Mr. Teitzman:

Attach for electronic filing in the above referenced docket is Florida Power & Light Company's ("FPL") Amended Petition for Approval of Solar Base Rate Adjustment To Be Effective 2024. Along with this Amended Petition, FPL files the prepared testimony and exhibits of FPL witness Kelly Fagan, which replace Ms. Fagan's original testimony and exhibits filed on April 3, 2023, as well as Exhibit AWW-4 to the testimony of FPL witness Andrew Whitley, which replaces the exhibit filed with Mr. Whitley's testimony on April 3, 2023.

Please feel free to contact me with any questions regarding this filing.

Sincerely,

*s/ Maria Jose Moncada*

Maria Jose Moncada

:21353661

Attachments

cc: Counsel for Parties of Record (w/ attachment)

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Fuel and purchased power cost recovery clause  
with generating performance incentive factor

Docket No. 20230001-EI

Date: June 5, 2023

**FLORIDA POWER & LIGHT COMPANY’S AMENDED PETITION FOR  
APPROVAL OF SOLAR BASE RATE ADJUSTMENT TO BE EFFECTIVE 2024**

Florida Power & Light Company (“FPL” or the “Company”), pursuant to the rate settlement approved by this Commission in Order No. PSC-2021-0446-S-EI, as amended by Order No. PSC-2021-0446A-S-EI (the “2021 Rate Settlement” or “Settlement”), files this Amended<sup>1</sup> Petition requesting that the Florida Public Service Commission (“Commission”) find that the proposed new solar generation described herein satisfies the requirements for a solar base rate adjustment (“SoBRA”). Comprised of 12 solar energy centers scheduled to be placed in service by January 31, 2024 (the “2024 Project”), the proposed solar generation is designed to deliver high reliability and is projected to save customers \$561 million.

FPL further requests that the Commission authorize FPL to implement a SoBRA upon the commercial operation date of the 2024 Project.

In support of the Petition, FPL states as follows:

1. The name and address of the Petitioner is:

Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, Florida 33408

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<sup>1</sup> FPL is amending its original Petition to reduce the amount it seeks to recover through the solar base rate adjustment. After filing its original petition, FPL identified that a further reduction to its Cost Cap (i.e., the Adjusted Cap) was warranted. The calculation of the Adjusted Cap is explained herein and in the testimony of FPL witness Kelly Fagan filed with this Amended Petition.

Any pleading, motion, notice, order or other document required to be served upon the petitioner or filed by any party to this proceeding should be served upon the following individuals:

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2. The Commission has jurisdiction pursuant to Sections 366.04, 366.05 and 366.06, Florida Statutes.

3. FPL is a corporation organized and existing under the laws of the State of Florida and is an electric utility as defined in section 366.02(2), Florida Statutes.

4. This Petition is being filed consistent with Rule 28-106.201, Florida Administrative Code. The agency affected is the Florida Public Service Commission, located at 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399. This case does not involve reversal or modification of an agency decision or an agency's proposed action. Therefore, subparagraph (c) and portions of subparagraphs (b), (e), (f) and (g) of subsection (2) of that rule are not applicable to this Petition. In compliance with subparagraph (d), FPL states that it is not known which, if any, of the issues of material fact set forth in the body of this Petition may be disputed by any others who may plan to participate in this proceeding. The discussion below demonstrates how the petitioner's substantial interests will be affected by the agency determination.

## **Introduction**

5. Pursuant to FPL’s 2021 Rate Settlement, FPL may construct up to 894 megawatts<sup>2</sup> (“MW”) of solar generation estimated to enter service in 2024. FPL is authorized to recover the costs of the solar generation project through a SoBRA when the solar project is placed in service so long as FPL demonstrates that (i) FPL’s SoBRA recovery does not exceed the applicable cost cap, (ii) the costs are reasonable and (iii) the solar project is cost-effective.

6. As contemplated by the 2021 Rate Settlement, the Company is undertaking construction of 12 solar energy centers totaling 894 MW that will be placed into commercial operation in 2024, each one generating enough energy to serve the annual energy needs of about 13,800 homes. Accordingly, FPL files this Petition, along with the testimony and exhibits of witnesses Kelly Fagan and Andrew Whitley, to demonstrate that FPL’s requested SoBRA recovery does not exceed the cost cap; that the costs of the 2024 Project are reasonable; and that adding this solar generation to FPL’s system is cost-effective. FPL will include with its projection filing in this docket (scheduled to be filed September 5, 2023) testimony to support the revenue requirement calculation and the appropriate percentage increase in base rates associated with FPL’s requested SoBRA recovery for the 2024 Project.

### **The 2024 Solar Energy Centers**

#### *Technology and Equipment*

7. The 2024 Project is comprised of 12 solar energy centers estimated to enter commercial operation by January 31, 2024. The centers are sited in eight different counties, spanning from as far south as Hendry County to Okaloosa County in Northwest Florida. Collectively, these sites will generate a total of 894 MW (nameplate capacity).

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<sup>2</sup> All units of electric generation mentioned in this Petition refer to “alternating current.”

8. The 2024 Project will utilize about two million photovoltaic (“PV”) panels that convert sunlight to direct current (“DC”) electricity at a highly efficient conversion rate of about 20.8%. The panels for each center will be tied together electrically in groups and connected to an electronic device called a power conversion unit (“PCU”), which includes inverters that transform the DC electricity produced by the PV panels into alternating current (“AC”) electricity. As described by FPL witness Fagan, the DC-to-AC ratio for the solar energy centers that comprise the 2024 Project will range from 1.20 to 1.45, depending on site and equipment characteristics unique to each center.

9. The 12 solar energy centers that comprise the 2024 Project are located sufficiently close to transmission corridors with available capacity to carry the energy generated by the centers. As a result, there are no network upgrade costs required on the transmission system for any of these solar centers.

10. FPL achieves customer benefits from each unique solar energy center by optimizing its selection of equipment and the layout available at each site. A feature common to all solar energy centers comprising the 2024 Project is the use of single-axis tracking systems, which means the structures that support the solar panels will “track” the sun’s path as it moves throughout day. Recent design and manufacturing improvements in single-axis tracking technology supports higher wind loading, thus allowing for further expansion of their use. All other factors being equal, the use of tracking technology offers higher generation output, thus driving greater economic benefits by displacing more fuel and creating more production tax credits for solar generation afforded under the Inflation Reduction Act.

11. Once placed into service, the 2024 Project will benefit from FPL's proprietary monitoring and performance analysis tools that optimize plant operations and drive process efficiencies. The 12 solar energy centers will be monitored at FPL's Fleet Performance and Diagnostics Center, which identifies potential problems earlier than traditional detection methods. The centers will be operated from FPL's Renewable Operations Control Center ("ROCC"), where daily work activities for all of FPL's existing solar generation units are managed remotely and efficiently. The ROCC allows FPL to deploy best practices effectively and perform preventative maintenance in the most efficient way possible with the goal of continuously reducing lost energy and production costs. Finally, the 12 solar energy centers will be supported by regional operations centers that are able to position staffing resources in locations that ensure a timely response to problems as they arise.

#### **2024 Project Costs**

12. Paragraphs 12(a) and 12(j) of FPL's 2021 Rate Settlement establish a ceiling on FPL's SoBRA recovery. The "Cost Cap" for SoBRA recovery is \$1,250 per kW. The Settlement further provides that the Cost Cap must be reduced by the land cost associated with any solar energy center sited on land that already is included in rate base as Plant Held for Future Use ("PHFU") as shown on the exhibit labeled MV-5 in Docket 20210015-EI. This reduced Cost Cap is referred to as the "Adjusted Cap."

13. FPL satisfies the Settlement by calculating the Cost Cap or Adjusted Cap for each of the 12 solar energy centers that comprise the 2024 Project and limiting the amount to be recovered through the SoBRA accordingly.

- a. The land costs associated with ten of the 12 solar energy centers were identified as PHFU on Exhibit MV-5.
- b. In addition, FPL’s 2021 Rate Case included a rate base forecast for Test Year 2022 and Subsequent Year 2023 that reflect PHFU and easement costs not identified on Exhibit MV-5. FPL has therefore assumed for SoBRA calculation purposes that the land cost for the two remaining sites, as well as any easements costs associated with any site requiring such land rights, also are included in its rate base.

Accordingly, FPL’s Adjusted Cap calculation reflects the subtraction of all land costs for the 2024 Project. The testimony of FPL witness Fagan sets forth the Adjusted Cap calculation per center, as well as the Project’s overall average Adjusted Cap. The average Adjusted Cap for the 2024 Project – and the limit on FPL’s SoBRA recovery – is \$1,160 per kW.

14. The estimated cost to construct each solar energy center, adjusted for PHFU, ranges from \$1,392 per kW to \$1,748 per kW. On an overall basis, the 2024 Project’s average adjusted estimated cost is \$1,545 per kW. Consistent with the Settlement, FPL is not requesting SoBRA recovery of the \$385 per kW difference between the adjusted estimated cost and the Adjusted Cap.

<b>SoBRA Recovery Calculation</b> (per Paragraphs 12(a), 12(j) of Settlement)				<b>FPL’s Construction Costs</b>	
	<b>Settlement Cost Cap</b>	<b>PHFU value</b>	<b>Adjusted Cap/ SoBRA recovery amount</b>	<b>Estimated Cost</b>	<b>Estimated Cost Less PHFU value (\$90)</b>
<b>2024 Project Average per kW</b>	\$1,250	\$90	<b>\$1,160</b>	\$1,635	\$1,545

15. The costs of the 2024 Project are reasonable given economic and market conditions. As explained in the testimony of FPL witness Fagan, a number of factors drove increased costs compared to what FPL had projected when the \$1,250 per kW Cost Cap was established. The solar construction sector was not insulated from general inflationary pressures that have been experienced by the rest of the economy. Since 2021, inflation and higher demand for solar generation have caused sharp increases in the cost of materials and labor. In addition, three other factors specific to the solar sector drove cost increases not contemplated at the time FPL entered the 2021 Rate Settlement:

- Solar panel prices increased due to the solar market’s reaction to a U.S. Department of Commerce inquiry into whether importers of panels from certain Southeast Asian countries were attempting to circumvent anti-dumping duty and countervailing duty orders on solar cells and panels manufactured in China (“Circumvention Inquiry”), which orders impose tariffs of up to 254%;
- The cost of polysilicon, the basic component in solar panel manufacturing, substantially increased in the period after FPL entered the 2021 Settlement. This increase was due to supply constraints, as well as a June 2022 importation restriction related to all goods from the Xinjiang region of China, with a heavy enforcement emphasis on imported polysilicon; and
- Advancements in single-axis tracker technology facilitated FPL’s ability to employ exclusive use of these systems, which have higher capital cost compared to fixed-tilt system (but yield incremental customer benefits that exceed the capital costs).

16. The largest portion of the increase in construction cost is due to the rise in solar panel costs resulting from the Circumvention Inquiry, the increase in the price of polysilicon, and

inflationary pressures, which combined to contribute \$210 per kW of incremental project costs. The change to exclusive use of single-axis trackers added an additional \$85 per kW. The remainder of the pricing increase is due to general inflationary pressures and higher demand for solar, which impacted the cost of construction labor and materials for the balance of the plant.

17. As it has done for all solar projects built to date, FPL employed a comprehensive procurement process to ensure the reasonableness of its construction costs, notwithstanding the increases caused largely by factors outside of FPL's control. All of the costs for surveying, engineering, equipment, materials and construction services were established through competitive bidding processes. FPL solicited proposals for the supply of solar panels from more potential bidders than it had ever previously included, and it evaluated bidders based not only on cost but also on their ability to navigate the trade and importation measures described above. Through its robust competitive bidding process, FPL also secured the lowest-cost qualified bidders for PCUs and power step-up transformers, as well as the engineering, procurement and construction for the solar facilities, substations and interconnection facilities.

### **The 2024 Project is Cost-Effective**

18. The 2021 Rate Settlement provides that SoBRA-eligible projects must be cost-effective, and it defines cost-effective as having a lower projected system cumulative present value revenue requirement ("CPVRR") with the project compared to the system CPVRR without it. As explained more fully by FPL witness Whitley, adding the 2024 Project's 894 MW of solar generation to FPL's fleet is projected to save customers \$561 million and is therefore cost-effective.

19. To evaluate cost-effectiveness, FPL compared a resource plan that excludes the 2024 Project to a plan that includes it: the "No 2024 SoBRA Plan" and the "2024 SoBRA Plan,"

respectively. Both plans use the same major system assumptions, including the Company's load, fuel price and carbon dioxide ("CO<sub>2</sub>") price forecasts, the same forecasts used in FPL's 2023 Ten Year Site Plan. The No 2024 SoBRA Plan does not include any new solar facilities beyond those already in-service as of the end of 2024 and assumes that future resource needs are met by combined cycle units and battery storage. The 2024 SoBRA Plan includes the 12 solar energy centers and reflects the \$1,635 per kW estimated cost of construction (not the Adjusted Cap). The net capacity factor for the 2024 Project is 27.5%. And, because the 2024 Project is assumed to provide 46% firm nameplate capacity to satisfy reliability obligations, the 2024 SoBRA Plan defers staggered in-service dates of 1,100 MW of battery storage by one year (in-service dates from 2025 through 2027 to 2026 through 2028), defers the combined cycle one year from 2028 to 2029 and reduces the size of battery storage necessary in 2031 and 2032 by 1,100 MW.

20. FPL used the capacity expansion and hourly production cost functions of the Aurora model to forecast the system economics and develop resource plans that include or exclude the 2024 Project. The Aurora modeling runs determine the optimal resource plan and associated generation system costs, consisting of capital costs, fixed operations and maintenance ("O&M") costs, capital replacement costs, fuel costs, variable O&M costs and emissions costs. This is used to determine the CPVRR for each resource plan. To determine the CPVRR impact of the proposed 2024 Project, FPL subtracted the CPVRR of the No 2024 SoBRA Plan from the CPVRR of the 2024 SoBRA Plan.

21. Based on the economic analysis, the 2024 Project is cost-effective. FPL customers are projected to save \$561 million CPVRR by adding the 12 solar energy centers to its fleet in 2024.

### **Additional Benefits of the 2024 Project**

22. The addition of the 2024 Project also provides non-economic advantages in the form of system, environmental and community benefits.

23. *System and environmental benefits.* The solar energy from the 2024 Project is expected to reduce FPL's annual average use of natural gas by 13,680 million cubic feet. Therefore, the Project reduces FPL's reliance on natural gas and reduces customers' exposure to volatility in the natural gas market. In addition, the reduced use of fossil fuel will, in turn, decrease CO<sub>2</sub> emissions by an average of about 815,000 tons annually. Sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxide ("NO<sub>x</sub>") emissions also are projected to decline by an annual average of 3 tons and 92 tons, respectively.

24. *Community benefits.* The 2024 Project will create about 2,400 jobs at the height of construction, providing an economic boost to local businesses. This construction in Florida will increase annual tax revenue for each of the counties where the sites are situated, thus contributing to the funding of public services that benefit those communities both during construction and after the centers enter service.

### **Conclusion**

25. As set forth in this Petition and the accompanying testimony, the 2024 Project satisfies the requirements established in the Settlement. FPL requests SoBRA recovery only up to the Settlement's prescribed Adjusted Cap, which, for the 2024 Project is \$1,160 per kW. The total cost of construction of \$1,635 per kW (\$1,545 per kW adjusted) is reasonable, although higher than anticipated at the time FPL entered the 2021 Rate Settlement. FPL has undertaken a robust competitive bidding process for the major equipment components, as well as engineering and construction, to ensure the reasonableness of these costs. Further, adding the 2024 Project to FPL's system is estimated to save customers approximately \$561 million CPVRR. It will improve FPL's

fuel diversity and reduce customer exposure to fuel price volatility. Finally, it also will reduce CO<sub>2</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions, providing cleaner air for all Florida residents to enjoy for years to come.

26. Accordingly, the Commission should enter a final order determining that FPL's 2024 Project satisfies the requirements for SoBRA approval set forth in the 2021 Rate Settlement and authorizing FPL to recover the associated revenue requirements when the 2024 Project enters commercial operation. Calculation of the revenue requirements and the appropriate percentage increase in base rates associated with FPL's requested SoBRA recovery will be presented at the time of FPL's projection filing in this docket.

**WHEREFORE**, for the foregoing reasons and as more fully set forth in the supporting testimony and exhibits filed with and incorporated in this Petition, Florida Power & Light Company requests that the Commission authorize FPL to implement a solar base rate adjustment when the 2024 Project enters commercial service.

Respectfully submitted,

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By: s/ Maria Jose Moncada  
Maria Jose Moncada  
Florida Bar No. 0773301

**CERTIFICATE OF SERVICE**  
**Docket No. 20230001-EI**

I **HEREBY CERTIFY** that a true and correct copy of the foregoing has been furnished by electronic service on this 5th day of June 2023 to the following:

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By: s/ Maria Jose Moncada  
Maria Jose Moncada  
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**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**  
**FLORIDA POWER & LIGHT COMPANY**  
**TESTIMONY OF KELLY FAGAN**  
**DOCKET NO. 20230001-EI**  
**JUNE 5, 2023**

**Q. Please state your name and business address.**

A. My name is Kelly Fagan, and my business address is 700 Universe Boulevard, Juno Beach, Florida, 33408.

**Q. By whom are you employed and what is your position?**

A. I am employed by NextEra Energy Resources, LLC as Project Director in the Engineering & Construction division.

**Q. Please summarize your educational background and professional experience.**

A. In 1994, after serving in the United States Marine Corps, I transitioned into the civilian work force as an electrical apprentice, completing all four years of my apprenticeship while working in the field as construction lead and eventually an Assistant Project Manager. As a journeyman electrician I became a full Electrical Project Manager for large commercial and industrial projects across Northern Florida. In 2000 I also earned my Bachelor of Science Degree in Electrical and Computer engineering from the University of Florida. After obtaining my degree, I worked as a Lead Manufacturing Engineer for Motorola, Inc. and later served in a similar role for Sunbeam Corporation. In 2005, I

1           obtained my electrical contractor’s license and started an electrical contracting  
2           firm that focused on commercial and industrial projects in South Florida.

3

4           I joined FPL in 2009 as the General Manager of Production Assurance and later  
5           held various roles with responsibility for fleet reliability across Florida. In  
6           2014, I joined the Engineering and Construction Department as a Senior Project  
7           Manager. In that role, I managed the early stage engineering and construction  
8           of multiple solar sites across Florida. I was responsible for the preliminary  
9           design, permitting, approvals, procurement, and contracting of Florida solar  
10          sites. This included all aspects of the project from initial due diligence for land  
11          acquisition to final permitting for the solar arrays, as well as any associated  
12          battery storage, transmission, and substations.

13

14          In 2019, I was promoted to Senior Manager responsible for the early stage  
15          objectives for all of FPL’s solar and battery storage projects. In this role, I  
16          coordinated the work of the early stage solar project team and site developers  
17          to optimize the performance and costs of FPL’s solar portfolio. I assumed my  
18          current role in late 2021.

19   **Q.    What is the purpose of your testimony?**

20    A.    First, I describe the 12 universal photovoltaic (“PV”) solar energy centers  
21          expected to begin commercial operation by January 31, 2024 (“2024 Project”)  
22          for which FPL seeks recovery pursuant to the Solar Base Rate Adjustment  
23          Provision of the Company’s 2021 Rate Settlement Agreement approved by

1 Order Nos. PSC-2021-0446-S-EI and PSC-2021-0446A-S-EI (“2021 Rate  
2 Settlement” or “Settlement”). I provide a description of the solar energy  
3 centers, including the technology, engineering design parameters, and overall  
4 construction schedules. Second, I demonstrate that FPL satisfies the cost  
5 requirements included in the 2021 Rate Settlement that the 2024 Project’s costs  
6 not exceed the prescribed cost cap and that the estimated cost of the  
7 components, engineering, and construction for the 2024 Project is reasonable.

8 **Q. Please summarize your testimony.**

9 A. My testimony demonstrates that FPL has selected components and technology  
10 for the 2024 Project that will deliver high levels of efficiency and reliability to  
11 serve FPL customers. In addition, FPL has undertaken a competitive  
12 procurement process to ensure its costs are reasonable. FPL satisfies the  
13 prescribed cost caps by limiting its SoBRA recovery to the amounts required  
14 by the Settlement, even though, as I will explain, the cost to construct solar  
15 projects has increased significantly.

16 **Q. Are you sponsoring any exhibits in this case?**

17 A. Yes. I am sponsoring the following exhibits:

- 18 • Exhibit KF-1 – List of FPL Solar Energy Centers in Service
- 19 • Exhibit KF-2 – FPL 2024 Solar Energy Center Maps
- 20 • Exhibit KF-3 – Typical Solar Energy Center Block Diagram
- 21 • Exhibit KF-4 – Specifications for 2024 Solar Energy Centers
- 22 • Exhibit KF-5 – Construction Schedules for the 2024 Solar Energy Centers

- 1 • Exhibit KF-6 – Capital Cost Table
- 2 • Exhibit KF-7 – Cost Increase Waterfall

3

4 **I. 2024 Project Description**

5 **Q. Please describe FPL’s experience in designing and building solar energy**  
6 **facilities.**

7 A. FPL is leading one of the nation’s largest solar programs and is currently  
8 Florida’s largest generator of solar power. Since 2009, FPL has completed 63  
9 solar energy centers totaling approximately 4,580 MW<sub>AC</sub>. The existing FPL  
10 solar energy centers range in size from 10 MW<sub>AC</sub> to 74.5 MW<sub>AC</sub>. Exhibit KF-  
11 1 provides a list of the FPL universal PV solar energy centers currently in  
12 service. FPL completed construction of the 63 solar energy centers an average  
13 of nine days early and at a total cost that fell 2.1% or \$132.4 million below the  
14 cumulative budget. By the middle of 2023, FPL will place three additional solar  
15 sites into service, bringing the total to 66 solar energy centers in service with a  
16 total nameplate rating of 4,803 MW<sub>AC</sub>.

17 **Q. Please identify the solar energy centers that comprise the 2024 Project.**

18 A. FPL is constructing 12 additional solar energy centers estimated to be in service  
19 by January 31, 2024. These are (i) Terrill Creek Solar Energy Center in Clay  
20 County, (ii) Silver Palm Solar Energy Center in Palm Beach County, (iii) Ibis  
21 Solar Energy Center in Brevard County, (iv) Orchard Solar Energy Center  
22 which is located on land that straddles the border between St. Lucie County and  
23 Indian River County, (v) Beautyberry Solar Energy Center in Hendry County,

1 (vi) Turnpike Solar Energy Center in Indian River County, (vii) Monarch Solar  
2 Energy Center in Martin County, (viii) Caloosahatchee Solar Energy Center in  
3 Hendry County, (ix) White Tail Solar Energy Center in Martin County,  
4 (x) Prairie Creek Solar Energy Center in DeSoto County, (xi) Pineapple Solar  
5 Energy Center in St. Lucie County, and (xii) Canoe Solar Energy Center in  
6 Okaloosa County. Each center will have a nameplate capacity of 74.5 MW<sub>AC</sub>.  
7 Exhibit KF-2 more fully describes and depicts the solar energy centers.

8 **Q. Has FPL finalized the site layouts and designs for the solar energy centers?**

9 A. Not at this time. Construction drawings are not finalized. Both my testimony  
10 and the analysis presented in FPL witness Whitley's testimony are predicated  
11 on the base-line designs. FPL does not foresee material changes to the designs  
12 and layouts for these sites.

13 **Q. Please describe the solar technology that FPL plans to use for the 2024**  
14 **Project and the resulting conversion efficiencies.**

15 A. The 2024 Project will utilize a combination of approximately two million  
16 crystalline silicon and 30,000 thin-film solar panels that convert sunlight to  
17 direct current ("DC") electricity. These panels will have an average conversion  
18 efficiency of approximately 20.8%. This simply means that 20.8% of the solar  
19 energy reaching the surface of the panels is converted into DC electrical energy.  
20 This level of conversion efficiency is an improvement over recent years and  
21 reflects the continued advancement of solar generation technology.

22

1 In addition, each of the 12 solar energy centers will use single-axis tracking  
2 configurations deployed according to prudent engineering practices. Recent  
3 design and manufacturing improvements in single-axis tracking technology  
4 support higher wind loading, thus allowing for further expansion of their use.  
5 Single-axis tracking systems allow for the solar panels to follow the movement  
6 of the sun from east to west throughout the day, maximizing the amount of  
7 energy that can be produced by each panel. All other factors being equal, the  
8 use of tracking technology offers higher generation output as well as a higher  
9 firm capacity value, which contributes to the economic benefits described in the  
10 testimony of FPL witness Whitley.

11

12 The solar panels will be linked together in groups, with each group connected  
13 to an inverter, which transforms the DC electricity produced by the PV panels  
14 into alternating current (“AC”) electricity. The voltage of AC electricity  
15 coming out of each inverter is increased by a series of transformers to match  
16 the interconnection voltage for each solar energy center. The inverters are  
17 paired with a single medium voltage transformer on a common equipment skid  
18 to form a power conversion unit (“PCU”). Depending on the inverter rating,  
19 between 19 and 24 PCUs will be installed at each solar energy center to produce  
20 the 74.5 MW<sub>AC</sub> of capacity. Exhibit KF-3 provides a typical block diagram  
21 depicting the basic layout of the major equipment components and Exhibit KF-  
22 4 provides the specifications for the 12 solar energy centers.

1 **Q. Describe the DC/AC ratio for the 2024 Project.**

2 A. The DC/AC ratio is the ratio of the total installed DC capacity of PV panels to  
3 the AC capacity of each solar energy center. The DC/AC ratios for the solar  
4 energy centers depend on site conditions and environmental features unique to  
5 each location. For the 12 centers that comprise the 2024 Project, the DC/AC  
6 ratios will range from 1.20 to 1.45.

7 **Q. Why are the DC/AC ratios not the same for all the solar energy centers?**

8 A. Site and equipment characteristics unique to each of the solar energy centers  
9 drive variability in the DC/AC ratios. FPL seeks to achieve the highest level of  
10 output, reliability, and customer benefit from each unique solar energy center  
11 given the selection of major components and the design optimization  
12 possibilities that are available at each location at the time of design.

13 **Q. Please describe whether upgrades to the existing FPL bulk transmission  
14 system are required to accommodate these 12 proposed solar energy  
15 centers.**

16 A. Whether upgrades to FPL's bulk transmission system are required depends on  
17 the available transmission capacity in the area. The 12 solar energy centers that  
18 comprise the 2024 Project are sufficiently close to transmission corridors with  
19 available capacity to carry the energy generated by the centers. As a result, no  
20 network upgrade costs are required on the transmission system for the 2024  
21 Project.

1 **Q. What are the proposed construction schedules and in-service dates for the**  
2 **2024 Project?**

3 A. FPL expects that the Project will be placed into service by January 31, 2024.  
4 The construction schedule includes the time necessary to obtain the required  
5 permits, procure materials and contract labor, clear and grade each of the sites,  
6 construct access pathways and drainage systems, install the solar generating  
7 equipment, erect fencing, build and energize the interconnection facilities, and  
8 test and startup each solar facility. The current construction schedules as shown  
9 in Exhibit KF-5 support the proposed commercial in-service date of January 31,  
10 2024.

11 **Q. As of April 3, 2023, what is the status of the certifications and permits**  
12 **required to begin construction for the solar energy centers?**

13 A. Of the 12 sites that are part of the 2024 Project, ten have received all federal,  
14 state, and local permits required to begin construction. The Florida Department  
15 of Environmental Protection (“FDEP”) has issued an Environmental Resource  
16 Permit (“ERP”) for all 12 solar energy centers. Eight of the 12 sites also  
17 required Section 404 Authorization from the FDEP for impacts to state assumed  
18 waters, and all of these permits have been received. Finally, ten of the 12  
19 centers have received the required county site plan approvals with the final two  
20 approvals expected by early May 2023.

1 **Q. Please describe how FPL will manage the centers' operations and monitor**  
2 **their performance once each center enters commercial service.**

3 A. The 2024 Project will benefit from monitoring and performance analysis tools  
4 that FPL developed and has continuously improved since it began operating  
5 universal solar in 2009. These proprietary tools optimize plant operations and  
6 drive process efficiencies. For example, the 12 solar energy centers will be  
7 monitored at FPL's Fleet Performance and Diagnostics Center ("FPDC"),  
8 which uses advanced technology to identify potential problems earlier than  
9 traditional detection methods, create automatic directives to investigate and  
10 resolve solar field energy losses, and allows the operating teams the opportunity  
11 to prevent or mitigate the effects of failures. FPL compares the performance of  
12 like components on similar generating units and determines how to make  
13 improvements, which often prevents problems before they would otherwise  
14 occur. The FPDC technology results in improved service reliability for FPL  
15 customers.

16  
17 In addition, each of the centers that comprise the 2024 Project will be monitored  
18 and operated at FPL's Renewable Operations Control Center ("ROCC"), which  
19 was established in 2017 to serve as the centralized, remote operations center for  
20 all FPL universal solar and energy storage facilities. The ROCC provides a  
21 mechanism to efficiently manage daily work activities and ensure effective  
22 deployment of best operating practices at all of FPL's renewable energy centers.  
23 FPL also utilizes their Center of Work Excellence which centralizes work

1 schedules and works closely with the ROCC and FPDC to most efficiently  
2 create daily work schedules to restore equipment, execute work orders, and  
3 perform preventative maintenance in the most efficient way possible with the  
4 goal of continuously reducing lost energy and production costs.

5  
6 Finally, the 12 solar energy centers will be supported by regional operations  
7 centers that FPL has staffed across its territory in DeSoto, Clay, and St. Lucie  
8 Counties. These regional operations centers support the ongoing maintenance  
9 requirements of the solar fleet and position resources in locations that ensure a  
10 timely response to any problems that arise.

11

## 12 II. 2024 Project Costs

13 **Q. Please describe the cost-related requirements in the SoBRA provision that**  
14 **you will address.**

15 A. FPL's 2021 Rate Settlement contains two cost-related requirements associated  
16 with solar projects for which FPL seeks recovery pursuant to the SoBRA  
17 provision. First, FPL's SoBRA recovery is capped at an average of \$1,250 per  
18 kW<sub>AC</sub> for the cost of the 2024 Project's components, engineering, and  
19 construction (the "Cost Cap"). In the event that the land component allocated  
20 to a solar site is already included as Plant Held for Future Use ("PHFU"), the  
21 cost of that land is subtracted from the Cost Cap, resulting in an "Adjusted  
22 Cap." Second, the Settlement requires that the cost of the 2024 Project's  
23 components, engineering, and construction be reasonable.

1 **Q. Does the 2024 Project meet these two cost requirements?**

2 A. Yes. FPL seeks SoBRA recovery only up to the Cost Cap and the Adjusted  
3 Cap, as applicable, for each solar site. The calculation of the associated revenue  
4 requirement and SoBRA Factor will be covered by other witnesses at the time  
5 of FPL's projection filing in this docket. In addition, the costs for the 2024  
6 Project are reasonable, even though, as described below, costs have materially  
7 increased.

8 **Q. Please describe the applicable Cost Cap and Adjusted Cap.**

9 A. The Rate Settlement includes a Cost Cap of \$1,250 per kW<sub>AC</sub>, which is then  
10 subject to a reduction in the event the solar energy centers use land that is  
11 already included as PHFU as identified in FPL's Rate Case in the Exhibit  
12 labeled MV-5. Of the 12 solar energy centers that are part of the 2024 Project,  
13 ten utilize property identified on MV-5. In addition, FPL's 2021 rate case  
14 included rate base forecasts for Test Year 2022 and Subsequent Year 2023 that  
15 reflected PHFU and easements that were not included in MV-5. Therefore, for  
16 SoBRA purposes, FPL has assumed that the land costs for all 12 sites and  
17 associated easements are included in its rate base.

18

19 To calculate the average Adjusted Cap, FPL subtracted 100% of the land costs  
20 for the 2024 Project. The resulting average Adjusted Cap for the 2024 Project  
21 – and the amount FPL seeks to recover through the SoBRA – is \$1,160 per  
22 kW<sub>AC</sub>, which is \$385 per kW<sub>AC</sub> less than the average total adjusted estimated  
23 cost of \$1,545 per kW<sub>AC</sub>. Table 1 below shows the Adjusted Cap associated

1 with the ten applicable sites, the average Adjusted Cap for the 2024 Project, as  
 2 well as the total and adjusted estimated costs per site and on average for the  
 3 2024 Project.  
 4

<b>TABLE 1: COSTS PER SITE AND TOTAL AVERAGE COSTS</b>					
	<b>Settlement Cost Cap (\$/kW<sub>AC</sub>)</b>	<b>Less land value (\$/kW<sub>AC</sub>)</b>	<b>Adjusted Cap (SoBRA recovery amount \$/kW<sub>AC</sub>)</b>	<b>Estimated Cost (\$/kW<sub>AC</sub>)</b>	<b>Estimated Cost Less land value (\$/kW<sub>AC</sub>)</b>
<b>Terrill Creek</b>	\$1,250	\$82	\$1,168	\$1,634	\$1,552
<b>Silver Palm</b>	\$1,250	\$129	\$1,121	\$1,637	\$1,508
<b>Ibis</b>	\$1,250	\$68	\$1,182	\$1,557	\$1,489
<b>Orchard</b>	\$1,250	\$40	\$1,210	\$1,576	\$1,536
<b>Beautyberry</b>	\$1,250	\$209	\$1,041	\$1,714	\$1,505
<b>Turnpike</b>	\$1,250	\$44	\$1,206	\$1,528	\$1,484
<b>Monarch</b>	\$1,250	\$95	\$1,155	\$1,487	\$1,392
<b>Caloosahatchee</b>	\$1,250	\$80	\$1,170	\$1,827	\$1,748
<b>White Tail</b>	\$1,250	\$105	\$1,145	\$1,732	\$1,627
<b>Prairie Creek</b>	\$1,250	\$88	\$1,162	\$1,755	\$1,667
<b>Pineapple</b>	\$1,250	\$40	\$1,210	\$1,513	\$1,473
<b>Canoe</b>	\$1,250	\$103	\$1,147	\$1,661	\$1,558
<b>Average Total</b>	\$1,250	\$90	<b>\$1,160</b>	\$1,635	\$1,545

5 **Q. Does FPL’s cost estimate include the costs associated with transmission**  
 6 **interconnection?**

7 **A.** Yes. The estimated capital cost for each of the solar energy centers includes  
 8 the projected cost for the construction of its unique transmission  
 9 interconnection configuration.

10

1 **Q. What was the basis for the \$1,250 per kW<sub>AC</sub> Cost Cap included in the**  
2 **Settlement?**

3 A. The \$1,250 per kW<sub>AC</sub> Cost Cap included in the Settlement was based on an  
4 evaluation of the actual costs incurred for FPL's solar energy centers that were  
5 placed in service during late 2020 and early 2021, contracted costs for centers  
6 expected to be placed in service in 2022, and estimated costs for centers  
7 expected to be placed in service in 2023. FPL also evaluated the forward cost  
8 estimates, available market and commodity projections, and major equipment  
9 cost curves available at that time. FPL forecasted that major solar equipment  
10 cost curves would continue to decrease consistent with industry trends as supply  
11 chains continued maturing. FPL anticipated that this equipment cost decrease  
12 would offset the expected escalation in labor and minor material costs. Based  
13 on this analysis, FPL determined that the \$1,250 per kW<sub>AC</sub> Cost Cap was an  
14 appropriate and achievable target for solar construction that would occur 24-36  
15 months in the future.

16  
17 **Q. Please identify the factors that impacted the cost to build solar since the**  
18 **time FPL projected it could build these solar energy centers at or below**  
19 **\$1,250 per kW<sub>AC</sub>.**

20 A. The primary factors that drove the increases in solar construction costs after  
21 FPL entered the Settlement are (i) increased solar panel prices due to (a) a U.S.  
22 Department of Commerce ("DOC") inquiry with respect to circumvention of  
23 anti-dumping and countervailing duties on solar cells and panels manufactured

1 in China (“Circumvention Inquiry”), and (b) increases in the cost of polysilicon,  
2 the basic component in solar panel manufacturing; (ii) increased use of single-  
3 axis tracker technology in the 2024 Project; and (iii) general cost increases due  
4 to inflation.

5 **Q. Please describe the Circumvention Inquiry.**

6 A. To provide background, United States trade law currently imposes duties and  
7 trade measures on goods imported from China into the United States. One such  
8 trade measure are the anti-dumping duty and countervailing duty on PV solar  
9 cells and panels that are imported from China into the United States (“China  
10 AD/CV Duties”), which range from 0% to 254% depending on the exporter of  
11 the solar panel. In response to the China AD/CV Duties, PV solar  
12 manufacturing operations which support the United States market have  
13 predominantly moved out of China and into other southeast Asia locations.

14  
15 On February 8, 2022, Auxin Solar requested that the DOC initiate an  
16 investigation into whether solar cell and panel imports from Malaysia, Vietnam,  
17 Thailand, and Cambodia were circumventing the China AD/CV Duties by  
18 undertaking only minor processing outside of China while using primarily  
19 Chinese components. The DOC initiated an investigation on April 1, 2022. A  
20 Presidential Proclamation instituting a two-year moratorium on China AD/CV  
21 Duties stemming from the Circumvention Inquiry was issued June 6, 2022, but  
22 final resolution of this matter remains outstanding. A DOC determination that  
23 the China AD/CV Duties were circumvented will result in the application of

1 duties of up 254% on offending panels. The impact of such a determination  
2 would be widespread, as the countries associated with DOC’s Circumvention  
3 Inquiry would have accounted for approximately 80% of panel imports into the  
4 United States.

5 **Q. How has the Circumvention Inquiry impacted the cost of panels used in**  
6 **the 2024 Project?**

7 A. The initiation of the DOC’s investigation and the associated tariff risk caused  
8 an immediate shutdown of the solar panel supply chain, including panel  
9 production and shipments. This shutdown lasted approximately five months.  
10 The production and delivery of panel imports from Malaysia, Vietnam,  
11 Thailand, and Cambodia has now resumed. However, solar panel pricing has  
12 increased dramatically to account for the perceived risk of tariffs and other U.S.  
13 government actions on solar panel imports. Pricing for panels that will be used  
14 for the 2024 Project increased by approximately 40% compared to pricing that  
15 was anticipated at the time FPL entered the 2021 Rate Settlement.

16 **Q. Please identify the main drivers behind the increased price of polysilicon.**

17 A. The cost of polysilicon has increased due to two main reasons: supply  
18 constraints and trade restrictions.

19 **Q. Please describe what you mean by “supply constraints” and explain how**  
20 **these constraints impacted the cost of polysilicon.**

21 A. Since the time FPL entered the 2021 Rate Settlement, the global demand for  
22 solar panels has been increasing and, with the passage of the Inflation Reduction  
23 Act in August 2022, that demand has continued to accelerate. The polysilicon

1 market experienced delayed capacity expansions that have constrained  
2 polysilicon suppliers from meeting this larger panel demand. As a result, from  
3 January 2021 through October 2022, the global polysilicon pricing index  
4 increased approximately 240%, from \$12.41 to \$42.24 per kilogram.

5 **Q. Please describe the import restriction associated with polysilicon and how**  
6 **it has led to increased costs.**

7 A. Beginning on June 21, 2022, the United States established a presumption that  
8 all goods from the Xinjiang region of China are prohibited from entering the  
9 United States. Among sectors designated as high priority for enforcement is  
10 polysilicon, the basic component in solar panel manufacturing. As a result,  
11 United States Customs and Border Protection (“CBP”) began detaining panels  
12 at ports of entry to the United States in August 2022. FPL has worked closely  
13 with suppliers and CBP to clarify what documentation is required by CBP to  
14 trace solar panel raw materials back to the point of origin in order to definitively  
15 demonstrate that no materials originated in Xinjiang.

16  
17 This import restriction has caused solar panel suppliers to incur high storage  
18 and detainment costs, as well as additional costs for traceability programs and  
19 documentation. As a result, panel suppliers that utilize non-Xinjiang  
20 polysilicon have seized upon this market environment as an opportunity to  
21 demand a premium price, since their proof of compliance allows for easier  
22 traceability to satisfy CBP documentation requirements and limits the risk of  
23 detention at a port.

1 **Q. Please explain how the increased use of single-axis trackers contributed to**  
2 **an increase in the cost of the 2024 Project.**

3 A. FPL initially expected to use a blend of fixed-tilt and single-axis tracking  
4 systems for the 2024 Project but by working with equipment suppliers, FPL  
5 determined that it was feasible to deploy trackers at all 2024 Project locations  
6 and elected to make this design change. The mechanical system for single-axis  
7 trackers has higher material and installation costs than a fixed-tilt system.  
8 However, the benefits of a single-axis tracking system typically outweigh the  
9 costs, because a tracking design yields a higher net capacity factor, and more  
10 importantly, a higher firm capacity value than a fixed-tilt design. The change  
11 from a mixture of fixed and tracking sites to the exclusive use of single-axis  
12 trackers for the 2024 Project increased overall Project costs by \$85 per kW<sub>AC</sub>,  
13 while raising the net capacity factor of the 2024 Project to 27.5%.

14 **Q. Please explain how general inflationary pressure combined with**  
15 **commodity price increases contributed to an increase in the cost of the 2024**  
16 **Project.**

17 A. General inflationary pressure impacted the costs for all solar construction which  
18 includes solar panels, steel, aluminum, single-axis tracking components,  
19 copper, and labor. In addition, the tightening of the U.S. job market following  
20 the second half of 2020 and the increase in demand for solar generation raised  
21 labor costs, which resulted in incrementally higher engineering, procurement,  
22 and construction (“EPC”) contractor costs.

1 **Q. Please summarize how the market factors you have described impacted the**  
2 **overall cost of the 2024 Project.**

3 A. The largest portion of the increase is due to the rise in solar panel costs due to  
4 the Circumvention Inquiry, increases in the price of polysilicon, and  
5 inflationary pressure on the solar panels. In total, this contributed \$210 per  
6 kW<sub>AC</sub> of incremental project costs. The change to exclusive use of single-axis  
7 trackers added an additional \$85 per kW<sub>AC</sub>. The balance of the increase in  
8 pricing, about \$90 per kW<sub>AC</sub>, is due to the general inflationary pressures I  
9 described. This cost increase summary is depicted visually in Exhibit KF-7.

10 **Q. With these factors causing price increases during this period, were the**  
11 **costs FPL ultimately secured for construction of the 2024 Project**  
12 **reasonable?**

13 A. Yes.

14 **Q. What is the basis for your conclusion?**

15 A. FPL utilized a robust procurement process designed to obtain the best available  
16 pricing. The costs for surveying, engineering, equipment, materials, and  
17 construction services necessary to complete the solar energy centers were  
18 established through competitive bidding processes. The balance of the costs  
19 were the result of leveraging existing agreements for engineering services,  
20 which themselves were the result of a separate competitive bidding process.  
21 Therefore, the vast majority of the 2024 Project's equipment, engineering, and  
22 construction costs were subject to competitive solicitations.

23

1 FPL followed a procurement process similar to what it employed for prior  
2 SoBRA projects approved by the Commission, this time accounting for the  
3 solar market-specific impacts from the Circumvention Inquiry as well as the  
4 polysilicon importation restrictions. FPL solicited proposals for the supply of  
5 the PV panels, PCUs, and step-up power transformers, as well as the EPC  
6 services required to complete the proposed solar energy centers for the 2024  
7 Project.

8 **Q. Please describe the competitive solicitations for 2024 Project’s solar panels.**

9 A. FPL’s solicitation for solar panels for the 2024 Project was expanded as  
10 compared to prior RFPs in order to include additional suppliers. FPL also  
11 requested and received more detailed information from bidders which helped  
12 to evaluate the potential impacts from the pending trade actions described  
13 above. In total, FPL requested proposals for PV panels from 21 large, industry-  
14 leading suppliers. Ten suppliers submitted bids that satisfied the requirements  
15 of the RFP, FPL evaluated each of these conforming bids, and ultimately  
16 contracted with three suppliers.

17  
18 The three selected panel suppliers for the 2024 Project offered the lowest cost  
19 and highest efficiency products, offer some of the highest product quality  
20 programs in the industry, and were able to provide strong financial performance  
21 security. In addition, the suppliers selected for the 2024 Project each  
22 demonstrated their ability to navigate the current regulatory environment with  
23 minimal impacts to both cost and schedule. Finally, by timing the execution of

1 solar panel purchase contracts for the fourth quarter of 2022, which is slightly  
2 later than in previous construction efforts, FPL was able to avoid the height of  
3 market disruptions from the Circumvention Inquiry.

4 **Q. Please describe the competitive solicitations for 2024 Project's PCU and**  
5 **Step-Up Power Transformers.**

6 A. FPL solicited proposals from four PCU suppliers. The proposals submitted by  
7 each of the four suppliers met the requirements of the RFP and were evaluated.  
8 FPL selected the lowest cost bidder to supply the PCUs for the 2024 Project.

9  
10 FPL solicited proposals from seven industry-leading manufacturers of step-up  
11 power transformers. FPL evaluated six qualifying proposals and selected the  
12 lowest cost bidder to supply the transformers.

13 **Q. Please describe the competitive solicitations for 2024 Project's construction**  
14 **contractors.**

15 A. FPL solicited EPC service proposals for the construction of the solar energy  
16 centers from twelve industry-recognized contractors. Five of the twelve  
17 contractors submitted bids and FPL evaluated these proposals for completeness.  
18 FPL then identified the lowest cost bidder for each site within the 2024 Project  
19 and selected three EPC contractors to build the 2024 Project based on this  
20 method of evaluation. Contracts have been finalized with these three selected  
21 EPC contractors. The scope of services for the EPC solicitations included the  
22 supply of the balance of equipment and other materials.

23

1 FPL solicited proposals for the construction of the substation and  
2 interconnection facilities from sixteen industry-recognized contractors. Twelve  
3 of the sixteen contractors submitted bids and the proposals were evaluated.  
4 Similarly, FPL then identified the lowest cost bidder for each site within the  
5 2024 Project and then selected five lowest cost bidders to construct the  
6 substation and interconnection facilities at the sites.

7 **Q. Are there other benefits associated with the 2024 Project?**

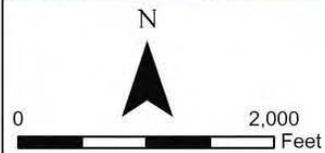
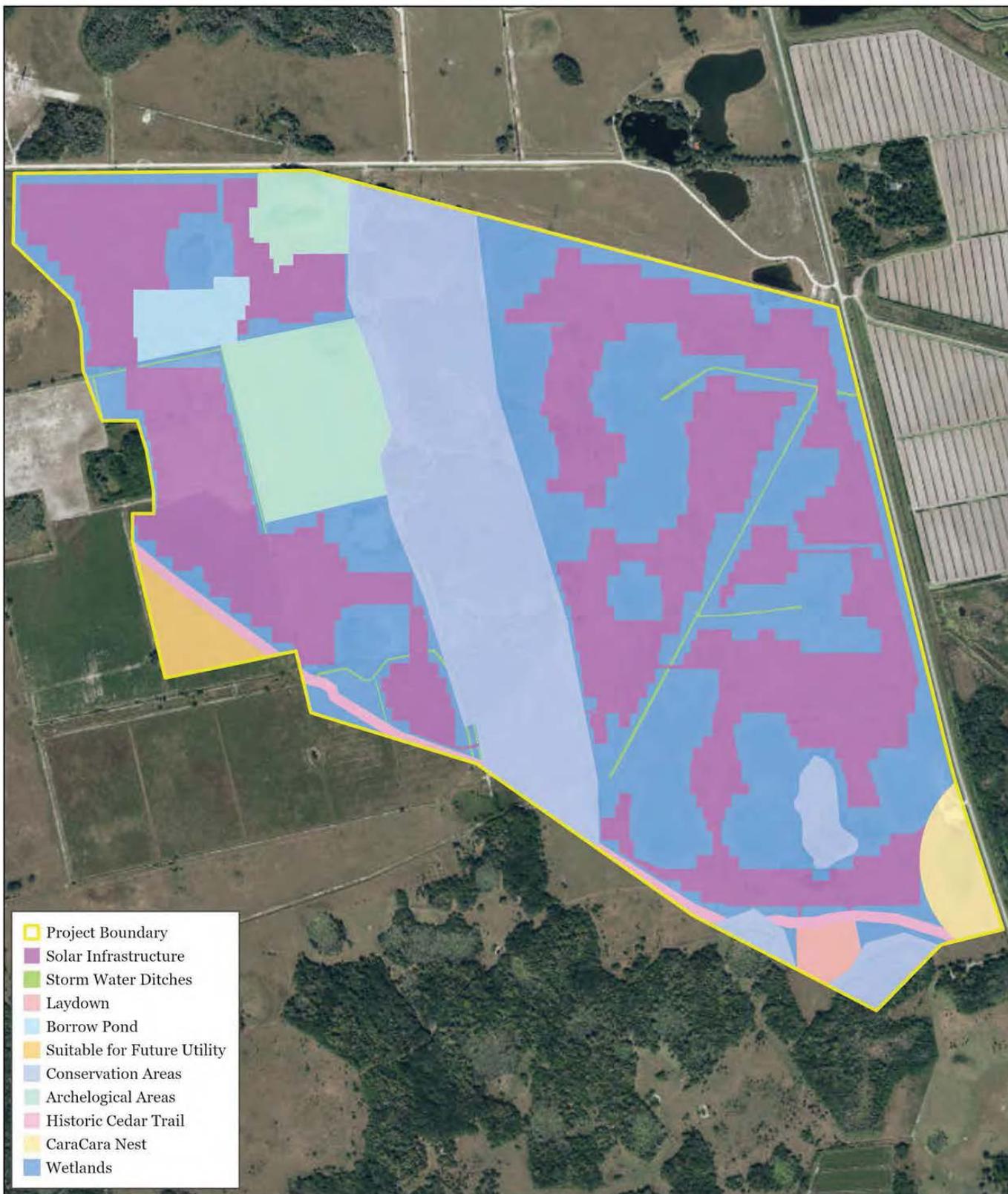
8 A. Yes, there are several other benefits associated with the 2024 Project. For  
9 example, approximately 200 individuals will be employed at each of the solar  
10 energy centers at the height of construction, creating about 2,400 jobs in total  
11 for the 2024 Project. The contractors building the solar energy centers are  
12 required to exercise reasonable efforts to use local labor and resources. The  
13 jobs associated with the construction of the solar energy centers will therefore  
14 provide a secondary benefit by boosting the economy of local businesses in  
15 Florida. Additionally, the local communities will benefit from increased  
16 property tax revenues following the completion of the solar energy centers. For  
17 instance, in 2022 FPL had 50 operational solar energy centers which generated  
18 over \$26 million in property taxes paid to 24 counties across Florida.

19 **Q. Does this conclude your testimony?**

20 A. Yes.

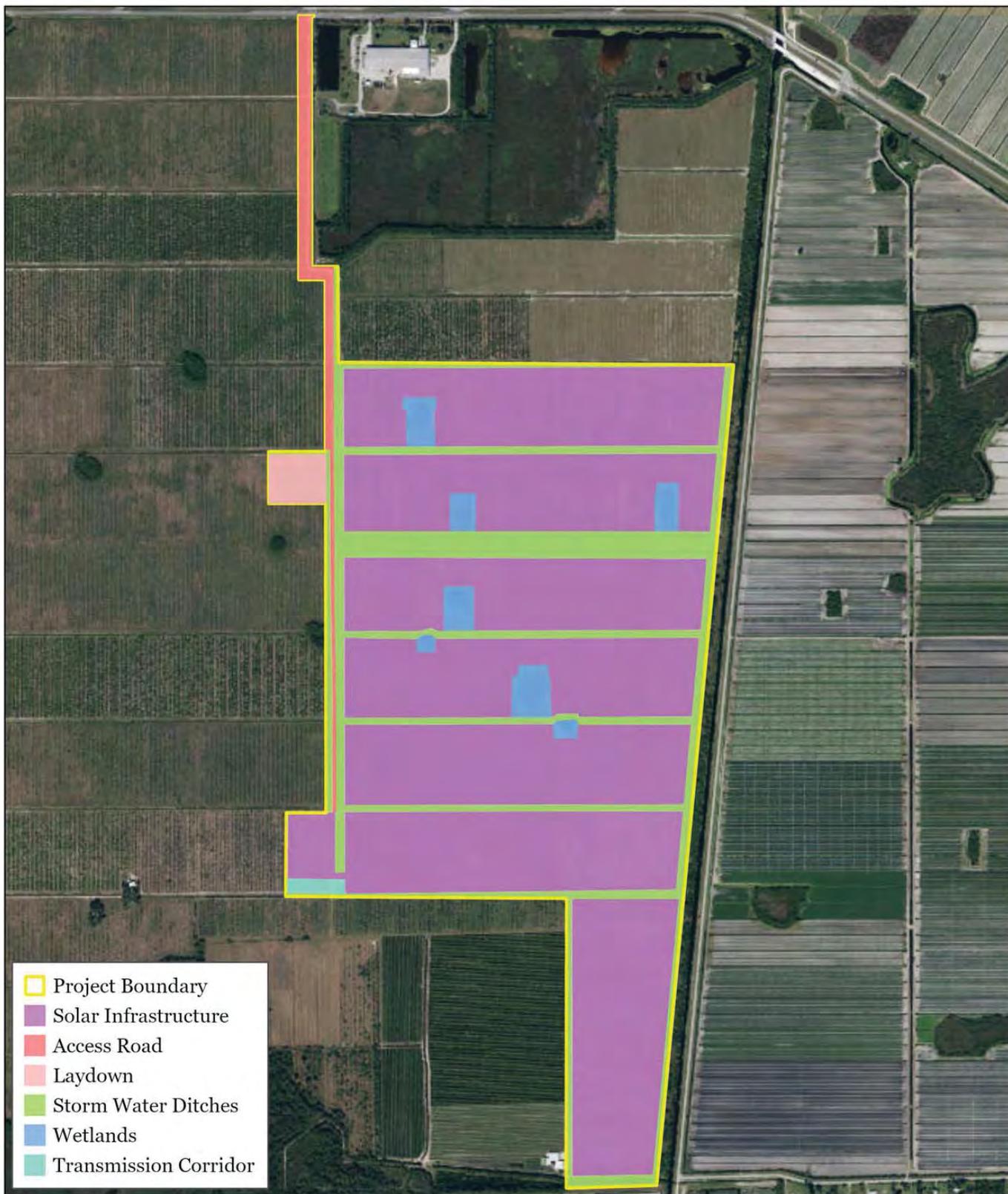
**List of FPL Universal PV Solar Centers in Service**

Solar Enegy Center	In Service Date	Capacity (MW AC)
Desoto	10/27/2009	25
Space Coast	4/16/2010	10
Manatee	12/31/2016	74.5
Citrus	12/31/2016	74.5
Babcock	12/31/2016	74.5
Horizon	1/1/2018	74.5
Coral Farms	1/1/2018	74.5
Wildflower	1/1/2018	74.5
Indian River	1/1/2018	74.5
Blue Cypress	3/1/2018	74.5
Barefoot Bay	3/1/2018	74.5
Hammock	3/1/2018	74.5
Loggerhead	3/1/2018	74.5
Miami-Dade	1/31/2019	74.5
Interstate	1/31/2019	74.5
Sunshine Gateway	1/31/2019	74.5
Pioneer Trail	1/31/2019	74.5
Sweetbay	1/31/2020	74.5
Northern Preserve	1/31/2020	74.5
Cattle Ranch	1/31/2020	74.5
Twin Lakes	1/31/2020	74.5
Blue Heron	1/31/2020	74.5
Babcock Preserve	1/31/2020	74.5
Hibiscus	4/30/2020	74.5
Okeechobee	4/30/2020	74.5
Southfork	4/30/2020	74.5
Echo River	4/30/2020	74.5
Blue Indigo	4/1/2020	74.5
Lakeside	12/18/2020	74.5
Trailside	12/21/2020	74.5
Union Springs	12/31/2020	74.5
Egret	12/20/2020	74.5
Nassau	12/24/2020	74.5
Magnolia Springs	3/29/2021	74.5
Pelican	2/28/2021	74.5
Palm Bay	3/31/2021	74.5
Rodeo	3/30/2021	74.5
Sabal Palm	4/30/2021	74.5
Willow	5/28/2021	74.5
Discovery	5/30/2021	74.5
Orange Blossom	5/30/2021	74.5
Fort Drum	6/30/2021	74.5
Blue Springs	12/31/2021	74.5
Cotton Creek	12/31/2021	74.5
Ghost Orchid	1/31/2022	74.5
Sawgrass	1/31/2022	74.5
Sundew	1/31/2022	74.5
Elder Branch	1/31/2022	74.5
Grove	1/31/2022	74.5
Immokalee	1/31/2022	74.5
Everglades	1/31/2023	74.5
Pink Trail	1/31/2023	74.5
Bluefield Preserve	1/31/2023	74.5
Cavendish	1/31/2023	74.5
Anhinga	1/31/2023	74.5
Blackwater River	1/31/2023	74.5
Chipola River	1/31/2023	74.5
Flowers Creek	1/31/2023	74.5
First City	1/31/2023	74.5
Apalachee	1/31/2023	74.5
Wild Azalea	2/28/2023	74.5
Chautauqua	2/28/2023	74.5
Shirer Branch	2/28/2023	74.5
	Total Sites	63
	Total MW	4,579.5



# Beautyberry Solar Energy Center





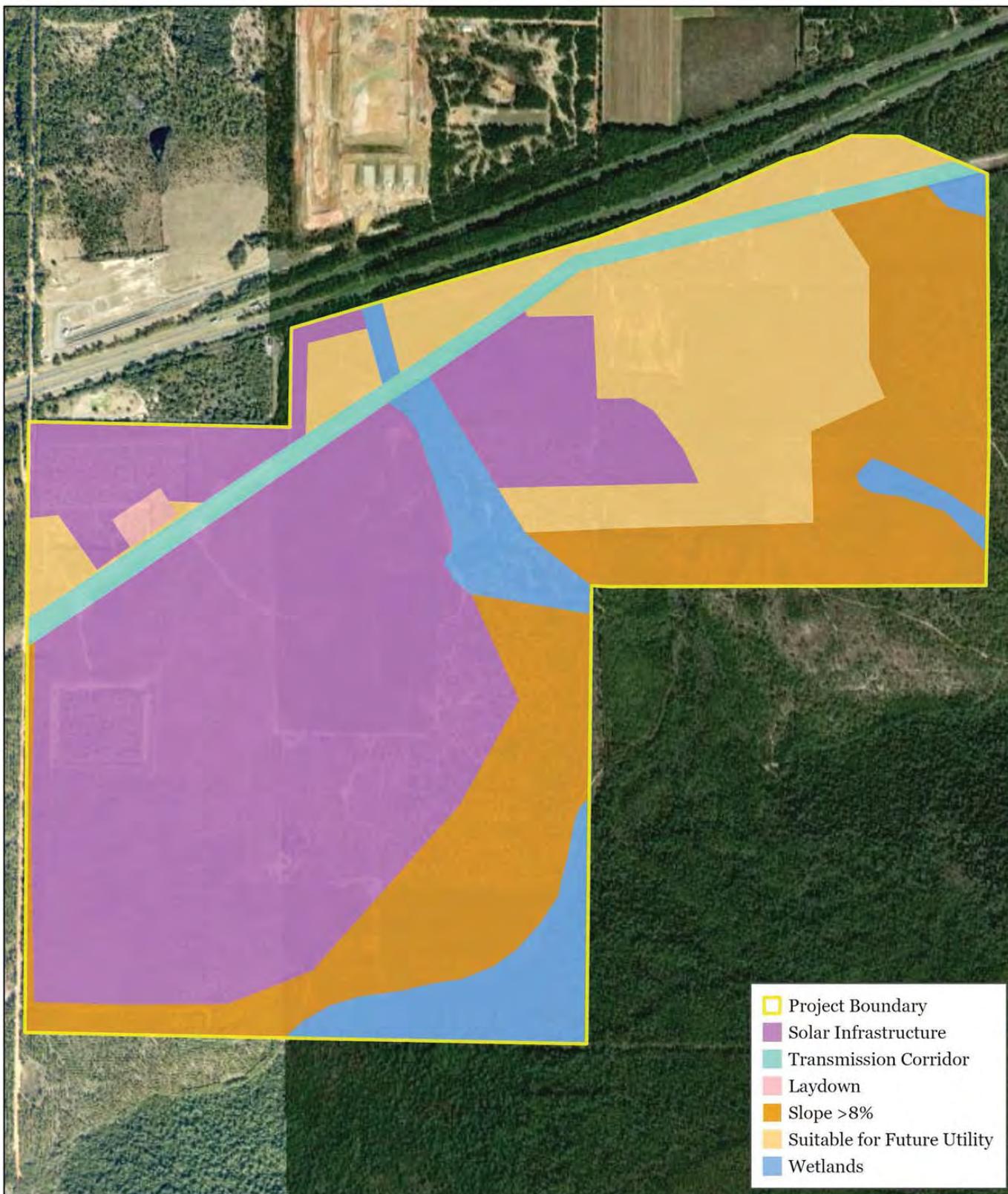
- Project Boundary
- Solar Infrastructure
- Access Road
- Laydown
- Storm Water Ditches
- Wetlands
- Transmission Corridor



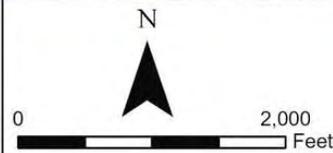
0 2,000 Feet

### Caloosahatchee Solar Energy Center





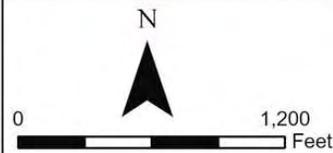
- Project Boundary
- Solar Infrastructure
- Transmission Corridor
- Laydown
- Slope >8%
- Suitable for Future Utility
- Wetlands



### Canoe Solar Energy Center







# Monarch Solar Energy Center





- Project Boundary
- Solar Infrastructure
- Storm Water Ditches
- Laydown
- CaraCara Nest
- Transmission Corridor
- Suitable for Future Utility
- SFWMD Easement

## Orchard Solar Energy Center

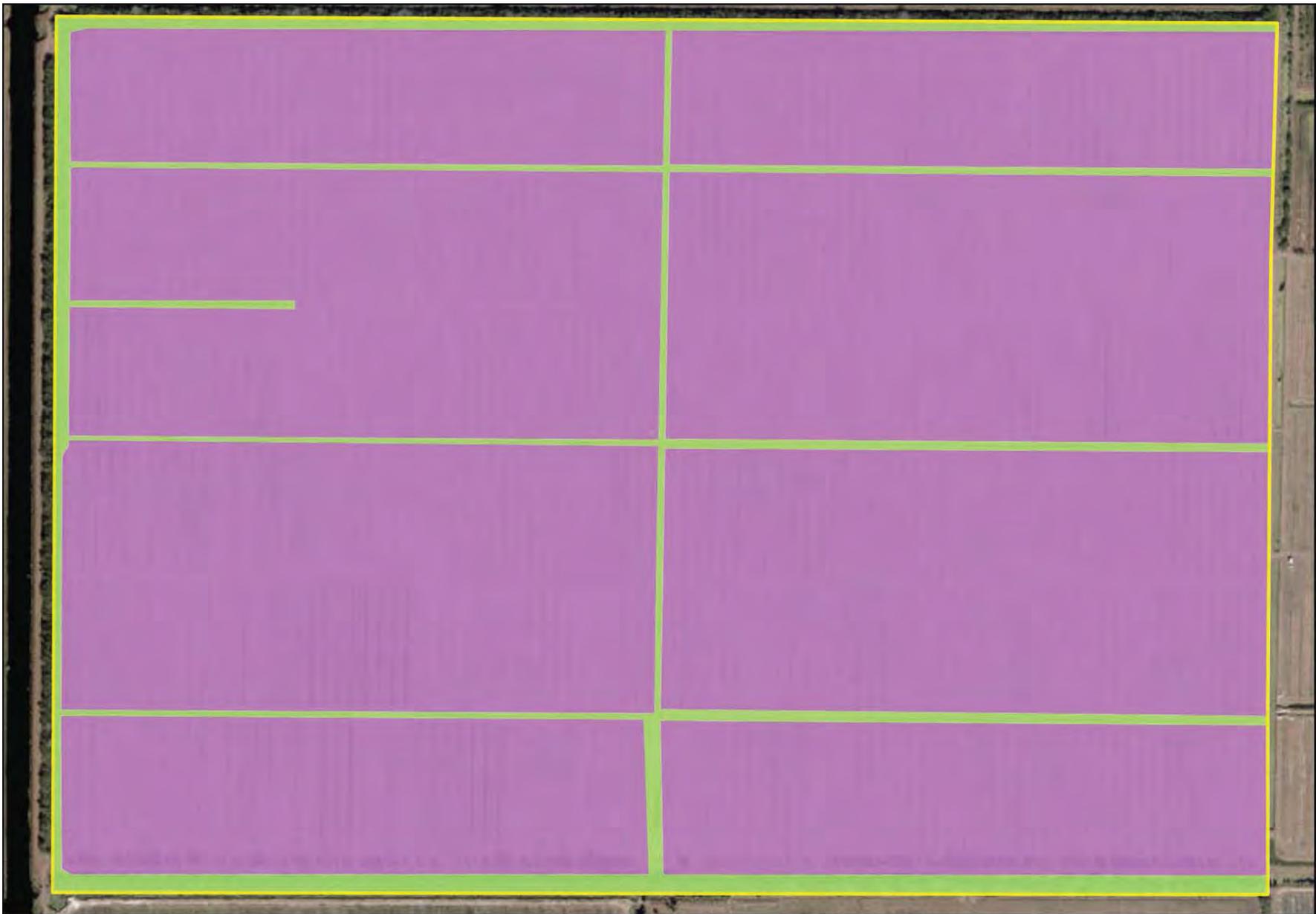
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0 1,280 Feet



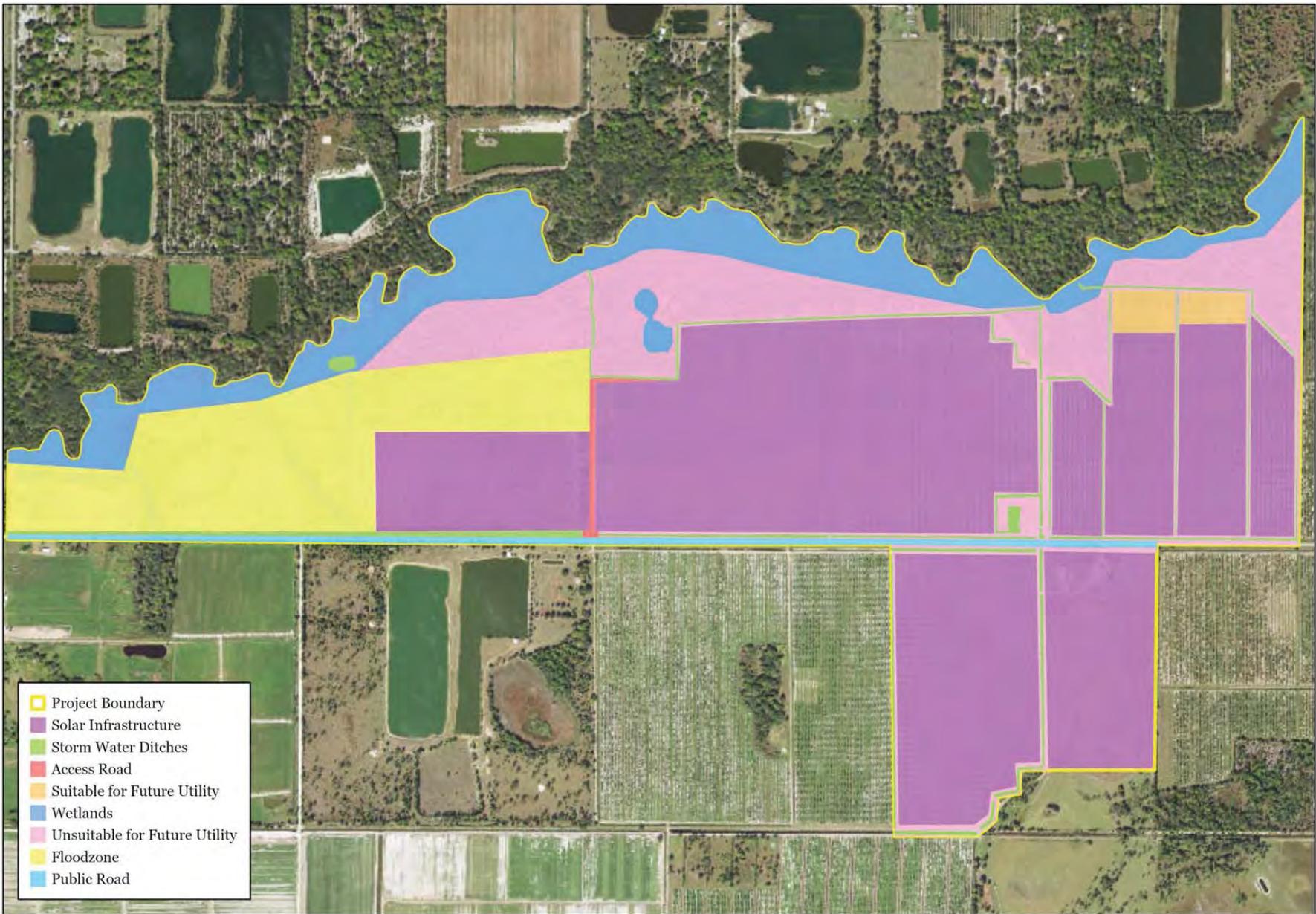




-  Project Boundary
-  Solar Infrastructure
-  Storm Water Ditches

# Pineapple Solar Energy Center



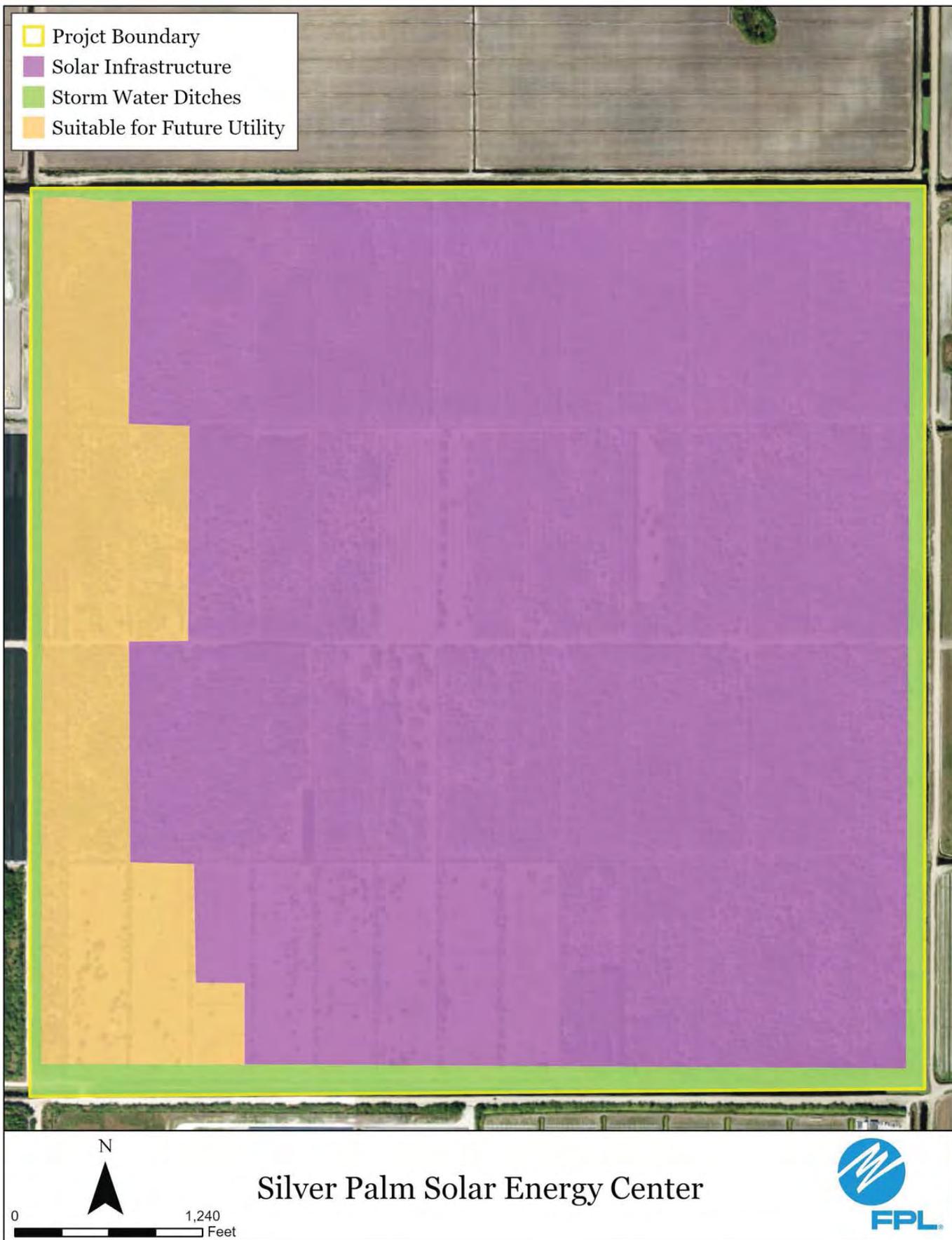


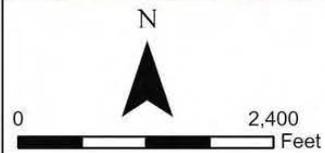
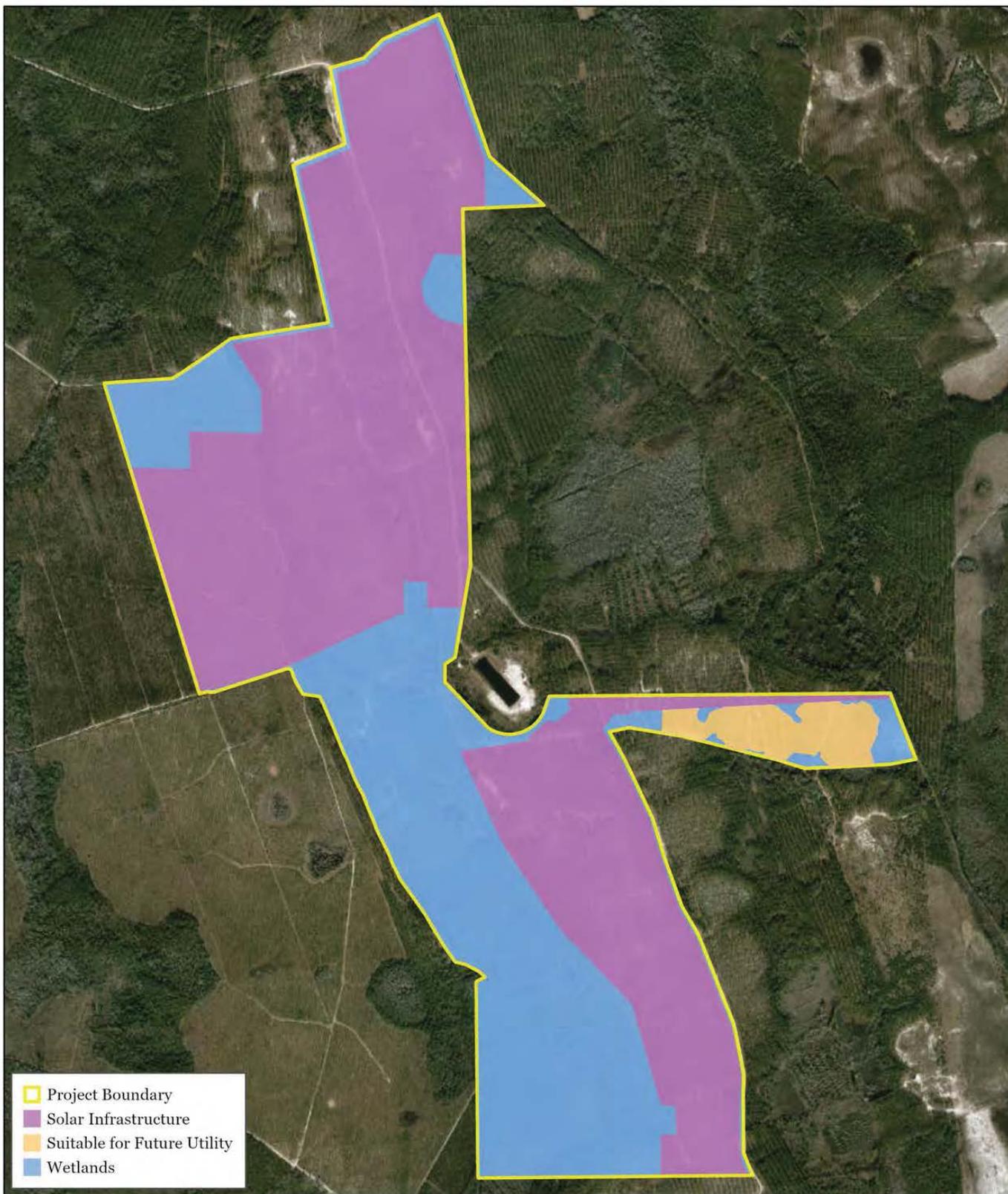
- Project Boundary
- Solar Infrastructure
- Storm Water Ditches
- Access Road
- Suitable for Future Utility
- Wetlands
- Unsuitable for Future Utility
- Floodzone
- Public Road



# Prairie Creek Solar Energy Center

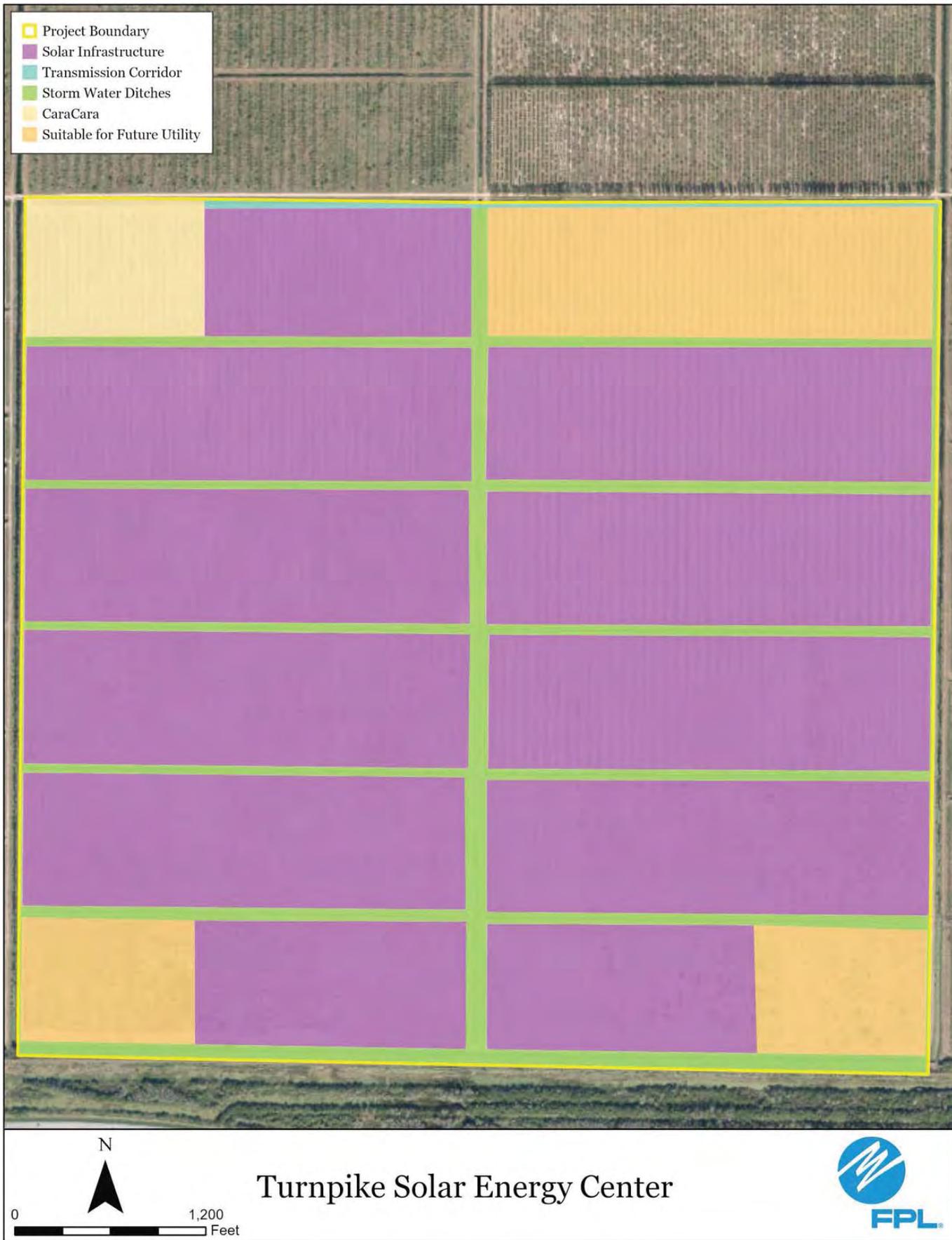






### Terrill Creek Solar Energy Center



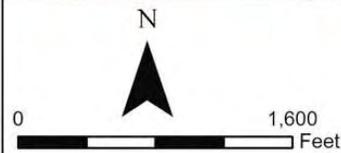


# Turnpike Solar Energy Center





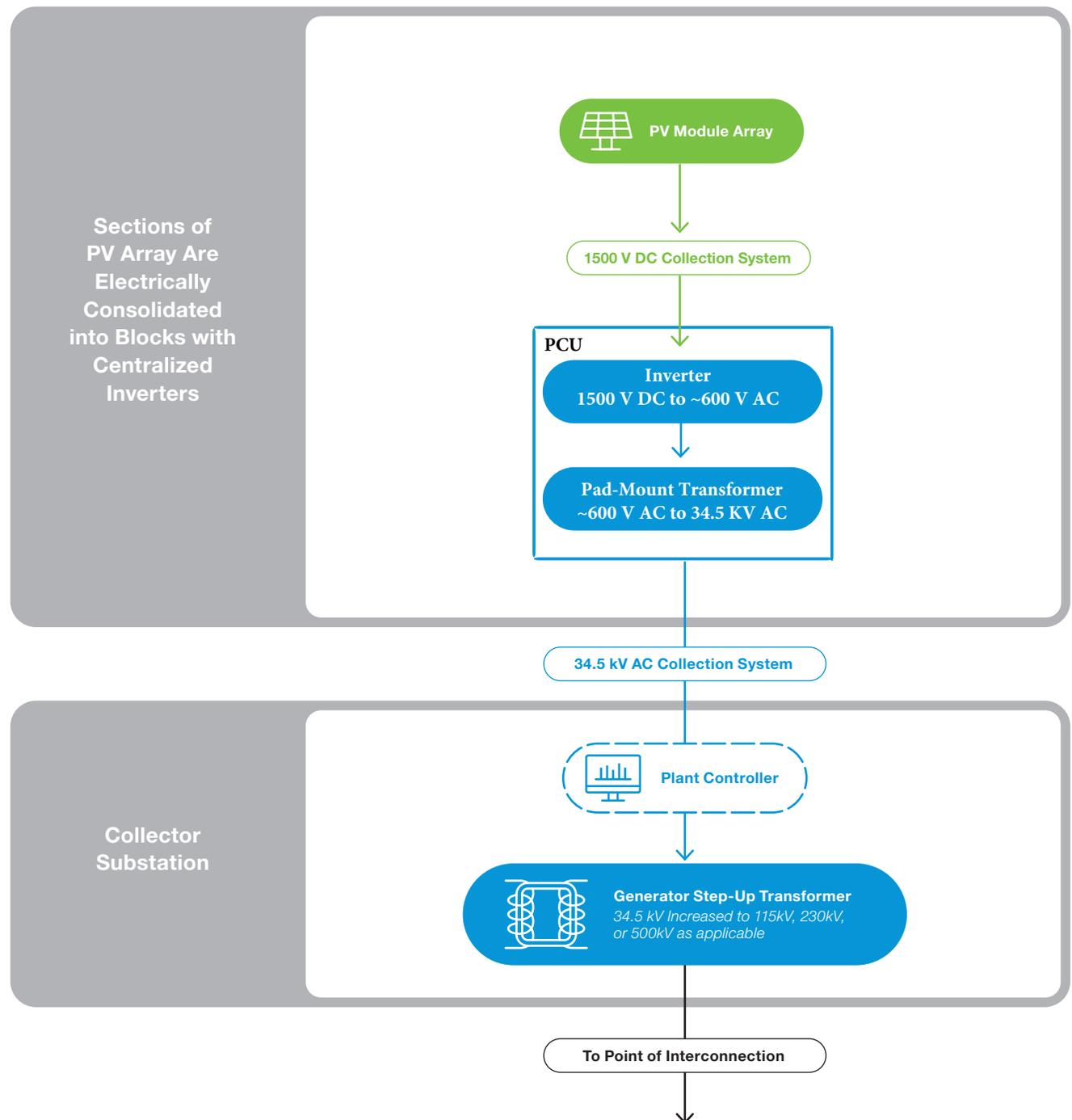
- Project Boundary
- Solar Infrastructure
- Laydown
- Storm Water Ditches
- Suitable for Future Utility



# White Tail Solar Energy Center



# Typical Solar Energy Center Block Diagram



**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Beautyberry FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	102.81
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• BYD</li> <li>• Trina</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial (BYD)</li> <li>• 132-half-cell mono-crystalline silicon, bifacial (Trina)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	613
Number of Panels (Average)	167,848
Inverter DC Input (MW <sub>DC</sub> )	102.81
DC/AC Ratio	1.38
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	8,834
DC Input Per PUC Block (MW <sub>DC</sub> )	5.41
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	500 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Caloosahatchee FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	99.82
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• BYD</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial (Adani)</li> <li>• 132 half-cut mono-crystalline silicon, bifacial (BYD)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	588
Number of Panels (Average)	169,740
Inverter DC Input (MW <sub>DC</sub> )	99.82
DC/AC Ratio	1.34
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed (MVA)	87.02
Number of Panel Per PCU Block (Average)	8,934
DC Input Per PUC Block (MW <sub>DC</sub> )	5.25
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Canoe FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	101.30
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• Trina</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	531
Number of Panels (Average)	190,764
Inverter DC Input (MW <sub>DC</sub> )	101.30
DC/AC Ratio	1.36
Number of Power Conversion Units (PCU)	24
PCU Supplier	Power Electronics
Inverter Type	HEM FS3430M
Inverter Rating (MVA/V)	3.55/645
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	ABB
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	3.63
Number of Inverters	24
Inverter Capacity Installed (MVA)	85.2
Number of Medium Voltage Transformers	24
Medium Voltage Transformer Capacity Installed	87.12
Number of Panel Per PCU Block (Average)	7,949
DC Input Per PUC Block (MW <sub>DC</sub> )	4.22
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Starkstrom-Gerätebau GmbH, SGB-SMIT Group
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Ibis FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	104.33
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• Trina</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	518
Number of Panels (Average)	201,320
Inverter DC Input (MW <sub>DC</sub> )	104.33
DC/AC Ratio	1.40
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	10,596
DC Input Per PUC Block (MW <sub>DC</sub> )	5.49
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Starkstrom-Gerätebau GmbH, SGB-SMIT Group
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Monarch FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	89.39
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• Sumec</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial (Adani)</li> <li>• 144-half-cell mono-crystalline silicon (Sumec)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	510
Number of Panels (Average)	175,334
Inverter DC Input (MW <sub>DC</sub> )	89.39
DC/AC Ratio	1.20
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	9,228
DC Input Per PUC Block (MW <sub>DC</sub> )	4.70
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Orchard FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	108.02
PV Panel Suppliers	BYD
PV Panel Technologies	132-half-cell mono-crystalline silicon, bifacial
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	655
Number of Panels (Average)	164,920
Inverter DC Input (MW <sub>DC</sub> )	108.02
DC/AC Ratio	1.45
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	8,680
DC Input Per PUC Block (MW <sub>DC</sub> )	5.69
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Pineapple FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	99.08
PV Panel Suppliers	BYD
PV Panel Technologies	132-half-cell mono-crystalline silicon, bifacial
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	650
Number of Panels (Average)	152,427
Inverter DC Input (MW <sub>DC</sub> )	99.08
DC/AC Ratio	1.33
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	8,022
DC Input Per PUC Block (MW <sub>DC</sub> )	5.21
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Prairie Creek FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	104.30
PV Panel Suppliers	BYD
PV Panel Technologies	144-half-cell mono-crystalline silicon, bifacial and 132-half-cell mono-crystalline silicon, bifacial
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	614
Number of Panels (Average)	169,880
Inverter DC Input (MW <sub>DC</sub> )	104.30
DC/AC Ratio	1.40
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	8,941
DC Input Per PUC Block (MW <sub>DC</sub> )	5.49
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Silver Palm FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	95.33
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• Sumec</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial (Adani)</li> <li>• 144-half-cell mono-crystalline silicon (Sumec)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	502
Number of Panels (Average)	189,747
Inverter DC Input (MW <sub>DC</sub> )	95.33
DC/AC Ratio	1.28
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	9,987
DC Input Per PUC Block (MW <sub>DC</sub> )	5.02
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Starkstrom-Gerätebau GmbH, SGB-SMIT
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Terrill Creek FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	102.14
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• BYD</li> <li>• Sumec</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 132-half-cell mono-crystalline silicon, bifacial (BYD)</li> <li>• 144-half-cell mono-crystalline silicon (Sumec)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	592
Number of Panels (Average)	172,623
Inverter DC Input (MW <sub>DC</sub> )	102.14
DC/AC Ratio	1.37
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	9,085
DC Input Per PUC Block (MW <sub>DC</sub> )	5.38
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Starkstrom-Gerätebau GmbH, SGB-SMIT
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for Turnpike FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	104.30
PV Panel Suppliers	Trina
PV Panel Technologies	132-half-cell mono-crystalline silicon, bifacial
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	655
Number of Panels (Average)	159,240
Inverter DC Input (MW <sub>DC</sub> )	104.30
DC/AC Ratio	1.40
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	8,381
DC Input Per PUC Block (MW <sub>DC</sub> )	5.49
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Hyundai Power Transformers USA, Inc.
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**Specifications for 2024 Solar Energy Centers**

The following table sets forth the base-line specifications used to develop the estimated installed cost for the 2024 Project.

<b>Specifications for White Tail FPL 74.5 MW<sub>AC</sub> Solar Energy Center</b>	
Peak Alternating Current Output	74.5
Total Installed Direct Current Capacity	106.51
PV Panel Suppliers	<ul style="list-style-type: none"> <li>• Adani</li> <li>• First Solar</li> <li>• Trina</li> </ul>
PV Panel Technologies	<ul style="list-style-type: none"> <li>• 144-half-cell mono-crystalline silicon, bifacial (Adani)</li> <li>• Thin Film CdTe (First Solar)</li> <li>• 144-half-cell mono-crystalline silicon, bifacial (Trina)</li> </ul>
PV Panel Voltage (V)	1,500
Average PV Panel Power Ratings (W <sub>DC</sub> )	501
Number of Panels (Average)	212,397
Inverter DC Input (MW <sub>DC</sub> )	106.51
DC/AC Ratio	1.43
Number of Power Conversion Units (PCU)	19
PCU Supplier	General Electric
Inverter Type	FLEXINVERTER 1566
Inverter Rating (MVA/V)	4.52/660
Medium Voltage Transformers Per PCU	1
Medium Voltage Transformer Supplier	Toshiba or Sanil
Medium Voltage Transformer Type	3-Phase, 60 Hz, 2-Windings
Medium Voltage Transformer Rating (MVA)	4.58
Number of Inverters	19
Inverter Capacity Installed (MVA)	85.88
Number of Medium Voltage Transformers	19
Medium Voltage Transformer Capacity Installed	87.02
Number of Panel Per PCU Block (Average)	11,179
DC Input Per PUC Block (MW <sub>DC</sub> )	5.61
PV Panel Support Mechanism	Single-axis tracker system
PV Panel Support Mechanism Material	Structural steel shapes
Step-up Power Transformer Supplier	Starkstrom-Gerätebau GmbH, SGB-SMIT
Step-up Power Transformer Type	3-Phase, 60 Hz
Step-up Power Transformer Ratings	230 kV, 85 MVA

**2024 Project**

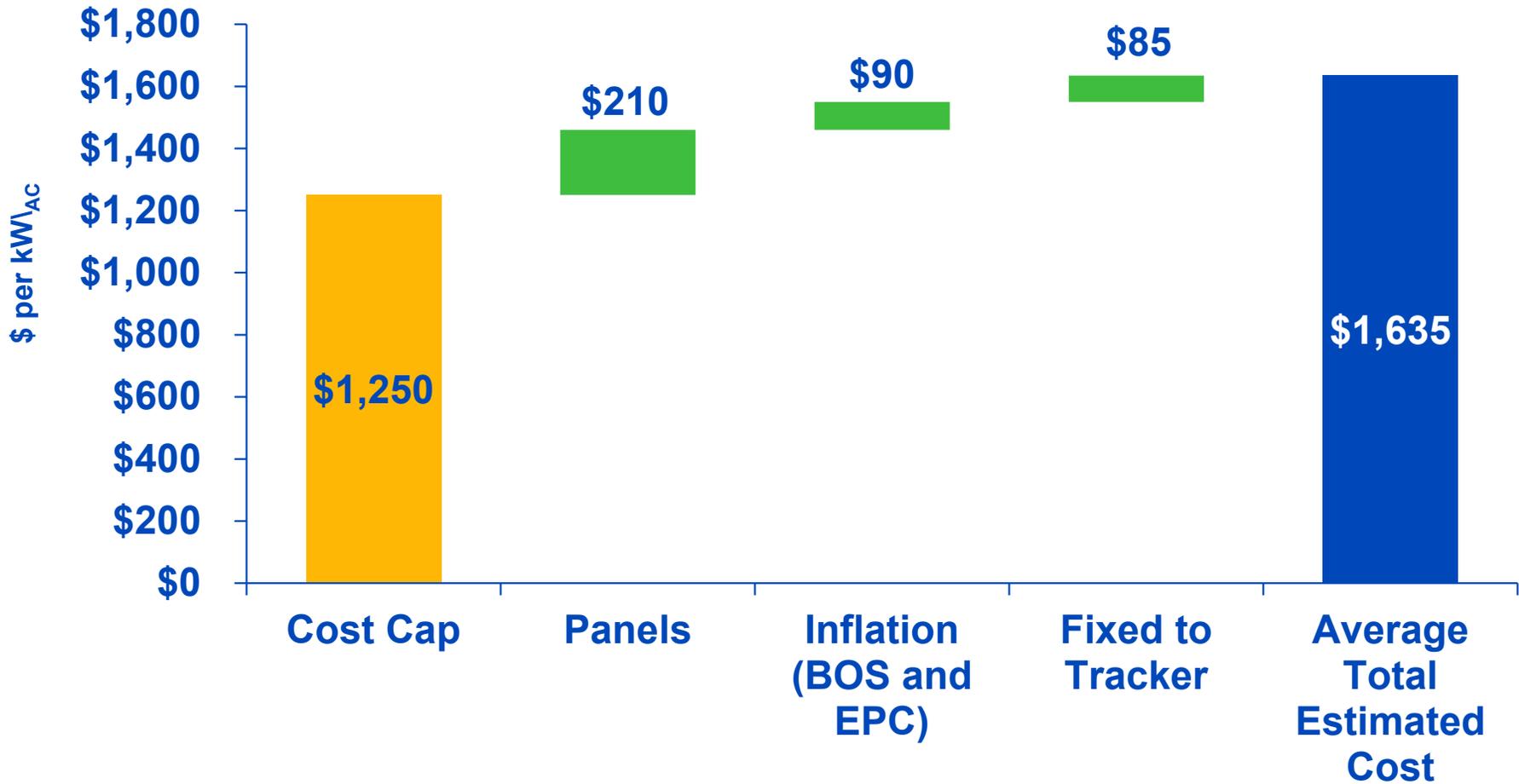
Item	Major Activities	Terrill Creek		Silver Palm		Ibis		White Tail		Prairie Creek		Pineapple	
		Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
1	PV Panel Contract	10/18/2022	4/15/2023	12/8/2022	4/15/2023	12/8/2022	4/15/2023	10/19/2022	4/15/2023	10/18/2022	4/15/2023	10/18/2022	4/15/2023
2	Power Conversion Unit Contract	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022
3	EPC contract	6/15/2022	11/28/2022	6/15/2022	11/28/2022	6/15/2022	11/28/2022	6/15/2022	11/28/2022	6/15/2022	11/28/2022	6/15/2022	11/28/2022
4	LNTP for EPC Contracts	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022	11/29/2022
5	Contractor mobilization	4/3/2023	4/7/2023	4/3/2023	4/7/2023	4/3/2023	4/7/2023	1/9/2023	1/13/2023	4/3/2023	4/7/2023	4/3/2023	4/7/2023
6	Panel deliveries	9/8/2023	11/17/2023	6/30/2023	9/22/2023	6/30/2023	9/22/2023	8/11/2023	9/22/2023	5/5/2023	7/22/2023	5/5/2023	9/1/2023
7	Power Conversion Unit deliveries	10/20/2023	10/27/2023	10/6/2023	10/13/2023	10/13/2023	10/20/2023	9/22/2023	9/29/2023	10/6/2023	10/13/2023	9/29/2023	10/6/2023
8	Energization, Testing & Startup	12/14/2023	1/31/2024	11/2/2023	1/31/2024	11/14/2023	1/31/2024	11/16/2023	1/31/2024	11/7/2023	1/31/2024	11/30/2023	1/31/2024
9	Commence Commercial Operations	1/31/2024											

**2024 Project**

Item	Major Activities	Monarch		Caloosahatchee		Orchard		Beautyberry		Turnpike		Canoe	
		Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
1	PV Panel Contract	12/8/2022	4/15/2023	10/18/2022	4/15/2023	10/18/2022	4/15/2023	10/18/2022	4/15/2023	10/19/2022	4/15/2023	12/8/2022	4/15/2023
2	Power Conversion Unit Contract	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	10/1/2022	10/20/2022	6/1/2023	6/1/2023
3	EPC contract	6/15/2022	12/2/2022	6/15/2022	12/2/2022	6/15/2022	12/2/2022	6/15/2022	12/2/2022	6/15/2022	12/2/2022	6/15/2022	12/2/2022
4	LNTP for EPC Contracts	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022	12/3/2022
5	Contractor mobilization	4/3/2023	4/7/2023	4/3/2023	4/7/2023	4/3/2023	4/7/2023	3/20/2023	3/24/2023	4/3/2023	4/7/2023	4/3/2023	4/7/2023
6	Panel deliveries	7/28/2023	9/28/2023	7/28/2023	9/1/2023	5/5/2023	8/18/2023	7/7/2023	10/13/2023	7/7/2023	8/18/2023	9/15/2023	12/1/2023
7	Power Conversion Unit deliveries	10/20/2023	10/27/2023	10/27/2023	11/3/2023	10/27/2023	11/3/2023	8/25/2023	9/1/2023	9/1/2023	9/8/2023	9/1/2023	9/20/2023
8	Energization, Testing & Startup	11/9/2023	1/31/2024	12/14/2023	1/31/2024	12/12/2023	1/31/2024	11/28/2023	1/31/2024	10/31/2023	1/31/2024	12/5/2023	1/31/2024
9	Commence Commercial Operations	1/31/2024											

		2024											
Commercial Operation Date	Terrill Creek	Silver Palm	Ibis	Orchard	Beautyberry	Turnpike	Monarch	Caloosahatchee	White Tail	Prairie Creek	Pineapple	Canoe	Average
	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024	1/31/2024
<b>Capital cost \$</b>													
PV Array Costs	\$103,305,715	\$106,230,382	\$103,574,781	\$108,770,463	\$106,703,040	\$105,169,931	\$95,554,515	\$101,843,241	\$109,311,208	\$104,239,993	\$103,841,420	\$106,878,713	\$104,618,617
Transmission Interconnection and Integration	\$7,425,000	\$1,255,000	\$2,525,000	\$488,000	\$537,000	\$512,000	\$3,310,000	\$23,501,000	\$7,056,000	\$15,105,000	\$1,050,000	\$4,330,000	\$5,591,167
Land and Easements	\$6,146,031	\$9,610,455	\$5,035,713	\$2,975,579	\$15,565,000	\$3,259,409	\$7,061,600	\$5,938,432	\$7,824,425	\$6,572,368	\$2,966,578	\$7,700,000	\$6,721,299
AFUDC	\$4,860,352	\$4,860,352	\$4,860,352	\$5,173,761	\$4,860,352	\$4,860,352	\$4,860,352	\$4,860,352	\$4,860,352	\$4,860,352	\$4,860,352	\$4,860,352	\$4,886,469
<b>Total</b>	<b>\$121,737,098</b>	<b>\$121,956,189</b>	<b>\$115,995,846</b>	<b>\$117,407,803</b>	<b>\$127,665,392</b>	<b>\$113,801,692</b>	<b>\$110,786,467</b>	<b>\$136,143,025</b>	<b>\$129,051,985</b>	<b>\$130,777,713</b>	<b>\$112,718,350</b>	<b>\$123,769,065</b>	<b>\$121,817,552</b>
\$/kWac	\$1,634	\$1,637	\$1,557	\$1,576	\$1,714	\$1,528	\$1,487	\$1,827	\$1,732	\$1,755	\$1,513	\$1,661	\$1,635

# 2024 Project Cost Walk



# **EXHIBIT AWW-4**

**CPVRR - Costs and (Benefits)\***

Solar Revenue Requirements			Non-Solar (Avoided) Generation Costs			Avoided System Costs			PTC Impacts	
Generation Capital** (Millions)	Fixed O&M (Millions)	Transmission Interconnection (Millions)	Generation Capital (Millions)	Fixed O&M + Capital Replacement (Millions)	Transmission Interconnection (Millions)	System Net Fuel (Millions)	Startup + VOM (Millions)	Emission (Millions)	PTC Impacts (Millions)	<b>Total CPVRR (Millions)</b>
\$1,528	\$68	\$87	(\$715)	(\$113)	(\$3)	(\$803)	\$90	(\$108)	(\$591)	<b>(\$561)</b>

\*\* Based on the total installed cost of the project, \$1,635/kW

\* Negative ( ) indicates savings to FPL customers