Seminole Tribe of Florida

Rural Reservation Resiliency Initiative

PRESENTED BY:

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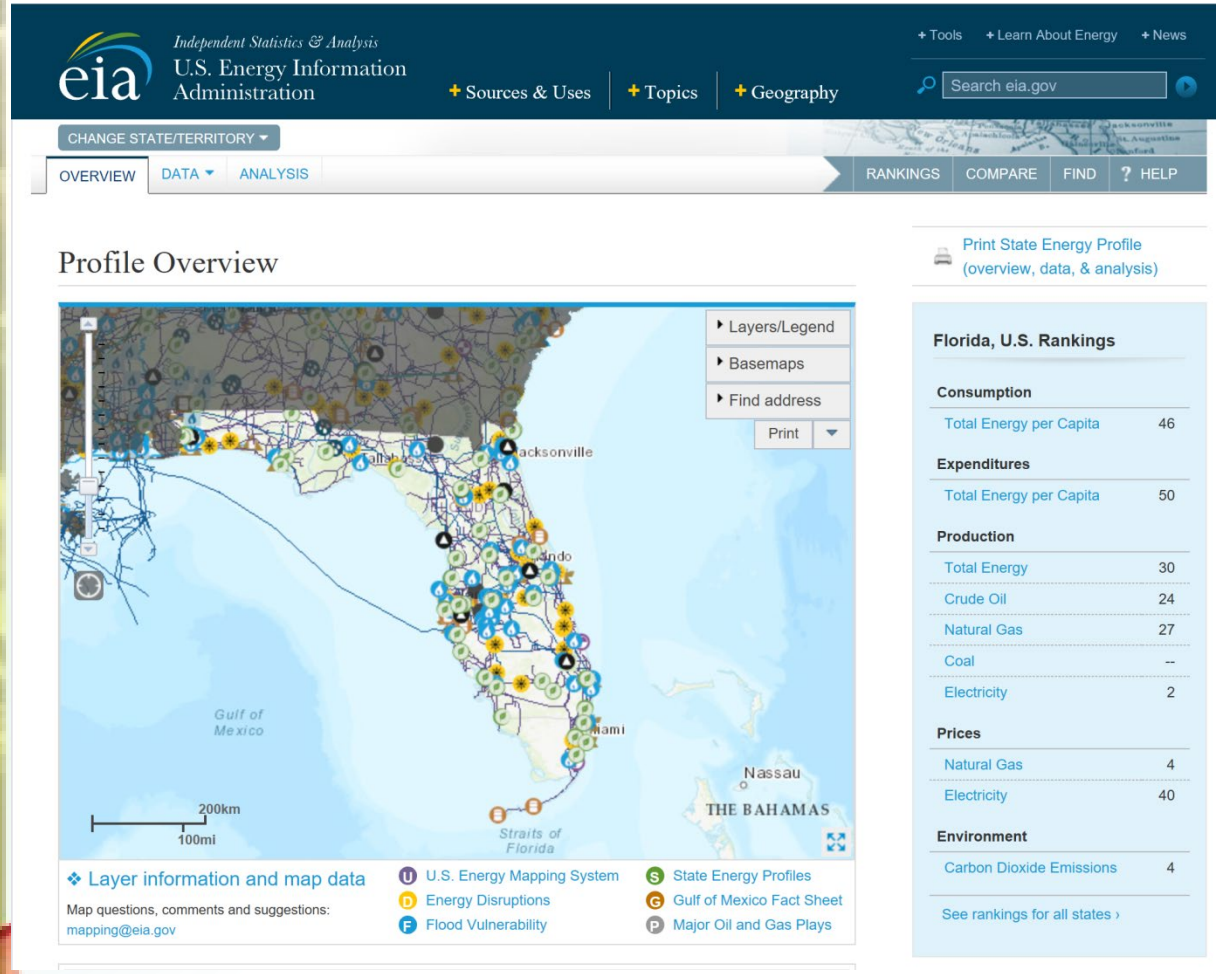
Why Renewables???

- The Tribe depends on energy provided by state-regulated utilities based off-reservation.
- Grid reliability issues.
- Energy from fossil fuels is expensive and the price may likely to continue to climb.
- Overwhelmingly, the utilities produce energy by burning fossil fuels that create greenhouse gases and other emissions (e.g., sulfur and mercury).

Shhhh… don't say "Climate Change", "Global Warming, or "Sustainability"

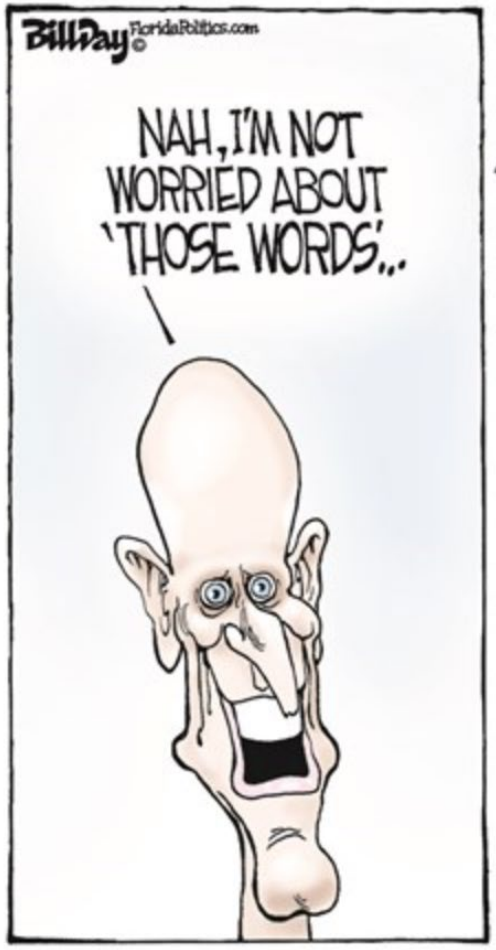
State of Florida



- 3rd most populous state behind California and Texas with population of approximately 21million
- 2nd in net energy production behind Texas
- Utility scale net electric utility generation:
  - Natural gas 72..2%
  - Coal fired 13.2%
  - Nuclear 10%
  - Renewable 2.7%
  - Petroleum fired .2%
- 3rd in energy consumption behind Texas and California

Florida Governor's Perspective

Climate Change
Global Warming
Rising Sea Level
Sustainability



Seminole Tribe of Florida Reservations

Approximately 4,100 members

Approximately 90,030 acre land base

- Big Cypress 52,338 acres
- Hollywood 497 acres
- Brighton 35,805 acres
- Fort Pierce 60 acres
- Immokalee 600 acres
- Tampa 39 acres
- Lakeland 692 acres

Seminole Tribe of Florida

- Exercised sovereign authority over territories in Southeast US from time immemorial
- Resisted US political and military removal efforts throughout 19th Century
- Organized under Indian Reorganization Act in 1957
  - IRA Section 16 Tribal Council governs Seminole Tribe of Florida
  - IRA Section 17 Board of Directors manages business arm, Seminole Tribe of Florida, Inc. (“STOF, Inc.”)
- Recognized for leadership in advancing sovereignty, e.g. first smoke shops (1976) and first high-stakes bingo (1979)

The Dependence Problem

- Tribe must depend on outsiders for energy for governmental operations and economic development.
- Tribe has no authority over state-regulated utilities and are subject to rate increases and supply interruptions.
- Tribe's ability to plan long-term is impaired because of unknown future energy costs.

Threat to the Everglades

Rising sea level causes:

- Erosion
- Increased salinization of coastal groundwater and soils and expansion of saline glades
- Disappearance of freshwater marshes
- Loss of habitat for animal and plant species dependent on fresh water

https://www.nps.gov/ever/learn/nature/cceffectsslrinpark.htm

The Cost Problem

- Retail prices that utilities charge tribes are high and generally increasing.
- Even though natural gas has been cheaper, electric rates have generally continued to rise.
- Costs may rise as users leave utility system.

Impact of Hurricane Irma

- Hurricane Irma was extremely powerful and catastrophic, the strongest observed in the Atlantic in terms of maximum sustained winds since Wilma, and the strongest storm on record to exist in the open Atlantic region
- Hurricane Irma made landfall in August 2017 and impacted the entire State of Florida including most of its reservation communities, businesses and government operations spread across the State of Florida

Impact of Hurricane Irma (cont)

- Hurricane Irma left several facilities across its reservation with severe damage forcing the Tribe to close and discontinue its government operations for several weeks and in some cases months until recovery
- There are approximately 1,400 residents living in the Rural Reservation Area, which were particularly impacted by grid resiliency issues and outages
- In the aftermath of Hurricane Irma the Tribe was the largest purchaser of propane and diesel for generators in Florida
- Since the Tribe's reservations are spread across several rural counties and communities its utility providers were unable to respond and return power timely

Seminole Tribe of Florida Renewable Energy Committee

- In January 2018 the Chairman and the Tribal Council formed the Renewable Energy Committee
- The Committee was made up of several key positions across the Tribe including a representative from the Chairman's office
- The Committee was charged with:
  - Ensuring power continuity across critical Tribal operations to the extent possible during and after a storm that impacts power
  - Identifying solutions to mitigate and limit power outages as a result of a storm
  - Identifying opportunities that would allow the Tribe to be as self sufficient as possible in meeting its energy demands

Project Summary

- The Seminole Tribe of Florida (“Tribe”) wishes to effectively address its significant grid resiliency vulnerabilities, especially on its rural Reservations (Brighton and Big Cypress) which have experienced significant and repeated grid outages
- Up to an estimated 100 events or more per year and up to an estimated 20 hours or more per week of outages regardless of whether or not there are significant storms or other events.

Scope of Work for Project

- Technical Summary: Install 563 kW of solar facilities, 700 kWh battery storage, transfer switches and control systems that will serve 8 essential loads in the Rural Reservation Area.

- Technical Details: The Tribe will partner with an Installer to design and build the Integrated Systems at the essential loads identified at the following locations

Project Locations and Needs

Big Cypress

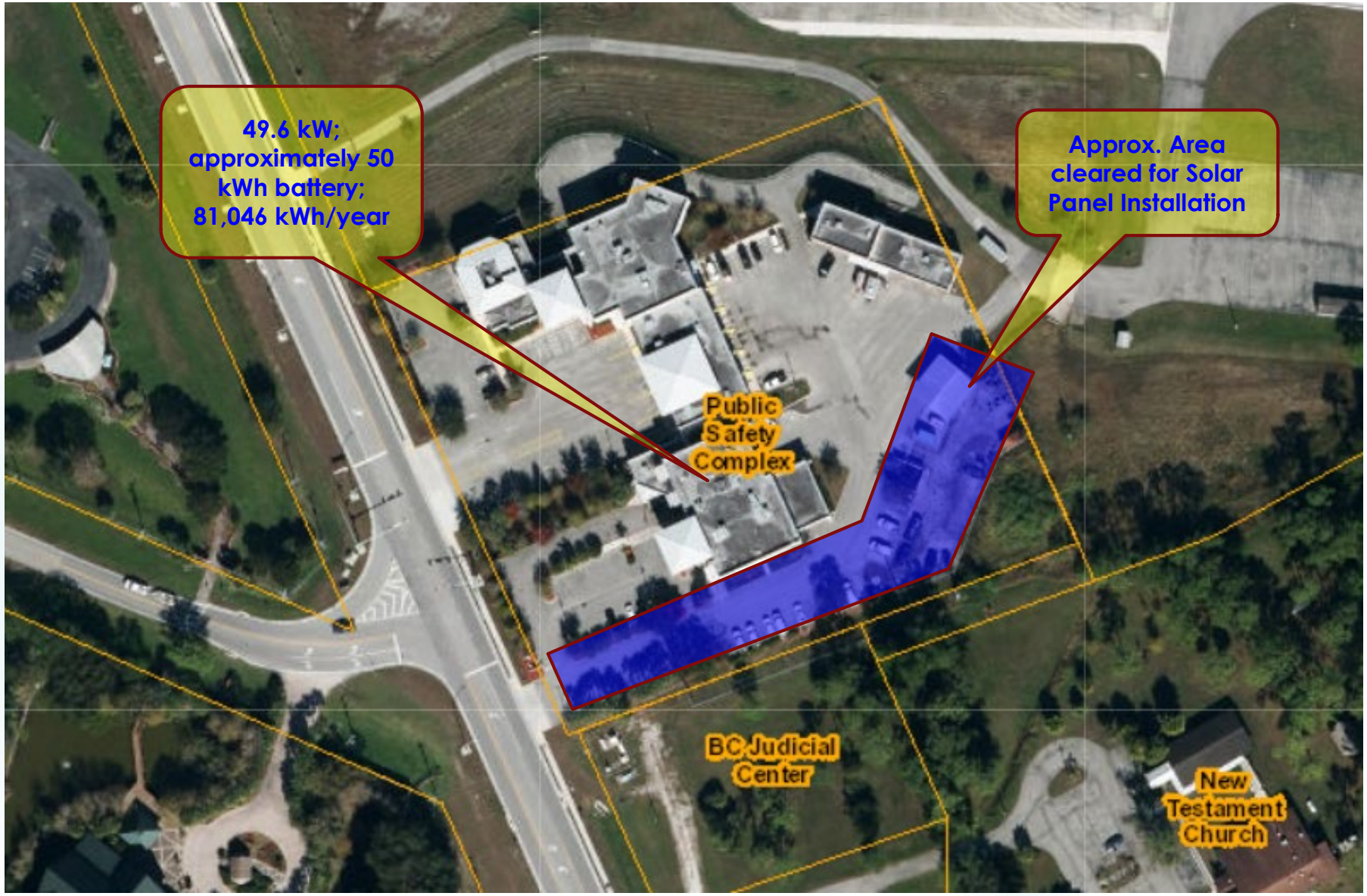
- Frank Billie Field Office (49.6 kW; approximately 50 kWh battery; 80,302 kWh/year);
- Health Clinic (134.6 kW; approximately 175 kWh battery; 214,552 kWh/year);
- Public Safety Complex (49.6 kW; approximately 50 kWh battery; 81,046 kWh/year);
- Senior Center, which serves as emergency response center (49.6 kW; approximately 50 kWh battery; 80,203 kWh/year);

- **Brighton**
  - Health Clinic (49.6 kW; approximately 50 kWh battery; 84,866 kWh/year);
  - Administration Building (49.6 kW; approximately 50 kWh battery; 82,683 kWh/year);
  - Public Safety Building (134.6 kW; approximately 175 kWh battery; 218,725 kWh/year);
  - Veterans Building, which serves as emergency response center (45.6 kW; approximately 100 kWh battery; 74,374 kWh/year)

BC Frank Billie Field Office & Senior Center

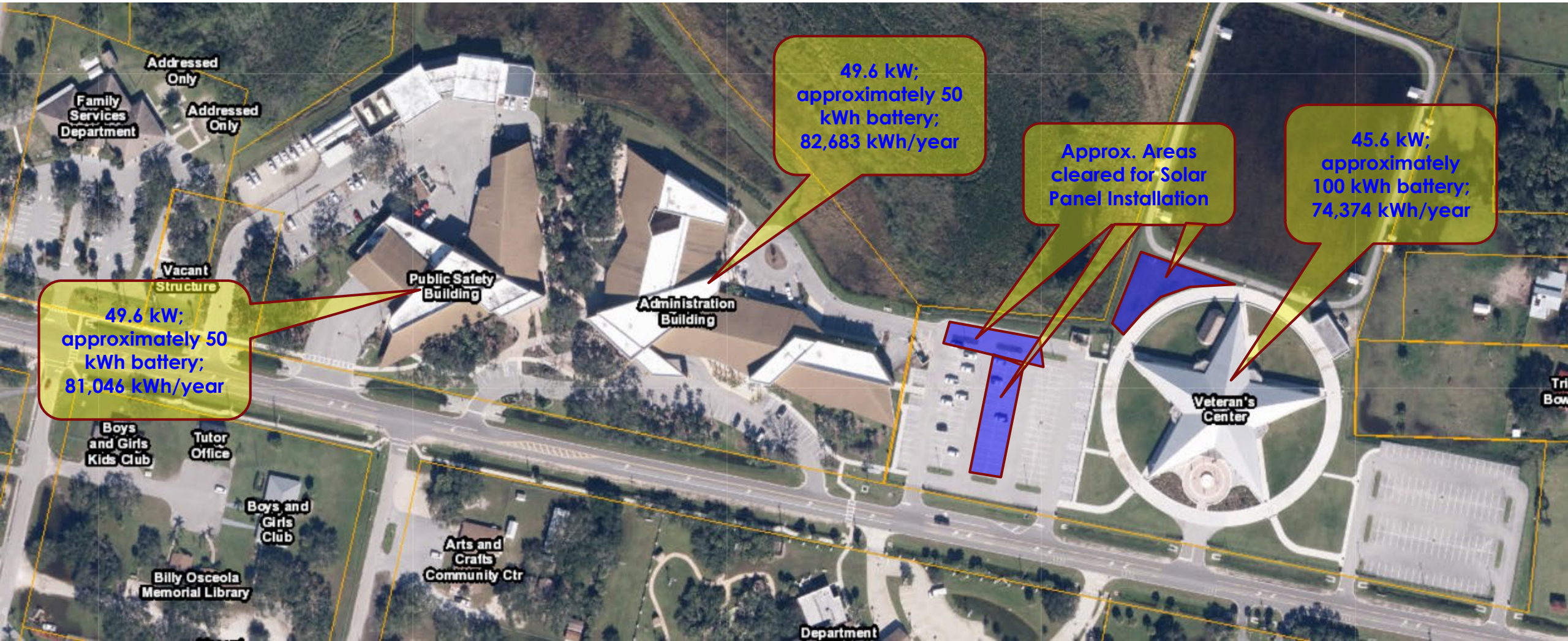
BC Health Clinic

BC Public Safety Complex



BR Health Clinic

Public Safety, Administration & Veterans' Buildings in Brighton



Project Participants

- DOE Office of Indian Energy
- Tribal Members
- Chairman & Tribal Council
- Executive & Senior Management Staff
- Consultants (Godfrey Kahn)
- Glades Electric

Project Objectives

- Providing reliable electrical energy to essential services buildings in Big Cypress and Brighton Reservations
- Reducing reliance on fossil fuel based electrical energy
- Reducing the Tribe's carbon footprint
- Saving over $4.9 million in local utility energy over life of project
- Training Tribal members on construction and O&M of solar PV systems
- Providing a replicable model for Tribal & other communities

Project Approach

- Executive Director of Finance oversees Administration of project
- Senior Director of TCD will coordinate efforts of Planning & Construction Management to oversee design and construction of project
- Installer responsible for design, construction, and commissioning of system
- Facilities Management Director responsible for O&M upon completion

Procurement

The RFP process will be for a design/build contract and require that:

- Solar installation company must have significant experience in installing solar PV systems
- Substantial experience in designing, installing and interconnecting solar PV systems, transfer switch and control systems, with battery storage technologies in Florida
- Substantial relationships with multiple equipment providers to ensure timely delivery of equipment.
- The RFP will also require training for 6-to-8 Tribal members and/or employees regarding installation of the systems.

Current Status

- Working on development of RFP for Design/Build Contract
- Started on NEPA review of potential sites for panels
- Analyzing options for installations on carports and rooftops
- Developed comprehensive schedule with milestones

Milestone Summary Table

Recipient Name: **Seminole Tribe of Florida**

Project Title: **Rural Reservation Resiliency Initiative**

Task No.	Task	Milestone Type	Milestone Number	Milestone Description	Milestone Verification Process (What, How, Who, Where)	Anticipated Duration	Anticipated Quarter	Target Task Delivery Date
1	**Request for Proposals for Contractor and Investor**	**Milestone**	**M1**	**Issuance of request for proposals and selection of preferred installer.**	**Tribe issues RFP and selects Installer.**	**3**	**1**	**3/17/2019**
2	Execute Design-Build ("D/B") Contract	Milestone	M2	Tribe negotiates D-B contract with Installer and contract is executed.	D-B contract between Installer and Tribe is executed.	4	2	**4/16/2019**
3	Approval of Detailed Site Drawings	Milestone	M3	Installer will prepare the site layouts and drawings of solar facilities for the Tribe to review and approve, and the Tribe will review and approve.	Tribe approves Integrated Systems drawings and layouts for the projects at essential loads.	5	2	5/16/2019
3.1	Preparation of Site Drawings	Milestone	M3.1	Installer prepares detailed system drawings and layouts.	Installer prepares Integrated System layouts and drawings.	4	2	6/15/2019
3.2	Approval of Detailed Site Drawings	Milestone	M3.2	Installer submits drawings and layouts to Tribe for review and approval and, once all Tribal concerns have been addressed, the drawings and layouts are approved.	Tribe approves Integrated Systems drawings/layouts.	5	2	7/15/2019
4	Environmental/ Cultural Review	Milestone	M4	The Tribe conducts environmental and cultural (E/C) review and issues E/C approval.	Tribe issues E/C approval.	5	2	8/14/2019
5	Building/Electrical Permitting	Milestone	M5	Installer submits documents for building/electrical permits and receives such permits.	Installer receives building/electrical permits.	5	2	9/13/2019
6	Interconnection Approval	Milestone	M6	Installer applies for, and Project receives, interconnection approval.	Installer obtains interconnection approval from utility and Tribe enters into interconnection agreements with utility.	6	2	**10/13/2019**
7	**Construction**	**Milestone**	**M7**	**Installer mobilizes construction personnel, coordinates material delivery, and installs the Project.**	**Installer constructs Project at essential loads.**	**10**	**4**	**10/14/2019**
7.1	Material Delivery	Milestone	M7.1	Installer completes all shipping and delivery of materials and equipment.	Materials and equipment are delivered to essential load sites by Installer.	7	3	12/13/2019
7.2	Construct Project	Milestone	M7.2	Construction personnel install integrated solar PV/battery storage Project.	Integrated Systems installed by Installer at essential load sites per construction documents.	10	4	7/10/2020
	Commissioning	**Milestone**	**M8**	**Utility on-site inspection.**	**Utility inspects/approves Integrated Systems at essential loads.**	**10**	**4**	**8/17/2020**
9	Verification	Milestone	M9	Monitoring of PV production and battery cycling.	Tribe verifies PV production and battery cycling through control systems for first 12 month operation.	22	8	**9/1/2020**
10	Reporting	Milestone	M10	Reporting to DOE regarding PV production and battery cycling	Tribe reports to DOE regarding PV production/battery cycling.	22	8	**10/17/2020**
10.1	Reporting of First Quarter Production/Cycling	Milestone	M11.1	Reporting of first quarter PV production and battery cycling.	Tribe submits first quarter PV production/battery cycling report to DOE.	13	5	1/15/2021
10.2	Reporting of Second Quarter Production/Cycling	Milestone	M11.2	Reporting of second quarter PV production and battery cycling.	Tribe submits second quarter PV production/battery cycling report to DOE.	16	6	4/15/2021
10.3	Reporting of Third Quarter Production/Cycling	Milestone	M11.3	Reporting of third quarter PV production and battery cycling.	Tribe submits third quarter PV production/battery cycling report to DOE.	19	7	7/14/2021
10.4	Reporting of Fourth Quarter Production/Cycling	Milestone	M11.4	Reporting of fourth quarter PV production and battery cycling.	Tribe submits fourth quarter PV production/battery cycling report to DOE.	22	8	10/12/2021
11	Annual Reporting in Denver, Colorado	Milestone	M12.0	Annual reporting at DOE Program Review in Denver, Colorado.	Tribe reports to DOE in Denver, Colorado at Program Review.	24	8	12/16/2020
11.1	First Annual Reporting in Denver, Colorado	Milestone	M12.1	First Annual reporting at DOE Program Review in Denver, Colorado.	Tribe reports to DOE in Denver, Colorado at First Annual Program Review.	12	4	12/17/2019
11.2	Second Annual Reporting in Denver, Colorado	Milestone	M12.2	Second Annual reporting at DOE Program Review in Denver, Colorado.	Tribe reports to DOE in Denver, Colorado at Second Annual Program Review.	24	8	12/16/2020


"We do not inherit the earth from our ancestors, we borrow it from our children."
~Native American Proverb

Thank You

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