



U.S. DEPARTMENT OF
ENERGY



FOREST COUNTY
POTAWATOMI
Keeper of the Fire

Department of Energy Program Review November 14-18, 2022

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Energy Manager

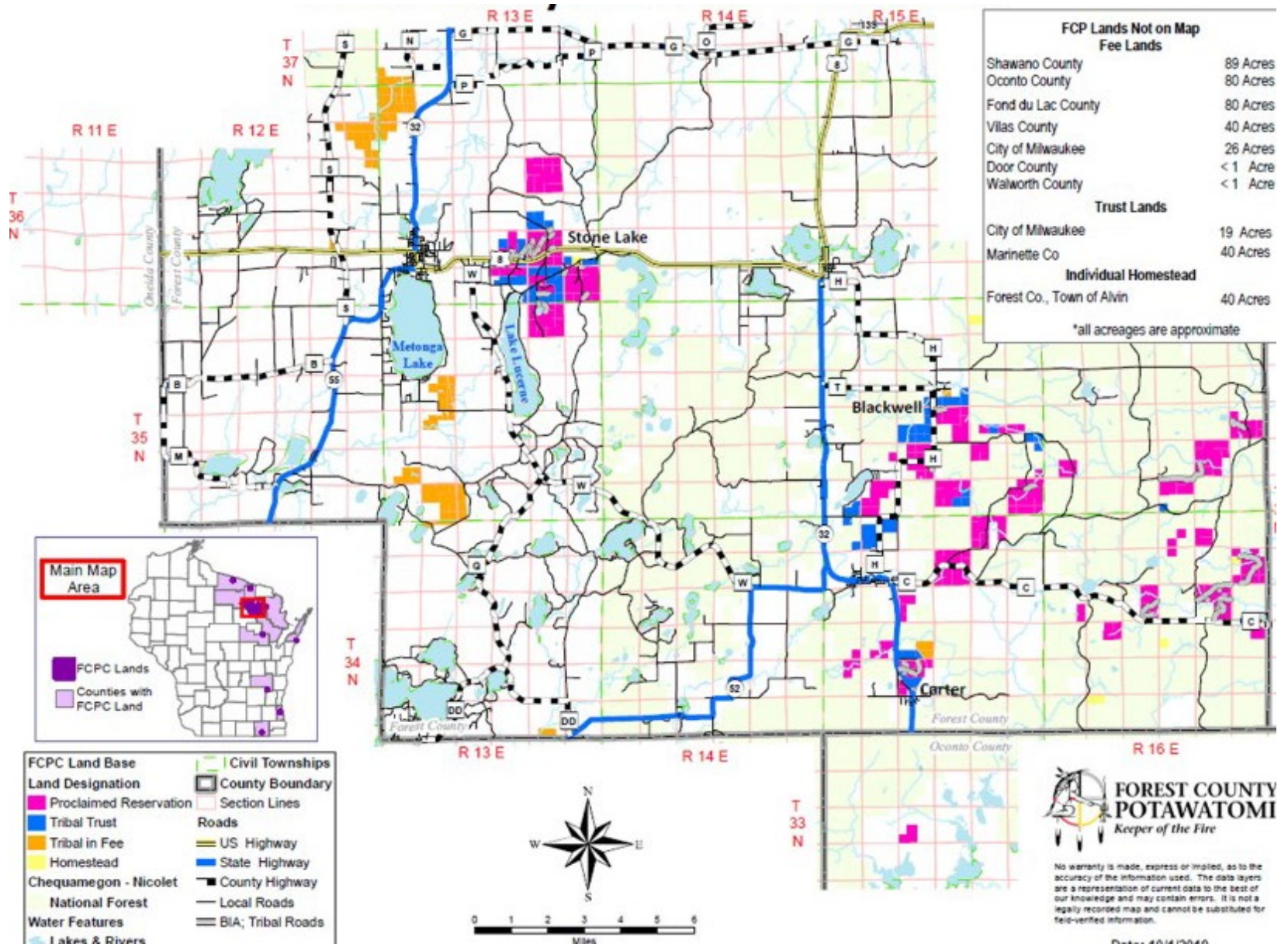
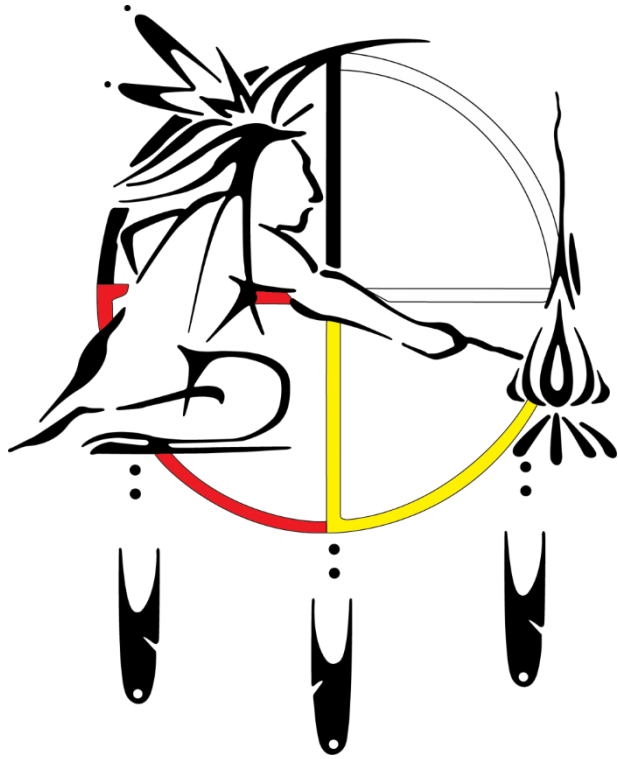
Forest County Potawatomi Community

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The Potawatomi were once a part of a historical confederacy made up of the Ojibwa, Odawa and Potawatomi Nations known as the Council of the Three Fires.

- Ojibwa: “Older Brother” and “Keeper of the Faith”
- Odawa: “Middle Brother” and “Keepers of the Trade”
- Potawatomi: “Little Brother” and “Keeper of the Fire”







FOREST COUNTY
POTAWATOMI
Keeper of the Fire

Environmental Mission Statement

The traditional values of the Forest County Potawatomi Community teach us to **respect all living things**, to take only what we need from mother earth, and to preserve the air, water, and soil for our children.

Reflecting these values, we take leadership in creating a sustainable and healthy world. We resolve to reduce our own environmental impacts and to take steps to remedy the impacts of others.

We encourage others to do the same. We also seek legislative and policy changes that protect the environment for all people, including generations to come.

(Adopted November 20, 2008)



Environmental Initiatives

- ▶ Class I Air Redesignation
- ▶ Participation in (former) Wisconsin Governor Doyle's CCTF
- ▶ Project Greenfire
- ▶ Adopted "Environmental Mission Statement"
- ▶ Comprehensive Energy Audit
- ▶ Renewable Energy Credits (RECs) purchased
- ▶ Four-day work week established
- ▶ #16 On the EPA Top 30 Local Government List
- ▶ Member of the Green Power Partnership

And many others...

Project 1:
**Community
Scale Solar**

Background 2019 Community Scale Solar

- ▶ FCPC's solar PV projects have developed over 2 MW of behind the meter generation at individual sites.
- ▶ On the reservation in Forest County Wisconsin, the majority of government buildings have energy use offset by solar between 17 and 99.9%
- ▶ The new grant is providing additional MW of solar PV energy for 9 buildings

Project Revisions

- ▶ Site adjustments due to tariff issues, zoning concerns, engineering challenges, and construction schedules
- ▶ New sites were added to absorb over 200 kW of PV at the FCPC RG facility including the Carter Convenience Store and the Stone Lake Wastewater Treatment Facility, and the Community Center.
- ▶ Other sites were enlarged.
- ▶ Regulatory challenges in Milwaukee forced the movement of 334 kW to other sites.

Installation by Location and Size

Community Scale Solar Project Grant 120

Solar Array sites	Current kW Solar to Install	Second Change to kW Solar to Install	First Change to kW Solar to Install	Original kW to Install	Change Notes	Mount Type
FCPC Bingo 1721 W Canal St. Milwaukee, WI	323.1	323.1	323.1	280	Increased kW	Roof
Potawatomi Carter Casino & Hotel (PCCH) 616 Highway 32, Wabeno, WI	339.9	339.9	249.9	197	Increased kW	Roof
Carter Wastewater Treatment Plant 3909 Industrial Park Rd, Wabeno, WI	40.3	40.3	40.3	20	Increased kW	Roof
Stone Lake Church 5132 Jaeger Rd, Crandon WI	9.43	9.43	9.43	8	Increased kW	Roof
(Modified Site) Aquaponics 3389 County Highway H, Laona, WI	60	133.7	85.3	60	Stayed the same	Roof and Ground
(New location) Carter C-Store 614 WI Highway 32, Wabeno, WI	63.2	63.2	63.2	0	New location	Roof
(New location) Stone Lake Wastewater Treatment 8138 Mish ko Swen Dr., Crandon, WI	97.4	97.4	41.9	0	New location	Roof
(New location) Community Center The Place Where Everyone Comes To Play Rd, Crandon, WI	273.9	0	0	0	New location	Roof
(New location) Community Center The Place Where Everyone Comes To Play Rd, Crandon, WI	20	0	0	0	New location	Roof
Removed site Wgema Campus	0	0	334.9	255	Removed site	Ground
(Removed Site) Carter Church	0	0	0	8	Removed site	Roof
(Removed Site) FCPC Renewable Generation Biodigester Facility	0	0	0	240	Removed site	Ground
Total kW Solar to be Installed (Net Increase of ~80 kW)	1227	1,007	1,148	1,068		

Model

- ▶ FCPC initially planned on using the model used for the 2013 and 2017 projects
 - ▶ Investment tax partner receives the ITC
 - ▶ Lowers FCPC's capital investment
 - ▶ FCPC creates LLC with partner and permits installations for the LLC
 - ▶ Ownership outright at the end of the ITC recovery period

This approach changed based on regulatory restrictions/legal challenges in Wisconsin. The ITC/LLC arrangement is subject of a court case. Utilities are arguing that the ITC partner is essentially a utility subject to PSC control.

The Tribe will use a traditional approach to buying the panels outright.

Steps Taken

RFP for solar installer/contractor circulated in 2019.

Contractor chosen and contracting is underway.

Installations are planned and approved with minor modifications.

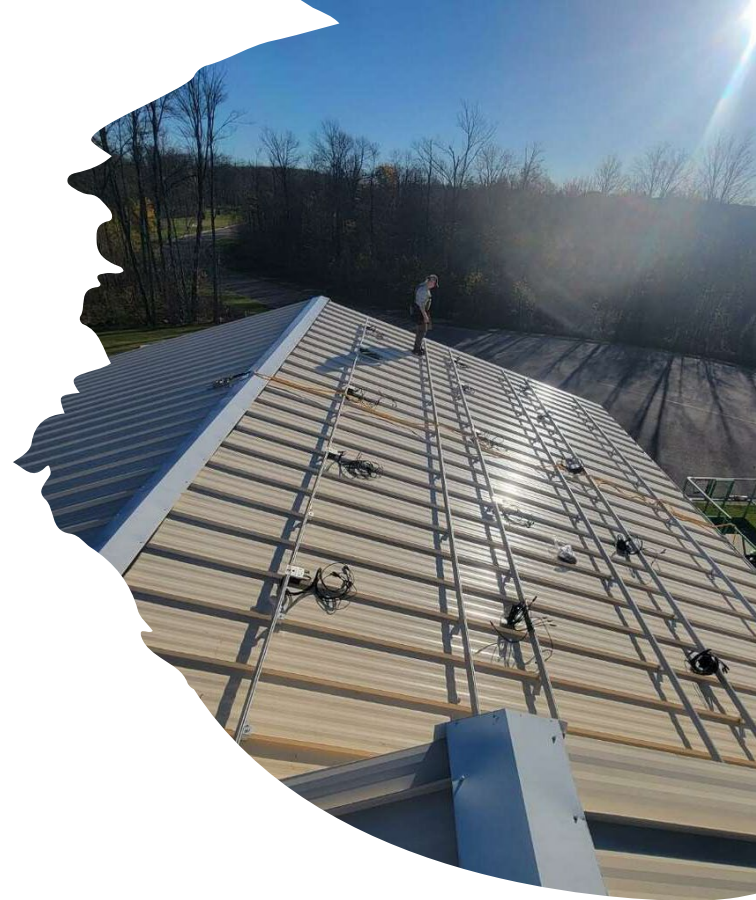
NEPA review is complete except for one location.

Interconnection agreements are submitted.

Site specific permits have been obtained.

6 Solar sites have been completed.

1 Solar site is being constructed currently with 2 additional sites to be finished in 2023



Goals

- ✓ Install 1.22 MW of solar generation at 9 sites.
- ✓ Tribe anticipates substantial energy offset, ranging from 4.2 – 99.9% grid electricity reduction at the selected sites.
- ✓ This focuses on the Tribe's goal of achieving 100% carbon-neutrality.
- ✓ This project further instills tribal energy sovereignty.

Successes

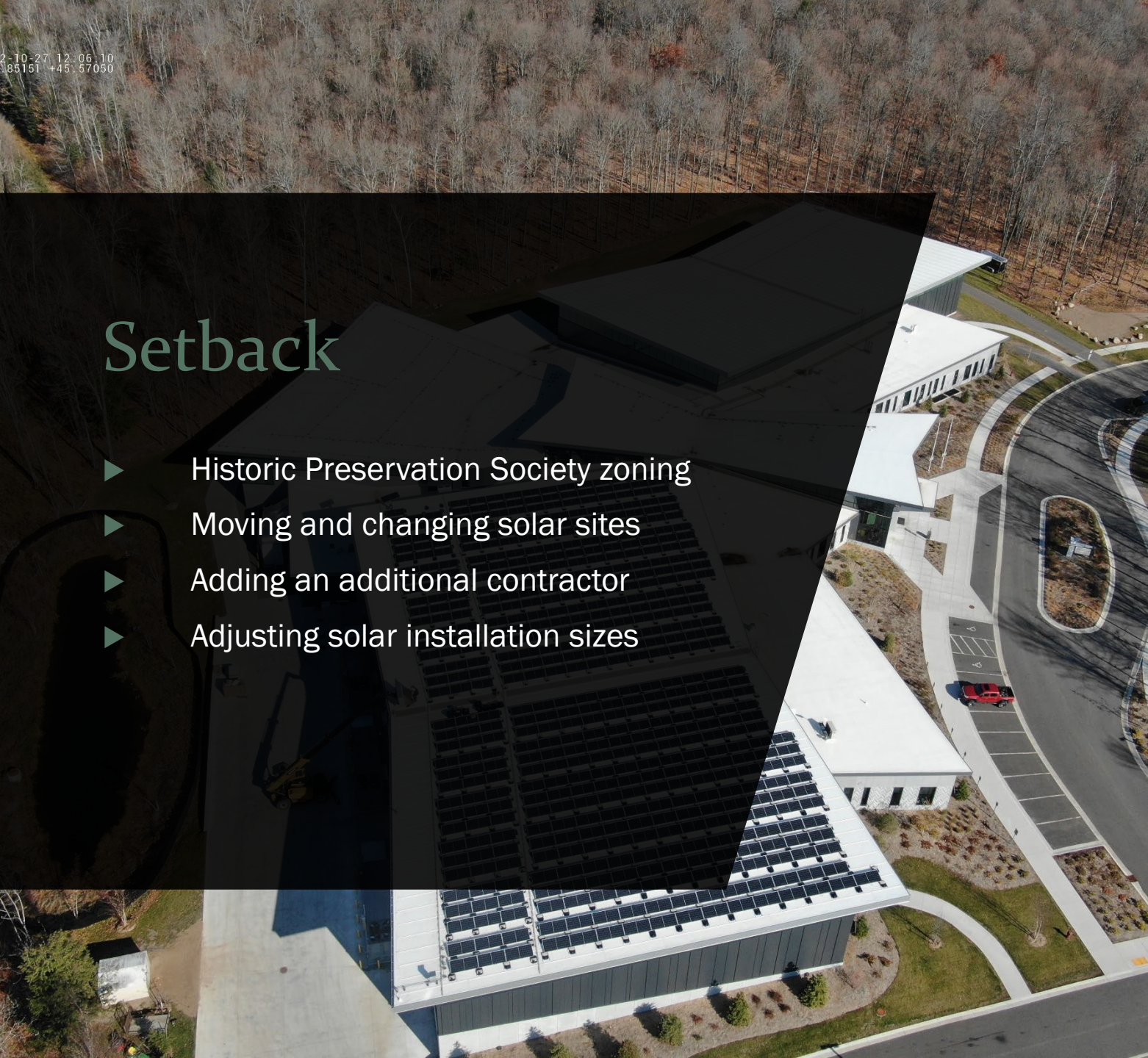
- ✓ Developed and circulated an RFP.
- ✓ Evaluated contractor bids.
- ✓ Selected a contractor.
- ✓ Worked with DOE to modify the grant to change site locations.
- ✓ Developed and signed the contract.
- ✓ Completed site designs, walk-throughs and ordered materials.
- ✓ Began construction the end of September 2020 on 4 sites.
- ✓ Completed 6 sites with 1 currently under construction and 2 more in the spring.



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Setback

- ▶ Historic Preservation Society zoning
- ▶ Moving and changing solar sites
- ▶ Adding an additional contractor
- ▶ Adjusting solar installation sizes





Next Steps

1

Work with the contractor and DOE to add a site.
Submit new site for an environmental review.

2

Work with the Contractor and Sub-contractor on finishing the work by summer 2023

3

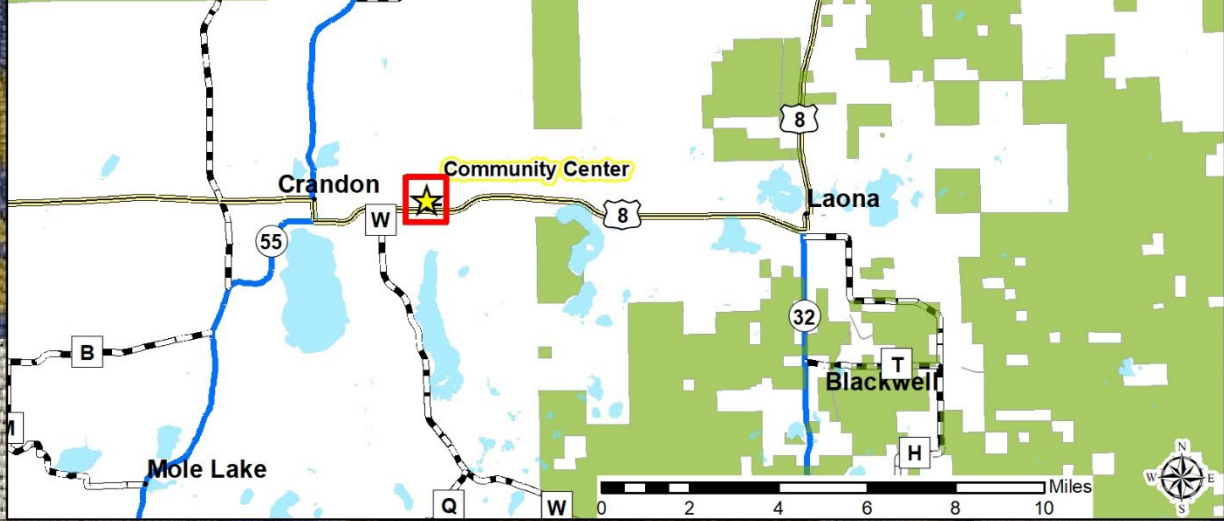
Conduct quality control inspections of the solar installations.



When life gives you lemons, we made lemonade in the form of 473 kW of solar being installed on the new Community Center instead of the original 200 kW

Project 2:
Community Center
Solar and Energy
Efficiency Measures
(EEMs)





Project Goals

- Based on the Tribe's environmental mission and FCPC values, the Tribe set specific project goals for options selection, such that each option must:
 - Minimize building energy demand;
 - Pay for itself over its lifespan;
 - Be technologically deployable within the construction timeline; and
 - Be grant eligible.
- In addition, any renewable energy generation system selected must:
 - Preserve the landscape; and
 - Must not discourage Tribal members from visiting the community center.



Decision Making

Improve / Add	Measure #	Option	Annual therms Saved	Annual kWh Saved	Cost	30 Yr Cost Savings	Payoff Year
Walls	1	R-21.85	610		4,545	10,914	13
	1	R-28.1	929		9,090	14,454	16
	1	R-34.35	1,103		13,383	14,571	18
Windows	2	U-0.20	6,677		158,146	11,071	29
Roof	3	R-37.5	454		12,087	-581	31
	3	R-40	883		24,584	-2,206	32
	3	R-42.5	1,261		49,168	-17,210	39
Under Slab	4	R-10	13,537		43,900	299,173	6
	4	R-20	18,049		87,800	369,622	9
Edge / BG	5	R-15	198		5,159	-141	31
	5	R-20	441		9,055	2,121	27
Boiler	6	Condensing	7,419		31,750	156,272	8
Pool	7	70% ERV	55,000		19,250	1,374,634	1
Light	8	Controls		103,120	20,000	268,659	4
Solar PV	9	200 kW		216,449	188,674	522,304	10
Total			89,950	319,569	577,226	2,702,044	8



Progress

200 kW Solar PV System

- FCPC received 3 competitive bids.
- Final contractor has been selected.
- Contract has completed a legal review and next the contract will be signed approved by Executive Council.
- Design is complete, working on interconnection agreements.
- FCPC received \$35,648 in incentives for EEMs from the state run energy efficiency program – Focus on Energy and is expecting to receive \$46,000.00 for the 200 kW of solar to be installed.
- In the process of adding 273 kW more solar to the building to produce 100% of daytime energy needs
- **Anticipated completion date:** Winter, 2022

Lessons Learned

- Aligning the grant application with a tight new building construction schedule is very difficult.
- Difficultly separating incremental prices of EEM upgrades from general construction budget.
- Still waiting for first utility bills to begin the Measurement and Verification process.

Reasoning for the need of the Community Center

▶ [https://www.facebook.com/fcpotawatomi/videos/207965054712974/?extid=CL-UNK-UNK-UNK-IOS GK0T-GK1C&ref=sharing](https://www.facebook.com/fcpotawatomi/videos/207965054712974/?extid=CL-UNK-UNK-UNK-IOS_GK0T-GK1C&ref=sharing)

Thank You!