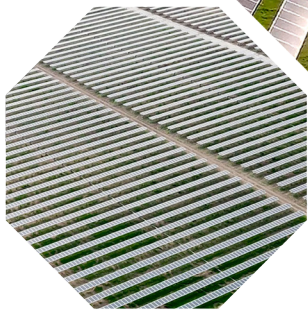
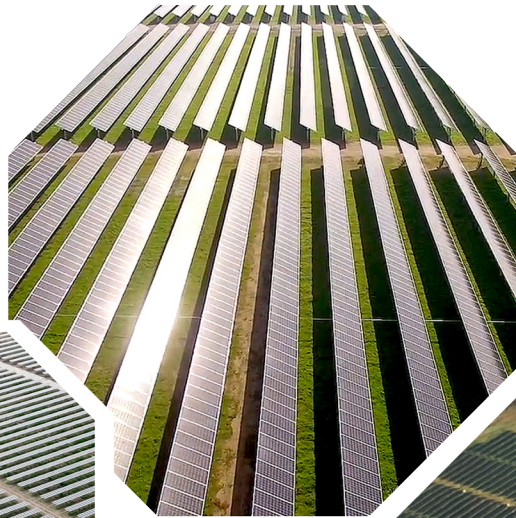




CASE STUDY:

STATEWIDE RENEWABLE



**CONSTRUCTION
SERVICES**

SOLAR INSTALLATION & DESIGN
Licensed Contractor | CSLB #1000391 | C-10, B General



HISTORIC SOUTH TEXAS RANCH GOES SOLAR.

A LOOK AT WHY—AND HOW—MCALLEN RANCH, ONE OF THE OLDEST CONTINUOUSLY OWNED TRACTS OF LAND IN THE UNITED STATES, MADE THE MOVE TO CLEAN, RENEWABLE ENERGY.



Texas has the largest solar resource in the country and Texans are putting it to good use for reliable cost-competitive power.”

CHARLIE HEMMELINE

Executive Director

Texas Solar Power Association

THE STORY

In 2016, James McAllen, Jr., began looking into solar energy projects. He had seen a friend install a large solar farm on their ranch and use the lease revenue to offset not only their energy bills but also to conserve other parts of their ranch.

The idea struck a chord with James. He and his family have owned and operated their family ranch since 1791. They see themselves as

caretakers of their land; it is their responsibility to maintain its natural beauty while also balancing real world problems.

James called Richard Estrada, founder of Statewide Renewable, LLC, to look for solutions. The initial idea of building a utility-sized solar farm did not make sense at the time due to a lack of off takers for the energy produced. Richard

devised a plan to install a smaller system that would offset the McAllen Ranch energy consumption while also proving solar energy to be a reliable investment. This idea was then enhanced by working with the local utility, Magic Valley Electric Cooperative (MVEC). MVEC wanted to look at a solar project to help reduce their demand charges. After due diligence, James and his family made a commitment to go solar.



Windmill, McAllen Ranch, 1893

THE RANCH

McAllen Ranch is one of the oldest continuously owned tracts of land in the United States and has been owned by the McAllen family since 1791, an original Spanish land grant.

Historically, the ranch was mainly used to raise cattle, horses, and sheep. The grasslands of the lower Rio Grande River valley, where the ranch is located, is perfectly suited to support cattle and other grazing livestock. Today, the ranch continues to breed quality livestock and entertains hunting guests from all over the world.



McAllen Ranch was the proud recipient of the 1996 BBU Environmental Award. Many details of its livestock operation include strategies to help the wildlife coexist and flourish, including pasture rotation and providing abundant watering areas in remote regions of the property.

Wildlife on McAllen Ranch is a valued resource. Hunting happens very conservatively, and wildlife health and growth throughout the year is monitored closely. "Preserving nature and wildlife is not only our duty as landowners, but it also ensures there will be a ranching business for future generations," the McAllen Ranch website states.

THE CONSTRUCTION

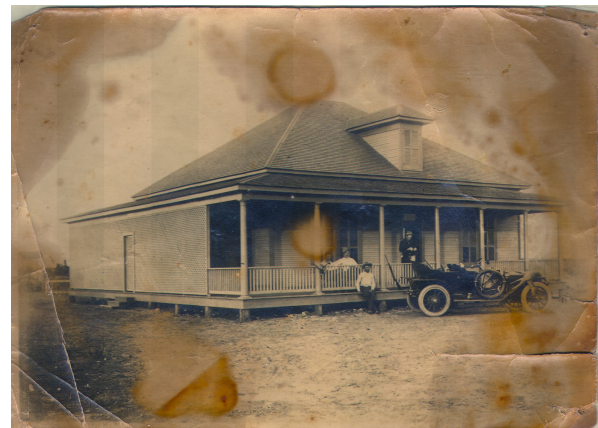
With the help of RP Construction Services, Inc. (RPCS), a California-based solar subcontractor and solar tracker installer, Statewide broke ground on the project in late May of 2018.

Statewide Renewable successfully negotiated a power purchase agreement (PPA) with MVEC on a 20-year basis. MVEC is particularly interested in this project as a pilot.

Along with other Texas utilities, MVEC wants to engage renewables as a way to alleviate costs, hedge market volatility, and provide members with clean, renewable energy.

The 1.2 MW site utilizes Array Technologies' DuraTrack HZv3 single-axis solar trackers, procured and installed by RPCS, Array's trusted DG partner. Array's mounting technology keeps the modules following the sun on its course throughout the day, ensuring up to a 20 to 25% increase in energy production over fixed-tilt systems. RPCS designs and installs Array tracker systems throughout the country, with hundreds of projects completed to date in the utility and distributed generation markets.

The site also features RPCS's Plug-N-Play Solar Tracker system, which integrates Array's single-axis tracker, Shoals Technologies' electric balance of systems wiring solutions, and the Cambria County Association for the Blind and Handicapped (CAB Solar) above-ground messenger wire cable management system. This system significantly simplifies tracker project install by reducing trenching by 50%, utilizing less specialized labor, and requiring less time—all resulting in faster time to completion and CAPex savings.



McAllen Ranch House, 1915



Members of the McAllen Family, 1898

The project's solar trackers can deliver large amounts of energy late in the afternoon when MVEC is battling high demand at peak hours. Power demand peaks at a very high level in this region of Texas due to high temperatures.

After several months of construction, the system proved operational and monitoring shows it is producing just as designed. The site will not only help James and his family with their goals, but also those of Magic Valley Electric Cooperative.

THE CHALLENGES

The project did not come without its unique challenges.

In southern Texas, summertime temperatures often reach up to 110 degrees Fahrenheit, with 40 to 50 percent humidity.

Workers on-site were not only exposed to high heat conditions but received visits from some of the locals that thrive in that environment: tarantulas, rattlesnakes, and other creepy crawlies. It should be noted, however, that the crew completed the site without incident.

Throughout the construction process, RPCS overcame one noteworthy terrain challenge: caliche. Caliche,

a sedimentary rock, is a natural hardened cement of calcium carbonate that binds with other materials like sand, gravel, and clay. It generally occurs on or near the surface, but can also be found deeper in subsoil deposits. These layers of deposits can vary from a few inches to a few feet thick, and multiple layers can exist in a single location.

The site's subsurface deposits of caliche made rock drilling for foundations especially difficult for RPCS. The caliche needed to be drilled and recompact before driving piles. However, with specialized machinery, RPCS was successful at self-performant drilling through the substrate in order to install foundation posts for the solar tracking system.

THE RESULT

Together, RPCS and Statewide Renewable met the goals of the McAllen family to generate revenue from their land while also maintaining its purity.

"Richard and Tomas of Statewide Renewable have been excellent partners at every step of this project and we are really excited to work with them again. We're very proud of the finished site and the McAllen Ranch has been a beautiful and special



Statewide Renewable has been an excellent partner at every step of this project and we are really excited to work with them. We're very proud of the finished site and the McAllen Ranch has been a beautiful and special place to work."

ALEX SMITH
Chief Sales Officer
RP Construction Services, Inc.

place to work," says RPCS Chief Sales Officer Alex Smith.

"If our system is successful both in delivering energy and in capturing accurate data, we will be able to not only enlarge this system but be able to offer it to utilities and large private entities throughout the State of Texas," says Richard Estrada.

Statewide Renewable is working with partners like RPCS to further their commitment to helping commercial, industrial, educational, and property development sectors in reducing energy costs while also reducing their carbon footprint.



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