



Iowa's First County Park that is 100% Solar Powered

In May of 2013, while watching the 10:00 pm news on Channel 13 in Des Moines, a news story aired about how a local ag producer who installed a solar array system on his farm and cut his utility bills by over half for the entire farm operations. I thought to myself, why are we not doing this sort of project in our county parks? The next week, I contacted Wind and Solar Specialties from Alta, Iowa who did the work on this farm that was featured on the news. After our initial meeting, information was presented to the Hamilton County Conservation Board (HCCB) members who thought this would be a good thing to pursue. The park chosen for this project was Little Wall Lake Park, located just south of Jewell, Iowa in Hamilton County. The main reason for this location was that Hamilton County Conservation purchased power from Alliant Energy for this park and Alliant Energy is one of the few utility companies that has the capabilities to work with integrating such an array to work with the existing power grid for the area. For example, in the winter months when the park is not being used as much, solar power is produced and excess power is put back onto the grid. In the summer months, if more power is needed, it is taken from the existing grid with no delays in consumption. For the next year and a half, we looked into options on how to power Little Wall Lake Park with wind or solar energy. During this time, there were barriers that started to slow this project down and we had to figure out how to get around the obstacles.

Wind and Solar Specialties completed a due diligence site assessment for the project at a cost of \$3,200. The project of creating an energy source to be 100% offset of utilities was a challenge within itself. Being a government entity was becoming an issue as the available tax credits were only for private businesses and individuals. A proposed wind turbine option proved to be not as effective due to the location, topography and potential wind production of the area. The solar array system seemed to be a better fit, but required more of a larger footprint for a location within the park. If purchased outright, this project could cost \$300,000-\$500,000. This is funding that county conservation boards do not have sitting around, so it was apparent that if this project would move forward, it would need a private LLC group or individual to upfront the finances in order to receive tax credits. Information was also shared with the Hamilton County Board of Supervisors about the potential of this project, along with the difficulties of the government not receiving tax credits, and that an LLC would need to be formed in order to move forward. It was also discussed that HCCB did not want to have any upfront costs and wanted to use the existing budgeted amount for monthly electric expenses. Since it was likely to have a 20 year lease, the Board of Supervisors would need to be involved with approving the project.

In the fall of 2014, Hamilton County Conservation Director, Brian Lammers, met with another local solar company to examine the project. G6 Power Solutions from the Jewell and Ames area were locally tied to the area and seemed to have had the experience in the solar industry. A couple of local ag and turkey producers had used this company for smaller solar arrays at their locations. An initial project proposal was completed by G6 Power Solutions that would create a solar array to produce 187 KWh/year (187,000 watts) of electricity for the park. It was determined that park used approximately 158 KWh/year (158,054 watts). A power purchase agreement (PPA) was agreed upon and signed for this project. In this agreement, it was understood that G6 Power Solutions would create a new LLC and finance the project in order to receive the available energy tax credits and then charge accordingly on a 20 year lease. As time went on into all of 2015, there was no successful progress with G6 to create a local LLC to fund the project. A meeting with G6 was held and we were assured that the project would be completed in 2016, prior to our annual fall conference for the Iowa Association of County Conservation Boards (IACCB), that was to be hosted by both Hamilton and Webster Counties in September, 2016. At the time of the conference there was no work completed on the LLC or the physical project on the ground. The PPA that was signed by the Hamilton County Board of Supervisors and Hamilton County Conservation Board with G6 Power Solutions was terminated as per the agreement.

In late September, 2016, County Supervisor Doug Bailey gave me a business card for Larry Stephen who works for Eagle Point Solar (EPS) in Dubuque, Iowa. Doug had talked to them about a project and mentioned our Little Wall Lake Park project. I called Larry and set up an initial site visit with him at the park to discuss the project. After our visit of the site, Larry informed me that Eagle Point Solar is already an established LLC company and they do nothing but solar array systems for businesses and government entities. Larry said that a proposed PPA could be drafted and sent to me within two days. After sending Larry the last three years of utilities from Alliant Energy, the PPA and onsite proposal from Eagle Point Solar was ready for review. EPS proposed constructing a 118.8 KW DC array system in two separate rows of panels. The energy rate charge would be .085/KWh and includes a 3% inflation rate over 25 years. The system is also predicted to have a CO2 reduction of 3,238 tons over its lifetime. The Hamilton County Conservation Board approved the PPA in November, 2016 and asked the Supervisors to review and approve the PPA. The Board of Supervisors approved the PPA in January, 2017. EPS then filed and completed all the necessary documentation with Alliant Energy, and construction began in March, 2017. By the end of April, the construction of the solar array system was completed. On May 6, 2017 an open house was held at the park to dedicate the solar array system. Little Wall Lake Park became the first county park in Iowa to have a 100% offset for producing electricity. A live feed web link is available on the Hamilton County website by visiting www.mycountyparks.com. This live feed shows daily output solar production and past usage. The local schools have used this for some of their classes.

Using alternative energy sources is something conservation agencies always look into. This particular project started in 2013 and was finally completed in 2017. The partnership between the Hamilton County Supervisors and the Hamilton County Conservation Board made this a very successful project. Hamilton County Conservation is expected to save over \$5,000 per year of its operational budget because of this project. This helps the department and tax payers of Hamilton County. The solar array system is also used as an educational tool in the

county. School groups can visit the site and see the two rows of panels set-up, along with an interpretive display that will be constructed in 2018. This also ties into other renewable energy production in southern Hamilton County. Poet Ethanol is located north of Jewell, along with two wind turbines located just east of the plant. The solar array makes the third renewable energy source within a 4 mile radius of Jewell, Iowa. Other county conservation boards have contacted us on the entire project and we hope that they will follow in leading the way of using alternative energy for continuing protection of our precious natural resources in Iowa.

