



Ypsilanti Food Cooperative
312 N. River Street
Ypsilanti, Michigan 48198
734-483-1354
Grant PSC-08-31

January 1, 2008 through February 28, 2009
Report by Dave Strenski

Complete Task

| | |
|-----|--|
| 20% | Expansion of Solar installation at Cooperative |
| 20% | Installation of Solar panels at City Hall |
| 10% | Utility meter reading program |
| 15% | Building of solar.ypsi.com website |
| 20% | Solar educational outreach |

Progress over the past two months

We have placed the order and received the solar panels for the Cooperative expansion and City Hall projects. The seven 190-watt Sanyos for the Cooperative expansion and the twelve 205-watt Sanyos for City Hall are stored in the Cooperative's conference room. We also have received the Combi-switches, lightning arrester and the inverter for the Cooperative expansion.

All the equipment is ready for the Cooperative expansion. We are waiting for the snow to melt off the roof and some warmer weather.

During this reporting period, we've been focused on finishing the rack design for the City Hall project. Gary Turner has created a set of drawings. The drawings are finished and uploaded to the solar.ypsi.com website.

solar.ypsi.com/City_Hall/CityHallRack_sheet1.pdf
solar.ypsi.com/City_Hall/CityHallRack_sheet2.pdf
solar.ypsi.com/City_Hall/CityHallRack_sheet3.pdf

We also worked with Fitzpatrick Structural Engineering to decide which material to use for the rack. Recall that our original design called for using all aluminum material for the rack. When Fitzpatrick Structural Engineering reviewed and stamped our design, they recommended using stainless steel.

solar.ypsi.com/City_Hall/Fitzpatrick_letter1.pdf

With the completion of the rack design, we compiled a parts list and sent it to UniStrut for a quote on these materials in galvanized steel, aluminum, and stainless. They returned these quotes.

| | Price | Ratio |
|---|------------|-------|
| Galvanized strut and fittings - | \$1,623.00 | 1.0 |
| Aluminum Channel and galvanized fittings - | \$2,652.00 | 1.6x |
| Hot-Dipped galvanized strut and fittings - | \$2,985.00 | 1.8x |
| Stainless Channel and galvanized fittings - | \$6,128.00 | 3.8x |

Clearly the stainless steel was far too expensive, and they did not even have all the fittings in stainless so we still have dissimilar materials next to each other. We wrote to Fitzpatrick Structural Engineering asking if we could go back to aluminum. They returned a very informative letter and suggested we go with the hot-dipped galvanized material.

solar.ypsi.com/City_Hall/Fitzpatrick_letter2.pdf

With the final rack design and the final material selection, we are double-checking the part list and ready to place the order for the racking material.

The next bottleneck in these projects will be the selecting of a licensed electrician to wire the solar panels to the inverters and the buildings. We have been working with the solar suppliers to generate the schematics for the installation of these systems. Once these schematics are finished we will be able to put together an RFQ for the wiring of these systems and solicit bids.

The website and meter reading program continues to be at the bottom of the work list. However we have made contact with a computer science professor, Dr. William Sverdlik that is interested in this aspect of the project. We have packaged up the meter reading software and sent it to him along with a detailed description of the overall project. He is reviewing the work and will work on the project himself and with some of his students.

We gave a solar presentation at the Crazy Wisdom Bookstore on January 30th. We have scheduled a solar talk at the Ann Arbor EnHouse for March 9th. Adam Chase is also working on giving solar presentations to the fifth grade classes at Estabrook and Erickson elementary schools in Ypsilanti.

We continue to look for other community groups to give solar presentations to.

Anticipated energy saving

The Cooperative and City Hall will not see any energy savings until the solar panels are online. Once the utility meter-reading program is working, we'll be able to see the energy delivery to the buildings and any energy conservation.

Expenditures compared to budget

We budgeted \$3,800 for the structural analysis. Fitzpatrick Engineering billed us for \$2,093.44 for this work last period. We have spent an additional \$100.00 with local contractor Gary Turner to make the final drawing of the design. This brings the total for structural analysis to \$2193.44, which is (\$1606.65) under budget for this task.

We budgeted \$25,700 for the solar panels, inverters, combi-switch, and lightning arrestors. The winning quote from S.U.R. Energy for these components is \$25,014.48, which puts us (\$685.52) under budget. We have sent S.U.R Energy a deposit of \$12,000.00 on these parts.

The racking material for the Cooperative expansion was purchased and installed just as this grant was started and will be paid for from the Cooperative's budget. The rack for City Hall will cost about \$3,000, we have budgeted \$1,000, that component will be over budget by about (\$2,000.00) dollar.

Noteworthy Accomplishments

Finished the mechanical drawings for the City Hall rack.

Decided on the final material to be used on the City Hall rack.

Found additional volunteer help for the meter reading program and website.

Risk to the project

Being over budget on the City Hall racking material we hope to off-set this in other areas of the budget.

Deviations from the Statement of Work

None.

Money Spent in the Past Two Months

\$ 100.00 for final drawing of the solar panel rack needed for the back of City Hall.
\$12,000.00 deposit on solar panels, inverters, combi-switch, and lightning arrestors.