# Section 3.3.4 – Case Study – Kirk-Rudy (Employment Center)

**Overview:**

- Kirk-Rudy, a Green and Sustainability-oriented company, commissioned a Solar Parking Canopy with one EV charging station for the use of their employees and visitors.
- 100 kW Photovoltaic (PV) canopy (475 feet long); 432 solar panels; 12 inverters; shade for 50 parking spots.
- Cost: in excess of $500,000 with investment payback expected to be 3.5 years.
- Parking canopy structurally easier to install than rooftop - less maintenance overall.
- Set up with Feed-In Tariff to GA Power at $0.17/kWh.
- Tied directly to power grid w/ no tie-in to facility. This is a GA Power requirement for Feed-In Tariff. KR gets credit in the form of a monthly check intended to offset their electricity bill.
- The EVCS is a 208 Volt / 40 amp unit. Provides 6.6 kW of charging power. Connected directly to the facility's electrical system (behind the meter) and does not interface with the solar panel array at all. This is for the following reasons:
    - Feed-In Tariff requires the solar array to be completely isolated from all loads. In essence, this is a dedicated power station for GA Power.
    - Connecting the EVCS the grid is far cheaper than installing a battery back-up system for times of non-solar production.

**Major Issues Encountered:**

- Erroneous Plot Plans:
    - An erroneous plot plan incorrectly showed a large water drainpipe six feet south of actual position.
    - Pipe was damaged during footer drilling. Extensive time and cost required for repairs.
- Permitting:
    - Permitting offices were not sure how to classify parking canopy with solar PV panels.
- Inspections:
    - Inspectors were generally unfamiliar with solar and EV charging station installations. We had to identify the various components, explain their function, and educate them on code requirements.
- Electric Vehicle Charging Station:
    - The original contract called for a 100 amp charging station. During the electrical installation phase of construction it was discovered the facility's electric service could not handle the 100-amp load without installing another transformer – an expensive solution and not covered by GA Power.
    - The EVCS was swapped out for a 40 amp charging station.