Cal Poly Associated General Contractors  
Service-Learning Project in San Ignacio, Belize

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Abstract
In the winter of 2020, the Cal Poly Associated General Contractors chapter of San Luis Obispo built over 200 linear feet of soccer seating for the community of Selena, just outside of San Ignacio, Belize. Our team fundraised over $18,000 and designed a soccer stadium that would leave a lasting impact on the community. Throughout all phases of the project, we were challenged with many obstacles that tested our ability to overcome and handle difficult situations.

Project Background
In the Summer of 2018, a member of my church, St. Cross Espionsal, in Hermosa Beach, CA approached me about the potential project. Brian Wilcox proposed a few projects on an 8 ½” x 11” paper in San Ignacio, Belize. The plans were similar, but one stood out which was the construction of a soccer stadium. Brian has completed over 20 projects over the last 20 years, building churches, homes, roads, and other public amenities for the community. Brian, as well as the church, actively searches for groups of young, hardworking individuals with construction knowledge to design and execute these projects.

The Process
In the Fall of 2018, the project was reviewed by the Cal Poly Associated General Contractors chapter. At the time, we were searching for a community service project for our chapter that our board could lead. We had completed a few domestic projects but believed we were ready for an international project, understanding that it would demand vast amounts of dedication.

The team started looking through the list of projects that Brian gave us. After creating a budget, scope, and schedule for each of the proposed projects, we decided that the construction of a soccer stadium best aligned with our club’s values and would create the best result. We believed that the project was perfect because it would test our hands-on and project management skills that we have developed at Cal Poly.

Once we solidified our decision with our advisor, our team began to design the stadium with the community who would have full ownership of the field; Selena of San Ignacio, Belize.
We sent them a few designs via email-based on their request, a soccer stadium that would be durable and host fans for each team. The first design met their request for being weather resistant and occupied by 150 fans. When the design phase was coming to an end we began estimating how much this project would cost (material and logistics) and how many labor hours it would take to build within a seven-day window. After weeks of due diligence, we calculated a project cost over $18,000 and 350 labor hours in the country to build the stadium.

With six months left before the team departed to the country, we fundraised $12,000 and began looking into the procurement of materials. The team worried that they would not have the time in the country to collect all the building materials and equipment needed to execute the project within the five-building days. To mitigate the risk of leaving with an unfinished stadium we asked the club soccer team to gather some of the long lead items prior to the team's arrival. Some of the materials and equipment were a concrete mixer, CMU block, aggregates, and rebar. To get these items, the soccer team traveled over 30 miles from the site, which we knew we would not have the time for.

With about two months left, we finalized a schedule of construction, booked flights and room and board. On top of that, we did our research and made sure that all seven students/faculty had received the mandatory vaccinations before booking the flights. A few of us met with Cal Poly Health Center to discuss which were compulsory and recommended (just as necessary). After confirming all students had obtained vaccinations and allocated the funds, we decided it was time to book flights.

**Deliverables**

As stated earlier, the finished project was 160 LF of seating for soccer fans. We also donated soccer jerseys to the Selena soccer team, hand tools to the carpenters, and household supplies to the families.

Besides the apparent reason for building bleachers to get fans to more soccer games, it provided the community with a tool to build an economy. In San Ignacio, many soccer teams host tournaments on the weekends. Each match usually has about 200-300 spectators who bring goods for trade at the games. It allows the communities to sell products to visitors creating higher cash flow. Selena is one of the very few soccer teams in San Ignacio that did not have a soccer stadium and struggled with bringing in teams to play and spectators to support.

Once the stadium was built in December, they have hosted two tournaments with many fans and spectators show up to watch the local communities play soccer. This project created greater morale in the community as it is now one of the iconic amenities of the community.
Lessons learned

It took hours for our team to get this project complete. Our team learned how important it is to have a precise budget, proper delegation, and control of the documentation throughout the entire duration of the project. At the beginning of the project, Myers was lacking concentration in a few of those tasks and refocused during the early phases of the project.

Myers, the team leader, knew that going into the project required a precise budget and accounting. Myers met with a peer, Francisco Sanchez, Cal Poly SLO Finance major, who helped create a template for the fundraising and an estimate for the project's overall cost. This was extremely important because the team did not have the flexibility to use funds over our estimated cost-plus contingency.

Myers struggled to complete tasks efficiently and correctly, he learned to reach out and spend time delegating tasks and working cohesively with his team members.
Group Picture with the community of Selena: Will Myers, Kyler Cruz, Peter Finocchio, Parker Doshier, Tony Roberts, Dani Bain, Andrew Kline

Priest of Community blessing the Soccer Stadium.

Completed placement of stringers and posts.

Donation of Cal Poly Rugby uniforms to the Selena Soccer Team.

Completed benches and start of roof construction.
**Footing details**
Length- 8'
Width- 1' 6"
Depth- 4"

Rebar:
- Install 2 pieces running parallel long ways.
- Depending on the dimensions of CMU cells, place the vertical rebar in the center of slab, and stub-up in order to meet no less than 2 cells in each row.

**Estimated Material needed for footings**
Total Concrete= 1.05 Cubic Yards
Total Rebar = 150 Linear Feet