Journeyman International – Kalisher Multi-Purpose Center

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The Kalisher Multi-Purpose Center in Rwanda was completed through a non-profit organization, Journeyman International. Dan and Frances Klinck created a vision for a master plan in the Sunzu Yacu Village in Rwanda and teamed up with Journeyman International to accomplish it. The Kalisher Multi-Purpose Center is the next step in completing their master plan. This center will serve as a place of gathering and community for the locals. It will house various events including, but not limited to: community meetings, private ceremonies, performances, church gatherings, learning opportunities and a space for growth. This project was interdisciplinary and combined efforts from students in the College of Architecture and Environmental Design at Cal Poly, San Luis Obispo and members of the Journeyman International team. The project team designed the structure, ensured its structural stability, and created construction documents. This paper outlines the main construction elements of the project.

Key Words: International Construction, Humanitarian Construction, Rwanda, Non Profit, Master Plan

Introduction

This senior project originated from the construction management student’s desire to help others and have a small hand in making the world a better place. The student first learned about Journeyman International during their sophomore year at Cal Poly, San Luis Obispo. As soon as they heard the organization’s mission, and that they could help create a Journeyman International project, they knew that is what they wanted to do for their senior project. They contacted Daniel Wiens, the founder and president of Journeyman International, at the beginning of their senior year and interviewed with him shortly after. Originally the student was on a different project in Ecuador, but after that project fell through, they switched projects to this Multi-Purpose center. The main reason they switched projects was so they could have an actual impact and create construction documents for a project that would be built. This paper highlights the process of creating the construction documents, outlines which deliverables were created, and discusses some takeaways from the perspective of the construction management student.

Process

This project was created as a part of a master plan that was dreamed of by Dan and Frances Klinck. The Klincks started to develop this master plan in the Sunzu Yacu Village in Rwanda, Africa after visiting the beautiful, mountainous region. This Multi-Purpose center was created in memory of Jesse Kalisher. The main partners for this project include the Klincks, Journeyman International, Afritech Energy, and Empowering Villages, a local nonprofit. The Journeyman International team includes Carly Althoff, a Journeyman International architect, and two undergraduate Cal Poly students from the College of Architecture and Environmental Design, Chelsea Trumbull (Construction Management) and Ana Lopez (Architectural Engineering). Together this team collaborated to plan and build this structure which will serve as a safe place of gathering for community members to learn and grow together.

The construction management student created the following deliverables: conceptual estimate, final estimate, construction schedule, hazard and risk mitigation, phasing plan, stormwater pollution prevention plan, site logistics plan, construction safety plan, feasibility analysis, and utilities analysis. These documents will be reviewed and processed by the Journeyman International team on the ground in Rwanda and will be consulted throughout the building process.
Deliverables

The deliverables created by the Construction Management student for the Kalisher Multi-Purpose Center were based off credible information provided by Carly Althoff and Daniel Wiens, as well as other informational sources online. Both Carly and Daniel have played a huge role in the masterplan thus far and have provided vital and reliable information about building practices that have proven to be successful onsite, as well as other site-specific information.

A conceptual estimate and a final estimate were created for the Kalisher Multi-Purpose Center. The conceptual estimate was based off the 2,250 SF building area and a cost of $35 USD/ SF. The square footage was calculated using the provided plans and Bluebeam Revu. The assumption for the price per square foot is based off previous structures that Journeyman International has built in Rwanda. The conceptual estimate is further broken down into percentages of the budget that falls into each division and applicable categories within that division. The final estimate was created using unit prices, historical data from previous Journeyman International projects in this area, and material take offs.

This project has three main phases- the upper retaining wall, the lower retaining wall, and the structure itself. The duration of the project will be just over nine months. Conservative values were used to create the schedule, as there are very unpredictable storms that can delay onsite construction. The schedule was built using SmartSheets. Some of the main milestones include: Start Construction, Start Upper Retaining Wall, Start Lower Retaining Wall, Start Building Construction, Finish Building Construction, Start Closeout, and Substantial Completion. The project start date is May 1, 2018, as they have already started construction. The estimated date of substantial completion is May 13, 2019.

There are several other elements to this project, as previously mentioned. The Hazard and Risk Mitigation Plan was created using information pertaining to natural disasters and weather patterns in this area. This plan, in addition to the Safety Plan, should reduce the amount of injuries and unforeseen events that may occur onsite. The Site Logistics Plan will help to reduce issues onsite, for it outlines designated areas to drop off and lay down material, as well as discard unused material. It also shows a dry shack for workers to take breaks and hydrate at. A Feasibility Analysis was created to help identify potential areas of risk, so they can be addressed and mitigated. A Stormwater Pollution Prevention Plan was made to ensure the heavy rainfall this site will see is accounted for and there are controls put in place to help ease this potential problem, and divert pollutants from leaving the site. Lastly, a Site Utilities Analysis evaluates various aspects of the utilities and states what is needed for each.
Lessons Learned

Working with Journeyman International throughout the last year has been a very fulfilling, yet challenging, experience. It was very beneficial completing this set of construction documents and seeing all the intricacies that it entailed. The building practices and material costs in Rwanda are completely different than in the United States. At times it was difficult correlating the means of construction and safety practices I have learned at Cal Poly to those of a third world country. It was challenging creating a safety plan that was practical for that part of the world since their safety requirements are less stringent than in the United States. In addition, it would have been much easier to visualize how to approach many aspects of this project if a site visit had occurred. It would have been much more impactful meeting the locals this project is going to directly benefit. Overall, it was very fulfilling playing a small part in the construction of the Kalisher Multi-Purpose Center in Rwanda.
References

*Stormwater Pollution Prevention Plan*

*Miscellaneous*
Journeyman International – Daniel Wiens
Journeyman International – Carly Althoff