Los Gomez Water Supply Project

Phase 1: Engineers Without Borders - Colorado School of Mines

Phase 2: EWB, Westminster 7:10 Rotary, El Porvenir
About Mines EWB

Water Supply Project

- Colorado School of Mines chapter of Engineers Without Borders
- 15 students, 3 committees
- Assisted by engineers from EWB in Nicaragua
- Mentors guide students
- Students apply engineering knowledge
Rotary Involvement - Phase 2
Distribution Pipeline and Storage Tanks

Phase 1 was successful, but needs to be put to use!

International District Grant for Phase 2

Technical input

Teaming with and learning from WASH involved clubs

El Porvenir - Cooperating NGO w/ >500 WASH projects in country
Our Team’s Goal

We are working with a community in Los Gomez, Nicaragua to build a clean, reliable, sustainable, and accessible source of water.
Los Gomez, Nicaragua

- Primarily farmers and ranchers
- Baseball games and family meals
- Electrical infrastructure
- Predominantly pit latrines
- Wet and dry seasons
- Dependent on unreliable, shallow wells or unsafe surface water
What We Have Accomplished

- 2012 - Pedestrian Bridge
  - Ochomogo, Nicaragua
- 2014 - Water Project Started
  - Los Gomez, Nicaragua
- 2017 - Drilled 250 ft water well
  - Los Gomez, Nicaragua
Water Project Progress: Phase I

- Completed in October 2017
- Deep water well
- Flow rate ~ 80 gpm
- Required $24,000
- Water Quality is good
Water Project Progress: Phase II

- Transformer to power the pump
- Gravity-fed water distribution system
- Taps in each house
- Water meter at each tap
Current Challenges

- Travel ban
- Possible remote implementation
- Funding
EWB Committees
Project Leads

Cassidy Grady and Gage Pilone
Technical Committee

- Design and model water distribution of project
- Collaborate with local engineers in Nicaragua and 7:10 Rotary
- Assist with operation and maintenance knowledge in community
Social Committee

- Communicate directly with community
  - Feedback
  - Represent their needs
- Relay information to rest of club and collaborators to inform design
Outreach Committee

- Grants and scholarships
- Fundraising
- Social Media
- Website
Future Goals and Sustainability

- Implement distribution system
- Re-visit the community
- Sustainability of the project
  - Community is largely involved with the project
  - Operations and Maintenance Manual in Spanish
  - Water use metered and fees collected
- Future Projects and reassessment
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piping</td>
<td>7000 meters</td>
<td>$13,677</td>
</tr>
<tr>
<td>Taps</td>
<td>1 ea X 60 houses</td>
<td>$687</td>
</tr>
<tr>
<td>Tanks</td>
<td>3 tanks / 5000 liters each</td>
<td>$2,454</td>
</tr>
<tr>
<td>Flow Meters</td>
<td>1 ea X 60 houses</td>
<td>$4,225</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Small Items</td>
<td>$622</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><em>(Funds needed from Rotary Grant)</em></td>
<td><strong>$21,665</strong></td>
</tr>
<tr>
<td>Labor</td>
<td>Remote implementation provided by in-country partners</td>
<td>$10,503</td>
</tr>
<tr>
<td></td>
<td>Rate = $ 140/day for 5 people and 3 weeks</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$32,168</strong></td>
</tr>
</tbody>
</table>
How You Can Help

- **Partnership**
  - Expertise for all committees
  - Advice on Int’l District Grant Process / Best practices
  - Partner w/ Westy 7:10
  - Benefits for both parties
Contact Us

Website:
https://mineswithoutborders.wixsite.com/mineswithoutborders/los-gomez

Gage Pilone - fgpilone@mymail.mines.edu

Ally Kormanik - akormanik@mymail.mines.edu

Matthew Johnson - mjjohnson1@mymail.mines.edu

Matt Seitz - Westminster 7:10 - mseitz@hrswater.com or seitz18@gmail.com