



Santa Lucia River Crossing

Quebrada Caracol, Chiriqui Panama

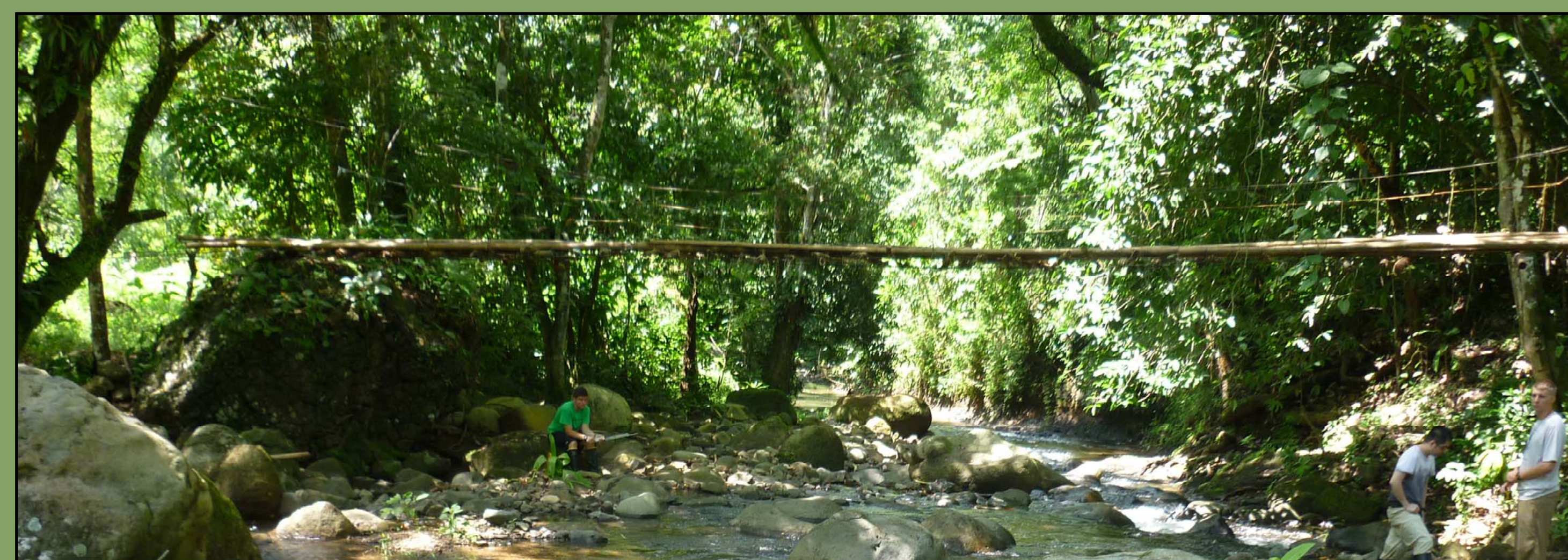
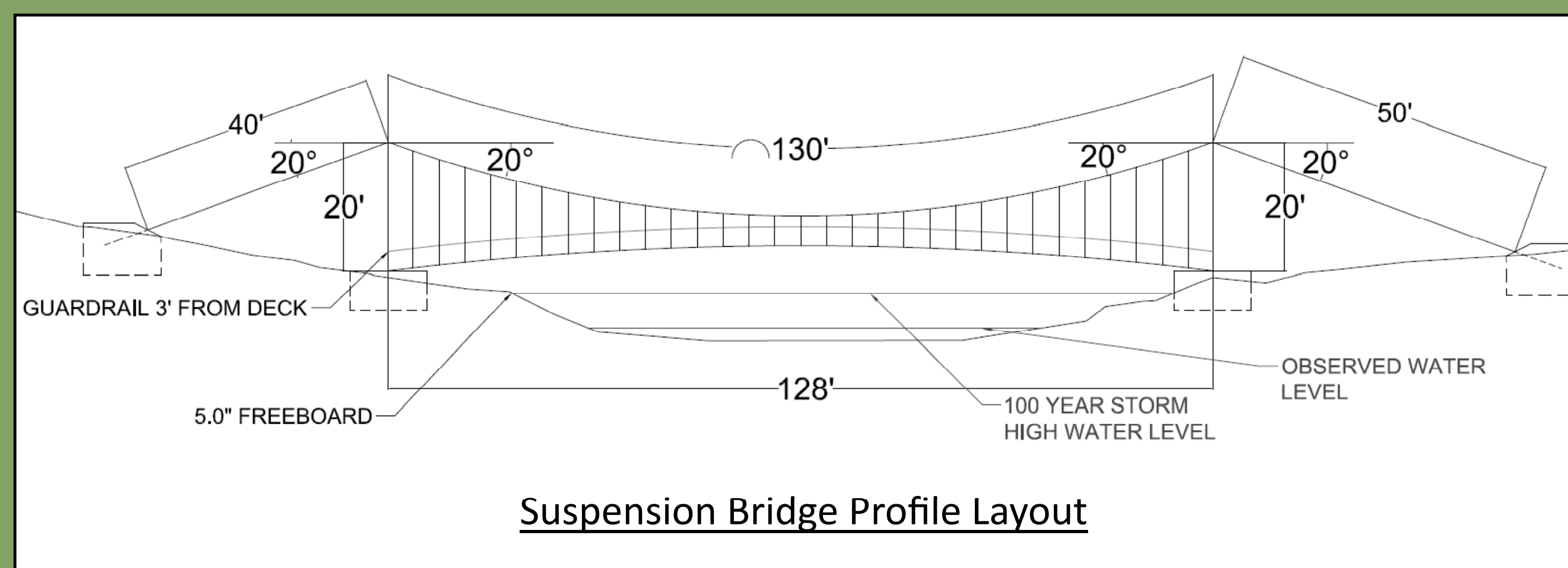
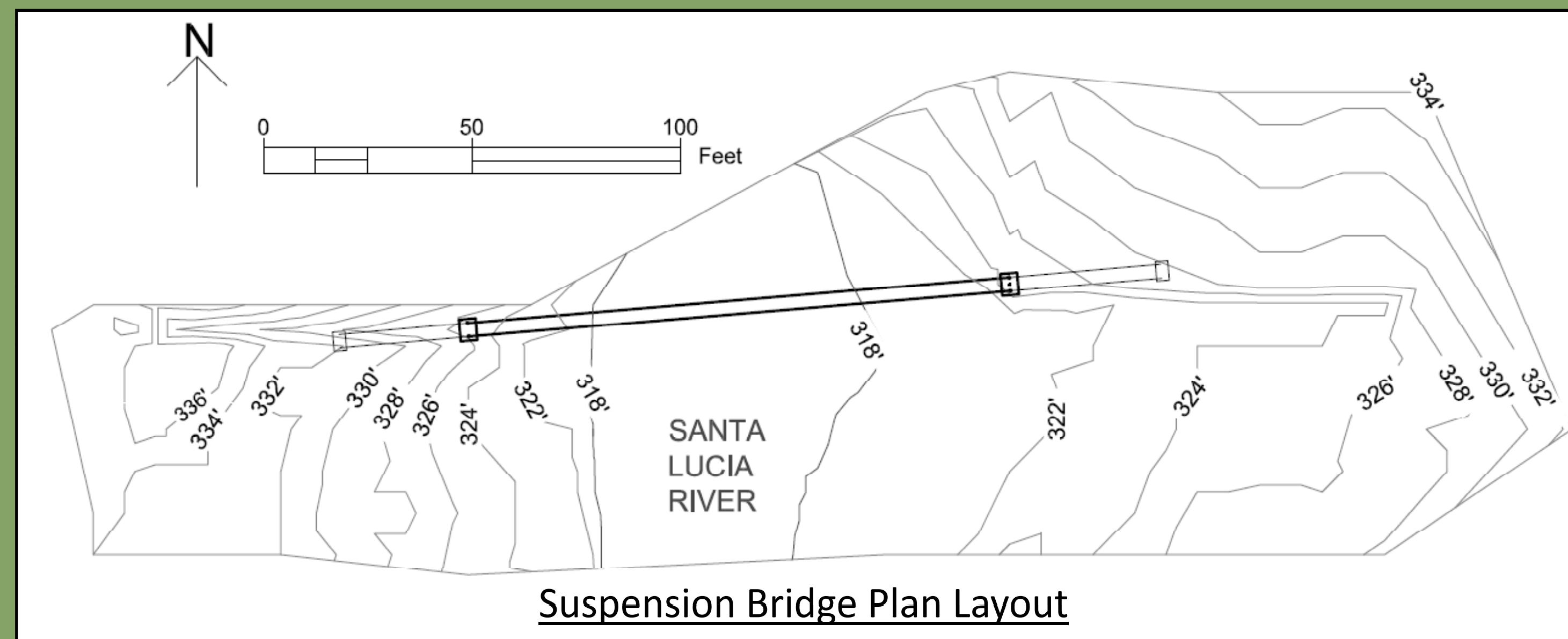


Project Description

- Current bridge:
 - Made in one day by 20 community members
 - Low strength cables, tree branches and bamboo poles, which must be replaced every couple months
- Children and adults cross the river everyday for school and work
- Santa Lucia River:
 - Dangerous to cross during storms in the rainy season (May—December)
 - Water level can change about 10' between wet and dry seasons
 - River is used for bathing, swimming, dishes, and laundry

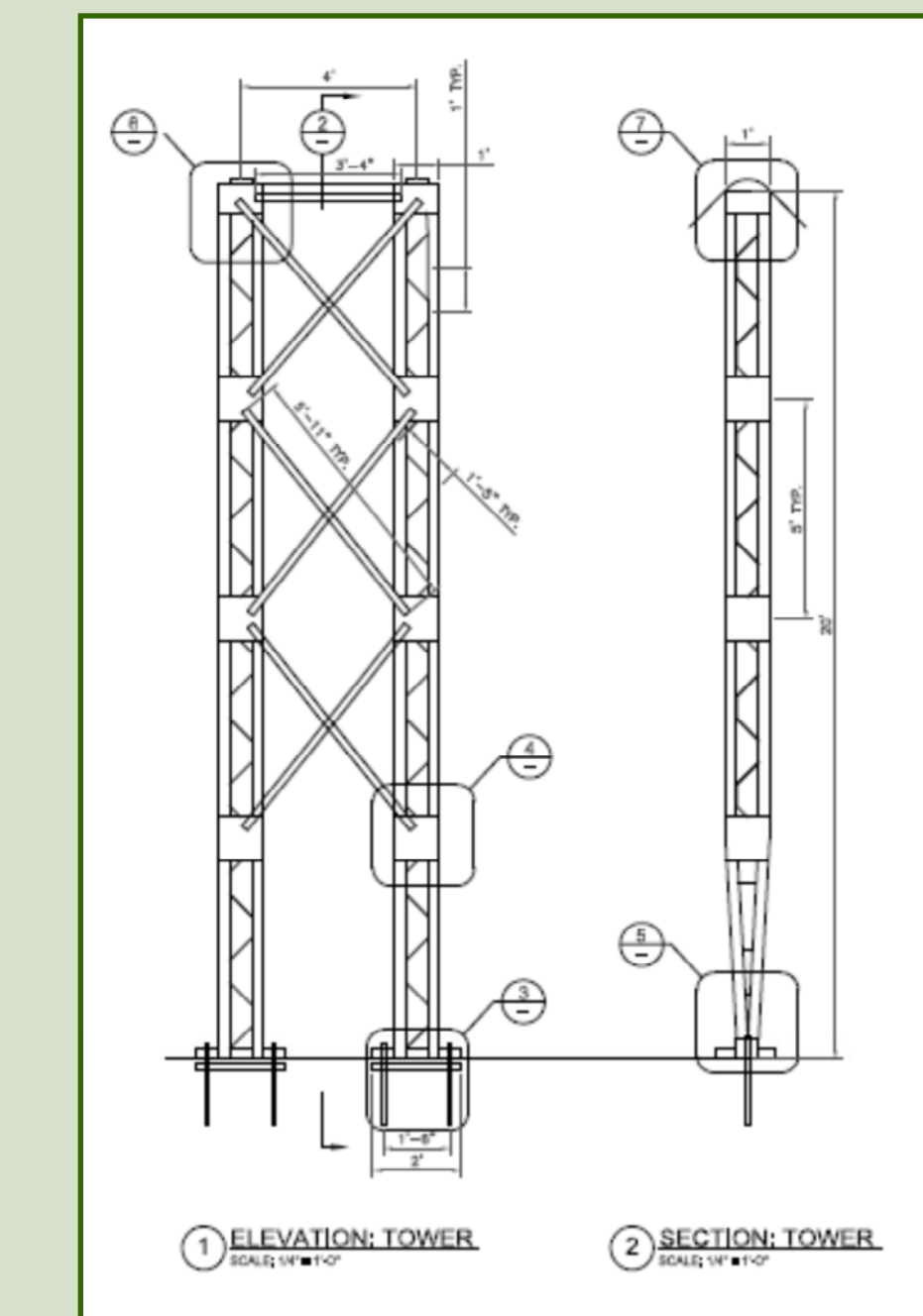


Mission: To present a practical, economical, and sustainable design to the community which they can then implement and take ownership of. The designs will ensure the safety of every one of its users and take into careful consideration the finances, resources, and values of the community.

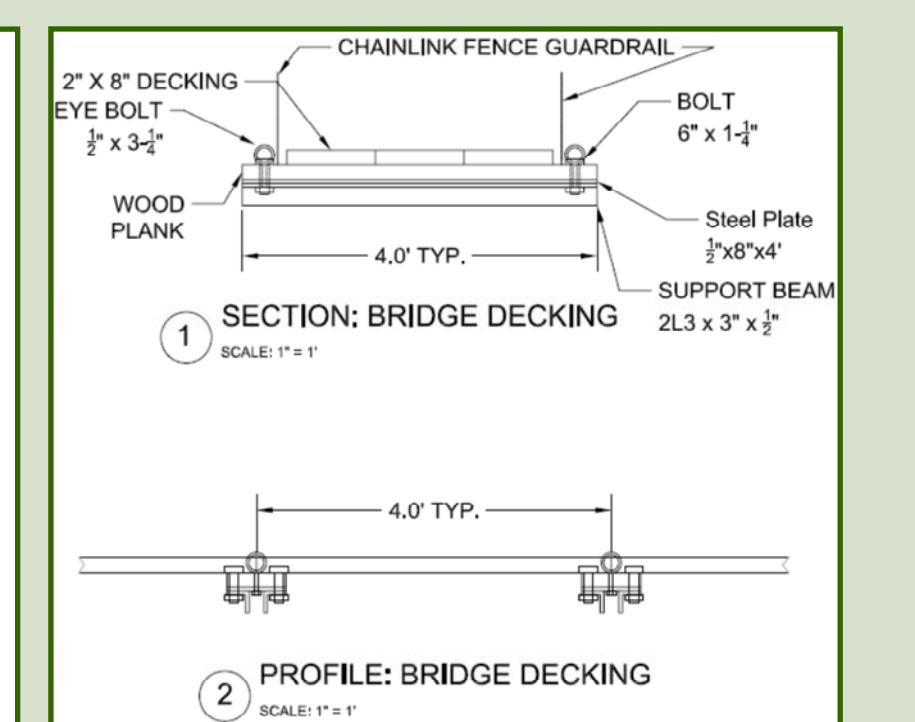
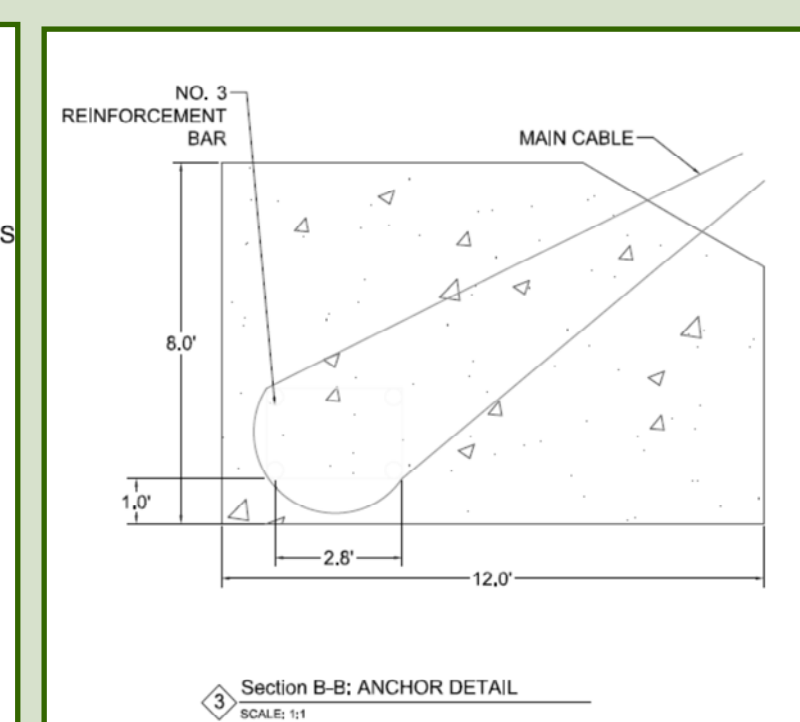
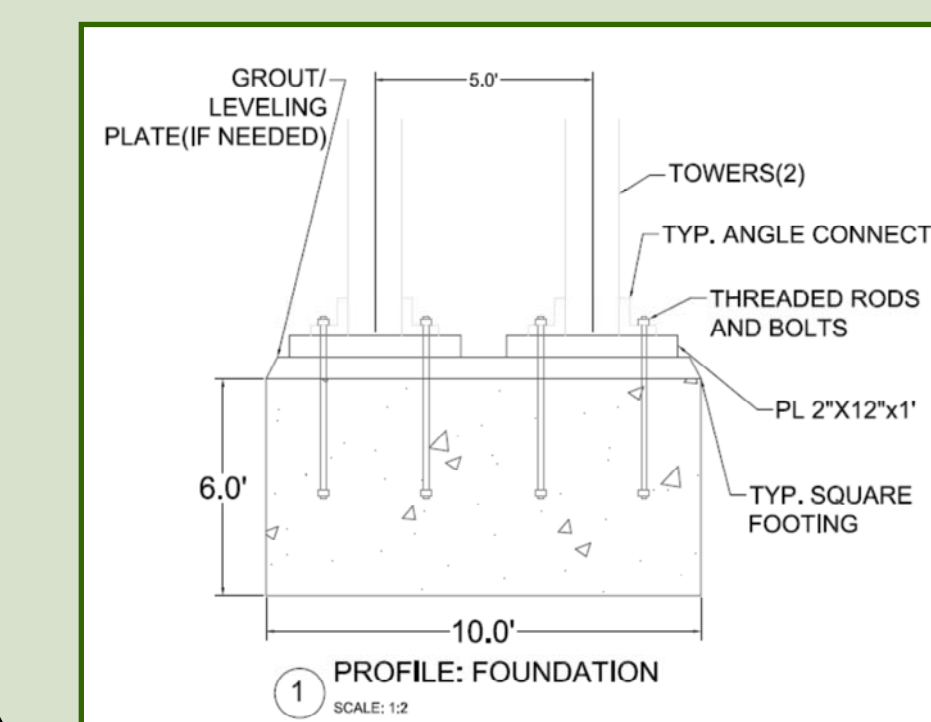


Current Bridge Profile

Design Details and Components



- Designed using the *Bridges to Prosperity Bridge Builder Manual* and the *Survey, Design, and Construction of Trail Suspension Bridges for Remote Areas*
- Minimum 5' clearance under the bridge and high water level
- 128' span from tower to tower
- 3' wide deck walkway
- Main cables comprised of 1-5/8" cables
- 20' tall towers



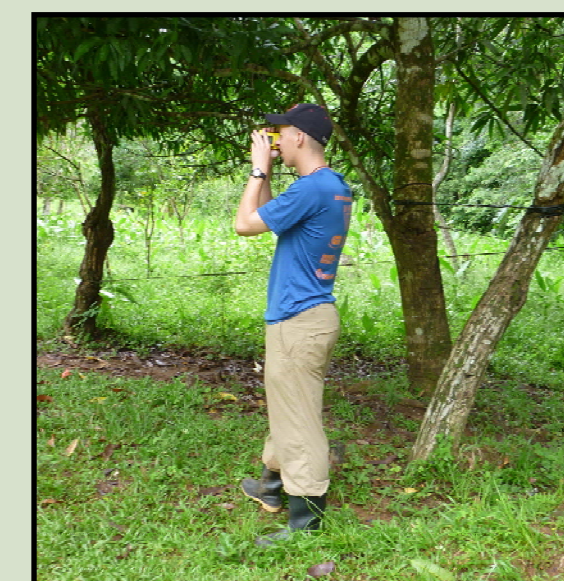
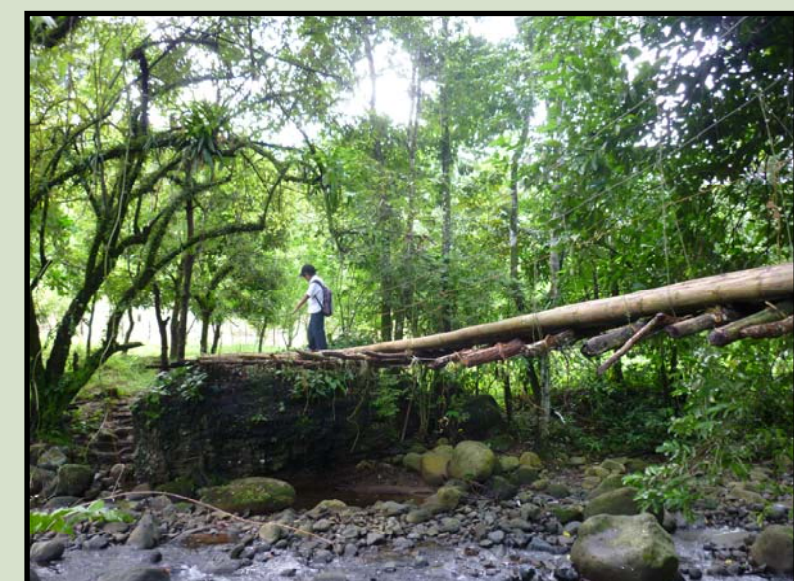
Community Background

Community Name: Quebrada Caracol

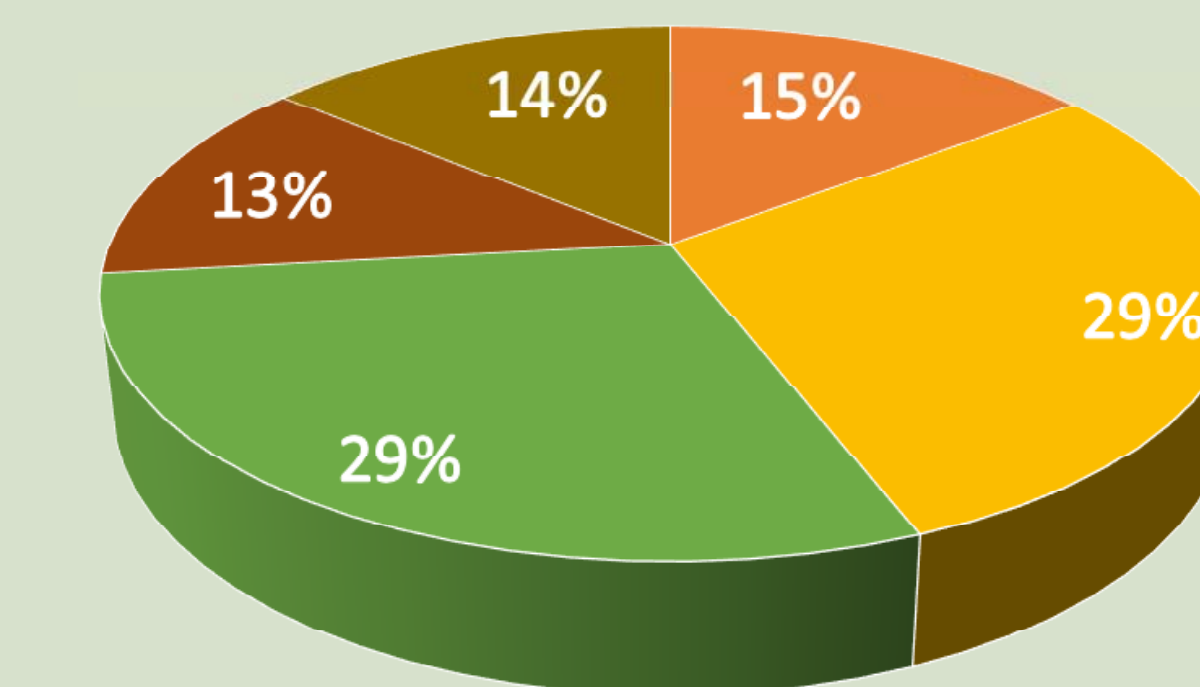
• Ngabe-Bugle Comarca with in the Chiriquí province of Panama

- No electricity
- Little running water
- Few latrines
- Subsistence farming

- People travel by foot on steep, muddy trails
- 233 residents living in community, 103 living outside community for work
- No schools in community:
 - Elementary School — 30 minute hike
 - Middle School — One and a half hour hike
 - High School — Two hour hike and 40 minute drive



Estimate and Schedule



Total cost of project: \$85,900
 Grant from government: **\$36,000**
 Total: \$49,900

- Costs were estimated using U.S. material costs
- The community could reduce costs significantly if materials were supplied/donated at cheaper costs
- Construction to be completed in the dry season (January—May)
- Estimate of about 124 work days to complete the project
- The design should not be implemented without the approval and supervision of a professional engineer



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