



Sticker created as collateral for Bridges to Prosperity campaign that says "I'm building the el Limón bridge—build with us." Text is in mainly script around the edge with "el Limón bridge" in the center on a blue circle surrounded by overlapping rings in yellow, orange and green.

Better Doing More with Less

Thousands of miles from home, a team of KB&M volunteers learns that innovation isn't always about doing something new, but about doing it with less. *by Christopher Locke*

Sometimes individuals set out to do something good for people they don't even know, thinking they're going to change the lives of those they're helping. Instead they give their time, get out of their comfort zones, travel thousands of miles, and it's their lives that are changed—and maybe even their ideas about work.

This was true for the volunteers on KB&M's second Bridges to Prosperity (B2P) project in Nicaragua. The combined KB&M and Buckland and Taylor team headed down to Río Abajo in March to build a 266-ft.-long pedestrian suspension bridge. KB&M brought along two returning volunteers: Ralph Salamie, a sponsor based in the Vancouver District Office, has been KB&M's champion for B2P since the start. John Gage, the environmental manager at SR-520 Floating Bridge and Landings, was putting in a second year as the team's logistics manager.

In 1998, Hurricane Mitch ripped through Nicaragua, destroying bridges and cutting off many small towns from schools, markets, and other essentials during the six-month rainy season as rivers flood for weeks at a time. The new bridge re-connects Río Abajo, a town of 500, to the larger market town of Pueblo Nuevo.

Río Abajo's mayor and the local project manager worked together raising awareness with the local news and community about the need to replace the bridge. Fifteen years after the hurricane, with great enthusiasm and support from the Río Abajo community, KB&M came to help build their bridge.

Every day started with a smile, each moment with an eager hand, and ended with a firm hand shake and pat on the back. "Working alongside the locals, you could see the pride they took in their work," said Bradford Novy, concrete engineer at Goethals Bridge.




1 The team of volunteers and community labor completed the bridge in just eight days. In that short time, the Río Abajo people taught the team the value of small things and the ability to make due with small means.

One morning, Lee Abbott, a superintendent at the SR-520 Pontoons in Aberdeen, and I sat on a porch watching a little girl play across the street, completely happy and entertained with just a brick, a stick and a leaf. She didn't need an overabundance of toys, video games, or constant attention. That little girl will more than likely grow up to be a strong, powerful and innovative woman, able to conquer tasks with few resources.

This idea of "frugal innovation" is common in developing countries. In Río Abajo, the team rigged a system of ropes and pulleys to lift the tower legs when we would normally rely on a crane. John Gage talked about how this helps us learn and become stronger. "We need to find ways to reduce our necessity and increase our output both at home and at work," John says.

By inauguration day the community was eager for a grand opening of their grand bridge.

"When I watched members of the community walk across the new bridge for the first time, genuine excitement and gratitude beamed off their faces. This was the moment that put my time here into perspective. I felt honored to help," said Holly Hicks, an engineer on the Honolulu Maintenance and Storage Facility.

The team agreed that though they'd all worked on larger, more technical bridges, none gave them quite the same satisfaction of the Río Abajo Bridge. 



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“Working alongside the locals, you could see the pride they took in their work. They knew what they were working on was important to themselves, their families and their community.”

—Bradford Novy



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How to Build a Bridge in Eight Days

When the team arrived, the abutments were in place. Most of the volunteers got to work erecting scaffolding, tripping the towers, and pulling cables, led by the team’s project manager, Abby Conover, an engineer at Farrington Guideway.

Meanwhile, Lee Abbot and Tracy Martin, Farrington Guideway’s quality manager, took over in the “electric machete” shop, cutting lumber, bending hangers, and assembling stringers. These were brought down to the bridge site and installed, followed by deck setting. The work wrapped up with hanging the fence, blocking, and abutment pour backs.

Although the Río Abajo Bridge is more than twice as long as the El Limón Bridge, which KB&M built with B2P last year, the operation was very similar. See the March 2014 issue of *Currents* for details. Find back issues on the KB&M portal in the Human Resources area. Click on “District Communications” under Documents in the left column.

(1) The construction team gathers at the ribbon cutting. (2) The team moves a tower leg from the delivery truck to the bridge site. (3) Put your hands up! After giving out the school supplies and sports equipment they brought along, the team joined the local elementary school for a dance and ice cream. (4) The assembled swings (cross-beams and hangers) are hung on the main cable. (5) A local resident enjoys the finished bridge. (6) Local members of the construction crew proudly show off their work. (7) The new Río Abajo Bridge.



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COWI WINS 2016 ACEC AWARD

“...COWI Bridge and Kiewit were presented the Award of Excellence in the Outreach Category...”

COWI NORTH AMERICA WINS 2016 CANADIAN CONSULTING ENGINEERS' AWARD

Yesterday, COWI Bridge and Kiewit were presented the Award of Excellence in the Outreach Category for their voluntary work on the Rio Abajo Footbridge. The 81-metre footbridge spans a fast-moving river in rural Nicaragua, providing the isolated 3000-person community of Rio Abajo with safe, year-round access to schools, clinics and markets in a nearby town.

COWI Bridge and Kiewit teamed with Bridges to Prosperity, a non-profit organization that works with bridge designers and constructors, local governments and student groups to build essential footbridges with rural communities in underdeveloped parts of the world. The COWI Bridge/Kiewit team reviewed the footbridge design, provided funding and sent a team to construct the bridge in partnership with the local community. All of the time contributed to this project was voluntary and the trip to construct the bridge was entirely self-funded.



The team successfully completed the project on an impressive accelerated construction schedule despite challenges due to the rural environment and language barrier. The Rio Abajo Bridge is Bridges to Prosperity's second longest suspension bridge worldwide and the longest bridge to be constructed on such an accelerated schedule.

“I've worked on many larger bridges around the world, but none have provided the sense of joy and satisfaction that the Rio Abajo Bridge has,” says Don Bergman, COWI Senior Vice President and Project Director. “This was our first Bridges to Prosperity project. We are very proud to help the people of this community in a way that connects with our core passion for bridges and technical know-how. We are very pleased to see the project receive this accolade.”

