WEFTA/Waterlines-Sponsored Trip
CHIAPAS, MÉXICO

Benito Juarez Miramar

Sites Visited

San Cristóbal de la Casas

Colonia Belén

Yashalum del Apóstol Santiago, Casa Albergue Rancho Santiago Apostol

Zapata

San Vicente

Tierra y Libertad

Miguel Hidalgo

Laguna Chum Cerro

Altamirano

Benito Juarez Miramar

Project: Benito Juarez Miramar – Chiapas, Mexico

Sponsor: Waterlines

Inspection Report: Kees Grootenboer

A letter from architect Kees Grootenboer to the WEFTA US team:

Finally the inspection of the water system was accomplished in Benito Juarez.

From Chum Cerro, where Maestro José was still working on the latrines, we walked to B.J. and visited the spring. On the way back we followed the waterline all the way back to the houses.

In the first spring box, water had opened a way out to the side. It's very small but needs a repair so we decided that Maestro José would take care of this before leaving the region since it is an easy repair. Inside the big spring box we discovered many roots that had penetrated that area. We urged the responsible team in charge to do a good cleaning job. The spring box is working very well, especially considering the fact that is a combination of a system which was completed in the 1980s and our tanks.

We started following the line and found many places where maintenance is needed: trees had fallen down and need to be cut away;, on some stretches the pieces of wood that kept the line lifted from the forest floor had rotted away and need to be replaced; the lianas that attached the line to keep it lifted had disappeared and need to be replaced. The valves for pressure seem to be OK.

In the places where horse traffic might cross the line, we had left trunks and enough mud and stones to make the traffic possible. Now, however, the line was exposed again and this arrangement has to be restored to prevent the horses from harming the line.

Within the village we paid visits to several families, where we were always received with such warmth and friendliness! In many cases, yes, they had dug ditches to carry away the water from the faucets, but the water doesn't run away and in most cases remains. The ditches turn into swampy areas with a dangerous potential for disease-causing insects that may spread from there.

I insisted that the ditches be closed and that everyone follow the system which Juan Triste has in his house: a stretch of line is attached to the faucet and used for all type of needs, but the place of this of line is changed frequently so that no place turns into a mud puddle. Some people have followed up on this, but in too many places there is adangerous situation.

We talked with the nice doctor who periodically works in the area; he promised to include this subject in his talks on preventive medicine and urge everyone to close the ditches.

Many faucets need replacement, but the main problem concerning the water within the village is that the small ½-inch lines that cross under the streets to serve the houses are rotting away. The plan now is to introduce machinery to level the streets to urbanize the town (what a shame!). Soon a road will reach the place in spite of all the protests by nature conservation organizations. In this case the lines will be destroyed anyway, so we had little discussion on this subject now.

On one of the photos you can see a plastic " abrazadera" (hose clamp). Many of these need replacement and we were requested to provide for them. Maestro José will tell me more about it when he comes home after finishing the latrines in Chum Cerro.

What a good idea to make the inspections possible. Thank you very, very much!

Cordiales Saludos,

Kees

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Chiapas, México

Laguna Chum Cerro

One of the leaks found where two pipes are joined together

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Project: Laguna Chum Cerro – Chiapas, Mexico

Laguna Chum Cerro is a community of both Zapatista and non-Zapatista families, who seem to get along well. There are approximately 20 families with a total population of approximately 200 people.

In 2010, approximately 2,520 meters of two-inch waterline were installed from the *manantial* (spring) to the new water storage tank in the community. Distribution waterline was installed from the storage tank to an yard hydrant in front of each home.

In 2011, construction of 15 latrines and outdoor showers were completed. While construction of the concrete septic tanks was expensive due to the high cost of cement, labor, and the transportation of materials into the community, the combination of the new water system and the latrines offer a higher quality of life from a sanitary and health perspective.

In 2013, construction of six additional latrines were completed to accommodate a future school building, the church and for additional growth in the community.

During our visit to Chum Cerro this year, we completed a thorough inspection of the entire water system and a percentage of the latrines.

While conducting an inspection of the *manantial* catchment tank, it was decided that additional work was needed to fully contain all available water from the spring. The additional work will consist of installing a protected containment tank with a protruding eight-inch PVC waterline. Water from the containment tank will be directly piped to an existing spring catchment tank that delivers water directly to the community.

Between the spring catchment tank and the community water storage tank there is a section of approximately 750 meters where the waterline crosses a section of land that is slightly elevated. In order to maintain good gravity between the spring catchment tank and the community water storage tank, the community will dig the trench an additional 50 centimeters to maintain good gravity.

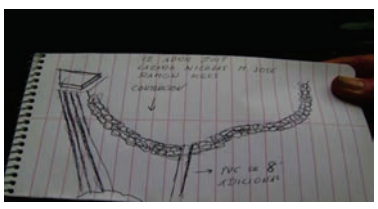
In addition, there are five sections in the distribution line between the spring catchment tank and the community water storage tank that are leaking and need repairs. Two of the leaks are at the location where two pipes were joined together and the remaining three are due to fallen trees.

Due to community growth, there are additional households which have been built at a similar elevation as the community water storage tank. As a result, these homes are getting very little pressure. Three ideas where discussed to address this issue; make the existing community water storage tank taller, install a small booster pump that can be run with solar power, and a waterline tied directly from the waterline from the spring before it enters the tank to the new homes.

After some discussion, it was agreed that the most cost-effective alternative is to run a direct distribution line from the waterline from the spring before it enters into the tank to the new homes.

Kees Grootenboer will attempt to accomplish all of this work with any funding that may remain from the additional latrine project and/or from funding left over from the $1,000 provided to him for previous community visits.

Project Images:



WEFTA/Waterlines-Sponsored Trip
Chiapas, México

Miguel Hidalgo

Miguel Hidalgo children on the day of our arrival

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Project: Miguel Hidalgo – Chiapas, México

Status Report: Miguel Hidalgo is a Zapatista community with 150 homes and approximately 1,750 people. The community is organized similar to a development in the suburbs of any major US city, although it is in the middle of the jungle, with the best mode of transportation in the community being a small motorized boat (*lancha*) on the Rio Jatate. Each house is on a 50-square-meter piece of property, divided in blocks and separated by areas which could be classified as roads.

A new water system was completed in 2011. The project included a spring catchment tank at the *manantial* (spring), approximately 1,600 meters of 2-inch and 2-1/2-inch PVC from the *manantial* through the jungle to a new water storage tank and, finally, PVC pipe from the storage tank culminating with an outdoor faucet to the outside of each dwelling. (Click here to see slideshow of dedication.)

Prior to bringing in the waterline, women and children gathered water from an arroyo at the bottom of a steep bank. Due to heavy rains in the region, the water was often the color of chocolate milk and full of silt from the runoff.

Two years later, members of the community are doing a great job maintaining the water system. Upon entering the community after a two-year absence, we found the community as appreciative of the system today as they were when it was first installed. As a result of the project, the community has seen a decline in water borne illnesses, especially in the infants and the elderly.

With the goal of efficiently operating and maintaining the system, two families are chosen annually for this purpose. Usually the families' responsibility is to conduct a visual inspection of the spring catchment tank, the waterline between the spring and the tank, the water storage tank and the outdoor faucets at each dwelling. Once the evaluation is complete, the families organize other families in the community to assist in making any necessary repairs.

Repairs usually include maintenance of the catchment tank to guarantee containment of all available water, protecting the PVC pipe from the sun by planting cacao and other similar vegetation for shade, and ensuring that water for each outdoor faucet has the appropriate drainage to avoid pools were mosquitos can hatch and live.

Project Images: