

# Plant Design Projects

## Design Projects

Spring 2009

### Agalteca

Agalteca is a community with 2160 people that distributes their water from a nearby river. A preliminary design was done for budgeting purposes and fundraising is currently being conducted.

- [Agalteca Detailed Design](#)
- [Community Details and Construction](#)

### Atima

Atima is a potential community with a population of 3300, or 550 homes. A design flow rate is being given of 270gal/min to account for estimated future demands. A preliminary design was created in order for the town to evaluate the budget.

- [Atima Detailed Design](#)

### Gracias

We are currently working on the Gracias design.

- [Gracias Design](#)
- [Community Details and Construction](#)

### Ecuador Design

The Ecuador pilot plant was designed for a University professor. The plant was designed to have a flow rate of 3L/s. This pilot facility is designed to be viewed by other communities in the hope of encouraging the AguaClara technology as a water treatment option. This design will further allow research to be conducted by including redundant systems. Construction is set to begin in late May, without the assistance of our engineers in Honduras.

- [Ecuador Final Design](#)

Fall 2008

### Cuatro Comunidades

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Plant at Cuatro Comunidades

The Cuatro Comunidades plant is serving these 4 communities: Los Bayos, Rio Frio, Las Jaguas, and Aldea Bonito. By design, the plant is relatively smaller - the plant flow rate is 100.4 gal/min. However, this plant will be the first plant to include the sedimentation tank slopes (inlet triangular manifold), and exit channel, and a hopper for the floc blanket. Each sedimentation tank has 2 inlet slopes. Given the specific energy dissipation rate, velocities for the entrance channel, connections to the manifolds, and manifolds, are all constrained to not break up flocs and minimize the floc sedimentation. Single width sedimentation tanks were used for the design, and were made to be shallower than previous ones.

Details of the design can be found below.

- [Cuatro Comunidades Detailed Design](#)
- [Community Details and Construction](#)

Fall 2007

## Tamara

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Plant at Tamara

The plant in Tamara serves a population of 3500 just west of Tegucigalpa. The plant operates at a flow rate of 738 gallons per minute

- [Tamara Design](#)
- [Community Details and Construction](#)

## Marcala

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Plant at Marcala

The plant in Marcala was built in partnership with Fred Stotlemeyer and NRWA. It was designed as a retrofit on an existing plant structure. The typical AguaClara layout was altered so that our design would fit in the existing tanks. At the time of completion in July 2008 Marcala was the largest plant designed by AguaClara; currently it has only been surpassed in size by the Gracias plant.

- [Marcala Design](#)
- [Community Details and Construction](#)

## Spring 2006

## Ojojona

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Plant at Ojojona

The Ojojona plant serves a population of 2000 people at a flow rate of 375 L/min. The plant is one of the first to incorporate our current flocculator design--vertical versus horizontal flocculation. This plant also incorporates plate settlers in three sedimentation tanks.

- [Ojojona Design](#)
- [Community Details and Construction](#)

## Fall 2004

### La34

La 34 was the first plant constructed by the AguaClara team. It is the only plant that uses a horizontal flow flocculator technique.

- [Community Details and Construction](#)

## Project Sites

A complete list of completed designs can be found on the [Project Sites](#) page. This page is maintained by students in Honduras working on the plants and supervising the construction. It provides a background of the site, as well as updates regarding construction and operation.

## Design Modifications

As the AguaClara team continues to build plants and continues to learn more about the details of optimizing water treatment processes, changes are made to the design algorithms. For an outline of what significant changes we have made designs over the years check out the [Design Modifications Page](#)