

Geo Alpha Baja California S.A de C.V.

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Nomination

ALPHA



ALPHA is known to be the first precast company in Latin America and the biggest of its kind in the world; it's a member of Casas GEO Group developer of houses in Mexico. Established in Tijuana Baja California, ALPHA provides precast elements for housing projects in the northwest region of Mexico.

Starting operations in 2010 with one of the most ambitious projects "Valle de las Palmas" winner of the 2010 EME International architecture prize in Barcelona, ALPHA has started to fabricate precast elements for sustainable communities in Mexico.

ALPHA has the capacity of producing more than 5.400 square meters of solid walls which is equivalent to 45 houses of 40 square meters in a time span of 12 hours, giving a total of 12.000 houses per year. The benefits that we provide our clients is the guarantee of a 100% industrialized precast element which avoids high construction costs and brings good quality to each house. ALPHA also won the prize for the best house on the market in Mexico 'Prize of Quality 2010'; ALPHA provides a low cost house giving clients the satisfaction of owning a Casas GEO.



Software: Allplan Precast

Urban Development 'Valle de las Palmas' - Tijuana, Mexico

The project Valle de las Palmas is committed to the conservation of the environment. It offers ecological, social and economical well-being to its customers, through the development of "Sustainable Communities", by making available a set of identified wellness-ensuring elements and factors.

- We take care of: Building zero net energy values, where the energy consumed equals the energy produced in each house.
- Constructing houses with eco-technologies, saving energy, water, reducing waste and CO2 emissions.
- Designing communities and common areas focused on pedestrians giving priority to non-motorized vehicles, reducing CO2 emissions.
- Preserving existing vegetation and including an ecological public park, respecting endemic vegetation.
- Utilizing pollution-free materials and reusing construction materials such as transportation containers, for specific-purpose buildings.

Location: Tijuana, Baja California, México.

Scale of operation: 37.320 houses:

- 2010-2011: 5.212 houses
- 2011-2012: 12.200 houses
- 2012-2013: 5.953 houses
- 2013-2014: 8.904 houses

ALPHA Precast Elements

As our main goal is to produce 45 houses per day, it is of great importance to have control of all the information created in Allplan Precast. The shuttering forms which are mounted by special robots, the mesh created in the automatic welding machine and the amount of concrete that will be delivered automatically to the elements, all of this information has to be perfect.

One of the biggest challenges is to keep up with the production speed as well as creating the most efficient information for all those involved in the process.

The prototype SuperEconomic37 based on modules of 2 (Duplex), 3 (Triplex) and 4 (Quadruple) houses, each one with identical precast elements in different positions. One of the benefits that Allplan Precast provides is creating a unique name and file for each element helping us to identify each one in the

production, stock yard and on the construction site, giving the ability to build each module on its respective position in the Valle de las Palmas.

Geo Alpha: Allplan Precast

The Allplan Precast software by Nemetschek Engineering GmbH suites our project ALPHA in various important working methods. We have the ability to create our prototype from 2D design to 3D modeling as well as precast element files for production. With its architectural tools of design it enables us to build prototypes for our clients, giving us a lot of advantages - e.g. creating sections, layouts, quantifying materials and quotes for production and contract specifications.

Allplan Precast provides us with a variety of tools for designing reinforcement in our precast elements for production in automatic welding machines in coordination with solid walls and slabs, giving a precise mesh in every element of each pallet.

The architectural design is delivered by the client, ALPHA imports the drawings into Allplan Precast, creating each drawing file into a complete model of each prototype. One of the enormous benefits offered by Allplan Precast is the capability of creating personalized catalogues for fixtures in each precast element. The generated Unitechnik files precisely provide all necessary data for the production involved, including shuttering, mesh production and concrete spreader. The result is a unique precast element ready for delivery to the construction site.

Urban Development 'Valle de las Palmas'

Tijuana, Mexico

Project information

Owner	Casas GEO
Architect	Alpha
General Contractor	Alpha
Engineering Office	Alpha
Construction Period	From December 2010 to December 2015
Location	Valle de las Palmas, Tijuana, Mexico



Short project description

The project is about the urban development 'Valle de las Palmas', which is located in Mexico. It is the site of a long-term planned urban development which would take advantage of proximity to the existing cities of Tijuana to the north west and Mexicali to the north east to create a similar sized city of one million people by the year 2030, on the Mexican Federal Highway 3 around an existing industrial park and university campus Unidad Valle De Las Palmas. It has been certified as the first Integral Sustainable Urban Development or DUIS in Mexico. Casas GEO will develop 8.000 hectares in which ALPHA will produce a total of 37.320 houses.

