

Themed projects are easier to build in-house

Even when the tree weighs four tons...

By Dan Sawatzky

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For many years we built the bulk of our projects on site. Most theme park projects are large, and being built primarily of steel and concrete, they are also very heavy. This meant many days on the road, far from home.

But in the last decade, and since we built our shop, we have figured out how to do these same projects in the comfort of our shop. Building strong, welded steel armatures with built-in lift points makes it possible. The addition of a MultiCam plasma cutter last year streamlined the process. Coupled with our CNC router, it furthered our capabilities.

Our niche market is the theme park industry. This market allows us to pull out all of the stops creatively. The larger scale of projects and signs (along with similar budgets) means there are few limits to what is possible.

We recently signed up a new theme park customer. They asked us to come up with a marquee sign for a new ride. The ride features ride vehicles with two seats and a wing overhead. As we looked at the colorful

contraption, lots of creative ideas sprang to mind. We opted for a mechanical bug theme and dubbed the new ride "The Flutterbye," which our client loved.

The ride needed an operator's booth as well as a sign, and we came up with an idea to combine both into one. The manufacturer of the ride dictated the size of the space inside the booth, which determined the inside dimensions. The tree was then built around this space.

The plasma cutter cut the heavy steel plate for the base. We then welded up a steel, square tube frame and an armature using ¼-in. pencil rod. Galvanized lath was attached to this framework which would support the hand-



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We presented the concept art prior to knowing the specifications and sizes of the required booth. This necessitated some changes as we started the build, but we were able to stay true to the basic idea of a mechanical butterfly in the tree.



We started with the baseplate plasma cut from ½-in.-thick steel. This steel plate was welded together and then the upper structure was welded to it. Mounting holes were also cut into the steel to enable it to be fastened down permanently on site.



Hundreds of feet of ¼-in. pencil rod was formed by hand and then welded into place to form a tight grid framework. The galvanized lath was then hand tied onto this framework using rebar tie wire.

sculpted fiberglass-reinforced concrete shell.

We combined all of our sculpting skills on this project, including welded steel, sculpted concrete, routed Precision Board HDU and sculpting epoxy. Everything was hand painted

for that extra special finish which is achievable no other way.

This piece is but the very start of a mechanical bug infestation! Stay tuned for much, much more! **SC**



The skin of the tree was sculpted from fiberglass-reinforced concrete. We started with the bare branches and knot holes and such. Troweling the concrete mud on to a depth of up to three inches allowed us to sculpt in a lot of fine and deep detail for some pretty gnarly wood. This is the most fun part of the process.



On a piece this large, the concrete sculpting is done over a number of days. We start with the areas of bare wood, such as the ends of the branches and roots as well as the big knots. The bark is the last area to be covered. Every square inch of the tree has lots of texture to allow us to use glazes to maximum effect.



The giant bug was hoisted up into place to build the mount. It stayed in place until the sculpting was finished to make sure it would fit when we did the final assembly. With the tree frame finished, it was time to tie on the galvanized lath.



One by one, the pieces were hooked up to the giant 30-ton crane and hoisted into position. It is a little unnerving watching a piece we worked on for multiple weeks so high in the air! What could possibly go wrong?



In less than an hour the installation was complete. The customer was all smiles as we headed back to the shop to continue work on other pieces for this project. In a few weeks we would be back with some other fun elements and the process would be repeated.