Ever since middle school, when I checked out the book Seaboard Coast Line in Florida – A Pictorial History (Carstens Publications, 1985) from the local public library, I’ve wanted to faithfully model the trains of Florida. In particular, I’ve wanted to model the trains of the phosphate-mining region of West Central Florida known colloquially as the Bone Valley.

The region is called Bone Valley due to all the fossilized skeletons that have been unearthed there by phosphate mining operations over the years. Phosphate is mostly used to make fertilizer. Within an area of about 35 square miles, Bone Valley trains run from mine to processing plant to port. For that reason, the Bone Valley seemed like a great prototype to model.

However, there was a hitch in my modeling desires. I was a kid. Not only did I have no money, I also had no experience building a model railroad. I couldn’t drive myself to the Bone Valley to research the prototype.

Furthermore, living in Florida meant I had no basement for a model railroad.

All in all, the hurdles were great enough that I settled for “armchair model railroading” for many years. Nonetheless, the idea of modeling Bone Valley remained very much alive in my mind.

PLANNING

It took about 15 years for the pieces to finally start coming together. In that time, I tried my hand at modeling Florida scenery and scratchbuilding rolling stock, mostly in HO scale. Some attempts were less successful than others. But I kept making progress.

Then, in 2011, I got into 3-D printing (see “Accessible 3-D printing” in the November 2014 Model Railroader). I quickly saw that 3-D printing would solve many of the problems that were holding me back from
building a layout. With this technique, I could amass a fleet of prototypically accurate phosphate hopper cars. To keep costs down, I returned to N scale – even though that meant abandoning my earlier HO experiments. With my phosphate hopper fleet growing, it was finally time to take a stab at a Bone Valley layout.

The late 1980s is my favorite era for the Bone Valley region. In that period, the Bone Valley was still a very busy place, with more than a dozen big companies mining and processing phosphate. Today, due to mergers and mined-out phosphate reserves, only one big company remains.

I decided I’d better start small with my layout. I figured 4 x 7 feet would be adequate. I wanted to test out a few fairly novel ideas, so I didn’t commit to anything very big. One of those ideas I call a “gallery layout.”

WHAT’S A GALLERY LAYOUT?

When viewing a model railroad, the first thing I always notice isn’t the modeling, but the way in which the modeling is presented. Presentation is important to me. In my opinion, quality modeling deserves the same treatment as a great painting. In other words, the presentation should reflect the quality of what’s being presented.

Over the years, I’d made a list of things I wanted in a layout. I wanted it to have a clean look. I wanted a layout that could be integrated into the main living space of a house. I wanted it to look finished throughout the construction of the layout regardless of how long the process actually took. And I wanted to break up the layout into manageable scenes.

In combining all those factors, I came up with the idea of a “gallery layout.” I define a gallery layout as a style of model railroad layout construction in which the layout is divided up into manageable scenes that look like they’re hanging on a wall, like paintings in an art gallery.

CONSTRUCTION

Rather than building a table or a shelf, my gallery layout involved constructing walls on which to present my work. Fortunately, wall construction materials and information are readily available.

With just a little time spent viewing some framing and drywalling how-to videos on YouTube, I learned everything I needed to know. Drywall panels (gypsum boards) are cheap and cut with just a utility knife. Joint compound is available premixed. And framing a wall using 2 x 4s or 2 x 3s just requires a saw, hammer, and nails.

I framed up the walls for my layout with 2 x 3 studs, as if I had been building an

Rainy-day modeling

WITH THIS LAYOUT, I wanted to test out the idea of depicting a rainy summer day – my favorite weather. Therefore, I photographed all my printed backdrops on rainy days.

To match the dark skies, I needed subdued lighting. I was able to achieve this by lighting the layout using a few strings of C3 cool white light-emitting diode Christmas lights. Although the lower lighting makes photography tricky, it makes the scenes look more realistic by hiding tiny imperfections.

Low lighting is a trick used extensively to increase realism at a famous place located near the Bone Valley that you might have heard of – Disney World. I figured if it was good enough for Disney, it was good enough for me, and I’m quite pleased with the results.

To accentuate the rainy day effect, I have a Pricom Dream Player Pro to provide ambient thunderstorm sounds as well as pushbutton-activated train sounds. I haven’t taken the leap to DCC, let alone to sound-equipped locomotives. The Dream Player provides all the sound on my layout. – A.M.

The Tropicana Juice Train rolls over the Palm River Bridge on Alex Marchand’s N scale Bone Valley layout. The “gallery-style” layout displays three scenes in wall-mounted vignettes.
interior wall for a house. Each scene for the layout would be framed in a window in the wall. Once the walls were up, I built a 12" open-grid shelf on the inside of the walls, topped with Homasote.

When the shelf was ready, I attached the drywall to the walls, then finished the joints. Finally, I painted my new walls and installed baseboard. I didn’t cut the windows into the drywall until I was ready to lay track.

I rigged up a removable piece of drywall for interior access. In retrospect, it would’ve been better if I’d just installed a door.

After I cut out the windows, I built removable frames inset with Plexiglas to finish the openings. They protect the layout not only from dust but also from errant fingers. Since I have young nephews and a niece who often want to see my model trains, the acrylic pane makes that possible without having to worry about potential damage. However, there are drawbacks. The acrylic reflects exterior lighting, causing glare. Another disadvantage is that I can’t touch the trains without removing the panes first.

**SCENE BY SCENE**

One advantage of a gallery layout is that it divides the model railroad into manageable chunks. That makes it easy to use what *Model Railroader* contributing editor Tony Koester calls Layout Design Elements (LDEs). [An LDE is a visually and operationally recognizable model of part of a prototype railroad. — Ed.] You just find prototype scenes, model those as faithfully as possible, and arrange them in a way that makes sense.

So that’s what I did. Three vignettes depicting prototypical scenes are modeled on my layout. Since each is separated from the others with its own separate photo backdrop mounted on foam board, I didn’t have to worry about the distance between scenes. I just had to make sure the scenes were ordered in a way true to the prototype.

The largest scene on the layout is a slightly compressed model of the Palm River Bridge on the east side of Tampa Bay, which lies on the route from Bone Valley to the main phosphate shipping port of Rockport. (Farther south lies Bradenton, where the famous Tropicana Juice Train originates).

The bridge was 3-D printed. I made the water from an actual photo of the Palm River. Using photo-editing software, I stretched the photographed water out into a rectangular surface and had it printed as a poster. This ensured it would match perfectly with the water on the backdrop, which I printed from the same photo.

Once I glued down the printed water surface, I covered it with gloss acrylic medium applied with crumpled plastic wrap to make little waves. I made sure not to overwork the gloss medium, because doing so could have introduced air bubbles.

The Palm River scene leads to two scenes on the other side of the layout. One is a phosphate mine called Tencor, located deep in the Bone Valley south of Fort Meade, Fla. Tencor is named for its original owner, the Tennessee Corp. Later it was owned by Gardiner, and then Cargill. Tencor has long since been mined out and its concrete phosphate storage silos demolished, but it still survives on my layout. I modeled the phosphate on the ground and in the hoppers in the Tencor scene with using Crayola Air-Dry Clay.

The third scene depicts the Eastern Associates Terminals rotary unloader at Rockport. The model depicts the unloader as it existed in the late 1980s. Like many other things on the layout, the unloader housing and dust-collection system was designed on my computer and 3-D printed.

At the end of the layout between the scenes is a backlit map of the region, with modeled scenes highlighted with red dots. I originally intended to model another scene, but I opted against it. Another thing I decided against was the use of turnouts. Although my initial trackwork included a few turnouts for operation, I eventually eliminated them and gave up on operations for the time being. No turnouts has resulted in absolutely no derailments on the layout.

**SCENERY**

I needed to figure out how to model four types of trees in order to faithfully depict Florida scenery: live oaks, slash pines, Sabal palms, and Washingtonia palms. Live oaks were easily modeled using trimmed SuperTrees and flock. Slash pines were modeled using appropriately shaped SuperTrees with tufts of Late Summer Sillflor static grass glued piece-by-piece to the branches to represent tufts of pine needles. And the Sabal palms and Washingtonia palms were modeled using olive green adhesive vinyl cut with a digital cutter (see the June 2014 MR).
The trunks of the palms were made from styrene tubing with thick floral wire inside to curve and plant the trunks. I added texture to the palm trunks by rolling the styrene tubing in a line of joint compound and later sealing it with acrylic medium.

Although Washingtonia palms aren’t native to Florida, they’re nonetheless a common sight around the state—especially trackside. Due to the trees’ tall stature, the Atlantic Coast Line RR planted Washingtonia palms to act as landmarks at important places such as depots, stations, and junctions.

With the tree issue settled, I finished out the scenery with Late Summer Silflor static grass and saw palmetto bushes. The saw palmettoes were digitally cut from the same vinyl as the Sabal and Washingtonia fronds.

The track, which is Micro-Engineering code 55 flex track, was ballasted with Highball limestone N scale ballast mixed with a little bit of light gray and dark gray ballast.

LOCOMOTIVES AND CARS

There were three types of motive power that defined the Bone Valley region from the early ’70s to the early ’90s: the General Electric U18B, GE U36B, and GE MATE (Motors for Added Tractive Effort). All three types of motive power were often found together. MATEs were road slugs with their own fuel tanks that were designed to be lashed up with U36Bs.

Unfortunately, all three types of motive power were owned almost exclusively by CSX predecessor Seaboard Coast Line, which made them scarce in N scale. At the time, only the U36B was available as an older, hard to find Bachmann model. [Atlas now produces the U36B in N scale. – Ed.]

I solved the MATE issue by 3-D printing my own shell. And I dealt with the U36B problem by simply 3-D printing a flared radiator to replace the radiator on an Atlas U23B. Other than the radiator and a slightly different door configuration, the U23B and U36B are outwardly alike. I still haven’t solved the U18B problem to my satisfaction.

The B36-7 is another key locomotive missing from my current layout roster. Typical power on a northbound Tropicana Juice Train during the late ’80s would have been three B36-7 locomotives. [Atlas now produces the B36-7 in N scale. – Ed.]

A variety of covered and open hoppers and gondolas served the Bone Valley. Many of those cars were unique to the region. Some are still operating there to this day. However, many have been retired or rebuilt.

The open-top cars carried “wet rock,” which is unprocessed phosphate, to processing plants in the region. The covered cars carried processed phosphate, called “dry rock,” to ports on Tampa Bay and north to farms. All of the gondolas and some of the hoppers were equipped for rotary dumping.

Armed with numerous prototype photos and a Seaboard Coast Line book of freight car diagrams acquired from the ACL & SAL Historical Society, I set out to faithfully re-create the unique cars of the Bone Valley in N scale using 3-D design software. Once designed, I had the cars printed by the 3-D printing company Shapeways in its Frosted Ultra Detail (FUD) material.

JUST THE BEGINNING

Since I was exploring some new ground with my layout, I was skeptical at first. But in the end, everything turned out great. With lessons learned and tests confirmed, I’m ready to build a Bone Valley layout four times the size of this one. However, before I break ground on that layout, I want to build all the structures and rolling stock I’ll need. So it’s hard to say how long it will be. GMR

MEET ALEX MARCHAND

ALEX FIRST BECAME INTRIGUED by trains at age 7 when he took an Amtrak trip from Fort Lauderdale, Fla., to Canton, Ohio. He’s a writer, graphic artist, and private investor.

Alex is best known for his mind-bending philosophical comic books, such as The Universe Is Virtual (Inspired Arts Press, 2015).