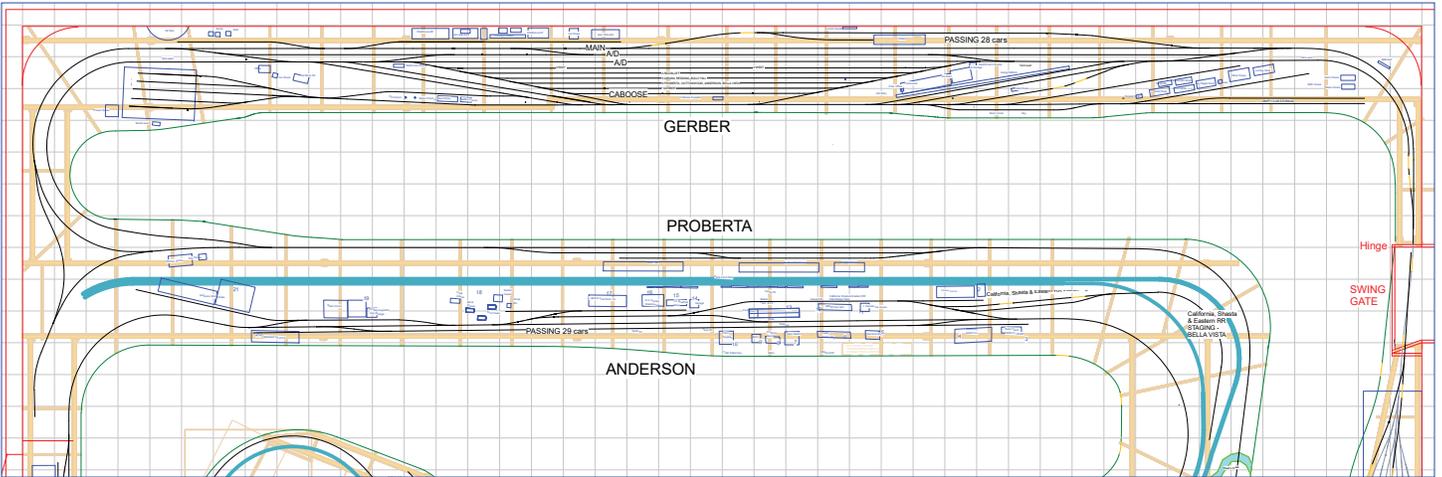


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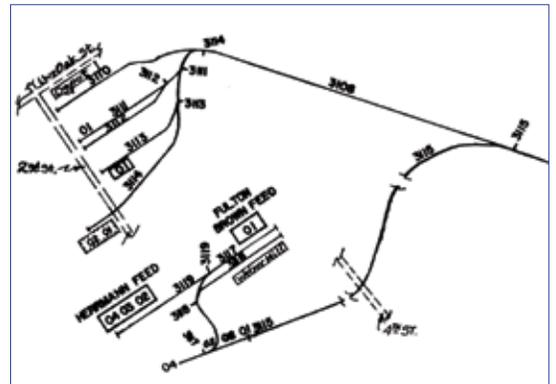
LAYOUT DESIGN



JOURNAL 72



Shasta Division After the Fire
Dallas Dist. from GCSF Plans
N-Scale Ops: Dakota Northern
10-Turnout Texas Track Plan
Mini HO B&O in Baltimore



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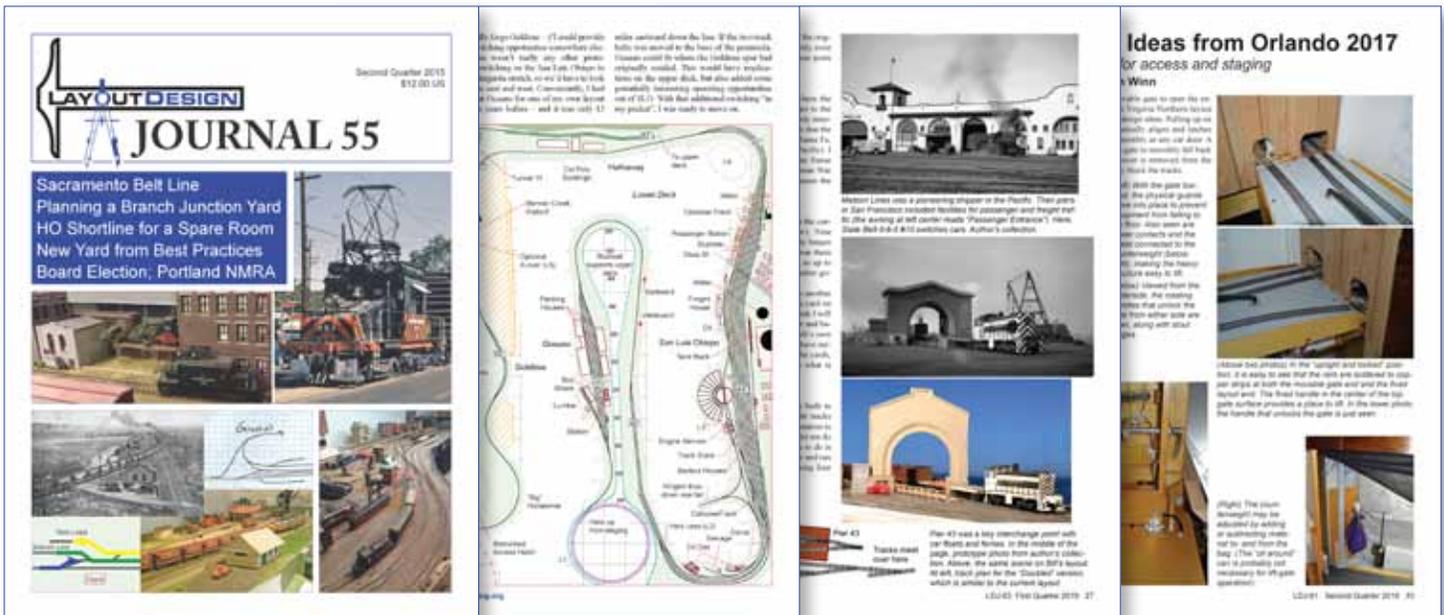
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would fit in the space. Dozens of sketches were made.

One evening, I met with Dave Bayless, an engineer familiar with the route. On a napkin in the restaurant, he drew an idea for the area I wanted to model. It was the impetus for what would finally become the Gerber Sub ~ 1926. In talking with him later, he doesn't remember that bit of help. Back to the drawing board and plans were developed (pages 9 and 10) for a mushroom-style layout (plan below).

Valley major focus

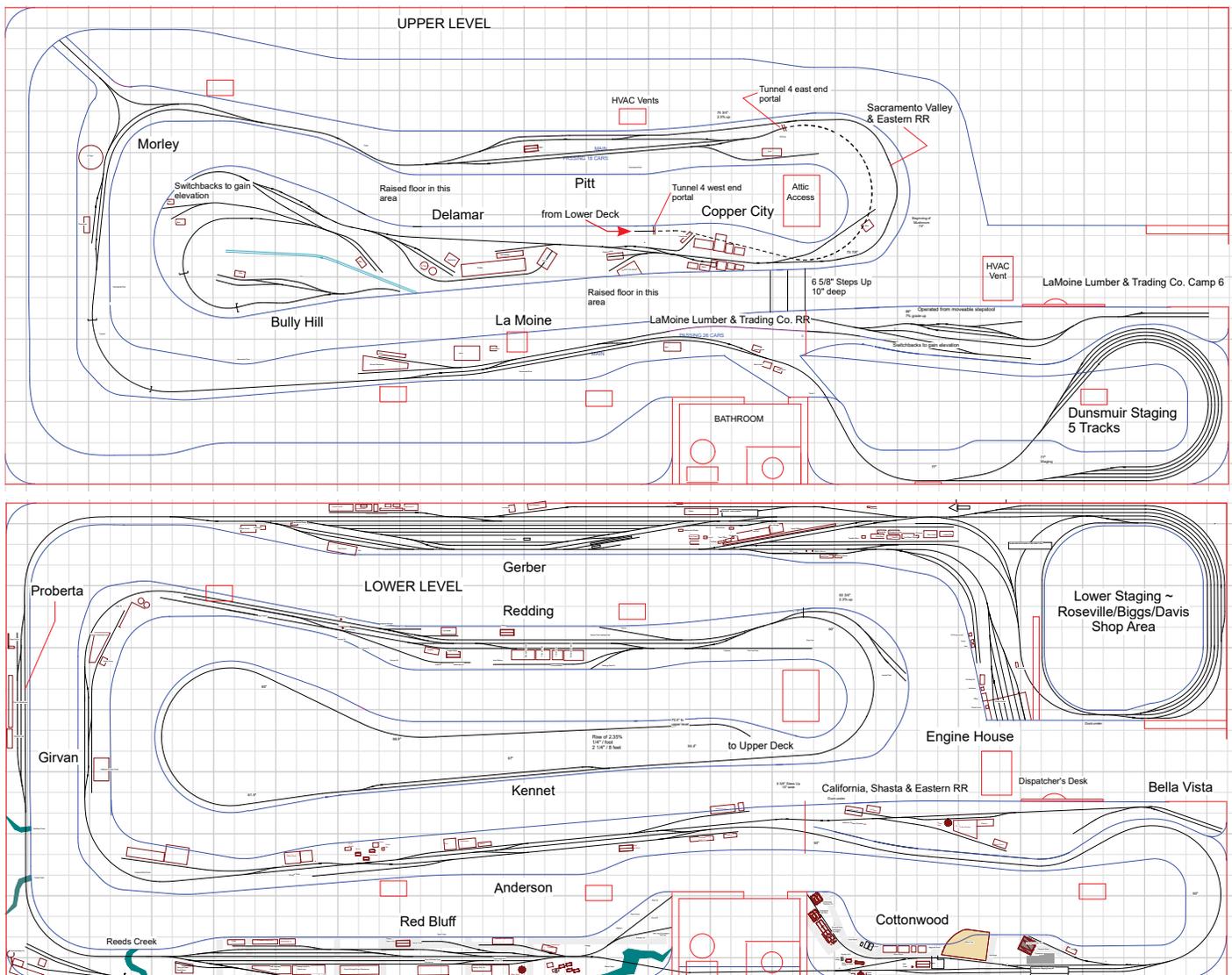
With Gerber as the anchor for the compass-south end of the visible layout, the

lower deck could be primarily valley towns with a lot of industry switching. Southbound (west by timetable) trains were broken down in Gerber prior to their continued journey.

The Tehama Wye, two miles south, split the Sacramento Valley line in two: The west side line serviced Colusa, Davis, and Woodland along with many other towns. It was the most direct route to Sacramento. The east side line ran thru Chico and Marysville on its way to Roseville, SP's major yard just a few miles east of Sacramento. These connections were represented by staging.

Northbound (east by timetable) trains continued to Dunsmuir and off the Gerber Sub

**Paradise Gerber Sub.
HO, 24'X60' overall**
1 foot grid
40" min. mainline rad.
CV #6 template
mainline turnouts
2.35% max. mainline grade



The Paradise Gerber Sub of the Southern Pacific Shasta Division in 1926 was housed in a separate 24'X60' out-building. The design incorporated a 40" minimum radius with easements. When possible, design elements followed original SP and Sanborn Fire Maps. The Gerber wye and engine house had to be relocated to the west end of the yard instead of coming off the stock yard and PFE icing facility tracks, which would have extended it far into the room. The layout was designed for switching operations. – GR

The line up from the lower deck transitions to the upper deck by passing below the Sacramento Valley & Eastern town of Copper City. The elevation of the upper deck put the Morley wye and Dunsmuir staging overhead. – BH

Minimal Compression, Busy Ops

The Gulf, Colorado & Santa Fe, Dallas District

Story and images by James Peterson

My Gulf, Colorado & Santa Fe (GCSF) HO scale model railroad replicates the Santa Fe Railway in Dallas in 1960. Actual Santa Fe plans have been used to depict the railroad from Mile Post 44 in Oak Cliff, through East Dallas Yard, to Mile Post 53.4 near the Texas State Fair Grounds.

Selective compression reduces this mainline to approximately 250 feet or about four scale miles, for a compression ratio of 2.5:1 or 40%. The layout is single-decked with wide aisles. It occupies a 25'X38' space and an adjoining hallway with staging sharing a model-building studio in another room. Three large staging yards represent Cleburne, Gainesville, and Dallas Union Terminal (track plan page 23).

Influenced by the past ... and today

Several factors were significant in selecting this section of the Dallas District as the basis for my model railroad. Foremost was the fact that I grew up near these tracks. My father's business was next to Santa Fe's East

Dallas Yard. Additionally, from our home in Oak Cliff, we had to drive across the tracks several times a week to shop, go to church, or visit friends.

A second factor was Santa Fe's decision to sell this right-of-way to Dallas Area Rapid Transit just prior to Santa Fe's merger with the Burlington Northern. DART developed the right-of-way into their Red Line light rail route to Westmoreland Road.

Heavy prototype traffic for engaging operations in a given space

A third influence in narrowing the focus to just the 9½ miles chosen for the model was discovered while doing research on the line. Santa Fe's transcontinental mainline had been equipped with CTC (Central Traffic Control) more than a decade before the 1960 era that I model.

But many of Santa Fe's branch lines, including most of their track in Texas, remained dark territory – without signals and controlled by train orders or warrants. Because the seven or so miles right in the middle of Dallas saw so much traffic, though, Santa Fe chose to install CTC, or TCS as the Santa Fe called their Train Control System flavor of CTC.

From an operations standpoint, it's hard to go wrong by modeling a heavily trafficked region. The CTC on this line was controlled from Tower 19, which has been preserved and now is on display at the Museum of the American Railroad in Frisco, Texas.

Selective compression and fast time

Most model railroads employ some measure of selective compression, frequently 10:1, 20:1, 30:1, or more. Many operating layouts use fast clocks set at three- or four to one.

By contrast, my Gulf Lines uses a compression ratio of 2.5:1 for track length, train length, and time. This relatively low ratio may require operators to recalibrate their mental yardstick and internal clock.

Using the same value for all three ratios, however, keeps everything in proportion. A prototype Santa Fe train in 1960 often mea-



Yardmaster and switch crewmen in East Dallas Yard. James' layout duplicates a relatively short segment of main line with high traffic levels – a great modeling option for our always-too-small spaces.

Proto-freelance Prairie Shortline

The Dakota Northern is N Scale railroading at its best

Story and images by Olaf Melhouse, except as noted

The Dakota Northern Railroad is an N-Scale model railroad set in North Dakota in the late 1970s. The area modeled is the old Great Northern Railway mainline between Grand Forks and Minot, ND. My Dakota Northern* is now a subsidiary of the Burlington Northern Railroad. Devils Lake is my home town and the headquarters for the railroad.

Prairie “castles”

This is wheat-farming country. The area around Devils Lake grows the best Durum wheat in the world. Grain elevators are the castles on the prairie and the Dakota Northern exists to serve these industries. There are a total of seven large grain elevators on the layout. We also have numerous fertilizer plants, farm equipment dealers, bulk oil facilities, a rock quarry, a cement plant, and a coal-burning power plant. Most of these buildings are scratchbuilt.

The layout was started in 1994 and is about 99% complete. It occupies a 12'X20' addition to our home (track plan page 29). The layout was featured in the April 2000 issue of *Model Railroader* and the Sept/Oct 2002 issue of *N Scale Railroader*. A number of articles have also been in *RailModel Journal* on scratch-building structures, my favorite part of the hobby.

Designed and built for operation

The layout is designed for walk-around operation using digital command control. The 3' wide aisles are spacious enough for two operators to pass. Nominal layout height is 52 inches. All turnouts are manually operated and can be reached from the front of the layout. The layout was built using box construction; backdrops are 1/8" painted hardboard. Scenery is joint compound over nylon screen covered with ground foam.

* There is also a real-life Dakota Northern Railroad serving a different area of North Dakota using former BNSF railroad trackage. Olaf wrote about a portion of that prototype shortline in *LDJ-70, 3rd Qtr. 2021* – BH



Grain is being loaded at the two large elevators next to the Farmers Line Interchange Yard in Devils Lake. The modeled elevators represent different types of construction, as often seen on the prototype (photo below). Olaf's scratchbuilt models dwarf the railcars, as in real life.



This modern grain elevator at Fessenden, ND on the former Soo Line (now CP Rail) is located near Sheyenne, one of the towns modeled on Olaf's layout. Grain elevators still generate lots of rail traffic today, just as they do on the layout. Photo by J. Stephen Conn; Creative Commons license BY-SA 2.0 DEED

(Lever Brothers, American Standard, GM Assembly, Canton RR interchange, and others); and the Patapsco Neck Branch (Fort Holabird, Bethlehem Steel, and others).

Vision complete

So the Concept revolves around switching a heavily industrialized branch with several switch runs and locally based switchers in the early 1950's. Now that we have a basic understanding of the traffic and how the branches out of Bayview work, we can delve into layout constraints.

Finding a footprint that fits

It is important to understand the concept for the layout as a guiding principle before moving on to its Structure. The constraints of

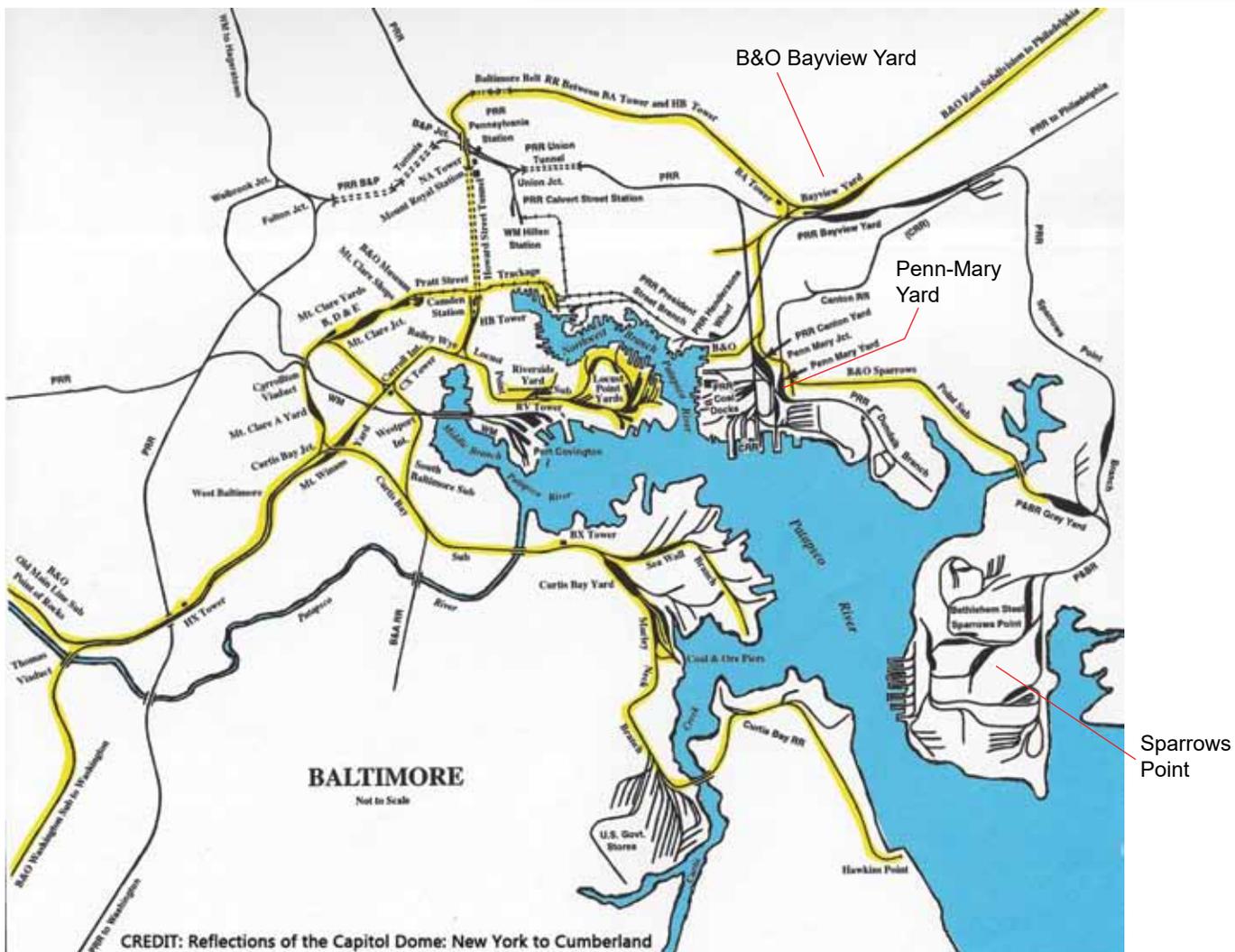
Concept, Footprint, Detail

Although many different processes can lead to an engaging and satisfying model railroad, the LDSIG *Layout Design Bootcamp* presented at past (and future) NMRCA Conventions suggests a three-phase approach:

Concept. The conceptual phase is free-form, unbounded by the realities of space, time, and money. The idea is to establish the vision, theme, and personality of the layout: the story you wish to tell to visitors and operators. Ideas may be captured in text, free-form sketches, and/or a “scrapbook” of published images. But nothing is yet to scale.

Footprint/Structural. This *iterative* phase is to-scale, but still not spending time in detailed design. Real-life room dimensions are respected, but layout elements are only roughed-in. CAD is often used today, but this phase is quite similar to John Armstrong’s “By-the-Squares” sketching method of determining what will fit. Room for people is a key focus.

Detail. Once a rough Footprint for the layout is selected, only then should one move to the detailed design: yards, staging, towns, etc., etc. Unfortunately, some designers *begin* here, which limits their flexibility and narrows their vision too much and too soon. – BH



Rail traffic grew rapidly after much of the land in the Baltimore area had already been committed to residential or industrial uses. So a number of smaller satellite yards were established in the area rather than a few very large yards. These yards and the industrial branches they served are the focus of Travers’s layout. The traffic between Bayview Yard and various industries is the theme for this “ten-turnout” element.

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Yes No Special interest or skill: _____

Would you be willing to be a presenter or clinician at a national, regional or local meet? Yes No

Do you model a specific prototype? Yes No Prototype(s) modeled: _____

What specific areas or locale of railroading do you model (location) ? _____

Era modeled: _____ Scale(s): _____

Other interests (Main line, branch, yards, division, multi-scales, etc.) _____

Status of layout: _____

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