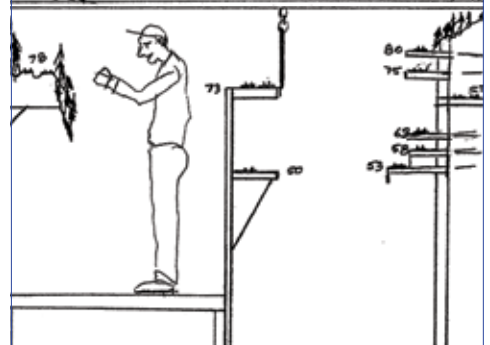
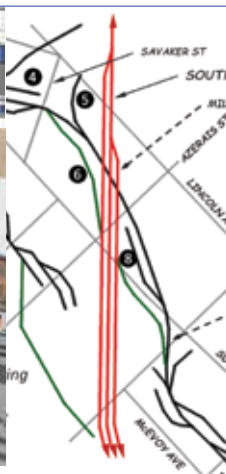
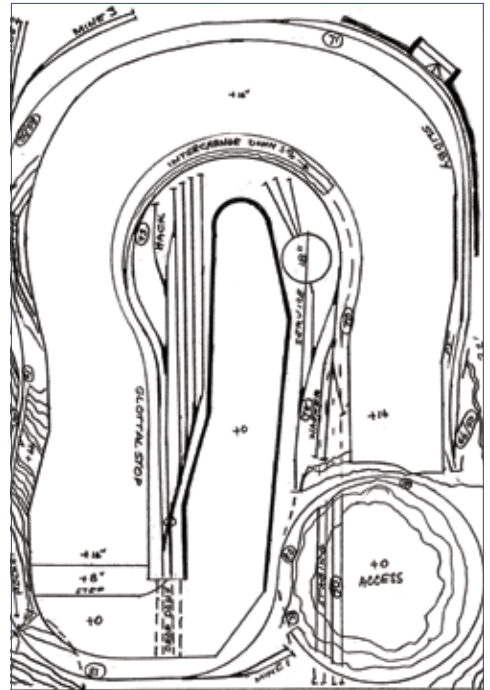
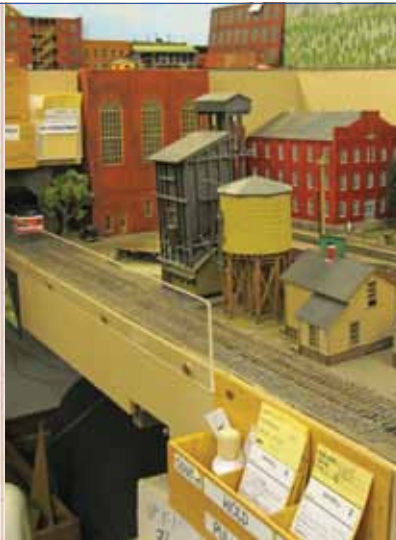
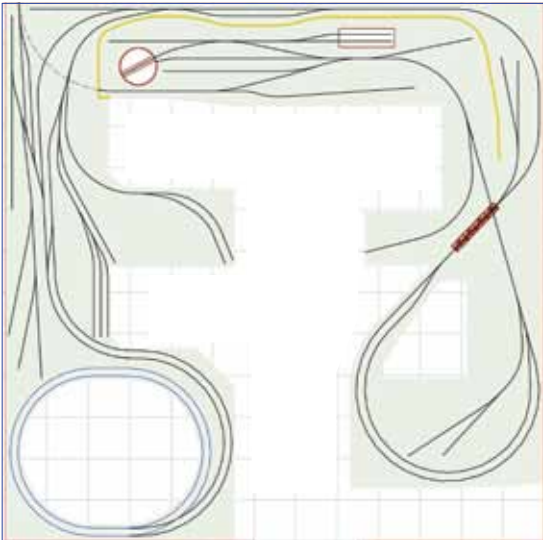


LAYOUT DESIGN



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Going Vertical in Mid-Size Space
Mountain Mushroom in S
N Scale WP San Jose Branch
Railcar Storage Idea
Board Election; Indy 2016



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Going Vertical in a Mid-Sized Space

Unique room, benchwork, and staging for a 1944 shortline

by Verne Alexander

As described in the sidebar “Gestation of an Idea” (page 5), I was born and raised in a railroad family and within the sights and sound of the Northern Pacific in Spokane, Washington. One fateful day in late 1953 a friend showed me a copy of *Model Railroader* with a Varney ad on the back cover featuring John Allen’s Gorre and Daphetid and my interest in model railroading was born.

True confession: as I started to think about having a layout, I was governed by how cool I thought John Allen’s “Gory and Defeated” name was. I started thinking about Spokane and Eastern Washington and got my cool railroad name, the Colville, Republic, and Palouse (CRAP). My HO layout is set in 1944 and is inspired by Great Northern and Northern Pacific branches that ran from Spokane to British Columbia and on to Republic, WA; and from Spokane to the Palouse area of eastern Washington respectively (see schematic below).

The perks of profreelancing

I had a lot of fun putting together my amalgam of historical fact and freelance fiction – a colorful history of men’s schemes and their wives’ demands, in the midst of which the CRAP acquired a herald that featured a fanciful outhouse and the slogan “The Chic Sales Route”! It’s only the exigencies of war-time traffic that have kept the line running into 1944 – and when the war is gone, so will be the CRAP.

In my mind this sort of thing gives one’s layout some logical plausibility and firmly places it in a defined geographical area and in a particular time. The research involved is not

dissimilar to that done by those who choose to model an actual prototype: the same books are read, old newspapers are reviewed, historical photographs are collected and studied, and contemporary photos are taken.

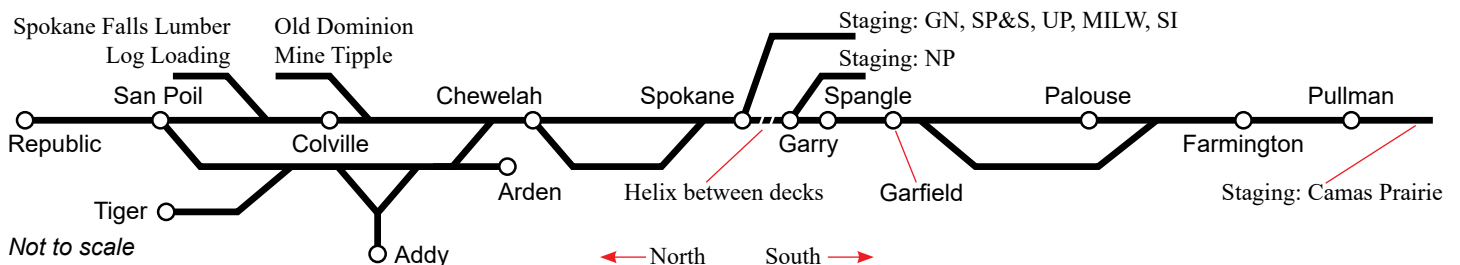
The difference is that I, as a freelancer, can then pick and choose what I want to model, with a little more creative leeway than is afforded the strictly prototype modeler.

In the real world neither of my family’s industries (The Old Dominion Mine and the Staeheli Creamery) had rail service. They do on the CRAP. Similarly, NP’s motor cars, the A-1 McKeen (scrapped) and shorty EMC/St. Louis B-3 (made a shop switcher), still operate as they were originally intended in the world I have created for the CRAP. And some of the CRAP’s leased locomotives were actually in service on their real-life prototypes in this time frame, but I get to fabricate stories about how they were replaced by larger power and leased out to the CRAP.

On the other hand, I can also choose elements from the real world, such as the Spokane Telegraph School, and make it as important to the CRAP as it was to other real-world railroads. The men were off fighting the war, so the women had to be trained to become station agents and operators. Many of the businesses and industries on the CRAP were there in the real world, at least in name.

Let’s get physical

Even after I put all that together, the CRAP still only existed within the confines of my mind. It finally was time to create a physical presence, i.e., a layout. I didn’t have a whole



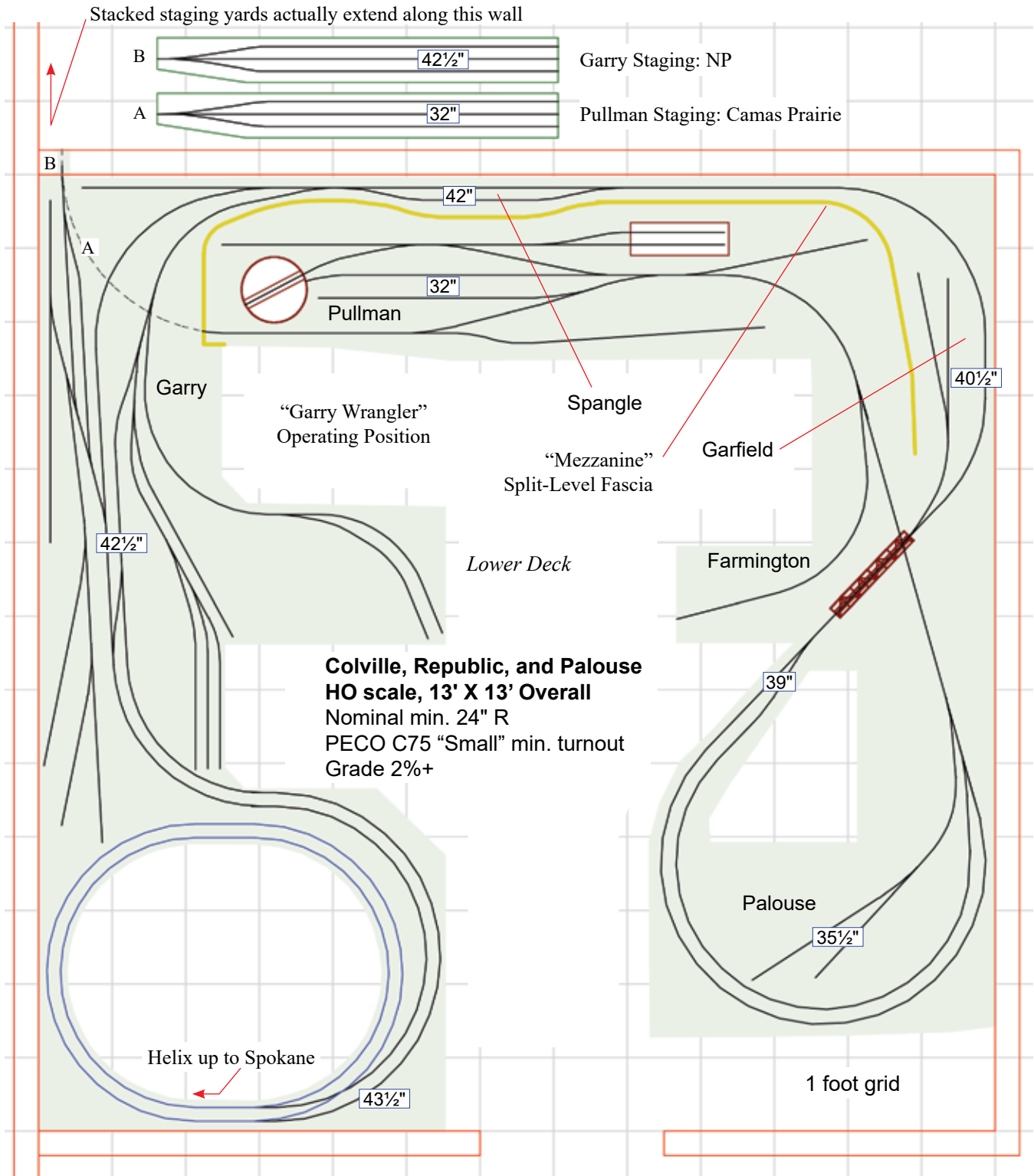
The profreelance CRAP extends north and south from Spokane, including towns that were actually served by Northern Pacific and Great Northern branches. Verne’s imagined geography is slightly different from the real world, so the schematic above represents the layout’s reality.

discovered I could not build what I had drawn on the plan. There was not enough room for three track switches; only for two. If I were more wired than I am, and knew how to use an appropriate CAD program, this realization might have come earlier than it did to the paper and pencil guy!

The upshot of the matter was that I *stopped drawing plans*. My new planning tools were

turnouts and lengths of flex track. I knew what I wanted to happen in each of my city and town areas. I simply shuffled the turnouts and track into various configurations until I stumbled on one that would work.

Sometimes I had a friend do the same thing I had done in an area to see what he came up with. Our efforts typically led to the same configurations. While I am modeling



Mountain Mushroom in S Scale

Thoughtful track plan could serve variety of concepts

by David Jasper (aka S. Kayle)

Modeling mountain railroading is about rugged scenery and trains pounding up steep grades. With that in mind, I conceived an up-and-over layout. It is not my intent to specify the track location, turnouts, scenery or buildings, or to pick a specific prototype railroad. Many extraction prototypes would fit this design: lumber; coal; and metals such as iron, gold, and copper; to name a few. Other details are left to that choice and the builder's inclinations. My suggestions are a freelanced coal extraction operation.

Designing in S

I also chose S scale because it is my personal favorite and I wanted to demonstrate that a slightly larger scale (S is 37% larger than HO) could work very well in this relatively modest space. Much of this design is independent of the scale modeled – likely any scale from On3 down would serve in this concept.

That S scale is in one dimension 36.7% larger than HO means that 30" radius in HO is 41.0" radius in S scale. I used 40" as a minimum (and larger when possible). The advantage of S is that volume (and corresponding weight) is 255% larger than HO. A 40' boxcar is basically 8" long over the couplers, but its volume is a real handful. Of course thousands are modeling in Sn3 where the narrow gauge equipment is very close in volume to standard gauge HO. I favor S standard gauge used it for this design.

Vertical considerations

Another focus of this design is the use of vertical space with a suggested benchwork.

Since this *Journal* is about better layout design, I will delve into construction and benchwork design as well.

Design priorities

Except for shelf and switching layouts, my primary criteria (givens) in priority order for any operational "mainline" layout are:

1. Maximize layout edge for following a train without a duck-under.
2. Maximize length of run visible.
3. Only one track in a scene visible at any location (except when behind the operator).
4. Maintain adequate aisle widths of at least 32" for layouts with five and fewer operators with several passing areas of >36".
5. Minimum radius 42" in S standard gauge.
6. Have at least one yard for train makeup and breakdown.
7. Have at least some staging to bring prepared trains and cartage on scene during operation.
8. Provide for turning engines (I am a steam buff).
9. Vertical opening on lower level of 16+".

I failed on two of these criteria: minimum radius and minimum aisle width. The 40" radius is sufficient for a Chesapeake & Ohio (C&O) H-4 articulated. The only time a radius that sharp is used is when it can only be viewed from the inside of the curve so overhang is not offensive.

Mushroom for length

On the plus side, I have increased the length of the layout edge with the use of stacked levels, though multiple stacked levels cannot be seen from any one viewing area (see track plan page 22-23). John Armstrong called this a "mushroom"¹. My objective is to increase the length of table edge with only a single track in view (Armstrong called this "sincere"²). The design has 105 feet of layout

¹ See LDJ-57, page 16, for a brief introduction to the mushroom concept. – BH

² The LDJ suggests the less-judgmental term "once-through" (after all, who wants an "insincere" layout?). – BH

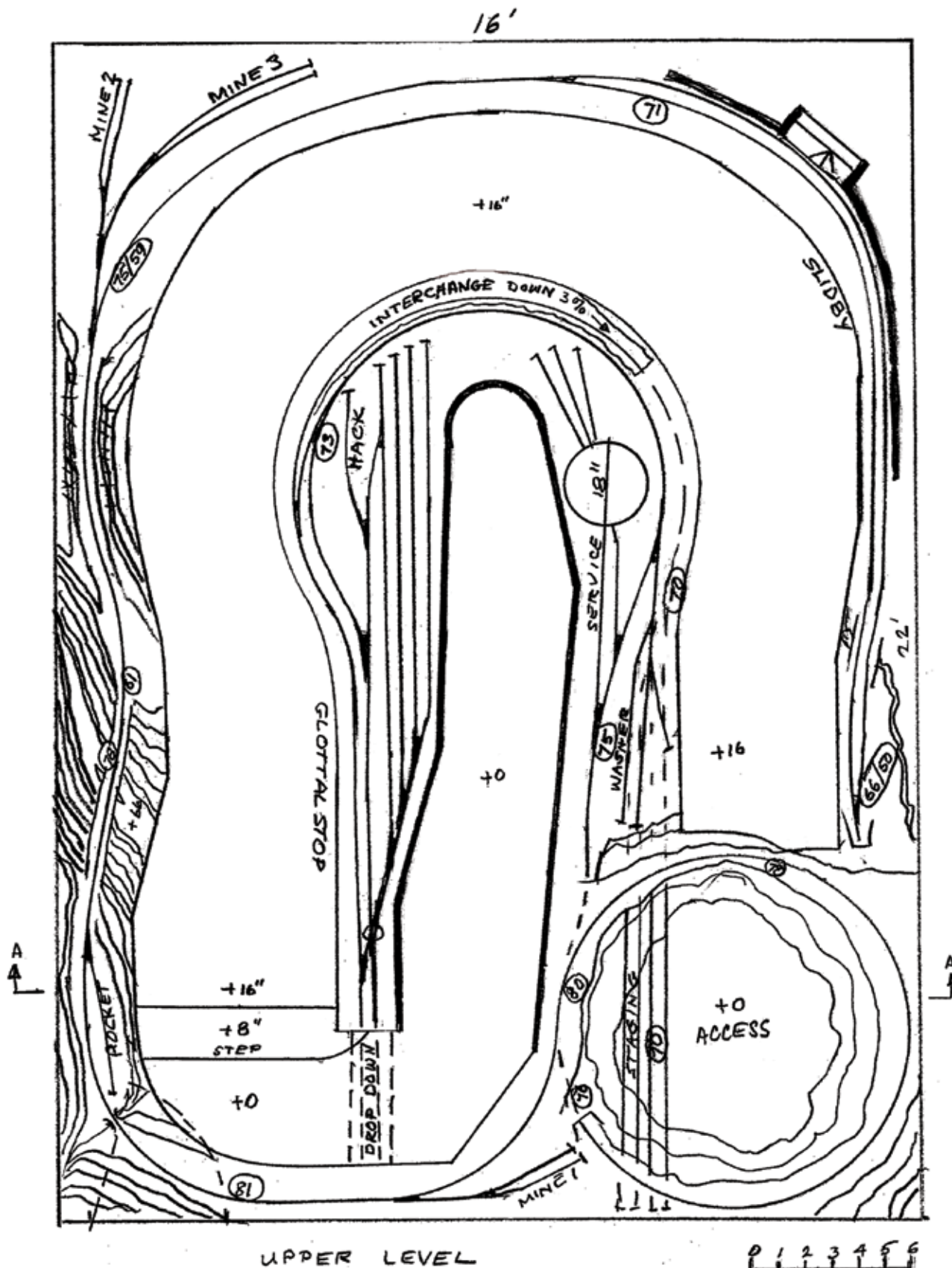
"... a radius that sharp ... can only be viewed from the inside of the curve ... so overhang is not offensive"

More Mountain Challenge Articles

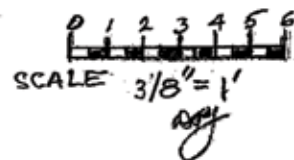
The LDJ Mountain Design Challenge for a 16' X 22' bonus room was described in LDJ-55 and is also found here:

www.layoutvision.com/ldj_challenge.html

The first Mountain Challenge article was printed in LDJ-57, and several more will follow in future LDJs. Our next challenge for a new space and theme will be announced in LDJ-59. Thanks to all who participated! – BH



UPPER LEVEL



The upper deck climbs sufficiently to clear the 80" doorway to allow "no duck" entry into the room (the drop-down yard extension being the only exception). A 16" raised floor brings the effective railhead height of the upper terminal of Glottalstop to 57". Dave included modest engine terminals with turntables at each end for keeping the steam engines pointed in the proper direction.

support, but later opted for removable legs that provide better under-layout access. I agreed to avoid attaching anything to the walls, so the 18" wide benchwork needed to be free standing and stable – even in a California earthquake.

Prototype inspiration – the WP

The Hardlee-Wurthitt was freelanced, and I wanted a more prototypical feel this time around. I've always loved the Western Pacific's underdog charm and its beautiful orange and silver colors. I also live near the ex-WP (now Union Pacific) mainline as it enters the San Francisco Bay Area, so it was an easy decision to use the WP for inspiration.

With my limited space best suited to switching operations, I considered modeling areas in Oakland or San Jose, through which the WP ran a 23-mile branch line (Figure 2). I began with the San Jose branch by reviewing online information posted by WP enthusiasts, reading books about WP history, visiting the San Jose library to inspect Sanborn maps and city directories, reviewing historic aerial photos, and reading about the WP's shipping customers. I really liked the modeling opportunities and it wasn't long before I focused exclusively on San Jose.

Since I wanted to run GP-7s and the occasional F-unit, which were built in the late 1940s and early 1950s, I had about a 30-year window (to the 1982 merger with UP) from which to select my model era, less if I wanted my orange-and-silver GP7s to be era-appropriate (they were repainted green in the early 1970s). I chose 1962 because it was information-rich and had an interesting mix of shippers. I focused on the summer season because I wanted a lot of rail traffic from the San Jose fruit packers.

I initially laid out track sketches where the WP crossed the Southern Pacific (SP) at Valbrick in San Jose, an area where important tracks ran at right angles to each other (Figure 3). However, the more I tried to capture the feel of the area, the more I realized that the Valbrick track complexity was ill-suited to a narrow layout like mine. I would have enjoyed the visual directionality of the east-west and north-south (by compass) arrangement and the SP crossing and interchange, but I didn't have enough real estate to capture the feel I wanted.

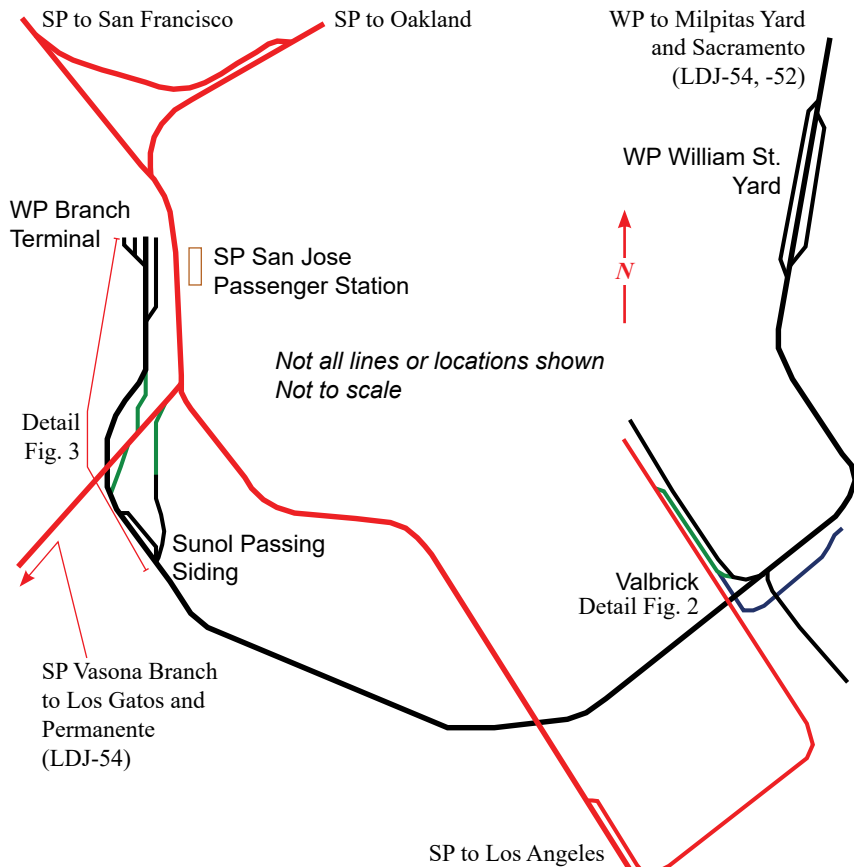


Figure 2. This overall spotting map for San Jose shows the general arrangement of the Western Pacific and Southern Pacific tracks in the modeled era.

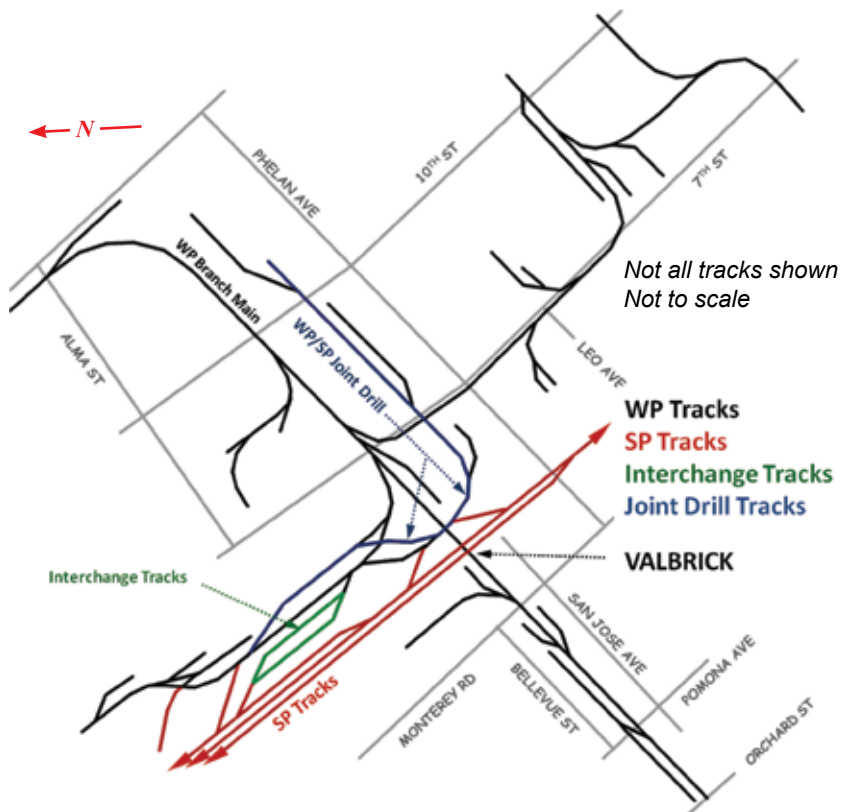


Figure 3. The WP-SP Valbrick crossing. The 90-degree track arrangement offers visual interest in an area with a wide variety of shippers, joint switching, and interchange between the two carriers.

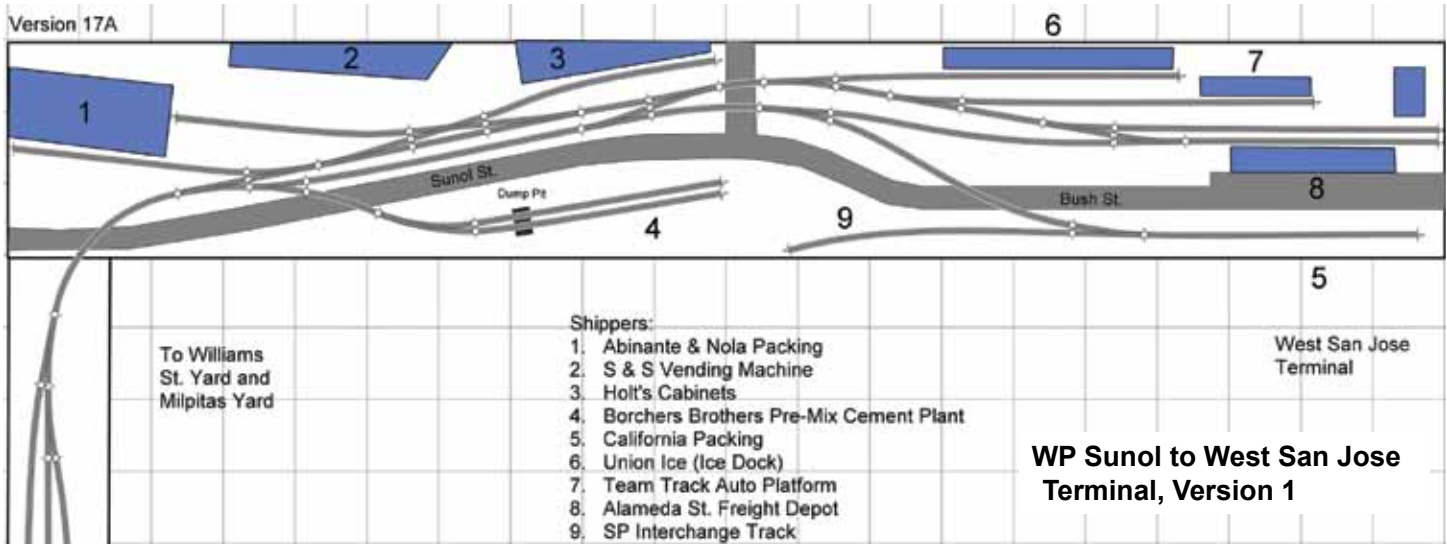


Figure 11. Michael's next version replaced the short end-of-branch staging track with a version of the WP's actual branch-end terminus. This version was submitted for an independent design review.

An independent design review

To this point I had explored design options for several months, amassed over sixty track variations, and needed a break to give myself new mental space. Knowing how impactful a fresh set of knowledgeable eyes can be, I asked Byron Henderson

for a design review. Byron not only pointed out the interchange switchback flaw, he created a list of additional recommendations for me to consider.

These included maximizing the track angle on the left side of the layout to increase the appearance of separation, increasing realism by moving the Borchers Brothers dump pit to the middle of the spurs², rerouting the West San Jose runaround tracks to be more parallel, including a Plant 51 fascia flat, extending the auto platform track to accommodate the gantry crane, and replacing the staging crossover with a turntable. Byron also recommended I think more about including an SP crossing, even if it required layout sections of different lengths.

With the exception of that crossing, I implemented all of Byron's ideas. In doing so I discovered that in order to add the Plant 51 fascia flat and provide for reasonable truck parking at the freight depot, I needed more space. I compromised by eliminating the second freight depot track and compressing the

remaining three spurs, which also gave me a bit more length on the remaining freight depot track for a runaround move. By moving the gantry crane to the auto platform track I was able to include both features. Since my GP-7s don't need to turn, I substituted a linear traverser for the turntable. The resulting track plan is shown in Figure 12, page 34.

The final design

The layout feels like it has settled into a solid design, one that packs a lot of operational interest into twenty square feet. I'll be able to model a variety of large structures and experiment with different construction techniques, just like I wanted. A shortcoming is that five tracks now cross the boundary between layout sections; a fact that I'm sure will be driven

Tips ...

- Branch lines and secondary mains can be modelgenic layout inspirations, including their interaction with other railroads.
- Urban locales concentrate operating interests and often justify larger, more realistic structures, which may be modeled as flats against the backdrop or aisle (fascia flats).
- Choosing well-documented places and eras can be helpful in developing layout plans.

... and Trade-offs

- Rooms that aren't permanently available for the layout aren't ideal, but may still be exploited with sectional and removable benchwork (and negotiation!).
- The most attractive prototype areas on first glance may too large and complex for modeling, but nearby locales may be more achievable.
- Sectional construction for busy trackage may require multiple crossings of benchwork seams. – BH

² See "Room to Roll for Realism"; LDJ-56, page 23. – BH