



Motors 604 and 603 pull cars off the ferry *Ramon* at Mallard, Calif., on the south shore of Suisun Bay. Reginald McGovern photo

# Sacramento by train... and by ferry

Plan for an 11 x 19-foot switching layout features street running and ferry operations

By John Williams

**T**he Sacramento Northern Ry. (SN) was conceived by predecessor company Oakland, Antioch, & Eastern as an interurban route between the San Francisco Bay area and Sacramento. Although the SN abandoned passenger service in 1941, electric freight service continued until 1957.

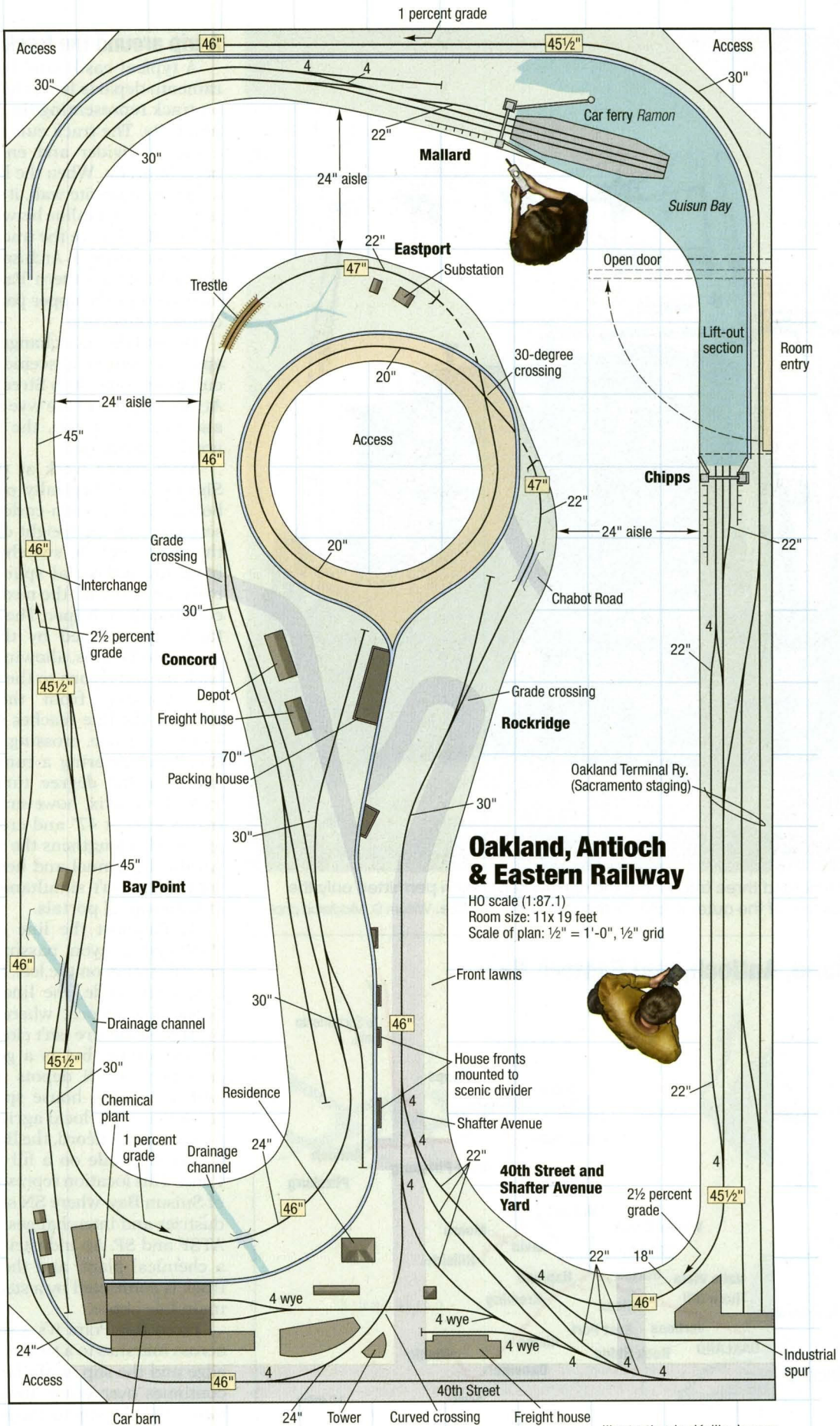
From the 40th and Shafter Yard in Oakland, westbound freights continued over Key System tracks to the Oakland Terminal Ry., which served the important Oakland Army Base. This was the only access to the base for the Western Pacific, SN's parent company, until a new connection came in 1957.

## ▶▶ The track plan at a glance

**Name:** Oakland, Antioch, & Eastern Ry.  
**Scale:** HO (1:87.1)  
**Room size:** 10'-6" x 19'-0"  
**Prototype:** Sacramento Northern Ry.  
**Locale:** San Francisco Bay area, California  
**Era:** Late 1940s to early 1960s  
**Style:** shelf with central peninsula  
**Mainline run:** 108 feet  
**Minimum radius:** 18"  
**Maximum grade:** 4 percent  
**Minimum turnout:** no. 4

Having researched the Sacramento Northern Ry.'s South End route (<http://people.virginia.edu/~ggg9y/home.html>), stretching from Oakland to Sacramento, Calif., I was easily convinced that its interurban origins, short trains, steep grades, tight curves, and minimal facilities would make it ideal for developing into an HO scale layout.

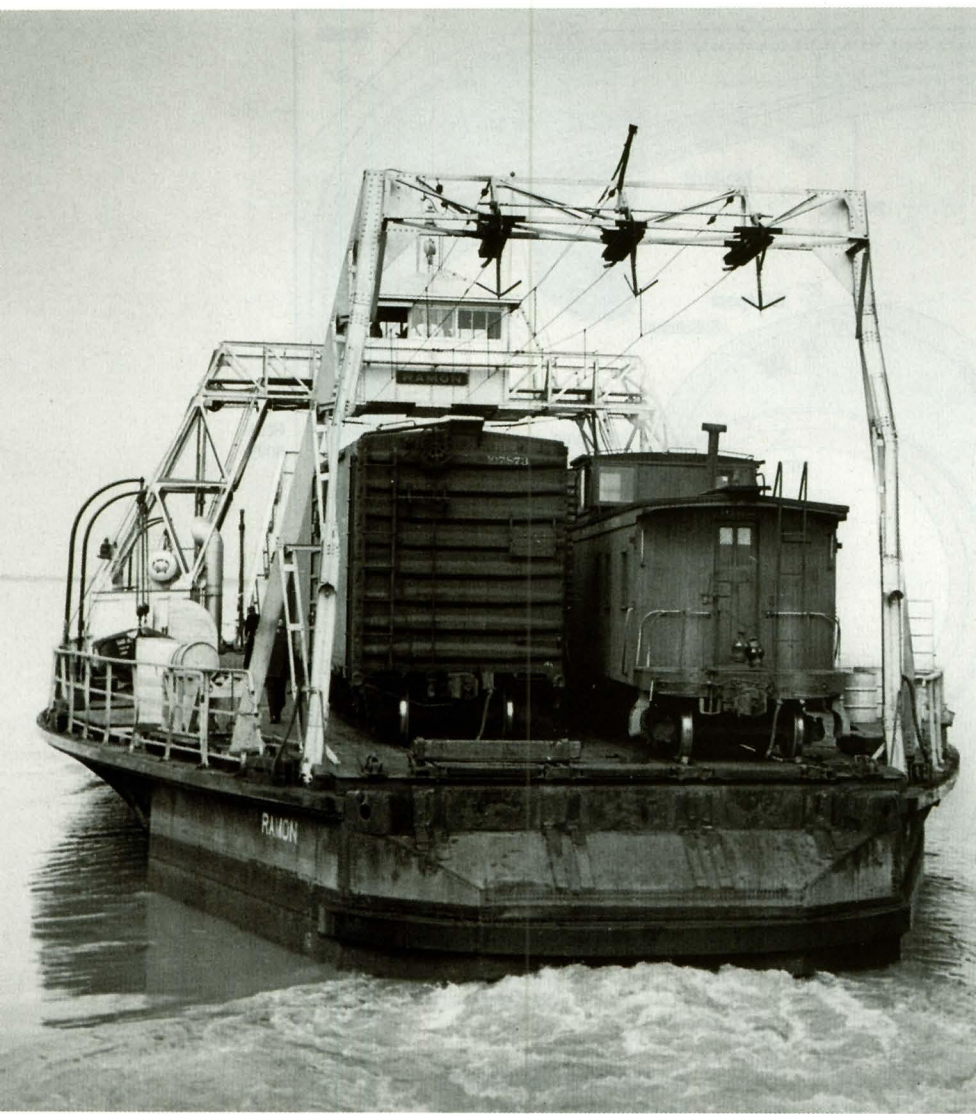
Though many signature elements found along the south end route can be re-created on a layout, I avoided the complexities of overhead wiring by designing my plan for diesel operation.



### Oakland, Antioch & Eastern Railway

HO scale (1:87.1)  
 Room size: 11x19 feet  
 Scale of plan: 1/2" = 1'-0", 1/2" grid

Illustration by Kellie Jaeger



The *Ramon* included three tracks, but the narrow separation permitted only the simultaneous use of the outer tracks or the one in the middle. William D. Middleton photo

## A trip around the track plan

A typical eastbound freight to Sacramento departs from the staging area on track representing the Oakland Terminal Ry. The track curves left behind a scenic divider and encounters a 1 percent grade. When the line reappears along the opposite wall, it's running adjacent to the mainline between Bay Point and Mallard. Here the track is masquerading as either a Atchison, Topeka & Santa Fe or Southern Pacific line and incorporates the upper part of an interchange connection.

Beyond the interchange, the line disappears behind a scenic divider and curves left onto 40th Street in Oakland. At the west end of the wye at 40th Street and Shafter Avenue, the route swings north onto Shafter.

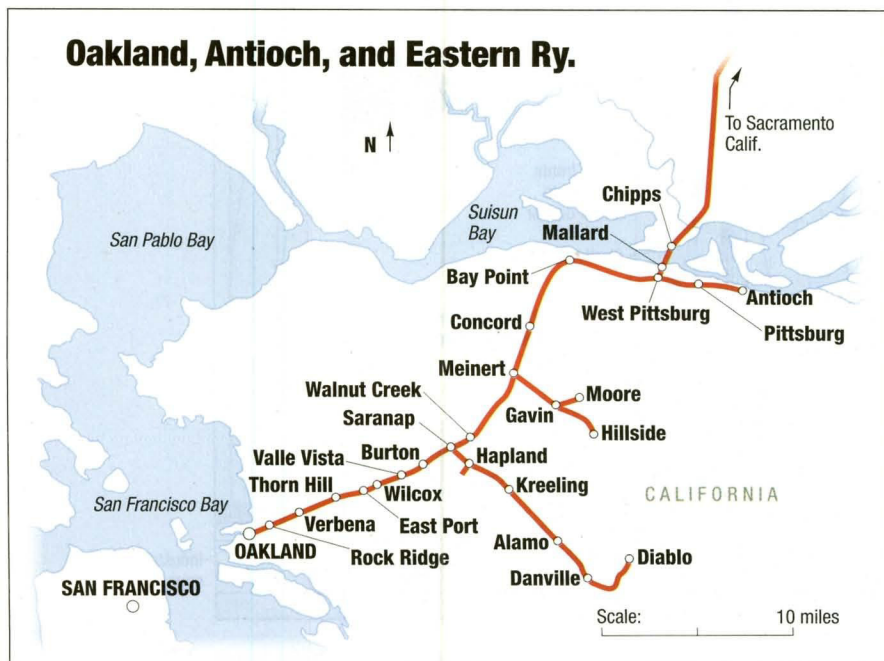
Most trains work at the 40th and Shafter Yard, typically pulling an SN boxcar in less-than-carload-lot (LCL) service from the freight depot track to the head end or switching out cars from the industrial spur. All freights between here and the next stop at Concord require a helper. The short spur at Rockridge is used by the helper on westbound trains, allowing it to cut off, back in, and return to the yard.

Continuing from the Rockridge turnout, the line reaches the end of its 4 percent grade, crossing a fill, Chabot Road and entering a tunnel, where it makes a 360 degree turn. This may look like a helix, however, the track remains level at 47" and crosses itself at grade. This lengthens the mainline run within the tunnel and helps conceal a train so it isn't simultaneously visible at both tunnel portals.

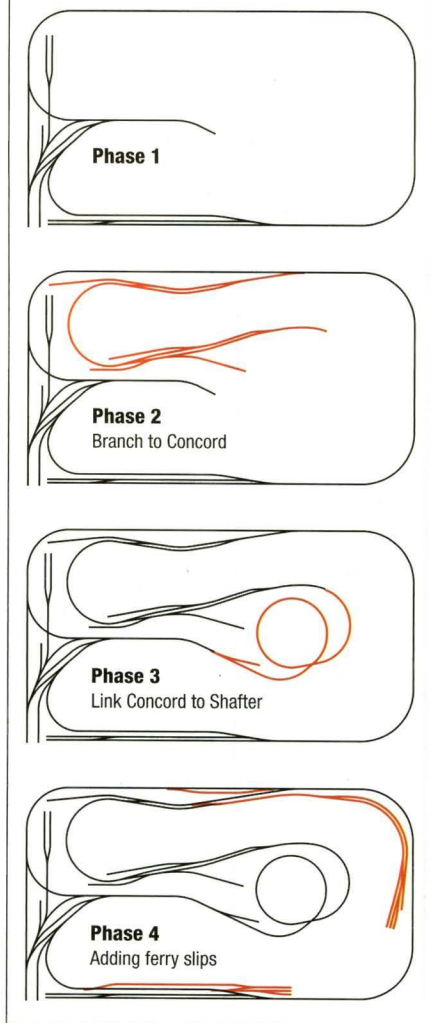
At Eastport the line emerges into Pinehurst Canyon, passing the electrical substation on the left. Descending a 2 percent grade, the line reaches the depot at Concord, where helpers cut off. The structure isn't closely based on the prototype, but is a generic representation of SN depots in this area, with a packing house spur and team track to service local agriculture.

Leaving Concord, the line descends a 1 percent grade on a fill to reach Bay Point. This location represents the shore of Suisun Bay, where SN serves local industries and interchanges cars with the ATSF and SP. An industrial spur serves a chemical plant, and the interchange track is connected by a steep link to the main line above.

From Bay Point it's a short distance across marshes to a trestle at the water's edge and the slip at Mallard. The route continues over water aboard the ferry *Ramon* to the slip at Chipps. The locomotive, after splitting its train and



**Figure 1 Construction phases**



The ferry watchman's dog sits on the approach to the Mallard slip. This area would be modeled in the final phase of constructing the HO layout. Richard Steinheimer photo

showing the sections onto the car ferry, crosses with its consist. Upon arrival, the locomotive pulls the cars off the *Ramon* and into the Oakland Terminal Ry. staging area.

### Car ferry operations

The three track arrangement on the deck of the prototype car ferry *Ramon* was dictated by the necessity to run scheduled passenger service with varying numbers of cars. A short local consisting of two cars could occupy the center track of the ferry, while a six-car express train had to be split and placed on the two outer tracks.

I've designed my shortened model of the ferry *Ramon* to be 25" long, which is enough to accommodate eight cars. This is less than the 56" maximum train length, so extra crossings are needed to move the longest trains. The tracks on the model ferry and apron have a separation of 1¼" so the approach track layouts can be constructed with commercial turnouts and curves of 22" radius.

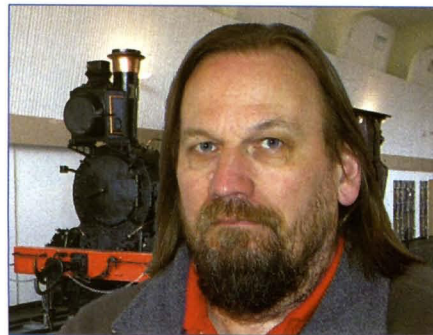
### Construction considerations

One of the most beneficial aspects of this design is the provision for building the layout in four distinct phases. As illustrated above, the layout can be developed to allow operation as soon as the initial phase is completed.

In addition to a phased development of the layout, potential builders will also want to consider other construction aspects of this plan. The minimum aisle width of 24" and the scenic divider on the peninsula could make operation with any more than two people somewhat cramped. If you don't find ferry operations appealing, you could easily build a bridge between the two ports.

If the California locale or the interurban nature of the plan do not appeal to you, think about situating the layout in other parts of North America, where interurban lines interchanged freight with larger, busier Class 1 railroads. For that matter, you could even adapt

the setting of the layout to a coastal island or location along a major lake or waterway to make the most of the car ferry operation. **MR**



### Meet John Williams

John Williams is an electronics repair technician who lives in South Ruislip, Middlesex, United Kingdom.