



8

Model SPECIAL ISSUE
Railroader

GREAT Model Railroads 2024

8 On a Rocky Mountain high **HO**

Building on the bones of his prior layout, Rolf Malmberg brings the D&RGW into the 21st century

By Rolf Malmberg and Steven Otte

18 A Connecticut railfan on the Central Vermont **HO**

Steam rules on this HO scale layout created from childhood memories

By Mat Thompson

26 Industrial railroading in a spare bedroom **HO**

Modeling an industrial complex offers loads of operations in a compact space

By Thomas Klimoski

34

34 20 years of Modutrak **N**

If you've attended a Midwestern train show in the past 20 years, you've probably seen this modular N scale layout

By Keith Kohlmann and Mike Skibbe

44 Digging into the C&O Alleghany Sub **HO**

Expanding this already great model railroad involved excavating an addition to the basement

By Alan Bell

54 City railroad, country railroad **O**

Urban canyons and pastoral scenes in two rooms on a semi-freelanced O scale layout

By Dave Rickaby

62 Down old Kentucky way **HO**

This HO scale L&N layout occupies a 35 x 50-foot outbuilding

By Lou Sassi

72

72 Downsizing by upsizing **On30**

Overwhelmed by a too complex HO scale layout, Pat Thoney embraces the slower pace of an On30 branch line

By Dave Rickaby

80 Going home on the Mineral Point & Northern **HO**

Named for a layout belonging to a former MR editor, the Shullsburg Branch is the author's eighth model railroad

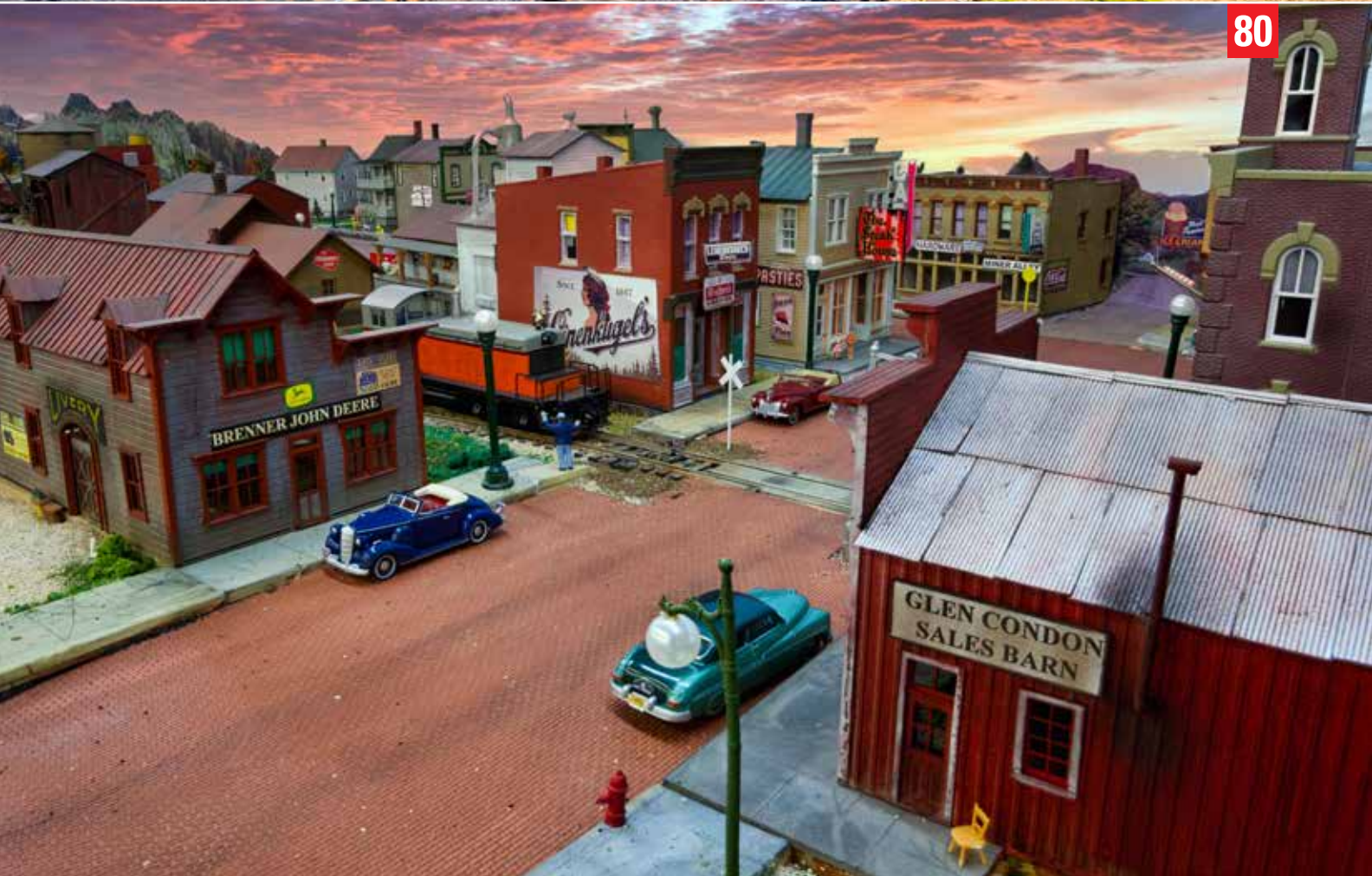
By Gregg Condon

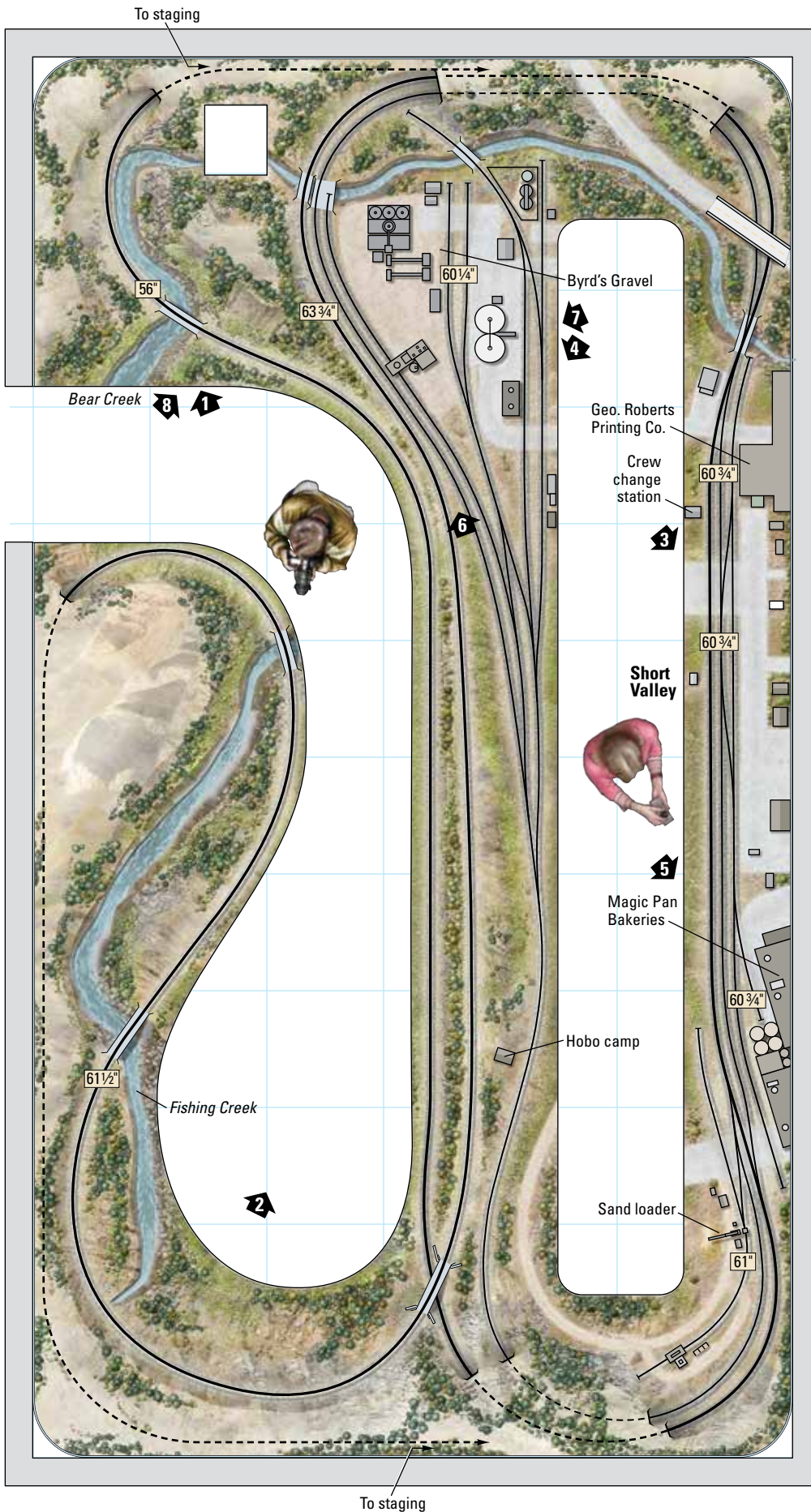
91 Viewpoint

Enhancing realism for the layout operator

By Steven Otte

COVER: Canadian Pacific diesels visit Rolf Malmberg's Short Valley HO scale layout. Rolf Malmberg photo





Short Valley RR

HO scale (1:87.1)

Room size: 13 x 24 feet

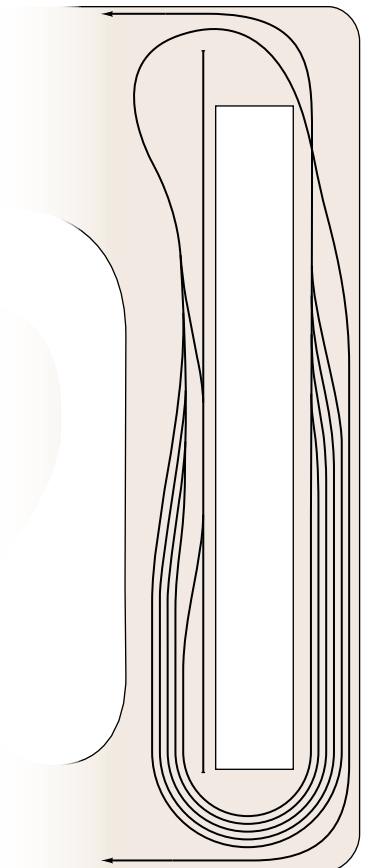
Scale of plan: 3/8" = 1'-0", 24" grid

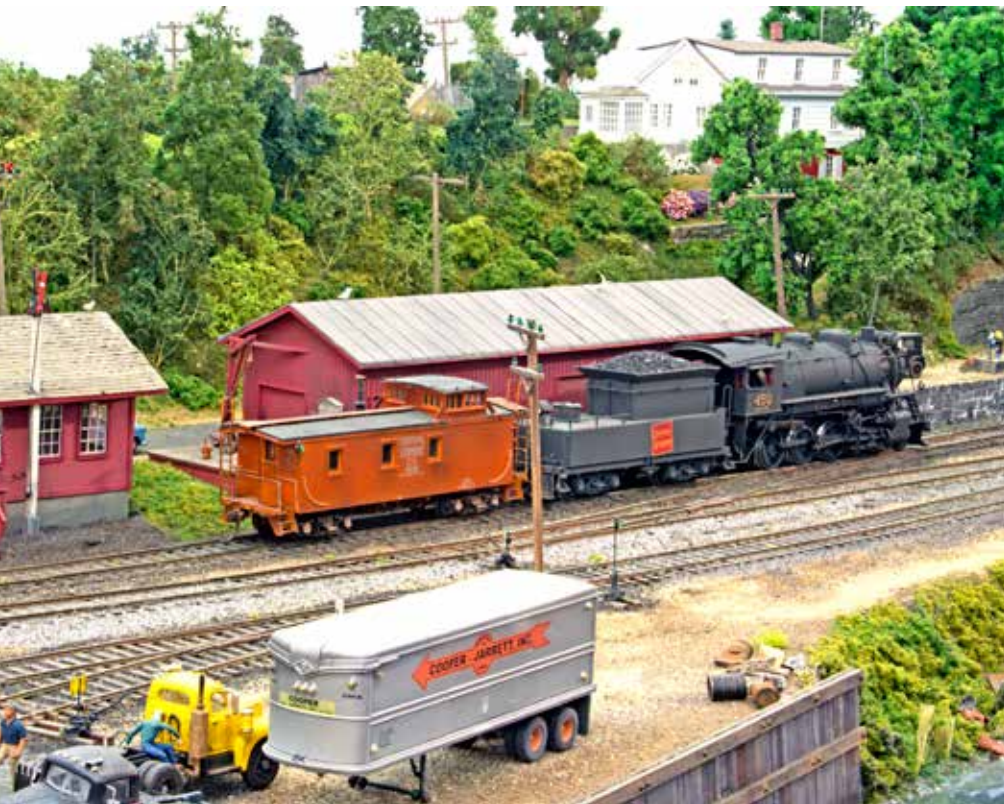
Numbered arrows indicate photo locations

Illustration by Roen Kelly and Kellie Jaeger

➤ Find more plans online in the Trains.com Track Plan Database.

Staging level

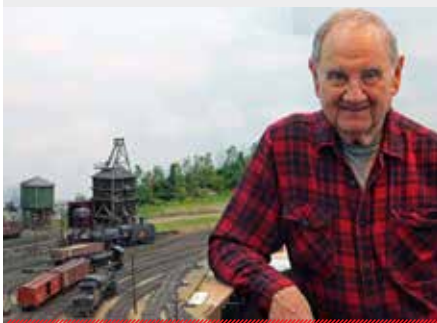




6 As a youngster, John spent many days railfanning around Montville depot and its adjacent freight house, so he has many pleasant memories from back when steam was the prime mover on the CV. The house on the hill is a scratchbuilt model of John's aunt and uncle's home in Montville.

MEET JOHN PAGANONI

JOHN IS RETIRED FROM the U.S. Air Force and CIA. He and his wife, Nancy, live in Manassas, Va., and have two sons and four grandchildren. In addition to working on his HO scale model railroad, John likes playing bluegrass music and building mandolins.



A DETAILED APPROACH

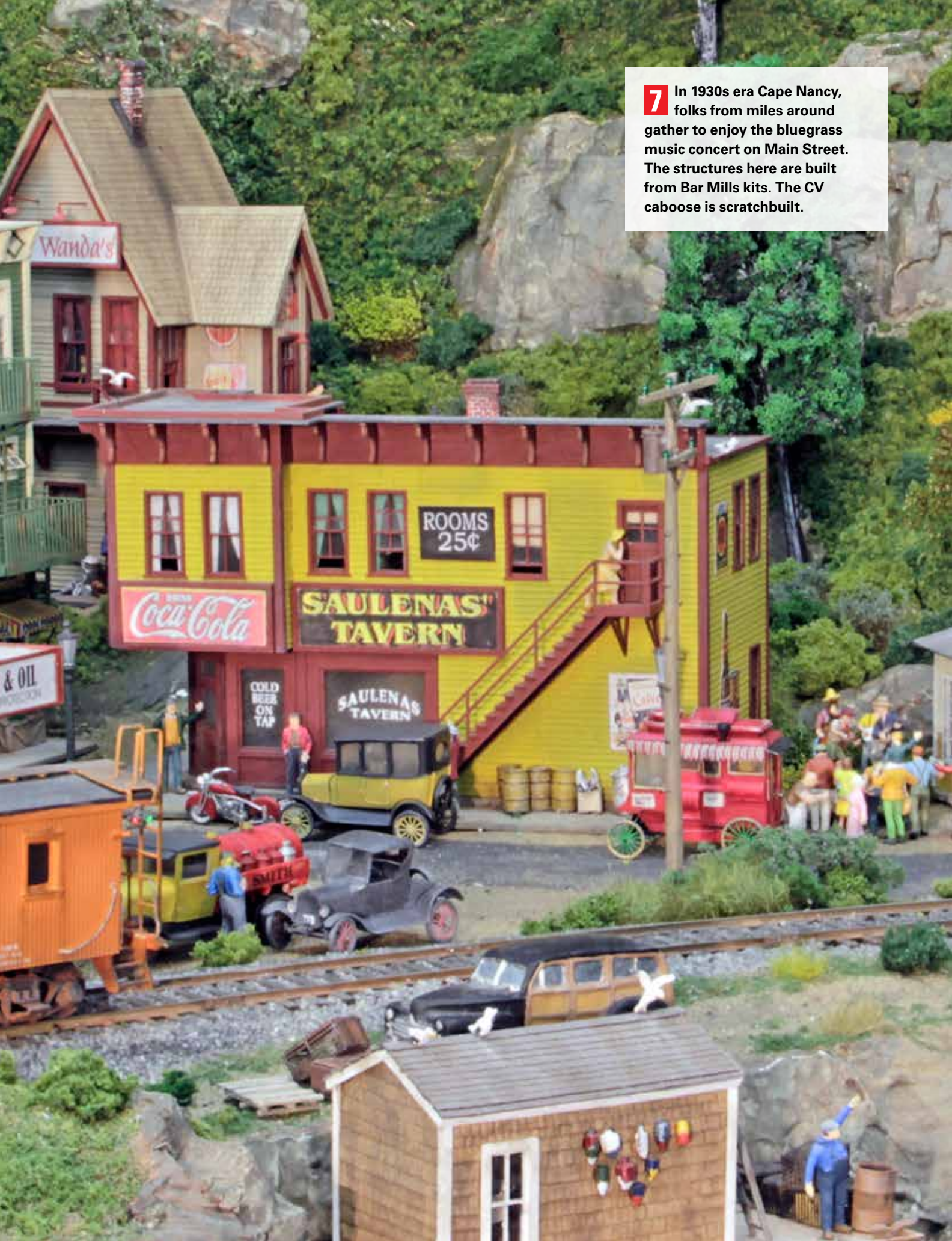
John has done extensive research, drawn plans, and developed parts lists to support his model building. He has shared this work in several articles published in the Central Vermont Railway Historical Society's magazine, *The Ambassador*. That work can be found on the Society's website, cvrhs.com, which includes a table of contents listing for every issue. The site also lists back issues available for purchase.

John is also well known among professional bluegrass musicians for the highly sought after mandolins he creates in his home workshop. This same craftsmanship and his knowledge of tools and materials are obvious in his model railroading work.

Both for musical instruments and railroad models, he has made numerous molds, jigs, and other special tools to provide stability, precision, and accuracy for forming parts and assembling models. His skill level is obvious to anyone visiting his layout. **GMR**

Mat Thompson lives in Gainesville, Va., with his wife, Victoria. His HO scale Oregon Coast RR appeared in Great Model Railroads 2014.





7 In 1930s era Cape Nancy, folks from miles around gather to enjoy the bluegrass music concert on Main Street. The structures here are built from Bar Mills kits. The CV caboose is scratchbuilt.



2 Extra 6178W, hauling empty hoppers back to the mines of West Virginia, makes its meet with Manifest Train 94 at Eagle Rock. The C&O moved loaded coal to the docks at Newport News for shipment overseas. Chris Wiley scratchbuilt the station based on prototype photos and field visits.

IN MIKE BURGETT'S BASEMENT, the visitor stands at the intersection of avocation and vocation. The planning and building of Mike's HO scale Chesapeake & Ohio model railroad is the culmination of a lifetime of childhood and professional railroading experience. His creation models several key locations along the 191 miles of the Chesapeake & Ohio main line between Hinton, W.Va., and Gladstone, Va.

The foundation of the railroad is prototypical and operational accuracy. Just as in his hobby of Civil War re-enacting, Mike doesn't simply fire the cannon. He also focuses on all the logistics and protocols of moving and preparing the cannon for battle.

It was the same in the construction of the railroad. Mike has enlisted many talented friends to assist in the build. Mike is always quick to credit and thank a long list of people who have provided countless hours to help him realize his completed masterpiece.

Mike's early introduction to the hobby began as a child watching *Model Railroading* on PBS. One episode in particular, featuring Allen McClelland, showed Mike that a model railroad could be much more than some track on a piece of bare plywood.

INSPIRATION

The formation of his C&O railroad began in 1989. At age 12, Mike was introduced to Stewart H. Bostic. Stewart, a neighbor to Mike's grandparents in Iron Gate, Va., was the Division Engineer of Signals for Chessie System and later CSX. Following that introduction, Mike spent many visits to his grandparents' place accompanying Stewart on trips to inspect the signal equipment along the former C&O main line. Under Stewart's mentorship, Mike's interest in and understanding of railroad signaling systems grew. Fast forward to today, and Mike is Division Engineer of Signals for the Canadian National Ry., based out of Detroit.

After spending countless hours visiting the towns along the former C&O main line and witnessing the equipment and operation of the prototype, Mike began forming the vision for his future model railroad. Joining the C&O Historical Society expanded his railroad community network and forged a lifelong friendship with Lynchburg, Va., resident Chris Wiley.

Chris' interest in the C&O was through his father, who knew numerous C&O employees and took young Chris on countless railfan journeys. Chris' knowledge and contacts within the C&O Historical Society provided Mike with a wealth of C&O operation information. Chris would later become a significant

influence in helping Mike with his scenery techniques and structures.

Mike purchased his home in 2003 and immediately began planning his railroad. He selected the James River Subdivision (Clifton Forge to Gladstone) based on his childhood memories and prototype research.

PLANNING BEGINS

Layout planning began with the selection of towns with interesting trackwork and signaling. This included scenic vignettes he found appealing and industries with challenging switching work performed by the train crews.

In the spring of 2004, with a preliminary plan drafted, Mike and Chris canoed the James River to refine the main line right of way. The James River, the namesake of the C&O subdivision, parallels the main line and is the only way to see many locations not visible from the road. The canoe trip was important to the model railroad, as the visitor standing in the aisle is standing in the James River. Following the canoe trip, revisions to the plan were incorporated and construction began.

Being a signal engineer, Mike created his track plan and supporting CTC signal system following prototype standards. The type and location of all switch machines, signals, masts, equipment boxes, rail gaps, signage, and more reflect the prototype. Likewise, the roadbed and track profiles follow prototype standards. Curves include superelevation and passing tracks are at a lower elevation than the main track.

Research and planning didn't focus solely on the physical plant and signal system, but also included the time period. Mike's fondness for second-generation diesels led him to set the railroad in the summer of 1965. This was chosen deliberately to be one year prior to the Interstate Commerce Commission's 1966 approval of C&O's takeover of the Baltimore & Ohio, which began altering the traffic across much of the Eastern Region.

Up to that point, C&O had a controlling interest in the B&O but couldn't formally take operational control. By 1968, most Cincinnati-bound traffic (trains 94 and 95) was moved to the B&O, and passenger trains 3 and 4 were removed from



Tower operator Jim Anders lines a route through the GRS Model 5 interlocking machine at Lynchburg's ND Cabin. The computer generates random traffic for the Norfolk & Western, simulating movements between downtown Lynchburg and Sandy Hook Yard, east of the tower.

A restored, working interlocking

IN A DETACHED GARAGE, Mike's passion for CTC and signal equipment has led him to restore another piece of a bygone era: a working mechanical interlocking machine. The 1931-vintage GRS Model 5 machine was salvaged from a Chicago-area railroad. Mike modified it to model the United Switch & Signal Model 14 machine in C&O's ND Cabin, which controlled an interlocking between the C&O and Norfolk & Western in Lynchburg, Va.

Mike also modified the locking bed to provide mechanical locking of Lynchburg's switches and signals on his layout. The "tower" is finished with an era-correct wall board, light fixtures, desk, typewriter, clock, and phone system. A flat-screen monitor set in a frame to look like a window shows the view of a high-resolution video camera aimed at the diamond on the layout. A sound system reproduces the hiss of the pneumatic pump discharging when switch levers are actuated.

The tower position is staffed for each eight-hour trick of an operating session. The towerman – an N&W operator for the two daylight tricks, then a C&O worker for the overnight – is responsible for the four miles of main line from Tyree to the Southern Ry. crossing. He also acts as a clerk, generating switch lists for setouts and pickups in Lynchburg's rail-served businesses and recording interchange traffic with the N&W and Southern.

Mike's attention to detail in both construction and operation makes stepping into ND Cabin like stepping back in time. – Alan Bell



A monitor shows a view of the Norfolk & Western interlocking from the window of ND Cabin on Mike's layout. The flat-screen monitor in the full-size replica of ND Cabin is set in the wall, framed with window molding and blinds, to simulate the view from the window of the actual interlocking tower.



6 A string of six Alco road switchers team up to pull a loaded coal train out of Eastern Kentucky toward Louisville. The locomotives are mostly sound-equipped Atlas models. The bridge is three Micro Engineering kits laid with Walthers bridge rail to replicate Copper Canyon Creek Bridge in Eastern Kentucky.



7 Louisville & Nashville No. 617, an Electro-Motive Division FP7, leads a freight through the cut just north of Dant station. The locomotive is an Atlas/Roco model.

gorges of sheer rocks and a rural countryside covered with heavy forests containing more than 5,000 trees.

Because of this rugged countryside, there are a multitude of bridges on the railroad. The bridges include steel trusses from Atlas, Kibri, and Walthers Cornerstone; Rix plate girders; a 150-scale-foot tall Micro Engineering steel viaduct; and a Campbell Scale Models wooden truss. One of John's favorite train-watching locations is Eagles Cliff, where an 8-foot trestle passes over Rolling Fork Falls and Deer Lake.

Rocks are made using Scenic Express Rock Master flexible rock castings. They are carved and mounted to fit the desired location. John first brushes two coats of light grey acrylic paint over the casting and lets it dry for 24 hours. After dabbing a stain of India ink and isopropyl alcohol into the crevices of the rock and letting it dry, he drybrushes gray chalks over the entire surface. He then uses a fan brush to lightly highlight the exposed flat surfaces with white paint.



John Bowling models dead trees with roots that have been washed out by flowing water on riverbanks.

Modeling dead trees

WHEN PEOPLE ASK "How do you model dead trees?" my response is, "I don't model dead trees, the Lord does." I find them in dry riverbeds, where running water has washed the dirt away from the fingerling roots of big trees.

I break off these roots, dry them, and plant them upside down on the layout to represent a tree that's been dead for years. I make a hole with a screwdriver in the desired spot on the layout, apply white glue to the bottom of the trunk, and plant.

I never harvest the roots during the warmer months because of the risk of snakes. I always harvest in winter, when snakes hibernate. — *John Bowling*