



2016 Indian Nations 576 Square Inch Micro/Mini Layout Challenge Ideas

“Micro layouts are small model railroads, usually less than three or four square feet in area, that nonetheless have a clear purpose and excellent operating capability.”

- The following pages are just a sampling of examples that you can use for inspiration.
- Most of these examples came from the Carl Arendt web page
- Visit <http://www.carendt.com>

HOW TO HAVE

FUN WITH MICRO LAYOUTS

mi•cro lay•out, *n.* a small model railroad, usually less than three or four square feet in area, that nonetheless has a clear purpose and excellent operating capability.

WHY BUILD A MICRO LAYOUT?

- Short time to complete
- Reasonable cost
- Small enough to detail
- Take to parties or meets
- Easy to store
- Lots of fun!

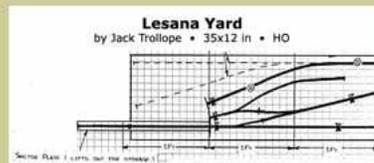
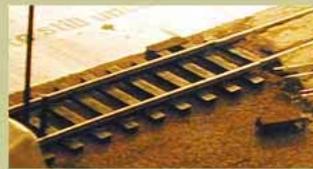
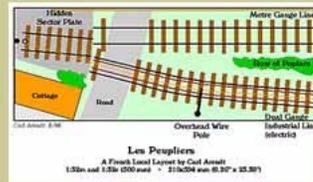


Sector Plates & Sector Tables

Sector Plates and Sector Tables — both short ones (as in [Les Peupliers](#)) and long ones (as in [Lesana Yard](#)). The difference: when pivoted at the end, they're Sector Plates; pivoting in the middle makes them Sector Tables.

HOW TO HAVE
FUN WITH MICRO LAYOUTS

Sector Plates & Sector Tables

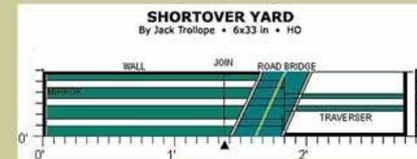
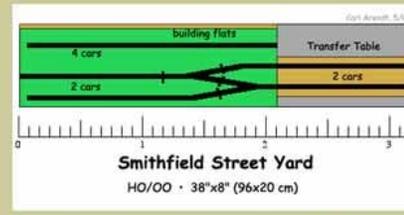


Transfer Tables (Traversers)

Transfer Tables, while not a new idea to U.S. rails, are not a familiar part of fiddle yards or backstage activities. The presentation illustrated some easy ways to make tables that slide on metal rails and get their current from them as well. I invented this idea, and Jack Trollope engineered it to work properly. Both of us illustrated the idea with designs for very small layouts — [Smithfield Street Yard](#) and [Shortover Yard](#).

HOW TO HAVE
FUN WITH MICRO LAYOUTS

Transfer Tables (Traversers)



Cassettes

Cassettes are almost unknown in the U.S. as a method for making backstage maneuvers easy, quick, and natural. This section introduced the idea, as epitomized by Giles Barnabe's large and busy fiddle yard in his wonderful layout, *Ste. Emilie* (photographed by David Thomas). The AmericaN Group's locomotive-turning cassettes are another good application of this very useful concept.

HOW TO HAVE
FUN WITH MICRO LAYOUTS

Cassettes



Giles Barnabe's cassettes for *Ste. Emilie*, his dual-gauge French layout.



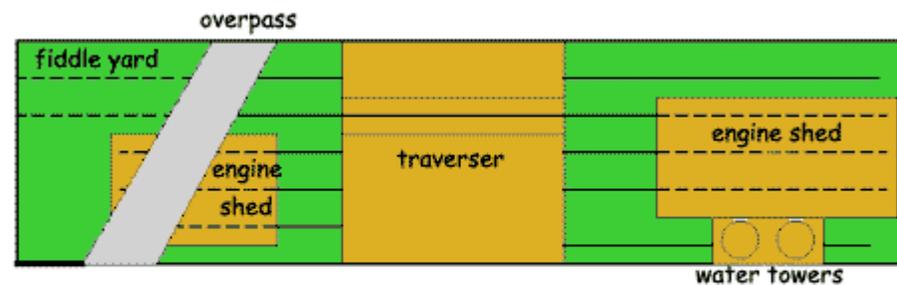
AmericaN Group's N-scale modular layout in Germany, *Erehwyna*.

Let's Look at Some Examples

No Switches

This **Locomotive Depot**, based on a design by Nigel Adams, uses a traverser—or transfer table—to move locos from one track to another for repairs, servicing, etc. The “rest of the world” is represented by the hidden fiddle yard (upper left).

Perfect if you like to collect motive power but lack space to run long trains! And no turnouts (or “points” in England) in sight.



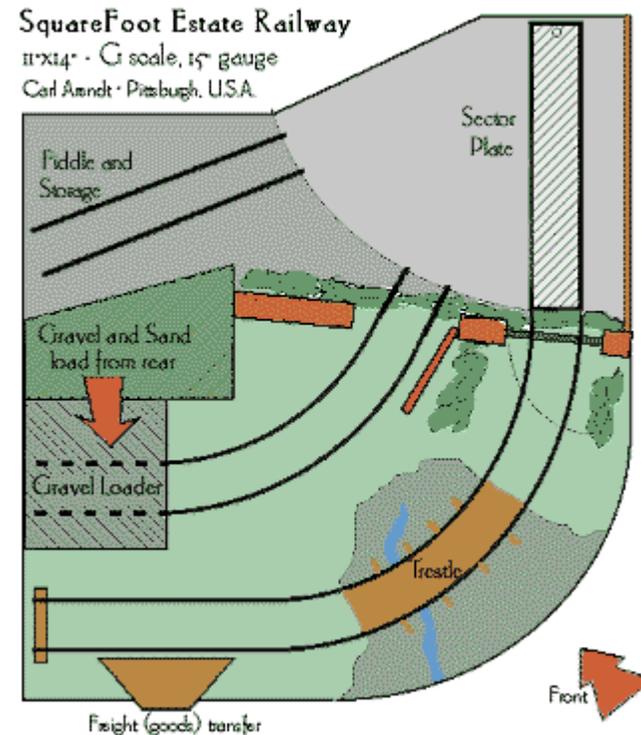
"Pointless" Locomotive Service Depot

HO or OO scale - 1'x4' (30x120cm)

No Switches

For our purposes here, the “point” of showing the SFER plan is to illustrate another approach to designing a “switchless” micro layout. This little railroad uses a sector plate (a length of track pivoted at one end, serving several tracks) to switch from line to line. This stunt eliminates the need for space-consuming turnouts. A good dodge when you’re designing a layout this small (14”x11”)!

By the way, someone has calculated that the Squarefoot could be built in HO or OO scale in a space roughly 5”x6”!



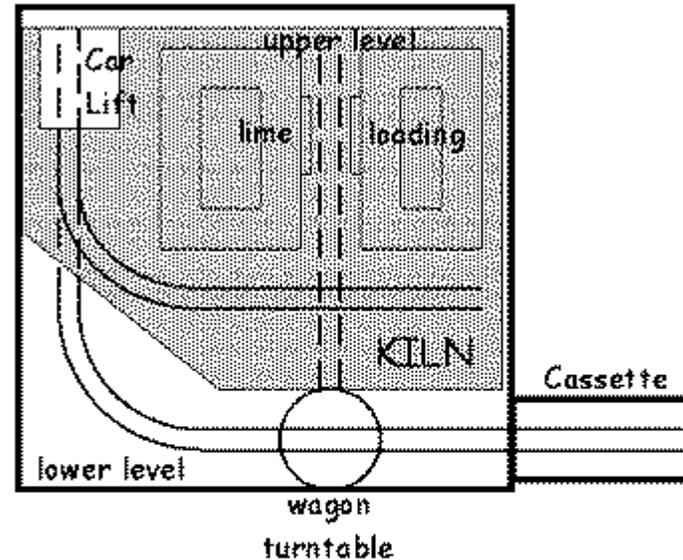
Simple

Here's another operations oriented micro layout, *even smaller than the Squarefoot!* It's based on a design sketch by Paul Killick, and shows a **lime kiln** served by a very narrow gauge railway.

Cars of raw limestone come from the small cassette at the lower right, and pushed by a tiny tractor loco move around the bend to the elevator. They are lifted to the upper level and there dump their loads into the two bins of the kiln.

On the lower level, cars of coal reach the bottom of the kiln bins via a small wagon turntable (another substitute for a turnout). They dump their loads and pick up lime inside the structure.

Sure, it's a *tour de force* to try to squeeze all this action into a 10"x10" base in G scale. But as a challenge for a clever modeler, it's hard to beat!



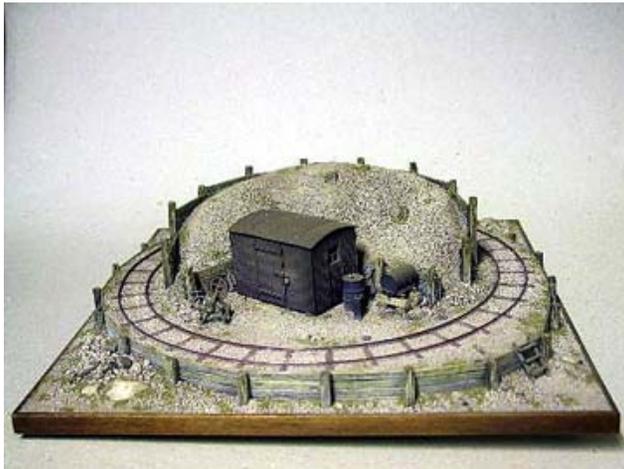
Lime Kiln Railway

Gn15 or Gn8 - 10"x10"

3" min. radius

Pizza

built by Steve Bennett of Black Dog Mining Co. This little “pizza” layout is built on a 12”x12” ceiling tile, in On30 (O16.5) scale. As with all of Steve’s layouts, the scenery is meticulously detailed and skillfully planned.



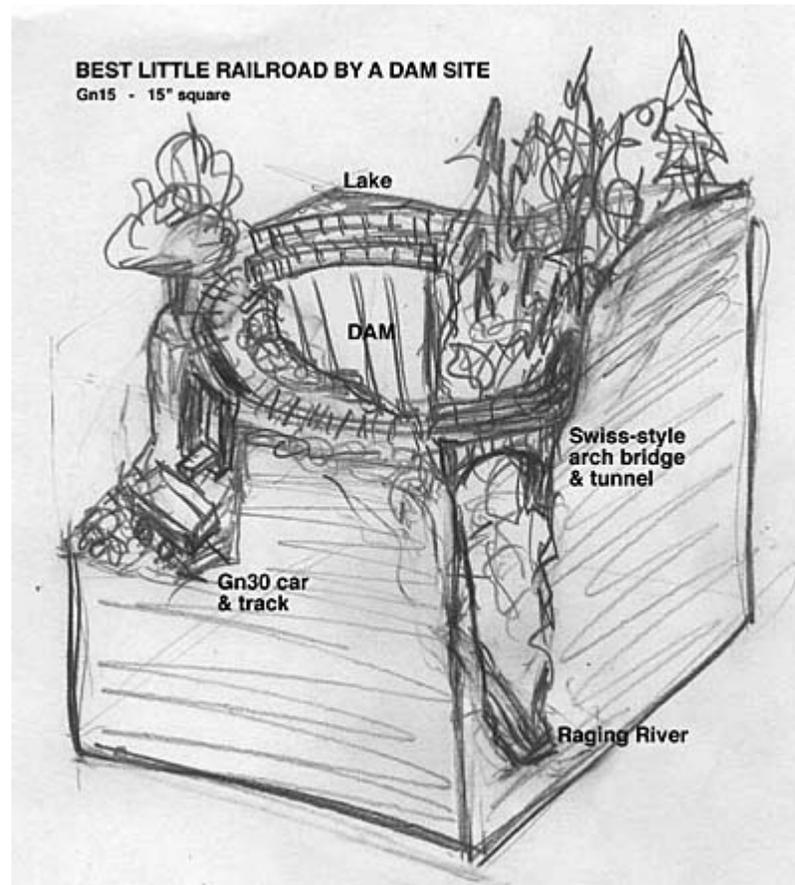
Pizza

You can have a lot of fun designing, building, and playing with one of these tiny “pizzas”!

If you like making scenery and still want to have a small round and round layout, the concept at the right may be for you!

I designed it as the ultimate in pizza layouts. It represents a construction railroad at a dam site. The train actually traverses the top of the dam, on its way to dump loads of excavated rock into waiting standard gauge cars below. Finally, it returns to the diggings (not modeled) by way of a spectacular high arch bridge that opens directly into a tunnel—Swiss style.

Designed for Gn15 scale in a 15”x15” space, the 6” minimum radius would permit the **Dam Site** layout to be built in HO, OO, S or O narrow-gauge scales as well!



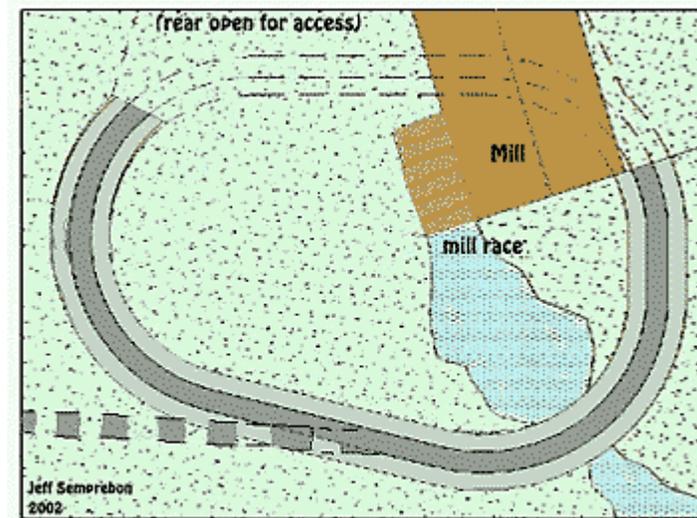
Egg

Gn15 “pizza” layouts seem to be the rage this year! Here’s another — not quite round — being built by Jeff Semprebon. It’s called the **Little Egg Railway**, and attempts to see how much Gn15 layout can be squeezed into 24”x18”.

There’s a mill with its wheel, and Jeff plans to have real water running beneath the mill wheel, to turn it. Access for rearranging the train’s consists is at the rear, and the *Gallery* editors have suggested a place to add a standard turnout, if you can’t bear to be without a little switching capability.

Jeff also suggests that the straightaways, which make Little Egg different from pizza layouts, are good places to join the pieces of flex track that make up the loop ... without kinking. A good trick to use in designing many small layouts.

All in all, a good egg, this pike!



Little Egg Railway
Gn15 • 24”x18” (60x45 cm)

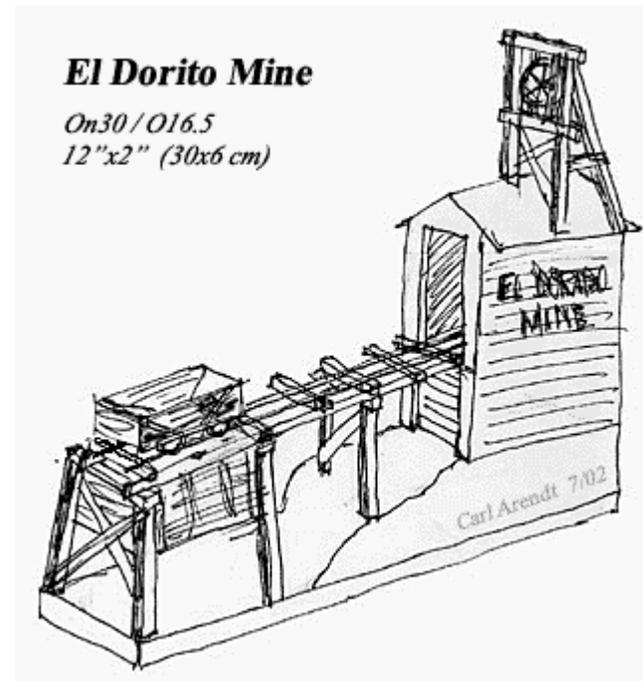
Simple Operations

Perhaps the smallest layout in this Gallery, El Dorito Mine was designed as an automated shelf toy, to delight children of all ages who love to watch it work. It provides continuous action and an extremely simple track plan!

Rolling stock is just one bottom-dumping wagon and a very small "critter" (like a Simplex or a home-made battery loco). The car fills up inside the mine building, from a hidden bunker that loads at the rear roofline.

Then, under automatic shuttle control, the "train" carries its load of mine tailings (unwanted excavated earth and rock) out to the end of the trestle. There, it automatically dumps its load into the lower bunker. Then the train runs back into the mine building and begins the cycle again. The operator occasionally refills the upper bunker from the lower one.

This operation is completely prototypical — hauling excavation rock and dirt from the mine to a nearby tailings pile. To add animation to this little layout, try automating the elevator lift wheel atop the mine building ... it turns in one direction to send the elevator down into the mine, then reverses to bring a load of tailings to the surface. Add a flashing red light when the elevator arrives — and maybe a loud klaxon to emphasize the point.

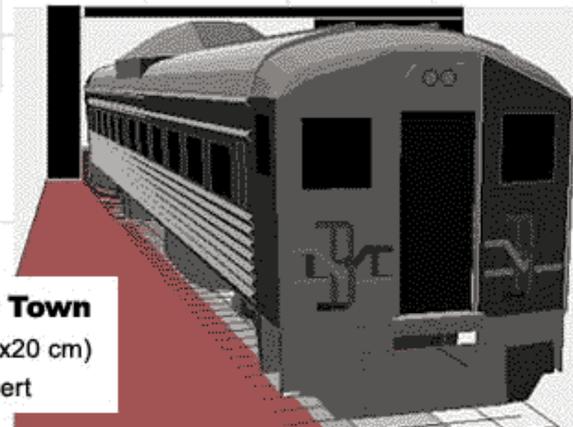
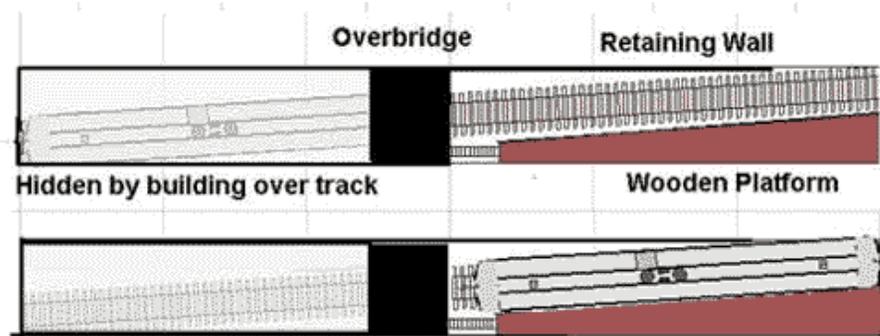


Simple Operations

The layout, shown above, models the Stourbridge Town platform (photo at right), from which the RDC disappears under an overbridge. Under automatic train control, it pauses for a time in the hidden half of the layout, then reemerges at the platform, where it pulls in and pauses again. Then repeats.

Completely prototypical operation — repeated as often as desired, in full G scale, in the space of a long bookshelf ... what more could one ask?

The interesting looking vehicle at the Stourbridge Town platform in the photo is an experimental flywheel-driven light rail vehicle being developed by Parry People Movers Ltd. It runs on the branch on Sundays.

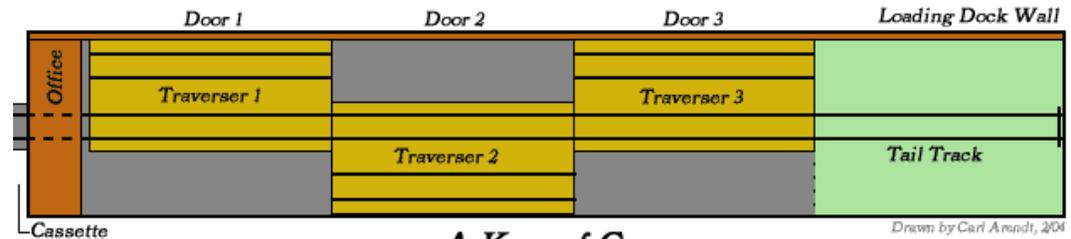


Stourbridge Town
G • 72"x8" (180x20 cm)
by Chris Gilbert

No switches

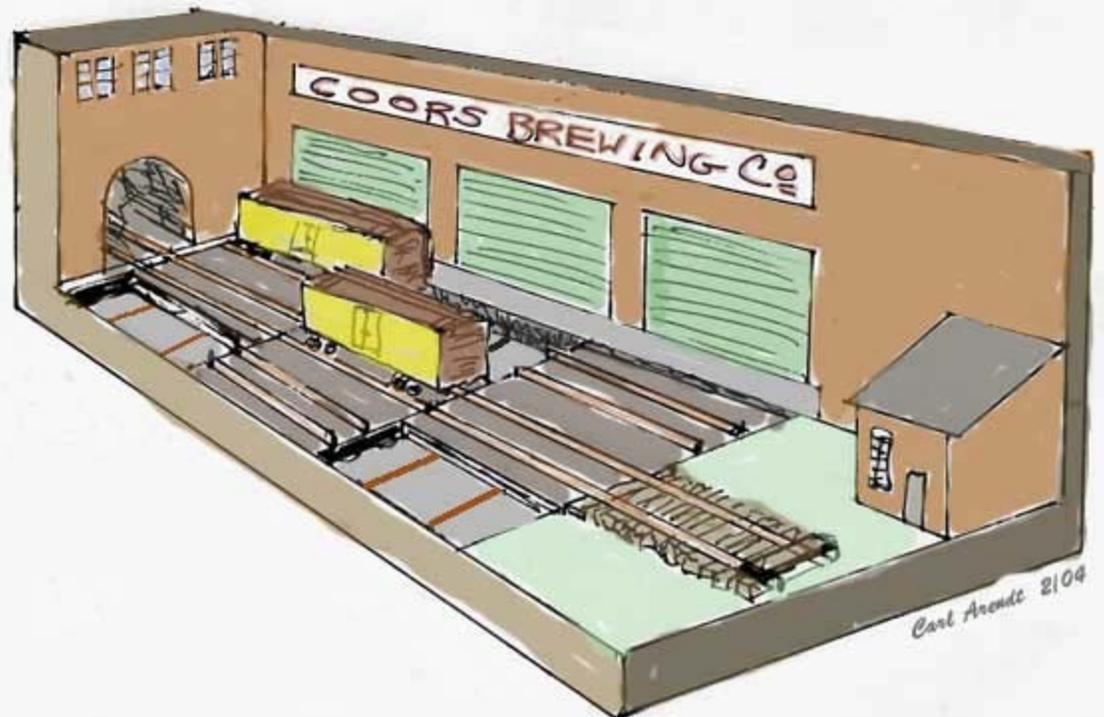
Operation is much the same as above, with each traverser being pushed and pulled by rods fed through the layout side, either at the front or the rear. Trains enter beneath an office wing which conceals a cassette that holds the switch run's consist. Again, the challenge is that not all doors will be ready for switching at the same time. A form of random choice (such as pulling cards from a hat) can determine the sequence of loading and spotting of empties, and the crew will have its hands full on every trip from the yard to the brewery!

Unlike most micro layouts, this one might be a good bet for timetable operation. With a fast clock (running, say, five minutes to the hour) a random drawing could determine the time when each car would be loaded and pushed out to the switching track. The railroad crew would really have to be alert to make sure it didn't get trapped or bottlenecked.



A Keg of Coors

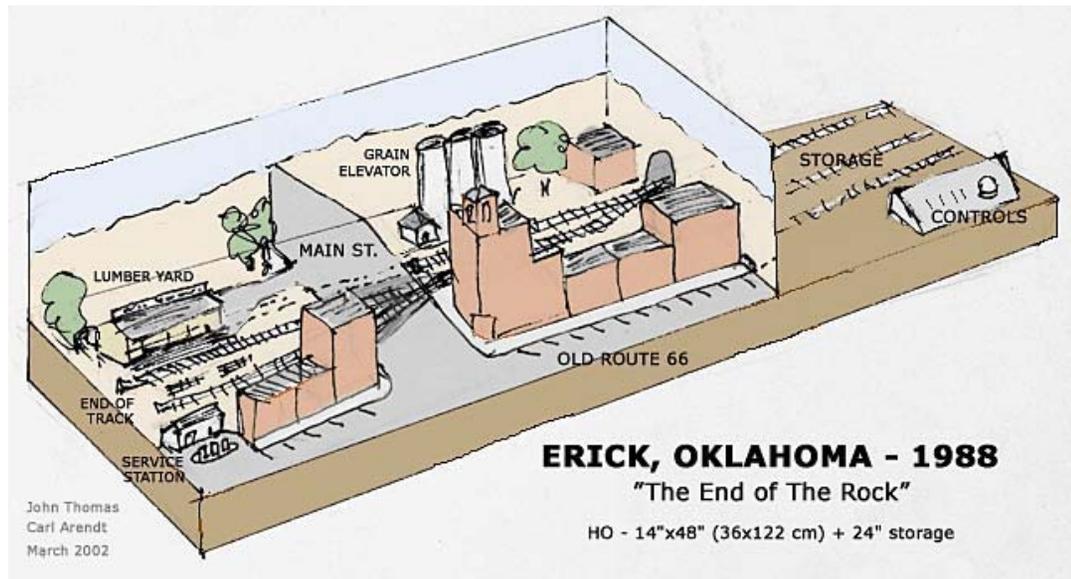
Concept by Mike McLaughlin • O Scale • 51x9 in (130x23 cm)



Prototypical

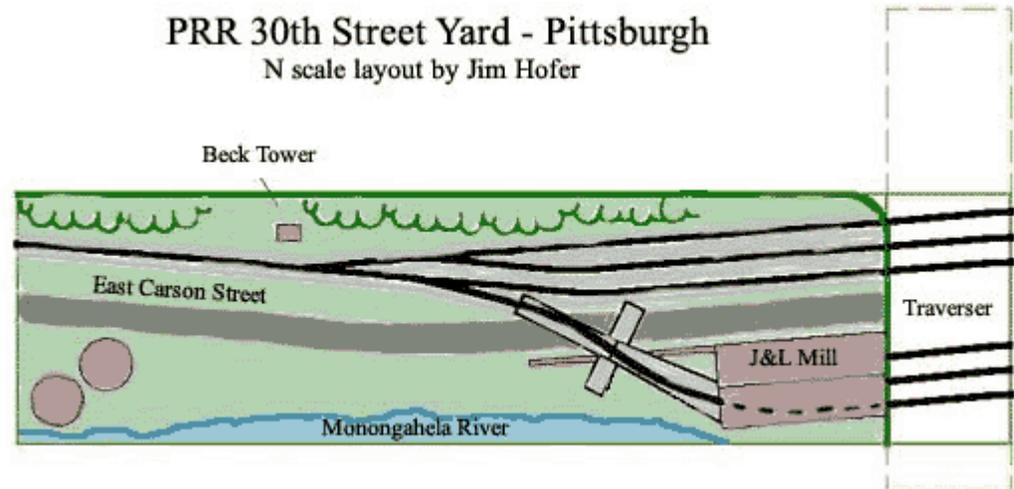
A real-life example of an Inglenook style layout can be found at **Erick, Oklahoma**, a tiny crossroads on the former Route 66 in the far west of the state, almost in Texas. After the Rock Island Line, beloved of many midwesterners, went under in 1978 the main line tracks were torn up in many places. But part of the line was preserved as far as Erick, to serve farming customers and a few others. So by 1985 the end of the line for The Rock was this trackage in Erick, Oklahoma — presented almost verbatim in this almost-micro bookshelf layout!

The visible part of the layout will (just) fit in a 14"x48" shelf, with about a 24" storage track at the right for "fiddling." Inglenook



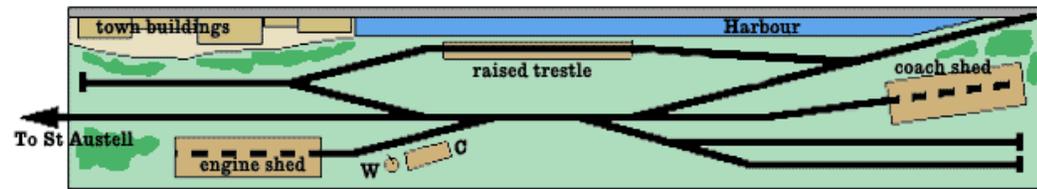
Prototypical

Way back when steel was still king in Pittsburgh, the Pennsylvania RR's **30th Street Yard** was the PRR's main interchange with Jones & Laughlin Steel's terminal road, the Monongahela Connecting (or MonCon). Jim Hofer has found a way to model that interchange point very accurately in N scale, in an area of 12×42 inches (30×106 cm). Operations can duplicate the prototype exactly — or the layout can be operated as a switching puzzle on the Inglenook pattern.



Freelanced Operating

Pentewan Harbour, the terminus of the 30" gauge Pentewan Railway, brought loads of China Clay down from the pits in St. Austell, Cornwall, to the seaside village of Pentewan. There the wagons (four-wheel hoppers) were emptied into cargo ships from an elevated trestle. This layout reproduces the trackage at Pentewan and provides a modeling challenge to you — to build a working wagon tipper!



Pentewan Harbour, 1909

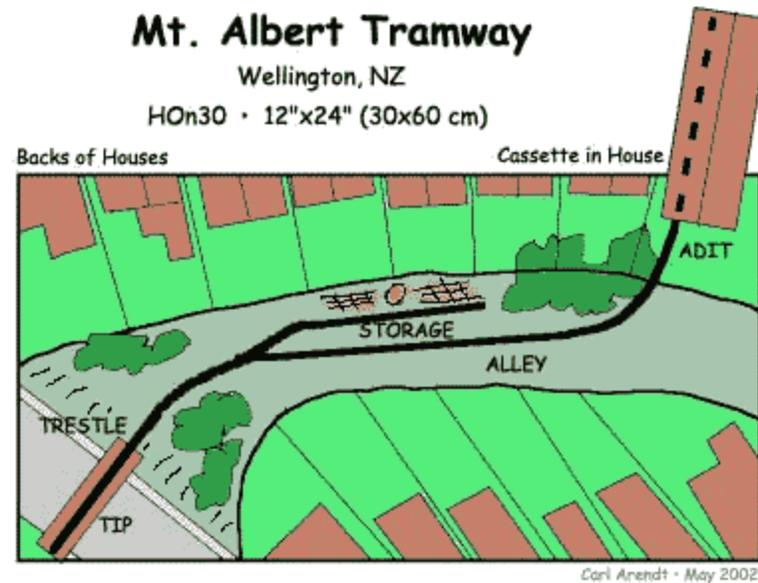
On30 • 10"x57" (25x145 cm)

Carl Arendt
May 2002

Prototype

The far end of the line was an elevated tiphead where spoil was loaded onto a truck for disposal. The tramway was operated by two battery electric locomotives which were often operated in tandem. The battery charging facilities were in the house basement. Materials were stored until needed in the alley right-of-way. What an opportunity for a model!

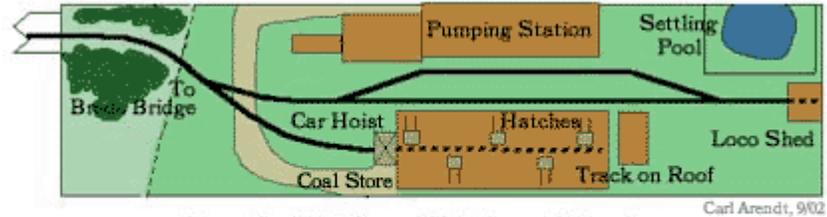
As drawn, the **Mt. Albert Tramway** is 1x2 feet (30x60 cm) in size, designed for HOn30 models. It's a nearly exact copy of the actual tramway. The layout could easily be built in On2, Sn2, or HOn2. Scenery in my drawing is to 1:87 scale.



Prototype

This layout is nearly an exact duplicate of the trackage and buildings at the Water Works. Of greatest interest to railfans is the Coal Store building, which was served by a hydraulic car hoist. The narrow-gauge cars of coal were lifted to the flat roof, where a long track gave access to a series of loading hatches. The cars were emptied by shovel into five bunkers below. What an opportunity to develop an unusual working model!

Other notable features of the little line were a “main line” that crossed many open fields, with a gate at each field boundary that had to be opened and closed on every trip; a locomotive shed that also formed the “end of the line;” and a delightful 0-4-0ST Bagnall saddle tank steam locomotive that served the line for its entire history. In this model, the tracks disappear into the trees at the left, onto a simple fiddle track where the little coal cars can be refilled for the next trip “up from the Bridge.”



Brede Valley Water Works

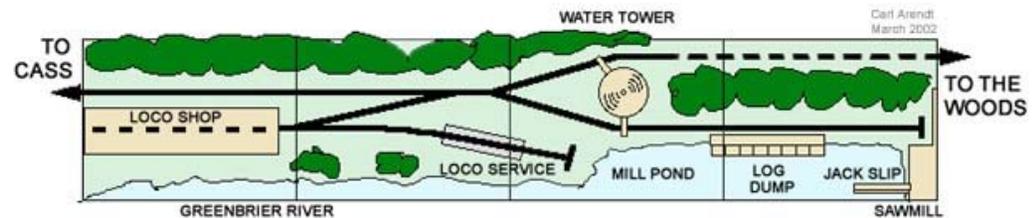
East Sussex, England

On18/O9 • 48"x12" (120 x 30 cm)

Prototype

This tiny micro layout depicts the line in 1955, near the end of its commercial life. Owned by the Mower Lumber Company, it brought hardwoods and spruce down Bald Mountain to the mill at Cass, right at the base of the mountain along the Greenbrier River. Our model's track patterns diverge a bit from the prototype in order to fit into a small (9"x48") space, but the operations performed are the same.

Flat cars of logs come down from the woods, a shay locomotive pulling with its nose facing uphill. By fortunate chance, the locomotive's right side — with its fascinating cylinders and gears — is on display to the viewer at all times. The shay pulls its train clear of the wye switch, the brakeman bends the iron, and the flats are shoved into the mill track where the logs will be dumped into the pond (a real modeling challenge!).



MOWER LUMBER COMPANY
CASS, WV - 1955

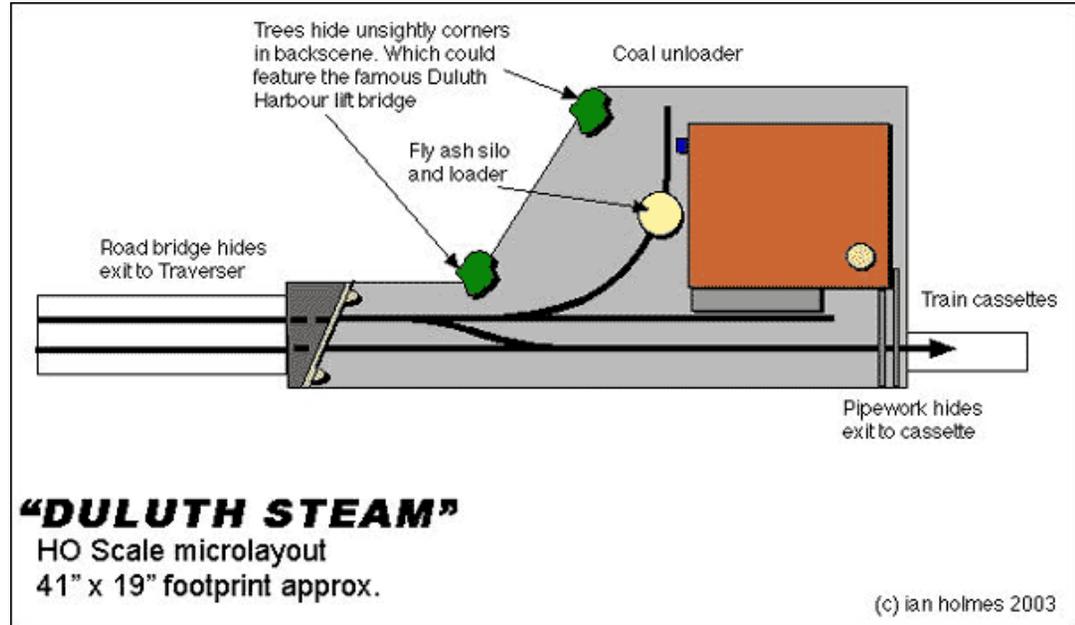
HO - 9"x48" (23x122 cm)

Prototoype

"I've been dabbling with the idea of this Micro ever since I first went to Duluth and rode past the plant on the North Shore Scenic Railroad. The plant is surrounded by road overbridges, making convenient fiddle yard exits. There is really only one siding at the prototype, but I took the liberty of adding another one in front of the building for greater variety.

"The Duluth Steam plant has been in existence since 1899 to supply the downtown of Duluth with heat and power. The plant burns coal and wood so there would be two different types of traffic in, and the waste product from the burning — "fly ash" — is now used in the cement industry. So there would be some kind of hopper traffic out of the plant too.

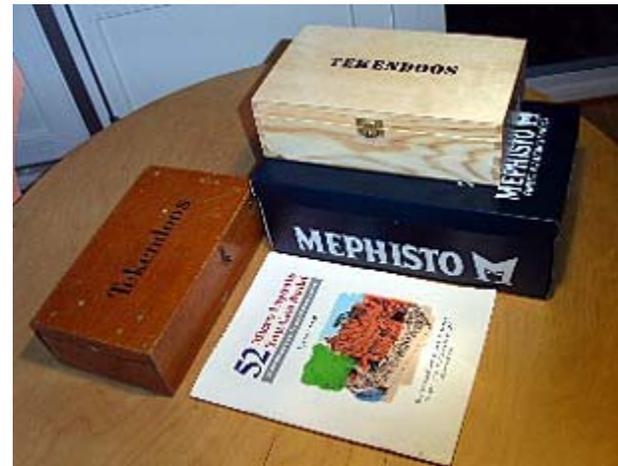
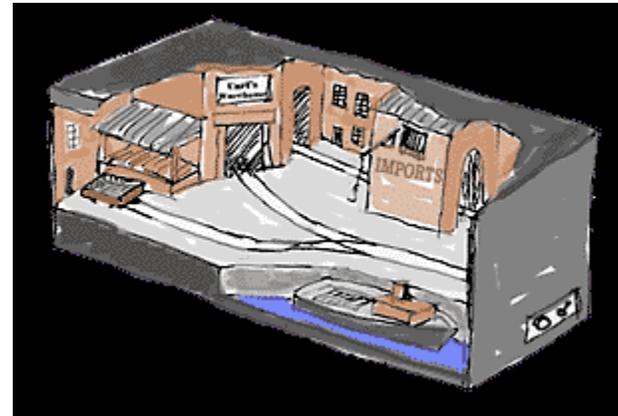
"On top of that you could use the Preserved North Shore Scenic Railroad as an excuse for all kinds of passenger traffic. For example, one of their most popular trains utilises a Budd RDC Railcar.



SHOEBOX MADNESS

It all started with a very small layout idea — Carl's Imports. It's a micro layout designed to fit in a shoebox. Using an intercontinental research project (above) the optimum sized shoebox (male variety) was determined to be 13x7x5 inches (33x18x12 cm). I designed Carl's Imports to fit such a box:

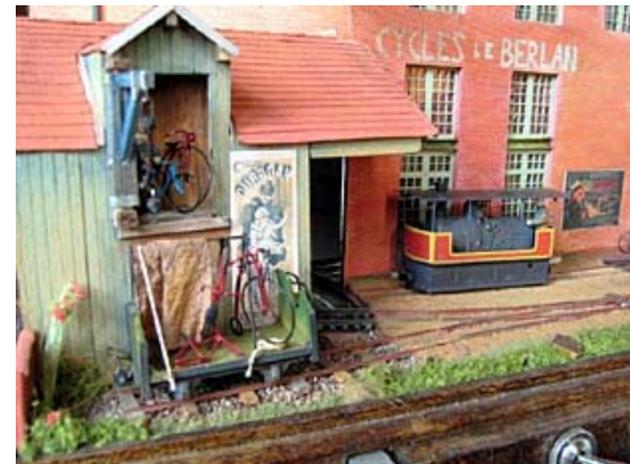
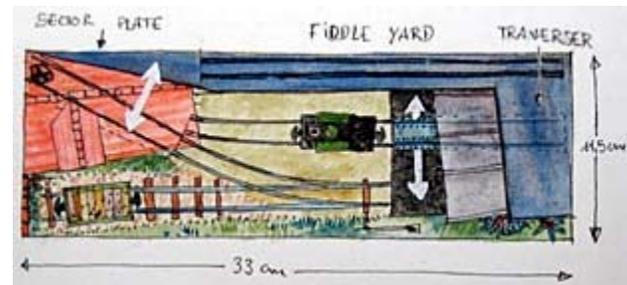
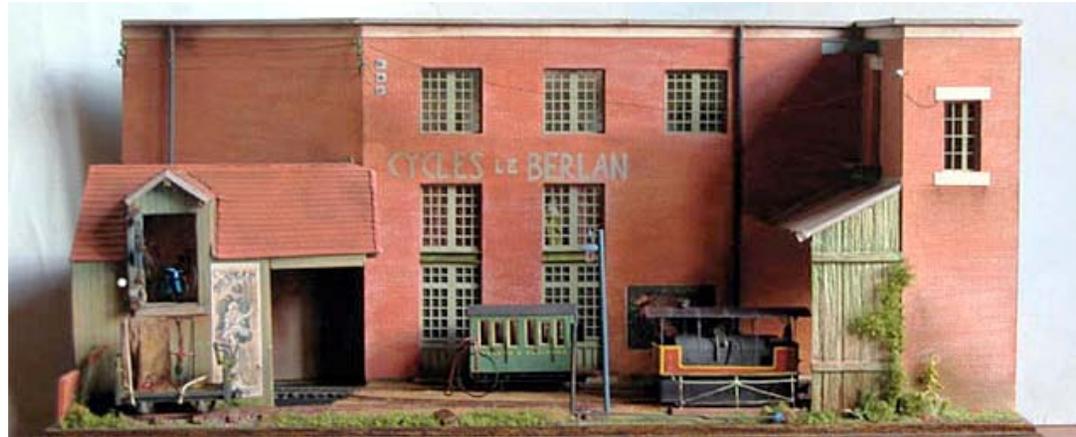
Well, imagine my surprise when people began actually making layouts in shoeboxes! And believe it or not, there are a LOT of them! Here is a status report of Shoebox Madness at the end of the year 2003. And stay tuned — it's growing!



Shoebox layout

Measuring 33×11.5 cm (13×4.5 in), this little OO9 railway uses both a hidden sector plate and a *visible* traverser! If you look closely at the photos (also by François Fontana), you'll see that the factory makes both the familiar bicycles and also velocypédes (with the large front wheel and small back one). The setting is 1890 in Saint Etienne, France, the country of bicycles.

(Photo above right) The loading dock is specially built to load bicycles onto the custom built (of styrene) open wagon. In the background is the line's locomotive, a Carls prototype, that François built in brass. In the header photo (top) is shown the line's passenger car, scratchbuilt entirely of paper. "My next models," jokes François, "will be made of camembert boxes or concrete!"

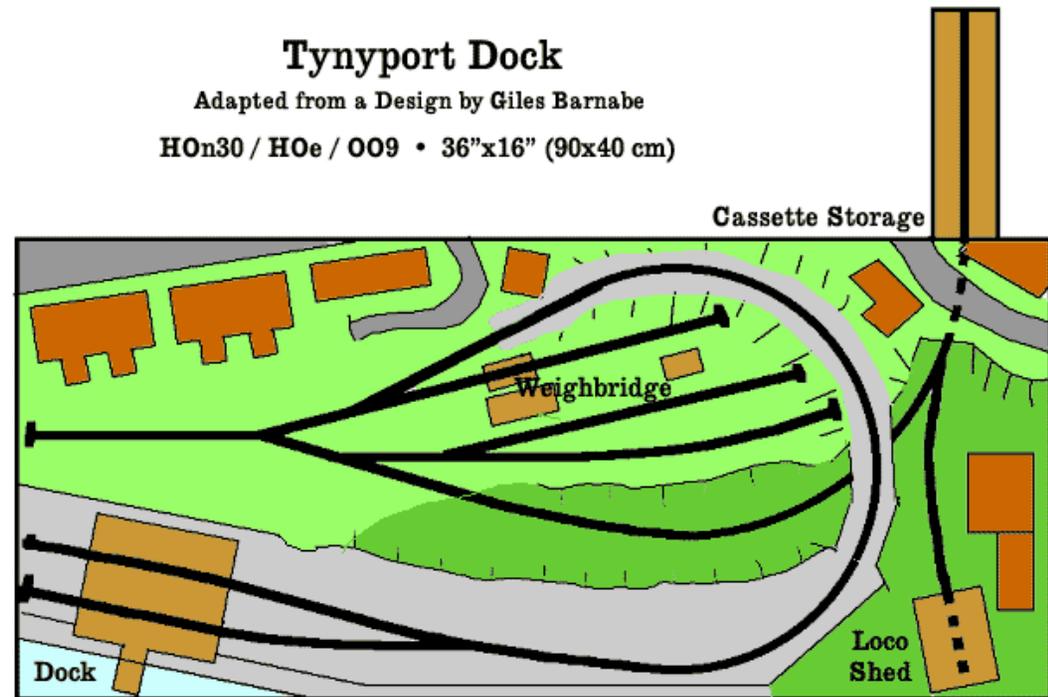


Waterfront

Tynnyport Dock is a “micro-sized” version of a larger design by Giles Barnabe. Anything lost in the translation is entirely my fault. The layout, writes Giles, is “very loosely based on a colliery [coal mine] line in N.E. England, though here converted to narrow gauge. It includes elements of the “Fish-hook” and Inglenook designs, though the track plan’s flyover loop and various levels disguises them slightly.

“Trains of loaded wagons arrive through the tunnel and run into the tail track (left centre). From here they are shunted into the holding sidings within the loop until the tippler is ready. Then short cuts of wagons are taken out, run over the wagon scale and then propelled round to unload in the bunker which in turn feeds the ships using the dock. Vollmer and Fleischmann make working tipping sets in N gauge, and these could be modified to HOe/HOn30/OO9 to make the layout fully operational.

“Trains arriving from the mine exchange wagons at the central storage sidings and return to the mine [the cassette fiddle yard] with the empty wagons. Docksiders shunters switch the tipple roads.”



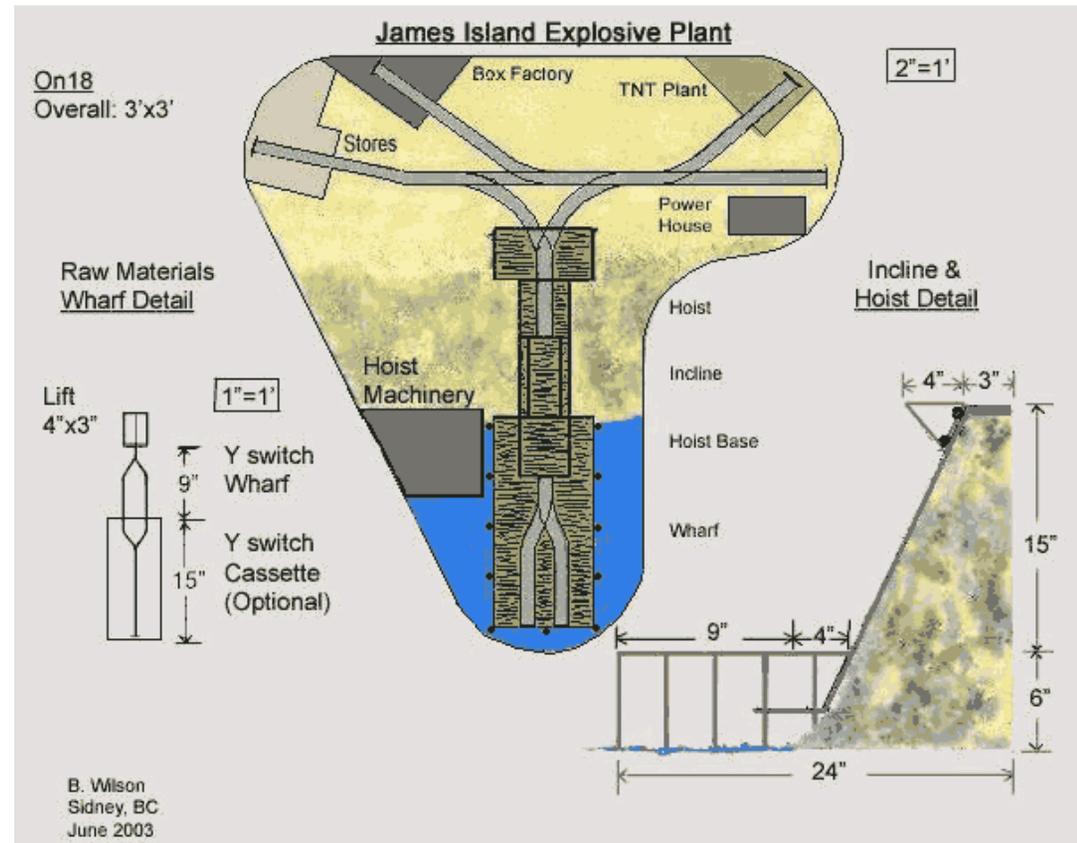
Waterfront

As drawn for On18/O9 scale, the layout is somewhat larger than most of the micros in this Gallery. We're including it here because it definitely is designed in the *spirit* of micro layouts — focusing on a single area of intense operational interest — and because it would be easy to make it smaller to meet the micro size criterion of four square feet in area.

The hoist is the focus of interest, and Brian plans to build it as a working model (perhaps he'll provide us with the details later!). At the cliff top, three sidings offer destinations for loaded cars. Notice that both upper tail tracks of the wye will hold a locomotive and at least one car, allowing convenient shunting of any of the topside sidings. Adding a cassette at the right side of the cliff top (behind the Power House) could represent the offstage powder dock, yet another switching destination.

An optional cassette is suggested for the lower level, to extend the raw materials wharf for additional switching operations and for introducing newly-arrived cars onto the layout. Rolling stock can be highly varied, but will mostly be short, industrial narrow-gauge stock. The real-life railway used Porter steam locos, Davenport diesels, and electric locomotives at various times in its history.

This layout can be constructed in almost any scale, from HOn30/OO9 to Gn15. Trackwork and switches will probably need to be handlaid, unless somewhat more room is available to accommodate commercial turnouts.

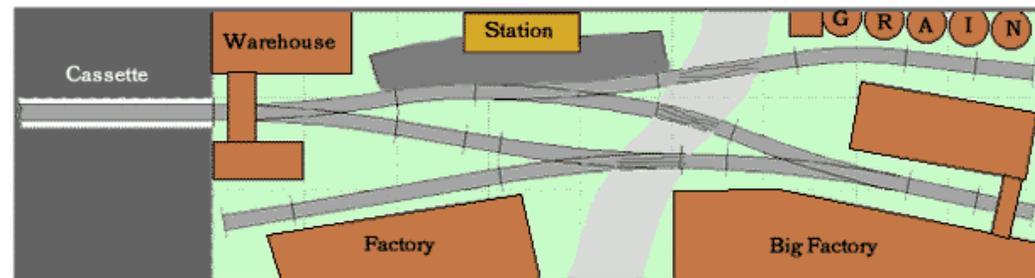


Switching

Exactly the same layout, transported to the U.S., becomes Wye River City, a bustling industrial town somewhere in the Midwest (or, if you prefer, it could be a Chesapeake Bay port or a Western industrial park at the end of a branch line). Here the ever-useful cassette feeds trains to the layout under a crossover bridge between factory buildings. Passenger service is provided by a single car — either a gas-electric or a Budd RDC, depending on era.

Freight is the main operating attraction here, and there are plenty of spots to shunt a variety of cars — from factories big and small to a sizeable grain terminal (essential in a Midwest layout). With a limited runaround capacity, and the need to clear the main for commuter car arrivals every hour or so, the freight conductor's job is likely to involve some head-scratching!

Atlas Custom Line track sections required for either plan: 280 Wye – 4; 150 9In. Straight – 1; 822 6In. Straight – 1; 823 3In. Straight – 4; 847 Snap-Track Assortment – 1; 834 1/2 18In. Radius – 1; 835 1/3 18In. Radius – 2. Basic track plan and partlist were generated using "RailModeller," a new and attractive planning program for the Macintosh.



Wye River City
HO / OO • 90 x 30 cm (3 x 1 ft) + Cassette

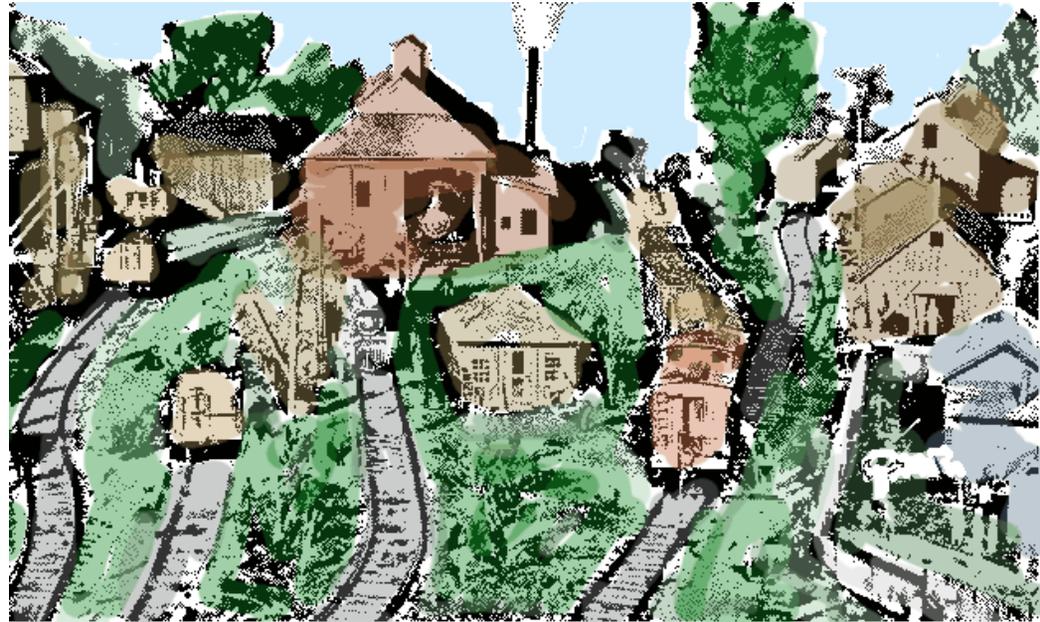
Terminal

The terminal was designed around an impressive brick engine house that he acquired “through considerable labor not unmixed with pleasure”. It’s written up in the March 1967 issue of *Model Railroader*. E.L. didn’t have room to add a proper engine terminal to his EVRR, so he built an addition and included a whole yard, with engine-service facilities, turntable and roundhouse, and industrial switching.

To the best of my knowledge no plan of the 1900-era backwoods yard was ever published — so I have drawn up a conjectural version of the yard that’s easy to build in micro-layout size! Here it is (notice that I had to cut a few corners to make its area less than four square feet!):

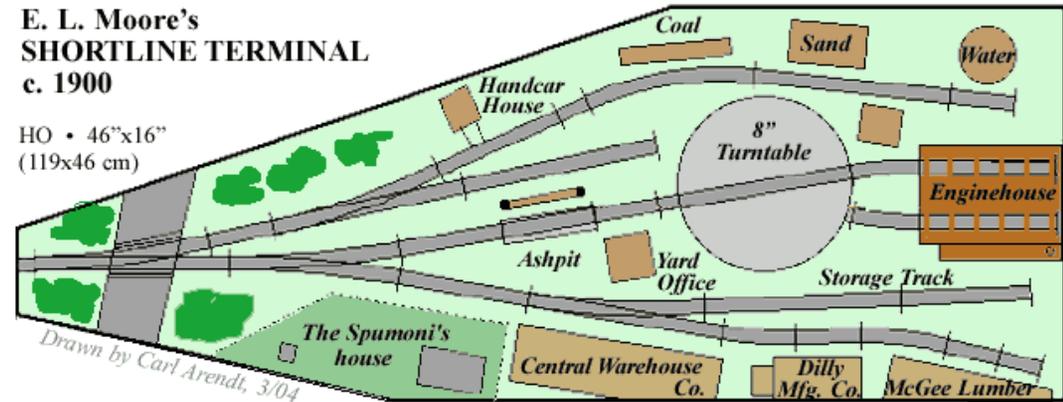
All the buildings are scaled from E.L.’s drawings. If you add another four inches to the width, you can have full-sized models of all of them. Track is Atlas Custom Line, but the 8” turn-of-the-century turntable will have to be scratchbuilt. Note that the yard can be smaller than usual, as 1900-era locos and cars were considerably shorter than present-day stock.

For operations, you’ll need a cassette or extension track (or the remainder of your layout) attached to the left hand end of this plan. A runaround would be handy for arriving locos to use in leaving their trains and heading for the service facilities. But alas! E. L. didn’t include that capability in his model. So a switch engine will need to be permanently stationed at the terminal, to “pull the consist” and help road locos escape when they pull into the Storage Track (as one has just done in the picture above).



E. L. Moore's SHORTLINE TERMINAL c. 1900

HO • 46"x16"
(119x46 cm)



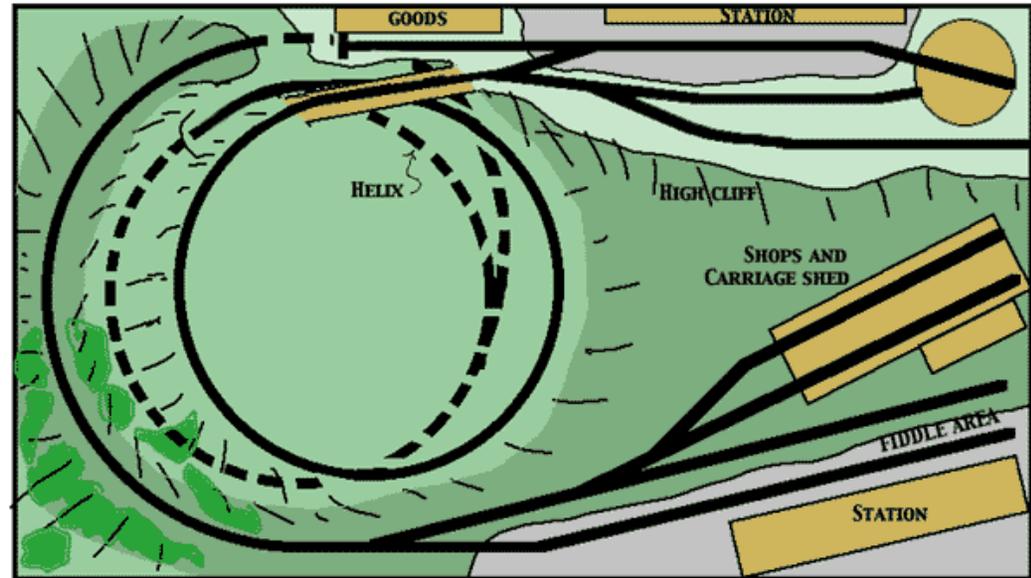
Prototype

The challenge, of course, was to work an operating bit of the DHR into a micro-sized layout, in four square feet. It's obviously an impossible task, so here it is. The behind-the-scenes trick that makes it work is a hidden helix with a six-inch radius — a steep and tough climb, but feasible for light OO9/HOn30 rolling stock.

The line starts at the lower terminus, where the tall passenger station blocks the viewer's line of sight and allows us to fiddle train consists from the side, hidden from the front view. If you can manage an extension to the right, an early priority would be to add a proper fiddle yard, and save wear and tear on your fingers and tweezers! The line departs the terminal, with a train of ramshackle coaches pulled by a blue Class B 0-4-0 chuffing mightily along. The train soon disappears in the tropical rain forest, where in years past passengers could lean from the coaches and pick orchids from the trackside trees.

Once out of sight, the train enters a hidden tunnel (that shouldn't be there on the tunnel-less DHR) and climbs a steeply inclined helix inside the mountain. The number of turns depends on how high you want to make the upper terminus, but notice that the final turn is offset to the right and is out in the open, representing one of the spectacular 50-foot-radius loops that the DHR uses to gain altitude fast. One helix turn plus the exposed loop should get you to about a 6" elevation (15 cm).

The upper terminus is completely visible, with a turntable completing the runaround loop. The train is reversed, and eventually heads back down the mountain. There's some freight switching to do as well, which will be challenging in the crowded little yard up there. And all this activity is performed in front of a majestic photographic background depicting the breathtaking Himalayan mountains.



DARJEELING HIMALAYAN RAILWAY (JUST A BIT)

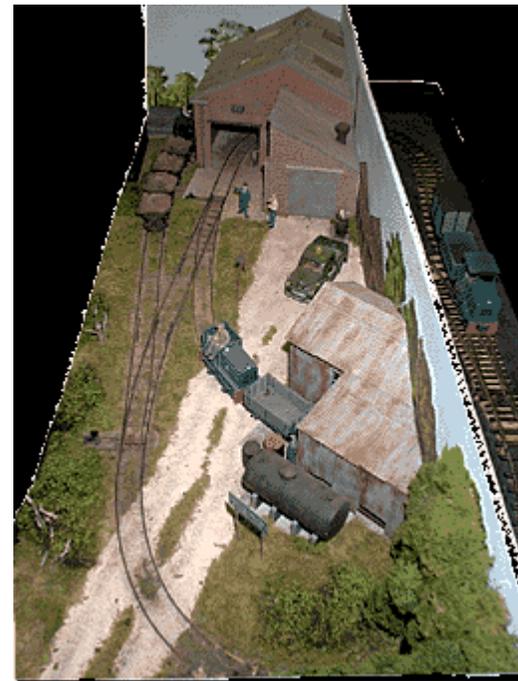
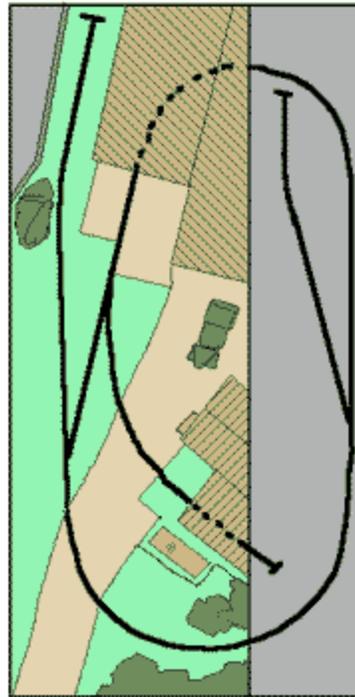
009 / HOn30 • 32"x18" (80x45 cm)

Operations

valon Brick Works was originally built by Julian Andrews as an experiment to see how small you could make an 0-16.5 (On30) layout. An article written by Julian describing the building of the layout was featured in the July 1999 edition of *Railway Modeller*. The scale is 7 mm = 1 ft using 16.5 mm gauge to represent a track gauge of between 2 ft – 2 ft 6 ins. The overall size is 34" x 16" (86x40 cm). The layout is now exhibited by Howard Martin of Avalon Line Models.

The line was built to serve a fictitious brickworks which uses fine clay from under the peat on the Somerset Levels near Glastonbury as one of its raw materials. The company has always struggled, hence the overgrown nature of the track.

Basic operation of the line involves a loco pushing a rake of loaded wagons from the imaginary clay pits, emerging from the trees, crossing the road, and depositing the wagons in the covered unloading shed. Returning behind the scenes, the train can repeat this operation endlessly. With two locos and additional wagons, a variety of other operations can be added.

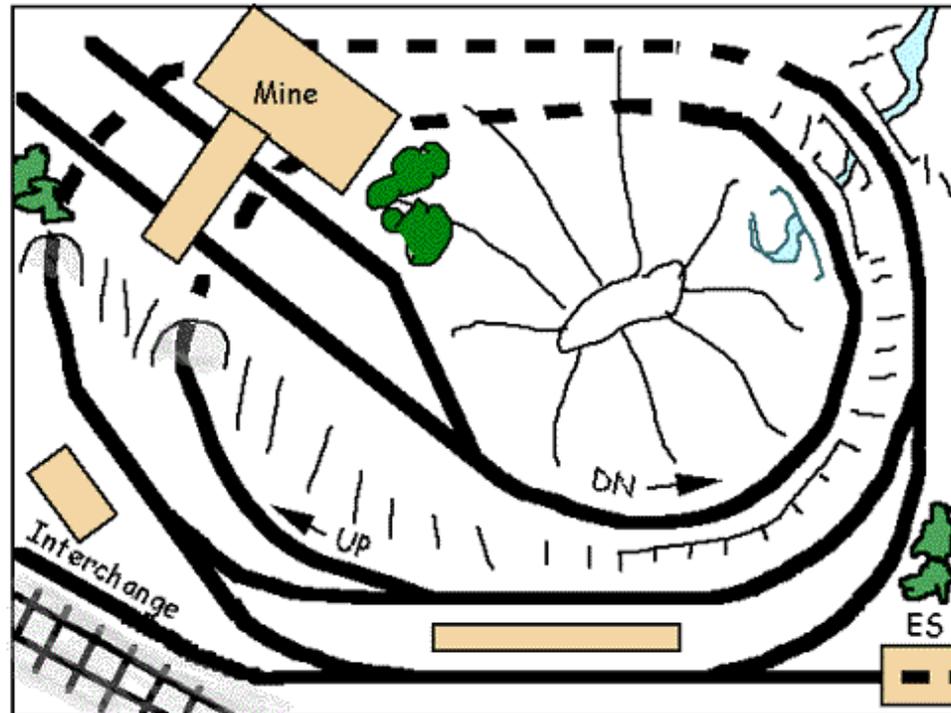


Classic

The classic micro layout—found in literally hundreds of variations—is the Continuous Circuit with a hill-climbing branch line. This diagram shows its simplest and most common narrow-gauge form. It's a wonderful layout for operation in a very small area, suitable for HOn30, OO9, or even On18, On30, O9 or O16.5 (if you don't mind steep grades!).

Running from the junction and standard gauge interchange uphill to the mine (or quarry, or factory, or whatever industry or industrial complex you prefer), the Into the Hills! concept delivers both continuous running on the level lower oval, and plenty of switching action using the branch. With a little care, you can even have two engines in steam on this tiny platform! Minimum radius is 6 inches (15 cm) on the main, 5 inches (12 cm) on the branch.

Into the Hills!



Carl Arendt
March 2002

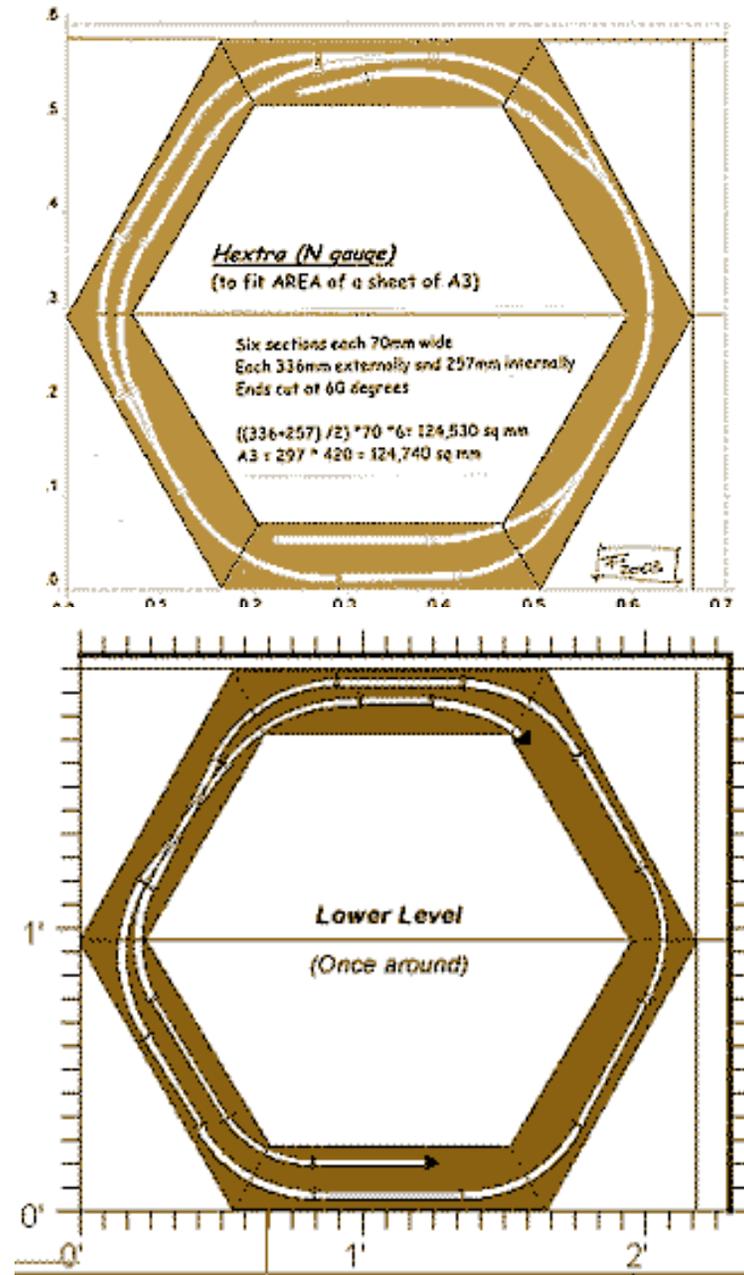
Generic Micro Layout
18" x 24" (46x61 cm)

Unique

The first layout comes from the redoubtable Jack Trollope (a.k.a. Shorttliner), up in the highlands of Scotland. Hextra is made up of six trapezoidal sections covered with N scale track. If you wish, you can make just the single-level layout at the left, which includes a runaround loop and two sidings facing in opposite directions. You can have some shunting fun with such a racetrack design.

But add a second layer, connect the two sidings with the new, lower level, and you get a truly long run for your efforts! And all this takes place, Jack calculates (see his figuring at left), in a baseboard area less than the size of an A3 sheet of paper (about 16.5"x11.7")!

Admittedly, the operating possibilities of this concoction are limited, and in real life you will want to make your hexagonal tiles somewhat larger and add a few industrial spurs to encourage switching activity. But as a conceptual leap in micro design, Jack has certainly provided us some new and different excitement!



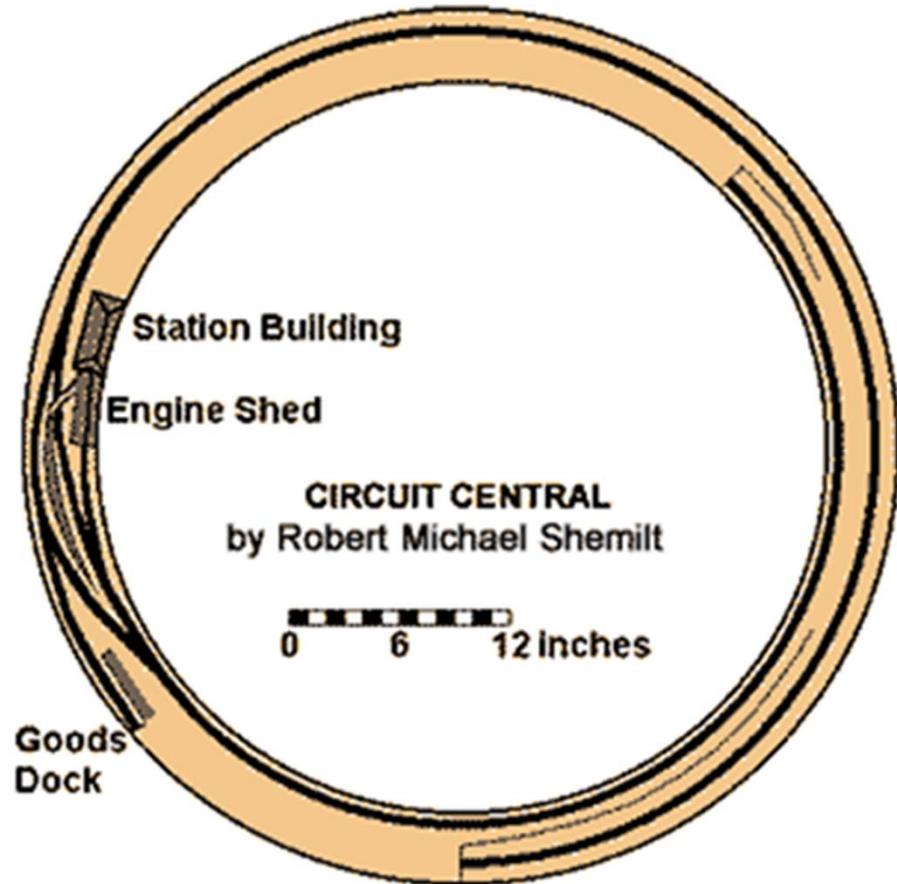
Unique

Coincidentally, Robert Michael Shemilt independently arrived at a very similar design, circular instead of hexagonal. Robert, who is English, likes to dream up micro layouts while sitting through boring maths lectures. In this case, he's calculated the area of the donut to be slightly less than four square feet! Circuit Central is another "different" micro, this time with a diameter of 48" and an inner diameter of 40", giving a 4" ring surrounding the operator.

Robert explains, "The track plan is pretty much just a looped – eight continuous run, with a small station at the summit. There's not much shunting, but you'll have 23 feet of continuous run.

"The lower-level track between tunnel mouths follows the inner edge of the board until it is under the station, then crosses over to the outer edge. In this way no track is directly on top of another track for any longer than absolutely necessary.)

"The operator sits in the operating space in a swivel chair, so he or she can get to all areas of the layout. Construction would probably be in 4 sections of 90 degrees if it were designed to be portable, but I think it would be more use as a fixed layout in a small room (e.g. 4 foot square) or small shed [or closet], making optimum use of the space available. Corners could be used for shelving, heaters etc. Entry would be made by a sliding door then 'ducking under' the layout."



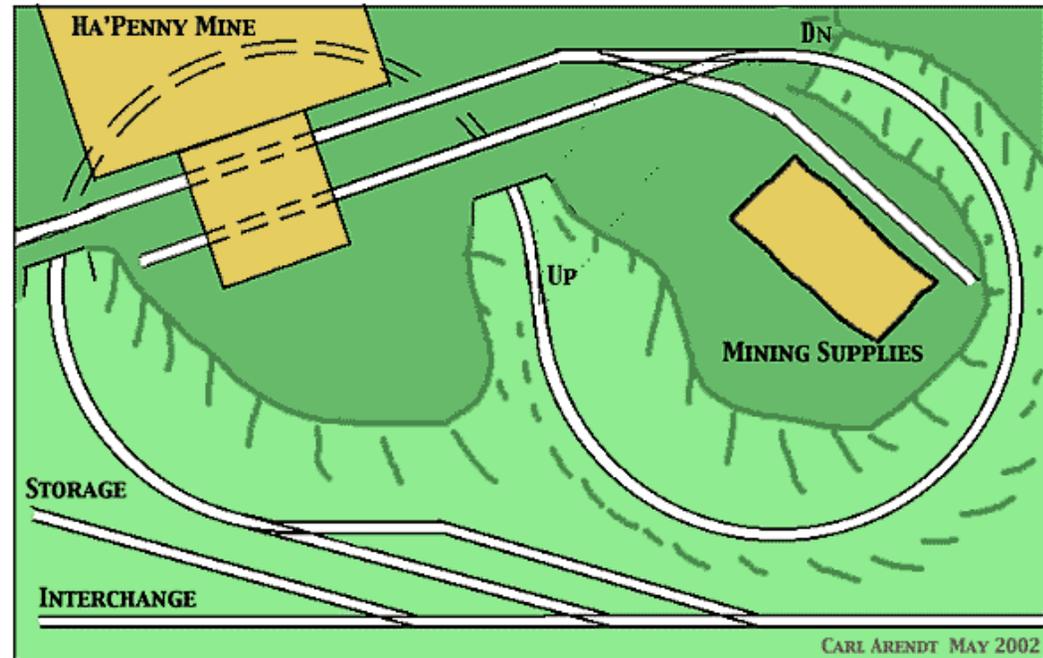
Operational

Bill Metcalf builds and operates a delightful outdoor G-scale railroad, the Sludgewell Bottled Water Co. RR. But he also expresses a liking for small and simple track plans where every spur and line does at least double duty and operating problems are most of the point [a good description of a micro layout! –ed.]. To illustrate, Bill designed a nifty 4'x8' mining layout, Penny Mining Co. Railroad, and presented it on his refreshing web site.

Wistfully he wrote me, "It would be interesting to reduce the [Penny Mine] concept down to a very small size ... but a reversing loop is not exactly a space-saving configuration." Challenged, I proceeded to design the Ha'Penny Mining Co. Railroad, a 30"x18" (76x46 cm) streak of rust that presents some interesting operating challenges in getting the supplies and empty mine cars up the hill and bringing the mineral tonnage down.

Alas, as Bill pointed out, there's not really enough room to feature the Penny Mine switching puzzle created by placing a mine tippie on the main line within a reversing loop (balloon). Instead, the micro version focuses on figuring things out at the bottom, before starting the climb. The only firm operating rule is that the locomotive must always be on the downhill side of the heavily loaded cars full of whatever it is they mine up there. And of course, the loaded cars are delivered to the interchange — same place where supplies and mining equipment arrive.

The drawing is arranged for On18/O9 trains using 9 mm gauge, but the 7-inch curves are generous enough to allow virtually any gauge/scale combination to work, from Gn15 to HOn30. The limiting factor will be how steep a grade you can tolerate to get the trains up and over.



HA'PENNY MINING CO. RAILROAD

0N18 • 7" MIN. RADIUS • 30"x18" (76x46 cm)

ADAPTED FROM A DESIGN BY WILLIAM METCALF

Unique

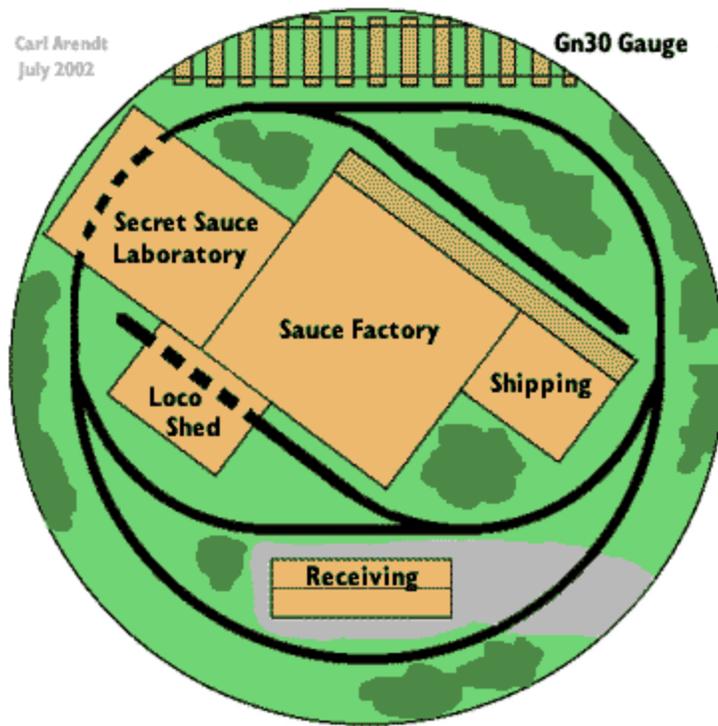
Borrowing an idea from David Gibson (of Pepper7 fame) I designed this little circular Gn15 layout to fit into a standard 22-inch "kettle" barbecue grill (at right). The kettle is sturdy, provides instant benchwork, and can easily be transported from place to place. There's even a shelf for a powerpack, extra rolling stock, and the like. If the layout is hinged to swing upward, extra materials and stock can be carried in the cavity beneath the baseboard.

The layout fittingly depicts a barbecue sauce factory — the Say Two Manufacturing Co., famous for its television commercials with the tag line, "Don't buy just one bottle, when it comes to La Sauce — Say Two!" The factory building sprawls across the center of the circular baseboard, dividing the layout into two scenes, both served by a small narrow-gauge industrial tram. While it was designed for Gn15, the layout could readily be built in On30 or On18 scales.

Operations follow the entire manufacturing cycle from Receiving, where trucks (lorries) deliver ingredients that are hauled by train into the factory, to Shipping, where the finished cases of Say Two BBQ Sauce are hauled off to the wider-gauge interchange for shipment to the backyard chefs of the world.

The little railway also serves a Secret Sauce Laboratory with a hidden receiving and shipping dock, where scientists are developing the next taste-tempting generation of Say Two sauces. The mechanical functions of the little critters that power the line are handled in the Loco Shed, where a large junk pile in front will gladden the hearts of many modelers. The opportunities for animation vignettes are numerous throughout this little layout.

All in all, a lot of fun is in store in the backyard with the Say Two Mfg. Co.!



BBQ Sauce 'Say Two' Mfg. Co.

Gn15 • 22" diameter (56 cm)



Waterfront

Laketown Dock & Transfer

HO standard gauge

Who says a micro layout needs to be small!

This one is 18in x 60in showing a dock facility.

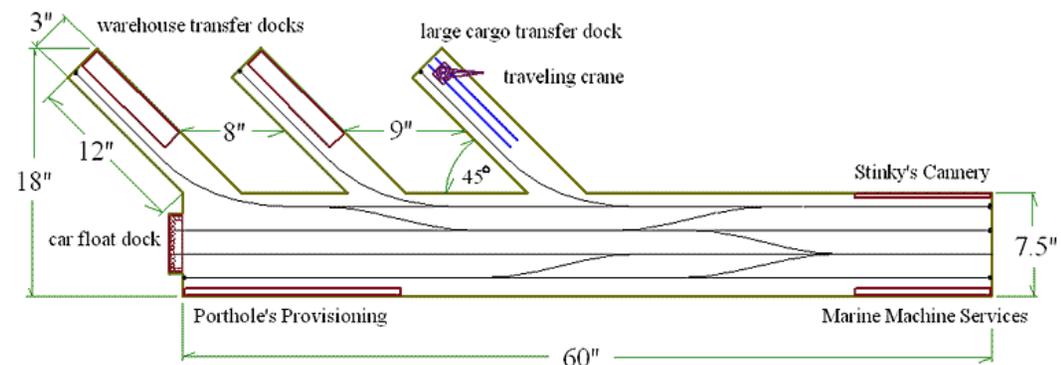
It fills 576sq.in. by using long, thin elements.

To ease transport, the dock "fingers" could be made detachable.

It's designed for short cars moving one or two at a time.

It has lots of switching between the docks, car float, and industries.

An old sardine could be hung under the cannery to simulate the olfactory ambience.



Laketown Dock & Transfer

HO standard gauge, Peco Set Track switches, 12" dock radius, 1.75" track spacing, 576sq.in.

Waterfront

Located in the Pacific Northwest, off the Washington coast, Port Nairn is the main town on an island in Puget Sound and is linked to the mainland by the rail ferry *MV Arendt*.

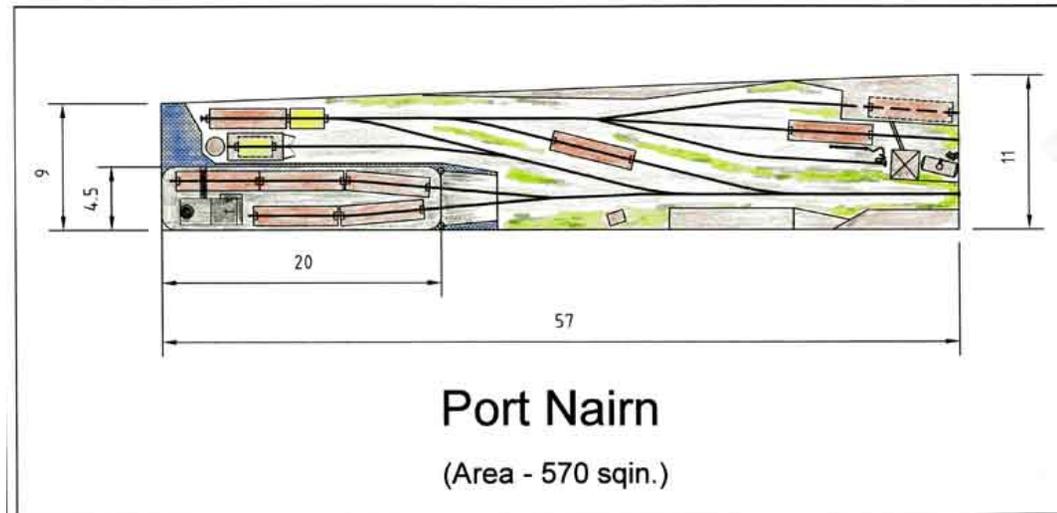
The principal traffic is conveyed in 40' boxcars or flatcars that bring in supplies to the islanders and gives the local industries a rail connection to the main network. Additionally there is a fuel oil tanker service that brings in fuel to replenish the local depot that supplies the island's fuel needs. Outbound traffic includes timber products, machinery, minerals & the weekly gondola service that takes the island's rubbish to the mainland for processing.

With space being at a premium, the Trackmobile provides the local railroad with the ideal vehicle to shunt cars around the port area and to load/unload the ferry. Between turns, the Trackmobile rests in its own shed with a small supporting works that carries out maintenance on the vehicle or any of the cars that need repair.

It's intended that the ferry is removable to act as a staging area. The right-hand end has another staging area for one car in the warehouse and also provides for a possible connection to the main intra-island railroad. (There's still 6 sqin of allowable area left to make up staging cassettes!)

The Plan.

Designed using Peco track-templates scanned into Autocad and then hand-coloured. Typical boxcars and the Trackmobile are shown on the plan.



Switching

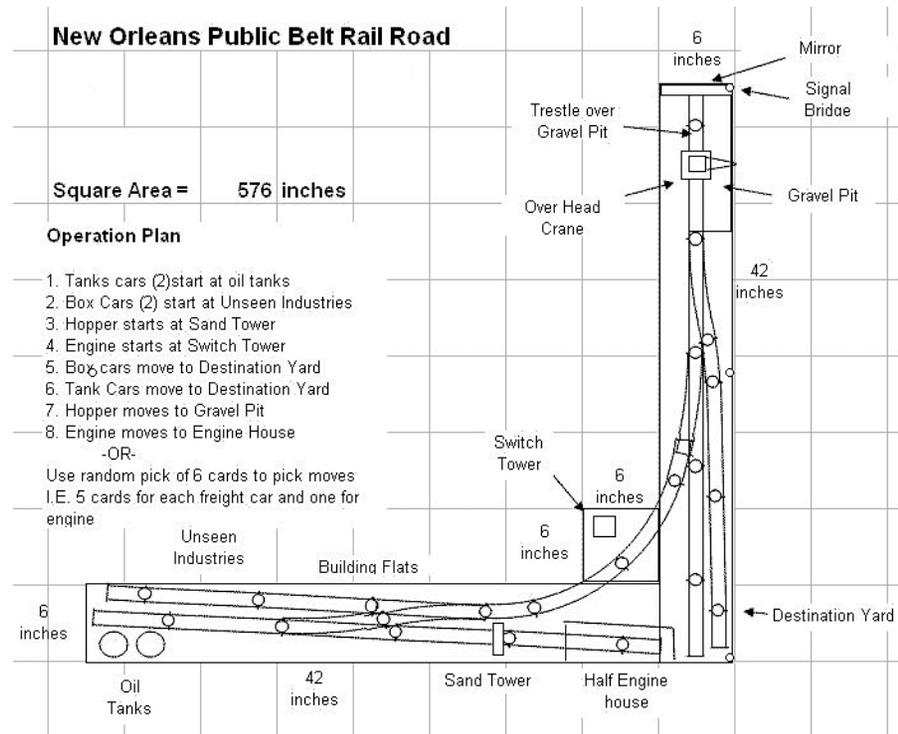
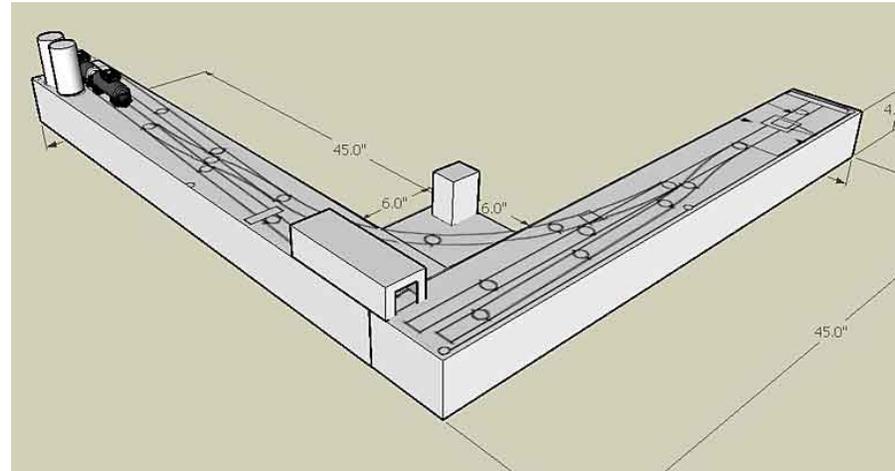
I designed this as a set of two modules to be bolted into an "L" for a switching contest. The audience is on the outside of the "L" and the owner is on the inside.

Along the front or outer side of the "L" would be DCC outlets so that the contestants could move with the engine and uncouple it.

The prototype is the New Orleans Public Belt Railroad (NOPB) with the Bridgedale switch tower as the half way point.

The box cars could be replaced with covered hoppers for plastic pellets or grain. Both are switched along the Mississippi river corridor.

The gravel pit would be lower than the rest of the layout and spanned by a trestle with the overhead crane riding on the trestle. At the end of that module would be a signal bridge with a mirror inserted.



Terminal

Atlas Terminals is an HO scale, 576 sq in, micro layout based on an industrial facility in Glendale, Queens, New York. The siding on the north side of LIRR's Montauk Branch serves as interchange (staging) track from which the Trackmobile delivers cars into the terminal or makes set-outs for pick-up. The switching lead before the turnout into Atlas Terminals and sector plate are sized for a Trackmobile and 60-foot car should one ever be set-out.

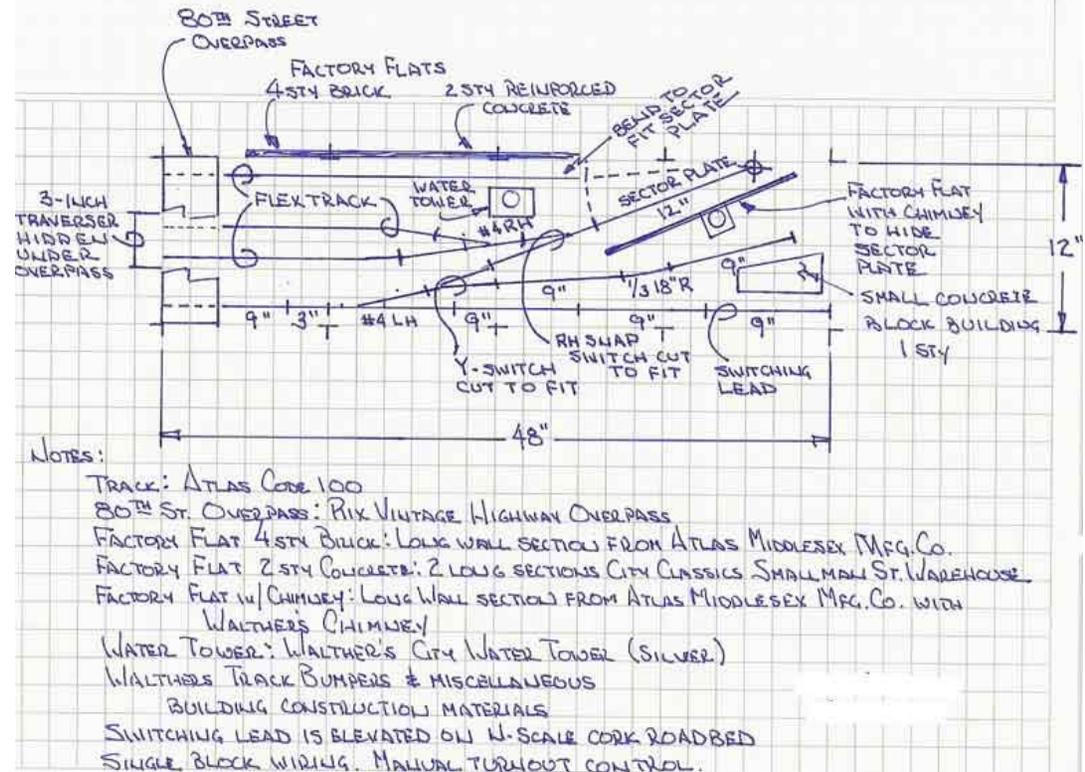
The Trackmobile must have operating couplers on both ends. Interchange track capacity is four 40-foot cars; warehouse track capacity is five 40-foot cars. Traverser (hidden under 80th Street Overpass) capacity is the Trackmobile to release it to run around cars for warehouse delivery. Tracks serving the traverser can be used as team tracks.

Atlas Terminals ([here](#) and [here](#)) landmarks are the water tower (still a Glendale landmark), smoke stack, and 4-story brick factory refurbished for the shopping center now occupying the site.

Structures are Atlas, City Classics, Walthers, and Rix. Track is Atlas code 100. The wye turnout and RH Snap Switch are cut to fit.

Track plan and a mock-up picture with 50-ft. cars, attached. My interest in *Atlas Terminals*: I grew up in Queens and passed it whenever my family visited friends in Glendale. The terminal used small industrial locomotives for switching, one preserved until recently at the site. Should the facility have survived as a terminal, my bet is it would use Trackmobiles.

TRACK PLAN & PARTS FOR ATLAS TERMINALS MICROLAYOUT - TRACKMOBILE MOTIVE POWER

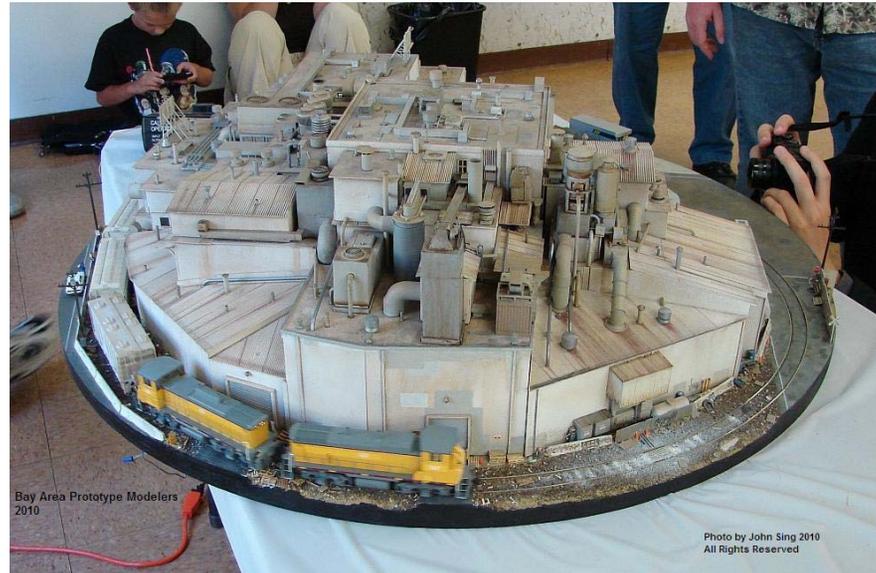


Atlas Terminals

Pizza



Detailed Pizza

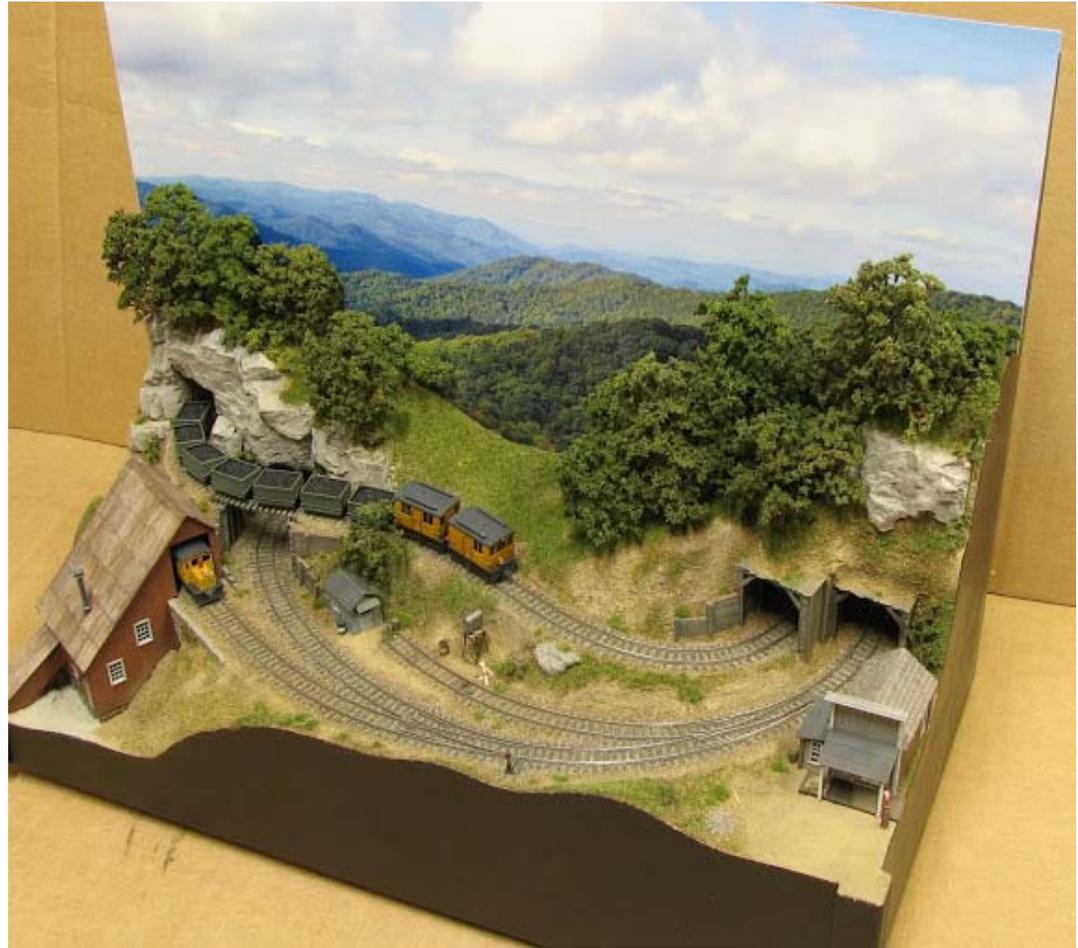


Detailed Pizza

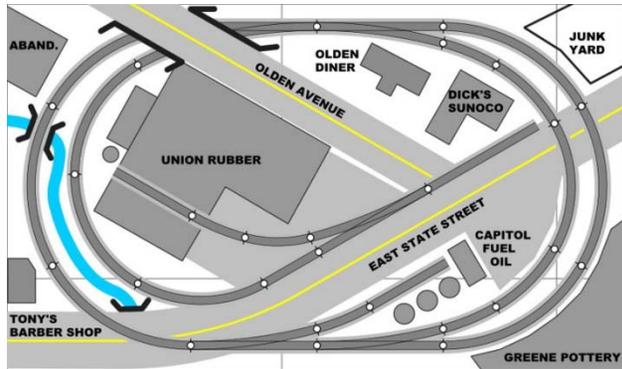
Steve Pettit, from Sydney, built this 860x600mm [34x24in] U.S. style pizza mining layout to show off the line of trees that he makes for other modelers in Australia (under the name Model Terrain Co.). He built it in On30 [O16.5] scale as a change of pace from his large On3 home logging layout, the *Toadcroak Flume & Lumber Co.* The layout is mounted in its own carrying case complete with lighting, and the curves are as small as 230mm [9in] radius.



Continuous Loop and Operations



Complete Layout



Additional Resources

- <http://www.carendt.com/category/small-layout-scrapbook/>
- <http://www.carendt.com/micro-layout-design-gallery/>
- http://www.railroad-line.com/forum/forum.asp?FORUM_ID=73
- http://www.freerails.com/view_forum.php?id=40

The Clock Starts Now

- You have until the 2016 November Meeting to prepare your Micro Layout.
- Share your challenges and how you conquered them.
- Try new techniques.
- Most of all – HAVE FUN!