

Rochester Model Rails

Dedicated to quality model railroading in upstate New York

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Engine facilities on the MARY-LAND NORTHERN RAILROAD switching layout of Leo Adamski. It's early 1940s and coal is king. Camelbacks rule on this 4' x 12' HO scale, standard gauge layout. Photo by Jack Matsik. [Ed. – Leo and Jack are members of the Tuesday Night Gang in Rochester, New York.

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The MARY– LAND NORTHERN RAILROAD

By Leo Adamski

The MARY – LAND NORTHERN RAILROAD represents a remote yard and industrial area in a large city. It is located on a branch line of an imaginary railroad on the eastern US. It has a small engine facility where minor repairs can be made to both locomotives and cars. No passenger service is available.

The branch line provides service to the industries through a three - track yard. About 12 industries are located along five tracks. Another track provides support for locomotive service such as coal, sand, and supplies for the two-stall engine house.

Motive power is in the form of camelback locomotives, and the time period is the early 1940's. There are approximately 100 feet of code 100 *Atlas* flex track and 20 *Atlas* turnouts, five of which are manually controlled. Operation is by means of a 3-cab remote control DCC system by *NCE*. A car forwarding system is presently under development. Sessions for three to five operators are planned for the near future.

**You could have had
Your Article Published
Here!
or a photo
of your layout
on the cover of RMR**

Contact the editor at:

OCRR@frontiernet.net

Sticks as Structures – Part III

By Richard C. Roth

Before I begin this last segment of my article on utility poles, I would like to respond in print to 3 questions that were posed to me since the last installment. I think all three are very good questions and I would like to share the questions and responses with you in case anyone who is contemplating line construction. One of the requestors asked to remain unnamed, so I not list names for any of the questions.

1.) Question: What is the difference between transmission and distribution lines?

Response: Transmission lines are high voltage lines that travel either from a generating plant substation to a remote substation. The voltages in these lines are usually in excess of 12,000 volts. Therefore, they are built higher up in the air, when possible in less populated areas, and most often have insulator strings that are suspended below the mounting point rather than as posts above cross-arms. While some transmission poles also carry distribution lines, the transmission lines rarely are branched, but run through from source to destination.

2.) Question: In our neighborhood there are only 2 transformers for about 20 houses, yet two streets over there are transformers for nearly every house. Why is that?

Response: Such methods do differ from power company to power company, but I assume that the same power company services both areas. Years ago, most power companies built lines in residential neighborhoods that consisted of a moderate voltage primary circuit (6,900 to 12,000 volts) and secondary branch circuits that consisted of 3 separate 120 volt lines and a neutral (earth ground). Depending on the local, drops were installed from the primary to transformers that feed the secondary branches. A number of drops were installed along the secondary branch circuit, each to provide electricity to one house or other building. The number of transformers required was based on the total electrical demands of the area being served. This method of distribution is very economical in areas with buildings rather close together. When possible the utility will try to make their drops from the poles, but this is not absolutely necessary. They can also be made from mid-span connections to the secondary circuit. One note here if you are going to model this, all taps to the transformers from the primary will be from the same primary leg.

In areas of lower building density, the utility company may find it cost effective to provide a transformer for each building. A transformer is mounted on a pole with a drop from to one building. In many newer developments, the lines may even go down the pole and then underground to the building. When lines run underground to the building, it is not uncommon to find a small fully enclosed transformer mounting on the ground adjacent to the building. In such instances, there would not be a transformer on the pole as the higher voltage is routed to the transformer at the building. This type of installation is becoming more common to protect the aesthetics of the area by not having any “unsightly” overhead wires or cables.

2.) Question: I am modeling two small villages on my layout and want to construct power lines to the homes and businesses. I wanted to include some guy-wires in my construction. During one of my drives to observe things more closely before I build, I noticed something that caught my eye. It seemed that the cross arms on the poles alternated from side to side. Was this just a coincidence or is there a purpose to this sort of construction?

Response: You are indeed very observant. This is the preferred method of construction. The purpose is to reduce the strain placed on the cross arms by the wires attached to them. The wires and cables must be reasonably taunt to prevent excessive sag but it also causes the cross arms to be pulled in the direction of the strain. Look at the diagram below.

Fig. # 1

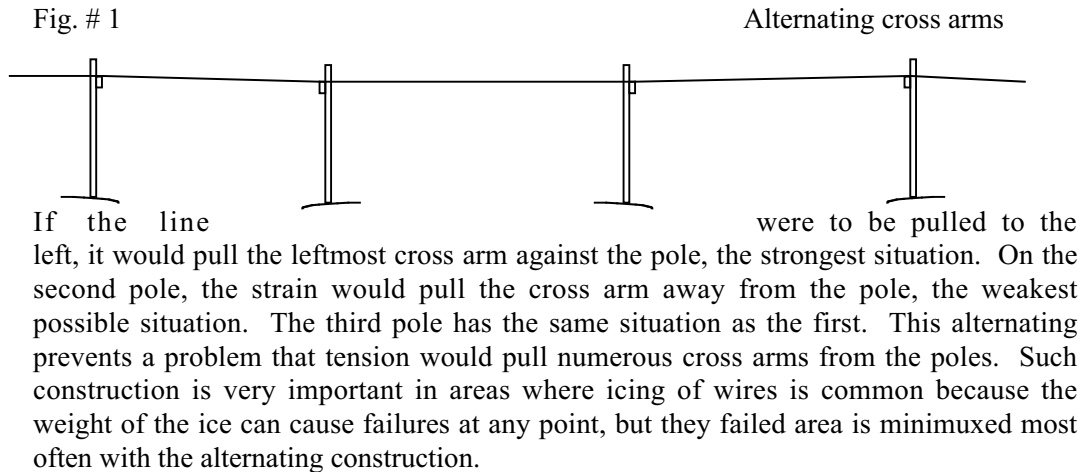


Fig. 2

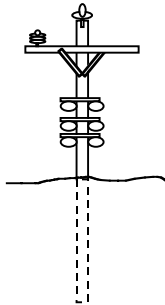


Last issue I promised that I would show some photos of framing of poles showing their differing styles for differing uses. The first, Fig. 2, shows a pole that is being used to carry electrical power, copper and fiberoptic phone lines and CATV signals for home TV. I sort of like this pole because it shows how, over time more and more can be added to poles. Starting from the top there are the 3 lines of a 3 phase 33,000 Volt line with a branch circuit taking off from the pole. Down a bit at the level just above the tree tops is a secondary circuit of 240 volts for the street light and several homes in the vicinity. Below that is a CATV fibre optic cable. Below it are 6 fibre optic and copper-line phone trunks with two of them running down the pole to an underground system. Below that is the copper-line area phone cable. There are 6 break-out boxes for the phone lines immediately adjacent to the pole. I doubt that

One summer that I worked for Dayton Power & Light Co. years ago, I remember working as part of a crew that stabilized a

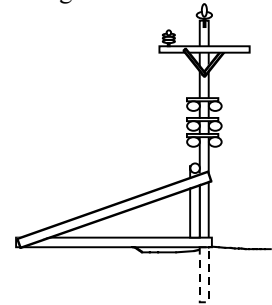
pole that had had cable after cable added. The pole started as a span pole on a line initially intended to carry 6,900 volts about a half-mile to two farms. This particular pole was planted in some soft ground. Almost immediately after, a telephone trunk cable was added as a part of a cross-country line being installed. This trunk was about 2 inches in diameter and contained copper wires insulated with paper wrapping as was the technology then. The exterior of the trunk was eighth-inch thick lead. The cable weighed in at about 14 pounds per foot.

Fig. # 3a



The power line and the phone trunk shared the pole for some years until 5 more telephone trunk lines were added. A year or so later it was noticed that either the pole was sinking or it was shrinking. The former was the real case, as within a period of about 18 months the pole had sunk about 6 feet into the peat that lay below the surface clay and gravel. To support the pole, legs and feet were added to support the pole by distributing the weight over a larger area as shown. It took almost 3 days for the old pole to be removed, a new pole installed and four legs and feet added. It took so long because all the work had to be

Fig. # 3b



done by hand because the truck could not get closer than about 200 feet to the pole. If you look around, you can see any number of configurations of framing for poles. Today's newer fiber optics have meant smaller cables, but quite regularly more of them.

For some other poles the modifications may not be as drastic as 2265761 in Degraf, Ohio. It may be just adding more guy wires. One pole in Conneaut Lake, PA has a total of 8 guy wires running from it. It started out with 3 cables of the 12,000 volt circuits and the neutral. Added later were several phone trunks. Still later came CATV antenna line lines and after that fiber optic cable phone lines. Because the pole is one of a number that follows the curvature of the nearby road and was about 10 feet out of line with the two adjacent poles, it required guy wires to reinforce the pole. Now there are 6 phone trunks and fiber optic lines, the 3 power lines and CATV.

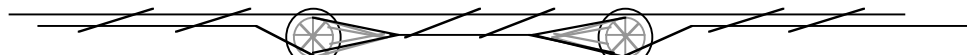
When lines must cross a short span distance, sometimes a slack-span will be used. This is a wire that is stretched between two poles but is not pulled taut as is done in most cases. The advantage of a slack-span is in most situations it will not require a guy as there will be very little strain on adjacent poles. Two spotting keys that can be used to identify slack-spans is a very loose drooping span or at times a span that retains some of the shape of the coil in which the cable came.

One thing that would be interesting to model would be the messenger/ signal cable pairing that is most often used for phone, copper or fiber optic, CATV or other non-power installation. The messenger cable is a multiwire bundle strung very snugly between poles. Suspended from the messenger using a spiral wound bundling cable is the signal cable. This allows the installation to be snug while not requiring much strength to the signal wires or glass fibers themselves. Splice boxes, breakout boxes and other forms of hardware are all suspended from the messengers.

There is one more thing that, to me would be interesting to model, and that is the accumulators now used on fiber optics. Once you know what to look for, you will find the accumulators very widely used today. They are nothing more than two forms, often plastic, around which the cable is wound similar to what is shown in Fig. # 4.

Fig. # 4

Fiber Optic Accumulators



The main purpose in using accumulators for the fiber optic cables is to reduce the need for post installation splicing. A cable may be wound only once around the accumulators, it may go around several time, or the accumulators may be several spans or several hundred feet apart. With controlled slack in the line, adjustments are easily made when poles need to be relocated or rerouting necessitated just by removing some of the extra cable wound around the accumulators. Without extra cable, it would be necessary to splice the cables. This would introduce interference and other detrimental effects into the circuits.

I will finish with a couple more photos of poles from various collections. (Yes, there are individuals whose hobby is to photograph utility poles. I guess you could consider them crazy, wasting film on something other than trains.



You can see from the high points of utility lines that I have mentioned in this series that there are a great number that are waiting to be discovered and modeled. I have attempted to scratch the surface and give to the modelers some basics upon which they can build, build a first class system of poles and other transmission or distribution system, and build the knowledge bank they hold in their mind that will allow them to look more closely at a topic that is frequently overlooked.



Ask Doctor Dick (The Scenery Doctor)

Warren writes:

I have started my scenery on my HO scale layout and need some more detailed advice on how to do this than you gave in the September issue of RMR.

Doc:

Well Warren, there are actually several steps which I shall outline below. The next page shows this in graphic form.

I recommend two good books on this subject: (1) Dave Frary *How to Build Realistic Model Railroad Scenery - 2nd Edition* and (2) the new book by Lou Sassi *Basic Scenery for Model Railroaders*. Both books are great and have many color step by step pictures. Just pitch in and I am sure it will go just fine.

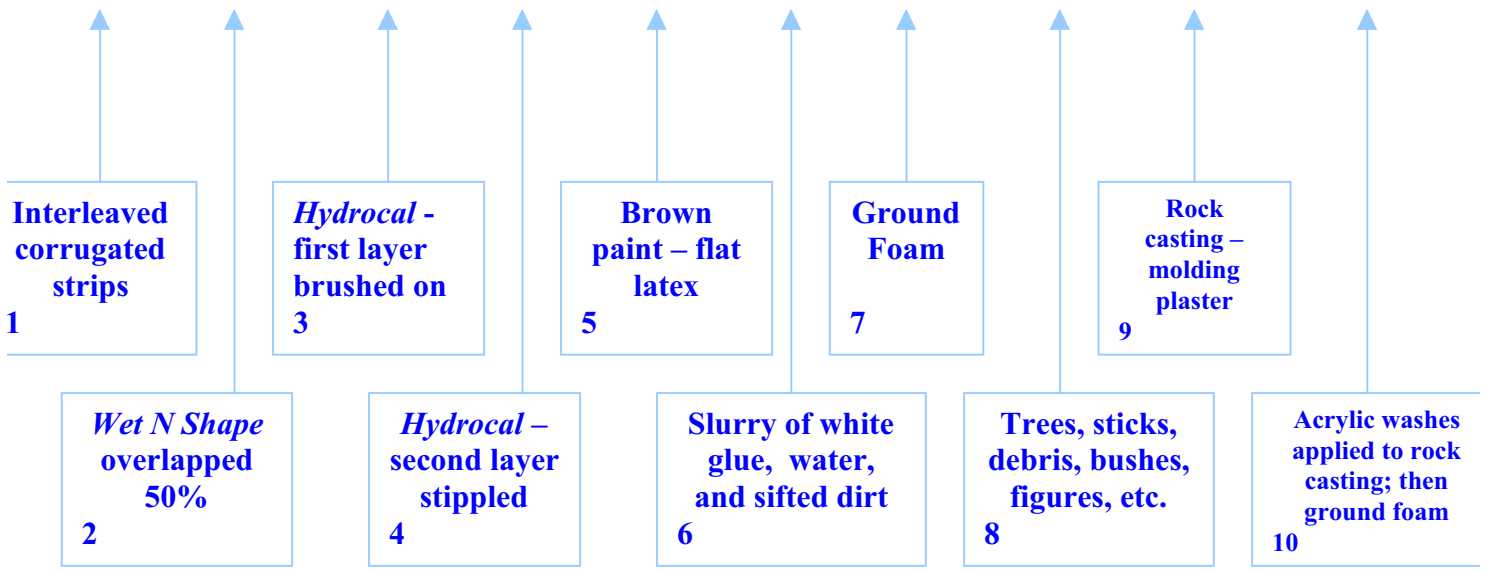
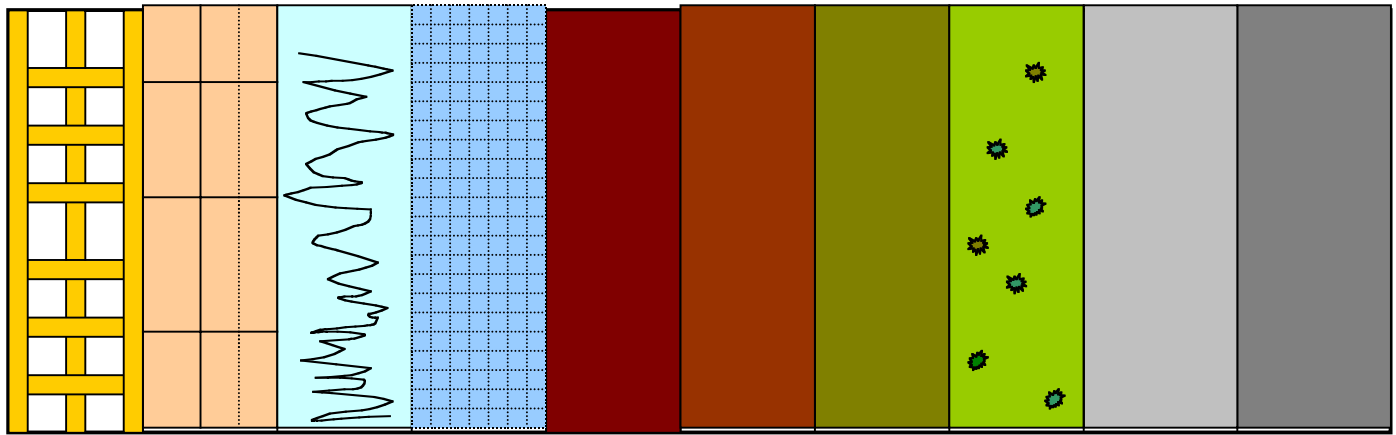
1. Interwoven 2" strips of corrugated hot glued together
2. Two layers of *Wet N' Shape* 100% cotton craft cloth (50% overlap)
3. One thin layer of *Hydrocal* industrial white plaster - brushed on
4. One layer of *Hydrocal* industrial white plaster - stippled on
5. One layer of latex paint – dirt colored

6. One layer of dirt slurry (water, white glue, and sifted dirt)
7. Ground foam - fine - green and brown (attached with white glue & water)
8. Ground foam – medium, coarse, and extra coarse – various earthy colors (attached with acrylic matte medium & water)
9. Spices (attached with acrylic matte medium & water)
10. Debris, sticks, leaves, bushes, etc.
11. Trees

Notes:

1. To get the dry puffy look at the end of the process, finish with a fine layer of spices or ground foam, not glue spray.
2. When putting the first layer of plaster on the *Wet N' Shape*, put on a thin layer quickly. Don't over soak the cloth since it will tend to lose its shape if re-wetted. When the second layer of plaster is applied, there is no problem. Make sure each layer is dry before adding successive layers.
3. Make sure the ground is finished before applying trees. Very hard to finish the ground when the trees are in the way.

Scenery Module



Guidelines for Good Photographic Composition

or

(How to Make Better Pictures)

By Leaf Shutter

Guideline No. 2, Horizontal/Vertical.

Take the picture horizontally if the subject is predominately horizontal. Take the picture vertically, if the subject is predominately vertical. Many photographers know how to hold the camera in only one position – horizontally. The camera design tends to promote this since most are awkward to turn to the vertical. Also as television viewers, we are accustomed to seeing images horizontally.

Fortunately as train enthusiasts most of our subjects are horizontal. However, if it's a photograph of the nose of a diesel locomotive you desire, it will look much better if taken vertically. Photographs of people, trees, and flagpoles should be taken vertically, for example. The next time you take a photograph, think a minute. Would it be better vertically or horizontally? If in doubt take two.

As an aside, publications prefer their photographs taken horizontally the exception being the covers.

Personal Profile
*Dick Senges – Editor and
Publisher RMR*

Dick Senges has been a model railroader for 25 years and specializes in scenery. His HO scale, standard gauge model railroad depicts the Oil Creek Rail Road in western Pennsylvania circa 1866, and also a late 1800's logging and mining railroad. He has received several first place awards in NMRA Regional and Division model contests, and is a member of the Rochester, NY, *Tuesday Night Gang*, the NMRA, and the NFR.

Dick is editor and publisher of the **Rochester Model Rails** model railroad newsletter published in upstate New York. He has been published in *Railroad Model Craftsman*, *Oil – Industry History*, and several NMRA regional newsletters.

He has achieved NMRA AP Certification as Master Builder – Scenery, Master Builder – Structures, and Model Railroad Author. Dick has also acted as a scenery consultant for the Medina Railroad Museum in Medina, NY.

His layout models three industries - oil, logging, and mining. Another industry is being considered – grapes. Serious planning is underway to add the Bath and Hammondsport RR at Hammondsport, NY, near the south end of Keuka Lake, circa 1900.

Dick has been giving model railroad scenery clinics since 1983 and enjoys this aspect of the hobby.

**Don't Forget to Visit the
Medina Railroad Museum
Medina, NY**

First Big RR Tunnel

The Hoosac Tunnel on the Boston and Maine Railroad, in Massachusetts, is the oldest of the long railway tunnels now in use in this country. The tunnel, 4 miles 3961 feet in length, was completed February 9, 1875.

Railroad Quiz

What is the story of the first locomotive headlight?

Rochester Model Rails

Web Site:

www.trainweb.org/rmr

Next Issue:

***Leaf Shutter's
Photo Guideline # 3***

How to Decal Effectively

Cedar Swamp Depot

***Ask Doctor Dick
(the Scenery Doctor)***

Rochester Model Rails

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Web Site: www.trainweb.org/rmr

Coming Events

NOVEMBER 2003

- 1-2: Syracuse, NY** - Train Fair, Saturday and Sunday, at the NY State Fairgrounds
10 – 6 on Sat. 10 – 5 on Sun. Fee: \$6.00 Info: CNYNRHS@aol.com
- 4-25: Rochester, NY** - *Tuesday Night Gang* – most Tuesday nights Contact: Lou Nost at:
Louis.Nost@usa.xerox.com
- 9: Batavia, NY** - GSME Great Batavia Train Show at Batavia Downs Conference Center, 9:30
-3:30pm Contact: Mike Pyszczek at: pyzek@iinc.com
- 15 Hamilton, Canada** – 20 layouts on tour, 8:00am – 5:00 Sponsor: H. O. M. E. S. Cost: \$5.00
Contact: Ken Byrne 905-383-3042
- 20: Rochester, NY** – National Railway Historical Society, Rochester Chapter meeting 40&8
Club, University Avenue, 7:00pm

[For additional listing of events, go on the Internet to:](#)

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