

# The Potomac Flyer

**April-May 2021**

**The Newsletter of the Potomac Division, MER, NMRA**



## **Inside This Issue:**

**Candidates for the PD Board**

**New Bylaws for Consideration**

**Layouts, Model News and Events (Virtual and In-Person!)**

**All Inside, So Read On...And Don't Forget:**

**Sunday April 18<sup>th</sup> Annual Meeting and Virtual clinic 1pm  
with Tony Koester – Update on the Nickel Plate**

## Bill of Lading:

### Page

- 3 From the Business Car by Martin Brechbiel**
- 5 Meet the Candidates for the PD Board**
- 8 The Proposed New Bylaws**
- 22 Recommended COVID Clinic Practices**
- 24 The Story Behind the Cover Photo by Mark Gionet**
- 25 Layouts Special Issue Preview**
- 26 Bob Gifford's Waterford Creek Lines**
- 28 Hobby Barn Static Grass Clinic by Jerry Stanley**
- 30 Hobby Barn Flat Car Build Clinic**
- 33 All About Track, Part 2 by Nigel Phillips**
- 44 A Commuter Car Upgrade by Brian Sheron**
- 49 Another MoW Project by Martin Brechbiel**
- 54 Layout Renovation, Part 5 by Ernie Little**
- 58 Book Review: Tony Koester Prototype Lessons by Mat Thompson**
- 59 Achievement Program News**
- 61 Helpful Hint: Signs by Nick Kalis**
- 62 Paymaster's Report**
- 63 Events Schedule**



---

**Cover Photo: Mark Gionet's Boston and Maine Western Route with "Sully's Variety & Garage" (Photo by Mark Gionet)**

---

### The Potomac Flyer

#### Submission Deadlines – Issue

**Oct. 15 for Dec.-Jan.      Feb.15 for April-May**  
**June 15 for Aug.-Sept.    Dec. 15 for Feb.-Mar.**  
**April 15 for June-July    Aug. 15 for Oct.-Nov.**



# From The Business Car: Once Again...

by Martin Brechbiel, MMR, Potomac Division Superintendent



It's the first week of March. It's going to be nearly 60 degrees today. The sun is shining, and all is right in the world. Well, maybe our local weather is better, but the harsh reality is that we're still looking at there being no real changes any time soon regarding meets and in-person events. The light at the end of this tunnel might be associated with vaccines and their increasing distribution, but we're more likely still in the middle of the woods for quite some distance. I hope all who qualify are out getting their shots, and that everyone is still continuing to live safely. But the rest of 2021 still looks like something we're all going to have to discover.

The Division's virtual clinic program continues to be exceptionally well-attended. The last one in February drew a high of 57 attendees! This response and participation continues to demonstrate that not only do members want these programs and clinics, and that they like them on a monthly basis, but that they will also get online and attend them virtually. I routinely attend James River, Carolina Piedmont Division, and other Divisions' meetings and events. I'm also attending and participating in Jim Kellow's "New Tracks" Zoom model railroading gatherings that draw people in from all over the country. For those who have not tried attending and participating in Zoom (and other systems) meets, clinics, and gatherings—or are just naysayers—give it a chance or three, since this is going to be the new normal until some other normal arrives; the old normal is gone. Virtual attendance is going to be part of operations of the Division and the MER going forward.

The Potomac Division Board meeting in December has started something that is probably long overdue in the Division—regularly scheduled monthly Board meetings. This is again a benefit of Zoom permitting us to meet without all of the travel issues while being able to stay in the comfort of our own homes. We're going to start opening these meetings up to the members by invitation and registration on Zoom. We're doing that to limit attendance to members, and also to know exactly who is in attendance. That becomes an important data point, particularly in regards to actions that require a membership quorum to be present. Also of particular importance is following our Electronic Meeting Policy. We simply cannot hold meetings with everyone talking at the same time, and so we now have a process for conducting these meetings. That Electronic Meeting Policy is available on the Division website under the Governance tab.

We also have elections for three positions on the Board. We have five candidates, so that is something to celebrate. Their statements are in this issue. We are seeing what

I hope is a healthy resurgence in interest in putting one's self out there volunteering to do the real work of running the Division. We expect to mail out ballots again this year. Please do fill yours out and mail it back! We also plan to hold an Elections Meeting in April (tentatively scheduled for April 18) to review everything and also address approving the re-issuance of the Bylaws for the Division. The proposed re-issuance version was sent to every member a year ago, and had been on the website for over a year now *[and appears in this issue of [The Flyer on P8](#)]*. Input to this document from Bob Sprague, Alex Belida, and the late Marshall Abrams was all incorporated, with Marshall repeatedly urging me to get this passed without further delay. Reasons for doing this are lengthy, but the existing Bylaws currently are limiting operations (e.g., no electronic voting for one example), possess multiple contradictions (e.g., no actual requirement for an Annual Meeting, but one for an Elections Meeting), and are not remotely in alignment with the Region's Bylaws (that is going to have to be done per future direction from Nat'l). I do regret not getting this done more efficiently. We shall try this year.

Today is only yesterday's tomorrow and the future is where we're all going, so stay busy and keep on building those models and layouts!



## **Potomac Division Board of Directors Election Dates:**

April 1, 2021 - *The Potomac Flyer* and emails from the Division will provide a list of candidates for office for the membership to consider.

- April 26, 2021 (Midnight) - Deadline for receipt of ballots by the Nominations Committee.
- April 30, 2021 - Candidates will be notified of election results.
- May 1, 2021 - First meeting of the new Board of Directors.
- May 8, 2021- The winning candidates and the Board of Directors positions (if possible) will be announced to the membership by the posting on the Division's Groups.io, emails from the Division sent to the membership, and posting to the Division's website.
- June 1, 2021- The winning candidates and the Board of Directors positions will be announced to the membership by the Potomac Flyer.

## **Potomac Division Board of Directors Election Candidates**

The Nominating Committee of Jerry Stanley, Bill Lyders and Mark Gionet has submitted the following candidates (listed in alphabetical order) for positions on the Potomac Division Board of Directors. **The deadline for receipt by the committee of the ballots sent to you is April 26, 2021.**



### **Alex Belida**

My joy in model railroading dates back to my youth and my first train set in the 1950s. But my career as a newsman, including 25 years living in Europe and Africa, coupled with family responsibilities, kept me from making a layout.

I started my Eureka and South Pass Railroad, a modest HO shelf layout, in 2017 after I retired from Voice of America.

It led me to the NMRA Potomac Division and new friends who helped me with the skills-building tests of the Achievement Program and got me involved to help with 2018 MER Convention and *The Potomac Flyer*.

I've served as Editor of *The Flyer* for the past two years, expanding it from quarterly to bimonthly publication, and have worked as proofreader for the MER newsletter, *The Local*. In addition to writing items for *The Flyer*, *The Local* and *NMRA Magazine*, I have enjoyed reaching out to the many talented modelers in our Division for their articles and photographs. I also enjoy working with the Board to ensure *The Flyer* promotes our various outreach activities, whether in-person or virtual. I'll keep working to improve *The Flyer* and, if elected to the Board, I would press ahead with publicizing current and new activities. Thanks for considering me.

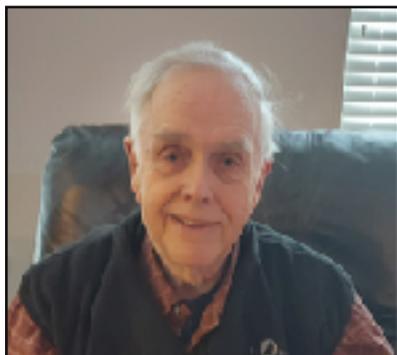


### **Martin Brechbiel, MMR**

I seek your vote for re-election to the Potomac Division Board. I have numerous qualifications ranging from local to national. I have been an active NMRA member promoting and supporting model railroading through active participation of the AP program, volunteering, writing articles for NMRA publications at all levels for many years.

I have served as Director on the MER Board for 2 terms, was Contest Chair for 10 years, and am now in my second term as MER Secretary. I have been the Traction Action columnist for *O Scale Trains* magazine since 2009 and I am now the Editor. Activities while serving on the MER Board included revision of the Executive Handbook and the Region's Bylaws.

I have been very productive with the operations and governance of the MER and I have tried to bring that same experience to the Potomac Division over the past 2 years. I continue to try to bring new ideas and options to our Division to keep it active and to provide good programs to our members while also looking to improve fundamental communications. I believe that I bring a unique perspective that adds value to serve the needs of the Potomac Division. Thank you!



### **Andrew Dodge, MMR**

I am seeking to be reelected to the board of directors of the Potomac Division. I would like to promote the fraternity of modelers by offering a wide range of clinics and general meetings. I will do my best to make our hobby enjoyable, informative, and socially rewarding. As a member of the board, I have assisted in updating the division's bylaws and procedures.

Since joining the NMRA in 1995, I have provided clinics at the division, regional, and national levels, and served as an AP judge on numerous occasions. As part of my outreach efforts, I also have conducted open houses for the divisional and regional conventions, and local organizations.

On the administrative level, I have served and supported Minicons for the Potomac and South Mountain Divisions, served as modular layout planner and manager for the 2013 MER convention, and developed a seminar clinic program. In 2017-2018 I worked with the National O Scale Convention group to publish articles and advertise the convention. I have also been deeply involved in scheduling divisional clinic programs such as the cancelled 2020 minicon and enlisting members to do Zoom programs once a month.

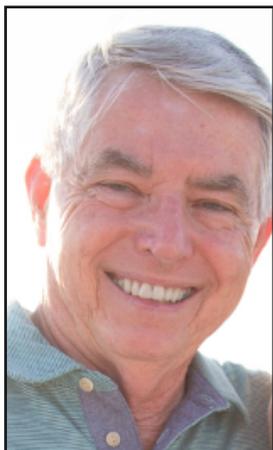


### **Nicholas Kalis**

He has served on and off for many years as the layout tour coordinator for the Potomac Division. Nick's LIRR Lower Montauk Branch took the front cover of the September 2007 *Railroad Model Craftsman*. His love of railroading probably took its start from the time in 1958 he appeared in *New York's Daily News* to accompany a photograph of the last trolley to operate in Manhattan. That was followed by the Lionel set under the Christmas Tree when he was about nine years old. Nick's byline has appeared several times in the Pennsylvania Railroad Technical and Historical Society's *Keystone*.

Nick's current project is the Fn3 Oahu Sugar Company set in Waipahu which appeared on the cover of *Narrow Gauge Downunder*. He has opened three layouts of his for the Potomac Division layout tour (his first open house was of his HO scale Sunnyside Yard layout). He has attended two NMRA national conventions and one Narrow Gauge National Convention (Denver).

He has earned a second and third NMRA AP awards. You have probably seen his byline in the NMRA Magazine, the MER Local, and our Potomac Flyer. He has delivered several clinics about various model railroad topics. He resides in Virginia.



### Bill Lyders

I have been an active member of the Potomac Division (PD) and Mid-East Region (MER) of the NMRA for almost 3 decades. I enjoy giving clinic presentations at conventions and love to pose questions to presenters to learn about their area of expertise.

In 2018, I was on staff to the MER Convention in Rockville and led the team that put forth a very successful Door Prize event that gathered almost 50% of the funding collected for the PD/MER from that convention. I really enjoyed working closely over a 10 month period as a PD BOD temporary member.

I was a member of a local model railroad club, the PWMRC, for almost 28 years including President for 3 years. My model railroading skills are broad from 4 home layouts and growing each year, especially now with 6 NMRA AP certificates completed.

As a BOD member I look forward to take lead roles in upcoming PD BOD activities working with members during COVID to have virtual layout tours and clinics and share skills with Newsletter articles like I did as an Author myself. As a candidate, I look forward to 2021 and contributing to you, my PD family of model railroaders.

---

If anyone is interested in making a donation to support the activities of the Potomac Division, you can always send a check made out to **“Potomac Division NMRA”** and mail it to our paymaster, Jerry Stanley, 11552 Hereford Court, Hume Va 22639



## Bylaws of the Potomac Division Mid-Eastern Region, National Model Railroad Association (to be adopted 04/2021)

Table of Contents		
Article	Topic	Location
I	Name, Purpose, and Boundaries	Page 2
II	Membership, Fees, and Publications	Page 2
III	Membership Meetings	Page 3
IV	Division Officers	Page 4
V	Board of Directors	Page 7
VI	Nominations, Ballots, and Elections	Page 9
VII	Standing Committees	Page 10
VIII	Special Committees	Page 11
IX	Amendments to the Bylaws	Page 12
X	Dissolution of the Division	Page 13
XI	Indemnification	Page 13
	Division Boundary Attachment	Page 14

**Article I**  
**Name, Purpose, and Boundaries**

Section 1 – Name

This organization shall be known as the Potomac Division (the “Division”) and is established as an unincorporated Division of the Mid-Eastern Region (MER) of the National Model Railroad Association (NMRA), Inc., under the provisions of the Regulations of the National Model Railroader Association. The MER is a not-for-profit corporation in the State of Maryland. The Division is established under the provisions of the Bylaws of the MER and the Regulations of the NMRA. If a conflict should develop between these Bylaws and the Regional Bylaws and/or the NMRA Regulations, the Regional Bylaws or the NMRA Regulations shall govern.

Section 2 - Purpose

The Purpose of the Division is to promote the objectives of the NMRA as set forth in the Regulations of that Association.

Section 3 – Boundaries

The boundaries of the Division are designated by the NMRA Mid-East Region and are as follows:

- In the State Of Maryland, the counties of Calvert, Charles, Montgomery, Prince George's and St. Mary's;
- The District of Columbia;
- In the Commonwealth Of Virginia the counties of Alexandria, Arlington, Fairfax, Falls Church, Fauquier, Loudoun, Manassas, Manassas Park, Prince William, and Rappahannock, and independent cities within these counties.

**Article II**  
**Membership, Publications, and Fees**

Section 1 - Definition of Member

Only NMRA members, who are in good standing as defined by that most currently available data as supplied to the Division from the MER, and reside within the Division boundaries, can be members of the Division.

Section 2 – Privileges of Membership

Membership in the Division shall include the following privileges:

- The right to hold office (except for Family and Railpass members).
- The right to vote (except for Family and Railpass members).
- The right to attend all public meetings of the Division.
- The right to receive all publications of the Division.

Except for holding a Division office or voting, any NMRA member in good standing may attend or participate in any Division activity.

### Section 3 – Division Publications

There shall be an official newsletter of the Division to be known as the *Potomac Flyer*, which shall be published as determined by the Potomac Division’s Board of Directors. All notices and those of the Division’s Annual Meeting shall be published in the *Potomac Flyer* and shall constitute official notice to the membership as required by the Division’s Bylaws.

### Section 4 – Subscriptions and Fees

Each Division member, in good standing as defined by that most currently available data as supplied to the Division from the MER shall be entitled to receive a subscription to the *Potomac Flyer*, which a member may decline to receive. Any NMRA member in good standing may subscribe to the *Potomac Flyer*. The Division’s Board of Directors shall determine the format of the *Potomac Flyer* (print, electronic, etc.), and all applicable subscription rates.

At the discretion of the Division’s Board of Directors other fees may be charged for Division activities and services to defray operational costs.

## **Article III Membership Meetings**

### Section 1 – Annual Meeting

An Annual Meeting of the Division shall take place at such time and place as determined by the Division’s Board of Directors during the first half of a new year. The Annual Meeting is open to all Division members at no cost (see Policy).

### Section 2 – Notification of Meetings

The Clerk shall ensure that notices of the Annual Meeting or Special Meetings are sent to Division members at least thirty (30) days prior to the date of such meetings. Notice will be deemed sufficient when such notice is sent to the last address of record with the NMRA. Notice to subscribers of the *Potomac Flyer* may be made by notice included in an issue of the *Potomac Flyer*.

### Section 3 – Quorum

At the Annual Meeting or at any Special Meeting, fifteen (15) Division members shall constitute a quorum for the transaction of business.

### Section 4 – Conduct of Meetings

The rules contained in “**Robert’s Rules of Order, Newly Revised**” shall govern the Annual and special meetings in all cases where they are applicable, and in which they are not in conflict with the Division’s Bylaws and Policies.

#### Section 5 – Financial Responsibility

Except as otherwise provided in this section, no individual shall bear any financial loss from any event approved by the Division Board of Directors that arises from a written contract in connection with that event and that that contract complies with all provisions of the Division’s Policies in place at the time the contract was executed. This provision shall not apply when the event is held in conjunction with the NMRA, NMRA Mid-East Region, or another MER Division, or to any loss from personal injury, death, property damage, destruction, or any tort except as is actually covered by insurance in force.

### **Article IV Division Officers**

#### Section 1 - Election of Officers

All Division officers must be a Division member in good standing as defined by that most currently available data as supplied to the Division from the MER, must reside within the Division’s boundaries, and be eligible to vote and hold office from the time of nomination until the completion of his or her term. Each Division officer must be eligible for bonding as may be required by the Division Board of Directors. In addition the Division Superintendent must have served as least one (1) full term in an ELECTED position on the Division’s, MER’s, or NMRA’s Board of Directors.

An officer is determined to have vacated office:

- If and when his or her NMRA membership expires, or is no longer a NMRA member in good standing, or eligible to hold office, or vote; as determined by the records provided by the NMRA.
- If he or she no longer resides within the Division’s boundaries.
- If he or she is removed from office.
- If he or she is otherwise deemed to be vacated as provided in the Division Bylaws.

Elections for officers shall be held annually at the Division’s Annual Meeting. All Officers of the Division shall be elected for a two (2) year term. with the three (3) officers (Superintendent, Senior Assistant Superintendent, Clerk) elected on ODD numbered years and the two (2) Officers (Assistant Superintendent, Paymaster) elected on the EVEN numbered years. They shall take office as the final item of business at the Annual Meeting.

No two Offices listed in Article IV may be held by the same person. If a member of the Board of Directors is elected to another position and still has an unexpired term in another office, that member shall be deemed to have vacated the office to which that member was previously elected.

No Superintendent, Senior Assistant Superintendent, or Assistant Superintendent may hold the same office for more than two (2) consecutive terms. The Offices of Clerk and Paymaster are limited to five (5) consecutive terms.

#### Section 2 – Removal or suspension of an Officer or Other Vacation of Office

Any elected Officer may be removed from Office for misfeasance, malfeasance or nonfeasance:

- A. At a Special Meeting called solely for that purpose, and that may occur only upon the written complaint by a majority of the members of the Division's Board.
- B. By a petition signed by 30% of the members of the Division. Removal from office of an Officer shall take place only by an affirmative vote of 30% for the membership of Division.

Any Officer may be excused from attending a scheduled meeting by a majority of the Board of Directors by submitting justifications in writing to the Presiding Officer. This notification must be done two (2) weeks prior to the meeting. This notification can be waived in the event of an emergency. The holder of an Office listed in Article IV, Section 1, who is absent without approved excusal during roll call at scheduled Board Meetings for the third consecutive time shall be considered as having resigned and the Superintendent will deem the Office vacated unless a valid, written reason is presented within thirty (30) days of the date of the first official absence. Such action may be held in abeyance by a unanimous vote of the Board of Directors.

An officer may be suspended from office upon an affirmative majority vote of the Board of Directors. Such action must be initiated with a written statement by a member of the Board of Directors. This statement must present the full justifications for which the officer should be suspended. The officer receiving the suspension notice shall be given the opportunity to present a rebuttal at a Board of Director's meeting to be held no less than ten (10) nor more than thirty (30) days after the presentation of notice.

An officer may also be immediately suspended from office without notice or hearing only by unanimous vote of the Board of Directors – not including the officer who is subject of the summary action. If said officer is suspended, the Presiding Officer shall appoint a successor to serve during the period of suspension with the unanimous consent of the remaining board. An officer suspended by this process may be reinstated by the Board's unanimous vote after a period of sixty (60) days.

If an officer resigns, dies, or the position is otherwise vacated, the Presiding Officer shall appoint a successor to fill the unexpired term, which requires the approval of a majority of the Board of Directors.

#### Section 3 – Superintendent

The Superintendent is the Chief Executive Officer of the Division and shall perform the duties of a non-profit organization and shall preside at all Division meetings. He or she shall be the only officer authorized to make commitments or to discuss outside activities for the Division unless such authority is delegated to another designated officer. Duties of the Superintendent include:

- Usual duties of the head of a non-profit organization.
- Appoint the Chairperson(s) and members of all committees of the Board EXCEPT Audit committee and shall define the roles and responsibilities for such committees.
- Preside over all meetings of the Division.
- Be an *ex officio* member of all committees, EXCEPT the Nomination and Audit committees.
- Perform all other duties as required by the Division's Bylaws or assigned by the NMRA or MER President.

#### Section 4 – Senior Assistant Superintendent

- The Senior Assistant Superintendent shall perform the duties of a Vice President of a non-profit organization.
- The Senior Assistant Superintendent shall, in the absence or disability of the Superintendent, perform all duties and responsibilities of the Superintendent.
- The Senior Assistant Superintendent shall perform such other duties as may be specified by the Superintendent or assigned by the Board of Directors.
- Biennially review the Division Bylaws and make recommendations to the Board of Directors for any needed changes or corrections.

#### Section 5 – Assistant Superintendent

- The Assistant Superintendent shall, in the absence or disability of the Senior Assistant Superintendent, perform all duties and responsibilities of the Senior Assistant Superintendent.
- The Assistant Superintendent shall perform such other duties as may be specified by the Superintendent or assigned by the Board of Directors.

#### Section 6 – Clerk

- The Clerk shall perform the duties of a secretary of a non-profit organization.
- The Clerk shall be the holder of all official records of the Division.
- The Clerk shall prepare a draft meeting agenda and circulate it to the appropriate individuals prior to all Division meetings.
- The Clerk shall be the official recorder of all Division meetings by taking minutes and providing draft minutes of all Division meetings to the Board of Directors, within ten (10) days of such meetings for their review and approval. Such minutes can be provided electronically, by mail, or in person. Such minutes shall be published on the Division's website after approval.
- The Clerk shall provide like duties for the committees of the Board of Directors.

- The Clerk shall perform such other duties as may be specified by the Superintendent or by the Board of Directors.
- The Clerk shall be responsible for providing an up to date list of the Division's Board of Directors to the Secretary of the MER and NMRA.

#### Section 7 – Paymaster

- The Paymaster shall perform the duties of a Treasurer of a non-profit organization.
- The Paymaster shall be responsible for the financial records to include a record of all receipts and disbursements of the Division.
- The Paymaster shall submit a report to the Superintendent on a frequency as set forth in the Division's policy and Executive Handbook.
- The Paymaster shall ensure that monies of the Division are deposited promptly into accounts maintained for that purpose by the Division at convenient banks.
- He or she shall also oversee that all Division bank accounts require a single signature of the Superintendent or Paymaster. Payments in excess of \$100 shall require the signatures of two Board members.
- The Paymaster shall see that the proper signatures are on placed on all Division accounts with each change in Administration promptly.
- The Paymaster shall pay all vouchers in a prompt manner.
- The Paymaster shall prepare and present a Paymaster's Report for and to the membership at the Annual Membership meeting. Such report shall also be published in the *Potomac Flyer* prior to the Annual Membership Meeting.
- The Paymaster shall provide an oral report at any PD meeting when requested by a member.

### **Article V Board of Directors**

#### Section 1 – Membership of the Board of Directors

The Board of Directors of the Division shall consist of the following:

- Superintendent
- Senior Assistant Superintendent
- Assistant Superintendent
- Clerk
- Paymaster

#### Section 2 – Legal Title to Property

The Division's Board of Directors shall hold title to all property and monies of the Division in trust for its members.

#### Section 3 – Budget

The Paymaster shall not pay any voucher in excess of the budgeted amount without approval by the Board of Directors.

#### Section 4 – Board of Director Meetings

There shall be least two (2) meetings of the Division Board of Directors, one of which shall be held in conjunction with the Division's Annual Meeting. The second meeting will focus on the operations and planning for the coming year. Any additional business will be held as required. Meetings shall be held at such a place and time as determined by the Superintendent with the concurrence of a majority of the other members of the Board of Directors. Notice of such meetings will be posted to the Board at least fifteen (15) days in advance.

The two (2) meetings shall be conducted with the members of the Board present. Additional meetings of the Division's Board of Directors may be by telephone, electronic media, or other means as approved by all the Division's Board of Directors.

The business and affairs of The Division shall be managed by the Board of Directors which may exercise, in the name of the Division, all the powers necessary to carry out the functions of the Division as set forth elsewhere in these Bylaws.

#### Section 5 – Quorum

A quorum for Board of Director meetings shall exist if:

There are three (3) Board members present either physically or via telephone or electronic means.

No proxy shall be recognized for Board of Director meetings.

#### Section 6 – Voting

Officers listed in Section 1 of this Article shall be the only individuals permitted to vote concerning actions of the Board of Directors.

#### Section 7 – Compensation

No officer or member will receive any remuneration of any kind for his or her services.

Reimbursements for reasonable expenses incurred while acting for the Division can be made with the approval of the board and upon presentation of a written request and all appropriate receipts.

#### Section 8 – Recusal

Officers of the Division shall not participate in any business activities or any decision making actions of the Division's Board of Directors from which they, or any family members, would profit.

## Section 9 –Executive Handbook

There shall be an official publication of the Division known as the “*Potomac Division Executive Handbook*,” which contains a copy of the Division’s Bylaws, vital records, and all the Division’s operating Directives, Policy, and Personnel Descriptions. The handbook shall be available to all Division Officers. The Clerk will also make the Handbook available to any Committee Chair to provide guidelines for the administration and operation of the Division. This shall also be available to the membership through the Division website.

## **Article VI**

### **Nominations, Ballots, and Elections**

## Section 1 – Nominations and Elections

The Superintendent shall appoint a Nominations Committee at least ninety (90) days prior to the Division’s Annual Meeting. The committee shall be composed of at least two (2) Division members in good standing not currently holding seats up for election on the Board of Directors. One committee member will serve as Chairperson. The purpose of the Nominations Committee shall be to create a slate of candidates to fill the seats of Board of Director whose terms are due to expire.

The establishment of the committee shall be published in the Divisions newsletter, *Potomac Flyer*, a minimum of sixty (60) days prior to the Division’s Annual Meeting. The article will include all pertinent information and points of contact.

The deadlines and schedules for nominations and balloting shall be as stated in the Division Executive Handbook and shall be published in the Division’s newsletter, *Potomac Flyer*, that is published each year prior to that year’s election or distributed through an electronic means such as Mailchimp.

Candidates for Board positions shall submit a written statement of candidacy to a member of the Nominations Committee a minimum of thirty (30) days prior to the date of the Division’s Annual Meeting. No candidacy statements will be accepted after the established date. The candidacy statement shall not exceed two hundred (200) words, shall be of a professional and civil tone, and include a recent image of the candidate. Any validated Division member may nominate him/herself as a candidate. No nominations will be accepted from the floor at the Division’s Annual Meeting.

The Nomination committee shall review the candidacy statements and interview the candidates, if necessary, to determine their qualifications to hold office as set in the Bylaws. The Nominations Committee’s report shall be provided to Division membership no later than fifteen (15) days prior to the Division’s Annual Meeting. The report shall be published in the *Potomac Flyer* with all the candidates’ full statements and images.

Candidates for the Board shall run for specific positions. The current list of offices include: Superintendent, Senior Assistant Superintendent, Assistant Superintendent, Clerk, and Paymaster.

At the time of the elections, the Superintendent shall turn the Division's Annual Meeting over to the Chairperson of the Nominating Committee to conduct the election who will be responsible for deterring fraud and for tallying the ballot as per Policy.

All members eligible to vote may vote either by casting a physical ballot at the Annual Meeting, or by an electronic voting system, if available, or if lacking e-mail on record, by a mailed ballot. Members voting by mail must have their selections of officers clearly indicated and received no later than two (2) days prior to the Annual Meeting. Members using the mail must include their name and NMRA Membership number. No proxy votes will be accepted for the election of Board members. Ballots distributed at the Annual Meeting will be reasonably designed to deter fraudulent duplication.

Candidates receiving a simple plurality of votes shall be declared elected to the position that they were announced as candidates.

The duties and responsibilities of this committee can be found in the Policy Section of the Division's Executive Handbook.

## **Article VII Standing Committees**

### Section 1 – Committees

Standing committees are those permanent committees that carry out the normal operations of the Division. They shall be established by the Division Board of Directors and listed in the Division's Executive Handbook.

### Section 2 – Committee Chairs

Committee chairs shall be members of the Division. Committee Chairs are appointed by, and serve at the pleasure of the Superintendent EXCEPT for the Financial Oversight Committee Chair who shall be appointed by a majority of the Division Board of Directors upon the recommendation of the Superintendent. In selecting appointees for Committee Chair positions, the Superintendent shall consult with the officers under whose direction Committee Chairs will report. Each of the Committee Chair positions shall be approved by a majority of the Division Board of Directors. Committee Chairs shall be deemed to have vacated their position if:

- His or her NMRA membership expires or if he or she no longer is a member of the NMRA in good standing as determined by the records of the NMRA as supplied to the Division.
- He or she no longer resides within the boundaries of the Division.
- When two-thirds (2/3) of the Division Board of Directors determines that he or she is no longer able to perform the duties of office before the end of his or her term. In such an event a successor shall be selected in the same manner as the prior Chair.

The Superintendent shall designate an elected official to whom the committee Chairs will report, EXCEPT for the Financial Oversight Committee Chair, who shall report to the entire Division Board of Directors. EXCEPT for the Financial Oversight Chair, the Chairs shall file a written report of yearly activities with the designated member of the Board of Directors at least ten (10) days prior to the Division's Annual Meeting, which allows the Board Member overseeing the committee to report to the membership. The Superintendent may replace Chairs, EXCEPT for the Financial Oversight Chair, when he or she feels it to be in the best interest of the Division. In the case of the Financial Oversight Committee Chair, he or she can only be replaced by a majority vote of the Division Board of Directors.

### Section 3 – the Financial Oversight Committee

The Division's Board of Directors shall appoint a Financial Oversight Committee of two (2) or more members. This appointment will be based upon the recommendation of the Superintendent or any Board Member. The responsibilities of this committee shall be:

- Conduct an Financial Oversight in-depth review of the Division's financial books and statements at least every two (2) years, whenever there is a change in personnel in the Paymaster position, or upon a two-thirds (2/3) majority vote of the Division's Board of Directors.
- Report the results of the financial review at the first Division Board of Director meeting after the financial review takes place.
- When and where appropriate, recommend changes in the Division's financial practices, policies, and procedures based on guidelines established by the NMRA and/or MER.
- Members of the Division's Board of Directors may not serve on the Financial Oversight Committee.

### Section 4 – Committee Members

Except for the Financial Oversight Committee, Superintendent shall appoint, with the concurrence of the Committee Chair, committee members in numbers as needed. All committee members serve at the pleasure of the Superintendent.

## **Article VIII Special Committees**

### Section 1 – Origin

The Superintendent may create a committee as the need arises. Such a committee shall be known as a Special Committee.

### Section 2 – Special Committee Chairs

Special Committee Chairs shall be members of the Division. Special Committee Chairs shall be appointed by and serve at the pleasure of the Superintendent. The appointed Chair shall report directly to the Superintendent.

#### Section 3 – Termination of a Special Committee

A Special Committee shall be dissolved upon completion of its assigned duties or sooner at the discretion of the Superintendent.

#### Section 4 – Committee Members

The Superintendent and the Special Committee Chair shall appoint committee members as deemed appropriate. Special Committee members serve at the pleasure of the Superintendent.

#### Section 5 – Bylaws Committee

The Superintendent shall appoint a Bylaws committee to conduct a comprehensive review of the Division's Bylaws and related provisions of the Division's Executive Handbook at least every five (5) years or earlier if Mid-Eastern Region recommends changes as a result of its review of the Division bylaws. The Senior Assistant Superintendent shall serve as the Chair of this Special Committee.

Membership of this Special Committee shall consist of no less than two (2) current members of the Division's Board of Directors. A third person could also be added who was either a former member of the Board or an officer of the MER board knowledgeable in NMRA bylaws, and in law or parliamentary procedure.

The Special Committee shall make recommendations to the Division's Board of Directors for any changes to the Division's Bylaws or Executive Handbook they deem necessary that comply with the law, NMRA or MER requirements. The Division's Superintendent shall keep the Executive Handbook in compliance and conformity with the Division's Bylaws.

#### Section 6 – Executive Committee

The Executive Committee shall consist of the Superintendent, the Senior Assistant Superintendent and the Clerk. The presence of two members of the Executive Committee shall constitute a quorum for the conduct of the Executive Committee's business. The Executive Committee shall have the power to transact all regular business of the Division during an interim between the meetings of the full Board. Any action taken must comply with the policies and expressed wishes of the full Board. Executive Committee actions shall be reported fully to the full Board at the Board's next meeting.

### **Article IX Amendments**

Section 1 – Process

Amendments to the Division’s Bylaws shall be made the following manner:

- At the Division’s Annual Meeting.
- At a Special Meeting called by the Superintendent for that purpose.
- By a ballot authorized by a majority of the Division’s Board of Directors.

Any proposed amendments shall be submitted to the membership with notice of at least fifteen (15) days prior to such a vote by the Division membership.

Section 2 - Notice

Any notice to a Division member shall be deemed sufficient provided it was sent to the last address of record with the NMRA.

Section 3 - Voting

A majority votes cast will be deemed sufficient to amend the Division’s Bylaws.

**Article X  
Dissolution of the Division**

Dissolution of the Division shall occur whenever one of the follow events occurs:

- A motion for dissolution is adopted in the same manner as for the amendment to the Division’s bylaws.
- Whenever a twelve (12) month period has lapsed and no meetings of the Division’s Board of Directors, Annual, or Special Meetings have been held.
- The Division Charter is revoked by the MER.
- The NMRA or MER withdraws the rights of the Division to function.

Upon dissolution, the last elected officers shall assure that all outstanding bills are paid out of Division funds; close all money accounts, and promptly forward all Division assets and records to the Business Manager of the MER. If the MER is unable or unwilling to accept the assets, they will be donated to one of the neighboring Divisions of the MER, and thereafter to any other Division of the MER. No member of the Division shall be eligible to receive any of the assets. However, if the named recipient is not then in existence or is no longer a qualified distributee, or is unwilling or unable to accept the distribution, then the assets of the Corporation shall be distributed to a fund, foundation or Corporation organized and operated exclusively for the purposes specified in Section 501(c)(3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law).

**Article XI  
Indemnification**

Indemnification is provided by the NMRA and/or MER in accordance with their policies, procedures, or Bylaws.

**Attachment A  
Potomac Division Area**

Note: Also included is the District of Columbia (Not Shown)



**We're making  
the internet smaller.**

Stop wasting modeling time  
doing internet video searches!  
The *NMRA Turntable* brings  
the best of the best model  
railroading videos to your email  
every month. It's one more  
benefit of NMRA membership!



# **Potomac Division Clinic Recommended Practices**

## **(DRAFT)**

This purpose of these recommended practices is to provide written direction on how the Potomac Division, NMRA conducts live clinics during the restrictions imposed due to the Coronavirus.

Events will be held during the day between 9:00 am and 5:00 pm and shall be limited to the number of participants (currently 10) allowed by the Virginia Governor's most current directive to provide compliance with such directive(s). That number of participants may change dependent upon the state's directives

If tables or tables and chairs are used for the event they shall be placed such that they maintain a minimum of six (6) feet between attendees when seated.

If refreshments are provided, they shall comply with the following requirements. Liquids shall be in closed and sealed individual serving containers and not be shared. Food items shall be wrapped as individual servings and not be shared. The items will not be handled by more than one participant.

Items shall not be passed from one participant to another during the event to prevent possible cross contamination from one person to another. Exception: Where tools or materials are "shared" during a clinic the tool or material shall be disinfected prior to being passed from one participant to another. (Example: X-Acto knife, glue containers, cutters, etc.)

Hand sanitizer and face masks shall be available at the event site and used by participants. ALL participants will be required to use hand sanitizer to clean their hands immediately upon entering the building where the event is being held.

A trash can with removable liner shall be used for trash disposal AND no item shall be retrieved from the trash. Each participant shall be responsible for placing trash they create into the provided trash can.

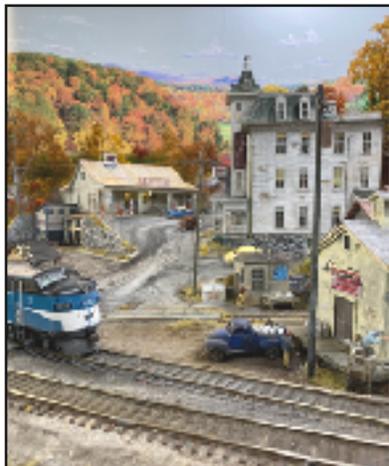
The facility to be used is to be Coronavirus (COVID) cleaned prior to start of the clinic in accordance with the most current CDC and State and Local Health Department recommendations and guidelines and Federal, State, and Local ordinances and laws.

The following shall take place at the event:

1. One entry/exit point will be used by participants to enter the building where the event is being held.
2. Face masks are to be worn at all times, except when eating or drinking, with no other exceptions.
3. A device capable of taking body temperature shall be available at the event site and be used to take the body temperature of ALL attendees on their arrival at the site AND before returning to the event area if they leave. If an attendee has a temperature of over 100.4 degrees F they will be directed to immediately leave the site and shall not be allowed to attend.
4. ALL attendees shall complete a COVID 19 screening questionnaire upon arrival at the event site.
5. The following questions will be asked of ALL attendees upon their arrival at the site:
  - a. Do you understand that if you have had the Coronavirus, had a positive Coronavirus test result, or been exposed to the Coronavirus in the past ten (10) days you are not to participate in this event?
  - b. Have you experienced a fever or chills in the past seven (7) days?
  - c. Have you been sick in the past seven (7) days?
  - d. Have you traveled outside of the area in the past fourteen (14) days?
  - e. Have you had contact with anyone or been exposed to the Coronavirus in the past fourteen (14) days?
  - f. Has anyone in your immediate family had contact with anyone or been exposed to the Coronavirus in the past fourteen (14) days?
  - g. Have you had a positive test for Coronavirus?
  - h. Have you observed the six (6) foot social distancing recommendation when in the public?
  - i. Do you understand that your attendance to this event will cause you to be in the immediate area of others that complies with current guidelines for social distancing?

# The Story Behind the Cover Photo

by Mark Gionet



I recently added the final structure to the Proctor scene on my Boston & Maine Western Route. Proctor is a small, fictional New Hampshire branch line town north of Dover, generally described in my article about the construction of its dominant structure, Katie's Place, in the October-November 2020 issue of *The Flyer*. Proctor includes a small station, the Sheepscot Scale Products Northampton Station, probably the first craftsman kit I ever built, a couple of decades ago. I built it as a mini diorama, and it sat on a shelf for years until I finally made the push to pull everything together for this part of the layout. The other buildings are a creamery and

icehouse, part of a South River Modelworks kit. A photo of those appears in the February-March 2021 *Flyer*.

Sully's is based on one of the structures in the South River Modelworks Streeter's Kit. This was apparently a very popular kit to build during the winter of 2021. Potomac Division member Marty McGuirk actually recorded a video about his approach. Mine is a bit different. I needed to shorten the building to fit. I also moved some windows around to have more glass visible on the exposed facades. But I did follow Marty's technique explained in another of his blog entries, substituting a standing seam metal roof on my version of the kit.

I used a more 1950s style gas pump casting from BEST but added back the globe lights above them. The gas sign was scratch built, borrowing the base from an unused gas pump from the original kit. I made decals for the logo from online images and applied them to very thin metal (actually, the foil from the top of a wine bottle.) The rest is some brass tube and bits of old chain link fence post castings.

The building interior is lighted with very small LEDs, including the two garage bays where I left the doors open. The interior store portion of the main floor is also detailed, including my first use of 3D printed Shapeways parts (though not of my design.) The rest of the scene included a lot of Super Trees. The milk car is a Funaro and Camerlengo resin kit which turned out looking a lot nicer than a brass version of the same car that I already own.

## **Editor's Note: Layouts Special Coming Next Issue**

We sent out a request for members to tell us a little about their layouts, using the following questions. We figured that would be less daunting than asking for an actual article. Well the initial response has been gratifying and *The Flyer* is planning to make our next issue a special layouts issue showcasing the submissions that were sent in. These have included some amazing photographs, so you won't want to miss it. It's still not too late to add your layout. Here's what we want:

If you have a layout, take a look at the questions below. Answer as many or as few as you want and send us three to five photos. **It doesn't have to be a finished layout. You can show us a work in progress!**

Your submission will go into a future issue of *The Flyer* and we'll showcase it on our website.

Layout Questions to be accompanied by photos:

Please keep your answers brief and follow this Q & A format. If you have a track plan, please send it with your photos.

1. What is the name of your layout?
2. What scale is your layout?
3. Does your layout have a specific era and/or location?
4. What are the overall dimensions of your layout?
5. How do you control your layout?
6. When did you start making your layout?
7. Do you host operating sessions or would you consider doing so?
8. What type of track (sectional, flex track or hand laid) and switches are on your layout and what is its code?
9. If you were to brag about your layout what would you describe as its outstanding feature(s)

Send your submissions to: [Potomac-Flyer@potomac-nmra.org](mailto:Potomac-Flyer@potomac-nmra.org)

**And now, as a special preview, here's one of the submissions. This one and all future submissions will be posted on our Potomac Division website.**

## Bob Gifford's Waterford Creek Lines



**1. What is the name of your layout?**

That's still a work in progress. For now it can be known as the Waterford Creek Lines.

**2. What scale is your layout?**

HO

**3. Does your layout have a specific era and/or location?**

"Today". Freelanced mid-Atlantic Class1.

**4. What are the overall dimensions of your layout?**

Since it's a set of flowing curves in the middle of a number of abutting walls, that's a concept that's a bit nebulous but it is in a space that is roughly 58'x36'. The intent is that the layout will be two levels with the second level retracing the path of the lower on a narrower shelf back to an upper, duplicate staging area.

**5. How do you control your layout?**

DCC. NCE.

**6. When did you start making your layout?**

Summer 2019

**7. Do you host operating sessions or would you consider doing so?**

Would like to, but that's still a way off. And it would take some people...



# Hobby Barn Static Grass Clinic

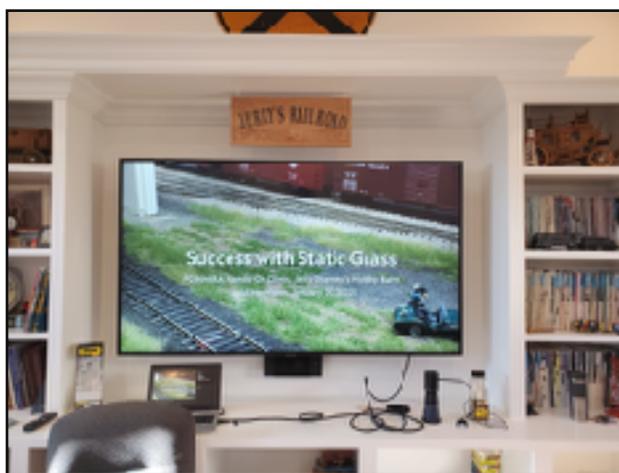
by Jerry Stanley, Division Paymaster



Nicholas Kalis once said to me about members of the Potomac Division, "There are gold nuggets in this Division." Todd Hermann is one of those gold nuggets. On January 30th he gave a clinic at the Hobby Barn on how to install Static Grass.

Todd arrived with boxes of supplies, pre-built sample boards for everyone to install static grass on, pre-packaged sample bags of static grass and an incredible PowerPoint clinic [eds: available on the PD website at <http://potomac-nmra.org/PDnewsite/Clinics/Todd%20Hermann/Success%20with%20Static%20Grass%201-30-21.pdf>].

After everyone arrived and we had our coffee, donuts, and coffee cake, Todd presented the PowerPoint program (*photo right*) and then we moved on to the hands-on portion of the clinic—all while following COVID-19 guidelines.



First, we mixed a blend of static grass types and lengths, which we then loaded into the static grass applicator. Todd (*photo left*) next applied glue on the desired locations. He then shook the applicator over the glued area.

It is so amazing to watch instant grass grow on your model railroad! Now if I can just figure out how to apply this in the bare spots in my yard! After filling in the desired area, Todd used a vacuum with a cloth over the end to suck up and capture the loose fibers for reuse.



To add a more realistic look, he then sprayed small portions of the area with hair spray through small tears in paper. Before applying the next mix of static grass, the applicator should be cleaned out using a small brush. To add further realistic features, he sprinkled over the static grass ground foam and accents.

**(Photo left)** Todd used a Heki Flockstar Professional Static grass Applicator System. This applicator is top loaded, which makes for easy and quick loading of the static grass. The Heki has a wire with an alligator clip attached. Todd stuck a finish nail into the sample board, and then attached the alligator clip to the nail. This energizes the area and causes the static grass to stand upright when shaken over the area.

For the clinic and my own personal use, I purchased a Static King FS639 by Woodland Scenics. To load the Static King, one must twist a cap off of the bottom. It comes with multiple-sized sleeves and a divider which is used to load two different size grasses at once. While I like the ability to use two different sizes, it is much easier to load the Heki, which is filled through the top.

We finished off a fantastic clinic with delicious Cuban sandwiches made by my wife. They were an instant hit!

### **Suggested List of Materials (provided by Todd Hermann):**

Elmer's Glue-all: Must be "Glue-all" not their "School Glue."

Individual-sized applesauce cups or similar small cups to mix grass blends and keep them separate. Also used to hold white glue while working.

Woodland Scenics FL633 Burnt Grass 2mm

Woodland Scenics T-45 Fine Turf - med green.

Silflor "Late summer" Static Grass 4mm

Silflor "Late Summer" Static Grass 6mm

Silflor "Autumn" Static Grass 6mm

Noch "Beige Dry Grass" Static Grass 6.5mm

Noch "Med. Green" Static Grass 6.5mm

Cheap craft paintbrush approx. 1/2" wide to spread glue on the terrain

Aqua Net Unscented Hairspray: used to "stack" grass layers

Static Grass Applicators

Small Shop Vac

Old T-shirt + rubber bands: Shirt is cut up and used to cover the vac hose to catch the excess grass that is vacuumed up.

## **Hobby Barn Clinic: The Superintendent Builds a Flat Car**

by Jerry Stanley, Division Paymaster

On Saturday Feb 27th, our Superintendent, Martin Brechbiel, MMR, gave a clinic on building an O gauge flat car out of wood.

Before we get into the clinic, first a few words. A question I have been asked several times about performing these clinics is: Can you perform these clinics virtually? Unfortunately, the short answer is no. The cost is too much to provide these for free virtually.

The cost for materials for the clinics can range anywhere from \$75 to \$150 per clinic, Cost monthly for the building is \$450, heating/cooling/electric cost is \$25-\$50 monthly, and then there are yearly insurance and taxes.

The building was built to host Potomac Division events, and I solely absorb all the cost as a donation to the Potomac Division members. The NMRA National only provides approximately \$1 per member towards the Division yearly. This does not even cover our other Division costs, much less the Hobby Barn clinics.

The clinician donates his time, and I donate the facility and the cost of the facility in an effort to provide education, fellowship, and low-cost fun to the members. The members who attend the clinics must cover the cost of materials. So please sign up early. We have clinics scheduled out until late into the year; so come join the fun, the fellowship, and increase your skills as a modeler in a beautiful setting.

Now onto to Martin's clinic.

The participants brought the following tools to build the wood flat car.

- Scalpel or X-acto with #11 blade(s)
- Razor saw
- Straightedge
- 90 degree inside corner angle (square)
- Sandpaper/sanding block
- Small spring clamps (clothes pins will work)
- Cyanoacrylate adhesive (Zap-A-Gap medium CA)
- Walthers "Goo" all-purpose adhesive
- Gluing weights
- Tweezers
- Pin vise & drill bits



Martin brought a bag of precut wood (*photo left*). After we sorted out the supplies, we made a rectangle to form the outer flatcar frame using a mix of Walthers "Goo" and super glue, which when combined dries really quickly and strong. In no time the outside frame was assembled.

Being careful to make sure the frame was square, we started laying deck boards. Installing the Goo/Superglue mixture on top of the frame about an inch at a time, we laid boards

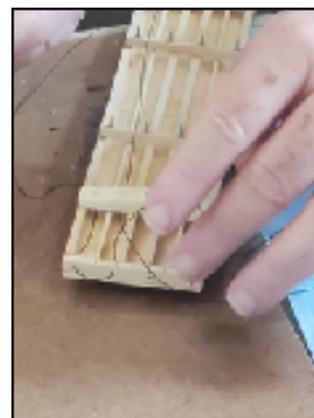
starting on each end, working towards the middle and applying weights while the glue set up. (*Photo right: Ken Wilson installing decking boards on the frame.*)



Once all of the decking was in place, the frame was turned over and the two center stringers were installed along with the bolsters. (*Photo left: Bill Lyders measuring for placement of the Bolster.*)

With the bolsters installed, the next step was to install the queen posts and supports (needlebeams). The stringers are first glued, then the queen post support member is placed and allowed to dry. Then we installed the queen posts on each needlebeam.

We were then ready to install the silk thread in place under the flatcar body (*photo right*). We drilled four holes on each end, then ran the silk thread through the car body and each hole. Keeping the thread tight, we used glue to hold bolts in the end holes. Tip to model builders: Martin showed us how dipping one end of the thread in crazy glue and letting it dry made shoving it through the tiny holes much easier. It especially helped when trying to thread it through the turnbuckles. I think threading silk through the turnbuckles gave everyone eye strain and a bit of a headache. I can't imagine doing this in HO or N scale!



Then came the brakes. Stopping is as important as going is! To install the K Brake cylinder, we cut a scrap piece of decking and glued that between the queen post support members. We then glued the K brake cylinder in place. *(Photo right: Mike Fleming installing scrap deck board and K brake cylinder )*



What railroad car doesn't look great with details? To make it look prototypical, we—of course—needed to add a brake wheel and grab irons. Using a #72 drill, we made a hole in the brake wheel to accept the brake shaft. Once this was completed, the

assembly was installed into the flatcar deck. Next came the grab irons, which were cut from a sprue and fastened at various places around the perimeter of the body. Although we used plastic grabs, you can—of course—make your own out of brass wire.



The last step for the day was fastening the silk thread to the queen posts. We accomplished this by inserting a tip onto our Zap-A-Gap medium CA glue and adding a dot of it on top of the silk thread and all eight queen post ends.

This completed the basic flat car build for the Hobby Barn. This is a great start toward the Achievement Program for Master Builder - Cars. If I can borrow a line from Martin: "If you can build a flat car, then you can build a gondola then a boxcar..." *(Photo left: Martin lecturing on how to build a flat car.)*

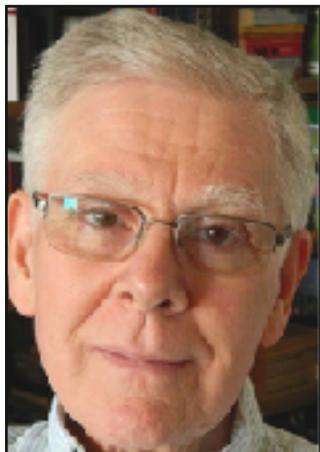
Editor's Note: The following is a link to Martin's instructions for the clinic:

<http://potomac-nmra.org/PDnewsite/Clinics/MartinBrechtbiel/NMRA%20Build%20a%20flat%20car%20Martin%20Hobby%20barn%20clinic%202-27-21.pdf>

If anyone is interested in making a donation to support the activities of the Potomac Division, you can always send a check made out to **"Potomac Division NMRA"** and mail it to our paymaster, Jerry Stanley, 11552 Hereford Court, Hume Va 22639

## Part 2. NMRA Civil Engineer Program—A Size Conundrum

by Nigel Phillips



Part 2 of the building track series takes a critical look at the NMRA Achievement Program, Parts 1-3, as well as my own trials and tribulations regarding a small layout that hopefully will enable me to meet the requirements.

The opening paragraph of this section of the Achievement Program states that *"The requirements for Model Railroad Engineer-Civil may look long and complicated, but they really are not. The reason that they are so long is to offer you more options for meeting the requirements."* It's probably worthwhile having a look at this in a bit more detail, specifically as it relates to building track. Many options seem to be rather arcane and dated, and in some cases limited in their real-life application. Time for an update? Information is also scattered over a number of places on the NMRA website. It does require some digging to get it all together.

My background reading of this certificate on the NMRA website tells me that 1) a scale track plan (not a plan to a defined scale, see Part 2 below for more on this) will be prepared; 2) that a section of this plan will be used to construct a completed section of defined track length (depending on the railroad scale) containing a number of stipulated track components; and 3) that three track components are to be scratchbuilt and shown to operate properly.

Part 1. *"Prepare one original scale drawing of a model railroad track plan, identifying overall size, scale, track elevations, curve radii, and turnout sizes."* That sounds simple enough doesn't it? The NMRA stipulates, however, that the plan must include the following:

- a. Adequate terminal facilities for handling freight and/or passenger cars.
- b. Adequate terminal facilities for storage and service of motive power.
- c. A minimum of one main-line passing siding.
- d. Four switching locations, not counting yards, interchanges, wyes, and reversing loops.
- e. Provision for turning motive power (*except for switchbacks, trolley lines, etc.*).
- f. Provision for simultaneous operation of at least two main-line trains in either direction.

Still, not so bad. Although four switching locations (which most would regard as equating to four spurs, although I suspect a house or team track also qualifies) and provision for turning motive power is not something found on many branch line locations unless they are termini. Even there, a simple runaround loop allows locomotives to head the train on the return trip. Many steam locomotives were built to allow tender- or bunker-first running, and most diesel locomotives (cabs excepted) are designed for bidirectional operation. Does the phrase “*Prepare one original scale drawing...*” mean that copies of prototype layouts are not allowed, or that it has to be original in the sense that you are the author? After some reading and consultation, it seems the latter, although most prototype layouts do not readily translate into scale dimensions and will require modification, compression, and elimination. Consult the experts if in doubt. The next section, however, ups the ante:

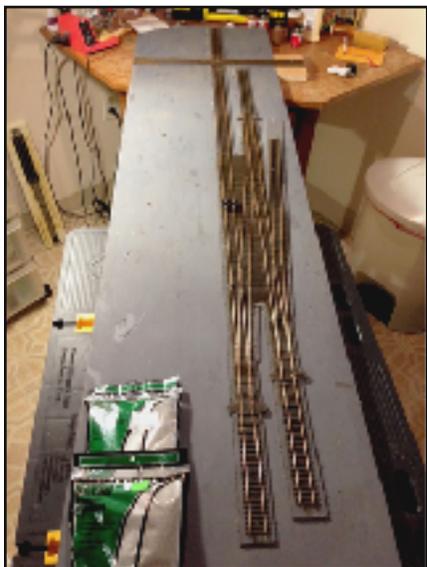
Part 2. “*Construct and demonstrate the satisfactory operation of a completed section of the model railroad and track work described in #1 containing at least 25 linear feet in Z, N, or TT scale, or 50 linear feet in HO or S scale, or seventy-five linear feet in O scale, or 100 linear feet in G, F, or #1 scale, or other scales in proportional relationship to HO scale, with appropriate ballast, drainage facilities, and roadbed profile, which may contain spurs, yards, etc.*” For HO scale, that means building 50 feet of track, with all operating track counting towards the 50-foot total (spurs, sidings, yards, etc.). The NMRA makes it clear that you have to demonstrate that “*you know how to build track following prototype practice.*” Part 2 contains a list of various track examples. Six have to be in the 50-foot track build. See Table 1 for the examples and my comments. There is quite a choice, ranging from crossovers through grade elevations to wyes. The challenge here, I think, is having those track structures contained in the track plan of Part 1.

I was struck by the use of the word *construct*. To construct means “to make or form by combining or arranging parts or elements” (Merriam Webster). I consulted our AP Coordinator on this one, as well as the NMRA website. The trackwork can be RTR, scratch-built, or a combination of both. As long as it follows prototype practice it is fine.

There is an inherent assumption that the modeler has lots of space in which to construct the 50-foot requirement. Now most of us use 2 feet-deep layout boards (I use between 1 and 1.5-foot for space reasons), so a length of 10-15 feet or so will probably get all of this in, albeit with some compression and turnouts with #6 or #8 frogs. A passing loop is however generally quite long; even a small passenger or freight train will require at least 6-8 feet. Start running 12-car passenger trains or long freight car trains with a couple of diesel locomotives, and that means at least 18 feet with prototype turnouts (#11 or greater on the main line).

Anybody building a prototype-based layout, especially a rural one, or who is limited to a small mini- or micro-layout at home, may find it rather difficult (if not impossible)

to meet this requirement. All is not lost, however. The track requirement can be split between two different scales (N and HO for example, or in my case EM and HO) and on different boards or modules. It does not have to be contiguous. And “fiddle yards” (small storage yards) on the ends also count towards the track length requirement. Six feet of an N scale passing siding accounts for nearly 50% of the total requirement, a compound ladder even more. The downside of having two scales is, of course, having stock in both scales.



**Display Track made by Ernie Little, MMR, for his NMRA AP Civil certificate**

*Part 3. “Construct, for Merit Judging, scratchbuilt scale models of any three of the following and demonstrate their satisfactory operation:”* These models do not have to be part of the 50-foot track build and can be in a different scale (although to me it makes sense that they are part of the 50-foot build, purely from a cost and time perspective). They just have to follow prototype practice and work. There follows a comprehensive list of various track structures (14 plus one “other” for 15 in total), from which three track elements must be built. All contain one or more frogs. The track elements are detailed in Table 2 along with my comments.

Frogs are defined as “A track structure used at the intersection of two running rails to provide support for wheels and passageways for their flanges, thus permitting wheels on either rail to cross the other.” And here is probably the real challenge - those frogs have to be made from scratch; no commercial

products: “Commercial frogs are not permitted to be used in any of these items.” At first that seemed to be a rather draconian rule, as no mention is made of commercial switch point blades, tie plates, rail retainers, rail bars, spikes, etc., which can be used to your heart’s content in Part 2. I asked our AP Coordinator about this. The information is found in the “Evaluation Form - Master Railroad Engineer - Civil” which states that: “1) A self-powered locomotive successfully traverses all routes; 2) All applicable NMRA Track standards (S-3) are met using an appropriate track gauge; 3) Scratchbuilt frog and points. Commercial frogs not allowed but commercial individual rail (not Flex-track), ties and spikes are allowed.” The aim here is conformity to the dimensions given in S-3.1, -3.2 or -3.3, and that it works, not whether it has (or does not have) spikes or other prototype detailing. Soldering to copper-clad ties or gluing to wood ties is all that is required.

The use of rail fixings is of particular interest to me. I model EM Gauge in 4mm scale (18.2mm gauge), and the rail used is “Bullhead” not “Flat Bottomed.” The rail sits in cast rail chairs that are bolted or screwed to wood ties, basically, the equivalent of a

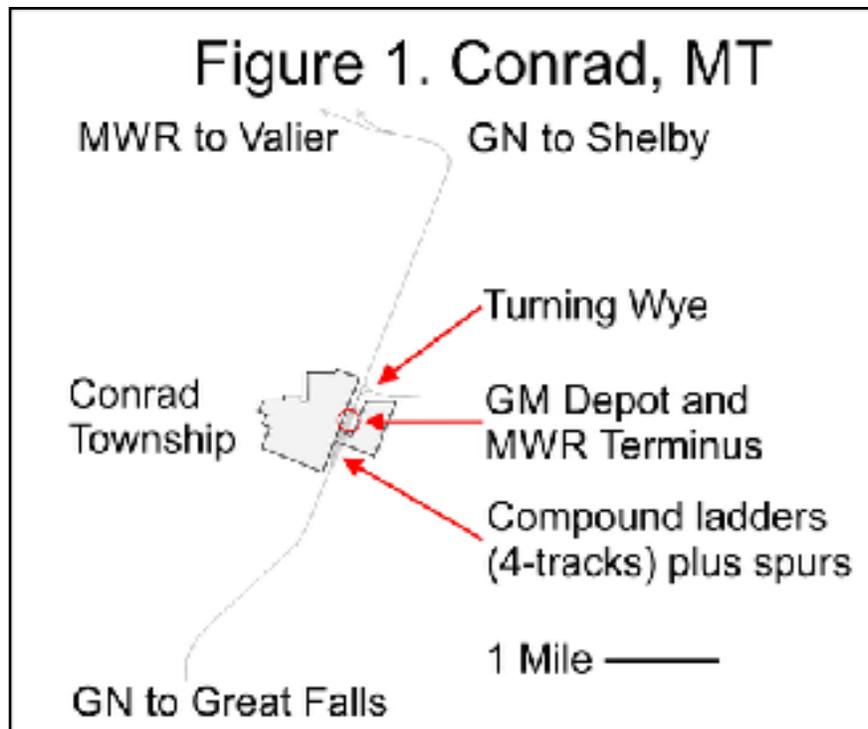
spike. This is impossible to make by hand in 4mm scale, so I have asked the UK NMRA what their policy is. It will be interesting to hear what they say. The NMRA in its track standards also recognizes that the EM Gauge Society has its own track standards.

Now frogs are quite complex structures and require at a minimum two frog rails and two wing rails along with two check (guard) rails on the gauge track. Prototype frogs are usually cast items with integral wing rails (and they have been around for at least 100 years), so unless you have a mill or a CNC (computer numerical control) cutter (or a lot of patience and some good hand files), what you will be building is a representation of solid bolted frogs using soldered rail. Prototype practice here, however, is that cast frogs are used for main-line track, bolted frogs on older lines, lighter duty and branch line tracks.

One thing that strikes me is the inclusion of catenary (simple or compound) and overhead switches. I think a lot of modelers (myself included) would not consider these as part of the permanent way trackwork. A more encompassing definition seems to be used by the NMRA. Overhead catenary is not essential for the operation of locomotives on the track, only for those that are 100% electrically operated. If trackwork encompasses the ability to deliver electricity to the locomotive (or to the motors in EMUs (electric multiple units), then I would add ground-level three- or four-rail systems to the lists. These are not that common in North America, subway systems excepted, but quite common elsewhere.

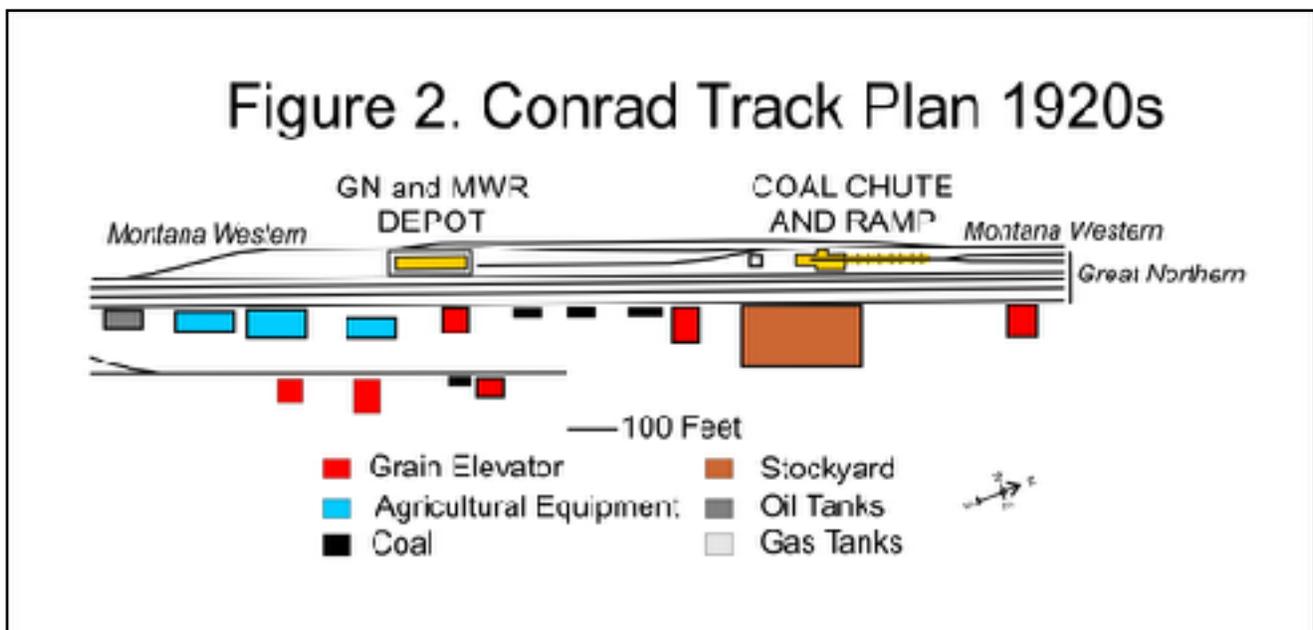
**Case study.** I model the Great Northern Railway (GN, now part of BNSF) in HO, and my interest lies in branch lines with a few spurs and a house track, not mainline termini or yards. Most railroads in North America are single-line, end-to-end termini: in 1966 the GN had 6,902 miles of single, 252 miles of double, and 1207 miles of quadruple track, essentially a single-track railroad. A branch line station such as Walhalla, ND, or Columbia Falls, MT, would be 3000-6000 feet long—that's 34-68 feet long in HO. The GN also liked large wyes for turning locomotives (and often with an engine shed in the middle in the days of steam). Unfortunately, the Achievement Program requirements mean that the track structures defined in Part 2 have to be contained in a build of 50 feet of track. In my case a significant proportion of Part 1 will be in Part 2.

I was looking for some prototype branch line track plans on the GN that might be the basis for a limited-space layout set in the mid-1940s to mid-1960s (steam-diesel transition). Most importantly it has to be an appropriate size for our condominium. Conrad, Montana, looks promising. Located on the GN line between Shelby and Great Falls, it was also the terminus for the Montana Western Railway (MW), a short branch line that was built in 1908 and ran from Conrad to Valier, some 20 miles to the north-west (two trains each way in 1910 with a 90-minute schedule, 15 mph!). The GN funded the MW project and supplied the track. The MW was operated for most of its life using hand-me-down stock from the GN, and was taken over by the GN in 1936.



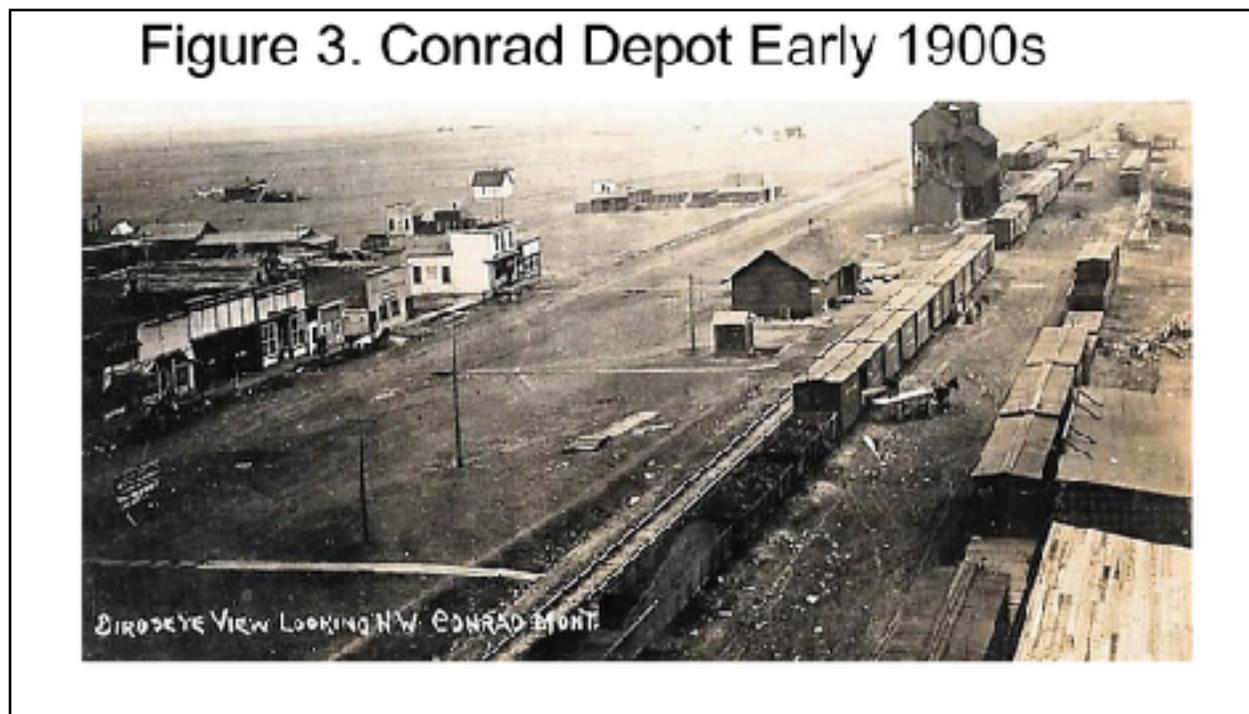
There was plenty of traffic at Conrad as evidenced by the numerous “Prairie Schooners” next to the track (grain, feedstock, flour), agricultural supply businesses, coal merchants and lumber yards, a large stockyard, along with a house track and exchange yard for the MW traffic. Steam locomotives were still around until the mid-1950s, so there is a chance to run local and through steam and

diesel-hauled traffic. There was also an ex-GN gas electric “doodlebug” used on the run to Valier until the mid-1960s.



I consulted Sanborn insurance maps (Library of Congress) for the Conrad track plan in the 1920s, USGS historical maps for the track in and around the town in the 1960s, and Google Maps for the current railroad track layout. See Figure 1 (*above*) for a

schematic of Conrad and the railway lines based on the 1967 USGS map. Old Sanborn insurance maps are very helpful, as they identified water main locations for fire-fighting, as well as building structures (brick, stone, wood). See Figure 2 (*previous page*) for the track layout in Conrad based on the Sanborn map. It always amazes me how much of the detail in the 1920s is still there today. USGS maps are often lacking details because of the scale, and usually have large gaps in the timescale. There was a large wooden coal chute and steep loading ramp present in 1910 between the GN and MW tracks, and they were still there in the 1920s. An earlier postcard I came across (*Figure 3, below*) shows the coal chute in place before MW tracks were laid, so it was built for the GN. Was the shed on top nearest the photographer the water tower?



**Figure 3: Photograph of Conrad Depot taken from the Rocky Mountain Elevator. Conrad to the left, the GN depot is upper center with double privy in front. Upper right is the coal chute and ramp. The stock yard is to the far upper right. No sign of the Montana Western tracks so the photograph is pre-1908. The GN depot was moved further south to accommodate the Montana Western house track, yard and runaround. The Great Falls Lumber Company is opposite the coal chute to the left. A really busy day at the depot, four coal gondolas, some 25 box and flat cars and what looks like some passenger cars being stored in the access tracks to the coal chute. No sign of a water tower. The photograph is reproduced with permission (Conrad Montana History website.)**

Shelby, on the mainline north of Conrad (some 30 miles by train), appears to be a junction with no servicing facilities, and as trains ran through Conrad to Sweet Grass (change for Lethbridge Alberta on CP) via Shelby, coal and water at Conrad makes sense. There is no evidence of an engine or carriage shed for the GN or MW though on any of the maps.

Does it meet the requirements in Part 1? Yes, all the boxes get ticked (remember, some track features from Part 1 will not be built). Part 2? Just about, if I use the 1920s or the 1960s track plans with modifications, deletions and some compression. I'm still working on that. Part 3? Ditto. The big issue is that the prototype track layout including the wye in HO scale is some 68 feet long, 32 feet deep at the wye (which has a short and long spur), and four feet deep for the rest of the track—fine for those with large basements, barns, or sheds. Now I only have space for about 12' x 1.5' of layout, so some of the track will go. Twelve feet corresponds to about 1,050 feet in HO, which should allow the 50-foot track build. It looks like a compression ratio of 3:1 will be required if I keep away from that space-hogging wye. That shouldn't be enough to spoil the intent of the plan. That wye would be ideal for the small engine shed, although I haven't found any evidence that this did happen. Motive power on the Valier branch was ex-GN steam engines (I found photographs of 4-4-0, 2-6-0 and 2-8-0 locomotives), an ex-GN gas-electric up until the 1960s, and later in the 1950s a Whitcomb center cab 80-ton diesel locomotive. And where would a GN layout be without a GP-7 running long hood-first?

Does the layout need a terminus or yards at either end? No. It would be nice to have Sweet Grass and Great Falls at the north and south ends of the layout, but I don't have the space. I'll go with UK practice instead and have "fiddle yards" off-scene at either end. The MW terminus in Conrad addresses the requirements of Part 1. Most trains will be short, five-10 freight cars, one-two passenger cars. Steam trains to Valier would often consist of a passenger car and two-three freight cars, so large storage yards are not required. The gas-electric on the MW (and later a Brill RDC-3 diesel hydraulic on the GN) provided mail, baggage, and passenger service in one car. Are there operation capabilities with such a small layout, you ask? Yes, simply because of the MW interchange tracks and the use of those long compound track ladders through Conrad that were used as spurs for goods traffic by the GN. The coaling chute and ramp look to be an interesting cameo feature if I can get it operational. Empty coal gondolas down, full ones up.

So, I am left with a choice between an EM layout, where I already have 2 boards prepared (1 foot wide) and will require an additional board to get the length required, an HO layout, which would require 3 new boards, or a combination of both, as detailed above, plus two additional "fiddle yards." Ah, the tyranny of choice!

I want to thank Mat Thompson, our Division AP Coordinator, for taking the time to address some of my concerns and the many questions I have asked regarding this

certificate. I would recommend reading the 2008 articles from *Scale Rails* on the NMRA website to get a perspective on what is required for this award (Achievement Program, “The Masters” articles).

I hope the above gives perspective into some of the elements of the NMRA requirements for trackbuilding. The next installment, *Part 3 - Parts and Jigs - Life is Way Too Short*, will cover some of the tools that I use in building track. Homemade or commercial, they are essential bits of kit!

-----

**Nigel Phillips** is a retired biomedical researcher, professor, and biopharmaceutical company executive. His modeling interests are currently the Great Northern Railway, HO, and the Great Western Railway, 4mm scale, EM gauge.

**Table 1. NMRA Required Features, Section 2.**

Track Feature	Comments
Passing Siding	Requires 2 turnouts.
Spur	Requires 1 turnout unless double-ended.
Crossover	Requires 2 turnouts.
Reversing Loop	Requires 1 turnout and track polarity switching.
Wye	Presumably this refers to a turning wye. Requires 3 turnouts and track polarity switching. Space hogs.
Simple Ladder	Usually found in yards. Need lots of space.
Compound Ladder	Usually found in yards but also at the entrance to and exit from stations, where for example main-line single track divides into 2 then 4 tracks. Conrad, MT, was a good example (see the case study section of this article).
Turntable	Not for the faint-hearted! Buy an RTR one or a kit. Been there, done that. Wiring for DCC is... interesting.
Transfer Table	Marginally easier than a turntable.
Superelevation	Has to be overscale to be noticeable. See Part 1 of the series for comments on ballast profiling.

Single Overhead Wire (Catenary)	Usually found with interurbans, trams, and trolleys. The W&OD was a local example.
Compound Overhead Wire (Catenary)	Very limited geographical applications, usually passenger services now. Very difficult to build and get right (and working).
Scale Track	Usually referred to as Railroad Track Scales (where for example freight cars are weighed). Older types using a fulcrum balance used a “gauntlet” track with switch blades that allowed locomotives to go through on two supported rails, or for a train or freight car to pass without being weighed. Newer types only have 2 rails.
Cog Railway Track	Almost as rare as hen’s teeth except in Europe. There are 2 examples in the U.S.
Coal Dump Track	Often accompanied by a tippler to dump the coal from gondolas.
Ash pit	By definition, associated with steam servicing (usually a terminal).
Service Pit Track	Steam, diesel or electric servicing (usually a terminal), or the RIP track.
Grade elevation	Could be as simple as a passing track or spur lower than the main track, or an incline/ramp going up to a coaling chute.
Other	Use your imagination. Cable railways come to mind - how about the 72.7% grade railway on Lookout Mountain, Chattanooga, TN, which also has some shared rail sections for the two tracks. The shared rail design was also often found on mining track inclines to keep track costs down (standard or narrow gauge).

**Table 2. Table 1. NMRA Required Merit Builds, Section 3.**

Turnout (straight, curved, or wye are turnouts). Point or stub	A wye used for turning locomotives is composed of 3 or more turnouts (3 for the wye, not necessarily symmetrical, plus associated spurs and engine sheds). "Point" here refers to the switchblades, and a stub point is where there are no switchblades. Stubs are rare, usually found in narrow gauge railroads. Frogs.
Crossover	This is an easy one to build. Frogs.
Double Crossover	A bit more difficult, especially with DCC wiring. Lots of frogs.
Single Slip Switch	Allows a train to cross or to change tracks in one direction. Usually found in high-density traffic passenger terminals. Useful space saver. Lots of frogs.
Double Slip Switch	Allows a train to cross or to change tracks in two directions. Useful space saver. Lots of frogs.
Crossing	I find this confusing. Is this where one or more tracks crosses another (as in a diamond crossing), or is this a road crossing?
Gauntlet Track	Not that common, found in locations where there are width restrictions (tunnels, bridges, ferries) or wide loads need to be transported through a station. No switchblades, 2 frogs per sections.
Dual Gauge Turnout	Dual gauge usually uses 3 rails, 3 switchblades, 2 frogs.
Gauge Separation Turnout	Here defined as the narrow gauge splitting from the standard gauge. 1 frog.
Double Junction Turnout, with one set of parallel tracks diverging from another	2 frogs and a diamond (2 frogs).
Three-Way Turnout	These can be symmetrical, or RH/LH asymmetrical. Useful space savers. 3 frogs.

Spring Switch	Trains entering from a divergent route push the sprung switch blade aside to enter the main track. The turnout can also be manually thrown if required, 1 frog.
Operating Switch in Overhead Wire	This one threw me. I found a diagram; small solenoids switch the catenary frogs. That looks difficult.
Other	How about a working catch point/trap point, 1 or 2 rails, very common?



**Explore the Pennsy  
in your slippers.**

Wear whatever you like. And explore whenever – and whatever – you like. Because the National Model Railroad Association's online archives brings thousands of railroad photographs and drawings right to your computer screen, 24/7.

When you find the ones you like, you can download a high-resolution copy for a discounted price as an NMRA member.

We're adding new photos and artwork all the time from our collection of over 100,000. So join the NMRA, then drop by the archives. You don't need to dress up. Or even dress at all!



**We make it more fun.**  
www.nmra.org

## Power Your MU Cars Using the LifeLike Proto1000 RDC Drive

by Brian Sheron, MMR

I model the Long Island Rail Road (LIRR) in HO scale. The LIRR is primarily a commuter railroad, and in the early part of the 20th century, it was owned by the Pennsylvania Railroad (PRR). Some of their passenger cars, such as the P-54 coaches, were prototypic of the PRR, while others, such as the P-70 double-decker and P-75 coaches, were unique to the LIRR.

Most of the LIRR coaches were built either as MU cars (Motorized Unit) or as trailers towed behind steam or diesel locomotives. HO scale models of many of these MU cars were made in brass, imported in the 1970's and 1980's, and are still occasionally available at train shows or on auction sites such as eBay. Moreover, some companies (e.g., Funaro and Camerlengo) offer cast resin kits of these cars.

A problem arises when you want to model an MU version of some of these cars (for me, particularly the P-75 coach and the P-70 double decker coach). The brass version of the P-70 double-decker coach came as a two-car set, with one car motorized. However, the drive mechanism for the motorized car left a lot to be desired. It had an open frame motor connected to a KMT gear drive, which in turn was connected to one set of trucks. The electrical pickups were only on the motorized trucks, and the KMT gear drives were not the smoothest. None of the cast resin MU coach kits that I am aware of comes with a motorized truck mechanism.

So, how can you power an HO scale MU coach? One approach is to find a complete drive mechanism with powered trucks and (hopefully) a can motor that will fit under the body of the MU coach to be powered. Unfortunately, there are two potential problems with this: one is that you need to find a drive mechanism with the correct wheelbase for the particular MU coach you want to power. The other is that trucks on the drive mechanism most likely will not be exactly prototypic of the trucks on the prototypic MU coach being modeled.

Most MU coaches are relatively long (i.e., greater than 50 scale feet), and this makes the drive mechanism from a LifeLike (now Walthers) Proto1000 Rail Diesel Car (RDC) an ideal candidate to power an MU coach. While the trucks likely will not be prototypic to your particular prototype, hopefully they will be close enough. Also, regarding the can motor, installing a decoder for DCC operation is easy.

There appear to be plenty of RDCs available on eBay. These can range in asking price from roughly \$30 to \$100.

Photo 1 (*next page*) shows the drive mechanism of a Proto1000 RDC that is under the RDC shell. (Note that on this RDC, I added a sound decoder and speaker. The older RDCs do not come with a decoder and run on DC.) As you can see, the motor and drive only take up a fraction of the space under the shell. The shell can easily be removed



from the frame by removing four screws, and the plastic passenger seats can also easily be removed by removing the screws that hold them in place. One nice feature is that there is electrical pickup from both sets of trucks. With a can motor, these units run reliably and smoothly.

Once you have the shell and seats removed, the next step is to determine what the wheelbase (i.e., the distance between the trucks) for your MU car needs to be. In addition, you need to determine what portions of the RDC frame need to be removed in order to make it fit properly on the underside of your MU car.



Photo 2 (*left*) shows the underside of the brass P-70 double-decker coach to which I want to fit the RDC frame. Note that with the original floor removed, there is still a section of brass floor at each end of the car. By measuring the distance between the brass floors at each end of the car, I determined how much the RDC frame needed to be shortened to fit properly.

Also, as can be seen in figure 1, the RDC frame comes with mounts for couplers. Since my brass coach had coupler mounts already fastened to the brass floors at each end of the car, I did not need the RDC coupler mounts, so these had to be removed. In addition, the heavy parts of the RDC frame casting also had to be removed in order to position the truck correctly and to get the required clearance for the frame to fit inside the coach body. Finally, a

section of the center part of the frame had to be removed to get the overall length correct.

For this step, you will need something that can cut through the heavy metal in the frame. I have a metal-cutting bandsaw and was able to easily remove all of the

unwanted portions of the RDC frame. I would imagine that sections of the frame could be removed with careful cutting with a hacksaw and the RDC frame clamped in a rigid vise.

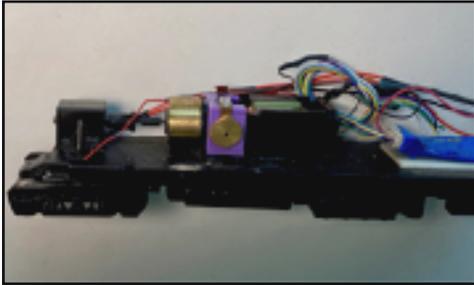


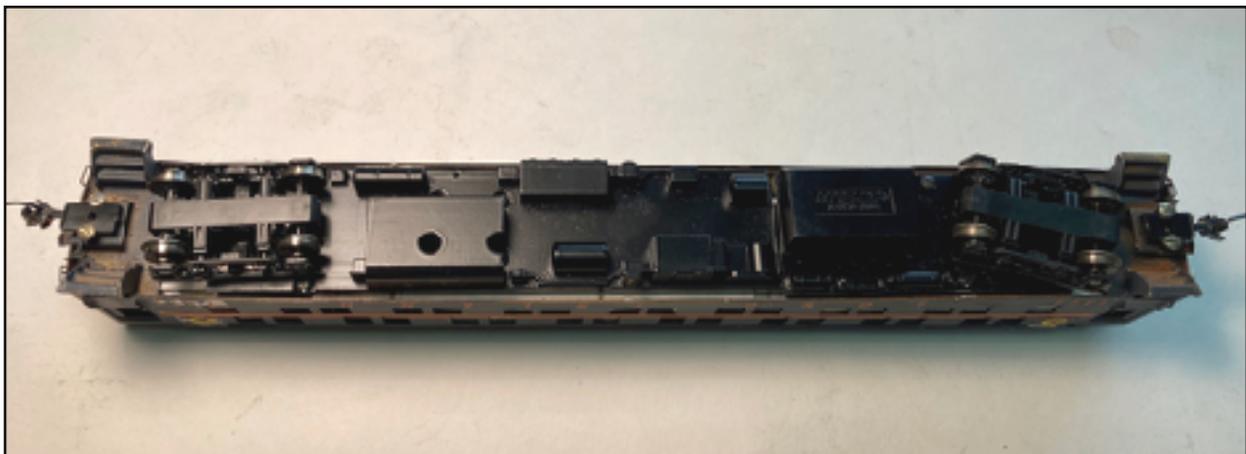
Photo 3 (*left*) shows the heavy mass of metal on the frame just in front of the motor cutoff.

Similarly, Photo 4 (*right*) shows the heavy mass

of metal on the portion of the RDC frame that is furthest from the motor cutoff. It also shows the 1/2" section of the center part of the frame that was removed so that the length would be correct.



Photo 5 (*below*) shows the underside of the P-70 MU, each with the cut-down RDC frame in place. Note that the frame is actually in two separate pieces, with the cut just on the left edge of the underside compartment on the right with the LifeLike logo stamped on it.



Attaching the modified RDC frame to your coach shell is something each modeler will have to figure out for their particular model. In the case of my P-70 brass MU coach, the body had two brass L-shaped brackets soldered to the inside sidewalls of the car. These were used to support the original brass floor of the car. I decided to unsolder these L-brackets, turn them upside down, and then resolder them to the inside car walls. This allowed the modified RDC frame to sit inside the coach body such that the bottom of the frame was even with the bottom of the coach. To secure the frame to

the coach body, I simply drilled and tapped holes in the L-brackets at the location where the original mounting holes were on the RDC frame and used machine screws to hold the frame to the coach body.

If you have a cast resin or plastic coach shell, you can glue strips of styrene of sufficient thickness and width to the inside of the car shell at the appropriate depth such that when the RDC frame is placed in the shell, the bottom of the frame is even with the bottom of the car side. Holes can then be drilled in the styrene strips at the location of the original mounting holes on the RDC frame, and screws can then be used to attach the RDC frame to the styrene strips glued to the shell.

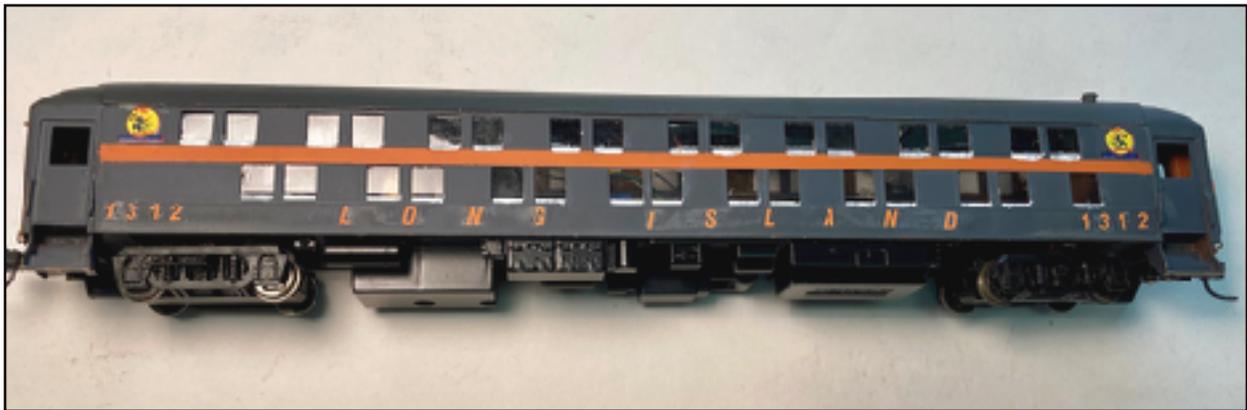
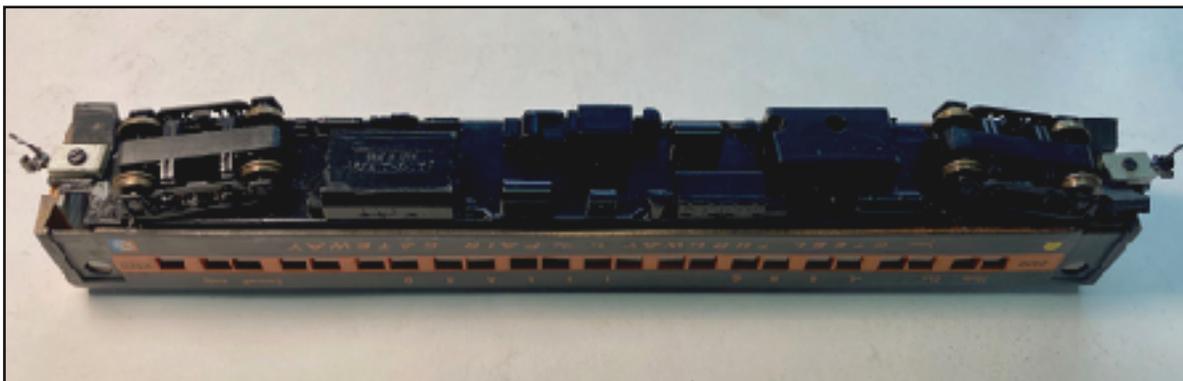


Photo 6 (*above*) shows the modified RDC frame mounted on the MU coach. (Note that in figure 2 there are strips of thin styrene plastic glued on top of the L-brackets that support the floor. I found that I needed to add these so the coupler height would be correct, since the coolers were mounted to the coach shell and not to the frame.)

You can also glue styrene or brass L-brackets on the inside wall of your coach shell. When the frame is placed inside the shell, it rests on the brackets such that the bottom of the frame is even with the bottom edge of the coach sidewall.

I have used the RDC frames and drives successfully on other MU cars I have built. Photo 7 (*below*) shows a cast resin P-75 MU coach mounted on a modified RDC frame,



and photo 8 (*below*) shows a cast resin P-70 double-decker MU coach mounted on a modified RDC frame.



While modifying an RDC frame to fit in an MU car shell takes a bit of careful planning and cutting, the result is a smooth-running MU car that should provide trouble-free operation.

-----  
**Brian Sheron** is a long-time model railroader who models the Port Jefferson and Atlantic Branches as well as the City Terminal Zone of the Long Island Rail Road in HO scale. He earned Master Model Railroader (MMR) certificate number 469 in 2011 and was formerly the Superintendent of the Potomac Division.

---

The NMRA now accepts

**PayPal**<sup>™</sup>

- Renewals
- Memberships
- Books
- Donations
- Online store
- EVERYTHING!

## Keeping Busy During a Pandemic, or Building MoW Cars - Part 5

by Martin Brechbiel, MMR

The impetus for building this next car started with my seeing a model of a *Sandy River & Rangeley Lakes Railroad* 2' gauge car and thinking, why not scratchbuild something similar in standard gauge? Doing this is nothing new to me, as several years ago I built a standard gauge snow spreader car that was derived from a 2' gauge Monson prototype car. Let's get started.

First up was to build a rectangular box and get some flooring onto it. The width was set by the bolsters I use, and the length scaled up from the 2' gauge car and adjusted as needed to fit the sides and all the parts that go on them. You can see that the flooring at the ends is scribed siding, and the center is just plain 1/16" basswood. No point to wasting scribed siding where it cannot be seen! Ends were made up from



1/16" thick scribed siding and caboose doors (Grandt Line) were inserted. The backs of the ends were framed out with some scrap wood to provide gluing surfaces for the floor, roof, and sides.

The end walls were glued into place set back from the overall end of the car. A section of milled roof was cut to extend from one car end wall to the other car end wall. The ends of the roof section were covered over with some 1/16" thick basswood and cut to the profile of the roof.



The ends were painted Coach Green (Floquil) and—since I got ahead of myself with the paint brush—the doors were trimmed out afterwards with some stripwood; far

easier to do now than working around everything later. Scribed siding (1/16" thick) was applied to the sides. I glued these flat on my glass work surface and then cut the sections to length to glue them onto the car. Holes were cut for windows. The roof overhang over the end platforms was installed by adding the letterboard trim onto the sides. The ends of the letterboard were aligned with the end of the platform. An end beam was inserted between the extended letterboards. The roof over the platforms was then sheathed with stripwood to fill the space and also provide a look of individual boards looking up from the platform ends.



With the roof in place, it was time to get back to adding parts to the ends while they were still accessible. The framing around the doors was already done, but the grabs adjacent to the doors were fabricated from steel wire and inserted. The end supports were made from brass angle and open

square stock. The latter was cut to shape with a cutoff wheel, and all four parts were attached using Goo and CA (superglue). Brass wire (0.033") was threaded through holes in the end posts and down into the square stock, and then soldered into place.

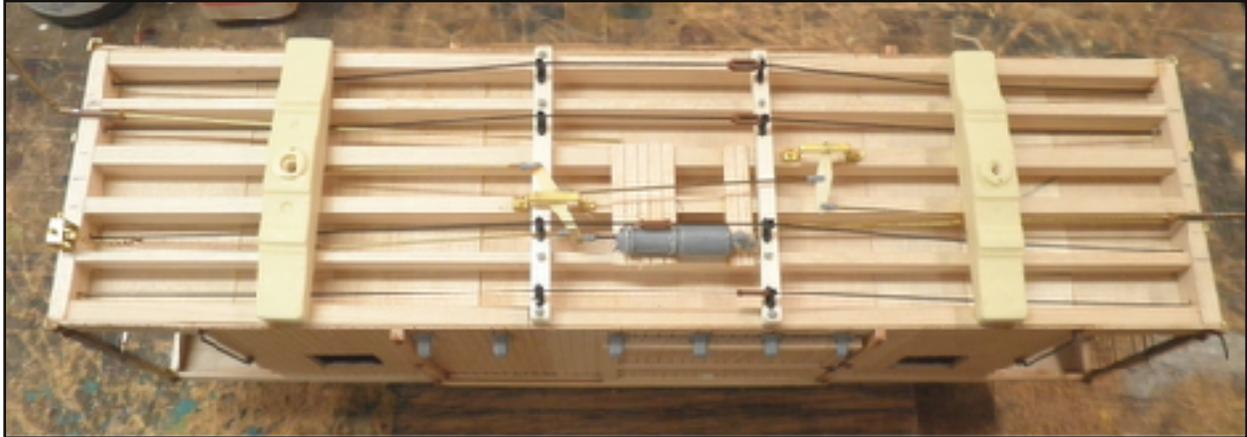


Doing the next level up on both sides involved making the doors. I used some 1/32" thick



scribed siding and stripwood to make the two doors. The upper door runner was made from some wood "z" molding and

the two vertical door stops were more stripwood. The lower door hardware was from a pack of castings from Precision Scale (PSC) and it seemed like a good opportunity to use them. A few Nut-Bolt-Washer (NBW) castings were added to the door stops. Brass wire was used to make the door handle and the side grabs. More NBW castings were applied about the grabs, door handles, and to the brass end supports both top and bottom.



I've neglected the underbody details; so flipping the body over reveals a lot that got done here while we were not looking. All six floor beams were added, through which a train line had been installed when the beams were dropped in place. It's a bit tricky putting in the two beams correctly with the brass wire flopping about, but it beats trying to thread a 0.033" wire through them later. Resin bolsters that were drilled and tapped for 4-40 were mounted spanning the framing of the car. Needlebeams for the queenposts (Grandt Line) were installed, and the truss rod system was all put into place threading the surgical silk through the car four times with turnbuckles (Tichy) anchoring it at all eight locations in the end sill with large NBW's and CA. The K brake system was added with the brake cylinder (Grandt Line) mounted on top of some scrap scribed siding. The plumbing and links were made from either brass or phosphor bronze wire with clevises made from cut down Grandt Line turnbuckles. The brake levers were my resin castings, and hangers were from PSC. These are easily made, but apparently I've gotten too lazy to make my own any more. A bit of chain hooked to some phosphor bronze wire was wrapped around the brake staff inside of the brake stirrup that was made from brass square stock.



Flipping the car back right side up lets us look at working on the roof. The entire roof was covered with two layers of overlapping strips of single ply napkin (Panera) wrapped over the

edge and glued into place using 50% aqueous Carpenter's glue. On top of the roofing, roof walk supports (resin) were added, and then end walk supports were put into place using stripwood. You can see that I splashed a first coat of paint (Floquil, Maroon) on the car body. You can also see that I've added a brake wheel (PSC) at the one end on its shaft through a ratchet & pawl casting (PSC) that ties into the brake stirrup on the underside of the car.



More painting was done while getting closer to the finish line, starting with a second coat of Maroon on the car sides. The roofing was painted Lark Light Grey (Floquil), and the roof walk boards were glued in place after pre-painting them Roof Brown (Floquil). A smokejack (PSC) was added into the roof, pre-painted Steam Black (Polly Scale). Roof grabs made from brass wire were added. The end platforms were also painted Roof Brown (Floquil), and most of the end details and grabs were painted Steam Black (Polly

Scale). The end boards of the roof were painted Coach Green (Floquil). Air hose castings (PSC) were added to each end and also painted black.

The finish line for this build is becoming visible. Final steps included painting the window castings Coach Green (Floquil) and glazing them. Once completed, they were mounted into the sides. After that, all that remained was adding trucks





and couplers. Being a wood car, I tend to use metal couplers mounted with No. 0 x 3/8" blackened wood screws. My era and cars use archbar trucks 90% of the time, and I still have a drawer of Athearn trucks but with InterMountain wheelsets. Once those were mounted with 4-40 blackened screws, this car was declared done.

It's time to move on to the next car now!

—  
**Martin Brechbiel MMR** is the Potomac Division Superintendent. Photos of his layout will appear in the next issue of *The Flyer*.

A promotional graphic for NMRA as an eBay charity. The graphic has a yellow background with a red border. It lists several reasons why someone might want to donate to NMRA: "Upgrading your fleet?", "Changing eras?", "Switching prototypes?", "Changing scales?", "Cleaning out the basement?", "Moving?", "Lightening your load?", and "Selling non-railroad stuff?". At the bottom, it says "Don't forget to choose the NMRA as your ebay charity!".

# Norfolk Southern Connector Renovation- Part V

by Ernie Little MMR

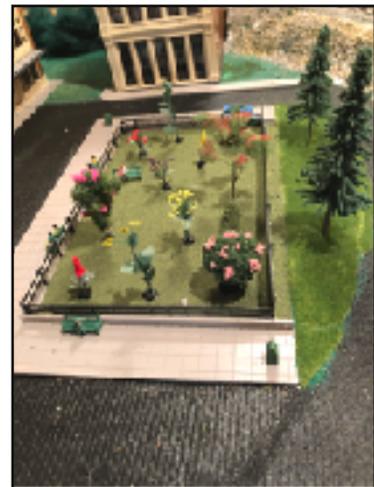


It is hard to believe that it has been eight months since I started the expansion of my Norfolk Southern Connector Railroad layout. Time has flown, and perhaps that is because of the amount of time I have spent on the layout and the enjoyment of seeing it come together.

A lot has taken place since my last update. On the lower deck, Lewis Park, which consists of many types of flowering plants and an open space enclosed by a fence, has been created in the East Joyceville area. **(Photo right)** The area has also seen the construction of sidewalks and streets, a new building, and a new railroad crossing on the west side of town. **(Photo left)** Additional scenery items such as trees have been placed in this area of the layout.



On the helix grade the embankment has been finished with ballast and small rock, which makes the area almost complete except for ballasting of the new track. In addition, a new bank building that has LED's in it has been constructed and placed at the left side of the embankment. **(Photo right)**



been constructed and placed at the left side of the embankment. **(Photo right)**

In downtown Joyceville, the structure where I installed LEDs has been powered up, and some of the interiors of the buildings have been detailed. Due to a problem I have had with the lower level and the distance from the deck to my pellet stove I removed approximately 10” of the water area at the front of what I call Hot Springs. By doing this, I now have sufficient clearance to be able to use my pellet stove while running trains and no longer have to worry about the softening of the “water” used in the scene.

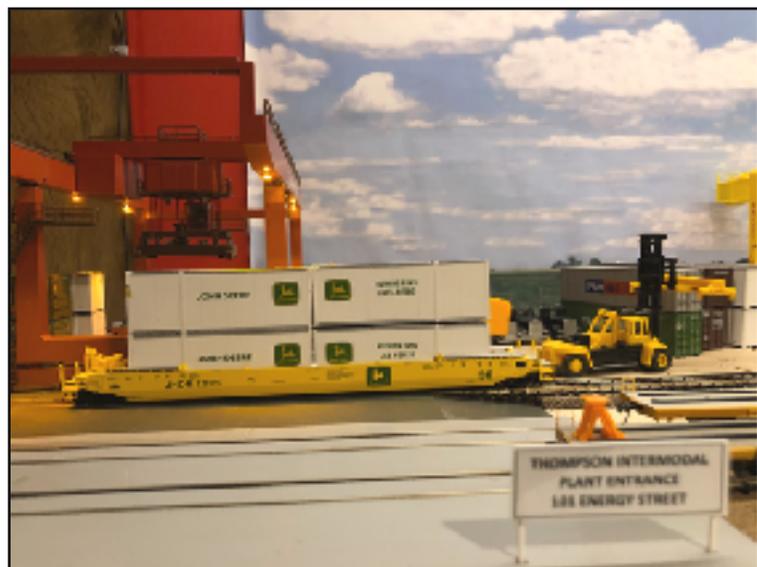


Progress has also continued on the upper deck where several things have happened, including dealing with installation of industries, scenery, and roadways. A new fire

station, Fire Station 3, Rodriguez Fire Station (*photo below*) has been constructed and placed. The surrounding area has been completed with the placement of additional trees and a roadway, including a crossing of the track main. The road to the



intermodal interlock has been established, and the track that parallels the road has been ballasted. A new intermodal crane, which has been in the original box on the shelf in my layout room for several years, is finally out of the box and on the layout at the end of the line on the second level. It has been installed (*photo right*) and has been powered up, which allows it to operate. The trackwork leading to the facility had to be adjusted to



allow connection to the yard area track, as there was a difference in height that had to be accounted for. The crane requires an 18 volt DC power source which forced me to find a compatible power supply, as everything else I have on my layout is either 3 or 12 volt DC.

Work is progressing on the dwarf signals, made by Oregon Rail, which have been painted for placement at the double crossover near the locomotive service and rail car facilities. There has been small delay in getting them operational, as I have had to determine how they need to be wired up. They came with three wire red and green LEDs and require a different wiring method than the two wire LED's I have worked with in the past. **(Photo right)**

Ballasting is still needed in the upper level yard area ethanol and intermodal facility area where track is located. Signage for the structures has been printed and placed in the appropriate locations on the layout. A road network has been established in the area and will be completed by mid-March.

One major task that I have been working on is lighting for the layout. The layout needed additional lighting, as the room lighting was



not sufficient to illuminate it properly. To accomplish this I purchased two WIFI RGB LED lighting strip kits that have twenty four feet of LED strip lights and the appropriate power supply. I have installed it on both levels of the layout. **(Photo left)** There is now plenty of light to allow photography and better views on the layout. The light strips have a sticky tape on the back side that is used for mounting which does not work very well, so I used plastic wire clips that came with the kit as a backup. I felt that the lighting strips needed a base to mount them to, so on the lower level I used 1" x 2" lumber cut to make 1/2" x 2" pieces, and attached them to the underside of the upper deck. This provided a way to secure the LED strip lighting over the lower level so it wouldn't droop; and with the installation of a 1/4" x 3/4" valance I was able to hide the LED's from

sight when looking from the aisles. On the upper level I used 1"x2" lumber attached to the layout room's dropped tile ceiling with 15/16" t-bar clips and 3/4" binder posts to provide a base to mount the LED light strip, and used a 1/8" x 1 3/4" Masonite valance to hide the LED strip from view.



The project is still on the “right track” for completion on both levels by March, and I am anticipating a virtual layout tour in April or June of 2021. Then maybe the next step, “Operations on the NSC,” can begin to be planned. The project is still keeping me occupied and allowing me to enjoy the hobby. Till next time, keep her on notch 8 on the throttle!

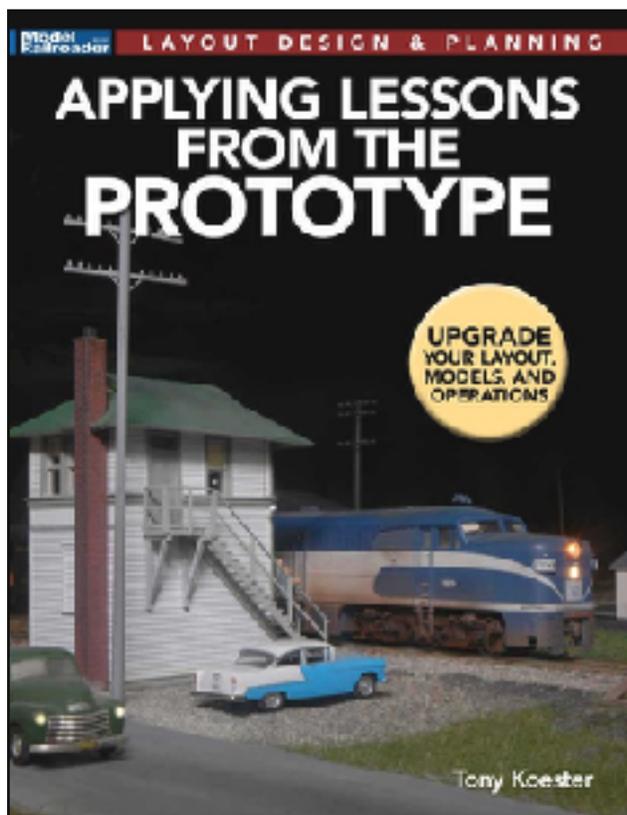
-----

**Ernie Little MMR** is the Potomac Division Assistant Superintendent. Ernie is a retired Battalion Chief of the Prince William County, VA Department of Fire and Rescue and resides in Manassas, VA with his wife Joyce.

## Applying Lessons from the Prototype by Tony Koester

A book review by Mat Thompson MMR

Each October for the past several years Kalmbach has published a new Tony Koester book on model railroading. And each year, I buy it, read it, learn something new, and enjoy the wonderful photographs. The latest offering, *Applying Lessons from the Prototype* (Kalmbach, \$21.99), is one of his best.



His message is consistent through every book: We should each build as prototypical a railroad as our time, talent, treasure, and space allows—and then operate it prototypically. But the message never gets stale, because each book uncovers new variations and new ideas.

Tony knows that most model railroaders are not as serious, talented, and knowledgeable as he and the modelers he highlights are. But like any good coach, Tony explains and encourages, stops just short of overwhelming, and brings everything back to reality. In fact, the first chapter of this book is titled “Pragmatic prototype modeling.” Another chapter is “An easier approach to prototype-based freelancing.”

Additionally, Tony—a highly active modeler and operator himself—is like

the rest of us: he loves engines and cars even if they don’t fit his prototype. He suggests two real railroad practices that can expand your layout horizons in the chapters “Modeling detour moves” and “Variety through used and foreign road equipment.”

For all the good things Tony writes, the delight of this book is found in the photographs. More than 125 photos are rendered in Kalmbach normal crisp style. Several are full page or larger—great for viewing and superb for study and finding ideas for your own modeling. Many layouts that haven’t appeared in the model press are featured, and even layouts we may know have new views.

The two-page prototype spread of a Pan Am Railways train passing through a snowy Vermont landscape in 2020 captures the dramatic potential of modeling modern trains. Potomac Division members will particularly enjoy the photo of Andrew Dodge's side-wheeler ferry boat on his new Down East layout.

Get the book, sit back in a comfy chair, when shaken over the area and enjoy the pictures. Then, if the mood strikes, read the text and learn a bit more about our hobby.

--

Mat Thompson MMR is the Potomac Division's Achievement Program Coordinator.

---

## Achievement Program News

by Mat Thompson, MMR



As you can read elsewhere in the *Flyer*, Nigel Phillips is working on his Model Railroad Engineer-Civil Certificate.

We have at least three other Potomac members working on the same project. Two have already completed the work and are just waiting for evaluation. When they and the three evaluators (including me) have had our COVID shots and completed the wait time, we will do the judging. Hopefully, this will be in April. I see this as the path forward for the near future.

So, if you are thinking of tackling any AP project, email ([ocrr@comcast.net](mailto:ocrr@comcast.net)) or call me (703-743-1895) before you start any work. Many people read too much into the requirements, which means they are either working harder than they need to or the requirements seem so difficult they give up without trying. I can't change the requirements, but I can help you understand them. Often, that's enough for modelers to proceed and be successful.

Another reason to talk is that requirements do change over time. Recent changes happen to be for the Civil Award. One requirement is to scratchbuild three track components. Commercial frogs are not allowed. Just a few years ago, each track component was judged and awarded points in five different areas, much like Structures, Cars, and Motive Power are judged. This required ballasting, adding tie plates and spikes, and painting and weathering the track. NO MORE!

Read the paragraph below from the Civil Evaluation Form and look at the chart below it. NOW, all that's needed is to get a checkmark in each of the three "YES" blocks. THAT'S IT.

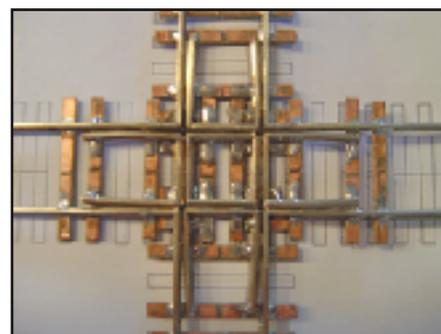
*It is hereby certified that the three scratchbuilt models of railroad track work built by the above named NMRA member have been personally examined by two or more judges appointed by the Region AP Chair, that all track work operated satisfactorily (a powered locomotive successfully traverses all routes), that the track work meets all applicable NMRA Track Standards (S-3) as measured using the appropriate NMRA track gauge, and that each of the three scratchbuilt items of track work has earned a Merit Award by meeting all three of the criteria detailed below.*

**MERIT AWARD EVALUATION SCHEDULE**

CONSTRUCTION	DESCRIPTION	YES	NO
CONSTRUCTION	Workmanship: A self-powered locomotive successfully traverses all routes.		
CONFORMITY	Prototype Practice: All applicable NMRA track standards (S-3) are met using an appropriate track gauge.		
SCRATCHBUILDING	Scratchbuilt frog and points: Commercial frogs are not allowed, but commercial individual rail (not Flex-track), ties, and spikes are allowed.		

If an engine can run through this crossing (*photo below right*) in each direction, and the track checks out on the NMRA track gauge (or equivalent), that's success. Notice, there is no requirement for ties, tie plates, other track details, ballasting, or painting and weathering.

If you need longer tracks for the engine, you can add commercial track to the legs of the crossing. You can also simply power the track with alligator clips, if that's best for you.



The question I get most often about building track fixtures is: Can I use Fast Tracks jigs?

The answer is yes—a tool is a tool is a tool. Look again at the italicized paragraph from the Civil Evaluation Form. The only prohibition is using commercial frogs. You can use whatever tools you want because there are no tool prohibitions in the requirements.

## Helpful Hint - Esso Versus Exxon - Signs That Define Your Modeled Period

by Nick Kalis



Does anyone recall when today's Exxon was "Esso"? I do. Companies change their logos, their trade names, or both over the years. The internet has made researching such changes relatively easy. Copying those logos to create a sign for your layout is also easy. A sign such as this is a nice touch to include in a model railroad when trying to signal the time period your layout is set in. Give it a try.

Some of our visitors just may not be old enough remember Esso (the name change took place in 1973), so this would give them an opportunity to ask questions and perhaps learn a bit about our American industrial heritage. I am told that the Esso name is still used outside of the United States. This is just one example of how we can communicate to our visitors the era we are modeling.



Company logos can do more than set your modeled era—they can set the region you model. Many businesses in America—both today and in the past—were not national, they were regional. Modeling a sign for a regional chain can set the location of your layout more precisely than just geographic scenery.



---

Nick Kalis is the Potomac Division Layout Tours Coordinator. He models the Oahu Sugar Company in Fn3 (1:20.3) in a layout set in WWII.

# NMRA Potomac Division Paymaster's Report

by Jerry M. Stanley, Paymaster

Figures as of 3/14/2021

1. Checking account	\$5727.25
2. Cash on Hand	\$0.00
3. Total assets as of 1/31/2021	\$5727.25
4. Deposits by date	
a) No deposits	
5. Total Deposits	\$0.00
6. Individual Deposits	
a) No deposits	
7. Total Deposits	\$0.00
8. Total payouts	
a) No pay outs this month	\$0
9. Total Payouts	\$0.00
10. Checking account balance as of 1/31/2021 (Lines [1+5]-9) =	\$5,752.25
11. Total Cash on hand 1/31/2021	\$ 0.00
12. Total Assets (lines 10+11)	\$5752.25

Signed:

Jerry M. Stanley, Potomac Division Paymaster

# 2021 Potomac Division Events Schedule

**Saturday April 10<sup>th</sup> Make & Take 10am**

**In Person** - Ken Wilson -Painting Back drops  
Jerry Stanley's Hobby barn, Hume Va.

**Sunday April 18<sup>th</sup>, 2021 Annual Meeting and Virtual clinic 1pm**

**Virtual**- Tony Koester - Update on the Nickel Plate

**Saturday May 8<sup>th</sup> Make & Take clinic 10am**

**In Person** - Earnie Little - Scratch building a car in Styrene at Jerry Stanley's Hobby barn, Hume Va.

**Sunday May 16<sup>th</sup>, 2021 Virtual clinic 12**

**Virtual** - Mat Thompson Layout tour

**Saturday June 5<sup>th</sup>, 2021 Make & Take clinic 10am**

**In Person** - Jerry Stanley - Carpentry techniques to build a module  
Jerry Stanley's Hobby barn, Hume Va.

**Sunday June 20<sup>th</sup>, 2021 Virtual clinic 13**

**Virtual** Paul Dolkos - Sooner rather than later

**July 4-10, 2021 NMRA National Conventions**

Santa Clara, California - CANCELED -

**Sunday July 18<sup>th</sup>, 2021 Virtual clinic 14 3pm**

**Virtual** Rod Vance Creating a photobook using software to create a photobook to preserve your layout

**Saturday August 7<sup>th</sup>, 2021 Make and take clinic 10 am**

**In Person** - Shannon Crabtree - weathering techniques using an airbrush  
Jerry Stanley's Hobby barn, Hume Va.

**Sunday August 22<sup>th</sup>, 2021 Virtual clinic 15 3pm**

**Virtual TBD** Bernie Kempinski Bernie Kempinski will discuss layout updates on his USMR Aquia-Falmonth Line.

**Saturday Sept 18<sup>th</sup>, 2021 Make and Take clinic 10am**

**In Person** - Nicholas Kalis - Design Secrets  
Jerry Stanley's Hobby Barn Hume Va.

**Sunday Sept 19<sup>th</sup>, 2021 Virtual clinic 15**  
**Virtual TBD**

**Sunday Oct 17<sup>th</sup>, 2021 Virtual clinic 16**  
**Virtual TBD**

**October 21 - 24 MER “Mount Claire Junction” Convention**  
**Delta Marriott Hunt Valley, MD - Chesapeake Division**

**Sunday Nov 21<sup>st</sup>, 2021 NMRAx convention**

**Sunday Nov 21<sup>st</sup>, 2021 Virtual clinic 17**  
**Virtual TBD**

**Sunday Dec 19<sup>th</sup>, 2021 Virtual clinic 18**  
**Virtual TBD**

**August 14 - 21, 2022 NMRA National Convention**  
**Birmingham UK**

## **And If You Missed A Virtual Clinic...**

If you missed a virtual clinic, go to the PD website at: <https://potomac-nmra.org/PDnewsite/Clinics/Clinics.php> and scroll down to “Virtual Clinic Videos” where you can see what you missed!

**Sunday February 21<sup>st</sup>, 2021 Virtual Clinic 9, 3PM**  
**Virtual - John King - Track Arrangement & Operations**

**Sunday March 21<sup>st</sup>, 2021 Virtual clinic 10, 3PM**  
**Virtual - John Sethian - Art & Technique or lighting Building and streets**

**The Potomac Division, Mid-Eastern Region, National Model Railroad Association includes the District of Columbia; Calvert, Charles, Montgomery, Prince George's and St Mary's Counties in Maryland; Arlington, Fairfax, Fauquier, Loudoun, Prince William, and Rappahannock Counties in Virginia, as well as all area independent cities.**

---

## The Division Crew:

**Superintendent Martin Brechbiel, MMR 703-309-3082**

[Superintendent@potomac-nmra.org](mailto:Superintendent@potomac-nmra.org)

**Sr-Asst-Super Andrew Dodge, MMR 301-774-7753**

[Sr-Asst-Super@potomac-nmra.org](mailto:Sr-Asst-Super@potomac-nmra.org)

**Assistant Superintendent Ernie Little, MMR 571-383-7316**

[Asst-Super@potomac-nmra.org](mailto:Asst-Super@potomac-nmra.org)

**Paymaster Jerry Stanley 540-364-1815**

[Paymaster@potomac-nmra.org](mailto:Paymaster@potomac-nmra.org)

**Clerk & Layout Tours Nick Kalis 703-585-0100**

[Clerk@potomac-nmra.org](mailto:Clerk@potomac-nmra.org)

**Achievement Program Coordinator Mat Thompson, MMR 703-743-1895**

[Achievement-Program@potomac-nmra.org](mailto:Achievement-Program@potomac-nmra.org)

**Webmaster Ernie Little 571-383-7316**

[Webmaster@potomac-nmra.org](mailto:Webmaster@potomac-nmra.org)

**Potomac Flyer Editor & Publisher *Pro Tem* Alex Belida 301-424-8164**

[Potomac-Flyer@potomac-nmra.org](mailto:Potomac-Flyer@potomac-nmra.org)

**Flyer Proofreaders: Dan Ebert, Bob Sprague**

## The Potomac Division Needs Your Help



Yes, **you!** Not the model railroader down the street; not the other guy, **YOU!** Lend us a hand. Please.

### CURRENT POSITIONS THAT NEED VOLUNTEERS

**Newsletter Publisher:** *The Potomac Flyer* is looking for a volunteer versed in desktop publishing and newsletter production to take over as Publisher. Requirements include preparing, laying out and producing *The Flyer*, helping solicit articles and photographs and working closely with the Editor to provide a quality publication for posting on the Division website. Contact Martin Brechbiel [superintendent@potomac-nmra.org](mailto:superintendent@potomac-nmra.org) or *Flyer* Editor Alex Belida [abelida@yahoo.com](mailto:abelida@yahoo.com)

**Train Show Outreach:** The Division is looking for volunteers to represent the Division (and the NMRA) at future train shows. We'd like to have eight people to staff an outreach booth, two to set up the booth, two to pack up the booth, and one person to select photos and print and mount them for an NMRA information board. Contact Jerry Stanley [jerry@madisonhomesinc.com](mailto:jerry@madisonhomesinc.com)

# Hobby Shop Business Cards:

