

Achievement Program Golden Spike Award submission: March 2021
David McLaughlin NMRA #800309 00

1.0 Rolling Stock (Motive Power & Cars)



1.1 WM #5543 HO Covered Hopper: kitbashed; roof cut and sections moved to conform to prototype; new roof hatches; scratchbuilt ladders; new wheel sets and Kadee couplers added



1.2 B&O #380008 HO Wagon Top Box Car: new wheel sets and Kadee couplers added



1.3 WM #31006 HO Damage Free (DF) Box Car: painted and decaled 1962 aged 14; new wheel sets and Kadee couplers added



1.4 DL&W #40086 HO Box Car: painted and decalated 1962 aged 14; new wheel sets and Kadee couplers added



1.5 MILW # 18454 HO Rib Sided Box car; new wheel sets and Kadee couplers added



1.6 RDG #86023 HO Hopper: new wheel sets and Kadee couplers added

2.0 Model Railroad Setting (Structures & Scenery)

2.1 Scenery



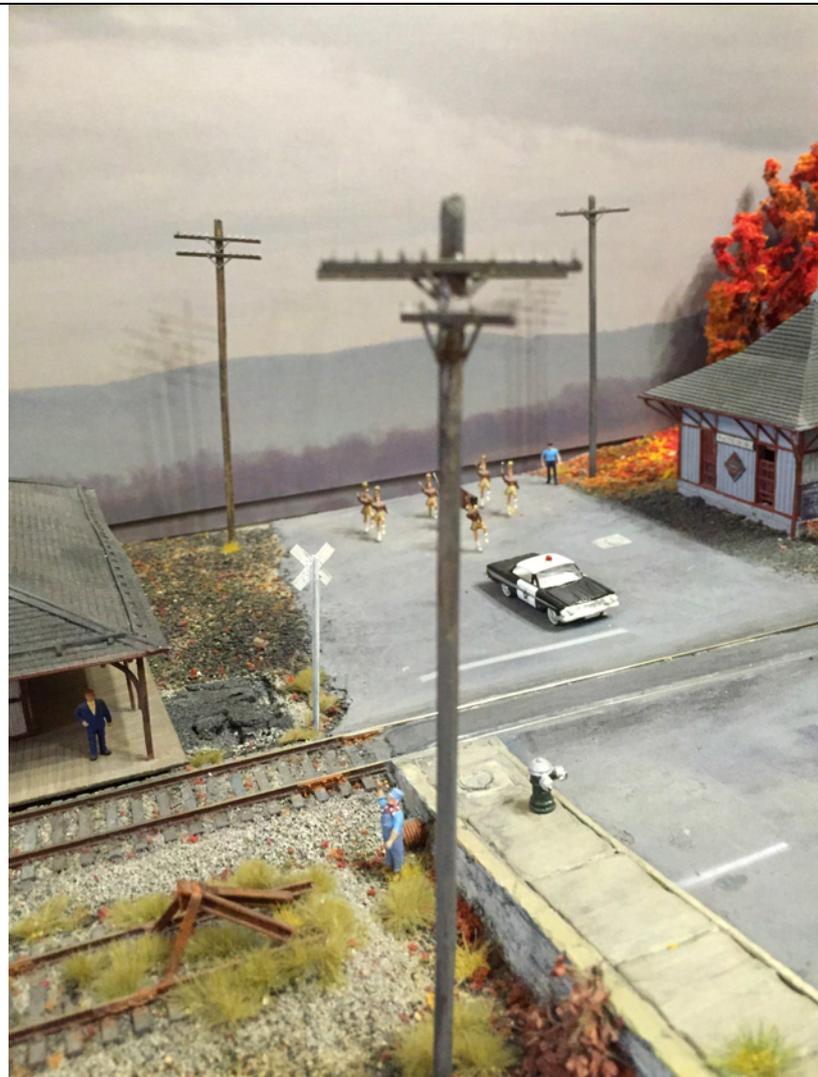
2.1.1 Brian Moore and David McLaughlin in front of the Waynesboro, PA HO scale modular shelf layout



2.1.2 Waynesboro, PA Western Maryland Railway/Railway Express Agency Depot: researched, prepared drawings and scratch built depot and scratch built trees from locally collected weeds, dried, painted and spray fixed Woodland Scenics autumnal coarse turf colours



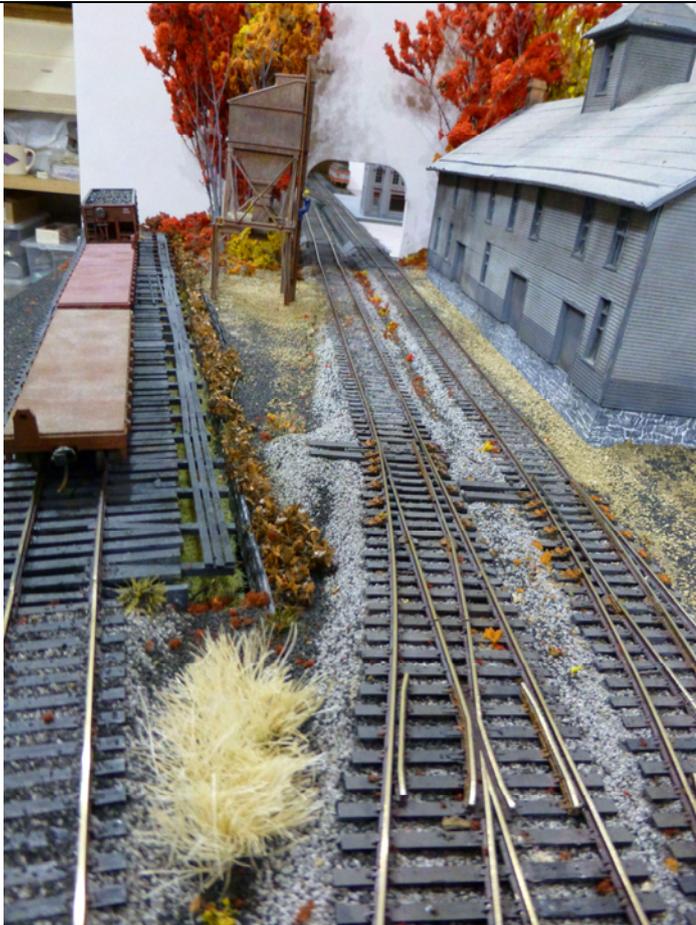
2.1.3 West Junior High School majorettes marching on West Main Street; majorettes all individually hand painted in correct West Junior High School majorettes' uniforms



2.1.4 Waynesboro, PA, West Main Street and Western Maryland Railway crossing: Note: cross bucks, road markings, manhole covers, fire hydrant, drainage culvert (behind railroad worker), telegraph poles, track bumper, bespoke PDF photographic backdrop created from a series of nine of my photographs looking prototypically east to South Mountain of the Appalachian Mountains



2.1.5 Waynesboro, PA, West Main Street and Western Maryland Railway crossing: Note: cross bucks, road markings, parking meters, manhole covers, fire hydrant, drainage culvert (behind railroad worker), telegraph poles, track bumper. Top left: Cumberland Valley Railroad former passenger station; top right: Western Maryland Railway/Railway Express Agency Depot; bottom left: Western Maryland Railway Freight Station



2.1.6 Waynesboro, PA: looking north: coal trestle on left; mid distance: foundry sand tower; Emmert Manufacturing Co.: all researched, drawings prepared and scratch built



2.1.7 Waynesboro, PA: looking north east: coal trestle in foreground; Emmert Manufacturing Co. in background: both researched, drawings prepared and scratch built and scratch built trees from locally collected weeds, dried, painted and spray fixed Woodland Scenics autumnal coarse turf colours



2.1.8 Waynesboro, PA: looking south: Emmert Manufacturing Co. on left; mid distance: foundry sand tower; coal trestle on far right: all researched, drawings prepared and scratch built



2.1.10 Waynesboro, PA: looking south: Thompon Grain Elevator on left; mid distance: Beck Benedict dynamite warehouse; Section House on near right: all researched, drawings prepared and scratch built

2.2 Structures



2.2.1 HO Waynesboro Western Maryland Railway/Railway Express Agency Depot: researched, prepared drawings and scratch built



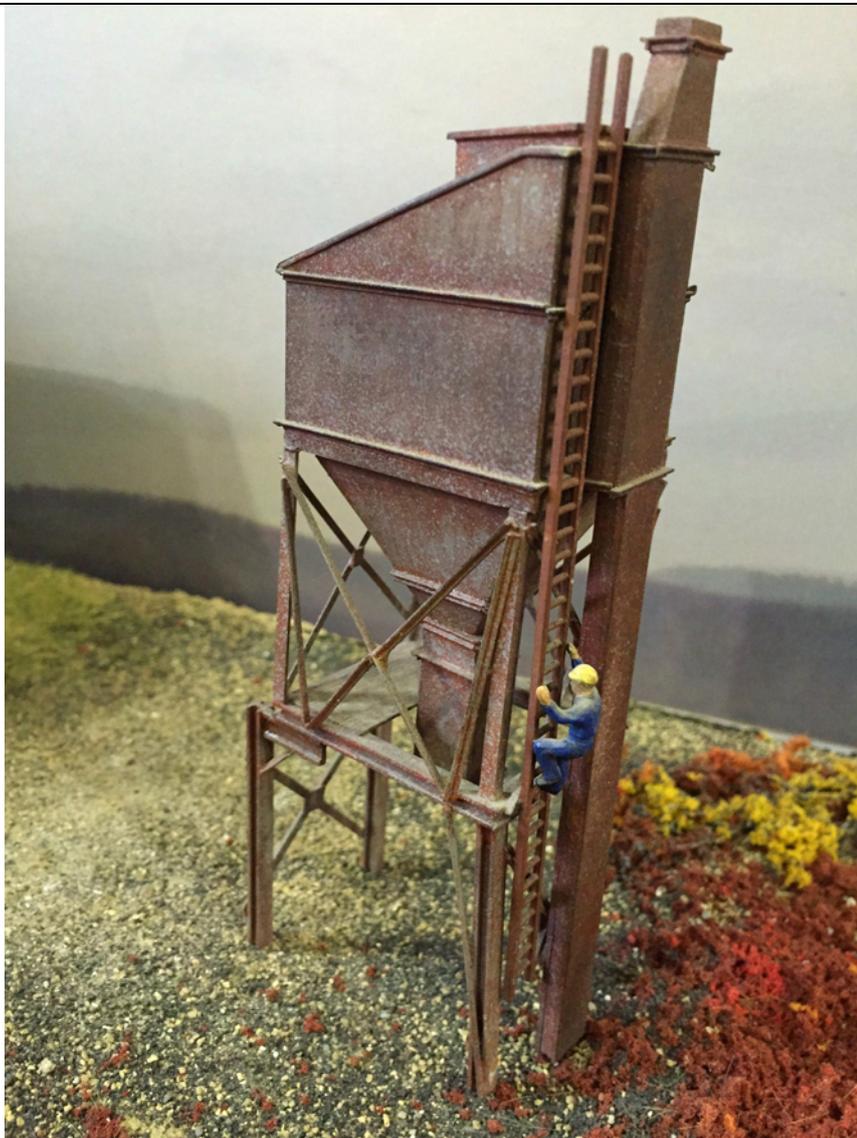
2.2.2 HO Coal Trestle, Foundry sand tower and Emmert Manufacturing Co in background: researched, prepared drawings and scratch built complete with all nut and bolt castings for coal trestle



2.2.3 HO scale Kahl Coal Office and Scale: researched, prepared drawings and scratch built



2.2.4 HO scale Kahl Coal Office and Scale: researched, prepared drawings and scratch built



2.2.5 HO scratch built Foundry sand tower: researched, prepared drawings and scratch built



2.2.6 HO Western Maryland Railway Waynesboro Freight Station: researched, prepared drawings and scratch built using individually applied chad as bricks, then stained to brick colour



2.2.7 HO Western Maryland Railway Waynesboro Freight Station: researched, prepared drawings and scratch built using individually applied chad as bricks, then stained to brick colour



2.2.8 HO Western Maryland Railway Waynesboro Freight Station: researched, prepared drawings and scratch built using individually applied chad as bricks, then stained to brick colour



2.2.9 HO Beck & Benedict Dynamite Warehouse: researched, prepared drawings and scratch built



2.2.10 HO Thompson's Grain Elevator: researched, prepared drawings and scratch built

3.0 Engineering (Civil and Electrical)

Background note: The track is also a model. Therefore all track and its ties are weathered; 3 bolt rail bars (fishplates) [Details West #JB 821] are added at staggered 39 scale feet intervals. Turnouts are super detailed [Central Valley Model Works Switch Detail Parts #1603 and Details West #RB-919 Turnout Rail Brace (Adjustable Type)].

All track is Peco Code 83. This has been chosen as it has been designed in full accordance with prototype AAR Standards. All track is laid on a two layer road bed system: the base layer is Woodland Scenics HO scale Track-Bed ST1474 which is glued with white wood glue to the 10mm AAB quality plywood baseboard of each module. The modules are constructed to the NMRA BR Freemo module standards developed by Tom Winlow. The upper layer of the road bed is 3.175mm cork glued with white wood glue to the Woodland Scenics track-bed. According to a past article in 'Model Railroader' this enhances the sound quality of locomotives when using a DCC sound system as I do.

Finally, Woodland Scenics Fine Ballast Gray Blend #B1393 is applied by tea spoon and carefully spread with a dry brush. Occasional scatters of fine cinders and sieved wood ash are judiciously spread to add visual depth. Scenic Express leaves are carefully added using a seed dispenser. Warm wet water is very gently sprayed 400mm horizontally above the layout and allowed to fall as a very gentle mist of 'scale rain'. Diluted white glue [1 part glue to 3 parts water with a drop of washing up liquid] is then carefully applied using a 60 ml syringe and allowed to thoroughly dry.

3.1 Three types of trackage



3.1.1 HO Code 83 Crossover.



3.1.2 HO Code 83 Turnout



3.1.3 HO Code 75 Coal Trestle Trackwork: researched, prepared drawings and scratch built coal trestle gluing Code 75 rails in situ aided by an NMRA track gauge. Coal trestle complete with all nut, bolt and washer [nbw] castings on both sides of each trestle bent.



3.1.4 HO Code 83 Ballasted Track: small track details individually and carefully highlighted by weathering using dry brushed acrylic paints.

Scale colour is critical. The depot as originally painted was just too dark – so dark one couldn't see the details. Not only was the depot itself too dark but so was all the surrounding scenery. A radical change was needed preceded by careful colour experiments.

Having sought a critique, the simple but robust response was that everything was too dark. That was: the track, the ballast, the trees, the roads, the buildings and the weathering!

What followed was a major campaign on my part of gently retrieving the situation by preparing a new approach based on scale colour. Several experiments on different backs of structures over time led to a careful programme of revitalising the layout.

Study the photographs of the model railroads that you enjoy and especially study their colour palettes and weathering. The other really important thing about painting structures is to have a narrow 'palette' (or range) of colours. And, of course, the colour and the line of the track literally ties everything together visually.



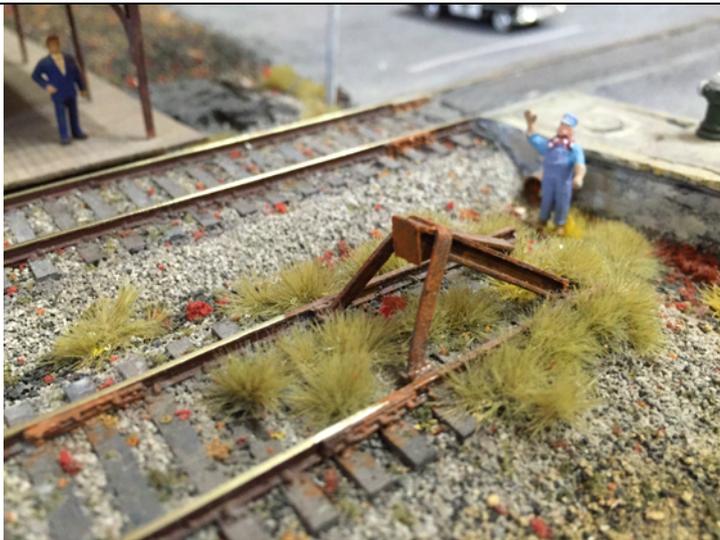
3.1.5 HO Code 83 Ballasted Track: drainage profiles with culvert under roadway; weeds growing around the heavily weathered and rusting Hayes bumpers [Peco Streamline 83 Line #SL8340].



3.1.6 HO Code 83 Ballasted Track with carefully defined and well-maintained drainage profiles.



3.1.7 HO Code 83 Ballasted Track: drainage profiles with culvert under roadway; weeds growing around the heavily weathered and rusting Hayes bumpers [Peco Streamline 83 Line #SL8340].



3.1.8 HO Code 83 Ballasted Track drainage profiles with culvert under roadway; weeds growing around the heavily weathered and rusting Hayes bumper [Peco Streamline 83 Line #SL8340]. Note the manhole cover and fire hydrant behind the figure.



3.1.9 HO Code 83 Ballasted Track: heavily weathered and rusting unused track and Hayes bumper [Peco Streamline 83 Line #SL8340].



3.1.10 HO Code 83 Ballasted Track: Woodland Scenics Fine Ballast Gray Blend #B1393 is applied by tea spoon and carefully spread with a dry brush. Occasional scatters of fine cinders and sieved wood ash are judiciously spread to add visual depth. Scenic Express leaves are carefully added using a seed dispenser.

Small track details are individually and carefully highlighted by weathering using dry brushed acrylic paints; the colour and the line of the track literally ties everything together visually.



3.1.11 HO Code 83 Ballasted Track: Woodland Scenics Fine Ballast Gray Blend #B1393 is applied by tea spoon and carefully spread with a dry brush. Occasional scatters of fine cinders and sieved wood ash are judiciously spread to add visual depth. Scenic Express leaves are carefully added using a seed dispenser.

Small track details are individually and carefully highlighted by weathering using dry brushed acrylic paints; the colour and the line of the track literally ties everything together visually.

3.2 All installed track must be properly wired so that two trains can be operated simultaneously



3.2.1 Tortoise Point Motor Wiring and Controls; Track Bus Wires [Black & Red]; Accessories Bus Wires [Blue & Yellow] and Track Feeders [Black & Red]



3.2.2 NCE Power Cab provides all track power, locomotive programming, locomotive control and other control functions as activated as well as having an inbuilt track circuit breaker. The NCE Power Pro provides a second throttle enabling two separate trains to be controlled independently of each other at the same time.



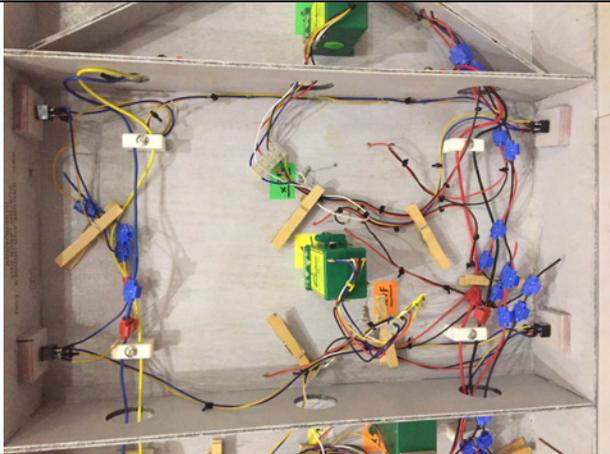
3.2.3 The NCE Power Cab cable is flat and **MUST** be plugged into the left hand port of the NCE socket in order for it to function. The NCE Power Pro (which provides a second throttle) has a coiled cable to distinguish it from the NCE Power Cab flat cable.

The NCE Power Pro coiled cable **MUST** be plugged into the right hand port of the NCE socket in order for it to function.



3.2.4 Jim Drew operating the Waynesboro, PA layout with the NCE Power Pro in the foreground and his son-in-law, James Koch, operating with the NCE Power Cab at the same time.

3.3 Provide any one additional electrical feature



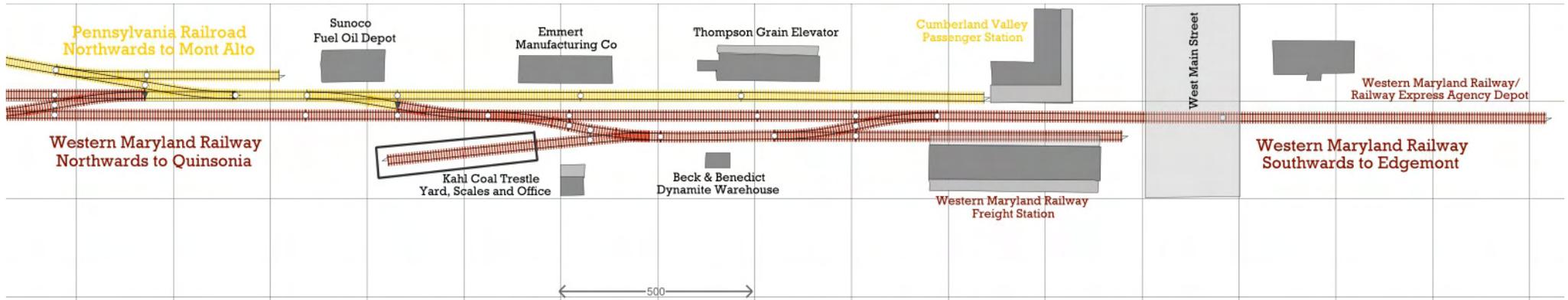
3.3.1 Tortoise Point Motors Wiring and Controls; Track Bus Wires [Black & Red]; Accessories Bus Wires [Blue & Yellow] and Track Feeders [Black & Red]



3.3.2 HO Western Maryland Railway Station at Edgemont, MD: researched, prepared drawings and scratch built. Operational Seuthe smoke generator in scratch built chimney stack and micro lighting internally.



3.3.3 HO Western Maryland Railway Station at Edgemont, MD: researched, prepared drawings and scratch built. Operational Seuthe smoke generator in scratch built chimney stack and micro lighting internally.



Waynesboro, PA: Track Plan of HO scale modular shelf layout

prepared for Golden Spike Award submission