

**Lakes Region Model Railroad Museum, Inc.
Railroad Avenue, Wolfeboro, NH.**



Functional Specification

10/15/22

Area

48' by 20', clear rectangular space. No center columns. Ceiling height at least 9'. Entrance door(s) only at one end in 20' wall. No windows, doors or other openings in the other three walls. Fully air-conditioned and heated. A drawing is attached below.

Configuration

A shelf style layout, with bump-outs, on three walls, occupying one end wall and most of the two side walls. Length, up to 48' on one wall, plus 20' across the back end wall, plus up to 48' on the other side wall. Several large flat screen monitors will be on the walls switchable from showing video presentations, to static track side views, views from rolling stock, and layout control panel, etc.

Physical Requirements

Viewable by 7 year-olds, wheelchair occupants and 7' tall adults. Aisles to be ADA compliant. Layout protected but not isolated. A two-layer layout could be considered. QR tags on the layout to be accessible to visitors. QR tags consist of a title, photo, and QR code. Tags approximately 6" x 2".

Concept

An HO scale layout to represent several New Hampshire towns along the Boston & Maine line from Boston to North Conway in the early 20th century (pre-diesel), showing the changes wrought by the arrival of the railroads. Wolfeboro branch to receive greater emphasis. Industries, hotels, vacation camps, commercial buildings to be all represented in the final layout - space required for them in planning the tracks. Water area at Wolfeboro representing dock area on Wolfeboro Bay on Lake Winnepesaukee large enough for an HO scale model of the S/S Mt. Washington (24" x 6.75").

Historical Focus

Buildings will represent the early 20th century and the changes caused by the arrival of the railroads. The layout will not be prototypical but will resemble what was there. For example, we could have dual track from Wolfeboro to Sanbornville if it increases flexibility and interest. Narratives will be generated describing the significant places, events and changes. There will be a high-level narrative for people who want a quick introduction to Wolfeboro during a 20-minute visit to the museum. These will link to more detailed narratives for people who return for more information, and for locals who know the high-level stories.

Operational Focus

The HO scale layout will run under several computer-controlled scenarios.

- 1 Full automation. This is where trains run without human intervention. This mode is for use when tourists are visiting who want to know more about Wolfeboro.
- 2 High level automation. When a 7-year old wants to run a train, the system will limit her to a section of the layout, exclude other trains, and restrict the parameters available to that operator. Should be interesting but not open to errors. Should accommodate 4 or 5 such operators at one time. Should not need adult supervision
- 3 Medium level operation. This level is for people who have demonstrated a degree of competence. The restrictions will be eased, possibly in stages: the area of the available layout expanded, the permitted activities increased to allow more complex actions. A docent probably needed.
- 4 Operating session level. Appropriate computer control to allow a mix of operators of various skill levels to enjoy an operating session on the layout.
- 5 Low or no automation. This mode removes the computer control and allows full operation of the layout by experts. The computer will indicate and monitor, but not control.

It would be very desirable if numbers 1 and 2 can operate simultaneously. Our current priority is #s 1 and 2 together, then # 5, followed by # 3. But we are open to changing this as software discussions continue.

Lighting and Sound

Computer controlled lighting and sound will be used as part of the full automation presentations. Use sound absorbent materials on ceiling, walls, and floor as needed. Isolate sections of the layout so independent presentations can be done simultaneously in different areas of the layout, perhaps one for each town.

Software

No decision or recommendation has been made about the software packages to use. It is probable that we will use DCC plus LCC, possibly with JMRI as the operator interface. We would like to be able

to modify the software to meet our operational goals if necessary. A STEM student creating a small trackside element should be able to add the necessary control software and hardware without endangering the main system.

Modeling

Professional and volunteer. Modeling Contest winners displayed on layout. Eighty plus 3D building are available in Sketch-Up.

Educational (STEM) program access

Adding models to layout. Adding switches and controls. Adding and modifying full automation presentations. Remote access to layout view and control via internet. Teach railroading related skills.

Trouble Shooting and Maintenance

One or two minimally skilled docents and volunteers during normal operation.
Perhaps use battery powered engines to reduce track condition related failures.
Easy access to computers and other electronics.
Easy access to wiring.

Layout Table

Use all available space under layout surface for roll-out storage bins, etc.

Occupancy

The maximum number of people in the layout area is to be determined but should not exceed 20. For any layout design, the maximum number of people who can be in the layout area should be estimated. The desire is to have multiple groups of people viewing different sections of the layout watching independent presentations.

Other considerations

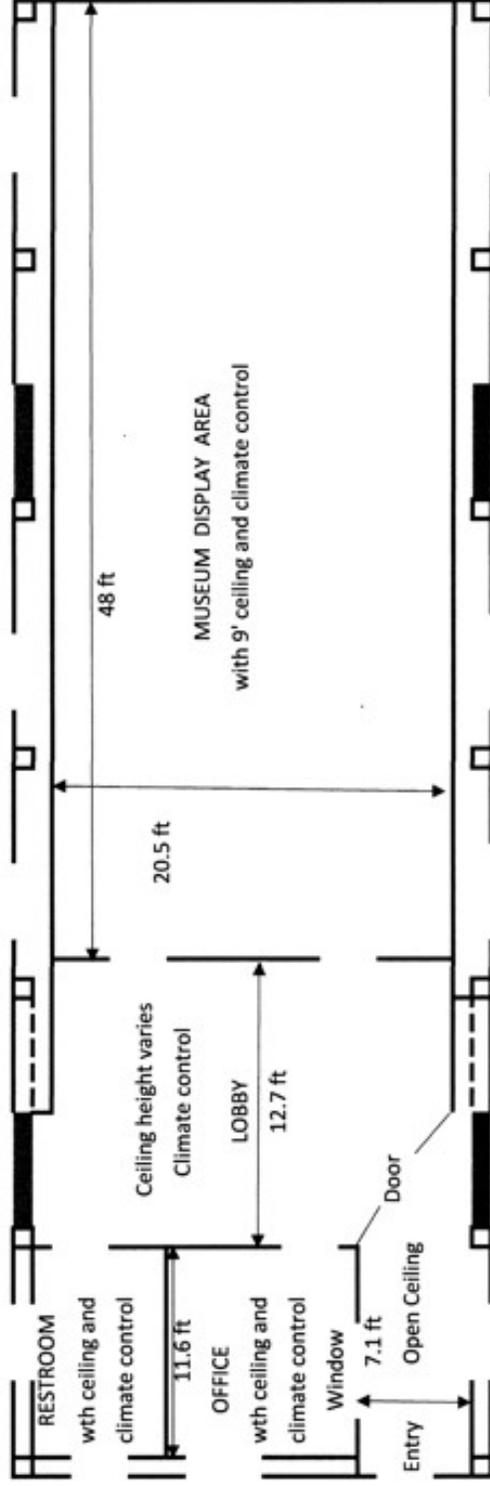
The layout should allow for placement of all the interesting buildings, while still retaining sufficient trackage and complexity to make the layout interesting for operating sessions.

To minimize derailments, the design should be conservative with regard to the track layout, such as curves, grades, switches, etc.

Documentation of all elements will be critical for anonymous techs to maintain or modify the system in the future.

120 and 240 volt power is available. Power distribution will be surface mounted, adjustable and modifiable at will. Signal cables will be routed to suit.

Interior Development Plan



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Amoskeag Falls Management Corporation
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Interior Development Plan

Wolfeboro Freight Shed

Brian Lombard 10-28-22

not to scale