DSS&A DULUTH SLEEPING CAR RESTORATION 2023 PROGRESS REPORT

MID-CONTINENT RAILWAY MUSEUM NORTH FREEDOM, WI





These photos capture the status of the DULUTH sleeping car project at the beginning of the year.

Progress Summary

Good progress was made at the Mid-Continent Railway Museum on the Duluth South Shore & Atlantic DULUTH sleeping car project this year thanks to great support from volunteers, hired help, contractors and many donors. A total of $26,273 in donations was received this past year, with the largest amount coming from the Emery Rail Heritage Trust grant ($10,000).

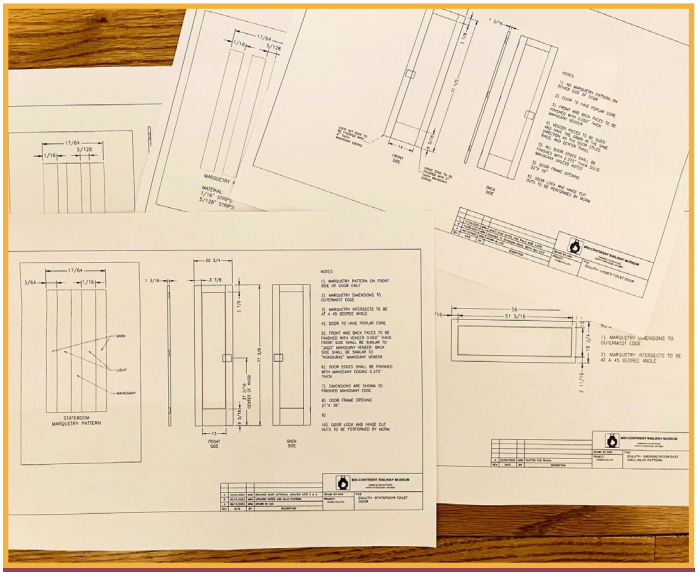
Work has continued in a number of areas with the main emphasis being inside the car. We concentrated on restoring the 10-section sleeping compartment that comprises the center section of the car. New wiring was completed for both the berth lights and the annunciator (Porter call buttons) system. New headlining panels were made and installed in the sleeping compartment. Related to the headliners, all of the headlining battens and trim pieces were refinished and installed. In addition, all of the interior window post pieces, wood blinds and window shade boxes were refinished. The window post parts and shade boxes were reinstalled. Veneer panels below the window sills were refinished or replaced as necessary. Most recently the deteriorated portion of the veneer upper ceiling was been cut out so new pieces can be made and installed. Similarly, the headliner in the aisle outside the Smoking Room was removed due to its deteriorated condition.

The exterior of the car has now been completely stripped down to the framing. This involving removing the old car siding, window stops and window battens. This effort exposed the car framing that was found to be in very good condition with only a couple of exceptions. All of the car framing was sanded to remove all remnants of the old hide glue and prepare the surface for gluing on the new siding. Epoxy repairs were made on all of the arched window frames and the letter board on both sides of the car.

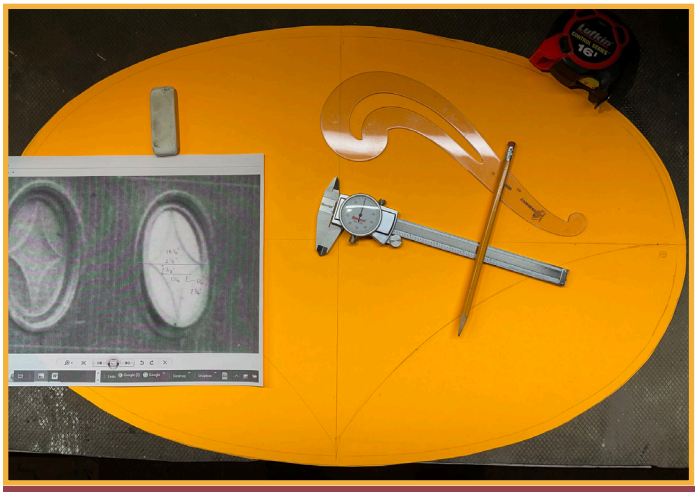
Completed contract work included refinishing berth partitions, berth clothes racks and additional wood molding for the sleeping compartment. New vestibule side doors (4), inner window stops, head rest frames and other woodwork were made during the year. In addition all of the stained glass for the arched window frames was cut to size and a prototype oval stained glass window was produced.

Work on the DULUTH will continue in 2024 with a concentration in the sleeping compartment and installing new wood on the exterior of the car.

Photos and additional information on the progress made during 2023 on the DULUTH Project follows.



Examples of drawings produced during the year.



An original photo of the car being used to recreate the stained glass pattern for the oval windows.

1.) Planning and Design Work

- Updated the DULUTH 3-year restoration plan.
- Updated the list of work tasks and sequence of activities.
- Developed drawings for the (4) interior doors that must be produced.
- Designed the berth tables (6) needed for the car.
- Obtained proposals for reproducing additional wood parts for the car. (vestibule window frames, (4) missing interior doors, veneer for the smoking room, new berth tables, etc.)
- Developed the stained glass pattern for the (9) replica oval windows.
- Working with decorators to source the green plush mohair for the seat upholstery.
- Developing and submitting grant applications for 2024+

2.) Demolition Work

- Removed the remainder of the original car siding.
- Removed all of the exterior window battens and window stops.
- Removed (3) water damaged veneer panels that are below the interior window sills in the sleeping compartment.



Before the upper siding was removed.



After the upper siding was removed.



Before the middle portion of the upper ceiling was removed.



After the upper ceiling was removed.





The volunteer crew working on cutting and removing the deteriorated portion of the upper clerestory ceiling.





The deteriorated headliner in the process of being removed from the lower roof across from the smoking room.





Volunteers removing deteriorated veneer pieces from below the windows in the sleeping compartment.

3.) Restoration Work

3.1 Stripping and Finishing

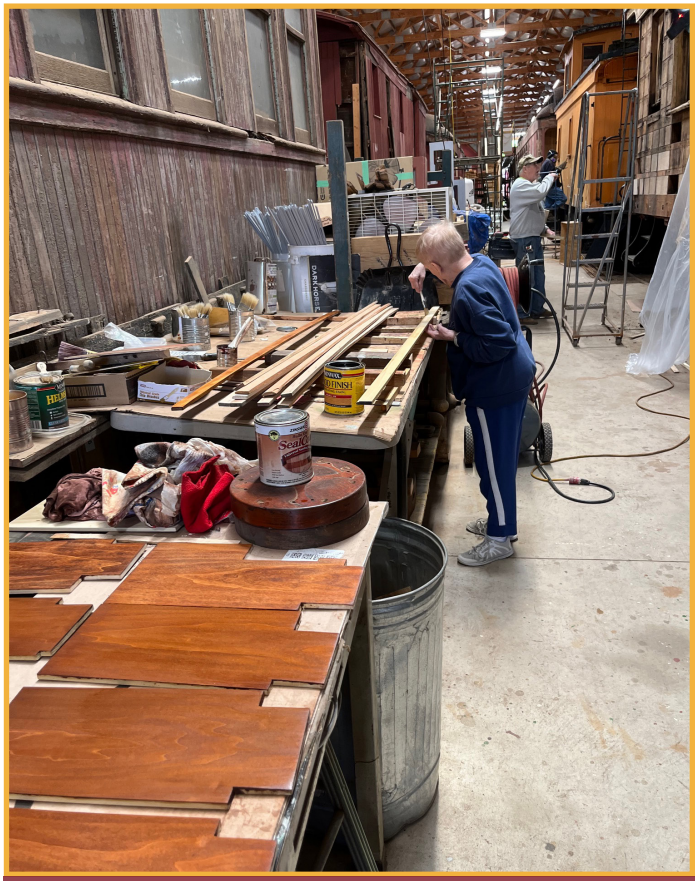
- Refinished the (10) berth clothes racks and sourced hinges and straps for them.
- Refinished the (8) sets of headboards for the sleeping compartment.
- Refinished the (22) wood blinds for the
- sleeping compartment.
- Refinished the wood parts for the interior window posts in the sleeping compartment.
- Refinished the headliner trim pieces for the sleeping compartment.
- Refinished the window headers and the veneer panels below each pair of window.



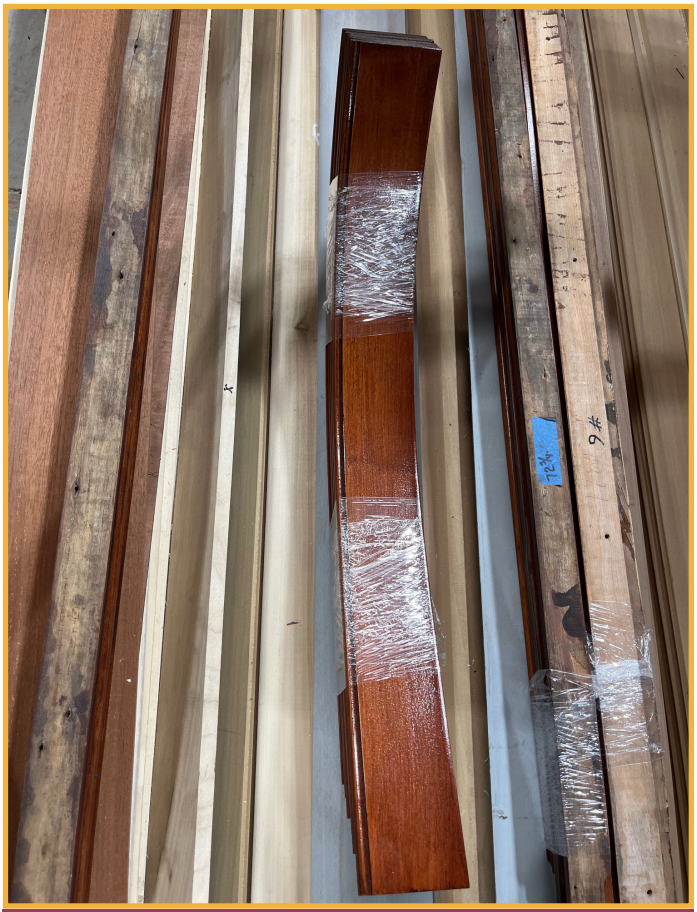
Two of the refinished berth headboards.



A storage shelve with the refinished headboards and berth racks.



Refinished wood pieces for the window posts.



Refinished headliner battens and trim piece.



Interior woodwork being refinished.



The berth side walls with the headliners and wood blinds installed. One coat of finish was applied on all of the woodwork.



One of the clerestory window openings after being refinished and painting the canvas.



The lower exteriot framing after being completely sanded to remove all of the old glue from the car.



The letter board and ached windows in the process of being filled (epoxy) and sanded.

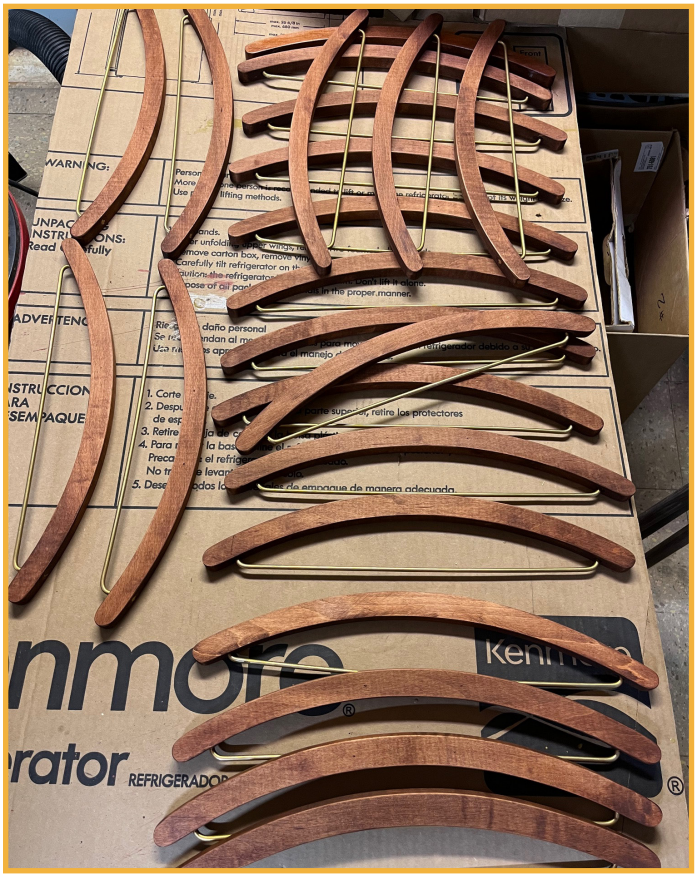
3.2 Materials, Parts and Hardware

- Received specialty wood parts made including the vestibule doors, berth head rest frames and inner window stops.
- Replicated the (22) wooden coat hangers that are installed (2 each) in the upper berths.
- Sourced, stained and varnished the wooden dowels (11) that serve as the rod to hold the berth coat hangers.
- Sourced (33) brass hinges and webbing for installing the wooden berth racks.
- Cleaned and painted (11) berth curtain rods
- Restored the “Men” and Women” signs for the sleeping compartment exits.
- Cast brass replica parts needed for the shade boxes (grommets) and the berth tables. (table hooks)
- Acquired a vintage entryway oil lamp for inside the car.
- Received a prototype of the oval stained glass window.





These original signs were restored during the year. The signs will be mounted at each end of the sleeping compartment.





Wooden coat hangers were replicated for the upper berths.





Four new vestibule doors were made to match the original design that featured a larger window size. Left photo: 1918 era replacement vestibule door (L) next to the reproduced original design door. (R)



Newly cast brass grommets for the shade boxes.



Table brackets made for the berth tables.

3.3 Electrical

- For safety and reliability purposes the entire car is being rewired. This includes the wiring for all of the interior car lighting as well as the low-voltage annunciator system.
- Completed the installation and routing of the wiring to the (20) berth lamps in the sleeping compartment.
- Completed the installation and routing of the annunciator wiring in the sleeping compartment.
- Routed flexible metal conduit from the electrical cabinet to the annunciator panel for the annunciator wires.
- Developed routing and drilled holes for the wiring needed for the sleeping compartment overhead lamps.



Newly installed electrical and annunciator wiring routed below the headliner panels in the sleeping compartment.



A volunteer installing flexible metallic conduit for the sleeping compartment annunciator wires.

3.4 Stained Glass

- All of the new stained glass was cut to size for the lower arched window frames.
- A prototype oval stained glass window was made.
- Additional stained glass was purchased to make the stained glass windows for the clerestory windows.



One of the new pieces of stained glass that was cut to size for the sleeping compartment of the DULUTH.





Donors of the DULUTH, Beth and Bob Krasche (L), meet with John Crahen (R) to look at the prototype oval stained glass window he made.

4.) Fundraising

- $26,273 in donations were received in 2023. The largest donation came from the Emery Rail Heritage Trust grant ($10,000).

5.) Expenses

Total Expenses For 2023	$15,610
Contract Work	$8,552
Labor	$2,426
Supplies	$4,632

Note: The amounts listed are for the 2023 fiscal year which ran from Nov. 1, 2022. and October 31, 2023.

6.) Volunteers

- In 2023 (24) MCRM volunteers logged (600) man hours of time on the DULUTH project.

7.) Publicity and Programs

- News releases for the 2023 ERHT Grant to the MCRM were made to local media and via MCRM's Facebook site.
- A donor appreciation certificate for the Emery Rail Heritage Trust is displayed on the car. A permanent plaque will be mounted on the car upon completing the restoration of the car.
- MCRM's Restoration Department 2023 "ALL HANDS ON DECK" 5 day volunteer session attracted new volunteers and averaged 20 volunteers per day. Work during this session included several projects on the DULUTH.
- The DULUTH was opened up for tours throughout the summer as well as during MCRM's 60th Anniversary Weekend and the annual Vintage Rail Car Tours.
- Updates on the DULUTH Project are posted on MCRM's website and Facebook site on a regular basis.



A tour being conducted in the DULUTH.



William Buhrmaster

William Buhrmaster
MCRM Restoration Department
December 12, 2023