MISERY BAY DIORAMA

PILH BOATHOUSE WITH PIER

AND

STONE PIER AND DOCK

PRESQUE ISLE BOATHOUSE ON MISERY BAY

The boathouse was located on Presque Isle Misery Bay. The boathouse was constructed for use by the Presque Isle Lighthouse Keeper to store his rowboat. There were no roads leading from the mainland to the Lighthouse so the Lighthouse Keeper's rowboat was the primary means of travel between the peninsula and the City of Erie. The boathouse on Misery Bay was the closest point of access for the Lighthouse Keeper.

Lighthouse Keepers' journals indicate the Keeper did use a rowboat stored in the boathouse to transport his children to and from the City of Erie. It is also believed the Lighthouse Keeper would bring supplies back from the City of Erie and store excess supplies in the boathouse until they were needed.

The following photographs taken from the 2007 Historic Structures Report are believed to have been taken sometime during Lighthouse Keeper Andrew Shaw's tenure (1901 - 1927). The front and back walls of the boathouse are not clearly visible in the research photographs. A window on the back wall is faintly visible in the high water level picture. No details of the front wall are visible at all. No other photographs of the boathouse have been found.

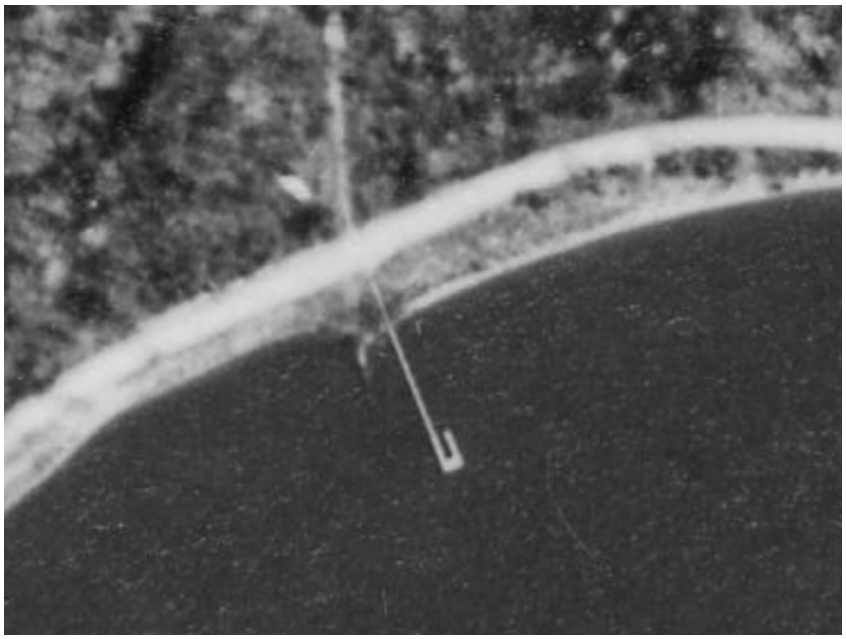
Low Water Level: Remnants of the original 1872 dock are visible in the left-center of the picture

High Water Level

The following photographs were provided by Brian Gula, Educator, TREC (Tom Ridge Environmental Center). The first photograph is the original aerial view of Misery Bay taken in 1923 by Fairchild Aerial Camera Corporation, 136 West 52nd Street New York, New York. The second photograph is a cropped version of the photograph focusing on the boathouse, the original 1872 stone pier and dock, and the original wooden boardwalk which is now known as the “Sidewalk Trail”. Once this discovery was made, I decided to include the original 1872 pier and dock in the diorama.

The following aerial photograph taken May 3, 1939 is the basis upon which prototype dimensions were established for the boathouse. Based on research, it was determined that 6 feet is a typical width for a rowboat slip. Using 6 feet as a prototype dimensional baseline, dimensions taken of the photograph pier and boathouse foundation features were used to calculate full size prototype feature sizes. A comprehensive analytical spreadsheet was developed to calculate dimensional features of the boathouse and pier.

May 3, 1939 photograph of Misery Bay and channel to Lake Erie from web site “datacommons.map.arcgs.com”



Cropped image focusing on the PILH boathouse pier and boathouse foundation. Remnants of the original 1872 stone pier are visible at the shoreline to the left of the boathouse pier

DIORAMA BACKGROUND

HO scale (1:87) for this diorama was chosen to be consistent with HO scale used for the Presque Isle Lighthouse diorama and the Presque Isle Fog Signal Station diorama.

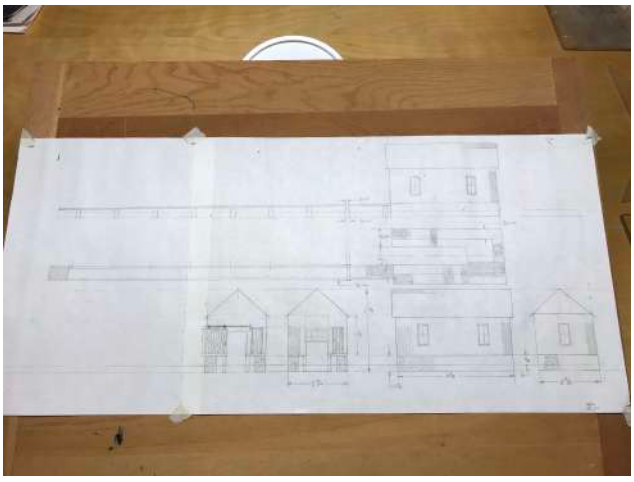
In 1872 when the Lighthouse construction commenced, building materials (particularly a load of bricks) were transported on a barge out through the bay channel into Lake Erie. The lake waters were extremely dangerous at the time and the barge sank losing all the bricks to the bottom of Lake Erie. A stone pier and wood dock were constructed on Misery Bay so boats could unload construction materials. The materials were then moved over a 1.5 mile "trail" across land on the peninsula to the location of the lighthouse. This trail is now known as the "sidewalk trail".

I decided to model the PILH boathouse/pier and the stone pier/dock in the diorama. Combining these structures shows a transition of how structures on the peninsula evolved as a result of the addition of the Lighthouse.

DESIGN AND CONSTRUCTION OF THE BOATHOUSE AND PIER

Proportional feature analysis technique was utilized along with pictures of the boathouse and aerial pictures of the boathouse pier and foundation to establish prototype dimensional features. A scale drawing was prepared as shown in the picture below.

Based on my research of many vintage boathouses and discussions with PILH and TREC personnel, it was concluded that the PILH Boathouse most likely had a boat access door to protect the rowboat and contents of the boathouse especially during inclement weather. It was also concluded there was a "man-door" at the end of the pier which would provide walk-in passage from the pier. The boat access door and the "man-door" could be locked to provide security for the contents of the boathouse. No photographs or any other documentation could be found to determine what the front wall of the boathouse looked like. Configuration of the door was uncertain so, two boat access doors were designed for consideration.The sliding door shown in the sketch below on the left was selected since it seemed to be most representative of historical boathouse design and construction.



Scale drawing of the boathouse and pier

BOATHOUSE FOUNDATION DESIGN AND CONSTRUCTION

Prototype foundation dimensions were important since they establish the baseline for all HO scale boathouse dimensions.

Dimensions of the foundation are based on the following:

1. Width of the boat slip will be 6 feet wide which is a typical width for a rowboat.
2. The East and West sides of the foundation foot print are each equal to the width of the rowboat slip. This means the overall width of the foundation footprint is 18 feet (approx 2 7/16 inch HO scale).
3. The foundation structural section width is 60% of the interior deck width. The interior deck width was determined to be 5 feet (approx 11/16 inch HO scale) this means the foundation structural section width is 3 feet (approx 7/16 inch HO scale).
4. The 5 feet interior deck width actually provides for an additional 2 feet of effective boat slip width between the interior decks.
5. Prototype height dimension of the foundation is based on scaling the foundation visible above the water in the high level water picture which is scaled to be 3 feet (approx 3/8 inch HO scale). This dimension plus 1/8 inch HO scale for depth of realistic water equates to a total prototype foundation height of approx 5 feet (5/8 inch HO scale).

The foundation was designed and constructed as a plaster casting. The cast process adds prototype realism to the model design and construction. The casting mold form was made from 5 pieces of wood shown in the picture below.

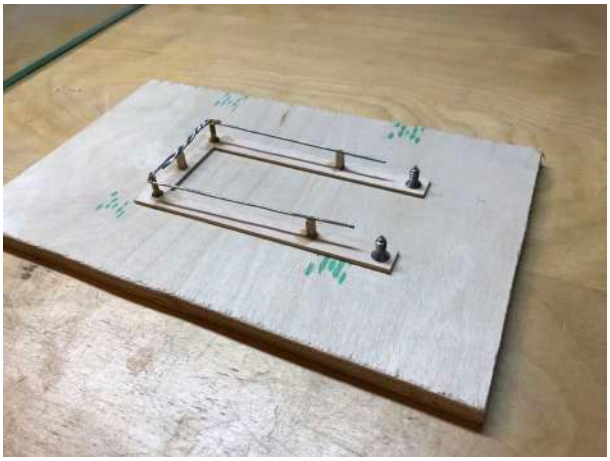
The casting mold form as shown in Picture A was lined with parchment paper for two reasons:

1. Prevent the plaster cast material from sticking to the wood mold
2. The parchment paper was tightly crumpled-up then unfolded and wrapped around the mold form to create a rough prototypical exterior texture pattern.

The foundation casting is designed as shown in Picture A and B to include the following:

- Simulated reinforcement bar to enhance strength of the casting.
- A .040 inch thick wood top cap (located at the bottom of the mold) to facilitate attachment of the interior decking boards.
- Screws bonded to the underside of the wood cap were strategically located to (a) support a reinforcement bar and lock in with the casting material and (b) eliminate upward warping of the wood top cap which could cause the cap to pull away from the casting material when the foundation was removed from the mold.

The casting mold form assembly, shown in Picture C, was clamped to prevent movement of the mold form pieces and is ready for pouring the casting material. The casting mold was filled with Perfect Cast casting material as shown in Picture D.



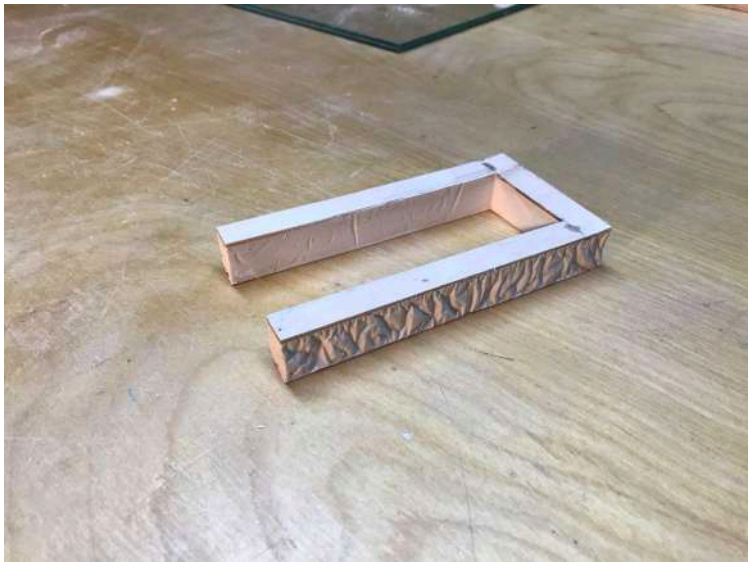
Picture A

Picture B

Picture C

Picture D - poured casting

The finished casting is shown below in Picture E. The cast foundation wood cap is visible on the top side of the casting. The sides of the casting have an “as-cast” rough worn texture as might be expected after subjected to years of Misery Bay water action. The inside surfaces of the foundation are somewhat smooth since they were more than likely protected from the weather and wave action by the boathouse structure.



The following picture shows the casting after “weathering” and installation of the wood frame which supports the decking over the water. This frame structure will not be visible after the decking planks are installed.

Decking support framework

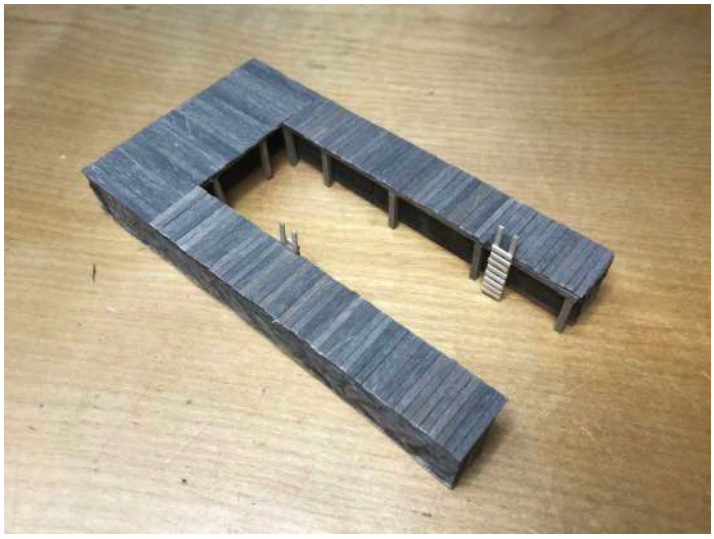
DECKING INSTALLATION

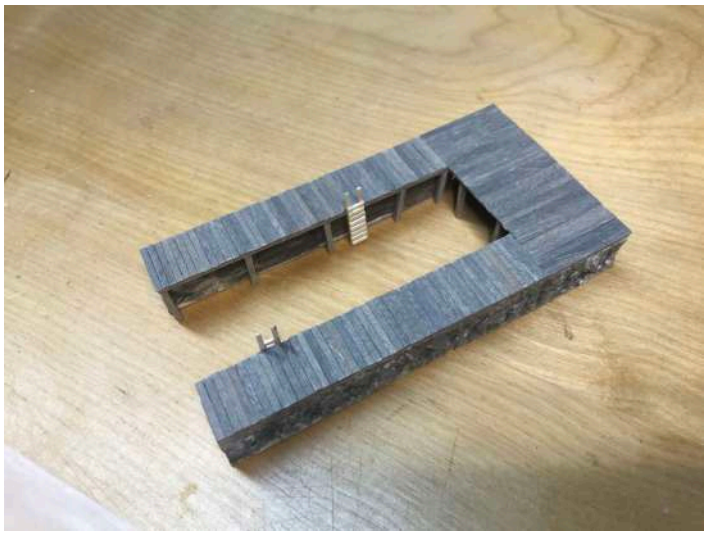
Decking installed on the foundation is shown in the following pictures. It is believed that the boathouse was made large enough to store supplies brought over from Erie until they were needed at the Lighthouse. Therefore the end of decking was made large enough to serve as a storage area.

Ladders were installed for easy access to get in and out of the rowboat from the deck. Two ladders were added since the boathouse was large enough to very likely offer shelter protection for two rowboats.

The decking is not visible after the boathouse is placed on the foundation.

The completed foundation was mounted in the diorama prior to addition of the realistic water. Mounting the foundation in the diorama without the boathouse provided access to pour the realistic water to assure it flowed into all the interior regions of the foundation.





LUMBER CUTTING TOOLS

A chop cutting tool and straight edge cutting tool (shown below) from Micro-Mark Small Tool Specialists were used to cut the lumber. The chop cutter was used to cut siding boards and trim for the walls and roof. Special templates for cutting angles on the trim boards were used with the chop cutter. A utility knife was used with the straight edge cutter to cut wall and roof sections.

The front, back and side door sections were cut from .040 thick basswood strip stock. Rough openings for the windows and door were cut out by hand using a utility knife. Each wall section was stained and weathered.

Micro-Mark Chop Cutter

Micro-Mark Straight Edge Cutter

LUMBER

HO scale lumber shown below was used to make exterior siding boards and trim boards for the walls, boathouse interior decking, pier frame, pier decking and dock at the end of the stone pier.

BOATHOUSE DESIGN AND CONSTRUCTION

The boathouse was designed and built as a structure separate from the foundation. The reason I chose wood for the boathouse and pier was to more closely represent prototype building construction materials. The boathouse structure was placed on the foundation after the realistic water was added to the diorama.

BOATHOUSE WALL CONSTRUCTION

Prior to cutting any lumber for the boathouse front wall, the size of the boat access door needed to be determined. An HO scale model rowboat from FOS Scale Models was purchased. Shipment was several weeks out so in the meantime a paper model of the front wall, sliding door and rowboat was made to determine appropriate size of boat access opening. A front wall section was cut out and the boat access opening was outlined. The “man-door” rough opening was added to assure proper spacing of both doors.

Sliding door mock-up

Layout of front wall boat access door opening

The exterior of all the boathouse walls were covered with HO scale 1 x 8 siding boards. Each siding board was cut to length from 11 inch long HO scale 1 x 8 basswood strips which I had previously sanded and stained to achieve the desired weathered appearance. The siding boards were individually bonded to the walls.

Each siding board had to be aligned so I made a custom “T-square” which was used to be sure each board was perfectly vertical. This was a very tedious process as you can tell from expression on my face!

Application of glue to wall to bond siding boards

Tedious task of siding board placement and alignment

Individual siding board placement

Last siding board placement on wall

The walls were cut from .040 inch thick basswood strip wood which is very susceptible to warp in the presence of moisture. This was the case after the siding boards were wet glued to the wall sections. After siding boards were glued to the wall sections, each wall section was placed under a heavy granite weight shown below to minimize warpage. After the adhesive cured overnight under the granite weight, warpage was minimal.

Granite weights used to flatten front and back walls with freshly glued siding boards

A wall section with freshly glued bonded siding boards is beneath each granite weight

The following picture shows the wall sections after the pass through door, windows and interior “curtains” were installed.

Front, Back and Side Walls

The wall sections were bonded together in three steps: (1) back wall to a side wall; (2) front wall to a side wall and (3) wall assemblies from step 1 and 2 bonded together.

Various arrangements of straight edges and squares were used to assure the walls were square to each other and vertical. A flat metal plate was used as the work surface. Small circular magnets were used to hold the wall sections and alignment tools in place.

Step 1: back wall & side wall in alignment jig while bonding corner joint

Step 2: front wall & side wall in alignment jig while bonding corner joint

Step 3: wall sub-assemblies in alignment jigs while bonding corner joints

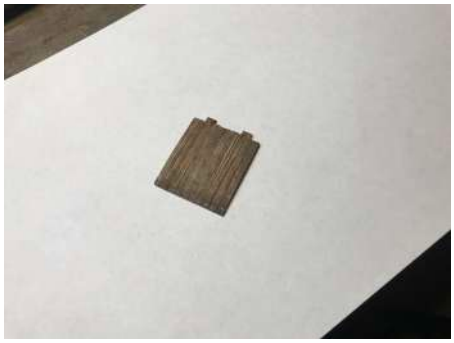
Beams were added to walls for structural support so the boathouse can be handled without damage during assembly into the diorama. The beams will not be visible when the roof is installed.

Structural support beams around upper section of the walls

SLIDING DOOR DESIGN AND CONSTRUCTION

The basswood sliding door was a challenge since there was a lot of detail required for such a small piece of basswood. The 1/8 inch long support sliders shown at the top of the door were cut from 1/16 diameter aluminum tube. A micro hand saw with ultra fine saw teeth and a micro miter box was used to cut the aluminum tube. It may be difficult to see the small aluminum tube sections which were bonded to the top of the door. Magnets were used to hold the door and a 1/32 inch diameter steel rod was used for alignment. The lower portion of the door was weathered to show the effects of sliding through the bottom door guides.

Slider tubes (small rust colored tubes) bonded to wood door

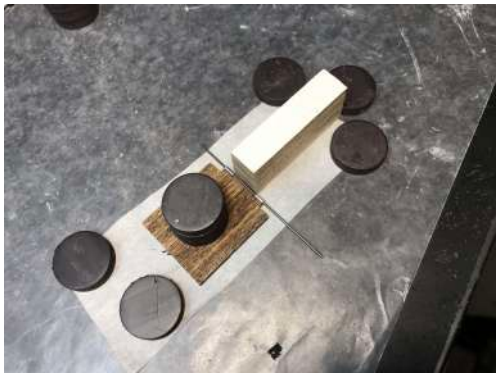


Basswood Sliding Door

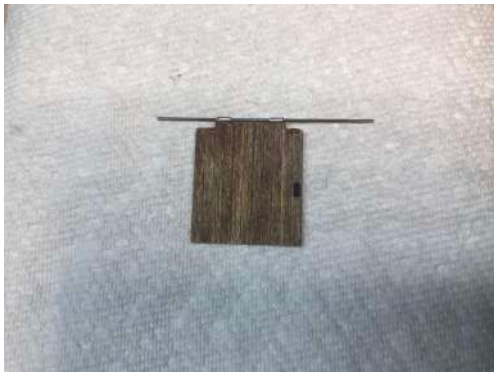
After several days, the basswood door warped, not too severally for a piece as small as it is, however enough it was noticeable to me. Several unsuccessful attempts were made to remove the warp. HO scale basswood does have limitations. To eliminate this problem, I made the door out of .040 inch thick polystyrene which is much more stable. Polystyrene is a very popular material in the HO scale modeling industry.

HO scale 1x8 siding boards were bonded to the front of the polystyrene door to match the rest of the boathouse. The back of polystyrene door was painted to blend with the basswood siding boards. Aluminum slider tubes were added to the top edge of the door. A door handle (black) was added to the door to make it a bit more prototypical.

The finished polystyrene sliding door shown below looks identical to the basswood sliding door, without the troublesome warp.



Addition of slider tubes



Finished door with handle

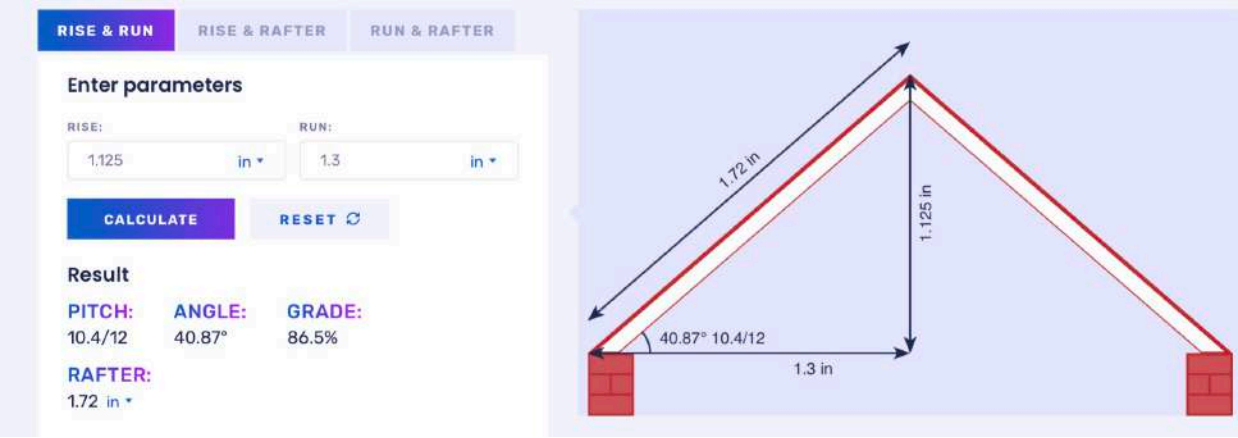
Installation of the sliding door on the front wall is shown below. The sliding feature of the door does function. The door slides from fully open to fully closed.

Supports for the sliding door rod were added to the front wall. Sliding door bottom guides also added to the front wall.

The outside ends of the supports for the sliding door rod were capped with small pieces of tape. The tape which is green in the photographs below has been painted black so it matches the supports and is not visible. The tape caps prevent the rod from inadvertently coming out of the supports when the door is opened or closed. The tape can be removed from one of the supports (or both of the supports) to slide the rod out so the door can be removed for maintenance. The tape should be replaced after the rod and door is re-installed.

ROOF AND WINDOWS

The pitch of the roof was determined using a roof pitch and rafter calculation, the results of which are shown bellow. This calculation was actually done prior to cutting the front and back walls to determine the appropriate rise and angle. The rafter dimension was used to determine size of the roof sections.



Roof pitch & rafter calculation

A special jig (shown below) was made to put the correct 40 degree taper on the peak edge and the overhang edge of each roof section.

A special 40 degree taper jig

Roof sections joined together at the peak. Painters tape was used to hold the roof sections in the proper alignment while the glue dried.

Joining roof sections at the peak

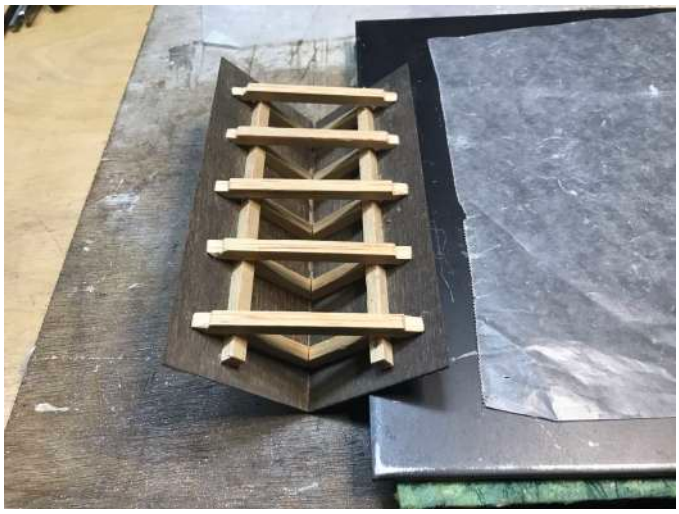
Sliding door rod supports and bottom guides painted black

The following picture shows windows with simulated “glass” and “curtains”.

Window simulated “glass” and “curtains”

ROOF CONSTRUCTION DETAILS

The roof beams, shown below, provide structural support and prevent warpage when the shingles are placed on the roof. The short rafters at the peak help stabilize the roof pitch and provide support for the longitudinal beams. The longitudinal beams provide rigidity of the roof sections over the length of the roof. They also center the roof over the boathouse structure. The cross rafters help stabilize the roof pitch.



Roof Beams Installed

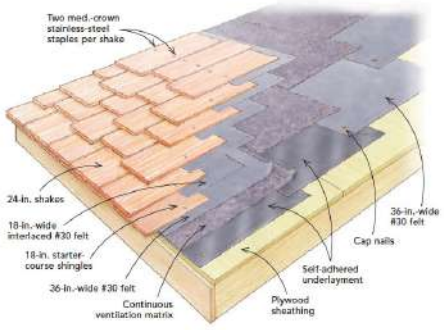
Front, back and side trim boards added to the roof edge as shown below.

Front and back trim

Side trim

ROOF SHINGLES

The pattern of the HO scale shaker shingles for the boathouse is identical to a typical prototype roof of the era. The shingles are staggered and the edges of first course of shingles are in line and overhang the roof edge. As a point of reference, a typical prototype wood shaker shingle installation is sown below. Underlayment and felt was not used on the HO scale model.



Prototype shaker shingle installation

Installation of the shingles and roof ridge cap is shown below.

BOATHOUSE PIER FRAME ASSEMBLY AND DECKING

Pylons were made from basswood. Each pylon was hand cut, tapered and stained. The height of each pylon was hand cut to achieve the overall taper downward of the frame from the boathouse to the shore line.

HO scale 6 x 6 side support boards were hand cut, stained and glued to the top of each pylon. Each 6 x 6 support board was cut to the same length to achieve equal spacing between each pylon.

HO scale 2 x 6 planks used for the top of the pier were individually cut from 11 inch long boards which were hand sanded and stained to achieve a weathered look. A small alignment gage was used to help assure each plank was aligned on the pier framework.

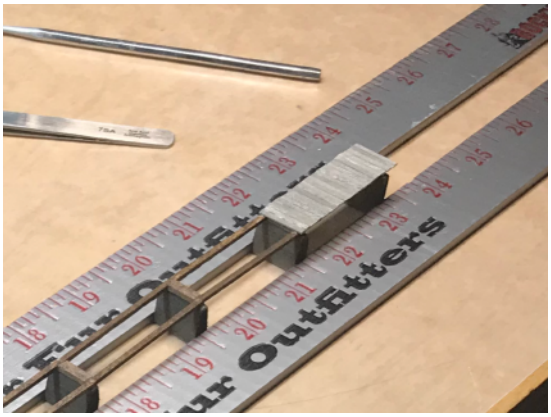
Pier frame and pylon assembly

Cast foundation, lumber, rowboats pier frame and bag of pier planks

Pier frame assembly, plank alignment jig and bag of pier 2 x 6 planks

Yardsticks were used to stabilize the pier frame assembly from moving while the pier planks were positioned and glued to the top of the frame.

Attaching planks to pier frame

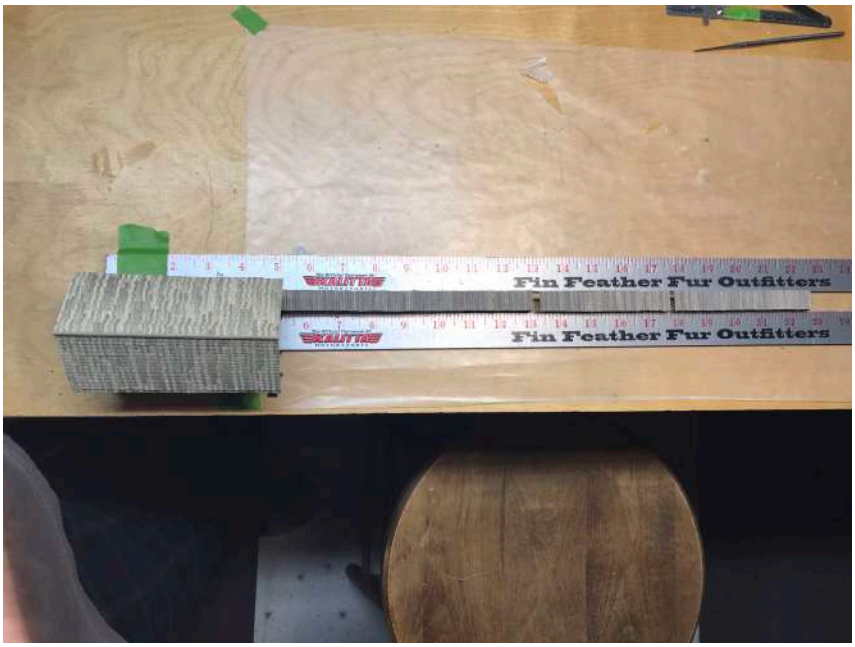


Close-up view of planks and pier frame

Completed pier decking shown below. The missing planks will be replaced by new planks when the carpenter crew arrives in the diorama. After the length of the diorama is determined an extension will be added to the end of the pier to blend the pier into the beach sand to simulate actual prototype conditions.

The pier was mounted in the diorama prior to addition of the realistic water.

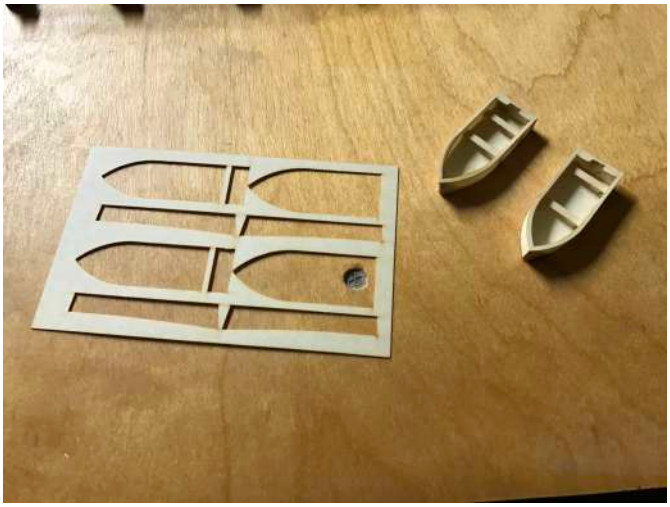
The overall length of the boathouse and pier is 22.75 inches. An extension will be added to the end of pier after the length of the diorama is determined. The extension will be partially covered by beach sand to blend into the beach terrain.



The following picture shows the 2 inch extension added to the end of the pier. This extension will allow the pier to blend into the beach sand to simulate actual prototype conditions as shown in the aerial photographs. There are 244 individual planks on the pier including those currently missing which the carpenter crew (who you will see later in this report) will replace.

ROWBOAT

FOS Scale Models rowboat kit (HO scale) shown below. This was not a simple model kit to build. Each component part is laser cut outlined in a very thin wood template. Each component had be cut out individually. The sides of the boat are two pieces which had to be formed starting with the bow, to fit the shape of the bottom of the boat. The shaping and forming of the sides of the boat required several stages to complete.



Rowboat kit

STONE PIER AND WOOD DOCK

The following is a 1923 aerial view photograph of the original 1872 pier and dock adjacent to the USLH boathouse and pier.

1923 view of PILH boathouse and stone pier & dock

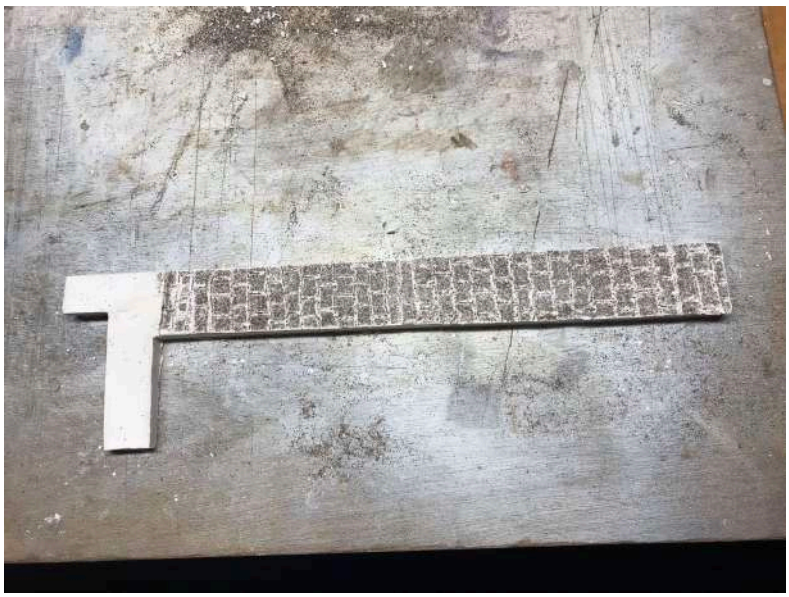
The stone pier was constructed out of large rectangular stone of varying dimensions. It is believed the original dock was a wooden structure possibly over a stone substructure. Remnants of the wood dock are visible in the following picture.

Remnants of the wood dock are visible in the left-center of the picture

Following is a picture of the cast mold with a stiffener board placed in the longitudinal direction of the mold.

The mold was securely clamped as shown in the following picture to prevent movement of the mold section when the cast material was poured.

The following picture shows the casting after removal from the mold. Peninsula beach sand was sprinkled on the surface of the pier and “cuts” were added in the surface by my wife Emily before the cast material fully cured. Thin spacers were placed in the mold to form the precise right angle “L” shaped configuration of the dock at the end of the pier. The “L” shape dock which is believed to be a wooden dock, is visible at the end of the pier in the above aerial photograph of the stone pier wood dock.

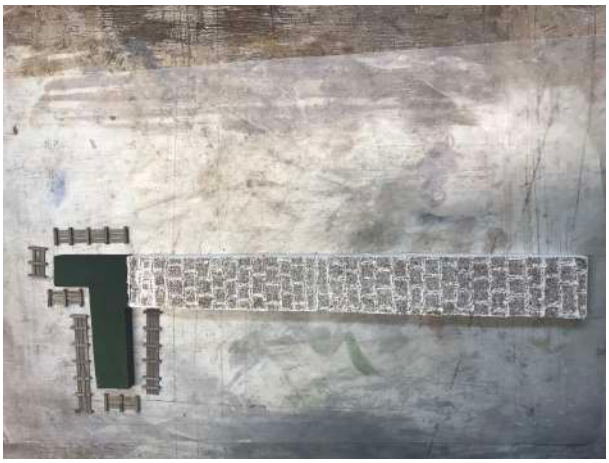


Finished casting as removed from mold

The sides of the wood dock are made of HO scale 6 x 6 beams and 2 x 8 side boards. The following picture shows how the sides of the wood dock were assembled. A scrap 6 x 6 was used as a spacer for consistent placement of the top board. An HO scale 2 x 4 was placed on edge as a spacer to obtain consistent spacing between the side boards.

Assembly of side boards

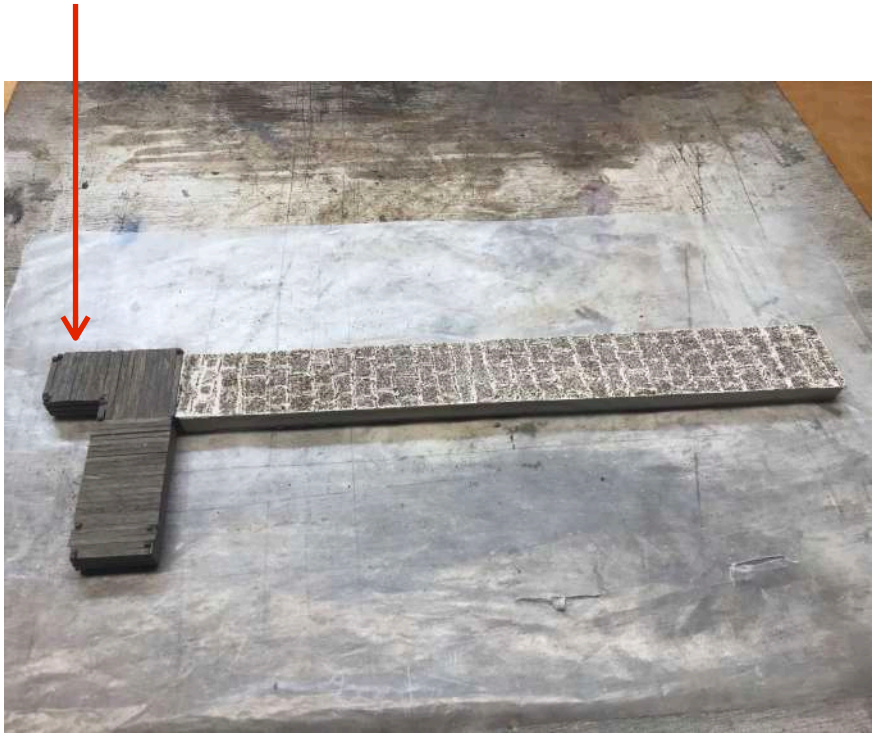
As shown in the following pictures, the “L” shape section of the casting was painted moss green just for a weathered appearance even though it was covered by dock planks. Bracing was required to hold the side board assemblies while attaching them to the dock.



“L” shape wood dock

Attachment of side board assemblies

Completion of “L” shape wood dock decking shown below. The deck planks are HO scale 2 x 8. The short leg of the “L” was lengthened as shown in the following pictures to more closely agree with the proportional analysis based on the 1923 aerial photograph.



An extension was added to the short leg of the “L” to more closely align with the prototype proportional relationship of the “L” shape dock features in the 1923 aerial photograph. The shape and dimensions of the diorama dock and pier as shown below is believed to be a more prototypical representation of the original “as built” configuration.

Lengthened short leg of the “L”

Close-up to show the lengthened “L”

DESIGN AND CONSTRUCTION OF THE DIORAMA

BACKGROUND

The stone pier and wood dock, and the boathouse with its pier are displayed in the diorama since they both existed during the same time period. It is believed the stone pier and wood dock were the first structures to be built.

The large size of the boathouse suggests it may have been used for storage of goods by the lighthouse Keeper when needed.

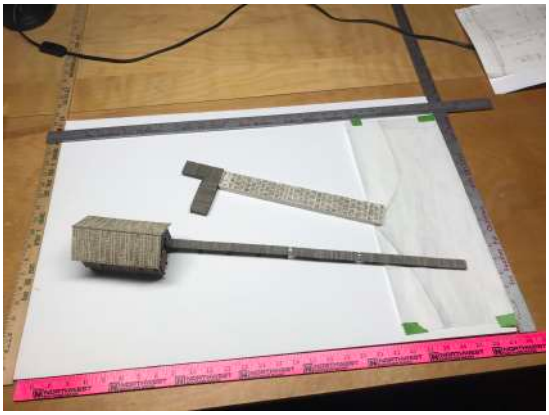
DIORAMA DESIGN

The diorama display surface is 17 inches x 30 inches. The outside dimensions of the frame are 18.5 inches x 31.5 inches.

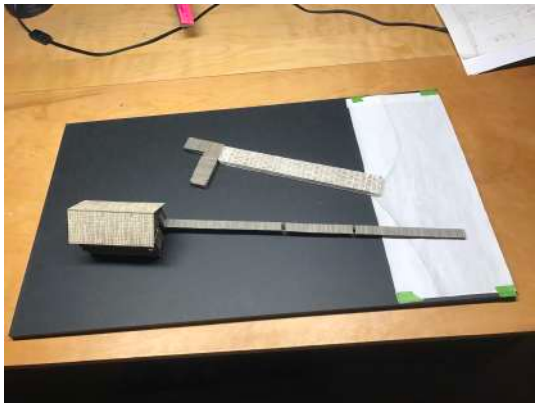
The base of the diorama is 1/2 inch thick Gator Board. Gator Board is extruded polystyrene foam encased between layers of melamine and wood fiber veneer. Gator Board has a much harder outer surface than other foam core boards and resists warping. The Gator Board was cut to 17.5 x 30.5 which will provide for 1/4 inch engagement with a dado which is cut in each frame board.

The base of the diorama was painted with various colors of artists' acrylic paint to create the effect of water depth.

Temporary layouts were made to determine final dimensions and feature placement. The following picture shows the initial preliminary white board layout. This was the starting point to establish diorama size based on feature size, placement and shoreline topography. The second picture shows the features and shoreline on the Gator Board which is cut to final size. The shoreline topography when finalized was used as a template for construction of the beach.

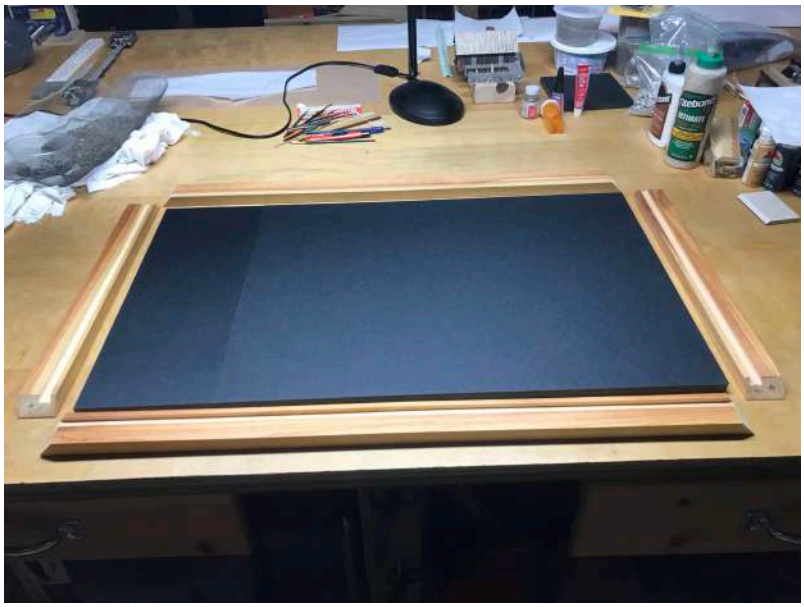


Preliminary whiteboard layout



Final layout on Gator Board

Gator Board and diorama frame ready for assembly.

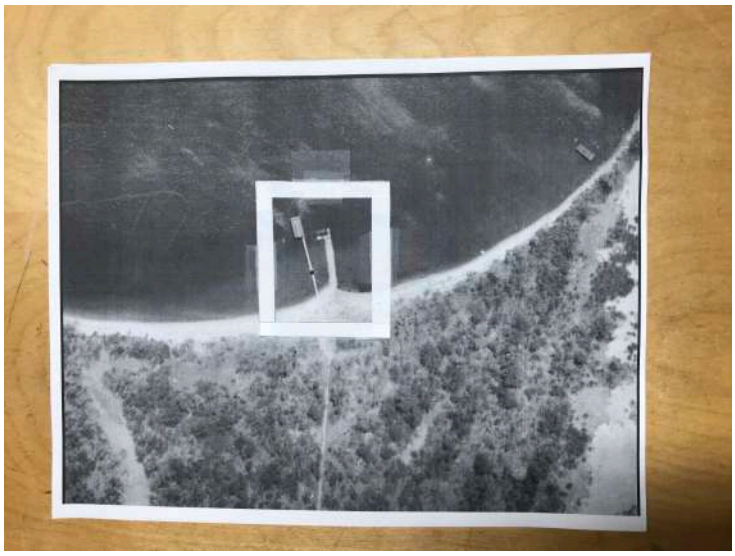


Ready for assembly

Gator Board and frame glued and assembled as shown below. Phenoseal vinyl adhesive was used in the dado groves; Titebond wood glue was used to bond the frame corner joints. Special frame strap was used to tighten the frame assembly and help square up all four corners while the adhesive cured.

Framed diorama

A copy of the 1923 aerial photograph as shown below was used to establish the prototypical layout for the diorama features. The framed view of the aerial photograph was duplicated in the diorama as shown in the bottom picture.



Frame view for diorama

Prototypical layout of features in the diorama

The Gator Board was painted with a base coat of acrylic artists' paint. The beach area to the shallow water shoreline was painted a sand stone color. This area will be covered by sand. A base coat of navy blue blended light to dark navy was applied to create a shallow water effect at the shore line and dark to create deep water effect region of the diorama.

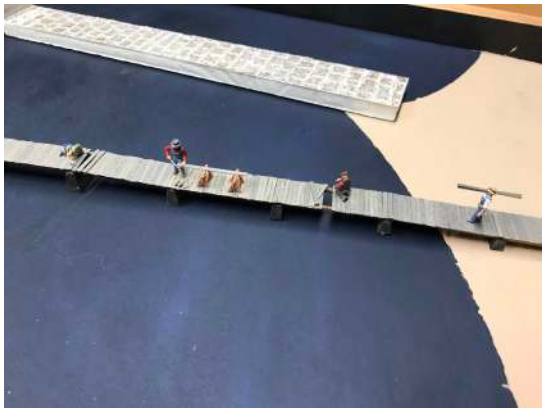
The inside surface edge of the diorama wood frame was painted black to provide a smooth transition to create a deep water effect in the outer regions of Misery Bay.

Picture shows final prototypical placement on the features in the diorama. Boathouse is not on the foundation so the boathouse pier and foundation can be aligned. Contour shoreline paper template will be removed after sand is added to the diorama.

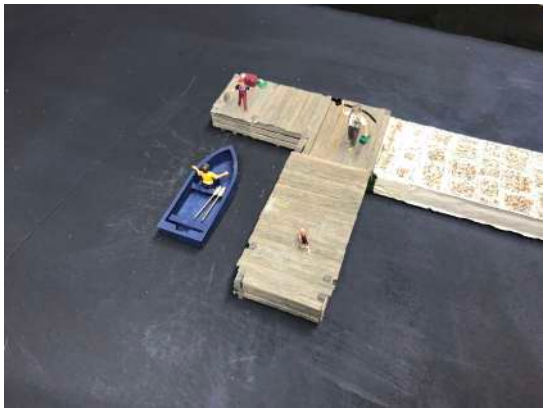
Final prototypical placement of features

The carpenter crew has arrived to replace damaged planks on the boathouse pier.

Plan layout prior to sand, landscaping and “water”



Carpenter crew in action



Family fishing

Layout plan prior to sand, landscaping and “water”

Presque Isle Lighthouse Keeper returning to boathouse

Description of the features in the diorama as shown in the pictures below:

Landscape features which would have been found in the region are displayed in the diorama such as the trees which were hand made by “Shorty” Parker. He was good friend and a friend of the Lighthouse who passed away in January 2021.

Sand and stones, at the shallow water line are real. They were “borrowed” from Presque Isle Beach 10 which is known as Budny Beach. Beach 10 is at the East end of Presque Isle which is the area where natural migration of sand is deposited. This region of Presque Isle does not require replenishment sand. Beach 10 most likely has the purest and finest grain golden color sand which I believe is typically not found anywhere else on Presque Isle except perhaps Gull Point.

People, animals, and boats were added to help tell the story of activities that may have typically taken place during the early 1900’s time period.

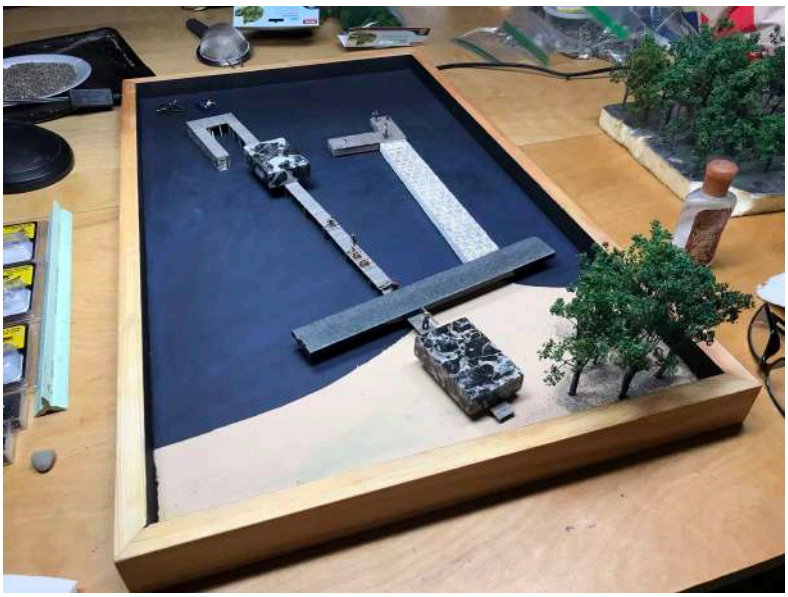
A deer can be seen getting a drink of water from Misery Bay, while a coyote looks on.

A family fishing can be found on the stone pier wood dock along with their boat.

A carpenter crew is busy at work repairing damaged or rotted deck boards on the boathouse pier.

Prototypical rowboats which are similar to what the Lighthouse Keeper may have used are featured in the diorama. The Presque Isle Lighthouse Keeper can be seen rowing to the boathouse, perhaps after returning from a trip across the Bay to Erie mainland.

Phenoseal was used to bond the trees and boathouse pier to the Gator Board. Weights were used (shown below) to hold the boathouse pier in position while the adhesive cured.



Addition of trees and boathouse pier

The following picture shows the stone pier and wood dock bonded in final location and the first layer of Presque Isle sand to form the beach region. Phenoseal was used to bond the stone pier and wood dock in place. Woodland Scenics Matte-Media landscaping adhesive was used to securely bond the sand. Several more layers of Presque Isle Beach 10 sand will be applied to the beach area.

First layer of sand to form beach area

The barrier stones on the both sides of the pier as shown in the following picture are riprap. To a lay person, it might just look like a pile of stones that have been dumped randomly, but when built properly, riprap barriers are actually carefully engineered systems. Riprap is much more than a pile of stones. To construct a riprap barrier, stones are positioned so they interlock naturally to create a structure. Riprap works excellently to shore up structures, such as piers in lakes or bays, from damage caused by the water and ice. Riprap retaining walls are sentinels we rely on for defense against one of Mother Nature's greatest forces: moving water.

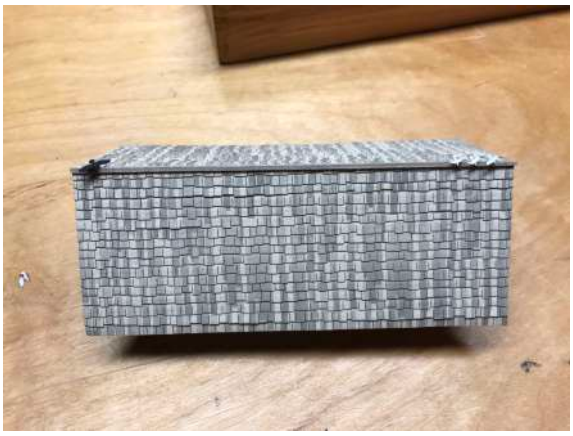
The width of the riprap in the picture may seem a bit wide, however, there is no water in the diorama. When water is added to the diorama, a portion of the riprap width will be under water and the width will then look very much appropriate for the pier structure.

Riprap stone barrier

Additional features added to the diorama are shown in the following pictures. The small stones which washed up on the shore are from Beach 10, Budny Beach. Driftwood came from the shores of Walnut Creek Access.

Small stones on shoreline & driftwood

Can you find the 3 birds in the trees?



Birds on boathouse roof ... 3 seagulls taking flight after a large hawk is landing on the roof

Landscaping

COMPASS ROSE PLACEMENT ON THE DIORAMA

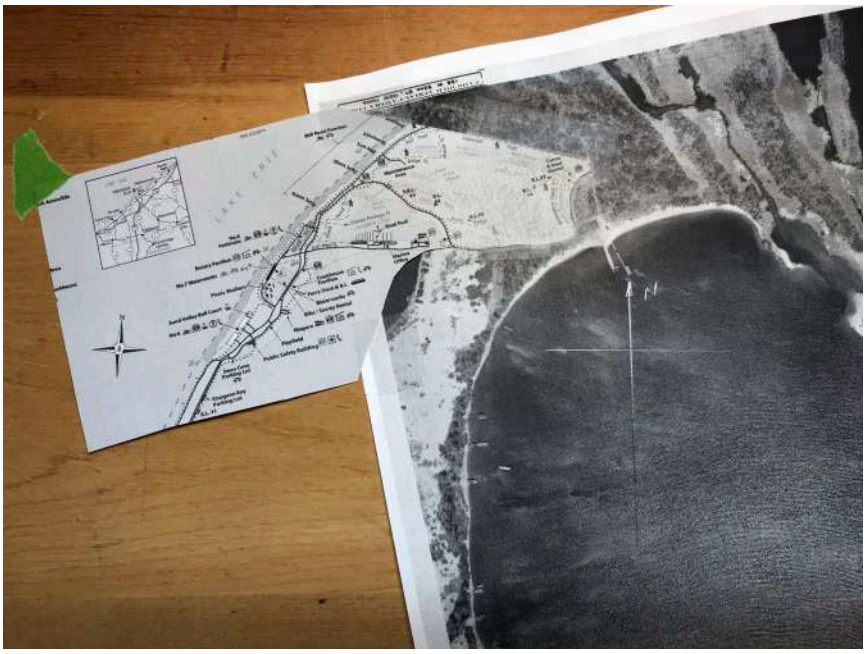
The following pictures show a map of Presque Isle with a compass rose icon. This is a simple compass rose which shows the four cardinal directions North, South, East and West. A compass rose has been used on charts and maps by navigators since the 14th Century. These maps were used to establish the cardinal North direction on the diorama.

Presque Isle

Presque Isle

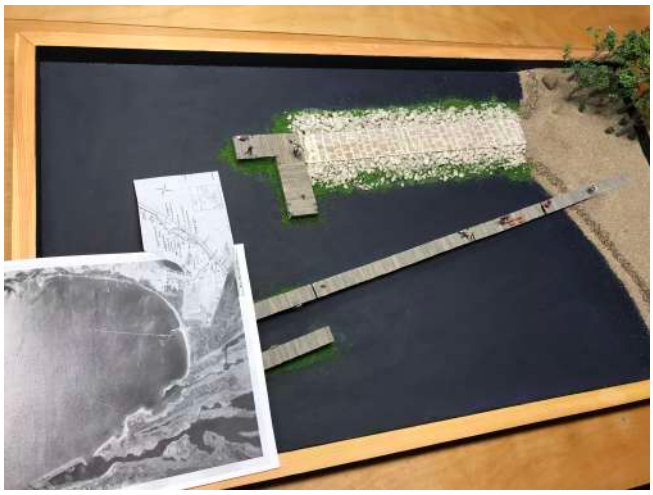
A 1.75 inch diameter color print of the compass rose (picture on left) was used to create the compass rose for the diorama. The paper compass rose was bonded to a 1.75 inch diameter piece of .030 thick polystyrene. A base coat of black acrylic paint was applied to the polystyrene disc. The paper compass rose was then bonded to the painted disc with Titebond translucent glue. Picture on the right is the finished compass rose with 2 coats of Mod Podge and one coat of Krylon flat crystal clear spray paint to seal the Mod Podge.

I made a template, as shown in the following picture, to correlate key land features between the Presque Isle map with the compass rose and the 1923 Fairchild aerial photograph of Misery Bay. The Sidewalk Trail on each map was the key land feature used to align the maps.



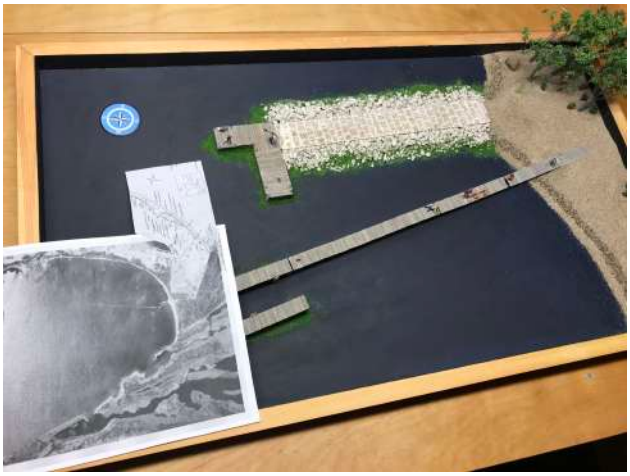
Map correlation to position compass rose North direction on the diorama

Once alignment of the maps was established, the compass rose was positioned vertical on my drafting board with North direction up. A vertical parallel line on the 1923 aerial photograph was constructed pointing to a feature on the diorama which I could easily identify. A horizontal line was then constructed on the 1923 photograph perpendicular to the compass rose North direction. This map template was used to precisely orient the compass rose North direction on the diorama.



Map template cardinal North alignment with pier

The map template was aligned with the boathouse pier (picture on left) to establish cardinal North direction on the diorama. The compass rose was placed on the diorama as shown and aligned with the compass rose cardinal North direction on the map template. The compass rose was removed at this time and will be replaced in this location after the Magic Water is added to the diorama.

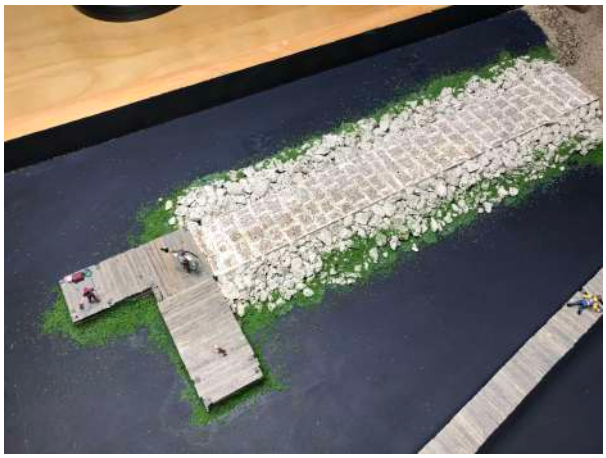


Compass rose placement & aligned cardinal North

Compass rose placement

Landscaping planted and seaweed added as shown below.

Seaweed surrounding boathouse foundation



Seaweed surrounding pier & dock

Next step in the diorama construction process is to pour the Magic Water(TM). The diorama was relocated from the basement workshop to the dining room since the temperature in the workshop was a bit too cold for optimal curing of the Magic Water. Supports were clamped to the diorama frame to keep the plastic dust cover from contacting the diorama features and water surface area.

Magic Water is a self-leveling medium which requires the diorama to be leveled. The diorama was leveled in all normal directions including diagonal. Leveling assures equal distribution and a uniform depth of the Magic Water over the water surface area.

After leveling, the diorama was covered to maintain cleanliness of the diorama before pouring the Magic Water. The diorama will also be covered after the Magic Water is poured so it will not accumulate dust particles and hair from our dog, JJ.

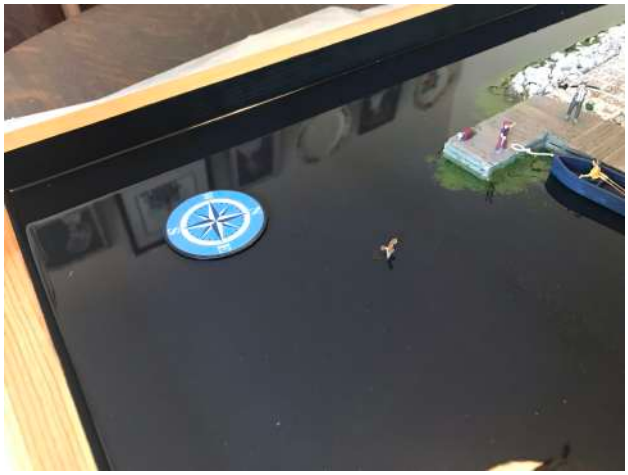
JJ

Poured the Magic Water .... now the diorama is covered to prevent dust and dog hair from accumulating on the surface of the fresh water pour. Magic Water takes a minimum of 24 hours to setup at which time the cover will be removed.

First pictures of the Magic Water pour after 24hr cure. Boats and animals will be added later.

Cover to prevent dust from accumulating

Added rowboats and animals …. Lighthouse Keeper in his rowboat returning to the boathouse after a trip to the City of Erie; family fishing boat at the stone pier dock; deer getting a drink of water at the shoreline; coyotes interested in the deer; an eagle (can you find it) swooping down to snag a fish for dinner from Misery Bay.



PILH Boathouse & Pier and Original 1872 Stone Pier & Dock
Presque Isle Misery Bay Circa 1923
Model Scale: 1:87 Built: 2021 By: Jerry Longo

Corner supports

About the modeler …..

Jerry Longo, a retired Mechanical Engineer, has an interest in antique and classic automobiles and model railroading. Jerry has built a countless number of model airplanes, model cars, as well as an HO scale model railroad. In addition to the Presque Isle Boathouse and Pier diorama, he built a Presque Isle Fog Signal Station diorama and made additions to the Presque Isle Lighthouse diorama. Jerry was born and raised in Erie, Pa and resides with his wife Emily in Fairview, Pa.

PILH BOATHOUSE DIORAMA PARTS LIST						
	Thickness	Width	Length	Item Qty	Oder Qty	Source
Exterior Sheeting Boards 1 X 8	0.012	0.072	11	12/pkg	2	Northeastern Scale Lumber
2 x 8	0.024	0.072	11	12/pkg	2	Northeastern Scale Lumber
2 x 4	0.024	0.048	11	14/pkg	1	Northeastern Scale Lumber
Decking 2 X 6	0.024	0.072	11	12/pkg	2	Northeastern Scale Lumber
Deck Support 6 X 6	0.072	0.072	11	12/pkg	2	Northeastern Scale Lumber
Roof Sheet & Outside Walls (040STR2)	0.04	2	24	1 sheet		Northeastern Scale Lumber
Exterior Wall Outside Corner Molding 1/16 Angle		.06 x .06	24	1 pc	1	Northeastern Scale Lumber
Window (95002) 2 x 2 Double Hung		28	69	12/pkg	1	Northeastern Scale Lumber
Mold Cap (060STR2)	0.06	2	24	1 sheet	1	Northeastern Scale Lumber
SHIPPING NORTHEASTERN SCALE LUIMBER				1		Northeastern Scale Lumber
Roof Shingles 3D Wood Shake Sand		3	8	2 Sheets/Pkg	1	Micro-Mark
Gatorfoam Board	0.5	24	24	1 pc	1	Dave Myers
Garage Door				4/pkg	1	AM Models
Titebond Translucent Wood Glue				8 oz	1	WalMart
Extra Long Micro Miter Box				1	1	Micro-Mark
Ultra Smooth Saw Blade				5/pkg	1	Micro-Mark
Wood Handle Blade Holder				1	1	Micro-Mark
Micro Glue Applicator				1	1	Micro-Mark
1/16 dia Wood Dowell				20/pkg	1	Micro-Mark
Shipping					1	Micro-Mark
Perfect Cast Casting Material for Foundation				4 Lbs	1	Hobby Lobby
.032 Wire for Sliding Door				4 pcs	1	Hobby Lobby
1/16 Tubing for Sliding Door				6 pcs	1	Hobby Lobby
Tax					1	Hobby Lobby
14 ft Rowboat				1	1	Fos Scale Models
Shipping						Fos Scale Models
Rustoleum Light Gray Primer Paint					1	Fairview Hardware
Krylon Flat Clear Paint					1	Lowe's
Golden Sunset Acrylic Paint					1	WalMart
English Navy Acrylic Paint					2	WalMart
Marsh Green Acrylic Paint					1	WalMart
Black Acrylic Paint					1	WalMart
Paint Brushes					1	WalMart
Phenoseal Vinyl Adhesive Caulk					1	Amazon
Shipping						Amazon
Wildlife Standoff					1	HOBBYLINC
Carpenter Crew					1	HOBBYLINC
Family Fishing					1	HOBBYLINC
Dog and Cats					1	HOBBYLINC
Woodland Scenics Realistic Water (qty 2)				Ea	2	HOBBYLINC
Woodland Scenics Surface Water Ripples					1	HOBBYLINC
Shipping						HOBBYLINC
Magic Water					2	Unreal Details, LLC
Shipping						Unreal Details, LLC
Compass Rose color print					1	Lincoln Library
Perfect Cast					1	Hobby Lobby
Disposable Pitcher					1	WalMart
Nameplates					3	Championship Awards - Erie

END