

# Wharf

## Kit #307

### Campbell Scale Models



We truly believe this Wharf to be one of the most unique kits on the market. We have put in many hours of research in order to provide the model railroader with the most authentic reproduction possible in keeping with our high standards of integrity in the quality and realism of our products. We feel this Wharf kit offers the modeler an exciting variety of construction techniques - - and the challenge of both new and "classic" types of model building and fine detailing.

Although we realize this Wharf is not a model suited to all layouts, those who are able to incorporate it into their pikes can expect the satisfaction and pride that comes from creating and possessing something just a little finer - - just a little more than ordinary.

Before beginning the Wharf we suggest that you build a jig on which to construct the 17 "Bents". It will save you time and each Bent will be much more accurate and uniform. Fifteen of the Bents are identical but two of them have longer Caps to support the Ramp access platform. (See Figure 3, Area "J").

The Wharf may be constructed with the Ramp on either side. If you decide to build it by the alternate method, parts #19 thru #23 will be placed in their alternate positions as noted throughout these instructions. (See Figures 1 and 2).

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The instructions and the illustrations of this kit are coordinated to enable the modeler to follow step by step while reading and looking. Follow the instructions closely and check off each step as you progress.

In using the templates on these instruction sheets first check the wood parts against the drawing. Sometimes changes in humidity or temperature will cause the paper and wood to shrink or swell, making the drawing slightly out of scale. If the wood parts do not exactly fit the drawing, work from the center, splitting the difference.

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## ASSEMBLY INSTRUCTIONS

### **Step 1 BUILDING THE JIG**

Cut the Jig Template (Figure 1) from the instruction sheet. Attach the cutout to a piece of wood approximately 5"x 6" and of any thickness. The "toned" or darker areas in this jig drawing are for the approximate placement of scrap wood pieces (1/8" square scrap will do nicely). Cut your wood to the approximate lengths of each of the toned areas. Lay one of the Pilings (Part #15) in its position on the template. Using it as a spacing guide, glue the jig pieces in their respective places. Repeat this process for the other six Pilings. Glue the guide strip for the Cap placement into position. Spray the entire jig with a household dusting wax such as Pledge or Favor to prevent any parts of the Bents from sticking to the jig when gluing.

### **Step 2 STAINING**

While the jig is drying, stain all parts before starting assembly for it is very difficult to stain the inner surfaces after the Wharf is finished. Also, the stain will not "take" over the glue. Maximum realism can be achieved by using a dark stain to resemble creosote. The lower portion of the Pilings should receive a second coat of stain of light gray such as the color of driftwood. This will afford the weathered look such as wood acquires after years of exposure to the elements. (Refer to the photograph.)

### **Step 3 FIFTEEN SHORT BENT ASSEMBLIES**

#1	15 pcs.	1/8 x 3/16 x 4 13/16 in.	Caps
#15	105 pcs.	3/16 Diameter x 2 in.	Pilings
#18	30 pcs.	3/64 x 3/32 x 4 3/4 in.	X Braces

Lay one Cap (Part #1) in the jig. Make certain it is flush against the guide strip piece at the top and placed within the solid lines of the drawing. Now lay seven Pilings (Parts #15) in position in the jig keeping the gray part at the bottom and glue them to the Cap. Glue one piece of an X Brace (Part #18) to the seven Pilings following the drawing for placement. When the entire assembly is completely dry, remove it from the jig and turn it over and glue the other X Brace to the back of the Pilings (See the Bent End View, Figure 2 for the angle and placement). Construct fourteen more of these assemblies in the identical manner.

NOTE: If the Bents begin to stick to the jig as you progress, spray it again with wax as needed.

### **Step 4 TWO LONG BENT ASSEMBLIES**

#15	14 pcs.	3/16 Diameter x 2 in.	Pilings
#18	4 pcs.	3/64 x 3/32 x 4 3/4 in.	X Braces

#19            2 pcs.            1/8 x 3/16 x 5 15/16 in.            Caps

Lay one Cap (Part #19) in position, placing the left edge along the same line as you placed the left edge of the shorter Caps. This will allow the right edge to extend into the area #19 for the Ramp access platform support. Glue the seven Pilings (Parts #15) to the Cap (Part #19) just as you did in the previous assemblies. Now add the X Braces (#18) in the same manner as the other Bents. Make two of these assemblies.

#### **Step 5            ALTERNATE METHOD FOR LONG BENT ASSEMBLIES**

Lay one Cap (#19) in the same position as for #1 Cap except slip this entire wood part to the extreme left of the drawing and into the dotted area noted as #19a. Glue the seven Pilings (#15) into their positions and glue the X Braces (#18) to the Pilings as before in the assembly of the other Bents.

#### **NOTE:**

After you have completed the seventeen Bents decide where you would like to locate the Ramp access area on your Wharf. This extended portion may be placed at any interval. It may be on the very end of the Wharf, directly in the center or closer to shore. Make your decision and mark your drawing so that when you proceed with the assembly of the Wharf you will be sure to have the Ramp platform located where it is best suited to your pike.

#### **Step 6            FILLER BLOCKS**

#4	17 pcs.	3/32 x 3/16 x 2 3/4 in.	Filler Blocks
#5	15 pcs.	3/32 x 3/16 x 1 1/16 in.	Filler Blocks
#20	2 pcs.	3/32 x 3/16 x 1 25/32 in.	Filler Blocks
	17 pcs.	Completed Bent Assemblies	

Glue the Filler Blocks (Parts #4) to the tops of the Caps on all 17 Bents as per the End View, Figure 2, and the Isometric drawing.

Disregard this paragraph if you are using the alternate method below. If not, glue the 15 Filler Blocks (Parts #5) to the short Caps (Areas "A" thru "I" and "K" thru "P"). To the two long Caps (#19) glue the two #20 Filler Blocks.

#### **Step 7            ALTERNATE METHOD FOR FILLER BLOCKS**

Previously in Step 5 you slipped the two #19 Caps into the #19a alternate position. Now lay the two Filler Blocks (#20) on the drawing in Figure 2. Cut each Block at the line noted on the Ramp access (Area "J"). The two short pieces you have just cut off should be the same length as the #5 Filler Blocks and should be glued in the same position on the #19 Caps as the #5 Blocks were on the #1 Caps. The two remaining longer pieces of the #20 Fillers now become extensions of the #4 Fillers and should be glued in the alternate positions (#20a) on the tops of the two #19 Caps and butt glued to the ends of the two #4 Fillers.

#### **Step 8            THE TIE AND STRINGER ASSEMBLIES**

#2	4 pcs.	5/32 x 11/32 x 11 3/32 in.	Stringers
#3	160 pcs.	3/32 x 3/32 x 1 3/8 in.	Ties

Begin the construction of the Tie/Stringer assemblies, (Figure 3) by taping the instruction sheet which includes the Tie Template to a convenient working surface. Pin or tape a length of Scotch tape, sticky side up, over the drawing from the center "toned" Tie to the extreme end "toned" Tie (which is almost hidden under the Parts #10 and #11). A straight edge or straight piece of scrap wood can be tacked along one edge of the Tie drawing to act as a guide. Press 80 Ties onto the tape with one end of each Tie against the guide and using the Tie Template for proper spacing.

#### **NOTE:**

You are laying only one half of the Ties at a time since you will be assembling only one half of the Wharf at a time.

When the 80 Ties are placed on the tape, glue two grooved Stringers (Parts #2) to the Ties as shown in the drawing. When the glue has set remove this assembly from the template and peel away the tape. Now lay a new piece of Scotch tape as before and repeat the exact process with the Ties and Stringers for the other half of the Wharf.

#### **Step 9            THE "BARNACLES" (not included in the kit)**

While the Tie/Stringer assemblies are drying thoroughly you might like to add some "barnacles" to your Pilings. They are made from our fine Blended Ballast.

Use a pie tin or shallow pan that will hold an even layer of Ballast about 1/2 inch thick and large enough to be able to "dunk" the lower portions of the Pilings into. If you have stained the lower portions of the Pilings a light gray, use Campbell's Dark Gray Ballast. If you are using some browner or darker stain then the Light Gray Ballast or a mixture of the Light and Dark will make a striking "barnacle" simulation on the Pilings.

With a paint brush coat each of the 7 Pilings with glue approximately 1/4 in. to 3/8 in. up depending upon how deep in the water you want the Wharf to appear. Dip the Pilings in the Ballast you have prepared. Set the Bent aside to dry. Proceed with another until you have all 17 Bents barnacled. Keep the glue and barnacles off the bottom edges of each Piling so the Wharf will set level and not teeter.

#### **Step 10           THE FLOOR JOISTS**

#6	3 pcs.	1/8 x 5/32 x 11 3/32 in.	Floor Joists
#7	9 pcs.	3/64 x 5/32 x 11 3/32 in.	Floor Joists
	8 pcs.	Completed Bent/Filler Block Assemblies (short or long, modeler's choice).	
	1/2 section	Tie/Stringer Assembly	

With the Tie Template drawing sheet still taped down on a working surface you can

begin the Floor Joists assembly.

Working on only half of the Wharf at a time, attach three lengths of Scotchtape (sticky side up again) (or use double sided tape) across the width of the Wharf. Place one inside the end, one inside the centerline mark and one about half way between these two. Do not lay any tape over the Parts #4 or #5.

Lay one of the half sections of the Tie/Stringer assembly back on its position, pressed into the tape face down.

**NOTE:** Both halves of the Wharf will be constructed upside down.

Glue two Joists (#7) to either edge of the Ties as in the drawing. Now press the three #6 Joists and the remaining seven (#7) Joists in place on the tape using the drawing as a guide. When all of these parts are in position on the drawing you are ready to install the Bent assemblies. Before you begin, fasten a straight edge 1/4 in. thick and approximately 24 inches long on the end lines of the Caps in the template. Be sure to place it on the side opposite of where you plan to have the Ramp. This will provide an accurate alignment if you push the Caps up firm against it as you glue each Bent in place. In using a 24 inch long straight edge alignment of the two sections of Wharf will be more true.

When ready, glue the Bent assemblies to the Joists starting from the end of the Wharf and working toward the center. Do not glue a Bent/Filler Block assembly to the Joists at the centerline yet. Follow the marks you made on your drawing in the beginning as to where you wish to place the Ramp platform. When eight Bents are glued to the Joists and have dried completely, remove the tape from the drawing, turn the Wharf-half right side up and remove the tape from the wood parts.

### **Step 11 FLOOR JOISTS ASSEMBLY**

#6	3 pcs.	1/8 x 5/32 x 11 3/32 in.	Floor Joists
#7	9 pcs.	3/64 x 5/32 x 11 3/32 in.	Floor Joists
#21	1 pcs.	1/8 x 5/32 x 1 9/16 in.	Floor Joists
#22	2 pcs.	3/64 x 5/32 x 1 9/16 in.	Floor Joists
	9 pcs.	Completed Bent/Filler Block Assemblies	
	1/2 section	Tie/Stringer Assembly	

Great care must be taken to construct the second half of the Wharf so the Ties and other parts will align properly with the completed first half.

Lay three new lengths of tape as before. Now turn your completed half of the Wharf upside down but instead of laying it back on its position on the drawing slide it to the left until the unfinished ends of Parts #6 and #7 are on the heavy dotted line to the left of the drawing noted as the "Index Line". Align Parts #6 and #7 of the completed half with the Parts #6 and #7 of the drawing. Replace the straight edge starting from the centerline on the template and extending to the left along the end lines of the Caps on the drawing and flush with the Caps on the completed half. In some way weight or attach the finished section in position so it will not move while you construct the second half.

Butt glue the second half of the Tie/Stringer assembly to the first half. Be certain you have glued the correct ends together and that there is a gap between the Ties as in the template drawing. One end of each section of the two Tie/Stringer units has a Tie flush with the end of the Stringers. These are to be placed at the opposite ends of the Wharf.

Edge glue two #7 Joists to either edge of the Ties as in Step #10. Butt glue the three #6 Joists to their sister parts on the first half of the Wharf and press these parts into the tape over the drawing. Butt glue the seven remaining Joists to their counterparts and press them into position on the tape. When all Parts (#6 and #7) are glued to their respective parts of the first half and are aligned on their position on the drawing, glue the remaining Bents to the Joists as before. Make sure you glue the two long Bents in the exact location you have chosen for the Ramp access if you did not already do so in the construction of the first half of the Wharf.

Now glue the Centerline Bent/Filler Block assembly over the joining seam of the parts of the two halves of the Wharf, make certain this assembly is centered over the glued Joints. This way the joint will be strengthened by the support of the Bent assembly. (Refer to the Isometric drawing). When the glue on all parts is completely dry remove the Wharf from the drawing and the tape from the wood parts.

With the Wharf right side up follow the drawing and mark off the locations for the short Floor Joists (#21 and #22) for the Ramp access platform. Glue these three parts in place to the long Bent assemblies as per the drawing.

### **Step 12 TIE DECKING AND RAIL PLACEMENT**

#10	4 pcs.	3/64 x .309 x 11 3/32 in.	Decking (3 boards wide)
#11	2 pcs.	3/64 x 35/64 x 11 3/32 in.	Decking (5 boards wide)
	2 lengths	24 in. each, Code 70 Rail	(not included in the kit)

All of these Decking pieces and those in the following Step 13 are of 3/32 inch spaced gang planking material. Distress the ends of these parts and an occasional edge of a "board" by gouging at random intervals with a file or knife to simulate a well-used and well-worn Wharf. Re-stain the gouged areas and let dry.

On the underside of all four pieces of #10 Decking you will note there is a small notch along one edge. Butt glue two of these pieces together making sure the notched edges are aligned. Now glue the other two pieces in the same manner.

Follow the Isometric and Tie Template drawings closely and glue one of these Decking units along the outside edges of the Ties. Run a bead of glue along the bottom of one piece of rail and set it on the Ties shoving the rail under the Decking and into the notch. Have the rail at the "seaward" end flush with the Wharf and allow the extra rail to extend beyond the "shore" end of the Wharf, Glue the other unit of #10 Decking to the other edges of the Ties. Lay the other length of rail down in the notch of the second Decking strip and with a rail gauge check the distance between the

rails to make sure it is correct. (You may have to sand the edge of the Decking a little to allow the exact distance between rails). When the space between the rails is correct, run a bead of glue on the underside of the second piece of rail and set it in place on the Ties. Push it as far under the Decking and into the notched edge as necessary. Use your track gauge again to insure proper spacing until the glue is dry.

Butt glue the two pieces of #11 Decking and glue this strip down the center of the Ties leaving equal spacing on either side as shown in the Tie Template, Figure 2, and the Isometric drawing.

### **Step 13 DECKING**

#8	13 pcs.	3/64 x 1 3/4 x 2 3/4 in.	Decking
#9	12 pcs.	3/64 x 1 3/4 x 11/16 in.	Decking
#23	1 pc.	3/64 x 1 3/4 x 1 25/32 in.	Decking

Starting from the "shore" end of the Wharf, glue twelve of the thirteen pieces of #8 Decking into place as shown. Before gluing the thirteenth piece of Decking into place it will be necessary to trim off approximately six "boards" so it will be flush with the end of the Wharf. Now glue this Decking piece in place.

Turn the Wharf around and begin gluing the stained and distressed #9 Decking pieces in place. Start from the "shore" end again and work up to where you have located the assemblies for the Ramp platform. On these two Bents place the piece of #23 Decking which will extend out over the #21 and #22 Joists. Mark this Deck section with a pencil to fit the platform area. Trim and glue into place. Now continue laying the remainder of the #9 parts, cutting the final piece to fit flush with the end of the Wharf as you did with the thirteenth #8 Decking piece.

NOTE: For an added touch of realism notch at random the "boards" of the Decking material, over the Floor Joists, so they appear as individual planks of assorted lengths. (See the Isometric drawing, Reference "A").

### **Step 14 ALTERNATE METHOD FOR #23 DECKING**

In Step #7 the two #20 Filler Blocks were cut for the alternate side of the Wharf. Now the #23 Decking must be cut in the same manner.

Lay the piece of #23 Decking on the drawing and cut it at the same line used for the #20 Filler Blocks. The smaller portion is to be glued in place along with the #9 Decking pieces. The larger portion of #23 should be glued over the #21a and #22a Joists and edge glued to the #8 Decking which it now butts against in the alternate position.

### **Step 15 THE GUARD TIMBER SPACERS**

#12	2 pc s.	1/32 x 1/8 x 4 1/4 in.	Guard Timber Spacers
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From this wood stock cut 34 Spacers 1/8" long and 4 Spacers 1/4" long. (These dimensions are not critical).

Follow the Orthographic and Isometric drawings carefully and glue one 1/8" Spacer on top of the Decking above each Bent except where two Guard Timbers join and form a right angle. The four 1/4" Spacers are required at the right angles of the inner and outer corners of the Ramp access and the corners of the far end of the Wharf.

### **Step 16 THE GUARD TIMBERS**

#13	4 pcs.	1/8 x 1/8 x 11 3/32 in.	Guard Timbers
#14	2 pcs.	1/8 x 1/8 x 4 3/4 in.	Guard Timbers

For the placement of the Guard Timbers start with the side of the Wharf which does not have the Ramp projection area. Butt glue two Timbers (Parts #13) together and glue them on top of the Spacers. These Timbers will run the full length of the Wharf flush at both ends as in the drawing. On the Ramp side start with the longest space from one end to the projected area and glue a Timber on top of the Spacers. The Timbers required for the Ramp access area, the last side section and the "seaward" end of the Wharf will have to be cut to fit from the remaining wood stock. (See the drawing). Be sure you do not lay a Guard Timber across the "shore" end!

When all of the Guard Timbers are in place and the glue has set touch up any unstained or unpainted parts if necessary.

### **Step 17 THE OUTSIDE PILINGS**

#16	17 pcs.	3/16 Diameter x 3 in.	Pilings
#17	15 pcs.	3/16 Diameter x 2 19/32 in.	Pilings

All of these Pilings must first be slanted at the top to an approximate 30° angle as shown in the drawing. This may be achieved by either cutting or sanding each top to a good but not necessarily precise angle.

If not done previously you may now add the gray stain and the "barnacles" to the bottoms of each of these Pilings in the same manner as before.

Use the drawings as guides for the placement of both the long and short outside Pilings. Start at one end of the Wharf with the long Pilings (Parts #16) and glue one to each side of the Wharf at the Bent. Alternate with the long and short Pilings until you reach the other end. Please note that none of these #16 or #17 Pilings are used at the four corners of the platform projection.

Re-stain or touch up the slanted tops of all of these Pilings when all are glued in place.

### **Step 18 THE RAMP**

#24	3 pcs.	3/64 x 1 3/4 x 35/64 in.	Ramp Decking (3/32 in. Spaced Gangplanking)
#25	2 pcs.	3/64 x 3/64 x 4 1/4 in.	Railing Posts

#26	7 pcs.	.023 x 3/64 x 4 1/4 in.	Railings and Braces
#27	2 pcs.	3/64 x 1/8 x 4 1/4 in.	Ramp Stringers

Using the Ramp Side View, Figure 4, as a template, cut the curve and angle on both ends of the two Ramp Stringers (Parts #27)

End glue two #24 Decking pieces together. Turn them face down on a flat surface and glue the two #27 Stringers on the under side of the Decking, flush with the outside edges. Keep the angled ends of the Stringers flush with the ends of the Decking. (See the View Looking Down, Figure 5, Step "A").

Cut a section from the remainder of the #24 Decking of sufficient size to complete the Ramp Deck down to the beginning of the curve of the Stringer and glue it into place. (See Step "B").

In order to install the last portion of Decking on the curve of the Stringers, cut the gangplanking into individual "boards" as needed to cover the area. (See Step "C").

From the wood stock material (Parts #25) cut 10 Railing Posts using the Side View, Figure 4, as a template guide.

Two of the pieces of #26 wood stock will be used for hand Railings and two will serve as center Brace Railings. To begin construction of a Railing assembly lay a piece of Scotch tape, sticky side up, over the Figure 4 drawing. Build one side Railing assembly by laying the 5 Posts in their positions on the template and pressing them firmly on the Scotch tape. Glue the hand Railing to the Posts in its proper place on the drawing. Glue the center Railing to the side of the Posts, trimming the Railing flush with the outside edge of the two end Posts using the drawing as a guide for placement and cutting.

The second Railing assembly is constructed with slight variations for the opposite side. Lay a new piece of Scotch tape over Figure 4 and lay the center Railing piece in place and secure against the tape. Then glue the 5 Posts to the center Railing in the indicated positions. Now glue the hand Railing to the Posts as before and finish by trimming the center Railing flush with the end Posts once again.

From two pieces of the #26 wood stock cut fourteen "cleats". Cut each cleat 35/64" long and glue them to the Ramp Decking at the approximate intervals shown in the drawing as "toned" areas in Figure 5.

Glue a Railing assembly to the outer face of each Stringer with the center Railing to the inside as per Figure 4. From the last piece of #26 wood stock cut two angle Braces for the Railing assemblies and glue them in place as shown.

Add stain or paint where ever it is needed when the construction of the Ramp unit is completed.

### **Step 19 THE FLOAT**

#28	1 pc.	3/4 x 1 3/32 x 5 3/4 in.	Float Decking (3/32 in. Spaced Gangplanking)
#29	2 pcs.	1/32 x 1/16 x 5 in.	Float Deck Supports
#30	2 pcs.	1/4 Diameter x 5 3/4 in.	Floats
#31	2 pcs.	1/32 x 1/16 x 4 1/4 in.	Float Mooring Guide

Lay Scotch tape, sticky side up,(or use double sided tape) over the Float drawing (Figure 6). Now lay the piece of #28 Decking on its position face down on the drawing.

From the two pieces of wood stock (#29) cut eight Supports 1 1/4" long. Glue these eight Supports in position on the bottom surface of the Decking as indicated.

From the two wood stock pieces (#31) cut four lengths 1 9/16" long and cut two lengths 13/32" long. These strips serve as additional Deck Supports as well as Mooring Guides. Glue the longer lengths to the Decking as in the drawing. Make sure the Supports are glued correctly so the Mooring Guides will fit around the Wharf Pilings as shown in the Isometric drawing. When all of the Supports are in place and the glue is dry turn the assembly over and glue the two short lengths over the longer Supports as in Figure 6.

In the Isometric drawing of the Float refer to the dotted line noted as Reference "B". This dotted line thru the centers of the dowel Floats (#30) indicates the sanding or cutting line of the dowels if the Float is to be set on top of a surface such as ripple glass or plaster of Paris so it will appear half submerged in water. If the Float is to be pressed into plastic resin or some similar material leave the dowels whole so the under half is visible as if sunk in water.

Glue the two whole or half Floats (#30) to the bottom of the Decking Supports as in the Float End View. When the assembly is dry, touch up any unstained or unpainted ends and slips the Float in place with the Mooring Guides in place around the corresponding Pilings of the Wharf.

This completes the assembly of the Wharf. We hope you will find it will add great color and interest to your model pike and it can't fail to be the great conversation piece of all time!!!