

Watermill Building Plans

For complete building instructions and instructional videos, please visit the main web site at www.hirstarts.com/watermill/watermill.html. **Using these plans alone will not give you enough information to build the water mill.**

Please note that this is a fairly large and complex project. If this is your first building project using Hirst Arts molds, I strongly suggest you choose a more simple project instead.

This project uses six different Hirst Arts molds. The number of castings needed are:

- 20 castings of mold #226, wooden beam mold
- 16 castings of mold #225, half timber mold
- 15 castings of mold #253, brick panel mold
- 10 castings of mold #263, rubble block mold
- 10 castings of mold #230 clay tile roof mold
- 8 castings of mold #227, tavern window and door mold

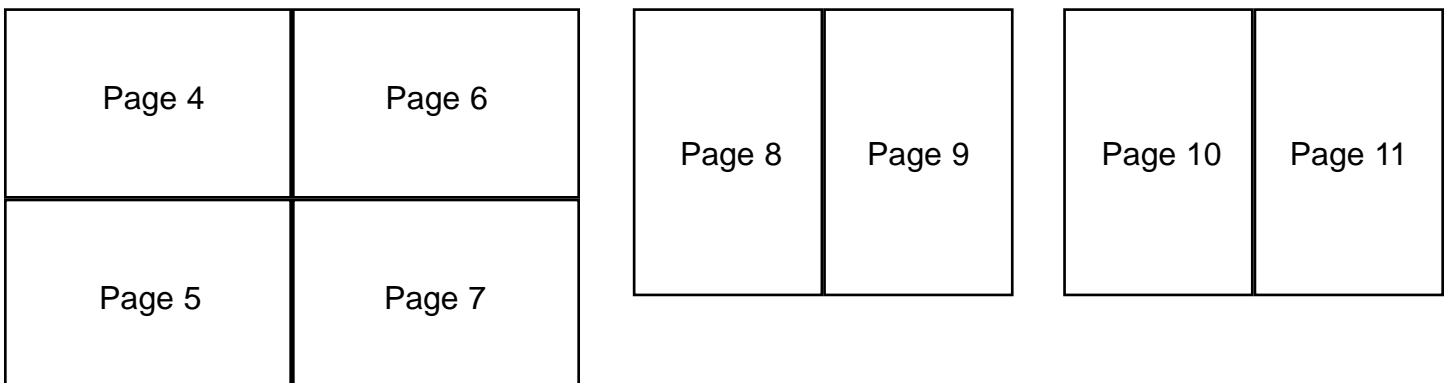
This project is designed so that you **do not have to make the river or water wheel portion** of the mill if you do not want to. If you leave these off, you can simply make a nice looking two-story house. However, you will have a few extra unused castings if you do this.

Please do the steps below in order.

Step 1: Castings and Printed Plans.

Cast all of the molds and sort the pieces. If you place all of the pieces from one mold on a sheet of cardboard, it will be easier to find the pieces you need and move them out of the way when you don't need them.

After printing these plans, several pages will need to be taped together to form a larger plan. Below is a diagram of which pages need assembled.



Step 2: Gluing wood and stone sections.

Glue together the following wood and stone sections:

- | | | |
|--|-------------------------|--|
| B1 bottom floor | T1 top floor | R4 roof dormer peaks |
| B2 main beams (7) | T2 main beams (6) | R5 roof dormer windows |
| B7 chimney bottom | T6 bay window side | |
| B8 lower fireplace
(don't glue mantle onto fireplace) | T7 bay window | W4 wooden wheel |
| B9 stairway | T8 bay window side | W5 stone wheel support
(12 wooden paddles around
the wheel will be painted on
all sides along with this group.) |
| B10 large braces | T10 chimney top | |
| B11 small braces | T11 upper fireplace | |
| B12 porch side braces | T12 porch front top | |
| B13 porch side railing | T13 porch front railing | |
| B14 porch front brace | T14 porch side braces | |
| B15 porch front railing | T15 porch side railing | |
| B16 front and side doors (2) | T16 stair railing | |
| | T17 upper front door | |

Floor sections B1 and T1 can be glued to thin card stock or matt board. You can lay the plans for B1 and T1 over card stock, poke holes in the corners, connect the dots and use this as a guide as to where to spread the glue on the floor.

Step 3: Cutting the water base.

If you intend to make the water level, you will need 1/2" thick insulating foam. Lay the plans for W1, W2 and W3 over the foam and poke holes through the plan into the foam. Then connect the dots and accurately cut the three foam shapes. Glue the W2 and W3 foam slabs together. Cut the bank edges in a slop towards the water. You may even want to cut a rock texture into the banks. Glue the rubble blocks around W3 to form the foundation stone under the house. Also glue the stones onto the face of W2. If your foam is slightly thicker than 1/2", then be sure the stones of the foundation are flush with the top of the foam. The gap underneath can be covered with ground scenic materials later on.

Cut out the riverbed printed texture and varnish it down onto W1. Glue paper on the underside of the hole in W1 and paint the bottom of the hole brown. W2 and W3 will be glued down to W1 **after** the stone foundation and banks are painted.

Step 4: Painting the pieces and base.

Review the pieces list on page 23 of these plans. All of these pieces will be pre-painted individually before gluing them together to form walls. Since this is an exact count of the pieces you will need, it's a good idea to **paint a couple extra of each piece** in case you break or lose a piece.

Start with the brick panels. Use permanent double stick tape to stick down the brick panels onto pieces of cardboard. The backs of the pieces may need to be sanded slightly in order to stick. Split five of the 1" x 2" vertical brick panels down the center and split one of the 2" square sections as well. Spray paint these a flat or satin almond color. When dry, **stain them with brown shoe polish** and wipe off the excess.

Next are the half timber and decorative window pieces. Look on the parts list on page 23 and stick these pieces down to chunks of cardboard. These may also need sanding on the back side. All of these timbers and windows will be spray painted flat black (don't forget the three iron straps from mold #226).

Spray paint flat black all of the wooden and stone sections that you assembled on step 1 of these instructions.

Hand paint W2 and W3 (stone foundation and banks) flat black using thinned down acrylic paint. You cannot spray paint these because spray paint will dissolve the foam.

Dry brush **all wooden pieces** with medium brown from the earth tone colors. Mask off the stone sections on floors B1 and T1, then heavily dry brush **all stone pieces** using the same medium brown. Afterwards, lightly dry brush all stone sections with light gray from the castle gray colors. Dry brush all hinges and straps with silver.

Step 5: Building the remaining walls.

Assemble wall sections B3, B4, B5, B6, T3, T4, T5 and T9 using all pre-painted brick panels and timbers. Wait to glue on fireplaces and items with hinges until after the walls are assembled, otherwise wall will not lay flat when gluing on the back side.

Paint the insides of the doorways and the tops of the wall sections with raw umber paint (or some color that looks appropriate). This will hide the light brick color that's sandwiched between the dark planks. Paint black on the insides of the chimney and dry brush black around the fireplace openings and chimney top.

Step 6: Gluing the walls onto the floors.

Glue the bottom floor pieces B2, B3, B4, B5 and B6 onto the B1 floor to form a complete circle of wall. Glue the porch pieces B2, B12, B13, B14 and B15. Do not glue on the chimney yet. Once dry, flip this first floor upside down and glue the B10 and B11 braces onto the outsides of the wall.

Glue the top floor pieces T2, T3, T4, T5, T6, T7, T8, and T9 onto the T1 floor to form a complete circle of wall. Assemble the upper porch using pieces T2, T12, T13, T14 and T15.

To determine where the chimney should go, set the first floor of the house down onto the foundation (or onto page 14 of the plan if you didn't make a foundation). Set the second floor down on top of the first floor so they line up. Glue the bottom and top chimneys onto the sides of the house, making sure that the right side of the chimney aligns with the center peak of the house.

Step 7: Finishing the water base.

Glue W2 and W3 down onto W1 foam base. Glue the wooden insert into the W5 stone wheel support. Glue the wooden

paddle template (looks like a saw blade) onto some heavy card stock and cut it out. Use this as a guide to glue the wooden paddles into the water wheel. Slide a B2 beam through the water wheel (trimming will be needed) and position the water wheel according to the instructions on the web site. The B2 beam should not interfere with setting the house into position on the foundation.

Dam around the outside edges of the river using strips of insulating foam with packaging tape stuck to them. Pin these in place around the river and seal all edges using 5 minute epoxy. Mix up 12 ounces of Envirotex Lite and add food coloring; 5 drops blue, 5 drops green and 2 drops red. Mix this up and pour it into your river. When cured, remove the strips and trim off any excess plastic. Varnish the wooden wheel with gloss varnish. Use acrylic gloss medium to texture the water. Finish the dry land by painting it a dirt color and gluing on ground foam scenic materials.

Step 8: Making the roof.

Lay the roof plans for R1 and R2 onto thick card stock and poke holes in the corners. Remove the plan and connect the dots, then cut the outside shape of the roof. Across the main peak, cut only halfway down into the card stock so the roof will fold properly. The small side roof on R1 will need to be cut underneath so this part will fold upwards. Test fit the roof onto the building and trim as needed. Glue the roof tiles from mold #230 into place on the roof and glue on the peak tiles. Tiles on the plan that look "broken" will need to be trimmed to fit properly. This can be done using tile nippers and a file.

Roof section R2 will need to be assembled separately. Find a good 90 degree angled peak surface to set the card stock roof section over and glue on the roof tiles, extending over the angled back edge. Also glue on the peak tiles. Once dry, the back edge of the roof will need to be carefully clipped and sanded to fit against the R1 main roof. Once it fits properly, glue it into place and then fill any large gaps between R1 and R2 with paintable caulking.

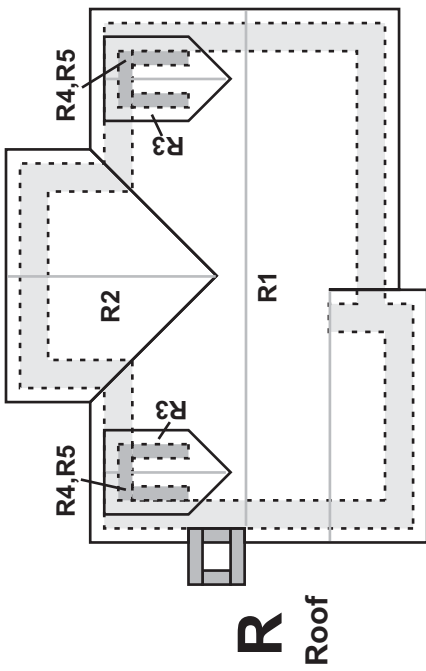
Once completely dry, glue three of the 90 degree angle supports (found on page 36) underneath R1 and one underneath R2. These can be made from cardboard or foam core board. Be sure these are at least one inch in from the edge of the roof.

Lay the roof plans for R3 onto thin card stock and poke holes in the corners. Remove the plan and connect the dots, then cut the outside shape of the roof. Do this for two small roofs. Fold these down the center line, lay them over a 90 degree peak surface and glue on the roof tiles and peak tiles.

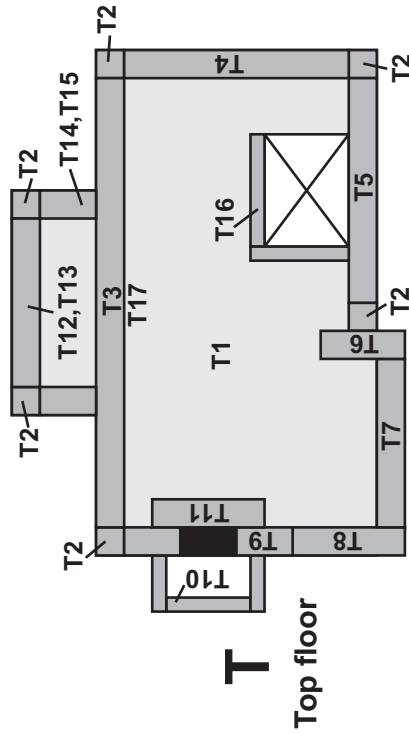
Completely paint all three roof sections (main assembled roof and two dormer roofs). Spray paint them with rust colored primer and then dry brush them with medium pink.

When dry, glue together the R3, R4 and R5 pieces to form the completed dormers. After the glue dries, trim and sand the back edge of the dormer roofs to fit flat against the existing roof and glue them into place. It really doesn't matter how you position them, but try to put the edges of the dormers resting on the top peaks of the tiles so you don't have deep grooves around the edges of the dormers.

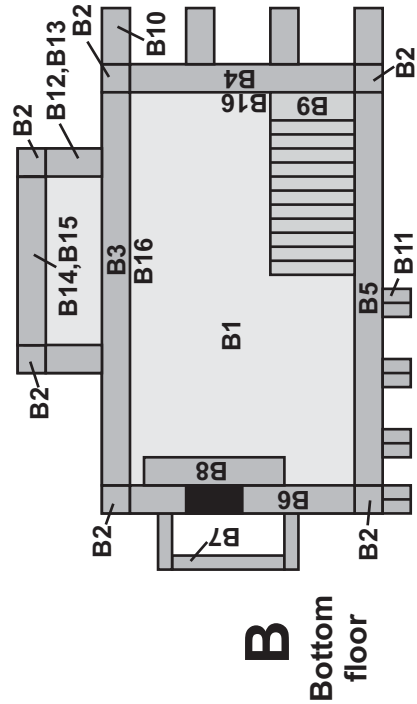
Touch up any places with paint that need it. Many times, planks will have a white edge showing where they connect to a wall beam.



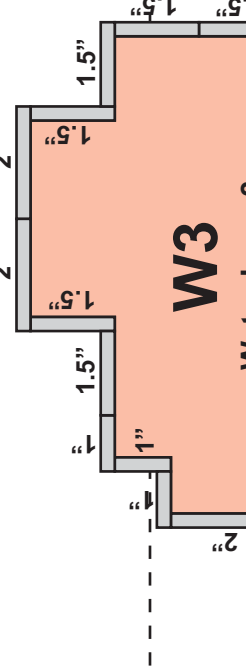
R
Roof



T
Top floor



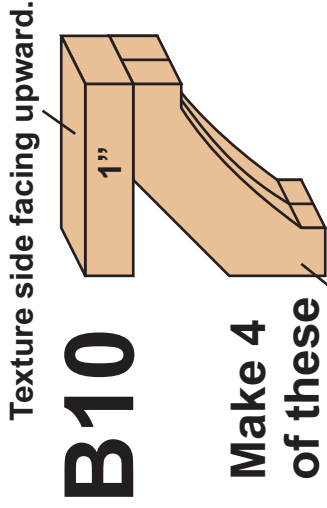
B
Bottom floor



B11

Glue 2 pieces back to back.

Make 4 of these



B10

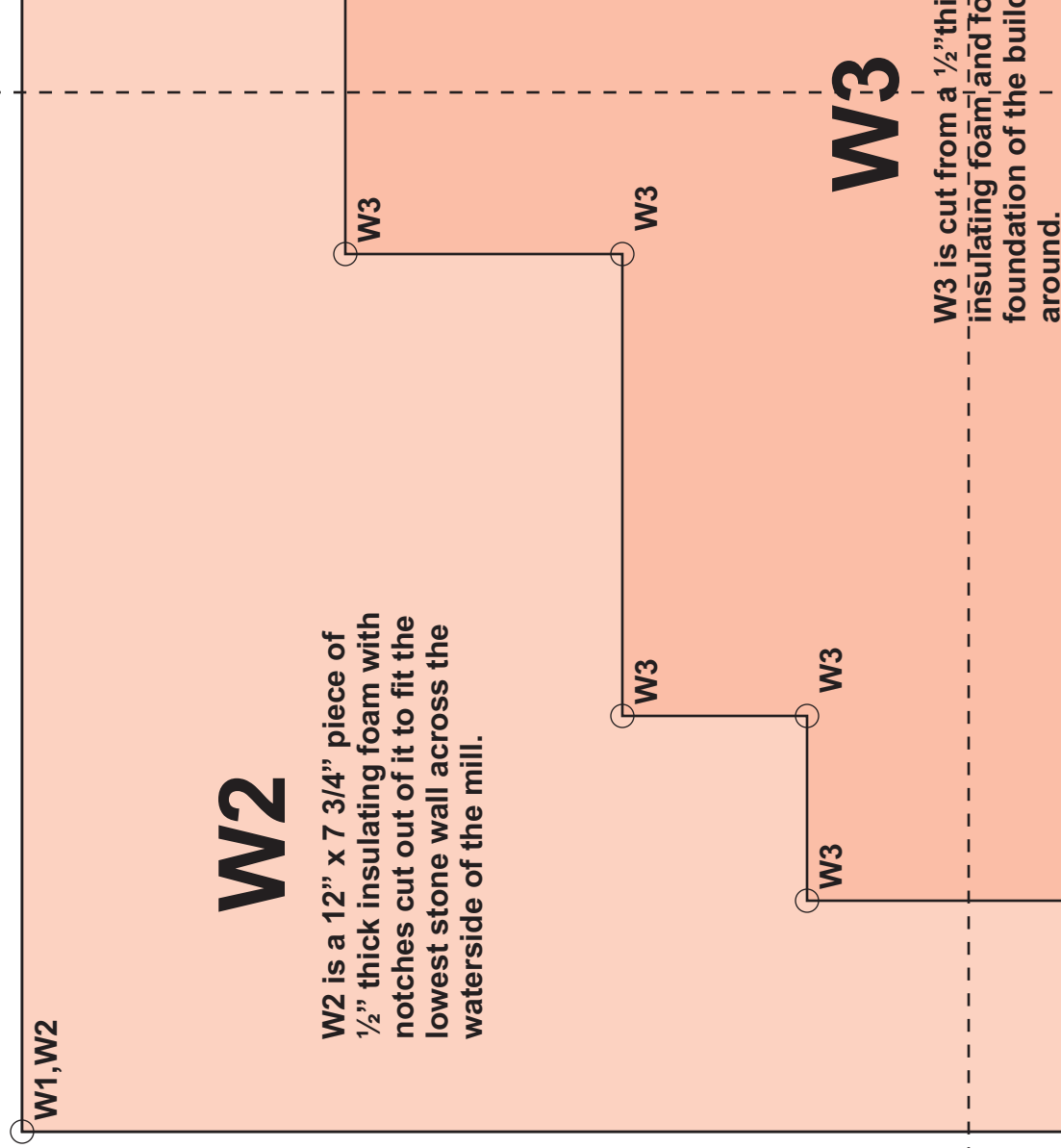
Texture side facing upward.

Make 4 of these

Glue 2 braces back to back and glue them under a 1" beam.



Window with 2" and bottom

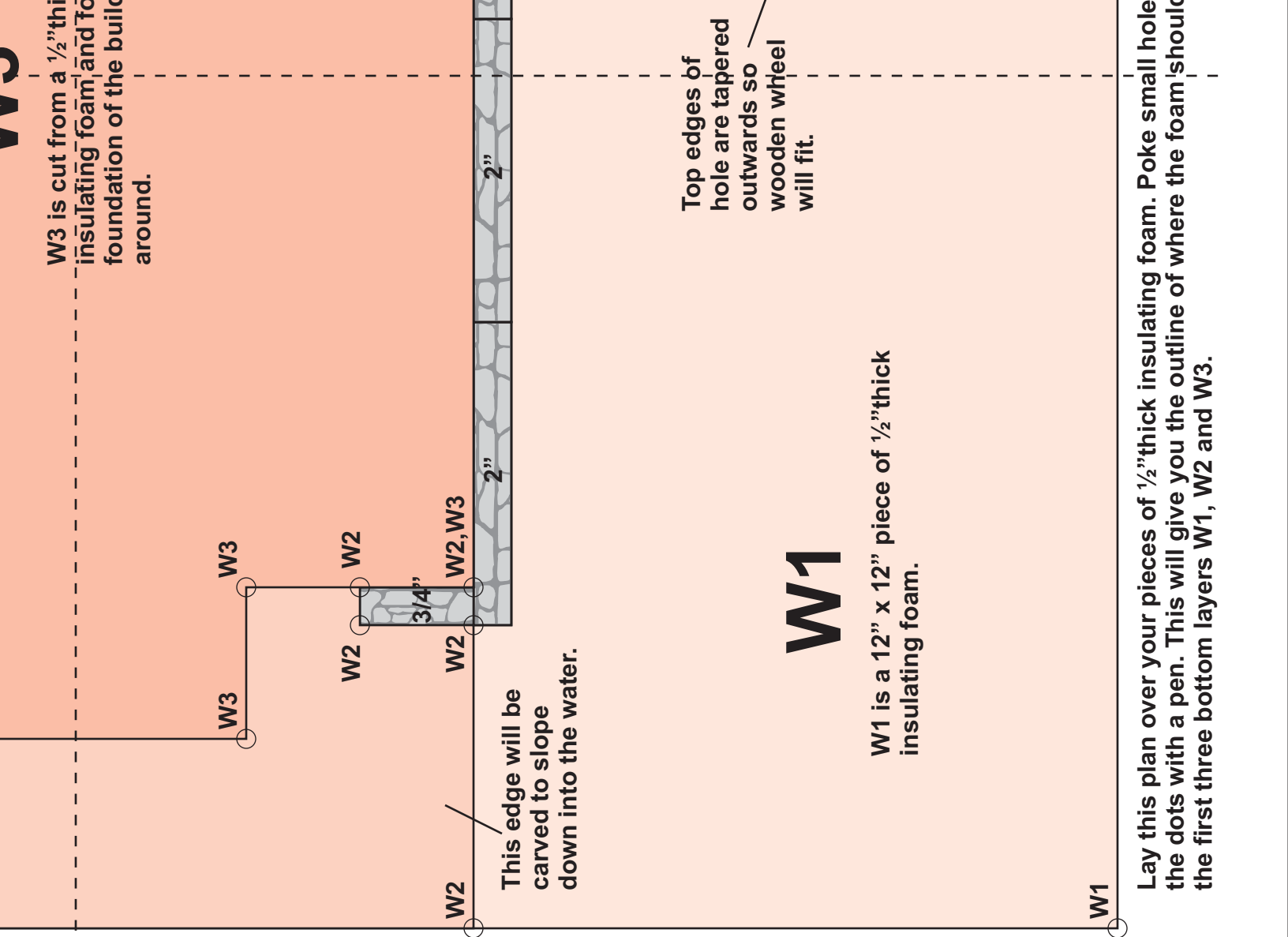


W2

W2 is a 12" x 7 3/4" piece of 1/2" thick insulating foam with notches cut out of it to fit the lowest stone wall across the waterside of the mill.

W3

W3 is cut from a 1/2" thick insulating foam, and for foundation of the building around.



W3 is cut from a 1/2" thick insulating foam, and foam around the foundation of the building.

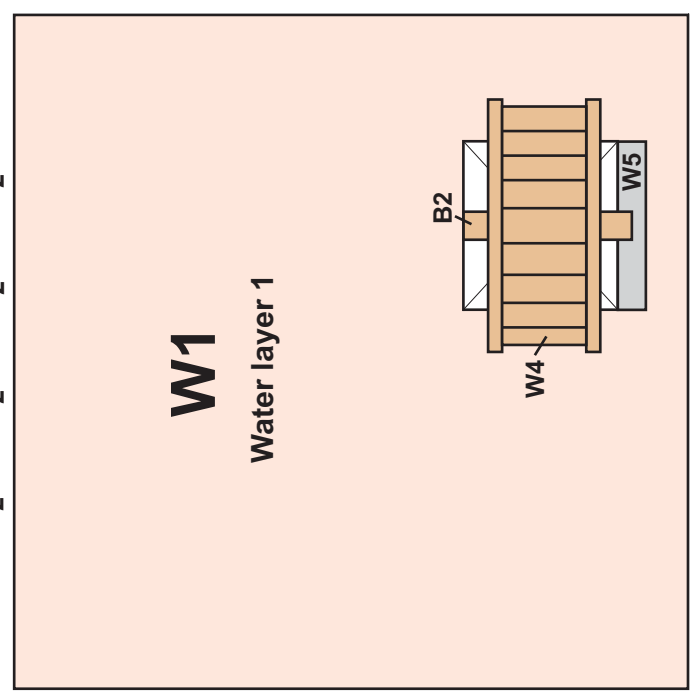
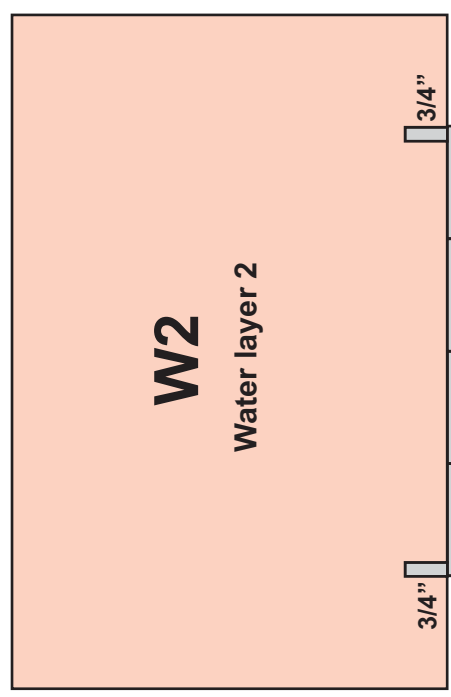
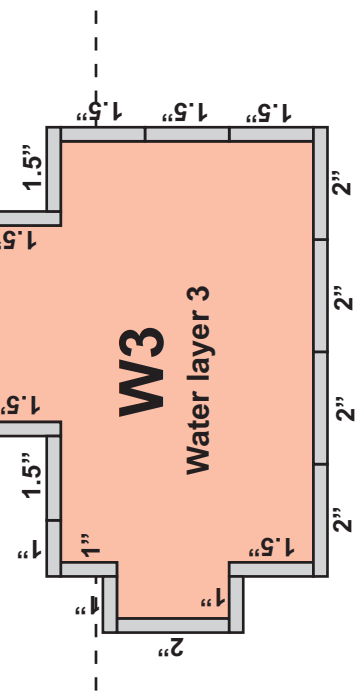
Top edges of hole are tapered outwards so wooden wheel will fit.

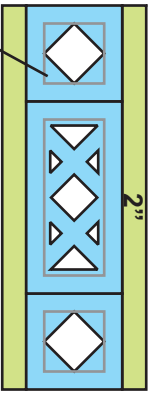
This edge will be carved to slope down into the water.

W1

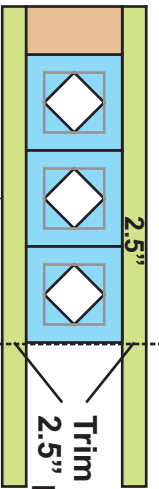
W1 is a 12" x 12" piece of 1/2" thick insulating foam.

Lay this plan over your pieces of 1/2" thick insulating foam. Poke small holes in the foam with a pen. This will give you the outline of where the foam should be cut. Lay the first three bottom layers W1, W2 and W3.





Windows glued back to back with 2" planks glued onto top and bottom.



Trim off the extra 2.5" plank length.



These panels go on the back side of the diamond windows.

T16

W1, W2

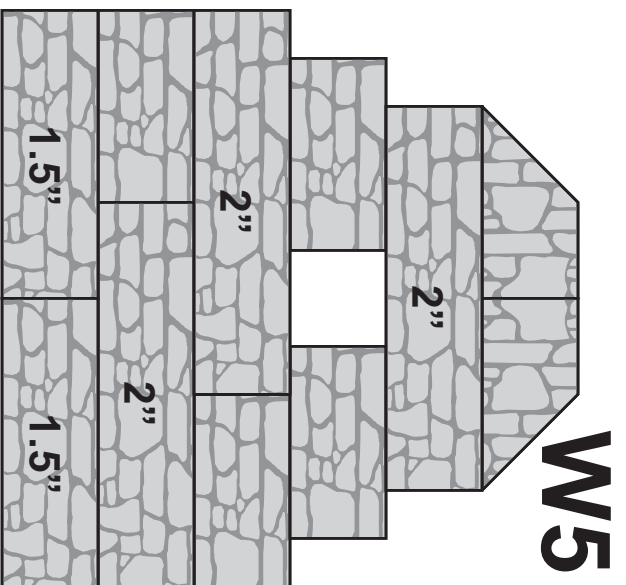
W3

W3

W3

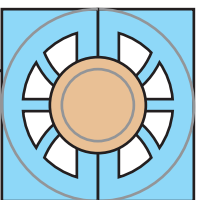
W3

from a 1/2" thick piece of foam and forms the top and bottom of the building all

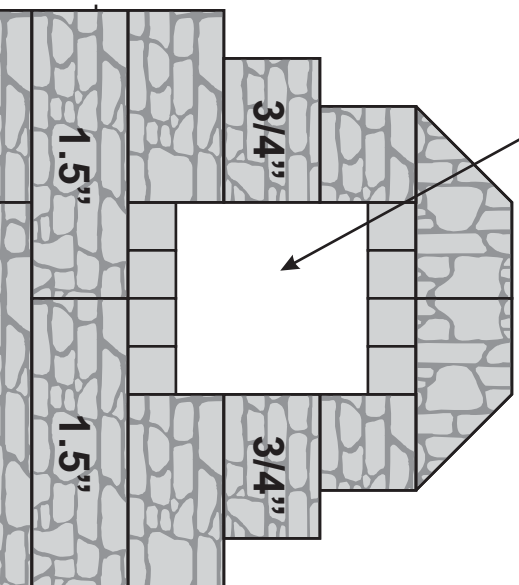


W5

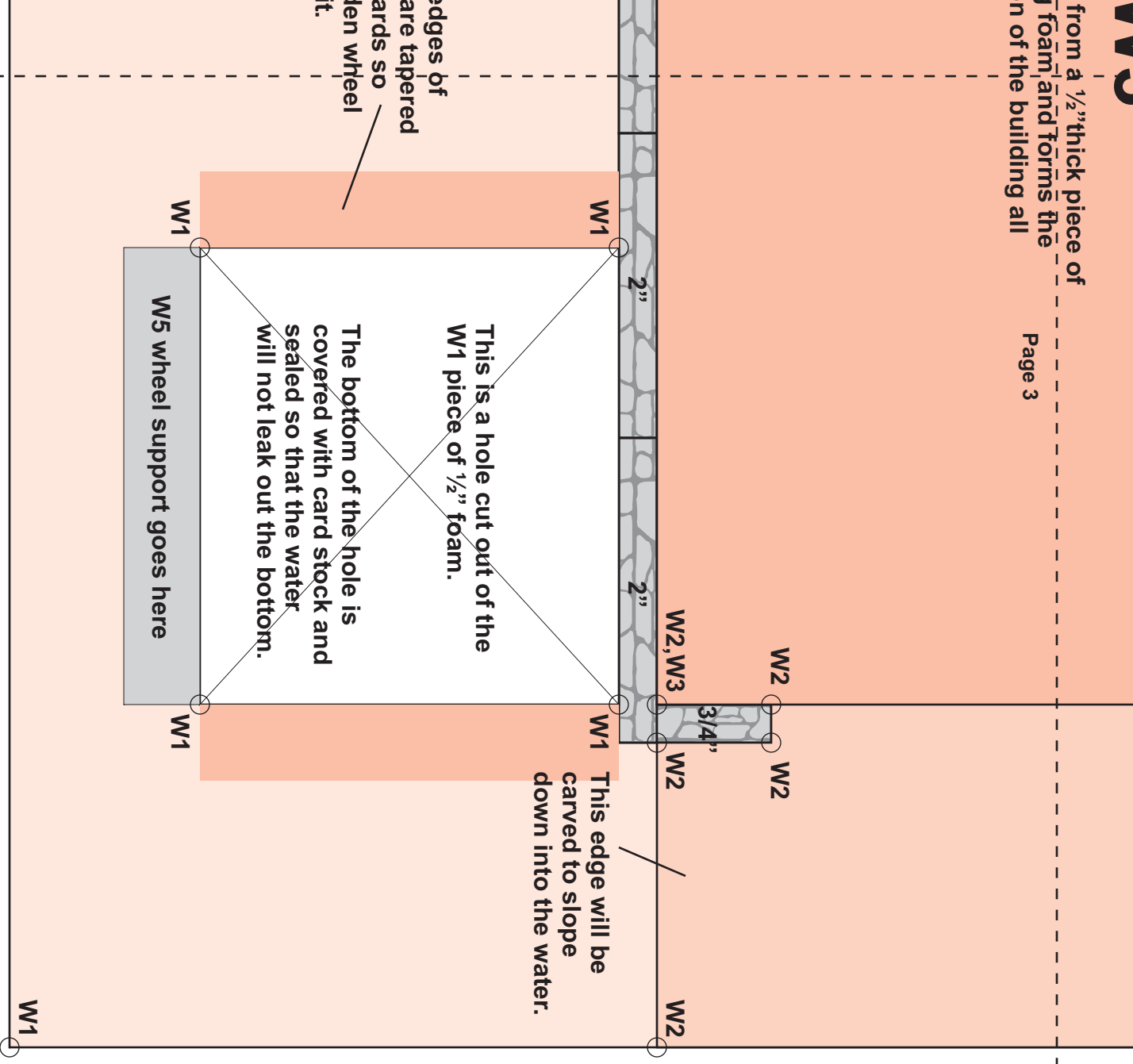
Inside



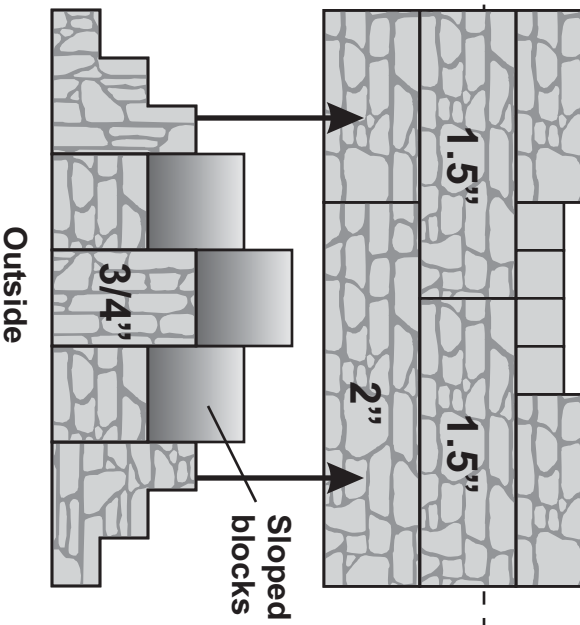
Windows are glued to thick card stock and button is glued in the center. This is painted a wooden color and then glued into the square hole after the stone is painted.



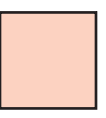
from a 1/2" thick piece of foam and forms the bottom of the building all



Make small holes through the plan where the circles are. Remove the plan and connect the foam should be trimmed. You will end up with three pieces of 1/2" foam that will form



Color Key



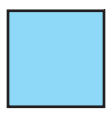
1/2" thick pink or blue insulating foam (shown on right)



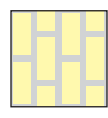
Wooden beams from Mold #226



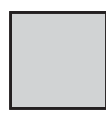
Wooden Planks from Mold #225



Windows and decorative pieces from Mold #227



Brick panels from Mold #253

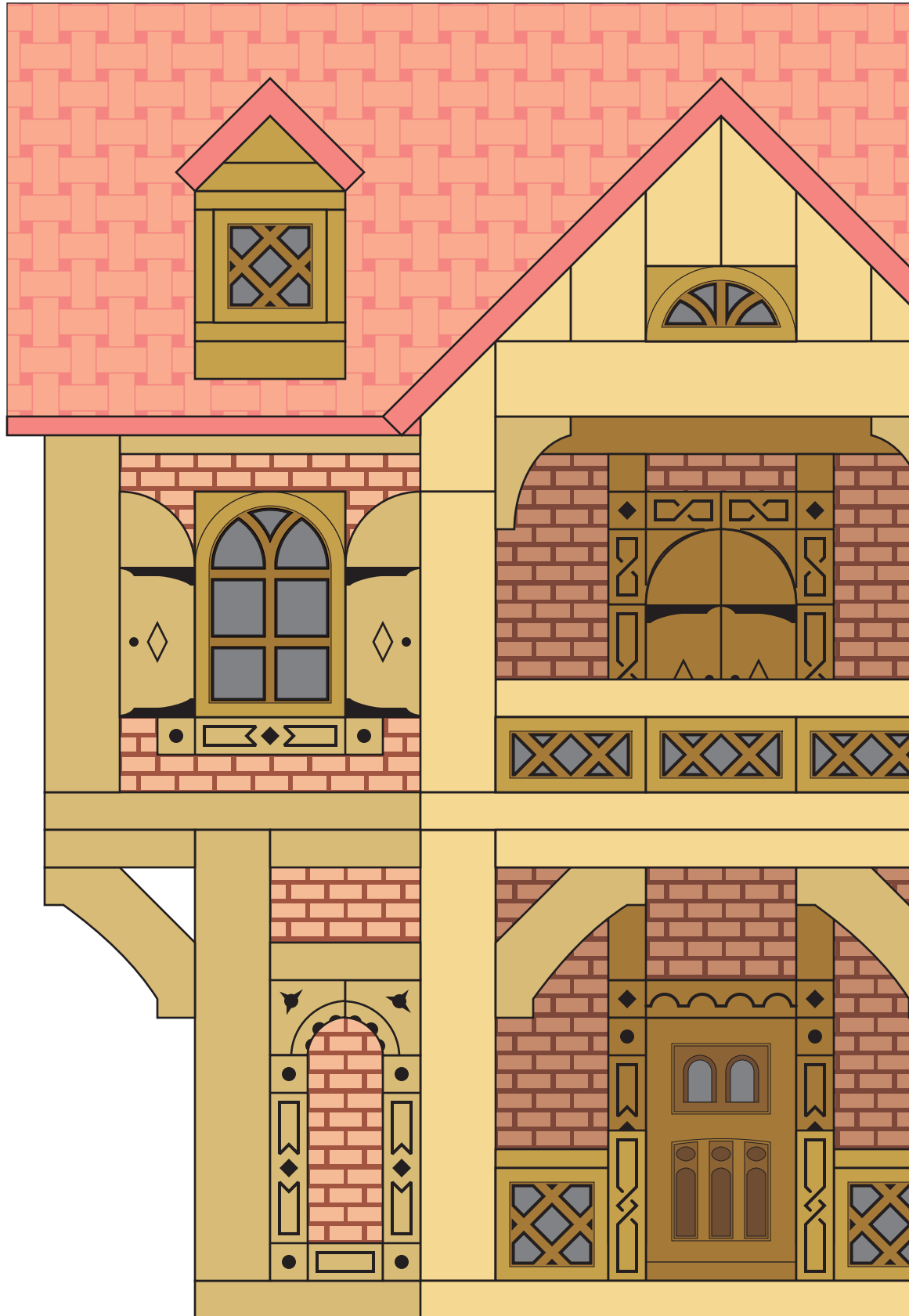


Stone from Rubble block Mold #263



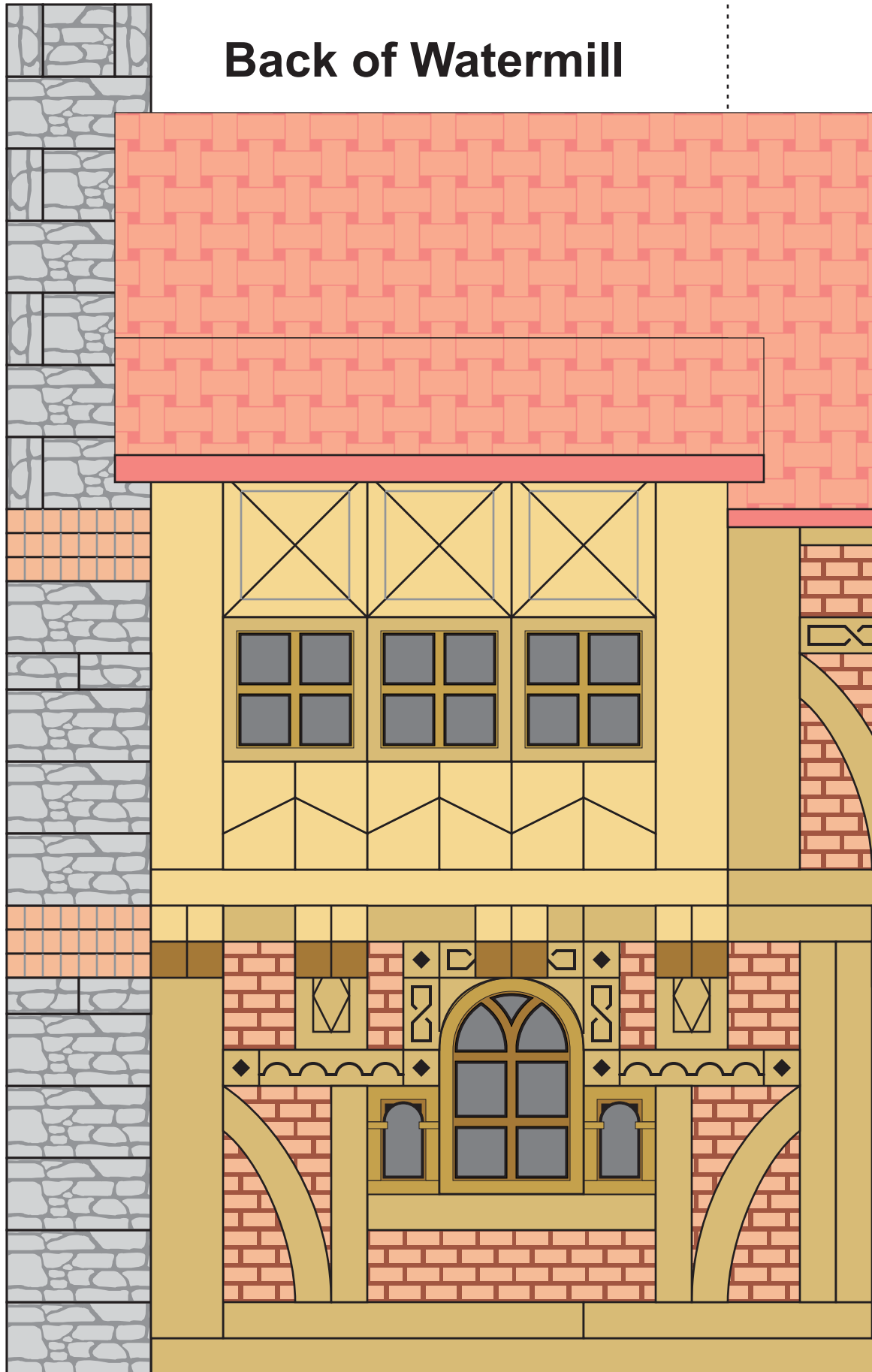
Clay roof tiles from Mold #230

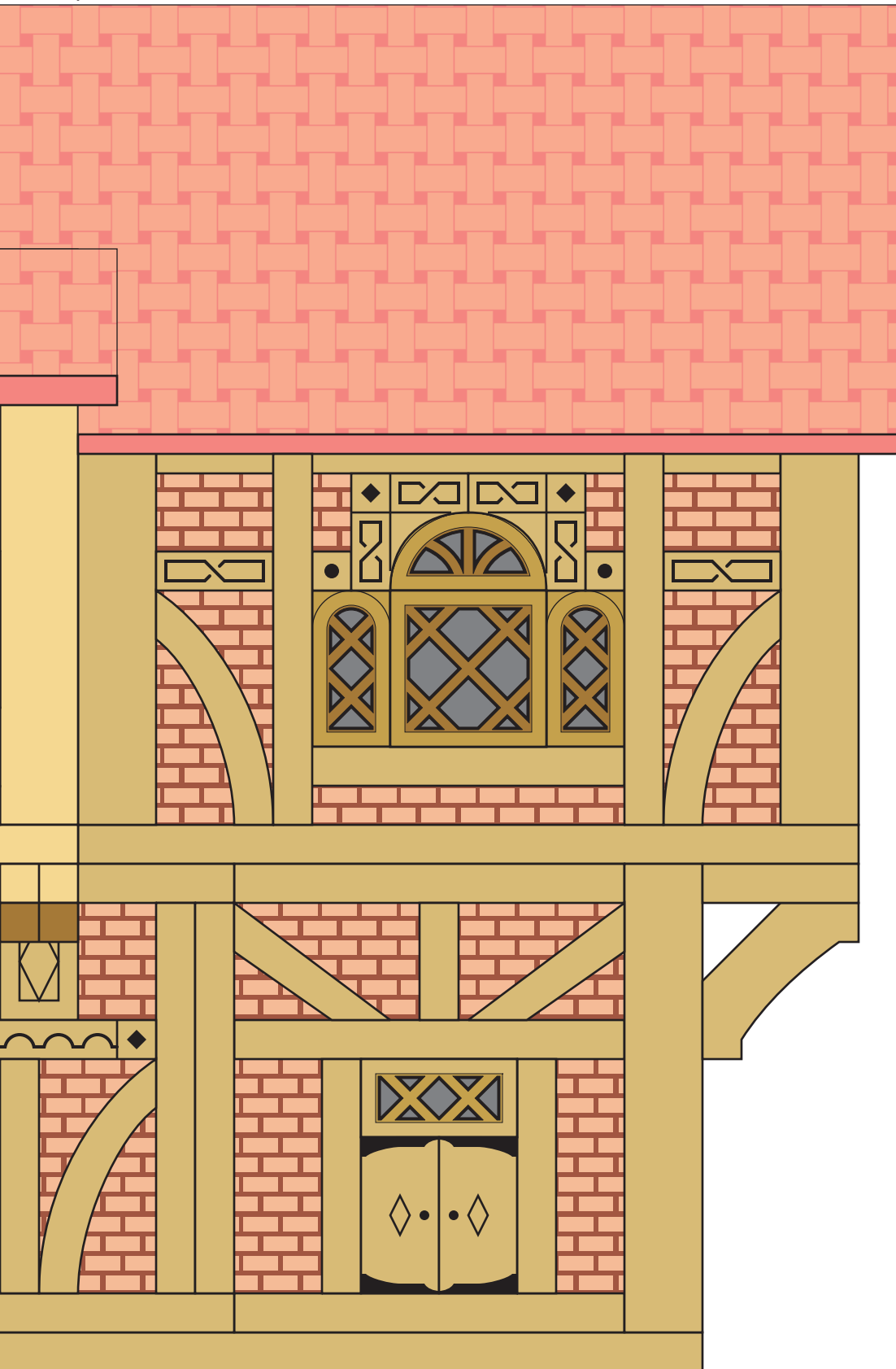
Front of Watermill



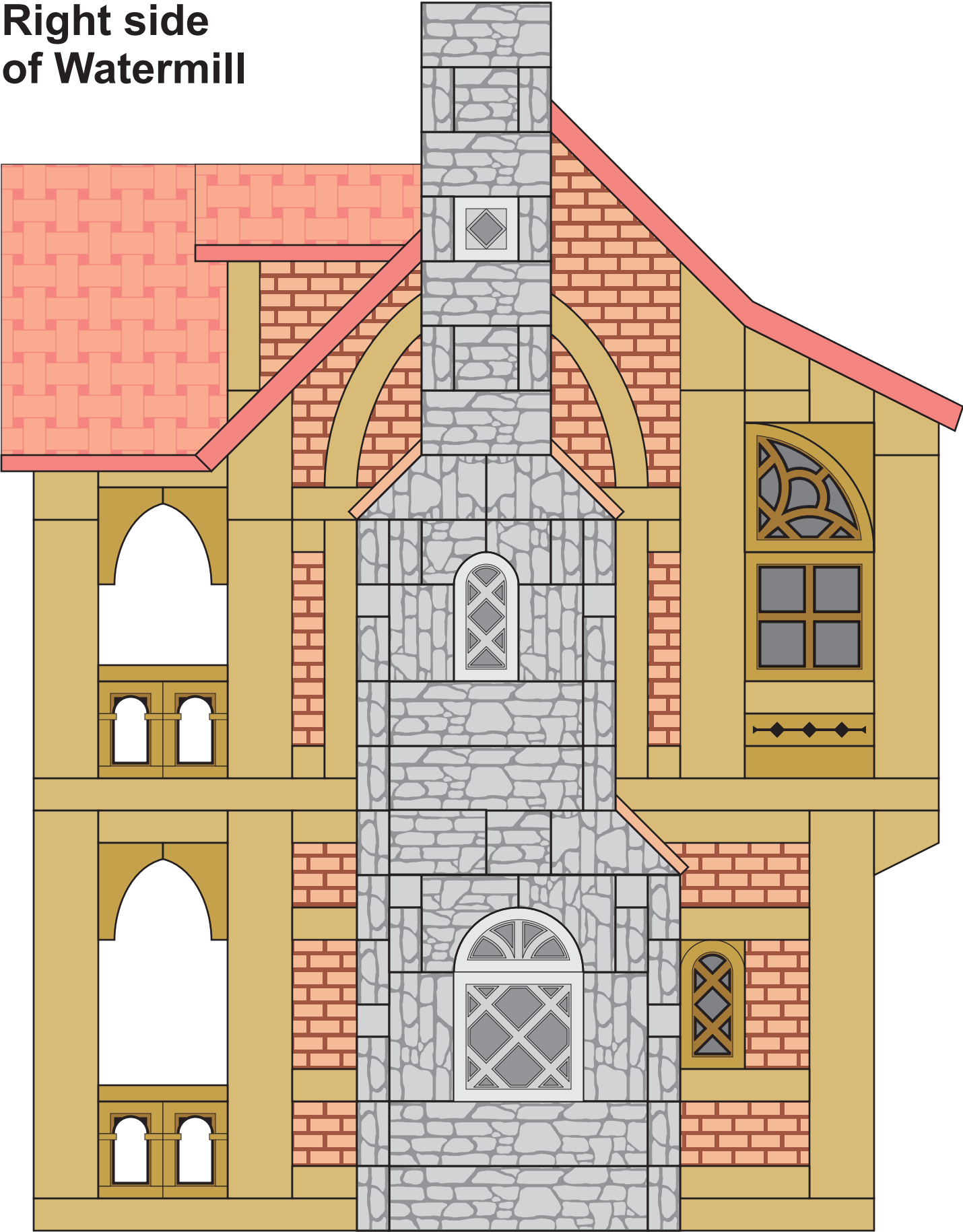


Back of Watermill

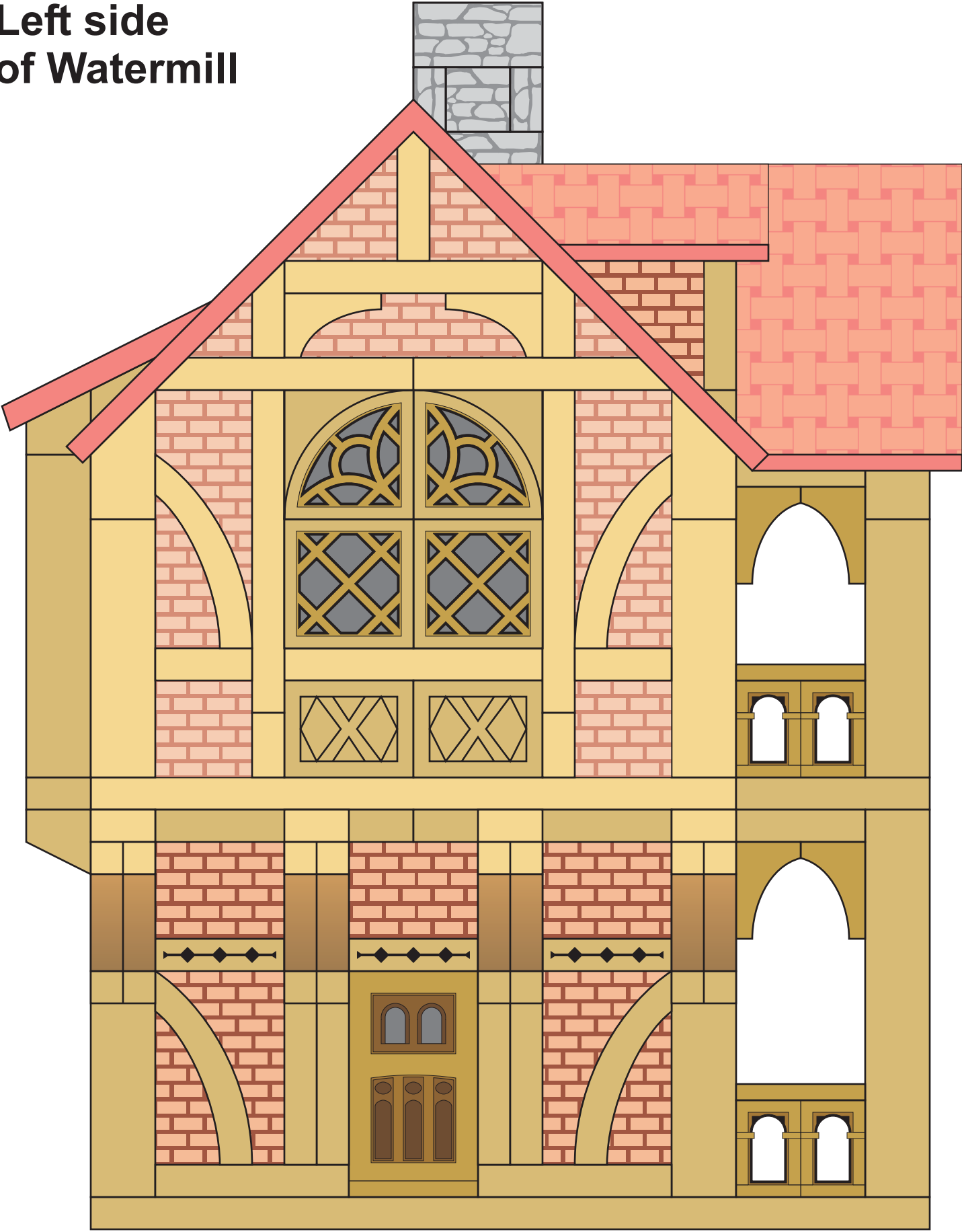




Right side of Watermill

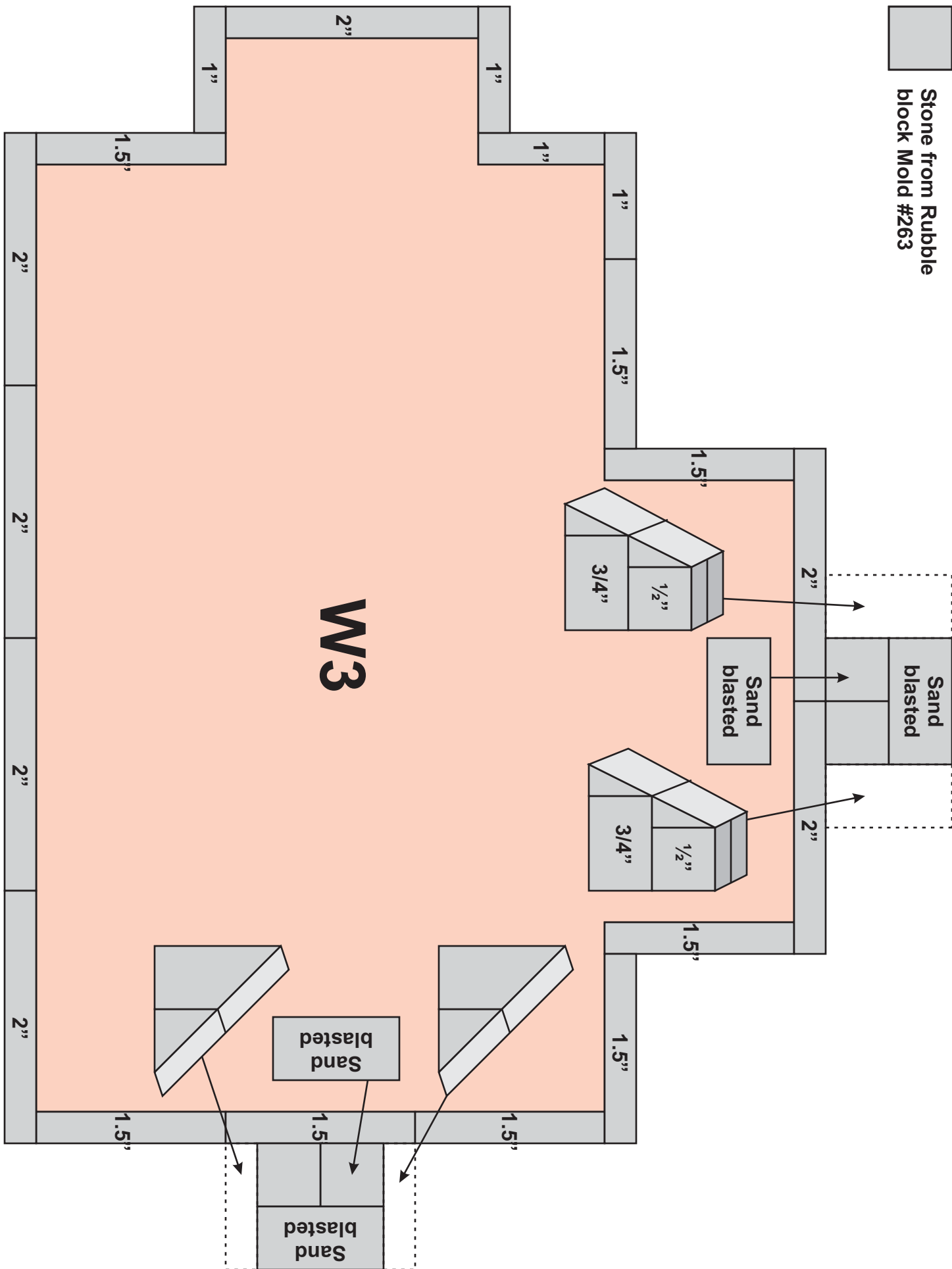


**Left side
of Watermill**





Stone from Rubble
block Mold #263



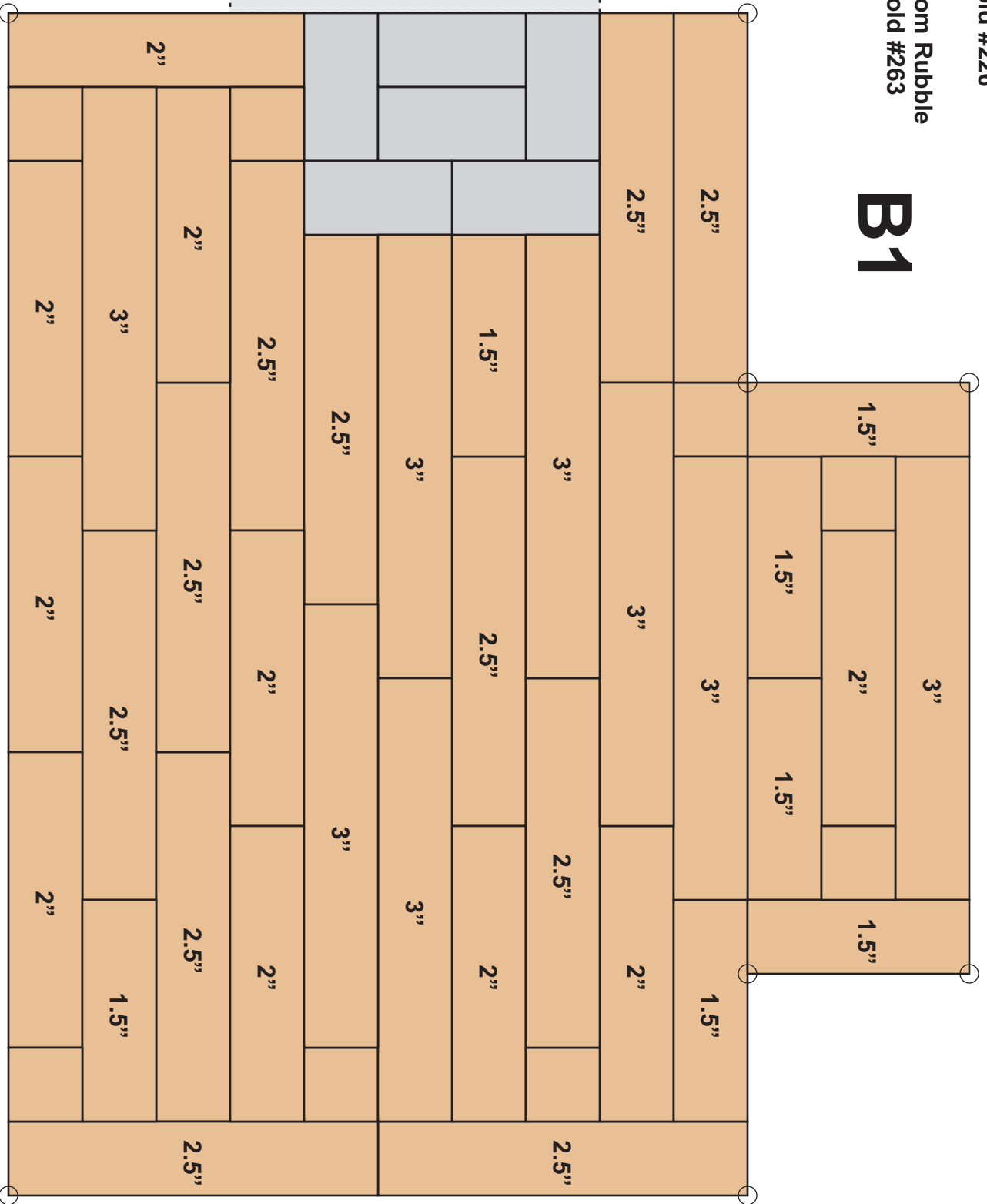
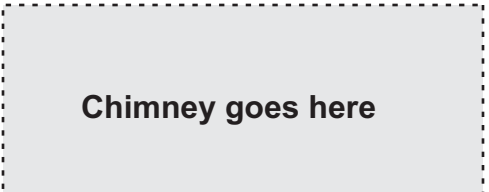


Wooden beams
from Mold #226



Stone from Rubble
block Mold #263

B1

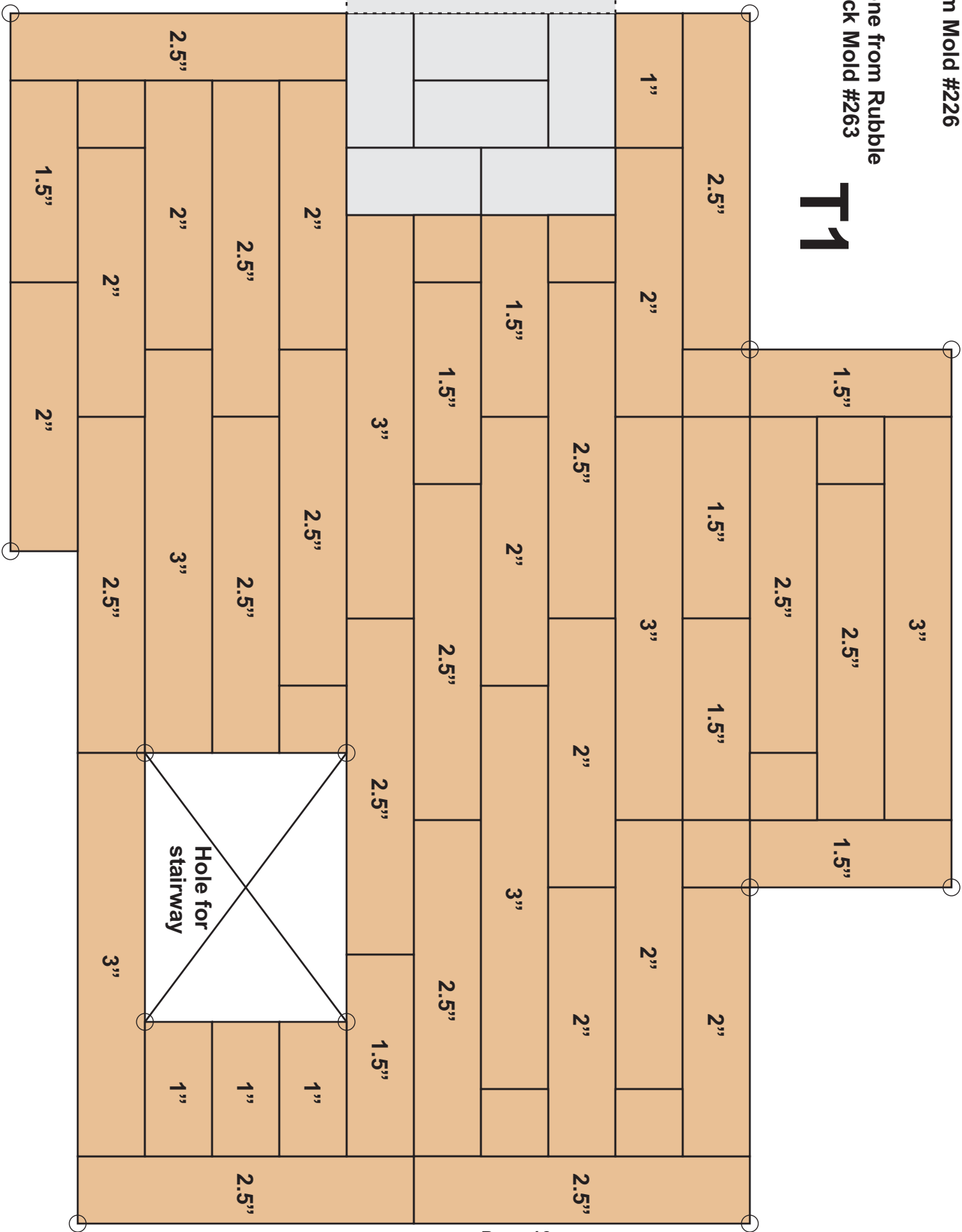


Wooden beams
from Mold #226

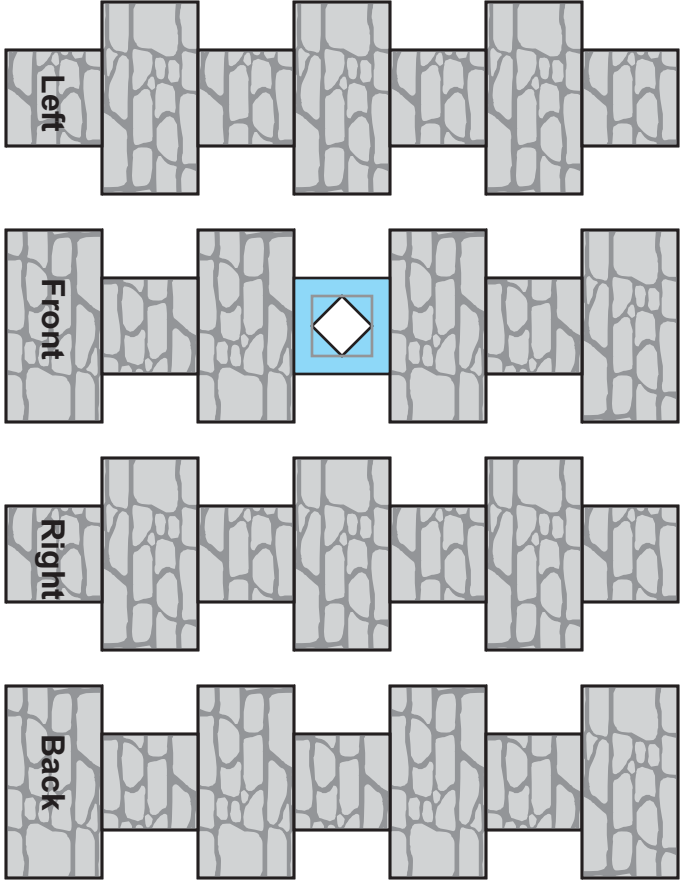
Stone from Rubble
block Mold #263

T1

Chimney goes here

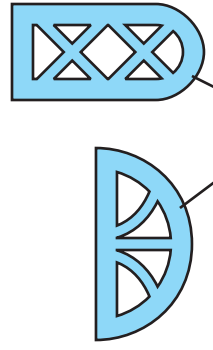


Top chimney core is made from two 2.5" beams glued back to back with blocks wrapped around it.

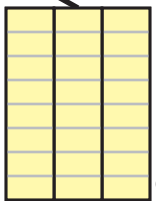


All windows are a single window glued onto thick card stock. These windows will end up being recessed in the stone and painted a stone color.

Squared tops of windows are sanded down to fit the rounded stone arches.

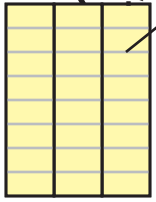
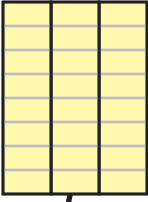


Glue these 3 brick strips on the shoulders of the chimney.

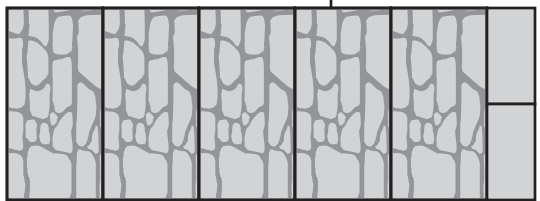
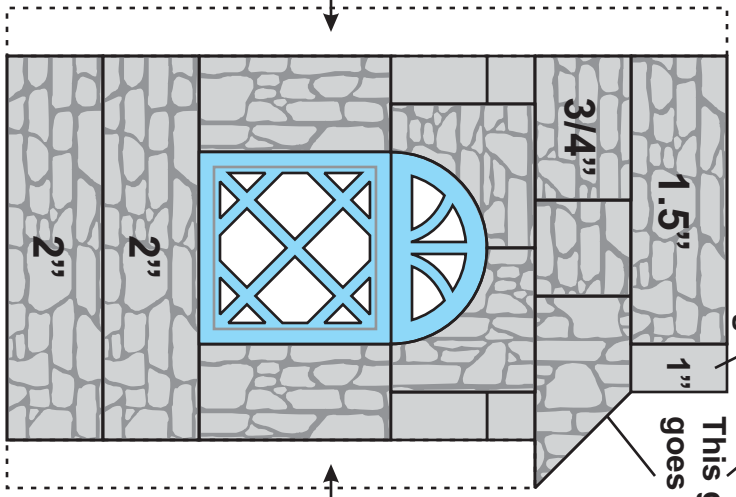
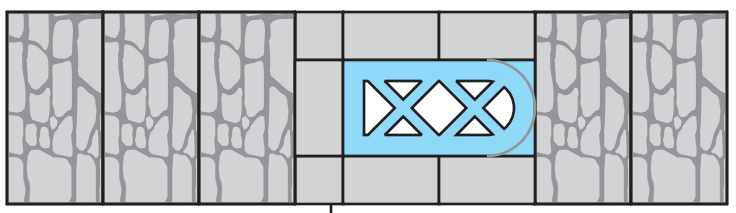
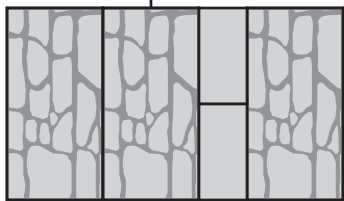
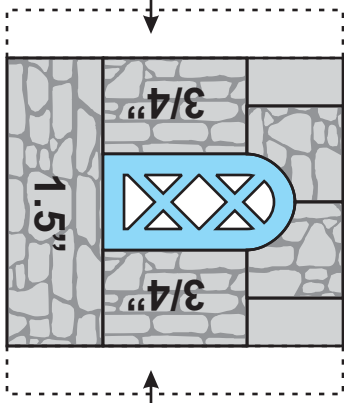
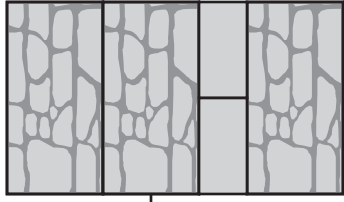
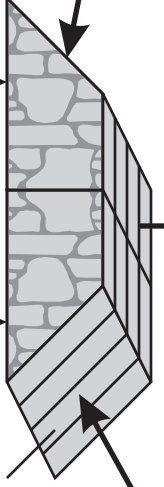


T10

Glue these 3 brick strips on the shoulders of the chimney



Four of each block glued together.

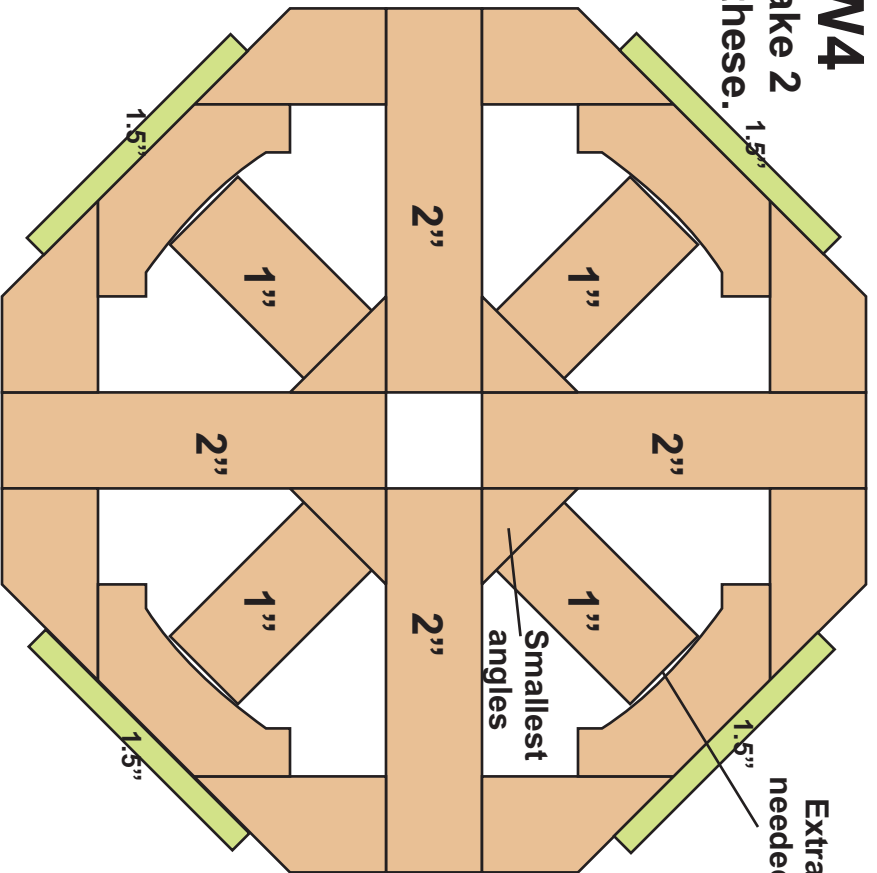


B7

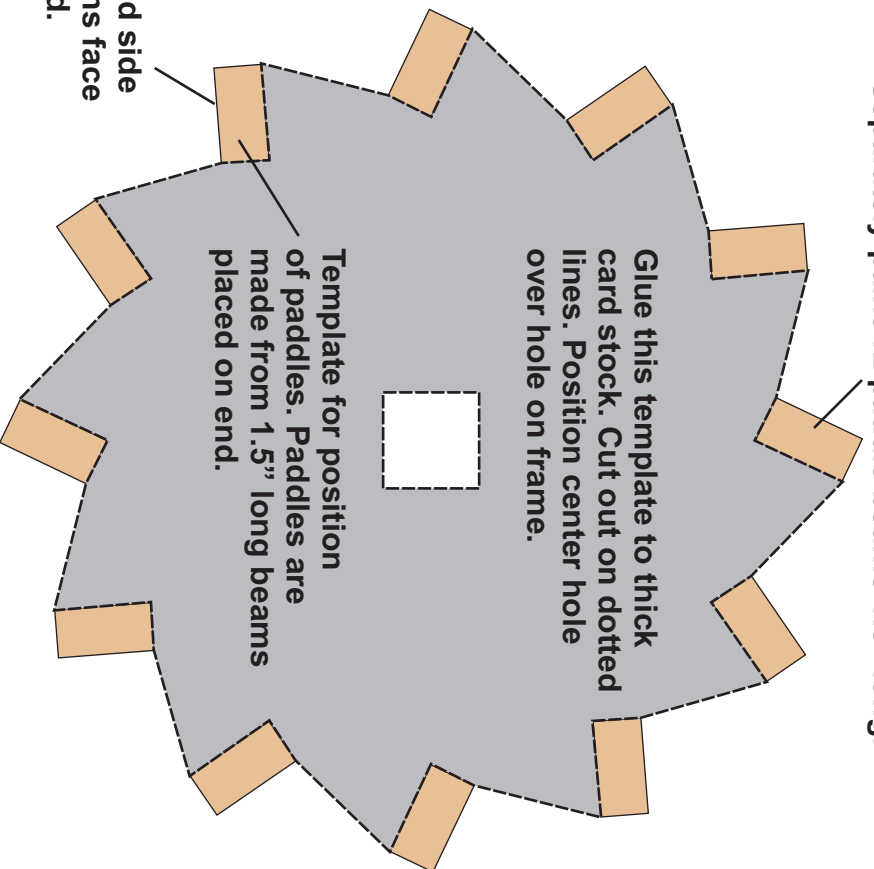
This group of blocks 1" block on edge goes behind here.

W4

Make 2 of these.



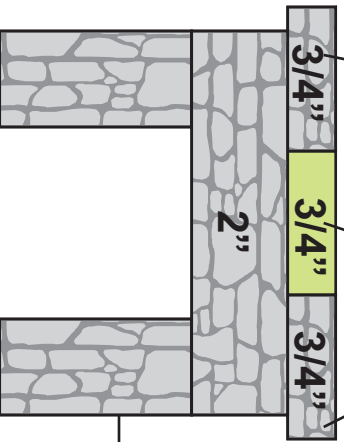
Separately paint 12 paddle beams 1.5" long.



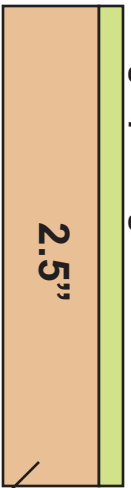
B8

Bottom floor fireplace 3/4" stones on their side.

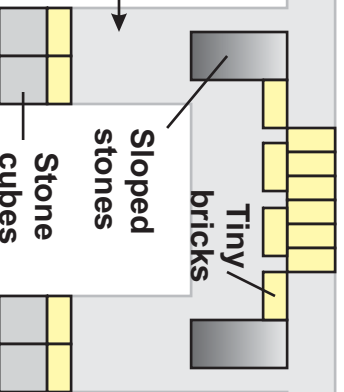
Two 3/4" planks stacked.



Mantle is a single 2.5" beam with a single plank glued onto one side.



Mantle will be painted separately before being glued onto fireplace



Separately paint 12 paddle beams 1.5" long.

B2

These are two 3" beams glued back to back.



Make 7 of these.

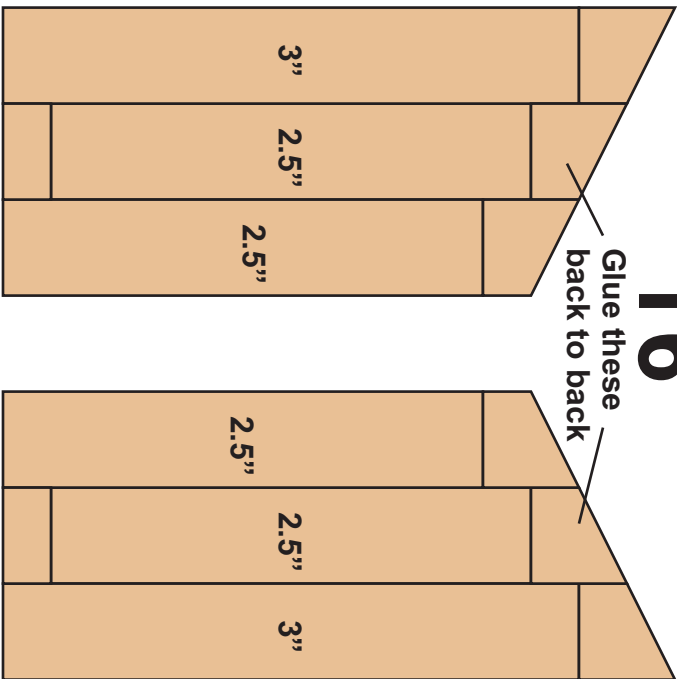
T2

These are two 2" beams with an angle on the end glued back to back.



Make 6 of these.

T6



Glue these back to back

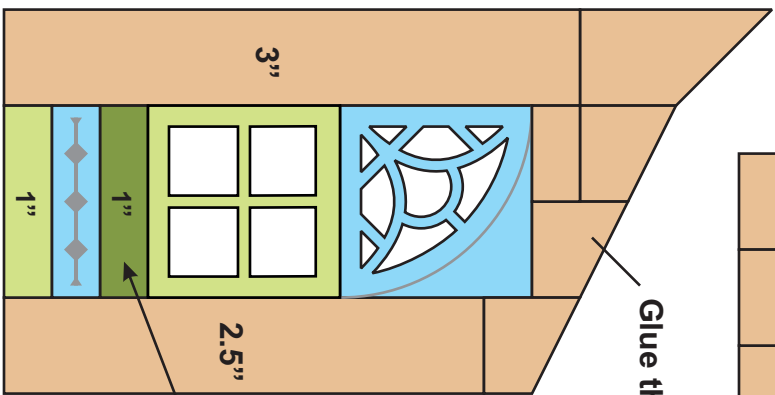


Wooden beams from Mold #226

Wooden Planks from Mold #225

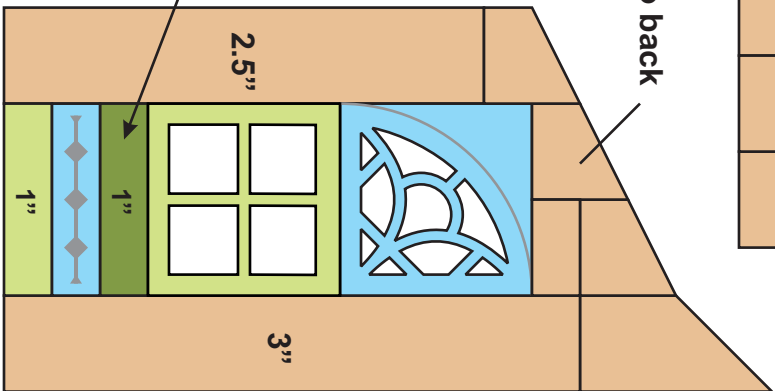


Windows and decorative pieces from Mold #227

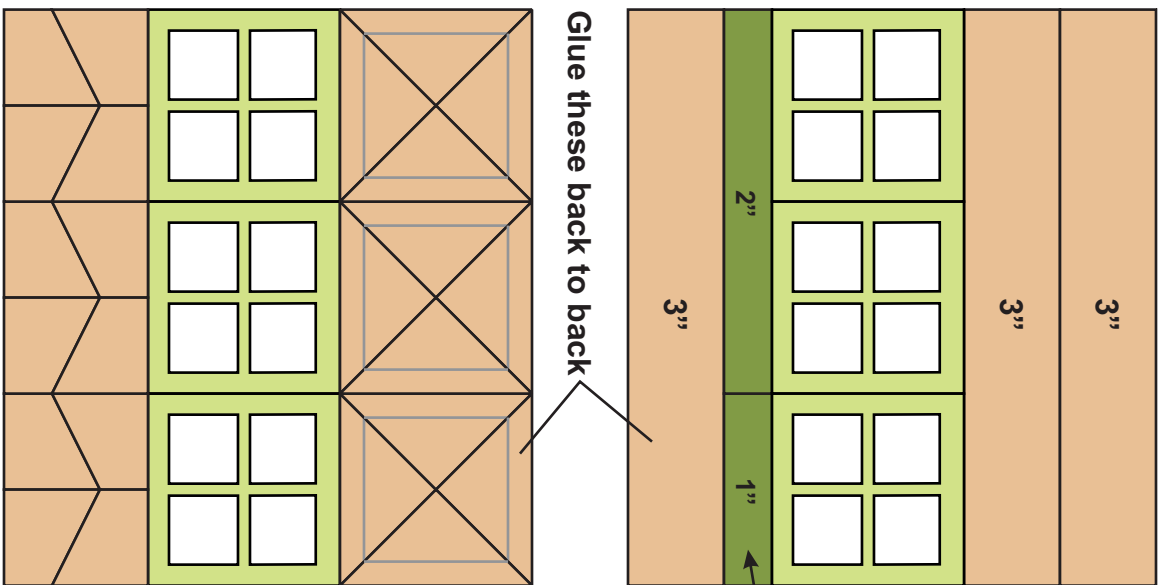


Glue these back to back

T8

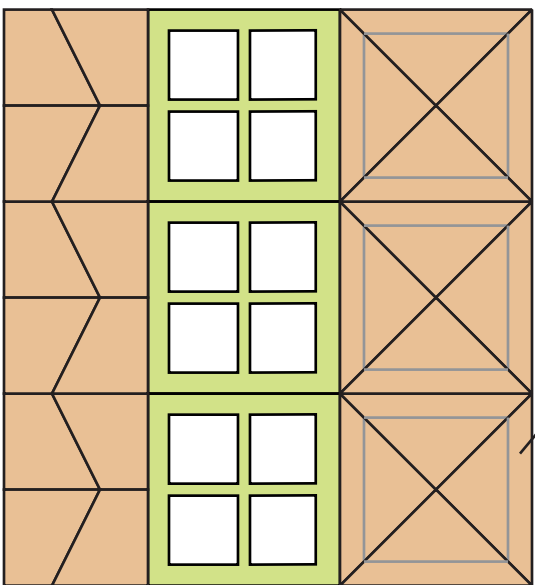


Stack of 2 planks

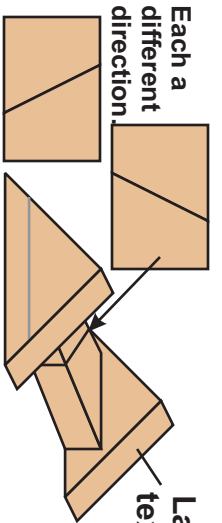


Stack of 2 planks under windows

T7



Glue these back to back



R4

Large angle braces with texture facing outwards.

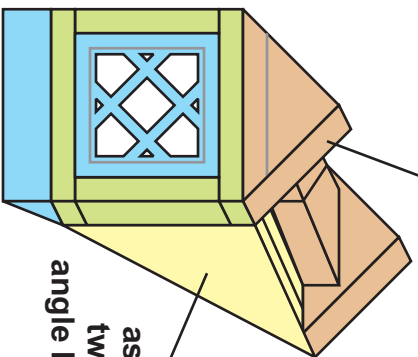
The peak R4 and the window R5 are assembled separately, then painted a wood color.



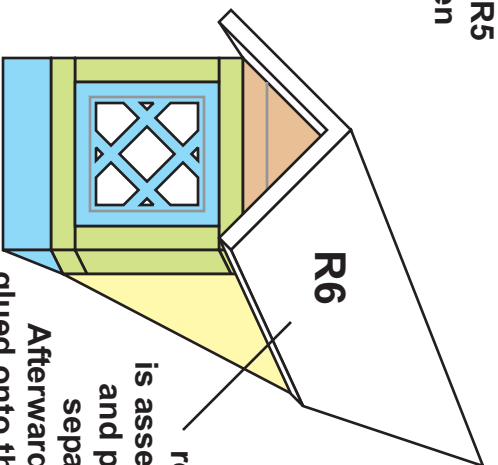
R5

Two decorative windows glued back to back with planks all around.

1" angle beam



Afterwards, the dormer is assembled using two painted large angle brick panels on each side.

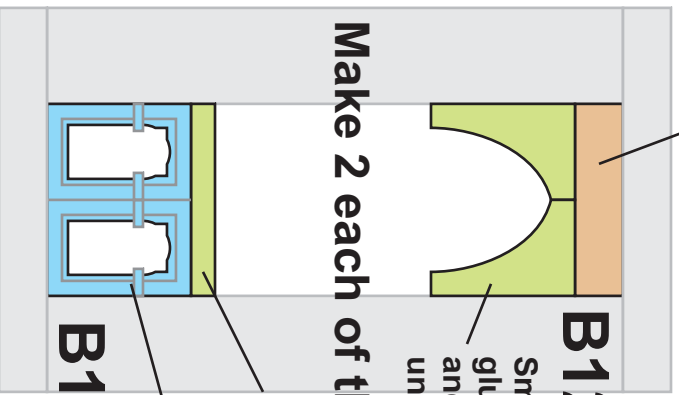


R6

The roof R6 is assembled and painted separately. Afterwards, it is glued onto the roof and the back is sanded fit onto the existing roof.

1" beam on edge texture side facing up.

Upper Porch



B12

Small supports glued back to back and centered under beam.

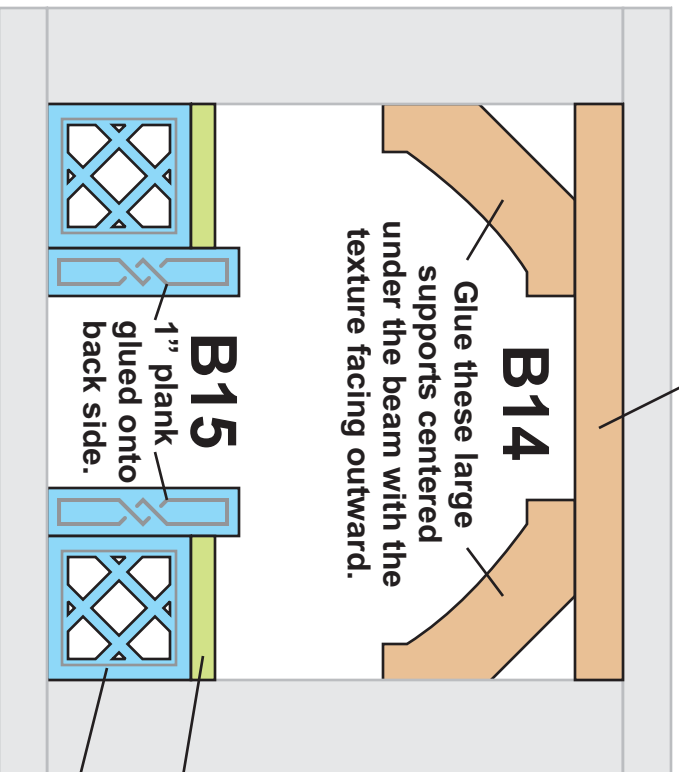
Make 2 each of these

1" plank on top

Decorative windows glued back to back.

B13

Porch sides



3" beam on edge texture side facing up.

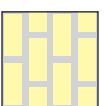
B14

Glue these large supports centered under the beam with the texture facing outward.

B15

1" plank glued onto back side.

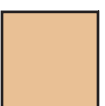
Porch front



Brick panels from Mold #253



Pieces from Mold #227



Wooden beams from Mold #226

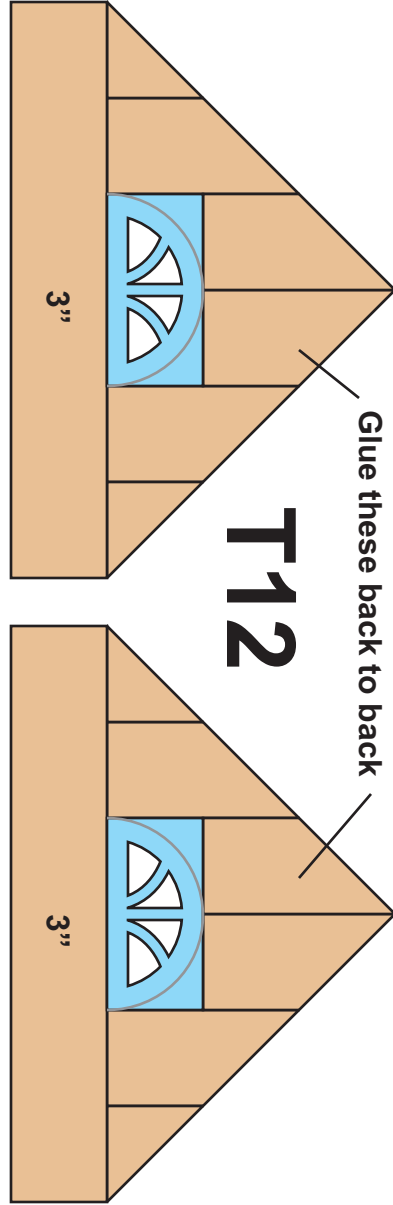


Wooden Planks from Mold #225

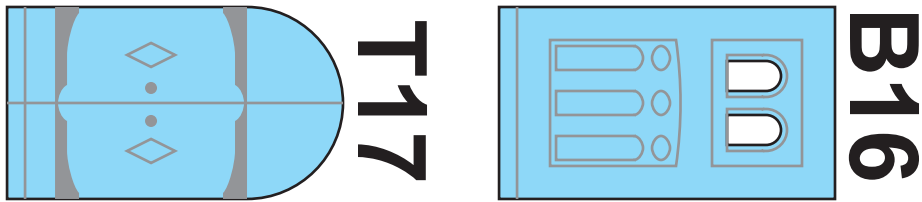
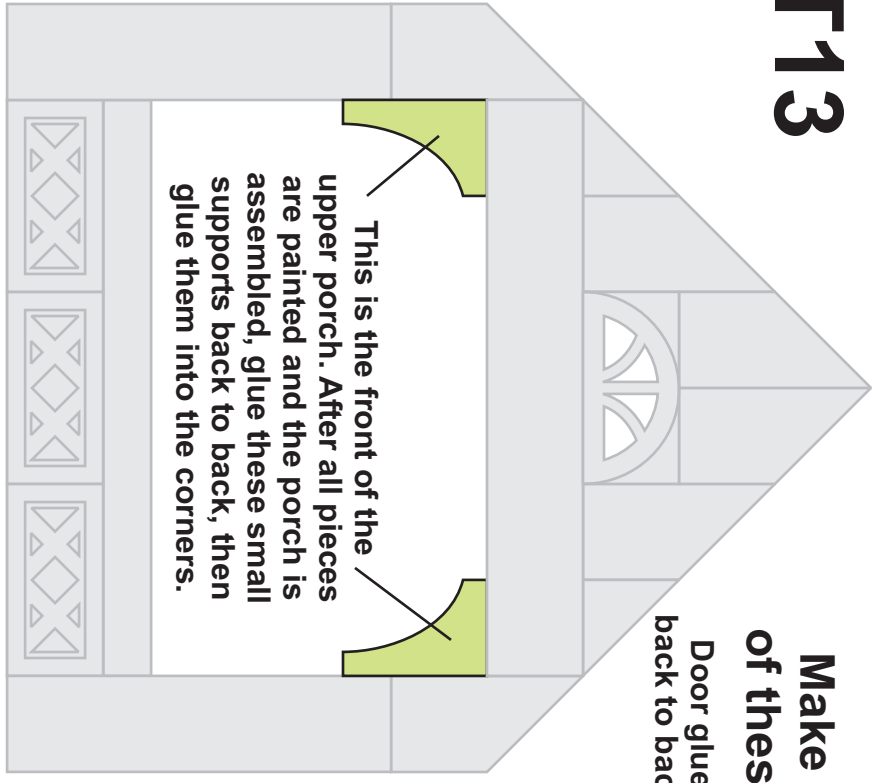
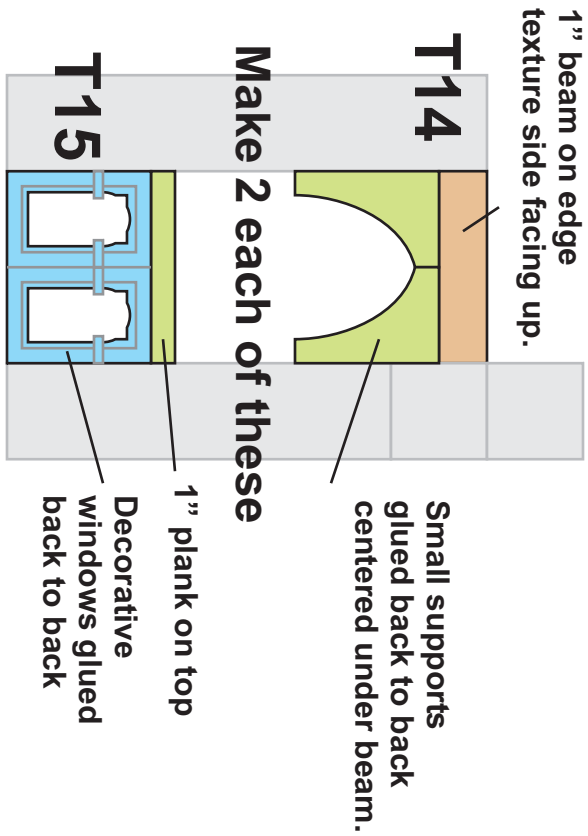
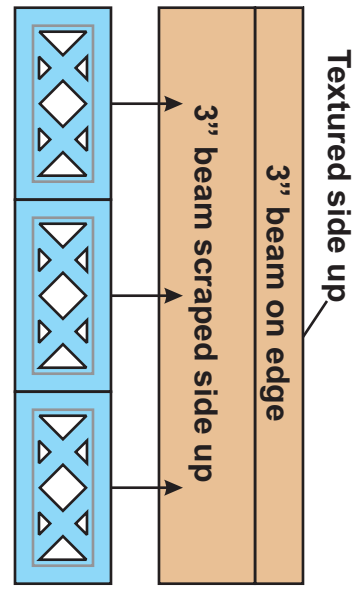
3/4" plank on top

Decorative windows glued back to back

Upper Porch



-  Wooden beams from Mold #226
-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227

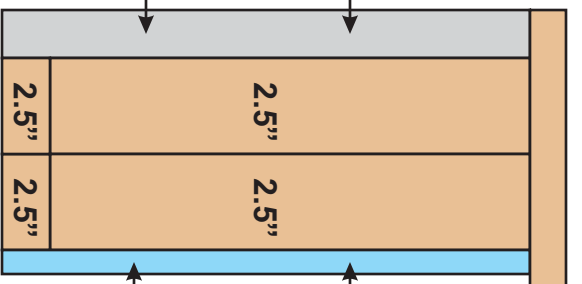


B9 Stairway

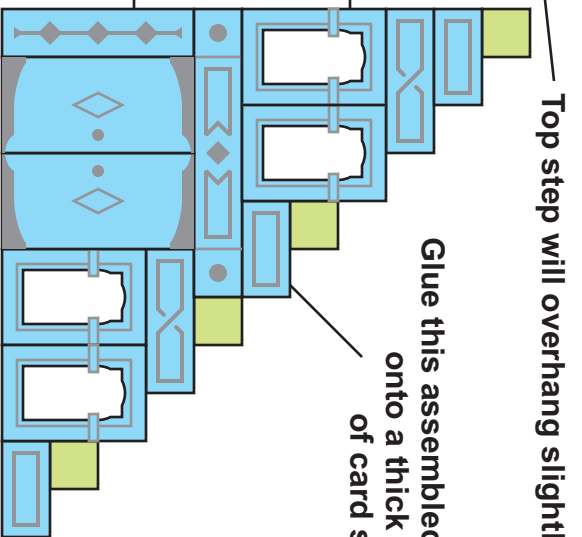
Glue these stone blocks together.



Left







Back

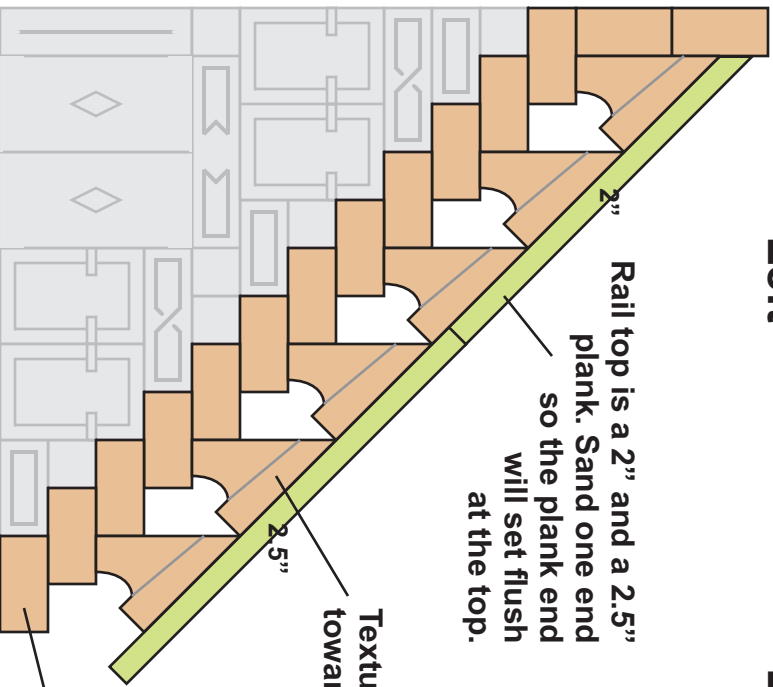


Right

Glue this assembled side onto a thick piece of card stock.

Top step will overhang slightly.

-  Stone from Rubble block Mold #263
-  Wooden beams from Mold #226
-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227



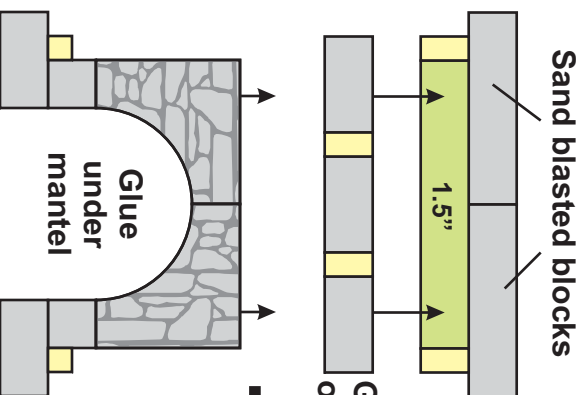
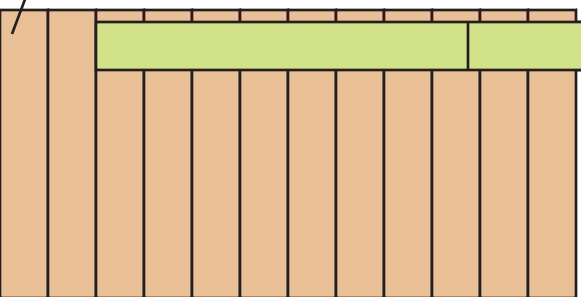
Rail top is a 2" and a 2.5" plank. Sand one end so the plank end will set flush at the top.

Texture facing toward you.

Railing is inset slightly.

Steps are 1.5" beams

Front

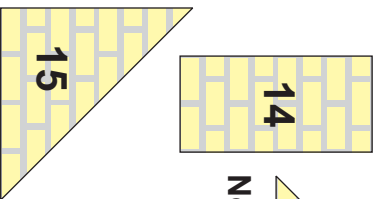
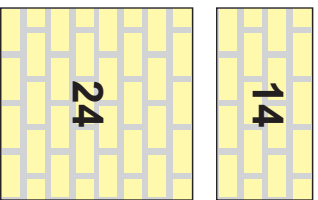
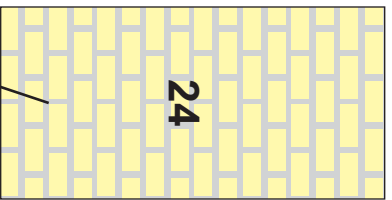
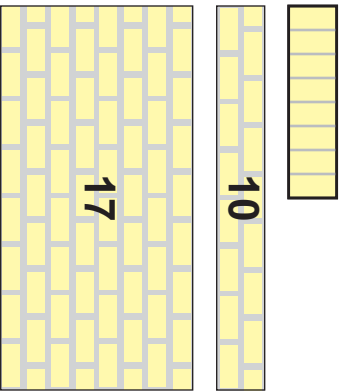
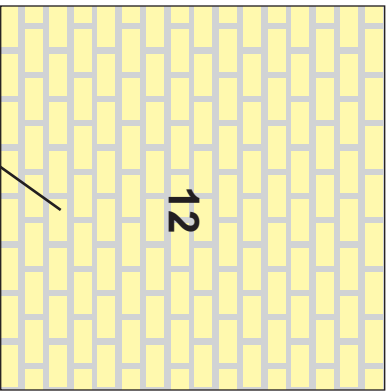


T11

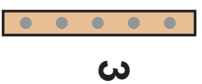
Pieces to be separately taped down to cardboard and painted individually.

The number of pieces shown here are the exact number needed for the walls. It's probably a good idea to paint a couple of extra pieces, just in case you accidentally break or lose some pieces.

These are from the brick panel mold #253. You will notice that with 15 castings you will not have enough of some pieces such as the 1" square. To make these extra pieces, you will need to break some of the larger pieces in half.



No small angles are needed.

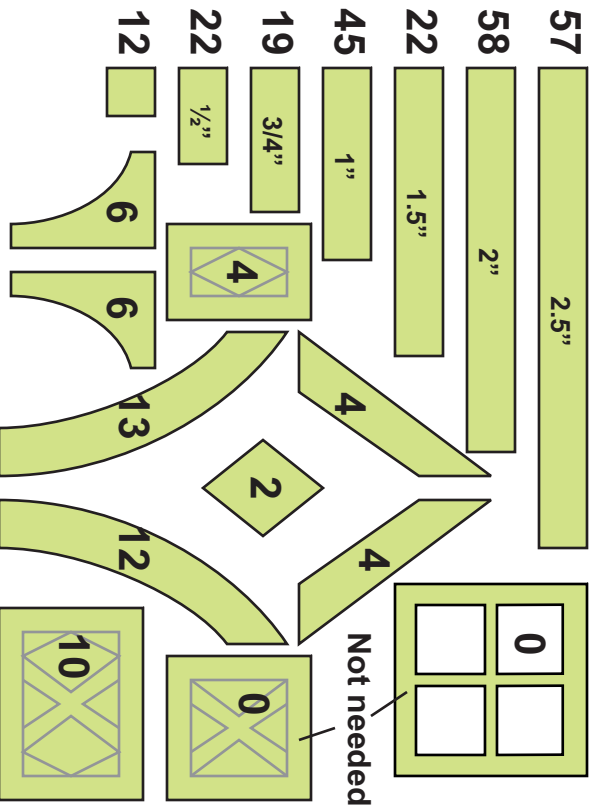


Straps from mold #226 painted like wood.

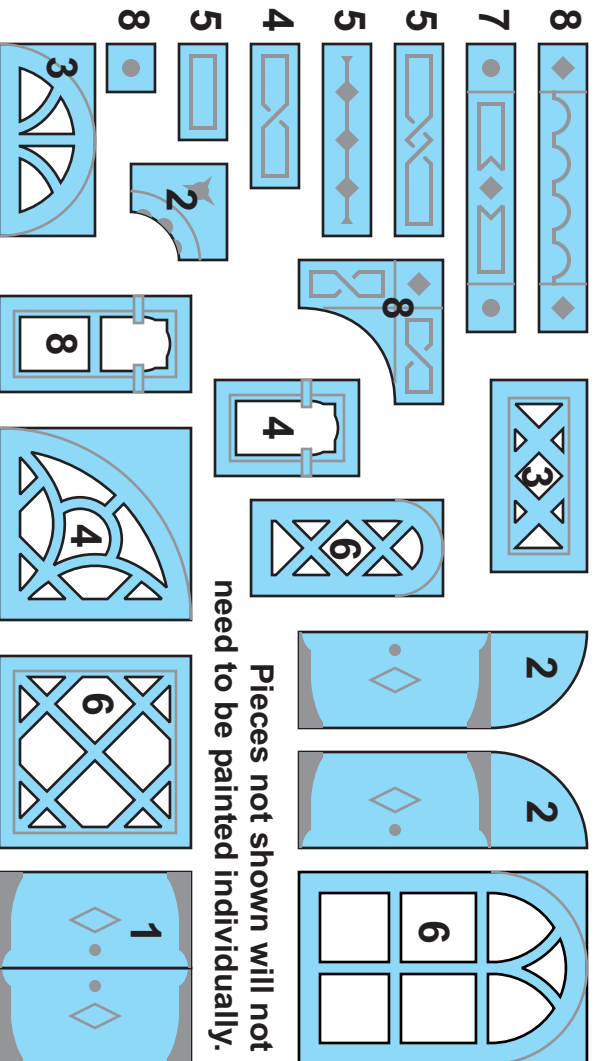
Snap 1 of the remaining pieces in half to make the 2 extra horizontal panels

Snap 5 of the remaining pieces in half to make the 1" squares you need.

These are from the half timber mold #225.

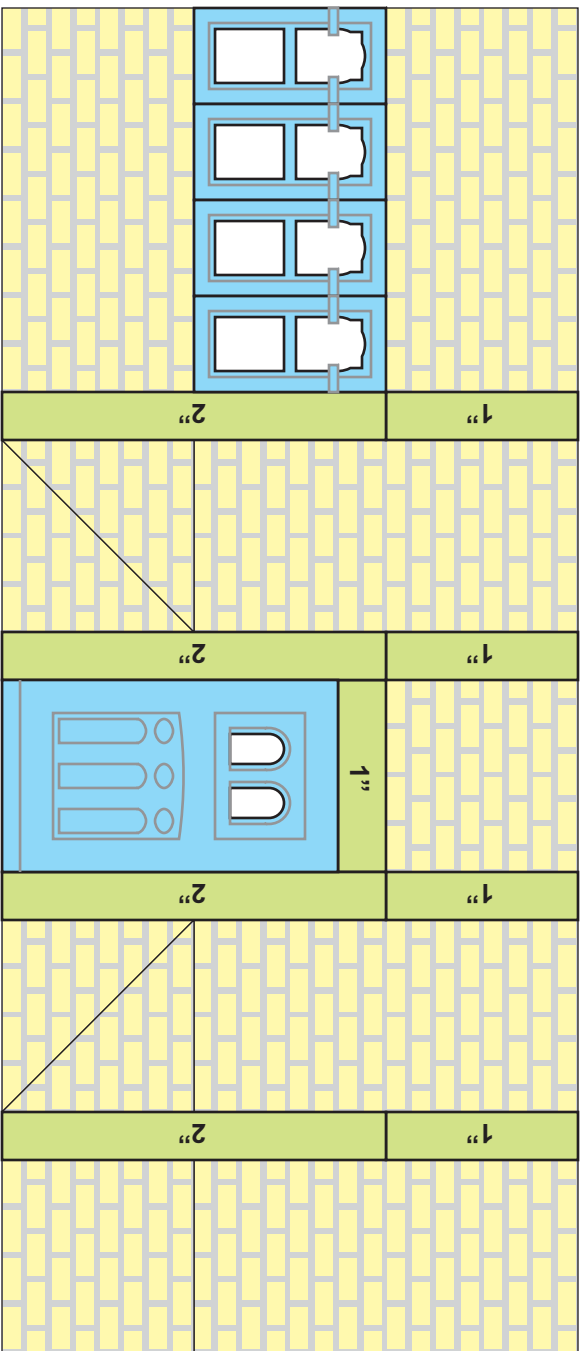
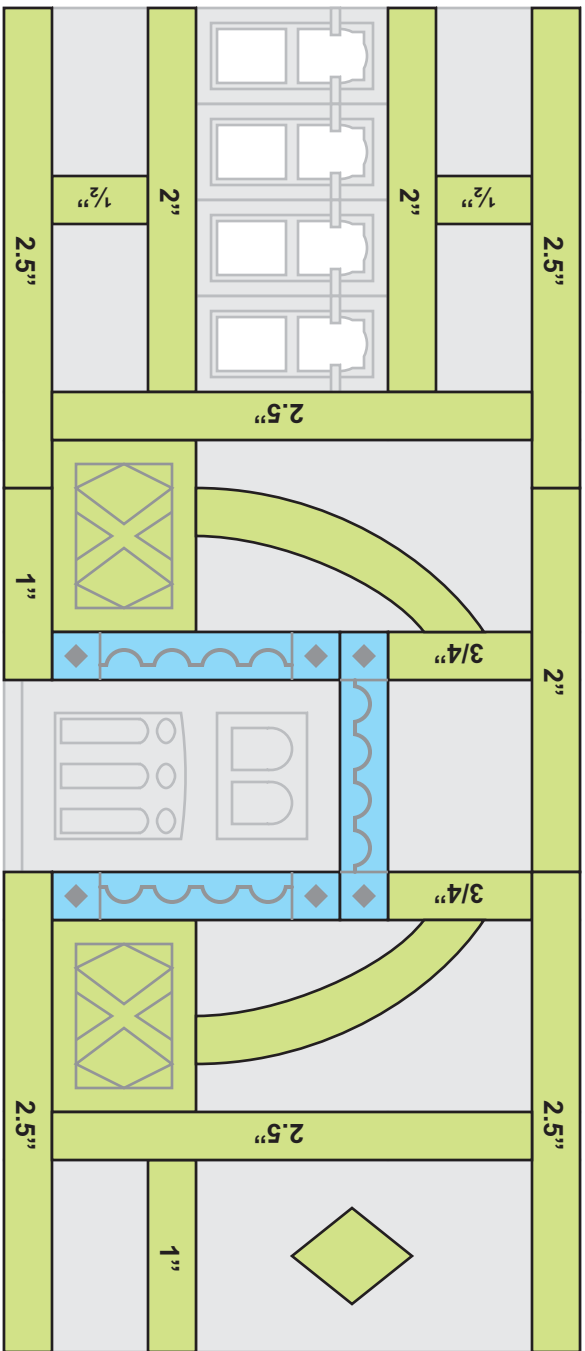


These are from the tavern window & door mold #227





Pieces not shown will not need to be painted individually.

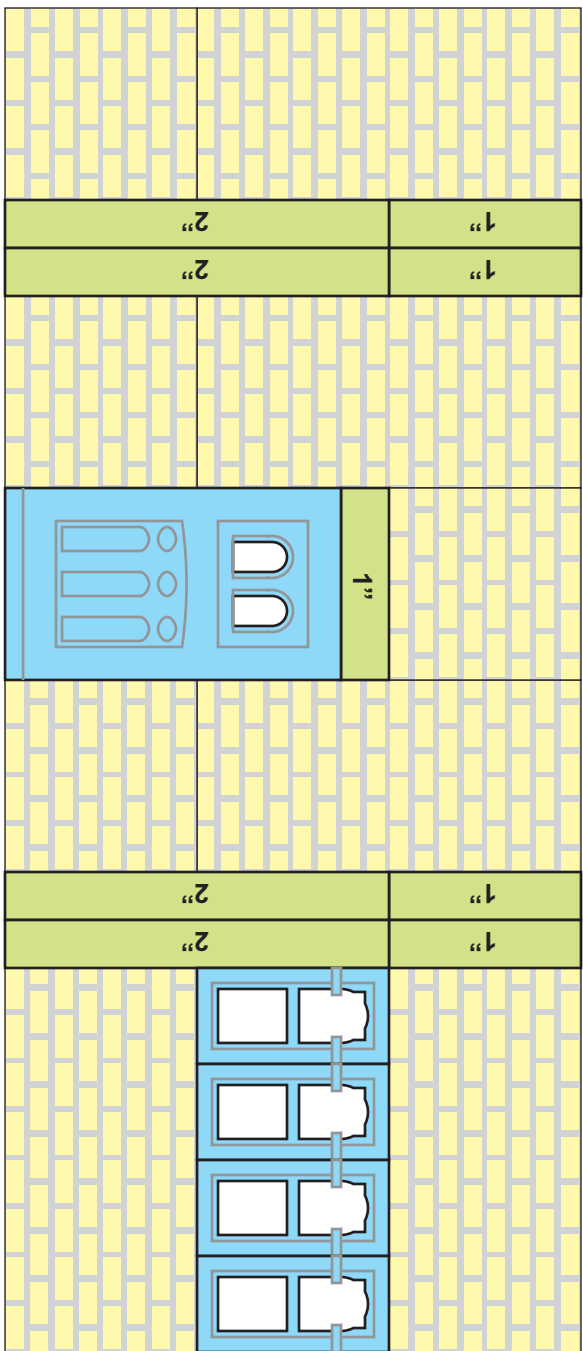
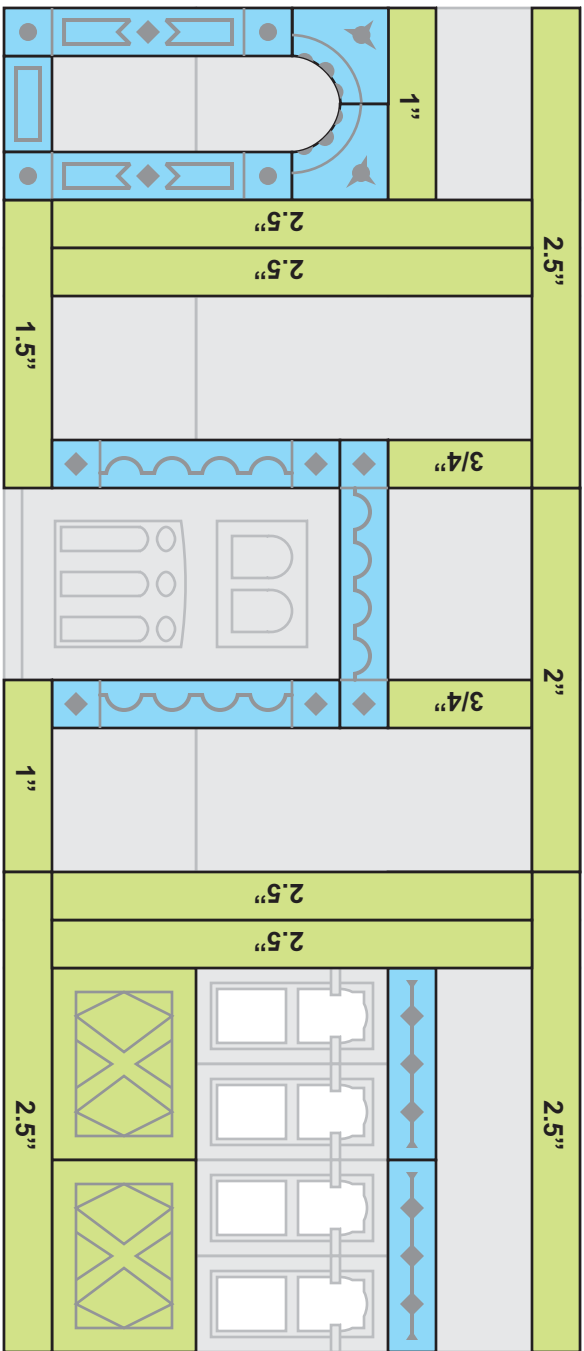
B3 Inside of wall



Do not glue door in place.

-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227
-  Brick panels from Mold #253

B3 Outside of wall



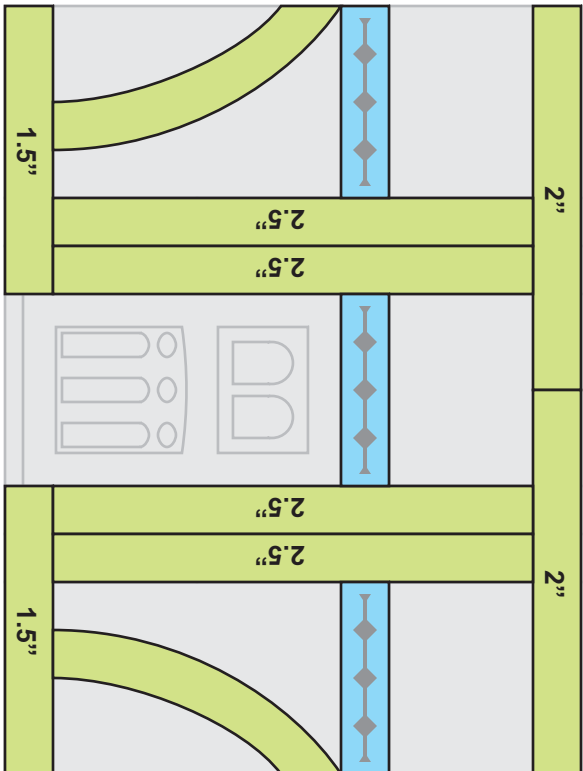
-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227
-  Brick panels from Mold #253

Do not glue door in place.

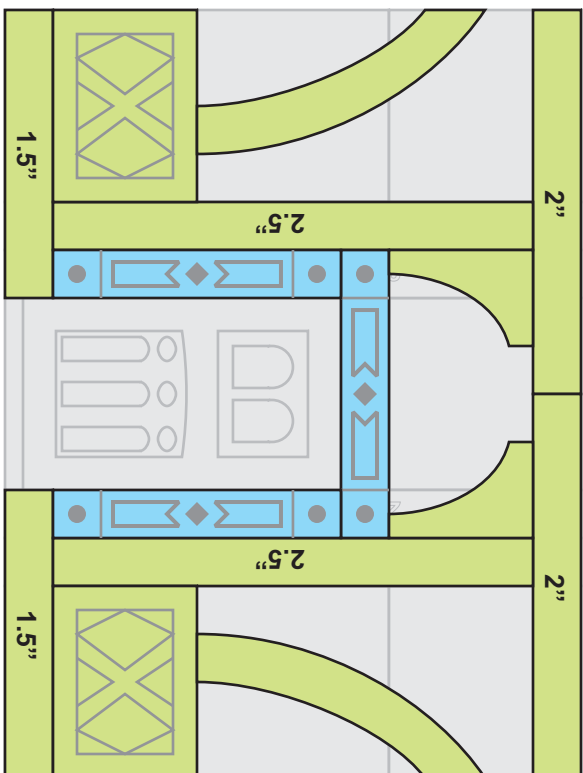
Wooden Planks
from Mold #225

Windows and decorative
pieces from Mold #227

Brick panels
from Mold #253

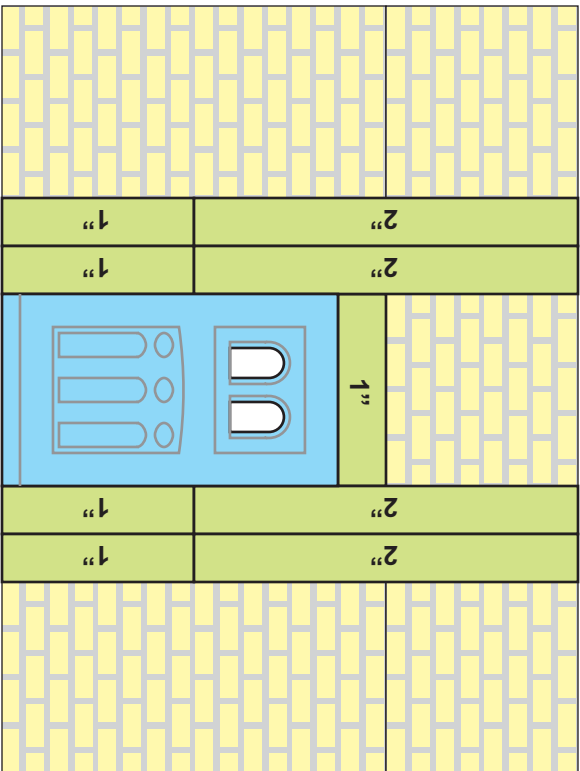


Outside of wall

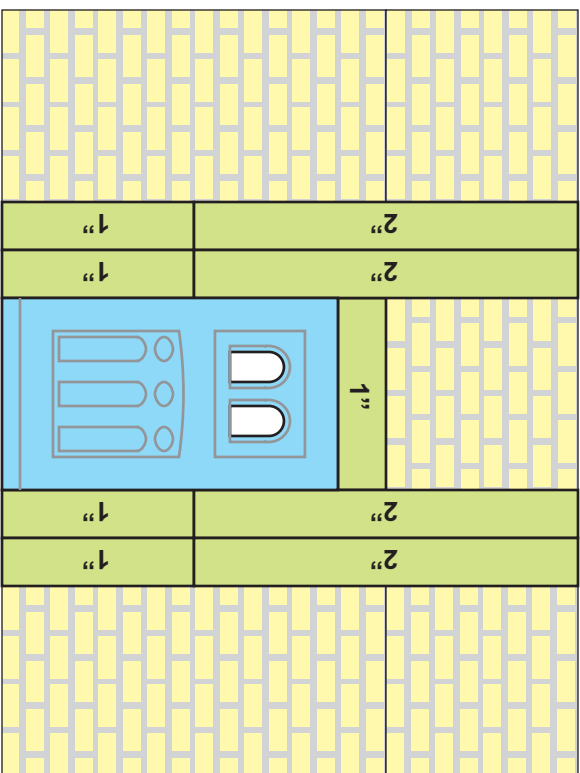


Inside of wall

B4

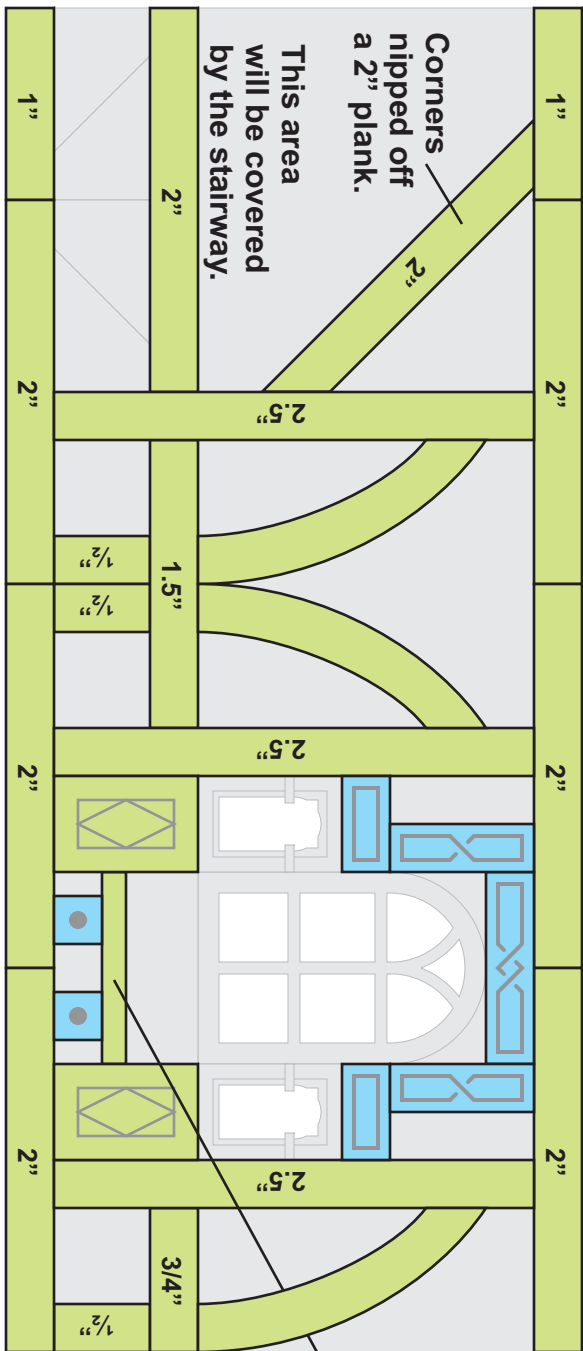


Do not glue door in place.

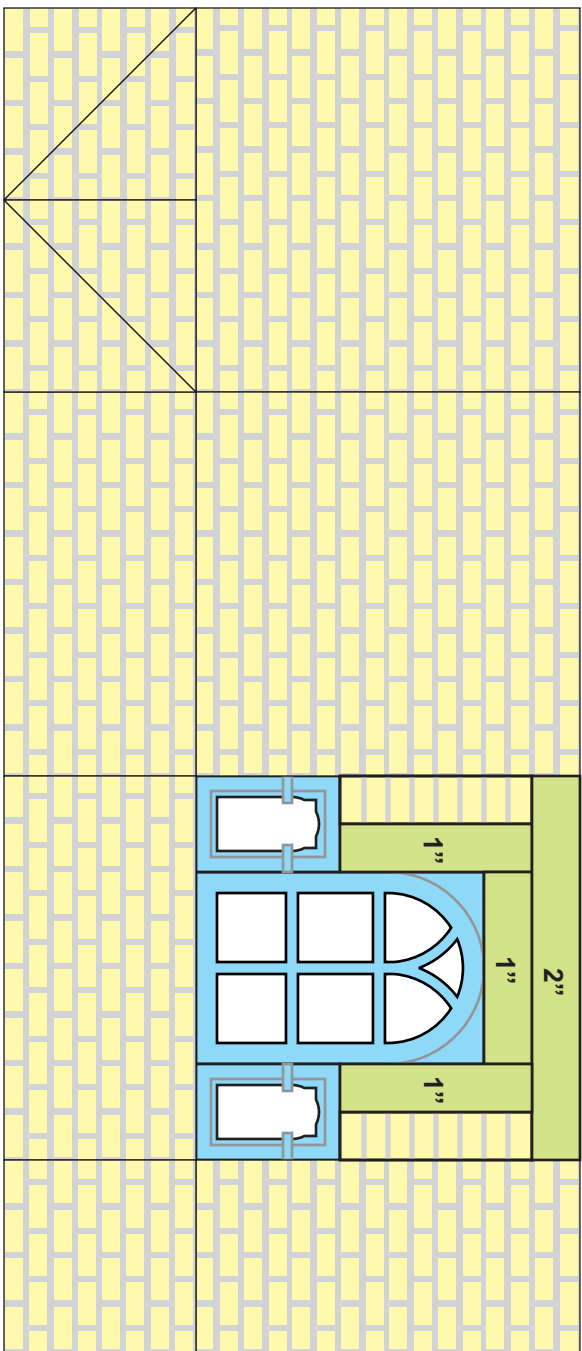




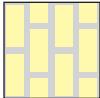
Do not glue door in place.

B5 Inside of wall

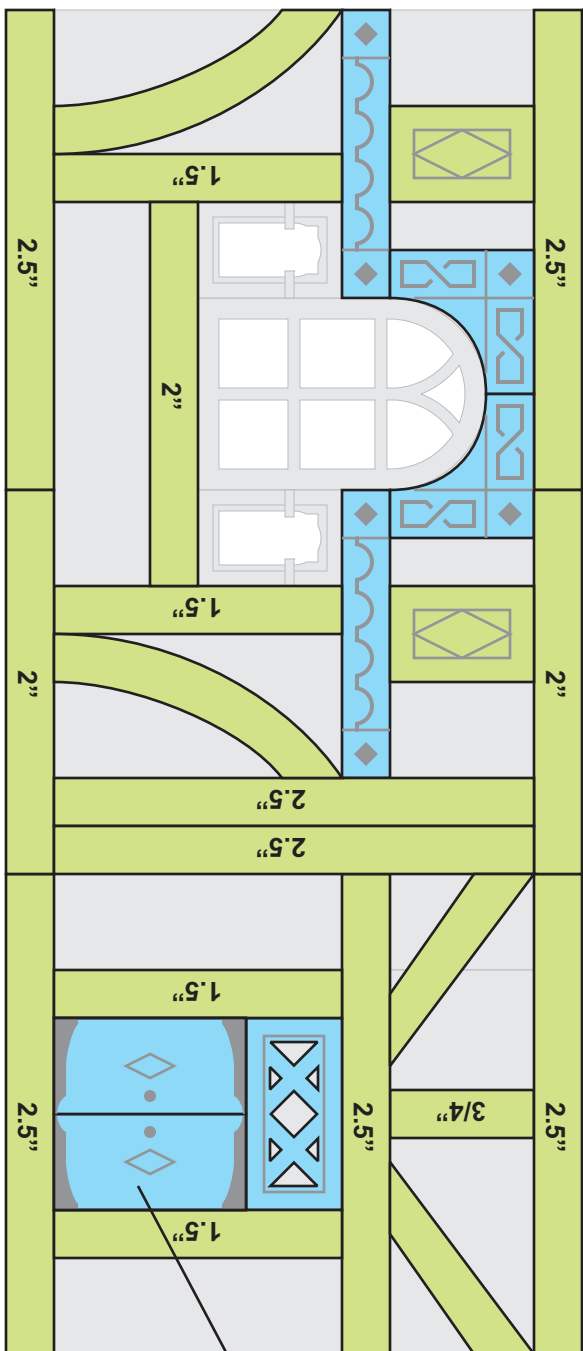


1" plank on edge to form a bench.
Wait and glue this on after wall is completely assembled.

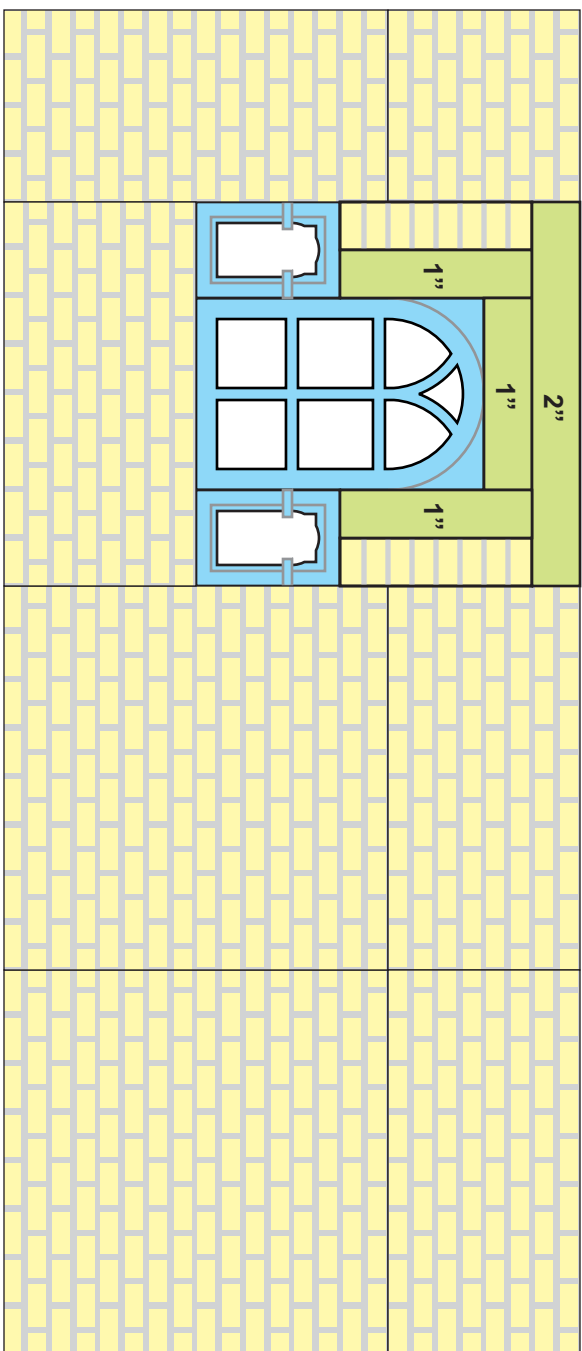




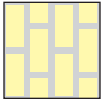
-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227
-  Brick panels from Mold #253

B5 Outside of wall



Wait and glue this door on after wall is completely assembled because the hinges stick out.



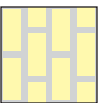
-  Wooden Planks from Mold #225
-  Windows and decorative pieces from Mold #227
-  Brick panels from Mold #253



Wooden Planks
from Mold #225



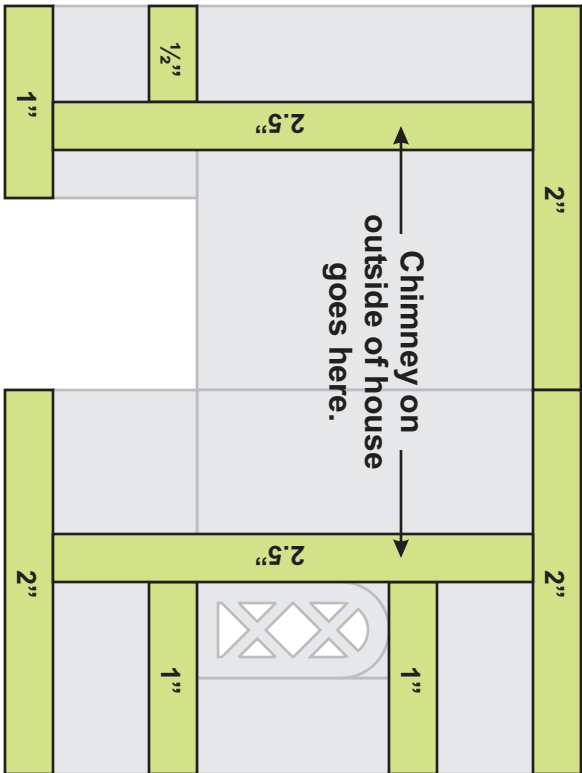
Windows and decorative
pieces from Mold #227



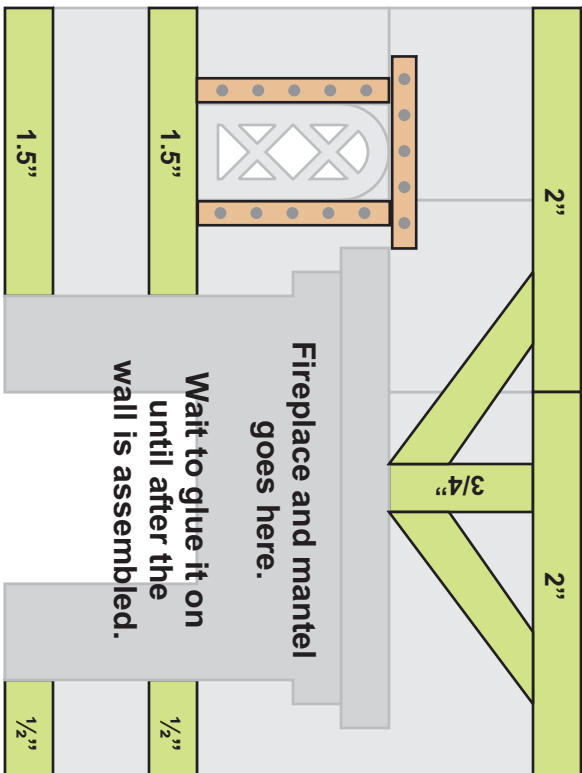
Brick panels
from Mold #253



Wooden beams
from Mold #226

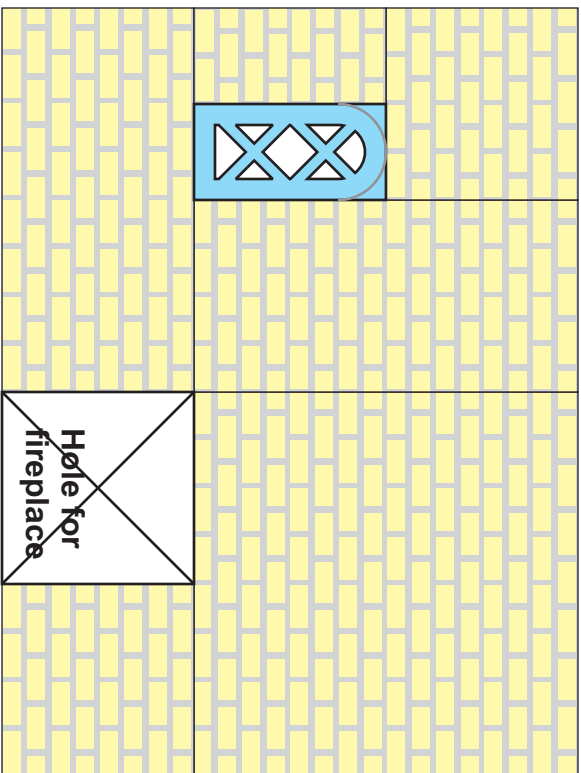
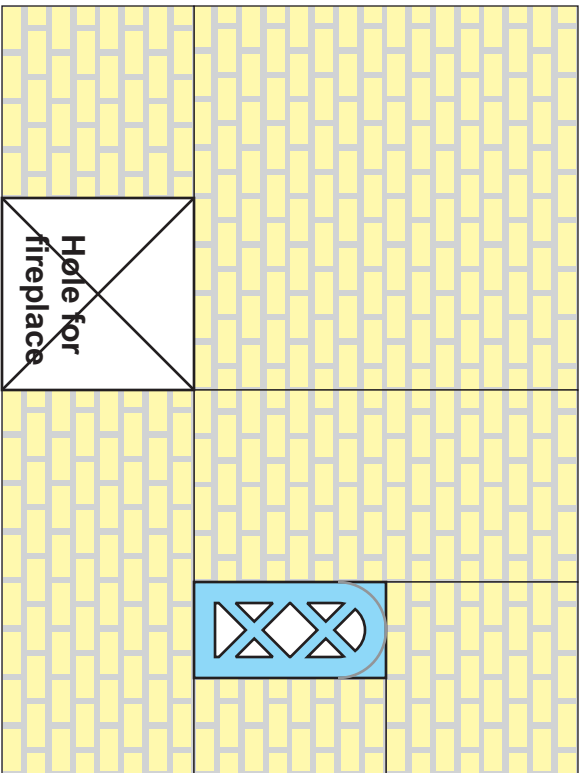


Outside of wall



Inside of wall

B6



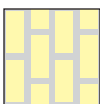
T3 Inside of wall



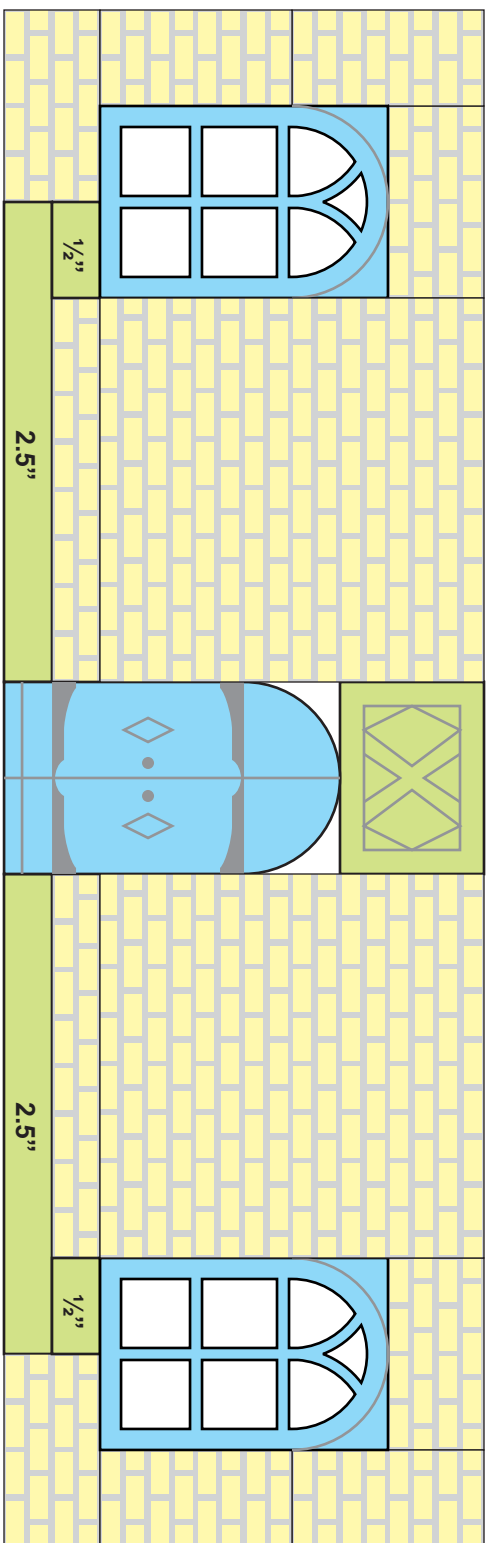
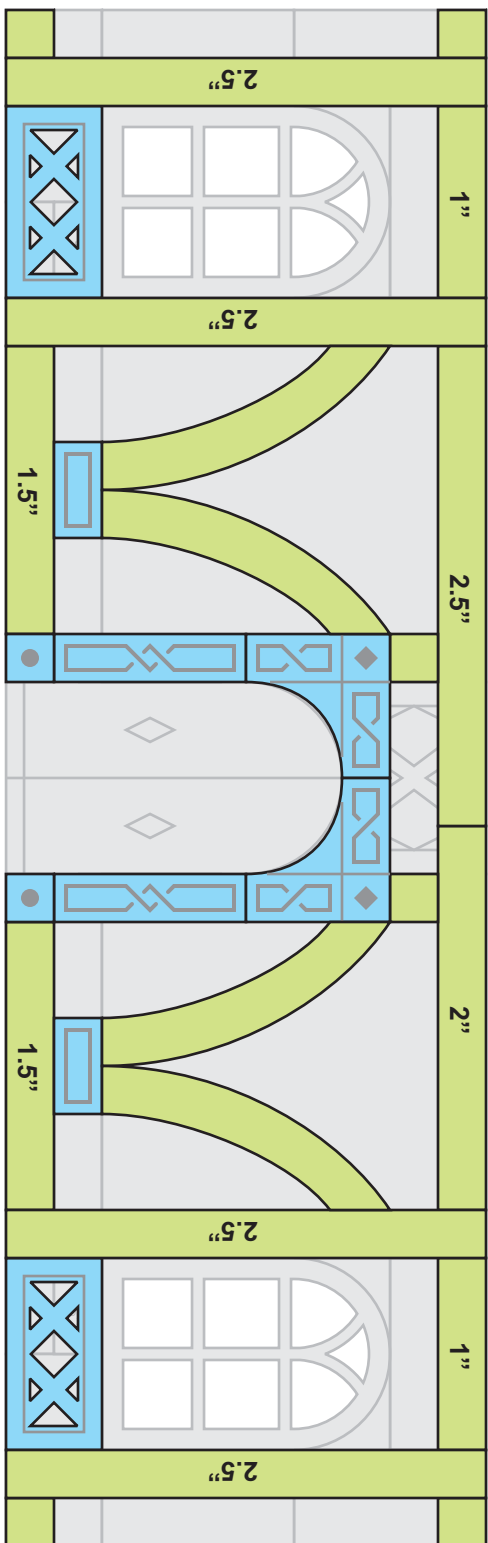
Wooden Planks
from Mold #225



Windows and decorative
pieces from Mold #227



Brick panels
from Mold #253



Do not glue door in place.

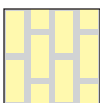
T3 Outside of wall



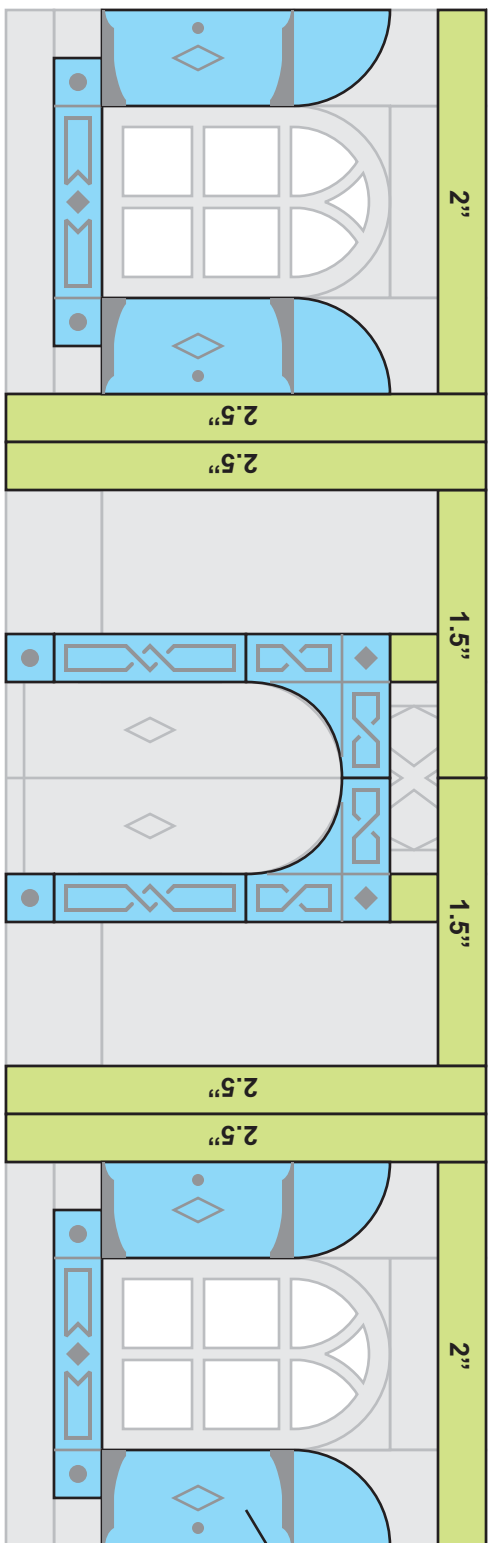
Wooden Planks
from Mold #225



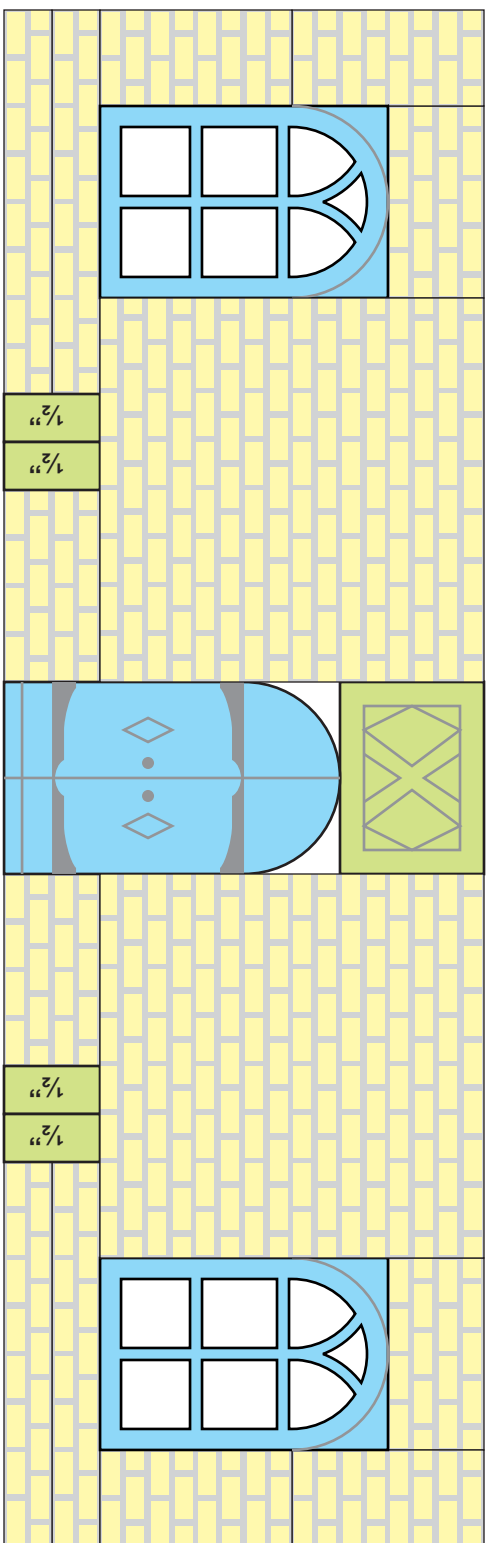
Windows and decorative
pieces from Mold #227



Brick panels
from Mold #253



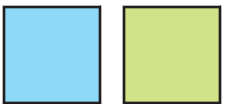
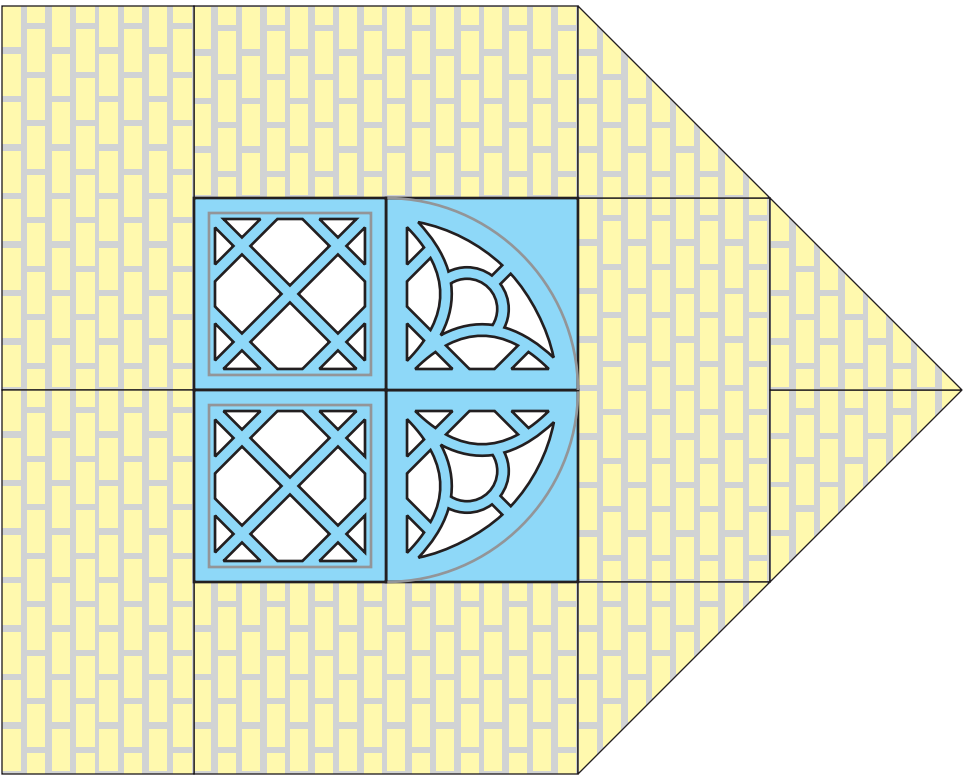
Glue the shutters on
after the wall section
is completely
assembled because
the hinges stick out.



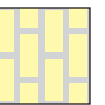
Do not glue door in place.

T4

Inside of wall

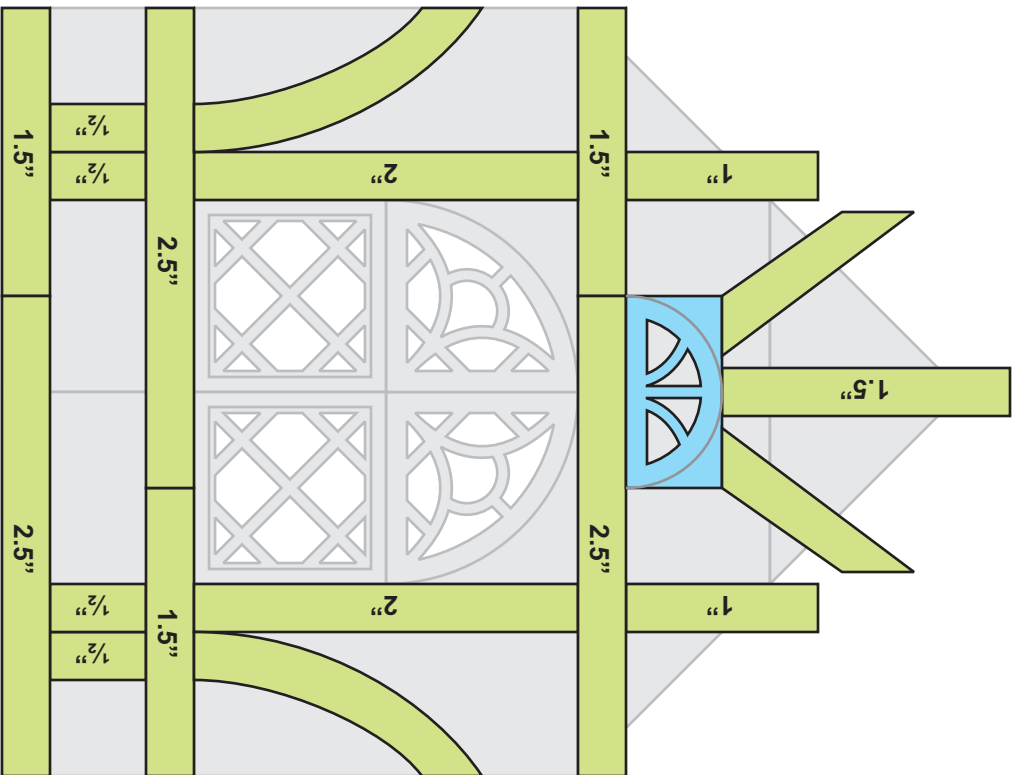


Wooden Planks
from Mold #225



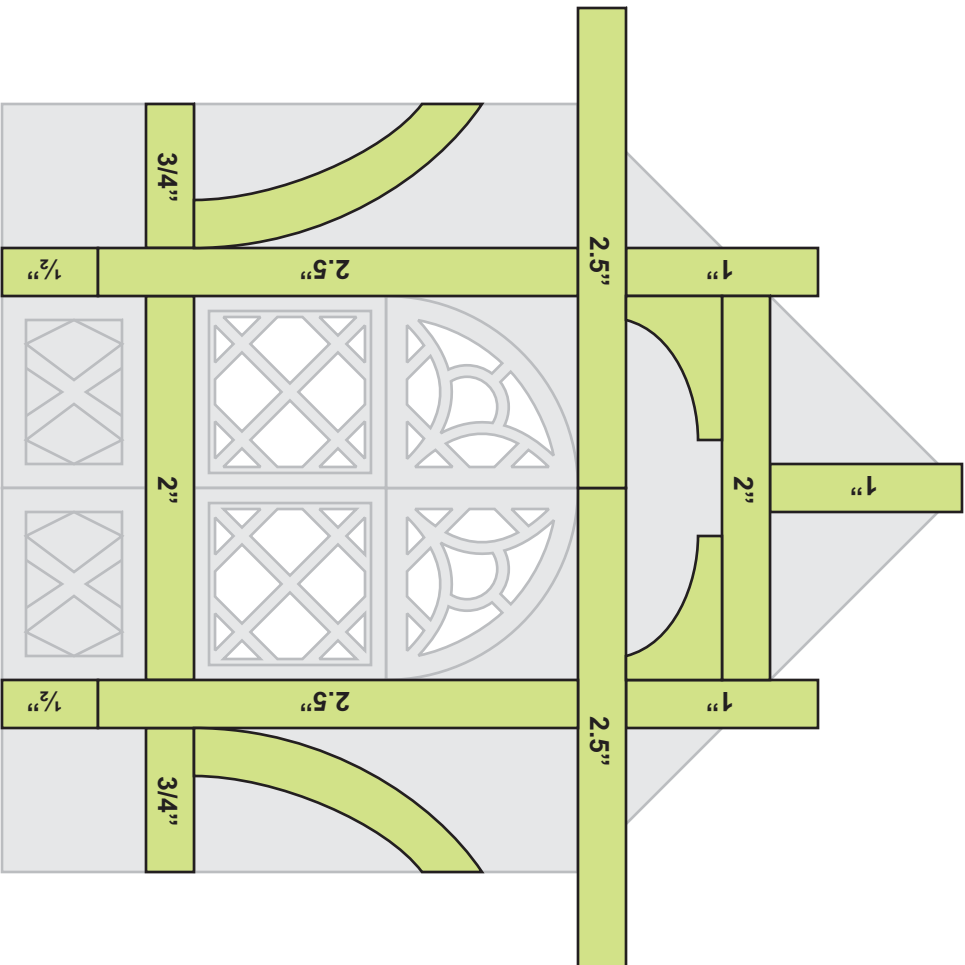
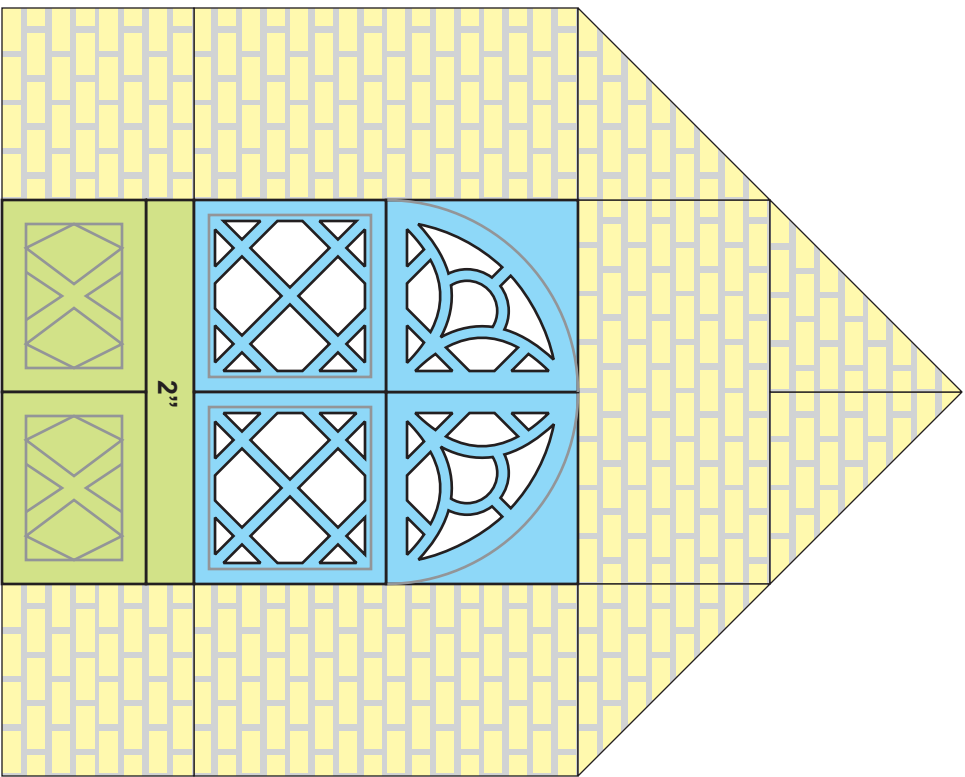
Brick panels
from Mold #253

Windows and decorative
pieces from Mold #227

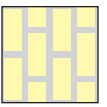


T4

Outside of wall



Wooden Planks
from Mold #225



Brick panels
from Mold #253



Windows and decorative
pieces from Mold #227

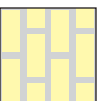
T5



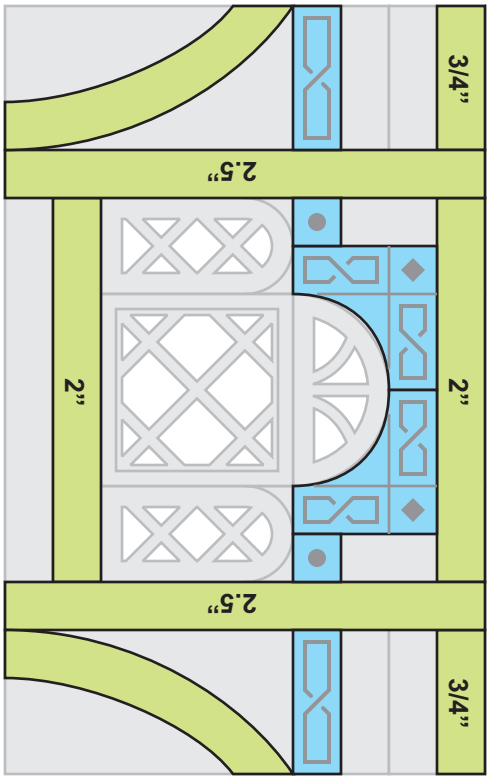
Wooden Planks
from Mold #225



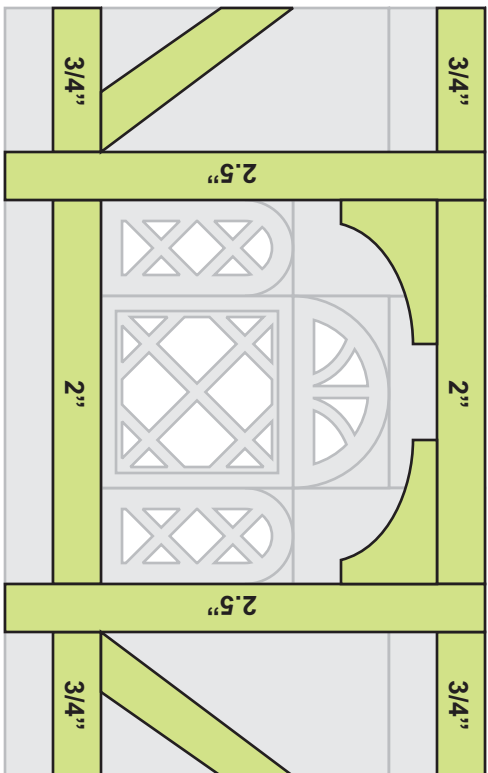
Windows and decorative
pieces from Mold #227



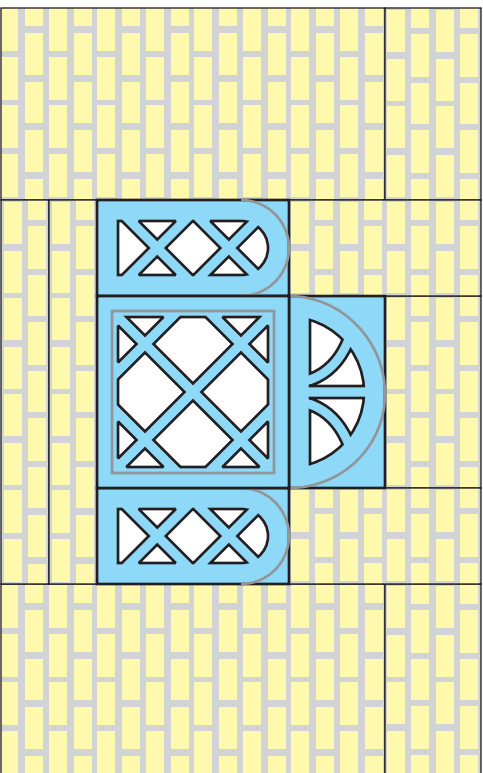
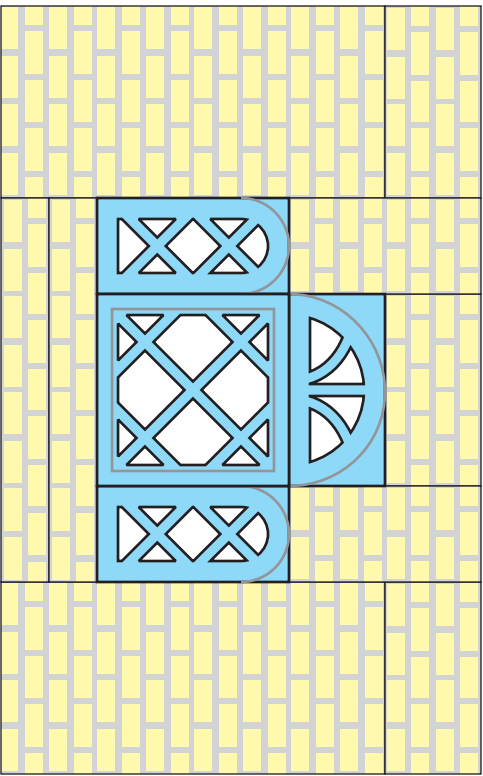
Brick panels
from Mold #253



Outside of wall

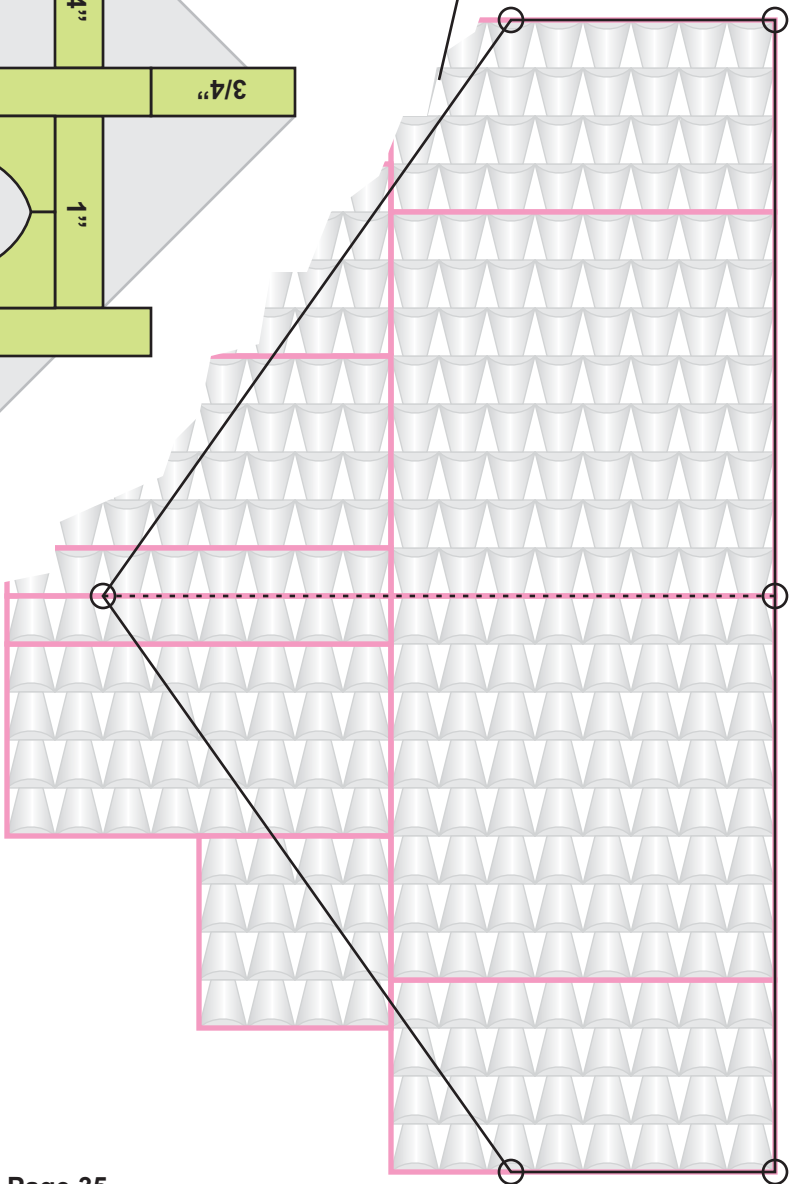


Inside of wall



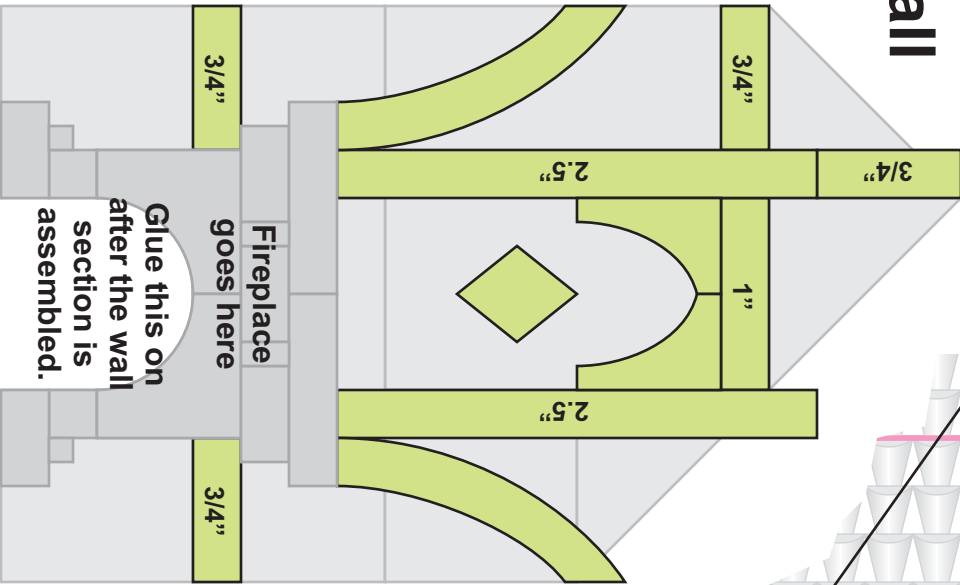
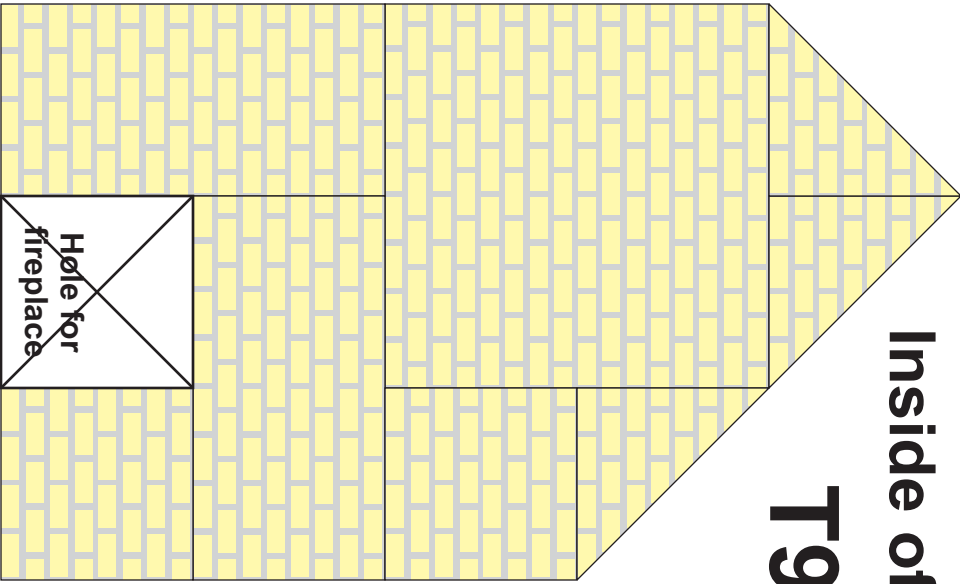
R2

Edges will be broken off and sanded.



Inside of wall

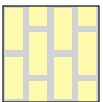
T9



Glue this on after the wall section is assembled.



Clay roof tiles from Mold #230



Brick panels from Mold #253



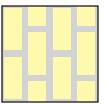
Windows and decorative pieces from Mold #227



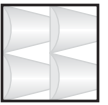
Wooden Planks from Mold #225



Wooden Planks
from Mold #225



Brick panels
from Mold #253



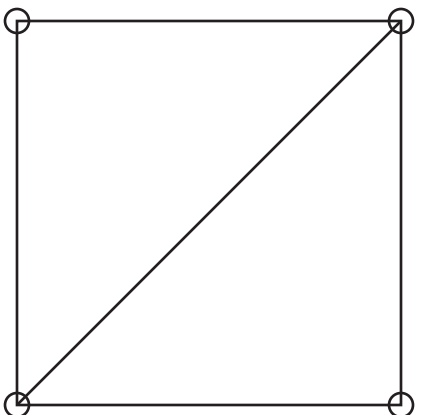
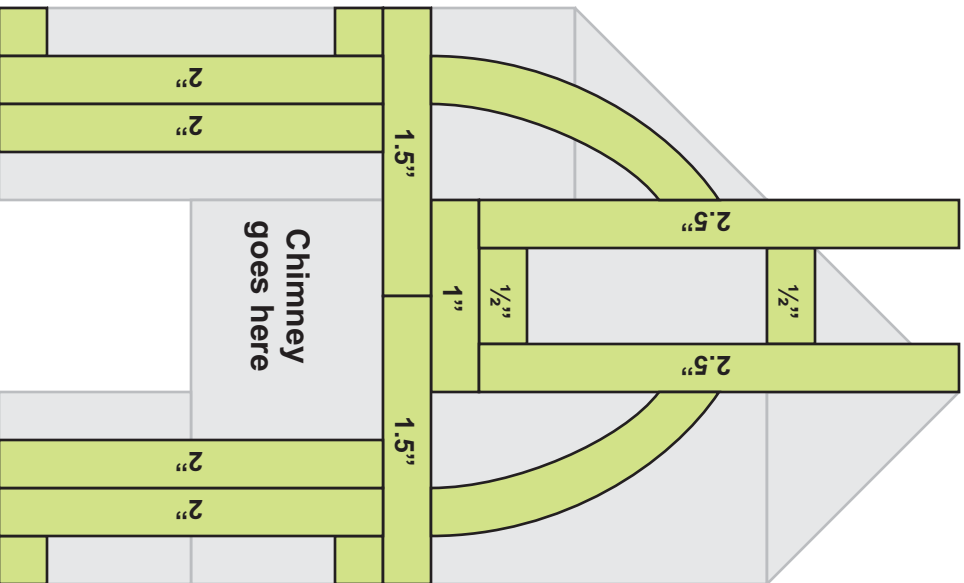
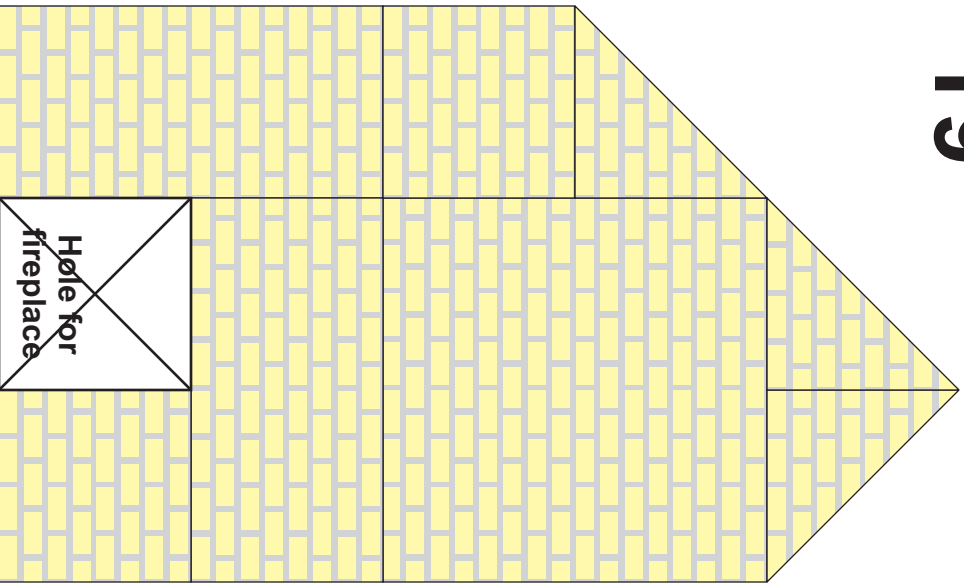
Clay roof tiles
from Mold #230



Windows and decorative
pieces from Mold #227

Outside of wall

T9

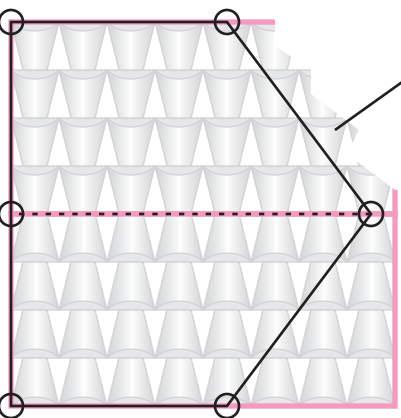


Roof angle supports.
Make 2 sets of these.

R3

Make 2 of these

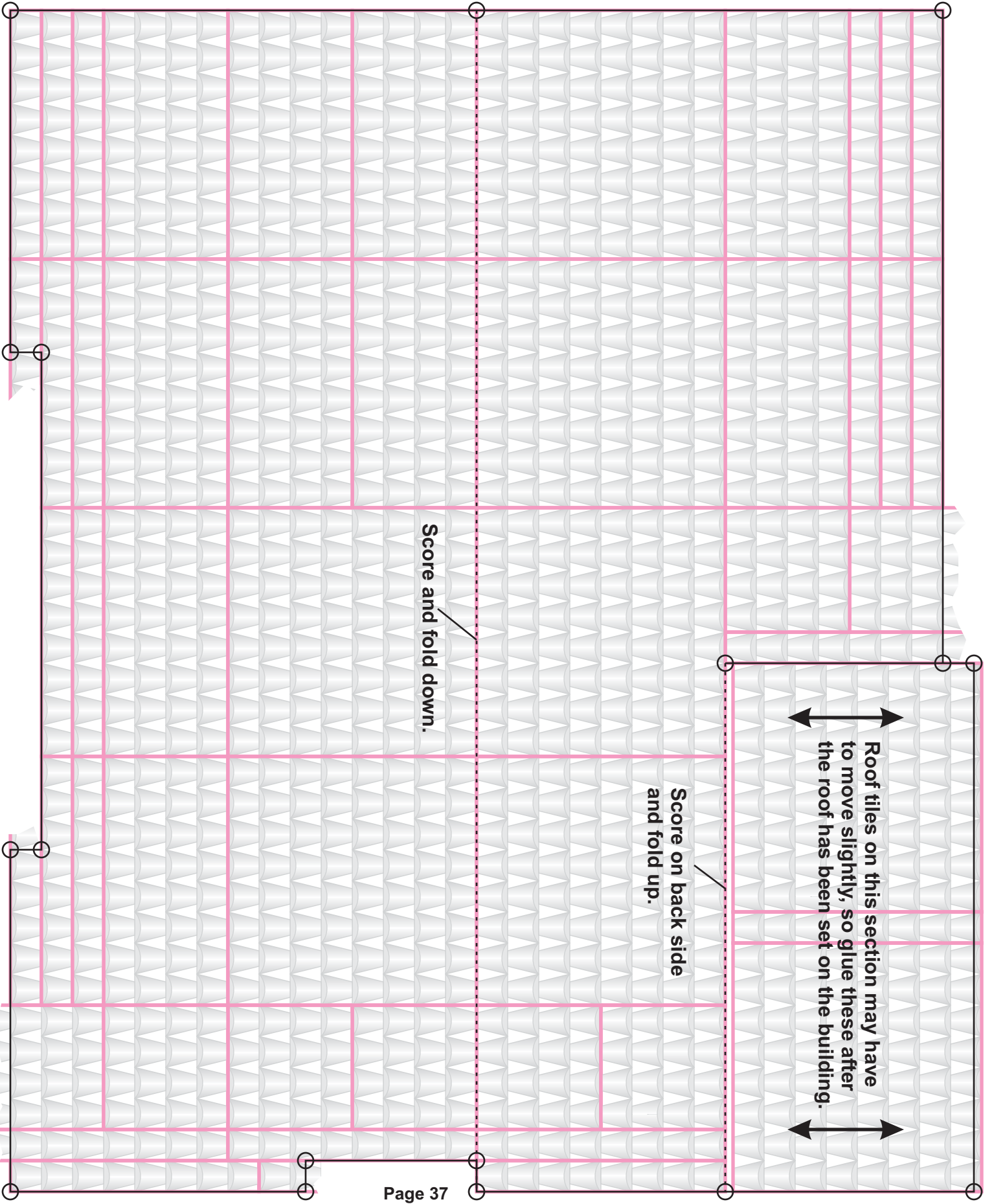
Edges will be broken
off and sanded.





Clay roof tiles
from Mold #230

R1



Score and fold down.

Score on back side
and fold up.

Roof tiles on this section may have
to move slightly, so glue these after
the roof has been set on the building.

Riverbed



Image from Mayang's free texture library

