

PHOTOS BY THE AUTHOR

1. The author spotted this little gem in Silverton Colorado. It is an ideal subject to model. It's small, so it could fit into almost any railroad; it's simple, yet elegant in its proportions. You could make a model based on this building in several ways. The siding or additional "gingerbread" elements could be changed.

Structures: How to make a drawing for your model

Once you have decided on a building to model, a plan of it on paper will be a great help. If the building you are contemplating is small enough, a full-size drawing is a good idea. This will allow you to see the actual size of the structure in advance.

For many years I drew my full-size plans on old manila folders. They open up to 12" x 18" and, being made of thick paper, are durable. Durability is important when working with plans around the workshop. Manila-folder plans can also be used as templates for cutting out window and door openings. A template is handy if you plan to make more than one of an item, such as identical right- and left-hand walls. You can even make mockups using the manila folders.

Today I use my computer to make drawings, using CorelDraw. The main reason for this is that I have been using a laser cutter to make many of my parts. To use any computer numeric controlled (CNC) machine you need a vector drawing. Since I have to make a drawing for these parts, I found it just as easy to make a complete drawing for the structure. If you are computer literate, learning this program should not be difficult.

A simple, smaller-scale drawing on a piece of graph paper will also work. In fact, it is a must if the structure you plan to build is very large. I use graph paper divided into a ¼" grid, and I make my drawings to a scale of ¼" (or one grid box) = 1" of the model (a quarter-size drawing of the model). The important features to be

worked out on paper are the window and door placements. It is much easier to make changes on paper than on the work itself.

My first example is a small row house. Photo 1 shows a small house in Silverton, Colorado. I did not necessarily want to make an exact model of this building but rather to use the picture as inspiration and as a guide to make my own version of a small house. I made drawings of this building especially for this article so I wanted to make my version a little more decorative and I wanted to use ready-made trim and windows, in this case from Grandt Line.

To start, I measured the Grandt Line windows and doors to see what size holes would have to be made to accommodate them. (This information is also available from their catalog, www.grandtline.com.) Then, using the photo as a guide, I laid them out in a similar pattern on my template. (In this case my template was created in CorelDraw but the same thing can be done on paper.)

Once the doors and windows are in place you can calculate the rest of the dimensions by scaling. For example, we know the door is usually 7' high, so we can, in most cases, figure that the ceiling would be 8' high. Assuming that the rafters are about 12" tall, you can figure that the first story would be about 9' high from the floor to the top of the rafters. This gives you the front wall size less the peak of the roof.

Roof-peak angles vary depending on several things: one is styling and another is local need. For example, in snow country you may find steeper-pitched roofs to shed snow more efficiently. In desert areas you may find flat roofs. In this case, I wanted to use a Grandt Line peak-trim piece, so I made the angle to match the gingerbread piece.

In the photo I can only see the front wall, so I had to invent the rest of the features. This is not difficult. You can pretend you are an architect and add the features you like. In this case, I added a small annex that could serve as an eating area or kitchen. This annex could span the full depth of the building or any part of it.

On many of these little structures the façade would incorporate the fancy work, such as the decorative gingerbread trim, while the sides and back walls were plain.



Figure 1
Scale drawing of row house
 Red indicates Grand Line Parts

This is the choice I made. I wanted the façade to be a little bit fancy and the rest of the building to be straightforward. This adds a little more interest to the structure.

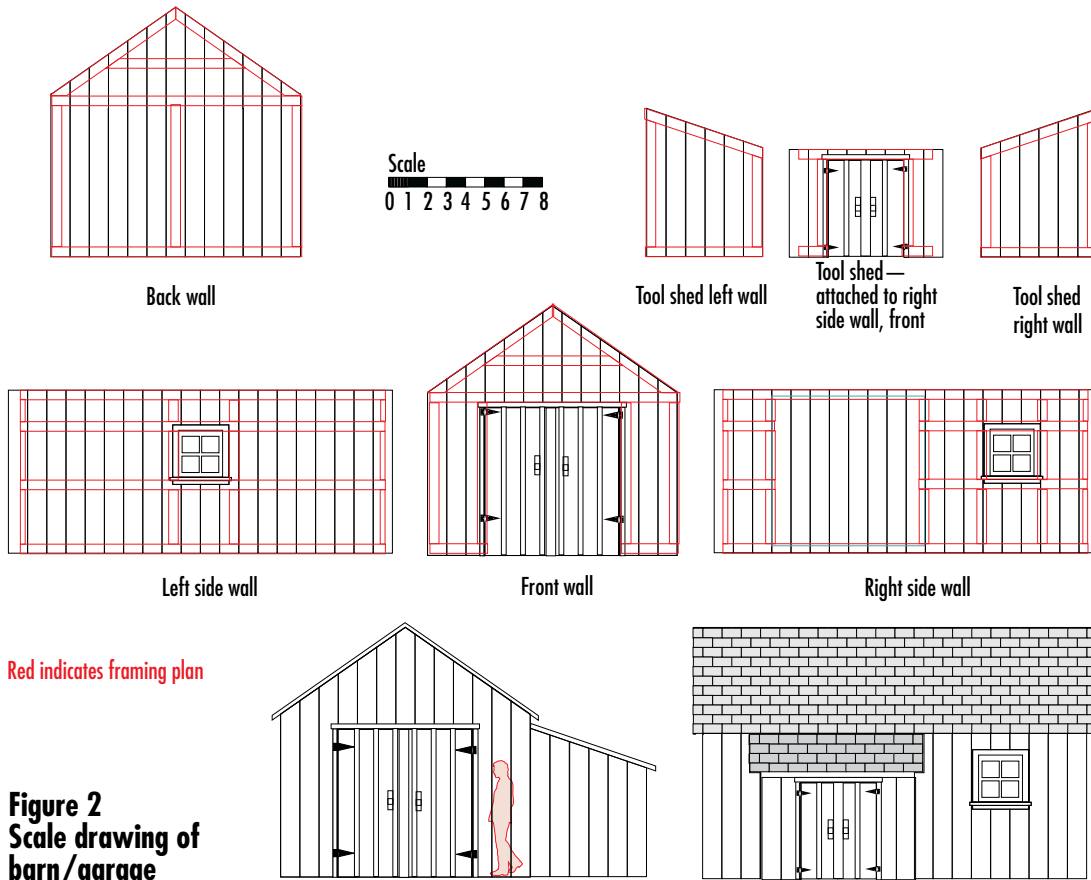
Roofing materials can be a variety of things. As far as a drawing is concerned, the material used to cover the roof has little effect on the basic plan. For example, one could use metal roofing, wood shingles, asphalt shingles, or tar paper, all on the same basic design. An exception would be a tar-and-gravel roof, which would be applied to a semi-flat roof. A tar-and-gravel flat roof could be an interesting feature on an annex to a building with a peaked roof. Variation in roof styles and types is a good thing, especially in a garden railroad, since we generally look down on our structures and see a lot of the roofs. Chimneys, plumbing vents, and smoke jacks add interest for the same reason.

In the detailed drawing (figure 1), I show novelty siding. However, siding can be a variety of styles, including board and



2., 3. This is another structure spotted in Silverton, Colorado. Its original use is unclear but it looks like a small barn, carriage house, or garage. This building was selected as a subject because it is small and has many interesting elements, such as wood siding, a metal roof on one side, and tarpaper on the other. It will make an interesting little model. A building like this could also be used as a speeder shed or as a maintenance-of-way structure.






Lackawanna Terminal update: Subway entrance

The Lackawanna Terminal project continues. This is one of the subway entrances found in the Hoboken area. Note the cobblestone pavement. This was made of textured acrylic panels used as covers on florescent light fixtures. “Stones” were cut in using a laser cutter. Unlike brick, each stone is a little different in size, giving a random pattern. Several 12" x 16" panels were fitted together to form the surface. Each panel took an hour and 15 minutes to cut on the laser cutter.

batten, clapboard, or even stucco. I am planning to build this building as a solid core to which I shall add siding details.

The next structure (photos 2 and 3) is what appears to be a small barn or garage. Again, I only have a picture of the front, so the rest of the plan will be developed using the WG method (wild guess). Actually, the guesses are not that wild. I can see a window on the left side and on the right, so I am going to guess this was a tool shed. I plan to build this building as a plank-on-frame building, so I have drawn a framing plan (figure 2). This framing plan is most likely not what you would find in your home. It is a typical framing system that would have been used for a barn or garage. I found this example in a book on old barns.

Once you have a satisfactory plan, you are ready to go on to the next step, which involves picking out the material that you want to use to build your structure and deciding on a construction method.

In the next issue I'll discuss the concept of selective compression and talk about techniques for implementing it. 



A. This is the original photo taken of the Trust Company of New Jersey building. Notice that it is distorted, converging toward the top. While this photo is useful as a general view, it is not very useful as a pattern for making plans.



B. Here the photo has been modified in Photoshop Elements to remove the perspective, using the "skew" tool. This photo can now be enlarged or reduced to the exact size of your model. It can then be used as plan or a template.

Correcting perspective in photographs

Photographs are useful in creating plans. If your goal is to create an accurate model of a structure, there are a few tricks that can help you in your endeavor. First of all, if you are taking a picture that you know you will use to create a plan, try to take it at an angle that will give you the least amount of distortion. Take your picture as straight on to the wall as possible. In this case, you are not looking for aesthetic beauty and balance in your picture, but rather a straightforward mechanical portrait. Be sure to take photos of all sides of the building that may interest you.

For a basic plan showing window and door locations, a shot taken from a distance works best. For detail work, a close up, using a zoom lens, will be useful.

If you are working with a picture that is not square (photo A), you can square it up using a program like Adobe Photoshop Elements. This can be done by opening the photo in Photoshop (older, non-digital photos or photos from books can be scanned in). Go to the tool bar and select "Image," then "Transform," then "Skew." Use the "Skew" tool to remove the distortion and perspective from the photo (photo



C. The final model built from the squared photo.

B). This feature is not perfect but it will give you a reasonably good, squared photo to work from.

Once you have the photo squared, you can use it to create a scale drawing or you could enlarge the picture to the full size of your model and use it as part of your mockup or as a template (photo C).

If you are using a drawing program, you can import the photo into it, where you can lock it in place, then trace it. I have found this method to be very helpful in establishing roof angles and door and window positions.

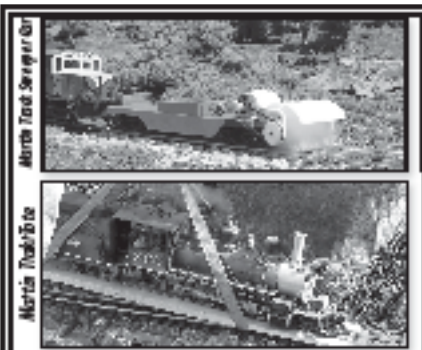
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