

Farm & Home Structures

Small Storage Buildings

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Planning the Storage

Tool and equipment storage is often overlooked when planning for the care of lawns and gardens. Most homeowners do not realize the need for planning storage space until their garage, basement or utility room becomes so cluttered they can no longer find anything. Or they might realize it when the newly purchased riding lawn mower is too wide for the doorway into the existing storage.

The first step in planning lawn and garden equipment storage is to list those items which need to be stored. You should also list those items which may be added later. This sounds elementary, but many homeowners are surprised at the variety of tools, equipment and supplies which must be stored.

Another useful planning technique is to draw the proposed storage area to scale and sketch some possible storage arrangements within that space. Once the list is complete and some rough sketches prepared, you can estimate whether existing space is adequate or additional space will be needed.

If you determine that a separate storage building is needed, you will need to follow the planning process a few steps further. Select a building size for which "standard" building materials can be used without excessive waste. Commonly available siding materials such as plywood measure 4 feet wide and 8 feet long. If you select an average building height of 8 feet with the length and width in "modules" of 4 feet, you will have very little building material loss. Remember that siding is placed

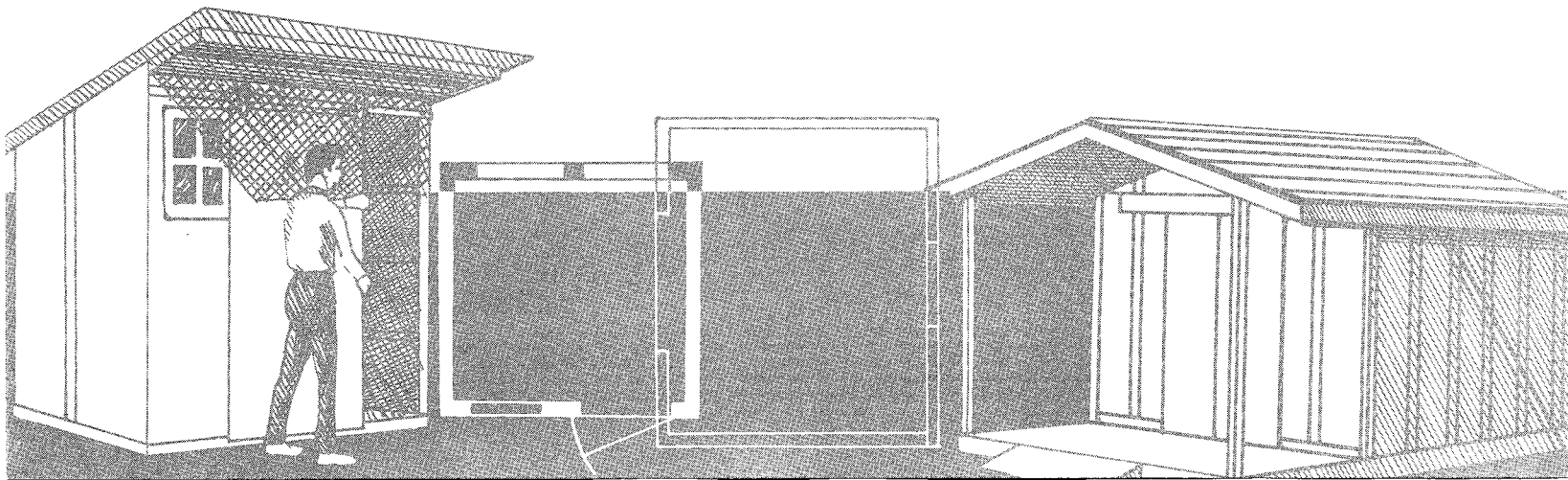
on the outside, so it is the **outside** building dimensions (length, width and height) which are critical. Note that length and width modules of 2 feet can also be used by cutting one 4 foot by 8 foot sheet of siding into two 2 foot by 8 foot sheets. For example, a 10 foot wide by 12 foot long building would require three sheets of plywood for each side and 2½ sheets for each end.

Utility or storage buildings should be located on a well drained site, with surface drainage diverted away from the structure. Try to locate the building so that the door is in plain view from the house and yet easily accessible from the lawn and garden where the tools will be used. Be sure the door is wide enough for the largest item to be stored. Many riding lawnmowers require a 48 inch wide (sometimes wider) opening.

Building Materials and Construction

Plywood is a versatile building material and is commonly used in constructing small utility buildings. It is produced as Exterior or Interior and is graded according to the appearance of the face and back veneers or plies. The highest quality veneer grade is N. The grades then run A through D with D being the lowest quality veneer.

For utility building siding you should select an Exterior type A-C plywood. "A" simply means that the face has a smooth, paintable surface with no more than 18 neatly made repairs. "C" means that the back may have limited splits, tight knots and some knotholes in the surface. The minimum grade of veneer permitted in Exterior



type plywood is C. Interior type plywood may have D grade veneer.

Concrete is another material commonly used in constructing utility buildings. Concrete is very durable if mixed and placed properly. The two most common mistakes in mixing concrete are using too little cement and using too much water.

The ingredients needed for mixing concrete are cement, sand, gravel and water. They should be mixed by volume in the following proportions:

- Cement — 1 part
- Sand — 2¼ parts
- Gravel — 3 parts
- Water — ⅔ to ¾ part

(Use the lesser amount of water for wet sand and the greater amount for dry sand.)

One cubic yard of concrete will pour a 4 inch thick floor about 8 feet by 10 feet in size. To mix one cubic yard of concrete, you will need six sacks (564 pounds) of cement, 1,500 pounds of sand, 1,800 pounds of gravel and about 35 gallons of water.

Concrete hardens by a chemical reaction called hydration. Hydration can only occur in the presence of water with temperatures between 40 and 90 degrees.

“Curing” usually means not allowing the water to evaporate from the concrete. To help retain this water, soak the ground before placing the concrete. After the concrete is finished, cover with plastic, wet straw or wet sand. The forms may be removed in one or two days during hot weather or four to seven days during cold weather. However, curing should continue for five to seven days before the protective cover is removed.

The rafters must be strong enough to support the roof as well as snow loads which might reasonably be expected. As a general recommendation, if No. 2 lumber is used and the rafters are spaced 24 inches apart (center-to-center), then 2 inch by 4 inch rafters can span up to 9 feet and 2 inch by 6 inch rafters can span up to 14 feet. Keep in mind that most of the lumber you buy is dressed rather than full dimension. This simply means that a 2 inch by 4 inch piece of lumber actually measures 1½ by 3½ inches.

Detailed Building Plans

The Agricultural Extension Service offers several plans for constructing small storage buildings. If you are considering buying or building a small storage building, you may find one or more of these plans helpful.

Plan number **6093** is the most popular plan. It is 10 feet by 12 feet and is patterned after the traditional gambrel roof barn. It features vertical board and batten siding which can be painted or stained in contrasting colors as a “little red barn.”

Plan number **6086** is of contemporary styling. It is constructed with 2 inch by 4 inch stud framing and plywood siding. Simulated board and batten sheets can also be used for the exterior. Four different building types are shown. They range in size from 8 feet by 10 feet to 10 feet by 12 feet.

Plan number **6100** is designed for panel type construction. The basic size is 8 feet by 8 feet, but the length can be increased to 12 feet or 16 feet. The 2 inch by 4 inch framing is covered with exterior plywood panels which are secured to a 4 inch concrete floor with two anchor bolts per panel.

Plan number **6284** shows a free standing contemporary structure with a 24 inch roof overhang. The building is 6 feet by 8 feet and utilizes lightweight (2 inch by 2 inch) framing for the sidewalls. The plan was developed by the American Plywood Association and shows in detail how each sheet of plywood is to be cut.

Plan number **6099** is a movable storage shed constructed on three 4 inch by 4 inch pressure treated skids. Even though the shed is considered movable, it is 12 feet by 12 feet. A tractor of at least 25 horsepower would be required to move it. This building has 2 inch by 4 inch stud framing with cross bracing in the floor and sides. Plywood, sheet metal or any other suitable sheet siding can be used on the exterior.

For information on these and other building plans, contact your local Agricultural Extension office. Please refer to the plan number when requesting information.

