

# Family Work and Storage Areas Outside the House

*By Theodore Brevik and Marion Longbotham*

Families occupying a home on small acreage in the country will use many work areas outside the house. Storage spaces are needed for equipment and products the family uses in outdoor work and recreational activities.

This chapter has general guidelines for such work and storage areas. Families can make adjustments to fit their special needs.

Work and recreational areas may include a garage, shed, yard and garden, outdoor cooking area, play and recreation areas, and others. Some areas may be dual-purpose.

Storage spaces are needed at or near the work and recreational areas for many items. Storage may be needed for items listed below as well as for other items:

- Autos and/or a pick-up truck (8 by 18 feet)
- Yard and garden equipment—garden tractor & equipment, power mower & gasoline, leaf or grass push rake, rakes, brooms, shovels, hoes, axes, lawn trimmers & edgers, wheelbarrows, extension ladders, stepladders, hoses, sprinklers, weed sprayers, insecticides, herbicides, fertilizers
- Home maintenance equipment—paint, brushes, ladders, caulking materials, window-washing equipment, carpenter tools, storm windows & screens
- Electrical, plumbing and other home maintenance tools
- Auto servicing and repair materials—oil, waxes, cleaners, grease, spare parts, anti-freeze, filters, car ramps, jacks, spare tires, oil cans
- Recreational equipment—bicycles, wagon, sleds, swings, slides & other toys, skis, canoes, snowmobiles, boats, skates
- Workbench

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- Miscellaneous equipment—powersaws & other wood-working equipment, lumber, garbage cans, empty bottles
- Food products—root vegetables, canned and frozen food

A plan that provides adequate, handy work and storage space requires careful thought. To start, develop a list of work area and storage needs including automobiles and/or other vehicles.

Keep in mind that needs change over the years and equipment items often are switched to newer and sometimes larger machines. At other times, new interests develop and are added to or substituted for initial interests and activities. Open flexible areas can allow for these changes.

One useful approach to help decide on size and arrangement is to study available plans and to visit other families who have already built and are busily engaged in living on small acreages.

Storage space for keeping products when they are not being used should be convenient, safe, and adequate in size and shape. These qualifications apply to new or remodeled storage areas.

## **Judging Convenience**

Convenience of storage can be judged in terms of the stored item being easy to see, reach, grasp, remove, and replace. Don't stack articles unless they are of similar nature, such as firewood or bags of mulch.

A half hour of garden work can be done at a convenient time of the week if the needed machines or tools can be easily removed and replaced. If the machine or tools are hard to reach the job is apt to be put off.

Bicycles, wagons and other toys should generally be easy to get at because of frequent use.

Storing articles near where they are first used also adds to convenience.

Machines removed from storage areas often require routine maintenance before being taken outdoors for use. This implies storing the maintenance products so they can be used on the machine between the storage area and outdoor work area.

Some machines and tools require space for maintenance or repair. In these cases there should be a space that can be cleared so they may be worked on, preferably in the workshop area.

If the workshop is in the garage, the car may have to be put outside to leave floor space for repairing a yard machine.

Tools associated with the workbench should probably be stored in a locked cabinet above the bench. Seasonal equipment, for warm or cold weather use, can be stored in a less convenient area in the "off" season and in a more accessible area during the season of use.

Items can sometimes be interchanged seasonally in the same storage spaces. An example: lawnmowing and snowblowing machines. Skis and croquet sets are seasonally used and could justify more security in their storage.

Utility connections are needed to operate or service some machines, tools, or products. Locate these conveniently in relation to the area where they are used. Adequate lighting at work and service areas is recommended. Utilitarian lighting fixtures need not be expensive.

Storage should not be too deep. Most items requiring storage do not require more than 12 inches in depth.

## **Safety Aspects**

Planning for safety in work and storage areas is important. Several aspects of safety should be considered both for the regular workers and other persons who use a work or storage area occasionally.

The storage area should provide for safety and security of the articles being stored. Some articles require protection from the weather. Others need to be protected from extreme heat or cold. Some machines are heavy and require an adequate base for support. Outside and garage storage areas may need special security measures to deter theft and vandalism.

The operator should be able to remove and replace machines and articles without personal injury or damage to the item being handled or serviced.

Electrical lighting and connections should enhance safety. Beyond general lighting needed for safety while handling equipment, special lighting is needed at work areas such as a workshop.

Adequate ventilation is needed in work areas where carbon monoxide, dust or noxious fumes may be generated. An exhaust fan can be mounted in the wall or ceiling.

Children are unaware of hazards which exist in such work and storage areas. Responsible adults can keep hazardous items in locked or inaccessible storage spaces and use other means to protect children. Hazards which cannot be kept secure may require parental training and guidance of the children for their own protection.

## Types of Storage

Types of storage areas include:

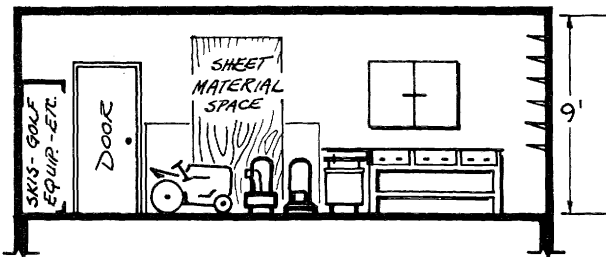
- Enclosed storage areas—cabinets, closets, tool chest
- Horizontal surfaces—counter and bench tops, table tops, shelves
- Vertical surfaces—wall-mounted hangers or pegboards on which articles such as rakes, hoes, and shovels are hung for storage with easy access
- Floor surfaces—for freestanding, heavy, or bulky items; for machines which need to be permanently mounted to a strong base
- Ceiling surface—ceiling-mounted hangers from which items like a canoe or bicycle may be suspended
- Special storage areas—a place where items often used together are stored together, such as workshop or garden pest control materials

Each family must make decisions about storage. Options are to fit the items into the available space, improve the efficiency of the available space, or add space for storage. When storage areas are crowded, consider disposing of some seldom-used items. This is often practical for a family of decreasing size.

Families should provide for flexible use of space and for efficient use of storage to avoid the cost of overbuilding storage structures.

**The Garage.** The garage will probably be important not only for the car, but for the variety of tools and power equipment associated with living on a few acres. The garage needs to be handy, large enough, and designed and built for safety and security. A totally enclosed structure that is not only large

## ELEVATION

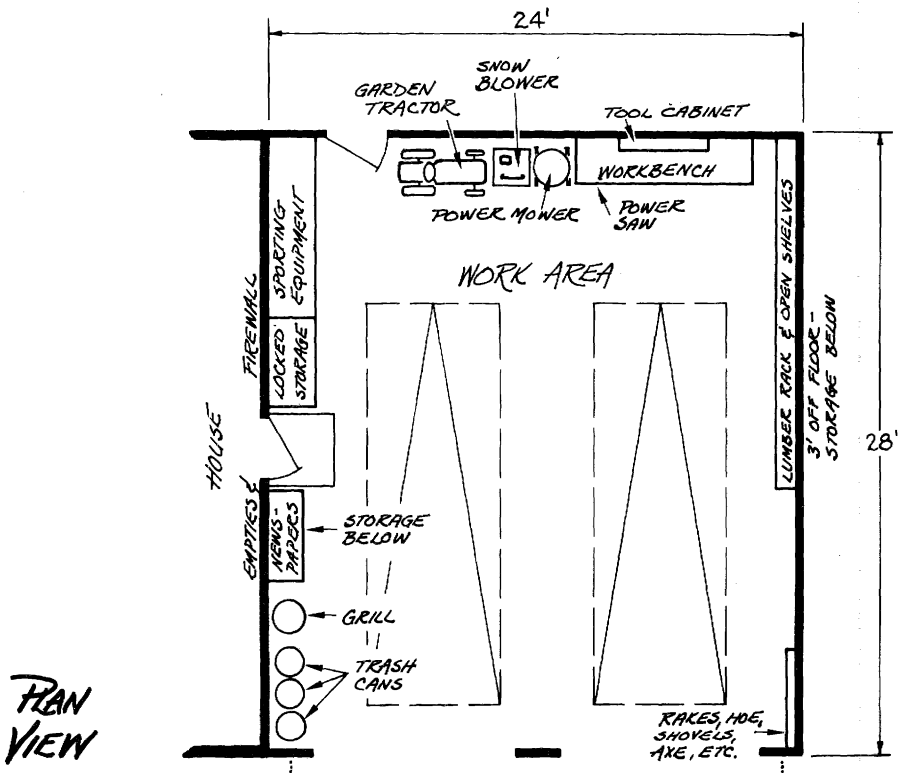


enough for one or two cars, but built to accommodate other chores associated with small acreages, would probably work best for many families.

Most homes in recent years have been built with attached garages large enough for two cars. A common size has been about 20 by 20 feet, which leaves little room for a work bench or for storing power equipment popular for yard work, gardens, and snowblowing, and for bikes and the like. Many garages of this size usually become filled with these things as well as wagons, snowmobiles, and other recreational equipment on one side, leaving no space for one or sometimes two cars.

For most homes on small acreages, a well-planned attached garage would be convenient and economical. Two to four feet added to the width of the garage and eight to ten feet added to the length or depth can provide for storage and work areas and still leave room for cars.

A garage 24 feet wide and 28 feet deep would include useful work and storage areas, as well as ample room for driving in and out. This added space is less expensive than building the same space in a separate structure since the same door, lighting, drains and the like are used as in putting up a car garage alone.



Ideally, though, a plan should be developed that would provide for convenient storage of all items to be kept in the garage, a handy work area, and convenient access to and adequate storage for the automobile.

An attached garage large enough to accommodate the above has many advantages. The convenience to the house has advantages such as easy access, maximum security, and economy if well planned when you are building a new house.

Frequently it is necessary to provide a separate garage workshop where no garage now exists or the house has only a single car attached garage. If the small acreage operation requires a limited amount of field machinery it may be practical to design and build a combination garage-shop and machine shed. Considerations for the location of such a structure include:

- Storing the family car
- Convenience from the driveway, the highway, and the fields
- Distance from the house because of security, convenience, frequent access to stored items, and exposure to the weather
- Heating and insulating the workshop area
- Storage of fuel for tractors or other power equipment
- Nearness of electric power
- Drainage and protection from wind
- Storing boats, camping trailers, and snowmobiles

If the family car is stored in a separate building along with bikes, wagons and other toys, the structure should be within 50 feet of the house. If it is primarily for a truck, field machinery and garden tractors a more convenient location may be 75 to 100 feet from the house.

## **Drainage**

Pick a well-drained site for year-round, trouble-free access in all kinds of weather. If good drainage does not exist naturally, it will generally pay to fill the area to provide drainage. The driveway and walkway leading to the building should be well-gravelled or preferably hardsurfaced, with concrete or hot-mix blacktop.

If a heated workshop is to be included, select a structural system easy to insulate. Also provide an interior liner that is fire-resistant and easy to maintain. Plywood is often a good choice because it is easy to attach fasteners for storage shelves and cabinets or for other items that are convenient to store on walls. Cover the insulation to protect it against mechanical damage and against flammability if one of the expanded plastics in board form is being used.

The floor of the garage-workshop area should be 6 to 8 inches above the surrounding grade and sloped to drain either to a floor drain or toward the garage door. A slope of 1/8-inch per foot is usually adequate to provide good drainage.

A garage door should be at least 9 feet wide and 7 feet high. Field machinery may require wider and higher doors depending on the type of equipment used.

Heating with wood may be practical on many small acreages—especially if you have your own woodlot or there is an adequate supply of low cost wood nearby. Allow plenty of room for the wood heater and install it with adequate clearance. Make sure the connection to an all-fuel chimney is done in accordance with recommended practices. Do not store any combustible materials near the heater.

Store the wood you plan to burn nearly a year so it is thoroughly dry. This means storage for wood should be large enough for a two-year supply. Obtain circulars which explain woodcutting, storing, and use for heating.

Store flammable liquids and gases in approved containers where there is no likelihood of flames or sparks. Some liquids produce explosive vapors which if allowed to accumulate could create a hazard.

Obtain circulars from your local Extension service which describe recommended safe storages and use of the proper type of fire extinguishers.

## **Storage Shed**

If the garage with an existing house is too small, it will likely be more economical to build or buy a low-cost storage shed. Small storage buildings are economical and easy to erect. They offer low-cost storage but may not provide as much security as an attached garage.

These buildings are generally of metal and vary in size from about 6 by 8 feet to approximately half the size of a single-car garage. They can be built with no floor or placed on a concrete slab. Their most practical use is for storing yard tools and equipment.

Check the strength and durability of doors when buying these low cost metal sheds. Items requiring shelf storage or wall hangers are less conveniently stored in such sheds. Generally electrical service is not provided, so after dark use is not convenient.

**The Basement.** Many one-story homes have generous basement areas, a portion of which could be used for a workshop—

especially a hobby workshop. Storage of outdoor items in a basement is generally not convenient unless there is a walkout entrance. The size of the door may be important, depending on the need to move stored items in and out.

One disadvantage to a basement workshop is the dust created—especially if any great amount of woodworking with power saws is done. It may be more practical to locate power-saws in the garage area to minimize dust problems in the house.

A basement workshop should have ready access from the outside. The stairway should be convenient to the back door and planned so there is a straight approach to the stairway as you enter the house. The landing between the basement door and the outside door should be at least 4 feet long and planned so door swings do not conflict with each other or restrict movement to the basement. There also should be adequate space at the foot of the stairs.

Stairways to the basement should be at least 3-1/2 feet wide. Provide a handrail for safety and light switches and lights to illuminate the stairs. Be sure the stairs are well-built, with a “rise” and “run” that provides for easy movement up and down. A riser of 7-1/2 inches and a tread of 10 inches makes for a comfortable stairway.

## **Food Storage**

Space for canned goods. A 5-1/2 to 6 inch vertical clearance between shelves will hold No. 2 and 2-1/2 metal cans but a 6 inch clearance is needed for glass pint jars. Allow a 3-1/2 inch depth for a single glass pint jar or No. 2 or 2-1/2 can, or 6-1/2 to 7 inches if placed two deep. A 7-1/2 to 8 inch vertical shelf clearance will hold quart glass jars. Allow a 4-1/2 to 5 inch depth for a single quart jar or 9 to 9-1/2 inch depth for two jars.

These dimensions allow for top and side clearance of the cans or jars. Storage space needed for canned goods varies, so plan space allowances according to your family needs.

Frozen foods require a freezer for storage longer than three weeks. Either chest or upright type freezers are heavy when filled, so be sure the floor will support them. Do not place the freezer where the room temperature goes down to freezing or below, and avoid locations where the sun or a heat source will cause the motor to run often. Avoid locations of high humidity. Try to have a counter or table nearby to use while loading or unloading food packages.

Frozen foods may also be put in a rented, commercial frozen food locker and packages brought to the house for brief storage prior to use.

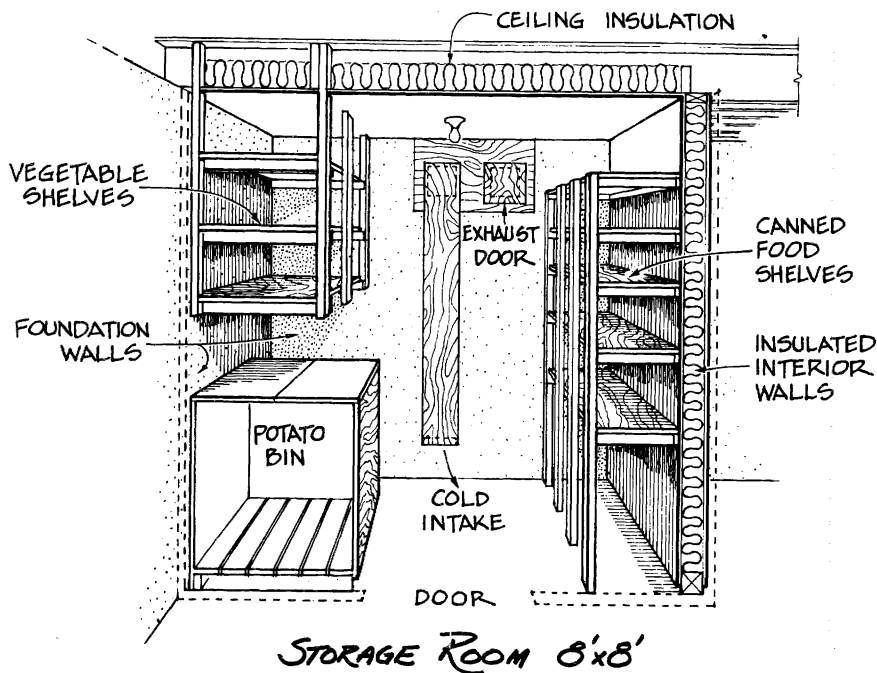


Fruits such as apples and pears, and vegetables such as potatoes and onions, can be stored in a small basement room. This room should be on the north side of the house, walled-off and well-insulated from the rest of the basement. Properly built, such a room can also serve as a disaster shelter—unless you have a separate shelter room located on the side of the house from which storms approach.

A window is not needed but a vent to the outside with a damper is useful in maintaining the desired temperature, as well as to get rid of vegetable odors.

The humidity should generally be moderately moist—moist enough to avoid drying the produce and dry enough to avert spoilage. Natural air movement or use of a fan in the storage room also helps prevent mold growth.

Various fruits and vegetables require different temperatures, humidity, ventilation and other conditions for optimum storage. Your county cooperative Extension office will have information about methods and conditions of storing produce in your geographic area.



Determine your needs for produce storage and provide bins, shelves, and hangers for mesh bags. Check the produce regularly and dispose of items starting to spoil.

Canned goods can be stored in a basement or pantry. Temperatures of about 50° to 60° F are desirable but should not go below freezing or higher than about 110° F.

Properly constructed outdoor cellars are excellent for storing many vegetables, especially root crops. They also can serve as a storm or other disaster-type shelter. Built below ground they offer a uniform temperature but must be strong enough to support the weight of several feet of soil above and soil pressure on the sidewalls.

Build where there is likely to be no water problem. Or else construct a tile drainage system that will keep water out.

It is likely a root cellar would be more economical to incorporate into a new house if you are building with a basement.

## **Lighting**

Planning the electrical requirements, including lighting, is important in any workshop area. Lighting is of two types: general lighting and task lighting. A lighting intensity of 10 foot candles is adequate for general overall lighting. Task lighting varying from 20 to 50 foot candles is recommended at the workbench, depending on the detail of the tasks at hand. Some work may require more light.

Ceiling lights are commonly used for general lighting. A reflector above the light bulb will help direct the light downward. Light colored walls and ceiling also will help reflect light and aid in general lighting. Place lights about 10 feet apart and about 6 feet from the side at a ceiling height of 9 to 10 feet. One hundred watt bulbs generally will provide the necessary overall lighting

A higher intensity light is needed over the workbench. If incandescent lights are used, two are recommended to avoid shadows on your work. Two 150 watt lamps placed 4 feet above the workbench and 4 to 5 feet apart will provide about 50 foot candles on a 3-foot-high workbench. Two 40 watt fluorescent tubes will provide about the same light level. A fluorescent fixture requires a higher initial outlay but the cost of operation is less.

It may be desirable to plan for portable lights in case the workbench is to be moved in the workshop area. When a closeup light is needed at a saw or drill, a portable lamp holder with a 60 watt bulb will generally do the job.

Plan convenience outlets for flexibility of use. Outlets should be no more than 10 feet apart. This means that you won't have to reach more than 5 feet along the wall to any convenience outlet. Circuits should be properly fused. Provide 15 ampere service for lighting outlets, and 20 ampere service for electrical tools. Be sure outlets are properly grounded and the equipment you use is fitted with the three prong plug.

In a large garage-workshop it may be desirable to provide ceiling drop cord outlets to avoid long extension cords from wall outlets. If larger than 1/3 horsepower motors are used it may be best to plan for 230 volt outlets. The electrical service entrance must provide for this, of course.

Lighting above the entrance doors is recommended, with a 100 watt bulb 10 feet high above each garage door. Plan for switches in the house as well as in the garage. For added convenience and security, a radio-controlled garage door opener may be installed.

## **Costs, Financing**

Improving existing storage space will cost less than adding storage space. If you can do the work yourself, installing peg-board and hangers on walls may range from \$10 to \$50. Adding shelves will probably cost more, and adding closets and cabinets will likely be the most expensive.

Costs of improvements or additions can range from a few dollars to several hundred. Small costs for occasional hardware and materials purchases can often be handled as part of the weekly or monthly family spending.

Before you proceed with a moderate or large-size job, determine probable costs for the improvements or addition of workspace and related storage space. To do this, first get your plan on paper. This gives a basis for estimating the cost of construction and materials if you do the job entirely yourself or subcontract some parts of it. If you have the work done the plan will be a basis for obtaining bids.

Families may assume the financing from their savings. Or they may seek financing from outside sources. Conventional lenders include savings and loan associations and banks.

Some families are eligible for government-insured loans. Sources include VA loans for veterans, FHA and the Farm and Rural Development Administration for moderate and low-income families.

Loans may be available from private sources such as parents, relatives or local citizens. Also consider financing through renegotiating an existing mortgage, borrowing on insurance, or

using an asset as collateral for a loan. Check also on items that will affect financing costs such as interest rates, length of loan period, and other conditions of the loan.

**Further Reading:**

*Complete Do-It-Yourself Manual*, The Reader's Digest Association, Pleasantville, N.Y. 10570. 1973. \$13.95.

*Fix-It-Yourself Manual*, The Reader's Digest Association Pleasantville, N.Y. 10570. 1977. \$12.99.

*How Things Work in Your Home (And What To Do When They Don't)*, Time-Life Books, New York, N.Y. 10020. 1975. \$14.95.

U. S. Department of Agriculture, *Storing Vegetables and Fruits in Basements, Cellars, Outbuildings, and Pits*, Home & Garden Bul. No. 119, on sale by Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402. 40¢.