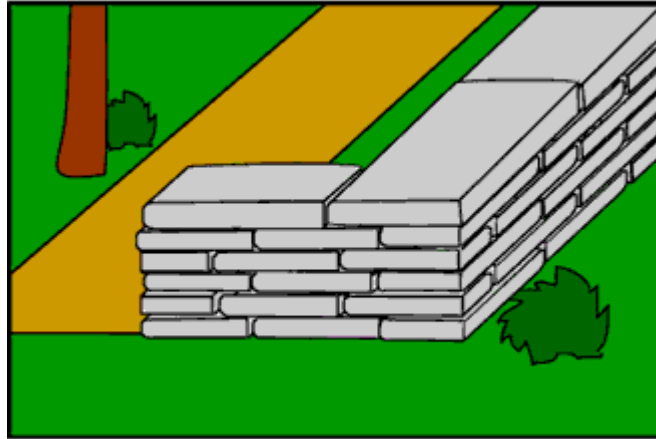


Building a Dry Stone Wall

OVERVIEW



Introduction

Building with stone is not only beautiful, but also durable. Unlike railroad ties or wooden fences, which may rot and must be replaced every 10-15 years, stone does not deteriorate. Stone walls also offer a charm that no other material can equal, and are especially beautiful as part of flowerbeds and perennial gardens.

A "dry" stonewall means one without mortar holding the stones together. Because the individual stones are able to shift slightly in response to frost heave, there's no need to have a foundation below the frost line. Even so, building with stone requires a substantial commitment of time and effort. Yet the results are so satisfying it's easy for the project to become a minor "obsession." The following steps will help you create a freestanding wall or a retaining wall that will beautify your property for as long as you own it.


BEFORE YOU START...

SKILL LEVEL & TIME TO COMPLETE


For a 20 foot wall section


- Beginner - 8 to 10 hours
- Intermediate - 7 to 9 hours
- Advanced - 5 to 8 hours


 **CAUTION** Since building a stonewall involves repetitive lifting, you should wear a back-support belt.


 **COMMON MISTAKE** Do not use all the largest stones in lower courses and smaller stones on top. Mix the sizes of stone throughout the wall. Always save a layer of larger stones to use as a "cap stone" or topmost course.

 **HELPFUL TIP** Take extra care to level the foundation for the wall from side-to-side. This will help stabilize the wall for the long term.

 **HELPFUL TIP** Limit the height of a freestanding wall to less than three feet. Higher freestanding walls will lean and fall apart more easily over time.

 **HELPFUL TIP** When building a retaining wall, set each higher course of stone back about 1/2-in., creating a continuous back-leaning slope or face. If you make the wall perfectly vertical, the pressure of the earth behind it will eventually push it forward and cause it to fall apart.

 **HELPFUL TIP** Use handfuls of crushed screenings to help level and stabilize "tipsy" or uneven stones as you build the wall.

 **HELPFUL TIP** To size and shape pieces of flat stone, use a 3-lb. hammer and stone chisel to create a line where you want the stone to break. Hammering too hard will cause the stone to break unpredictably; it's better to hit the chisel with moderate force and go over the line of breakage several times until it parts

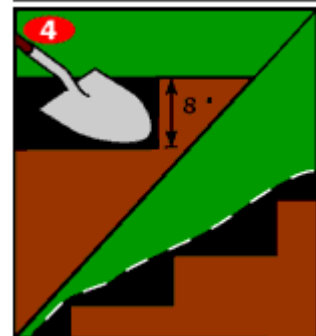
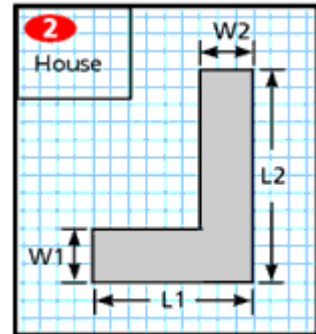
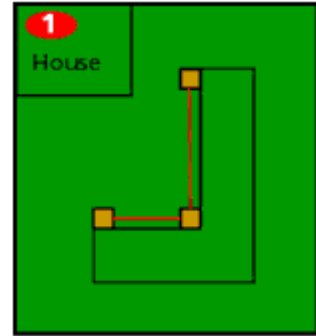
evenly. Dressed stone can also be cut with a circular saw and carbide blade. To break large fieldstones, use a sledgehammer.



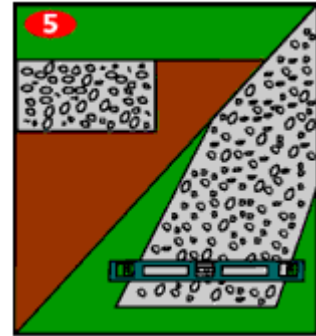
HELPFUL TIP Plan openings for walkways and gates in your wall before you begin work.

STEPS

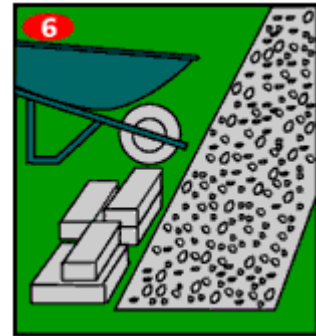
1. Stake out the inside line for the wall to follow with wooden stakes and string. Your eye may suggest changes in position or proportion once you see the staked-out area.
2. To calculate how much stone you'll need, make a drawing of the project and measure the total length of the proposed wall; plus the width if it's a freestanding wall. Stone is purchased by the ton, and each type of stone will provide a different running length of wall per ton. With measurements in hand, your stoneyard can tell you how many tons you'll need for your project.
3. There are literally hundreds of different colors and varieties of stone, including sandstone, limestone, granite, mica schist, quartz, slate and so on. But there are three basic shapes: a). Field stone is roundish "bowling-ball" stones b) "Stacking" stone is irregularly shaped but relatively flat c) Dressed stone is carefully cut to be uniform and completely flat You'll choose the particular variety and shape based on the look you want, and the price. Dressed stone is more expensive than the other two, and gives your wall a more formal appearance. The stoneyard will deliver your choice on wooden pallets a few days after you order it.
4. Dig a shallow foundation trench, about 8 inches deep. The trench should be 2-3 inches wider than the base of your proposed wall. If you have access to a rear-tine tiller, it will be easier to loosen the soil. Build a stair-step on any steep slope if the slope is more than 10 degrees. Dig a "stair-step" trench for the wall so each section rests on a flat, level foundation. The ground under the wall can slide away on a slope, especially in spring when the surface thaws while it is still frozen underground.



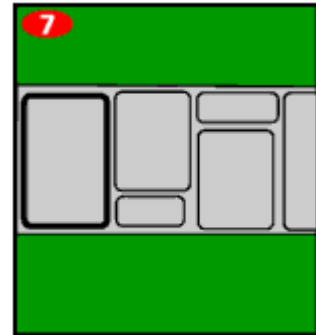
5. Fill the trench with crushed screenings to the original ground level to create a stable foundation for the wall. Carefully level the screenings with the carpenter's level; a length of board the width of your trench is helpful to spread the screenings. The screenings will compress and harden over time.



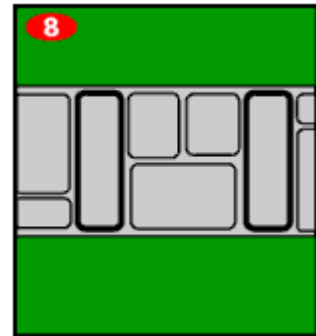
6. Transport a good selection of stones to where you want to build, using a wheelbarrow or garden cart. This is heavy work, but it's important to have a variety of sizes and shapes to work with if you're not using dressed stone.



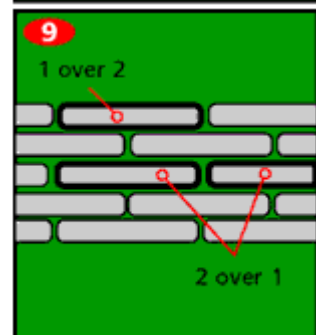
7. Begin to place stones to form your wall. Fit the stones closely together, something like a large jigsaw puzzle. A little shaping with the chisel and hammer can help. It's best to lay one course at a time. Vary the size of stones as you progress; follow a large stone with several smaller ones. Use larger pieces at an end of the wall for increased stability. Use crushed screenings to level and support uneven stones.



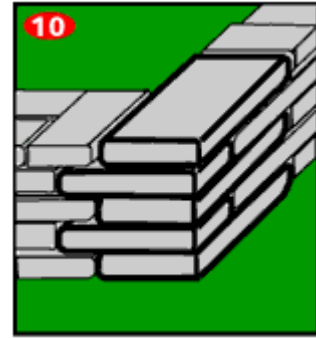
8. Two things help make a stonewall strong. The first is the number of stones that run the full width of the wall. Place stones of the right size across the width periodically as you stack each course. (Dressed stone walls are usually only one stone wide; so all the stones will run the full width of the wall.)



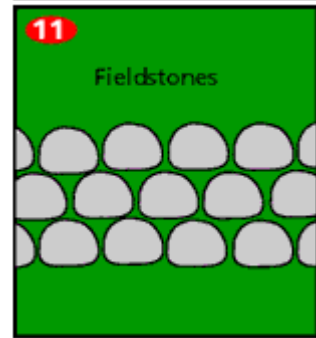
9. The second rule for strength is "One over two, two over one." In other words, when you have two stones butted together in a course, place one stone over the seam in the next course. Likewise, where you have a long stone in one course, in the next course place a seam between two stones over that length.



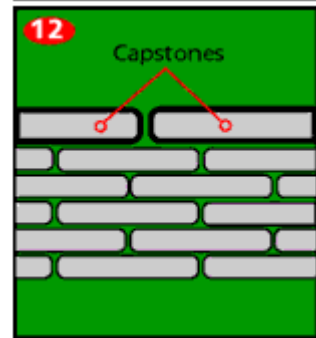
10. Take special care at corners and ends to see that seams never line up from one course to the next. Use larger stones for a corner, since this is an "end" in two directions, and alternate which direction of the wall contains the end-most stone as you stack courses.



11. With fieldstones, place each course in the spaces between stones from the course below. Place fieldstones with the flat side down. As an experienced Vermonter once observed, "Even a round stone has a flat side if you look at it long enough."



12. Hold aside a selection of larger stones to use as the top course, or "cap stone" of the wall. The extra weight helps stabilize the wall.



SHOP LIST

Materials List

Crushed limestone screenings (sometimes called "stone dust" or "fines")
Stone for building

Tools List

Paper and pencil
Wooden stakes
String
Long-handled shovel
Garden spade
Rear-tine tiller (optional)
Wheelbarrow or garden cart
Carpenter's level
Length of board
Stone chisel
3-lb. hammer
Sledgehammer
Leather work gloves