

Step by Step

How to Install Gravel and Geotextile Footing

There are many types of footing options available for your heavily used livestock area, also called a sacrifice or confinement area. This is one example of an area with gravel footing and woven geotextile fabric. **The depth and type of gravel size depends on your site specific considerations - slope, soil type, drainage, critical areas, and addressing your goals and concerns.** If you'd like to know more about what type of footing may be best for your site, another resource to refer to is OSU's *Managing Small-Acreage Horse Farms* handout or contact Pierce Conservation District for technical assistance.

1. Obtain any required permits before you perform any soil removal or grading.
2. Clear the area of sharp objects, stumps or debris. Remove any existing footing material and manure.
3. Scrape to the necessary depth of 6 or 12 inches, depending on your site specific conditions. Grade the surface so that water runs slightly away from the barn and paddock.
4. Install the woven geotextile fabric by doing the following. Roll out geotextile fabric. Avoid dragging the fabric to prevent tears. Overlap each section of fabric by 2 ft. and leave an extra 2 ft. minimum of fabric to around the edges. If possible, install so that fabric extends outside the paddock fence to prevent livestock from digging up the edges. Use 6 inch staples or spikes to anchor the fabric into existing soil at the edges and overlaps.
5. Spread the base material first evenly on top of the geotextile fabric. This is typically a crushed angular ballast rock (unwashed with fines). Most often, this is 1 ¼" in size, but there are other sizes of rock that work will. I recommend seeing what you can find from your nearest quarry. This is usually 3-6 inches, depending on the site specific conditions and recommendations from an engineer.
6. Spread the top footing material next evenly on top of the base material. This is typically a smaller crushed angular rock (unwashed with fines). Most often, this is 5/8" minus in size, but there are other sizes of rock that work will. This is usually 3-6 inches, depending on the site specific conditions and recommendations from an engineer.
7. In other areas where don't intended to put a gravel footing, other footings can be used in its place, including pea gravel, clean sand, concrete, and wood chips (hog fuel). The material should be free draining and fall through your manure fork, if you are using one, and be acceptable to add to your compost pile.
8. **Most importantly**, to protect water quality and extend the life of the heavy use area, manure should be picked up every 1-3 days and stored in a covered manure pile. Manure can be applied at the appropriate time every year over your pasture or hay fields. Refer to Thurston Conservation District's *Manure Management Flyer* for more information on storing and applying your livestock manure.

