

Desert Tortoise Above Ground Burrow Build

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April 2020

This build was inspired by The Tortoise Group's large burrow build: <https://tortoisegroup.org/large-burrows/>

We selected an area of our backyard slightly larger than 4' x 8'. To slightly raise and level the ground, we ordered one scoop of soil



We placed a layer of soil down and leveled the base.

You can use a 2x3 board to help smooth and level the soil.



I used a bubble level to make sure the soil was level side to side and front to back.

Use a full sheet of 23/32" plywood. Covered one side with house wrap and stapled it down to secure it.

We used house wrap because we had it left over from a previous remodel project, however a 6 mil or better plastic tarp should also work.

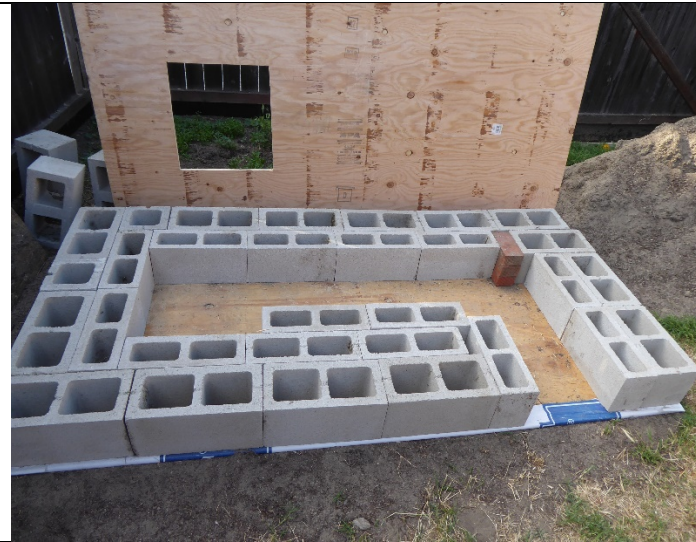




The idea is to create a moisture barrier between the dirt and wood.

Next, we laid down the wood, wrap side facing the dirt.





Now it's time to layout the base layer for cinder blocks.

The outer edge is 8x8x16 blocks.
The inside is mostly 6x8x16 block.

We did use a few 8x8x8 blocks and a few red bricks to fill in a gap.

The second piece of 23/32 plywood to the side with a hole will be discussed later.



One more glamor shot before we move on



You want the opening to be fairly snug and we needed to reduce the opening by 3-4 inches, so we build this easily removable opening reducer, which also gave us the added benefit of creating a patio cover for the opening.

Later, we will be able to use this wooden entry to attach a door.



We used 2 x 8 boards. This one was 8' long

It just slides in. We did not screw it down to the floor.





Added a bottom to make it a fully secured entry way.

Test fitting the top before we add dirt to the insides of the brick blocks.



Now, about that hole. It is an emergency access to the living quarters. It allows you to remove your tortoise or check to make sure the tortoise is inside.

The hole in the plywood top is as big as the living area.

This is a test fitting of the ring spacer.

We used 2 x 12 x 8' lumber for the hole ring.



It is fastened with woodscrews from the underside of the plywood.

Now it's time to fill in all the blocks with dirt. This will provide added strength, but more importantly, additional insulation.





Make sure you fill the holes up all the way. Do not leave any gaps!

Now we need to make an insulated plug for this large hole in our roof.



The plug is made from a full sheet of 2" thick Styrofoam I picked up at Home Depot. This Styrofoam had foil on one side. You will want to keep the foil side pointing up to help reflect the heat.

The 5 layers of foam are sandwiched between two sheets of plywood. The bottom plywood is left over from the hole cutout. The top piece is a thinner piece of plywood 24"x24".

I used 5 x 24" pieces of 3/8 all-thread rod since I could not find 14" long bolts.

I also used fender washers on the top and bottom.

Yes, it's probably overkill, but it is solid.



Since the 24" all-thread was way too long, I used my 4-12" angle grinder's cutoff wheel to cut the bolts.

Make sure you add an extra nut before cutting off the bolts.

Then after you cut off the threads, use the angle grinders grinding wheel to put a 45 degree around the "bolt". Now you can unthread the nut, and this will fix the threads.

It took several "test fittings" to get it snug yet slide in and out nicely.

I ended up using a handheld belt sander to trim the bottom wood and foam pieces.





Here is a look at the "bottom". As you can see the bolt heads/nuts do not protrude into the living space. Hopefully, the tortoise will not touch/hit these bolts.

By now you should have all the block fully filled with dirt and we cleaned out the excess dirt from the floor.



Another look with all the dirt in.

We had some extra clean sand that we poured in.



Final look before we put the top on.



Now the top board is on.





Now we used silicone caulking all the way around the riser including the vertical seams.

This is to prevent water from seeping in should it get wet.

Now add a layer of 8x8x16 cinder blocks around the entire perimeter.



One more look.

Now fill in the block and the entire roof with dirt.



At this point you can pack dirt and bury the side bricks, but we decided to add another piece of plywood (23/32 thick) to the top creating a flat roof.

Do not forget to add a door.

We made ours out of extra plywood we had. I cut a $\frac{3}{4}$ " boarder, then on the outside I put both aluminum screen and $\frac{1}{4}$ " wire mesh sandwiched between some wood strips.

Keep the screen facing the inside—this will be softer and protect your tortoise. The wire mesh is to make it stronger and protect against anything trying to get in.

I tried putting a magnetic latch, but it is not very strong, so we put a bring in front of the door at night just to make sure no racoons or other critters try to get in.





Getting some morning sun from our new burrow.

Thanks for following along. Hope these pictures and instructions will help you and your tortoise.



Supplies Used:

Quantity	Item	Examples
3	23/32" 4'x8' sheets of plywood	https://www.homedepot.com/p/23-32-in-x-4-ft-x-8-ft-Fir-Sheathing-Plywood-Actual-0-688-in-x-48-in-x-96-in-439614/100034683
~1	Scoop of soil	
1	24"x24" sheet of plywood	https://www.homedepot.com/p/Sanded-Plywood-Common-15-32-in-x-4-ft-x-4-ft-Actual-0-451-in-x-47-75-in-x-47-75-in-300918/202093834
1	House wrap or 9'x5' plastic tarp	
~32	8x8x16 cinder block bricks	https://www.homedepot.com/p/Oldcastle-8-in-x-8-in-x-16-in-Concrete-Block-30161345/100350252
~14	6x8x16 cinder block bricks	https://www.homedepot.com/p/6-in-x-8-in-x-16-in-Concrete-Block-3306660000/207127217
~3	8x8x8 cinder block bricks	https://www.homedepot.com/p/Angelus-Block-8-in-x-8-in-x-8-in-Gray-Concrete-Block-088B0050100100/100318645
1	2"x4'x8' sheet of Styrofoam	https://www.homedepot.com/p/R-Tech-2-in-x-4-ft-x-8-ft-R-7-7-Rigid-Foam-Insulation-310891/202532856

5	24" 3/8 all threaded rod	https://www.homedepot.com/p/Everbilt-3-8-in-16-tpi-x-24-in-Zinc-Plated-Threaded-Rod-802167/204274007
10	3/8 fender washers	https://www.homedepot.com/p/Everbilt-3-8-in-x-1-1-2-in-Zinc-Plated-Fender-Washer-804816/204632769
15	3/8 nuts	https://www.homedepot.com/p/Everbilt-3-8-in-16-Zinc-Plated-Hex-Nut-25-Pack-802364/204274093
1	2"x8" x8' board	https://www.homedepot.com/p/2-in-x-8-in-x-8-ft-2-and-Better-Prime-Doug-Fir-Lumber-2x8-8-2-btr-prime-doug-fir/300177910
1	2"x12" x8' board	https://www.homedepot.com/p/2-in-x-12-in-x-8-ft-2-and-Better-Kiln-Dried-Hem-Fir-Lumber-300193/202088721
1	Tube of silicone caulking	https://www.homedepot.com/p/DAP-Dynaflex-230-Clear-5-5-oz-Premium-Indoor-Outdoor-Sealant-18860/202097444
1	Box of 10x3" exterior wood screws	
2	1-1/2" hinges (door)	https://www.homedepot.com/p/Everbilt-0-56-in-x-1-1-2-in-Satin-Brass-Narrow-Utility-Hinge-Non-Removable-Pin-2-Pack-15377/202034086
1	1/4" wire mesh (door)	https://www.homedepot.com/p/Everbilt-1-4-in-x-2-ft-x-5-ft-23-Gauge-Galvanized-Steel-Hardware-Cloth-308231EB/205960850
1	Aluminum screen (door)	https://www.homedepot.com/p/Phifer-36-in-x-84-in-Brite-Aluminum-Screen-3000043/100390092
~18	3/4" nails (door)	
1	3/4" x 1/4" thick strip of wood (door)	https://www.homedepot.com/p/Builders-Choice-LWM-142-1-4-in-x-3-4-in-Pine-Screen-Moulding-HDSP1142/206005818