Our Mold-Resistant, Low-Tox House
Construction Materials Summary

{None of these materials or ideas are guaranteed to prevent mold or to treat or improve any illnesses. Please do your own research and know that different people have different experiences with these things.}

Here is a summary of what we did.

Some of these can be adapted for renovations/mold prevention as well as total build. **But always test materials for allergy or reaction.**

- Dirt built up high so house above surrounding area, underground drainage around house, graded/created water flow to flow all away from house (all for mold prevention on slab).
- Gravel under slab/insulation for capillary break.
- Radiant heat "pipes" (PEX) laid on insulation before slab poured.
- Mono-pour, shallow, insulated slab foundation (plain cement, no additives).
- Lester Buildings for the "shell"--wood framing, steel siding & roof, steel ceiling inside. [http://www.lesterbuildings.com/](http://www.lesterbuildings.com/) I don't know how small they go; ours is 30 X 40 (1,200 sq. ft.)
Lower left room is a mudroom that stays shut all the time. It helps keep things from contaminating house, like coats & shoes that have picked up scent from stores, printer, inky mail, even microwave in our case, for EMF reduction as well as plastic & scent.)

We chose wood framing because metal framing can cause condensation inside walls. This can be prevented by insulating the metal framing, but we weren’t sure how to do it effectively. We closely inspected all wood framing for mold, and my husband planed a tiny bit off one beam (less than 5 inches by 1 inch).

We also washed all metal roof and siding pieces to remove release oils. This is very important for chemically sensitive people. Vinegar did not work for me; Dr. Bronner’s Castile soap did.
Used a power washer (washed it out first).

Installed metal “Z” pieces around perimeter of foundation…protection against water getting to foundation and preventive barrier for pests.

Inside—
Metal lath "stapled" to interior framing.

Sheep's wool insulation (Oregon Shepherd http://oregonshepherd.com/) blown in behind metal lath and on ceiling in attic. (We did NOT use their containment fabric but just ordered the insulation itself.)

Plain plaster (Structo-lite) applied to lath. Plain plaster (Structo-lite) applied to lath. A LOT of work, but I recently learned that among the other benefits, plaster is not as susceptible to mold as drywall. Drywall has cardboard on each side, and cardboard is mold food—ugh. Yay, plaster!!!

Ceramic/porcelain tile throughout, laid with plain cement/sand mortar. (See video on my website under “Low-Tox House” tab. (Found odds and ends of tile on sale various places; I think we ended up getting most of it around $1 per sq. ft? Make sure no lead or Microban in tile.)

"Vinyl" windows because it seemed a lot of mold risk with many of the cheaper metal windows. I covered the vinyl on the window by my bed with foil tape.
Metal doors, even on bedrooms. (from Habitat Re-store--pre-owned construction/building items and cheap! 😊)

Metal kitchen sink, counters, and cabinets. Pipes exposed.

Porcelain tub (free-standing "claw foot"), sink, and toilet. Pipes exposed.

Vent fans vented to outside and insulated in the attic (so they don't create condensation and mold in the attic).

All light fixtures are glass and metal and could be washed (of potential mold or chemicals), so they all came from Habitat Re-store also. Toilet from there as well (CHECK for mold in tank, though!!!), and bathroom cabinet, etc.

More mold prevention, such as very little wood (except wood framing inside walls), most plumbing on exterior walls, and adding extra caulk to windows.


I believe my dramatic improvements are also because this house is in the country (away from pollution), up high (on hill), and in semi-arid climate. We moved to this semi-arid climate 5 1/2 years ago but couldn't find a non-moldy rental in the country. I am so sick that I need both--good outdoors and good indoors.

I hope to finish writing my detailed Low-Tox House Journal, with many pictures during the process, and put up on Kindle. Winter 2016? Also want to post a video tour, hopefully by fall 2016.
I am doing fantastic in this house and finally healing. Moved in Feb. 8, 2016. Very thankful.

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