

# **Desert Moon House: Working with Contractors**

*by Andrew Eriksen*

This article is part of a series about the building of a less-toxic, ultra-low EMF house in northeastern Arizona. This article discusses issues around hiring and dealing with contractors, and the role of the owner.

It takes many people to build a house, it is rare that one person can do it all. Many tradespeople are needed, such as concrete workers, plumbers, electricians, carpenters, well drillers, backhoe operators, utility people, etc. There may also be an architect and a general contractor.

## **Using a general contractor**

A general contractor organizes the whole project, including hiring, paying and scheduling subcontractors. The general contractor orders and hauls materials, deals with the building inspectors and oversees all aspects of the project. In principle, the owner of the new house need not be involved in the project, except for fundamental decisions. The owner can live far away and just talk to the general contractor on the phone once in awhile. This is the common approach in the regular world.

In the EI-world, there needs to be more involvement by the owner. There are extremely few general contractors with experience building successful EI-houses. And what works for one EI may not work at all for another. Even if the general contractor was handed, say, this series of articles and asked to duplicate it all, problems would still happen. If for no other reason than many people who do construction work entered that field because they were not the type who readily learn from a book, but were more practically oriented. Conversely, very few college professors would be able to build their own house, tools in hand. This author holds two engineering degrees, and remains unqualified to do even basic construction work.

In any case, there needs to be some oversight by a person who is an EI, or who has deep personal experience with the illness. Otherwise, the general contractor, and the contractor's themselves, will make a lot of the decisions. They may call and ask sometimes, but they will most likely think that a lot of details are not significant enough to call about. It could make the difference between moving in a few months after the house is finished, or a couple of years. Perhaps several years. In the construction trades, speed is king, quality and checking on things are secondary. This is engrained and cannot readily be changed for a single project.

The other involvement is the selection of materials and building parts. This could possibly be done from afar, such as by purchasing all the available brands of caulk from the local chain stores and testing them, and then instructing the general contractor which one to buy. But it is so easy to overlook something when not there all the time. Even materials that work for most people with MCS may not work for you. Some people do wonderfully with Elmer's glue/Wellbond, while others are bothered by it for years, for example. Just because a product is sold as "green" or "for people with MCS" doesn't mean it will work for you. Several houses have sat empty for years for that reason.

Using a general contractor appears to add about ten to twenty percent to the cost of the project, though this author never considered hiring one and has not looked much into the going rates.

The decision to use a general contractor may be stipulated by whomever finances the project: many banks simply require one.

### **Being your own general contractor / owner-builder**

Filling the role of the general contractor does not require prior experience in house building, nor does it require a degree in engineering or anything like it. But only if it is your own house.

What it does require is some personality traits, such as being organized and able to follow through on a project, even on a bad day. The inner strength, and health, to show up at the work site every day, at least just for an hour, even if getting whacked by someone wearing cologne or fabric softener. Even if sick or tired. Then to go make phone calls to find suppliers for products not available locally and to keep up with the contractors who are needed later, to make sure your project is still on their schedule and that they know when they are needed.

Then a couple of times a week it's off to the building supply stores to buy more materials, or order them delivered. Or perhaps send someone to pick them up. When the project is running, it is sometimes like trying to feed an insatiable beast that is constantly demanding more. The day after a truckload of lumber arrives, there will be a new list with the pieces the framers forgot to ask for.

If you are still in the hyper-reactive, hyper-vigilant state we all go through in the early years of this illness (and some never get past), it is most likely best to defer building a house until your situation is more stabilized.

A professional general contractor can maybe finish the house in six months, from breaking ground to finish. If you do it yourself, there will be more delays and

down time. A year is more realistic. Trying to go faster will be a tremendous strain – you’ll likely welcome some days off in between.

From when the land is purchased to when the house is finished, count on two years. Plus, some time for off-gassing afterwards. Some have built faster than that, but many have taken three years.

Doing this job will take its toll on an EI. One got so sick she had to stop the project halfway and rest for a year. Others have had to resort to various stimulants to keep going, such as sugar, caffeine and alcohol. One petite woman gained twenty pounds (10 kg) during construction, and this author gained eight pounds. It has taken some EIs a year or two to recover to their former level of health.

Being your own general contractor has benefits as well. Most tradespeople are nice folks who will cut a rookie builder some slack, maybe even enjoy sharing some of their knowledge. Even though they may not have much formal schooling or fancy degrees, they will be able to teach you something. A lot. Building a house is an amazing education. And it can be very helpful with later upgrades and maintenance.

If you can enlist the help of someone who has already successfully built one, that can be a tremendous help. Even if they are just available to you over the phone.

### **Being able to make a decision**

Regardless of how the job is organized, you will need to make a lot of very important decisions regarding materials. You will need to start working on choosing the materials well in advance of when they are to be used. And be ready when the contractors are. And not keep changing your mind. This greatly annoys contractors, and in fact may drive them away. Contractors will quickly lose respect for someone who changes their mind several times.

Having experience working with people also helps. The contractors are likely to do a better job working for someone they like and respect than someone whom they can’t communicate with or who bosses them around.

### **Hauling materials**

If you haul your own materials, a pick-up truck or a trailer is a must. This author bought a small trailer at Home Depot for \$700, which had an 8 x 4 ft bed. The ends could be laid down flat, so it could haul lumber up to 12-14 ft long. It was pulled by a sturdy sedan with a small (75 horsepower) engine, which did fine on the trips to Home Depot 45 miles (70 km) from the work site. It worked well and saved a lot of money and trouble.

If you are not hauling yourself, it can be a good idea to have a designated person do it. Someone who really understands MCS. If the contractors do it, it is likely to be much more expensive, and they may not think of passing over the lumber that has been sitting out in the rain and gotten a bit moldy, or could buy sinks with sound deadeners of tar. You will either pay for their time, and/or a percentage will be added to the cost of the materials. That percentage can be as high as 400 to 500 percent.

Building supply stores and lumber yards usually have a delivery service, which is often quite reasonable. Sometimes even free on large orders.

A respirator is very useful for the time spent inside the very toxic building supply stores. Even when using one, expect to get sick anyway, at least from the stinky clothes you'll be wearing when driving home. Respirators are usually pretty toxic themselves and need a long time to offgas. Buy a couple and hang them up to offgas when you start thinking about building. They should come with a VOC filter, or multiple-gasses filter.

It can be a good idea to set up an account with the building supply store, and get multiple cards, one for each person who may be sent to pick something up. Some stores also have special deals and discounts for their cardholders. Some stores have lower rates for contractors and owner-builders, but you'll have to ask for them.

None of the contractors were good at estimating what materials they needed. Some insisted on bringing their own materials, which makes good sense when they are expected to do their task within a day, so they are sure they have what they need. But none of them seemed to write down what they needed, so it happened they forgot a piece they should have remembered. Then they had to drive back to town, while the meter was ticking.

### **Choosing contractors**

There will be a need for many types of contractors when building a house, though you may get lucky and find one who can do most of the work. There are usually many handymen available in rural areas, but in remote areas they may be scarce and not willing to drive far. One option is to hire one who comes with a travel trailer and camps on the building site until the house is done, and then goes on to the next project. This also provides theft protection.

It is very important to get contractors who are willing to do the details correctly. Most modern construction is simply a matter of slapping things up as fast and

cheaply as possible; true workmanship is not valued by the American building industry. If you are building an airtight house, it is imperative that every crack in every electrical box is sealed, every seam is fully taped, nothing is passed over. If you use old-fashioned grout and thinset without chemical additives for tile work, it is essential that the contractor has the patience to hold the tile in place for the extra ten seconds before letting go, so the tile won't come loose later. Many contractors are not willing to do this, when they are used to doing things as quickly as possible.

Some contractors wear cologne, smoke, or use fabric softener. There is nothing to be done about that, other than either living with it, or finding another one. It is not possible to get them to quit, and even if they try, it is very unlikely to work as it is embedded in their clothes and will be coming out their skin for weeks or months. It will just be a continuous source of agitation that can very well poison the relationship. Stinky contractors are unlikely to contaminate the house, especially before the inside walls are finished.

Contractors are usually very conservative in how they do their job. They are probably not very interested in learning new methods and new materials, when what they already know works from their perspective. New methods and new materials will take time to learn and also carry the danger of failure. It may not work because it is not a good method or material, or because they did not do it right yet. If there is a problem, who is responsible for the cost of fixing it? Discussing that issue up front may help alleviate their resistance.

Don't expect a contractor to really understand MCS. Spouses rarely do, so why would a contractor?

It is extremely important to find a contractor whom you can communicate with. One who won't listen won't do the job properly, and thus the project has a higher chance of failure. Steer away from the cocky ones, who are quick to tell you they know all about MCS, unless they have really solid references.

The ones to hire are the ones who are interested in cooperating with you, and don't mind working with you being around. One who seems genuinely interested in learning something new, one who will listen to you, and also give you his opinions. One who will take the time to do the job right.

Ask for references, and check them.

## **Working with contractors**

Contractors are usually not well educated with degrees and diplomas, but they work with construction every day and on this project they could often suggest better designs than what was on the drawings. It is at your peril to simply hand the drawings down from on high and insist on doing it in a certain way, without carefully listening to (and encouraging) what they suggest.

Some contractors are visually oriented, i.e. they understand things by seeing them and are not geared towards symbols on a page. Perhaps one reason they didn't go to college. It may not work simply to give them a book or these articles and expect them to build the perfect house.

The contractor who did most of the work on this house was so reliable and experienced, that he could be left alone through the winter to do the interior tiling and finishing work. An experienced worker with a good attitude is worth gold, and worthy of your respect.

And remember: even the most careful and skilled contractor does make mistakes now and then, just like everybody else. It happens.

But there can be problems with them, too. Some will go out of their way to make sure they are not supervised. Most of us do not like the boss looking over our shoulder, so that is not so hard to understand. But it can be a problem, and not just with special MCS things.

The contractor who installed the water tank and the underground lines to it said he would come on Monday. Instead, his crew showed up early on Saturday morning. The author happened to come out there anyway, and that was fortunate because a serious error was caught. It would otherwise have required the crew to come out again with their backhoe and dig up the water line again to install a critical shut-off valve.

The contract with the well-driller stipulated that the owner must be present when they start drilling, with 24 hours' notice. The contractor even verbally acknowledged it. And he still didn't call.

The licensed plumber who was to install the sewage line to the septic system also didn't comply, and created a royal mess with his ditch digger, which could have been avoided. The same guy also started to install the pipes under the slab, and then didn't show up for nearly a week, stalling the concrete contractor who was pulling his hair out. And then he also misread the drawings and placed the drains so we had to make the bathroom six inches (15 cm) wider than intended.

In a few cases, they may try to pull a fast one. A friend in another state had a contractor who built up a stem-wall of hollow concrete blocks. The drawings and the building code both require that all the cavities in the blocks be filled with concrete. This contractor saved a lot of money for his own pocket by putting in a layer of kraft-paper under the top layer of those blocks, and then just filled the top layer with concrete. This could easily have caused complete failure of the foundation some years later, but it was discovered in time and corrected. This was even a licensed contractor.

When the foundation was poured for this house, the contractor brought extra hands. During their lunch break, one of them started doing target practice, without asking permission. He did shoot away from everybody, but a bullet ricocheted and passed so close to our heads that it sounded like an angry bee passing by.

Remember, you pay for it all, you are in charge and do have the final say. But use that power wisely and rarely. Contractors will walk off a job if the owner is unreasonable.

### **Licensed and unlicensed contractors**

Licensed contractors must take a course, pass a test and then pay a substantial amount of money to become “bonded”. This is a sort of insurance policy that a botched job will be made right, according to a standard criteria (probably not MCS criteria, unless you have a solid contract spelling it out in detail).

If a bank or public agency finances the construction, they will most likely require the use of licensed contractors. If you use a general contractor, he will probably only use them as well. He may in fact be legally required to do so.

Using unlicensed contractors can save a lot of money if you are an owner-builder, as their rates are much lower and they may be more willing to let you purchase the materials. With a great all-round person, it can make a project much easier, rather than having to use a great many different contractors. But you run more of a risk. The quality of the workmen can vary enormously and then you are responsible for reading up on building codes, etc.

Whether it is a good idea depends enormously on the local area. What is common practice, availability of good workers, legalities, etc. Ask around locally, and inquire what the rules are at the local licensing board or building inspection office.

### **Protection of plants and landscapes**

Building a house is very destructive to the landscape. When workers and machines move around, protecting the landscape is absolutely of no concern to

them. The contractors are focused on the job, not on preserving bushes, trees or other natural features. They are just a nuisance to them.

Operators of delivery trucks and earth moving machines are much more inclined to take a wide circle around the yard, rather than backing up to get around. Even if they are asked, and they promise. A backhoe or a big cement truck can do a lot of damage in 30 seconds. It is simply a fact of the business.

Most commercial construction companies simply start the project by bulldozing the entire lot, removing all vegetation. On large lots, they may just bulldoze an acre or two. Sometimes they sell off the stripped topsoil, leaving the new homeowner with an infertile piece of wasteland that will take many years to become fertile again. Many houses have “rolled out” lawns that are forever in need of artificial fertilizer and other chemicals.

Discuss this with the contractor ahead of time, or they may simply do it as a matter of standard practice.

When building in a natural area, it is often desirable to keep the place as undisturbed as practical. In some areas of the country, invasive species such as tumbleweeds (Russian Thistle) will take over with amazing speed any area with disturbed soil. Some species are also legally protected, such as the saguaro cactus and Joshua Trees in Arizona. In areas of little rain, it can take many years for vegetation to recover. Even a single tire track can be seen years later.

It appears that the only way to prevent unneeded roving vehicles is to fence off sensitive areas. This can be done by ramming a row of fence posts (T-posts) in the ground, 10-15 ft (3-5 m) apart. Or place posts around bushes and trees that need to be protected. There is no need to put up wire between the posts, though bright ribbons can be useful. An alternative is placing concrete blocks on the ground, though they are less visible to a backhoe operator.

To be really effective, plant small U.S. flags — no contractor would dare run down the national flag! At least not in conservative states.

But be careful not to be too restrictive. The machinery does need a lot of room to maneuver; much more than a car. The contractors could be hampered and perhaps even angered if unduly restricted. Perhaps wait until the foundation is done, as concrete trucks are the most space-needing vehicles around the house.