

## Converting an office suite in Texas to be safe for people with MCS



A small non-profit organization in Dallas needed office space that was safe for its MCS clients. It was also important to provide a professional and tranquil setting.

Starting with a good building is essential for a successful project. A building that is very contaminated will be difficult, expensive, time-consuming and possibly impossible to turn into a safe, non-toxic place.

The director spent well over a year searching for a suitable building. She found it in Richardson, a suburb of Dallas.

It has the following positive features:

- about 30 years old
- has never been pesticided

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- was lightly fragranced, no “plug-ins” were used
- no gas heat
- forced air system had steel ducts, low noise level and not shared with neighbors
- single-story building
- no basement or crawl space
- no mold problems
- high ceilings
- genuine wood doors and baseboards
- large glass windows overlooking a greenspace
- bathrooms are vented
- direct entry from outside
- set back from road and parking lot
- simple landscaping with minimal lawn
- quiet and non-polluting neighbors and neighborhood

The building was owned by the same person who had it built thirty years ago, so the history of the place was available firsthand.

The neighbors in the same complex consisted of various small businesses, such as a mortgage company, a small engineering firm and several doctors’ offices. The adjoining properties were also office spaces, while the back side of a strip mall was across the street. No polluting industries were nearby, though there were busy through-roads in the area.

The building was made of conventional materials, but of high quality, which is evident in the heavy solid-wood doors and trim. The building materials had offgassed over the years and not been contaminated much by the prior occupants. Even the bathrooms were not very fragranced.

The walls and ceilings were covered by regular drywall, which was largely sealed by a paint, so they were not very absorbent.

The ceilings were 10 ft (3.3 meters) high, which creates 25% more air volume than regular 8 ft. ceilings, for the same floor space. Increased air volume helps disperse incidental air pollution.

The property was well maintained, so there had been no untended roof leaks or plumbing problems to create mold problems.

The setback from the road and parking lot, and the direct entry from the outside, helps the patrons get to the office without being affected by fumes. This also

helps build a calm atmosphere, together with the greenspace on the back side of the building.

The building had never been pesticided, at least not by a professional company. Pesticides linger inside for many years, so this is a must for a safe place for people with MCS.

The landscaping outside was simply bushes and gravel out front and a small lawn in the back, up against the greenspace. This did not require much, if any, use of landscape chemicals.

The director contacted the city department responsible for the greenspace and was told they never sprayed herbicides or anything else there. It was kept as natural as possible.

### **Converting the office suite**

The owner of the complex was reluctant to consent to the carpeting being pulled up and floor tiles installed. When he was told it was a condition of the lease, he accepted it. Once the floor tiles were installed, he was very pleased with the result.

Any form of carpeting is unacceptable for this type of project. Even the “safest” carpeting materials are problematic by themselves, and the dirt collected by carpets is also a problem.

The walls and ceilings were washed many times with a 50/50 mix of hydrogen peroxide and warm water. Regular peroxide from the grocery store was used.

The work took place over the summer, with the windows kept fully open throughout the day, every day. The director made sure to close the windows every evening.

Large fans in every room ensured good air circulation into every nook and cranny of the entire office suite. Fans also brought lots of fresh air in from the outside. This took place during the summer, where the heat helped with the offgassing of the insides. This would have been much less effective in cooler weather.

The place was aired out daily for about a month, before it was determined to be good enough to paint. The walls were then painted with the Harmony paint from Sherwin Williams.

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The ceilings were not painted. They were already covered with a “popcorn” textured paint which would be difficult to paint or to replace, so it was left in place.



*A treatment room*

#### **Air handling**

The building is heated and cooled with a heat pump and a forced-air system. There is one system per office suite, so there is no contaminated air coming from the other offices.

Dust, mold, fragrances and other toxic chemicals tend to adhere to the inside of air ducts and the heating/cooling coils. This can cause major air quality problems, especially when heated air is sent through the ducts. It was therefore necessary to clean the system.

The ducts are made of steel, which were cleaned by a professional duct cleaning company. The company did not use toxic cleaners and was recommended by other people with MCS in the area. The ducts had probably not been cleaned for thirty years, but were not very dirty and no mold was found in them.

If flexible plastic ducts had been in use, they would probably have had to be replaced at great expense and with the possibility of problems with the materials offgassing.

The rigid ducts had been insulated with fiberglass batts on the outside, which were in good condition and left in place. The fiberglass was not in contact with the airflow.

The air handling system was mostly run in the warm season to cool the inside air, while in the cold season portable electric space heaters were used. The concern was that heating up the air handling system would create problems with the air quality (such as “fried dust”). After about five years the air handling system was tried for heating also, and it turned out to work well.

The air handling system has a built-in filter, which is changed monthly. Each room of the office suite also has a portable HEPA air filter of the brand Austin Air (now called HealthMate). The pre-filters are washed monthly by the staff.

### **The furniture**

The furniture and decorations are all of natural, materials, i.e. steel, glass, stone, ceramic and genuine wood. They were all purchased well ahead of time and left to offgas in the director’s garage for at least a year.

The décor is chosen to convey an atmosphere of tranquility and quality.

### **Daily operations**

The staff makes sure that offending materials are kept to a minimum at all times. Odorous products are not allowed inside and clutter is avoided. There used to be a ban on most paper, such as books, but that has since been relaxed.

The staff sweeps the floors daily and services the air filters monthly. A professional cleaning company comes weekly. It uses non-toxic products and was easily trained as they already had other customers demanding non-toxic cleaning.

There are no deodorizers in the bathrooms, which have odorless liquid soap available in a dispenser and paper towels for drying the hands.

The staff refrains from using scented personal care products and from washing their clothes with scented detergents or fabric softeners.

Many people with MCS are particularly disturbed by noise. An office space with tile floors and little sound-absorbing material can easily become noisy, but the staff does an excellent job of preventing that by speaking calmly themselves and by encouraging loud patrons to keep their voices low. It is not a busy office and it succeeds in maintaining a calm atmosphere.



*A corner of the waiting room*

## **Comments**

This is a very successful project, which the author first saw about a year after its completion. It has worked very well since the opening in 2004.

Finding a good building to start with is essential for a successful project. A more contaminated building might require replacing the drywall and other materials, with all the associated problems that can come with new materials.

Any project also depends on some measure of luck. Success is not a given. That a place can be offgassed and cleaned up is not guaranteed; unforeseen problems may

arise. This was a lucky project, but good preparation and diligent attention to detail made the success.

An office suite is slightly more forgiving than a home, as people spend fewer hours there and nobody sleeps there, which is when people are the most sensitive.

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