

# Environmental Specialists

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## Action Plan For Treatment



## City of Lawton Police Department

### *Our Goal:*

*To create an environment where ones' health isn't compromised by the mold living in the structure*

## **Introduction**

Pursuant to the clients request a review of the property was performed. Oklahoma Natural Environmental Specialists has prepared an Action Plan for treatment based on recorded technical information, pictures, and onsite observation.

Client: City of Lawton Police Department  
First Floor and Jail

Address: 10 SW 4<sup>th</sup> Street  
Lawton, Ok 73501

Phone: 580-581-3270

The purpose of this review is to provide an Action Plan for treatment that will help produce a healthier living environment: Determine why a mold (fungal) problem exists, and to make necessary recommendations to alleviate the problem. However, the recommendations made in this report may not address all unforeseen, hidden, or inaccessible mold conditions, and do not address conditions unrelated to fungal damage: nonetheless, any modification to recommendations should meet the intent of the suggested changes. Client has already discovered a mold problem exists and has hired us to treat the problem.

Our findings are meant to solve complex biological contamination problems, not to do a temporary fix that will come back later to harm the residents. Any remediation other than what we recommend is, of course, not backed nor supported by O.N.E.S. Some structures take longer to clear up after remediation because of the long duration of contamination. ONES does not provide nor imply any warranty or guarantee that treatment of specified areas will permanently eliminate future mold growth or mold contamination from existing or other sources. Even though ONES uses mold and moisture specific equipment, mold can be hidden, covered up, or not obvious to the inspector. ONES cannot guarantee all areas of mold growth are found. Given the number of variables and the ubiquitous nature of mold, ONES cannot assure that mold will not appear again sometime after treatment and recommended changes have been completed. The most important element in controlling mold growth is the elimination of water, moisture, and/or excess humidity accumulation within the structure. Without inspection of entire structure, there is no warranty or guarantee of any kind, written or implied.

The review was performed on August 9th 2017; this report states our findings and recommendations.

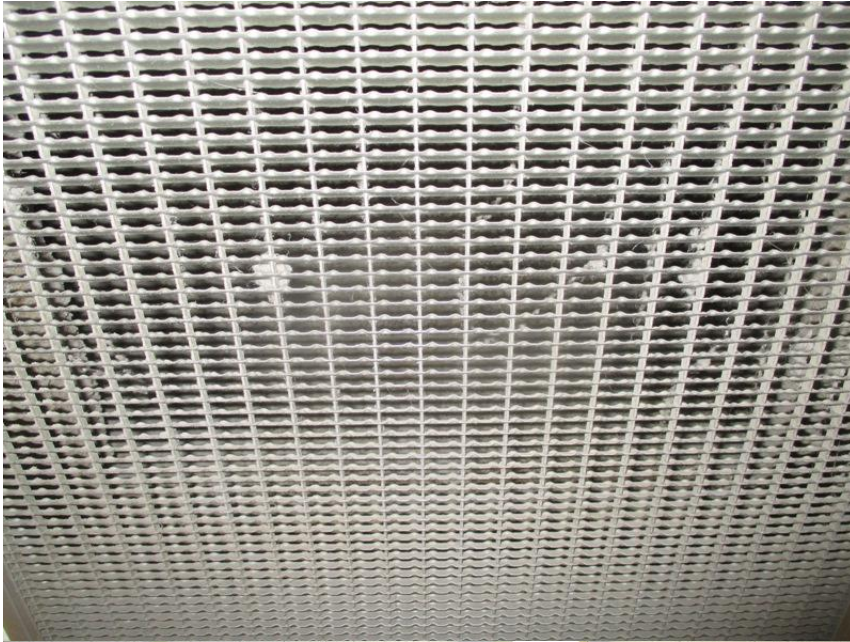
If your doctor has advised you to leave the structure, check with them before reentering the structure.

Any treatment by any other organization (pest control, carpet cleaning, duct cleaning, etc.) may compromise the remediation process. Please let us know if anyone has sprayed a liquid, powder, vapor or cleaner in your home/office before or after this investigation. **Also do not allow anyone to use any chemical in your home/office without clearing it with O.N.E.S. or your vendor. Many otherwise "Innocent" chemicals may be very toxic to people who have developed reactions to mold.**

## Visual Inspection



-HVAC returns and registers are extremely dirty.







-Air Handler coils are extremely dirty.



-Insulation inside the ducts are extremely dirty.



-Humidity throughout the first floor is 61%. Dehumidifiers need to be added to keep the humidity under control.



-Numerous water damaged ceiling tiles throughout the first floor. No visible mold growth was found on the tiles.









-VOC levels throughout the first floor are normal.





-Remove all water damaged cardboard from the property.



-Detective Alvarez's office shows signs of water intrusion and rusting on carpeting. No visible mold damage found and mold testing was normal in the area.





-Detective Adamson's office has a "urine" odor. No visible mold found and mold testing came back normal. Suggest carpeting be replaced in office.



-Detective Diaz's office mold testing came back elevated for Aspergillus/Penicillium. Suggest carpeting removal and treatment of office.



-All mold testing of First Floor shows to be in the normal range except for Detective Diaz's office.

Jail Section.

-Booking area has a malodor. VOC (volatile, organic, compounds) are extremely high in the booking area.



-Visible mold growth on HVAC Register in booking area.



-Humidity is 69% in booking area.



-Mold testing of booking area shows elevated levels of Aspergillus/Penicillium. Dehumidifier needs to be added to the area, and HVAC system needs to be cleaned.



This includes ducts, coils, motor, and any insulation in the ducts.



-Plumbing areas need to be cleaned of debris thrown into the area by inmates.





-Mold testing of the jail areas showed to be normal. No visible mold found upon inspection.



- There is a possibility of water intrusion or hidden mold that is not obvious to the surveyor.

FLIR infared camera was used on the property.

## **Conclusion**

If above normal levels of mold are not addressed properly, the mold can cause a wide range of problems.

These problems include:

- headaches
- allergies
- 
- runny nose
- CANCER

O.N.E.S. refers to the health concerns of the specific molds found in the structure, and your Doctors recommendations

### **Specific Recommendations**

-The first thing we need to do is make the air we breathe healthy. This allows everyone to start getting healthier right away.

**Treat the structure with a non-toxic botanical solution. Do not use anything other than a botanical material. Recent research seems to show that EPA type chemicals can cause some severe reactions in some people. We want to make things better, not worse.**

-To prevent mold growth above naturally occurring levels, all sources of uncontrolled moisture must be eliminated (e.g. – roof leaks, pipe leaks, flooding). If all moisture is properly controlled, including maintaining <40% relative humidity, mold growth will be inhibited. O.N.E.S. recommends the **EZ-Breathe** air system to control humidity, and provide proper air exchange. This will allow proper ventilation of the structure.(preventative)

-Water spots that contain mold growth must be cut out and the material replaced. While these areas are uncovered, check above the water spot for any water leakage from pipes and/or the roofing. Many times the mold growth is more extensive once the area has been uncovered. Remove sheetrock at least 6 inches past the contaminated areas. Sand any damaged wood until the water/mold staining is removed. Dry rot or wet rot must be replaced.(Remove and replace all sheetrock a minimum of 6 inches above any mold/water damaged areas. It is critical that all moisture intrusion be stopped.

-Immediately add dehumidifiers to the property to get the moisture back under control.

-Have HVAC ducts, coils, motors, and insulation cleaned.

-Remove and replace all water damaged ceiling tiles and any insulation directly above the tile.

-Remove carpeting in Detective Diaz's and Detective Adamson's offices. Treat Detective Diaz's office.

-Add dehumidifier to the jail booking area. Have HVAC inspected and ducts, motor, coils, and insulation cleaned. Treat Jail Booking Area.

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All work should be done with containment procedures as outlined by:

- Guidelines on Assessment and Remediation of Fungi in Indoor Environments 2000 from the New York Dept of Health
- Bioaerosols: Assessment and Control 1999 from the American Conference of Governmental Industrial Hygienists (ACGIH)
- The Institute of Inspection Cleaning and Restoration Certification (IICRC)

## General Recommendation

# To prevent mold growth above naturally occurring levels, all sources of uncontrolled moisture must be eliminated (e.g. – roof leaks, pipe leaks, flooding). If all moisture is properly controlled, including maintaining <40% relative humidity, mold growth will be inhibited.

# The heat/air ductwork system should be cleaned every two (2-3) years. The company doing the work should vent their vacuum cleaning devices outside into the yard or into their truck. While they are cleaning, they should inspect all seals on the ductwork sections.

Damaged seals in the ductwork system should be repaired with metal duct tape (not adhesives).

Whether or not the ductwork is cleaned professionally, once or twice a week a non-toxic, bio-balancing spray should be sprayed into the intakes of the duct system. We recommend a spray made from “ Cirtisafe™. (See vendor list) If the unit is pulling air, this spray will circulate and keep mold growth to a minimum.

# Anti microbial filters needs to be used in existing systems to assure proper follow up of treatment. These filters insert into your HVAC intakes. They kill mold spores as they filter. In some cases, it may need to be custom sized. (See vendor list)

# Get rid of cardboard boxes. The ground up wood in cardboard is the junk food of mold. In addition, most people keep their cardboard boxes in under ventilated, moist places like garages and closets. Use plastic or rubber containers like those found at K-Mart or Wal-Mart.

# Don't pack clothing and articles too tightly in closets. Let the closet breathe.

# Leave your washer and dryer open while not in use. Spray daily with a Cirtisafe™ spray.

# Don't clutter corners and areas around furniture with objects that might cause poor air circulation around the furniture. Some people use areas behind furniture or under beds to store seldom-used objects. These collect dust and harbor mold.



# Turn your central system fan control to ON (If building has an H.V.A.C system). Leave it on year round. This will keep air flowing through your filtering system. Plus it will lessen the chances of motor failure since constant turning on and off wears out the central system motor faster than just leaving it on.

# Increase ventilation in bathrooms to help remove moisture during and after use.

# The pipes that conduct cold water must be insulated to prevent sweating and water dripping.

# All pipes entering through flooring or walls (e.g. under the kitchen counter) should be sealed with a caulking material. The same thing should be done with the metal boxes of all electric plugs and light switches.

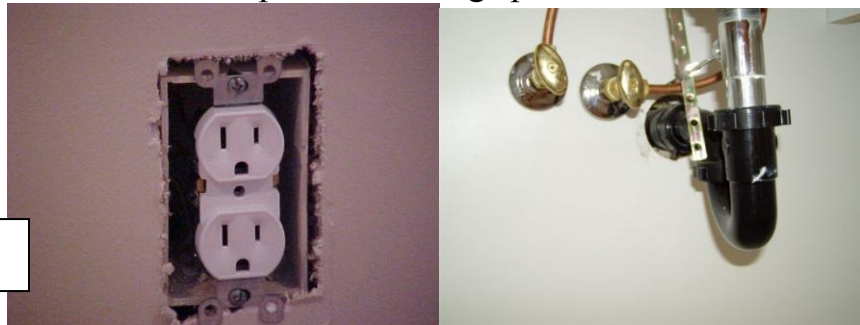
The reason for sealing these locations

1. When the house cools at night, warm moist air is sucked into the wall spaces through these gaps. This feeds the mold growing in the wall spaces.

2. When the house heats the next morning, the air in the walls expands and blows into the living space. As it does, mold spores are carried into your breathing area.

We don't want the wall space and living space to communicate.

Stock photo



# Normally, indoor plants should be limited to succulents, like cactus, instead of the common broadleaf plants, like violets.

However, NASA has performed extensive research on plants and toxic air. For a possible use in the space shuttles, NASA worked to find plants which would remove harmful chemicals from the air (such as formaldehyde, and benzene). The following is a list of the plants they found to be helpful. So we have started recommending them to our clients who **insist** on keeping live plants in the home. If live plants do stay in the home, use small rocks to cover the soil, and do not use wooded or wicker baskets.

* Bamboo Palm	<i>Chamaedorea seifritzii</i>
* Chinese Evergreen	<i>Aglaonema modestum</i>
* English Ivy	<i>Hedera helix</i>
* Gerbera Daisy	<i>Gerbera jamesonii</i>
* Janet Craig	<i>Dracaena</i> “Janet Craig”
* Marginata	<i>Dracaena marginata</i>
* Mass Cane/Corn Plant	<i>Dracaena massangeana</i>
* Mother-in-Law’s Tongue	<i>Sansevieria laurentii</i>
* Pot Mum	<i>Chrysanthemum morifolium</i>
* Peace Lily	<i>Spathiphyllum</i> “Mauna Loa”
* Warneckii	<i>Dracaena</i> “Warneckii”

# Put damp rid in closets, and drawers glassed in bookcases to absorb moisture and prevent mold.

## Notes

**Citrisafecertified.com (mold solution products)**

**Biobalancenow.com -Self treatment kits.**

Notes

## **Glossary**

**Air Sample** – A sample of air borne mold taken by exposing a mold plate to the air for a set length of time. The spores from the air grow in the mold plate. When the mold reaches a planned maturity the identity and relative abundance of the mold in the air can be determined.

**Carcinogen** – A material that can cause CANCER.

**Colony** - an adult organism grown from one or one cluster of mold spores.

**Crawlspace** - The area under a house, usually dirt, through which pipes pass under the floor. If this area gets too moist mold can grow and seep up into the house.

**Dehumidification** – The act of removing excess moisture from the air.

**Downspout** - The part of the gutter that brings the water down to ground level. Its job it to prevent water from hitting the ground directly. It should extend 6 feet from the wall so that the water has little chance of draining back into the house.

**Foundation vent** – these are little windows cut into the wall of your crawlspace. Their purpose is to allow the crawlspace to breathe. Breathing keeps the moisture level in the crawlspace low. The vents come in different styles but serve the same function.

**French Drain** - A plastic pipe placed into a ditch dug into the yard. Water drops into the drain and is redirected away from the house.

**Fungicide** - A material that will kill fungi (mold).

**Gutter Extension** – A hose or tube that carries water from the gutter downspout away from the building foundation. Hopefully, 6 feet away from the foundation.

**GSE** – A solution made from Grapefruit Seed. It kills mold but is harmless to people.

**H.E.P.A.** – A filtration system that removes extremely small particles from the air.

**Mold** - A group of life forms in the Kingdom Fungi. These life forms produce toxins that can be harmful to humans.

Just like all snakes are not poisonous, not all molds are toxic. The only way to know whether a mold will cause disease or not, is to identify the mold.

**Mold Plates** - Testing device composed of a plastic or glass container and a nutrient gel. Mold spores landing/placed on the gel will grow into mature mold colonies suitable for identification.

**Neurotoxin** - A toxin that causes an effect in a person's nervous system. Results are dizziness, shakes, hallucinations etc.

**Passive Vent** - A louvered or screened vent cover that is placed in a door or wall to allow air to pass. It isn't connected to anything that does anything, eg a return vent. It allows air to pass on its own between to air spaces.

**Physical Sample** – A piece of a solid object taken to the lab. It is ground and placed into a mold growth medium. Physical samples are taken to determine if the air mold spores are coming from the building material or from the outside air.

**Register** – See Return Vent

**Return Vent** - The openings in the house where air enters back into the rooms after passing through the heater/cooling system.

**Ridge Vent** – A hooded vent that runs across the top edge of a roof. It allows stale musty air to escape from the attic.

**Roofing Nails** – The nails that are used to hold the layers of the roof in place. Most building codes require that they stick out ¼ inch to make sure they extend through ALL the layers. If they stick out into the attic more than that water can condense on them and drip into the insulation in the attic.

**Slab** - If the house is built on a layer of concrete with nothing beneath it, this concrete structure is called a SLAB. Moisture sometimes comes up through this concrete and wets carpet from beneath.

**Soffit Vent** – Vents up under the outside edge or overhang of the roof. These vents allow new fresh air to enter the attic.

**Spore** - The reproductive part of a mold. It is basically the same as a seed.

**Total Colony Count** – The number of total mold colonies in a test plate. The higher the number, the more likely the residents will become ill.

**Toxin** - A poisonous substance produced by metabolic activity of a living organism. i.e. a substance produced by a living organism like mold that harms people.

**Vapor Barrier** – A layer of plastic placed over the dirt in a crawlspace. It keeps moisture from coming up through the soil into the crawlspace where it would feed mold.

**Vent Cover** – A fabric cover that fits into the air returns. It filters air of particles before letting the cooled/heated air into the room.

## Reading List

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## **Immediate Recommendations**

Complete recommendations as outlined.

-Treatment of Detective Diaz's office. Cost of \$600

-Treatment of Jail Booking Area. Cost of \$1200.00