

## Contemporary Arts Center, the Aftermath of Hurricane Katrina

### The Problem:

The Contemporary Arts Center, located at 900 Camp Street in New Orleans, Louisiana, sustained heavy wind and rain damage during Hurricane Katrina. The northwest and southwest corners of the roof were heavily torn, and all of the skylights and many of the windows were blown out. The result was heavy rainwater entry through these openings, which caused the majority of water damage to the building.

The Contemporary Arts Center building mixes New Orleans' historic architecture with contemporary materials, open spaces and site-specific art works created by Louisiana artists. The building is a 4-story structure, with a basement, and covers approximately 115,000 square feet. The basement is used primarily for storage of exhibit display materials and event furniture, among an array of other materials. Five air handlers that serve the first floor are located in the basement. In addition, a smaller sixth air handler serves the music room in the basement.



Chelsea Group was brought in after the hurricane to assess the extent of biologically impacted building materials and mechanical systems, and to document pertinent findings for insurance coverage purposes. In addition, Chelsea Group made recommendations addressing proper remediation, cleaning and removal techniques to protect both workers and the art exhibits displayed in the center.

### Chelsea Group Intervention:

An urgent question in many of the water damage claims resultant of the Hurricane Katrina events was, "Where did the water come from?" Most businesses and residences did not have flood insurance coverage. Therefore, it was necessary to document that the water damage was caused by the wind and rain, rather than floodwater, to receive insurance compensation for the clean-up. Chelsea Group collected water samples in the basement of the Arts Center to determine whether bacteria indicative of wastewater contamination were present.



Results of the water sample analysis were negative for bacteria indicative of wastewater contamination. This showed that the majority of water came from rainwater intrusion through the damaged roof, skylights, and windows, rather than from flooding.

**Immediate results:** By determining the cause of the water damage, Chelsea Group proved that the building merited insurance funding, which would not have been available if the damage was the result of flooding rather than wind and rain.

Chelsea Group conducted a visual observation of the building with special consideration to areas that sustained heavy water damage.

- Relative humidity and dew point measurements were taken to determine potential for condensation, as the space was unconditioned due to damage to the HVAC system.
- A moisture survey of the porous and semi-porous building materials of the facility was conducted using a GE Protimeter moisture meter to determine the extent of moisture damage and to outline a scope of removal work.



The extent of the materials damage was concentrated in the basement, where almost every porous and semi-porous surface was supporting heavy microbial growth. In addition, amplification was observed on the drywall of the atrium.



**Immediate results:** By performing visual inspections and moisture mapping, Chelsea Group was able to determine the extent of the damage to the building and to specify an approach to remediation work.

Because the water damage affected the air handlers located in the basement, concern was raised about the potential for these units to harbor growth while they sat inoperable in a area full of standing water. Surface tape-lift samples were collected from random areas within the air handlers in the basement and heat-pump units on the upper floors. The samples were analyzed onsite by direct microscopic examination by a Chelsea Group industrial hygienist for quick results, as well as being processed by an AIHA accredited environmental microbiology laboratory for formal documentation.



Through surface sampling of the 5 large air handlers in the basement, Chelsea Group found limited growth within the units, the prevalence being in the supply duct lining. The types of species present indicated the units had not become contaminated from surrounding impacted contents and building materials. The results seemed to indicate that the humid conditions in the basement created an environment for settled spores already in the ductwork lining to grow.

**Immediate results:** Chelsea Group recommended that the units be cleaned, but only after the temporary repairs to the roof and windows were completed to protect the building from outdoor elements, and after the impacted contents and building materials were removed.

Contaminated areas and materials throughout the basement, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> floors were identified. Chelsea Group provided a specification plan to contain areas during remediation work, protecting clean areas from mold spores and contaminated materials.

Some sections of biologically impacted building materials had been removed before Chelsea Group was contacted. The State of Louisiana requires that workers who provide mold remediation services be licensed. Removal of impacted materials without the use of proper containment and dust-suppression methods can affect workers' health. Also, the protection of the art exhibits from damage from mold growth was a high priority.



**Immediate results:** Chelsea Group provided a remediation specification that outlined the scope of work, proper containment, worker safety, and protection of valuable collections in order to obtain bids from licensed contractors.



### Final Results:

Although work continues on the building, in January of 2006 the Contemporary Arts Center celebrated its reopening.

- The Contemporary Arts Center is pursuing insurance claims based on Chelsea Group's analysis of rainwater intrusion that caused the flooding.
- Following plans and specifications recommended by Chelsea Group, remediation throughout the building is underway.
- Chelsea Group will perform a final review of the facility when the remediation work is complete.