



Crime Lab

Forensic Facilities POTential

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With recreational and/or medical marijuana now legal in 21 states and the District of Columbia as of April 21, 2014, according to CNN US, one might wonder if forensic facilities can begin to scale back resources dedicated to the drug's testing and storage.¹ We believe that this may not be the case.

Under federal law, marijuana is still a Schedule 1 illegal drug. The Justice Department will indefinitely enforce existing federal laws in states without any form of marijuana legalization and in the rest, infractions of state law such as selling to or use of marijuana by minors, driving under the influence, trafficking, or funneling of illegitimate revenue will continue to be prosecuted and supported by the forensic laboratories.

If anything, the proliferation of new legalization is making the job in the crime lab proportionally more difficult. According to *The Columbian* article, "Marijuana law no respite for crime lab," In Washington State for example, an initiative defining marijuana as meeting a specific threshold of THC percentage was passed along with recreational legalization. This has

increased the burden on the crime lab significantly; requiring updated testing methods which cost many times more and take exponentially longer than formerly acceptable methods.² Long story short, the relationship between forensic facilities and marijuana will continue to grow.

Commonplace methods and standards that forensic facilities use today in dealing with marijuana can be inadequate or even dangerous for staff. Forensic facility design should prioritize the health and well-being of the building occupants upmost.

On December 4, 2013, *The Huffington Post* stated: researchers have found that traces of bacteria and mold, insect parts, salmonella, and *E. Coli* capable of producing human illness can be found on marijuana.³ Exposure to even small traces of this mold can cause respiratory problems and lung hypersensitivity, which can lead to a buildup of scar tissue in the lungs. Forensic staff is potentially exposed to these elements on a regular basis. Mold issues are almost always due to high moisture content over 60% relative humidity, poor ventilation under six air changes per hour, and warm temperatures above 78 degrees Fahrenheit. Also, storage in airtight containers cannot prevent all molds from developing.

The health of the building occupant is of upmost importance. This helps to attract and keep talented staff working in the forensic laboratory. Facilities that look and smell proper help create a positive workplace. However, forensic laboratories are required to store more evidence for long periods of time and include the storing of marijuana. Air exhaust systems must be properly planned to prevent the smell of marijuana from taking over the facility. The cultivation of marijuana plants for evidence comparison can make this problem worse. Building air systems must be of good design to prevent cross contamination, the unwanted spread of unpleasant odors, and the perception of an unsafe environment. Storage constraints in the laboratory continue to be a challenge and add stress to the building's infrastructure systems. Good laboratory design will create a safer and more professional work place.

Designing crime lab facilities that are functional, efficient, and economical is essential to the life cycle of the facility. There are significant design strategies to consider while planning for the safety and security of the occupants and the storage of evidence; just as important are the design and strategy for the

implementation of building infrastructure. It may be an interesting experiment to analyze how marijuana is stored and managed in the real world, to understand the lessons learned to potentially improve the forensic facility.

On April 13, 2014, the headline story on National Public Radio "Marijuana Vending Machine Unveiled in Colorado" discussed a vending machine for medical marijuana that had recently debuted in Colorado. This singular machine addresses some of the issues in storing marijuana including: condensed storage systems, optimum temperatures, relative humidity, and ventilation; all while occupying less than 12 square feet.⁴

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At a larger scale, high density storage systems are commonly used for storage of records and evidence. High density storage systems allow for more efficient use of space than standard shelving by compressing the shelving units together, thereby saving circulation space. Shelves are mounted on an electronic or manual rail system with one circulation aisle that moves to where it is needed. These individual units can be easily customized with wire mesh to ensure proper air flow and maintain environmental conditions for your specific needs.

Additionally, forensic laboratories should eliminate cross-contamination by providing single-pass air. This means that all of the lab supply air must be ventilated or exhausted from the space through general lab exhaust in the ceiling, fume hoods, and or snorkels. The mechanical design should provide a minimum of six air changes per hour maintaining proper directional air flow into the lab and out of the building. This is also true for secondary or support labs and storage space throughout the facility. Areas where large quantities of marijuana will be stored will require increased air changes per hour. These strategies eliminate the possible build-up of

airborne contaminants in the laboratory, providing a healthier and safer space for all the staff.

The relationship between forensic facilities and marijuana continues to evolve. Keep up with storage and analytical testing demands—while avoiding the negative consequences on facilities and staff—with these modifications to better the facilities: temperature, relative humidity, air flow, storage, environmental systems, and exhaust systems.

References

1. <http://www.cnn.com/2014/04/20/us/denver-420-weekend/>
2. <http://www.forensicmag.com/news/2014/02/marijuana-law-no-respite-crime-lab>
3. http://www.huffingtonpost.com/2013/12/04/moldy-marijuana_n_4386139.html
4. <http://www.npr.org/blogs/thetwo-way/2014/04/13/302551086/marijuana-vending-machine-unveiled-in-colorado>

Jinhee Lee, NCARB, CDT, CSI (jinheel@crimelabdesign.com) is a laboratory designer with Crime Lab Design whose responsibilities have included roles as programmer, designer, and quality reviewer.

Ken Mohr (kenm@crimelabdesign.com) is a principal and senior forensic laboratory planner with Crime Lab Design, which provides full architectural and engineering services for forensic and medical examiner facilities worldwide.
www.crimelabdesign.com

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