

## Lab design criteria

Quality

Safety

Cost

Purpose of lab

Legislation

Building regs

DDA

Fire regs

Sep 10-13:17

organisation

Safety

PURPOSE

what's it for?

Equipment

Ballistics

needs

Size

Location

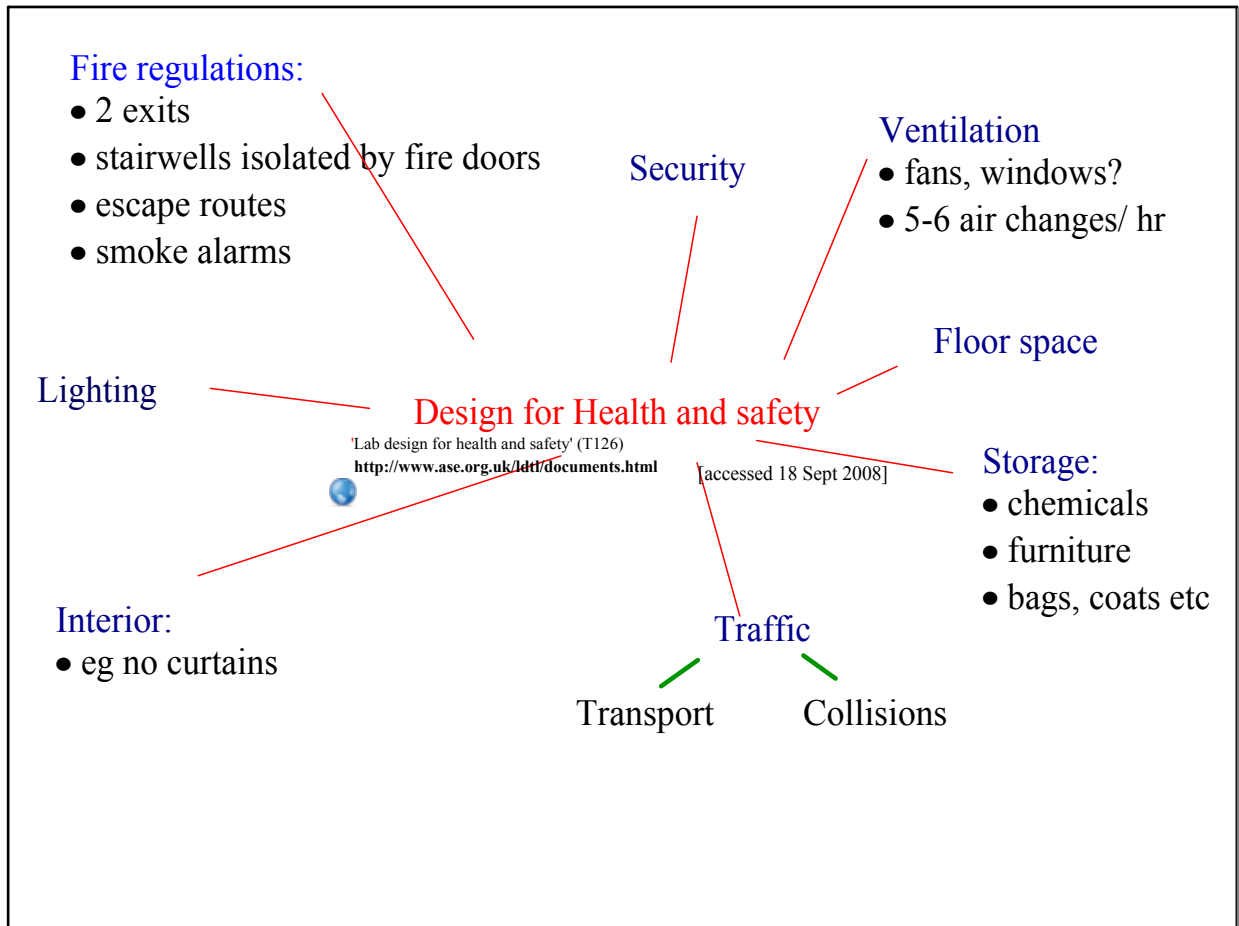
floors?

Costs

SECURITY

shape - design  
window etc

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Sep 18-11:29



Sep 18-12:48

Forensic Magazine® | Articles | Minnesota's New Forensic Laboratory

Page 2 of 4



The central atrium provides a space where forensic scientists and investigators can discuss cases and brainstorm strategies.



Over the years, Minnesota's Bureau of Criminal Apprehension (BCA) has provided a wide range of criminal investigative and forensic services to law enforcement agencies throughout the State of Minnesota. Occupied in 2004, their new headquarters replaces their previous building, which was old, obsolete, and overcrowded.

This 226,000 square foot, three-story building is a multi-use facility. The BCA headquarters, occupying most of the first and second floors, includes offices and support spaces for administration and criminal investigators. It also houses the Criminal Justice Information Systems (CJIS), which maintains criminal histories of offenders, tracks criminal statistics, provides analyses of crime trends, operates BCA's information technology, and maintains forensic databases for the crime lab. A substantial training component, consisting of an auditorium, multiple classrooms, a computer training classroom, and a mock crime scene room, is shared by both BCA and the crime lab staff. From this location a variety of training programs are offered to law enforcement officials throughout the State of Minnesota.

The forensic laboratory occupies all of the third floor and portions of the first and second floors, and accounts for nearly 100,000 square feet of this building. It is a full service crime lab, consisting of laboratory sections for biology/DNA, drug chemistry, toxicology, microanalysis, arson, firearms, latent prints, questioned documents, forensic photography, and includes a four-bay forensic garage. The crime lab also operates the state's breath alcohol program, with spaces for the maintenance

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18/09/2008

Sep 18-12:48

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Page 3 of 4

and repair of Intoxilyzers, and a breath alcohol training classroom that accommodates 40 students.



The focal point of the building is a central three story atrium. Flanked by a kitchen and a food vending area, the atrium serves many purposes. In addition to being a comfortable and attractive place to have lunch or take a break, it can be used for informal gatherings, catered affairs, or as a place to entertain visitors and tour groups. More importantly, however, this atrium acts as a common area and inviting meeting place where forensic scientists and investigators can come together to discuss cases and brainstorm strategies.

The design of the crime lab involved consideration of various forensic laboratory design philosophies. Among those considered was the issue of the adjacency relationship between laboratory spaces and the forensic scientists' offices. Options that were explored included interspersing offices throughout the laboratory floor by locating a block of offices adjacent to their respective laboratory section, or simply clustering all of the offices in a central location. The ultimate solution evolved as the design of the building developed. The building is essentially designed as two parallel wings separated by an atrium, with scientists' offices in four locations at both ends of each wing. This allows for the staff of most of the laboratory sections to have offices that are located directly adjacent to their respective laboratory space with views through glass walls directly into the lab from their offices.

The laboratory also includes a number of innovative features in the specific details that comprise the interior of the building. One Weights (mass standards) example of such an innovation is the system Mass Magnetic Susceptibility Determination Mass Density Determination developed to exhaust the heat expelled from Pipettes instrumentation units. Due to the quantity of Electrical, Time & Frequency\* instrumentation in this facility, special attention to the design of the instrumentation rooms was essential. The instrumentation room for the toxicology section alone contains spaces to accommodate 26 instruments. A custom designed hood was developed and installed at the rear of each instrument. The hood, which covers the width of the instrument, is exhaust-ducted to the exterior, and includes a removable Plexiglas panel that allows access for periodic maintenance, and access to the instrument gases. As a result, the instrumentation units are duct-exhausted safely and efficiently, with clear access to the rear of the instrument.

One of the design challenges was that the building is located in a suburban setting and abuts both commercial and residential zones on three sides, and a natural wildlife preserve to the south. The challenge was met by designing a building that complements its surroundings with the use of earth toned masonry and aluminum and glass accents to convey the building's high technology function and purpose. It includes amenities, such as the atrium, a physical fitness center, on-site parking, and display areas for art and forensic technology. These amenities are designed, not only to provide comfort, convenience, and aesthetics, but also to provide a safe and efficient working environment that helps to maintain morale and instill a sense of pride.

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18/09/2008

Sep 18-12:48

The State of Minnesota, the BCA, and the staff of this facility have every reason to be proud. In 2004 they moved from their old, obsolete, and overcrowded building into a new and innovative building that is now ranked among the top contemporary forensic laboratories in the world in terms of its design response to modern forensic technology and the quality of its working environment. As the director of the laboratory, Frank Dolejsi, commented, "This is the greatest thing since sliced bread."



Each instrumentation unit has its own exhaust hood with access to the rear of the instrument.

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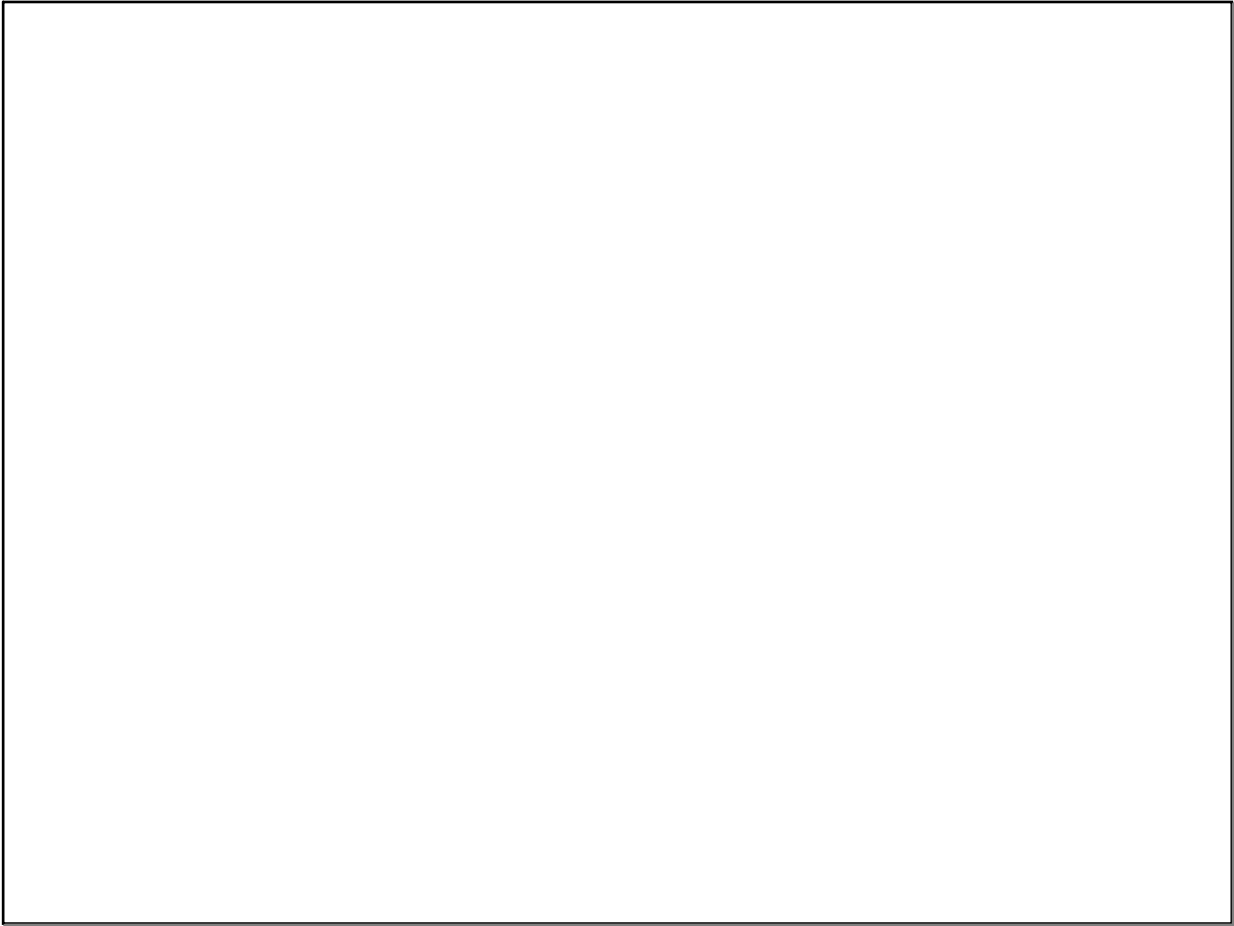
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18/09/2008

Sep 18-12:48

Security

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