



ARMY C4ISR Center of Excellence



C4ISR Center of Excellence: Energy Efficient 'Green' Features

Aberdeen Proving Ground (APG), Maryland

With the Philadelphia District of the Army Corps of Engineers as the managers of the \$800 million, 2.5 million square foot project, the new campus facilities were made with energy efficient 'green' features to help reduce energy consumption on the campus by an estimated 50 percent.

C4ISR Center of Excellence Goes 'Green'

- Campus Auditorium Living Rooftop: Covered with vegetation specifically chosen to prevent erosion, absorb rainwater, provide insulation, lower surrounding outside air temperatures and create a habitat for area wildlife.
- Building Placements: The buildings in phase 1 of the campus were positioned to maximize the use of sunlight during each season, maximizing heat absorption in the winter while reducing heat absorption in the summer.
- Exterior Window Fins and Internal Light Shelves: The exterior window fins restrict incoming sunlight in the summer to reduce heat gain. The interior light shelves distribute sunlight throughout the interior spaces to reduce interior lighting requirements. Interior lighting in the administration areas along the windows are provided with automatic dimmers which dim or brighten the light fixtures as a result of the amount of sunlight entering the building. The interior lighting controls are programmed to turn interior lights off and on at the end of the day and on the following morning to reduce energy consumption over night.
- The Mission Training Facility uses a geothermal heating and cooling system, which the Philadelphia District Corps of Engineers expects to save an estimated 40 percent a year at current utility rates. It uses water-based, thermal transfer media, rather than traditional area-based systems.
- Green Screen: The green screens are located on the outside windows of select campus buildings. These screens are populated with leafy vine foliage and will provide shading during the summer months as well as promote plant growth around the facilities.
- Restriction hardware: Toilets are designed to reduce wasteful water consumption by providing a flush choice for liquids and solids. Sink faucets include automatic faucets to control water consumption.
- Runoff water from the building is recycled back into the subterranean watershed.

(Source: Design Manager for the Philadelphia District of the Army Corps of Engineers.)

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For more information about the C4ISR Materiel Enterprise and Center of Excellence, visit <http://www.armyteamc4isr.army.mil/>, or <http://cecom.army.mil/armyteamc4isr.html>.