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Low-Cost, High-Nutrition Menus

TAKING THE PULSE
OF COST-EFFECTIVE
MEDICAL MANAGEMENT

Kiosk Fever



**Unconventional Design &
Construction Investments**

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GUIDE ISSUE

Quick Payback for Green Expenditures Expected for Regional Jail

When the Western Virginia Regional Jail opens in 2009 it will mostly likely be the first jail to be LEED-certified in the country. Sponsored by the U.S. Green Building Council, the Leadership in Energy and Environmental Design certification garners points for items such as reduced energy and water consumption, and recognizes that the building is generally environmentally friendly. But what it doesn't note is that capital costs for many of the green-designed features have a very quick payback.

In 2005, leaders from the counties of Franklin, Montgomery and Roanoke and the city of Salem formed the Western Virginia Regional Jail Authority, which works as a distinct government entity. While it takes a can-do attitude to pull an endeavor such as this off, the need overcame the propensity toward self-interest.

"All local jails were operating two or three times over their rated jail capacities, and as experienced corrections people, they knew what their needs were," says Charlie Poff, superintendent, WVRJA. "Regional cooperation occurred from Day 1."

After completing a community-based plan, which included a 10-year inmate population projection, the Jail Authority worked with area legislators and received an amendment to the moratorium on new jail construction in the state of Virginia. The state will reimburse jurisdictions up to 25% of approved costs for a single jail and 50% for a regional jail with three or more partners.

Roanoke County and the City of Salem have operated a regional jail since 1980. The Sheriff in each of the partnering jurisdictions will continue to operate their local jails. The three local jails provide 217 beds and will be used to hold pretrial and community custody inmates. The new regional jail will be used to house post-trial inmates, inmates with medical problems, special needs, and those requiring increased supervision. The new regional jail will house male and female inmates.

Projections on operating costs anticipate savings in staffing, utilities and shared services. "Regional

cooperation and consolidation contributes to a cost effective operation," says Poff. "We hope to reduce the duplication of services which is one way we will cut costs. For example, we hope to reduce the number of outside trips to medical providers and reduce hospital stays by providing enhanced medical services and by utilizing the 32 medical segregation beds that the facility will provide. The facility will have the capability to provide food and laundry services to the existing member jails if they choose to use these services. We expect to control costs as much as possible. "The proposed per diem rate charged back to the locality will be between \$44-46 dollars per day/per inmate, lower than average rate for regional jails in Virginia which is somewhere around \$60," according to Poff.

The jail, designed by HSMM, Virginia Beach, Virginia, encompasses a number of water and energy saving techniques. First, the use of skylighting helps reduce square footage and construction costs. Windows to the outside, which can waste space, were eliminated, and skylights were introduced. "The facility is a one-story building and is located in a remote location and we didn't want inmates to have to ability to communicate with people on the outside. During the course of my career, I haven't seen a window you couldn't tamper with. By eliminating these windows I think we improved the security of the building," says Poff.

'Most Efficient' Use of Space

The building consists of five separate housing units—with each containing four pods centered around a pod control room. The control room will be staffed by correctional officers who will provide constant observation of inmates and staff roaming in and out of the inmate housing units. The 264,000-square-foot facility is rated for 605 inmates (200 additional beds have been approved through use of double-bunking). The facility will also provide an 18-bed special purpose pod and a 28-bed segregation unit. "One of the state plan reviewers has



When the Western Virginia Regional Jail opens in 2009 it will mostly likely be the first jail to be LEED-certified in the country. Through its use of sustainable design, which includes high-energy efficiency systems, it is expected to be cost-effective, with payback on items coming within a few years.

commented that the plans for this new regional jail is the most efficient use of square footage she's ever seen in a local jail," says Poff. "The facility will have 32 less staffing based on state staffing requirements and could save a \$1M a year in staffing costs—it's very staff efficient." The current site and design allows for future expansion up to an additional rated capacity of 649 beds.

Investment in High-Efficiency Systems

Sustainable design brings a big return on investment in this facility. The jail will collect water from roof runoff and store it in three underground tanks. After filtering, it will be reused in the laundry. Tanks can store 120,000 gallons of water, which will do laundry for a peak week. If more water falls than can be collected it will be "wasted" and if less falls the jail will rely on domestic water. HSM is conservatively estimating that roughly 3 to 4 million gallons of water per year that falls on the roof will be reclaimed. With an initial cost of \$300,000 for the system and a savings of about \$100,000 annually in water, payback for the system will come in about three years.

There's a lot of interest in saving water and utility costs, notes Poff, a trend that led the Jail Authority to "waterless" urinals. Not unlike the vacuum-assisted toilets in commercial airliners, these receptacles use one-third less water than conventional toilets, save energy, enhance security and are easier maintenance. The Acorn vacuum waste system allows toilets to flush using only 0.5 gallons of water per flush instead of 1.6 gallons per flush. This will allow up to 4 million gallons of both water savings and sewage water reduction per year.

In a conventional jail system inmates have the potential to abuse the system by flushing clothing and other contraband into the system and causing blockages along the line that disrupts jail operations. The vacuum system, in most cases, will retain the contraband at the toilet, which will allow jail staff to identify the inmate responsible. In the event that contraband does enter the system, it passes through grinders and is removed from the system. All the pipes for the system are installed above the ceiling so if you have problems in the future you don't have to dig up concrete. Jail staff will have the capability to use a electronic controller to monitor the use of

Typical estimated payback for incorporated LEED items:

STORMWATER RECYCLING: 3 YRS
MOTION SENSOR FAUCETS IN ADMIN
AREA: 5 YRS.
VACUUM TOILETS: 1 YR.
ENERGY STAR ROOF: 15 YRS.
LOW E-GLASS IN ADMIN AREA: 10 YRS.
LEED COMMISSIONING: 10 YRS.
CARBON DIOXIDE SENSORS TO CON-
TROL OUTSIDE AIR QUANTITY: 10 YRS.
MOTION DETECTORS TO CONTROL
ADMIN AREA LIGHTING: 5 YRS.

the system and to prevent abuse. The controller will allow staff to turn off water from a remote location and to flush toilets from a remote location. If inmates are found to be abusing the system, jail staff may regulate its use. The electronic controller used for monitoring the use of water could possibly save the WVRJA an additional 4 million gallons of water per year. It is estimated that system will pay for itself in one year.

The jail will also use video visitation units that will be installed at each local jail to enable visitors to visit from the three local jails without having to

travel to the regional jail. This can save as much as 25 miles roundtrip for each visit. An energy star roof that costs \$100,000 above a conventional roof will help maintain a cooler building for a savings of up to \$10,000 a year.

When the regional jail opens in January 2009, its 200 staff will be working in a modern, safe and cost-effective facility, with a strong program base. Concludes Poff: "This project has been a collaborative effort. When you ensure that the design is safe for staff, inmates get the flow down benefit of this."

—DR

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