

Rebuilding Lives

DECRM Mitigates Environmental Damage, Funds New Homes at Elem Indian Colony



This home (left) at the Elem Indian Colony was demolished, and harmful material was removed. A new home was built on the same site this year. See Page 2.



Office of Facilities, Environmental, and Cultural Resources

Management Summary

October 2007

Bureau of Indian Affairs

Four Schools Underway

Standard Design Templates Being Used For Replacement School Planning and Design

Planning and design is underway for four replacement schools utilizing OFMC's new standard design guidelines issued earlier this year. It is expected that a variety of project time lines will be expedited because of the use of the design guidelines, which set standards for building systems, HVAC equipment, Information Technology (IT) infrastructure, and LEED Silver Certification. Besides helping OFMC achieve its goal of completing a major school project within four-years of its inception, the continued use of the standard design guidelines by architects and engineers should generate design cost savings.

Initial experiences with the four schools shows that the use of design templates for various building types, (i.e., classrooms, gymnasiums or dormitories) have helped local school officials to quickly decide between design alternatives for their new school buildings and even for the landscaping of their new campus. For example, in conjunction with the 2005 Education Space Criteria Handbook, local school officials used OFMC's standard design template to visualize OFMC's standard 800 square foot classroom (with a capacity of 25 students) and to determine how many classrooms will be needed in their new school building. They could even see where the white boards, blackboards, electrical outlets, and IT wiring will be located.

Other expected time savings will occur when inspections are performed during construction and when a project nears

completion. The Division of Safety and Risk Management participated in creating the standard design guidelines, ensuring that they complied with fire and building codes, accessibility requirements, and OSHA standards. For example, the gymnasium standard design already incorporates safe accessibility, safe capacity levels, and safe egress considerations.

Four replacement schools utilizing the standard design are: Standing Rock Elementary School in North Dakota, Wide Ruins Community School in Arizona, and Ojo Encino Day School and T'ists'oozi'bi'olta Community School, both in New Mexico. The OFMC Project Manager for Standing Rock is Leo Shirley, a member of the Navajo Nation. He said the use of the standard design templates will still allow the use of Standing Rock Sioux tribal traditions and culture in the final design of Standing Rock Elementary School. Jack Mousseau, the school's architect, participated in creating the standard design templates for OFMC and is a member of the American Indian Council of Architects and Engineers (AICAE) who assisted with developing OFMC's standard design prototypes. "Standard design presents options, such as for electric, mechanical and communications systems. It doesn't dictate what a project will look like," Mousseau said. "There is absolutely enough freedom to allow for culturally significant materials and patterns in a school design."

Briefs

Holley to Head Division of Safety and Risk Management



Holley

Paul Holley has been named Bureau Safety Manager for the BIA and Chief of OFECCR's Division of Safety and Risk Management. Holley, a member of the

Pechanga Band of Luiseno Mission Indians, has been with DSRM for 12 years.

Fire Trucks Off to Dakotas, Nazlini Following Training

In August, three new fire trucks were tested and equipped, and firefighters from Pine Ridge and Lower Brule agencies in South Dakota and at Nazlini Boarding School in Arizona were trained to utilize the trucks.

Interior Reviews BIA Asset Management Plan

A Department of the Interior review session on the BIA's Asset Management Plan, hosted by OFMC in August, included site visits to nearby reservations, allowing DOI officials to see how BIA assets are utilized by tribes, by BIA programs and by BIE schools.



Michael Keegan, the Department of the Interior Office of Acquisition & Property Management Associate Director - Facility & Property Management, addresses a DOI/BIA Asset Management Review team.

Next to a Superfund Site

Elem Indian Colony Homes, Roads Rebuilt in BIA-Funded Cleanup

Some 28,000 cubic yards (1,400 dump truck loads) of mercury, arsenic and antimony contaminated mine waste were removed from the Elem Indian Colony of the Southeastern Pomo Indians in Northern California, allowing seven families to resettle into new homes. Also, BIA Route 120 serving the rancheria, which is located on the tip of a peninsula extending into Clear Lake, has been reconstructed to eliminate contaminated fill beneath the road.

The Division of Environmental and Cultural Resources Management and the BIA's Pacific Region Division of Transportation are funding the cleanup effort, which is supervised by the Pacific Region's Environmental Scientist John Rydzik and Environmental Protection Agency (EPA) Region Nine officials. Confirmation sampling by BIA and EPA after the removal of the mercury, arsenic and antimony contaminated mine waste shows that there is no potential for future exposure.

The Elem Indian Colony is adjacent to an EPA Superfund National Priorities List site. The defunct Sulphur Bank Mercury Mine was the source of heavy metals such as mercury and arsenic, which are dangerous to human health and are an environmental risk. In the 1960s and early 1970s, tailings from the mine were brought onto the rancheria and used by the BIA as fill material to bring dirt roads to grade for paving. Several residential lots bordering the road project were leveled with this contaminated fill, as well.

The families that were displaced have returned to their homes along the roadway. Tribal Chairman Raymond Brown, Sr., said, though not perfect, the clean up effort was "a big improvement to the reservation."

"We now have seven new homes and a good road system with better curbs and sidewalks," Brown said.



Digging several feet deep, the excavation of the subsurface of the Elem Colony's roads begins.



BIA Route 120 prior to cleanup.



BIA Route 120 after cleanup.

Seeking First LEED Certification in South Dakota Replacement Middle / High School Opens at Rosebud's St. Francis Indian School

The Replacement Middle - High School at St. Francis Indian School on the Rosebud Reservation is seeking to become the first LEED certified school in South Dakota. The 57,851 square foot school which opened last month includes classrooms, a library-media center and commons areas for the expected enrollment of 384 students in grades 7-12. The school's design and colors were based on the Rosebud Sioux's medicine wheel. Renovations on the existing buildings will allow those buildings to be used exclusively by elementary school students. The existing gymnasium will be shared by all grades. The OFMC Project Manager is Gordon Rosby of OFMC's Great Plains Regional Office.

Other OFMC projects in South Dakota anticipated to receive LEED Certification are Porcupine Elementary School (under construction) and a new dorm for the Pine Ridge School (in planning and design), both on the Pine Ridge Reservation. LEED Certification is a standard sought by OFMC for all of its major school construction projects, and it has been adopted by the Department of the Interior as a standard for its new construction, as well.

Dyron Murphy

Preparing a Project for LEED Certification Is Part of Architect's Standard Procedure



Murphy

Preparing a project to receive LEED Certification is standard operating procedure for Albuquerque architect Dyron Murphy and his firm, Dyron Murphy Architects, Inc., and, thus, is not a major cost for his clients, including OFMC. Murphy designed both the BIE's Baca / Dlo' ay Azhi Community

School in New Mexico and First Mesa Elementary School in Arizona, which were the first LEED Certified schools in their respective states.

In a holistic approach from the inception of a project, Murphy begins thinking about how the building can be as environmentally sustainable as possible. Green is designed into the building at no additional cost, beyond small materials cost increases for some building elements. For example, the premium for Murphy's green design of the Ch'ooshgai Community School Dormitory in Tohatchi, New Mexico, is practically negligible, except for LEED administration and commissioning costs. The few features and



St. Francis Indian School Replacement Middle School - High School (above) opened last month on the Rosebud Reservation.



Extensive use of skylights (above, left) mark the interior spaces of St. Francis Indian School.



LEED—Leadership in Energy and Environmental Design, as certified by the U.S. Green Building Council.

systems that add cost have short-term paybacks, i.e., the reduced flow fixtures and a waste water heat recovery system reduces water and energy consumption dramatically, and the grey water produced in the building is used to water xeric landscaping. Without the use of grey water, landscaping on the scale envisioned for this project would have been out of the question.

"If we consider life-cycle and energy-use costs, building green is just common sense," said Murphy, a member of the Navajo Nation and of the American Indian Council of Architects and Engineers.

OFMC has been featured in several design and construction trade publications for its trend setting role in receiving LEED Certification for its replacement school construction projects. Most recently, the July issue of *Environmental Design + Construction* magazine noted that First Mesa Elementary School on the Hopi reservation was chosen as a LEED model for new school construction throughout the state of Arizona.



Something New Under the Sun

SIPI Gymnasium Roof to be Used for Largest Solar Project in New Mexico

A new roof for the gymnasium at the Southwestern Indian Polytechnic Institute (SIPI) in Albuquerque will become the largest solar collector of its type in New Mexico. This fall, the 24,000 square foot flat roof will receive a roofing membrane that meets Cool Roof Rating Standards. Adhered to the top of that roof will be rolls of similar membrane containing lightweight, thin-film, photovoltaic cells. The thinfilm roof is expected to generate 70 kW of power. The low-slope, flexible thinfilm differs from SIPI's existing carport solar panels, which utilize rigid silicone crystals to generate about 10 kW of electrical energy. The carport panels track the sun as it moves across the sky. The solar applications are studied in SIPI's renewable energy classes. The OFMC Project Manager is Andy Robinson, a member of the Northern Cheyenne Tribe.



A product brochure photograph shows the roofing membrane containing photovoltaic cells that will be placed on the SIPI gym roof.



Solar panels in the SIPI Science and Technology Building parking lot track the sun

Early Childhood Education Center DOE Funds SIPI Solar Panels

The Southwestern Indian Polytechnic Institute (SIPI) in Albuquerque will open its new 7,000 square foot Early Childhood Education Center this fall. The building will house the college's Associate of Arts degree program in Early Childhood Education. It will serve as a licensed practicum site for pre-service teachers while providing childcare for low- and moderate-income students attending SIPI, staff and faculty of SIPI, and other federal employees. Designed in Pueblo architectural style by Dyron Murphy Architects, the building features a kitchen for meals for the children, as well as healthy cooking demonstrations for parents. While OFMC will provide operations and maintenance funding for the building, design and construction funds for the project came from the U.S. Departments of Education and Housing & Urban Development; the American Indian College Fund and the state of New Mexico. Also, the U.S. Department of Energy will fund the purchase and installation of solar panels: one set will supplement hot water and one set will generate electrical power for the building and the SIPI campus. The OFMC Project Manager is Andy Robinson, a member of the Northern Cheyenne Tribe.



The Early Childhood Education Center will be a Pueblo style building housing a child care practicum site.

Other OFMC Solar Projects

OFMC has two solar energy projects in New Mexico—at the BIE's Jemez Day School and at Alamo Navajo Community School (a grant school)—both of which utilize rigid solar panels to generate 5 kW of electrical energy. At both schools, information about solar energy applications has been incorporated into the students' academic curriculum.

Solar Possible in Detention Center Retrofit Ute Mountain Justice Center is Pilot for Possible Energy Savings

The OFMC Energy Program is using Ute Mountain's Chief Ignacio Justice Center in Towaoc, Colo., which opened in 2000, as a pilot location to determine whether energy savings techniques, including a possible solar hot water booster system, can reduce the detention center's use of energy. An energy audit was performed at the Chief Ignacio Justice Center in August which recommended a more efficient HVAC system, staged hot water heating based on expected load, and occupancy sensors for lighting control. If funded in FY2008, the pilot could yield measurable results in one year.

The Ute Mountain detention center is one of 62 BIA-funded detention centers at 51 locations that are affected by the Energy Policy Act of 2005, under which the Department of the Interior is expected to achieve energy savings of two percent a year through 2015. Indian Country detention centers have a unique mission among BIA-funded facilities because they must operate at peak capacity around the clock for the sake of their inmate populations.

The 38,000 square foot Ute Mountain facility includes adult



and juvenile detention areas and a treatment center. Its annual energy costs are among the highest for BIA facilities of its size (though not all comparably sized facilities are detention centers).

The Department of Justice has funded the construction of numerous new detention centers across Indian Country, and their designs have focused on program priorities, such as cell-size and positioning, and security surveillance. Some new detention centers are still in the planning and design stage and could meld energy savings design considerations along with satisfying programmatic design priorities. However, saving energy at existing detention centers like the Chief Ignacio Justice Center will focus more on retrofitting the facility with energy savings techniques, including alternative energy applications such as solar power generation.

Is Solar the Solution to Havasupai Power Need?

The OFMC Energy Program and the Havasupai Tribe are considering conducting a feasibility study to determine whether the BIA should fund a renewable energy development for Supai Village by situating solar photovoltaics on the rim of the Grand Canyon. The possible study would comply with Section 502 of the Energy Policy Act which promotes the development of Indian Tribal Energy. The BIA provides operation and maintenance funding for a school, detention center and employee housing at Supai Village in the Grand Canyon, including maintenance of power lines running down to the village from the rim of the canyon. Currently, the over 50 miles of commercial utility ground transmission lines leading to the rim are proving unreliable. If the possible study results in a project, the BIA funding would be used for the development of a Havasupai Tribe-operated alternative energy system with an electrical power output capacity of roughly 675 kW. Also, the Tribe would be able to sell excess power not used in the village and the renewable energy credits on the open market. With increased availability of reliable electrical power, the Tribe could develop a community on the rim of the Grand Canyon, enhancing economic development by attracting entrepreneurs and investors with a reliable power source. Also in the village, Indian Health Service operates a hospital, and there are several businesses such as a hotel, trading post and restaurant which require reliable electric power.



A BIE employee fourplex was under construction in 2002 (above) in Supai Village, where materials are brought into the Grand Canyon by pack animals.

Focus

Meeting Project Timeframes Is Key to School Construction

About \$1.8 billion dollars has been appropriated for OFMC's Replacement School, Major Construction and Facilities Improvement & Repair (FI&R) projects since FY2001. Because OFMC has a performance goal of completing a major school project within four-years of its inception, compliance with project management time frames is crucial to properly using this funding to enhance educational opportunities for Indian children. Language was added to appropriations which allows the Secretary of the Interior to assume control of tribally managed major school projects that are problematic or delayed for 18 months or more due to poor administrative capability and capacity, through mutual agreements with a tribe or tribal organization. OFMC is also seeking authority to quickly move funds from stalled projects to other projects which could commence immediately with the influx of funding.

Examples of projects that benefitted from a change in project management are Kayenta Community School and Tuba City Boarding School (featured on these pages). OFMC is asking for more frequent progress and financial status reports from those projects identified as having a high-risk status.

When OFMC makes an agreement for project management, terms and conditions for timely completion are included in the Pub. L. 100-297 grant amendments, Pub. L. 93-638 contracts, and Inter-Agency agreements with the

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Kayenta Community School Project Moves Forward



Acting OFMC Deputy Director Emerson Eskeets addresses the ground breaking gathering in June.

One of OFMC's original replacement school projects, the construction of a new campus for the Kayenta Community School, got underway with a ground breaking ceremony in June. The 103,523 square foot project, located just north of the existing campus in Arizona, will include classroom buildings, a 120-student dormitory, a gymnasium, a kitchen and dining area, and a library. Some of the former school buildings likely will be demolished.

In 2001, a Pub. L. 100-297 grant for project management was given to the Kayenta Community School Board, Inc., which initiated planning for a new campus. In 2004, the U.S. Army Corps of Engineers assumed design and construction duties for the K-12 replacement campus project, which will serve 442 students. The OFMC Project Manager is Phil Asmus.



OFECR Director Jack Rever (left) and Navajo Nation Vice-President Ben Shelly share in the ground breaking ceremony.

New Mexico Navajo Projects Get Underway This Year

Ground breaking is anticipated this fall for the Replacement School project at Beclabito Day School, located near Shiprock, N.M. The new 32,991 square foot, K-4 school project includes classrooms, a library, a gymnasium and a kitchen and dining facility, along with three new employee residences and a new vehicle shop. The school serves 128 students. The OFMC Project Manager is Phil Sarracino, a member of Laguna Pueblo. Ground breaking is also anticipated this fall for a new 10,678 square foot gymnasium (seating approximately 650 people) and 4,697 square foot library at the Mariano Lake Community School, located near Crownpoint, N.M.. The K-6 school facilities are designed for an enrollment of over 200 students. The OFMC Project Manager is Tsosie Tsinhnahjinnie, a member of the Navajo Nation. Also breaking ground this fall is the K-8 Replacement School project for Pueblo Pintado Community School, located near Cuba, N.M. The OFMC Project Manager is Calandra McCabe, a member of the Navajo Nation. She is also the OFMC Project Manager for the K-8 T'iists'oozi'bi'olta Replacement School project in Crownpoint, N.M., which will be constructed in 2008. Design is completed for the Replacement School project for Wingate High School at Ft. Wingate N.M., which will be constructed by the U.S. Army Corps of Engineers. The OFMC Project Manager is Barbara Borgeson, a member of the Comanche Nation of Oklahoma. Planning is completed for Ojo Encino Day School near Cuba, N.M., which will be a design-build project by the Corps. The OFMC Project Manager is Andy Robinson, a member of the Northern Cheyenne Tribe.

Tuba City Boarding School Buzzing Again



Concrete pours into the new library-media center located in the center of campus.

Construction workers and machinery abound at the Tuba City Boarding School in Arizona following a three-year hiatus in construction activity, during which OFMC assumed the project management oversight for the 191,153 square foot replacement campus project. The project includes a library-media center, three classroom



Construction workers weld girders for a new building situated near one of the five historic buildings that will remain on the campus.

buildings, a gymnasium, a kitchen-dining hall and major site improvements and infrastructure. The Navajo Nation Division of Design and Engineering Services had been overseeing the project, which began with planning and design in 1997, under a Pub. L. 93-638 contract. Construction of the K-8 school is scheduled for completion next year, yet classes have been continuing during construction with students attending classes in portable classrooms and in two of the four dormitory buildings that were built in 1965. Those two dormitory buildings will be demolished as part of the project, and the remaining two dormitory buildings will continue to house students. When the new campus is completed, projected enrollment will be 1,400 students. The other five buildings that will remain standing on campus were built in the early 1900s and were declared "historic" by the Navajo Nation Historic Preservation Office. Those buildings will need a plan of determination for their future intended use or disposal. The OFMC Project Manager is Bob Montoya, a member of Sandia Pueblo.

Northwest School Construction Begins This Fall

Two Northwest Region replacement school projects are heading toward construction: Muckleshoot Tribal School in Auburn, Wash., and Chemawa Indian School in Salem, Ore. Ground breaking for the 85,000 square foot dormitory at Chemawa is expected this fall. The dorm will house 400 students and will replace 10 cottages, each housing 40 students. The OFMC Project Manager is Bob Montoya, a member of Sandia Pueblo.

Design of the 107,000 square foot Muckleshoot Tribal School is underway, with construction expected to begin in 2008. The OFMC Project Manager is Phil Sarracino, a member of Laguna Pueblo .

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U.S. Army Corps of Engineers. There is a liquidated damages clause requiring the payment of a predetermined cost-per-day for each day of delay beyond the construction completion date. On the other hand, at least one Pub. L. 93-638 contract, for Turtle Mountain High School in North Dakota, has an incentive amount that will be paid if there is an early completion of the major school construction project.

OFMC recently created standard design guidelines which should speed up the planning and design process and which are now being implemented in the planning and design of four Replacement Schools: Standing Rock Elementary School in North Dakota, Wide Ruins Community School in Arizona, and Ojo Encino Day School and T'iiists'oozi'bi'olta Community School, both in New Mexico. To encourage local school boards to complete their planning and design phases in a reasonable amount of time, OFMC is requiring that the construction funds be obligated in the year they are appropriated. If this is not achieved, OFMC will not request construction funding until planning and design work has been nearly completed.

Also, OFMC is looking to accelerate school construction starts by using facility improvement and new facility construction funding in lieu of the total replacement of a school campus, where feasible.

Designated Drivers IHSP Mobilizations and Crackdowns Save Lives

Mobilizations, which are concentrated efforts utilizing saturation or check-points to address traffic safety concerns such as seat belt use or drunk driving, have been effective in saving lives since the BIA Indian Highway Safety Program's (IHSP) initial mobilization during the December 2005 - January 2006 holiday season. Most recently, the IHSP "Click It or Ticket" mobilization in May-June of 2007 and its Drunk Driving mobilization, ending last month, have shown key statistical benefits for the 28 tribes which received FY2007 program grants.

The high visibility of the mobilizations and the stepped-up enforcement of traffic safety laws, combined with public information/education, are the main



A Rosebud Sioux traffic safety officer demonstrates walking the line, part of the recent Drunk Driving mobilization across Indian Country

factors in the improved traffic safety statistics. For instance, the Yankton, Rosebud and Cheyenne River Sioux tribal traffic safety programs combined efforts in conducting checkpoints across Indian Country in South Dakota during the August - September Drunk Driving mobilization.

"We have seen an annual decrease in motor vehicle crashes and fatalities among the tribes that participate in the mobilizations," said Program Coordinator Patricia Abeyta, a member of the Cheyenne River

Sioux tribe. Abeyta said a majority of participating tribal traffic safety officers (reporting on the results of the mobilizations and crackdowns) have mentioned that the use of a designated driver has increased in Indian Country. "People hear about the checkpoints, and when cars with several passengers go through the checkpoints, frequently the drivers are sober," she said.

Every January, tribes are mailed a request for proposals for grants to participate in the BIA IHSP. For information, contact Patricia Abeyta at (505) 563-5371.

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