

## Indian School Construction Resounds Across the Hopi and Navajo Reservations

The increase in BIA Replacement School and FI&R funding in Fiscal Years 2001-2004 has resulted in a flurry of OFMC projects now underway across the Navajo and Hopi Reservations. Indian students on these reservations attend scores of schools and live in dormitories that are scheduled to be upgraded from their current poor conditions.

### Schools / Dormitories on the Navajo and Hopi Reservations

Condition	October 2005	October 2006	October 2007*
Good	8	10	21
Fair	6	6	6
Poor	<u>56</u>	<u>54</u>	<u>43</u>
Total	70	70	70

\* Anticipated



See Page 4 to catch a glimpse of the Indian school construction activity across the Four Corners region.

Other reservations in Indian Country also have had an upswing in BIA school construction. Tribes in the Dakotas have seen the opening of Tiospa Zina Tribal School and Enemy Swim Day School, the current construction of Ojibwa Millennium and Turtle Mountain high schools and Circle of Nations - Wahpeton Indian Boarding School and the groundbreaking last month at Porcupine Day School. Northwest tribes have seen the replacement of Lummi Tribal School and Paschal Sherman Indian School, with Muckleshoot Tribal School now in the planning stage. The Mississippi Choctaws have assisted in funding replacement elementary schools, and a new replacement school complex for the Cherokee Nation in North Carolina is underway.

## Switch to NFPA 5000 Building Construction and Safety Code Allows One Standard

More than a year has passed since the National Fire Protection Association's (NFPA) building construction and safety code, called the NFPA 5000, replaced the 1997 Uniform Building Code (UBC) as the approved standard found in the BIA's Safety Handbook and contained in the 25 IAM.

Bureau safety and construction managers report that the use of the NFPA 5000, which combines building and life safety codes, has eliminated the difficulties of applying separate life safety and building codes (where life safety codes would always prevail).



"It makes sense to use one source, NFPA 5000," said Charles Jaynes, Chief of the Division of Safety and Risk Management. "The relative importance of fire codes versus building safety codes is already addressed."

NFPA 5000 was adopted in June 2005 for use in the planning and design of all Bureau construction projects, including renovations and modernizations commonly supervised at the Regions. All projects designed after June 2005 are required to meet the NFPA 5000. Projects that were in design prior to June 2005 still fall under the UBC, which had been the Bureau's standard building code since 1981.

The NFPA 5000 can be purchased from the NFPA by calling 1-800-344-3555 or by visiting its website at [www.nfpa.org](http://www.nfpa.org) and choosing the link to the catalogue.

# Briefs

## New Videotapes Will Assist Safe Dormitory Evacuation

The Structural Fire Protection Program (SFPP) produced three fire evacuation videos—"Grab Your Shoes," "Stay Cool and Stay Alive," and "What You Should Know"—for use at dormitories. The videos were made mandatory viewing for all dormitory occupants by the Director of the Bureau of Indian Education. Parents and guardians also are encouraged to view the videos.

The videos will provide all dormitory occupants with an understanding of fire alarm and fire protection systems. The videos provide the occupants proper evacuation and accountability procedures. For information, contact Edward Abeita, OFMC SFPP Manager, at (505) 563-5109.

## Energy Conscious Design Award to Baca / Dlo'ay Azhi

The Associated General Contractors of America in New Mexico gave their 2006 Best Building Award to the BIA's Baca / Dlo'ay Azhi Consolidated Replacement Community School for its energy conscious design. The 79,000 square-foot school in Prewitt, N.M., is LEED certified by the U.S. Green Building Council.

The school also earned the 2005 Environmental Achievement Award from the U.S. Environmental Protection Agency (Region 9) for commitment to the environment, and the 2004 Department of the Interior Environmental Achievement Award.

## Officials Gather for August Ground Breaking Ceremony for Montana's Rocky Boy's Reservation Water Project

The Chippewa Cree Tribe, the BIA, the Bureau of Reclamation (BOR) and Montana officials began the construction of the North Central Montana Regional Water System in August. The area to be served by this water system includes the



*(From left) Montana Congressman Denny Rehburg; Acting BIA Rocky Mountain Regional Director Ed Parisian, a Chippewa Cree-Rocky Boy's Tribal member; and the co-chairmen of the Rocky Boy's/North Central Montana Regional Water System Dan Keil and Bruce Sunchild, also a Chippewa Cree-Rocky Boy's tribal member, begin construction of the water system during an August ground breaking ceremony.*

Rocky Boy's Reservation.

The water system will treat water from the Rocky Mountains which is stored in Lake Elwell. The lake is formed by the Bureau of Reclamation's Tiber Dam, located about 15 miles south of Chester, Mt. A 50-mile pipeline from the lake will bring water to an

estimated 18,000 Indian and non-Indian users in 18 towns, counties, water districts and colonies in north-central Montana.

The planning, design and construction of the water system is authorized by Pub. L. 107-331, which requires the BIA to provide operations, maintenance and replacement funding for the system. BIA-OFMC will provide training for employees hired or contracted to operate and maintain the water system. The project will be built by the Chippewa Cree Construction Corp. Subcontractors will work on building the intake structure which will require drilling 80 feet down and then tunneling another 320 feet to the lake.



*OFMC Supervisory General Engineer John King details the BIA's role in the water system, which will serve Indians and non-Indians.*

The construction project will cost \$270 million. The federal government will pay 80 percent of the total cost. It will take 10 to 15 years to complete and will transport approximately 10,000 acre-feet of water to the Rocky Boy's Reservation.

## Oglala Sioux Tribal Offenders Facility Opens as Jail Conditions Continue to Improve

Since FY 2004, the BIA's Office of Justice Services and the Office of Facilities Management and Construction have been working to address serious

deficiencies in the detention centers operated or funded by the BIA. In February, the Department of the Interior asked BIA to include all 50 detention centers which receive BIA Operations & Maintenance funding in its Government Performance and Results Act tracking system, instead of just the 36 BIA-operated detention centers.

BIA Detention Center Improvement				
Condition	July 2004	June 2005	January 2006	October 2006
Good	3	7	13	21
Fair	2	5	5	7
Poor	<u>30</u>	<u>23</u>	<u>18</u>	<u>22</u>
Total	35	35	36*	50**

\* One BIA-operated Detention Center added. \*\* 14 Detention Centers (receiving BIA O&M funding) added.

The Facilities Construction Index (FCI) for FY 2006 was 0.0914 for 50 detention centers. In FY 2004, the FCI was 0.2622 for 35

BIA-operated Detention Centers. The FCI indicates that a building is in good condition if it is rated 0.0000 to 0.0500. A building in poor condition is rated 0.1000 or more. One example of the success of the joint detention center improvement effort is the Oglala Sioux Tribal Offenders Facility, which will open soon in Pine Ridge, S.D.



A day room (left) is ready in the 56,500-square-foot Oglala Sioux Tribal Offenders Facility (above/below). The facility will hold 144 adult inmates.



### BIA School Facilities Standardization Project

## Recommended School Building Systems Will Use Design Template Approach for Building Components and Modules To Ensure Quality, Affordability and Tradition

Members of the BIA School Facilities Standardization Project met in August to formulate guidelines for using templates in designing building components and modules for New Construction and Replacement School projects. Earlier this year, top BIA school construction officials met with representatives of the American Indian Council of Architects and Engineers (AICAE) to update the status of this project. The project allows significant use of cultural designs in school buildings. The use of templates also permits efficient design and construction scheduling and ensures quality.

The committee recommended that new school designs be based on local geography, on building types, i.e., classrooms or dormitories, and on the U.S. Green Building Council's LEED Silver Certification criteria.

Specific recommendations include using wall systems, such as structural concrete masonry unit (CMU) with masonry veneer and insulated panels, and roof systems, such as 4KEE membrane (fully adhered). Regional materials, colors and textures will be incorporated into the design of the schools. Floor plans for the various facilities will be developed in accordance with applicable codes and standards based on the BIA Educational Space Criteria Handbook and in recognition of local site features.

The committee members include BIA project managers, facilities managers and safety officials. The committee is assisted by an Indian-owned architectural firm, MOA Architectural Partnership of Denver, Colo.

# A Look at School and Dormitory Construction Projects Across the Navajo and Hopi Reservations as of 2007



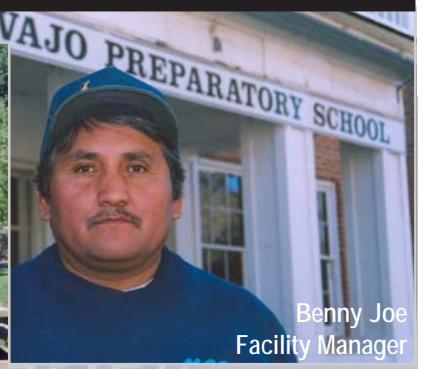
Campus of Kayenta Community School



Rendering of new Kayenta Community School



Navajo Preparatory School Classroom Building Addition



Benny Joe  
Facility Manager



Rendering of new Tuba City Boarding School



Tuba City Boarding School site



Second Mesa gymnasium construction



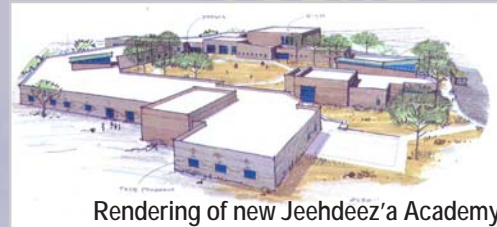
Rendering of new Rough Rock Community School Library



Construction site for Rough Rock Library



Rendering of new Pueblo Pintado School



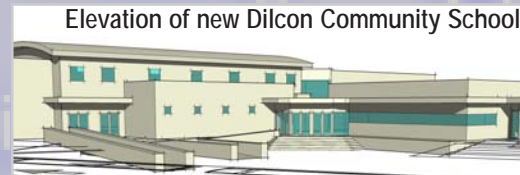
Rendering of new Jeehdeez'a Academy



Ojo Encino Day School



Rendering of new Second Mesa Day School



Elevation of new Dilcon Community School

From Flagstaff, Ariz., to Cuba, N.M., school buildings, dormitories and libraries are being planned, designed and constructed by OFMC. Major campus rebuilding projects at Tuba City Boarding School and Kayenta Community School, both in Arizona, have been reinvigorated, while the massive elementary school-high school campus at Ft. Wingate, N.M., is entering its final construction phase. Eventually, a series of three replacement dormitories will traverse Interstate 40 through eastern Arizona, making up the southern boundary of the Navajo Reservation: the soon-to-be-completed Kinlani Bordertown Dormitory in Flagstaff, the recently completed TisyyaaKin Residential Hall in Holbrook and the upcoming Winslow Residential Hall, now in final design stage.



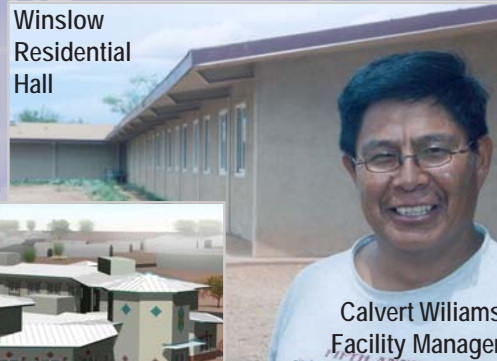
Rendering of new Leupp School



Henry Begay  
Facility Manager



Rendering of new Kinlani Bordertown Dormitory



Winslow Residential Hall



Calvert Williams  
Facility Manager



Groundbreaking at Wingate High School



Construction of Kinlani Dorm in Flagstaff



Rendering of new Winslow Residential Hall

# Focus

## BIA Dormitory Conditions and Operations Evaluated

During March and April, the Bureau of Indian Affairs Office of Audit and Evaluation reviewed six Bureau of Indian Education (BIE) operated student dormitories across Indian Country. The review was part of the periodic evaluation process required by the Office of Management and Budget (OMB) Circular A-123. Michael Oliva, Director of the Office of Internal Evaluation and Assessment, led the review team. Participants included the Office of Facilities, Environmental, and Cultural Resources (formerly OMSS), the Office of Facilities Management and Construction and the Division of Safety and Risk Management. The field reviews concentrated on dormitory conditions and life safety code compliance, while BIE reviewed the dormitory program operations.

A portion of the reviews noted that OFMC is upgrading cooling systems and carpets in many dormitories and providing facilities and safety training for dormitory facility staff. The FMIS database and backlog tracking system are used to prioritize these tasks and to prepare dormitory improvement and repair budgets. The six locations were Flandreau Indian Boarding School in South Dakota; Chemawa Indian School in Oregon; Sherman Indian High School in California; Blackfeet Boarding School in Montana; and Pueblo Pintado Community School and Wingate High School in New Mexico.

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## The Sun Warms Lac Courte Oreilles Ojibwa School's Gymnasium and Cafeteria Water; Seba Dalkai pending

Lac Courte Oreilles Ojibwa School in Wisconsin installed a closed-loop solar water heater this year to bring hot water to the school's cafeteria and gymnasium. A computer-modeling program used weather data from NASA and output data from other sites in northern Wisconsin to recommend a 238-square-foot custom flat plate collector for the 325-student school. The system is attached to a 210-gallon tank for hot water storage. The BIA's Division of Environmental and Cultural Resources funded the improvements.



*This solar panel heats water used in the gymnasium and cafeteria at Lac Courte Oreilles.*



*Seba Dalkai's solar panel generated electricity for the old school.*

Seba Dalkai Boarding School's solar power panel was used to add electrical power to the school, but it was unhooked when the replacement school was constructed. (Seba Dalkai was among the first replacement schools to utilize a geothermal heating-and cooling system). OFMC's Energy Program is analyzing the requirements to reattach the solar power panel to the school's electrical system.



*Seba Dalkai maintenance worker Larry Oso checks the school's geothermal heating pipes.*

## OFMC Project Managers Review PMI Principles

OFMC project managers recently reviewed nationally recognized best practices established by the Project Management Institute (PMI). Chemical Engineer Jane Betterton led the discussion. She has been involved in



*University of New Mexico Continuing Education Instructor Jane Betterton and OFMC project managers discuss implementing current standards for project management into their OFMC duties.*

project management and instruction of standardized PMI techniques for over 20 years. The project managers concluded that more details about the school officials and school boards could be useful and that forms and procedures now in use by OFMC project managers should provide a clearer delineation of processes. Pre-planning and planning phases of BIA projects will be greatly enhanced through this effort.

## Storms Damage Schools Just Before Classes Begin



Some facility managers in northwestern New Mexico had to perform emergency repairs before their schools could open this Fall. Heavy rains and stormy weather caused numerous problems.

*Flood waters poured into the new gymnasium at Navajo Preparatory School in Farmington, N.M., (above right). Storm winds blew out a window (above left) at Ch'ooshgai Community School in Tohatchi, N.M. and a broken dike cut off access to Lake Valley Navajo School near Crownpoint, N.M. (center)*

## New Fire Stations Are Welcome Sight in Indian Country

Heated fire stations are being constructed by OFMC throughout Indian Country. Since fire trucks have large water tanks and normally have water inside the pump ready for immediate fire suppression response, the new stations will ensure that the fire pump does not freeze. The fire stations are prefabricated, 1,980 square-foot metal buildings, with two bays, electric overhead doors, smoke exhaust systems, rest rooms and offices. They also have meeting and fire training areas. For more information, contact Tsosie Tsinhnaahijinnie, Project Manager, or Edward Abeita, Structural Fire Protection Program Manager, at (505) 563-5109.



*This fire station will serve Crystal Boarding School in New Mexico.*

## While Cemeteries Aren't Listed in FMIS, They Need Care

While there is no separate category in the FMIS Backlog data base for cemeteries located at some BIA sites, the plots still need attention from facilities staff and grounds crews. At Haskell Indian Nations University, the cemetery on the southeast edge of campus holds 109 tombstones, mostly those of youths who died and were buried at the Lawrence, Kan., school.



*Gillis Miller, a member of the Haskell Indian Nations University grounds crew, cuts grass at Haskell Cemetery.*

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An additional part of the review follows up on a 2005 Survey Report on the National Status of Residential Life, developed for BIE, which focused on staffing and student needs. The Survey Report did not focus on facilities but made references to residential school design, recommending that future residences be single story and configured with wings joined at a common center. The recommendation stems from an analysis of staffing patterns, which are determined by the number of floors in a student residence. "Residential schools need to plan their tours of duty based on the configuration of the residential buildings," stated the Survey Report. The report included a response from one residential school that "five dorm halls on two different levels must be covered by one staff member."

The 2005 Survey Report for BIE included: A profile of the Indian residential student, i.e., his or her education history, referral reasons, family background and personal and social history. This profile is based on 1,563 individual student profiles submitted from 44 residential schools.

A requirement to review the qualifications of residential school staff and determine their training needs. Respondents indicated that residential staff should have at least an Associates Degree to work in the dorms.

A process for reviewing services, interventions, counseling, social work, instruction and recreation offered in the dorms.

The goal of the Survey Report was to make recommendations that would better serve the needs of residential students.

## Lagoons Facility Management Renovates Sewage Ponds on the Navajo Reservation

Navajo Region Facility Management has renovated 13 total-containment sewage lagoon sites at schools across the Navajo Reservation over the past three years. An increase in the number of students attending the schools has resulted in greater sewage system use. The projects were developed following a Regional review of deficiencies and were funded by the OFMC Facility Management Program. The FMIS backlog database was used to initiate and track the projects related to the lagoons, some of which were constructed in the 1960s. The renovations, which include the repairing of sewage lines leading from the schools to the lagoons, will ensure that lagoon capacity meets user demand.



*Shonto Preparatory School's six sewage ponds were upgraded this year with the removal of sludge, the renovation of dikes and the installation of replacement fencing and piping, all part of the Navajo Region's sewage lagoon improvements.*

# OFECR

The Office of Management Support Services (OMSS) was renamed the Office of Facilities, Environmental and Cultural Resources (OFECR) in August 2006. The OFECR oversees the Office of Facilities Management and Construction, the Division of Safety and Risk Management and the Division of Environmental and Cultural Resources Management.

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