The 1998 Chief of Engineers

Design and Environmental Awards Program

Message from the Chief:

This brochure marks the successful conclusion of the 1998 Chief of Engineers Design and Environmental Awards Program. The purpose of this program is to recognize design excellence as manifested in completed projects and professional works accomplished by USACE team members and our private sector partners.

Interest in the design awards program has never been greater. This year two panels of nationally known design and environmental professionals made their selections from seventy entries submitted by USACE activities. The quality of the entries in this year's program demonstrates the U.S. Army Corps of Engineers (USACE) commitment to satisfying our customer, building the USACE team, and serving the Army, the Air Force, the Department of Defense, and the Nation.

The number of award nominees and the comments of the juries provide evidence that our designs continue to meet the highest professional standards. I appreciate the jury members who gave enthusiastically of their time and expertise to make this program a success. In addition, I extend my personal appreciation to the USACE team members and to the private sector contractors who designed, constructed, and presented the projects offered for judging this year.

I take great pleasure in presenting you the winners of the 1998 Chief of Engineers Design and Environmental Awards Program.

JOE N. BALLARD
Lieutenant General, USA
Chief of Engineers

Program History:

The Chief of Engineers Design and Environmental Awards Program was created in 1965 to recognize and promote excellence in design and environmental achievement by the U.S. Army Corps of Engineers and its professional contractors. It is part of the Federal Design Improvement Program and is held every other year to coincide with the Secretary of Defense Design Awards Program.

No limits are established on the number or type of projects that can be recognized during each program although specific award categories are established. The program has two categories of competition, ***Military Programs*** *and* ***Civil Works.*** *Within these categories constructed projects may be submitted as well as professional design works that either demonstrate or stimulate design excellence.*

Winners of the 1998 Chief of Engineers Design and Environmental Awards Program were selected March 3-4 at U.S. Army Corps of Engineers headquarters. Twenty-two projects were selected for awards by juries of distinguished professionals. A total of seventy Corps projects were entered.

The Chief of Engineers Design and Environmental Awards Program presents three types of awards. The Chief of Engineers Award of Excellence is the highest. Only two Awards of Excellence may be given, one for a Military Programs project and one for a Civil Works project. The awards can be given only by a unanimous decision of the jury, which may also decide that no project in a category deserves this award. This year, an Award of Excellence was given in both ***Military Programs*** *and* ***Civil Works.***

Honor Awards are given to projects which demonstrate excellence in multiple design disciplines. Merit Awards can be given either for individual or multiple disciplines. The number of Honor or Merit awards are not limited.

Military Programs Awards:

Military
Chief of Engineers Award of Excellence:

Consolidated Education and Training Facility,
United States Air Force Academy, Colorado

Military
Honor Awards:

Operations Center,
Defense Supply Center Columbus
Columbus, Ohio

Waste Water Treatment Facility,
Edwards Air Force Base, California

Military
Merit Awards

Association of Graduates Building,
U.S. Military Academy
West Point, New York

ADAL Integration Support Facility,
Peterson Air Force Base, Colorado

Child Development Center,
United States Air Force Academy, Colorado

T-38 Test Cell Remediation Project
High Vacuum Dual Phase Soil Vapor Extraction System,
Holloman Air Force Base, New Mexico

Bioremediation of Explosive-Contaminated Soil,
Umatilla Chemical Depot,
Hermiston, Oregon

Ex-Situ Thermal Desorption Process
for Hazardous/Toxic Wastes Cleanup,
Tanapag Village, Saipan

Repair Chillers, Building 137,
Tripler Army Medical Center,
Oahu, Hawaii

U.S. Army Reserve Command Headquarters,
Fort McPherson, Georgia

Retention Basin at Old Camp Area,
Marine Corps Air Ground Center,
Twenty-Nine Palms, California

Military Programs
Chief of Engineers
Award of Excellence:

Consolidated Education and Training Facility

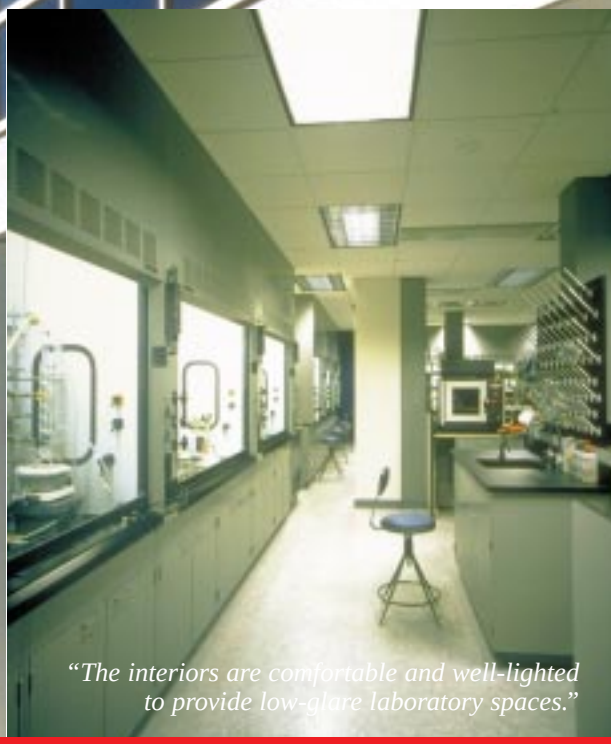
United States Air Force Academy
Colorado Springs, Colorado

Design Firm:
HDR Architecture, Inc

Design Agency:
U.S. Army Engineer District, Omaha

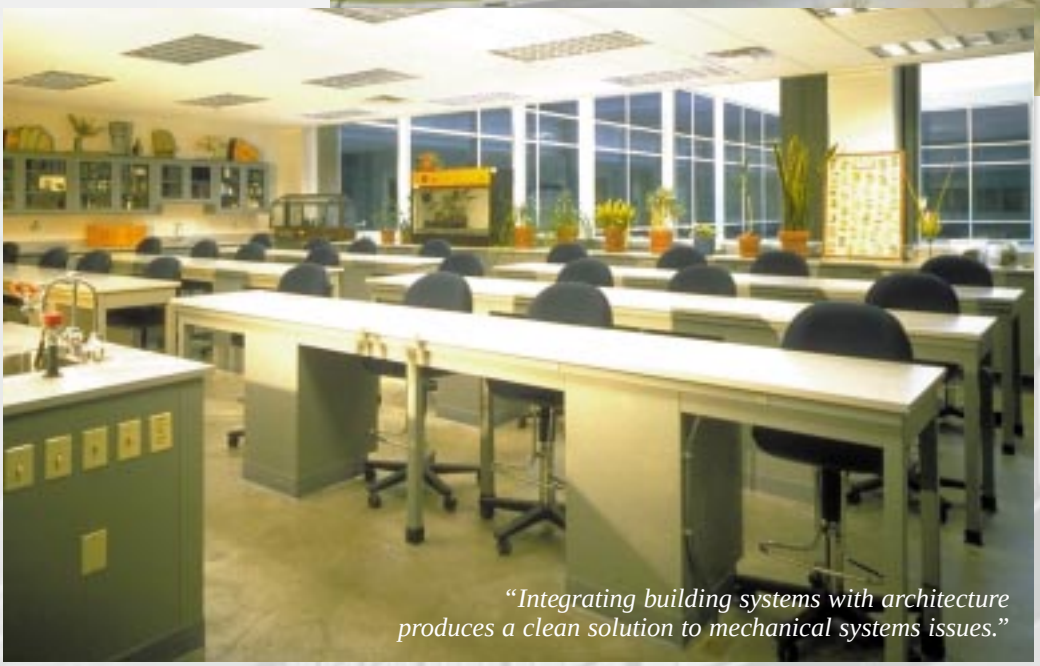
"State-of-the-art energy conservation in the basic systems design provides flexibility and redundancy for backup, while minimizing energy consumption."

"The CETF is well-sited with regard to the quadrangle."



"The interiors are comfortable and well-lighted to provide low-glare laboratory spaces."

"The project was also within five percent of the targeted budget."



"Integrating building systems with architecture produces a clean solution to mechanical systems issues."

The new Consolidated Education and Training Facility (CETF) is a major academic addition to the Cadet Area. This state-of-the-art, two-story educational and medical facility houses 210,000 square feet of programs including astronautics, civil engineering, chemistry, biology, the Frank J. Seiler Research Laboratory, a medical clinic, and future dental clinic. It also includes below-ground parking.

Honor Award:

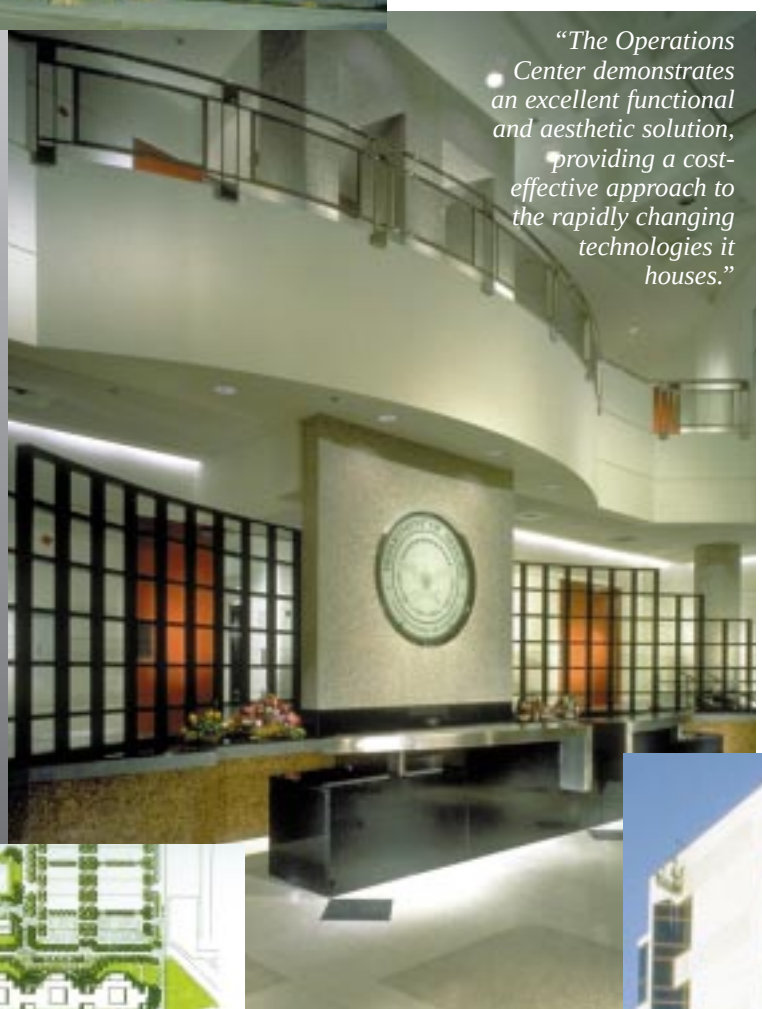
Military Programs

"The elegant facade and shell demonstrate a strong relationship between exterior and interior structure"

Operations Center
Defense Supply Center Columbus
Columbus, Ohio

Design Firm:
HOK Architects, Inc.

Design Agency:
U.S. Army Engineer District, Louisville



"The Operations Center demonstrates an excellent functional and aesthetic solution, providing a cost-effective approach to the rapidly changing technologies it houses."

The Operations Center contains 707,812 square feet, including space to house 3,750 employees, conference and training facilities, 500 seat auditorium, loading docks, file storage area, and 2,000-place cafeteria. The facility was required to be flexible, accommodate future changes with minimum impact, be energy efficient, minimize maintenance cost, and improve employee morale and quality of life.

"The project shows strong inter-disciplinary teamwork and relates well to the overall master plan for the site"

The Defense Supply Center Columbus (DSCC) is an Army material processing center. Until the Operations Center was built, employees worked in converted warehouses built during World War II.

"Integration of mechanical infrastructure is well thought out. The public areas are well designed and detailed"

Waste Water Treatment Facility
Edwards Air Force Base, California

Design Firm:
Boyle Engineering Company

Design Agency:
U.S. Army Engineer District, Sacramento

Honor Award:

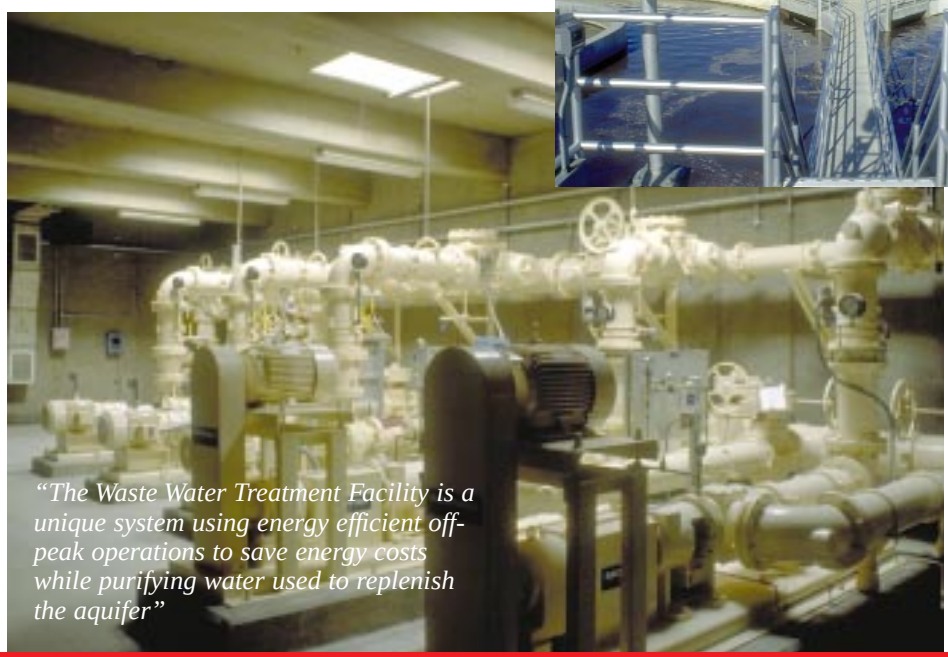
Military Programs

Large surface cracks and ground subsidence in and around Rogers Dry Lake damaged runways and other facilities. The base's primary water supply was pumped ground-water, which aggravated the problem. In addition, wastewater was being treated and discharged to evaporation ponds. Reusable water was wasted, and the ponds attracted birds which were a hazard to aircraft and pilots.

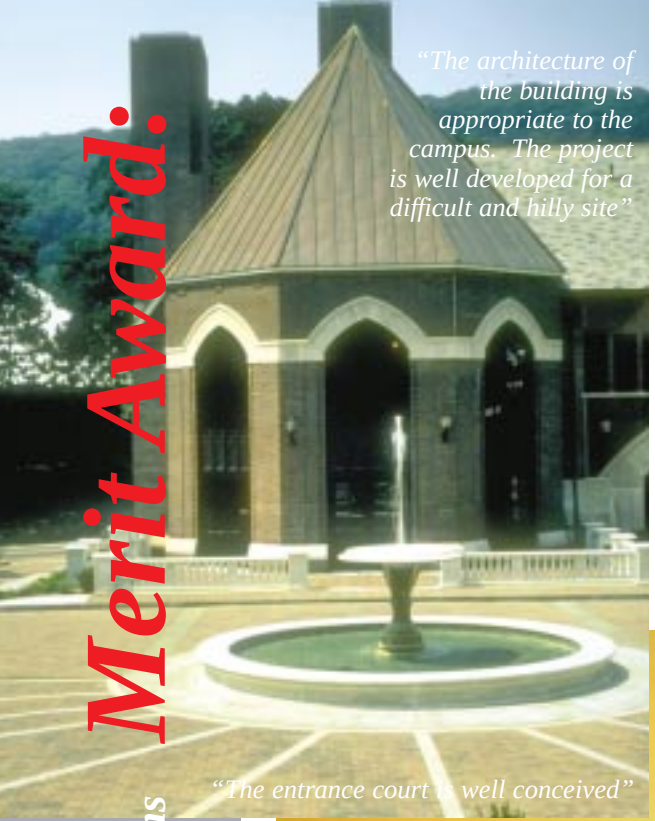
"The facility is well-planned, functional, and easy to maintain"

The solution was to build a tertiary wastewater treatment plant. The plant treats water to meet California standards for landscape irrigation for golf courses, parks, and playgrounds. Using wastewater for irrigation has decreased the water the base pumps from the underlying basin, thereby reducing surface cracking and subsidence.

The plant reduces imported water costs by about $500,000 per year, incorporates energy saving design which saves about $100,000 per year, and reduces the hazard of bird-air strikes.



"The Waste Water Treatment Facility is a unique system using energy efficient off-peak operations to save energy costs while purifying water used to replenish the aquifer"



"The architecture of the building is appropriate to the campus. The project is well developed for a difficult and hilly site"

"The entrance court is well conceived"

Merit Award.

Military Programs

Association of Graduates

United States Military Academy
West Point, New York

Design Firm:

Quinlivan, Pierik & Krause
Architect/Engineers

Design Agency:

U.S. Army Engineer District, New York

The project demonstrates a high level of concern for detail and a sensitivity to details in a historic context.

The new facility houses offices and public event areas for alumni affairs. Primary interior spaces include the Great Hall, reception areas, meeting and activity rooms, sales and mail-order space, administrative offices, and support. A linear design permitted the best development of a narrow, steep site while providing a protected exterior plaza for private use.

Interior detailing is appropriate and demonstrates good integration of trades

The first view is dramatic — the Great Hall with massive chimney, carved stone shield, copper roof, and gothic windows. The Association of Graduates building compliments the visual tradition of West Point, and provides a state-of-the-art environment for business operations with elegant public spaces.

ADAL Integration Support Facility
Peterson Air Force Base, Colorado

Design Firm:
The Benham Group

Design Agency:
U.S. Army Engineer District, Omaha

The ADAL Integration Support Facility (ISF) is a 104,000 square foot extension of the Centralized Integration Support Facility. Both the original facility and the addition appear to be one building. ADAL ISF's main function is to provide a controlled space for testing and maintaining computer hardware and software. The facility receives circuit boards and software from around the world and repairs and tests them before their return to service.

"Its heat recovery chiller and back-up generator meet the significant technological challenges of the design program"

"It is also significant because it was brought in under budget, it saves 65,000 BTU per square foot per year in energy, and it contains an extremely energy efficient computer center"

"The ADAL ISF is commended for its seamless integration with the existing facility"

"The CDC demonstrates excellent compatibility with U.S. Air Force Academy architectural theme"

Child Development Center
United States Air Force Academy
Colorado Springs, Colorado

Design Firm:
The Schemmer Associates, Inc.

Design Agency:
U.S. Army Engineer District, Omaha

The Child Development Center (CDC) had to incorporate quality, state-of-the art child care into a rigid "International Style" of modernist architecture. The CDC conforms to the style with a seven-foot planning module. The module, and subdivisions of it, determined the sizes of windows, spandrel panels, and detailing. The design incorporates playfulness with bright yellow spheres at the entrance, and a red "wiggle wall" that creates a meandering path into the facility, continues as a floor pattern, and reappears as an undulating wall in the playground and courtyard area.

"Use of the charette design process has produced a clean, functional building with playful colorful elements that is designed from the childrenís perspective"

"The project demonstrates good access to outdoors and uses natural lighting with tinted glazing and integral blinds for light and heat control on the interiors"

The interior mirrors the International Style and provides floor-to-ceiling windows with internal blinds in child care spaces. The windows allow the children to see the Rocky Mountains.

T-38 Test Cell Remediation Project High Vacuum Dual Phase Soil Vapor Extraction System

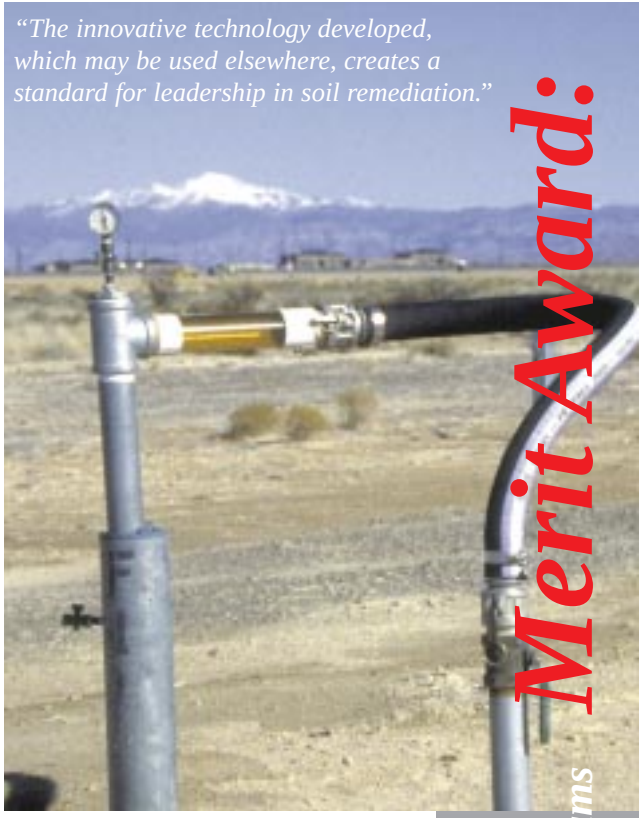
Holloman Air Force Base, New Mexico

Design Firm:

Foster Wheeler Environmental Corporation

Design Agency:

U.S. Army Engineer District, Omaha



Merit Award:

Military Programs

The T-38 Test Cell is used for testing T-38 aircraft engines. Investigation detected about 485,000 gallons of JP-4 floating above groundwater over an 11-acre area. Because of site hydrogeology, traditional product recovery/groundwater treatment methods were ruled out. A high-vacuum dual-phase extraction system was selected to extract the fuel, minimize groundwater recovery, and enhance vapor recovery to remediate soil. The system uses 122 extraction wells, 22 monitoring wells, two positive displacement rotary lobe blowers, a thermal oxidizer, a water treatment system, a recovered fuel storage tank, and an infiltration gallery for treated groundwater.

Merit Award:

Bioremediation of Explosive-Contaminated Soil

Umatilla Chemical Depot
Hermiston, Oregon

Design Firms:
Woodward-Clyde Federal Services
Wilder Environmental, Inc.
Bioremediation Service, Inc.

Design Agency:
U.S. Army Engineer District, Seattle

For 50 years Umatilla's bomb washout plant discharged water containing explosives residue into two lagoons. In 1987 the EPA listed the lagoons on the National Priorities List for expedited cleanup. About 15,000 tons of soil was contaminated.

The Army chose Umatilla as the first site to apply a biological cleanup technology called windrow composting. Composting involved mixing soil with additives, transporting the mixture to a treatment building, and placing the mixture in windrows. Bacteria then broke down the contamination. The "recipe" was 30 percent soil, 18 percent sawdust, 18 percent alfalfa, 21 percent cow manure, 3 percent chicken manure, and 10 percent potato waste.

"Bioremediation demonstrates an innovative alternative technology to incineration. It uses readily available products and produces usable soil as the end product"

"It is commended for its cost effective approach, innovative biological cleanup technology, transferability of technology to agricultural uses, and conservation of energy"

Planned cost was $6 million. Final cost was $5.2 million, and Seattle District completed the project 18 months ahead of schedule. The technology, now verified and documented, is ready for use at installations and facilities faced with cleanup of explosives contamination.

Ex-situ Thermal Desorption Process
Tanapag Village, Saipan

Design Firm:
Environmental Chemical Corporation

Design Agency:
U.S. Army Engineer District, Honolulu

"The remedial action in Tanapag Village, Saipan, demonstrates leadership, innovation, and coordination"

Merit Award:

Military Programs

In the 1960s, Tanapag Village on Saipan received Army-surplus ceramic capacitors which contained oil contaminated with polychlorinated biphenyl (PCB). The villagers used these capacitors as driveway and property markers, sports field foul poles, and headstones.

Capacitors where opened and the linings hung along rooftops for decoration. Some capacitors were used as barbecue pits, which produced dioxins. A new ex-situ thermal desorption process was used to treat 1,700 tons of PCB-contaminated soil and debris. The project was successfully modified to meet the environmental challenges of working at a remote site in Saipan.

The on-site decontamination process saves considerable cost (87 percent less than off-site methods) and is a creative and simple approach to environmental cleanup operations.

"The enclosed system runs all vapors through a vaporizer and copes well with the extreme conditions imposed by the weather and remote site."

Merit Award:

Military Programs

"The replacement of chillers at Tripler Army Medical Center is a timely, cost effective, and energy-efficient design solution"

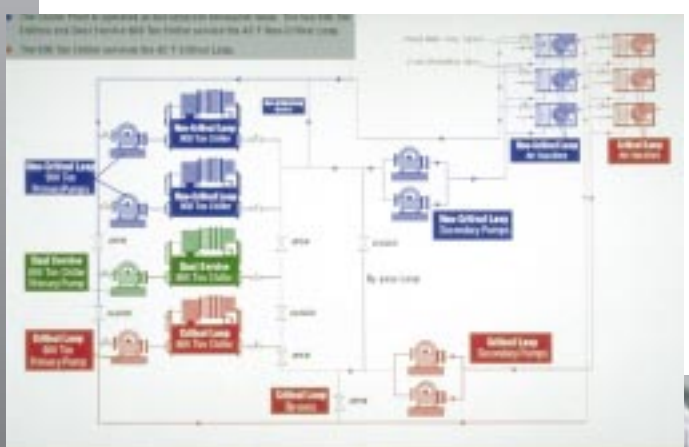
Repair Chillers, Building 137

Tripler Army Medical Center
Oahu, Hawaii

Design Firm:
Cedric D. O. Chong & Associates, Inc

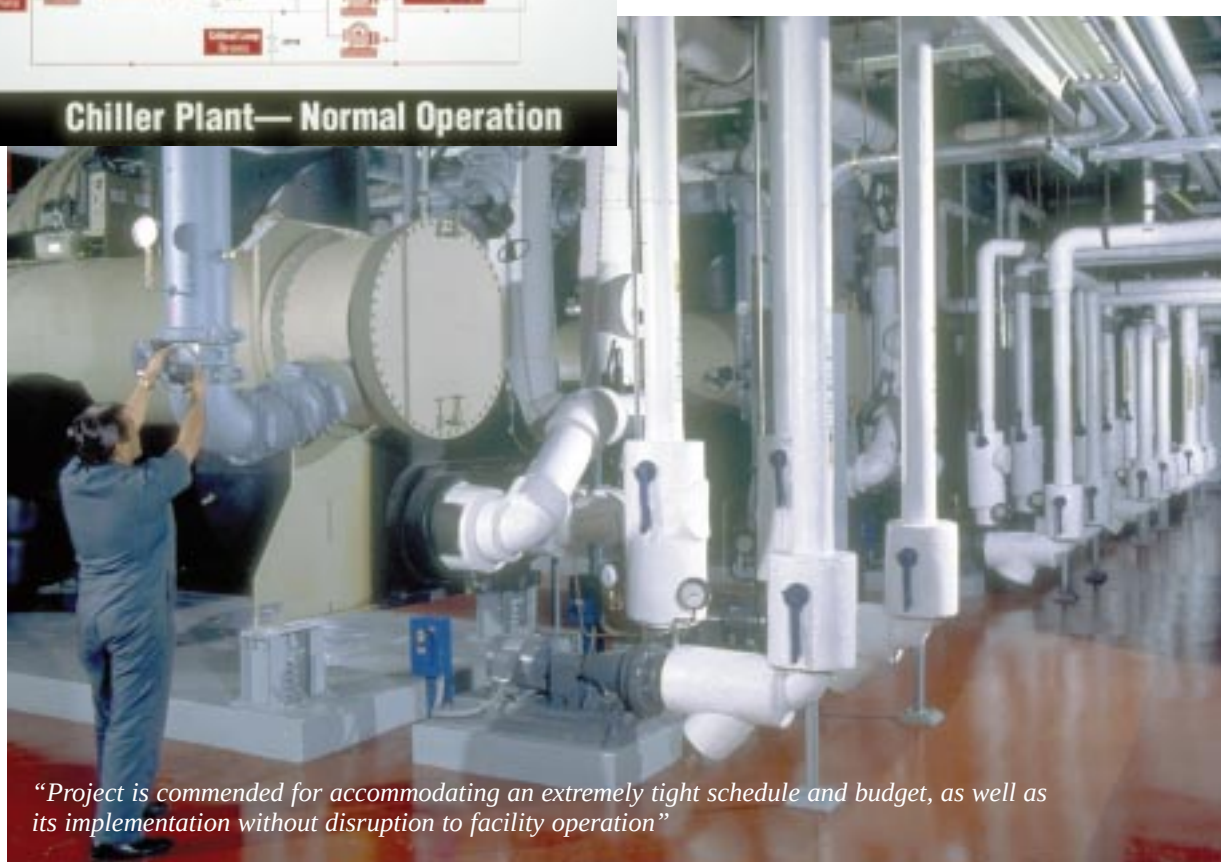
Design Agency:
U.S. Army Engineer Division, Pacific Ocean

This project replaces the original chiller plant installed in 1982. The old chillers were relatively inefficient by modern standards, inadequate for Tripler's present demands, and operated on R-12, an ozone-depleting refrigerant.



Chiller Plant— Normal Operation

The chillers were replaced with a dual temperature, 3,000 ton system with state-of-the-art direct digital controls and environment-friendly R-123 chillers. The new system saves more than $278,000 per year in energy and maintenance costs. The new system cost only $1.41 million dollars.



"Project is commended for accommodating an extremely tight schedule and budget, as well as its implementation without disruption to facility operation"

U.S. Army Reserve Command Headquarters

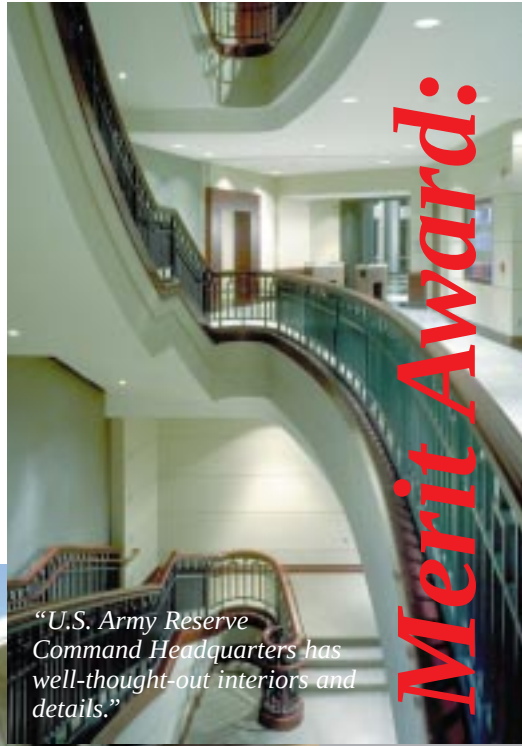
Fort McPherson, Georgia

Design Firm:

Smallwood, Reynolds, Stewart, Stewart & Associates, Inc

Design Agency:

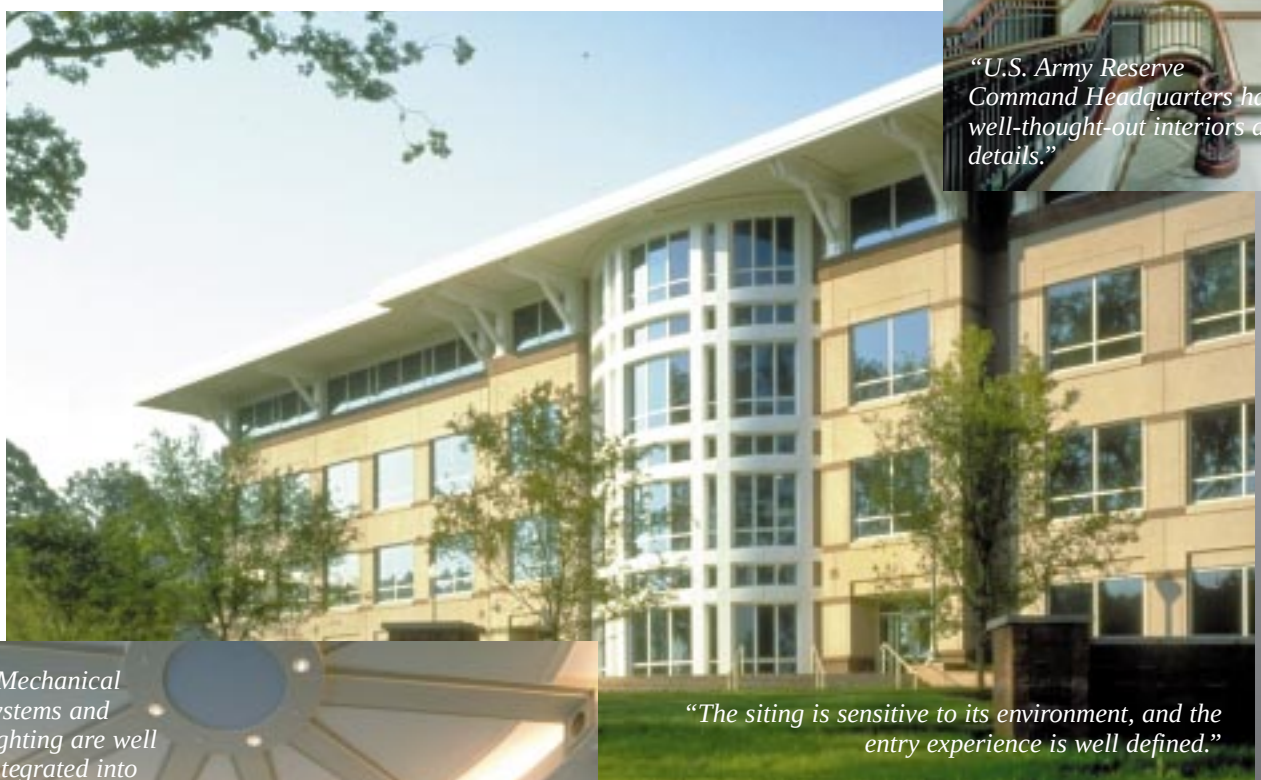
U.S. Army Engineer District, Savannah



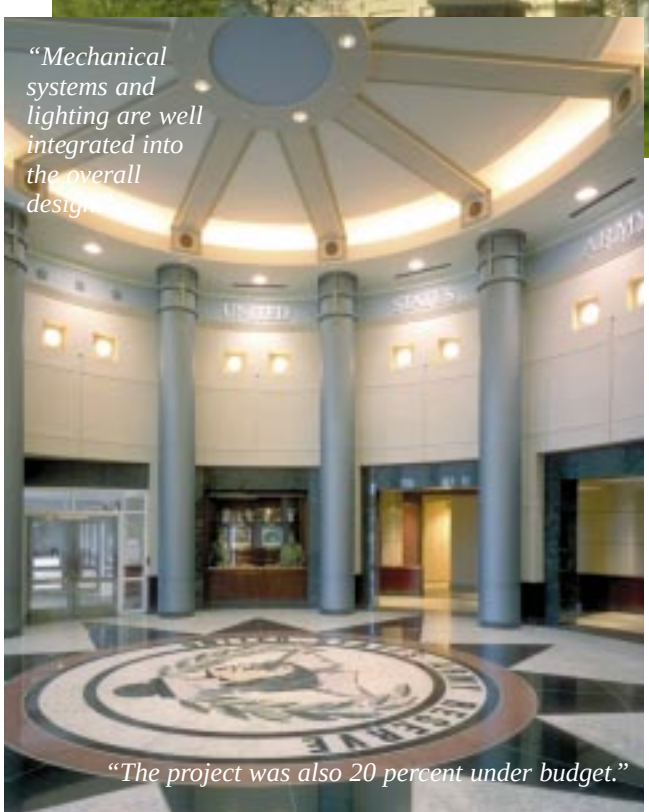
"U.S. Army Reserve Command Headquarters has well-thought-out interiors and details."

Merit Award:

Military Programs



"The siting is sensitive to its environment, and the entry experience is well defined."



"Mechanical systems and lighting are well integrated into the overall design."

"The project was also 20 percent under budget."

The U.S. Army Reserve Command Headquarters accommodates about 1,000 personnel involved in command and control for the Army Reserve. The design takes advantage of many site amenities and provides an efficient, functional interior layout. Located on eight acres at Fort McPherson, the facility integrates architecture, landscape architecture, and interior design into a facility which exemplifies the importance and pride of the U.S. Army Reserve.

Merit Award:

Military Programs

Retention Basin at Old Camp Area

Marine Corps Air Ground Center
Twenty-Nine Palms, California

Design Firm:
Stanley Consultants, Inc.

Design Agency:
U.S. Army Engineer District, Los Angeles

The retention basin is part of the Repair Industrial Storm Water Control Structures Project. Besides providing flood protection, the project incorporates drought-resistant landscaping and provides a pleasant place for visitors.

"The project demonstrates an innovative partnership between the Corps of Engineers and San Diego State University to create a feature which enhances the environment of the region on limited funding of $2.7 million."

"The retention basin is an imaginative solution to a functional problem using the natural resources of the site."

The basin was designed to improve the existing wetland community for use by waterfowl and wildlife, and wetland vegetation was planted on the pond shore. A wildlife viewing area, interpretive signs, bird-blinds, and a walking and jogging trail around the basin enhance visitors' enjoyment.

Civil Works Awards:

Civil Works

Chief of Engineers Award of Excellence:

St. Paul Flood Control Project,
St. Paul, Minnesota

Civil Works

Honor Awards:

Central Indianapolis Waterfront
Indianapolis, Indiana

Environmental Pool Management
Pike, Lincoln, and St. Louis Counties, Missouri
Calhoun, Jersey, and Madison Counties, Illinois

Upper Mississippi River Channel Maintenance Management Plan
Minnesota, Wisconsin, and Iowa

Sonoma Baylands Wetland Demonstration Project
Sonoma County, California

Sargent Beach Eight-Mile Reach
Sargent Beach, Texas

Civil Works

Merit Awards

Simon Estes Riverfront Amphitheater
Des Moines Recreational River and Greenbelt,
Des Moines, Iowa

Gene A. Potter Memorial Bridge,
Hobucken, North Carolina

Vertical Lift Gates at Highway 28 and Grand Avenue
Des Moines, Iowa

Relief Wells of the Mississippi River Levee Program
Issaquena County, Mississippi

Award of Excellence:

Civil Works
Chief of Engineers

St. Paul Flood Control Project

St. Paul, Minnesota

Design Firm:

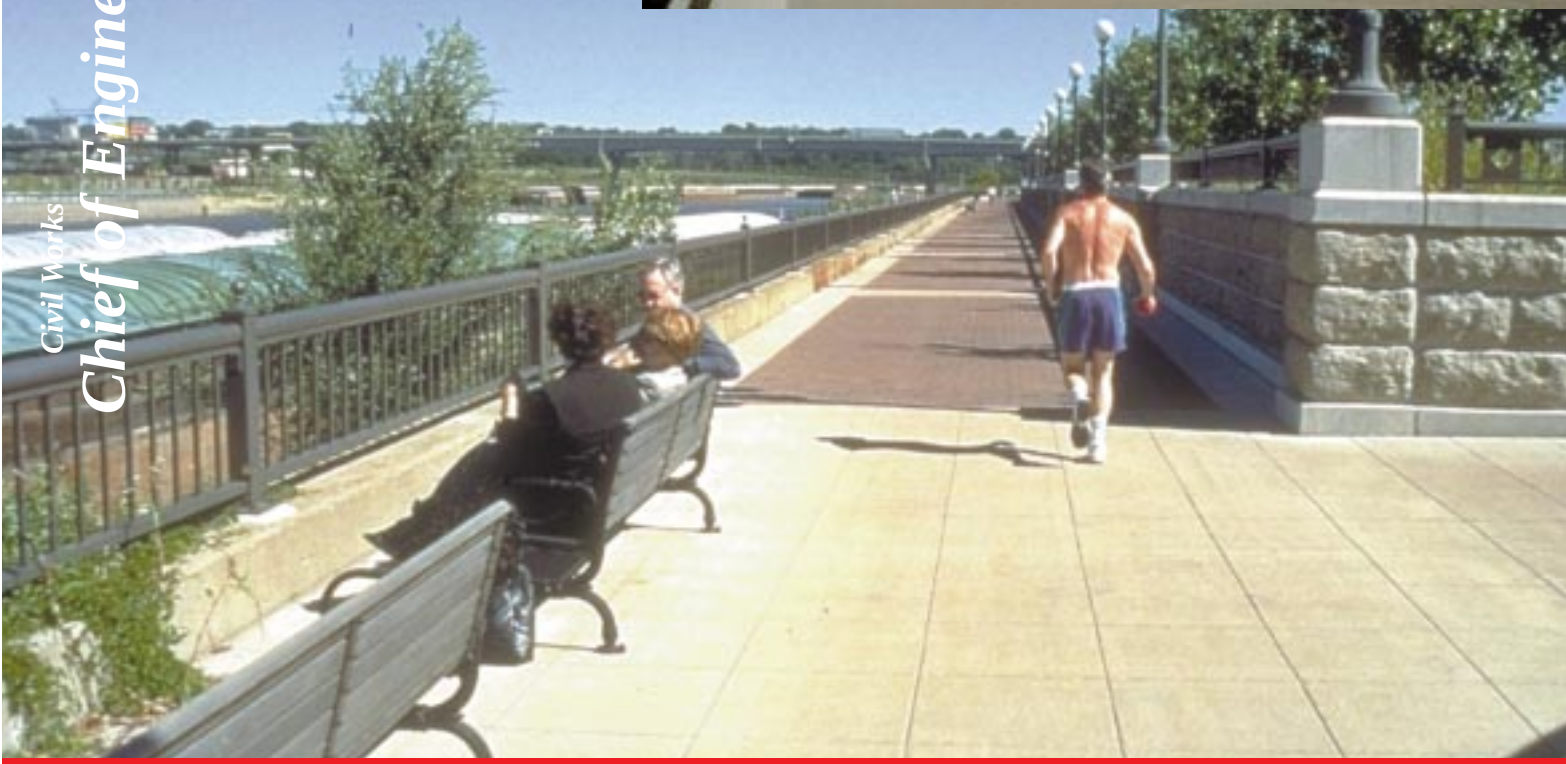
U.S. Army Engineer District, St. Paul
Short Elliott Hendrickson, Inc. (Airport Levee Reach)

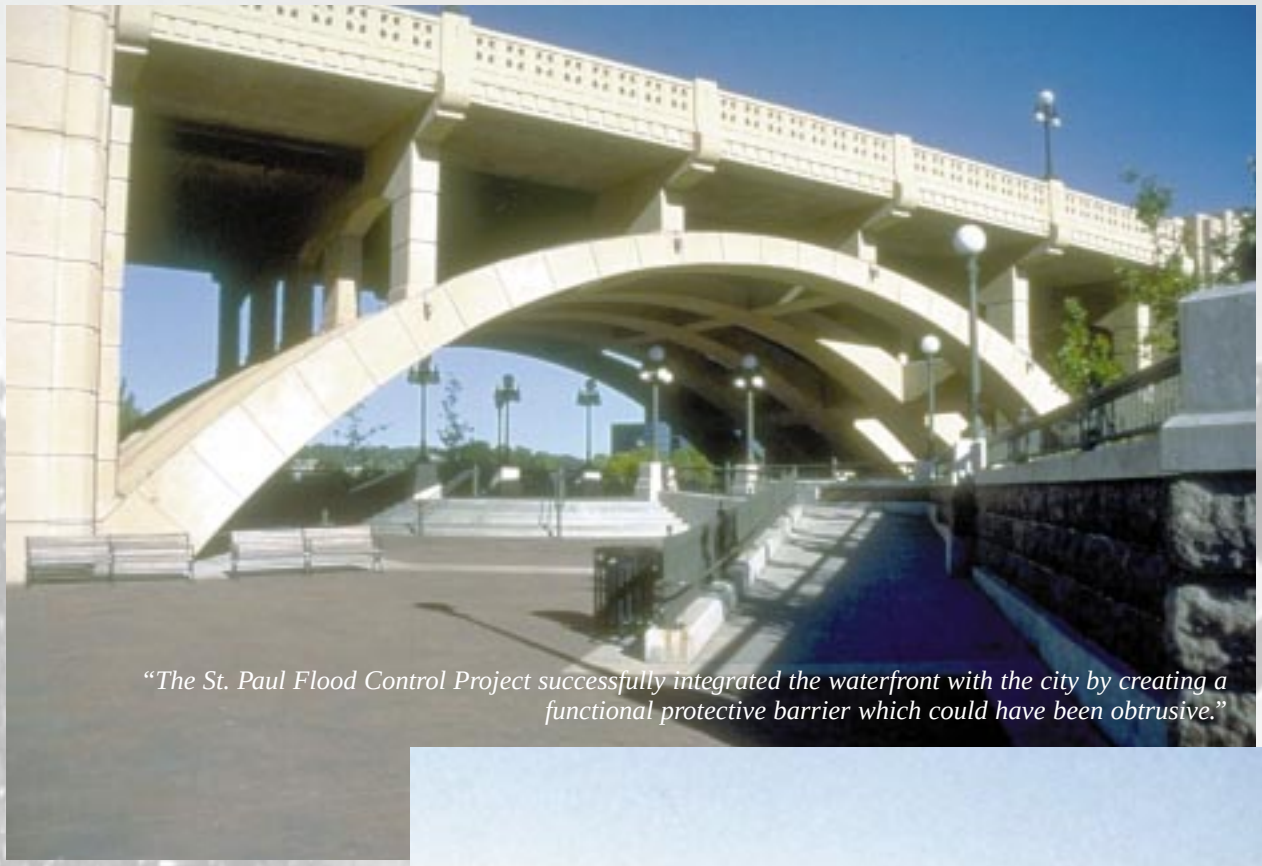
Design Agency:

U.S. Army Engineer District, St. Paul

"The development of urban areas along our waterways and in St. Paul created a need for flood protection."

"Designers collaborated with the city staff and community to incorporate an increased level of flood protection with earlier existing flood control elements"





"The St. Paul Flood Control Project successfully integrated the waterfront with the city by creating a functional protective barrier which could have been obtrusive."

"The sensitive integration of pedestrian walkways and recreation areas has softened the hard edge of this excellent engineering accomplishment."

The St. Paul Flood Control project is a multi-purpose project that significantly increases flood protection for 450 acres of St. Paul while integrating recreation and aesthetic amenities crucial to the project's acceptance and success. The project is on the Mississippi River opposite downtown St. Paul. The project raised the existing three-mile long flood barrier by four feet to protect 450 flood-prone acres from a 588-year flood. The project includes 1,335 feet of raised floodwalls, 2,400 feet of stepped floodwalls, 12,280 feet of levees, six closures, upgrades of three pumping stations, and recreational trails and associated features.

Honor Award:

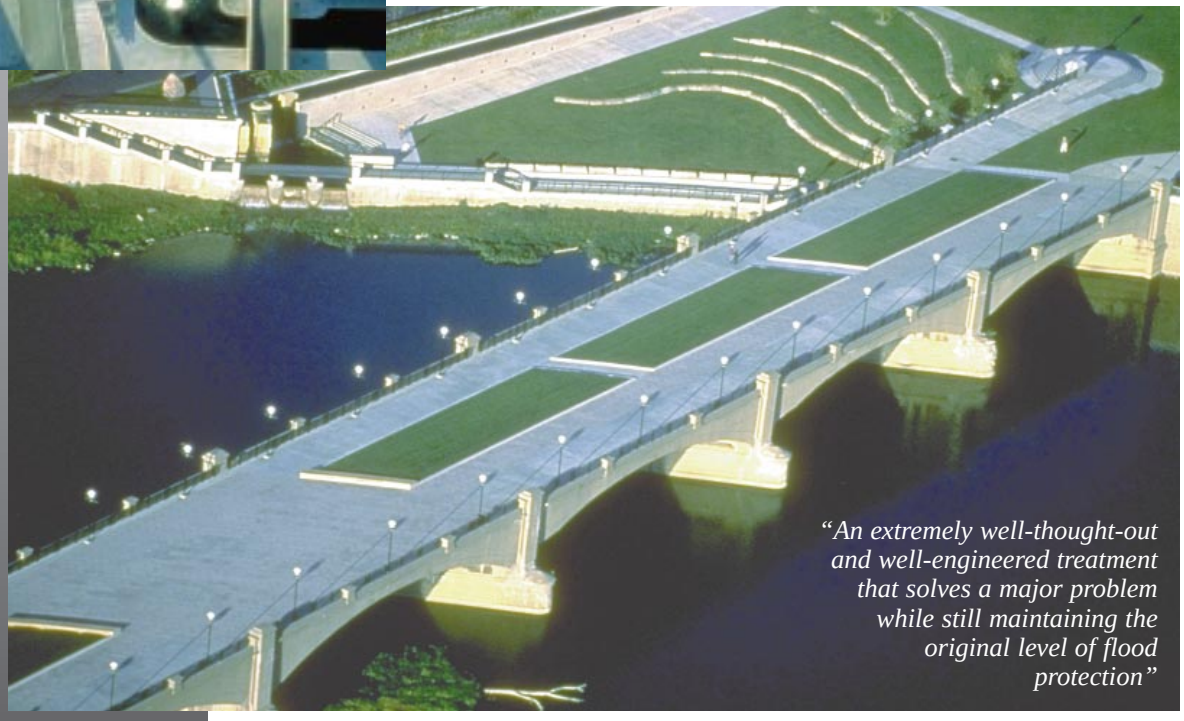
Civil Works

Central Indianapolis Waterfront
Indianapolis, Indiana

Design Firm:
Sasaki Associates, Inc.

Design Agency:
U.S. Army Engineer District, Louisville

The project transformed the neglected, under-used river and its banks into a unified park. After the flood of 1913, levees and flood walls were built to protect the city. However, these structures also cut the city off from its river. The project re-introduced the river to the city by redesigning the embankments to create new public spaces and walkways along the water's edge.



"An extremely well-thought-out and well-engineered treatment that solves a major problem while still maintaining the original level of flood protection"

It opened an old flood wall with a grass terraced area and by converting a bridge to a pedestrian walkway. The embankments were redesigned to provide easier, more inviting access to the river and to create new public spaces and walkways along the water's edge.

Environmental Pool Management (EPM)

Upper Mississippi River
Pike, Lincoln, and St. Louis Counties, Missouri
Calhoun, Jersey, and Madison Counties, Illinois

"This project is a practical, highly reproduceable example of how environmental, navigation, and recreation interests can share the river."

Design Firm:

U.S. Army Engineer District, St. Louis
Missouri Department of Conservation
U.S. Geological Survey,
Environmental Management Tech. Center
Upper Mississippi River Conservation Committee
Illinois Department of Natural Resources

Design Agency:

U.S. Army Engineer District, St. Louis

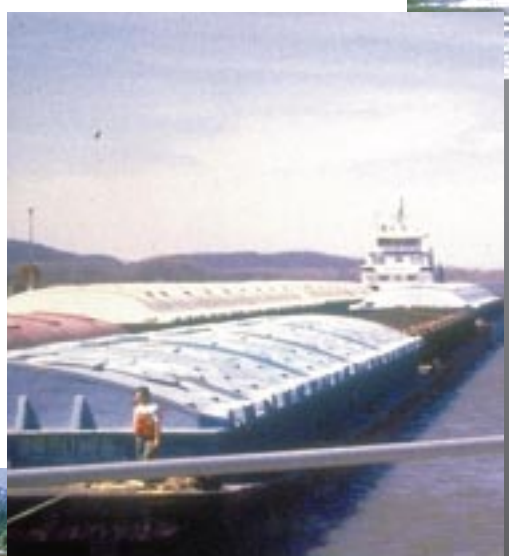
"Water level regulation at Mississippi River locks and dams has accomplished significant, measurable progress towards wetland regeneration while maintaining navigation capability."

Honor Award:

Civil Works

One of the basic USACE missions is to assure reliable waterway navigation. The locks and dams on the Mississippi River achieve this goal, but at a cost to the ecosystem. Satellite technology has made precise real-time water flow measurement possible, and improved weather forecasting allows accurate prediction of precipitation.

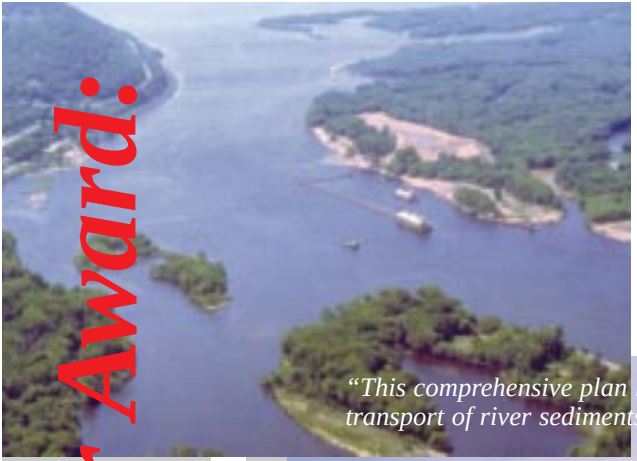
These developments enabled the St. Louis District to institute Environmental Pool Management. EPM varies water levels in pools at the locks and dams, mimicking seasonal changes. This was done at no cost to the taxpayer, and without compromising navigation.



Through a strong partnership with federal and state agencies and other groups, this cost-free solution improved aquatic wildlife and vegetation, as well as water quality

Honor Award:

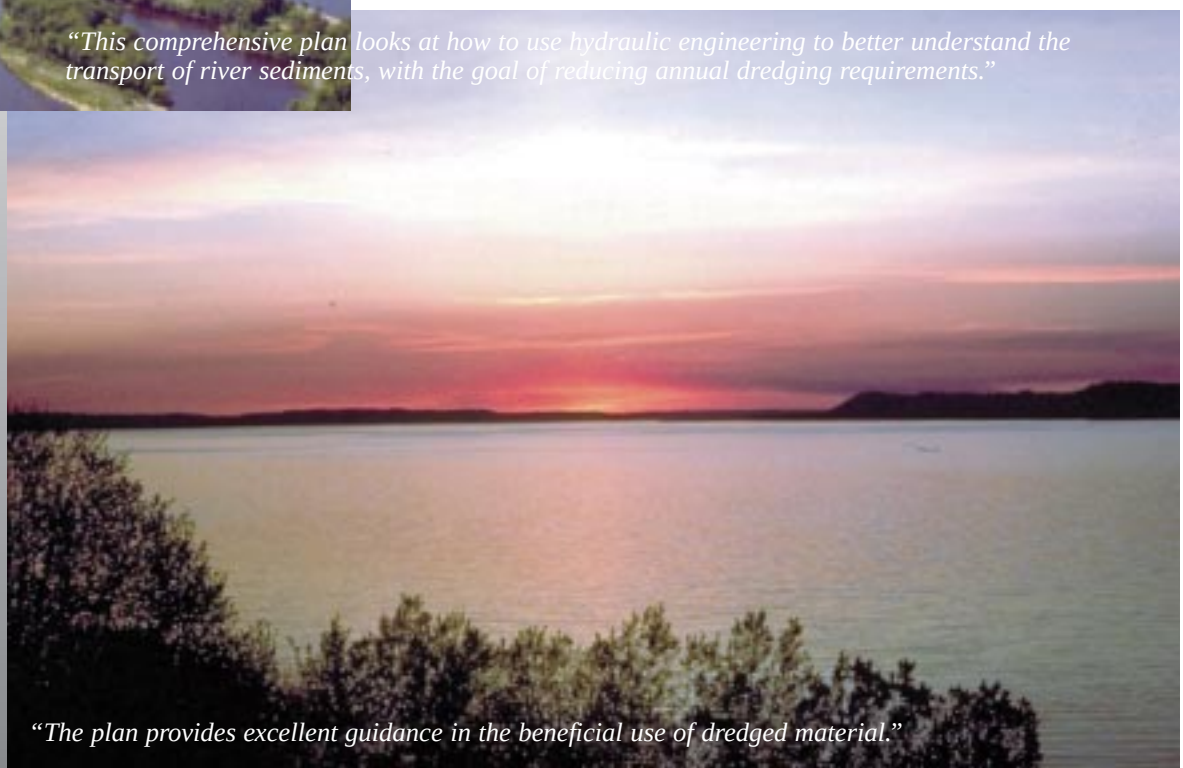
Civil Works



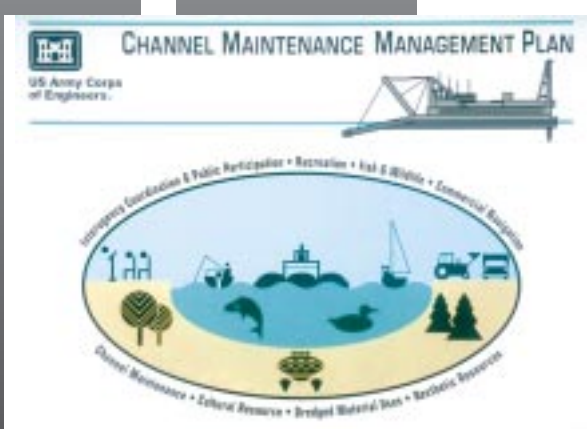
Upper Mississippi River
Channel Maintenance Management Plan
Minnesota, Wisconsin, and Iowa

Design Agency:
U.S. Army Engineer District, St. Paul

"This comprehensive plan looks at how to use hydraulic engineering to better understand the transport of river sediments, with the goal of reducing annual dredging requirements."



"The plan provides excellent guidance in the beneficial use of dredged material."



The Channel Maintenance Management Plan (CMMP) is a long-term, comprehensive plan for guiding channel maintenance activities on the northern 284 miles of the Upper Mississippi River nine-foot channel navigation system. Maintaining the channel requires annual dredging and channel control structures that concentrate flows to maintain adequate depth. Careful planning, close coordination, and diligent execution are essential to avoid negative impacts.

The CMMP provides comprehensive channel maintenance planning to protect the Upper Mississippi River to 2025 and beyond. The plan was developed in partnership with the many governmental agencies and private individuals interested in the future of this natural resource.

Sonoma Baylands Wetland Demonstration Project

Sonoma County, California

Design Firm:

Philip Williams & Associates, Ltd.
Gahagan & Bryant Associates
Entrix, Inc.
Sonoma Land Trust
Winzler & Kelly, Consulting Engineers

Design Agency:

U.S. Army Engineer District, San Francisco

"The jury was impressed by the design concept of man beginning the restoration process while leaving the ultimate project completion to natural processes"

Honor Award:

Civil Works

Eighty-two percent of the tidal marsh surrounding San Francisco Bay has been converted to agricultural and urban use. The loss of wetland has reduced many species of fish and wildlife and diminished the productivity of the bay's ecosystem. Deepening Oakland Harbor for modern ships was authorized by Congress in 1986. Environmental and economic impediments to disposing of dredged material stymied this critical project for several years.

The Sonoma Baylands Wetland Demonstration Project used 1.7 million cubic yards of dredged material to restore 289 acres of tidal salt marsh. The project duplicates the appearance and ecology of a natural marsh.

"Creative solutions to numerous problems resulted in the project costing less than half of the $20 million budget."

Honor Award:

Civil Works

"This project used state-of-the-art modeling to optimize the wave attenuation design of the revetment."

Sargent Beach 8-mile Reach

Sargent Beach, Texas

Design Firm:

U.S. Army Engineer District, Galveston

Design Agency:

U.S. Army Engineer District, Galveston

Coastal erosion of 25 to 36 feet per year threatened to sever the narrow spit of land at Sargent Beach separating the Gulf of Mexico from the Gulf Intra-coastal Waterway (GIWW). This would shut down marine traffic moving up and down the Texas gulf coast.

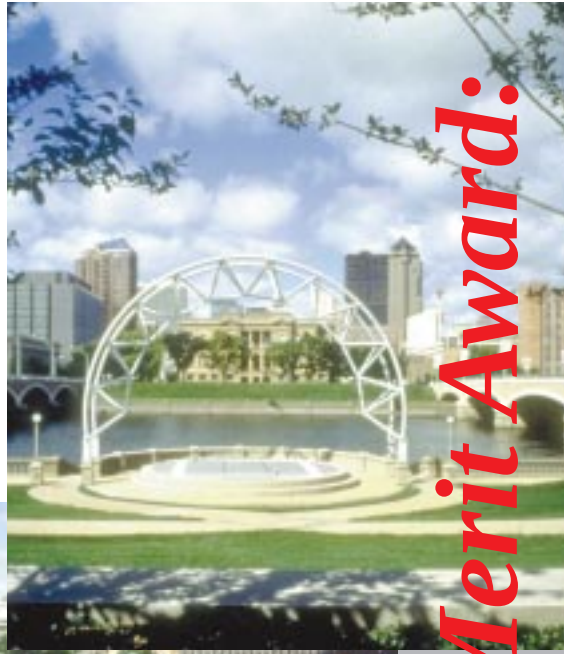
"Cooperative efforts between the Corps of Engineers and the Construction Management Institute resulted in substantial cost savings."

The Galveston District solution was to design and build a combination stone revetment and concrete sheetpile wall 8.1 miles long to protect the GIWW and shield the 16 million tons of commerce carried through the Sargent Beach area yearly.

"By maintaining the current intra-coastal alignment, sensitive waterfowl habitat were" preserved. "

Simon Estes Riverfront Amphitheater

Des Moines Recreational River & Greenbelt
Des Moines, Iowa

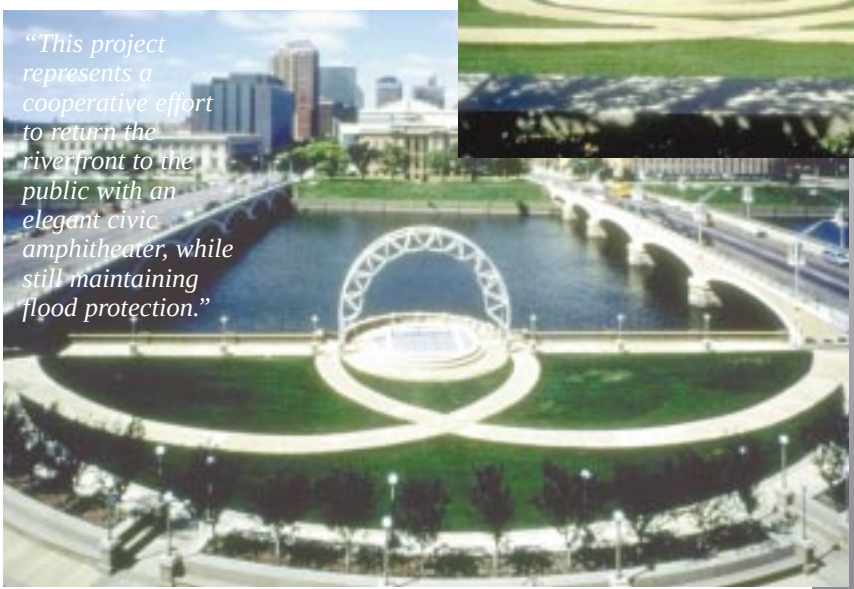


Merit Award:

Civil Works

Design Firm:
Herbert Lewis Kruse Blunck Architecture

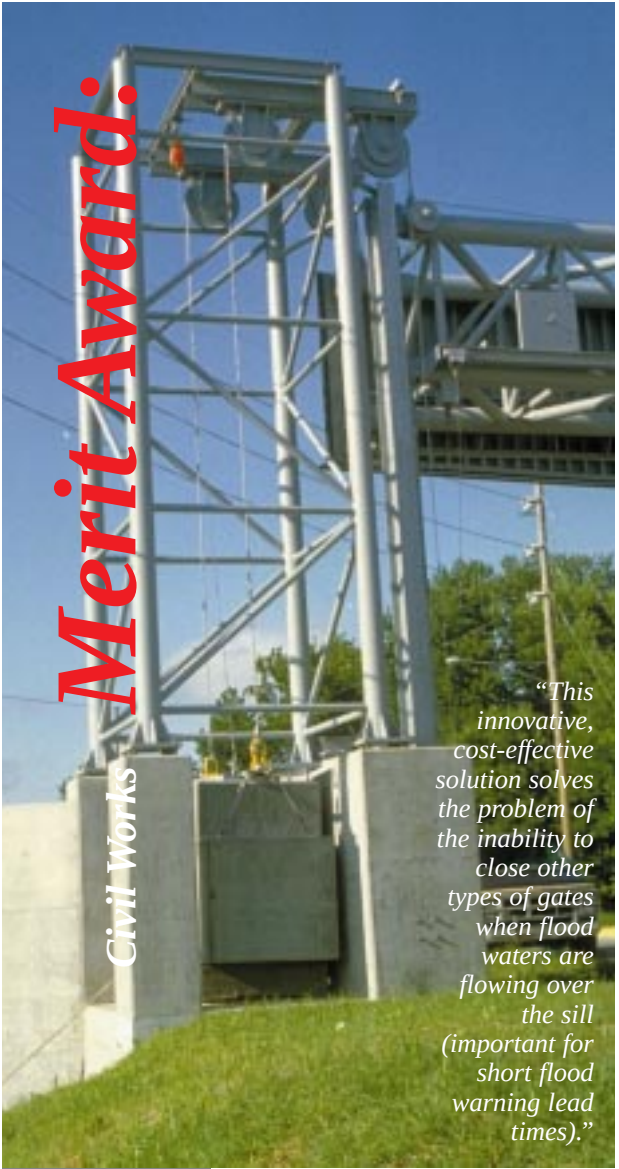
Design Agency:
U.S. Army Engineer District, Rock Island



"This project represents a cooperative effort to return the riverfront to the public with an elegant civic amphitheater, while still maintaining flood protection."

The local sponsor sought to revitalize the riverfront in the Civic Center Historic District. The Des Moines River runs through the downtown area and has great potential as an amenity, but it has been obscured for many years by an earthen levee system created to provide flood protection. The city's Vision 2000 Master Plan called for an amphitheater and plaza to invite people to the historic riverfront. The design had to be sympathetic to the site's historic context, and flood protection could not be compromised. The Simon Estes Riverfront Amphitheater fulfills all requirements. It penetrates the flood-protection barrier and reactivates the historic riverfront setting. The grass bowl sculpted from the riverbank seats about 2,000 people for concerts, yet maintains a park-like setting for variety of daily uses. The curved planter-bench surrounding the amphitheater functions as a flood wall.

" This well-engineered effort truly does extend the historic language of the city and connects the river with adjacent structural elements"



"This innovative, cost-effective solution solves the problem of the inability to close other types of gates when flood waters are flowing over the sill (important for short flood warning lead times)."

Vertical Lift Gates

Highway 28 and Grand Avenue
Des Moines, Iowa

Design Firm:

McClure Engineering Associates, Inc.

Design Agency:

U.S. Army Engineer District, Rock Island

The 1993 Midwest flood struck the Des Moines area with water levels up to six feet higher than any previous flood. The Des Moines Local Flood Control Project now protects businesses and residents from Raccoon River and Walnut Creek flooding. Two innovative structures in the project are the roadway closures at Highway 28 and Grand Ave. Conventional roadway closure designs (swing gates, panel closures, bulkheads, box roller gates) were unworkable due to their requirements for a flat roadway sill, underground utility and bridge abutment constraints, limited flash flood advance warning times, highway safety standards and the closure span widths. A vertical lift gate closure based on tubular truss highway traffic information signs structures was built at each location. Such overhead signs are common on most multi-lane roadways. Designing such a tubular truss to have a watertight skin plate and the ability to be quickly lowered to act as a closure gate for a flood wall was a new concept.

" The vertical lift gates solved the need for a level horizontal sill, and the resulting major road modifications needed for horizontal swinging gates."

Gene A. Potter Memorial Bridge

Hobucken, North Carolina

Design Firm:

Heath and Lineback Inc.

Design Agency:

U.S. Army Engineer District, Wilmington

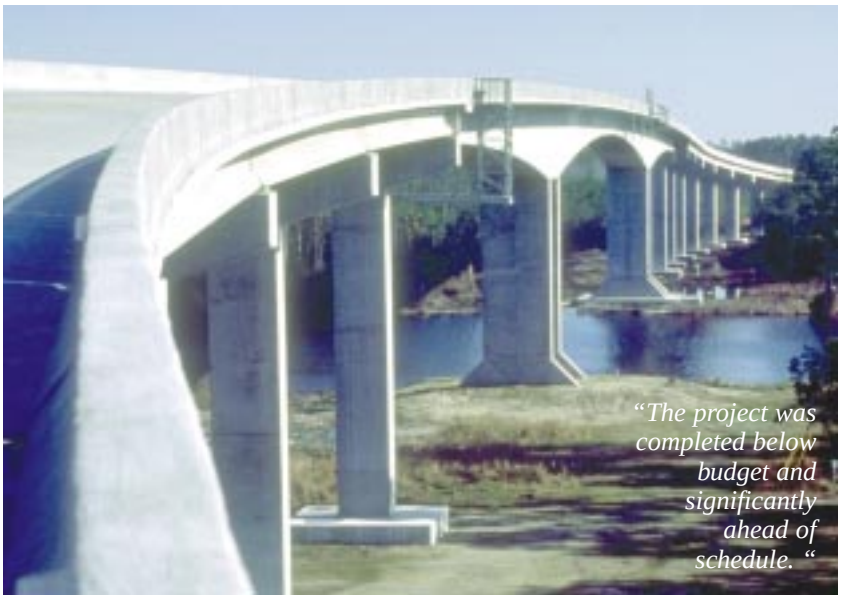
"The graceful design solved problems related to navigational hazards, durability, maintenance, and operating costs. "

"An outstanding engineering effort."

Merit Award.

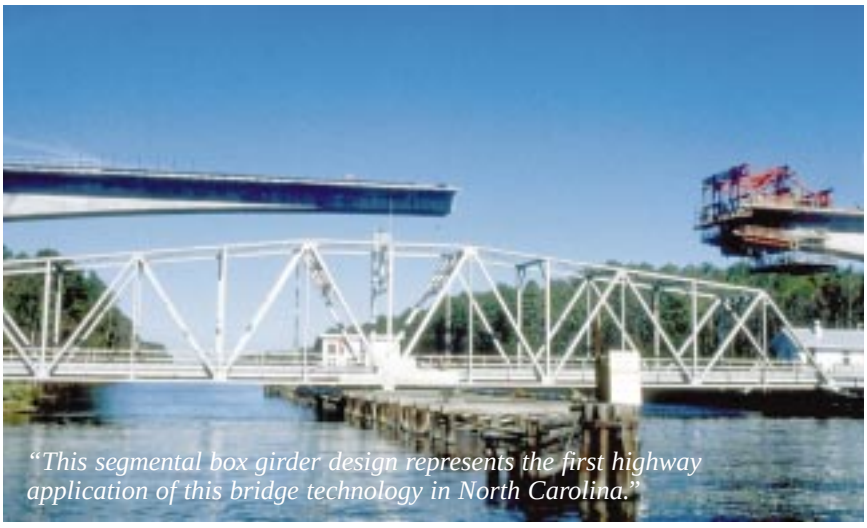
Civil Works

The bridge replaces a steel truss swing-span bridge built in 1930 to cross the Atlantic Intracoastal Waterway. The old bridge had deteriorated and did not meet current highway standards. Frequent collisions by waterway and highway traffic were a safety concern. To avoid building impact-resistant piers and a massive fender system, a bridge with a longer span over the waterway was needed.



"The project was completed below budget and significantly ahead of schedule. "

Since steel was not acceptable due to the salt-water atmosphere, the main spans are a 381-foot three span continuous prestressed concrete box.

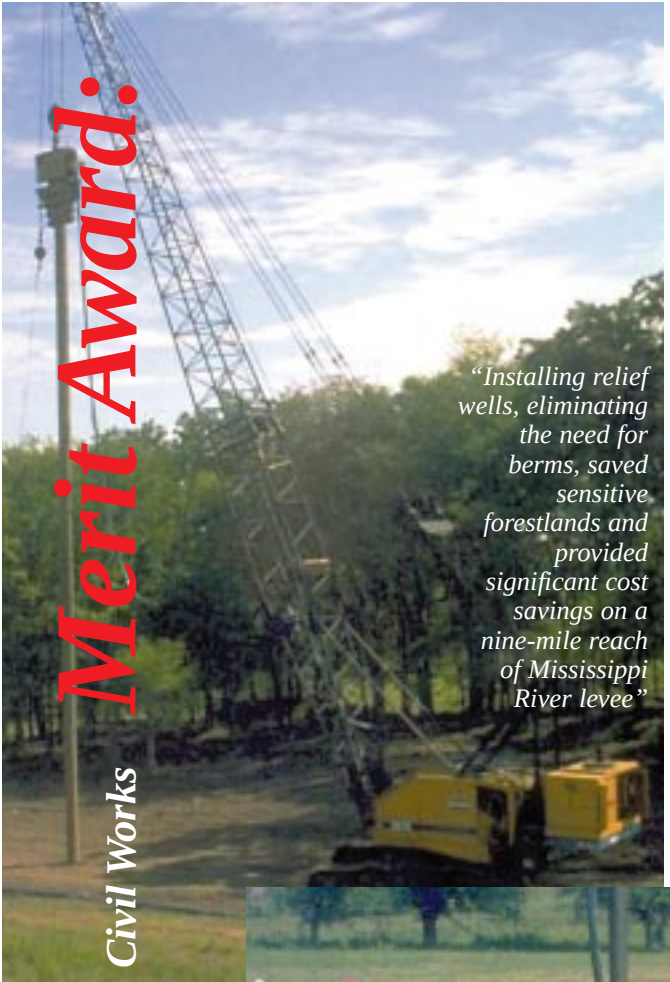


"This segmental box girder design represents the first highway application of this bridge technology in North Carolina."

The old bridge used electric power to open for water traffic, but the new structure requires no power except navigation lighting which is powered by batteries and solar cells. This solution provides substantial fuel savings for cars and water vessels.

Civil Works

Merit Award:



"Installing relief wells, eliminating the need for berms, saved sensitive forestlands and provided significant cost savings on a nine-mile reach of Mississippi River levee"

Relief Wells

Mississippi River Levee Program
Issaquena, Mississippi

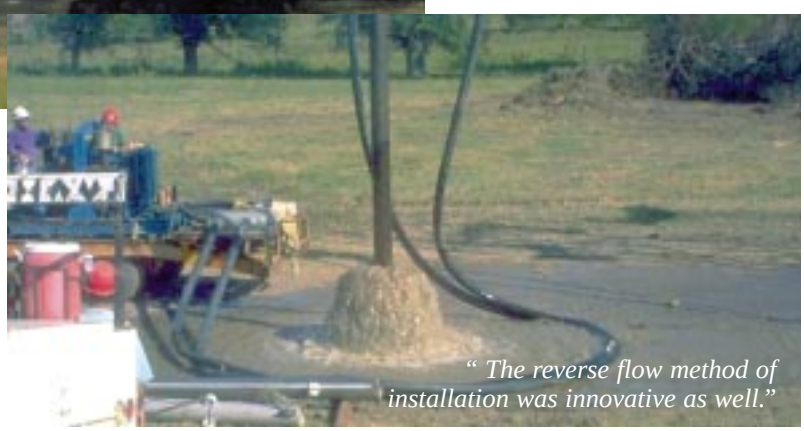
Design Firm:

U.S. Army Engineer District, Vicksburg

Design Agency:

U.S. Army Engineer District, Vicksburg

The Mississippi River levee near Fitler, Miss., has a history of underseepage. This reach is 9.9 miles long and is prime black bear habitat. Original plans called for clearing about 500 acres of timber on the river side of the levee to provide material to enlarge the levee and build seepage berms. Instead of building berms, relief wells were installed to collect underseepage and drain it in a safe, controlled manner. This eliminated the need to excavate, protected habitat, and is economical.



" The reverse flow method of installation was innovative as well."

Military Programs *Jury Members*

Civil Works *Jury Members*

Mr. Dennis M. Kamber, P.E. *Mr. Kamber is Vice President of Infrastructure Services for Earth Tech, Alexandria, Virginia. He is a graduate of Virginia Polytechnic Institute and State University and is a Diplomate in the American Academy of Environmental Engineers in water supply and wastewater engineering. He has broad experience in environmental analysis and engineering associated with the development of institutional, industrial, residential, commercial, municipal, and recreational projects. He has been recognized by his peers for the application of innovative technologies to infrastructure projects including water and wastewater facilities, transportation systems, and site engineering. He holds membership in professional organizations including the National Society of Professional Engineers, American Society of Civil Engineers, American Consulting Engineers Council, Civil Engineering Research Foundation, Water Environment Federation, Society of American Military Engineers, and the Consulting Engineers Council of Metro Washington.*

Mr. Frank S. Malits, P.E. *Frank Malits serves as Vice President of Structural Engineering for Delon Hampton and Associates, a national 150 person consulting engineering firm. Mr. Malits holds a Bachelors of Architectural Engineering degree from Pennsylvania State University, with an emphasis in structural systems. He is a registered Professional Engineer in four states and the District of Columbia. He is active professionally as a member in the American Concrete Institute, the Structural Engineers Association of Metropolitan Washington, the Concrete Reinforcing Steel Institute and the American Society of Civil Engineers. He has recently worked as Structural Engineer of Record on the MCI Center, Washington's new downtown sports arena, and the U.S. Department of Justice Building, a seven-year $150 million renovation effort.*

Mr. Wolfgang Oehme, FASLA. *Wolfgang Oehme, co-founder of Oehme, Van Sweden and Associates, is a distinguished landscape architect and horticulturalist with more than forty years of professional experience nationwide and abroad. His career began in Germany where he completed an apprenticeship at Bitterfield Horticultural School in 1950 and a degree in landscape architecture at the University of Berlin in 1954. His credits include redesign of planting along Pennsylvania Avenue from the U.S. Treasury to the National Gallery in Washington, D.C.; Virginia Avenue Gardens, Washington, D.C.; Hall Gardens at the University of Minnesota, Minneapolis; the National Education and Training Center campus for the Fish and Wildlife Service, Shepardstown, West Virginia; and the MacArthur Center retail complex, Norfolk, Virginia. He is co-recipient with Mr. Van Sweden of the 1992 Landscape Design Award by the American Horticultural Society. His teaching experiences include the University of Pennsylvania and the University of Georgia. Messrs. Oehme and Van Sweden have also published several books on landscaping and horticulture.*

Mr. David Preusch, P.E. *Mr. Preusch is Department Manager for Water Resources Engineering at Michael Baker Corporation. He received his B.S. in Civil Engineering from Lehigh University and his M.S. in Civil Engineering from the University of Maryland. He has nineteen years experience specializing in water resources planning and engineering management. His background includes extensive experience in hydrologic and hydraulic watershed studies, flooding analysis and flood control, sedimentation engineering, coastal engineering, and wetland mitigation designs. His background in sediment transport includes projects throughout the country evaluating the sediment load and transport capacity of flood control structures for the Federal Emergency Management Agency. Mr. Preusch is a member of the American Society of Civil Engineers.*

Ms. Yvonne Thelwell, P.E. *Ms. Thelwell holds a Bachelor of Science Degree in Physics from Frostburg State College, and a Master of Science Degree in Structural Engineering from the University of Maryland. She is a member of the American Society of Civil Engineers, the Road Gang, the American Society of Highway Engineers and serves on the Transportation Committee of the Consulting Engineers Council of West Virginia and Consulting Engineers Council of Metropolitan Washington. She has authored several papers within the industry. In 1986, she joined T.Y. Lin International, a world-renowned structural and civil engineering firm, specializing in long-span structures, where she is a senior engineer for bridge design and is involved in the firm's business development. Projects with which she has been involved range form the design of the mile-long bridge carrying US 50 over the Nanticoke River in Maryland to the $190 million I-90 / Logan Airport Interchange in Boston.*

Mr. Joseph J. Wisnewski, AIA, P.E. *Mr. Wisnewski is President of Wisnewski Blair and Associates, Ltd., Alexandria, Virginia. He is a graduate of the Pennsylvania State University and attended continuing education courses at the Harvard Graduate School of Design. Wisnewski Blair is a 35 member architectural firm involved in historic preservation, health care and biomedical facilities, education facilities, commercial office and federal government office renovations and new construction. Mr. Wisnewski's background and experience as an architect and structural engineer give him a comprehensive understanding of the multiple disciplines required to successfully execute a project. Mr. Wisnewski is active in the American Institute of Architects Government Affairs Advisory Committee at the national level and local chapters. He has represented the AIA before Congress to promote funding and qualification based selection for A/E firms along with other professional organizations. He has also served on the Deans Advisory Committee on Minority Affairs at the Pennsylvania State University, a group dedicated to attracting students of color within the Colleges of Architecture and Engineering. He was awarded the outstanding Engineering Alumni Award for 1998, representing Architectural Engineering at the Pennsylvania State University.*

Mr. Robert A. Banas, P.E. *Mr. Banas is Vice President of Leach Wallace Associates, Baltimore, Maryland. He is a graduate of the Pennsylvania State University with a degree in architectural engineering. He has thirteen years experience in electrical design, project management, and is currently Chief Electrical Engineer for Leach Wallace. His areas of expertise include design of power distribution and generation systems, lighting, fire alarm and detection systems, and various communications systems for institutional, commercial, and industrial buildings. He is a member and past president of the Illuminating Engineering Society of Maryland, and is currently a member and officer of the Institute of Electrical and Electronics Engineers of Baltimore. He is also a member of the Electric League of Maryland, Automatic Fire Alarm Association, and the Engineering Society of Baltimore.*

Mr. M. Paul Brott, AIA. *Mr. Brott is Chairman of the Board and Chief Executive Officer of Ewing Cole Cherry Brott, Architects, Engineers, Planners and Interior Designers of Philadelphia, Pennsylvania; Haddonfield, New Jersey; Wilmington, Delaware; and Washington, D.C. Mr. Brott has extensive background in project management and design of large, complex, one-of-a-kind facilities for the public and private sector in the U.S., Europe, Middle East, and Far Eastern countries. Unique projects managed by Mr. Brott include: the Cavitation Tunnel for studying the operations of the Trident Class Submarine, Veterans Stadium in Philadelphia, the Maintenance Complex for Presidential Fixed Wing Aircraft, the Nimitz Library, Rickover Hall and Brigade Center at the U.S. Naval Academy, and numerous hospitals and laboratories. Mr. Brott is a Corporate Member of the American Institute of Architects and represents the Institute on the Council on Federal Procurement for A/E Services and the Federal Liaison Committee. He is also a Fellow of the Society of American Military Engineers and is currently President of the Philadelphia Post. He is a member of the Military Facilities Committee of the A/E Division of the American Society of Civil Engineers and a member of the Construction Industries Presidents Forum.*

Mr. Laurence E. Coffin, Jr., FASLA, AICP, ASPRS. *Mr. Coffin is a partner in Coffin and Coffin, Landscape Architects and Urban Planners, Washington, D.C. He is a graduate of Virginia Polytechnic Institute in Horticulture and a graduate of Harvard University in Landscape Architecture. His firm focuses on major urban designs, institutional master plans, and project development. His career experiences include Senior Landscape Architect, National Capital Development Commission, Canberra, Australia; Associate Professor of Architecture, Catholic University of America; Chairman, Summer Program in City Planning, Georgetown University; and Assistant Professor of Landscape Architecture and Urban Planning, Michigan State University.*

Mr. Alan Coopper, AIA, IIDA. *Mr. Coopper has a singular blend of educational and professional experience as and architect and interior designer. His unique approach to the design of interior space combines his undergraduate studies in architecture at the University of Virginia and his graduate studies in design at the Cranbrook Academy of Art with eighteen years of professional experience. As Director of Interior Design for HNTB Architecture, Alexandria, Virginia, Mr. Coopper is responsible for the development of the firms interior design practice, which includes projects for corporate clients and government agencies. Projects recently completed by Mr. Coopper and his staff include: Midway Airport, New Terminal and Concourse, Chicago, Illinois; Houston Intercontinental Airport, Houston, Texas. Previously as Director of Design for Weihe partnership, Mr. Coopper was responsible for projects such as: Coopers and Lybrand, New Offices, Arlington, Virginia; Federal Deposit Insurance Corporation, Arlington, Virginia; U.S. Nuclear Regulatory Commission, Plaza Level Amenities, North Bethesda, Maryland; U.S. Customs Service, New Headquarters, Washington, DC; Reuters America, Inc., Washington, DC; and Nationsbank, Arlington, Virginia.*

Ms. Lucinda Eng-Garcia, Associate IIDA. *Ms. Eng-Garcia graduated from Pratt Institute with a Bachelor of Fine Arts in Interior Design. She received a Certificate of Architectural Studies in Denmark's International Studies Program at the University of Copenhagen and has taken course work at Catholic University in Urban Planning. Ms. Eng-Garcia has worked for the past ten years as an interior designer in New York, Boston, and Washington, D.C. As senior designer at Weihe Design Group, she is responsible for projects in both the public and private sectors. Ms. Eng-Garcia is active in the community as an associate member of the International Interior Design Association, a volunteer with the D.C. Building Industries Association, a member of the Conference on Asian American Leadership, and a team leader for Hands on D.C. Spring 1998.*

Mr. Eugene F. Nerf, Jr., P.E. *Mr. Nerf is President of Mueller II Associates, Inc., a 35 person mechanical and electrical consulting engineering firm in Baltimore, Maryland. Mr. Nerf holds a Bachelors Degree in Mechanical Engineering from Johns Hopkins University and is a registered professional engineer in three states. His special area of expertise is the evaluation and design of environmental control systems for museums. He has designed systems for the Baltimore Museum of Art, Winterthur Museum, Virginia Museum of Fine Arts, and numerous Smithsonian museums. He is currently serving as principal-in-charge for the $20 million renovation of the Walters Art Gallery in Baltimore. Mr. Nerf is a career member of the American Society of Heating, Refrigeration, and Air Conditioning Engineers.*

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