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**WOODROW WILSON BRIDGE PROJECT
GARNERS ACEC/MD 2009 ENGINEERING
EXCELLENCE AWARDS COMPETITION GRAND AWARD**

The American Council of Engineering Companies/Maryland (ACEC/MD) is pleased to announce that *Parsons Brinckerhoff, URS, and Rummel, Klepper & Kahl as "Potomac Crossing Consultants"; and Section Designers – JMT/WRA JV; KCI Technologies; Parsons; HNTB; and Dewberry* are the recipients of the Grand Award

in the organization's 2009 Engineering Excellence Awards Competition, presented February 19, 2009 at The Engineers Club, Baltimore. The ten finalists in this competition were recognized for diverse accomplishments that exemplify today's engineering challenges. *(continued on page 3)*



2009 GRAND AWARD and OUTSTANDING PROJECT IN GROUP 6: Transportation: Woodrow Wilson Bridge Project

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PRESIDENT'S MESSAGE

by Harry Stephen, P.E.

The Maryland General Assembly has just ended with the most notable transportation legislation being the approval of the use of cameras for speed control in highway work zones and within one-half mile of schools. Hopefully, this will go a long way toward decreasing speeds in work zones and consequently improve work zone safety.

One of the last responsibilities of the General Assembly was to complete the negotiations for a balanced \$14 billion state budget for FY 2010. One of the ways the legislators found to help accomplish this was to change the distribution formula that determines the funding going to the Transportation Trust Fund (TTF); this reduced the money sent to localities for maintaining highways and roads. This formula change resulted in a reduction of \$162 million in road maintenance funding for local governments, which amounts to about one-third of the local share of the highway user fund. It is hard to understand why, on one hand, the federal government is touting the much needed infrastructure spending to stimulate the economy (albeit ultimately not as much spending as initially suggested) and on the other hand the state government is reducing infrastructure funding to balance the budget. The \$162 million was generated with gas tax and vehicle titling fees, which have now evaporated into the general fund. It can only return with a change in the formula next year.

Reducing transportation funding has been a recurring theme in recent years. This, in conjunction with the reduction in revenue from gas tax and titling fees, could put the state in serious jeopardy of not being able to provide the state matching funds for federal funding, resulting in less federal funding.

Legislative efforts do not end with the close of the legislative session. We will continue to meet with our legislators and attend their fundraisers to promote our agenda. We will keep you informed of



issues as they arise and will be asking you to contact your legislators, as their constituents, to support our initiatives. Legislators have told us that contact from their constituents carry a lot of weight in considering issues. As a reminder, our CEPAC funds are used to purchase tickets to fundraisers and for contributions to legislators. Please remember to meet your pledge for the annual contribution to CEPAC, ACEC/MD's state political action committee. If you have not made a pledge please consider doing so.

I want to take this time to thank Chairman Jim Blake (GPI) and the legislative committee for their tireless efforts in the review of almost 250 pieces of legislation introduced in this year's legislative session. They met weekly throughout the session to decide which bills would be monitored, which ones we would support and which ones we would oppose.

Our committees are meeting and working with clients to improve the industry. The Construction Services committee is working with the SHA on the Certification Program for construction inspectors and establishing the training program for next winter. Also, the SHA now has personnel certified to teach the

OSHA 10- and 30-hour training classes. The Educational Facilities committee met with Baltimore County Public Schools (BCPS), where the change in their selection policy was discussed. Prime firms will now be pre-qualified through BCPS for Architecture, Mechanical / Electrical and/or Civil engineering services. When the current On-Call contracts expire in July, BCPS will create a shortlist of firms from the pre-qualified list matching the qualifications with the project. The shortlisted firms will then be notified of the project and proposals solicited. Projects will not be advertised for design services. The Career Outreach Committee has been promoting engineering to high school students through career days, mock interviews, job shadowing and school visitations. Hopefully, these efforts will energize students to pursue a career in engineering and reverse the trend of declining engineering graduates.

In an effort to save lives on Maryland's roadways, the Maryland Highway Safety Foundation is encouraging firms to adopt a safety pledge within your firm. Forms are available through ACEC/MD to make a pledge and the Maryland Highway Safety Foundation can assist you in implementing a program.

The ACEC/MD Governmental Golf Outing is on May 4th at the Greystone Golf Course. We are still accepting items for the silent auction to raise funds for CEPAC. Be sure to mark your calendars for the May 21st Environmental Business Opportunities Forum, the MDOT Modal Program on June 25th and for the 21st annual ACEC/MD conference on June 17-19 at the Nemacolin Woodlands Resort in Farmington, PA.

Finally, I would like to take this opportunity to congratulate all the award winners spotlighted in this special issue. The efforts of Secretary Porcari, our scholarship recipients, and our member firm representatives truly personify the positive impact that our industry has on society.



ACEC/MD 2009 ENGINEERING EXCELLENCE AWARDS

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2009 GRAND AWARD and OUTSTANDING PROJECT IN GROUP 6: Transportation

Among the largest multi-jurisdictional transportation projects ever undertaken in the Mid-Atlantic region, the \$2.5 billion Woodrow Wilson Bridge Project presented the engineering companies who made up the General Engineering Consultant (GEC) and the five Section Design Consultants (SDCs) with challenge after challenge. Meeting any one of these might warrant an award – meeting and overcoming them all, layered and woven together as they were, presents the engineering profession at its finest.

In balancing the interests of four project sponsors (Federal Highway Administration, Maryland, Virginia, and the District of Columbia), engineers and agency personnel consistently pulled together to quickly resolve issues. Careful work sequencing, state-of-the-art soil mechanics, and an innovative congestion management program by the SDC's and Potomac Crossing Consultants GEC (PCC) helped overcome the inherent challenges of the site, including its urban location, poor riverine soils, and near-constant vehicle traffic.

Managing *contract-to-contract* interfaces became a critical challenge since the construction program was divided into 20 major acqui-

sition packages. Regular coordination meetings, close comparison of schedules, well-prepared bid packages, and development of a corridor-wide partnering ethic ensured the project met its schedule and financial plan. In developing creative solutions to fulfilling stringent environmental commitments, the environmental team reached out to regulators, cultivating a spirit of cooperation. They won the support of the construction contractors by successfully obtaining reasonable permit modifications; and in return, environmental compliance was excellent.

Successfully meeting these challenges allowed the entire team to build a world-class transportation facility. The project assembled a complex network of local and express lanes through four congested interchanges, while its signature bridge features unique precast segmental V-piers and the largest movable span ever constructed.

Following the Awards Banquet, ACEC selected the Woodrow Wilson Bridge project as one of seven finalists for their Grand Conceptor Award, recognizing the outstanding project in the national EEA competition.

GROUP 1: Studies, Research, and Consulting Engineering Services

HONOR AWARD IN STUDIES, RESEARCH, AND CONSULTING SERVICES

ADA Compliance Decision Support System (Baltimore, MD)

submitted by
Johnson, Mirmiran & Thompson

Roads and sidewalks are a lifeline allowing the traveling public to get where they are going quickly, efficiently and safely. For those with disabilities, these roads and sidewalks must not only be accessible, but

safe for mobility. When the Maryland State Highway Administration (SHA) needed a more efficient process of reporting on the status of roadways and sidewalks, Johnson, Mirmiran & Thompson (JMT) designed a valuable solution: a spatially enabled decision support system for ADA compliance.

The Americans with Disabilities Act (ADA) ensures all roads and sidewalks are accessible and accommodating for citizens with disabilities throughout the nation. In order to effectively maintain and report on compliance, SHA must produce status reports. Compliance is assessed in relation to SHA's own Accessibility Policy and Guidelines for Pedestrian Facilities along state highways, which are more restrictive than national ADA standards. SHA continues to strive to establish and improve on ADA compliance in Maryland along state-maintained roads.

JMT designed a spatially enabled decision support system that automates ADA compliance reporting. This decision support system effectively stores and manages sidewalk information and ensures all state-maintained sidewalks are more efficiently reported upon as new information becomes available from the field.

JMT designed a comprehensive Geographic Information System (GIS) database of pedestrian facilities, allowing JMT to identify characteristics needed to support reporting ADA compliance and prioritize necessary improvements. The facilities, which must be monitored and maintained, include sidewalks, ramps and bus stops, among others. JMT developed a GIS-based web reporting and prioritization system, allowing SHA to gather information related to these physical features and compare and evaluate compliance over time, greatly reducing manual reporting.

The ADA portal now serves as a tool for engineers, planners and maintenance staff by providing a statewide view of ADA compliance. The portal allows users to view locations of pedestrian incidents and fatalities, public and government facilities, as well as



HONOR AWARD IN STUDIES, RESEARCH, AND CONSULTING SERVICES - ADA Compliance Decision Support System (Baltimore, MD) - Johnson, Mirmiran & Thompson

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key areas where improved mobility for the disabled are needed. These locations are displayed on a map, along with non-compliant sidewalks, providing a geographic view into pedestrian safety issues. This portal also allows SHA to prioritize areas with the greatest need to ensure improvements are made in a timely manner to the most critical areas first. The total cost of this initiative was originally estimated at approximately \$106,000. JMT completed and launched the first release of the system in August 2008, under budget by more than \$10,000, with a final cost of \$94,000. Additional cost savings to the SHA are realized during the project development process by combining projects and streamlining funding in the Consolidated Transportation Program. The second release of the system was debuted to Governor O'Malley's StateStat program and is heralded as a successful and effective systems approach to measuring performance. With ADA compliance data at their fingertips, SHA possesses an evaluation tool which will be used to improve the quality of mobility for citizens with disabilities, while dramatically reducing the labor hours needed to create reports, saving SHA time and money and allowing the entire organization to communicate ADA compliance more accurately.



HONOR AWARD IN BUILDING/TECHNOLOGY SYSTEMS - Hanover Complex Building and Technology Systems Upgrade (Hanover, MD) - Johnson, Mirmiran & Thompson

GROUP 2: Building/Technology Systems

HONOR AWARD IN BUILDING/TECHNOLOGY SYSTEMS

Hanover Complex Building and Technology Systems Upgrade (Hanover, MD)

submitted by *Johnson, Mirmiran & Thompson*

Johnson, Mirmiran & Thompson (JMT) provided an innovative engineering approach to the Maryland State Highway Administration's (SHA) Hanover Complex HVAC Upgrade in response to Governor O'Malley's statewide initiative to reduce energy consumption, which included the first installation of new energy efficient cooling equipment in Baltimore. The HVAC upgrades consolidated seven inefficient cooling systems into one highly efficient and innovative system, and combined the boilers from multiple buildings into one common system.

The 75,000 s.f. complex for the SHA houses the Office of Traffic and Safety, Statewide Operations Center and the Office of Maintenance. The upgrades met or exceeded the project criteria including, achieving a 10% reduction in energy usage, centralizing equipment to minimize maintenance requirements, improving the comfort of the building occupants, increasing equip-

ment reliability, and limiting disruptions during construction.

JMT provided a comprehensive and innovative engineering approach to the project by initiating a master plan for the HVAC upgrades. The master plan, developed jointly with the owner, incorporated a prioritized criteria analysis of the available options.

The prioritization of the criteria was per-

formed utilizing the Pairwise Comparison analysis created by the Department of Energy's Sandia National Laboratories. The unique application of this technique allowed the project team to simultaneously consider the numerous design criteria established for the project.

JMT's equipment selection for the cooling system consisted of an innovative chiller which utilized a variable frequency drive to modulate the compressor output while minimizing the electrical usage required for building cooling. The building systems were connected to an automation system to allow continuous monitoring of performance and energy usage. The automation system allows the building to be submitted for certification under the LEED® Existing Building program, which highlights the environmentally sustainable nature of the building heating and cooling systems.

The commissioning process was utilized by JMT during the construction of the HVAC systems modifications. This process maintained the working relationship established during the design phase and focused the contractor, owner, construction manager and design team on the mission of meeting both the design intent and functional performance requirements of the system.

GROUP 3: Structural Systems

OUTSTANDING PROJECT AWARD IN STRUCTURAL SYSTEMS

Inpatient Tower & Women's Center at Baltimore-Washington Medical Center (Glen Burnie, MD)

submitted by *WBCM*

WBCM provided structural engineering and design services for the new Inpatient Tower & Women's Center at the Baltimore Washington Medical Center (BWMC), in Glen Burnie, Maryland. BWMC is part of the University of Maryland Medical System. The project involved the structural design and reinforcement of approximately 245,000 square feet, more than 50% addition to the existing usable space of the hospital, which included

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OUTSTANDING PROJECT AWARD IN STRUCTURAL SYSTEMS - Inpatient Tower & Women's Center at Baltimore-Washington Medical Center (Glen Burnie, MD) - WBCM

seven occupied floor levels and two shell levels with a mechanical penthouse on the roof.

The new Inpatient Tower and Women's Center will now add a much-needed Women's Obstetrics' program to the area. The project also added 105 new patient rooms, additional Critical Care space, additional surgical rooms, and additional store rooms and allowed for the relocation of the loading dock, existing store rooms, administration and facilities management.

Overcoming complex design requirements in the building's design development phase, WBCM was able to deliver a significant engineering design solution which allowed the hospital to continue normal operations throughout construction. Site constraints, which included an existing property boundary, parking garage, patient tower and chiller plant, along with an existing mechanical room structure, housekeeping services, an administration building, and the hospital cafeteria, further complicated the design and phasing efforts. Through careful planning and phasing, WBCM was able to keep all of these existing structures, which provided essential services, in operation during the entire construction phase.

WBCM also designed connections, with matching floor elevations, between the existing Patient Tower and the new Inpatient Tower at critical areas to provide efficient access from one department to another. The existing floor-to-floor height of the existing tower, coupled with the complex geometry and shapes of the

floor plans of the new Inpatient Tower structure, presented limited space for mechanical and hospital systems. In response, the architects designed a floor plate with irregular shapes and a non-symmetric column grid to allow for the floor elevations to match up. Due to the need for a relatively thin floor structure, the required fire-ratings, flexibility of design given irregular floor plan shapes and non-symmetric column lines, and the ability to adapt to the dimensions of the existing adjacent structures, WBCM determined that cast-in-place reinforced concrete would solve the multitude of design challenges while still being cost effective.

A portion of the new Inpatient Tower is built above the existing mechanical room structure. To eliminate disruption to the Mechanical Room, an efficient framing system that did not require shoring or formwork was required. In this area seven floors were framed with pre-cast hollow-core concrete plank, supported by the concrete structure on one end, and a steel truss on the other. The steel truss spans 82 feet over the existing mechanical room and

supports seven levels of the pre-cast plank floors and a portion of the penthouse roof. The planks were erected individually by the on-site tower crane, allowing for no disruption to the mechanical room below.

HONOR AWARD IN STRUCTURAL SYSTEMS

MD 214 over Patuxent River (Davidsonville, MD)

submitted by *Alvi Associates, Inc.*

This project, designed by *Alvi Associates*, involved comprehensive rehabilitation for an existing historic steel truss bridge built in 1935. The bridge carries heavy traffic and spans 200 feet over the Patuxent River. The rehabilitation included replacement of the bridge deck, as well as a variety of other repairs and improvements.

The firm juggled an unusually large number of issues which made the project quite complex: (a) a barge-mounted scaffold in the river was required for inspection; (b) comprehensive structural analysis was performed to expose "weak links" and increase the bridge load capacity by 62%; (c) great care was needed to design repair of members whose failure would result in collapse of the entire bridge; (d) the bridge has gusset plate connections (like the I-35W truss bridge which collapsed in Minnesota), and major build-up of rust between the gusset plates

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HONOR AWARD IN STRUCTURAL SYSTEMS - MD 214 over Patuxent River (Davidsonville, MD) - Alvi Associates

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had pried the plates apart and strained the connecting rivets; and (e) after the construction contract had already been awarded, a large vehicle hit one of the critical truss members and badly mangled it, resulting in the need to urgently design a repair.

Several innovative deck replacement alternatives were developed, including longitudinally post-tensioned precast concrete deck panels, and an extra-lightweight fiber-reinforced polymer (FRP) deck developed under the aegis of the Federal Highway Administration's Innovative Bridge Research and Construction program. The solution for the truss member damaged by vehicle impact was also innovative in providing a complete "good as new" replacement, rather than only strengthening or partial replacement.

Key social and economic benefits included: (a) keeping detour duration down to only 18 weeks to greatly reduce hardship and economic impact on the local communities and businesses; (b) use of materials the contractor already had on hand, to reduce time and cost; and (c) improved safety of the bridge by using an extra-thin replacement deck to increase vertical clearance and load capacity. Sustainability was achieved through careful attention to: (a) avoiding impact to adjacent Park properties, Nontidal Wetlands of Special

State Concern, and potential endangered species; (b) containment to ensure that existing lead-based paint would not contaminate the river and site; and (c) preservation of historic integrity by developing special curb and railing details which meet modern safety requirements while maintaining the original bridge aesthetic.

The firm played an active role in coordinating many parties in this complex project, and were very responsive in quickly completing several urgent project elements added to the scope. This led to a project which went smoothly during both design and construction, with associated cost savings and an end product which will serve the owner and public well for future generations.

The unfortunate collapse of the I-35W bridge has focused attention on the needs and issues of historic older bridges. While rehabilitating such bridges can involve a host of challenges, this MD 214 project demonstrates that these challenges can be met very effectively, and should serve as a model for similar future projects in Maryland and beyond.

GROUP 4: Surveying & Mapping Technology

None awarded

GROUP 5: Environmental, Water and Wastewater, and Water Resources

OUTSTANDING PROJECT AWARD IN ENVIRONMENTAL; WATER AND WASTEWATER; AND WATER RESOURCES

Anacostia East Wetland Restoration Project (Pr. George's Co., MD)

submitted by *EA Engineering, Science and Technology*

EA designed and provided support during construction of the largest and most complex tidal wetland mitigation project ever undertaken by SHA. The purpose of this project was to satisfy mitigation requirements associated with the construction of the new Woodrow Wilson Bridge, provide aquatic habitat, and provide educational and recreational opportunities.

The wetland design included the engineering of a tidal channel network based on innovative use of empirical and analytical techniques. The channels were sized to convey the tidal prism volume from the Anacostia River, while maintaining sufficient water velocities to minimize accretion. In addition, channel elevations were set below mean low water, to provide sufficient water depth for fish movement during the entire tide cycle.

"This site, the largest tidal wetland mitigation project undertaken by SHA, included relocation of 330,000 CY of material, creation of 20 acres of tidal wetlands, and planting of 85,000 native wetland plants," said Todd Nichols, Project Manager for SHA. "The project will have a significant, positive impact on the environment, as it increased the area of tidal wetlands within the Anacostia River watershed by 20%."

NOAA, one of the project's sponsors, has recognized the future value of this innovative design to the engineering profession and is promoting its application on other ecosystem restoration projects. Proposed water quality monitoring of the site will provide valuable data for future wetland projects.

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OUTSTANDING PROJECT AWARD IN ENVIRONMENTAL; WATER AND WASTEWATER; AND WATER RESOURCES - Anacostia East Wetland Restoration Project (Pr. George's Co., MD) – EA Engineering, Science and Technology

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HONOR AWARD IN ENVIRONMENTAL, WATER AND WASTEWATER, AND WATER RESOURCES - Stemmers Run Relief Wastewater Pumping Station, Force Main, and Relief Sewer (Baltimore Co., MD) – Rummel, Klepper & Kahl (RKK)

EA's tidal wetland design included numerous social, economic and sustainable design considerations. The planting plan introduced native species into the wetland and 14 acres of reforestation was performed onsite. Trails and access roads were included to provide recreation and educational opportunities. The project team was able to negotiate with Maryland Department of the Environment to reconfigure an existing, onsite landfill and cap it in accordance with current landfill regulations. This option significantly reduced the estimated construction costs and saved the project from going over-budget and being abandoned.

EA's design exceeded SHA needs as the design and construction were completed ahead of schedule and under budget. During construction, EA, SHA, Potomac Crossing Consultants, and Glover Construction Company, Inc. utilized SHA partnering concepts, resulting in cost-saving re-use of materials from other nearby projects.

HONOR AWARD IN ENVIRONMENTAL, WATER AND WASTEWATER, AND WATER RESOURCES

Stemmers Run Relief Wastewater Pumping Station, Force Main, and Relief Sewer (Baltimore Co., MD)

submitted by *Rummel, Klepper & Kahl (RKK)*

In the early 1990's, Baltimore County selected RKK&K to complete the Stemmers Run Tributary Area Study. This study involved a comprehensive evaluation of the wastewater pumping stations (WWPS) and conveyance system serving Baltimore County's eastern half. The study area contained 23 pumping stations, approximately 350,000 LF, or 66 miles of trunk sewers and interceptors, covering an urban and suburban area of approximately 75 square miles. The 2025 design year flow to the existing Stemmers Run WWPS was determined to be approximately 114- MGD, far exceeding the facility's existing capacity of 42- MGD. Site limitations restricted further expansion of the site; however, the County elected to maintain the station's operation. Based on the results of the study and the County's desires, RKK&K recommended construction of a 72- MGD relief WWPS, a parallel force main to the Back River Wastewater Treatment Plant (WWTP), and relief sewer.

After funding was made available for the recommended facilities, the multi-disciplinary RKK&K Team provided environmental studies and investigations, preliminary and final engineering, permitting, bid-phase assistance and construction phase services on this \$39 million project, one of the County's largest public works projects ever undertaken. The project's

ultimate design included a 72-MGD relief sewage pumping station to operate in concert with the existing 42-MGD pumping station, a unique hydraulic diversion structure, 66- and 72-inch diameter relief sewers and a new 54- inch diameter parallel force main from the relief pumping station to Back River WWTP, a distance covering approximately 3.3 miles. Significant to the project's success was the environmental permits and approvals required for construction including detailed environmental mitigation plans. Advertised for construction in 2005, the RKK&K team provided construction phase engineering services, including assistance during the station startup period. The Stemmers Run Relief WWPS and Force Main were placed into operation in September 2008. RKK&K continues their involvement to address outstanding punch list items and provide monitoring for the next five years of the environmental mitigation areas along Back River, as required by the permitting agencies.

This project was successful due to innovative strategies; complex design features of the pumping station; partnering with the myriad of environmental regulatory agencies; environmental friendly and sustainable design-methods for force main installation; compliance with the County's Consent Decree schedule; and, the County's ultimate objective, elimination of capacity related sanitary sewer overflows (SSOs).

GROUP 6: Transportation

HONOR AWARD IN TRANSPORTATION

Montrose Parkway West (Rockville, MD)

submitted by *Johnson, Mirmiran & Thompson (JMT)*

Montrose Parkway, the 1.75 mile major transportation link between I-270/Montrose Road interchange and Rockville Pike (MD 355), is the largest highway capital improvement project to date for the Montgomery County Department of Public Works and Transportation (DPWT) and is a strong example of context sensitive design. Johnson, Mirmiran & Thompson fit the project into the context of the communities it traversed in an

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HONOR AWARD IN TRANSPORTATION - Montrose Parkway West (Rockville, MD) - Johnson, Mirmiran & Thompson (JMT)

environmentally sensitive fashion while still meeting all design requirements.

The Montrose Parkway project reduces the traffic volume on Montrose Road by 47% east of the proposed intersection of Montrose Parkway and Montrose Road. The project provides congestion relief, increases capacity, improves safety, reduces neighborhood cut-through traffic, and provides an aesthetically pleasing roadway.

The construction costs and project budget, including engineering, construction, utility relocation and land acquisition costs, were approximately \$30 million and \$70 million, respectively.

Using DPWT's facility planning documents completed in May 2000, when JMT began preliminary design, numerous community meetings were held with the public various agencies and other stakeholders. JMT completed the preliminary plans in 2001, and prepared the final design between 2002 and 2004. Construction began in September 2005, the ribbon-cutting was held June 28, 2008 and construction was completed in September 2008. JMT was integral in every part of the planning, design, and construction phases of this project.

The scope of work included widening a 3,900 foot segment of Montrose Road east of the I-270 interchange from a 5-lane undivided

road to a 6-lane divided arterial, and construction of a 5,300 foot segment of the 4-lane divided Montrose Parkway.

Other elements included the reconstruction of a 935 foot segment of Montrose Road to the east of the Parkway, widening a 950 foot segment of East Jefferson Street, two roadway bridges, 1,300 foot extension of Hitching Post Lane to provide improved access to adjacent communities, and 3,000 lin-

ear feet of noise walls.

GROUP 7: SPECIAL PROJECTS

OUTSTANDING PROJECT AWARD IN SPECIAL PROJECTS

Runway 9-27 Extension and Associated Improvement (Hagerstown, MD)

submitted by *URS Corporation*

As part of the Runway Improvement Program, initiated by Washington County at the Hagerstown Regional Airport in 2000, URS provided all planning, engineering and oversight for the extension of Runway 9-27 and the concurrent relocation of US 11. Runway 9-27 had non-standard, Runway Safety Areas (RSA) at each end and insufficient length to meet the projected air carrier fleet mix. The Runway 9-27 Improvement Program was planned and scheduled as four separate construction packages.

The \$61.8M program included shifting the runway 560 feet to the east to provide required RSA adjacent to Interstate 81 (I-81) and the challenging process of extending the runway 2,100 feet over US Route 11 to achieve a total length of 7,000 feet. The project included the placement of over 2 million cubic yards of fill; two bridges over US Route 11 to support the extended runway and parallel taxiway system;

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OUTSTANDING PROJECT AWARD IN SPECIAL PROJECTS - Runway 9-27 Extension and Associated Improvement (Hagerstown, MD) - URS Corporation

ACEC/MD 2009 ENGINEERING EXCELLENCE AWARDS

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HONOR AWARD IN SPECIAL PROJECTS - Morgantown Coal Barge Unloader (Morgantown, MD) - Moffatt & Nichol

two new Instrument Landing Systems (ILS) and approach lighting systems; new taxiways and hold aprons; and the rehabilitation of the remaining portion of the existing runway and associated taxiways. This project also included land acquisition services.

The majority of the runway paving was performed at night with the runway reopened to traffic each morning as Runway 9-27 is the Airport's only facility capable of accommodating commercial service. One of the critical issues URS's construction management team addressed was maintaining grade control throughout the entire paving program.

Prior to this project, URS met for two years with the State Highway Administration, utilities, airport staff and engineers to work toward a MOU by planning details of moving and bridging US Route 11 associated with the Runway Improvement Program. SHA owns and maintains the relocated US 11, The County and Airport own and maintain the runway expansion and the runway bridges over US 11. Bridges were designed to provide support for upwards of one million pounds. The roadway beneath the bridges was designed to allow for maintenance work under the bridges without interrupting the normal traffic flow.

URS assisted with coordination between the Federal Aviation Administration, Federal Highway Administration and the Maryland State Highway Administration. Before the renovation, URS prepared the Environmental Assessment, as well as a detailed Benefit/Cost Analysis, for all aspects of the improvements.

HONOR AWARD IN SPECIAL PROJECTS
Morgantown Coal Barge Unloader (Morgantown, MD)

submitted by Moffatt & Nichol

To comply with the latest air quality regulations aimed at reducing emissions from coal-burning power plants, a massive effort is underway to install new scrubber technology. While this new program is being implemented, Mirant, the owner of the Morgantown Generation Plant on the Potomac River, is utilizing low-sulfur coal from Columbia as an interim means of reducing harmful emissions. The coal is being delivered to the plant in ocean-going barges up to 20,000 DWT, unloaded by a screw auger Siwertell Unloader and then transported via an elevated 54" conveyor system to landside stockpiles. A new pier measuring 495' long by 54'-6" wide was built to support the rail mounted Siwertell Unloader and waterside conveyor.

The pier was sited in the Potomac River so as to minimize impact to existing shellfish beds and to eliminate the need for dredging. Hence the pier is connected to the plant via a water-side trestle conveyor.

The design and construction of this pier was achieved within an extremely compressed timeframe. Design was initiated in October 2007 and the first barge was unloaded in late July 2008. A modified design/build approach was utilized wherein Moffatt & Nichol worked closely with the constructor, McLean Contracting Company, to develop a structural scheme that could be procured, fabricated, and erected within this compressed timeframe.

The design solution was a unique modular precast concrete structure that minimized the amount of cast-in-place concrete work. This allowed the fabrication of units offsite that could then be assembled rapidly onsite once the piles were driven. Critical path elements such as piles and crane rails were pre-ordered while design of the remaining components was still underway. The pier consists of precast concrete bents supported on 36-inch concrete cylinder piles. The bents support precast concrete crane rail/fascia beams and precast concrete deck slabs. There is also a mooring dolphin at each end of the pier.

While the construction of the pier was underway, Taggart Global was simultaneously fabricating and erecting the conveyor foundations and conveyor system from the landside. Moffatt & Nichol also designed the waterside and landside conveyor foundations.

Even with the compressed time frame and the need to work within inclement winter weather, this \$50M project was brought in on time and on budget. Only ten months after the start of design, coal barges are already delivering cleaner-burning coal to the Morgantown Plant.

GROUP 8: Small Projects

None Entered

GROUP 9: Energy

None Entered



MDOT SECRETARY PORCARI RECOGNIZED WITH 2009 PRESIDENT'S AWARD

At the president's discretion, the American Council of Engineering Companies/Maryland (ACEC/MD) honors an individual whose actions have greatly contributed to the advancement of the consulting engineering profession and the citizens of Maryland. This year's award was presented to Maryland Department of Transportation Secretary John D. Porcari.

Secretary Porcari oversees MDOT, which encompasses five modal administrations that include highways, transit, aviation, maritime and motor vehicles. As Secretary, he also is Chairman of the Maryland Transportation Authority, that is responsible for the state's toll facilities.

He is in his second term as Secretary, having previously served in this capacity from 1999 to 2002. Prior to his appointment as Secretary in January 2007, he served as Vice President for Administrative Affairs at the University of Maryland, College Park.

He received his Bachelor of Arts degree from the University Of Dayton, Ohio, in 1981 and his Master of Public Administration from the State University of New York at Albany in 1985. He has a broad background in business and economic development, environmental planning and public policy. He also works on national transportation issues as a Board Member of the American Association of State Highway and Transportation Officials.

During his tenure at MDOT, Secretary Porcari has:

Transformed the state's capital program for transportation to require all projects to be consistent with the principles of Smart Growth;

Initiated the Baltimore Regional Transit Plan and the Environmental Impact Study for the Purple Line;

Implemented a record highway program including system preservation projects and bridge reconstruction projects;

Worked with Maryland's Congressional delegation to secure \$2.4 billion for the Woodrow Wilson Bridge replacement project;

Directed the \$1.8 billion expansion of Baltimore/Washington International Thurgood Marshall Airport;

In striving to ensure that the state of Maryland has a first-class transportation system that services the needs of the citizens of Maryland, Secretary Porcari has always championed working with the consultant community.

Secretary Porcari's efforts on behalf of the engineering profession and the citizens of Maryland have positively impacted the business climate in which our member firms operate.

In recognition of Secretary Poscari's exemplary service to the citizens of Maryland and the transportation industry, he was recently nominated to serve as Federal Department of Transportation Deputy Secretary. We wish him well and look forward to working with him at the federal level.

ACEC/MD "President's Award" Past Recipients

- 1997 R. Charles Avara (former delegate in MD General Assembly)
- 1998 Gene Lynch (DGS Secretary)
- 1999 David Winstead (former MDOT secretary)
- 2000 None
- 2001 Emil Kordish, PE (past ACEC/MD President; retired-Rummel, Klepper & Kahl)
- 2002 Liz Homer (former Deputy Administrator-SHA)
- 2003 Delegate Casper Taylor (former Speaker of the House in MD General Assembly)
- 2004 Francis Kuchta, PE (former DPW Director for Baltimore City)
- 2005 Carl Scheffel (Fox Industries, Inc.)
- 2006 Neil Pedersen (SHA Administrator)
- 2007 William Gluck (Maryland Department of General Services)
- 2008 Don Sherin (SHA Office of Consultant Services)



AWARD JUDGES PROVIDE VALUABLE SERVICE TO ACEC/MD

We would like to express appreciation for the following judges that played an integral part in the success of our Awards Program. The distinguished panel of judges for this year's awards included:

Engineering Excellence Awards:

- Stu Robinson; A. Morton Thomas & Associates
- Robert Harrington; Charles County Planning & Growth Management
- John Narer; Maryland State Highway Administration
- Holger Serrano; Montgomery County Department of Transportation

- Amar Sokhey, P.E., EBA Engineering, Inc.
- Raymond Streib, Development Facilities, Inc.

Scholarship & Individual Awards:

- Stu Robinson; A. Morton Thomas & Associates
- Stacy Stone; Greenhorne & O'Mara
- Mike Myers; Rummel, Klepper & Kahl
- Amar Sokhey; EBA Engineering
- Harry Stephen; Century Engineering



NEMACOLIN WOODLANDS RESORT IS SITE OF ACEC/MD'S CONFERENCE

ROOM DEADLINE IS MAY 25TH

ACEC/MD's 21st Annual Conference, being held June 17-19, 2009 at the beautiful Nemacolin Woodlands Resort is right around the corner, and you need to get your hotel room reservation today. The cut-off date is May 25th, but when ACEC/MD's room block is gone you will not be able to take advantage of special conference room rates. Nemacolin Woodlands Resort, located in the beautiful Laurel Highlands of Southwestern Pennsylvania, is one of only 21 hotels and resorts in the world to host AAA Five-Diamond lodging and dining.

Situated on 3,000 acres, this Mobil Four-Star and AAA Four-Diamond resort features accommodations ranging from the Chateau Lafayette, patterned after the famous Ritz Paris in France, and the Lodge, featuring the warmth of a classic English country inn, to the AAA Five-Diamond Frank Lloyd Wright influenced Falling Rock boutique hotel that is only a short shuttle bus ride from most conference activities.

Nemacolin also boasts an impressive collection of restaurants and lounges, including the Mobil Five-Star and AAA Five-Diamond Lautree, a forward thinking fine dining experience with French flair. For shoppers, there are 14 specialty shops in Heritage Court. Culture is also an experience at Nemacolin, home to a multi-million dollar art collection, cooking classes and wine tasting in the state-of-the-art Académie du Vin.

In addition to the internationally acclaimed Woodlands Spa, the resort offers 36 holes of golf on two championship courses—the Pete Dye designed, PGA-tested Mystic Rock and the traditional Links Course. For shooting of another sort, guests should visit the Nemacolin Field Club, an outdoor sporting facility on 140 acres complete with a 30-station Shooting Academy, spacious lodge, wing shooting, and Orvis-Endorsed Fly Fishing.

Pedal boat rides, kayaks, and more are

available at the Marina @ Paige's Beach, or for a more rugged trail experience, there's the 18-mile Off-Road Driving Academy, featuring Hummer® H1 and H2 vehicles, as well as the Toyota FJ Cruiser. Take a walk on the "wild side" at their Wildlife Academy, home of the Equestrian Center, animal nursery, petting zoo, animal habitats, and educational programs. Black bears, zebra, buffalo, tigers, hyenas, moose, and wolves are just some of over 100 animals that currently call Nemacolin home.

We invite you to join your colleagues, friends, and participants in the ACEC/MD Leadership Class for informative sessions, a pool party, a festive banquet, a technical tour of Frank Lloyd Wright's acclaimed Fallingwater or a round of golf.

Tentative Schedule for Conference

Wednesday, June 17, 2009

3:00 – ACEC/MD Executive Committee Meeting

6:30 – Welcome Reception

Thursday, June 18, 2009

7:00am – Breakfast

9:00am – Golf at Mystic Rock

9:30am - Spouses/Non Golfers Technical Tour of Frank Lloyd Wright's Fallingwater & Kentuck Knob

7:00pm – Pool Party

Friday, June 19, 2009

7:00am – Breakfast

9:00am – Sessions:

“Rebuilding the Pennsylvania Turnpike” – Michael J. Flack, PE, Pennsylvania Turnpike Commission

“Government Use of Consultants Today & Tomorrow” – Mark J. Flack, Director Office of Construction, Maryland State Highway Administration

“Critical Federal Issues Impacting Your Firm” – Steve Hall, ACEC Vice President of Government Affairs

THANKS FOR BEING A SPONSOR

A special thanks goes out to the firms that went the extra mile and cosponsored this year's Awards Banquet. This event would not be a success without their participation!

PLATINUM:

Rummel, Klepper & Kahl

URS Corporation

GOLD:

Century Engineering

Greenhorne & O'Mara

Johnson, Mirmiran & Thompson

KCI Technologies

Schnabel Engineering

Whitman, Requardt & Associates

Whitney, Bailey, Cox & Magnani

SILVER:

A. Morton Thomas & Associates

Development Facilitators

Dewberry

DMJM Harris (AECOM)

George, Miles & Buhr

Kibart

McCormick Taylor

Wallace, Montgomery & Associates

BRONZE:

Ames & Gough

Constellation Design Group

EBA Engineering



11:30am – Reception and General Membership Luncheon

2:00pm - Leadership Program “Lessons in Leadership”

6:00pm – Reception and Banquet

(All events and times are subject to change.)



MEMBER NEWS

- **DEWBERRY** recently announced that they have relocated their Baltimore office to:

3106 Lord Baltimore Drive, Suite 110
Baltimore, MD 21244

- **EBL ENGINEERS** is pleased to announce the election of **Robert H. Stratemeyer, PE**, as President of the Building Congress & Exchange of Metropolitan Baltimore.
- **GEORGE, MILES & BUHR, LLC (GMB)** is proud to announce that the following employees recently became LEED Accredited Professionals (LEED APs):

Judy A. Schwartz, PE, LEED®AP

Stephen L. Marsh, PE, LEED®AP

Seth A. Nace, PE, LEED®AP

Susan J. Frederick, AIA, LEED®AP

Morgan H. Helfrich, Associate AIA, LEED®AP

James N. Richardson, III, LEED®AP

- **GREENMAN PEDERSEN's James W. Blake, PE, PLS**, was recently appointed Chair of ACEC's 2009-2010 Federal Agencies & Procurement Advocacy Committee.
- **JOHNSON, MIRMIRAN & THOMP-**

SON is pleased to announce that **Dr. Timothy Foresman** has joined the firm's Information Technology (IT) Division as a Senior Associate, assisting with the development of "Sustainable Solutions" for their GIS business initiative and green engineering services.

- **KCI TECHNOLOGIES' Harvey Floyd** was recently appointed Vice-Chair of the ACEC 2009-2010 ACEC/PAC Champions Committee.
- **W B C M** welcomes **Steven Bower, AIA** as a Director of Healthcare Architecture.



ACEC/MD SCHOLARSHIP AWARDS PRESENTED TO DIVERSE STUDENTS

In order to assist worthy students pursuing a career in engineering or land surveying, the American Council of Engineering Companies/Maryland (ACEC/MD) awards three \$2,500 scholarships. Two scholarships, sponsored by ACEC/MD, go to selected students majoring in either civil, mechanical or electrical engineering, or surveying, attending an accredited college or university. The third scholarship, the William R. Kahl Scholarship, sponsored by long-time member firm Rummel, Klepper & Kahl (RK&K), is awarded to a selected civil engineering student.

At the end of 2007, the engineering community of Maryland lost two giants with the passing of both ACEC/MD past president Emil Kordish, P.E., and City of Baltimore DPW Director George Winfield, P.E. We recognize their legacy by presenting the two ACEC/MD scholarships in their honor.

To qualify for a scholarship, a student must be a U.S. citizen pursuing a Bachelor's or Master's degree, or PhD, in an Accreditation Board for Engineering and Technology (ABET)-approved engineering

program or in an accredited land surveying program. Candidates must be entering their sophomore, junior, senior, fifth or graduate year in the fall of this year.

ACEC/MD 2009 Scholarship Awards

Kehat Falik, a resident of Silver Spring, is a recipient of an ACEC/MD Scholarship. He is a Junior at the University of Maryland, College Park, pursuing a BS in Civil Engineering. With an impressive 3.82 GPA, Kehat previously interned with Skanska USA Civil in New York. He is a member of the National Society of Collegiate Scholars, ASCE, and is the Scholarship Chair at Chi Phi Fraternity. He also volunteers at a local school to read books to second grade children and by assisting in preparing the classrooms at the beginning and end of each school year.

Darlisa Thomas, a resident of Baltimore, is the recipient of an ACEC/MD Scholarship. A sophomore at Morgan State University majoring in Civil Engineering, Darlisa is no stranger to the engineering profession and our member firms, having previously worked for Prime Engineering; Sabra, Wang &

Associates; and MDOT in their CADD Departments. Darlisa possesses a 3.083 GPA and is a member of the National Society of Black Engineers.

William R. Kahl 2009 Scholarship

Michelle Oswald is the recipient of the William R. Kahl Scholarship presented to the outstanding Civil Engineering student in this year's competition. A resident of Timonium, Michelle is pursuing a Doctor of Philosophy in Civil Engineering at the University of Delaware, where she achieved a perfect 4.00 GPA in the university's Masters of Civil Engineering program. Always active in student organizations, Michelle is a past president of the Society of Women Engineers, a member of ASCE, Woman In Engineering, Institute of Transportation Engineers, and a Transportation Research Board Student Affiliate Member. Having previously worked for Whiting Turner and a local engineering firm, Michelle possesses her EIT and is LEED accredited. She is also a competitive swimmer and has coached disabled children and adults.



YOUNG PROFESSIONAL AWARD GOES TO AMT'S GREG FOX

ACEC/MD's Young Professional award recognizes the accomplishments of our member firms' young engineers by highlighting their interesting and unique work, and the resulting important impact on society. The 2009 ACEC/MD Young Professional of the Year Award recipient is Gregory Fox, P.E.

With eight years of experience in general engineering with a concentration in water resources and hydraulics (H&H) studies, Greg Fox, is a valuable team member at member firm A. Morton Thomas & Associates (AMT).

Greg has performed H&H studies and water resources design for transportation projects, stream restoration, watershed studies, and site design for school construction projects in many Maryland counties. He has also organized, performed, managed, and reported on a study of sediment control measures and methods on the MD 43 Extension and Hampstead Bypass projects. These studies were performed in part to aid in the development of better E&S methods for the current InterCounty Connector project.

According to principals at AMT, Greg has done an excellent job managing these projects for clients, while training new employees who recently joined his team.

A graduate of Virginia Tech University with a Bachelors degree in Civil Engineering, Greg is also very active in ASCE scholarship fundraising.

ACEC/MD is proud to recognize the accomplishments of its member firms' young professionals, and very much appreciates their contributions to the profession and society.



PLAN TO ATTEND THESE UPCOMING EVENTS!

42ND ANNUAL "AFTERNOON AT THE CLUB"

PROCEEDS TO BENEFIT THE SCHOLARSHIP PROGRAM

MONDAY, MAY 4, 2009

Rain or Shine!

Greystone Golf Course

2115 White Hall Road, White Hall

Lunch - 11:30 AM; GOLF - Shotgun Start 1 PM; Cocktails - 6:30 PM;

Dinner - 7:00 PM



ENVIRONMENTAL BUSINESS OPPORTUNITIES FORUM

Wednesday, May 21, 2008

The Engineers Club (Garrett-Jacobs Mansion)

11 West Mount Vernon Place, Baltimore

Registration/Continental Breakfast: 8:00 AM

Program: 8:30 AM—Noon



21ST ANNUAL CONFERENCE

June 17-19, 2009

Make your reservations today at Nemacolin Woodlands Resort,

Farmington, PA



Contact the ACEC/MD for cost and additional information on these upcoming events.

AMERICAN COUNCIL OF ENGINEERING COMPANIES/MARYLAND

326 NORTH CHARLES STREET, SUITE 202

BALTIMORE, MARYLAND 21201-4310

POSTMASTER: ADDRESS CORRECTION REQUESTED

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March-April, 2009

PROFESSIONAL DEVELOPMENT

- April 30** *WTS Baltimore's Annual MDOT Luncheon.*
Baltimore. For more information contact Marisol Peralta at 410-767-0572 or mperalta@mtamaryland.com.
- April 30 –** *Symposium on Building Envelope Sustainability: The Future is in the Balance*
May 1 Washington, DC. Presented by RCI Foundation. For information, call 800-828-1902 or go to rcifoundation.org.
- May 5** *Designing Masonary to the 2008 MSJC / 2009 IBC & Inspection of Structural Masonary Construction*
Herndon, VA. Presented by The Masonary Society. To register, call 303-939-9700 or go to www.masonarysociety.org.
- May 6** *Construction and Energy Workforce Solutions Conference*
Baltimore. Presented by the Governor's Workforce Investment Board. For information contact ssareles@gwilb.state.md.us.
- May 28-29** *Recognizing the Snares and Pitfalls in A/E/C Industry Contracts*
Philadelphia, PA. Presented by ACEC.
- June 3-6** *The Business of Design Consulting: Managing to Success in a Challenging Economic Environment.*
Portland, ME. Presented by ACEC.
- June 8-9** *Advanced Project and Program Management for the Engineering and Construction Industry.*
Cambridge, MA. Presented by ACEC.
- June 18-19** *Applying Expertise as an Engineering Expert Witness.*
Philadelphia, PA. Presented by ACEC.

