

WORKING TOGETHER



consultants in the geosciences,
materials and the environment

SPRING 2009

Geotechnical Design at U of M Mosher-Jordan Renovation and Hill Dining Center

When students began moving into the completely renewed 1920's gothic Mosher-Jordan Residence Hall at the University of Michigan last fall, they discovered air-conditioned rooms, access to wireless Internet and the ability to choose from a variety of food stations in the adjoining new Hill Dining Center. Designed by Goody Clancy (Boston, MA), the Hill Dining Center seats approximately 700 people and features a marketplace concept in campus dining. This project is a major accomplishment in the University's Residential Life Initiatives to revitalize and expand students' living experience on campus and to strengthen the connection between living and learning at the University of Michigan.

The project team understood early-on that designing and constructing the 43,500 square-foot dining center addition to a historic residence hall, would not be simple or straight forward. In fact, designing plans to underpin the existing five-story, masonry residence hall and protect it during construction, as well as designing foundations for the new dining center, was quite an engineering feat.

SME worked closely with the University of Michigan, Goody Clancy, Albert Kahn Associates, and structural engineer LeMessurier Consultants (Cambridge, MA) throughout the project. During the design phase, SME conducted a geotechnical evaluation for the dining center that included recommendations for subgrade preparation and earthwork, grade-slabs, temporary slope stability, underpinning, temporary earth retention, foundations, below-grade walls and drainage, and construction considerations.

The east footings of the dining center are located within inches from the footings that support Mosher-Jordan. Additionally, the footings for the dining center are three to ten feet deeper than the existing Mosher-Jordan foundations. SME worked closely with the project team to design earth retention and underpinning systems along the entire 500-foot-long west side of Mosher-Jordan. We prepared detailed plans identifying the bracing, shoring, drainage and underpinning requirements.

SME developed solutions to other site challenges. We worked closely with Goody Clancy and Walbridge Aldinger providing design and consulting services to connect the buildings and maximize the usable dining center square footage. The design required removing, reshaping and underpinning existing footings. We also designed foundations around an existing utility tunnel and a temporary earth retaining wall along the north side of Mosher-Jordan.

During earth retention and underpinning construction we worked closely with Walbridge Aldinger and the earth retention/underpinning contractor, Hardman Construction Company to verify the construction was performed in compliance with the design drawings. This included monitoring the installation and load testing of tiebacks for the retaining wall and monitoring the performance of the earth retention system and adjacent structure during construction. Additionally, we provided construction materials services related to foundations, placement of engineered fills,

Connected to the back of the hall, the new Hill Dining Center features the marketplace concept in campus dining, offering state-of-the-art display cooking of fresh cuisine. *Image courtesy of U of M.*



SME worked closely with the project team to design an auger cast-in-place pile wall using mini-piles to serve as earth retention along the west side of Mosher-Jordan. *Image courtesy of U of M.*



concrete and reinforcing steel, masonry, fireproofing, structural steel, waterproofing, and slate roof restoration.

Larry Bowman, Sr. Project Manager with the University of Michigan states, "Throughout the project there were challenging schedule issues and numerous site and logistical hurdles that required tremendous teamwork. The hard work paid off and we completed the project on schedule. From earth retention and foundations to the slate roof restoration, SME was there for us providing creative, practical solutions to complicated issues."

For more information, contact Joel Rinkel, PE at rinkel@sme-usa.com.



SME Earns Best and Brightest Award

MBPA presented our Human Resources team with the "Metropolitan Detroit's 101 Best and Brightest Companies to Work For" Award. Pictured left to right: Elaine Nading, PHR and Sherri Fountain, SPHR (SME), and Jennifer Kluge (MBPA).



For the second year in a row, SME has been named one of "Metropolitan Detroit's 101 Best and Brightest Companies to Work For" by the Michigan Business and Professional Association. The awards honor companies in southeast Michigan for their exceptional work environment and exemplary human resources practices. The selected companies are recognized for excellence in communication, compensation and benefits, diversity and multi-culturalism, employee education and development, employee engagement and commitment, recognition and retention, recruitment and selection, community initiatives, and work-life balance.

Lucas County Arena — Bringing Hockey Back to Toledo

Concrete is being placed in the joists that will support the floor.



Hockey is on its way back to Toledo, Ohio, and it's getting a major upgrade. Toledo's revamped East Coast Hockey League (ECHL) team, the Toledo Walleye, will take to the ice at the new Lucas County Arena. The 8,000-seat, multi-purpose venue will be nestled in the heart of downtown, within walking distance of the Mud Hen's Fifth Third Field and the Seagate Convention Centre. The arena will include 20 private suites, 750 prestige club seats, a club-level lounge, a banquet facility, and a team merchandise store.

SME worked with Lathrop Company and Lucas County providing construction materials services (CMS) for the 270,000 square-foot, cast-in-place concrete structure. To create large, open concourses, the project team constructed the floors using a pan

joist system. The system includes forming a plywood table with scaffolding underneath and setting metal, U-shaped pans on top, to form the joists that will support the floor. Next re-steel is placed in the beams, joists, and floor slab. Concrete is then placed in the joists, beams, and slab to form one monolithic piece. Once the concrete sets, the scaffolding, table, and pans are removed. Our services included CMS related to concrete testing, re-steel review, density testing, and masonry review.

Fans get ready – the puck is expected to drop in time for the 2009-2010 hockey season!

Joe Zunk, LEED AP, General Superintendent, with Lathrop Company says, "We previously worked with SME on the Fifth Third Field project and they did a superb job. It was great to have them back for another monumental project. Adam Stuber, EIT, Senior Engineer at SME, was a major part of our team. He worked out constructability issues and took a big load off us so we could concentrate on moving the project forward."

For more information, contact Adam Stuber, EIT at stuber@sme-usa.com or Keith Toro, PE at toro@sme-usa.com.

Historic U of M Roof

The roof on Martha Cook Hall was carefully restored in just 13 weeks and replicates the original construction. SME has also provided slate/copper roof consulting at UM's Mosher-Jordan Hall, and Joan and Sanford Weill Hall.



Residents of the University of Michigan's (UM) Martha Cook Hall have a new roof over their heads. The hall, which opened in 1915 as a female dormitory, was the first structure on campus to be designed in the Collegiate Gothic mode, with patterned brick, ornamental windows, deep buttresses, and a slate/copper roof. Much care was given by the project team to replicate the original roof thereby preserving the character of this historic building.

SME provided on-site assistance addressing both historical and quality aspects of the project, so replication was as accurate as possible. We collaborated with the design architect, and served as the owner's representative during removal and replacement of the roof. We conducted testing to verify the quality of the new slate, verified the copper seams were properly soldered, provided repairs for corrosion of structural steel, and performed historic mortar analysis to match the composition of the original mortar.

Trudy Zedaker-Witte, Construction Project Engineer Senior, with UM says, "This project was challenging because of its short time frame and unique structural features. SME brought value to the project through their extensive knowledge of copper and slate. They acted as our eyes and ears in the field, providing timely solutions to structural issues."

For more information, contact Mark Michener, CDT at michener@sme-usa.com.

W.K. Kellogg Expansion

The Kellogg Company is growing in Cereal City. The company is currently expanding the W.K. Kellogg Institute for Food and Nutrition Research (WKKI) facility in downtown Battle Creek. The new 157,000 square-foot pilot plant and office space addition will expand the existing global center for research and innovation activities. Kellogg has invested \$40 million in the expansion, with a projected \$14 million investment in pilot plant equipment over the next 10 years.

SME was retained by Battle Creek Unlimited (BCU) in 2007 to manage the City of Battle Creek's Brownfield Redevelopment Program and played an important role in the WKKI expansion project. SME and BCU developed a plan to acquire brownfield financing for the project. SME worked with BCU and Kellogg to define eligible brownfield activities and costs, authored a Brownfield Plan and an Act 381 Work Plan, and helped BCU manage the local and state approval processes. As a result, WKKI was approved for \$2.7 million in Tax Increment Financing (TIF) to reimburse environmental and infrastructure improvements needed to support the redevelopment. WKKI also received an Agricultural Renaissance Zone designation. We are now providing project management and cost-tracking oversight for activities relating to redevelopment and construction.

BCU also acquired three brownfield sites adjacent to the WKKI property to accommodate the expanded facility. SME assisted BCU with environmental due diligence, including Environmental Site Assessments, Due Care Plans, and asbestos evaluations at these sites. Before construction of the WKKI expansion began, SME provided oversight for demolition of existing buildings on the

The expanded WKKI facility will include food and packaging review rooms, chemistry labs, test kitchens, development labs and a large production pilot plant where new ideas for food products will be tested prior to full-scale production. *Rendering courtesy of Kellogg Company.*



acquired parcels by preparing bid plans and specifications, assisting in selection of a demolition contractor, and monitoring demolition activities. We also conducted a geotechnical evaluation to support the foundation design of the WKKI expansion.

Karl Dehn, President and CEO of BCU, says, "SME's expertise guided the project team and helped keep this complicated, fast-track project on task and on schedule. We appreciate SME's responsiveness and ability to always be available to solve challenging brownfield issues."

For more information, contact James Harless, PhD, CHMM, RBP at harless@sme-usa.com or Davin Ojala at ojala@sme-usa.com.

Geothermal Technology at Battle Creek Central High School Campus

The Battle Creek Public School district plans to use geothermal technology in their Phase I Facilities Plan. Geothermal heat pumps will be used to heat and cool the renovated Central High School and Alumni House addition in Battle Creek, Michigan. This green technology is currently being used in hundreds of schools in the United States and has a proven record of dramatically lowering operating and maintenance costs, and increasing classroom comfort.

Initially, the project architect (Architects Incorporated, PC) and mechanical engineer (Peter Basso Associates, Inc.) planned to install a horizontal, closed-loop geothermal system approximately six feet beneath the renovated C.W. Post Athletic Field complex. To design the system, Peter Basso needed data on the heat conductance of soils in that area to calculate the length of the closed-loop piping. As part of our geotechnical evaluation for the school, we evaluated the thermal properties of the soil in the proposed loop installation area and provided information to Peter Basso for use in the design of the system.

Subsequently, SME suggested that due to the geology in the area, extensive construction cost savings may be achieved if an open-

loop (well) geothermal system was used instead of a closed-loop system. SME proposed changing to an open-loop system that uses water wells because the school was located above a very productive groundwater aquifer. SME provided hydrologic services for the installation of two water production wells for the heating and cooling systems peak capacity of 1,700 gallons-per-minute (gpm). Our services included aquifer stress testing to confirm a safe yield of groundwater for the system and to evaluate the potential impact pumping would have on existing sites in the area. Due to favorable hydrogeologic assessment results, the school district decided to move forward with the proposed open-loop system. Currently, construction is underway on this system.

In addition, SME provided geothermal consulting for a proposed vertical, closed-loop geothermal system at Battle Creek's Valley View Elementary School. Our services consisted of coordination of a 300-foot deep, closed-loop pilot boring and a 40-hour heat conductivity test.

For more information, contact Nick Larabel, CPG at larabel@sme-usa.com.

Grand River Road Reconstruction Earns “Award of Excellence” from MCPA

The Michigan Concrete Paving Association awarded the Grand River Road Reconstruction project team an “Award of Excellence” in the Urban Arterials > 30,000 square yards category at the recent 2009 Concrete Paving Awards Dinner. Award plaques were presented to the Livingston County Road Commission, Orchard Hiltz and McCliment, Inc., SME, and Six-S, Inc.

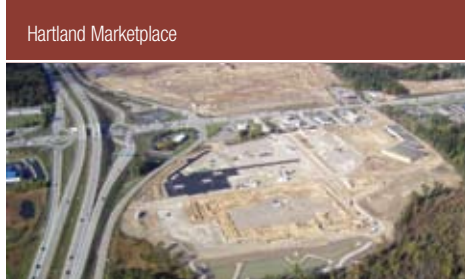
The roughly \$8.1 million project included removal of the old deteriorated composite pavement system, and widening Grand River Road between US-23 and Pleasant Valley Road from two lanes to three, four and five lane configurations. The two-mile stretch

of pavement features a state-of-the-art concrete mix design. It was the first time that LCRC and SME used both a dense graded aggregate specification for the overall master stone gradation for the concrete, and a special provision covering the screening of combined aggregates and cements for Alkali-Silica Reaction (ASR) susceptibility. Reconstruction required numerous gate wells for watermain, sanitary sewer manhole connections and extensive new storm water piping and structures. In addition, five bioswales were created to sustainably address storm water issues.

Grand River Road from US-23 to Pleasant Valley Road is a primary commuter route and an emergency bypass route for the I-96 freeway.



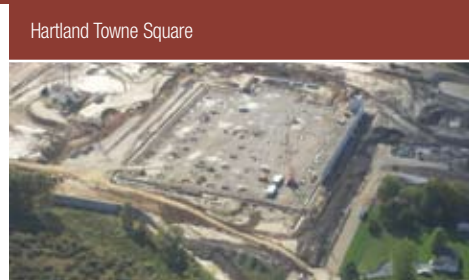
Shop ‘til You Drop in Hartland Township



Residents of Livingston County are getting ready to shop ‘til they drop. Soon, they will have numerous new stores to choose from, as construction is underway on two major retail developments in Hartland Township.

HARTLAND MARKETPLACE

On the south side of M-59 at US-23, Grand Sakwa is developing Hartland Marketplace, a 325,000 square-foot shopping center. The development is anchored by a Wal-Mart that is being constructed by Quadrants, Inc. At this site, SME provided environmental due diligence consulting, geotechnical engineering, and pavement design engineering to prepare the 41-acre site for construction. We also helped the project team with preparing a building for demolition and evaluating the feasibility of renovating other existing buildings at the site. Our building reuse evaluation included reviewing existing foundations, as well as building components such as walls, steel beams, and connections.



Gary Cooper with Grand Sakwa states, “From due diligence through construction completion, SME has provided timely and high quality services.”

Bill Clark, Quadrants CEO, asserts, “SME quickly resolved geotechnical challenges and has been instrumental in keeping the project running on schedule. This project is going fantastic and we appreciate the technical expertise SME brings to this project.”

HARTLAND TOWNE SQUARE

Across M-59 on the north side, Ramco-Gershenson Properties Trust is developing an 80-acre site into a 600,000 square-foot phased development, Hartland Towne Square, anchored by Meijer. At this site, we provided due diligence consulting, environmental and geotechnical evaluations, and pavement design engineering. Our site evaluation process identified several subsurface challenges, one of which was a two-to-three acre area that

needed ground improvement. In this area, we implemented a surcharging program to strengthen soil conditions by accelerating settlement of the soft subgrade. Surcharging has been very successful with soils settling up to 14 inches in about nine months.

Ross Gallentine, R.A., Project Manager for Construction, with Ramco-Gershenson says, “SME has done a great job and continues to play an integral role in the project. We value their solutions to environmental, geotechnical and constructability challenges, as well as the outstanding job their team is doing in the field.”

INFRASTRUCTURE IMPROVEMENTS

Grand Sakwa, Quadrants and Ramco-Gershenson and SME are working together on roadway improvements bordering the developments. SME is providing geotechnical engineering, pavement design, and construction materials services for the relocation of Hartland Road through Hartland Towne Square; the widening of Blaine Road; improvements to Clark Road; and construction of Rovey Drive, which will connect Hartland Road with Clark Road. We are also providing geotechnical engineering and pavement design for the reconstruction of M-59 into a boulevard.

For more information, contact Joel Rinkel, PE at rinkel@sme-usa.com.

Providence Park: A Beacon of Healing

St. John Health recently opened its doors to the new Providence Park Hospital, a \$224 million investment that's part of a 200-acre health care campus in Novi, Michigan. When patients visit the seven-story hospital, they notice an atmosphere of serenity and a positive environment for healing. The facility is one of a handful of hospitals in the country to offer patients the convenience of acuity-adaptable rooms, meaning that patients can remain in the same room throughout their hospital experience, even as their condition changes, thanks to a higher level of technology and equipment, and specially trained staff.

Throughout the project, SME worked with the design and construction team. During the design phase, we worked closely with St. John Health, Barton Malow/White Construction, NBBJ, and Hubbell Roth and Clark, Inc.

Our services included geotechnical and pavement engineering evaluations for the 500,000 square-foot hospital and new ring road.

During construction, we worked with Barton Malow/White Construction providing construction materials testing and monitoring of the new facility and ring road encircling the campus. Our services included providing field observation and materials testing related to evaluation of subgrade soils, construction of foundations, placement of engineered fill, and structural concrete, resteel reviews, structural steel fabrication and erection, fireproofing, and bituminous and Portland concrete pavement construction.

SME has also assisted with the Staybridge Suites Hotel, the Orthopedic Center, and a 200,000 square-foot medical office building at the Providence Park campus.

The new Providence Park Hospital is one of six buildings at the health care campus in Novi. *Image courtesy of Barton Malow.*



Historic Bridge Restoration in Port Huron

SME used Ultrasonic Pulse Velocity to non-destructively evaluate concrete beams.



The historic Seventh Street Bridge in downtown Port Huron is undergoing major restoration. Listed on the National Register as a significant engineering work, the Seventh Street Bridge is the only single-leaf bascule, or moveable bridge in the country.

The project team, consisting of DLZ Michigan, Inc.; HNTB; and SME, is rehabilitating the 75-year-old structure. The project includes repairing/improving the existing spans, reconstructing the abutments, constructing a new control house, placing pavements for the bridge approaches, and constructing new mechanical and electrical systems.

Over time, the bridge abutments moved, causing distress to the structure. To stabilize the abutments, concrete beams were installed between each abutment, 30 feet below the waterline in the riverbed. Following installation, DLZ needed to verify the internal placement quality of the hardened concrete beams. To accomplish this, SME collaborated with DLZ and ultimately recommended a specialized nondestructive testing method using Ultrasonic Pulse Velocity. This method records compression waves through the material to identify anomalies or deficiencies. SME worked in extreme winter conditions, sometimes chipping through one foot of ice to reach the concrete beams. Once we reached them, we scanned the tops and ends of the beams creating over 50 vectors per beam. The results of this comprehensive evaluation showed no anomalies or deficiencies. SME also provided construction materials services related to density, soils, concrete, and structural steel.

Ron Woolfe, PE, Construction Department Manager, with DLZ Michigan, Inc. says, "This project is challenging because we are basically making a new structure out of an old one. SME provided an innovative solution to determine if there were voids in the new concrete beams and their quality control process was integral to this phase of the project. SME was always available, even on short notice, to be on site when we needed them. Their cooperation and responsiveness were very important."

In Memoriam: Starr D. Kohn, PhD, PE (1953-2009)



It is with deep sorrow and regret that we report that **Starr D. Kohn, PhD, PE** passed away unexpectedly on January 31, 2009. The funeral was held on February 6, 2009 at Old St. Patrick Church in Ann Arbor, Michigan.

Starr began his career at SME in 1978 and, along with the great team he built in our Pavement Services group, helped advance pavement research and technologies throughout the Midwest, nationally and internationally. For over 30 years, he was dedicated to his passion—pavement engineering excellence. The strong work ethic, intellect and quality standards he brought to his work eventually propelled him to positions as Principal, Senior Vice President, Group Leader for Engineering Services, and appointment to the SME Board of Directors.

Starr was fiercely devoted to his staff and always put their needs before his own. He demanded excellence and innovation, and challenged them to “think outside the box” on every project. He gave generous praise for exceptional work. And, in return, he was rewarded with fierce loyalty and respect.

Starr held numerous leadership positions in professional organizations including the Transportation Research Board, Road Profiler Users' Group, American Society of Civil Engineers, American Concrete Institute, Association of Asphalt Paving Technologists, and the American Council of Engineering Companies of Michigan. He received the Engineering Excellence Award from the Michigan Society of Professional Engineers for a pavement distress study in Carreteri Duarte, Dominican Republic, an Outstanding Service Award for his work on the ACEC/Michigan Transportation Committee, as well as numerous other awards recognizing the fine work of his team.

Starr was a man who lived life to the fullest. He was a gourmet cook and loved boating, golfing, reading, gardening and pampering his pets. He was smart and funny, kind-hearted and caring, and everyone who knew him loved him. We fondly remember Starr and thank him for touching our lives in so many ways. He is missed by all.

Revitalizing Downtown Lansing

The new Michigan State Police Headquarters will consolidate three existing police facilities, providing a more centralized location for the state's top safety team.
Image courtesy of Hobbs + Black Architects.



There's a buzz in the air in downtown Lansing where several new economic development projects, valued at \$500 million, are underway! SME has been working with an amazing group of public and private sector partners on several projects that will revitalize the city's urban landscape, including the historic Ottawa Street Power Station redevelopment, the Capital Club Towers condominium project, the Market Place project, and the new Michigan State Police (MSP) Headquarters.

At the five-story MSP Headquarters, SME has been working with owner/developer, River Street Triangle, LLC, as well as Hobbs + Black Architects, Ehler/Bryan, Inc., and Clark Construction Company providing multi-disciplined services.

Early on in the project, SME provided environmental diligence consulting and conducted a geotechnical evaluation at the brownfield site. We evaluated several foundation systems to support the 148,000 square-foot facility on urban fill. Ultimately, the use of aggregate piers (stone columns) was selected by the design team to improve the existing fill so that it would be suitable to support shallow spread foundations and grade slabs, while addressing site specific environmental and historical site use considerations. Hayward Baker performed two plate load tests over completed stone columns to verify the suitability of installation. SME worked with Hayward Baker and documented the load test results and recorded field installation parameters.

In addition to foundation installation, SME has worked closely with the project team during construction providing environmental consulting and construction materials services for earthwork, floor slabs, structural steel, masonry, and pavements.

Upon completion later this year, River Street Triangle plans to seek LEED certification for its project. The new Michigan State Police Headquarters will be a vital cornerstone to the revitalization of Lansing's downtown riverfront.

Jake Chapman, Director of Development at River Street Triangle, LLC, stated, “We appreciate SME’s help to work through tough brownfield and historical site usage issues. Although the cold winter weather has created challenges for masonry construction, SME has done a great job working with us and the team to confirm the right masonry procedures are being followed. We’re pleased the project is running on schedule.”

People

TEAM ADDITIONS

Our Plymouth office welcomed **Shawn Arndt**, Staff Geologist; **Sue Docking**, Information Systems Specialist; **Steve Good**, CAD Manager; **Chris Gray**, Environmental Technician; and **Tiffany Vorhies**, Materials Specialist. **Jason Cumbers**, PE, Project Engineer, and **Alicia Schlaudt**, Staff Geologist, joined our Kalamazoo office.

TRANSFERS

Paul Anderson, EIT, transferred from our Plymouth office to our Traverse City office. **Sara Lepine** transferred from our Bay City office to our Plymouth office.

CERTIFICATIONS/REGISTRATIONS

Chris Gray and **Jeff Latham** became Soil Erosion and Sedimentation Control Inspectors through the Michigan Department of Environmental Quality (MDEQ). **Chris Gray, Jason Lafayette** and **Jeff Latham** received the Construction Storm Water Operator certification through the MDEQ. **Larry Jedele, PE** became a Professional Engineer in Tennessee. **Amanda Katt-Cassidy, SMSI, CDT, LEED AP** became a LEED Accredited Professional through the U.S. Green Building Council. **Jason Lafayette** received Asbestos Inspector Accreditation from the State of Michigan. **Simon Murley, PE** became a Professional Engineer in Michigan. **Matt Rabish, CWI** became a Certified Welding Inspector through the American Welding Society and obtained Dye Penetrant Level II certification. **Bob Siebenaller, SMSI** became a certified Structural Masonry Special Inspector through the International Code Council. **Michael Thelen, PE** became a registered Professional Engineer in Indiana and Ohio. **John Zarzecki, CET, CDT, NDE-III** became a Spray-Applied Fireproofing Special Inspector through the International Code Council.

PROFESSIONAL/ASSOCIATIONS

Myndi Bacon, PE was elected President, and **Charlie Krug, EIT** was elected to serve as a Director of the ASCE Southwest Michigan Branch. **Andy Bolton, EIT** was elected Secretary-Treasurer of the ASCE West Michigan Branch. **Sherri Fountain, SPHR** is serving on the Lawrence Technological University's Engineering Industrial Advisory Board. **Larry Jedele, PE** was elected Treasurer of the Geo-Institute of ASCE. **Laurel Johnson, PE** was appointed to the Sterling Heights Board of Code Appeals. **Amanda Katt-Cassidy, SMSI, CDT, LEED AP** is serving on the Masonry Institute of Michigan's Masonry Advisory Board as Secretary of the Cleaning Committee and Co-Chair of the Cleaning Committee Environmental Issues Group. **Cheryl Kehres-Dietrich, CGWP** is Co-Chair of the 2009 Building Connections networking/fundraising event sponsored by CAM and the Boy Scouts of America. **Jeff Krusinga, PE, GE** is serving as Secretary for the MSPE Southwestern Chapter. **Ed Lindow, PE** was re-elected to the International Concrete Repair Institute Board of Directors. **Brian Moynihan, PE** serves as Membership Chair for the Grand Rapids Chapter of the Construction Specifications Institute. **Keith Toro, PE** was named Head Judge for the 2009 ASCE Regional Concrete Canoe Competition, held in conjunction with the North Central Regional Student Conference.

Hayder Al-Hilal, EIT, SMSI and **Sara Lepine** earned Master of Science degrees in Construction Management from Lawrence Technological University. **Chris Naida, EIT** obtained a Master of Science degree in Civil Engineering with an emphasis in Geotechnical Engineering from the University of Michigan. **Sarah Redoutey** earned an Associates degree in General Business from Schoolcraft College.

PRESENTATIONS/PAPERS

Chris Byrum, PhD, PE prepared and presented a paper entitled, "Three Geotechnical Instrumentation Projects in Michigan" at the ASCE 15th Annual Great Lakes Geotechnical/Geoenvironmental Conference in Carmel, Indiana. He presented "Case Studies of Foundations over Artesian Groundwater Formations" at the County Road Association of Michigan (CRAM), Vacationland Region Council meeting in Gladwin, Michigan. At the Transportation Research Board Conference, he presented "Considering Slab Warping in the Context of Reliability Based Pavement Design." Chris also gave an "Introduction to Pavements," lecture at MSU to undergraduate Construction Management students.

Dan Cassidy, CPG was a guest lecturer on Redeveloping Brownfield Sites at an MSU Construction Management Class.

James Harless, PhD, CHMM, RBP presented "Mason Run" at the IEDC International Conference in Atlanta. He also presented, "Adapting Hazardous Materials Management Expertise and Experience to Support Green/Sustainable Development," at the ACHMM National Conference in Minneapolis.

Tim Mitchell, PE gave a presentation on the Miller Canfield Building project in downtown Kalamazoo for ASCE Michigan.

Rohan Perera, PhD, PE presented, "Use of Profile Data to Detect Concrete Paving Problems" at the 20th Annual Road Profiler Users' Group (RPUG) meeting held in Austin, Texas. Rohan also co-authored a paper entitled, "Application of Cross Correlation Technique to Evaluate Profile Data" that was published in the proceedings of the 6th Symposium on Pavement Surface Characteristics. Rohan presented the paper at this symposium which was held in Portoroz, Slovenia.

Bob Rabeler, PE presented courses on "Geotechnical Engineering" and "Special Inspections" at the Michigan Building Inspectors Training Program in Higgins Lake, Michigan. He also presented "Geotechnical Engineering" to the Genesee County Building Officials.

Jason Schwartzenberger, PE and **Josh Parker, EIT** were featured in an ESD "SciEngiMathePloration" public cable television show segment featuring Roads and Bridges. The segment included a demonstration at the porous pavement parking lot SME designed in downtown Ann Arbor.

Michael Thelen, PE presented "Geotechnical Lessons Learned" to an MSU Construction Management Class. He also participated in a presentation and tour of the Farm Lane Underpass to the ASCE Lansing/Jackson Branch.

Keith Toro, PE hosted Wayne State University's Civil Engineering Materials class at SME for a Pavement Laboratory lecture and demonstration. Last fall, Keith taught "CE Materials" at Lawrence Technological University (LTU). This term, he is teaching "CE Materials" and "Soils" at LTU.

CELEBRATING OUR CO-OPS AND INTERNS



SME proudly honored over 35 Engineering Co-ops and Interns at our 19th annual Co-op/Intern Recognition Banquet. The students, who hail from a variety of schools in Michigan and the Midwest, gain practical experience in soil and construction materials evaluation, geotechnical engineering/design, and pavement management. Thanks to all of you!

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Gerard P. Madej, PE, Vice President
Michael S. Meddock, PE, Vice President
Timothy J. Mitchell, PE, Vice President
Daniel O. Roeser, PG, Vice President

REPRESENTATIVE CURRENT PROJECTS

GEOTECHNICAL

Airport Improvements, Jackson, Kalamazoo, Lansing, Traverse City, Waterford
Assisted Living Facilities, Several Sites
Camp Grayling Improvements, Grayling
Cedar Lake Watershed, Holt
Chelsea Milling R&D Facility, Chelsea
Coal Dock Restoration, Essexville
Drain Improvement Projects, 6 Communities
Earth Retention System, Dearborn
EMU Mark Jefferson Science Complex, Ypsilanti
Harper Creek Stadium, Emmett Twp.
Health Care Facilities, Several Sites
I-94 High Tension Cable Barrier, 4 Counties
Ingham County 911 Facility, Lansing
ITC Expansion/Towers, Various Sites
K-12 Schools, Battle Creek, Lapeer, Plainwell, Saginaw, Warren
Lake Boulevard Bluff Evaluation, St. Joseph Office Building, Grand Rapids
Project Shamrock and Solar IV Brown, Hemlock Substations, Several Sites
UM Several Projects, Ann Arbor
Villages of East Harbor, Chesterfield Twp.
Wastewater Lagoon, Caro
Water Storage Tanks, Luckey, Weston, OH

CONSTRUCTION MATERIALS SERVICES

38 Commerce Liner Buildings, Grand Rapids
Accident Fund National Headquarters, Lansing
Airport Improvements, Battle Creek, Grand Rapids
Auto-Owners ITOS Building, Delta Twp.
Delta Dental Expansion, Okemos
Drain Improvement Projects, Several Sites
Garden Theater Redevelopment, Detroit
Greenleaf Trust Building, Birmingham
Health Care Facilities, Several Sites
Hemlock Semiconductor Expansion, Hemlock
ITC Substations, Several Sites
Jackson Road Reconstruction, Scio Twp.
K-12 Schools, Several Sites
Kent County Human Services, Grand Rapids
Livonia Mall Improvements
Macomb Marketplace, Macomb Twp.
Michigan International Speedway, Brooklyn
MSU Several Projects, East Lansing
Ray Connect, Rochester Hills
SVSU Living Center Southwest, Saginaw
UM Several Projects, Ann Arbor
United Solar, Battle Creek
WWTP, Commerce Twp.
Waterford Place, Georgetown Twp.

FACILITY SERVICES

ALCOA Conveyor Survey, Knoxville, TN
Argonaut Building, Detroit
Cathedral of the Most Blessed Sacrament, Detroit
Blue Cross Blue Shield, Southfield
BP Refinery, Toledo
DDA Parking Deck Management, Ann Arbor
East Jefferson Parking Structure, Detroit
Marathon Refinery, Detroit
NWA NFPA Tank Audits, Romulus
Oakland University Wilson Hall, Rochester
Property Condition Assessments, MI, TX
Tunnel Condition Survey, Grand Rapids
UM Parking Structures, Ann Arbor
Westin Hotel, Southfield

ROOFING

Cathedral of the Most Blessed Sacrament, Detroit
Comfort Inn, Ann Arbor
Detroit Public Library
Henry Ford Estate, Dearborn
IOE Building Green Roof, Ann Arbor
NSK Manufacturing, Liberty, IN
Orchard Mall, West Bloomfield
Shopping Center, Hattiesburg, MS
St. Paul of the Cross Retreat Center, Detroit
UM Kresge Library, Mott Children's Hospital, Ross School of Business, Stockwell Hall, University Hospital, Ann Arbor
UPS, Pontiac
USPS, Pontiac, Plymouth, Southfield

PAVEMENT

Altus Air Force Base, Altus, OK
FHWA Technical Assistance Contract
Ford Land, Various Sites
General Dynamics Land Systems, Sterling Heights
High Tension Cable Barriers, Several Counties
Keystone Road Improvements, Traverse City
M-43 Traffic Signal Strain Poles, Kalamazoo
M-86 Road Improvements, Matteson Twp.
Oakland University, Rochester
Pavement Management, Novi
Robert Bosch Corp. Test Tracks, MI and MN
Sam's Club, Mishawaka, IN
South Boulevard Resurfacing, Pontiac
Tenth Street Bridge, Leighton Twp.
UPS, Various Sites
US-23 Over Huron River, Green Oak Twp.
Various Streets, Livonia, Saline

ENVIRONMENTAL

Brownfield Program Management, Battle Creek
Central Sanitary Landfill Groundwater Monitoring
Chloride Investigations, 5 County Road
Commission Sites & WWTP Facility
EPA Brownfields Grant Management, 10 Communities, Midwest
Fifth Third Landfill Redevelopment, Auburn Hills
Former Metropolitan Hospital Redevelopment, Grand Rapids
Hazardous Waste Remediation, Southeast MI
Industrial Waste Landfill Closure, Monroe
Kellogg Office Tower, Battle Creek
Luxury Loft Redevelopment, Detroit
Mason Run New Urbanism Brownfield Redevelopment, Monroe
Mixed-Use Brownfield Redevelopment, Detroit, Hastings
PCB Assessment and Remediation, Monroe
Pinnacle Race Track Development, Huron Twp.
Power Station Foundation Assessment, Egypt
Remedial Investigations/Interim Response
Activities for 10 Former MGP Sites
Shopping Center/Brownfield Redevelopment, Hartland
TRI Reporting for Automotive Firms/Suppliers

SPECIAL

Art Iron Fabrication Shop, Toledo
AST Condition Assessments, Detroit Metro Airport, Romulus
Building Envelope Study, Zeeland
Coatings Consulting, Dearborn, Detroit, Grand Rapids, Holland
Concrete Foundations, Egypt, Saudi Arabia
Dam Inspections, Allegan County
Ford Motor Paint Shop, Chicago, Mexico
Marathon Oil AST Piping and Welding QA
Masonry Consulting, Ann Arbor, Lansing, Rochester, Shelby Twp., Southfield
MDNR Boat Launches, Southwest MI
Metallographic Failure Analysis
Pulse Radar of Concrete Floor
Severstal, Several Projects, Dearborn
TACOM Facility Laser Cutter, Warren
Thunder Bay Power Plant, Alpena
Unisorb Grout Testing
Vibration Consulting Health Care Facilities
Vibration Monitoring for Sheet Pile Removal, Dearborn
Welder Qualification Testing, Metro Detroit
Wind Turbines, Iowa, Nicaragua

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