MILWAUKEE BUCKS ARENA
2015-2016: Milwaukee, WI
- Foundation system for 714,000-square-foot professional basketball arena
- Temporary sheet pile earth retention system to support excavation
- Dynamic compaction of 6.5-acre site to consolidate up to 20 feet of soil
- Pile load tests
- 992 10.75-inch concrete-filled steel pipe piles

MCDONALDS HEADQUARTERS
2016-2017: Chicago, IL
- Foundation system for 9-story structure with 600,000-square-feet of space and two levels of underground parking
- 458 secant piles
- 100 top of rock (t/rock) caissons
- Temporary earth retention to construct elevator shaft prior to top/down construction
- O-cell testing

NEW ENGLAND EAST-WEST SOLUTIONS (NEEWS)
2014-2015: Massachusetts and Rhode Island
- Tower foundations for 38-mile, 345kV transmission line
- 270 poured concrete foundations – up to 8 feet in diameter and 20 feet deep
- 600 direct embed excavations – up to 3.5 feet in diameter and 18 feet deep
- 15 drill rigs and customized tooling

I-55/LAKESHORE DRIVE INTERCHANGE RAMPS
2015-2017: Chicago, IL
- Foundations for two-year reconstruction of inbound and outbound interchange ramps connecting I-55 and Lake Shore Drive (US 41)
- Total project:
  - 56,300 square feet of sheeting
  - 2,875 linear feet of bracing
- Schedule limited by Metra rail restrictions
- Small job sites in close proximity to active traffic

TWO OUTBOUND RAMPS:
- 75 concrete drilled shafts – up to 5.5 feet in diameter and 90 feet deep
- 3,800 cubic yards of concrete; 500 tons of rebar
- Sequenced in four phases to minimize traffic disruptions

TWO INBOUND RAMPS:
- 63 drilled concrete shafts – up to 5.5 feet in diameter and 80 feet deep
- 3,250 tons of concrete, 430 tons of rebar

DISCOVER OUR CAPABILITIES
DEEP FOUNDATIONS

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DISCOVER OUR CAPABILITIES
DEEP FOUNDATIONS
Michels understands that successful project delivery requires innovative methods and the ability to make real-time decisions to meet schedule needs. Our experienced in-house engineering staff works with our project management and operational personnel, clients, owners and other design teams to ensure quick development and implementation of technically sound and cost-effective design/build solutions.

**POWER DELIVERY**
A reliable power delivery system starts with the foundations that support it. Michels is experienced at building foundations for transmission and substation projects from coast to coast. Our equipment and tooling is suitable for any subsurface soil condition or low overhead clearance.

- Drilled Shafts (belled/rock sockets)
- Driven Piles
- Augercast Piles
- Micropiles
- Mini-Caissons
- O-Cell Testing
- Helical Piers

**DEEP FOUNDATIONS – INFRASTRUCTURE**
Michels builds deep foundations for high-rise commercial buildings, bridge foundations and marine construction to meet our customers’ requirements. Our specialized equipment can meet any subsurface and site access conditions.

- Drilled Shafts (belled/rock sockets)
- Driven Piles
- Augercast Piles
- Micropiles

**EARTH RETENTION**
Michels partners with you to build the right geotechnical structure to support a variety of conditions. Our in-house professional engineers can design temporary and permanent solutions that are stable, durable and cost effective.

- Sheet Piles
- Soldier Piles and Lagging
- Secant or Tangent Piles
- Drop Shafts
- Ground Anchors/Tiebacks
- Riverwalks
- Soil Nails

**DESIGN/BUILD**
Michels understands that successful project delivery requires innovative methods and the ability to make real-time decisions to meet schedule needs. Our experienced in-house engineering staff works with our project management and operational personnel, clients, owners and other design teams to ensure quick development and implementation of technically sound and cost-effective design/build solutions.

- Licensed Professional Engineers (PE)*
- Licensed Structural Engineers (SE)*
- Multi-disciplinary (Civil, structural, geotechnical)
- Experience in various market sectors (vertical, infrastructure, heavy civil, industrial power)

**OIL & GAS**
Michels provides safe, dependable solutions to the complexities of oil and gas construction projects. Our crews have the skills, leadership and equipment to build foundations for stations and provide sheeting installation to divert water and support of excavation for mainline construction sites.

- Mainline Sheeting
- Helical Piers
- Driven Piles
- Augercast Piles

**GROUND IMPROVEMENT**
Michels experienced, in-house Ground Improvement Engineers work with you to find the most technically sound, cost-effective solutions for complex ground improvement solutions for your project.

- Aggregate Piers/Stone Columns
- Rigid Inclusions
- Dynamic Compaction
- Vibro Compaction
- Grouting

* Licensed in multiple states. Request additional information regarding state-specific licensing.

Michels prides ourselves in our ability to identify requirements, and to design and build projects safely, on time and within budget. Our diverse and specialized equipment fleet includes low-overhead drill rigs, European hydraulic drill rigs, micropile rigs, cranes and barges to meet all soil conditions and site restrictions.