# **CORPORATE** OVERVIEW































## **ABOUT US**

McLaren Engineering Group is a leading full-service engineering firm renowned for its trusted, high quality, and ingenious approach to solving complex challenges. With industry experts in multiple technical disciplines, our team has provided customized solutions for over 20,000 projects through consultation, design, inspection, and construction management. With over four decades of experience, a staff of 200+, and 11 offices worldwide, McLaren addresses every project's specific needs with technical excellence and creative innovation.



JEREMY BILLIG, P.E. CEO + President JBillig@mgmclaren.com





#### **ESOP – EMPLOYEE OWNED**

200+ Employees Full Service, Civil/Structural Engineering Ownership Mentality Driven to Succeed



#### APPLIED INGENUITY

Exceptional Work Product Endeavor to Innovate Excellence in our People Commitment to our Clients



#### QUALITY ASSURANCE

Internal Quality Manual Project Management Plan Quality Control Checks Subconsultant Oversight



#### **PROJECT APPROACH**

Highest-Quality Deliverables Maximization of Scope Efficiency Performance Ahead of Schedule Completion Within Budget

## DIVERSE REACH

Our innovative engineering solutions, diverse expertise, and market understanding has made McLaren a trusted leader across 10 key sectors.

We are known throughout the industry for the high quality of our work, our endeavors to innovate, the support we give to our clients, and the excellence of our people.



#### 80 STRUCTURAL Facade, Envelope, Construction.

Construction, Infrastructure + Structural Engineers

5 MARINE Dive Inspectors, Designers, Scientists, Environmental + Marine Engineers

5 DESIGN CADD, Drawings, Models + BIM Designers 5 CIVIL Geotechnical,

Environmental, Site Planning + Civil Engineers

SURVEY Topographic, Hydrographic + Aerial Drone Surveyors

SUPPORT Project Managers, Administration, Accounting + Support Staff

### PROFESSIONAL EXPERTISE

With industry-leading specialized professionals across disciplines, our teams collaborate to provide clients diversified engineering perspectives and custom solutions.



## **CORE TECHNICAL DIVISIONS**

Providing consultation, design, engineering, construction support, inspection, and everything in between, our team is organized by specialty to best tackle projects of every size, shape, scope, and complexity.

STRUCTURAL | CIVIL + SITE | MARINE + COASTAL | BRIDGE, HIGHWAY + RAIL ENTERTAINMENT | GEOTECHNICAL | FACADE + BUILDING ENVELOPE CONSTRUCTION ENGINEERING | FORENSICS | SURVEY + MAPPING



## **STRUCTURAL** ENGINEERING

With a wide range of services spanning from concept to completion, McLaren's structural engineering group is built on a foundation of technical excellence, cutting-edge capabilities, pragmatic solutions, and a sensitivity for aesthetics.

Specializing in both private and public work across 10 distinct markets, our firm delivers top of the line, project-based solutions for structures of every size, shape, scope, material, and complexity.

Offering multidisciplinary consulting, analysis, design, project management, and construction phase support, our expert building engineers enable clients to best meet all project goals while building more efficiently and cost-effectively.

#### NEW CONSTRUCTION ENGINEERING + DESIGN

ADDITIONS, ALTERATIONS, RENOVATIONS + REPAIRS

STRUCTURAL INSPECTION + INVESTIGATION

FACADE + BUILDING ENVELOPE ENGINEERING

SPECIALTY STRUCTURAL SERVICES

SUSTAINABILITY + RESILIENCY



# STRUCTURAL ENGINEERING

#### **NEW CONSTRUCTION ENGINEERING + DESIGN**

Spanning high-rise mixed-use developments to highperformance healthcare facilities, expansive hotel casino complexes, and everything in between, we have experience building all types of structures from the ground up. McLaren's diverse new construction portfolio includes thousands of structures of varying sizes and each constructed with distinct materials. From traditional to avant-garde, we offer advanced design-build capabilities and value engineering solutions to best support our clients' unique needs.

## ADDITIONS, ALTERATIONS, REPAIRS + RENOVATIONS

The most successful renovation and alteration projects are engineered with structural expertise, code compliance, and occupancy needs in mind. McLaren's extensive work in structural modification utilizes creative adaptive solutions and technology to best construct efficient space changes.

#### **STRUCTURAL INVESTIGATION + INSPECTION**

Building structures can deteriorate or fail in a variety of ways throughout their lifecycle. Our detailed investigation and inspection services can identify structural damage, perform root cause analysis, and help provide remediation support.

#### FACADE + BUILDING ENVELOPE ENGINEERING

McLaren's facade engineering services focus on the largest, most important factor in the technical performance and overall aesthetic of any structure, the building envelope. Our specialized engineers are skilled in the interdependence of envelope elements throughout the building's life cycle and aim to improve constructability, maximize energy efficiency, strengthen security, and enhance architectural vision.

#### SPECIALTY STRUCTURAL SERVICES

The ability to solve complex challenges from all angles helps our team provide high-quality specialty structural services. Skilled in all aspects of multi-phase structural engineering, our services have evolved to better support the needs of our clients.

#### SUSTAINABILITY + RESILIENCY

At McLaren, we understand sustainable building strategies can create structures that are higher performing and help make a positive impact on our communities. We are committed to helping our clients build greener and adapt to carbon reducing guidelines.













## **SITE + CIVIL** ENGINEERING

Civil engineering plays an integral role in bringing public and private developments to life. From pre-development and due diligence studies, to remediation and construction phase, our firm delivers innovative land solutions throughout the entitlement and building process.

Our civil and geotechnical engineers, environmental professionals, and permitting specialists work to develop site plans, land use designs, engineering support, and inspection services for projects of every size, shape, scope, and complexity.

In addition to technical expertise, our civil engineers understand complex regulatory and environmental requirements to ensure project goals are met on time and within budget. SITE + LAND DEVELOPMENT

WATER RESOURCE MANAGEMENT

ROADS + INFRASTRUCTURE

GEOTECHNICAL ENGINEERING

MUNICIPAL ENGINEERING

SUSTAINABLE SOLUTIONS

TRAFFIC ENGINEERING



# SITE + CIVIL ENGINEERING

#### SITE + LAND DEVELOPMENT

Site planning and development are crucial first steps towards transforming any space into a valuable resource. Our civil engineers can guide the processes to ensure effective, compliant, and economical solutions from predevelopment studies to permitting, analysis to design, and layout.

#### WATER RESOURCE MANAGEMENT

We offer a complete range of specialized water resource management services working in conjunction with our inhouse marine engineers, bridge engineers, and survey teams. Our innovative solutions address challenges ranging from stream restoration, flood control, bridge replacement, erosion and sediment control, scour analysis, and countermeasure design.

#### **ROADS + INFRASTRUCTURE**

The construction, maintenance, and rehabilitation of roads and infrastructure is a crucial component for many public entities and transportation systems nationwide. From largescale, multi-lane highway construction projects and bridge replacements, to local intersection improvements and traffic studies, our team provides a safe, innovative, and functional approach.

#### **GEOTECHNICAL ENGINEERING**

Specialized in analyzing the behavior of earthen materials and how they interact with man-made elements such as foundations, flatwork, and pipelines, our experts use principles of soil mechanics and rock mechanics to investigate and assess risks posed by conditions, design earthworks, and structural foundations, and provide viable site solutions.

#### **MUNICIPAL ENGINEERING**

A diverse staff of civil, structural, bridge/highway/roadway and construction engineers, work with our surveyors, projects managers, to support any municipal project from conception to completion. Our expertise includes planning, design, permitting, and improvements.

#### **TRAFFIC ENGINEERING**

Focusing on the safe and efficient movement of people and goods across roadways, our services include investigation of high-crash locations and development of countermeasures for mitigation, design of traffic control device installations and modifications, as well as short-term and long-term traffic flow management plans that estimate impacts of proposed commercial/residential developments on traffic patterns.

#### SUSTAINABLE SOLUTIONS

By managing environmental liabilities, regulatory obligations, risk management, and green design solutions, we help commercial and industrial clients, as well as community and economic development agencies assess, remediate, and redevelop properties, Superfund, and Brownfield sites.













## **MARINE + COASTAL** ENGINEERING

With the most advanced and reliable services available in-house, McLaren's Marine Engineering Division is changing the landscape of the maritime industry.

Consisting of over 45 engineers, divers, designers, and scientists, our company is able to provide some of the best services in complex waterfront inspection, design, rehabilitation, and construction management.

Our work ranges from large-scale projects like the expansion of the NYC Ferry system, the design of complex berths ship terminals, and the support of offshore wind development, to the rehabilitation of piers, bulkhead designs, and dive inspections led by Professional Engineers.

From offices nationwide, we provide clients with innovative marine engineering services from concept to completion and beyond.

In addition to technical expertise, we understand the complex regulatory and environmental requirements to ensure that project goals are met on time and within budget. MARINE STRUCTURAL DESIGN + GEOTECHNICAL ENGINEERING

INSPECTION, MAINTENANCE + REHABILITATION

COASTAL ENGINEERING, PERMITTING + RESILIENCY

MARINE SURVEY + MAPPING



# **MARINE + COASTAL** ENGINEERING

#### STRUCTURAL DESIGN + GEOTECHNICAL ENGINEERING

The design and rehabilitation of waterfront facilities requires effective integration of coastal, structural, and geotechnical engineering principles. Typical services include site selection and characterization, concept design, berthing and mooring analyses, hand and computer-based analysis, regulatory permitting, marine construction cost estimating, development of contract drawings and specifications, and support during construction. The successful combination of these services and core engineering principles allows us to perform new design and rehabilitation of piers, bulkheads, floating structures, marinas and small craft harbors, marine terminals, and ferry landings in any environment.

## INSPECTION, MAINTENANCE + REHABILITATION

McLaren's team of industry leading PE-Divers, engineerdivers and technician divers are highly skilled in the identification of damage and deterioration, evaluation of cause and significant findings, and the development of constructible, durable repairs of waterfront structures. Our PE-Divers are the same Engineers performing the inspection and then taking the gathered information and performing load calculations, designing repairs, performing service-life analyses, estimating construction costs, and producing contract bid documents. With over 16 ADCI-certified divers and extensive commercial inspection equipment, we are able to mobilize anywhere in the United States within 24 hours. We also provide planning solutions through service life evaluation (testing, modeling and cost-benefit analysis of alternatives) and development of computerized maintenance management systems to assist with managing the long-term planning for any client's asset inventory.

#### COASTAL ENGINEERING, PERMITTING + RESILIENCY

McLaren's coastal engineering and resiliency practice puts the focus on protecting communities and waterfront facilities through coastal flood risk management, coastal engineering, coastal restoration and mitigation, and waterfront redevelopment. Our engineers understand the dynamics and interdependencies of the physical and ecological functions that are critical to the development of sustainable, resilient solutions, bringing the system back to balance while protecting critical assets and people. We understand the complex environment where land meets water and provide solutions for shoreline protection, waterfront re-development, coastal green infrastructure, flood risk management, and dredged material management.

#### **HYDROGRAPHIC SURVEY + MAPPING**

McLaren's in-house hydrographic survey and mapping team is an integral first step for determining if a project in or near water is conceptually and physically feasible. In addition to large offshore or near-shore construction projects, these surveys can also be used as analysis for flood inundation, scour and stabilization, water-quality studies, facility inspections, habitat mapping, dam removals, and spills.













## **CONSTRUCTION** ENGINEERING

McLaren's construction Engineering division is an industry leader providing innovative solutions that enable developers, contractors, fabricators, and erectors to successfully take projects from procurement to completion.

From large infrastructure projects to buildings and specialty structures, our engineers determine the most optimal and costeffective engineering solutions by assisting with means and methods of construction, planning, logistics, and project management for building projects across the country. This ensures jobs stay on time and within budget while providing the best solutions from the ground up. CRANE ENGINEERING

RIGGING + HEAVY LIFTS

STEEL CONNECTION

MISCELLANEOUS METALS + DELEGATED DESIGN

SHORING

CONSTRUCTION LOGISTICS

TEMPORARY STRUCTURES + SITE SAFETY

STEEL DETAILING



# **CONSTRUCTION** ENGINEERING

#### **CRANE ENGINEERING**

We offer full-service crane engineering services, from planning and plan/calculation preparation to in-house expediting. Whether developing a new crane plan or a peer review of a plan prepared by another firm, our team brings the requisite expertise needed to ensure crane plans are complete, code compliant and have considered all aspects of the intended pick.

#### **RIGGING + HEAVY LIFTS**

Our experts offer complete rigging solutions to service material and equipment handling needs, from shop to field installation. Beyond the design and check of a sling or shackle, we can develop step-by-step sequential drawings to illustrate the movement and/or transfer of a load throughout the rigging and installation process.

#### **STEEL CONNECTION**

We have intuitive knowledge of how a systems will transmit loads, loads paths, and a deep understanding of structural mechanics to provide both safe and economical designs. Steel connection design for structural steel projects includes standard shear connections, non-standard connections, moment connections, bracing, trusses, high seismic, and custom specialty conditions.

#### **MISCELLANEOUS METALS + DELEGATED DESIGN**

We provide Specialty Structural Engineering Services (SSE) for a wide array of standalone miscellaneous metals and/or delegated design items such as secondary structural elements (stairs, guardrail, davits, elevator rails, cladding, etc.) as well as primary structural elements.

#### SHORING

Our team has experience in all facets of shoring and structural lifting. With a construction mindset and the understanding of best field practices, our team develops solutions that are practical, efficient, and cost effective.

#### **CONSTRUCTION LOGISTICS**

McLaren can provide engineering support for a multitude of services to ensure projects are built in an efficient, safe, and stable manner across all phases.

#### **TEMPORARY STRUCTURES + SITE SAFETY**

Keeping the public safe is the primary tenet of the engineering profession. McLaren can provide a wide array of services to keep both the general public and site workers safe during the development of any project.

#### **STEEL DETAILING**

By combining our construction engineering expertise with our detailing capabilities our team offers a one-stop shop aimed at reducing coordination, eliminating headaches in the field, lowering project costs, and expediting project schedules.













## BRIDGE, HIGHWAY + RAIL ENGINEERING

McLaren's infrastructure engineering division offers full-service solutions for a variety of bridge, highway, and rail projects. Supporting both public and private clients, we provide design, analysis, and inspection services for infrastructure projects of all sizes shapes, and scopes.

From long span river crossings to highway overpasses, railway bridges to secondary road structures, bridge inspection programs to retaining walls, appurtenant works and everything in between, McLaren provides technical excellence and management expertise on any project.

Although our firm is best known for iconic infrastructure engineering around the nation, we are also the experts behind the engineering of local streets, pedestrian bridges, appurtenant structures, and culverts. DESIGN + DESIGN-BUILD (ALTERNATIVE PROJECT DELIVERY)

INSPECTIONS + CONDITION ASSESSMENTS

REHABILITATION + MAINTENANCE

CULVERTS + DAM STRUCTURES



# BRIDGE, HIGHWAY + RAIL ENGINEERING

#### DESIGN + DESIGN-BUILD (ALTERNATIVE PROJECT DELIVERY)

Our team is routinely called upon to complete design builds and comprehensive services for all phases including project scoping, preliminary design, final design, construction support services, and construction inspection services. We are known throughout the industry for our innovative public infrastructure design and development of bridges, roadways, and railroads using state-of-the-art 3D modeling.

#### **INSPECTIONS + CONDITION ASSESSMENTS**

McLaren's infrastructure inspection teams are available to assess conditions, file state and federal inspection reports, and most importantly, use our system of computerized management tools to compile assembled inspection data and focus on the prioritization of deficient elements.

Our bridge inspection staff are NHI, NBIS, NICET, NACE, and SPRAT certified and employ access techniques ranging from hard-hat diving to abseiling – meaning no aspect of a bridge inspection will go unreached. In short, our engineers are trained, experienced, and prepared to provide services through all aspects of any project.

#### **REHABILITATION + MAINTENANCE**

Having worked with private and public agencies around the country, McLaren has supported the rehabilitation and maintenance of hundreds of bridges, railway and roadway projects. Our infrastructure engineers provide detailed examination to determine conditions, safety, and future needs. We efficiently identify those elements in greatest need of rehabilitation. In this way, a group of bridges can be repaired or upgraded in a fashion that optimizes the use of available funds.

#### **CULVERTS + DAM STRUCTURES**

Our team of engineers, project managers, and water specialists are experienced in culvert and dam engineering. By planning and researching the construction and using materials that are less likely to erode, our team can increase the likelihood of appurtenant work success and minimize environmental damage. If engineered properly, blockages or altered waterflow can be mitigated and stream habitats can become resilient to changes in climate and land use.













## ENTERTAINMENT ENGINEERING

With a reputation for visionary entertainment engineering and design, McLaren offers a unique blend of imaginative artistry and cutting-edge technical capabilities. For over 40 years, our firm has been leading the industry with expert structural engineers, mechanical engineers and entertainment specialists.

We have helped create some of the best productions, events, concerts, displays, staging, and entertainment facilities worldwide. Working with the biggest names in the business, our iconic work has revolutionized the audience experience with never-before-seen feats of engineering.

LIVE ENTERTAINMENT ENGINEERING

ENTERTAINMENT FACILITY STRUCTURAL ENGINEERING

RIGGING, STAGING + SHOW ACTION MACHINERY

ARCHITECTURAL THEMING

THEME PARK ENGINEERING

EXHIBITS, DISPLAYS + SIGNAGE





# **ENTERTAINMENT** ENGINEERING

#### LIVE ENTERTAINMENT

McLaren is behind some of the most epic concert stages, Broadway shows, aerial performances and pop-up events. Our live entertainment engineering is best known for neverbefore-seen production designs that utilize innovative staging, unique mechanized effects, and the design of mindblowing, custom structures. As a result, audience experience around the globe has soared to new heights.

#### **ENTERTAINMENT FACILITIES**

McLaren's entertainment and structural engineers possess a distinct eye for aesthetics, user interface and a specialized understanding of the full building life-cycle. Our expert team is skilled in all aspects of structural design, engineering, inspection, and construction engineering services. The hundreds of entertainment facilities in our portfolio include awe-inspiring structural design of theaters, event spaces, entertainment venues, museums, performing art centers, hotels, casinos, and aquariums.

#### **RIGGING, STAGING + SHOW ACTION MACHINERY**

From Broadway productions and live performances, to iconic concert tours for artists like Rolling Stones and Lady Gaga, our entertainment engineers have been collaborating with clients to create adrenaline pumping shows worldwide. With a blend of ultramodern technical capabilities and creative artistic insight, McLaren has produced custom rigging, staging, kinetic elements, and show action machinery for the biggest projects in the industry.

#### **ARCHITECTURAL THEMING**

We are experts at creating interactive themed experiences to engage and dazzle audiences. As a result, McLaren has been turning larger-than-life concepts into stunning reality. The process of engineering in a creative space challenges our entertainment engineers and staff to push technical limits without compromising safety or aesthetics. We redefine boundaries to provide advanced functionality, service, and design—all while honoring our clients' vision.

#### THEME PARK ENGINEERING

Today's patrons demand a fully immersive theme parks with rides, attractions, concession stands and event spaces. From concept and design, to continuous support through fabrication and installation, our multi-disciplinary team meticulously engineers parks to magnify the guest experience. McLaren specializes in ride show engineering, theming engineering, show staging, facility engineering, technical design, and mechanical engineering.

#### **EXHIBITS, DISPLAYS + SIGNAGE**

From fully immersive displays to LED signage and custom exhibits, we provide clients with cutting-edge design, entertainment engineering and expertise. Our team offers innovative solutions to engage audiences and viewers with superior project specific systems of every size, shape, and complexity.













## **GEOTECHNICAL** ENGINEERING

SOILS TESTING + ANALYSIS

Foundation + Earthwork design

McLaren's expert geotechnical engineers use principles of soil and rock mechanics to investigate subsurface conditions and materials to determine their relevant physical, mechanical, and chemical properties.

Integrating each site's unique geotechnical characteristics is key to the success of any project. Whether planning the development of a new structure, monitoring and maintaining current underground infrastructure, geothermal work, or repairing damaged subsurface facilities, our geotechnical engineers offer some of the industry's best investigation, analysis and design solutions.

Our geotechnics team works closely with our firm's other engineering divisions and survey teams to develop innovative and cost-effective approaches to solving challenging environmental, marine, and civil engineering problems.



# **GEOTECHNICAL** ENGINEERING

#### **SOILS TESTING + ANALYSIS**

Providing clients with in-depth investigation, testing and analysis, our geotechnical engineers perform sample collection, field and laboratory testing, and the preparation of detailed reports. Additionally, we are able to evaluate the stability of natural slopes and man-made soil deposits both on land and in water to best assess and monitor unique risks of each project.

- SOILS & BORINGS TESTING
- SOIL DYNAMICS / VIBRATION ANALYSIS
- . SLOPE STABILITY EVALUATIONS
- . SUBSURFACE UTILITY ENGINEERING
- INFRASTRUCTURE CONDITION EVALUATION
- FORENSIC INVESTIGATION
- . SETTLEMENT ANALYSES
- . GROUNDWATER INVESTIGATIONS
- SUBSURFACE EXPLORATIONS & IN-SITU TESTING

#### FOUNDATION + EARTHWORK DESIGN

Our geotechnical and structural engineers analyze information, develop site preparation options and design custom foundation and earthworks specific to the custom needs of each project. From deep foundations for the support of a bridge and shallow foundations for a transmission structures, to retaining structures, embankments, tunnels, and pavement, McLaren provides innovative geotechnical solutions with constructability and costs in mind.

- SHALLOW & DEEP FOUNDATION DESIGN
- RETAINING WALL DESIGN & IMPROVEMENTS
- TUNNELS DESIGN & ENGINEERING
- SLOPE STABILITY ANALYSES
- ROCK-FALL PROTECTION DESIGN
- PAVEMENT ENGINEERING
- . SEPTIC DESIGN & SAMPLING
- . SUPPORT OF EXCAVATION













## **FACADE + ENVELOPE** ENGINEERING

McLaren's facade engineering services put focus on the entire building envelope – the largest, most important factor in the technical performance and overall aesthetic of any structure.

Built on a foundation of construction engineering knowledge and structural expertise, our firm uniquely understands the interdependence of envelope elements throughout the project lifecycle. This custom approach helps our facade and envelope engineers to best improve constructability, maximize energy efficiency, strengthen security, and enhance architectural vision.

From building envelope consulting to facade design and final punchlist inspection, our industry-leading engineers provide client-focused solutions for projects of every size, scope, material and complexity.

#### BUILDING ENVELOPE CONSULTING

DELEGATED DESIGN + SPECIALTY GLASS FACADE ENGINEERING

GLASS + GLAZING

METAL PANELS + SPECIALTY STRUCTURES

FACADE INSPECTION, INVESTIGATION + REMEDIATION

# FACADE + ENVELOPE ENGINEERING

#### **BUILDING ENVELOPE CONSULTING**

With a diverse portfolio of projects and knowledge of various material types, McLaren's building envelope engineers provide consultation services with accurate and creative solutions. Our team of experts take into consideration the complexities associated with building movements, installation requirements, thermal and condensation performance, and installation sequencing to support superior building envelope functionality, constructability, and resiliency.

#### DELEGATED DESIGN + SPECIALTY GLASS ENGINEERING

The ability to solve complex challenges from all angles helps our team provide high-quality design and installation solutions. Through specialty analysis, state-of-the-art material research, design aesthetics, constructability, and client specifications our team has engineered curtain walls, feature walls, canopies, and specialty glass structures around the world. Taking into account erection methods, durability, and maintenance, McLaren works collaboratively with our clients to provide innovative systems that last and meet all project goals.

#### **GLASS + GLAZING**

Our facade engineering team has the capability to recognize and respond to design and installation challenges with a unique staff of expert architects and engineers. Having worked on hundreds of projects including curtain walls, canopies and glass structures, we work collaboratively with clients to provide systems that last, deliver on all of the project's goals, and take into account erection methods, durability, and maintenance.

#### **METAL PANELS + SPECIALTY STRUCTURES**

The structural design possibilities of metal are endless, and when done correctly, can result in a beautiful aesthetic which is highly durable and low maintenance. From light gage metal framing, to intricate metal facades, to custom specialty structures, McLaren's facade specialists understand the capabilities and challenges of working with various metal mediums and can provide a variety of services to complement any project.

#### FACADE INSPECTION, INVESTIGATION + REMEDIATION

By analyzing project-specific design details and performance requirements, our team performs building envelope inspection, investigation, and remediation services. With a unique knowledge of structural and construction engineering principles, along with the resources of a talented in-house surveying group, McLaren provides comprehensive support throughout the project lifecycle. We are also a Class I certified special inspection group for wall panels, curtain walls, veneers, concrete, and facade systems in New York City.













## FORENSIC INVESTIGATION

Skilled in a diverse range of technical disciplines, McLaren's forensic engineering experts are renowned for investigating, analyzing, reporting, and presenting evidence nationwide. Our firm has been at the center of some of the most well-known collapses, failures, accidents, disputes, and deficiencies.

Headed by Executive Chairman of the Board and founder, Malcolm McLaren, PE, our forensic engineering division is focused on investigating the root cause of an incident, analyzing who or what is responsible, and identifying what can be done to mitigate reoccurrence.

In addition to our standard forensic investigation services, our firm offers full litigation support. Our services include detailed analyses using in-house high-tech capabilities, development of narrative report, demonstrative evidence support, and expert witness testimony. LITIGATION SUPPORT STRUCTURAL INVESTIGATION GEOTECHNICAL INVESTIGATION GEOMATIC INVESTIGATION CONSTRUCTION INVESTIGATION MARITIME INVESTIGATION CIVIL INVESTIGATION



# FORENSIC INVESTIGATION

#### LITIGATION SUPPORT

Our in-house expert engineers range in technical disciplines, allowing us to provide high-quality investigation, analysis, litigation support, reports, demonstrative evidence, and expert testimony. Using cutting-edge investigative capabilities and graphic modeling applications, McLaren finds the cause of an incident, analyzes who/what is responsible, and identifies what can be done to mitigate reoccurrence.

#### STRUCTURAL INVESTIGATIONS

Conducting investigations to determine the cause and origin of structural collapses, failures, damages, and defects, our expert forensic engineers are experienced in all structure types. From residential, commercial, institutional, and industrial structures to bridges, railways, and infrastructure, we prepare clear, concise, cohesive, and accurate reports.

#### **CIVIL INVESTIGATION**

With a unique understanding of roads, sidewalks, underground utilities, foundations, and stormwater systems, we provide clients with top-notch civil analysis from slip and falls to traffic accidents, and everything in between.

#### **CONSTRUCTION INVESTIGATION**

From crane collapses to connection failures, site accidents to materials failure, we determine the root cause of any construction accident. Our team of specialized construction engineers understand the intricacies of large infrastructure projects, buildings and specialty structures, providing unsurpassed support.

#### **MARITIME INVESTIGATION**

With a robust reputation in the maritime industry, McLaren's distinctive forensic offerings include a team of PE divers, a fleet of inspection boats, and marine engineers that can provide responsive investigation services.

#### **GEOTECHNICAL INVESTIGATION**

Our geotechnical engineers specialize in analyzing the behavior of earthen materials and how they interact with man-made elements such as foundations, flatwork, and pipelines. Forensic geotechnical investigations involve the analysis of a claim through site condition observation, inspections, analysis, and robust testing.

#### **GEOMATIC INVESTIGATIONS**

Whether by land, water or air, our team can examine any failure, accident scene or collapse. Our state-of-the-art technology ranges from traditional land surveys to high-tech 3D scanning (LiDAR), aerial drone surveys, geohazard surveys, hydrographic surveys, and multibeam mapping.















Quick to mobilize and unwavering in our ability to provide fullservice solutions and accurate data, McLaren's survey and scanning team is at the forefront of the industry. Whether by land, water or air, our team can best catch conflicts before they occur to help reduce rework and keep any project on-time and within budget.

With the use of our high-tech capabilities and in-house resources, we provide turn-key services for both private and public clients across 10 markets from traditional surveys to cutting-edge scans and mapping.

Our team of expert survey professionals provide state-of-the-art data collection, top project management and detailed deliverables for projects of any size and scope.

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HYDROGRAPHIC SURVEY + MAPPING

BOUNDARY + TOPOGRAPHIC SURVEYS

CONSTRUCTION + BUILDING SURVEYS

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GEOPHYSICAL SURVEYS

REALITY CAPTURE

AERIAL MAPPING + DRONE SURVEYS

SURVEY CONTROL



# SURVEYING + MAPPING

#### **HYDROGRAPHIC SURVEY + MAPPING**

In addition to large offshore or near-shore construction projects, these surveys can also be used as analysis for flood inundation, scour and stabilization, water-quality studies, waterfront facility inspections, habitat mapping, dam removals and environmental spills.

#### **BOUNDARY + TOPOGRAPHIC SURVEYS**

Our surveyors locate all surface land features using the latest technologies and methodologies to accurately depict physical topographies and elevations. We provide a range of services from traditional stakeouts and 2D map drawings to LiDAR scanning, and 3D mapping to show all natural and man-made elements including location, size, height, and any changes in elevation.

#### **CONSTRUCTION + BUILDING SURVEYS**

McLaren's construction survey services help interpret construction plans, mark locations of proposed new structures such as roads or buildings, and can provide detailed data throughout construction phases.

#### **GEOPHYSICAL SURVEYS**

Providing innovative solutions to geotechnical and environmental problems, our team provides geophysical surveys to aid in subsurface characterization of geologic conditions and potential hazards.

#### **REALITY CAPTURE**

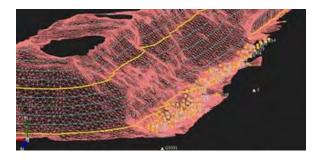
From new construction to historical preservation and site development to environmental remediation, LiDAR 3D scans surveys can provide detailed measurements and survey hard-to-reach areas. Able to integrate into Building Information Modeling (BIM) software, these scans can increase productivity in building design and construction.

#### **AERIAL MAPPING + DRONE SURVEYS**

Drones offer a bird's eye view and can offer access to constrained areas, making it possible to carry out quality and quantity surveys accurately and quickly. Using state-ofthe-art remote sensing technology, we transform spatial data into practical knowledge that supports essential operations.

#### SURVEY CONTROL

Quality survey control underpins all our surveys. Project specific control plans are implemented to ensure the reference frame for every project is rock solid. McLaren employs the latest GNSS receivers, Robotic Total Stations, and Digital Levels to make precise observations and post processing of all data to establish the survey control on our projects.















#### **NEW JERSEY (HEADQUARTERS)**

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