

JAMES G. MCCANTS III (TREY)

Testing, Engineering & Consulting Services Inc.

235 Buford Drive

Lawrenceville, GA 30045

Phone: 678-878-9253

Email: tmccants@tecservices.com

EDUCATION

Bachelor of Science, Chemistry – Clemson University

2006

CERTIFICATIONS

American Concrete Institute Laboratory Technician Level I
American Concrete Institute Laboratory Technician Level II
American Concrete Institute Strength Testing Technician
American Concrete Institute Aggregate Testing Technician Level I
American Concrete Institute Aggregate Testing Technician Level II
American Concrete Institute Field Testing Technician
American Concrete Institute/CRSI Adhesive Anchor Installer

PROFESSIONAL AFFILIATIONS

Member of the American Chemical Society (ACS)

Member of American Concrete Institute (ACI)

Member of the American Society for Testing and Materials (ASTM)

Committee C01 Cement, Lime Gypsum

Committee C09 Concrete and Concrete Aggregates

Committee C09.22 Materials applied to New Concrete Surfaces

Committee C09.23 Chemical Admixtures

Committee C09.25 Organic Bonding Materials

Chairman 2017 – Present

Committee C09.42 Fiber-Reinforced Concrete

Chairman 2011 – Present

ASTM C1609 Flexural Performance

Chairman 2009 – Present

Committee C09.43 Section on Self Leveling Materials

Committee C09.43 Sections C381, C928, C1107

Committee C09.46 Shotcrete

Committee C09.62 Abrasion Testing

Committee F08.18 Treestands

Secretary 2016 - Present

Fiber Reinforced Concrete Association (FRCA)

Boy Scouts of America – Eagle Scout

PROFESSIONAL EXPERIENCE

TESTING, ENGINEERING & CONSULTING SERVICES – Lawrenceville, GA 2006-Present

Chemist, Laboratory Manager – Construction Materials

Performs physical and analytical testing of concrete, cement, pozzolans, aggregates, pozzolans, admixtures, epoxies, coatings, metals, and other construction materials in accordance with the required ASTM and AASHTO guidelines. Manages and trains technicians in the laboratory and field testing; hiring of new technicians. Charged with maintaining client relations, marketing, managing multiple high profile projects, and cost estimates. Laboratory is AASHTO R18, ISO 17025, and Army Corp of Engineers accredited.

Performs tension/compression testing using servo-controlled, hydraulic closed looped Instron system
Test procedure design for Instron systems, Fabrication of testing apparatuses and systems. Utilization of linear variable displacement transducers, extensometers, and strain gauges. Research, design, and development in construction materials

AMERICAN CONCRETE INSTITUTE (ACI) – Georgia

2006-Present

Examiner

Laboratory Technician Grade I & II, Aggregate Technician Level I & II, Strength Technician, Field Technician, Adhesive Anchor Installer

AREAS OF TECHNICAL EXPERIENCE

Non-Destructive/Chemical Analysis

Impact Echo, Pulse Velocity, Ultrasonic Thickness, Microscopic Analysis, Spectrophotometry, UV-VIS, Titrations, Conductivity, FTIR, XRF, OES Spectroscopy

Metals/Anchors/Plastics/Thermoplastics

Mechanical Properties, Shear, Flexural, Tensile, Direct Tensile Embedment, Strain Gages, Field data acquisition systems, PT Cable Tension Tests, Anchor Systems Testing, Creep Testing, Rebar

Coatings/Epoxies/Sealants

Epoxy based, Organic, Thermal Insulating, Stucco, Polymer, Wax Emulsions, MMA, Urethanes, Fiber Reinforced Polymer Wrap, Waterproofing Membranes, Elastomerics, Sealants, Color Analysis, Flash Point, UV activated, Adhesive anchors, Paints, Sealers, EIFS Systems

Aggregates

Lightweight, normal, and heavy weight, fine, ASR, dimension stone

Admixtures

Experience utilizing and designing with all types of admixtures A through F, Viscosity Modifiers, Shrinkage reducing, Lithium, ASR Reducing, Redispersible Polymers, Latex, Dry Admixtures, Corrosion Inhibitors, Anti-Washout

Cements/Supplementary Materials

Slag, Fly Ash, Metakaolin, Portland, Calcium Aluminates, Calcium Carbonate, Glass, Masonry Cements, Sulphoaluminates, Wollastonite

Concrete Mix Design/Optimization

Tertiary concrete mix design experience utilizing numerous admixtures, Slabs on Grade, Pavement, Latex Concrete– Polymer Modified, Fiber Reinforced Concrete, Shotcrete, Pre-Cast, GFRC, Lightweight/Cellular, Calcium Aluminate Concrete, Overlays, EPS Foam Coats, Stone Veneer, Roller Compacted, Pervious, Thermal Mass Concrete, Blast containment

Fiber Reinforcement – Chair of ASTM C09.42 Subcommittee on Fiber Reinforced Concrete

Macro/Micro Synthetic, Steel, Glass, Carbon, Blast Containment, Extensive work in evaluation of technical data and design of FRC and Shotcrete, Textile Tensile, Residual Analysis

Repair Products/Mortars

Product Design, Self-Leveling Underlayments, Rapid Setting Patch Materials, Non-Shrink Grouts, Masonry Mortars, Extensive experience with DOT/ASHTTO requirements

Products Testing

Tools, Hardware, Webbing, Fall Arrest Harnesses, Treestands, Septic Tanks, Roof Panels, Encased Pipe Sections, Ladder Safety Devices, Manhole Covers, Shelf Load Tests, Full-Scale Load Tests

Trade Skills

Data acquisition systems, Electronics, Hydraulics, Machining (mill/lathe), Welding, Carpentry, Mechanics, Plumbing

TECHNICAL PROJECTS

U.S. Dept of Energy, Wind Turbines

U.S. Embassy, Gabon, Africa

NY Eastside Access Project

NY Eastside Access Project

NY 86th Street Station

NY 2nd Avenue Subway

NY No. 7 Line

NY Freedom Towers

NY Brooklyn Bridge Overlay

Dulles Corridor Tunnel, Virginia

Lake Mead Tunnel, Las Vegas, NV

South River Tunnel, Atlanta, GA

South Cobb Tunnel, Atlanta, GA

Niagara Falls Tunnel Project

Euclid Creek Tunnel, Cleveland, OH

Mercedes Benz Plant, Birmingham, AL

Volkswagen Plant, Chattanooga, TN

Bridgestone Plant, Aiken, SC

Botanical Gardens Scaffold Collapse, Atlanta, GA

Digester Tank Collapse, City of Atlanta, GA

Power Facility – Turbine Blast Containment, TN

Bridgestone Plant, Aiken, SC

Blue Plains Tunnel, MD

FRC Foundation Design and System Evaluation

Concrete Mix Design and Testing

Shotcrete Mix Design and QA Testing

Shotcrete Failure Analysis

Shotcrete QA

Cast in Place FRC Mix Pre-Construction Testing

Shotcrete QA

Preconstruction Testing

Preconstruction Design & Testing

Shotcrete Mix Design and QA Testing

Shotcrete Evaluation and QA Testing

Shotcrete Evaluation and QA Testing

Shotcrete Evaluation and QA Testing

Cast in Place FRC Mix Pre-Construction Testing

Precast FRC Tunnel Segments

Preconstruction Mix Design Evaluation - FRC

Preconstruction Mix Design Evaluation – FRC

Preconstruction Mix Design Evaluation – FRC

Metals Evaluation for OSHA

Metals Evaluation

FRC Pre-Construction QA Testing

Preconstruction Testing and QA Testing – FRC

Precast FRC Tunnel Segments