PERSONNEL QUALIFICATIONS

# John R. Williams | Principal

## EDUCATION

- The Pennsylvania State University
  - Bachelor of Science, Engineering Science, 1996

## PRACTICE AREAS

- Mechanical Engineering
- Design
- Repair and Rehabilitation
- Balance Testing and Analysis
- Failure/Damage Investigations
- Gear Assessment/Design
- Emergency Response
- Inspections

## REGISTRATIONS

- Professional Engineer in BC, CA, CT, FL, IL, IN, LA, ME, MD, MI, NB, NJ, NL, NS, OH, ON, PEI, SC, TX, and VA

## PROFESSIONAL AFFILIATIONS

- American Railway Engineering and Maintenance-of-Way Association (AREMA)
- American Society of Mechanical Engineers (ASME)
- Heavy Movable Structures - Board of Directors

## TECHNICAL COMMITTEES

- AREMA
  - Committee 15 - Steel Structures
  - Subcommittee 4 - Movable Bridges

## CONTACT

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## EXPERIENCE

John Williams has more than twenty-two years of experience as a mechanical engineer and is recognized as a heavy movable structures specialist. Mr. Williams' experience includes movable bridge construction coordination, directing heavy machinery field alignment, CEI, design of machinery for new structures and rehabilitation of existing structures, calculations, field and source inspection of machinery, strain gage testing, and CAD management. His work is related exclusively to mechanical machinery systems on heavy movable structures, including strain gage balancing of more than fifty movable structures, inspection of more than one hundred movable structures, mechanical design services for more than twenty movable structures, construction engineering support for owners and contractors for more than fifty movable structures, and coordination of mechanical work on various bridge construction projects with structural and electrical work.

## REPRESENTATIVE PROJECTS

- Florida Department of Transportation (DOT) District 5, 5SR 401 Bridges over Barge Canal - Brevard County: In-depth inspection, load rating, and Pontis-style reporting for three parallel double-leaf bascule bridges with steel stringer, reinforced concrete, and prestressed concrete approach spans
- Mystic Bridge Rehabilitation, Connecticut DOT - Groton: Rehabilitation of historic single-leaf, mechanically operated Brown bascule bridge; in-depth inspection of mechanical and electrical systems and complete load rating of all mechanical machinery
- Inspection and Evaluation of Three Movable Bridges - Volusia County, FL: In-depth inspection and report detailing findings, assessment of bridge conditions, and recommendation of repairs to keep the three structures in service for twenty years
- Statewide Movable Bridge Inspections - New Jersey DOT: Annual inspection of nineteen movable bridges, including seven bascule, five swing, six vertical lift, and one Strauss heel trunnion bascule bridge
- South Park Bridge - King County, WA: Construction of new double-leaf bascule bridge; leader of the mechanical CEI team
- Statewide Movable Bridge Inspections - Connecticut DOT: Biennial inspection of twenty movable bridges, including five rolling lift bascules, five trunnion bascules, six swing bridges, two vertical lift bridges, one Brown bascule, and one Strauss underdeck articulated counterweight bascule
- Brighton Road Swing Bridge Replacement - ON, Canada: Project manager and engineer of record for mechanical and hydraulic machinery for new hydraulically operated center bearing swing bridge
- First Avenue South Bridge, Washington DOT - Seattle: CEI for rehabilitation of double-leaf hydraulic cylinder drive bascule bridge; major modifications to hydraulic control system, refurbishing of two main drive cylinders, and fabrication and installation of new span lock cylinder
- Craigie Dam Bridge Rehabilitation - Boston, MA: Removal and replacement of four bascule leaves; coordination of structural, mechanical, and electrical work for general contractor; balance calculations and testing for bascule leaves
- Wells Street Bridge Rehabilitation - Chicago, IL: Specialty services assisting with coordination of structural and mechanical work for double-deck, Chicago-style trunnion bascule
- Memorial Lift Bridge Replacement - Portsmouth, NJ: Assisting with coordination of structural, mechanical, and electrical work for new span-drive vertical lift bridge; balance testing, shop inspection, and witnessing of shop tests
- Governors Island Ferry Slip Rehabilitation - Manhattan, NY: In-depth inspection of mechanical and electrical systems of four ferry slips with recommendations for rehabilitation to keep the structures operational for fifty years
- Strain gage balancing of more than fifty movable bridges of all types, including more than fifteen vertical lift bridges and more than forty bascule bridges
- Murray Morgan Bridge - Tacoma, WA: Owner's mechanical engineer for the design-build rehabilitation of the bridge