

Statewide Movable Bridges

The Virginia Department of Transportation anticipates issuing a Request for Proposal (RFP) to consulting engineering firms who wish to be considered to provide professional engineering services to the Department for the field assessment, design and development of maintenance, repair and rehabilitation plans of the structural, mechanical and electrical systems, traffic control devices/ IT systems, submarine utilities and fender systems, NBIS inspections, estimates and special provisions associated with statewide movable bridges.

Below is a list of anticipated standard labor classifications for the contract. Also provided is a list of other anticipated labor classifications and a brief description of each. This is an advance copy and is subject to change. A final list of proposed labor classifications will be provided in the advertised RFP.

Anticipated Standard Labor Classifications:

1. Project Manager
2. Sr. S&B Engineer
3. S&B Engineer
4. Jr. S&B Engineer
5. Sr. Diver
6. Diver
7. Diver Tender
8. Sr. S&B Inspector
9. S&B Inspector
10. CADD/GIS Technician
11. Administrative Assistant

Other Anticipated Classifications

1. Sr. Engineer – Complex Structures
2. Sr. Engineer – Mechanical/ Electrical
3. Engineer – Mechanical/ Electrical
4. Jr. Engineer – Mechanical/ Electrical

	Responsibilities	Qualifications
Sr. Engineer - Complex Structures	Authority and leader in the areas of bridge engineering or scientific interest and investigation	Typically possesses more than twenty (20) years of relevant experience in bridge engineering (Structural/ Mechanical/ Electrical Engineering) of transportation infrastructure design and construction
	Provides expert reviews ranging from concept to constructability on complex and high level bridge projects	Demonstrates extensive experience in similar roles/ responsibilities on complex bridge/ structure projects
	Plans /develops expert solutions or unique technologies on the problems of greater scope and complexity within one's area of specialty	Professional Engineer License required; Virginia license preferred

	May lead the technical activities within one's area of expertise	Professional certification in other specific areas preferred as applicable
		BS in Civil Engineering or related field, may hold a Master's degree in relevant specialty
Sr. Engineer – Mechanical / Electrical	Design, analysis and review in the area of specialty in Mechanical or Electrical Engineering, scientific interest and investigation	Typically possesses more than fifteen (15) years relevant experience in Mechanical or Electrical systems related to movable bridges
	Possess knowledge and experience with the functioning of power-producing machines – electric generators, internal combustion engines etc. and power-using machines and systems such as elevators, escalators, operation systems related to movable bridges	Demonstrates extensive experience in similar roles/ responsibilities on similar movable bridge infrastructure projects
	Provides reviews and analysis towards trouble shooting of operational issues with movable bridge systems and related accessories such as barrier gates, span locks etc.	Professional Engineer license required; Virginia license preferred
	Plans, develops solutions including new technologies on problems of greater scope and complexity within one's area of specialty	Professional certification in specific areas preferred as applicable
	Lead the technical activities in the area of expertise	BS in Mechanical Engineering or Electrical Engineering or related field, may hold a Master's degree in relevant specialty
Engineer – Mechanical/ Electrical	Design, analyze and check mechanical / electrical elements and systems – prepare preliminary and final designs for new systems, maintenance and repair/ rehabilitation tasks	Progressively responsible experience in M/E systems design and coordination. PE license preferred
	Prepare plans and sketches/ diagrams and detailed drawings	Typically would possess between five (5) and fifteen (15) years of related experience
	Review mechanical/ electrical plans/ sketches developed by others	Demonstrated experience in the design and analysis of movable bridge operational systems
	Review shop plans to ensure they meet industry standards, AASHTO specifications and VDOT requirements	Demonstrated experience applying principles and practices related to Mechanical or Electrical engineering
	Inspect and perform periodic maintenance and operational analyses to ensure routine functioning	Demonstrated experience in performing bridge systems inspections
	Investigate condition of existing mechanical / electrical elements and moving parts and assist in developing scope for repair and rehabilitation proposals	Experience in using specifications, codes and regulations related to mechanical/ electrical system design

	Provide/support technical coordination related to mechanical or electrical systems during construction activities, issues and problems.	Ability to estimate quantities, cost of materials and rehabilitation work
	Develop effective and economic recommendations to respond to construction challenges and other bridge-related inquiries.	Ability to interpret construction plans and design specifications
	May manage various aspects of multiple design and rehabilitation projects.	Ability to effectively plan and schedule work
	Ensure effective coordination with other disciplines in the development of movable bridge related projects	Ability to communicate effectively in oral and in writing with project stakeholders
	Conducts quality assurance and quality control assessments. Maintains quality of product for design, analyses and documentation; performs required checks throughout the process.	Skilled in the use of computers and software applications to include automated engineering and design software
	Ensure deliverables are accurate and correct in content.	BS degree in Mechanical/ Electrical Engineering required
Jr. Engineer – Mechanical/ Electrical	Will work under the direct supervision of Senior Engineer/ Engineer	Typically would possess up to five (5) years of related experience
	Design, analyze and check systems - prepare preliminary and final mechanical/ electrical systems design related to new structures and rehabilitation	Demonstrated experience applying mechanical/ electrical engineering principles and systems design and analysis.
	Prepare plans, sketches and mechanical/ electrical diagrams and detailed drawings	Demonstrated experience in the design and analysis of movable bridge operational systems related to mechanical/ electrical systems
	Review shop plans to ensure they meet industry standards, AASHTO specifications and VDOT requirements	Demonstrated experience applying principles and practices related to Mechanical or Electrical engineering
	Inspect and perform periodic maintenance and operational analyses to ensure routine functioning	Demonstrated experience in performing bridge systems inspections
	Investigate condition of existing mechanical / electrical elements and moving parts and assist in developing scope for repair and rehabilitation proposals	Experience in using specifications, codes and regulations related to mechanical/ electrical system design
	Provide support and technical coordination related to mechanical or electrical systems during construction activities, issues and problems.	Ability to estimate quantities, cost of materials and rehabilitation work
	Develop effective and economic recommendations to respond to construction challenges and other bridge-	Ability to interpret construction plans and design specifications

	related inquiries	
	May manage various aspects of multiple design and rehabilitation projects	Ability to effectively plan and schedule work
	Ensure effective coordination with other disciplines in the development of movable bridge related projects	Ability to communicate effectively in oral and in writing with project stakeholders
	Conducts quality control checks. Maintains quality of product for design, analyses and documentation; performs required checks throughout the process.	Skilled in the use of computers and software applications to include automated engineering and design software
	Ensure deliverables are accurate and correct in content	BS degree in Mechanical/ Electrical Engineering. EIT preferred