

Iowa Department of Administrative Services – Human Resources Enterprise  
Job Classification Description

## Construction Technician Senior

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### Definition

Serves as a lead worker and performs work overseeing the inspection of large, complex highway construction projects and ensuring that work is done according to specification, proper inspection staff are in place and records are kept, and a safe working environment is maintained; solves on-site problems and situations regarding construction of project and design modifications; performs related work as required.

*The work examples and competencies listed below are for illustrative purposes only and not intended to be the primary basis for position classification decisions.*

### Work Examples

Assists supervisor by performing such duties as instructing employees, answering questions, distributing and balancing the workload, and checking work; may make suggestions on selection, promotions, and reassignments.

Oversees the inspection of large, complex construction projects (i.e., highway corridor work) ensuring the work is completed according to specification which includes sampling and testing materials to be used, ensuring proper certification of materials, coordinating and reviewing the activities of inspectors, maintaining records, preparing authorization for vouchers and project progress reports, and informing supervisor of problems.

Oversees the surveying for large, complex construction projects including right-of-way, grade stakes, slope stakes, vertical and horizontal alignment for bridge culverts, etc.; ensures plans and specifications are adhered to; performs mathematical calculations in the field to compute horizontal and vertical curves and to calculate quantities, slope stakes, paving grades, etc.

Solves on-site problems and situations regarding construction of project and design modifications.

Maintains detailed records of all project activities including item progress, change orders, material certifications, and contractor pay vouchers.

Reads, understands, and interprets contracts, plans, specifications, and standards involved in the construction of projects.

Provides training to employees and reviews the work of lower-level Construction Technicians for accuracy and adequacy and advises accordingly.

Performs technical duties in a resident construction office such as compiling and analyzing project reports and assisting the resident construction engineer.

Answers questions and provides explanation to property owners and the public regarding the duration of projects, progress on projects, etc.

Finalizes projects which includes ensuring quantities are correct, as-built plans are complete, and contractor evaluation reports are finalized.

Designated positions perform duties related to snow and ice removal, which include: accessing the Roadway Weather Information System (RWIS), weather reports, and other related computer software applications to record and receive data and make decisions regarding times, temperatures, weather conditions, and material usage to operate snow and ice removal equipment such as, but not limited to single or tandem axle dump trucks that may be equipped with tailgate or hopper spreader, straight blades or V-plows, wing plows, and underside ice blades; includes preparing and spreading abrasives and de-icing chemicals on the roadway by using a loader for mixing abrasives and chemicals; may perform other maintenance duties as assigned.

## Competencies Required

### Knowledge:

- Building and Construction – Materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Mechanical – Machines and tools, including their designs, uses, repair, and maintenance.
- Public Safety and Security – Relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- Engineering and Technology – The practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- English Language – The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

### Abilities:

- Problem Sensitivity – Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Deductive Reasoning – Apply general rules to specific problems to produce answers that make sense.
- Inductive Reasoning – Combine pieces of information to form general rules or conclusions.
- Oral Comprehension – Listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression – Communicate information and ideas in speaking so others will understand.
- Near Vision – See details at close range (within a few feet of the observer).
- Static Strength – Exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength – Use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- Extent Flexibility – Bend, stretch, twist, or reach with your body, arms, and/or legs.

- Arm-Hand Steadiness – Keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Multilimb Coordination – Coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Category Flexibility – Generate or use different sets of rules for combining or grouping things in different ways.
- Visualization – Imagine how something will look after it is moved around or when its parts are moved or rearranged.

**Skills:**

- Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Coordination – Adjusting actions in relation to others' actions.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Monitoring – Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Mathematics – Using mathematics to solve problems.
- Social Perceptiveness – Being aware of others' reactions and understanding why they react as they do.

**Minimum Qualification Requirements**

Applicants must meet at least one of the following minimum requirements to qualify for positions in this job classification:

- 1) Graduation from high school, GED, or equivalency, and experience equal to five years of full-time work in engineering survey, construction inspection, materials inspection, materials testing or the building construction trades.
- 2) All of the following (a and b):
  - a. One year of full-time work experience in engineering survey, construction inspection, materials inspection, materials testing or the building construction trades; and
  - b. A total of four years of education and/or full-time experience (as described in part a), where thirty semester hours of accredited college or university coursework in engineering survey, construction inspection, materials inspection, materials testing or the building construction trades equals one year of full-time experience.
- 3) Current, continuous experience in the state executive branch that includes eighteen months of full-time work as a Construction Technician or Highway Technician Senior.

**Notes**

Travel, including overnight travel, may be required for positions in this class. Employees must arrange transportation to and from assigned work areas.

All of the following apply to Department of Transportation positions only:

- Designated positions in this class require possession of a valid Commercial Learner's Permit upon hire. Within a timeframe determined by the appointing authority, a valid Class A Commercial Driver's License with the required endorsements and applicable restrictions must be obtained and subsequently maintained to continue employment.
- If a CDL is not designated, all positions are required to have and maintain a minimum of a valid Class C Non-Commercial Operator's License.
- In conjunction with Title 49 of the Code of Federal Regulations (parts 40 and 382), designated positions in this job class require a pre-employment drug screen and will require ongoing participation in the employer's random drug and alcohol testing program and will be subject to the regulations regarding the Federal drug and alcohol testing program.
- Prior to starting employment, all persons are required to have a post offer, pre-employment physical verifying the physical ability to perform the duties described.
- Positions require certification for testing materials and operating specialized equipment as required by the Iowa Department of Transportation's Technical Training and Certification Program for Highway Materials and Construction; and/or other certifications as required.
- Employees in designated positions must be able to work up to 16 consecutive hours.

*Effective date: 02/22 SA*