

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼

HUMAN RESOURCES ENTERPRISE

HIGHWAY TECHNICIAN

DEFINITION

Operates equipment/performs physical laboring activities in the maintenance of roadway, roadside, right of way, shoulder, bridge and highway grading/paving projects; during construction season, performs routine technical (e.g., checking grades/elevations, sampling, testing and inspecting construction materials) and survey, field/lab tests and inspection duties; collects, classifies and reports project data; performs related work as required.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Performs roadway and right of way, shoulder, roadside, bridge, surface, drainage and related maintenance to include: surfacing, sealing and filling joints and cracks; removing bumps, filling depressions, and removing and replacing damaged pavements; filling edge ruts, smoothing shoulders, mowing and rebuilding shoulders; picking up litter, cutting brush, repairing fence, controlling weeds, and maintaining signage; and cleaning, washing, and lubricating working members of bridges.

Performs 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.

Performs survey work which includes recovering survey markers, converting ancient terms of measurement to modern terms, determining and excavating land/lot corners.

Performs and restores control points, stake proposed permanent easement points, compile and record information for use in final surveys, and prepare acquisition plats and legal descriptions.

Operates Global Position System (GPS) and Electronic Distance Meter (EDM) equipment to take and check measurements resulting in a positional accuracy as prescribed in the Code of Iowa.

Inspects routine phases of construction projects by observing contractors and ensuring adherence to plans and specifications. Checks grades and elevations, collects and records routine measurements and compares them with project plans and specifications. Maintains related records. Informs the contractor and project inspector of construction quality issues and/or non-complying work.

Conducts routine sampling, inspection and testing of materials used in highway construction and maintenance projects to determine dimensions, types and specifications of materials, slopes and depths at which samples are required. Determines location and spacing of sample sites in order to comply with project plans and specifications.

Services and performs routine maintenance and minor repairs on all assigned equipment such as oil changes, greasing and inspecting equipment; assists mechanic on major breakdowns and overhauls such as repairs on brakes, hydraulics, electrical, transmission and mechanical systems.

Performs construction and maintenance on Department of Transportation facilities and grounds including carpentry, electrical, plumbing, janitorial, masonry, and landscape maintenance.

Maintains waterways by reshaping fore and back slopes, cleaning vegetation from ditches, maintaining and repairing tile culvert pipes and intakes using backhoes, loaders, power shovels and draglines.

Performs herbicide-spraying operations in right of way areas by using a backpack sprayer, driving a truck and/or operating a pressure sprayer.

Responds as directed to roadway emergency situations.

COMPETENCIES REQUIRED

Knowledge of specialized highway maintenance, construction and materials equipment, their operation and uses.

Knowledge of highway maintenance, construction and materials, procedures, techniques, terminology and specifications.

Knowledge of the occupational hazards and safety precautions applicable to the work.

Knowledge of applicable department policies, procedures, and regulations pertaining to highway and equipment maintenance, record keeping, budgeting, and reporting requirements.

Knowledge of the characteristics and special needs of highways within assigned areas.

Knowledge of the effects of weather on road surfaces.

Knowledge of basic mathematics, e.g., addition, subtraction, multiplication and division.

Knowledge of the rules and regulations pertaining to proper placement of signs and placards within and along the highway right of way.

Knowledge of engineering survey techniques.

Knowledge of winter maintenance operations, such as anti-icing and deicing principles.

Ability to drive vehicles in a safe and conscientious manner.

Ability to drive equipment with a manual transmission and clutch.

Ability to occasionally (1-33% of the time) lift/lower, carry and push/pull various amounts of force within the "heavy work" as defined by the US Department of Labor; team lift or mechanical assist recommended for weights over 75 pounds. Related work examples: 60 pound jack hammer, 60 pound high speed and front plow ice blades, 50 pound calcium chloride and pavement patch, and 160 pound 9' ice blade, etc.

Ability to work out doors in all types of weather conditions, day or night, in normal and emergency situations.

Ability to climb, kneel, crouch, crawl, stoop and twist and perform duties using appropriate tools and equipment within safety standards.

Ability to walk over uneven ground.

Ability to read and write English.

Ability to understand and follow verbal and written directions/instructions given in English.

Ability to accurately perform mathematic calculations.

Ability to appropriately use anti-icing or deicing materials on roadways.

Ability to operate computers and/or other electronic devices and use programs/applications to conduct Department of Transportation business.

Ability to operate a Global Positioning System (GPS) and Electronic Distance Meter (EDM) equipment.

Ability to use commonly issued materials testing equipment, devices, scales, ovens, moisture chambers and strain gauges.

Ability to assist with on-the-job training for new employees.

Ability to operate, calibrate and maintain electronic and hydraulic controls to ensure proper amount of materials are being applied to the roadway and make decisions on material application.

Skill in the use of the Roadway Weather Information System (RWIS) and weather reports and other related computer software applications.

Skill in the operation of hand tools, power tools, and light and heavy highway maintenance equipment requiring hand, foot and eye coordination.

Displays high standards of ethical conduct. Refrains from dishonest behavior.

Works and communicates with all clients and customers providing polite, quality professional service.

Displays a high level of initiative, effort, attention to detail and commitment by completing assignments efficiently with minimal supervision.

Follows policy, cooperates with supervisors and aligns behavior with the goals of the organization.

Fosters and facilitates cooperation, pride, trust, group identity and team spirit throughout the organization.

Exchanges information with individuals or groups effectively by listening and responding appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

Graduation from high school, or G.E.D. and two years of full-time highway maintenance and equipment operation work, construction inspection, field work in engineering survey, or materials inspection and testing;

OR

an equivalent combination of education and experience substituting one year (30 semester hours) of accredited post high school education in highway maintenance and equipment operation, construction inspection, engineering survey, or materials inspection and testing for each year of the required experience;

OR

employees with current continuous experience in the State Executive Branch that includes 18 months of full-time work as a Highway Technician Associate or Construction Technician Assistant.

NECESSARY SPECIAL REQUIREMENTS

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 in order to continue employment.

In conjunction with Title 49 of the Code of Federal Regulations (parts 40 and 382), this job requires 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.

Within a period of time as determined by the appointing authority, designated positions are required to have and maintain a current Herbicide Applicator certification from the Department of Agriculture and Land Stewardship.

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.

NOTES

Employees must be able to travel and may be required to stay away from home overnight during assignments.

Within a timeframe as determined by the appointing authority, employees in designated positions are required to reside within 30 minutes driving time, during normal conditions, from assigned work location.

Employees must respond to emergency situations as required.

Employees must be able to work up to 16 consecutive hours.