8356

TRANSPORTATION ENGINEERING TECHNICIAN – ASSOCIATE

NATURE OF WORK

Serves in a beginning to intermediate level capacity performing duties associated with highway and bridge construction and maintenance, including planning, design, surveys, materials, construction inspection, utility placement and relocation, traffic operations, and bridge safety. Participates in a training program requiring 180 Technician Development Hours.

DISTINGUISHING CHARACTERISTICS

This level is distinguished from the Transportation Technician Trainee (level 1) in that the incumbent has gained sufficient work experience and training to perform tasks under general as opposed to direct supervision. It is distinguished from Engineering Technician (level 3) in that incumbents perform intermediate duties as opposed to supervision of projects or other project personnel.

ESSENTIAL JOB FUNCTIONS (Any specific position in this class may not include all of the duties listed, nor do the examples listed cover all of the duties which may be assigned.)

Conducts standard sampling and field testing materials including density test by application of standard method of Portland Cement Concrete, Bituminous mixtures, aggregates, quarries and pits.
Conducts standard construction surveying including instrument duties, provision of adequate staking to permit construction, identification and staking of right-of-way, reducing and checking field book notes of standard surveys, and determining, plotting and checking standard cross sections.
Enforces traffic controls established during construction.
Computes and records areas, volumes and cost estimates.
Determines drainage areas from survey data of topographic maps.
Determines and utilizes Federal, State and AASHTO load and clearance factors applicable to pavements and structures.
Performs calculation of safe speeds on horizontal curves and determines super-elevation, and calculation of sight distances on vertical curves and screened horizontal curves.
Prepares and checks detailed estimates, bills of materials and cost estimates.
Reviews and checks location and property surveys.
Posts as-built features on design plans of a project.
Reviews test results to determine if they provide a reasonably unbiased estimate of the information desired.
Reads topographic and hydrographic maps and charts' plot and draft topographic information.
Performs minor adjustments to simple optical instruments (adjust level, etc.).
Performs triangulation and traverse surveys to meet 3rd order precision standards; operate levels of 3rd order precision in bench level runs and cross-sectioning – including balancing of back sights and foresights.
Directs survey helpers on location surveys.

Reviews and evaluates routine technical traffic control studies, include simple signalization requests, systems to signs and pavement markings, hazard elimination projects, studies to determine conformance to established standards.
Validates and compiles traffic volume data to assists engineers or specialist in determining traffic trends.

KNOWLEDGE, SKILLS AND ABILITIES
Knowledge of first aid procedures.
Knowledge of individual responsibilities under OSHA and other safety requirements.
Knowledge of the applications of computers to design and estimate.
Knowledge of the fundamentals of photogrammetry as applied to design.
Knowledge of care, cleaning, basic calibration and safeguarding of standard laboratory and field equipment and instruments.
Knowledge of basic surveying and drafting required to accurately plot sample locations.
Knowledge of materials testing terms, symbols, punctuation, grammar, spelling and sentence structure.
Knowledge of basic principles of physical science.
Knowledge of methods for collecting and storing samples for future testing; knowledge of aggregate sampling.
Knowledge of reagents used for standard field and laboratory tests.
Knowledge of requirements of special programs such as EEO, OJT, Davis-Bacon and Workers Compensation.
Knowledge of traffic safety requirements at and around work sites.
Knowledge of the utilization of vertical aerial photos and the basic concepts of photography.
Knowledge of traffic safety requirements during construction and of methods to safely maintain or re-route traffic.
Knowledge of procedures required to coordinate work with utility companies and government agencies with emphasis on electrical device layout and installation.
Ability to perform and interpret construction surveys as related to location of traffic control devices.
Ability to read, understand and utilize standard plans and specifications including metric units and conversions.
Ability to coordinate, supervise, record and check construction surveys for line and grade.
Ability to implement and enforce an effective system to account for, safeguard and maintain materials and equipment.
Ability to perform simple mathematics including metric units and conversions.
Ability to compute and record areas, volumes and cost extensions.
Ability to work harmoniously with other employees.
Ability to communicate effectively both orally and in writing.

MINIMUM QUALIFICATIONS
Certification as a Transportation Engineering Technician Associate by the West Virginia Transportation Engineering Technician Certification Board at BridgeValley Community and Technical College.

Special Requirement
Possession of a valid driver's license.

Substitution (New hires only)
Twelve hours of study in engineering technology from a regionally accredited college or university, plus two years of paid experience in a technical capacity in a civil engineering environment may be substituted for the Certification OR an associate or degree in civil engineering technology from a regionally accredited college or university.

Established: 10/21/93
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