

CLASS TITLE: BRIDGE SAFETY INSPECTOR

Class Code: 02756300
Pay Grade: 23A
EO: E

CLASS DEFINITION:

GENERAL STATEMENT OF DUTIES: As a member of a bridge and related structure team, to independently perform technical safety inspections in accordance with national bridge inspection standards; to inspect bridges for corrosion and deterioration in steel beams and girders, make technical measurements to determine if bridge cross-sectional area is reduced, and inspect concrete beams and girders for spalling, diagonal cracking and flexure cracking; to inspect abutments, piers, decks, trusses, bearings for deterioration; to prepare technical inspection notes, photos and sketches; to operate special inspection equipment, review engineering plans and prior inspection reports, and coordinate traffic control and equipment on-site; and to related work as required.

SUPERVISION RECEIVED: Works under the supervision of a superior from whom general directions are received which afford the opportunity for the use of independent judgment and the making of technical decisions of moderate difficulty; work is review in process through the examination of reports, and upon completion for results obtained.

SUPERVISION EXERCISED: Supervises the work of engineering technicians and/or other personnel assigned to assist.

ILLUSTRATIVE EXAMPLES OF WORK PERFORMED:

As a member of a bridge and related structure team, to independently perform technical safety inspections in accordance with national bridge inspection standards.

To inspect bridges for corrosion and deterioration in steel beams and girders, make technical measurements to determine if bridge cross-sectional area is reduced, and inspect concrete beams and girders for spalling, diagonal cracking and flexure cracking.

To inspect abutments, piers, decks, trusses, bearings for deterioration; to prepare technical inspection notes, photos and sketches; to operate special inspection equipment, review engineering plans and prior inspection reports, and coordinate traffic control and equipment on-site.

To utilize personal computers to create and update reports.

To perform inspection of bridges to determine maintenance and repair needs; to inspect bridges by climbing over or through members; to inspect damages including spalled concrete, reduced steel members, broken railings, peeling paint, damaged signs, broken guard rails on bridge approaches, and damaged utility service; to prepare reports recommending maintenance and repair work required.

To perform inspections of bridge relates structures, such as trestles, culverts, and water ways to detect damage or wear and to ensure structures conform to safety regulations, codes and engineering specifications; inspects masonry to detect cracks in concrete or signs of settlement; verifies alignments with gauging instruments.

To ascend or descend on bridge structures by setting up and using scaffolding, rigging, ladders, and hydraulic equipment.

To inspect bridge decks for; potholes, cracks, and spalls, loose or missing deck joints; missing, damaged, or substandard safety features such as bridge railings, guard railings, light standards, and signs.

To inspect bridge superstructure for; cracks, corrosion, deterioration, and poor welds on steel beams, girders and trusses, spalling, diagonal cracking, and vertical cracking on concrete beams and slabs.

To inspect piers, bents, and abutments for evidence of rotation, settlement, or deterioration.

To take measurements to quantify all findings and to determine if there has been a reduction of cross-

sectional area in structural members.

To provide data, including measurements, photographs, and sketches, for the preparation of accurate and complete reports concerning the safety and condition of bridges.

As required, utilizes small boats during the course of waterway bridge inspections.

To investigate and report on complaints and accidents involving bridge structures; recommends repair or change in structure or maintenance as safety conditions requires.

To set up fluorescent cones and signs in order to control vehicular traffic.

To do related work as required.

REQUIRED QUALIFICATIONS FOR APPOINTMENT:

KNOWLEDGES, SKILLS AND CAPACITIES: A working knowledge of the methods and techniques of bridge safety inspections and the ability to perform such inspections; a working knowledge of federal and state guidelines relating to the safety inspection and condition rating of bridges; a working knowledge of bridge components, their purposes and interrelationships; a working knowledge of safety procedures to be employed in bridge safety inspections; the ability to ascend to and work in high places without inordinate fear; the ability to perform mathematical computations; the ability to operate a digital camera and computer software used in reporting; a familiarity with work zone safety requirements; a working knowledge of basic civil engineering principles as applied to bridge construction; the ability to prepare neat and accurate drawings and sketches; the ability to operate and adjust specialized bridge inspection measurement and detection devices; the ability to prepare and complete accurate bridge inspection reports; the ability to read and interpret basic bridge construction plans; and related capacities and abilities.

EDUCATION AND EXPERIENCE:

Education: Such as may have been gained through: graduation from a Community College, or the completion of at least a two-year program supplemented by courses in construction or civil engineering technology at a technical institute or two years at an accredited college or university supplemented by courses in civil or mechanical engineering; and

Experience: Such as may have been gained through: considerable employment in a technical position in the area of bridge inspection, construction, maintenance or design.

Or, any combination of education and experience that shall be substantially equivalent to the above education and experience.

SPECIAL REQUIREMENT: A physical examination, with spirometry and respiratory clearance, as evidenced by a physician's certificate, is required. At the time of appointment must have adequate physical strength, stamina, physical agility, visual and auditory acuity, and must maintain such physical fitness as to be able to perform assigned duties. Must possess and maintain a valid Rhode Island Drivers License. Within six months of appointment, must satisfactorily complete the USDOT NHI comprehensive training course in National Bridge Inspection Standards (NBIS). Incumbents in this class are exposed to the discomfort of weather conditions, to dangerous road and traffic conditions, including exposure to heights, poisonous plants, insect bites and allergy irritants, and to loud and potentially dangerous machinery.

Class Revised: June 15, 1980

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