

STRUCTURAL ENGINEER

DISTINGUISHING FEATURES OF THE CLASS: The work involves performing civil engineering with a concentration in planning, designing, or reviewing plans for erection of structures requiring stress analysis, estimated load posting requirements, computing size, shape, strength, and type of structural members. Duties are performed in accordance with established engineering principles and standard specifications promulgated by the State of New York and procedures of the Cattaraugus County Department of Public Works. Wide latitude is allowed for the use of independent judgment in carrying out the details of the work. The work is carried out under general supervision of the Director of Engineering and Senior Civil Engineer. An incumbent coordinates planning and carrying out projects with other Engineering Division personnel. A Structural Engineer does related work as required.

TYPICAL WORK ACTIVITIES:

- Maintains an inventory and inspects culverts along County roads;
- Numerically rates culverts utilizing the same standards as the State's bridge inspection program, taking into account such factors as road type and traffic patterns in order to prioritize for replacement where needed;
- Maintains an inventory of County-owned bridges consisting of files providing the permanent history of each bridge;
- Responds to structural or safety defects identified by State inspectors, obtaining analytical load ratings, posting reduced load signage, conducts personal inspections and recommends other actions which may be necessary under the circumstances;
- Responds with required reports to the New York State Department of Transportation regarding the State identified bridge defect(s);
- Updates bridge database rating for project identification;
- Designs, lays out, and maintains an inventory of the construction, and reconstruction of guide rails, taking into account, where applicable, accident histories, and determining needed road shoulders, drainage, and culverts, inspecting each site of installation and overseeing installation(s);
- Reviews highway use permit applications for over-width and overweight tractor trailers to assure they meet the necessary requirements for approval and issuance;
- Coordinates with the Operations Manager, Road Section Supervisors, utility companies, and private citizens in regard to permits while monitoring their usage;
- Acts in the role of a purchasing agent in regard to obtaining needed materials for bridges, culverts, guide rails, and other County materials by obtaining verbal and written quotations and comparing such to State bid prices in order to obtain the best value on items;
- Monitors reported stream channel and erosion control so appropriate action is taken to protect County and/or private property;
- Writes periodic status reports on bridges and culverts including quantitative data for presentation to the Director of Engineering and others;
- Provides technical support and structural analysis in regard to secondary buildings and structures, bridge painting, cleaning, bridge deck repairs, and sealing;
- Keeps abreast of new technologies in civil and structural engineering in order that adaptations may be effectively initiated.

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES, AND PERSONAL CHARACTERISTICS: Good knowledge of the principles and practices of engineering theory; good knowledge of construction procedures including structural design and analysis, specification writing, inspections, and surveys; good knowledge of the tools, terminology, and materials used in the construction of roads, bridges, and buildings; good knowledge of the codes, laws, rules, regulations, and procedures governing engineering design and construction; ability to conduct studies pertaining to the best methods and materials to use in an engineering project; ability to prepare plans, specifications, and narrative and tabular reports; ability to coordinate engineering projects; ability to train staff; ability to establish cooperative relationships with contractors, vendors, co-workers, and others; mechanical aptitude; accuracy;. physical condition sufficient to perform the essential functions of the position.

MINIMUM QUALIFICATIONS: Graduation from a regionally accredited or New York State registered college or university with at least a Bachelor's Degree in Civil Engineering Technology or closely related field and two (2) years of experience performing civil engineering projects involving construction or design.

SPECIAL REQUIREMENT: Possess and maintain a driver's license valid to operate a motor vehicle in New York State.

CATTARAUGUS COUNTY CIVIL SERVICE COMMISSION

Adopted: