

TAMA COUNTY JOB DESCRIPTION

Date: March 9, 2023

Department: Secondary Roads

Title: Engineer

FLSA: Full-Time/Salaried

Reports to: Tama County Board of Supervisors

PURPOSE

The primary purpose of the County Engineer is to plan, direct and coordinate the work of a large support staff involved with the design, construction and maintenance of the County's Secondary Roads system: prepares or directs preparation and modification of reports, specifications, plans, construction schedules, environmental and related impact studies; advises the Boards as to the problems, practices and manner in which roads are maintained; prepares annual budget and construction program for the Board of Supervisors and I.D.O.T. approval indicating yearly priorities and estimated funding sources; responsible for the efficient, economical and performance of all engineering work done by contract or support staff. Must have ability to lead a diverse workforce, communicate effectively with County management, employees and the general public.

ESSENTIAL FUNCTIONS AND RESPONSIBILITIES

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The following duties are typical for this job. However, these are not to be construed as exclusive or all inclusive. Other related duties may, at times, be required and assigned.

- Plans, directs, coordinates, and supervises all road and bridge maintenance activities, consulting with foreman and other employees and making final decisions regarding work priorities, methods in non-standardized situations.
- Receives reports of problems, requests for work to be performed from the public; provides program information to the public directly or by telephone.
- Prepares various engineering studies and recommendations regarding departmental programs, equipment purchases, project applications and related analysis for Board or I.D.O.T. action; develops annually for Board and I.D.O.T. approval of Secondary Roads Budget and Construction Plan indicating a detailed estimate of anticipated income and expenditures, list of project accomplishments and priorities for the next and four succeeding fiscal years based upon construction funds estimated to be available for those periods; annually submits a report to I.D.O.T. indicating progress toward completion of each approval project, total amount expended on each project during year. Prepares specifications for all major items of equipment purchases.

- Surveys all roads within the County to determine priority construction and repair needs consistent with location to main roads, accessibility to mail, school bus and related routes, accidents, weather related damages, citizen complaints; prepares maps, estimates of cost and necessary surveys as to bridges, culverts, tile and necessary road work.
- Reviews and approves or denies written requests and drawings submitted by various individuals or companies to use the Secondary Road right of way for such purposes as utility installation including telephone, power transmission, water line installation and for tile line crossings of the county road.
- Supervises development and/or approves project plans and profiles showing cuts and fills, outline of grades, existing bridges, culverts, grades, and structures, cornerstones and related bench marks; drainage, tile locations, watershed estimates and cost estimates; reviews project plans prior to advertisement and bid letting when required by statute; reviews and records all bids received at public letting; maintains accounting and required operational records; signs and seals with professional engineer seal issued by State of Iowa for all construction plans.
- Provides guidance and assistance to the Board in program areas such as connection between roads which cross County lines, preparing, joint agreements for the location, construction, and maintenance, of roads under jurisdiction of own or adjoining counties; attends at county expense various seminars, Board meetings and I.D.O.T. sponsored programs to keep abreast of developments which have an impact on departmental programs.
- Monitors and approves or rejects all construction projects completed by contractors; prepares and approves all payment and acceptance documents on behalf of the County.
- Attends and participates in work related training and in-service meetings.
- Eliminates any observable safety, company work policy or rules violations immediately.
- Responsible for demonstrating due care for the property, facility, and proprietary information.
- Demonstrates adaptability to performing a variety of duties, frequently changing from one task to another of a different nature without loss of efficiency or composure.
- Responsible for conducting work in a timely and safe manner, following safety rules, and attending necessary training.
- Conducts other duties as assigned.
- Demonstrate the ability to maintain accurate and current employee and departmental records.

- Responsible for knowing and following company policies and procedures as outlined in the I.D.O.T. / County Policies and for following and adhering to instructions, requests, and task assignments as given by Board of Supervisors.

MINIMUM EDUCATION AND EXPERIENCE REQUIRED TO PERFORM ESSENTIAL FUNCTIONS

To perform this job adequately, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or abilities required. Reasonable accommodations may be made to enable qualified individuals with disabilities to perform these essential functions.

- Education/Training/or Experience:
 - Licensure as a Professional Engineer issued by the Engineering Board of Examiners (State of Iowa) and four (4) years of experience in Civil Engineering at least three years in County Government.
 - Engineer and continuing education mandated by the State to retain P.E. license.
 - Satisfactory completion of all mandatory in-service training.
- Computer Skill Requirements:
 - PC Computers - basic Microsoft Office applications (Word, Excel, Access), CAD software.
- Language Skill Requirements:
 - Must be able to speak the English language with poise, voice control, and confidence. Proficient in developing and maintaining effective working relationships with Board members, Secondary Roads staff, Contractors, Property Owners, State and Local Officials.
 - Must have the ability and capability to express/exchange information and ideas by the spoken word and to determine/discern such sounds by acceptable hearing.
 - Must be able to speak and comprehend fluent English and be able to communicate appropriately and effectively, both verbally and in writing, with Department Heads, employees, and outside agencies.
 - Must be proficient in providing appropriate direction, guidance and control functions to subordinate personnel; including assigning and reviewing work; planning work, developing standards, selecting, disciplining employees.
- Mathematical Skills Requirements:
 - College level math (algebra, geometry, trigonometry) is required to compute elevations, contours, grades, storage areas, quantities of materials, cross sections, dimensions, profiles, and volumes.
 - Must be able to measure space; compute linear, square, and cubic measurements; to compute rate, ratio, and percent; and able to accurately measure miles on a map. Uses advanced math and various computer software in engineering, administrative, and related program functions.
 - Knowledge of business mathematics (all monetary units).
- Reasoning Ability Requirements:

- Proficient in the understanding and application of technical subject matter such as I.D.O.T. bridge and culvert design standards, materials, and construction manuals, paving manuals, field testing manuals, traffic control devices, specification revision manuals, maintenance standards.
- Proficient in the use of various equipment and procedures used in surveying, inspecting and recording the results of various field activities.
- Knowledge of civil and hydraulic engineering principles and practices; current specifications and design guidelines of Iowa DOT and federal highway administration; acceptable maintenance standards; county road systems, project development and history; federal and state requirements for right of way acquisition; surveying principles, and highway construction methods and materials.
- The ability to: exercise professional engineering judgement in appraising situations and making decisions; read and interpret comprehensive engineering information; evaluate complex drafting and engineering designs; present ideas concisely and clearly and deal effectively with individuals and groups and evaluate new information to assure compliance with current and proposed projects and specifications.
- Must have the ability to provide additional instruction to subordinates; solutions to problems; assistance with conflicts.
- Ability to maintain concentration in midst of constant interruptions.
- Physical Demands:
 - Vision: While performing the duties of this job, the employee is frequently required to read correspondence, faxes, and other written materials. Specific vision abilities required to do this job include close vision; distance vision; peripheral vision; and the ability to adjust focus. Requires clarity of vision to see paper documents at a distance of 20" or less, and objects 20 "or more.
 - Hearing: Must be able to audibly detect voices over the telephone; spoken conversation from employees, and outside agencies.
 - Mobility/Dexterity of Limbs: While performing the duties of this job, the employee is frequently required to sit and occasionally walk. Requires manual finger dexterity and motor coordination in coordinating eyes, hands and fingers swiftly and accurately in operating office equipment.
 - Strength/Lifting: While performing the requirements of this job, the employee must occasionally lift and carry up to 25 pounds.
 - Work Environment. Work particularly during the construction season is subject to a variety of potentially dangerous conditions such as road and structure on-site reviews and inspections within the work zone, paving (traffic and construction equipment) bridge construction (slippery surfaces, beams, pilings, moving cranes). Exposed to dust, fumes, heat, noise, inclement weather.