



POSITION DESCRIPTION KOOCHICHING COUNTY

SECTION I: GENERAL INFORMATION

Position Title: Engineering Technician, Sr.	Department: Highway Department	FLSA Status: Non-Exempt
Date: 10/2010	Job Evaluation Assignment B25	Immediate Supervisor's Position Title: Assistant County Engineer

Job Summary:

Under the direction of the Assistant County Engineer, the Engineering Technician, Sr. is responsible for performing technical civil engineering operations and functions involved in the design of highways projects by the County Engineer. Duties include collecting preliminary survey work; operating CAD software used in preliminary design performing construction staking and directing survey field crews; inspecting work, materials and monitoring compliance with project specifications; documenting all field progress and verifying acceptance of project change orders.

SECTION II: ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Plans and prepares federal, state, and county projects to include such tasks as: conducts pre-design inspections and surveys; drafting plans and specifications for highway construction and maintenance performed by contractors and county forces; produces storm water pollution prevention plans; conducts field work and compiles data to determine quantities required for project completion; monitors activity of contractors to ensure compliance with mandated specifications on assigned projects and to assure materials test and meet project and MnDot requirements. Keeps daily construction dairies and other records to protect County interests and to make monthly payments to contractors. 45%
2. Instructs and monitors survey and inspection crews involved on federal-aid, state-aid, and county projects. 20%
3. Stakes project sites to design specifications for contracted and county construction crews to assure compliance with project specifications, material requirements, and inspects contracted work. 15%
4. Compiles and documents data collected, and information required for state and federally funded projects to ensure that the county receives the correct funding for payments that must be made to contractors. 5%
5. Learns and applies CAAD skills and design software to standardize project computer data. Trains and assists other technicians in use, operation and functions of CAAD software, updates and/or other applications. 5%
6. Records all repairs, maintenance or replacement parts to vehicles. Logs hours on specified roads. 5%
7. Meets with landowners to assist in mitigating right of way needs for new construction. 5%
8. Performs other duties of a comparable level/type, as required.

SECTION III: WORK REQUIREMENTS AND CHARACTERISTICS

EDUCATION/KNOWLEDGE REQUIREMENT: Minimum education required to perform adequately in position could reasonably be attained only by completing the following:				
REQUIRED EDUCATION/TRAINING (choose one)		DEGREE INFORMATION: Type of degree: (B.S., M.A., etc.)		
	less than high school diploma		Major field of study or degree emphasis:	
	High school diploma or GED.			
	1 yr post secondary	x		2 yrs post secondary
	3 yrs college			4 yrs college
	1st year graduate level		Essential knowledge and specialized subject knowledge required to perform the essential functions of the job: <ul style="list-style-type: none"> ▪ Fundamental principles and concepts of civil engineering and surveying. ▪ Knowledge of mathematics (e.g. algebra, trigonometry, and geometry) used in civil engineering. ▪ Fundamental understanding of computer operations, engineering design software (e.g. CAAD) used in engineering design, drafting and documentation. ▪ Knowledge of construction material testing and analysis procedures for aggregate, concrete and bituminous materials. ▪ Fundamentals of accepted state and state-aid standards, rules and criteria. • Knowledge of department operating procedures and processes impacting the performance of job assignments 	
	2nd year graduate level			
Required Work Experience in Addition to Formal Education/Training: Minimum of 4 years previous directly related civil engineering experience in surveying, inspection and drafting of plans for highway projects.				
LICENSE/ CERTIFICATION		Identify licenses/certification required: A Valid D Minnesota Driver's License. MN/DOT Certification in: Aggregate Production; Bituminous Plant; Bituminous Street (I & II) Bridge (I & II), Concrete Field (I & II), Erosion Control, Management/SWPPP Design/Installer		

RESPONSIBILITY FOR DIRECT SUPERVISION OF THE FOLLOWING POSITIONS		
	Titles of Positions Directly Supervised	# of Employees
	TOTAL	

INDIRECT SUPERVISION:**Number of employees indirectly supervised:**

Laborers and/or staff assigned to survey crew activities.

Total:

varies

**ESSENTIAL SKILLS
REQUIRED TO
PERFORM THE
WORK****Skilled in:**

- Oral and written communications.
- Establishing and maintaining effective working relationships with contractors and the public over projects concerns, questions, enforcement of plan/project specifications; and the exchange of information.
- Proficient in survey and inspection responsibilities and duties.
- Project management, organizational and judgment in dealing with contractors.
- Operating survey equipment and using and applying computer aided design programs/applications, business productivity software (e.g. word processing, spreadsheet, presentation programs, etc.).
- Proficient in drafting preliminary design plans and documentation of survey information and data used in plan design, analysis and project specifications. Interpreting detailed drawings and specifications and applying information to project designs.
- Monitoring and observing project activities and conditions which may impact progress or on-site circumstances that require the attention of County Engineer or Assistant Engineer involving possible change orders and revisions.
- Operating and applying materials testing equipment.
- Preparing and presenting technical, engineering and narrative reports, construction diaries/logs.

HAZARDOUS WORKING

CONDITIONS: *The essential duties of the work are performed under various physical hazards or environmental conditions noted.*

Unusual or hazardous working conditions related to performance of duties:

The essential duties of the job involve exposure to disagreeable outside weather and related conditions (e.g. cold, heat, dust, fumes, wet, steep terrain, woods, insects, etc.), performing duties in and around traffic or moving construction equipment, proximity to pile driving operations, construction sites, woods and wetlands.

SECTION III: WORK REQUIREMENTS AND CHARACTERISTICS

PHYSICAL JOB REQUIREMENTS: Indicate according to essential duties/responsibilities				
Employee is required to:	Never	1-33% Occasionally	34-66% Frequently	66-100% Continuously
Stand			x	
Walk			x	
Sit		x		
Use hands dexterously (use fingers to handle, feel)				x
Reach with hands and arms				x
Climb or balance		x		
Stoop/kneel/crouch or crawl		x		
Talk or hear				x
Taste or smell	x			
Physical (Lift & carry): up to 10 pounds				x
up to 25 pounds			x	
up to 50 pounds		x		
up to 100 pounds		x		

PHYSICAL JOB REQUIREMENTS: Indicate according to essential duties/responsibilities

Physical requirements associated with the position can be best summarized as follows:

Medium Heavy Work:
Exerting up to 100 pounds of force occasionally, and/or up to 25 pounds of force frequently, and/or up to 10 pounds of force constantly to lift, carry, push, pull or otherwise move objects in the performance of the job .

SECTION IV: CLASSIFICATION HISTORY AND APPROVAL

This Position Description reflects an accurate and complete description of the duties and responsibilities assigned to the position.

Classification History: B25

Date Board Adopted: October 26, 2010 2010/10-33 Job Study