

Class Specification

Title:	Senior Engineer
Job Code:	752750
Bargaining Unit(s)/Grade:	AFSCME GR 32/ Non Represented GR 9
FLSA Status:	Exempt
Safety Sensitive:	No
Competency Model:	Individual Contributor
Career Family	Engineering/Construction

Summary

Under general direction of a Principal Engineer or Manager, performs professional engineering work of moderate difficulty and complexity to the specialty area as assigned. Incumbents in this class apply professional skill and knowledge to engineering projects in the field (e.g. industrial waste, pollution prevention) or of equal complexity in the office (e.g. construction services, infrastructure). Incumbents are assigned more advanced project management, design and plan review responsibilities. Positions at this level require registration as a professional engineer (except where waived).

Areas of Assignments may include:

Transportation engineering
 Civil Engineering
 Electrical Engineering
 Environmental Engineering

This is the intermediate level in the professional engineering classification series. Incumbents manage intermediate sized projects and provide work direction to entry-level engineers and related technical staff. This class is distinguished from the higher level of Principal Engineer in that the Principal Engineer handles the most complex projects and positions function as either (a) specialists responsible for advanced, non-managerial technical duties; or (b) project managers responsible for leading the most complex projects. Advancement to the Principal class is dependent on position responsibilities.

Essential Responsibilities*

In addition to regular attendance, the following responsibilities are typical of the duties performed by incumbents in this job class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential duties of the position.

Responsibilities common to all positions

- Contributes as project engineer and project team lead on projects of moderate scope and complexity and may manage several projects concurrently.
- Defines project scope and selects consultants; negotiates contracts, change orders and amendments; prepares and monitors project schedules; monitors, reviews and coordinates project design; evaluates contractor requests for extra work; monitors contractor's work and enforces terms of the contract; and processes payments and change orders.
- Prepares designs, specifications, plans, estimates and reports for assigned area. Conducts engineering studies, evaluates alternatives, makes recommendations and presents reports to management and others.
- Coordinates projects with businesses, utilities, other Cities/Counties and other stakeholders who may be affected by the project or program.
- Serves as the Council representative at meetings and promotes Council objectives.
- Responds to complaints and assists in solving problems; interprets plans and policies; confers with and provides information to property owners, contractors, engineers, consultants and the general public on conformance to standards, plans, specifications and codes.

- Prepares a variety of written materials, including staff and engineering reports. Establishes and maintains appropriate files and documentation.
- May develop communication materials for assigned program area (e.g., develops content for website, press releases, newsletters, etc).
- Work direction/lead work responsibilities: May provide work direction to other engineers, drafters, technicians, consultants and administrative staff.
- Performs other duties of a similar nature or level.

Construction Management

- Performs professional engineering responsibilities in the planning, design and implementation of capital improvement projects.
- Performs field evaluation, monitoring, and facility inspection. Conducts field site inspections; ensures contractor compliance with contract documents and time and budget estimates; recommends field changes.

Industrial Waste Permit Engineering

- Administers the industrial waste discharge program including permit issuance and renewal program, compliance and enforcement monitoring, special discharge requests, for approximately 800 industrial users working to reduce the amount of pollution entering the wastewater collection system.
- Responds to and investigates spills, illegal discharge reports and treatment plant and collection system problems. Assists with non-compliance issues and assists companies develop compliance schedules.
- Implements and operates IWPP section information management system. Defines business processes to ensure interface with database management systems. Creates and maintains a variety of Crystal reports used in the day to day operation of IWPP section. Maintains V-net (an intranet) of business processes and procedures.

Wastewater treatment plant support operations

- Reviews and analyzes plant process data, troubleshoot process control problems and recommend corrective action.
- Evaluates daily operation and maintenance activities to assist with setting priorities of critical equipment repair.
- Responds to and investigates spills, potential permit excursions, complaints, and process failures.
- Calculates, tracks and projects future operation costs.
- Evaluates process changes to improve cost efficiency and operation.
- Plans and coordinates field monitoring projects and prepares accurate and timely reports.
- Conducts or assists others in training on process and computer-related aspects of plant operations which includes preparing standard operating procedures or manuals as requested.

Sewer/Interceptor System

- Provides program administration to the Inflow/Infiltration (I/I) surcharge program to reduce excess I/I to ensure the interceptor infrastructure system has adequate capacity to serve future growth.
- Develops program framework, develop modeling program and standards/benchmarks through the collection and interpretation of data from cities (ordinances, capital improvement programs and other flow measurement programs).
- Collects and interprets hydrographs (flow and rain data downloaded routinely for each major rain event so peak inflow/infiltration rate can be determined).
- Develops Satellite Community Permit approach in anticipate of new NPDES permit requirements.

Non Essential Responsibilities

- Assists with development of financial program to fund programs.

Minimum Qualifications

Education	Bachelor's degree in engineering
Experience	Five years of related professional level engineering experience.

License Requirements	Professional Engineer with the Minnesota State Board of Registration (except where waived: Industrial Waste). A valid driver's license may be required depending on assignment.
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Knowledge, Skills and Abilities Required:

Technical	Engineering theories and principles related to the area of assignment; Principles of capital improvement cost estimation and contract administration; Basic supervisory principles and practices; Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations and preparing and presenting effective staff reports; and techniques for effectively representing the Council in contacts with government agencies, community groups, various businesses, professional and regulatory organizations and the public. Requires professional judgment and independent evaluation, selection, adaptation and modification of standard engineering techniques, procedures and criteria.
Computer	Word, Excel and email and various database project tracking software packages. Computer applications related to the work including basic GIS and AutoCad concepts and applications.
Language	Level 4. Ability to read, analyze and interpret common technical journals, financial reports and legal documents. Ability to respond to common inquiries or complaints from customers. Ability to write speeches and articles in a prescribed technique or style. Ability to effectively present information to top management, public groups or Council members.
Math	Level 4. Ability to prepare civil construction cost estimates. Ability to interpret and apply advanced mathematical and quantitative methods and procedures typically acquired through advanced professional training.
Human Relations	Level 2. Requires the skill and persuasion in dealings with others both inside and outside of the department. Interactions with others generally require influencing, instructing and negotiating with individuals to gain their understanding, cooperation and action. Interactions may involve efforts to persuade and negotiate with other representatives or officials outside of the organization, but does not have the authority to act on behalf of the organization in matters where there are legitimate differences of opinion.

Working Conditions

The majority of time, work is performed in a standard office setting. Conducting field inspections and performance of duties at off site locations as required. Some positions may require work to be performed at off site work locations (e.g., field inspections) where the position may be exposed to moving parts, fumes, airborne particles, outdoor weather conditions and vibration. Confined space entry at industry and various facilities is required.

Physical Requirements

Regularly required to sit for long periods, stand/walk occasionally, speak, hear normal conversation and telephone ring tones, operate a computer and other office equipment, reach with hands/arms frequently below chest height and occasionally overhead, must occasionally lift/carry/push/pull up to 10 pounds, must have adequate close vision for reading and computer work.

* The job responsibilities listed are typical of the positions included in the job classification; however, not all duties are necessarily performed by each specific position.

Revision History: content updated 11/9/06
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