



Office of Human Resources  
Engineer Senior - CE0431  
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### General Statement of Duties

Performs full performance professional level engineering work on a variety of large and complex engineering projects and assignments from inception to completion, where an emphasis is placed on the application of engineering principles and practices.

### Distinguishing Characteristics

This class is distinguished from the Engineer class that performs intermediate level professional engineering work on a variety of engineering assignments with emphasis placed upon the application of engineering mathematics, principles, and practices on moderately difficult engineering projects/assignments.

The Senior Engineer class is also distinguished from the Engineer Specialist class that performs specialized, advanced professional engineering work in one or more of the following areas: 1) project management work on complex, multifaceted projects from inception to completion including the management and coordination of projects that have city-wide impact and requires a global, strategic understanding of city agencies and city policies, standards, and systems; 2) identifies the department's engineering needs by initiating analytical studies to improve operating efficiency and meet city, federal, and state regulatory mandates; 3) responsible for engineering quality control involving all components of the department's complex engineering programs; 4) monitors, evaluates, and modifies existing department engineering programs, systems, and processes for optimum efficiency and changing objectives and participates in strategic planning activities; 5) functions as the city-wide technical expert in one or more functional areas.

### Level of Supervision Exercised

By position, supervises Engineers, Staff Engineers, and technical support staff.

By position, performs lead work.

Matrix manages and coordinates the work of consultants and contractors, which may include other employees who are assigned to work on specific projects.

### Essential Duties

Performs full performance professional level engineering work on a variety of large and complex engineering projects and assignments from inception to completion, which includes reviewing construction plans and designs for conformance and compliance, providing technical engineering oversight and guidance, coordinating project phases, and recommends solutions to complex engineering issues and problems.

Works with stakeholders both internal and external to the city, which includes attending neighborhood meetings, working with intergovernmental organizations, interacting with utility companies, other city agencies and departments, elected officials, and works with consultants and contractors.

Prepares project bid materials and cost estimates, which includes evaluating bid qualifications and proposals, and works with stakeholders on project designs, concepts, and timeframes for project completion.

Acts as a team lead on projects and assignments, coordinates the work for contractors and consultants, assists inspectors with difficult or unusual code compliance issues, keeps team member focused on tasks and assignments, and allocates resources effectively.

Oversees and directs design and construction coordination meetings involving private development projects and city capital improvement projects to lead the development process and ensure the timely approval and completion of projects.

Designs capital improvements projects involving the public right-of-way, traffic control systems, storm and wastewater drainage infrastructure.

Prepares project budgets in the planning and design phase, determines work plans and schedules, monitors project budgets and expenditures throughout construction, and ensures project deliverables stay on-time and target, ensures quality control, and the project stays on budget.

Performs project management work on complex projects, which includes monitoring overall construction and design, tracking project schedules, overseeing costs and expenses, ensuring compliance and conformance to engineering standards within contract specifications, and confers with management on risks, costs, and allocation of resources within the various phase of the project.

Reviews and evaluates blueprints, architectural drawings, design plans, and project development documents for permits, which includes the review and approval of traffic control plans for street occupancy permits.

Designs complex right-of-way traffic control systems and reviews roadway construction project plans that impact signs, markings, street lights, and traffic signals to ensure compliance with traffic control device requirements.

Prepares a variety of engineering studies, correspondences, and reports, for wastewater and storm drainage projects, capital improvements projects, prepares feasibility studies, conducts traffic control studies, reviews consultant proposals and contracts, develops project communications plans.

Reviews projects to ensures compliance with engineering codes and standards, monitors projects for quality, identifies strategies to overcome barriers, ensures materials comply with project specifications, reviews calculations, and performs field and site inspections.

Performs other related duties as assigned.

Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

## Competencies

**Decision Making** - Specifies goals and obstacles to achieving those goals, generates alternatives, considers risks, and evaluates and chooses the best alternative in order to make a determination, draw conclusions, or solve a problem.

**Influencing/Negotiating** – Persuades others to accept recommendations, cooperate, or change their behavior; works with others toward an agreement; negotiates to find mutually acceptable solutions.

**Oral Communication** - Expresses information to individuals or groups effectively; taking into account the audience and nature of the information; makes clear and convincing oral presentations; listens to others, attends to nonverbal cues and responds appropriately.

**Project Management** – Manages all aspects of one or multiple projects through initiating, planning, executing, monitoring, and closing project, complying with established control systems and rules. Monitors processes, progress, and results. Determines objectives, sets priorities, delegates work, and provides others with a clear direction. Works with others towards an agreement that may involve exchanging specific resources or resolving differences.

Working with People - Shows respect for the views and contributions of other team members. Shows empathy, listens, supports, and cares for others, and reconciles conflict

Written Communication - Composes, reviews, edits, and issues written materials for diverse audiences and communicates purpose in a succinct and organized manner appropriate for context, time, and place.

### **Knowledge & Skills**

Knowledge of planning, coordination, and execution of business functions, resource allocation, and production.

Knowledge of budgeting principles and practices sufficient to be able to assume budgetary responsibilities as required.

Knowledge of various types of contracts, techniques for contracting and procurement, contract negotiation, and administration.

Knowledge of the concepts, principles, theories, and methods required to plan, design, construct, operate, and maintain facilities such as buildings, transportation systems water and sanitary systems, and other public works systems.

Knowledge of the principles, methods, and tools for conducting performance assessment to enhance and validate project performance and user acceptance.

### **Education Requirement**

Bachelor's Degree in Engineering.

### **Experience Requirement**

Three (3) years of professional engineering work experience after obtaining a Professional Engineering (PE) license. (Some positions may require experience in a specific engineering area)

### **Education & Experience Equivalency**

No substitution of experience for education is permitted.

Additional appropriate education may be substituted for experience requirements.

### **Licensure & Certification**

By position, requires a valid Driver's License at the time of application.

By position, requires a valid Commercial Driver's License (CDL "B") with appropriate endorsements by the end of probation.

Requires registration as a Professional Engineer (PE) by the Colorado State Board of Registration for Professional Engineers at the time of application.

Registration in another state will be accepted in lieu of this requirement, provided that the applicant has Colorado registration at completion of probation.

Licenses and certifications must be kept current as a condition of employment.

**Working Environment**

Pressure due to multiple calls and inquiries.  
Subject to long irregular hours.  
Subject to many interruptions.  
Subject to varying and unpredictable situations.

**Level of Physical Demand**

1-Sedentary (0-10 lbs.)

**Physical Demands**

(Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs.):

Standing: remaining on one's feet in an upright position.  
Walking: moving about on foot.  
Sitting: remaining in the normal seated position.  
Carrying: transporting an object usually by hand, arm, or shoulder.  
Balancing: maintaining body equilibrium to prevent falling over.  
Stooping: bending the body by bending spine at the waist.  
Reaching: extending the hand(s) and arm(s).  
Handling: seizing, holding, grasping, or otherwise working with hand(s).  
Feeling: perceiving attributes of objects by means of skin receptors.  
Talking: expressing or exchanging ideas by means of spoken words.  
Hearing: perceiving the nature of sounds by the ear.  
Eye/hand/foot coordination: performing work through using two or more.  
Lifting: raising or lowering objects weighing no more than 10 pounds, from one level to another.  
Far Acuity: ability to see clearly at 20 feet or more.  
Near Acuity: ability to see clearly at 20 inches or less.  
Depth Perception: ability to judge distance and space relationships.  
Field of Vision: ability to see peripherally.  
Accommodation: ability to distinguish and identify different colors.

**Background Check Requirement**

Criminal Check  
Education Check  
Employment Verification  
Licenses/Certification  
By position, Motor Vehicle Record

**Assessment Requirement**

None

**Probation Period**

Six (6) months.

**Class Detail**

**Pay Grade: E-817**

**FLSA Code: Y**

**Established Date: 9/21/2018**

**Established By: LS**

**Revised Date:**

**Revised By:**

**Class History:**