CITY OF CHATTANOOGA

Classification Specification Title: Project Engineer (Wastewater)

Department: Wastewater **Pay Grade: WWFG.10E**

Supervision Received From: Engineering Manager **FLSA Status: Exempt**

Supervisory Responsibility For: None **Established: 6/29/07**

Revision Dates: 3/25/25;

1/23/25; 9/5/24; 10/03/22

CLASSIFICATION SUMMARY:
Incumbents in this classification are responsible for performing supervisory and technical work associated with designing and coordinating civil and environmental engineering projects and ensuring projects comply with established design criteria and codes. Work may focus on one or more of the following areas: water treatment, processes and design, design and hydraulics; construction engineering and inspection; environmental engineering. Work receives limited supervision and the use of independent judgment and discretion.

SERIES LEVEL:
The Project Engineer is the third level of a three-level engineer series.

ESSENTIAL FUNCTIONS:
(*The following duties ARE NOT intended to serve as a comprehensive list of all duties performed by all employees in this classification, only a representative summary of the primary duties and responsibilities. Incumbent(s) may not be required to perform all duties listed and may be required to perform additional, position-specific duties.)*

<u>General Design and Construction Functions:</u>

May supervise staff to include prioritizing and assigning work; conducting performance evaluations; ensuring staff is trained; ensuring that employees follow policies and procedures.

Maintaining a healthy and safe working environment; making hiring, termination and disciplinary recommendations.

May design or coordinate civil engineering projects for the wastewater department, ensuring compliance with all applicable codes, laws and regulations, standards, policies, and procedures.

Wastewater Department projects include, but are not limited to, geotechnical engineering and design, storm, and sanitary sewer systems, wastewater treatment processes, limited structural design, erosion and sediment control, utilities, retention and detention ponds; creating conceptual engineering designs; reviewing and coordinating design reviews; serving as a construction liaison; resolving construction-related issues; investigating project locations; coordinating bid processes and performing other related activities and the more technical and difficult phases of a design project.

May maintain a comprehensive and current working knowledge of applicable laws, regulations, and codes.

Applicable codes include, but are not limited to, Design Criteria for Review of Sewage Works Construction Plans and Documents (TDEC DWR-NPDES-SOP-G-05-WW), the American Association of State Highway and Transportation Officials (AASHTO) Green Book- A Policy on Geometric Design of Highways and Streets, Manual on Uniform Traffic Control Devices (MUTCD), Americans with Disabilities Act (ADA), American Concrete Institute (ACI) Codes and Standards, and Technical Release 55 Manual (TR 55).

Coordinates and schedules meetings related to engineering projects; participates in construction progress meetings with contractors, architects, engineers, and other applicable parties.

Conducts visits to project sites.

May respond to requests for information and complaints from the general public; elevates issues to appropriate personnel when appropriate.

Provide technical expertise to internal staff and external agencies regarding engineering projects.

Process a variety of documentation associated with departmental operations, per established procedures, and within designated timeframes; distributes documentation and retains records.

Prepare and complete various forms, reports, correspondence, design drawings, preliminary layouts, contract documents, project lists, cost estimates, meeting minutes, work orders, schedules, punch lists or other related documents.

Communicate with supervisor, management staff, other employees, developers, engineers, contractors and external organizations to coordinate activities.

May represents the department and/or the City at a variety of meetings, public events, training sessions, on committees and/or other related events or groups in order to receive and convey information pertaining to City projects or programs.

Participate in/on a variety of meetings, public forums and/or other related groups in order to receive and convey information.

Must meet regular attendance requirements.

Must be able to maintain good interpersonal relationships with staff, co-workers, managers and citizens.

Must accomplish the essential functions of the job, with or without reasonable accommodations, in a timely manner.

Perform other duties as assigned.

<u>Hydraulics Functions:</u>

May create and utilize hydraulic/fluid flow models to determine flows to either natural/man-made stormwater or sanitary and combined sewer conveyances or systems; analyze models to determine existing system capacities and/or deficiencies and determine overflow/flood-prone areas.

May develop stormwater and sanitary sewer designs for new infrastructures and to remediate existing system deficiencies.

Incorporates hydrologic and hydraulic models to determine flow-through systems and create solutions to existing flooding problems and mitigate potential sanitary sewer overflows.

Coordinates activities with consultants, contractors, City staff, developers and property owners on existing or proposed City contracts, projects or services.

Modifies contracts and makes/recommends applicable design changes.

Provide design and technical assistance to City staff on designs, hydrologic and hydraulic principles and standard engineering practices.

May consult with applicable federal, state and local agencies, elected officials and property owners on revisions or potential revisions to existing Federal Emergency Management Agency (FEMA) flood maps or City-produced models; develops steady and unsteady State Hydrologic Engineering Center-River Analysis System (HEC-RAS) models to determine flood water elevations to evaluate and revise floodplain and floodway boundaries.

May consult with applicable federal, state and local agencies, elected officials and property owners on revisions or potential revisions to sanitary sewer and combined sewer systems or City-produced models; manages flow data and Geographic Information System (GIS) inputs to SWM 5 based model of sanitary and combined sewer system.

Performs modeling functions to determine capacity availability for proposed development projects and to identify the location of potential wet weather SSOs and methods to mitigate them.

Analyze and delineate watershed and sub-basin boundaries for storm water and sanitary and combined sewers.

Calculates rainfall-runoff coefficients based on soil type, land use, impervious area, and ground slope to determine runoff rates for a given area and rainfall event as well as potential inflow and infiltration (I/I) into the sanitary sewer system.

May use, carry and answer cell phone for business purposes as determined by the assigned job duties and the department head.

May perform other duties as assigned.

DEPARTMENT SPECIFIC DUTIES (if any):

Performs environmental engineering studies and wastewater treatment process modeling. Environmental functions: Creates and utilizes WW treatment process models to determine existing treatment capacities and/or deficiencies and determines potential treatment upgrades. Compiles data on energy use and cost for the various treatment processes.

Compiles data for the yearly air pollution certificates and prepares the report.

Supports laboratory sample processing for analyses of viral genome loads in WW for public health initiatives.

MINIMUM QUALIFICATIONS:
Bachelor's Degree in Civil Engineering (B.S.C.E.), Chemical Engineering, Mechanical Engineering, or Environmental Engineering is required.

Depending on area of assignment, five (5) years previous experience preferred in the management of construction document preparation and production, computer-aided design and drafting and construction management, with three (3) of the five years experience being in construction methods, estimation and design standards; hydraulic/fluid flow and hydrologic engineering principles and modeling with experience in the design and operation of both closed and open conduit flow; watershed and/or sewer system modeling; flood prediction and/or sewer system capacity assurance program; or any combination of equivalent experience and education.

LICENSING AND CERTIFICATIONS:

Professional Engineer License preferred
Professional Engineer License must be issued in the State of Tennessee
Valid Driver's License

SUPPLEMENTAL INFORMATION:

KNOWLEDGE AND SKILLS:
Knowledge of civil and environmental engineering principles; construction and materials engineering principles; geotechnical engineering principles; project management principles; construction surveying principles; fluid flow engineering principles, sanitary sewer modeling, wastewater treatment modeling, hydrologic principles; watershed modeling, flood prediction and hydraulics engineering principles; closed conduit and open conduit hydraulic/fluid flow modeling practices and methods; computer-based dynamic mathematical modeling techniques; customer service principles and applicable laws, ordinances, codes, rules, regulations, policies, and procedures.

Skill in managing projects; utilizing applicable tools and equipment; interpreting and applying applicable laws, codes, rules, regulations, policies and procedures; interpreting a variety of technical plans, drawings and/or other related documents; analyzing and making appropriate recommendations on engineering problems; creating and analyzing computer-based dynamic mathematical models on open and closed stormwater and sanitary sewer systems; creating and analyzing computer-based steady-state and dynamic mathematical models on wastewater

treatment systems; performing complex mathematical calculations; creating hydraulic and hydrologic models; designing sanitary sewer systems; communication and interpersonal skills as applied to interaction with coworkers, supervisor, and the general public, sufficient to exchange or convey information and to receive work direction.

PHYSICAL DEMANDS:
Positions in this class typically require reaching, fingering, grasping, talking, hearing, seeing, and repetitive motions.

WORK ENVIRONMENT:
Light Work: Exerting up to 20 pounds of force occasionally and/or up-to 10 pounds of force frequently and/or a negligible amount of force constantly to move objects. If the use of arm and/or leg controls requires exertion of forces greater than that for Sedentary Work and the worker sits most of the time, the job is rated for Light Work.Incumbents may be subjected to vibrations, fumes, dust and extreme temperatures.

SPECIAL REQUIREMENTS:
Safety Sensitive: N
Department of Transportation - CDL: N
Child Sensitive: N

The City of Chattanooga, Tennessee is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act, the City will provide reasonable accommodations to qualified individuals with disabilities and encourage both prospective and current employees to discuss potential accommodations with the employer.