

City of Allentown
Position Description

Class Title: **CITY ENGINEER**
Grade Number: 18N
Department: Public Works
Bureau: Engineering
Union: Non-Bargaining (MESA)

GENERAL PURPOSE

Under broad supervision and direction from the Public Works Director, performs professional and technical engineering duties for the City; performs supervisory and administrative duties in planning and coordinating the operation of Engineering Services in the Engineering Bureau. Provides technical oversight to all capital projects citywide across all City Departments and Bureaus.

SUPERVISION RECEIVED

Works under the supervision of the Director of Public Works.

SUPERVISION EXERCISED

The Engineer provides supervisory and technical oversight within the Department of Public Works and communicates via written and oral project direction to the:

- Assistant City Engineer,
- Associate Utility Engineer,
- City Surveyor,
- Traffic Control Superintendent,
- Construction Operations Manager and Inspection staff
- Engineering Office Manager.
- The City Engineer also provides technical oversight and support to the Stormwater MS-4 Coordinator, and the Water and Sewer System Lease Compliance staff. The City Engineer provides technical support to other City Departments and Bureaus.

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Serves as the Manager of the City Engineering Bureau.
- Oversees Public Works projects funded by City, State, and Federal Funds.

- Oversees all essential duties related to design, regulatory permitting, specifying, funding administration, consultant oversight, contract preparation, right of way acquisition, construction administration.
- Develops and establishes City standard construction details and engineering related ordinances.
- Serves as liaison on State and County bridge projects within the City.
- Serves as liaison between engineering consultants and field offices, when applicable, for City sponsored projects.
- Investigates and resolves all engineering-related infrastructure problems.
- Researches, prepares, directs, and/or coordinates various civil engineering infrastructure projects, including, but not limited to, roadway design, lighting design, bridge rehabilitation and replacement, stormwater design and watershed studies, pipelines and general utility design, building and parking deck improvements, subdivision reviews, etc. Has the ability to prepare or analyze reports, maps, drawings, tests, topography, hydrological characteristics and geologic data, in order to plan and design a complete project; also prepares applications for grants, permits, easements, etc., as required, for various City projects.
- Establishes liaison with P.U.C. regarding railroad abandonments and crossing improvements.
- Represents the Bureau of Engineering at various meetings, conferences, seminars and related activities with local, State and Federal agencies.
- Performs all civil engineering and related work as required including: Land Development reviews to City ordinance standards, signs Land Development and Subdivision Mylars.
- Oversees the development and construction of all Public Works Capital projects.
- Familiar with the calculation of costs to determine project feasibility, based on the analysis of collected data, applying knowledge and techniques of engineering and advanced mathematics and physics. Prepares and/or directs the preparation of specifications and construction schedules.
- Has the ability to use computer-assisted engineering and design software and equipment to prepare engineering and design documents. The ability to review and develop a written description of comments relative to land developments and subdivisions within the City, based on current Ordinances and Laws. Other significant activities include:
 - Land Development Analysis and Design. Must be able to read maps, topography, grading, understand right of way, street vacations, survey boundary law, street horizontal and vertical geometry design, paving structure and materials, curb grade plans, curb and sidewalk and Americans with Disabilities Act (ADA) Law and regulatory requirements within a public right of way.
 - Construction Administration and Inspection. Must understand and be able to give oversight and direction on principles and techniques of construction administration and inspection. Must have knowledge of bonding, insurance, contract quantities and payment applications, payment releases, change orders, construction project meetings, maintenance bond and project closeout.

- Stormwater Analysis and Design. Must understand concepts of stormwater runoff, analysis and design of collection systems, detention and retention basins, Best Management Practices (BMP's) as it relates to EPA NPDES permitting, water quality filtration design, water volume and runoff rate attenuation. Must be familiar with performing Hydraulic Flood Studies.
- Structural Analysis and Design. Must be familiar with principles of analysis and design of structural steel and reinforced concrete structures as they pertain to bridge infrastructure, retaining structures, buildings, box culverts, stone masonry, timber structures, etc.
- Water and Sewer Analysis and Design. Must be capable of performing water supply, storage and distribution, fire flow analysis as well as sanitary sewer collection system and sewage pumping stations. Must be familiar with water and sewer treatment plant design and functions.
- Traffic Analysis and Design. Must be able to understand traffic system analysis and reporting, level of service, signage regulatory requirements, speed studies, traffic control plans, traffic signal plans, pavement marking plans.
- Survey Analysis and Law. Must have a broad knowledge of survey plan preparation, boundary closure, street vacations, topographic survey, topographic base plan preparation.
- Environmental Evaluation and Administration. Must be knowledgeable concerning environmental regulations, studies and remediation regarding impacted construction sites as well as being able to manage environmental aspects of above ground and underground fuel storage tanks.
- Geotechnical Analysis and Design. Must understand retaining wall design, foundation investigation, analysis and design. Pavement subgrade preparation, compaction proctor curve development and testing, compaction equipment, sinkhole identification and remediation
- Provide quality and effective customer service with courtesy and understanding to our customers, citizens and internal departments.
- Performs related work as may be required.

DESIRED MINIMUM QUALIFICATIONS

Education and Experience:

- (A) Graduation with a Bachelor of Civil Engineering from a four-year college or university, majoring in Civil Engineering, and twenty (20+) years of progressively responsible experience (both office and field) and supervisory capabilities. Appropriate Master's degree may be substituted for two (2) years' experience.
- (B) Pennsylvania Registered Professional Engineers (P.E.) License required.
- (C) Equivalent combination of related education and experience.
- (D) Bridge Inspection Certification (Not required but beneficial)

(E) Water and Wastewater Certifications (Not required but beneficial)

Necessary Knowledge, Skills and Abilities:

- (A) Ability to supervise several teams within the Bureau of Engineering and to provide engineering technical support to other City Departments.
- (B) Knowledge of the current engineering principles and practices applied in planning, designing, coordinating, and completing Public Works projects.
- (C) Ability to prepare, interpret and utilize, in a professional manner, engineering plans, maps, specifications and reports.
- (D) Ability to establish and maintain effective written and oral communications and working relationships with superiors, other City employees, consultants, contractors, developers, other governmental agencies, and the public.
- (E) Valid Pennsylvania driver's license of the applicable class for the position.

TOOLS AND EQUIPMENT USED

Requires intensive daily use of personal computer and related engineering software.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is constantly required to sit and talk or listen. The employee is required to walk; use hands to finger, handle, or feel objects, tools, or controls; and reach with hands and arms. (Insert here if required to walk frequently, etc.)

The employee must occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The noise level in the work environment is usually quiet for office work and moderately loud for field work.

SELECTION GUIDELINES

Formal application, rating of education and experience; oral interview and reference check; job related tests may be required.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

PW review 12/2020