City of Bellingham
Classification Specification

CLASS TITLE	**Engineering Assistant**
DEPARTMENT	**Public Works-Engineering**
UNION:	**1937**
SG:	**114**
CS:	**Yes**
FLSA:	**Y**
EE04|SOC CODE:	**PP|17-3029**

NATURE OF WORK:

Performs technical engineering design tasks and engineering computations for Public Works projects. Interprets and translates raw field data into computerized drawings using computer-aided design and drafting (CADD) systems, Geographic Information System (GIS) and engineering design software. Facilitates the processing of permits required for projects. Recommends and maintains design, drafting and data collection standards for engineering projects. Coordinates production of digital base mapping by consultants. Conducts technical research, analyzes data and generates customized reports and graphic presentations. Researches and provides technical assistance to the general public, City staff, contractors and consultants. Assists Project Engineers in preparing preliminary project design plans and supports Real Property, Construction, and Development teams with drafting tasks.

DISTINGUISHING CHARACTERISTICS:

This classification is distinguished from Engineering Technician classification by its specialized technical knowledge in the use of CADD, GIS and engineering design software; and by the greater knowledge of civil engineering principles, practices and standards. This classification also takes the lead role in assisting Project Engineers in obtaining permits on projects.

SUPERVISORY RELATIONSHIPS:

Reports to the Engineering Manager. Works independently under general supervision, and the guidance of applicable federal, state and local statutes, regulations, policies, procedures, contractual agreements, and engineering standards. May also receive assignments from Project Engineer(s) and the Assistant Director of Public Works-Engineering.

ESSENTIAL FUNCTIONS:

1. Performs technical engineering design activities on Public Works projects. Uses field survey notes and electronic data, site inspections, GIS and engineering records to convert design concepts into detailed construction plans. Interprets and translates raw field data into computerized drawings utilizing the CADD system appropriate to level of responsibility. Uses engineering design software to create three-dimensional surface models, profiles and cross-sections. Performs preliminary project design tasks such as vertical and horizontal alignment, earthwork and quantity calculations, curb-return elevations, top and toe-of-slope calculations, and connections to existing improvements.

Finalizes plans according to instructions from Project Engineer. All designs are reviewed and receive final approval from engineers to ensure accuracy and compliance.

2. Coordinates, facilitates and supports the permit application process for Public Works projects, including internal City permitting processes, as well as the permitting processes for regulatory agencies. Assists staff in preparing and tracking the status of permit applications.

3. Coordinates production of digital base mapping and project files by consultants for capital improvement projects and other areas as needed. Assists in providing direction to, and scope of work for consultants. Reviews consultant work products to ensure accuracy, completeness, quality and conformance with standards.

4. Recommends and maintains design, drafting and data collection standards for engineering projects. Assists defining departmental methods and standards for digital drawings and project files. Maintains a CADD library of layering conventions, symbols and line types, lettering styles, and standard sheets. Also assists developing customized CADD applications or routines.

5. Researches and provides technical assistance and information to staff, consulting engineers, general public, and private developers. Utilizes GIS, CADD, and a variety of database and spreadsheet applications to analyze data and generate customized reports and graphic presentations.

6. Supports Real Property, Construction, and Development teams with drafting simple design drawing, such as, alleyway improvements, maps of legal descriptions for property improvements, or similar drafting tasks.

ADDITIONAL WORK PERFORMED:

1. Prepares check plots, maps, reports, exhibits or graphic displays as assigned.

2. Researches and prepares computer-generated graphics for engineering and City Council presentations, lawsuits, crime and/or accident scene maps, etc.

3. Performs other related work of a similar nature and level.

PERFORMANCE REQUIREMENTS (Knowledge, Skills, and Abilities):

Knowledge of:

- Algebra, trigonometry and coordinate geometry to perform mathematical calculations and analysis.
- Basic design and construction surveying and drafting techniques.
- Cartography principles, terms, concepts, techniques and procedures.
- Knowledge of GIS concepts and procedures.
- Considerable knowledge of a variety of civil engineering-related computer software programs including, but not limited to, CADD, GIS, automated mapping and data

management applications; COGO (coordinate geometry) and design software, and computer equipment such as plotters, printers, digitizers, copiers, etc.
- Knowledge of engineering record management systems.

Skill in:
- Spreadsheet, database, word processing and related engineering software applications.
- Applying civil engineering principles, practices, standards and methods.
- Conducting studies and analyzing information.
- Excellent communication and interpersonal skills for interaction with coworkers, supervisors, managers, other City personnel and the general public.

Ability to:
- Convert civil engineering design concepts into detailed construction plans.
- Perform technical design and drafting, produce and maintain computer-generated maps and other graphics.
- Use GIS to analyze data and produce customized reports and maps.
- Interpret maps, survey notes and legal descriptions.
- Read, interpret, and apply a variety of written regulations and instructions.
- Follow oral and written instructions and work independently with minimal supervision.
- Communicate effectively, both orally and in writing.
- Prioritize workload, solve problems, and to meet deadlines with a minimum of supervision.
- Establish and maintain effective working relationships with diverse groups of people including citizens, public officials, employees, contractors, engineers, vendors, developers, and others.
- Maintain consistent and punctual attendance.
- Ability and willingness to demonstrate the Public Service Competencies of Service Orientation, Results Orientation, and Teamwork and Cooperation.
- Physical ability to perform the essential functions of the job including:
  - Frequently operate a computer and other office machinery such as a keyboard, mouse, phone and fax machine;
  - Frequently communicate accurate information and ideas with others;
  - Occasionally move between work sites;
  - Occasionally transport boxes or equipment weighing up to 30 lbs.

WORKING ENVIRONMENT:

Work is primarily performed in an office setting and requires sitting and working for extended periods in front of a computer terminal. Occasionally visits to construction and land development sites required.

EXPERIENCE AND TRAINING REQUIREMENTS:

- An Associate's degree in engineering technology or other relevant degree that includes coursework in surveying, civil engineering design, drafting utilizing CADD (preferably AutoCAD), and mapping utilizing GIS (preferably Esri products) required.

- AND -

- Four years of technical engineering experience involving transportation, water, sanitary sewer, or storm drainage improvement projects required.
- Two years of experience utilizing CADD and GIS graphics, associated civil engineering applications, and digital mapping required.
- Bachelor's degree in engineering technology or equivalent is preferred.

NECESSARY SPECIAL REQUIREMENT:

- Employment contingent upon passing a criminal background check.

PREPARED BY: R. Routhe
L. Klemanski
S. Mahaffey
8/01

M. Wilson
T. Hohmann
J. Honga
A.Silva
11/24

REVIEWED BY:
Mike Olinger,
Interim Director of Public Works

COMMISSION ADOPTION: November 13, 2024