

SNOHOMISH COUNTY JOB DESCRIPTION

ENGINEER I

Spec No. 3026

BASIC FUNCTION

To perform entry-level professional engineering assignments in design, traffic, construction, land development or program development which requires the application of basic engineering principles and methods. Assists Engineers II, III or IV, or manages smaller projects or project components.

STATEMENT OF ESSENTIAL JOB DUTIES

1. Conducts, reviews, or directs the preparation of studies and preliminary field surveys in preparation for design and construction of public works projects such as surface water, roadways, bridges, solid waste sites, signals, county parks or community facilities.
2. Coordinates design, inspection, and maintenance criteria on construction or maintenance projects with other divisions of Public Works other county departments or outside agencies.
3. Provides project management of public works maintenance or construction projects, including preparing, overseeing, or reviewing specifications, cost and quantity estimates, design of drainage and road improvements, and the oversight of the construction process.
4. Performs site inspections of construction work to verify quality of installations and coordinate timely and quality completion for acceptance; monitors contractor progress and schedules quality assurance tests and materials approvals.
5. Conducts periodic inspections of existing bridge structures for condition; prepares appropriate inspection and documentation reports; prepares load rating calculations from this inspection data and makes recommendations to superiors for bridge maintenance or new construction techniques; may also assist in preparation of Annual Bridge Report.
6. Reviews land development applications for residential and commercial projects to insure that they comply with county regulations and design standards; performs site inspections and reviews technical requirements of project; recommends the approval or denial of projects and prepares supporting documentation for hearings or meetings.
7. Serves as office engineer responsible for project administration, preparation of plans, specifications and estimates, field engineering design changes, and document review.
8. Insures that projects built by contractors are performed in accordance with approved construction plans and/or contractual documents; performs computations and drafting to translate contract plan information into construction requirements; prepares records and reports to document and track project activities and costs.

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STATEMENT OF ESSENTIAL JOB DUTIES (Continued)

9. Prepares pay estimates for contractors; prepares change orders, revisions; project related data; maintains records of daily quantities and measurements taken from inspection reports.
10. Reviews studies and environmental impact statements submitted by private engineers for impact on community and compliance with local ordinances; notifies the public and appropriate agencies of findings.
11. Develops and maintains database of engineering information related to transportation, land development or conditions of the road system in order to coordinate county improvements and local development.
12. Meets with county staff, developers, engineers, and community members and outside agencies to provide information and resolve concerns regarding county engineering requirements for land development.
13. Assists other engineers in researching, analyzing and resolving engineering problems on county construction projects or land development projects.
14. Attends public meetings and formal public hearings on proposed county construction or land development projects; prepares or supervises the preparation of maps, exhibits, drawings, charts and graphs and provides technical testimony as required.
15. Coordinates and reviews the work of other engineering staff as it relates to assigned construction projects; provides training in related work as required.
16. Prepares and reviews technical reports related to engineering assignments.
17. Organizes, coordinates and conducts pre-construction conferences of contractors, utilities and county staff to plan project schedules.

WHEN ASSIGNED TO THE GEOTECH GROUP

18. Assists in performing geotechnical/geological studies and preparing reports for various types of county projects.
19. Assists in performing environmental studies to determine potential impacts of toxic and hazardous materials on county property or property being considered for purchase by the county.
20. Initiates laboratory testing programs on soil/rock samples based upon project requirements and material types encountered; correlates and reduces data from various sources.

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WHEN ASSIGNED TO THE GEOTECH GROUP (Continued)

21. Performs calculations for slope stability, permeability, transmissivity, pavement design, retaining wall design and other geotechnical design elements; develops recommendations for project design and construction.
22. Monitors excavations and deep foundation installation during construction.
23. Coordinates material acceptance for public works construction projects. Maintains Records of Materials (ROMs) and processes Requests for Approval of Materials Sources (RAMS) submittals.

STATEMENT OF OTHER JOB DUTIES

24. Performs related duties as assigned.

MINIMUM QUALIFICATIONS

A Bachelor of Science degree in civil or related engineering field; OR a combination of four years of education and experience in the fundamental knowledge of engineering theory and practice, gained under the direct supervision of a professional engineer.

The criteria for appropriate education and work experience is further defined in WAC 196-12-020 as being in a position of making independent judgements and decisions in the following areas:

- a. Formulating conclusions and recommendations;
- b. Identifying design and /or project objectives;
- c. Identifying alternatives
- d. Solving engineering problems.

Any experience gained without the supervision of a professional engineer would not be counted. Must pass job related tests.

SPECIAL REQUIREMENTS

A valid Washington State Driver's License may be required.

KNOWLEDGE AND ABILITIES

Knowledge of:

- principles, practices and techniques of engineering related to area of assignment
- engineering mathematics as applied to area of assignment
- surveying principles and practices

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KNOWLEDGE AND ABILITIES (Continued)

- engineering plans, specifications and drafting procedures, standards and regulations applied to area of assignment
- word processing, electronic scheduling, spreadsheets, databases, GIS, computer-aided design

Ability to:

- interpret and assess field data used for the maintenance and design of construction projects
- prepare engineering plans, specifications and estimates
- inspect and appraise the condition of public works structures
- use and care for instruments and equipment employed in the area of assignment
- understand and execute oral and written instructions
- establish and maintain effective working relations as necessitated by work assignments
- plan, schedule and coordinate work assignments
- communicate well both verbally and in writing
- use personal computer applications effectively
- perform AutoCAD and Land Desktop assignments

SUPERVISION

Assignments are generally broad in scope with opportunity for the use of experience, initiative, and independent judgment in solving most problems, although assistance from professional superiors is available when especially difficult problems are encountered. Work is periodically evaluated by a professional supervisor.

WORKING CONDITIONS

Work is performed in an office environment or in the field. Physical effort is required for site inspections. Physical hazards may occur from traffic or from construction equipment in the field.

Snohomish County is an Equal Employment Opportunity (EEO) employer.
Accommodations for individuals with disabilities are provided upon request.

[EEO policy and ADA notice](#)

Class Established: 1980

Previous Spec No. 420410

Revised: December 2003, December 2008, September 2018

EEO Category: 2 - Professionals

Pay Grade: 240 - Classified Pay Plan

Workers Comp: 1501 Hazardous