

# **SNOHOMISH COUNTY JOB DESCRIPTION**

## **ENGINEERING TECHNICIAN, SENIOR**

Spec No. 3065

### **BASIC FUNCTION**

To perform advanced technical engineering duties requiring a broad knowledge of a functional area of engineering such as drafting, engineering calculation and analysis, construction inspection or land surveying. To lead technical or office staff or coordinate engineering related operations relating to various technical area.

### **STATEMENT OF ESSENTIAL JOB DUTIES**

1. Schedules and directs the work of survey crews providing staking and design information for location and design of construction projects and boundary surveys for right-of-way and construction locations; locates structures, roadways, boundaries, right-of-ways and topographic features to facilitate roadway and bridge design.
2. Performs the design for small to medium sized road, bridge, surface water, solid waste and other public works projects or assist with specific design elements of large projects under the guidance of a lead engineer; this includes preparation of design plans, right-of-way plans, specifications, design reports, and estimates following current design standards to prepare projects for bidding and construction.
3. Plans and directs office and field activities and responds to public inquiries related to a specific division function or program such as permit processing, right-of-way, or traffic safety investigations.
4. Supervises activities of asphalt, concrete and soils lab; processes materials submittals, makes recommendations and approves sources of materials; supervises the operation of investigation drill rig; responsible for approval and/or rejection of construction materials; acts as liaison with material supplies for Snohomish County.
5. Performs engineering analysis of drainage problems; recommends and designs solutions to drainage problems.
6. Monitors and coordinates project construction activities, assures adherence to contract specification, obtains quality construction and resolves problems during construction; maintains field records, prepares change orders and quantity estimates for progress payments, develops and monitors construction engineering budgets, and manages construction contract scopes, quantities, dollar amounts, and projections.
7. Performs complex calculations in the various fields of geology, survey, design, traffic analysis, hydraulic analysis, construction inspection and administration and related fields of Public Works projects. Performs load rating calculations of simple span structures.
8. Coordinates the plan review and field inspection of all land development and right-of-way use construction within the county to ensure compliance with sub-division, right-of-way use and drainage regulations and established construction practices.

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#### STATEMENT OF ESSENTIAL JOB DUTIES (Continued)

9. Researches maps, engineering data, records, legal descriptions and other documents to plan engineering related assignments.
10. Researches and prepares claim data, formulating responses to contractor claims and gathering background information for attorneys.
11. Assists in preliminary review of construction plans to determine if contract specifications are complete.
12. Performs materials testing and plant inspections to assure that materials meet construction specification.
13. Leads the work of subordinate employees as required; trains subordinates, participates in selection of new employees and may make recommendations in matters of discipline of employees.
14. Meets with developers, property owners, engineers, contractors, utility companies and the general public to identify and resolve construction problems.
15. Develops, researches and troubleshoots new software, equipment and technologies; trains and provides technical support to department staff in effective use of new technologies and engineering operations in the fields of Photogrammetry, Geodesy, GIS, Internet, and CAD/CAE software; assists and advises in the decision making process for departmental acquisition of new technology.
16. Provides procedure development and programming support for Public Works CADD and GIS users; assists in the development, acquisition and adaptation of software and standards and in the training of other staff in their use.
17. Retrieves, compiles and analyzes GIS and other source data for specific projects; assembles data from county, other agencies and external sources with the use of GIS and other engineering or imaging software, and analyze or present analysis to the project managers. Schedules and directs the work of detention facility maintenance inspectors. Inspects stormwater facilities for function; writes punchlist or work orders; inspects maintenance works. Track costs, facilities, and annual budgets and prepares reports as requested.
18. Analyzes new construction technology to recommend improved construction methods and practices where necessary.
19. Plans, schedules and performs all activities related to the periodic inspection of existing bridge structures; reports the current condition of all County road bridges in accordance with National Bridge Inspection Standards; determines maintenance needs of existing bridges; reviews and approves requests to support utilities from existing bridges.

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### STATEMENT OF ESSENTIAL JOB DUTIES (Continued)

20. Performs other duties as assigned.

### MINIMUM QUALIFICATIONS

Graduation from a two (2) year accredited program in civil engineering technology and three (3) years of field or office experience in civil engineering; or, a four (4) year degree in a field of engineering and one (1) year of related experience; OR, any equivalent combination of education and experience which provides the skills, knowledge and ability necessary to perform the work.

When working in Engineering Services Construction the experience required above shall be in the inspection and field administration of public works construction projects including experience as an independent project construction engineer or managing entire features of larger projects.

### SPECIAL REQUIREMENTS

Technical certification or license may be required for some positions.

FHWA approved Comprehensive Bridge Inspection Training Course is required within one year of employment for the position when assigned to Bridge Condition Lead Inspector.

A valid Washington State Driver's License is required for employment.

### KNOWLEDGE AND ABILITIES

Knowledge of:

- principles, practices and techniques of technical engineering related to area of assignment
- federal, state and local laws, rules and regulations related to area of assignment
- the principles and practices of planning, organizing and supervising
- the literature, trends and developments in the area of specialty
- the principles and practices of contract negotiation and administration
- the principles, practices and techniques of computer hardware and software programming and applications

Ability to:

- plan and coordinate drafting, inspection, surveying or other technical engineering programs
- lead or supervise the work of subordinate employees
- develop work plans and schedules
- allocate and make effective use of available resources

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### KNOWLEDGE AND ABILITIES (Continued)

- assess the relative advantages and disadvantages of alternative courses of action
- gather, analyze, synthesize and evaluate a variety of data including statistical data
- read, interpret and apply federal, state and local laws, rules and regulations governing area of assignment
- analyze and evaluate operations and take effective action to correct deficiencies and resolve problems
- establish and maintain effective working relationships with elected officials, department heads, associates, subordinates, representatives of other agencies and with the general public
- communicate effectively, both orally and in writing
- prepare a variety of correspondence, reports, and other written materials and documents
- create and develop computer software programs, routines, procedures and operation instructions
- inspect and appraise the condition of existing bridge structures

### PHYSICAL REQUIREMENT

Physical exertion may be required to lift equipment in excess of fifty (50) pounds.

### SUPERVISION

Employees report to a technical or professional supervisor as assigned. Employees may lead or supervise the work of technical or office staff. The work requires independent judgment and discretion in developing work unit goals and objectives. The work is reviewed through meetings and periodic status reports, and by evaluation of results obtained.

### WORKING CONDITIONS

Work is performed in the office or in the field in varying weather conditions. Physical hazard from traffic and construction equipment at the work site may be present.

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: March 1986

Previous Spec No. 420405

Revised: July 1996, February 1999, June 2000, May 2001, March 2007, November 2009, August 2013

EEO Category: 3 - Technicians

Pay Grade: 241 - Classified Pay Plan

Workers Comp: 1501 Hazardous