

EMPLOYEE:

CLAIM #



## Job Analysis Form

ALTERNATE FORMAT AVAILABLE

**JOB TITLE** Senior Geotechnical Engineer

**JOB CLASSIFICATION** Engineer III

**DICTIONARY OF OCCUPATIONAL TITLES (DOT) NUMBER** 024.161-010

**DOT TITLE** Engineer, Soils

**DEPARTMENT** Transportation

**DIVISION** Roads Services

**# OF POSITIONS IN THE DEPARTMENT WITH THIS JOB TITLE** 2

**CONTACT'S NAME & TITLE** Alan Corwin, Engineer IV

**CONTACT'S PHONE** 206-296-7711

### ADDRESS OF WORKSITE

155 Monroe Ave NE, Bldg. D  
Renton, WA 98055-4199

**VRC NAME** Kyle Pletz

**DATE COMPLETED** 12/4/06

**VRC NAME** Jeff Casem

**REVIEWED** 6/3/09

### WORK HOURS

6:00am-2:30pm, Monday through Friday.

**OVERTIME** (Note: Overtime requirements may change at the employer's discretion)  
Required, on a rare occasion in accordance with business demand.

### JOB DESCRIPTION

Perform advanced professional engineering, construction management and project management responsibilities. Some positions may have administrative responsibilities of hiring recommendations, determining work assignments, providing training, and input for performance evaluations. The Engineer is primarily responsible for the development and implementation of engineering projects and related services and programs for an assigned department. Engineer duties and responsibilities can include but is not limited to engineering design, construction management, cost and scheduling and project management; focuses on the application of engineering techniques and principles.

### ESSENTIAL ABILITIES FOR ALL KING COUNTY JOB CLASSIFICATIONS

1. Ability to demonstrate predictable, reliable, and timely attendance.
2. Ability to follow written and verbal directions and to complete assigned tasks on schedule.
3. Ability to read, write & communicate in English and understand basic math.
4. Ability to learn from directions, observations, and mistakes, and apply procedures using good judgment.
5. Ability to work independently or part of a team; ability to interact appropriately with others.

6. Ability to work with supervision, receiving instructions/feedback, coaching/counseling and/or action/discipline.

### **JOB SPECIFIC REQUIREMENTS**

- Bachelor of Science in Civil Engineering or related field.
- Minimum of 2 years geotechnical engineering experience.
- Advanced knowledge of functional discipline of engineering.
- Knowledge of multiple disciplines related to engineering.
- Knowledge of cost benefits analysis.
- Knowledge of the legislative process.
- Advanced knowledge of project management techniques and principles.
- Advanced budgeting techniques and principles.
- Advanced policy and code analysis and development.
- Advanced design techniques and principles.
- Knowledge of supervisory techniques and principles.
- Advanced planning techniques and principles.
- Negotiation skills.
- Strategic planning skills.
- Skill in synthesizing multiple budgets.
- Skill in working with elected officials and the general public.
- Washington State Driver's License or the ability to provide transportation to remote work locations with limited or no public transportation may be required.
- Some positions may require a Washington State professional engineer's license or land surveyor's license.

### **ESSENTIAL FUNCTIONS**

1. Plan and develop research studies for products.
2. Supervise the work of assigned staff by performing the following personnel functions, as determined by section or division management, hiring, providing training, conducting performance evaluation and coordinating or determining work assignments.
3. Research and evaluate environmental data and/or environmental remediation reports prepared by external sources to determine compliance with County requirements; approve plans and specifications for construction.
4. Coordinate the work of survey crews or construction inspection staff by determining and reviewing work assignments.
5. Design and implement engineering, feasibility and constructability studies and designs; make recommendations to management based on study results.
6. Approve engineering designs for assigned work unit or projects.
7. Direct the investigation and troubleshooting of engineering and system problems.
8. Supervise the construction, maintenance and compliance inspections for specific projects.
9. Act as Construction Contracts Manager for assigned projects. Ensure that contractors' are in compliance with contract specifications and requirements.
10. Develop, initiate and monitor cost scheduling/project control systems/methods to monitor expenditures and project milestones and completion dates.

11. Supervise the surveying program for specific projects, programs or assignments.
12. Initiate and/or review and approve change orders for assigned projects.
13. Participate in the review and evaluation of complicated plans and specifications.
14. Supervise the preparation of bid specifications and other documents; participate in the bid or qualification process and negotiate final contract.
15. Provide the final review or be responsible for the technical quality assurance of policies, procedures and standards for assigned technical discipline or division.
16. Negotiate contract scope, budget and schedule.
17. Review complex technical environmental documents to assess impacts.
18. Provide technical support for negotiation of interagency or local agreements.
19. Prepare cost and scheduling analysis reports for multiple projects and act as technical resources to project managers on project schedule and budget.
20. Make presentations to elected officials, community groups and general public on projects.
21. Act as project manager for assigned projects from conception to implementation.

### **PERSONAL PROTECTIVE EQUIPMENT USED**

Safety boots, gloves, ear protection, eye protection, hard hat, safety vest, harness/fall protection, lab coat, breathing protection and coveralls.

### **OTHER TOOLS & EQUIPMENT USED**

County vehicle, hand auger, pen, pencil, computer, inclinometer probes, water level indicators, plans, coring machine, calculator, blueprints, soil probes, various laboratory testing equipment (including sieves, penetrometer, inclinometer, water level tester etc.).

### **PHYSICAL DEMANDS AS JOB IS TYPICALLY PERFORMED**

Continuously = occurs 66-100% of the time

Frequently = occurs 33-66% of the time

Occasionally = occurs 1-33% of the time

Rarely = may occur less than 1% of the time

Never = does not ever occur (such demands are not listed)

Highly Repetitive = Repeating the same motion every few seconds with little or no variation for more than two hours total per day.

### **This job is classified as**

Light to Medium.

Light—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. A job is light if involves less than or up to the indicated pounds of force and one or more of the following apply; walking and standing to a significant degree, sitting and pushing/pulling of arm or leg controls, or constant pushing and pulling to maintain a production rate even when weight is negligible.

Medium—exerting 20 to 50 pounds of force occasionally, and/or 10-25 pounds of force frequently, and/or up to 10 pounds of force constantly.

**Standing**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally on dirt, gravel, cement, concrete, wet, slick, frozen and uneven ground surfaces for up to 5 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs while performing field investigations, construction troubleshooting, site inspections and lab work as well as conducting field meetings.

**Walking**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally on dirt, gravel, cement, concrete, wet, slick, frozen and uneven ground surfaces for up to 30 minutes at a time for up to 1.5 hours total in a work shift. Most commonly occurs while performing field investigations, construction troubleshooting, site inspections and lab work as well as conducting field meetings.

**Sitting**

Health Care Provider initials if restricted\_\_\_\_\_

Frequently to Continuously in an automobile seat or office chair for up to 2 hours at a time for up to 5 hours total in a work shift. Most commonly occurs while writing reports, reviewing plans, driving, completing calculations and performing computer duties.

**Climbing stairs**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely while climbing up to 20 steps at a time for up to 2 times total in a work shift. Most commonly occurs while conducting field investigations or attending meetings at various King County locations.

**Climbing**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely for up to 20 minutes at a time for up to 40 minutes total in a work shift. Most commonly occurs while traversing steep slopes approximately 3 times per year.

**Balancing**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally for up to 20 minutes at a time for up to 20 minutes total in a work shift. Most commonly occurs while traversing steep slopes, uneven ground, construction sites and bridges. On a rare occasion the employee may need to have a heightened sense of balance for an entire shift while working at a construction site with uneven ground, slick surfaces and steep slopes.

**Bending neck up**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally for up to 1 minute at a time for up to 10 minutes total in a work shift. Most commonly occurs while observing drilling rigs and cranes as well as looking at upper areas at construction sites. The employee also bends the neck up when obtaining items on upper shelves.

**Bending neck down**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while performing field reconnaissance, traversing steep slopes, reviewing plans, looking at shaft excavations, completing boring logs, recording field information and completing laboratory testing.

**Bending/Stooping**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally for up to 1 minute at a time for up to 15 minutes total in a work shift. Most commonly occurs while picking up samples, observing shaft excavations, using an auger and inspecting culvert and foundation excavations.

**Kneeling**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally on uneven ground, dirt, gravel, cement, concrete, wet, slick, and frozen surfaces for up to 10 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs while inspecting test holes, reading an inclinometer, reading water level indicator and taking notes at construction site. The employee can alternate with squatting as preferred.

**Squatting**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally on uneven ground, dirt, gravel, cement, concrete, wet, slick, and frozen surfaces for up to 10 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs while inspecting test holes, reading an inclinometer, reading water level indicator and taking notes at construction site. The employee can alternate with kneeling as preferred.

**Crawling**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely for up to 20 minutes at a time for up to 40 minutes total in a work shift. Most commonly occurs while traversing steep slopes approximately 3 times per year.

**Operating Controls with Feet**

Health Care Provider initials if restricted\_\_\_\_\_

Frequently for up to 2 hours at a time for up to 4 hours total in a work shift while driving a County vehicle to various locations in King County such as Vashon Island and Skykomish.

**Reaching above shoulder height**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely for up to 30 seconds at a time for up to 5 minutes total in a work shift while reaching for items on uppers shelves (such as laboratory equipment).

**Reaching at waist to shoulder height**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally for up to 30 minutes at a time for up to 2 hours total in a work shift while driving, typing, writing, manipulating documents, performing laboratory tests and reviewing plans. On a rare occasion the employee may need to reach at waist to shoulder height for up to 2 hours at a time for up to 4 hours total in a shift while driving to Skykomish.

**Reaching at knee to waist height**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely for up to 30 seconds at a time for up to 5 minutes total in a work shift while opening and closing drawers, obtaining laboratory equipment and filing.

**Reaching at floor to knee height**

Health Care Provider initials if restricted\_\_\_\_\_

Occasionally on uneven ground, dirt, gravel, cement, concrete, wet, slick, and frozen surfaces for up to 10 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs while inspecting test holes, reading an inclinometer, reading water level indicator and taking notes at construction sites.

**Lifting 1-10 pounds**

Health Care Provider initials if restricted\_\_\_\_\_

Rarely for up to 20 seconds at a time for up to 5 minutes total in a work shift. Most commonly occurs with weights of 3-6 pounds while manipulating plans, laboratory equipment, inclinometer and water level tester.

**Carrying 1-10 pounds**

Health Care Provider initials if restricted \_\_\_\_\_

Occasionally for up to 1 minute at a time for up to 10 minutes total in a work shift. Most commonly occurs with weights of 3-6 pounds while transporting soil samples, testing equipment and plans.

**Lifting 11-20 pounds**

Health Care Provider initials if restricted \_\_\_\_\_

Rarely for up to 20 seconds at a time for up to 5 minutes total in a work shift. Most commonly occurs with weights of 11-13 pounds while manipulating larger soil samples, portable penetrometer and auger.

**Carrying 11-20 pounds**

Health Care Provider initials if restricted \_\_\_\_\_

Occasionally for up to 1 minute at a time for up to 10 minutes total in a work shift. Most commonly occurs with weights of 11-13 pounds while transporting larger soil samples, portable penetrometer and auger.

**Lifting 21-50 pounds**

Health Care Provider initials if restricted \_\_\_\_\_

Rarely for up to 20 seconds at a time for up to 1 minute total in a work shift. Most commonly occurs with weights of up to 50 pounds while manipulating large soil samples.

**Carrying 21-50 pounds**

Health Care Provider initials if restricted \_\_\_\_\_

Rarely for up to 1 minute at a time for up to 5 minutes total in a work shift. Most commonly occurs with weights of up to 50 pounds while transporting large soil samples approximately 4 times per year.

**Pushing and Pulling**

Health Care Provider initials if restricted \_\_\_\_\_

Rarely with a force of 1-20 pounds for up to 30 seconds at a time for up to 5 minutes total in a work shift while opening and closing drawers and doors as well as when using the auger and manipulating laboratory equipment.

**Handling**

Health Care Provider initials if restricted \_\_\_\_\_

Occasionally for up to 2 minutes at a time for up to 15 minutes total in a work shift while manipulating testing equipment, soil samples and laboratory equipment. On a rare occasion the employee may need to drive for up to 2 hours at a time for up to 4 hours total when going to Skykomish.

**Operating Controls with Hands**

Health Care Provider initials if restricted \_\_\_\_\_

Occasionally for up to 5 minutes at a time for up to 30 minutes total in a work shift while using a computer mouse and performing laboratory tests. On a rare occasion the employee may need to drive for up to 2 hours at a time for up to 4 hours total when going to Skykomish.

**Fingering**

Health Care Provider initials if restricted \_\_\_\_\_

Frequently & Highly Repetitive for up to 5-10 minutes at a time for up to 4 hours total in a work shift while typing, writing, manipulating documents, performing laboratory tests, manipulating samples and performing field tests.

**Feeling**

Health Care Provider initials if restricted \_\_\_\_\_

Occasionally for up to 30 seconds at a time for up to 10 minutes total in a work shift while feeling materials for identification such as inspecting soils. On a rare occasion the employee may need to continuously feel soils throughout a day during drilling operations.

Health Care Provider initials if restricted
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Health Care Provider initials if restricted

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Work is performed in an office, laboratory, field, construction, remote, bridge or land slide setting.

HCP Initials if Restricted

Approximately 50-130 decibels. The noise is caused by drilling rigs.

HCP Initials if Restricted

Toxic or caustic chemicals: Occasionally

[illegible]

KING COUNTY JOB ANALYSIS COMPLETED ON: 12/4/06  
JOB TITLE: Engineer III  
EMPLOYEE:

DOT #: 024.161-010  
CLAIM #

Confined spaces: Occasionally

**POTENTIAL MODIFICATIONS TO JOB**

Alternate tasks to reduce static positions.



## SIGNATURES

Signatures on this page are obtained before the document becomes available for use and are not required each time the document is reused. Obtained signatures are kept on file at King County Safety & Claims. The Health Care Provider signature section is separate and appears on the following page.

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Printed name & title of VRC evaluator

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Signature of VRC evaluator

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Date

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Printed name & title of contact

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Signature of contact

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Date

---

Printed name & title of employee

---

Signature of employee

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Date

### HEALTH CARE PROVIDER SECTION

Check all that apply

- ☐ The employee is released to perform the described duties without restrictions on performance or work hours as of \_\_\_\_\_.
- ☐ The employee is released to perform the described duties on a reduced schedule as of \_\_\_\_\_. The recommended schedule is:  
\_\_\_\_\_  
☐ Temporary until \_\_\_\_\_ ☐ Permanent as of \_\_\_\_\_
- ☐ The employee is released to perform the described job with the following modifications:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
☐ Temporary until \_\_\_\_\_ ☐ Permanent as of \_\_\_\_\_
- ☐ The employee is not released to perform the described duties due to the following job functions:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
☐ Temporary until \_\_\_\_\_ ☐ Permanent effective \_\_\_\_\_
- ☐ The employee is unable to work in any capacity.  
A release to work is: ☐ anticipated by \_\_\_\_\_ ☐ Not expected

The limitations are due to the following objective medical findings:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Printed or typed name and phone number of Health Care Provider

\_\_\_\_\_  
Signature of Health Care Provider

\_\_\_\_\_  
Date