

EMPLOYEE:

CLAIM #



## Job Analysis Form

ALTERNATE FORMAT AVAILABLE

**JOB TITLE** Quality Control Field Engineer II

**JOB CLASSIFICATION** Engineer II

**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** 7

**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** 1/28/09

### WORK HOURS

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

**DATE REVISED** 2/11/09

**OVERTIME** (Note: Overtime requirements may change at the employer's discretion)

Required, occasionally, in accordance with business demand. Overtime is mainly performed from April-November, during construction season.

### JOB DESCRIPTION

This position is one requiring both field testing (density testing of soils, aggregate and asphalt in addition to concrete testing on bridge & road projects) and considerable experience in laboratory testing on various construction materials. Other technical functions include coring asphalt pavement and assisting laboratory personnel in various testing operations.

### 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 degree in Civil Engineering or closely related field, two years progressively responsible experience in construction material sampling, testing and construction recordkeeping (or an equivalent combination of both).
- Knowledge of WSDOT, ASTM & AASHTO standards related to sampling and testing of materials.
- Knowledge of the processes involved with soil, aggregate, asphalt and concrete testing.
- Knowledge of construction materials.
- Demonstrated skill in sampling, testing and inspecting construction materials.
- Construction recordkeeping and organizational skills.
- Skill in Microsoft Word, Excel, Project and Access.
- Excellent verbal and written communication skills.
- Problem solving and conflict resolution skills.
- Ability to work under tight deadlines with a variety of projects and tasks.
- Demonstrated ability to apply engineering principles, methodology and practical experience to resolve materials construction related problems.
- Must possess a valid Washington State Driver's License.
- Repetitive lifting and transport of heavy materials.

## **ESSENTIAL FUNCTIONS**

1. Inspect, sample, test and report on various construction materials and processes such as soils, aggregate producing plants, asphalt and asphalt producing plants, Portland Cement Concrete and concrete producing plants.
2. Track construction material certification status and maintain project documentation.
3. Update and maintain the Materials Laboratory Quality Manual and Procedures in accordance to AASHTO R18.

## **PERSONAL PROTECTIVE EQUIPMENT USED**

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

## **OTHER TOOLS & EQUIPMENT USED**

County vehicle, nuclear density gauge, hammer, wheelbarrow, sieves, scales, unit weight containers, slump cones, cylinders, hand auger, pen, pencil, computer, measuring wheel, shovel, plans, specifications, coring machine, calculator, blueprints, soil probes, various laboratory testing equipment (including sieves, drying ovens, materials shaker, material wash, proctor, max density machine, sand equivalent, unconfined compression, 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**

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\_\_\_\_\_

Frequently to Continuously on dirt, gravel, cement, hot asphalt, undeveloped land, bridges, concrete, wet, slick, frozen and uneven ground surfaces for up to 5 minutes at a time for up to 6-7 hours total in a work shift. Most commonly occurs while field testing, construction troubleshooting, construction observation and lab work as well as conducting field meetings.

**Walking**

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

Continuously on dirt, gravel, asphalt, cement, concrete, wet, slick, frozen and uneven ground surfaces for up to 30 minutes at a time for up to 7.5 hours total in a work shift. During summer asphalt paving walking can be up to 10 or 12 hours a day. Most commonly occurs while performing density testing of asphalt and soil, construction troubleshooting, site inspections and lab work as well as conducting field meetings.

**Sitting**

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

Frequently on an automobile seat or office chair for up to 2 hours at a time for up to 5-6 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 performing filed inspections and testing as well as attending meetings at various King County locations.

**Climbing**

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

Frequently, for up to 5 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while climbing in and out of trenches (to test soil density; test takes approximately 5 minutes at a time and can be performed as many as 40 times per shift), climbing on platform to sample asphalt from trucks, traversing steep slopes/undeveloped land and collecting soil samples from stock piles at various pits.

**Balancing**

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

Continuously for up to 2 hours at a time for up to 8 hours total in a work shift. Most commonly occurs while traversing steep slopes, uneven ground, construction sites and bridges. Occasionally, 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 5 minutes at a time for up to 90 minutes total in a work shift. Most commonly occurs while looking at upper areas at construction sites such as stock pile as well as looking up at roller operators and heavy equipment operators, especially when working in a trench. The employee also bends the neck up when obtaining items on upper shelves.

**Bending neck down**

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

Frequently & highly repetitive for up to 15 minutes at a time for up to 6 hours total in a work shift. Most commonly occurs while performing field recognizance, inspecting asphalt and soils, preparing soils for testing, operating nuclear gauge, checking numbers on gauge, recording field information, traversing steep slopes, reviewing plans, and performing computer duties.

**Bending/Stooping**

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

Occasionally for up to 5 minutes at a time for up to 1-2 hours total in a work shift. Most commonly occurs while picking up samples, performing density testing for asphalt and soils and loading and unloading equipment from truck. The employee can alternate bending/stooping with squatting, kneeling, etc. in accordance with personal preference. This may reduce or increase this particular physical activity. Cumulative bending/stooping, kneeling and squatting can be as much as 6 hours total in a shift.

**Kneeling**

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

Occasionally on uneven ground, dirt, gravel, undeveloped land, concrete, wet, slick, and frozen surfaces for up to 5 minutes at a time for up to 1-2 hours total in a work shift. Most commonly occurs while preparing work site for setting up nuclear gauge and other test equipment, collecting materials samples from work sites and taking notes at construction site. The employee can alternate with squatting or bending/stooping as preferred. This may reduce or increase this particular physical activity. Cumulative bending/stooping, kneeling and squatting can be as much as 6 hours total in a shift.

**Squatting**

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

Occasionally on uneven ground, dirt, gravel, undeveloped land, cement, asphalt, concrete, wet, slick, and frozen surfaces for up to 10 minutes at a time for up to 60 minutes total in a work shift. Most commonly occurs while inspecting work site for setting up nuclear gauge and other test equipment, reading concrete equipment/test results, collecting materials samples from work sites and taking notes at construction site. The employee can alternate with kneeling as preferred. This may reduce or increase this particular physical activity. Cumulative bending/stooping, kneeling and squatting can be as much as 6 hours total in a shift.

**Crawling**

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

Occasionally for up to 5 minutes at a time for up to 40 minutes total in a work shift. Most commonly occurs while traversing steep slopes or stock piles 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 upper shelves (such as laboratory equipment, reference materials) as well as switches.

**Reaching at waist to shoulder height**

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

Frequently for up to 1 hour at a time for up to 4 hours total in a work shift while driving, typing, writing, manipulating documents, placing and removing items from truck bed, opening and closing canopy, performing field and 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 \_\_\_\_\_

Occasionally for up to 30 seconds at a time for up to 20 minutes total in a work shift while opening and closing drawers, opening and closing vehicle door, obtaining laboratory equipment and filing, reaching behind truck seat in extended cab area, reaching in back of truck for testing equipment.

**Reaching at floor to knee height**

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

Frequently on uneven ground, dirt, gravel, cement, concrete, wet, slick, and frozen surfaces for up to 5 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs while performing field testing with nuclear gauge, concrete testing, obtaining materials samples and taking notes at construction sites.

**Lifting 1-10 pounds**

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

Frequently for up to 5 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs with weights of 3-10 pounds while manipulating plans, lifting laboratory & field testing equipment, sieving field samples (up to 10 pounds), picking up 4"x8" concrete cylinders, safety equipment and laptop computer.

**Carrying 1-10 pounds**

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

Occasionally to continuously, depending on daily work assignments, for up to 10 minutes at a time for up to 60 minutes total in a work shift. Most commonly occurs with weights of 5-9 pounds while transporting soil samples, carrying 4"x8" concrete cylinders, testing equipment, laptop computer and safety equipment. The employee wears a vest that may contain objects such as plans, tape measure, calculator, field book, cellular telephone, etc. which can weigh approximately 5-7 pounds. This vest is worn on a continuous basis.

**Lifting 11-20 pounds**

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

Occasionally for up to 2 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs with weights of 11-17 pounds while manipulating larger soil samples, lifting testing equipment, asphalt samples, asphalt boxes, wheelbarrow, testing equipment, larger plans and laptop computer (and bag).

**Carrying 11-20 pounds**

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

Occasionally for up to 5 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of 11-17 pounds while transporting larger soil samples, asphalt samples, testing equipment, laptop bag and larger plans.

### **Lifting 21-50 pounds**

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

Frequently to Continuously and highly repetitive for up to 1 minute at a time for up to 4-5 hours total in a work shift. Most commonly occurs with weights of 25-50 pounds while manipulating large soil samples, lifting a nuclear gauge in one hand and bucket of tools in the other hand (totaling 60-70 lbs), lifting a asphalt nuclear gauge off the ground throughout an entire day, lifting wheelbarrows of concrete, unit weight buckets (28 pounds), picking up 6"x12" concrete cylinders (25 pounds) and general concrete testing.

### **Carrying 21-50 pounds**

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

Occasionally for up to 10 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of up to 25-50 pounds while transporting large soil samples, carrying 6" x 12" cylinders, carrying nuclear gauges to various test locations and concrete testing equipment. The employee can use a hand truck to reduce carrying.

### **Pushing and Pulling**

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

Occasionally with a force of 1-50 pounds for up to 30 seconds at a time for up to 20 minutes total in a work shift while opening and closing drawers and doors as well as when using a cart and wheelbarrow. The employee also pushes and pulls when manipulating laboratory equipment.

### **Handling**

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

Continuously for up to 2 minutes at a time for up to 8 hours total in a work shift while manipulating testing equipment, soil samples, wheelbarrow, cart, hammer 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 nuclear gauge as well as performing field and 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.

### **Talking**

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

Continuously for up to 5 minutes at a time for up to 6.5 hours total in a work shift while reporting test results, organizing schedules, conversing with co-workers or supervisor, making recommendations, conducting presentations, attending meetings as well as conversing with the general public, inspectors, suppliers and contractors.

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

Health Care Provider initials if restricted

Health Care Provider initials if restricted

HCP Initials if Restricted

11

HCP Initials if Restricted

[illegible]

KING COUNTY JOB ANALYSIS COMPLETED ON: 2/11/09  
JOB TITLE: Engineer II  
EMPLOYEE:

DOT #: 024.161-010  
CLAIM #

### **POTENTIAL MODIFICATIONS TO JOB**

Alternate tasks to reduce static positions.

Utilize cart, hand truck or wheelbarrow to reduce carrying.

Ergonomic evaluation for office work.



## 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

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Printed name & title of employee

---

Signature of employee

---

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