



King County

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APR 29 2019

JOB ANALYSIS

WORKERS' COMP

Job Title:	Engineer II		
Department:	Natural Resources and Parks	Division:	Solid Waste
DOT Title:	Inspector, Industrial Waste	DOT #:	168.267-054
SVP:	6	Requestor:	Autumn Musch
Worksite Address:	201 South Jackson Seattle, WA 98104	Office Contact Name/ Phone/ Email:	Anne Holmes 206-477-5226 anne.holmes@kingcounty.gov
Original Analyst:	Kyle Pletz, VRC, CDMS		Analysis Date: 1/11/19
Update Analyst:			Update Date:

☒ On-Site ☐ Interview ☐ Representative

JOB DUTIES:

Perform engineer and project management duties with the direction of senior engineers associated with Closed Landfills, Cedar Hills Regional Landfill (CHRLF), Transfer Facilities and ancillary Operations' Support facilities. The position will also manage Capital Asset Maintenance Program (CAMP) projects; provide operations engineering services to support the operations of landfill environmental control systems, and other infrastructural systems. This includes identifying, deciphering and implementing solutions for landfill gas, leachate, surface water, groundwater, soil and air quality monitoring infrastructure problems; preparing permit compliance reports; and preparing consultant and construction contracts; and managing engineering consultants and, construction contractors. This position will provide project engineering services for smaller Capital Improvement Program (CIP) projects, and project engineering assistant for larger CIP. This position will also perform groundwater and surface water evaluations applying knowledge of aquatic chemistry, fate and transport, environmental analytical methods, environmental monitoring networks, and environmental control systems.

Essential Functions according to the employer:

All King County jobs require ability/essential function to:

Demonstrate predictable, reliable, and timely attendance.

Follow written and verbal directions to complete assigned tasks on schedule.

Read, write, and communicate in English & understand basic math.

Learn from directions, observations, and mistakes and apply procedures using good judgment.

Work independently or as part of a team and interact appropriately with others.

Report all workplace injuries and illnesses to Supervisor, and seek medical attention when appropriate.

- Perform groundwater and surface water evaluations applying knowledge of aquatic chemistry, fate and transport, environmental monitoring networks, analytical data evaluation and QA/QC procedures and environmental control systems.
- Provide engineering services to manage Capital Asset Maintenance Program (CAMP) projects;
- Provide operations engineering services to support the operations of landfill environmental control systems, and other infrastructural systems as part of the project team; Provide support to Landfill Operations including evaluations of landfill wastewater and gas operations to recommend performance improvements.
- Administer small design and construction contracts as project lead as well as working collaboratively with other project managers and provide leadership to project and team members
- Analyze, design, and review various landfill engineering elements, including landfill cover, bottom grading, leachate management, and landfill gas collection systems. Provide technical solutions to address system



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failures and improve functionality for high risk project resolution.

- Produce scientific and analytical reports for technical, regulatory and non-technical audiences to summarize and convey project findings and meet regulatory compliance requirements.
- Determine consistency of remedial engineering plans and products with all appropriate industry standards, as well as local, state and federal laws and regulations, including Solid Waste Division policies and procedures.
- Present to and discuss technical information with managers and staff, project managers, project teams, and landowners, regulatory agencies, public stakeholders, and other jurisdictions and agencies.
- Assist senior team members to negotiate facility regulatory permit conditions needed for projects including solid waste facility operation, groundwater, surface water, landfill and air quality regulatory requirements.
- Develop and update Operating Plans for solid waste facilities.
- Perform quality assurance review of environmental data for applicable quality objectives, regulatory compliance and operational trends and perform ongoing audit of Laboratory Analysis Contract performance including analytical methods.
- Utilize environmental database (EQUIS) for evaluating groundwater, surface water, wastewater and soils.
- Perform construction Management and Inspection of landfill engineering control system modification.
- Perform environmental field sampling for project specific monitoring elements.

EXPERIENCE, QUALIFICATIONS, KNOWLEDGE, SKILLS:

- Bachelor's degree in environmental engineering, chemical engineering, civil engineering, geology, hydrogeology, geochemistry or closely related field, such as geotechnical engineering.
- Demonstrated expertise, preferably at least two years, in analytical laboratory performance including providing quality review of analytical laboratory operating procedures and developing methodologies relevant to aquatic chemistry
- Knowledge of and familiarity with various field and laboratory equipment along with wet and analytical laboratory skills
- Demonstrated expertise, preferably at least two years, in analyzing, designing or reviewing various technical landfill related engineering elements, including environmental controls and monitoring systems independently and in leadership roles
- Demonstrated small projects construction management experience related to major solid waste facility projects
- Demonstrated experience in effective communications management both in oral and writing formats with diverse groups of professionals, coworkers, and general public.
- Intermediate working knowledge using Microsoft (MS) Project to develop schedules for public works projects; MS Excel, MS-Word, MS Access, and basic working knowledge using MS PowerPoint.
- Demonstrated ability to work effectively and collaboratively in team settings and across department lines and with senior level managers, supervisors, technical leads and operations staff.
- Documented experience in negotiating, applying and obtaining various local, state, and federal permits required for implementation of public works and solid waste related projects.
- Ability to work effectively in a rapidly evolving work environment that requires multi-tasking, planning and organizing work on a daily basis, responding to changing priorities and tight deadlines, and grasping and responding to complex issues quickly.
- Ability to work in varied conditions at Solid Waste Landfills for prolonged durations to administer projects.
- Ability to take initiative and function independently on assigned projects, while keeping team members, senior level team members and stakeholders apprised of key issues and developments.
- Knowledge of the databases used for storing environmental systems performance data.
- Direct or related experience in the preparation of environmental compliance reports.
- Demonstrated ability to ensure work complies with applicable regulations, including review and



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interpreting regulation, and negotiating permit and project requirements.

- Ability to communicate in a pleasant, non-judgmental, respectful, culturally sensitive manner under varying levels of stress.
- Skilled in: Team work and working collaboratively; Effective communication; Prioritizing, planning and organizing work; Analytical and decision making skills

Highly Competitive Candidates Will Have:

- Two years of experience performing groundwater and surface water evaluations applying knowledge of aquatic chemistry, fate and transport, environmental monitoring networks, and environmental control systems.
- Working knowledge of Earthsoft Equis environmental database management programs.
- Fundamentals of Engineering Certification or Professional License in Engineering, Geology or Hydrogeology

Machines, Tools, Special Equipment, Personal Protective Equipment Used at the professional discretion of the employee:

Hard hat, safety vest, protective eyewear, ear protection, boots (including steel toe), rain suit, first aid kit, gloves, field bag, emergency kit (food, water and survival supplies) and dust mask.

County vehicles (truck or SUV), measuring equipment, gas monitoring device, files, water sampling equipment, landfill gas monitoring equipment, clipboard (with document storage), camera, smartphone, calculator, laptop computer; Microsoft Office software including Access, fax machine, copy machine, various environmental engineering programs and mapping, AutoCad, and telephone.

PHYSICAL REQUIREMENTS

Frequency Scale	Strength	Work Pattern
N = Never	<input type="checkbox"/> Sedentary	<input checked="" type="checkbox"/> Full-time
S = Seldom (1-10 %, up to 48 min)	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Part-time
O = Occasional (11-33%, 48 min. – 2 hr 25 min)	<input type="checkbox"/> Medium	<input type="checkbox"/> Seasonal
F = Frequent (34-66%, 2 hr 26 min – 5 hr 35 min)	<input type="checkbox"/> Heavy	8 Hours Per Day
C = Constant (67-100%, more than 5 hr 35 min)	<input type="checkbox"/> Very Heavy	5 Days Per Week*

Work Pattern (continued)

This is classified as a LIGHT job by the US Department of Labor, but can range to MEDIUM when performing field work. * The employee may work overtime.

FLSA Exempt

☒ Yes ☐ No

Job Demand	Frequency and Weight (lbs.)					Activity Description
	N	S	O	F	C	
Lifting floor – waist		3-10 11-40*	5		1-2	Up to 1 hr./time, 7 hrs. total with 1-2 lbs. for camera, files, clipboard, plans/drawings, smart phone, etc. Up to 1 hr./time, 1 hr. total with a laptop (5 lbs.). *Up to 30 min./time, 1x mo. with GEM5000 gas monitor (10 lbs.).



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Job Demand	Frequency and Weight (lbs.)					Activity Description
	N	S	O	F	C	
Lifting waist-shoulder		3-10 11-40*	3-5		1-2	Up to 1 hr./time, 7 hrs. total with 1-2 lbs. for camera, files, clipboard, plans/drawings, smart phone, etc. Up to 1 hr./time, 1 hr. total with a laptop (5 lbs.). *Up to 30 min./time, 1x mo. with GEM5000 gas monitor (10 lbs.), *Up to 5 sec./time, 1x./shift moving Hydrogen gas tank (40 lbs.) once per month.
Lifting above shoulder		1-10				Up to 5 sec./time, 5x shift with office supplies on upper shelves.
Carry (Distance/Surface)		6-10*	3-5		1-2	Up to 15 min./time, 7 hrs. total with 1-2 lbs. for camera, files, clipboard, plans/drawings, smart phone, etc. Up to 1 hr./time, 1 hr. total with a laptop (5 lbs.). *Up to 30 min./time, 30 min total, 1x mo. with GEM5000 gas monitor (10 lbs.),
Pushing/Pulling (Distance/Surface)		3-20		1-2		Up to 1 hr./time, 3 hrs. total while driving with 1-2 lbs. force for the steering wheel. Up to 5 sec./time, 2 min. total field equipment (10 lbs.), gates (20 lbs.) overhead bin, drawers and doors (3-10 lbs.).

Physical Demands	Frequency					Activity Description
	N	S	O	F	C	
Sitting					X*	Up to 2 hrs./time, 8 hrs. total while completing paperwork, performing computer duties and driving a County vehicle during field inspections. *Can alternate sit/stand as needed when in the office as there is a sit/stand workstation present.
Standing					X*	Up to 1 hr./time, 7 hrs. total on surfaces including flat concrete and carpet, gravel, rocks, vegetation, rocks, steep inclines, dirt, mud, grass, substandard structures, undeveloped land, landfill, and wet or frozen ground while conversing with contractors. *This occurs approximately 1-2x./week, but on a rare occasion could happen 5 days in a row. *Can alternate sit/stand as needed when in the office as there is a sit/stand workstation present.



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Physical Demands	Frequency					Activity Description
	N	S	O	F	C	
Walking					X*	Up to 1 hr./time, 7 hrs. total on surfaces including flat concrete and carpet, gravel, rocks, vegetation, rocks, steep inclines, dirt, mud, grass, substandard structures, undeveloped land, landfill, and wet or frozen ground while conversing with contractors. *This occurs approximately 1-2x./week, but on a rare occasion could happen 5 days in a row.
Perform Work on Ladders	X					
Climbing			X			On steep inclines to heights of 100' for 30 min./time, 1 hr./total while traversing areas that may have debris or fallen trees; undeveloped land and brush. Also climbs stairs 5 min./time, 30 min total, which includes substandard construction, nontraditional stairs, etc.
Balancing					X*	Up to 1 hr./time, 7 hrs. total on surfaces including flat concrete and carpet, gravel, rocks, vegetation, rocks, steep inclines, dirt, mud, grass, substandard structures, undeveloped land, landfill, and wet or frozen ground while conversing with contractors. *This occurs approximately 1-2x./week, but on a rare occasion could happen 5 days in a row.
Stooping / Bending		X*				Up to 5 min./time, 30 min. total while inspecting low areas such as manholes. Low file drawers and shelves in office. *Can alternate with squatting/kneeling as needed.
Twisting at Neck			X			Up to 10-30 sec./time, 1 hr. total while inspecting field projects and driving.
Twisting at Waist			X			Up to 10-30 sec./time, 1 hr. total while inspecting field projects, speaking with team members and driving.
Squatting / Kneeling		X				Up to 5 min./time, 30 min. total while inspecting low areas such as manholes. Low file drawers and shelves in office. *Can alternate with squatting/kneeling as needed.
Crawling	X					
Reach waist to shoulder				X		Up to 1 hr./time, 4 hrs. total while driving, writing on clipboard, computer duties, manipulating equipment, etc.
Reach above shoulder		X				Up to 5 sec./time, 5x shift with office supplies on upper shelves, loading/unloading equipment.
Reach below waist			X			Up to 1 min./time, 1 hr. total while filing, loading/unloading equipment, placing/removing items on low shelves and in low drawers.
Keyboarding				X		Up to 1 hr./time, 6 hrs. total while performing computer duties.
Wrist Flexion/Extension				X		Up to 1 hr./time, 4 hrs. total while manipulating testing/measuring equipment, opening doors, opening drawers and driving.
Handle/Grasp					X	Up to 2 hr./time, 6 hrs./total while driving as well as manipulating a clipboard, laptop and field equipment; opening/closing drawers/doors.
Forceful Grasp	X					



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Physical Demands	Frequency					Activity Description
Fine Finger Manipulation					X	Up to 2 hrs./time, 7 hrs. total while manipulating documents, writing, typing, and using a computer mouse. Certain databases, spreadsheets, mapping software and AutoCad require heavy mouse usage.
Physical Demands	Frequency					Activity Description
	N	S	O	F	C	
Hand Controls					X	Up to 2 hrs./time, 6 hrs. total while driving as well as when using test equipment and a computer mouse.
Foot Controls				X		Up to 1 hr./time, 3 hrs. total while driving.
Repetitive Motion			X			Body Part: hands Cycles/hr: 300
Vibratory Tasks – High	X					
Vibratory Tasks – Low				X		Very low vibration while driving 1 hr./time, 3 hrs. total; may drive on rough roads
Talking					X	Conversing contractors, managers, employees and coworkers.
Hearing					X	Conversing contractors, managers, employees and coworkers. Utilizes hearing to identify safety hazards.
Visual – Near Acuity					X	Computer duties, performing inspections and filling out paperwork.
Visual – Far Acuity					X	Driving, performing inspections.
Visual – Depth Perception					X	Driving and performing inspections.
Visual – Color Discrimination				X		Identifying color coded maps, labels and signage. Identifying colors of potentially hazardous materials.
Visual – Accommodation					X	Up to 3 hrs./time, 8 hrs. total while performing inspections and driving.
Visual – Field of Vision					X	Up to 3 hrs./time, 8 hrs. total while performing inspections and driving.
Exposure to Weather				X		
Extreme Cold		X				
Extreme Hot		X				
Wet and / or Humidity			X			
Proximity to Moving Mechanical Parts				X		Drill rigs, construction equipment, sampling trucks and campers, field sampling equipment and heavy machinery.
Exposure to Explosives		X				Landfill gas
Atmospheric Conditions		X				Landfill gas
Exposed Heights		X				
Exposure to Electricity		X				
Exposure to Toxic / Caustic Chemicals		X				
Exposure to Radiation		X				
Other: Biohazards		X				Can include bodily fluids and various biohazards; sampling solutions, wastewater, landfill gas, contaminated groundwater and surface water, vehicle fluids, etc.



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Physical Demands	Frequency	Activity Description
Other: Unpredictable persons	<input type="checkbox"/> Very Quiet <input checked="" type="checkbox"/> Quiet <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Loud <input type="checkbox"/> Very Loud	Interacts with unpredictable, aggravated, aggressive, intoxicated, violent etc. persons. Interacts with persons with mental health and substance abuse issues.
Noise Intensity		Noise can vary from quiet to loud; quiet office to industrial setting.

Visual:

Analyst's Comments:

A sit/stand workstation is present.

Possible Employer Modifications:

Note: The information for this job analysis was gathered by either on-site observation, interview and / or is representative of the labor market as indicated on page one. Additional data may have been obtained from standardized industry resources such as the DOT, GOE, COJ, OOH, WOIS and O-NET. On occasion, practicality and feasibility prevent the direct observation and/or gathering of objective, quantifiable data. For this reason, a "best estimate" may have been used.

Analyst:

Presenting VRC signature:

Vocational Consultant

Date

Vocational Consultant

Date

Employer Verification:

Employee Verification: (optional)

Name

Date

Name

Date



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MEDICAL PROVIDER:

- ☐ I agree that the employee can perform the physical activities described in this job analysis and can return to work.

State date employee is released to return to work if different from today's date _____

- ☐ I agree the employee can perform the described job but only with modifications (describe in comments section). Modifications are needed on a permanent ☐ or temporary ☐ basis.

- ☐ The employee temporarily cannot perform this job based on the following physical limitations:

Anticipated release date: _____

Treatment plan: _____

- ☐ The employee is permanently restricted from performing the physical activities described in this job analysis based on the following physical limitations (state objective medical findings):

Comments:

Signature

Date

Print Name

- | | | |
|--|---|---|
| <input type="checkbox"/> Attending Physician | <input type="checkbox"/> Consulting Physician | <input type="checkbox"/> Pain Program Physician |
| <input type="checkbox"/> IME Physician | <input type="checkbox"/> PCE Therapist | <input type="checkbox"/> OT / PT Therapist |
| <input type="checkbox"/> PEP Physician | | |