

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

DIVISION: Southcoast Region Design & Engineering Services		PCN: 25-0921 (Position Description Attached)	
JOB CLASS/TITLE: Materials Laboratory Technician, Sub-Journey IV		WHEN POSITION IS NEEDED: ASAP	
WAGE GRADE: 54 / \$22.16+DOE		DUTY STATION: Juneau	
<input type="checkbox"/>	Permanent Full-Time	<input checked="" type="checkbox"/>	Permanent Full-Time Seasonal
<input type="checkbox"/>	Permanent Part-Time	<input type="checkbox"/>	Permanent Part-Time Seasonal
<input type="checkbox"/>	Non-Perm Full-Time	<input type="checkbox"/>	Non-Perm Part-Time

WORK SCHEDULE: 40hr work week
COMMENTS/SPECIAL REQUIREMENTS: WAQTC certification in at least 2 modules and ability to gain certification in all 5 within two years.
<p>CANDIDATE MUST BRING TO INTERVIEW:</p> <input checked="" type="checkbox"/> Completed Workplace Alaska Application (if not already submitted to the hiring manager by Local 71) <input type="checkbox"/> Completed Certification of Employment as a Commercial Motor Vehicle Operator 10-year history form <input checked="" type="checkbox"/> Criminal Convictions: Must provide a copy of the judgement from the Court for <u>any</u> Felony Conviction (regardless of date) and any Misdemeanor Conviction within the last 5 years. For positions requiring APSIN* clearance, must provide judgement for <u>all</u> convictions regardless of date. <input checked="" type="checkbox"/> Copy of certifications and licenses <input type="checkbox"/> Other:
<i>Note: Candidates who do not bring the required information to the interview may be rejected.</i>

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2. Duties

2.1. In one or two sentences, state the main purpose of the position.

Conducts a variety of standard and complex testing of soils, aggregates, concrete, and bituminous materials. Maintains, calibrates, and performs general repairs of laboratory equipment. The majority of the work is performed in the lab with occasional on-site project visits to the construction field labs to verify calibration of equipment, assist in quality control, and training of field personnel.

2.2. Starting from the most to the least important, list the functional areas assigned to the position. Within each functional area, describe the duty statement associated; estimate the percentage of time spent performing the duties; and define each area as essential (E) or marginal (M).

Functional Area Title:		
E/M	% of Time	Duty Statement
E	50 %	Under minimal supervision, this position performs the following duties: Performs a wide variety of materials testing (including AASHTO proficiency testing) to determine physical properties and classification of soils, aggregates, concrete and bituminous mixes. Testing procedures and protocol are conducted in compliance with American Association of State Highway and Transportation Officials (AASHTO), Western Alliance for Quality Transportation Construction (WAQTC), American Society for Testing and Materials (ASTM) and/or Alaska Test Manual (ATM) standards.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	20 %	Conducts assurance testing of samples submitted by field MLTs.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	10 %	Acts as laboratory lead when journeyman MLT is absent, receives, identifies, records, and determines appropriate test methods of all materials submitted to the lab.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	5 %	Maintains, calibrates and affects general repairs of laboratory equipment in accordance with AASHTO Laboratory Accreditation.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	5 %	Achieves and remains current in WAQTC industry standard certification program.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	5 %	Enters data into PC based computer spread sheets and/or forms that have been designed to calculate materials testing properties and results. Plots graphs of results, corrects for errors, and submits results to the lab foreman for review. Modifies forms/documents as requirements change.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	1 %	Develops bituminous mix designs using standard procedures or special instructions and conducts testing to assess the properties of the prepared bituminous mixture.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	1 %	On a per engineers request basis, conducts on-site training of higher level employees, assurance sampling, and calibrates field equipment.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	1 %	Assemble and distribute all necessary equipment for field lab operations. Emphasis on achieving an "across the board" standard for all field labs.

Functional Area Title:		
E/M	% of Time	Duty Statement
E	2 %	Performs occasional on-site inspections of concrete and asphalt plants and machinery. Other useful skills include: measuring and plotting cross sections in support of construction, surveying, equipment ordering, computer support.

Percentage Total: 100%

3. Other Work Details

3.1. List the computer software and hardware used to perform the duties described. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Use on a daily basis IBM compatible computer with Microsoft Excel, Word, and E-Mail software.

3.2. List the equipment and materials used to perform the duties described, including machinery, tools, instruments, vehicles, etc. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Use on a daily basis:

Laboratory: Use small rock crushers, compactors, concrete cylinder breaking press, sledge hammers, sieve shakers, drying ovens (up to 1000 degrees F.), radioactive testing equipment, sensitive electronic measuring devices, calculators, weighing scales, and various graduated glassware measuring devices.

Field Assignments: In addition to the above listed equipment, field assignments may include the use and operation of asphalt coring drills, masonry saw, and light pickup trucks or sedans.

3.3. List the guides and references regularly used to perform the duties described. Examples include federal and state laws and regulations, professional standards, building codes, trade practices, contracts, and policy and procedure manuals. Explain how and why these guides and references are used. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Use on a daily basis:

American Association of State Highway and Transportation Officials manuals, Western Alliance for Quality Transportation Construction Manuals, American Society of Testing Materials manuals, Alaska State Test Methods, Asphalt Institute manuals, ADOT&PF Construction manuals, Contract Plans and Specifications, Materials Safety Data Sheets, various lab equipment instructions and maintenance manuals, MS Excel and Word documentation manuals.

3.4. Describe the level of authority and independence the incumbent of the position exercises. List the actions the incumbent takes or the decisions the incumbent makes on a regular basis without obtaining prior approval from a higher level employee. For example, explain how the position has the authority to commit the organization, or any parts thereof, to a course of action.

Existing materials testing manuals provide several protocols to perform a specific test dependent upon the material to be tested. This position will make routine decisions as to the appropriate testing procedures to be used. In cases that are not routine, the incumbent will decide when to ask for assistance from the journeyman MLT. In addition adjustments in computer data entry may be necessary to make the existing software programs perform more efficiently or provide alternative data analysis.

3.5. Describe the nature of the contacts the incumbent has with other people in order to perform the duties described. Include who is contacted, the reason for the contact, and how often the contact is made.

This position will interact with contacts inside and outside the Department of Transportation. These include discussions with technical personnel at the manufacturers of the specialized soil testing equipment to gain advise and obtain information to perform mechanical repairs to the equipment. This typically occurs several times throughout the year.

Contacts within the Department include daily interactions to receive instructions and convey the results of the materials testing and analysis. These contacts also include the receiving of instructions from the Supervisor and Design and Construction staff and requires good communication skills and a thorough knowledge of the materials testing protocol when the results of testing are conveyed.

On occasion the position may interact with the construction contractor to explain the results of the materials testing, which will effect the contractors final payment, dependant upon the construction project specifications and requirements.

3.6. Describe the consequence of an error made by a prudent employee in the performance of the essential functions assigned to the position. What is the consequence of that error to individuals, operations, and programs?

Consequences of an making an error in performing the materials tests can result in a reduction in the quality of materials included within construction projects and may have an economic consequence to the State, depending on the nature of the error. The dollar amounts involved for errors in this category have economic consequences in the \$100,000 value range.

Errors in materials testing results will result in economic consequences to the State and the construction contractor in the \$10,000- \$20,000 range.

3.7. List critical requirements of the position not previously described (e.g., skills in keyboarding, writing, negotiating, communications, etc.).

Must achieve and keep current WAQTC industry standard certification. Must be able to communicate effectively with fellow employees in and out of the lab. Must have a working knowledge of computers and spreadsheet and document software to the point of providing support to field MLTs. Participation in the AASHTO accreditation which is mandatory for FAA funded jobs. This job classification plays a major role (50%) in the AASHTO accreditation process.

3.8. List licenses, certifications, registrations, physical or other standards required by state or federal law or regulation to perform the duties described. Cite the specific authority (e.g. law or regulation, such as the OSHA Bloodborne Pathogens Act).

The encumbent must be certified in at least 2 modules of WAQTC, which is a condition of hire and within two years must be certified in all 5 modules of WAQTC. This is a requirement of the Alaska DOT&PF Construction manual for all materials testing technicians. Valid Alaska Driver's License.

4. Work Demands

The following identifies some of the physical and mental demands and potential hazards typically encountered by this position. These are job demands which can be ***reasonably anticipated and are an expectation of the job***.

Keeping in mind the essential functional areas and duty statements described in section 2, select the rating that best matches the requirement of this position according to the following descriptions:

Rating **Description**

Not Required (N): Not required of this position.

Present (P): Requirement **is** present, but **is not** essential to the position. (For example, a receptionist may encounter aggressive or angry people, but this is not an essential assignment.)

Occasional (O): Required 33 percent of the time or less **and** essential to the position. (For example, a lifeguard swims only occasionally, but it is essential that a lifeguard be able to swim; a correctional officer must control aggressive/angry people who are life threatening.)

Frequent (F): Required over 33 percent of the time **and** essential to the position.

Items checked below must be consistent with the duty statements listed in section 2.

4.1 Physical Requirements

Title	Rating			
	N	P	O	F
Sitting			O	
Walking				F
Standing				F
Running		P		
Jumping	N			
Bending or twisting				F
Squatting or kneeling				F
Crawling		P		
Reaching above shoulder level				F
Reaching below shoulder level				F
Ascending or descending using a ladder or other conveyance		P		
Climbing stairs			O	
Driving cars, light duty trucks			O	
Driving heavy duty vehicles		P		
Using floor mounted foot controls to operate equipment (e.g., not driving a car)	N			
Repetitive motion of hands/fingers (e.g., keyboarding, turning pages)				F
Fine manipulation with fingers				F
Pinching with fingers				F
Grasping with hand, gripping				F
Load, unload, aim, and fire handguns, shotguns or other firearms	N			

Lifting/carrying up to 25 pounds				F
Lifting/carrying 26-50 pounds				F
Lifting/carrying more than 50 pounds			O	
Pushing/pulling up to 25 pounds				F
Pushing/pulling 26-50 pounds				F
Pushing/pulling more than 50 pounds			O	
Balancing on moving surfaces		P		
Balancing on narrow surfaces		P		
Balancing on slippery surfaces		P		
Balancing on uneven surfaces		P		
Restraining/grappling with people in a public protection environment	N			
Seeing objects at a distance			O	
Seeing objects peripherally			O	
Using depth perception			O	
Seeing close work (e.g., typed print)				F
Distinguishing colors			O	
Hearing conversations or sounds				F
Hearing via radio or telephone				F
Communicating through speech				F
Communicating by writing/reading				F
Distinguishing odors by smell		P		
Distinguishing tastes	N			

4.2 Work Environment

Title	Rating			
	N	P	O	F
Work in/exposure to inclement weather			O	
Work in/exposure to cold water		P		
Work/live in remote field sites			O	
Work in confined areas (under desks, in heating vents, etc.)		P		
Exposure to dust, chemicals, or fumes				F
Exposure to hazardous equipment (e.g., guns, chainsaws, explosives)		P		
Exposure to electrical current (not outlets)		P		
Swimming/scuba diving	N			
Work at heights up to 25 feet (e.g., towers, poles)	N			
Work at heights over 25 feet (e.g., towers, poles)	N			
Work in urban or highway traffic (other than driving)			O	
Work around moving machinery or mobile equipment			O	
Work around moving mechanical parts				F
Work on and off moving equipment		P		
Work on slippery or uneven surfaces		P		
Work/travel in boat/small aircraft/helicopters		P		

Exposure to high noise levels				F
Exposure to infection, germs, or contagious diseases (e.g., hospital, lab, clinic, etc.)	N			
Exposure to blood, body fluid, or materials potentially contaminated by blood or body fluids (e.g., hospital, lab, clinic, public protection environment)	N			
Exposure to needles or sharp implements (e.g., hospital, kitchens)		P		
Use of hot equipment (e.g., kitchen ovens, lab equipment)				F
Exposure to wild/dangerous animals	N			
Exposure to insect bites or stings		P		
Exposure to aggressive/angry people in a public protection environment	N			

4.3 Other Work Demands

Title	Rating			
	N	P	O	F
There are no other work demands.				

4.4. Explain any special physical, mental, or behavioral requirements of the position that have not already been addressed.

Occasionally, work output is critiqued and or criticized by individuals or organizations that have an interest in test results. Some stress is present via verbal abuse of aggressive individuals. Also, performing for Lab accreditation assessments can be difficult when a critical eye is judging your performance. The ability to conduct work under these types of situations is necessary