

COUNTY OF SONOMA - JOB DEMANDS ANALYSIS

JOB CLASSIFICATION: Maintenance Worker I/II – Road & Airport Maintenance
DEPARTMENT: Sonoma County Public Infrastructure
PHYSICAL DEMAND STRENGTH RATING: Heavy

DATE COMPLETED: May 2024
DIVISION: Roads

INSTRUCTIONS TO MEDICAL PROVIDERS COMPLETING THIS FORM:

Please use the “Medical Provider Use Only” columns to the right of each section and the “Medical Provider’s Comments & Signature” Section on the signature page to provide work restrictions by indicating whether there is some portion of each function that the employee can perform; designating whether each restriction is temporary or permanent; and, if restriction is temporary, stipulating the expected duration of work restriction(s). To finalize the form, please provide the name of the employee evaluated and additional comments, as appropriate, then sign and date where indicated.

FREQUENCY RATING:

Frequency	Percentage of time per shift	Repetition (# times per shift)	8 Hr Shift	9 Hr Shift	10 Hr Shift	12 Hr Shift
Never (N)	n/a	n/a	n/a	n/a	n/a	n/a
Occasionally (O)	1 - 33%	1 – 100	0 - 2.5	0 - 3	0 - 3.5	0 – 4
Frequently (F)	34 - 66%	100 – 500	2.5 - 5.5	3 - 6	3.5 - 7	4 – 8
Continuously (C)	67 - 100%	500+	5.5 – 8	6 - 9	7 - 10	8 - 12

PART 1 - JOB DUTIES/FUNCTIONS:

A. Job Duty/Function	B. Job Duty #	C. Freq Rating	D. Equipment or tools used to perform (Describe)	E. Specialized Expertise, License, Certification Required? (Describe)	F. Essential or Non-Essential	Medical Provider Use Only: For each job duty/function, indicate in this column “Can Perform”, is “Temporarily Restricted” from performing, or is “Permanently Restricted” from performing.
While performing the following duties, employees in this position work outdoors in all types of terrain, vegetation, and weather conditions, performing duties in both daylight and dark/dim conditions.						
Works long and irregular hours, including nights, weekends, and holidays, during response and recovery phases of emergency situations.	1	O				
Drives county vehicle/pick-up truck to and from job sites and other offsite locations, including rugged, remote, and off-road locations; drives pilot vehicle.	2	F	Pickup trucks, commercial vehicles	CA Class A commercial driver's license, including tanker endorsement	E	

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Inspects vehicles, machines, equipment and tools and reports damage, wear, required repairs and maintenance, and need for replacement; performs routine maintenance of equipment; cleans, sharpens, and maintains hand tools.	3	F	Various hand tools, both manual and power		E	
Patches, repairs, and seals potholes and cracks. Lifts and carries materials weighing up to 65 pounds and hand tools weighing up to 90 pounds. Shovels and rakes asphalt.	4	F	Spray Wand, Shovel, Rake, Jackhammer, Crack Sealant, Patch repair supplies, Vibro Plate, spray wand		E	
Cleans, unclogs, and maintains manholes, catch basins, storm drains, culverts, and ditches including: digs trenches. Lifts, carries and places culverts and other materials weighing up to 100 pounds; works below ground and in tight/confined spaces; lifts and removes manhole/drain covers weighing up to 100 pounds.	5	O	Potato Fork, Shovel, Rake, Grate Inlet, Pry Bar, Chainsaw, Concrete, Culverts, Sand, Manhole/Drain cover		E	
Prunes and trims trees and shrubs; clears brush. Works suspended above ground at heights up to 20 feet.	6	O	Chainsaw, Pole Saw Pruning Shears, Rake, Man lift	Fall Protection training, Aerial lift certified	E	
Installs erosion/sediment control devices including lifts, carries over steep, slippery, and uneven terrain, and sets straw barriers and sandbags weighing up to 287 pounds.	7	O	Straw Bales and Wattles, Sandbags, Operate Hydro seeder		E	
Performs traffic control/safety duties including: stands for long periods of time while remaining alert and holding flag at shoulder level; sets up and removes barricades and road signs weighing approximately 35 pounds.	8	F	Sign, Barricades, Truck	Flagger Certification;	E	

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Paints traffic safety marking on roads and taxiways/ runways using striping truck. Paints traffic and bike path lanes on roads by hand using stencils made out of aluminum.	9	F	Paint Applicators (sprayers, rollers), various trucks including commercial, stencils, paint bucket	Striper truck requires CA Class A commercial driver's license, including tanker endorsement	E	
Performs unskilled maintenance in and around building structures including: mowing grass, sweeping, mopping and/or waxing floors.	10	O	Lawn Mower, Mop, Broom, Wax Machine		N	
Communicates by phone, email, or in person with other departmental staff and members of the public to coordinate activities, answer questions, respond to complaints, and provide information; maintains a calm and professional manner while dealing with hostile or verbally abusive members of the public.	11	O	Computer, phone	CA Driver's license	E	
Participates in training to maintain and enhance knowledge and skills necessary to perform assigned duties.	12	F	Computer, in-person/ field training		E	
At the II Level Only: Operates dump truck and heavy equipment; sits for long periods of time; climbs up and down stairs or ladder rungs to enter and exit equipment; reaches forward, down, and across to operate controls; monitors and remains alert to verbal and visual signs from other workers, and to equipment instrument and gauges to detect malfunctions and problems.	13	F	Backhoe, Loader, Grader, Excavator, Mower, Sweeper, Rental Equipment	CA Class A commercial driver's license, including tanker	E	
At the II Level Only: Loads equipment on trailer, secures, transports and unloads heavy equipment.	14	O	Commercial Truck and Trailer	CA Class A commercial driver's license, including tanker endorsement	E	

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Culvert Crew Only: Welding and torch cutting of galvanized material and steel; works in tight/confined spaces.	15	O	Oxyacetylene torch, MIG welder, PPE (required for welding i.e., mask, gloves, etc.)		E	
Vegetation Crew Only: Operates spray truck, loads pesticides into hoppers of the spray truck; uses backpack sprayers, weighing up to 35 pounds; cleans and maintains spray truck; inspects and reports any damage, safety, and maintenance issues.	16	F	Spray truck, Electric Pump, PPE (gloves, mask), Backpack, Spray wand	Pesticide Applicator's License	E	

PART 2: PHYSICAL DEMANDS

Activity	Examples of Duties/Functions Requiring Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY: Permanently Restricted
Sitting	2,11,12,13,16	F			
Walking	2-10,14,16	F			
Running	N/A	N			
Standing	3-10,13-16	C			
Bending-Neck	2-16	F			
Bending-Waist	3-	O			
Squatting	3-10,13-14	O			
Climbing	2,6,7,13,14	O			
Kneeling	3-7,9,10,14	O			
Crawling	3,10	O			
Twisting (neck)	2-16	C			
Twisting (waist)	3-10,13,15,16	O			
Repetitive Hand Use (e.g., using spray wand, using computer, operating controls, welding)	3,4,6,7,9,11,15,16	O			
Simple grasping (right hand) (e.g., holding traffic control flag, driving, cleaning and maintaining hand tools, mopping and sweeping)	2-16	C			
Simple Grasping (left hand) (e.g., holding traffic control flag, driving, cleaning and maintaining hand tools, mopping and sweeping)	2-16	C			
Power Grasping (right hand) (e.g., raking, shoveling, pruning)	4-10,13-16	F			
Power Grasping (left hand) (e.g., raking, shoveling, pruning)	4-10,13-16	F			
Fine Manipulation (right hand) (e.g., maintaining hand tools, using computer)	3,15,16	O			
Fine Manipulation (left hand) (e.g., maintaining hand tools, using computer)	3,15,16	O			
Pushing and Pulling (right hand) (e.g., raking, unclogging drains, clearing brush, pushing lawn mower, placing culverts)	4-10,13,14,16	F			
Pushing and Pulling (left hand) (raking, unclogging drains, clearing brush, pushing lawn mower, placing culverts)	4-10,13,14,16	F			
Reaching (above shoulder level) (trimming trees and shrubs, welding and torch cutting, loading spray truck)	6,15,16	F			
Reaching (below shoulder level)	2-16	F			
Lifting-up to 10 lbs.	3-16	F			
Lifting-11-25 lbs.	3-10,14,16	F			
Lifting-26-50 lbs. (e.g., patch materials, piles of brush, straw bales and wattles, sandbags)	3-10,16	F			
Lifting 51-75 lbs. (e.g., inlet grate, manhole/drain cover, concrete, culvert)	4,5	O			
Lifting 76-100 lbs. (e.g., inlet grate, manhole/drain cover, concrete, culvert)	4,5	O			
Lifting 100 + lbs.	N/A	N			
Carrying 0-10 lbs.	3-16	F			
Carrying 11-25 lbs.	4,5,7,8,16	F			
Carrying 26-50 lbs. (e.g., patch materials, piles of brush, straw bales and wattles,	4,5,7,8,16	F			

Activity	Examples of Duties/Functions Requiring Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY: Permanently Restricted
sandbags)					
Carrying 51-75 lbs. (e.g., inlet grate, manhole/drain cover, concrete, culvert)	4,5	O			
Carrying 76-100 lbs. (e.g., inlet grate, manhole/drain cover, concrete, culvert)	4,5	O			

PART 3: SENSORY REQUIREMENTS

Activity	Examples of Duties/Functions Requiring Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Functional vision, normal or corrected	2-16	C			
Functional color vision, normal or corrected	N/A	N			
Functional night vision, normal or corrected	2-16	O			
Functional hearing, normal or corrected	2-16	C			
A sense of smell or taste	N/A	N			

PART 4: COMPREHENSION LEVEL

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Follow Oral Instructions	F			
Follow Written Instructions	F			
Required to sustain concentration	C			

PART 5: NATURE OF TASKS

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Follow set procedures	C			
Organize own work	F			
Able to ask questions or request assistance when needed	C			
Required to make decisions independently	O			
Required to train and/or lead others	O			
Required to direct others (e.g. planning, goal setting, performance)	O			

PART 6: WORK PACE

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Tightly scheduled and rapid pace of work activities at high volume	O			
Meet time sensitive deadlines	O			
Long and/or irregular hours	O			
Limited/unpredictable opportunity for breaks	O			
Required to perform on-call or emergency work	O			

PART 7: COMPLEXITY/VARIABILITY

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Variable and unpredictable workflow	F			
Attention divided by issues requiring multi-tasking	F			

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Work requires precise attention to detail	F			
Use of judgment in routine matters	F			
Requires use of judgment in adapting procedures from one task to another	F			
Possible legal ramifications associated with work activities or work product	F			

PART 8: INTERACTIONS WITH OTHERS

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Works with others (e.g., co-workers, other departments/agencies, public)	C			
Interactions limited to giving/receiving information	F			
Interactions exceed giving/receiving information (e.g., advises, persuades, justifies)	O			
Interactions occur under circumstances of emotional stress	O			
Risk of confrontation with violent or assaultive clients or customers	O			

PART 9: ENVIRONMENTAL FACTORS/WORKING CONDITIONS:

Activity	FREQUENCY RATING Never, Occasional; Frequent, or Constant	MEDICAL Can Perform	PROVIDER Temporarily Restricted	USE ONLY Permanently Restricted
Work Inside	O			
Work Outside	C			
Extreme Heat (above 100 degrees)	O			
Extreme Cold (below 32 degrees)	O			
Excessive Noise (must raise voice to be heard)	F			
Vibration (e.g., jack hammer, hammer drill, chainsaw, etc.)	F			
Dust, Vapors, Fumes, Smoke	F			
Silica, asbestos, etc.	O			
Solvents (e.g., gas, turpentine, etc.)	O			
Grease, oils	F			
Acidic, Caustic Solutions	N			
Pesticides	F			
Explosives (e.g., dynamite, bomb, etc.)	N			
Cleaning supplies, abrasives	O			
Other Chemicals (e.g., drugs and other contraband)	O			
Human Blood, Body Tissues, or Fluids	N			
Human Wastes	N			
Animal Blood, Body Tissues, or Fluids	O			
Animal Wastes	O			
Biological Toxins (e.g., poison ivy, poison oak, anthrax, etc.)	F			
Insect Bites (e.g., ticks, mosquitos, spiders, etc.)	F			
Biomedical Waste	N			
Ionizing Radiation	N			
Non-Ionizing Radiation	N			
Electrical Energy (working near overhead power lines i.e., trimming trees; contact with underground lines while digging)	O			
Walking on uneven, slippery, or rough surfaces	C			
Proximity to moving mechanical parts (e.g., equipment, machinery)	C			
Proximity to moving vehicles or objects	C			
Heights (e.g., rooftop, ladders, scaffolding, etc.)	O			
Contact with water, other liquids, humid conditions - not weather related	O			
Work Below Ground: (e.g., excavation, trench, etc.)	O			
Work in confined spaces	O			
Potential exposure to airborne infectious diseases (e.g., clinics, labs, corrections)	N			
Operates non-commercial motor vehicles (cars, trucks)	F			
Operates commercial vehicles – CDL Class A Endorsements Tanker	C			
Operates passenger van to transport clients, inmates, etc.	N			
Pulls non-commercial trailers or equipment	O			
Operates heavy equipment	C			
Other:	N			

PART 10: MEDICAL SCREENING, SURVEILLANCE AND VACCINATION REQUIREMENTS:

Please check each of the medical screening, surveillance, and vaccination requirements that apply to the position, and indicate if the requirement applies pre-employment/pre-placement only, or whether there are additional requirements after hire.

Medical Screening, Surveillance or Vaccination	Pre-Hire	Post-Hire	Frequency (one time, annual, etc.)
Audiometric Testing	X	X	annual
DOT Drug and Alcohol Screening	X	X	random
DOT Physical Exam		X	Every 2 years (DMV required)
Respirator Physical Exam: Culvert/Vegetation only	X	X	annual
Respirator Questionnaire – Short			
Respirator Questionnaire – Standard: Culvert/Vegetation only	X	X	annual
Blood lead level			
Hazardous Waste/Emergency Worker physical			
Heavy metal screen (mercury, lead, arsenic)			
HINT Hearing Noise Sensitivity Testing			
Tuberculosis skin test			
Vaccine: MMR			
Vaccine: Hepatitis B	X		one time
Vaccine: Influenza			
Vaccine: Meningococcal			
Vaccine: Pneumococcal			
Vaccine: Rabies			
Vaccine: Tdap			
Vaccine: Chickenpox			

PART 11: ADDITIONAL INFORMATION, PICTURES, ETC.



Work Truck with Lift, step to enter Driver's side 16 inches



Work Truck with Lift



Traffic Barricade with sign- 17 lbs.



Sandbag- 28 lbs.



Grate Inlet - Avg.= 100 lbs.



Cold Mix Bucket- 50 lbs.



Pavement Finisher Bucket- 40 lbs.



Crack Sealant- 25 lbs. per bag
50 bags per pallet



Straw Wattle - 35 lbs.



Pole Saw – 17 lbs. Shortest at 107”
Extends to max of 180” (15’)



Potato Hook



Bobtail Dump Truck- 39 inches to
Bed of truck/gate



Bobtail Asphalt Patch Truck – 19 inches to
lowered gate.

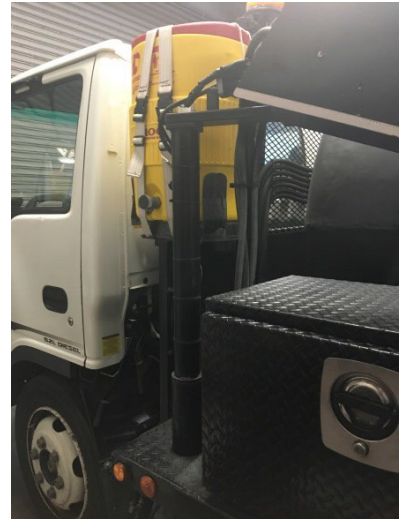
Additional Photos for Vegetation Crew (Job Duty/Function #16):



Cold Mix Asphalt Repair Material
Shovel and 5 Gallon Bucket for
Pot hole repair



Pole Saw- weighing up to 13 lbs.
Weed Whacker- 17 lbs.



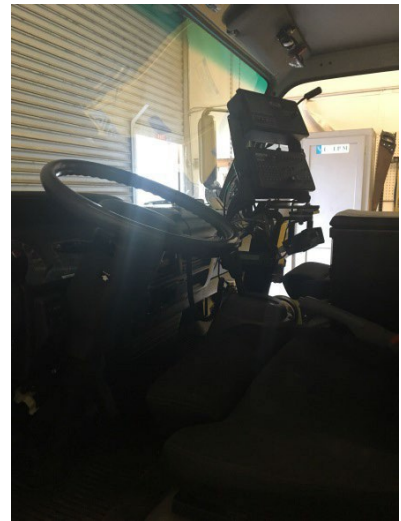
5 Gallon Water Cooler- filled after
being placed on truck



Barricades- 15 lbs.



4 Gallon Spray Back Pack-
(Typically filled with ONLY 3 Gallons)
Empty- 10 lbs.; Plus 3 Gal. - 35 lbs.
; Plus 4 Gal. – 43 lbs.



Driver's Side of Spray/Tank Truck



Controls for Spray/Tank Truck- Typically controlled by passenger



Passenger side of Spray/Tank Truck



Side of Spray/Tank Truck- Portable Ladder Steps at 12" – 24" – 36" to bed of truck



Tank of Herbicide- Top of tank At 64" from floor; 46" from step



Spray/Tank Truck Step Height- 18 inches from ground



Utility Bed on Pick-up Bottom of Storage at 55" from ground- Storage for Herbicide or chainsaws



Full Herbicide- 15 gal. = 125.1 lbs. Lowered from 6 in. surface to ground



Case of Herbicide- 40 lbs. Case Handle at 13 inches



Cases stored from 6" to 52"



Single container of Herbicide= 18lbs.
Moved from 6" pallet to 55" Utility
Storage on Pick-up truck