



USUAL & CUSTOMARY JOB ANALYSIS/DESCRIPTION

JOB TITLE:	Engineering Technician
DEPARTMENT:	Engineering
EMPLOYER:	Vallejo Sanitation and Flood Control District 450 Ryder Street, Vallejo, California 94590
DATE PREPARED:	1/15/2004
WORK SCHEDULE/HOURS:	8 hours per day, 5 days per week
EMPLOYEE:	
D/I:	
CLAIM NUMBER:	

Employer's Business: The employer, Vallejo Sanitation and Flood Control District, is a government agency responsible for the collection and treatment of wastewater from the sanitary sewer system and the protection from storm water.

Job Functions

Overview:

Under supervision of the Director of Engineering and Field Operations, or other engineering staff as the Director may assign, to perform a variety of drafting, records maintenance, office engineering, surveying and construction materials testing tasks. This is a technical position. Employees in this class will typically be assisting others by performing office and field tasks. Work is generally done in accordance with established procedures. Work deviating from established procedures is done under precise direction relative to the deviation. Communication with the general public is limited to routine matters in accordance with established procedures, however communication with other District staff is extensive.

Essential Functions:

- The employee updates maps and other engineering drawings and documents (computerized and hand drafted).
- The employee performs and reviews engineering calculations related to areas, flows, quantities, rates, fees and survey notes, including coordinating information.
- The employee performs simple construction materials tests such as nuclear gauge testing for soil density.
- The employee maintains office records as directed, including computerized records.
- The employee prepares correspondence and reports related to work as directed.
- The employee assists in improvement plan reviews, preparation of legal descriptions, conducting survey and project inspections.
- The employee installs and replaces computer software, related engineering applications, and simple hardware peripherals.
- The employee utilizes a computer keyboard, mouse and views a monitor to enter or retrieve data including report completion, correspondence, drafting and other related tasks.
- The employee utilizes writing utensils to review and write on engineering plans, makes annotations, completes notes, messages.

- The employee checks and reviews engineering plans. This includes retrieving paper plans from open shelves or drawers, transports and places the plans on a drafting table to read/review.
- The employee utilizes drafting equipment including scales, rulers, a compass (ounces) etc., to review plans, a calculator to assess plans for mathematical accuracy, writing utensils to mark or correct plans.
- The employee utilizes a telephone handset to communicate with coworkers, different departments, agencies, the public, etc. This includes retrieving the telephone handset, pressing 7 to 10 telephone buttons and verbally communicating with the desired party.
- The employee operates a city vehicle equipped with an automatic transmission to travel field sites. Includes ascending one step, maneuvering a steering wheel, pressing 2 foot pedals (accelerator and brake) in conjunction with using a cushioned seat.
- The employee, as needed, attends meetings with coworkers, developers, contractors, consultants and other related agencies.
- The employee visits and inspects field sites, the employee as needed utilizes a digital camera to take site pictures, as needed a flashlight, level and tripod to make observations. Approximately one time per month the employee utilizes a wrench to verify a bolt torque, up to 60 psi.
- The employee inspects equipment including making necessary observations, checks fittings, and other related equipment.
- The employee as needed ascends/descends extension ladders to access a roof top or a trench (<4-70').
- The employee assists customers at the front counter, includes retrieving needed paperwork and answering questions.

Marginal Functions:

- The employee utilizes a standard copy machine to make copies. This entails opening/closing the copier door (upward/downward motion, exertion 5 pounds), placing individual sheets on the copier and pressing buttons to activate the machine. Alternatively, the employee may place a stack of papers on copier tray and press buttons to activate the machine.
- The employee utilizes a fax machine. This entails setting individual papers in the fax machine, pressing 7-10 numbers to connect to the desired telephone numbers and pressing a button to activate the fax.
- The employee retrieves and sets files/paperwork in and out of file cabinet drawers.

Minimum Qualifications**EDUCATION & EXPERIENCE**

- Any combination of experience and education that could likely provide the required knowledge and abilities.

KNOWLEDGE, SKILLS & ABILITIES

- Correct and applicable English usage and spelling
- Ability to do arithmetic, algebraic and trigonometric calculations quickly and accurately
- Knowledge of correct Business English, including spelling, grammar and punctuation. Ability to write letters.
- Ability to understand and follow oral and written instructions and sketches
- Ability to proficiently use the computer to do mapping
- Ability to prepare engineering plans.
- Ability to use computer programs such as dBase, AutoCAD, Word, and Windows
- Ability to install computer hardware and software
- Ability to work with others and accept direction
- Ability to ready survey notes and legal metes and bounds descriptions
- Ability to upgrade skills as necessary to apply new and updated tools, computer programs, methods and procedures as they become applicable to and are incorporated into District Operations
- Must be able to walk on uneven surfaces
- Must be able to work in inclement weather
- Must be able to communicate with irate or difficult people
- Must be able to accept constructive criticism from supervisors, coworkers and subordinate employees

LICENSE(S)

- Must possess a valid Class C California Driver's License at the time of employment. The ability to drive District vehicles is a specific requirement for this position. For that reason, it is the employee's responsibility to maintain a driving record that is acceptable to the District's insurance carrier or be subject to dismissal.

Physical Demands

For the purpose of determining frequency of activity, this job analyst refers to an eight-hour workday.

STANDING	Frequency: Duration: Surfaces: Associated Tasks:	Less than 1 hour. Seconds to less than 5 minutes at a time. Predominantly tile, carpet, possible dirt, gravel, concrete. Visiting construction sites, utilizing office equipment, taking pictures at field sites, making field observations, assessing measurements.
WALKING	Frequency: Duration: Surfaces: Associated Tasks:	Less than 1 to 2 hours. Seconds to less than 5 minutes at a time. Predominantly tile, carpet, possible dirt, gravel, concrete. Within the office, to and from constructions sites, making field observations.
SITTING	Frequency: Duration: Surfaces: Associated Tasks:	5 to 6 hours. Less than ½ hour to 1 hour at a time. Cushioned office chair, vehicle seat. Driving to and from field sites, working at a desk station utilizing a computer, keyboard, mouse, monitor, telephone, reading, writing.
CROUCHING/ SQUATTING	Frequency: Duration: Surfaces: Associated Tasks:	Less than 10 times. Seconds at a time. Tile, carpet. Retrieving or setting items in and out of file cabinet drawers including files, plans, assessing field measurements, utilizing a torque wrench.
CRAWLING	Frequency: Duration: Surfaces: Associated Tasks:	Not a job requirement.
LAYING ON BACK/STOMACH	Frequency: Duration: Surfaces: Associated Tasks:	Not a job requirement.
CLIMBING/ BALANCING	Frequency: Duration: Surfaces: Associated Tasks:	0 to 2 times per month. Seconds at a time. Stair steps. As needed, ascending or descending stair steps at the plant site or an extension ladder to access a roof top or trench.

BENDING		
• Waist:	Frequency: Duration: Associated Tasks:	Alternated with squatting, employee preference.
• Head/Neck:	Frequency: Duration: Associated Tasks:	2 to 3 hours. Seconds to less than 5 minutes at a time. During normal body mechanics, aiding visually, reading, writing, including plans, making field observations.
• Wrists:	Dominant Hand: Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	2 to 3 hours. Less than 1 hour. Less than ½ hour. 1 to 2 hours. Seconds to less than 15 minutes at a time. Normal body mechanics, handling paperwork, files, plans, driving in conjunction with maneuvering a steering wheel, utilizing a torque wrench, flashlight or tape measurer to assess a measurement.

TWISTING/ROTATING		
• Waist:	Frequency: Duration: Associated Tasks:	Less than 5 minutes. Seconds at a time. Possibly while driving. The motion is center to the right back to center or center to the left back to center up to 10-degrees.
• Head/Neck:	Frequency: Duration: Associated Tasks:	Up to 1 hour. Seconds at a time. Aiding visually, possibly while driving, during normal body mechanics, performing field observations. The motion is center to the right back to center or center to the left back to center up to 35-degrees.
• Wrists:	Dominant Hand: Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	0 to less than 5 minutes. Alternated with bilateral. Alternated with bilateral. 0 to less than 5 minutes. Seconds at a time. During an inspection in conjunction with utilizing a torque wrench to turn/test the bolts.

UPPER EXTREMITY USE:	Dominant Hand: [indicate LEFT or RIGHT]
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REACHING		
<ul style="list-style-type: none"> • Primary Reach Zone: (elbows bent at waist level, hands in forward extension) 	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	3 to 4 hours. 1 to 2 hours. 0 2 to 3 hours. Seconds to less than 15 minutes at a time. Utilizing a pointing device, computer keyboard.
<ul style="list-style-type: none"> • Above Shoulder Level 	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 10 times. Alternated with bilateral. Alternated with bilateral. Less than 10 times. Seconds at a time. Retrieving files from upper shelves.
<ul style="list-style-type: none"> • Between Waist and Shoulder Level 	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	3 to 4 hours. 1 to 2 hours. Less than 1 hour. 2 to 3 hours. Seconds to less than 15 minutes at a time. Driving in conjunction with maneuvering a steering wheel, utilizing a telephone handset, handling plans, files, utilizing drafting instruments including scales, rulers, compass.
<ul style="list-style-type: none"> • Below Waist Level 	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 10 times. Less than 10 times. Alternated with dominant. 0 to less than 5 minutes. Seconds at a time. Retrieving or setting items in and out of file cabinet drawers including files, plans, assessing field measurements, utilizing a torque wrench.
PUSHING/ PULLING	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 10 times. Less than 10 times. Alternated with dominant. Alternated with dominant. Seconds at a time. Opening or closing file cabinet or plan drawers, utilizing a wrench to assess a bolt torque measurement (up to 60 psi).

LIFTING/CARRYING		
<ul style="list-style-type: none"> • 0 to 10 lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Writing utensil, plans, paperwork, files, telephone handset, drafting instruments, rulers, scales, tape measure, flashlight, torque wrench.</p> <p>2 to 3 hours.</p> <p>Less than 1 hour.</p> <p>Less than ½ hour.</p> <p>1 to 2 hours.</p> <p>0 to less than 50 feet.</p> <p>Knee to chest level.</p> <p>Utilizing a writing utensil to complete paperwork, utilizing drafting instruments, telephone handset, handling paperwork, plans, utilizing a torque wrench to assess a measurement, utilizing a tape measure, flashlight during inspections.</p>
<ul style="list-style-type: none"> • 11 to 25 lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Plans, paperwork.</p> <p>1 time per month.</p> <p>0</p> <p>0</p> <p>1 time per month.</p> <p>Less than 10 feet.</p> <p>Ground to waist level.</p> <p>As needed, retrieves and relocates a box of paperwork or plans.</p>
<ul style="list-style-type: none"> • 26 to 50 lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Box of paperwork.</p> <p>1 time per week.</p> <p>0</p> <p>0</p> <p>1 time per week.</p> <p>Less than 10 feet.</p> <p>Ground to waist level.</p> <p>The employee, as needed, retrieves and relocates a box of paperwork.</p>
<ul style="list-style-type: none"> • 51 to 75 lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Not a job requirement.</p>
<ul style="list-style-type: none"> • 75 to 100 lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Not a job requirement.</p>
<ul style="list-style-type: none"> • 100+ lbs. 	<p>Objects:</p> <p>Frequency</p> <p> Dominant:</p> <p> Non-Dominant:</p> <p> Bilateral:</p> <p>Distance:</p> <p>Height:</p> <p>Associated Tasks:</p>	<p>Not a job requirement.</p>

HAND DEMANDS		
<ul style="list-style-type: none"> • Simple Grasping 	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	2 to 3 hours. Less than 1 hour. Less than ½ hour. 1 to 2 hours. Seconds to less than 15 minutes at a time. Driving in conjunction with maneuvering a steering wheel, utilizing telephone handset, handling plans, paperwork, utilizing a tape measure or flashlight.
<ul style="list-style-type: none"> • Power Grasping 	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	0 to less than 5 minutes. 0 0 0 to less than 5 minutes. Seconds at a time. Retrieving and relocating a box of paperwork, utilizing a torque wrench to assess a measurement.
<ul style="list-style-type: none"> • Fine Manipulation 	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	3 to 4 hours. 1 ½ to 2 hours. 0 2 to 3 hours. Seconds to less than 15 minutes at a time. Utilizing a computer keyboard, pointing device, writing utensil, pressing telephone buttons to make outgoing calls.

SPECIAL ENVIRONMENT	<ul style="list-style-type: none"> • Outdoors all weather conditions, infrequent • Indoors, climate controlled office setting
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MACHINES/TOOLS	<ul style="list-style-type: none"> • District vehicle • Level/Tripod • Printer 	<ul style="list-style-type: none"> • Computer keyboard, mouse, monitor • Writing utensil 	<ul style="list-style-type: none"> • Copier machine • Flashlight • Telephone 	<ul style="list-style-type: none"> • Fax machine • Torque wrench
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Note: The following are not physical requirements of this job: kneeling, crawling, laying on back/stomach.

ADDITIONAL REQUIREMENTS: The employee, as needed, when visiting construction/field sites and depending on the exposure, is required to wear foot, eye, hearing and head protection.

EMPLOYER COMMENTS:	
This Job Analysis accurately represents the duties of an Engineering Technician to the best of my knowledge.	
EMPLOYER CONTACT NAME:	
EMPLOYER SIGNATURE:	DATE:

EMPLOYEE COMMENTS:	
This Job Analysis accurately represents the duties of an Engineering Technician to the best of my knowledge. I understand that I cannot add hours to the physical demands breakdown if the total would then be greater than the number of hours in an average workday.	
EMPLOYEE NAME:	
EMPLOYEE SIGNATURE:	DATE: