



Job Task Analysis

Employer:	Stanislaus County
Occupation:	Drafting Tech
Classification:	Drafting Tech I, II & Supervisor
Company Contact:	Risk Management 1010 10 th Street Modesto, California 95354 (209) 525-5770
Date:	November 2007
Analysis Provided By:	Lyle Andersen, PT, CWCE Andersen Physical Therapy, Inc. 3500 Coffee Road, Suite 3 Modesto, California 95355 (209) 549-4626

INTRODUCTION:

A complete job description is available through Stanislaus County Human Resources. The environmental factors, physical and functional demands for this Job Task Analysis were documented by Andersen Physical Therapy, Inc. The methodology for documentation consisted of on-site visits, using various measuring devices such as dynamometers and scales, as well as observation and interviews with employees and managers. A detailed record was made of the physical and functional demands of the job in terms of force pounds, weight, frequency, height, distance, anthropometric measurements, stamina, and degrees of range of motion. The determination of the frequencies of functional activities is based on standards provided by the National Institute for Occupational Safety and Health (NIOSH) and the Work Practice Guide for Manual Lifting (U.S. Department of Commerce, National Technical Information Service).

The Job Task Analysis is organized as follows: General work description; safety requirements; equipment; environmental factors; and physical/functional demands.

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GENERAL WORK DESCRIPTION:

The frequency of the following activities may vary according to the physical requirements of the specific job tasks that the employee may be required to perform at random intervals.

Under the general supervision of the department manager, to perform drafting and illustration work in the preparation and revision of maps, graphs and charts; to execute basic planning surveys and studies and to perform related duties as required. Incumbents are subject to overtime, standby and call-back assignments.

Drafting Technician I is the entry level position in the Drafting Technician Series. Incumbents perform a variety of routine planning duties within defined procedures and practices. The Drafting Technician II is the journey level position in the Drafting Technician series where incumbents are fully knowledgeable in the area and able to function with a high degree of independence. Incumbents may also help train and supervise those in the entry class of Drafting Technician I.

SPECIFIC DUTIES: Available through the Human Resources Department at the County of Stanislaus.

<http://www.stancounty.com/personnel/PDF/JobSpecifications.pdf>

Safety Requirements: All employees are required to observe company safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, customers, and property.

Equipment:

- | | |
|------------------------------|--------------------|
| 1. Calculator | 9. Mouse |
| 2. Computer | 10. Paper Cutter |
| 3. Copy machine | 11. Printer |
| 4. Drafting tools | 12. Staple machine |
| 5. Hole punch (paper) | 13. Stapler |
| 6. Keyboard | 14. Telephone |
| 7. Microfiche reader/printer | 15. Vehicle |
| 8. Monitor | 16. X-acto knives |

*All employees within the **Drafting Technician I, II, & Supervisor** position are required to provide physical assistance for all weight and frequency requirement needs of all job tasks in order to maintain a safe work environment. Employees must be physically capable of working in any of the job tasks within the **Drafting Technician I, II, & Supervisor** position.*

ENVIRONMENTAL FACTORS



The following percentages are given in terms of an eight-hour workday:

Seldom = 1% - 2%	Frequent = 34% - 66%
Occasional = 3% - 33%	Constant = 67% - 100%

	ENVIRONMENTAL FACTORS	MAXIMUM FREQUENCY
1.	Unprotected heights:	Not Applicable
2.	Being around moving machinery: traffic, farm equipment.	Seldom
3.	Exposure to marked changes in temperature and humidity: outside temperatures may seasonally vary between 28-110 degrees. Walk-in freezer.	Not Applicable
4.	Exposure to dust, fumes, smoke, gases, or other irritating substances (specify):	Not Applicable
5.	Driving:	Not Applicable
6.	Exposure to excessive noise:..... <i>Hearing protection is available</i>	Seldom
7.	Exposure to radiant or electrical energy:.....	Not Applicable
8.	Exposure to solvents or chemicals:..... <i>Refer to MSDS document.</i>	Not Applicable
9.	Exposure to slippery or uneven walking surfaces: undeveloped ground, water, ice.	Not Applicable
10.	Working below ground:.....	Not Applicable
11.	Unusual fatigue factors:	Not Applicable
12.	Working with explosives:.....	Not Applicable
13.	Excessive vibration:	Not Applicable
14.	Working with hands in water or other substance:..... <i>Hand protection is available</i>	Not Applicable
15.	Working proximity:.....	Alone: Not Required Closely with others: Continuous
16.	Working inside:.....	Frequent
17.	Working outside:.....	Not Required

FUNCTIONAL ACTIVITIES



The frequency of the following activities may vary according to the physical requirements of the specific job tasks the employee may be required to perform at random intervals.

PHYSICAL AND FUNCTIONAL REQUIREMENTS

<u>FREQUENCY DEFINITIONS</u>	<u>SELDOM</u>	<u>OCCASIONAL</u>	<u>FREQUENT</u>	<u>CONSTANT</u>
Percent of the Day	1-2%	3-33%	34-66%	67-100%
Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Non Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

1.) **PUSH:** *Pushing activities may require use of the back in conjunction with leg and arm musculature.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Occasional
11-25 pounds:	Seldom
26-100 pounds:	Not Required
Maximum Force: 15 Pounds	

Assistive Devices: 4-Wheel Cart, Hand Truck. Additionally, one or more person(s) assistance is available with forces greater than 15 pounds.

Comments: Pushing is utilized with activities such as retrieving, returning, storing and/or transporting equipment and supplies (e.g. cart, door). The employee exerts up to 15 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 100+ feet when performing job tasks (e.g. up to 15 pounds of force traveling with 4-wheel cart or hand truck; close file, desk drawer; open/close door).

2.) **PULL:** *Pulling activities may require use of the back in conjunction with leg and arm musculature.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Occasional
11-25 pounds:	Seldom
26-100 pounds:	Not Required
Maximum Force: 15 Pounds	

Assistive Devices: 4-Wheel Cart, Hand Truck. Additionally, one or more person(s) assistance is available with forces greater than 15 pounds.

Comments: Pulling is utilized with activities such as retrieving, returning, storing and/or transporting equipment and supplies (e.g. cart, door). The employee exerts up to 15 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 5+ feet when performing job tasks (e.g. up to 15 pounds of force traveling with 4-wheel cart or hand truck; close file, desk drawer; open/close door). *Pushing is the preferred method of moving carts.*

3.) **STAND-UP LIFT:** *Lifting weighted objects between floor and waist height.***MAXIMUM REQUIREMENT**

0-10 pounds:	Occasional		
11-100 pounds:	Not Required	Maximum Force:	<u>10</u> Pounds

Assistive Devices: One or more person(s) assistance is available with weights greater than 10 pounds.

Comments: A stand-up lift is utilized with activities such as retrieving, returning, storing and/or transporting supplies (e.g. documents). The employee lifts items weighing between less than 1 pound and 10 pounds from/to 30 inches off the floor when performing job tasks (e.g. up to 10-pound briefcase, documents, three-ring binder from/to lower shelves or cabinets).

4.) **LEVEL LIFT:** *Lifting weighted objects from between waist and chest height level for a maximum horizontal distance of up to four feet.***MAXIMUM REQUIREMENT**

0-10 pounds:	Occasional		
11-25 pounds:	Seldom		
26-100 pounds:	Not Required	Maximum Force:	<u>15</u> Pounds

Assistive Devices: Hand truck/4-wheeled cart. Additionally, one person assistance is available with weights greater than 15 pounds.

Comments: A level lift is utilized with activities such as retrieving, returning, storing, documents, adjusting, moving, transporting, equipment, supplies (e.g. books, files, paper; miscellaneous office items). The employee lifts items weighing between <1 pounds and 15 pounds up to 42 inches in height when performing job tasks (e.g. up to 15 pound tax rate area map book; individual files; 6- pound subdivision book; miscellaneous reference books and folders; up to 10 pound ream of copy paper.)

5.) **WEIGHT CARRY:** *Carrying weighted objects between waist and chest height beyond a distance of four feet.***MAXIMUM REQUIREMENT**

0-10 pounds:	Occasional		
11-25 pounds:	Seldom		
26-100 pounds:	Not Required	Maximum Force:	<u>15</u> Pounds

Assistive Devices: Hand truck/4-wheeled cart. Additionally, one person assistance is available with weights greater than 15 pounds.

Comments: Weight carry is utilized with activities such as retrieving, returning, storing, documents, adjusting, moving, transporting, equipment, supplies (e.g. books, files, paper; miscellaneous office items). The employee carries items weighing between <1 pounds and 15 pounds between 5 feet and 25 feet when performing job tasks (e.g. up to 15 pound tax rate area map book; individual files; 6 pound subdivision book; miscellaneous reference books and folders; up to 10 pound ream of copy paper; stacked documents).

6.) **OVERHEAD LIFT/PULL DOWN:** *Lifting weighted object from/to chest and overhead height level.***MAXIMUM REQUIREMENT****0-100 pounds:** Not Required **Maximum Force:** 0 Pounds**Assistive Devices:** A vertical ladder/step ladder/or step stool is available to bring items to eye or shoulder level.**Comments:** Overhead lift/pull down is not required to perform job tasks. *Variables to overhead reaching will be the employee's height and anthropometric reach.*7.) **OVERHEAD REACH:****MAXIMUM FREQUENCY:** Seldom**Comments:** Overhead reach is performed to a maximum height of 72 inches when retrieving, returning, storing, moving, transporting documents (e.g. individual appraisal files stored on shelves). *A ladder (appropriate height) or step stool may be utilized to bring items to eye or shoulder level. Variables to overhead reaching will be the employee's height and anthropometric reach.*8.) **FORWARD REACH:****MAXIMUM FREQUENCY:** Occasional**Comments:** Forward reach is performed to a maximum distance of 32 inches when, retrieving, returning, storing, adjusting, moving, transporting equipment and supplies (e.g. desktop work; mapping activities with the keyboard, mouse, CD-ROM; hand drafting; customer service at front counter; researching through map books, microfiche film, hard copy, copy machine). *The degree of elbow extension required for reaching will vary according to the employee's anthropometric reach.*9.) **STOOP:****MAXIMUM FREQUENCY:** Not Required**Comments:** Stooping is not required to perform job tasks. *Variable to stooping will be the employee's height. Stooping of the head, trunk and knees can be minimized or avoided by substituting alternate positions of squatting, kneeling or bending when performing job tasks.*10.) **SQUAT:** *(Unloaded)***MAXIMUM FREQUENCY:** Not Required**Comments:** Squatting is not required to perform job tasks. *Squatting may be minimized or avoided by substituting alternate positions of bending or kneeling. Partial squatting is a preferred lifting posture.*

11.) FORWARD BEND:**MAXIMUM
FREQUENCY:** Seldom

Comments: Bending forward at the waist is performed when, retrieving, returning, storing, moving, transporting, documents and supplies (e.g. appraisal files, map books, microfiche cassettes, hard copy deeds). Maximum forward trunk flexion required is 45 degrees. *Employee may avoid excessive forward bending of the trunk up to 80 degrees by using alternate positions of bending at the hips, kneeling, half kneeling, stooping, sitting or squatting.*

12.) TWIST:**MAXIMUM
FREQUENCY:** Seldom

Comments: Twisting at the waist is performed when retrieving, returning, storing, moving, transporting, documents and supplies (e.g. appraisal files, map books, microfiche cassettes, hard copy deeds). *Twisting at the waist may be minimized by turning the whole body, including the feet and working from a swivel chair.*

13.) TURN:**MAXIMUM
FREQUENCY:** Seldom

Comments: Turning is performed when retrieving, returning, storing, moving, transporting, documents and supplies (e.g. appraisal files, map books, microfiche cassettes, hard copy deeds).

14.) KNEEL:**MAXIMUM
FREQUENCY:** Not Required

Comments: Kneeling is not required to perform job tasks. *Kneeling may be minimized or avoided by substituting alternate positions of bending, squatting, or half kneeling.*

15.) CRAWL:**MAXIMUM
FREQUENCY:** Not Required

Comments: Crawling is not required to perform job tasks.

16.) STAIR CLIMB:**MAXIMUM
FREQUENCY:** Not Required

Comments: Stair climb is not required in order to go to/from other floors in multi story building. Elevator is available.

17.) **LADDER CLIMB:**

**MAXIMUM
FREQUENCY:** Not Required

Comments: Ladder climbing is not required to perform job tasks. *Variables to overhead climbing will vary according to the employee's height and anthropometric reach.*

18.) **WALK:**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Walking is performed when traveling throughout the office work site (e.g. to/from collaborating offices/personnel; storage room for files, map books, microfiche reader, copy machine, printer, front desk, meeting room; to/from employee parking). Walking length varies between 3 feet and 1000 feet depending on job task.

19.) **SIT:**

**MAXIMUM
FREQUENCY:** Continuous

Comments: Sitting is performed for a maximum of 120-minute intervals when operating, equipment, controls and performing office work (e.g. desktop work; microfiche reading). *Specific work tasks may require up to frequent standing and/or walking.*

20.) **STAND: (Static)**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Static standing is performed for a maximum of 10-minute intervals during customer service encounters. (e.g. assisting customers with property information request inquiries). *Specific work tasks may require up to frequent sitting and/or walking.*

21.) **BALANCE:**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Good balance is required for safe walking, standing, climbing, reaching and lifting.

22.) **HAND/FOOT CONTROL:**

<u>MAXIMUM REQUIREMENT</u>	
HAND:	
Right:	Not Required
Left:	Not Required
Both:	Not Required
Either:	Not Required
FOOT:	
Right:	Not Required
Left:	Not Required
Both:	Not Required
Either:	Not Required

Comments: Hand controls are not utilized to operate equipment. Foot controls are not utilized to operate equipment.

23.) **UPPER AND LOWER EXTREMITY COORDINATION:**

<u>MAXIMUM REQUIREMENT</u>	
Simple Grasp:	Frequent
Firm Grasp:	Seldom
Fine Manipulation:	Continuous
Eye/Hand Coordination:	Continuous
Hand/Foot Coordination:	Not Required

Comments: Grasping and coordination activities are performed when retrieving, returning, operating, adjusting, equipment, controls, supplies when performing office work (e.g. drafting, research, desktop work).

Simple grasping is utilized to perform job tasks (e.g. lift and manipulate objects weighing less than 5 pounds; files, deeds, individual documents, microfiche cassettes; drafting instruments, map books, document folding).

Firm grasping is utilized to perform job tasks (e.g. lift and handle objects weighing 5 pounds or greater).

Fine manipulation is utilized to perform job tasks (e.g. keyboard, mouse, drafting pens, erasers, triangle, straight edge, scales, templates, pencils, page turn, sort, lero lettering; map book key).

Eye/hand coordination is utilized to perform job tasks (e.g. keyboard, mouse, drafting pens, erasers, triangle, straight edge, scales, templates, pencils; page turning, lero lettering; map book key).

Hand/foot coordination is not utilized to perform job tasks.

Depending on individual hand dominance, one hand may be used more frequently than the other when performing job tasks.

24.) **CERVICAL (NECK) MOVEMENT:**

	<u>MAXIMUM REQUIREMENT</u>
Static Neutral Position:	Frequent
Flexing:	Frequent
Rotating:	Occasional
Extending:	Seldom

Comments: Neck movement is required when performing job tasks (e.g. view monitor, desktop work; review/research documents; drafting; customer service). *Participating in observation of work environment allowing for safe working conditions. Full cervical range of motion is required to safely perform the job tasks.*

{End of Report}



Stanislaus County

JOB TASK ANALYSIS SUMMARY

<u>FREQUENCY DEFINITIONS</u>	<u>SELDOM</u>	<u>OCCASIONAL</u>	<u>FREQUENT</u>	<u>CONSTANT</u>
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Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

The following is a summary of the physical demands of the Job Task Analysis that were obtained for the position of:

Drafting Technician I, II, & Supervisor

Functional Activities	Maximum Requirements	Functional Activities	Maximum Requirements
<i>Push (Force)</i> ¹	15 pounds	<i>Stair Climb</i> ¹	Not Required
<i>Pull (Force)</i> ¹	15 pounds	<i>Ladder Climb</i> ¹	Not Required
<i>Stand Up Lift</i> ¹	10 pounds	<i>Walk</i> ¹	Occasional
<i>Level Lift</i> ¹	15 pounds	<i>Sit</i> ¹	Continuous
<i>Weight Carry</i> ¹	15 pounds	<i>Stand (Static)</i> ¹	Occasional
<i>Overhead Lift/Pull Down</i>	0 pounds	<i>Balance</i> ¹	Occasional
<i>Overhead Reach</i> ¹	Seldom	<i>Hand Control</i> ¹	Not Required
<i>Forward Reach</i> ¹	Occasional	<i>Foot Control</i> ¹	Not Required
<i>Stoop</i> ¹	Not Required	<i>Simple Grasp</i> ¹	Frequent
<i>Squat (Unloaded)</i> ¹	Not Required	<i>Firm Grasp</i> ¹	Seldom
<i>Forward Bend</i> ¹	Seldom	<i>Fine Manipulation</i> ¹	Continuous
<i>Twist</i> ¹	Seldom	<i>Eye/Hand Coordination</i> ¹	Continuous
<i>Turn</i> ¹	Seldom	<i>Hand/Foot Coordination</i> ¹	Not Required
<i>Kneel</i> ¹	Not Required	<i>Cervical (neck) Movement</i> ¹	Frequent
<i>Crawl</i>	Not Required		

¹ The critical demands of the job.

Lyle Andersen, PT

Lyle Andersen, PT, CWCE
Preparer Signature

Date: _____

Contact Person
Title

Date: _____

Contact Person
Title

Date: _____

Contact Person
Title

Date: _____

LA/au