

Job Demands Analysis - SIGN CREW

Purpose

- The purpose of the Sign crew is to place signs for street sweeping.

Essential Duties

- The Sign crew has 1 essential duty:
 - (1) Sign placement

Summary of Demands

	Sedentary	Light	Medium	Heavy	Very Heavy
Physical			X		
Cognitive		X			

Workers require physical endurance to:

- Continuously stand and walk (75 % of their shift).

Shift Structure

- Sign crews work 7:00 am to 3:30 pm. They get a 30 minute meal break and two 15 minute rest breaks.



Job Demands Analysis - Sign crew: Summary Table

a) Physical Demands		Frequency During Shift*					Weight		Comments		
		Never	Rare	Infrequent	Occasional	Frequent	Constant	Usual (kg)		Max (kg)	
Strength	Lifting - Floor to Knuckle			X				1-5	10	Loading and unloading signs	
	Lifting - Knuckle to Waist			X				1-5	10	Loading and unloading signs	
	Lifting - Over Head		X					1-5	10		
	Carrying - with Handles		X					1-5	10		
	Carrying - without Handles				X			1-5	10	Carrying signs	
	Pushing - Upper Extremity				X			1-5	10	Placing signs	
	Pushing - Hips/Legs assist				X			1-5	10		
	Pulling - Upper Extremity			X				1-5	10	Pulling signs	
	Pulling - Hip/Leg Assist			X				1-5	10		
	Reach - Shoulder or Above		X								
	Reach - Below Shoulder					X					
	Handling				X						
	Mobility	Fine finger movements		X							
Neck - Static Flexion					X						
Neck - Static Neutral						X					
Neck - Static Extension					X						
Neck - Rotation					X						
Throwing			X								
Sitting		X		X						Driving	
Standing						X					
Walking						X				Sign Placement	
Running/Jumping		X									
Climbing			X								
Bending/Stooping				X						Removing signs	
Crouching				X							
Kneeling		X									
Crawling		X									
Twisting		X									
Balancing		X									
Travelling						X			Through assigned area		



Job Demands Analysis - Sign crew: Summary Table (continued)

a) Physical Demands (continued)		Frequency During Shift						Comments
		N	R	I	O	F	C	
Sensory / Perception	Hear/Conversations			X				
	Hear/Other Sounds						X	Vehicles, pedestrians
	Vision/Far						X	Looking for areas in need of sweeping
	Vision/Near		X					
	Vision/Colour		X					
	Vision/Depth						X	
	Perception/Spatial						X	
	Perception/Form			X				
	Feeling	X						
	Speech		X					
Work Environment	Inside Work		X					
	Outside Work						X	
	Slippery			X				Dependant upon the weather
	Congested worksite			X				Pedestrians on sidewalk, merchants placing items on sidewalk
	Chemical Irritants		X					
	Confined Space Entry	X						
	Vapour Fumes		X					Traffic exhaust
	Noise			X				Vehicles
	Proximity to Moving Objects					X		Vehicles on streets
	Hazardous Machines	X						
	Electrical hazard	X						
	Sharp Tools	X						
	Radiant/Thermal Energy	X						
	Hot/Cold				X			Dependent upon the weather
	Humid	X						
	Dust			X				
	Organic Substances		X					
	Medical Waste	X						
	Blood Products	X						
	Lighting - Direct						X	
Lighting - Indirect	X							
Vibration - Whole Body	X							
Vibration - Hand/Arm	X							



Job Demands Analysis - Sign crew: Summary Table (continued)

b) Cognitive and Psychosocial Demands	Frequency During Shift			Comments
	Never / Rare	Infrequent / Occasional	Frequent / Constant	
Degree of Supervision	X			
Time Pressure			X	Frequent occasions where there are a lot of signs to place
Attention to Detail			X	
Memory		X		Need to remember areas that require cleaning
Interact with co-workers			X	Generally working with a partner
Interact with public			X	Interactions with the general public
Work Alone	X			
Reading	X			
Writing		X		Note areas that need to be swept
Irregular Hours	X			
Operating Equipment		X		Driving

Frequency rating definitions

* The frequency rating definitions are from the Dictionary of Occupational Titles (DOT, 1991, 4th edition) published by the US Department of Labor.

	Time per Day	Percentage of Shift
Never	0 minutes	0 %
Rare	0 - 5 minutes	0-1 %
Infrequent	6 - 25 minutes	2-5 %
Occasional	26 minutes - 2.5 hours	6-33 %
Frequent	2.6 - 5.25 hours	34-66 %
Constant	5.26 - 8 hours	67-100 %



Physical Environment

The work takes place at the City of Vancouver's streets. The Sign crew works outside in a variety of weather conditions. The areas can include hills with significant inclines. The inclines can make walking more difficult, especially if the ground is wet.

Staffing Levels

The sign crew will work in partners for most of their shifts.

Tools and Equipment Used

The Sign crew infrequently will use a 2 ½ lb hammer to put signs in the ground. Most of the signs are placed by hand.

Other Equipment

Gloves, and high visibility safety vests.



Description of Essential Duties

Essential Duty 1: Sign Placement

The tasks that make up Essential Duty 1 (Sign Placement) are: loading/unloading signs (Task 1) sign placement/removal (Task 2), and sweeper notification (Task 3).

Loading/Unloading Signs (Duty 1, Task 1)



Figure 1: Signs

The Sign Crew starts their shifts at Manitoba Yards. They will load the required signs into the back of their pickup truck. Each sign weighs 7 lbs. They are usually carried in groups of 2 or 4 at one time. They will load approximately 240 signs per shift although the number of signs required could increase.

Near the end of their shift, the Sign Crew will unload the signs they picked up during the course of their shift. They will unload approximately 240 signs although the volume could increase.



Sign Placement/Removal (Duty 1, Task 2)



Figure 2: Sign Placement

After loading their signs at Manitoba Yards, the Sign Crew will drive to areas in their territory in need of cleaning. One of the crew will drive the truck slowly down a street and the other crew member will take 2-4 signs out of the back of the pickup truck and put them into the ground. The crew member will hold the signs in one arm, grab one with one hand, and put it into the ground. The signs generally require minimal force to be placed in the ground, although when they need to be placed into the ground between a sidewalk and curb a hammer is used to tap them in. The partners will switch every block and generally cover 28 blocks in a given shift. This would include both sides of the street.

The removal process is identical to placement process, save for the signs are pulled out of the ground instead of placed in it. One crew member drives the truck slowly. The other pulls the signs from the ground and places them into the back of the empty pickup.



The Sign Crew also notes areas that need to be cleaned during this time.

Sweeper Notification (Duty 1, Task 3)

At the end of a shift, the Sign Crew gives the list of areas they signed to the sweeper crew. The sweeper crew will then clean the areas during the assigned time period.



Description of Non-essential Tasks

The Sign crew may be required to perform other work tasks on an occasional basis. Examples of the tasks that may be performed are: giving directions to the public, and reporting blocked sidewalks to bylaw enforcement.

Data Collection

The PDA observations took place on Oct, 2004. The employee was observed for 1 hour performing their duties.

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