



JOB DEMANDS ANALYSIS

Company: City of Burnaby

Location: City Hall

Job Title: Mail Clerk

Classification: Regular Duty

Purpose of Activities

The purpose of the Mail Clerk position is to facilitate the flow of internal and external mail for the City of Burnaby.

Tools and Equipment

The Mail Clerk will use the following tools and equipment to perform their duties:

- Microfilm machine (Canon Microprinter 90).
- Mail Cart (four wheels, two levels one metre long)
- Mail Trolley (two wheels)
- Postage Machine.
- Letter Opener.
- Collating/sorting Shelves.
- Obusforme Chairs (2).
- Stapler (manual).
- Folder/sorter
- Computer

Usual Methods – Incoming External Mail

1. Mail is dumped on the floor from the Canada Post pouch.**
2. Crouch down and pile mail onto the end of the table.**
3. Run mail through opener.**
4. Sit down with mail and sort into little baskets on the table.**
5. Staple and stamp all mail.**
6. Sort larger pieces of mail into wall sorter while standing.
7. When carts are full, they are pushed for 6 metres so the pages can reshelve them.

Usual Methods – Internal Mail Runs

1. Load sorted mail into cart.
2. Push cart around City Hall for about 45 minutes dropping off mail and picking up mail to be sent out.
3. Return to mail room with mail in cart to go out.
4. Carry mail to postage machine.



Usual Methods – External Mail Runs

The external mail is bundled into the pull trolley (2 wheels) to take to the individual's car. They drive around to Fire, RCMP, Deer Lake One and other locations to drop off and pick up mail.

The presence of ** indicates non-value added tasks. These are tasks that do not contribute to the stated purpose of the work.

Administrative Issues

The clerks work seven hours each shift with four hours being spent at either check in or out broken into two 1.5 hour shifts and a one hour shift. They work the remaining three hours in the back area. There is a 30 minute lunch and two 15 minute breaks.

This job requires constant public contact during the time spent at the desk and some of this contact is hostile when customers find out that they owe large fines on overdue books. The threat of an escalation to physical violence is definitely present.

Activity Demand Variables

These variables are tasks that must be carried out by the employee and are implicitly or explicitly required as objectives of the job.

- Handle all mail within the day.
- Work from a seated position.
- Carry out tasks under fluorescent light source.
- Work with required equipment.
- Work in an open environment.

Worker Decision Variables

These variables are the sub-routines and cognitive/physical decisions made by the worker in carrying out the objectives of the job.

- Choose postures for carrying out duties (outside of remaining seated).
- Order and technique for carrying out filing duties.
- Placement of some items in the workspace.
- Some control over timing and extent of conversation with others.

Accommodative Considerations

1. People with shoulder injuries such as rotator cuff tendinitis, bursitis and instability may have difficulty with static loading and reaching activities.
2. People with any upper extremity problems may have difficulty with this position because of maintained shoulder elevation.
3. Post-whiplash and other neck problems may have difficulty with this position because of static shoulder/neck loads.
4. There is no significant learning curve associated with the tasks, only a proficient keyboarding ability is required.



Summary of Stresses

Metabolic Stresses

The aerobic energy system supplies the vast majority of energy required to complete the tasks in this position since the work can be characterized as being mostly sedentary with standing, sitting and light walking dominating the work. There are possible exceptions in localized regions of the body, specifically the upper extremities and possibly muscles around the spine and in the region of the neck and shoulder. Some of the tasks are very static in nature and there are repeated actions that increase static load in some of the aforementioned areas for stabilization purposes. This can interfere with normal blood flow and thus, oxygenation. If this is the case, the tissues will be increasingly required to turn to the anaerobic energy system for their requirements. This can produce a sensation of fatigue and can also lead to tissue damage.

Structural Stresses

Spine – the regular standing on hard surfaces transmits reflected ground-reaction forces into the pelvis and spine through the lower extremities.

Shoulders and Neck – due to the static positions required and the frequent reaching associated with the mail sorting, the muscles in the rotator cuff of the shoulder (especially left) and the upper trapezius and scalene muscles of the neck, maintain significant and often constant static load. Sorting and opening mail while sitting at a desk requires the shoulders and neck to hold the arms above the desk. This can lead to the development of pain and eventually to tendinitis and even possibly contribute to adverse neural tension

Arms and Hands – regular pinch grip activity produces some risk for the tendons in the forearm as well as the medial epicondyle at the elbow and the carpal tunnel in the wrist.

INTERVENTIONS

Recommendations that could be implemented to increase productivity and lessen the risk of injury are listed below:

1. Encourage the mail clerks to maintain an increased level of fitness away from work that will focus on cardiovascular endurance, muscular strength, muscular endurance and flexibility. This can help compensate for the lack of movement in the job.
2. Provide regular education in effective use of the body and neutral joint positions for this type of work.
3. Move mailboxes with high volume to the second and third shelf so that they are at a more neutral height.
4. Explore ways of reducing the holding stress while mail is being sorted – a cart or shelf of some kind.
5. Provide multi-height adjustable tables that allow for different postures and place sorting boxes below the level of the table.



6. Round off the corners of the main table to prevent collisions.
7. Change the location of the microfilm so that it is more accessible and adjustable.
8. Change wheels on mail cart so that they are larger and have better bearings/axles for smoother operation on all surfaces.
9. Increased task lighting for the areas around the windows and the main sorting area.
10. Revisit schedules to try and optimize rotations of tasks.

Referral: Lana Ho		Organization: City of Burnaby						Title: Mail Clerk		
Dept.:		Division: City Hall						Contact:		
		FREQUENCY*						Date: February 23, 1999		
PHYSICAL DEMANDS		R E Q D	S I D E	Sel 1	Low 2	Mod 3	High 4	Max. Weight (kg)	Usual Weight (kg)	COMMENTS
S T R E N G T H	Lifting - Floor to Knuckle		B		X			8	2	Envelopes from mail sack
	Lifting - Knuckle to Waist				X			8	2	Individual pieces of mail to file
	Lifting - Waist to Shoulder		D				X	3	1	Books from counter down to cart
	Lifting - Over Head									
	Carrying - With Handles									
	Carrying - Without Handles		B				X	10	3	Book(s) less than 3 metres at a time
	Pushing - Upper Extremity		B			X		2	2	Books along/across counter (< 1 metre)
	Pushing - Hip/Leg Assist		B			X		5	5	Cart less than 6 metres
	Pulling - Upper Extremity		B			X		2	2	Books along/across counter (< 1 metre)
	Pulling - Hip/Leg Assist		B		X			5	5	Cart less than 2 metres
	Reach - Shoulder or Above		B				X	3	arm +	Books off the top of counter stacks
	Reach - Sho. or Above extnd		D			X		3	arm+	Books off the top of counter stacks
	Reach - Below Shoulder		D			X		3	arm+	Books into the carts, out of boxes
E N E R G Y	Reach - Bel. Shoulder extnd		D		X			3	arm+	Books into the carts, out of boxes
	Handling		B				X	10	<2	Various books, cards, scan pen, pages
	Gripping		B				X	high	mod.	Books, pages +scanning pen (pinch)
P O S T U R E S	Fine Finger Movements		B				X	mod.	low	Flip pages, handle cards, keyboard, pen
	Aerobic (percent)						90			Standing, sitting, light walking (low power requirement)
	Anaerobic (percent)			5						Momentary lifting, pushing or pulling
	High Energy Expenditure									
M O B I L I T Y	Low Energy Expenditure						X			All sustained activities are low energy demand
	Neck - Static Flexion					X				Looking at books, finding codes, checking kit bags
	Neck - Static Neutral									
	Neck - Static Extension									
	Neck - Rotation						X			Checking to see if scan worked or to respond to code
	Throwing									
	Sitting					X				Mostly when involved in work in rear work area
	Standing						X			Working at Returns and Check-Out on carpet
	Walking					X				Usually less than a few metres, up to 40 metres
	Running/Jumping									
	Climbing - Arms and Legs									
	Climbing - Legs Only				X					One flight of stairs to access second floor if possible
	Bending/Stooping				X					From standing and sitting (often sustained)
G E N E R A L	Crouching			X						To retrieve books or kit contents from low spaces
	Kneeling			X						May when collecting books from evening deposit
	Crawling									
	Twisting									
	Balancing									
	Traveling									
	Work Alone									A lot of people traffic (Colleagues and users)
N O T E	Interact with Public						X			Sometimes hostile public when dealing with fines
	Operate Equip/Machinery		B					X		Book cart, pen scanner, computer, copier, printer
	Irregular/Extended Hours									

* Frequency Legend 1 = Seldom; Not Daily 2 = Low Daily Activity; < 1hr
3 = Moderate Demand; Repetition 1 - 3 hrs daily 4 = High Frequency Demand; Repetition > 3 hrs daily

The following shading denotes a HIGH RISK TASK: Modifications should be considered

REQD is marked with an X if the particular demand or category is relevant to the purpose of the job.

SIDE refers to the side or limb required to execute a task. If it is marked **E**, it indicates either side, the most common choice is listed first. **D** refers to dominant and **B** to both sides.

Referral:		Organization:				Title: see 1st page header			
Dept.:		Division:				Contact:			
PHYSICAL DEMANDS		R E Q D	S I D E	FREQUENCY*				COMMENTS	
				Sel. 1	Low 2	Mod. 3	High 4		
P E R C E P T I O N	Hearing - Conversations		B				X	Colleagues, members of the public in person/on phone	
	Hearing - Other Sounds		B				X	Phones	
	Vision - Far		B				X	Looking at customers, computer screens, shelves	
	Vision - Near		B		X			Details on a book or other item	
	Vision - Colour								
	Vision - Depth		B				X	Seeing and reaching into stacks, bags and bins	
	Perception - Spatial		B				X	Moving around counters, shelves, carts, stacks of books	
	Perception - Form		B				X	Discerning differences between similar books in piles	
	Feeling (Tactile)		D		X			Flipping through pages of books, reaching into bags of items	
	Reading						X	Information on books and kits, memos and signs	
N	Writing		D		X			Filling out short forms and writing notes	
	Speech						X	Talking with colleagues and customers in person/phone	
W O R K E N V I R O N M E N T	Inside Work						X	Climate controlled building	
	Outside Work								
	Hot Conditions >25 deg. C								
	Cold Conditions <10 deg.C								
	Humid								
	Dust				X			Possible in handling less frequently used items	
	Vapor Fumes								
	Hazardous Machines								
	Proximity to Moving Object					X		Book carts are moved around in confined spaces	
	Noise							Background of conversation, low level machine sounds	
	Electrical Hazard							All equipment is grounded and conventional	
	Sharp Tools								
	Radiant/Thermal Energy								
	Slippery Conditions								
	Vibration and Related								
	Chemical Irritants		B			X		Toner, possible treatments of book pages	
	Organic Substances								
	Medical Waste								
	Blood Products								
	T	Congested Worksite						X	Behind counters with several people and book carts
Lighting - Direct							X	Overhead	
Lighting - Indirect							X	Sunlight from windows	
Lighting - Adjustable									
Lighting - Fluorescent							X	Overhead	
Lighting - Incandescent							X	Overhead	
Lighting - Shadows etc.					X			In some unusual positions	

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For detailed descriptions of each of the different categories, please refer to the reference guide or inquire with Human Effort at 1-888-4EFFORT