

# PHYSICAL DEMANDS ANALYSIS (EXAMPLE) HEAVY CONSTRUCTION – UTILITY WORKER

## JOB DESCRIPTION

TASK #	TASK DESCRIPTION	% OF SHIFT
1	Drive to job sites	10%
2	Load materials onto work truck and unload at job site, includes use of crane, crane truck, and manually.	15%
3	Raise manhole covers: Lever off manhole cover (use backhoe as needed), break up asphalt surrounding manhole using jackhammer, remove broken asphalt and excess gravel, raise manhole, apply cement as grout to seal open areas of lifted manhole, apply asphalt from asphalt truck to work area, and spreading around, use tamper to level out surface, replace manhole cover and spray paint to increase visibility.	50%
4	Insert manholes: Use crane to unload appropriate collar, seal collar with grout as needed, carry tubing to work area for placement to connect water routes, apply tubing, connectors, and fasteners to ensure smooth connection (confined space entry required).	25%

*The physical demands may vary depending on company and location.  
Confirm this physical demands analysis is an accurate representation of the specific job.*

## ITEMS HANDLED

- Work truck (Tare 4640 kg, GVW 11500 kg)
- Cement bag (44.35 lbs.)
- Mikasa Tamper MQ (100 lbs.)
- Shovel (3.85 lbs.)
- Manhole cover (144.5 lbs.)
- Water Tank/Sprayer (20 lbs.)
- Bucket of shims and cement blocks (42.8 lbs.)
- Bucket of cement to grout inside of manhole (30-35 lbs.)
- Hand tools – Hammer (0.3 lbs.), Pick (7.6 lbs.)
- Manhole rings – 10" ring (291 lbs.)
- Low profile manhole rings (218 lbs.)
- Concrete collars – 2" (101.5 lbs.), 3" (144 lbs.), 4" (215 lbs.), 6" (280 lbs.)
- Chop saw (25.7 lbs.)
- Jumping Jack (168.1 lbs.)

## PERSONAL PROTECTIVE EQUIPMENT

- Work Boots
- Hard hat
- Gloves
- Safety glasses as needed.
- High visibility vest
- Specialty PPE: Full face respirator with p100 cartridges, confined space harness - as required

## ENVIRONMENTAL EXPOSURE

- Exposure to hand-arm vibration with use of the Jumping Jack and Tamper
- Exposure to inclement weather including high heat, rain, sleet, and mild snow (required to work in up to 10 ml of rain; do not work in temperatures below -15°C or above 34°C)
- Exposure to environmental dust, debris, and allergens

# PHYSICAL DEMANDS ANALYSIS (EXAMPLE)

## HEAVY CONSTRUCTION – UTILITY WORKER

<b>JOB TITLE</b>	HEAVY CONSTRUCTION - UTILITY WORKER	<b>LENGTH OF SHIFT (HRS)</b>	10
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**JOB DESCRIPTION**

The worker is required to complete all labour centric tasks required to assist to complete construction or repair of roadways as appropriate. They typically work in a 3-person crew and respond to their crew foreman who provides their assignments each shift.

**PHYSICAL JOB DEMANDS - Grade using a scale of 0 - 4**

<b>0 = NOT REQUIRED</b>	<b>1 = SELDOM REQUIRED: &lt; 5%</b>	<b>2 = MINOR REQUIREMENT: 5-33%</b>
-	Less than 30 minutes per day or not daily	30 minutes up to 3.5 hours per day or 1 repetition every 30 minutes
<b>3 = OCCASIONAL REQUIREMENT: 34-66%</b>	<b>4 = FREQUENT REQUIREMENT: 67-100%</b>	
3.5 hours up to 6.5 hours per day or 1 repetition every 2 minutes	6.5 hours per day up to shift length or 1 repetition every 30 seconds	

**INSTRUCTIONS:** Place an X under number 0,1,2,3 or 4 to identify the frequency of each body demand or exposure.

PHYSICAL JOB DEMANDS	0	1	2	3	4	DESCRIBE THE TASK(S) PERFORMED
<b>WHOLE BODY DEMANDS</b>						
SITTING	X					-
SITTING WITH VIBRATION/JARRING	X					-
DRIVING		X				Driving to job sites.
STANDING			X			Shovelling gravel, asphalt, other debris. Viewing worksite/environment. Counterbalancing lever to lift ring/manhole. Mixing cement. Loading/unloading work truck.
RUNNING	X					-
<b>WALKING</b>						
LEVEL				X		Paved ground within work area and stock yard.
UNEVEN GROUND			X			Ground on job sites - unpaved, gravel, mud, or packed/unpacked soil.
SLOPES / RAMPS	X					-
<b>CLIMBING</b>						
REGULAR STAIRS	X					-
STEEP STAIRS	X					-
LADDERS		X				Standard ladder required to exit manhole.
OTHER		X				Steps required to access rear of pick-up truck (17").
<b>LOW LEVEL WORK</b>						
KNEELING		X				To reach into manhole to apply shims, grout as needed, or view inside work area below ground level.
SQUATTING		X				Grouting manhole.
CRAWLING	X					-

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PHYSICAL JOB DEMANDS	0	1	2	3	4	DESCRIBE THE TASK(S) PERFORMED
<b>SPECIFIC BODY DEMANDS</b>						
<b>NECK MOVEMENTS</b>						
<b>BENDING</b>						
SUSTAINED			X			Viewing ground level, work area, and environment as needed. Reaching into manhole to place shims, and grout.
REPETITIVE	X					-
<b>TWISTING</b>						
SUSTAINED	X					-
REPETITIVE	X					-
<b>TRUNK MOVEMENTS</b>						
<b>BENDING</b>						
SUSTAINED	X					-
REPETITIVE			X			Shovelling debris for discarding or spreading asphalt around work area. Leaning into manhole to place shims, grout or inspect as needed. Using lever to hoist rings, or collars. Using pick, spray painting, breaking concrete blocks, or installing tubing.
<b>TWISTING</b>						
SUSTAINED	X					-
REPETITIVE			X			Shovelling debris for discarding or spreading asphalt around work area; shoveling cement into smaller buckets. Retrieving grout from bucket and applying within manhole. Guiding materials hoisted by crane. Loading cement and mixing within wheelbarrow.
<b>SHOULDER MOVEMENTS</b>						
OVERHEAD		X				Guiding chains on crane to item for attachment; guiding material while hoisted. Reaching into truck (56") to retrieve materials.
FORWARD REACHING			X			Accessing items behind truck, Loosening asphalt from truck hatches. Placing and securing tubing within manhole.
<b>GRIPPING DEMANDS</b>						
<b>DOMINANT HAND</b>						
REPETITIVE				X		Gripping tools, materials, and equipment as needed.
CONTINUOUS	X					-
<b>NON-DOMINANT HAND</b>						
REPETITIVE			X			Gripping tools, materials, and equipment as needed.
CONTINUOUS	X					-
<b>FINGER DEXTERITY</b>						
		X				Using nuts, bolts, shims, and screws as needed.

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PHYSICAL JOB DEMANDS	0	1	2	3	4	DESCRIBE THE TASK(S) PERFORMED
<b>MANUAL HANDLING DEMANDS</b>						
<b>LIFTING</b>						
LIGHT (MAX 20 LB / 9 KG)			X			Shovels, water sprayer, chains.
MEDIUM (MAX 50 LB / 22.5 KG)		X				Buckets of cement/grout, bags of cement, chop saw, shims, cement blocks.
HEAVY (MAX 100 LB / 45 KG)		X				Lifting manhole cover or collar from lying to upright on edge to roll to desired destination, lifting wheelbarrow, jumping jack or Tamper on/off truck.
VERY HEAVY (OVER 100 LB / 45 KG)	X					-
<b>CARRYING</b>						
LIGHT (MAX 20 LB / 9 KG)		X				Tools, water sprayer, up to 4-meter-long tubing.
MEDIUM (MAX 50 LB / 22.5 KG)		X				Carrying bucket of shims or cement, water tank to manhole (up to one hundred'), chop saw.
HEAVY (MAX 100 LB / 45 KG)	X					-
VERY HEAVY (OVER 100 LB / 45 KG)	X					-
<b>MOBILE PUSHING</b>						
LIGHT (MAX 20 LB / 9 KG)	X					-
MEDIUM (MAX 50 LB / 22.5 KG)	X					-
HEAVY (MAX 100 LB / 45 KG)		X				Maneuvering self-propelling tamper along roadways, or maneuvering tamper when off to relocate tamper as needed.
VERY HEAVY (OVER 100 LB / 45 KG)	X					-
<b>MOBILE PULLING</b>						
LIGHT (MAX 20 LB / 9 KG)	X					-
MEDIUM (MAX 50 LB / 22.5 KG)	X					-
HEAVY (MAX 100 LB / 45 KG)		X				Wheelbarrow of cement.
VERY HEAVY (OVER 100 LB / 45 KG)	X					-
<b>STATIC PUSHING/PULLING</b>						
LIGHT (MAX 20 LB / 9 KG)		X				Maneuvering tamper when in use (light push force due to self-propelling).
MEDIUM (MAX 50 LB / 22.5 KG)	X					-
HEAVY (MAX 100 LB / 45 KG)		X				Rolling and positioning manhole covers, collars, and rings into position in work area, or on crane truck. Use of lever system to lift manhole covers.
VERY HEAVY (OVER 100 LB / 45 KG)	X					-