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Physical Demands Analysis

Grader Operator

Prepared for:
Alberta Construction Association

Job Title:	Grader Operator	Assessment Location:	Edmonton, AB	Data Collection Date:	November 3, 2020
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Completed By:	Joanna Ellingson, BKin	Submitted on:	April 6, 2021
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Disclaimer:	The Physical Demands noted in this report may vary depending on company and location. Please contact the company directly to confirm this physical demands analysis is an accurate representation of the specific job title for the specific location.
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Work Schedule:	Shift Duration: 6 days/week, 10 hours/day; may vary depending on weather and work volume Break Schedule: Total of 1 hour break per day Shift Rotation: Days/nights (seldom) On call is required: Yes – Winter months Overtime required: No; but may be available depending on weather and work volume.
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Education / Experience:	Education required: Grader Operator Training Course Hours required for position: N/A Tickets that may be required (not limited to): , Ground Disturbance, First Aid, WHMIS, Construction Safety Training Systems (CSTS) and Basic Safety Orientation (BSO).
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Labour Provider:	Union 955
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Job Overview:	As a Grader Operator, the worker is required to operate the Grader equipment for the route set by the foreman/supervisor. The Grader Operator is responsible for basic repairs of the equipment and ensuring proper maintenance of the equipment.		
	% of shift	Job Task	Task Description
	5%	Complete pre-trip check	<ul style="list-style-type: none">• Ensure fluids in Grader are sufficient for the day, fill fluids as required.• Check to ensure no mechanical problems on Grader equipment. If there are minor mechanical problems, operator is able to fix on site (blade adjustment/repair). If unable to fix on site, advise supervisor of issue in order to get fixed.• Ensure Grader equipment is safe to complete the shift's work (windshield is clean, no lights are out, flags are present, etc.).
	90%	Grader Operating	<ul style="list-style-type: none">• Ensuring the roads are cleared and safe for vehicles, work trucks to drive on.

			<ul style="list-style-type: none"> Operating Grader on site as discussed during shop meeting with foreman and crew (location and distances for the day). Removing rocks from the road as required (lifting the rock or using Grader to move the rocks). Preventing any culvert from flooding including chipping ice in spring, piling rocks to prevent flooding onto road. Completing repairs on Grader equipment as required (cleaning windows, greasing, changing light bulbs, adjusting blades, etc.)
	5%	Complete post-trip check	<ul style="list-style-type: none"> Check to ensure no mechanical problems on Grader equipment have risen during shift. If there are minor mechanical problems, operator is able to fix on site (blade adjustment/repair). If unable to fix on site, advise supervisor of issue in order to get fixed. Ensure Grader equipment is presentable and still operating effectively (windshield is clean, no lights are out, flags are present, etc.).

Equipment/ Tools:	<ul style="list-style-type: none"> Change blade Impact drill (2 lbs.) Fluids (grease, coolant oil, windshield fluid-up to 12 lbs.)
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Exposures / Environment:	<ul style="list-style-type: none"> Grease Coolant Fuel fumes Transmission fluid Outdoor elements (heat, cold, wind, snow, rain, etc.).
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Personal Protective Equipment Required:	<ul style="list-style-type: none"> Hard hat Steel toed boots Gloves Foam safety eyewear (fectoggle) Safety vest or high visibility stripes Long sleeves and pants
Personal Protective Equipment as Required:	<ul style="list-style-type: none">

NOC STRENGTH LEVEL KEY	
Strength Level	Definition
Limited (Lim)	Up to 5 kg (11 pounds)
Light (L)	5 kg to 10 kg (11 – 22 pounds)
Medium (M)	10 kg to 20 kg (22 – 44 pounds)

Heavy (H)	Greater than 20 kg (44 pounds plus)
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**Strength Level Key based on the National Occupational Classification*

FREQUENCY KEY		
Frequency	% of Workday	Hours – Based on 8 hour Workday
Not Required (N/R)	0%	0
Rarely (R)	1 – 5%	<25 min/day
Occasionally (O)	6 – 33%	25 min to 2 hours 40 min/day
Frequently (F)	34 – 66%	2 hours 41 min to 5 hours 17 min/day
Constantly (C)	67 – 100%	5 hours 18 min to 8 hours/day

**Frequency Key based on WCB Alberta Recommendations*

Job Demand	Frequency / NOC Strength Level					Details/ Measurements
	N/R	R	O	F	C	
Material Handling:						
Floor to Waist Level Lifting			L			Lifting fluids for maintenance (12 lbs.).
Knee to Waist Level Lifting		H*				Lifting blade (off ground – 2 person lift) in order to adjust/change on Grader equipment.
Waist to Waist Level Lifting		H*				Lifting blade (off ground – 2 person lift) in order to adjust/change on Grader equipment.
Waist to Chest Level Lifting	X					Not required.
Waist to Shoulder Level Lifting			L			Lifting fluids (12 lbs.-windshield fluid, oil, etc.) to refill Grader equipment.
Waist to Overhead Level Lifting		L				Lifting fluids (12 lbs.-windshield fluid, oil, etc.) to refill Grader equipment greater than 6’.
Front Carry	X					Not required.
Right / Left-handed Carry (Dominant Hand)		L				Carrying fluids (12 lbs.) for Grader maintenance.
Shoulder Carry	X					Not required.
Static Pushing/Pulling (Force)	X					Not required.
Dynamic Pushing/Pulling (Force)			Limited NOC Level			Operating controls on Grader equipment, opening/closing door to Grader and doors to fluid storage (7.0 lbs. force)

* Anything greater than 50 lbs., it is recommended the worker use a two person lift or assistive equipment (Grader) to assist with the lift, carry, push or pull.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping					X	Gripping hand controls in Grader, refilling fluids, pre/post-trip checks, gripping handles to enter Grader cab, completing basic repairs on Grader.
Pinch Gripping			X			Opening cab door to gain access to enter cab of Grader, operating mould board, check bolts during safety/mechanical checks.
Upper Extremity Coordination					X	Operating hand controls in Grader, refilling fluids, pre/post-trip checks, gripping handles to enter Grader cab, completing basic repairs on Grader.
Reaching Forward					X	Reaching hand controls in Grader, refilling fluids, pre/post-trip checks, gripping handles to enter Grader cab, completing basic repairs on Grader.
Overhead Shoulder Level Reaching			X			Accessing handle for stairs to enter Grader cab, filling fluids in Grader rear.
Below Shoulder Level Reaching						Reaching hand controls in Grader, refilling fluids, pre/post-trip checks, gripping handles to enter Grader cab, completing basic repairs on Grader, changing/adjusting blades on Grader.
Throwing	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)			X			Completing pre/post-trip checks, checking surroundings in Grader.
Trunk Rotation (Twisting)			X			Completing pre/post-trip checks, checking surroundings in Grader.
Kneeling		X				During pre/post-trip check.
Crawling		X				During pre/post-trip check.
Crouching		X				During pre/post-trip check.
Squatting		X				Changing/adjusting blades on Grader.
Neck Flexion					X	Checking surroundings, while operating hand controls in Grader, refilling fluids, pre/post-trip checks, watching step to enter Grader cab, completing basic repairs on Grader.
Neck Extension			X			Checking surroundings above, filling/checking fluids in rear of Grader, checking/changing higher level components to Grader.

Neck Rotation				X		Checking surrounding and behind Grader for vehicles/animals, intermittently while operating grader, during pre/post-trip checks.
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Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Static Work:						
Sitting					X	While operating Grader.
Static Standing		X				During pre/post-trip check.
Balancing			X			Entering and exiting cab of Grader, checking fluids on higher portion of Grader, completing pre/post-trip check.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Ambulation:						
Walking: Level Surfaces		X				In office.
Walking: Uneven Surfaces			X			On site during pre/post-trip checks, while on range roads (operating) and required to exit cab, completing basic maintenance on Grader, etc.
Walking: Slopes		X				Dependent on site - during pre/post-trip checks, completing basic maintenance on Grader, etc.
Jumping	X					Not required.
Running	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Climbing:						
Stairs		X				To access office on site.
Ladder	X					Not required.
Other			X			To enter and exit Grader cab, to fill fluids in Grader, climbing dependent on site.

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Grader operator entering the cab of the Grader.



Figure 2: Cab of the Grader.



Figure 3: Operating Grader with controls in both hands.



Figure 4: Checking surroundings by completing trunk rotation while operating Grader.



Physical Demands Analysis
Job Title: Grader Operator
Date Prepared: January 8, 2021
Prepared for: Alberta Construction Association



If you have any questions, and/or would like to discuss this assessment and report further, I can be reached at (780) 429-4761.

Sincerely,

Joanna Ellingson, BKin
Kinesiologist

SITE SPECIFIC JOB DEMAND ADDITIONS:

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Site Specific Job Demand:						

Validation Agreement

Job Title:	Grader Operator
Data Collection Date:	November 3, 2020

We the undersigned have reviewed the Physical Demands Analysis for this position and agree that the physical demands documented in this report are representative of the true demands of the tasks associated with the job title as assessed on the date listed above.

Completed by:	Joanna Ellingson, BKin	Lifemark Clinician Name and Credentials
Approved by:		Management Representative
Approved by:		Worker Representative
Approved by:		Labour Provider Representative