

Key Research Findings

This analysis was based on the pre-determined criteria and measures listed below:

Section	Description	Measures
Student Demand	<p>Includes an assessment of OCAS (2007 - 2011) enrolment data at other colleges in terms of mean growth rate with a specific focus on Fleming's direct competitors where appropriate (Georgian, Sheridan, Seneca and Durham)</p> <p>Trends in certificate, diploma, degree, apprenticeship and continuing education (where available).</p> <p>Click Below to Access Full Source Document: Fall Enrollment Trend</p>	<ul style="list-style-type: none"> ● Strong = Fleming enrolment growth is outpacing system and is equal to or greater than 3% ● Moderate = Fleming enrolment growth is equivalent to system demand and is between 1.0 to 2.9% ● Weak = Fleming enrolment growth is less than the system demand and is less than 1%
Labour Market	<p>Includes projected employment rate growth based on a consolidation of various Ontario, Canadian, and US sources including HRSDC, Sector Council Reports US Bureau of Labour Statistics, and the MTCU Employment Profile.</p>	<ul style="list-style-type: none"> ● Strong = Between 5-6 positive labour market indicators ● Moderate = Between 3-5 positive labour market indicators ● Weak = Between 1-2 or no positive labour market indicators
Competitive Analysis	<p>Includes the number of actual colleges offering the program as well as the ratio of applications to acceptances at Fleming compared to other colleges and specific comment about Fleming's direct competitors where appropriate (Georgian, Sheridan, Seneca and Durham)</p> <p>Click Below to Access Full Source Document: Fall Conversion Report</p>	<ul style="list-style-type: none"> ● Strong = Fleming conversion ratio is greater than 2 below the system ● Moderate = Fleming conversion ratio is 1 above, below or equal to the system ● Weak = Fleming conversion ratio is greater than 2 above than the system
Financial Analysis	<p>Includes a review of Contribution to Overhead (CTO) for existing programs (2010-11)</p> <p>Click Below to Access Full Source Document: Costing Analysis</p>	<ul style="list-style-type: none"> ● Strong = CTO is greater than 35% ● Moderate = CTO is between 30 - 34% ● Weak = CTO is between 20 – 30% <p>No Contribution = 19% or less</p>

Key Research Findings

Key Performance Indicators	<p>Includes KPI trends from the Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012.</p> <p>Click Below to Access Full Source Document: Key Performance Indicators</p>	<ul style="list-style-type: none">● Strong = Above system average in 6-7 indicators● Moderate = Above system average in 3-5 indicators● Weak = Above system average in 0-2 indicators.
Resource Analysis	<p>Requires school level assessment regarding space, technology, capital equipment and human resources. Recommendations from recent Program Review Reports included here</p>	

Key Research Findings

Heavy Equipment Operator (46704)

Student Demand¹

• **WEAK**

The following information consists of OCAS yearly student fall registration data as well as a mean growth rate and average student registration for each program under these categories:

Certificate

- Fleming has experienced many negative changes in registration rates, with only one positive change from 2009-2010 of **57%**, giving the school a mean growth rate of **-5%** and an average registration of **49 students**
- Conestoga also offers a one year Heavy Equipment Operator certificate program which began in **2008**
- Fleming has experienced inconsistent registration levels; from 2007-2008 levels decreased by -40% followed by a 57% increase in 2009, and negative growth from 2010-2011

Apprenticeship

- Conestoga offers three Heavy Equipment Operator apprenticeship programs, one specializing in Excavator Operator, another in Dozer Operator and the other in Tractor Loader Backhoe, all of which are 240 hour certificate programs

Certificate

Program: 46704 - HEAVY EQUIPMENT OPERATOR														
	2007 2008 % Change (07-08)			2008 2009 % Change (08-09)			2009 2010 % Change (09-10)			2010 2011 % Change (10-11)			% Mean Growth Rate (07-11)	5 Year Average Reg. Students
FLEMING	60	58	-3	58	35	-40	35	55	57	55	36	-35	-5	49
Total	60	58	-3	58	35	-40	35	55	57	55	36	-35	-5	49

¹ Registration data obtained from the Program Counts by Applicant Type Report (RPT0050P) in the OCAS Reporting and Analytics Cube December 7, 2011.

Some programs/colleges may not be included because they were missing MCU codes in the OCAS dataset

Prepared by Fleming Data Research (07-2012)

Key Research Findings

Labour Market

• **STRONG**

Employment Ontario²

Heavy Equipment Operators (Except Crane) (NOC 7421)

- Employment Ontario Rating (2009-2013):
 - **Good**
- Education and Training
 - "Completion of an apprenticeship program or some high school, college or industry courses in heavy equipment operating combined with on-the-job training are required."
 - In Ontario, apprenticeship training exists for three designated occupations in this trade - excavator, tractor-loader backhoe, and dozer"
 - "Certification is not required to work as a heavy equipment operator in the province"
- **Demand**
 - "Employment prospects for heavy equipment operators depend largely on the growth of the various industries that employ them - construction, manufacturing, transportation and mining. These industries are highly sensitive to changes in the economy and during an economic downturn; employment will fluctuate in these sectors."
 - "Technological change continues to make heavy equipment operating less labour intensive thereby moderating demand for new workers. In the mining industry, equipment can be operated with fewer workers from remote stations located miles away from the mine site. Advances in machinery technology such as laser equipment for monitoring levels and on-board computers will make machinery easier to operate but more complicated to maintain. These changes will mean that workers will need to possess good computer skills with knowledge of how to use and consult maintenance and operation manuals."
 - "This occupation is highly vulnerable to changes in the economic cycle. However, opportunities for heavy duty equipment operators are expected to be good. The recent federal fiscal stimulus which aims to reinvigorate the economy by significantly investing in infrastructure projects will provide excellent opportunities for these workers over the forecast period."

HRSDC³

Heavy Equipment Operators (Except Crane) (NOC 7421)

- Job Openings (2011/2020): **44,400**
- Job Seekers(2011/2020): **44,003**
- Post Secondary Education Graduates: **20,158**

² "7421 Heavy Equipment Operators (Except Crane)." *Employment Ontario*. N.p., 2009. Web. 14 June 2012. <http://www.tcu.gov.on.ca/eng/labourmarket/ojf/pdf/7421_e.pdf>.

³ "Heavy Equipment Operators (742)." *Human Resources and Skills Development Canada*. N.p., 14 June 2012. Web. 14 June 2012. <<http://www23.hrsdc.gc.ca/occupationsummarydetail.jsp?&tid=110>>.

Key Research Findings

- “Based on projections and considering that labour supply was exceeding demand in this occupation, it is expected that the number of job seekers will continue to be more than sufficient to fill job openings over the 2011-2020 period. Retirements will be the primary source of employment and the retirement rate will be just above the average. The number of job openings resulting from economic growth will be higher over the projection period than over the 2001-2010 period. The economic recovery will be responsible for employment growth in construction, particularly in the energy and infrastructure sectors, over the projection period. In terms of supply, job seekers will come primarily from the school system and from other occupations. The strong mobility toward this occupation is due to the sustained employment growth in the construction industry since 2001, as well as the favourable employment conditions, specifically the wages, that are offered.”

US Bureau of Labour

Material Moving Machine Operators⁴

- Employment Growth (2010/2020):

Occupational Title	Employment, 2010	Projected Employment, 2020	Change, 2010-20	
			%	Numeric
Material Moving Machine Operators	669,000	752,100	12%	83,000
Conveyor Operators and Tenders	36,300	40,500	12%	4,200
Crane and Tower Operators	40,100	46,400	16%	6,300
Dredge Operators	2,100	2,400	15%	300
Excavating and Loading Machine and Dragline Operators	61,500	72,200	17%	10,700
Loading Machine Operators, Underground Mining	3,900	3,800	-2%	-100
Hoist and Winch Operators	2,800	3,000	6%	200
Industrial Truck and Tractor Operators	522,200	583,800	12%	61,500

- “Employment of material moving machine operators is projected to grow 12 percent from 2010 to 2020, about as fast as the average for all occupations.”
- “Employment of both conveyor operators and tenders and industrial truck and tractor operators is expected to grow 12 percent. Both of these occupations are heavily concentrated in warehouse environments. The need for warehouses will grow as consumer spending increases.”
- “However, employment growth will be limited as automation becomes more commonplace. Most warehouses are installing equipment such as high-speed conveyors, high-speed sorting systems, and robotic pickers. This equipment increases the efficiency of material movers, allowing warehouses to trim the numbers of workers they employ.”
- “Employment of crane and tower operators is projected to grow 16 percent. As global shipping increases, more of these operators will be needed at ports to load and unload large cargo ships. Employment growth also will be driven by the recovery of the construction industry, in which many of these workers are employed. Employment of crane operators is projected to grow 31 percent in construction and 26 percent in support activities for water transportation.”

⁴ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Material Moving Machine Operators, Web. <http://www.bls.gov/ooh/transportation-and-material-moving/material-moving-machine-operators.htm>, June 14, 2012

Key Research Findings

- “Employment of hoist and winch operators is projected to grow 6 percent. Like crane and tower operators they will be needed at ports to help load and unload cargo. Employment of hoist and winch operators is projected to grow 14 percent in support activities for water transportation. However, they are also heavily concentrated in declining manufacturing industries, which will contribute to slower growth.”
- “Employment of excavating and loading machine and dragline operators is projected to grow 17 percent. Many of these operators work in the construction industry, whose projected fast growth will drive job growth in this occupation.”
- “Employment of dredge operators is projected to grow 15 percent as the need for more dredging in the Great Lakes and in other large ports increases. However, environmental concerns are expected to hold up some dredging projects, limiting the growth of this occupation.”
- “Employment of underground mining loading machine operators is projected to decline by 2 percent, largely due to an expected decline in coal mining, where many of these workers are employed. This will be caused by technology gains that boost worker productivity. Employment of these operators is projected to decline 7 percent in coal mining.”
- “Job prospects should be favorable. A high number of job openings should be created by the need to replace workers who leave these occupations.”
- “As automation increases, the technology used by these occupations will become more complex. Employers will prefer workers who are comfortable using technology such as tablet computers and hand-held scanners.”

Construction Equipment Operators⁵

- Employment Growth (2010/2020):

Occupation Title	Employment, 2010	Projected Employment, 2020	Change, 2010-20	
			%	Numeric
Construction Equipment Operators	404,900	499,600	23%	94,800
Paving, Surfacing, and Tamping Equipment Operators	51,600	63,000	22%	11,400
Pile-Driver Operators	4,100	5,600	36%	1,500
Operating Engineers and Other Construction Equipment Operators	349,100	431,000	23%	81,900

- “Overall employment of construction equipment operators is expected to grow 23 percent from 2010 to 2020, faster than the average for all occupations. The likelihood of increased spending on infrastructure to improve roads, bridges, water and sewer systems, and the electric power grid, all of which are in great need of repair across the country, is expected to result in numerous jobs. In addition, population growth increases the need for construction projects such as new roads and sewer lines, which also is expected to generate some jobs. However, without

⁵ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Construction Equipment Operators, Web. <http://www.bls.gov/ooh/construction-and-extraction/construction-equipment-operators.htm>, June 14, 2012.

Key Research Findings

the extra spending on infrastructure by the federal government, employment may be flat as states and localities struggle with reduced taxes and budget shortfalls to pay for road and other improvements.”

- “Workers with the ability to operate multiple types of equipment should have the best job opportunities.”
- “As with many other construction workers, employment of construction equipment operators is sensitive to fluctuations of the economy. Workers may experience periods of unemployment when the overall level of construction falls. However, shortages of workers may occur in some areas during peak periods of building activity.”
- “Employment opportunities should be best in metropolitan areas, where most large commercial and multifamily buildings are constructed, and in states that are undertaking large transportation-related projects.”
- “In addition, the need to replace workers who leave the occupation should result in some job opportunities.”

Sector Report Council⁶

- “Employment requirements related to civil and other engineering projects fluctuate across the scenario period, but labour market conditions are generally balanced. Employment is concentrated in non-residential construction. The age profile for this trade is older than average. New entrants into the labour force meet replacement demand requirements, but workers from outside the local market may be required to help balance conditions late in the scenario period.”

⁶ “Forecast Data.” *Construction Sector Council*. Government of Canada's Sector Council Program, 2011. Web. 14 June 2012. <<http://www.constructionforecasts.ca>>.

Key Research Findings

Employment Profile⁷

- In 2010-2011, **40%** of graduates were employed in a full time position which related to this program of study provincially

Automotive

Total Graduates:	767	Total Graduates in Survey:	530	Response Rate:	69.2%
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⁷ 594 graduates were reported after the survey window had closed. While program information for these graduates has been included wherever possible, these graduates are not included in survey results, such as response rates.

Programs in Automotive

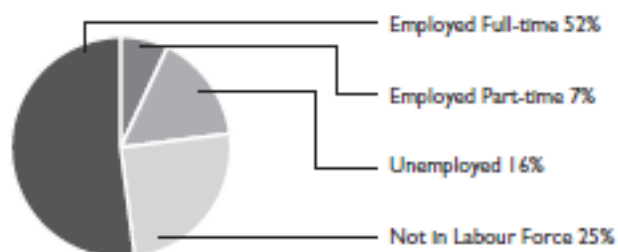
Programs	Duration	Total Grads	Total in Survey	Total in Labour Force	Colleges
Auto Body Repair Techniques	1 Year	36	29	21	Centennial
Heavy Equipment Operator	1 Year	96	75	68	Sir Sandford Fleming
Heavy Equipment Technician	2 Years	79	44	34	Boréal, Cambrian, Sault, Sir Sandford Fleming
Motive Power Fundamentals	1 Year	118	87	55	Conestoga, Fanshawe, Loyalist, Mohawk, Niagara, Northern, Sault
Motive Power Technician	2 Years	296	195	167	Algonquin, Cambrian, Canadore, Centennial, Durham, Fanshawe, La Cité, Loyalist, Mohawk, Niagara, St. Clair, St. Lawrence
Motive Power Techniques – Heavy Equipment	1 Year	120	85	44	Cambrian, Conestoga, Confederation, Northern, Sir Sandford Fleming
Motive Power Techniques – Small Powered Equipment	1 Year	22	15	9	Centennial

Summary of Survey Data

	Program Cluster	All Programs
Survey Population	530	50,622
Labour Force Participation	75%	74%
Employment Rate ^a	79%	83%
Employed Part-time ^a	10%	18%
Employed Full-time ^a	69%	65%
Average Annual Earnings – Total	\$30,286	\$33,199
Average Annual Earnings – Female	\$23,490	\$31,897
Average Annual Earnings – Male	\$30,456	\$34,607
Graduate Satisfaction	79%	79%
Employer Satisfaction	89%	93%

a. As a percentage of graduates in the labour force.

⁷ "Employment Profile." Ontario. N.p., 2011. Web. 19 July 2012.
<<http://www.tcu.gov.on.ca/pepg/audiences/colleges/serials/eprofile09-10/profile10.pdf>>.

Automotive**Graduate Outcomes for Program Cluster (as a percentage of all respondents)****Top Five Industries of Employment**

	#	%
Repair and Maintenance	70	23.8%
Motor Vehicle and Parts Dealers	42	14.3%
Specialty Trade Contractors	24	8.2%
Administrative and Support Services	13	4.4%
Building Material and Garden Equipment and Supplies Dealers	13	4.4%

Top Five Occupational Categories

	#	%
Automotive Service Technicians, Truck and Bus Mechanics and Mechanical Repairers	83	28.2%
Heavy-Duty Equipment Mechanics	23	7.8%
Heavy Equipment Operators (Except Crane)	18	6.1%
Retail Salespersons and Sales Clerks	16	5.4%
Automotive Mechanical Installers and Servicers	11	3.7%

Automotive**Summary of Graduate Outcomes by Program**

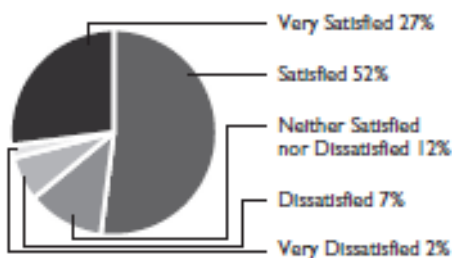
	Full-time Employed, Program Related		Full-time Employed, Program Unrelated		Part-time Employed, Program Related		Part-time Employed, Program Unrelated		Unemployed		Not in Labour Force	
	#	%	#	%	#	%	#	%	#	%	#	%
Auto Body Repair Techniques	6	20.7	3	10.3	1	3.4	5	17.2	6	20.7	8	27.6
Heavy Equipment Operator	30	40.0	14	18.7	3	4.0	5	6.7	16	21.3	7	9.3
Heavy Equipment Technician	18	40.9	6	13.6	1	2.3	—	—	9	20.5	10	22.7
Motive Power Fundamentals	19	21.8	13	14.9	—	—	5	5.7	18	20.7	32	36.8
Motive Power Technician	88	45.1	34	17.4	7	3.6	8	4.1	30	15.4	28	14.4
Motive Power Techniques – Heavy Equipment	25	29.4	14	16.5	—	—	2	2.4	3	3.5	41	48.2
Motive Power Techniques – Small Powered Equipment	2	13.3	4	26.7	—	—	2	13.3	1	6.7	6	40.0
All Programs in Cluster	188	35.5	88	16.6	12	2.3	27	5.1	83	15.7	132	24.9

Earnings of Full-time Employed Participants

Program	Average – Females	Average – Males	Median – Females	Median – Males	Average for Program	Median for Program
Auto Body Repair Techniques	—	\$33,539	—	\$30,000	\$33,539	\$30,000
Heavy Equipment Operator	—	\$35,520	—	\$33,241	\$35,520	\$33,241
Heavy Equipment Technician	—	\$39,139	—	\$34,750	\$38,725	\$33,000
Motive Power Fundamentals	—	\$28,242	—	\$27,114	\$28,347	\$27,114
Motive Power Technician	—	\$26,344	—	\$24,638	\$26,159	\$24,436
Motive Power Techniques – Heavy Equipment	—	\$34,415	—	\$33,437	\$34,415	\$33,437
Motive Power Techniques – Small Powered Equipment	—	—	—	—	\$25,491	\$26,400
All Programs in Cluster	\$23,490	\$30,456	\$21,900	\$27,532	\$30,286	\$27,114

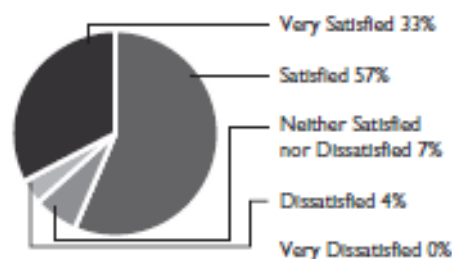
Automotive**Program Cluster Satisfaction**

Graduate Satisfaction with the usefulness of his/her college education in achieving his/her goals after graduation:*



* 491 graduates participated in this question.

Employer Satisfaction with employee overall college preparation for the type of work he/she was doing:



* 83 employers participated in this survey.

Program Cluster Historical Data

	00-01 Grads	01-02 Grads	02-03 Grads	03-04 Grads	04-05 Grads	05-06 Grads	06-07 Grads	07-08 Grads	08-09 Grads	09-10 Grads
Percentage Employed	89.9%	85.3%	88.0%	85.4%	86.6%	92.2%	90.1%	88.9%	80.7%	79.1%
Percentage Employed Full-time	86.0%	79.0%	81.0%	79.5%	81.9%	84.8%	85.4%	81.9%	67.7%	69.3%
Percentage Employed Full-time Related Jobs	66.7%	59.4%	59.9%	58.9%	65.3%	63.0%	67.0%	61.2%	50.8%	47.2%
Average Annual Salary Full-time Related Jobs	\$25,156	\$26,554	\$26,994	\$26,578	\$28,811	\$29,372	\$29,955	\$31,900	\$31,771	\$31,847

Key Research Findings

Working in Canada⁸

Heavy Equipment Operators (Except Crane) (NOC 7421)

- **Employment Rating by Region:**

Location	Employment Potential
Hamilton--Niagara Peninsula Region	Fair
Kingston - Pembroke Region	N/A
Kitchener--Waterloo--Barrie Region	Fair
London Region	N/A
Muskoka-Kawarthas Region	Fair
Northeast Region	Fair
Northwest Region	Fair
Ottawa Region	N/A
Stratford--Bruce Peninsula Region	Fair
Toronto Region	Fair
Windsor-Sarnia Region	N/A

- **Wage Range by Region:**

Location	Wage (\$/hr)		
	Low	Median	High
Ontario	16.00	22.40	32.04
Hamilton--Niagara Peninsula Region	16.00	24.00	30.03
Kingston - Pembroke Region	16.00	22.40	32.04
Kitchener--Waterloo--Barrie Region	18.00	22.00	32.04
London Region	16.00	22.40	32.04
Muskoka-Kawarthas Region	16.00	22.40	32.04
Northeast Region	17.50	22.00	27.00
Northwest Region	16.00	22.40	32.04
Ottawa Region	17.00	21.00	27.00
Stratford--Bruce Peninsula Region	16.00	22.40	32.04
Toronto Region	16.00	22.40	32.04
Windsor-Sarnia Region	16.00	22.40	32.04

⁸"Heavy Equipment Operators (Except Crane) (NOC 7421)." *Working in Canada*. N.p., 30 Apr. 2012. Web. 14 June 2012. <http://www.workingincanada.gc.ca/print_report-eng.do?noc=7421&area=8792>.

Key Research Findings

Competitive Analysis⁹

• **MODERATE**

The following information consists of OCAS yearly fall application and registration data as well as a conversion ratio for each program under this category:

Certificate

Within the last five years, Fleming has had a **4:1** conversion ratio every year except for 2009 and 2011 where the conversion ratio lowered to **6:1**

Certificate

Program: 46704 - HEAVY EQUIPMENT OPERATOR

	App. 2007	Reg. 2007	Conversion Ratio	App. 2008	Reg. 2008	Conversion Ratio	App. 2009	Reg. 2009	Conversion Ratio	App. 2010	Reg. 2010	Conversion Ratio	App. 2011	Reg. 2011	Conversion Ratio
→ FLEMING	247	60	4:1	242	58	4:1	194	35	6:1	210	55	4:1	206	36	6:1
Total	247	60	4:1	242	58	4:1	194	35	6:1	210	55	4:1	206	36	6:1

Program: 46703 - HEAVY EQUIPMENT OPERATOR

	App. 2007	Reg. 2007	Conversion Ratio	App. 2008	Reg. 2008	Conversion Ratio	App. 2009	Reg. 2009	Conversion Ratio	App. 2010	Reg. 2010	Conversion Ratio	App. 2011	Reg. 2011	Conversion Ratio
CONESTOGA	0			58			166			182			184		
Total	0			58			166			182			184		

Financial Analysis

• **STRONG**

Source: Program Costing Analysis 2010/2011

- Contribution to Overhead: 52.6%
- Program Weight: 1.40
- Funding Unit: 0.80

⁹ Application data obtained from OCAS College Count Cube October 19, 2011

Registration data obtained from the Program Counts by Applicant Type Report (RPT0050P) in the OCAS Reporting and Analytics Cube December 7, 2011.

Some programs/colleges may not be included because they were missing MCU codes in the OCAS dataset
Prepared by Fleming Data Research (07-2012)

Key Research Findings

Key Performance Indicators

• **WEAK**

Source: Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012

KPI1-Graduation Rate	+27% above system
KPI2-Working	-9% below system
KPI3-Working Related	-8% below system
KPI4-Grad. Satisfaction	-1% below system
KPI8-Student Satisfaction-Learning	-
KPI9-Student Satisfaction- Teachers	-
KPI11-Grad. Satisfaction-Program	-2% below system

Resource Analysis

Equipment

Staffing

Space

Key Research Findings

Appendix

The following is the original environmental scan conducted by the Library Researchers to form the basis of the previous summary of Key Research Findings Report.

Overview of the Profession:

NOC: 7421

<http://www.workingincanada.gc.ca/report-eng.do;jsessionid=71F40B6D421651BD1D1D1993B28684DF.imnav1?noc=7421&area=8792>

Description

Heavy equipment operators operate heavy equipment used in the construction and maintenance of roads, bridges, airports, gas and oil pipelines, tunnels, buildings and other structures; in surface mining and quarrying activities; and in material handling work. They are employed by construction companies, heavy equipment contractors, public works departments and pipeline, logging, cargo-handling and other companies.

Common Job Titles

backhoe operator,
bulldozer operator
excavator operator
gradall operator
grader operator
heavy equipment operator
heavy equipment operator apprentice
loader operator – construction
side boom tractor operator
surface mining equipment operator

Job Duties

Heavy equipment operators perform some or all of the following duties:

- Operate heavy equipment such as backhoes, bulldozers, loaders and graders to excavate, move, load and grade earth, rock, gravel or other materials during construction and related activities
- Operate bulldozers or other heavy equipment to clear brush and stumps prior to logging activities and to build roads at logging and surface mining sites
- Operate heavy equipment with pile driver head to drive piling into earth to provide support for buildings, bridges or other structures
- Operate heavy dredging equipment to deepen waterways or reclaim earth fill
- Operate heavy paving and surfacing equipment to lay, spread or compact concrete, asphalt and other surface materials during highway and road construction
- Operate power shovels to excavate rock, ore or other materials from open-pit mines, strip mines, quarries or construction pits
- Operate heavy equipment to move, load and unload cargo
- Conduct pre-operational checks on equipment and clean, lubricate and refill equipment.

Labour Market

Working in Canada

1. Employment potential for the Kawartha Region is “Fair” (Working in Canada)
http://www.workingincanada.gc.ca/print_report-eng.do?noc=7421&area=8792

Key Research Findings

HRDSC

2. National Outlook – 10-Year Projection (2011-2020)

<http://www23.hrsdc.gc.ca/occupationsummarydetail.jsp?&tid=110>

Occupations in this group	Heavy Equipment Operators (except Crane) (7421) Public Works Maintenance Equipment Operators (7422)
Employment (non-student) in 2010	91,427
Median Age of workers in 2010	42.5 years old
Average Retirement Age in 2010	59 years old

- Estimated that there will be more job seekers in this field than job openings for the 2011-2020 periods (job openings are expected to total **44,400** . It is expected that **44,003** job seekers will be available to fill these job openings). Job seekers will come from the school system (46%) with 3% from immigration and 53% from Net mobility
- According to Employment Ontario the Opportunities for employment in this occupation are expected to be good over the period from 2009 to 2013.
- According to Employment Ontario (Estimates 2006), 8% of workers in this group were self-employed, and 94% Full-Time
- Local wage for Peterborough/Kawartha Region 2010:
 - Low: \$16.00 Average: \$22.40 High:\$ 32.04

http://www.workingincanada.gc.ca/print_report-eng.do?noc=7421&area=8792

Over the 2008-2010 period, this occupation experienced a decline in employment and a sharp increase in the unemployment rate. The unemployment rate was higher than the average for all occupations (14.1% compared to 7.6% in 2010). The average hourly wage increased at the same rate as the average for all occupations. According to key labour market indicators, the number of job seekers was more than sufficient to fill job openings in this occupation.

Over the 2011-2020 period, an occupation will be in excess demand (a shortage of workers) if the projected number of job openings is significantly greater than the projected number of job seekers. An occupation will be in excess supply (a surplus of workers) if the projected number of job openings is smaller than the projected number of job seekers. For **Heavy Equipment Operators**, over the 2011-2020 period, job openings (arising from expansion demand and replacement demand) are expected to total **44,400** and **44,003** job seekers (arising from school leavers, immigration and mobility) are expected to be available to fill the job openings.

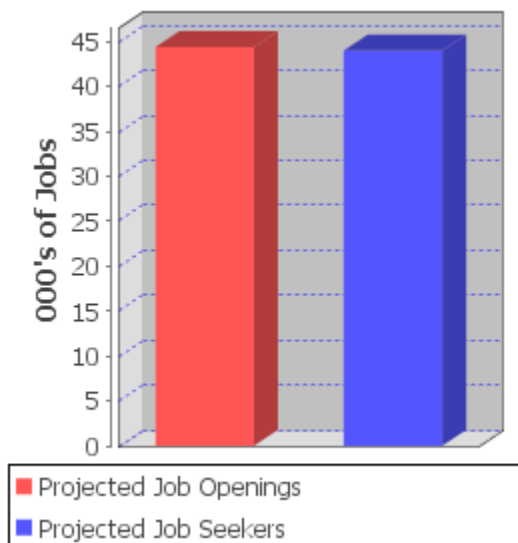
Based on projections and considering that labour supply was exceeding demand in this occupation, it is expected that the number of job seekers will continue to be more than sufficient to fill job openings over the 2011-2020 period. Retirements will be the primary source of employment and the retirement rate will be just above the average. The number of job openings resulting from economic growth will be higher over the projection period than over the 2001-2010 period. The economic recovery will be responsible for employment growth in construction, particularly in the energy and infrastructure sectors, over the projection period. In terms of supply, job seekers will come primarily from the school system and from other occupations. The strong mobility toward this occupation is due to the sustained employment growth in the construction industry since 2001, as well as the favourable employment conditions, specifically the wages, that are offered.

Key Research Findings

Projection of Cumulative Job Openings and Job Seekers over the Period of 2011-2020

	Level	Share
Expansion Demand:	14,400	32%
Retirements:	25,002	56%
Other Replacement Demand:	2,938	7%
Emigration:	2,108	5%
Projected Job Openings:	44,400	100%

	Level	Share
School Leavers:	20,158	46%
Immigration:	1,114	3%
Net Mobility	23,140	53%
Projected Job Seekers:	44,003	100%



Local wage for Muskoka-Kawartha Region
 Low: \$16.00 Median \$22.00 High \$32.04

http://www.workingincanada.gc.ca/print_report-eng.do?noc=7421&area=8792

Key Research Findings

As shown in the graph, according to the 2006 Census, 10% of people in this occupation were self-employed, while the average for all occupations was 12%.

The Labour Force Survey also gives us some information about self-employment. This occupation (**Heavy Equipment Operators (Except Crane)**) is part of a larger group called **Heavy Equipment Operators (NOC 742)**. According to the Labour Force Survey (2009), 11% of workers in this group were self-employed, while the average for all occupations was 16%.

Provincial Outlook: *(Info. seems rather dated)*

http://www.tcu.gov.on.ca/eng/labourmarket/ojf/pdf/7421_e.pdf

Over the next five years: Good

Opportunities for employment in this occupation are expected to be good over the period from 2009 to 2013. Employment prospects for heavy equipment operators depend largely on the growth of the various industries that employ them - construction, manufacturing, transportation and mining. These industries are highly sensitive to changes in the economy and during an economic downturn; employment will fluctuate in these sectors.

Technological change continues to make heavy equipment operating less labour intensive thereby moderating demand for new workers. In the mining industry, equipment can be operated with fewer workers from remote stations located miles away from the mine site. Advances in machinery technology such as laser equipment for monitoring levels and on-board computers will make machinery easier to operate but more complicated to maintain. These changes will mean that workers will need to possess good computer skills with knowledge of how to use and consult maintenance and operation manuals. This occupation is highly vulnerable to changes in the economic cycle. However, opportunities for heavy duty equipment operators are expected to be good. The recent federal fiscal stimulus which aims to reinvigorate the economy by significantly investing in infrastructure projects will provide excellent opportunities for these workers over the forecast period.

Page

US Bureau of Labour

Could be one of 2 occupations:

Material Moving Machine Operators

<http://www.bls.gov/ooh/transportation-and-material-moving/material-moving-machine-operators.htm>

Construction Equipment Operators

<http://www.bls.gov/ooh/construction-and-extraction/construction-equipment-operators.htm>

Material Moving Machine Operators

<http://www.bls.gov/ooh/transportation-and-material-moving/material-moving-machine-operators.htm>

Job Outlook:

Employment of material moving machine operators is projected to grow 12 percent from 2010 to 2020, about as fast as the average for all occupations.

Employment of both conveyor operators and tenders and industrial truck and tractor operators is expected to grow 12 percent. Both of these occupations are heavily concentrated in warehouse environments. The need for warehouses will grow as consumer spending increases.

However, employment growth will be limited as automation becomes more commonplace. Most warehouses are installing equipment such as high-speed conveyors, high-speed sorting systems, and

Key Research Findings

robotic pickers. This equipment increases the efficiency of material movers, allowing warehouses to trim the numbers of workers they employ.

Employment of crane and tower operators is projected to grow 16 percent. As global shipping increases, more of these operators will be needed at ports to load and unload large cargo ships. Employment growth also will be driven by the recovery of the construction industry, in which many of these workers are employed. Employment of crane operators is projected to grow 31 percent in construction and 26 percent in support activities for water transportation.

Employment of hoist and winch operators is projected to grow 6 percent. Like crane and tower operators they will be needed at ports to help load and unload cargo. Employment of hoist and winch operators is projected to grow 14 percent in support activities for water transportation. However, they are also heavily concentrated in declining manufacturing industries, which will contribute to slower growth.

Employment of excavating and loading machine and dragline operators is projected to grow 17 percent. Many of these operators work in the construction industry, whose projected fast growth will drive job growth in this occupation.

Employment of dredge operators is projected to grow 15 percent as the need for more dredging in the Great Lakes and in other large ports increases. However, environmental concerns are expected to hold up some dredging projects, limiting the growth of this occupation.

Employment of underground mining loading machine operators is projected to decline by 2 percent, largely due to an expected decline in coal mining, where many of these workers are employed. This will be caused by technology gains that boost worker productivity. Employment of these operators is projected to decline 7 percent in coal mining.

Job Prospects

Job prospects should be favorable. A high number of job openings should be created by the need to replace workers who leave these occupations.

As automation increases, the technology used by these occupations will become more complex.

Employers will prefer workers who are comfortable using technology such as tablet computers and hand-held scanners.

Occupational Title	Employment, 2010	Projected Employment, 2020	Change, 2010-20	
			Percent	Numeri c
Material Moving Machine Operators	669,000	752,100	12	83,000
Conveyor Operators and Tenders	36,300	40,500	12	4,200
Crane and Tower Operators	40,100	46,400	16	6,300

Key Research Findings

Occupational Title	Employment, 2010	Projected Employment, 2020	Change, 2010-20	
			Percent	Numeri c
Dredge Operators	2,100	2,400	15	300
Excavating and Loading Machine and Dragline Operators	61,500	72,200	17	10,700
Loading Machine Operators, Underground Mining	3,900	3,800	-2	-100
Hoist and Winch Operators	2,800	3,000	6	200
Industrial Truck and Tractor Operators	522,200	583,800	12	61,500

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

<http://www.bls.gov/ooh/transportation-and-material-moving/material-moving-machine-operators.htm#tab-6>

Construction Equipment Operators

<http://www.bls.gov/ooh/construction-and-extraction/construction-equipment-operators.htm>

Job Outlook:

Overall employment of construction equipment operators is expected to grow 23 percent from 2010 to 2020, faster than the average for all occupations. The likelihood of increased spending on infrastructure to improve roads, bridges, water and sewer systems, and the electric power grid, all of which are in great need of repair across the country, is expected to result in numerous jobs. In addition, population growth increases the need for construction projects such as new roads and sewer lines, which also is expected to generate some jobs. However, without the extra spending on infrastructure by the federal government, employment may be flat as states and localities struggle with reduced taxes and budget shortfalls to pay for road and other improvements.

Job Prospects

Workers with the ability to operate multiple types of equipment should have the best job opportunities.

As with many other construction workers, employment of construction equipment operators is sensitive to fluctuations of the economy. Workers may experience periods of unemployment when the overall level of construction falls. However, shortages of workers may occur in some areas during peak periods of building activity.

Key Research Findings

Employment opportunities should be best in metropolitan areas, where most large commercial and multifamily buildings are constructed, and in states that are undertaking large transportation-related projects.

In addition, the need to replace workers who leave the occupation should result in some job opportunities.

Occupational Title	Employment, 2010	Projected Employment, 2020	Change, 2010-20	
			Percent	Numeri c
Construction Equipment Operators	404,900	499,600	23	94,800
Paving, Surfacing, and Tamping Equipment Operators	51,600	63,000	22	11,400
Pile-Driver Operators	4,100	5,600	36	1,500
Operating Engineers and Other Construction Equipment Operators	349,100	431,000	23	81,900

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

Industry Standards:

Employment Requirements

Employment requirements are prerequisites generally needed to enter an occupation.

- Some secondary school education is required.
- Completion of a one- to two-year apprenticeship program
or
Some high school, college or industry courses in heavy equipment operating combined with on-the-job training are required.
- Trade certification is compulsory in Quebec and available, but voluntary, in Newfoundland and Labrador, Nunavut and the Northwest Territories.
- Internal company certification may be required by some employers.

[Source: [National Occupational Classification 2006 - HRSDC](#)]

Professional Associations:

Construction Canada

www.constructioncanada.com

Association of Equipment Distributors

Key Research Findings

<http://www.aednet.org/about/index.cfm>

Canadian West Equipment Dealers Association

<http://www.cweda.ca/>

Interprovincial Standards Red Seal Program

<http://www.red-seal.ca/tr.1d.2@-eng.jsp?tid=455&tid=455>

Educational Programs Leading to this Occupation

Level of Education: Program usually offered at the college level

Program Details:

49.0202 - Construction/Heavy Equipment/Earthmoving Equipment Operation

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to operate and maintain a variety of heavy equipment, such as crawler tractors, motor graders and scrapers, shovels, rigging devices, hoists, and jacks. These programs include courses in digging, ditching, sloping, stripping, grading, and backfilling, clearing and excavating.

(<http://www.workingincanada.gc.ca/home-eng.do?lang=eng>)

Ontario Competitors

Fleming College

<http://flemingcollege.ca/programs/heavy-equipment-operator>

Conestoga College - Heavy Equipment Operator

(1 year certificate)

<http://www.conestogac.on.ca/fulltime/0428.jsp>

Conestoga College – Heavy Equipment Operator / Dozer Operator

(240 hour certificate- apprenticeship)

<http://www.conestogac.on.ca/fulltime/0429.jsp>

Conestoga College – Heavy Equipment Operator/Excavator Operator

(240 hour certificate – apprenticeship)

<http://www.conestogac.on.ca/fulltime/0431.jsp>

Conestoga College – Tractor Loader Backhoe

(240 hour certificate – apprenticeship)

<http://www.conestogac.on.ca/fulltime/0430.jsp>

Fleming College – Heavy Equipment Operator

(12 week certificate)

<http://flemingcollege.ca/programs/heavy-equipment-operator>

Private institutions in Ontario

North West Transport Training Ltd

- Heavy Equipment Operator (120 hour certificate)
- Heavy Equipment Operator – Multi-Unit (Certificate)

Key Research Findings

Nepean, Ontario
613.225-3055
(No url found)

Operating Engineers Training Institute of Ontario – Morrisburg, Ontario

- Bulldozer Operator (Certificate, Apprenticeship)
(240 hours – 6 weeks)
http://www.oetio.com/Dozer_Program.aspx
- Excavator (Certificate, Apprenticeship)
(240 hours – 6 weeks)
http://www.oetio.com/Excavator_Program.aspx
- Motor-Grader (Certificate, Apprenticeship)
(240 hours – 6 weeks)
http://www.oetio.com/Grader_Program.aspx
- Tractor-Loader-Backhoe Operator (Certificate, Apprenticeship)
(240 hours – 6 weeks)
http://www.oetio.com/Tractor Loader Backhoe_Program.aspx
- Heavy Equipment Apprenticeship
http://www.oetio.com/Heavy_Equipment_Apprenticeship_Program.aspx

Robar Centre for Transport Training - Diploma
<http://www.robarcentre.ca/>
Heavy Equipment Operator
<http://www.robarcentre.ca/HEO.html>

(200 hours – 47.5 in class / 152.5 practical, in the field)

College	APS	APS Title	MTCU	MTCU Title	WT	FU	TF
CONS	1224	Heavy Equipment Operator	46703	Heavy Equipment Operator	1.40	1.50	1.50
SSFL	1195	Heavy Equipment Operator	46704	Heavy Equipment Operator	1.40	0.80	0.50

Employment Postings

(51 Ontario jobs – at the Cdn Job Bank)

Job Number: 6480246

Title: Heavy equipment operator (Environmental, Demolition, Sewer/Water Experience) ([NOC: 7421](#))

Terms of Employment: Permanent, Full Time, Overtime, Weekend, Day

Salary: \$22.00 to \$25.00 Hourly for 45 hours per week

Anticipated Start Date: As soon as possible

Location: Aurora, Ontario (2 vacancies)

Key Research Findings

Skill Requirements:

Education: Not applicable

Credentials (certificates, licences, memberships, courses, etc.): Driver's License (Class 1 or A), Air Brake (Z) Endorsement

Experience: 3 years to less than 5 years

Languages: Speak English, Read English, Write English

Type of Heavy Equipment Operated: Backhoe excavator, loader, Bulldozer, large or small, Front end loader, Loader, Gravel truck, Pulverizing, stabilizing machine, Compactor, Forklift

Type of Work Experience: Fine grading and finishing, Landscaping, Sloping and banking, Backfilling, Demolition, Ditching, Excavating, Haul road maintenance, Land clearing, Rough grading, Stock piling, Stripping, Sub-grade excavating, Sub-grade rolling, Trenching, Material handling, Slope grooming, Snow removal

Work Setting / Industry Experience: Road construction, Large diameter pipeline construction, Surface mining, Quarrying, Residential construction, Industrial/commercial/institutional (ICI) construction

Specific Skills: Operate heavy equipment, Clean and lubricate equipment and refill equipment tanks, Conduct pre-operational checks on equipment, Secure special attachments to equipment, Operate two-way radios and other communication equipment, Perform minor repairs to equipment, Operate hydraulic pumping systems

Additional Skills: Utilize material safety data sheets (MSDS), Complete onboard and other logs

Security and Safety: Driving record check (abstract)

Own Tools/Equipment: Steel-toed safety boots, Hard hat

Work Conditions and Physical Capabilities: Physically demanding, Attention to detail

Work Site Environment: Outdoors

Transportation/Travel Information: Own transportation, Willing to travel, Willing to travel regularly, Valid driver's licence

Essential Skills: Reading text, Document use, Numeracy, Writing, Oral communication, Working with others

Employer: The Cannington Group Inc.

Job Number: 6472480

Title: Bobcat operator ([NOC: 7421](#))

Terms of Employment: Temporary, Full Time, Overtime, Day

Salary: \$14.00 Hourly for 40 hours per week

Key Research Findings

Anticipated Start Date: 2012/06/12

Location: Windsor, Ontario (5 vacancies)

Skill Requirements:

Education: Completion of high school

Credentials (certificates, licences, memberships, courses, etc.): Heavy Equipment Operator Trade Certification, Driver's License (Class 1 or A)

Experience: 1 to less than 7 months

Languages: Speak English, Read English, Write English

Type of Heavy Equipment Operated: Backhoe excavator, loader, Forklift

Type of Work Experience: Fine grading and finishing, Excavating, Rough grading, Material handling

Work Setting / Industry Experience: Industrial/commercial/institutional (ICI) construction

Specific Skills: Operate heavy equipment, Conduct pre-operational checks on equipment, Operate two-way radios and other communication equipment

Additional Skills: Read and interpret blueprints, maps, drawings and specifications, Calculate weight, distance, volume and length measurements, Utilize material safety data sheets (MSDS), Complete onboard and other logs

Security and Safety: Bondable, Driving record check (abstract)

Own Tools/Equipment: Steel-toed safety boots, Hard hat, Safety glasses/goggles, Safety vest

Work Conditions and Physical Capabilities: Physically demanding, Attention to detail

Work Site Environment: Outdoors

Transportation/Travel Information: Own transportation, Valid driver's licence, Public transportation is not available

Essential Skills: Reading text, Document use, Numeracy, Writing, Oral communication, Working with others, Problem solving, Decision making, Critical thinking, Job task planning and organizing, Significant use of memory, Continuous learning

Other Information: 12 week assignment (may be extended) Solar farm build

Employer: Renaissance Personnel (Placement Agency)

Job Number: 6479640

Title: Equipment operator, heavy-duty (Heavy Equipment Operator) ([NOC: 7421](#))

Terms of Employment: Permanent, Full Time, Shift

Salary: \$20.00 to \$25.00 Hourly for 40 hours per week

Key Research Findings

Anticipated Start Date: As soon as possible

Location: Mississauga, Ontario (3 vacancies)

Skill Requirements:

Education: Completion of high school

Credentials (certificates, licences, memberships, courses, etc.): Not required

Experience: 1 year to less than 2 years

Languages: Speak English, Read English, Write English

Specific Skills: Operate heavy equipment

Other Information: This is a unionized position providing a competitive salary. Shift work will be required for this position. heavy equipment operation, Valid license, indoors/outdoors/dust/heights/confined space

Employer: 3K Consulting Inc (Placement Agency)

Job Number: 6479842

Title: Heavy equipment operator (A/Z License Heavy Equipment) ([NOC: 7421](#))

Terms of Employment: Temporary, Full Time, Day

Salary: \$14.00 Hourly for 40 hours per week

Anticipated Start Date: As soon as possible

Location: Windsor, Ontario (4 vacancies)

Skill Requirements:

Education: Not applicable, Not required

Credentials (certificates, licences, memberships, courses, etc.): Driver's License (Class 1 or A), Air Brake (Z) Endorsement, Not applicable

Experience: 3 years to less than 5 years

Languages: Speak English, Read English, Write English

Type of Heavy Equipment Operated: Backhoe excavator, loader

Type of Work Experience: Demolition, Excavating, Trenching

Specific Skills: Operate heavy equipment, Clean and lubricate equipment and refill equipment tanks, Conduct pre-operational checks on equipment, Perform minor repairs to equipment

Own Tools/Equipment: Steel-toed safety boots

Work Conditions and Physical Capabilities: Physically demanding, Attention to detail

Work Site Environment: Outdoors

Key Research Findings

Essential Skills: Oral communication, Working with others, Problem solving, Decision making, Critical thinking, Significant use of memory, Continuous learning

Other Information: Heavy equipment operators for demolition, sewer installs, sewer repairs, septic installs, drainage, and wet basement. Ability to operate Mini Excavator (John Deer), Skid Steer, Bobcat, Backhoe.

Employer: Labour Ready Temporary Services Ltd. (Placement Agency)

Job Number: 6477522

Title: Excavator operator (ALSO BULLDOZER OPERATOR) ([NOC: 7421](#))

Terms of Employment: Permanent, Full Time

Salary: \$22.00 to \$28.00 Hourly for 40 hours per week, Dental Benefits, Life Insurance Benefits, Group Insurance Benefits

Anticipated Start Date: As soon as possible

Location: Embrun, Ontario (2 vacancies)

Skill Requirements:

Education: Not required

Credentials (certificates, licences, memberships, courses, etc.): Not required

Experience: 5 years or more

Languages: Speak English, Read English, Write English

Type of Heavy Equipment Operated: Backhoe excavator, loader

Type of Work Experience: Fine grading and finishing, Landscaping, Backfilling, Ditching, Excavating, Land clearing, Rough grading, Stock piling, Stripping, Stumping, Sub-grade excavating, Trenching, Material handling

Work Setting / Industry Experience: Road construction, Residential construction, Industrial/commercial/institutional (ICI) construction

Specific Skills: Operate heavy equipment, Clean and lubricate equipment and refill equipment tanks, Conduct pre-operational checks on equipment, Operate two-way radios and other communication equipment

Own Tools/Equipment: Steel-toed safety boots, Hard hat

Work Conditions and Physical Capabilities: Attention to detail

Work Site Environment: Outdoors

Transportation/Travel Information: Own transportation, Valid driver's licence, Public transportation is not available

Essential Skills: Reading text, Oral communication, Working with others

Key Research Findings

Other Information: Experience is a definite asset, but looking for the right worker. Bilingualism and pipe laying an asset.

Employer: Lapointe Drainage Ltd

Job Number: 6314351

Title: Bobcat operator (T-190 Skid Steer and Dump Truck Driver) ([NOC: 7421](#))

Terms of Employment: Seasonal, Full Time, Day

Salary: \$15.00 to \$18.00 Hourly for 40 hours per week

Anticipated Start Date: 2012/06/04

Location: Ottawa West, Ontario (1 vacancy)

Skill Requirements:

Education: Not required

Credentials (certificates, licences, memberships, courses, etc.): Driver's License (Class 3 or D), Air Brake (Z) Endorsement

Experience: 2 years to less than 3 years

Languages: Speak English, Read English

Type of Heavy Equipment Operated: Front end loader, Loader, Dump trucks, Forklift

Type of Work Experience: Fine grading and finishing, Landscaping, Backfilling, Excavating, Rough grading, Stock piling, Sub-grade excavating, Material handling, Slope grooming

Work Setting / Industry Experience: Residential construction

Specific Skills: Operate heavy equipment, Clean and lubricate equipment and refill equipment tanks, Conduct pre-operational checks on equipment, Secure special attachments to equipment, Perform minor repairs to equipment

Additional Skills: Read and interpret blueprints, maps, drawings and specifications, Complete onboard and other logs

Security and Safety: Criminal record check, Driving record check (abstract)

Own Tools/Equipment: Steel-toed safety boots

Work Conditions and Physical Capabilities: Attention to detail

Work Site Environment: Outdoors

Transportation/Travel Information: Own transportation, Own vehicle, Valid driver's licence, Public transportation is not available

Work Location Information: Various locations

Key Research Findings

Essential Skills: Reading text, Document use, Numeracy, Writing, Oral communication, Working with others, Problem solving, Decision making, Critical thinking, Job task planning and organizing, Finding information, Computer use

Employer: Pool Builders

How to Apply:

Please apply for this job only in the manner specified by the employer. Failure to do so may result in your application not being properly considered for the position.

By Fax: (613) 831-0069

By E-mail: bob@poolbuildersottawa.ca

Web Site: <http://www.poolbuildersottawa.ca>