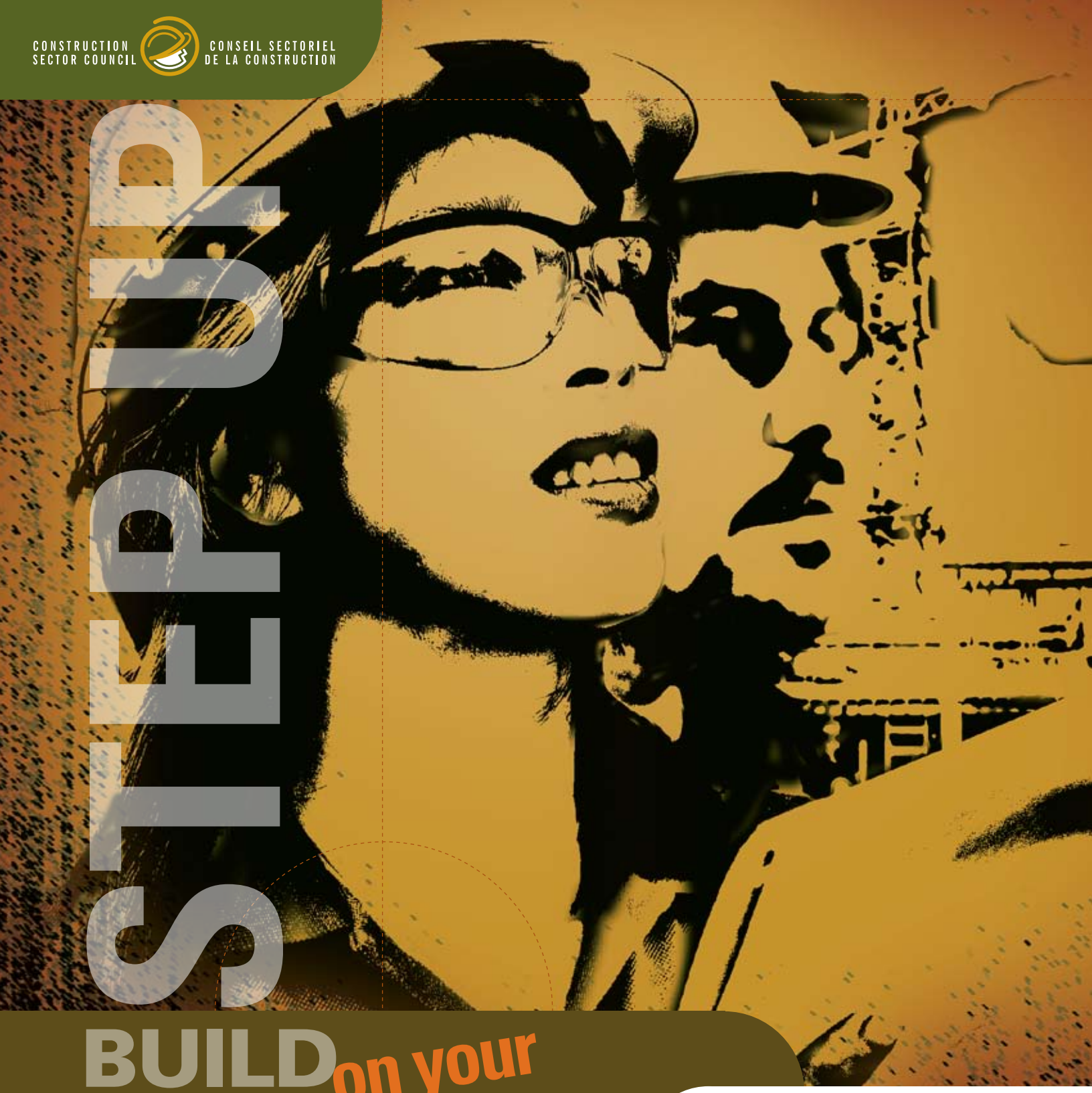
CONSTRUCTION SECTOR COUNCIL | CONSEIL SECTORIEL DE LA CONSTRUCTION



# STEP UP

## BUILD on your TALENTS

CONSTRUCTION SUPERVISOR
FIRST • LEVEL

# Essential Skills – Workbook

Try the Self Assessment, then use the Workbook to practise, or use the Workbook to prepare for the Self Assessment.

The Construction Sector Council is a national organization committed to the development of a highly skilled workforce – one that will support the future needs of the construction industry in Canada. Created in April 2001, and financed by both government and industry, the CSC is a partnership between labour and business.

This publication was developed for the Construction Sector Council as a companion to the National Occupational Analysis (NOA) for Construction Supervisor (First Level). Its purpose is to highlight the importance of Essential Skills in making a successful transition from working on the tools to positions that involve supervisory roles and responsibilities within the construction industry. The materials provide information and practice opportunities to those individuals who may aspire to or who are currently employed in supervision careers.



CONSTRUCTION SECTOR COUNCIL

CONSEIL SECTORIEL DE LA CONSTRUCTION

For more information contact:

The Construction Sector Council
220 Laurier Ave. West, Suite 1150
Ottawa, Ontario, K1P 5Z9
Phone: 613 569-5552 Fax: 613 569-1220
info@csc-ca.org

Funded by the Government of Canada's Sector Council Program

Canada

Content for this publication was developed by SkillPlan, BC Construction Industry Skills Improvement Council. SkillPlan acknowledges the supervisors who contributed their expertise in the development of these materials and to the companies who kindly allowed us to recreate their documents and situations.

For more information about *SkillPlan*, visit www.skillplan.ca.

# Introduction

## What are Essential Skills?

Essential Skills are skills that allow workers in every occupation to get the job done. They are not technical skills but the foundation skills people need to acquire knowledge and complete workplace tasks and daily activities. The nine Essential Skills are Reading Text, Document Use, Numeracy, Writing, Oral Communication, Working with Others, Thinking Skills, Computer Use, and Continuous Learning.

The Construction Sector Council has developed two Essential Skills tools to assist you in the transition from working on the tools to being a supervisor.

- Essential Skills Self Assessment
- Essential Skills Practice Workbook

## Do I use the practice workbook before or after the self assessment?

This workbook has an accompanying self assessment. You may choose to do the self assessment first and use the workbook for additional practice, or you may decide to do the workbook first to prepare for the self assessment. Each Essential Skill area in the assessment has similar tasks in the workbook for additional practice. (See the cross reference table on page iv.).

## What is the purpose of this practice workbook?

The purpose of this workbook is to provide tradespeople aspiring to supervisory roles and responsibilities and those who are already supervisors in the construction industry with an opportunity to practise their Essential Skills.

## Who should use this practice workbook?

If you are interested in a career as a supervisor or are already a supervisor in construction and want to practise your current Essential Skills using typical supervisor workplace tasks, then this workbook is for you. Please note that this workbook is not meant to be used as a substitute for actual training instruction but it will give you an indication of your readiness for stepping up to supervisory roles.

## What skills does this practice workbook cover?

This workbook will allow you to practise the Reading Text, Document Use, Numeracy and Writing skills that a supervisor in construction uses on the job. Knowledge about specific trades is not needed to complete the tasks, but your general knowledge of construction will be useful. Some of the documents may be familiar to you; however, supervisors may use the documents in a different way than a tradesperson.

## How do supervisors use Essential Skills?

First level supervisors in construction use Essential Skills to ensure that a quality job gets done on time, on budget and safely. They are responsible for supervising construction crews and have a significant impact on project schedules, costs and overall profitability. First level supervisors have always needed strong Essential Skills, but now these skills are even more important. In recent years, changes in the industry regarding environmental, health and safety regulations, human rights/labour standards and other legislation require an increased level of knowledge and abilities, and an increasing personal liability for the construction supervisor. Every work-related task requires a strong foundation in Essential Skills.

First level construction supervisors spend more time on paperwork than they did as tradespersons. They need to read and interpret national and provincial codebooks, legislations and regulations. They write summaries on forms to describe events and prepare agendas, and complete orientation checklists and brief reports. They review drawings to locate dimensions, and calculate material quantities using measurements from drawings and material packaging and sizes. The Construction Sector Council (CSC) has developed a detailed description of the job tasks of first level supervisors and how they use Essential Skills. For more information, go to www.csc-ca.org.

## How do I use this practice workbook?

You can do the tasks (questions) in order or choose the ones you would like to practice. Each task requires you to refer to a specific document to get the answer. All the information needed to answer the questions is in the document.

1. Start on a task page.
2. Read the information in the box.
3. Read the document mentioned in the tasks. Be aware that some documents have more than one page.
4. Write down your answers.
5. Turn to the Score Guide on page 36.
6. Mark your answers using the Answer Key on pages 37 & 38.

If you do this workbook first, go to the companion self assessment book when you are finished and see how you score in the Essential Skill areas.

# Table of Contents

## Self Assessment and Workbook Cross Reference Table

The tasks in the workbook correspond with tasks in the self assessment. This way, you can practice and assess skills that are similar using the same or similar documents. A task in the self assessment may have more than one corresponding practice task in the workbook.

| Self Assessment | | Workbook | |
|---|---|---|---|
| **Task #** | **Task Title** | **Task #** | **Task Title** |
| 1 | Composite Decking | 1 | Composite Decking |
| 2 | Composite Decking | 2 | Composite Decking |
| 3 | Composite Decking | 3 | Composite Decking |
| 4 | Lock-out | 4 | Environment Management Protocol |
| 5 | Lock-out | 5 | Environment Management Protocol |
| 6 | Lock-out | 6 | Environment Management Protocol |
| | | 7 | Site Safety Meeting |
| 7 | Universal Toilet-Room | 8 | Public Use Showers |
| 8 | Instruction Record Book | 9 | Supervisor's Record |
| 9 | MSDS | 10 | MSDS |
| 10 | MSDS | 11 | MSDS |
| 11 | Toolbox Meeting | 12 | Toolbox Meeting |
| | | 13 | Disciplinary Action Notice |
| 12 | Daily Time Report | 14 | Time Report |
| | | 15 | Time Report |
| 13 | Lift Evaluation Report | 16 | Lift Evaluation Report 1 |
| 14 | Lift Evaluation Report | 17 | Lift Evaluation Report 1 |
| 15 | Lift Evaluation Report | 18 | Lift Evaluation Report 1 |
| 16 | Lift Evaluation Report | 19 | Lift Evaluation Report 1 |
| 17 | Lift Evaluation Report | 20 | Lift Evaluation Report 1 |
| 18 | Lift Evaluation Report | 21 | Lift Evaluation Report 2 |
| 19 | Lift Evaluation Report | 22 | Lift Evaluation Report 2 |
| | | 23 | Lift Evaluation Report 2 |
| | | 24 | Lift Evaluation Report 2 |
| | | 25 | Lift Evaluation Report 2 |
| 20 | Ironwork Drawing | 26 | Framing Calculations |
| 21 | Ironwork Drawing | 27 | Framing Calculations |
| 22 | Ironwork Drawing | 28 | Framing Calculations |
| 23 | Ironwork Drawing | 29 | Framing Calculations |
| 24 | Ironwork Drawing | 30 | Framing Calculations |
| 25 | Ironwork Drawing | 31 | Framing Calculations |
| 26 | Ironwork Drawing | 32 | Calculating Glass Takeoffs |
| 27 | Ironwork Drawing | | |
| 28 | Accident Report | 33 | Accident Report |
| 29 | Daily Log Book | 34 | Daily Log book |
| 30 | Disciplinary Report | 35 | Weekly Report |

## Tasks 1 to 3: Composite Decking

First level supervisors read product updates and evaluations to maintain current knowledge of products. Look at the Evaluation Report from CCMC on a new product Brite Composite Decking (Hollowcore).

**Task 1:** What makes planks of this product different from standard decking material?
*Reading Text*

**Task 2:** Which authority permits the use of this product?
*Reading Text*

**Task 3:** What applications is this product intended for?
*Reading Text*

**Answers are on page 37.**

National Research Council Canada
Conseil national de recherches Canada

Institute for Research in Construction
Institut de recherche en construction

**CCMC 13279-R**

CCMC *EVALUATION REPORT*

| | |
|---|---|
| **DIVISION** | **06525** |
| **Issued** | **2007-06-14** |
| **Re-evaluated** | **2008-06-14** |

# *Brite Composite Decking (Hollowcore)*

Brite Manufacturing Inc.
2 Manchester Ct.
Bolton, Ontario
L7E 2J3

Tel.: (905) 857-6021
Fax: (905) 857-3211

Plant: 2 Manchester Ct.
Bolton, Ontario



## *1. Purpose of Evaluation*

The proponent sought confirmation from the Canadian Construction Materials Centre (CCMC) that "Brite Composite Decking (Hollowcore)" can serve as exterior decking as an alternative solution in combustible construction for light-duty applications, such as in residential occupancies, in compliance with the National Building Code of Canada (NBC) 2005.

## *2. Opinion*

Subject to the limitations and conditions stated in this report, test results and assessments provided by the proponent show that "Brite Composite Decking (Hollowcore)" decking complies with CCMC's Technical Guide for Cellulosic/Polymer Composite Exterior Decking (Hollow Cross-Section), MasterFormat number 06525, dated 07-03-26, and can serve as an alternative solution for decking that will achieve at least the minimum level of performance required for subfloor sheathing with respect to structural safety in::

- NBC 2005, Division B, Article 9.23.14.5., Subfloor Thickness or Rating, when subjected to the loading and deflection limits implied in

Subsection 9.4.2., Specified Loads, and Article 9.4.3.1., Deflections.

Canada Mortgage and Housing Corporation permits the use of this product in construction financed or insured under the *National Housing Act*.

## 3. *Description*

"Brite Composite Decking (Hollowcore)" decking is a cellulosic/polymer composite extrusion containing cellulose-based fibres derived from fibreboard and polyethylene. The composite product is manufactured through a continuous extrusion process in planks of hollow cross-section. The planks are manufactured in nominal dimensions of 32 mm x 140 mm. The planks are commonly available in 3.66-m and 4.88-m lengths.

"Brite Composite Decking (Hollowcore)" decking is intended to be used as exterior decking installed over traditional structural wood framing (Figure 1).

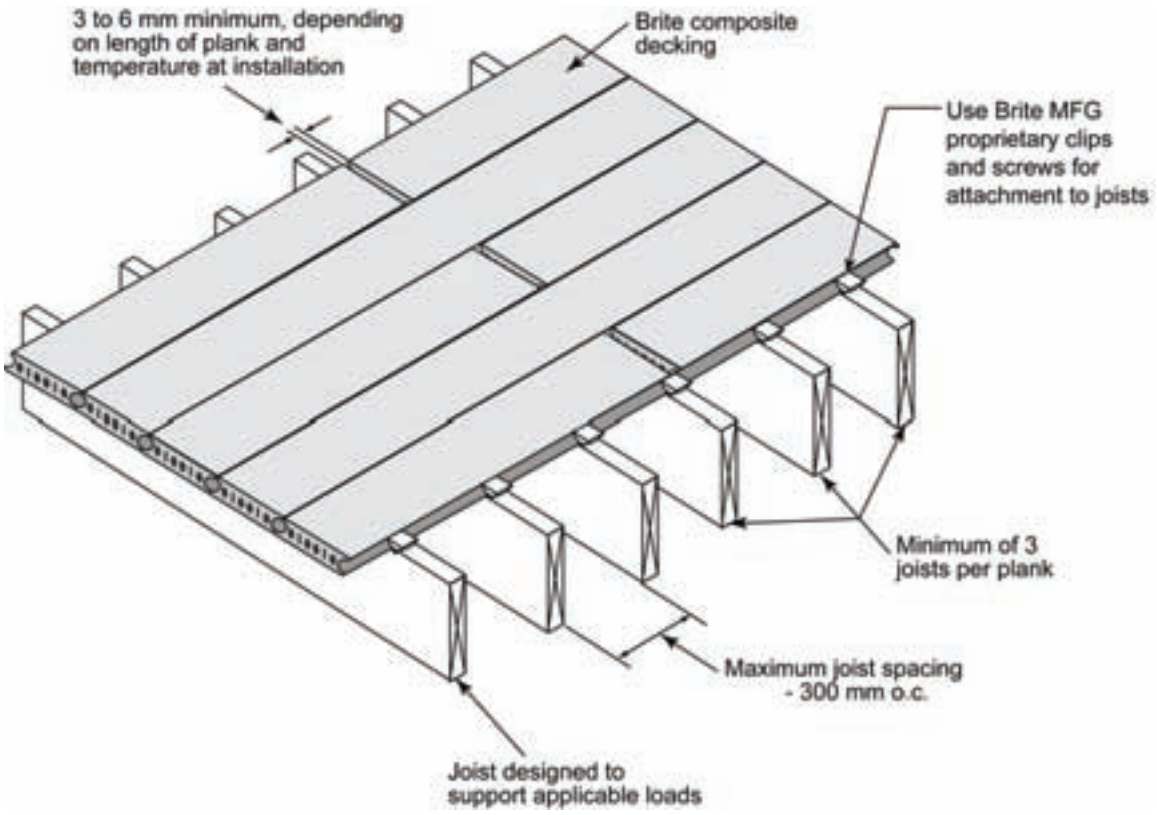



**Figure 1. Installation of "Brite Composite Decking (Hollowcore)" Decking**

## Tasks 4 to 6: Environmental Management Protocol

First level supervisors read policies for specific information such as hazard identification and the management of environmentally sensitive areas within or near the construction site. This information is used to determine the permits that are needed. Proper permits must be in place before any work can begin. Look at the Environmental Conditions on Site.

**Task 4:** What three criteria must be met so that no reporting or mitigative actions are required?
*Reading Text*

**Task 5:** The supervisor needs information on acceptable conditions of soil and groundwater quality. Which two tables have information about soil and groundwater quality levels at the property boundary?
*Reading Text*

**Task 6:** For an environmentally sensitive area, a proponent can restore the environment to background conditions. What is another option?
*Reading Text*

**Answers are on page 37.**

### 3.3.1 Environmental Conditions On Site (within the property boundaries)

***Discovery of Soil or Groundwater Impact Related to a Petroleum Product:***

Where soil or groundwater quality has been altered due to impact from a petroleum product, yet the soil or groundwater quality meets permissible Site Condition Standards (SCS) for an operational site (Table 4 or Table 5 (SCS), as applicable), no reporting or mitigative actions are required provided:

- Table 2 or Table 3 SCS, (see The Standards) as applicable, are met at the property boundary;
- No immediate corrective action is required as per section 4.0 of this document; and,
- The property is not classified as an "environmentally sensitive area" as defined within the MOE's O. Reg.153/04 (see Section 41).

Where the aforementioned conditions are not met, the occurrence must be reported to the Director, FSP. A delineation of the full extent of the exceedance is necessary. Following the complete delineation, options available to mitigate such an occurrence include:

- Restore the on-site environment to Table 4 or Table 5 SCS, as applicable;
- Restore the property boundary environment to Table 2 or Table 3 SCS, as applicable; or,
- Implement a Contamination Management Plan (CMP) as per section 4.1.

An alternative measure acceptable to the Director to address situations where conditions exceed applicable criteria is the submission of a Risk Assessment (RA). The RA must be prepared in accordance with the process outlined in the MOE's O. Reg. 153/04. The RA must then be reviewed and accepted by the MOE. A copy of the MOE's acceptance must be provided to FSP.

In the case of an environmentally sensitive area, a proponent must either submit a RA to the MOE for their review and acceptance, or restore the environment to background conditions pursuant to Table 1 of The Standards.



*To view the entire document, visit www.tssa.org.*

## Task 7: Site Safety Meeting

First level supervisors read company policies, procedures and other workplace materials to plan and deliver effective toolbox and safety meetings and to keep workers informed about regulations, codes, safety and other workplace protocols.

**Task 7:** The company has produced guidelines for the safe operation of grinders and wants these guidelines to be discussed at a site safety meeting. Read the "Grinders – Safe Operation" guidelines. Write up an agenda for the safety meeting to present these guidelines to the crew.
*Reading Text, Writing*

**Tips to consider for your answer:**
A good agenda for a safety meeting has:

- an introduction
- an effective presentation of the information. See the 5-P's table below.
- a way to ensure the information has been received and understood by everyone
- an opportunity for people to ask questions
- a review of the information

The guiding principles for this type of presentation is best remembered by using the 5 P's of presentations.

| | |
|---|---|
| P-Prepare | Read and listen to other people's ideas on the subject. Write things down and organize your talks. Practice. |
| P-Pinpoint | Don't try to cover too much ground; pick a single idea that you can state in a single sentence. |
| P-Personalize | Make your talk revolve around your crew. Make it personal and meaningful. |
| P-Picturize | Create mental pictures; help them to see what you mean. Appeal to their eyes as well as their ears. Use visual aids if appropriate. |
| P-Prescribe | In your closing always answer their unspoken question, "So now what?" Tell them what to do or ask for action. |

*Construction Labour Relations Assocation of BC. Reprinted with permission.*

**Answer is on page 37.**

## Grinders – Safe Operation

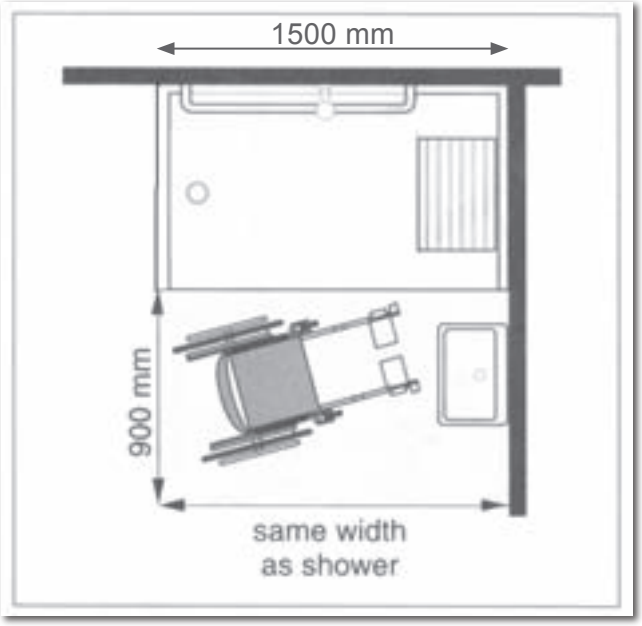
GENERAL
Abrasive wheels can cause severe injury. Proper storage of new wheels, proper use of wheels and proper maintenance of wheels must be observed.

1. Familiarize yourself with the grinder operation before commencing work.
2. Inspect your grinder, if guard has been modified, return the grinder to the tool crib for repair – DO NOT USE A GRINDER WHEN THE GUARD HAS BEEN MODIFIED.
3. Always wear eye protection and face shield when operating a grinder.
4. Remove or confine loose or hanging articles (e.g.: ties, jewelry or long hair) that could get caught in the grinder.
5. Ensure handles are on and secure.
6. Adjust and tighten wheel guards in place.
7. If a spark guard is installed, adjust it to direct the sparks in a safe direction.
8. Check to ensure that blotters and wheel flanges have been used to mount the wheels onto the shaft.
9. Inspect the wheels to ensure they have a speed rating greater than or equal to the grinder's speed rating and that they are in good condition. Cracked or chipped wheels must be replaced.
10. Do not stand in line with the wheel when starting the grinder.
11. Do no use the side of the wheel when grinding; use the face only.
12. Use pliers or a vice grip to hold small items.
13. If the wheel vibrates; replace it or replace the shaft bearings if they are worn.
14. After completing the job take off your hat and give it a good tap on something solid. In this way you will knock off any of the filings which have accumulated on top.
15. Allow the object you were grinding to cool before handling it.
16. Unplug or lockout the grinder before doing repairs.
17. Never leave a grinder unattended while the wheels are turning.
18. Do not use grinders near flammable materials.
19. Never use the grinder for jobs for which it is not designed, such as cutting.
20. Direct the sparks so as not to send them in the direction of other workers in the area. It is good, safe and courteous work practice to let other people in the area know when you are about to start work. Screen your area off to contain the sparks you will create.

## Task 8: Public Use Showers

First level supervisors may decide to modify plans when building inspectors do not approve of construction. They refer to the National Building Code of Canada to ensure any changes are made according to Code.

**Scenario:** A building inspector has not approved the public shower facility for wheelchair access. The problem is the sink infringes on the clear space to transfer from the wheelchair to the seat. The supervisor looks at the drawing and the National Building Code to decide what modifications can be made.




**Task 8:** Look at the National Building Code on the next page. Read this section of the code and decide what modifications can be made to the shower. Sketch the changes to the plan.
*Reading Text, Document Use*

**Answer is on page 37.**

ii) not less than 875 mm on the other side,
e) have grab bars conforming to Clause 3.8.3.8.(1)(d),
f) have no internal dimension between the walls that is less than 1 700 mm,
g) have a coat hook conforming to Clause 3.8.3.8.(1)(e) and a shelf located not more than 1 200 mm above the floor,
h) be designed to permit a wheelchair to back in alongside the water closet in the space referred to in Subclause (d)(ii), and
i) be designed to permit a wheelchair to turn in an open space not less than 1 500 mm in diameter.

**3.8.3.13. Showers**

**1)** Except within a *suite* of *residential occupancy*, where showers are provided in a *building*, at least one shower stall in each group of showers shall be *barrier-free* and shall
a) be not less than 1 500 mm wide and 900 mm deep,
b) have a clear floor space at the entrance to the shower, not less than 900 mm deep and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower (see Appendix A),
c) have a slip-resistant floor surface,
d) have a bevelled threshold not more than 13 mm higher than the finished floor,
e) have a hinged seat that is not spring-loaded or a fixed seat, the seat being
i) not less than 450 mm wide and 400 mm deep,
ii) mounted approximately 450 mm above the floor, and
iii) designed to carry a minimum load of 1.3 kN,





f) have a horizontal grab bar conforming to Subclauses 3.8.3.8.(1)(d)(iv), (d)(v) and (d)(vi) that is (see Appendix A)
i) not less than 900 mm long,
ii) mounted between 700 mm and 800 mm above the floor, and
iii) located on the wall opposite the entrance to the shower so that not less than 300 mm of its length is at one side of the seat,
g) have a pressure-equalizing or thermostatic-mixing valve controlled by a lever or other device operable with a closed fist from the seated position,
h) have a hand-held shower head with not less than 1 500 mm of flexible hose located so that it can be reached from the seated position and equipped with a holder so that it can operate as a fixed shower head, and
i) have fully recessed soap holders that can be reached from the seated position.

**3.8.3.14. Counters**

**1)** Every counter more than 2 m long, at which the public is served, shall have at least one *barrier-free* section not less than 760 mm long centred over a knee space conforming to Sentence (3). (See Appendix A.) (See also A-3.8.2.1. in Appendix A.)

**2)** A *barrier-free* counter surface shall be not more than 865 mm above the floor.

**3)**

## Task 9: Supervisor's Record

First level supervisors ensure that new workers and young workers are provided with appropriate health and safety orientation to the company and to each worksite.

**Scenario:** On April 3, 2007, at 8:00 a.m., Gord Brewster (the supervisor) provided instruction on fall protection for crew members Anne Shephard, Kaljit Sharma, Joe Brown and Cesar Perez. Their employer is TriCities Construction Ltd. and the project is the Zone Warehouse at 32 Ryder Avenue. Kaljit mentioned a friend of his was working on a roof and broke his spine because he had not connected his fall protection to the lifeline. Gord Brewster stressed the importance of attaching the fall protection to a lifeline and informed the crew that he will post a written site-specific fall protection plan on the jobsite.

**Task 9:** Look at the Supervisor's Record. Complete the record using all the information from the Scenario.
*Document Use*

**Answer is on page 37.**

# Supervisor's Record

Topic of Meeting _____

Date: _____ Time:_____ Supervisor _____

Project:_____

Address:_____

Employer:_____

Record of those attending:

| Name (please print) | Signature |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |

Other comments or suggestions made_____

_____

_____

_____

Supervisor's remarks _____

_____

Supervisor:_____

(Signature)

## Tasks 10 to 11: MSDS

First level supervisors read and integrate occupational health and safety regulations and company polices and procedures. They read the Material Safety Data Sheets (MSDS) to learn important information about hazardous substances on their jobsite. Look at the MSDS for SafeCoat Latex.

**Task 10:** Supervisors are aware of products and applications in which hazardous substances may be present. The SafeCoat Latex is accidentally spilled on a worker's hands. The worker is not wearing gloves. What is the possible effect of skin contact with this product and how should it be treated?
*Document Use*

**Task 11:** How should this product be stored?
*Document Use*

**Answers are on page 37.**

Magna COATINGS

*Magna Coatings is a proud member of the **Quantum Group** of companies.*

# SafeCoat Latex

## MATERIAL SAFETY DATA SHEET

### Chemical Product and Company Information

| | |
|---|---|
| **Product** | **SafeCoat Latex** |
| **PIN#** | Not Available |
| **Uses** | Fire Retardant Coating |
| **Manufacturer/ Supplier** | Magna Coatings Technology<br>14601 - 134 Avenue<br>Edmonton, AB, CANADA T5L 4S9 |
| **Phone Number** | (780) 451-2211 |
| **Facsimile** | (780) 451-8011 |
| **Prepared by** | Quantum Technical Services Ltd. |
| **Preparation Date** | March, 29 2006 |
| | |
| **24 Hour Emergency Number** | (613) 996-6666 Canutec |

### Classification

| | | | | | |
|---|---|---|---|---|---|
| **WHMIS:** | Not Regulated | **NFPA Ratings** | | **Interpretation** | |
| **TDG:** | Not Regulated | Health | = 1 | Insignificant | 0 |
| | | Fire | = 0 | Slight | 1 |
| | | Reactivity | = 0 | Moderate | 2 |
| | | Special | = - | High | 3 |
| | | | | Extreme | 4 |

### Hazardous Ingredients

| Components | LD50/species | LC50/species | CAS# | %WT/WT |
|---|---|---|---|---|
| Not Applicable (N.Ap.) | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

### Physical Data

| | | | |
|---|---|---|---|
| **Freezing Point :** | 0 °C | **Boiling point:** | 100 °C |
| **% Volatile/Vol :** | 48% | **Vapour Density:** | <1 |
| **Physical Status** | Liquid | **Evaporation Rate:** | <1 |
| **Specific Gravity:** | 1.25 | **Coef. of Water/Oil Distr.:** | N.Av. |
| **Vapour Pressure:** | 17.5 mmHg | **Appearance/Odor:** | white liquid/mild odor |
| **Odor Threshold (ppm):** | N.Av. | **pH:** | Neutral |

### Fire or Explosion Hazard

| | |
|---|---|
| **Flash Pt:** | Non Combustible |
| **Conditions of Flammability:** | None. |
| **Extinguishing Agents:** | Use extinguishing media for surrounding fire. |
| **Hazardous Combustion Products:** | Oxides of Carbon and Nitrogen, Hydrogen Chloride, Ammonia, Phosphoric Acid |
| **Sensitivity to Mechanical Impact:** | Not Applicable |
| **Sensitivity to Static Discharge:** | Not Applicable |
| **Autolign Temp.:** | Not Applicable |
| **LEL/UEL (%):.** | Not Applicable |

Fire fighters should wear positive pressure, full-face, self-contained breathing apparatus.

SafeCoat Latex

## Reactivity Information

| | |
|---|---|
| **Conditions of Instability** | Stable under normal conditions. |
| **Conditions of Reactivity** | No special reactivity |
| **Incompatible Substances** | No known materials |
| **Hazardous Decomposition** | None expected |

## Toxicological Properties - Health Effects

| | |
|---|---|
| **INHALATION** | May cause discomfort or irritation to nasal and respiratory passages. |
| **EYE CONTACT** | Direct contact may cause eye irritation. |
| **SKIN CONTACT** | May cause transient reddening of the skin. |
| **INGESTION** | No evidence of adverse effects from available information. |
| **EXPOSURE LIMITS** | No Exposure Limits |

## Preventive Measures

| | |
|---|---|
| **Storage:** | Keep from freezing. Storage temperature range: minimum $10^0$ C - maximum $35^0$C. |
| **Special shipping Information:** | No special procedures |
| **Engineering Controls:** | General room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapour. |
| **Spill or Leak:** | **Small:** Absorb liquid with paper, vermiculite, floor absorbent or other absorbent material<br>**Large:** Persons not wearing protective equipment should be excluded from area of spill until clean-up is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank. |
| **Waste Disposal:** | Dispose of in accordance with all local, provincial, state, and federal regulations. |
| **Respiratory Protection:** | If sprayed, wear a NIOSH/MSHA approved respirator. |
| **Eye/ Skin Protection:** | Use gloves impervious to soap and water. Wear safety glasses. |

## First Aid

| | |
|---|---|
| INHALATION: | Move individual to fresh air. |
| INGESTION: | Induce vomiting. Get medical attention. |
| EYES: | Flush eyes with a large amount of water, lifting upper and lower lids occasionally. |
| SKIN: | Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder clothing before re-use. |

## Preparation Information

Magna COATINGS

*Magna Coatings is a proud member of the **Quantum Group** of companies.*

Contact us by telephone, fax or email:
Toll Free: **1-877-454-9166**
Telephone: **1-780-451-2211**
Facsimile: **1-780-451-8011**

Email: **info@magnacoatings.com**

## Task 12: Toolbox Meeting

First level supervisors read workplace materials to plan and deliver effective toolbox talks and keep workers informed about regulations, codes, and safety. They prepare agendas and complete written records of the meeting objectives.

**Scenario:** The site supervisor, Tony Lopez, received an e-mail about a safety alert and has decided to include the information from this alert in the next toolbox talk with his crew. There are 16 workers on the site, but only 11 in attendance at the meeting at 11:30 a.m. on April 25th. Jas Bains has been assigned to do this inspection at the end of the shift. The project is the Metro Building. The meeting is usually 15 minutes long.

**Task 12:** Read the Platform Ladder Failure notice that was sent to the supervisor in an e-mail. Decide what the supervisor will discuss about the safety alert for the toolbox talk. Fill out the Record of Toolbox Meeting form.
*Document Use, Reading Text*

**Answer is on page 37.**

LC

**Landis Construction**

**Environment, Health & Safety ALERT**

# Platform Ladder Failure

| From: Roger McCain | Reference Number: Platform ladder 001 | Date: July 9, 2007 |
|---|---|---|

## Immediate Action Required

**Ladder Failure. A-Tech Platform Ladder 8' model # P1073**

An A-Tech platform ladder collapsed on 6/28/07 when the top pivot bolts sheared under normal usage. A carpenter was standing on the ladder at a height of 5'9" when the second of two fasteners sheared at the top pivot point. The ladder collapsed causing the employee to fall forward from the ladder. Injuries included minor contusions and sprains to the head, shoulders and hip. This incident is listed as first aid and no lost time, however the potential for serious injury is extremely high.

The ladder is less than 5 months old and visually appears to be in good condition; however the investigation showed that one fastener had been sheared on 6/27/07. The bolt was found in another location in the building where the ladder had been used the previous day. The carpenter did not notice the missing bolt at the top of the ladder. He utilized the ladder early in the morning and then moved it two feet over to the next location. When he ascended the ladder the second time the bolt sheared and the ladder collapsed. Landis Construction immediately removed all A-Tech platform ladders from the jobsite.

## Immediate Actions

A complete and detailed inspection of all A-Tech Platform ladders should be done immediately.

It is recommended that A-Tech Platform ladders are inspected to check that the bolts are secured and are all in place. It appears that the bolts were over tightened resulting in their failure. We advise that A-Tech ladders reference P1073 are checked and/or removed from our projects.

Competitive Ladders from Pearson and Merridian have a different design and utilize hardened bolts at the pivot point. These can be recognized by the stamp marks on the hex head. The Pearson and the Merridian are at least Grade 5 hardened.

Grade 5 hardened.

Grade 1 or 2 not - hardened.

BRYMARK
INSTALLATIONS GROUP INC.

## RECORD OF TOOLBOX MEETING

SUPERVISOR _____ PROJECT _____

DATE/TIME _____ # OF WORKER ON SITE _____ # IN ATTENDANCE _____

**REPORTS/NOTICES** _____

_____

_____

_____

_____

**SUBJECTS DISCUSSED** _____

_____

_____

_____

_____

_____

_____

_____

| ACTION TO BE TAKEN | PERSON RESPONSIBLE | DONE BY (DATE) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

(IF MORE SPACE IS REQUIRED USE ADDITIONAL SHEETS AND ATTACH)

SUPERVISOR COMMENTS _____

_____

_____

SIGNATURE _____

DATE: _____ SITE SUPERVISOR _____

LENGTH OF MEETING _____

COPIES: WHITE TO OFFICE YELLOW TO CLIENT PINK TO SITE

## Task 13: Disciplinary Action Notice

First level supervisors complete tracking forms such as incidence and infraction reports. They write descriptions, details and explanations about incidences in reports.

**Scenario:** Ed Kalinsky has never worn a safety vest while working on the Stafford site. On two occasions, Ed was working close to heavy equipment and was not easily visible to other crew members, which resulted in close calls each time. These incidences were recorded in the daily log book on November 8 and on November 26. After the November 26 incident, Ed was issued a written warning and informed that if he showed up at work without all his safety gear, he would be sent home without pay. Ed complied but on December 10, he arrived at work without a safety vest and was sent home without pay.

**Task 13:** The supervisor uses company forms to document disciplinary actions. Fill out the Disciplinary Action Notice for the December 10 incident. Include information about all the incidences involving Ed.
*Document Use*

**Tips to consider for your answer:**
For writing tasks, use the following as a reference:

**Order** Record events chronologically. When you need to refer back to an incident your document will be a reliable source of information.

**Facts** Answer the 5W + H questions:
Who, What, When, Where, Why and How.
Include all important information.

**Tone** Be objective and respectful. **Use facts, not opinions**. For example, "He was negligent," is an opinion, and "He did not wear a safety vest," is a fact. **Remember that what you write may be used as a legal document**.

**Answer is on page 37.**

### 5.2.1 Disciplinary Action Notice

Employee Name: _____

Job Site: _____ Date: _____

**Disciplinary Action:**

- ❑ 1. Verbal Warning – Foreman & Worker Rep
- ❑ 2. Written Warning – Foreman & Worker Rep
- ❑ 3. Sent Home
- ❑ 4. Indefinite Suspension and/or Termination

**Infraction**

| | | |
|---|---|---|
| ❑ Safety Rules | ❑ PPE | ❑ Unsafe Use of Tools or Equipment |
| ❑ Unsafe Practice or Procedure | ❑ Insubordination | ❑ Other |

**Comments:** _____

_____

_____

_____

_____

_____

_____

_____

_____

Employee Signature: _____

Issuer Signature: _____

All infractions will be documented and a copy retained on file

*INCIDENT & INJURY FREE*

## Tasks 14 to 15 Time Report

First level supervisors complete timesheets and work summaries to track dates, times, locations, materials used, work completed, defects detected and unusual problems encountered.

**Task 14:** The supervisor logs the daily hours for payroll and invoicing purposes. The charge-out rate for an electrician is $65 per hour and $45 for an apprentice. Jake is the only apprentice. Look at the supervisor's note book pages below. These pages are a record of the crew's hours and the jobs they worked on. Use this information to complete the labour cost on the Job Sheet for the Hansen Crescent job. Entries have been made for Oct 29.

*Document Use, Numeracy*

**Task 15:** The original budget for this single family dwelling was $6,000.00, but the final cost was $6,322.46. The supervisor will need to explain to the customer the difference in price and the reasons for the increased cost. Look at the Job Sheet and list the problems encountered and give reasons for the cost difference.

*Document Use, Numeracy*

### Supervisor's Notebook Pages

| Monday, Oct 29 | Tuesday, Oct 30 | Wednesday, Oct 31 | Thursday, Nov 1 | Friday, Nov 2 | Saturday, Nov 3 |
|---|---|---|---|---|---|
| Shawn 8 - 178 | Dan 1 - 165 | Shawn 7 - 178 | Randi 8 - 193 | Randi 8 - 193 | Shawn |
| Jake 8 - 178 | 3 - 192 | 1 -shop | Dean 8 - 193 | Dean 8 - 193 | Jake |
| Marty 8 - 192 | 4 - shop | Jake 7 - 178 | Shawn 8 - 178 | Shawn off | Marty |
| Dan 8 - 192 | Marty 8 - 165 | 1 - shop | Jake 8 - 178 | Jake off | Randi |
| Randi 8 - 192 | Shawn 8 - 178 | Marty 8 - 165 | Marty 4 - 165 | Marty 6 - 193 | Dean 4 - shop |
| Dean 8 - 192 | Jake 8 - 178 | Dan 4 - 165 | 4 - shop | 2 - shop | Dan 4 - 165 |
| | Dean 8 - 192 | Randi 4 - 193 | Dan 3.5 - 165 | Dan 4 - 180 | 1 - 196 |
| | Randi 8 - 192 | Dean 6 - 198 | 4.5 - 193 | 4 - 184 | |

| Monday, Nov 5 | Tuesday, Nov 6 | Wednesday, Nov 7 | Thursday, Nov 8 | Friday, Nov 9 | Saturday, Nov 10 |
|---|---|---|---|---|---|
| Shawn 7 - 178 | Dan 2 - 178 | Randi 4 - 180 | Shawn 8 - 194 | Dan 6 - 180 | Randi |
| 1 - shop | 6 - 186 | 4 - 194 | Jake 8 - 194 | 2 - 193 | Dean |
| Jake 7 - 178 | Marty 8 - 193 | Dean 8 - 194 | Marty 8 - 195 | Marty 8 - 195 | Shawn 6 - shop |
| 1 - shop | Shawn 6 - 178 | Shawn 8 - 194 | Dan 4 - 194 | Shawn 8 - 195 | Jake 4 - 195 |
| Marty 8 - 193 | 2 - shop | Jake 8 - 194 | 4 - 195 | Jake 8 - 195 | Marty 4 - 195 |
| Dan $\frac{1}{2}$ - 193 | Jake 6 - 178 | Marty 4 - 180 | Randi 8 - 195 | Dean 4 - 193 | Dan |
| 7 $\frac{1}{2}$ - 180 | 2 - shop | 4 - shop | Dean 8 - 195 | Randi 8 - shop | |
| Randi 8 - 180 | Dean 8 - 180 | Dan 2 $\frac{1}{2}$ - 178 | | | |
| Dean 8 - 193 | Randi 8 - 180 | 5 $\frac{1}{2}$ - shop | | | |

**Answers are on page 37.**

**CV Electrical Services**

817 Foster Avenue
WINDSOR, Ontario
N8X 4W3

Invoice No. 3517
Date: Nov. 15/07
Job No.: 0178

# JOB SHEET

BILLING NAME Lynda Williamson
ADDRESS 156 Hansen Cres.
CITY Windsor PRICE QUOTED $6,000.00

JOB ADDRESS 156 Hansen Cres.
COMMENTS Problems - 1 day full crew hidden junction boxes under plywood - Add 2nd panel at bottom of stairs - Add light at bottom of stairs

## LABOUR COST AND CHARGE

| Date | Worker | Hours | Rate | Cost | Charge |
|---|---|---|---|---|---|
| Oct. 29 | Shawn | 8 | 65 | | 520.00 |
| | Jake | 8 | 45 | | 360.00 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | |
|---|---|
| Materials | 1,189.96 |
| Subcontract | |
| Labour | |
| Permit No. | |
| Misc. | |
| TOTAL | + GST |

## Tasks 16 to 20: Completing a Lift Evaluation Report 1

First level supervisors hold pre-lift meetings with the rigging crew. They refer to lift evaluation reports for critical lifts. Lifts are critical when one or more conditions are met. Look at the Lift Evaluation Report.

**Task 16:** What set up is used for the outriggers?
*Document Use*

**Task 17:** What is the Rated Capacity (B) in pounds?
*Document Use*

**Task 18:** Calculate the Total Load (A). The block/ball weight is 1,700 lbs and the rigging weight is 300 lbs. Enter the information onto the Lift Evaluation Report.
*Document Use, Numeracy*

**Task 19:** Calculate the % Load Chart Capacity Requirement using the formula provided on the document. Enter the information onto the Lift Evaluation Report.
*Document Use, Numeracy*

**Task 20:** Why has this lift been called critical?
*Document Use, Numeracy*

**Answers are on page 37, 38.**

## LaPrairie Crane
## LIFT EVALUATION REPORT

This form is to be completed for any one or more of the following conditions:

Close Proximity to Power Lines
Hoisting Over Live Plant / Piping / Equipment
Hoisting Above 75% of Charted Capacity
As Required By Site Owner Policy
Hoisting Personnel / Manbaskets
Conducting Demolition / Disassembly Operations
Convergent Crane Swing Paths

| | |
|---|---|
| Customer Name: Brymark | Crane Field Order #: |
| Lift / Site Location: Bennett Dam | Calculate TOTAL LOAD (A) |
| Load Dimensions: | Load Weight: 25,000 |
| Length: 63 (ft) Width: 9.5 (ft) | Block / Ball Weight: |
| Height: 24 (ft) | Spreader Weight: N/A |
| Weight: 25,000 (lbs/tons) | Rigging Weight: |
| Method Use To Verify Weight: customer | Jib Weight: N/A |
| | Jib Ball Weight: N/A |
| | Hoist Line Weight: N/A |
| | Other Weight: N/A |
| | TOTAL LOAD (A) |

DETERMINE RATED CAPACITY (B) FROM:
APPLICABLE LOAD CHARTS, CRANE CONFIGURATION & OPERATING RADIU INFO

| | |
|---|---|
| Crane Manufacturer: Grove | Crane Model: TMS 900E 5858 |
| LCL Unit #: | Crane Capacity: 90 tons |
| Maximum Load Radius: 46.5' | Lift is Planned: Over Side: (Yes) or (No) |
| Corresponding Boom Length: 102.4' | Over Rear: (Yes) or (No) |
| Maximum Boom Angle: 60° ∠ (deg) | 360° Chart: (Yes) or (No) |
| Outriggers / Crawler Set-Up | On Boom: (Yes) or (No) |
| Fully Extended: (Yes) or (No) | Lift On Jib: (Yes) or (No) |
| Intermediate Extended: (Yes) or (No) | Jib Length: (ft) |
| Fully Retracted: (Yes) or (No) | Jib Offset: (deg) |
| On Rubber: (Yes) or (No) | Applicable Counterweight Configuration |
| Pick / Carry: (Yes) or (No) | Minimum C/Weight: (Tons) |
| On Crawlers: Extended: (Yes) or (No) | Medium C/Weight: (Tons) |
| Retracted: (Yes) or (No) | Maximum C/Weight: 14.3 (Tons) |

RECORD RATED CAPACITY (B)
RATED CAPACITY (B) = 32,000 (lbs) _____ (tons)

CALCULATE & RECORD - % LOAD CHART CAPACITY REQUIREMENT

( TOTAL LOAD (A) / RATED CAPACITY (B) ) X 100 = _____ % LOAD CHART CAPACITY

| | |
|---|---|
| Lift Permit Required? (Yes) or (No) | Operator: (print) |
| Lift Permit Obtained? (Yes) or (No) | Lift Supervisor: (print) |
| | Team Leader: (print) |

## Tasks 21 to 25: Completing a Lift Evaluation Report 2

First level supervisors hold pre-lift meetings with the rigging crew. They refer to lift evaluation reports for critical lifts. Lifts are critical when one or more conditions are met. Look at the Lift Evaluation Report to complete the following tasks.

**Task 21:** What is the rated capacity in pounds?
*Document Use*

**Task 22:** Calculate the weight of the concrete wall panel using the information below. Enter the information onto the Lift Evaluation Report.
*Numeracy*

Height = 30.17 ft
Length = 10 ft
Width (thickness) = 0.5 ft
1 $ft^3$ concrete = 150 lbs

**Task 23:** Calculate the TOTAL LOAD (A). The block/ball weight is 1,700 lbs and the rigging weight is 300 lbs. Enter the information onto the Lift Evaluation Report.
*Document Use, Numeracy*

**Task 24:** Calculate the % LOAD CHART CAPACITY REQUIREMENT using the formula provided on the document. Enter the information onto the Lift Evaluation Report.
*Document Use, Numeracy*

**Task 25:** Why has this lift been called critical?
*Document Use, Numeracy*

**Answers are on page 38.**

**LaPrairie Crane**
**LIFT EVALUATION REPORT**

This form is to be completed for any one or more of the following conditions:

Close Proximity to Power Lines
Hoisting Over Live Plant / Piping / Equipment
Hoisting Above 75% of Charted Capacity
As Required By Site Owner Policy
Hoisting Personnel / Manbaskets
Conducting Demolition / Disassembly Operations
Convergent Crane Swing Paths

| | |
|---|---|
| Customer Name: | Crane Field Order #: |
| Lift / Site Location: | Calculate TOTAL LOAD (A) |
| | Load Weight: |
| Load Dimensions: | Block / Ball Weight: |
| Length: 10 (ft) Width: 0.5 (ft) | Spreader Weight: N/A |
| Height: 30.17 (ft) | Rigging Weight: |
| Weight: _____ (lbs/tons) | Jib Weight: N/A |
| Method Use To Verify Weight: calculated | Jib Ball Weight: N/A |
| | Hoist Line Weight: N/A |
| | Other Weight: N/A |
| | TOTAL LOAD (A) |

DETERMINE RATED CAPACITY (B) FROM:
APPLICABLE LOAD CHARTS, CRANE CONFIGURATION & OPERATING RADIU INFO

Crane Manufacturer: Grove
LCL Unit #: _____
Maximum Load Radius: 46.5'
Corresponding Boom Length: 102.4'
Maximum Boom Angle: 60° ∠ (deg)

Outriggers / Crawler Set-Up

Fully Extended: (Yes) or (No)
Intermediate Extended: (Yes) or (No)
Fully Retracted: (Yes) or (No)

On Rubber: (Yes) or (No)
Pick / Carry: (Yes) or (No)

On Crawlers: Extended: (Yes) or (No)
Retracted: (Yes) or (No)

Crane Model: TMS 9002 5858
Crane Capacity: 90 tons

Lift is Planned:
Over Side: (Yes) or (No)
Over Rear: (Yes) or (No)
360° Chart: (Yes) or (No)
On Boom: (Yes) or (No)

Lift On Jib: (Yes) or (No)
Jib Length: _____ (ft)
Jib Offset: _____ (deg)

Applicable Counterweight Configuration

Minimum C/Weight: _____ (Tons)
Medium C/Weight: _____ (Tons)
Maximum C/Weight: 14.3 (Tons)

RECORD RATED CAPACITY (B)
RATED CAPACITY (B) = 32,000 (lbs) _____ (tons)

CALCULATE & RECORD - % LOAD CHART CAPACITY REQUIREMENT

( TOTAL LOAD (A) / RATED CAPACITY (B) ) X 100 = _____ % LOAD CHART CAPACITY

Lift Permit Required? (Yes) or (No)

Lift Permit Obtained? (Yes) or (No)

Operator: _____ (print)
Lift Supervisor: _____ (print)
Team Leader: _____ (print)

*LaPrairie Crane. Reprinted with permission.*

## Tasks 26 to 31: Framing Calculations

First level supervisors use and interpret drawings and schedules to locate information and calculate quantities of materials. Look at the floor plan and Wall Schedule on the next two pages.

**Task 26:** What are the overall dimensions of the area that is to be framed?
*Document Use, Numeracy*

**Task 27:** The partial floor plan on the next page is for a warehouse. Locate the walls designated W5 on the drawing. Why do these walls use 2 × 6 studs and R-20 insulation?
*Document Use*

**Task 28:** Calculate the number of studs required for framing the space. Use the formula:

$$\text{Number of studs} = \left(\frac{\text{Perimeter}}{\text{Stud Spacing}}\right) + 2(\text{corners+intersections+openings})$$

Note: The window at the front of the building extends from the ground to the ceiling.
*Document Use, Numeracy*

**Task 29:** Complete the information in the table below.

| | Bottom or Sill Plate | Top Plate | Cap Plate | Total number of feet |
|---|---|---|---|---|
| 2 × 6 | | | | |
| 2 × 4 | | | | |

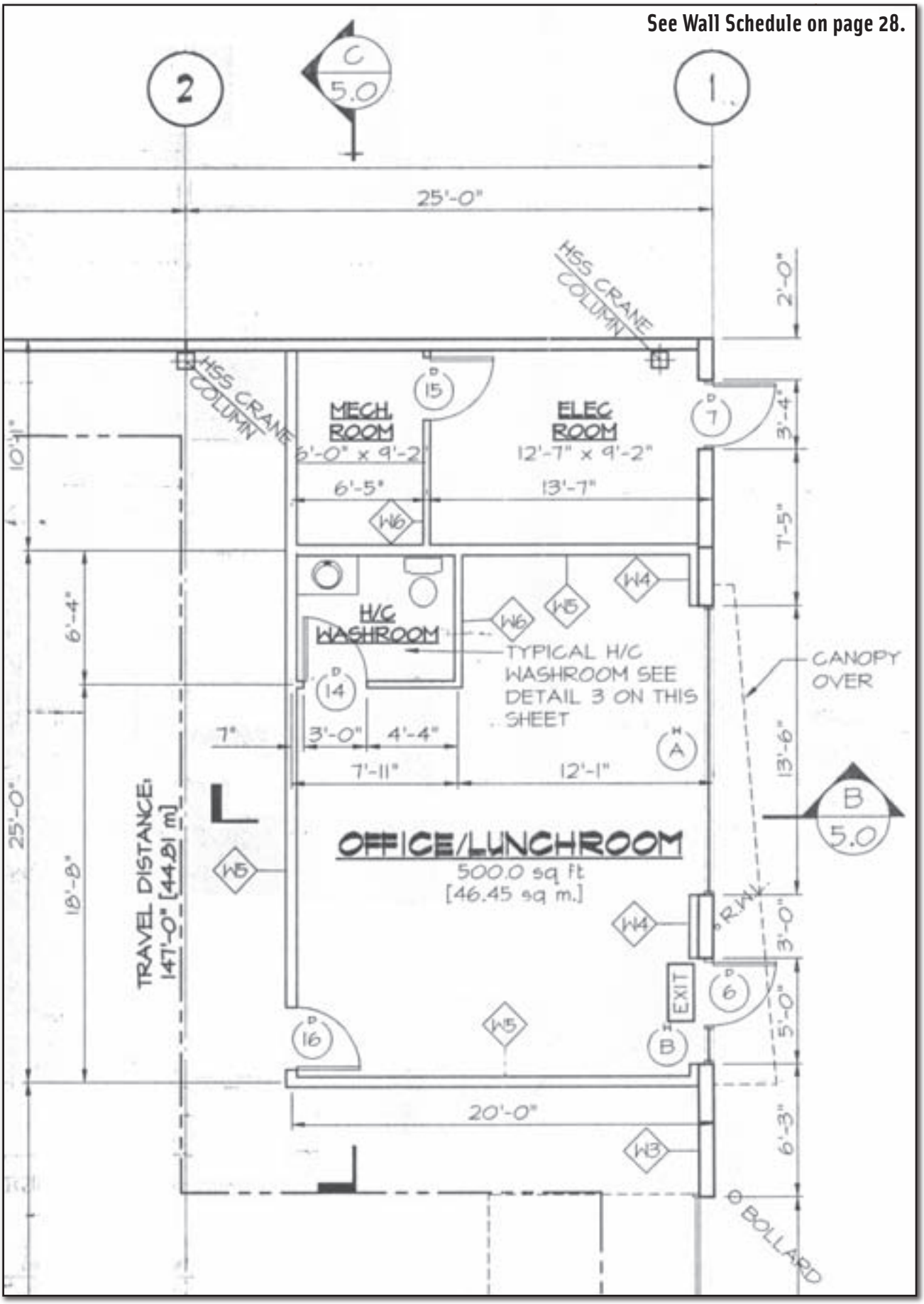
*Document Use, Numeracy*

**Task 30:** Calculate the amount of gypsum needed for the walls rated W5 and W6. One piece of gypsum measures 8' × 4'. The walls are 9' high. Allow for 5% waste.
*Document Use, Numeracy*

**Task 31:** Calculate the amount of R-20 insulation needed for the walls. One package of R-20 insulation covers 49 $ft^2$. The walls are 9' high. Allow 5% for waste.
*Document Use, Numeracy*

**Answers are on page 38.**

See Wall Schedule on page 28.



# WALL SCHEDULE

NOTE: CONFIRM ALL STUD SPACING WITH STRUCTURAL DRAWINGS

W1 — **2 HOUR RATED CONCRETE TILT-UP WALL**
c/w 2 HOUR RATED CAULKING IN ALL PANEL JOINTS SEE DETAIL 1 ON THIS PAGE. FOR MINIMUM THICKNESS AND REINFORCING COVER SEE DETAIL 2 ON THIS PAGE.

W2 — **1 HOUR RATED CONCRETE TILT-UP WALL**
c/w UNRATED CAULKING IN PANEL JOINTS. FOR MINIMUM THICKNESS AND REINFORCING COVER SEE DETAIL 2 ON THIS PAGE.

W3 — **UNRATED CONCRETE TILT-UP WALL**
c/w UNRATED CAULKING IN PANEL JOINTS. FOR MINIMUM THICKNESS AND REINFORCING COVER SEE DETAIL 2 ON THIS PAGE.

W4 — **UNRATED EXTERIOR WALL FURRING**
1 LAYER 1/2" GYPSUM BOARD
2x4 STUDS @ 16" o/c (U.N.O.)
R-12 BATT INSULATION
(6 MIL POLY VAPOUR BARRIER ON WARM SIDE OF INSULATION IN EXTERIOR WALLS ONLY)
(KEEP STUDS MIN. 1" FROM PANEL)

W5 — **UNRATED 2x6 PARTITION WALL**
5/8" GYPSUM EACH SIDE OF
2x6 WOOD STUDS @16" O.C.
c/w R-20 INSULATION

W6 — **UNRATED 2x4 PARTITION WALL**
5/8" GYPSUM EACH SIDE OF
2x4 WOOD STUDS @16" O.C.
c/w R-12 INSULATION

## Task 32: Calculating Glass Takeoffs

First level supervisors calculate and verify dimensions using measurements from drawings. Look at the Storefront Drawing and the Cut Sheet.

**Task 32:** The supervisor refers to the drawing to calculate the glass sizes and lengths of aluminum framing. The measurements are sent to the shop where they are fabricated. Refer to the Storefront Drawing to make calculations. Enter the calculations on the Cut Sheet.

Note: Glass size N.F. (net frame size) = daylite opening + $\frac{5}{8}$ "
The framing measurement is $1\frac{3}{4}$ " × $4\frac{1}{4}$ ".
Always use the $1\frac{3}{4}$ " as the takeoff.
$4\frac{1}{4}$ " is the depth of the frame.
Always write the glass size as horizontal × vertical.
Do all calculations in inches because glaziers typically work in inches.

Calculate and enter the glass size N.F. (net frame size) for A on the Cut Sheet.

Calculate and enter the glass size for B on the Cut Sheet.

Calculate and enter the glass size for C on the Cut Sheet.

Calculate and enter the glass size for D on the Cut Sheet.

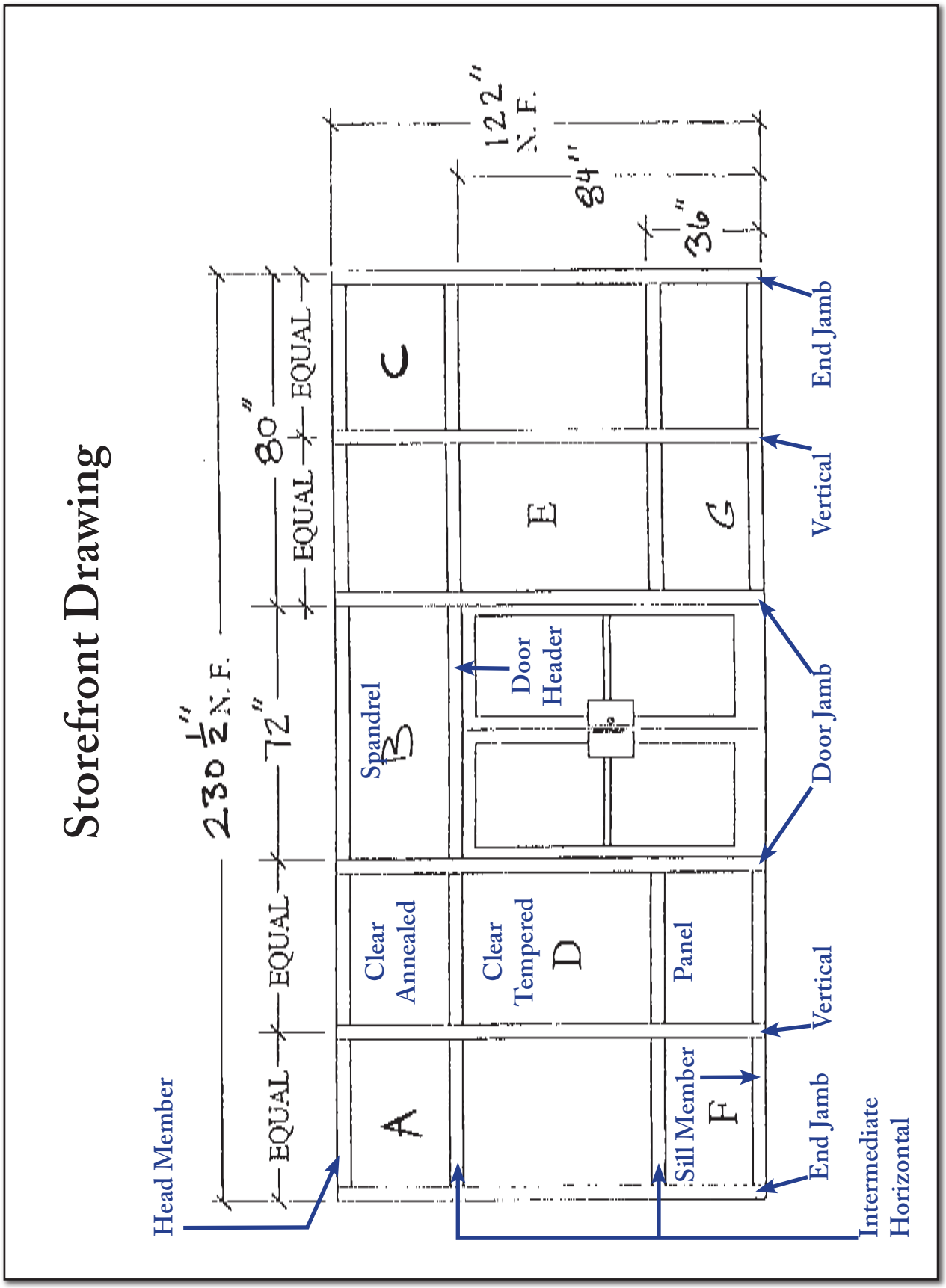
Calculate and enter the glass size for E on the Cut Sheet.

Calculate and enter the glass size for F on the Cut Sheet.

Calculate and enter the glass size for G on the Cut Sheet.

*Numeracy, Document Use*

**Answers are on page 38.**


Storefront Drawing
230 1/2" N. F.
EQUAL
72"
EQUAL
80"
EQUAL
122" N. F.
84"
36"
A
Clear Annealed
B
Spandrel
C
D
Clear Tempered
E
Door Header
F
Panel
G
Head Member
Sill Member
End Jamb
Vertical
Door Jamb
Vertical
End Jamb
Intermediate Horizontal

# Cut Sheet
# Glass Takeoffs

**Clear Annealed**

__2__ each _____ × _____

__2__ each _____ × _____

**Clear Tempered**

__2__ each _____ × _____

__2__ each _____ × _____

**Spandrel**

__1__ each _____ × _____

**Panel**

__2__ each _____ × _____

__2__ each _____ × _____

# Metal Takeoffs

**Head Member**

__1__ each _____

__2__ each _____

__2__ each _____

**Intermediate Horizontal**

__4__ each _____

__4__ each _____

**Sill Member**

__2__ each _____

__2__ each _____

**Door Header**

__1__ each _____

**Vertical**

__2__ each _____

**End Jamb**

__2__ each _____

**Door Jamb**

__2__ each _____

## Task 33: Accident Report

First level supervisors write reports on workplace accidents. They describe the accidents that occur, the events leading up to the accidents, potential causes and steps taken afterwards. Look at the photos of a workplace accident.

**Task 33:** This carpenter, Pete Jones, saw some 2 x 4's straddling an opening on the second floor of a building undergoing renovations. To test the security of the 2 x 4, Pete stepped on the edge of one of the 2 x 4's. The wood tipped and Pete fell through the opening to the tile floor eight feet below. Onsite first aid attendants stabilized Pete until the ambulance arrived. Pete has a compression fracture on his vertebra and it is not known when he will be able to return to work. Write a list of items that should be included in all accident reports.
*Writing*

**Answer is on page 38.**

## Task 34: Daily Log Book

First level supervisors keep daily log books. They make notes describing safety breaches, delays and maintenance requirements. They use their notes to write disciplinary reports to describe employees' job performance problems.

**Scenario:** The worker is Derek Ciccone.
He is working on the Innes project.

**Task 34:** Look at the work scene shown in the photo. Make a daily log book entry as if this event happened today. Write detailed notes of the supervisor's observations and state the reason for concern. Include a summary of what the supervisor should say to the worker.
*Writing*

**Tips to consider for your answer:**
For writing tasks, use the following as a reference:

**Order** Record events chronologically.
When you need to refer back to an incident your document will be a reliable source of information.

**Facts** Answer the 5W + H questions:
Who, What, When, Where, Why and How.
Include all important information.

**Tone** Be objective and respectful. **Use facts, not opinions.**
For example, "He was negligent" is an opinion, and "He stood on top of three stacked paint buckets" is a fact. **Remember that what you write may be used as a legal document.**

**Answer is on page 38.**

## Task 35: Weekly Report

First level supervisors prepare short reports and write descriptions and explanations on forms and other documents. They write daily and weekly reports outlining project progress and describing events, difficulties and delays.

**Task 35:** The project is the Warehouse Tilt-Up. Look at the photos to understand the phases of construction. Note the important facts and details that a supervisor would report about for this phase and write a weekly report for the week of August 11.

*Writing*

**Answer is on page 38.**

August 11

August 15

August 17

## Score Guide

### How do I mark the workbook?

Answers to the tasks are on the pages that follow. On the Answer Key, in the "Complete/Incomplete" column, place a checkmark (✓) if your answer is similar to the answer given, or an "X" if it is not similar.

The Score Guide below explains your score.

| Task Numbers | Essential Skill | Number of tasks completed to achieve a minimum score of 80% |
|---|---|---|
| 1 - 8 | Reading Text | 7 out of 8 |
| 9 - 17, 21, 27 | Document Use | 9 out of 11 |
| 18 - 20, 22 - 26, 28 - 32 | Numeracy | 11 out of 13 |
| 33 - 35 | Writing | 3 out of 3 |

**Notes:**

- Each of the four Essential Skills are measured separately, therefore a total score for the workbook is not counted.
- Some Essential Skills have fewer tasks than others because some tasks are very lengthy and demanding.

### Why do I need 80%?

We usually think about 'passing' as answering 50% of the questions correctly. It also means that up to 50% of the answers could be incorrect. In the construction industry, a 50% error rate translates into financial loss, safety concerns, training difficulties and a short career as a supervisor. International standards set 80% as a measure of 'competency'. This measurement means that there is a good chance that tasks at the same difficulty level will be completed correctly.

### What does it mean if I achieve 80%?

Completing only a few tasks for each skill area will give you a general indication of your skill level. That said, 80% means that you are a competent and independent worker when faced with tasks with a similar level of difficulty as the questions represented.

### What does it mean if I don't achieve 80%?

It usually means you can get some of the questions correct some of the time but not consistently. If you scored below 80% in a particular skill area, you should consider improving your skills in that area.

### How can I improve my skills?

To improve, you need to practise. Formal training opportunities for first level supervisors are limited, but there are many resources available for improving Essential Skills. Your score will indicate which areas you need to focus on. For further practice, see Appendix: Additional Resources.

## Workbook Answer Key

| Task | Complete/ Incomplete | Task Answer | Reading Text | Document Use | Numeracy | Writing |
|---|---|---|---|---|---|---|
| 1 | | decking is a cellulosic/polymer composite extrusion containing cellulose-based fibres derived from fibreboard and polyethylene | • | | | |
| 2 | | Canada Mortgage and Housing Corporation | • | | | |
| 3 | | light-duty applications, such as in residential occupancies | • | | | |
| 4 | | • Table 2 or Table 3 SCS, (see The Standards) as applicable, are met at the property boundary;<br>• No immediate corrective action is required as per section 4.0 of this document; and,<br>• The property is not classified as an "environmentally sensitive area" as defined within the MOE's O. Reg.153/04 (see Section 41). | • | | | |
| 5 | | Tables 2 and 3 | • | | | |
| 6 | | a proponent can submit a RA to the MOE for their review and acceptance | • | | | |
| 7 | | See the Site Safety Meeting answer on page 39. | • | | | • |
| 8 | | See the Public Use Showers answer on page 39. | • | • | | |
| 9 | | See the Supervisor's Record answer on page 40. | | • | | |
| 10 | | May cause transient reddening of the skin.<br>Thoroughly wash exposed area with soap and water. | | • | | |
| 11 | | Keep from freezing. Storage temperature range: minimum 10°C - maximum 35°C. | | • | | |
| 12 | | See the Toolbox Meeting answer on page 41. | • | • | | |
| 13 | | See the Disciplinary Action Notice answer on page 42. | | • | | • |
| 14 | | See the Time Report answer on page 43. | | • | • | |
| 15 | | The difference in cost is $322.46. Possible reasons for the cost over-run are that the full crew was needed for 1 extra day, due to junction boxes hidden under the plywood. A 2nd panel was needed at the bottom of the stairs as well as an additional light. These problems required more labour and materials not anticipated in the original budget. | | • | • | |
| 16 | | Fully Extended | | • | | |
| 17 | | 32,000 lbs | | • | | |
| 18 | | 25,000 + 1,700 + 300 = 27,000 lbs<br>See the Lift Evaluation Report 1 answer on page 44. | | • | • | |

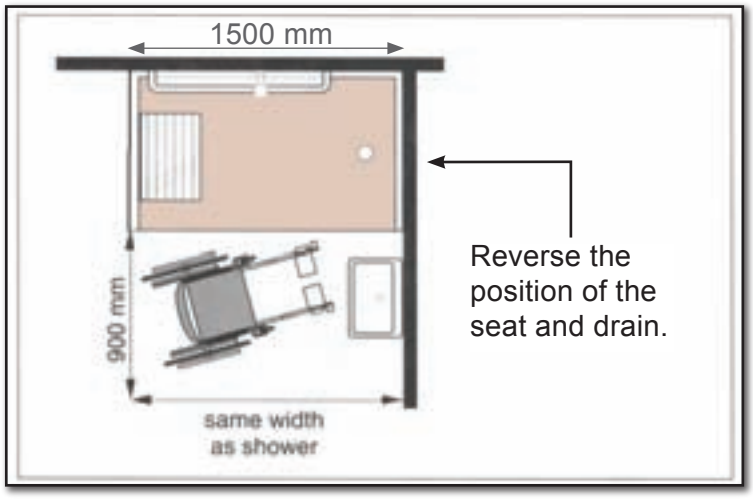
| | | | | | | |
|---|---|---|---|---|---|---|
| 19 | | 27,000 ÷ 32,000 × 100 = 84.4%<br>See the Lift Evaluation Report 1 answer on page 44. | | • | • | |
| 20 | | Hoisting Above 75% of Charted Capacity | | • | • | |
| 21 | | 32,000 lbs | | • | | |
| 22 | | L × W × H = V<br>10 ft × 0.5 ft × 30.17 ft = 150.85 $ft^3$<br>V × weight of 1 $ft^3$ of concrete = total weight<br>150.85 $ft^3$ × 150 lbs = 22,627.5 lbs<br>See the Lift Evaluation Report 2 answer on page 45. | | • | • | |
| 23 | | 22,627.5 + 1,700 + 300 = 24,627.5 lbs<br>See the Lift Evaluation Report 2 answer on page 45. | | • | • | |
| 24 | | 24,627.5 lbs ÷ 32,000 lbs × 100 = 77%<br>See the Lift Evaluation Report 2 answer on page 45. | | • | • | |
| 25 | | Hoisting Above 75% of Charted Capacity,<br>Also acceptable: Hoisting Over Live Plant | | • | • | |
| 26 | | about 35' × 20' | | • | • | |
| 27 | | to reduce noise level coming from outside the office/ lunchroom | | • | | |
| 28 | | 71 + 39 = 110<br>See the Framing Calculations answer on page 46. | | • | • | |
| 29 | | See the Framing Calculations answer on page 46. | | • | • | |
| 30 | | 58 sheets of gypsum to do both sides of the walls<br>See the Framing Calculations answer on page 46. | | • | • | |
| 31 | | 15 packages of insulation<br>See the Framing Calculations answer on page 47. | | • | • | |
| 32 | | A is $37\frac{1}{4}" \times 35\frac{1}{8}"$<br>B is $72\frac{5}{8}" \times 35\frac{1}{8}"$<br>C is $38" \times 35\frac{1}{8}"$<br>D is $37\frac{1}{4}" \times 48\frac{5}{8}"$<br>E is $38" \times 48\frac{5}{8}"$<br>F is $37\frac{1}{4}" \times 33\frac{1}{8}"$<br>G is $38" \times 33\frac{1}{8}"$<br>See the Calculating Glass Takeoffs answers on pages 48 - 50. | | • | • | |
| 33 | | See the Accident Report answer on page 51. | | | | • |
| 34 | | See the Daily Log Book answer on page 51. | | | | • |
| 35 | | See the Weekly Report answer on page 51. | | | | • |

## Task 7: Site Safety Meeting answer page

Sample outline:

1. Introduce the company's guidelines for the safe operation of grinders. Have chart with guidelines to refer to on hand.
2. Demonstrate and explain how to check the grinder before use.
3. Demonstrate and explain the proper use of a grinder: turning it on, handling, and use.
4. Demonstrate and explain what to do when finished working with the grinder.
5. Check for understanding by asking questions.
6. Have time for crew questions and comments.
7. Review the procedures for before, during and after grinder use once more.
8. Inform crew where they can find the guidelines for reference.

## Task 8: Public Use Showers answer page



## Task 9: Supervisor's Record answer page

# Supervisor's Record

Topic of Meeting Fall Protection

Date: Apr. 3, 2007 Time: 8:00 a.m. Supervisor Gord Brewster

Project: Zone Warehouse

Address: 32 Ryder Ave

Employer: TriCities Construction Ltd.

Record of those attending:

| | Name (please print) | Signature |
|---|---|---|
| 1 | Anne Shepard | |
| 2 | Kaljit Sharma | |
| 3 | Joe Brown | |
| 4 | Cesar Perez | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |

Other comments or suggestions made

Kaljit mentioned that his friend broke his spine because he didn't connect his fall protection to the lifeline.
Ensure that fall protection is connected to the lifeline

Supervisor's remarks post the site specific fall protection plan on the jobsite

Supervisor: Gord Brewster
(Signature)

## Task 12: Toolbox Meeting answer page

**BRYMARK INSTALLATIONS GROUP INC.**

**RECORD OF TOOLBOX MEETING**

SUPERVISOR Tony Lopez PROJECT Metro Building

DATE/TIME April 25 | 11:30 a.m. # OF WORKER ON SITE 16 # IN ATTENDANCE 11

**REPORTS/NOTICES**

notice about problem with A-Tech ladders

**SUBJECTS DISCUSSED**

ladder safety - problem with the A-Tech ladders

New ladders will be ordered. Inspect old ladders for problem with bolts.

| ACTION TO BE TAKEN | PERSON RESPONSIBLE | DONE BY (DATE) |
|---|---|---|
| inspection of all ladders | Jas Bains | April 25 |
| | | |
| | | |
| | | |
| | | |
| | | |

(IF MORE SPACE IS REQUIRED USE ADDITIONAL SHEETS AND ATTACH)

SUPERVISOR COMMENTS

SIGNATURE Tony Lopez

DATE: April 25 SITE SUPERVISOR Tony Lopez

LENGTH OF MEETING 15 mins

COPIES: WHITE TO OFFICE YELLOW TO CLIENT PINK TO SITE

## Task 13: Disciplinary Action Notice answer page

### 5.2.1 Disciplinary Action Notice

Employee Name: Ed Kalinsky

Job Site: Stafford Date: December 10, 2007

**Disciplinary Action:**

- ☐ 1. Verbal Warning – Foreman & Worker Rep
- ☐ 2. Written Warning – Foreman & Worker Rep
- ☑ 3. Sent Home
- ☐ 4. Indefinite Suspension and/or Termination

**Infraction**

- ☐ Safety Rules
- ☑ PPE
- ☐ Unsafe Use of Tools or Equipment
- ☐ Unsafe Practice or Procedure
- ☐ Insubordination
- ☐ Other

**Comments:** Ed Kalinsky did not wear a safety vest on Nov. 8, nor on Nov. 26. Both times he was working close to heavy equipment and had near misses because he was not easily visible to other crew members.

Ed was given a written warning after the Nov. 26 incident, and told that the next time he comes to work without all his safety gear, he would be sent home without pay. Today, Ed arrived at work without a safety vest. So he was sent home without pay.

Employee Signature: _____

Issuer Signature: _____

All infractions will be documented and a copy retained on file

*INCIDENT & INJURY FREE*

Page 23 of 101

## Task 14: Time Report answer page

**CV Electrical Services**

817 Foster Avenue
WINDSOR, Ontario
N8X 4W3

Invoice No. 3517
Date: Nov. 15/07
Job No.: 0178

# JOB SHEET

BILLING NAME Lynda Williamson
ADDRESS 156 Hansen Cres.
CITY Windsor PRICE QUOTED $6,000.00

JOB ADDRESS 156 Hansen Cres.
COMMENTS Problems - 1 day full crew hidden junction boxes under plywood - Add 2nd panel at bottom of stairs - Add light at bottom of stairs

### LABOUR COST AND CHARGE

| Date | Worker | Hours | Rate | Cost | Charge |
|---|---|---|---|---|---|
| Oct. 29 | Shawn | 8 | 65 | | 520.00 |
| | Jake | 8 | 45 | | 360.00 |
| Oct. 30 | Shawn | 8 | 65 | | 520.00 |
| | Jake | 8 | 45 | | 360.00 |
| Oct. 31 | Shawn | 7 | 65 | | 455.00 |
| | Jake | 7 | 45 | | 315.00 |
| Nov. 1 | Shawn | 8 | 65 | | 520.00 |
| | Jake | 8 | 45 | | 360.00 |
| Nov. 5 | Shawn | 7 | 65 | | 455.00 |
| | Jake | 7 | 45 | | 315.00 |
| Nov. 6 | Shawn | 6 | 65 | | 390.00 |
| | Jake | 6 | 45 | | 270.00 |
| | Dan | 2 | 65 | | 130.00 |
| Nov. 7 | Dan | 2.5 | 65 | | 162.50 |
| | | | | | |

| | |
|---|---|
| Materials | 1,189.96 |
| Subcontract | |
| Labour | 5,132.50 |
| Permit No. | |
| Misc. | |
| TOTAL | 6,322.46 + GST |

## Tasks 18 to 19: Completing a Lift Evaluation Report 1 answer page

**LaPrairie Crane**
**LIFT EVALUATION REPORT**

This form is to be completed for any one or more of the following conditions:

Close Proximity to Power Lines
Hoisting Over Live Plant / Piping / Equipment
Hoisting Above 75% of Charted Capacity
As Required By Site Owner Policy
Hoisting Personnel / Manbaskets
Conducting Demolition / Disassembly Operations
Convergent Crane Swing Paths

Customer Name: Brymark

Crane Field Order #:

Lift / Site Location: Bennett Dam

Load Dimensions:
Length: 63 (ft) Width: 9.5 (ft)
Height: 24 (ft)
Weight: 25,000 (lbs/tons)
Method Use To Verify Weight: customer

Calculate TOTAL LOAD (A)

| | |
|---|---|
| Load Weight: | 25,000 |
| Block / Ball Weight: | 1,700 |
| Spreader Weight: | N/A |
| Rigging Weight: | 300 |
| Jib Weight: | N/A |
| Jib Ball Weight: | N/A |
| Hoist Line Weight: | N/A |
| Other Weight: | N/A |
| TOTAL LOAD (A) | 27,000 |

DETERMINE RATED CAPACITY (B) FROM:
APPLICABLE LOAD CHARTS, CRANE CONFIGURATION & OPERATING RADIU INFO

Crane Manufacturer: Grove
Crane Model: TMS 900E 5858
LCL Unit #:
Crane Capacity:
Maximum Load Radius: 46.5'
Corresponding Boom Length: 102.4'
Maximum Boom Angle: 60° ∠ (deg)

Lift is Planned:
Over Side: (Yes) or (No)
Over Rear: (Yes) or (No)
360° Chart: (Yes) or (No)
On Boom: (Yes) or (No)

Lift On Jib: (Yes) or (No)
Jib Length: (ft)
Jib Offset: (deg)

Outriggers / Crawler Set-Up

Fully Extended: (Yes) or (No)
Intermediate Extended: (Yes) or (No)
Fully Retracted: (Yes) or (No)

On Rubber: (Yes) or (No)
Pick / Carry: (Yes) or (No)

On Crawlers: Extended: (Yes) or (No)
Retracted: (Yes) or (No)

Applicable Counterweight Configuration

Minimum C/Weight: (Tons)
Medium C/Weight: (Tons)
Maximum C/Weight: 14.3 (Tons)

RECORD RATED CAPACITY (B)
RATED CAPACITY (B) = 32,000 (lbs) (tons)

CALCULATE & RECORD - % LOAD CHART CAPACITY REQUIREMENT

( TOTAL LOAD (A) / RATED CAPACITY (B) ) X 100 = 84.4 % LOAD CHART CAPACITY

Lift Permit Required? (Yes) or (No)
Lift Permit Obtained? (Yes) or (No)

Operator: (print)
Lift Supervisor: (print)
Team Leader: (print)

## Tasks 22 to 24: Completing a Lift Evaluation Report 2 answer page

**LaPrairie Crane**
**LIFT EVALUATION REPORT**

This form is to be completed for any one or more of the following conditions:

Close Proximity to Power Lines
Hoisting Over Live Plant / Piping / Equipment
Hoisting Above 75% of Charted Capacity
As Required By Site Owner Policy
Hoisting Personnel / Manbaskets
Conducting Demolition / Disassembly Operations
Convergent Crane Swing Paths

| | |
|---|---|
| Customer Name: | Crane Field Order #: |
| Lift / Site Location: | Calculate TOTAL LOAD (A) |
| Load Dimensions: | Load Weight: 22,627.5 |
| Length: 10 (ft) Width: 0.5 (ft) | Block / Ball Weight: 1,700 |
| Height: 30.17 (ft) | Spreader Weight: N/A |
| Weight: 22,627.5 (lbs/tons) | Rigging Weight: 300 |
| Method Use To Verify Weight: calculated | Jib Weight: N/A |
| | Jib Ball Weight: N/A |
| | Hoist Line Weight: N/A |
| | Other Weight: N/A |
| | TOTAL LOAD (A) 24,627.5 |

DETERMINE RATED CAPACITY (B) FROM:
APPLICABLE LOAD CHARTS, CRANE CONFIGURATION & OPERATING RADIU INFO

Crane Manufacturer: Grove
LCL Unit #: _____
Maximum Load Radius: 46.5'
Corresponding Boom Length: 102.4'
Maximum Boom Angle: 60° ∠ (deg)

Outriggers / Crawler Set-Up

Fully Extended: (Yes) or (No)
Intermediate Extended: (Yes) or (No)
Fully Retracted: (Yes) or (No)

On Rubber: (Yes) or (No)
Pick / Carry: (Yes) or (No)

On Crawlers: Extended: (Yes) or (No)
Retracted: (Yes) or (No)

Crane Model: TMS 900E 5858
Crane Capacity: 90 tons

Lift is Planned:
Over Side: (Yes) or (No)
Over Rear: (Yes) or (No)
360° Chart: (Yes) or (No)
On Boom: (Yes) or (No)

Lift On Jib: (Yes) or (No)
Jib Length: _____ (ft)
Jib Offset: _____ (deg)

Applicable Counterweight Configuration

Minimum C/Weight: _____ (Tons)
Medium C/Weight: _____ (Tons)
Maximum C/Weight: 14.3 (Tons)

RECORD RATED CAPACITY (B)
RATED CAPACITY (B) = 32,000 (lbs) _____ (tons)

CALCULATE & RECORD - % LOAD CHART CAPACITY REQUIREMENT

( TOTAL LOAD (A) / RATED CAPACITY (B) ) X 100 = 77 % LOAD CHART CAPACITY

Lift Permit Required? (Yes) or (No)

Lift Permit Obtained? (Yes) or (No)

Operator: _____ (print)
Lift Supervisor: _____ (print)
Team Leader: _____ (print)

## Tasks 28 to 31: Framing Calculations answer page

### Task 28

Note: This is one way to calculate the answer.

Perimeter for 2 × 6s = 35' + 20' + 20' = 75' = 900"

$$\text{Number of 2 × 6s} = \left(\frac{900 \text{ in}}{16 \text{ in}}\right) + 2\,(4 + 2 + 1) = 56.25 + 14 = 70.25 = 71$$

Perimeter for 2 × 4s = 9' - 2" + 6' - 4" + 7' – 11" + 3' + 3' = 28' - 17" = 29' - 5" = 30' rounded up to the nearest foot = 360"

$$\text{Number of 2 × 4s} = \left(\frac{360 \text{ in}}{16 \text{ in}}\right) + 2\,(1 + 4 + 3) = 22.5 + 16 = 38.5 = 39$$

Total number of studs = 71 + 39 = 110

### Task 29

Note: Spaces for doors were not subtracted from the length.

Length for 2 × 6s = 35' + 20' + 20' = 75'

Length for 2 × 4s = 9' – 2" + 6' – 4" + 7' – 11" + 3' + 3' = 28' - 17" = 29' - 5" = 30' rounded up to the nearest foot

| | Bottom or Sill Plate | Top Plate | Cap Plate | Total number of feet |
|---|---|---|---|---|
| 2 × 6 | 75' | 75' | 75' | 225' |
| 2 × 4 | 30' | 30' | 30' | 90' |

### Task 30

This is one way to calculate the answer.

L = 35' + 20' + 20' + 9' – 2" + 6' – 4" + 7' – 11" = 97' - 17" = 98' - 5" = 98.5' rounded off to the nearest half a foot

A = L × W = 98.5' × 9' = 886.5 $ft^2$

886.5 $ft^2$ × 0.05 = 44.325 $ft^2$ = 44 $ft^2$ rounded off to the nearest square foot

886.5 $ft^2$ + 44 $ft^2$ = 930.5 $ft^2$ = 931 $ft^2$ rounded off to the nearest square foot

931 $ft^2$ ÷ 32 $ft^2$ = 29.094 = 29 sheets of gypsum to do one side of the walls

29 × 2 = 58 sheets of gypsum to do both sides of the walls

## Task 31

This is one way to calculate the answer.

Only the walls rated W5 have R-20 insulation.

L = 35' + 20' + 20' = 75'

A = L × W = 75' × 9' = 675 $ft^2$

675 $ft^2$ × 0.05 = 33.75 $ft^2$

675 $ft^2$ + 33.75 $ft^2$ = 708.75 $ft^2$ = 709 $ft^2$ rounded off to the nearest square foot

709 $ft^2$ ÷ 49 $ft^2$ = 14.46 = 15 packages of insulation

## Task 32: Calculating Glass Takeoffs answer page

Calculate the glass size for A.

Step 1: Calculate the horizontal measurement for A.

$230\frac{1}{2}" - 80" - 72" = 78\frac{1}{2}"$

$78\frac{1}{2}" \div 2 = 39\frac{1}{4}"$

$39\frac{1}{4}" - 1\frac{3}{4}" - \frac{7}{8}" = 36\frac{5}{8}"$

$36\frac{5}{8}" + \frac{5}{8}" = 37\frac{1}{4}"$

The horizontal measurement for A is $37\frac{1}{4}"$.

Step 2: Calculate the vertical measurement for A.

$122" - 84" = 38"$

$38" - 1\frac{3}{4}" - 1\frac{3}{4}" = 34\frac{1}{2}"$

$34\frac{1}{2}" + \frac{5}{8}" = 35\frac{1}{8}"$

The vertical measurement for A is $35\frac{1}{8}"$.

The glass size for A is $37\frac{1}{4}" \times 35\frac{1}{8}"$.

Calculate the glass size for B.

Step 1: Calculate the horizontal measurement for B.

$72" + \frac{5}{8}" = 72\frac{5}{8}"$

Step 2: Calculate the vertical measurement for B.

Note: The vertical height for B is the same as the vertical height for A.

The glass size for B is $72\frac{5}{8}" \times 35\frac{1}{8}"$.

Calculate the glass size for C.

Step 1: Calculate the horizontal measurement for C.

$80" \div 2 = 40"$

$40" - 1\frac{3}{4}" - \frac{7}{8}" = 37\frac{3}{8}"$

$37\frac{3}{8}" + \frac{5}{8}" = 38"$

The horizontal measurement for C is $38"$.

Step 2: Calculate the vertical measurement for C.

Note: The vertical height for C is the same as the vertical height for A.

The glass size for C is $38" \times 35\frac{1}{8}"$.

Calculate the glass size for D.

Step 1: Calculate the horizontal measurement for D.

Note: The horizontal measurement for D is the same as the horizontal measurement for A.

The horizontal measurement for D is $37\frac{1}{4}"$.

Step 2: Calculate the vertical measurement for D.

$84" - 36" = 48"$

$48" + \frac{5}{8}" = 48\frac{5}{8}"$

The vertical measurement for D is $48\frac{5}{8}"$.

The glass size for D is $37\frac{1}{4}" \times 48\frac{5}{8}"$.

Calculate the glass size for E.

Step 1: Calculate the horizontal measurement for E.

Note: The horizontal measurement for E is the same as the horizontal measurement for C.

The horizontal measurement for E is $38"$.

Step 2: Calculate the vertical measurement for E.

Note: The vertical measurement for E is the same as the vertical measurement for D.

The vertical measurement for E is $48\frac{5}{8}"$.

The glass size for E is $38" \times 48\frac{5}{8}"$.

Calculate the glass size for F.

Step 1: Calculate the horizontal measurement for F.

Note: The horizontal measurement for F is the same as the horizontal measurement for A.

The horizontal measurement for F is $37\frac{1}{4}"$.

Step 2: Calculate the vertical measurement for F.

$36" - 1\frac{3}{4}" - 1\frac{3}{4}" = 32\frac{1}{2}"$

$32\frac{1}{2}" + \frac{5}{8}" = 33\frac{1}{8}"$

The vertical measurement for F is $33\frac{1}{8}"$.

The glass size for F is $37\frac{1}{4}" \times 33\frac{1}{8}"$.

Calculate the glass size for G.

Step 1: Calculate the horizontal measurement for G.

Note: The horizontal measurement for G is the same as the horizontal measurement for C and E.

The horizontal measurement for G is $38"$.

Step 2: Calculate the vertical measurement for G.

Note: The vertical measurement for G is the same as the vertical measurement for F.

The vertical measurement for G is $33\frac{1}{8}"$.

The glass size for G is $38" \times 33\frac{1}{8}"$.

# Cut Sheet
# Glass Takeoffs

### Clear Annealed

2 each 37 1/4" × 35 1/8"

2 each 38" × 35 1/8"

### Clear Tempered

2 each 37 1/4" × 48 5/8"

2 each 38" × 48 5/8"

### Spandrel

1 each 72 5/8" × 35 1/8"

### Panel

2 each 37 1/4" × 33 1/8"

2 each 38" × 33 1/8"

# Metal Takeoffs

### Head Member

1 each 72"

2 each 36 5/8"

2 each 37 3/8"

### Intermediate Horizontal

4 each 36 5/8"

4 each 37 3/8"

### Sill Member

2 each 36 5/8"

2 each 37 3/8"

### Door Header

1 each 72"

### Vertical

2 each 122"

### End Jamb

2 each 122"

### Door Jamb

2 each 122"

### Task 33: Accident Report answer page

Sample Answer:
Note: Underlined items must be included in your answer for it to be considered correct.

date and time of incident; name and trade of worker; date of report; description of accident and the injury, type of medical treatment provided onsite; name of doctor, medical centre and treatment given by medical professionals, identify the hazards involved (equipment, materials, etc.)

### Task 34: Daily Log Book answer page

Sample Answer:
Note: Underlined items must be included in your answer for it to be considered correct.

Innes Project: [Today's Date]
Derek Ciccone was standing on three paint buckets stacked one on top of the other as a platform to paint a high section of wall in an interior room of the Innes building project. This was his only means of elevation and support and he had no protection from falling. This type of makeshift scaffolding is contrary to safety guidelines and company policies. He put himself in a dangerous and risky situation. I called him down and told him to use a proper scaffold set up or a sturdy ladder and gave him a verbal warning not to use unsafe practices in his work.

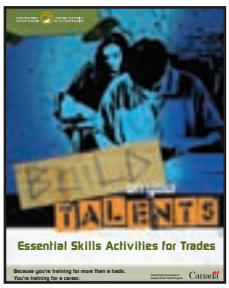
### Task 35: Weekly Report answer page

Sample Answer:
Weekly report for week of August 11

- Completed formwork and rebar work for footings
- Confirmed schedule for concrete mixer trucks, concrete pump truck and crew for the pour
- Completed the pour for the footings
- Installed the embeds
- Confirmed booking for backhoe operator
- Excavation for drainage completed
- Plumber arrived on site, installed pipes for rainwater drainage and completed backfill
- All work completed on schedule and on budget

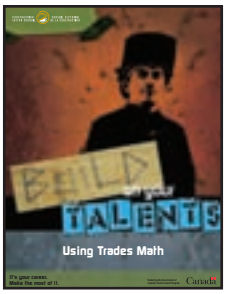
## Appendix: Additional Resources

The resources listed are work-related Essential Skills materials and are not specific to the occupation of First Level Supervisors. However, Essential Skills are transferable skills and practice with these skills will enhance your abilities in your work situation.




**Essential Skills Activities for Trades** is a collection of activity sets that link academic skills with workplace applications.

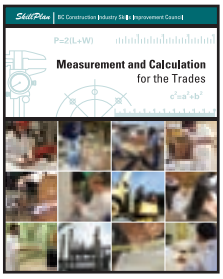

**Plain Language for Construction** contains helpful tips on how to write and communicate more effectively and efficiently.



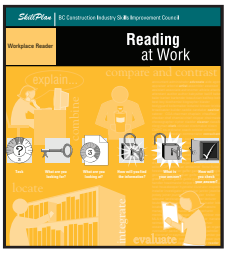

**Using Trades Math** is designed to refresh your skills by applying math operations to typical construction workplace tasks.

**Self Assessment: Construction Workers Workbook** is designed for people who want to assess their current Essential Skills using typical construction workplace tasks.

*For more information on the above and other resources go to www.csc-ca.org*




With **Measurement and Calculation for the Trades** you can review and practise basic math skills using whole numbers, decimals, fractions, ratio/proportion, percent, measurement & conversions, perimeter, area, volume, and right-angle triangles using trade-specific measurement and calculation problems.




**Reading at Work: Workplace Reader** contains real-life stories and authentic activities that provide a unique opportunity to practise reading skills such as locating, combining, comparing and contrasting, integrating, explaining, and evaluating information.


**Writing at Work** describes the writing used in many occupations. Each chapter examines the purpose, style, organization and use of such writing forms as Memos, Entry Forms, Logbooks, Bulletins and Regulations.

*For more information on the above and other resources go to www.skillplan.ca.*

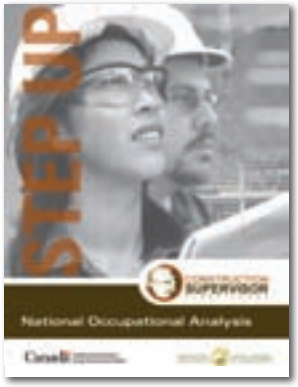
## First Level Supervisor Resource Set


### Construction Supervisor First Level Essential Skills Self Assessment

This informal self assessment provides practice with work tasks that a first level supervisor might encounter on a worksite. Take the self assessment to check your readiness for a supervisory role. Assess yourself on these Essential Skills: Reading Text, Document Use, Numeracy, Writing, and Thinking Skills. See what your strengths are and what areas may need improvement.


### Construction Supervisor First Level Essential Skills Workbook

This workbook is a companion publication to the self assessment. The workbook contains similar tasks and documents as the self assessment. You may decide to do the workbook first as preparation for the self assessment, or you may decide to use the workbook as follow up practice after taking the self assessment.

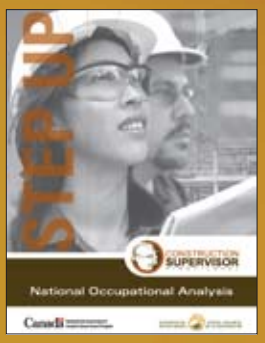



### Construction Supervisor First Level National Occupational Analysis

This occupational analysis has been developed by industry professionals and describes the skills, knowledge and abilities required to perform the duties of a first level construction supervisor for the Canadian Construction Industry. This occupational analysis can be used for a variety of purposes, including curriculum development; accreditation of training programs; recruitment; performance improvement; career development; and the certification of practitioners.


## Acknowledgements

Appreciation is extended to all those who assisted with this publication. We greatly appreciate the industry representatives who offered their expertise, input and feedback. Our thanks is extended to the organizations who generously contributed authentic workplace documents for this publication.




National Occupational Analysis


Essential Skills – Workbook


Essential Skills – Self Assessment

**Try the Self Assessment, then use the Workbook to practise, or use the Workbook to prepare for the Self Assessment.**

Reading Text
Document Use
Numeracy

Writing
Oral Communication
Working with Others

Thinking Skills
Computer Use
Continuous Learning

Printed on recycled material