



Construction Skills Training Centre



We are here to improve your future

BSBWHS504A
Manage WHS hazards and risks
Workbook

For information on the courses the CSTC offer, please contact:
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Quality instruction, service, fairness and integrity - always



Our Purpose

CSTC's purpose is to ensure the building and construction industry's long term investment in the workforce through maintaining a commitment to the training and ongoing development of industry workers. CSTC encourages individuals to achieve the highest level of skill and knowledge possible in their chosen vocational area, therefore resulting in improved self esteem, personal growth, employment opportunities, safety into the workplace and quality of life.

Vision

CSTC strives to be recognised as a learning centre of excellence for vocational education and training. We are an organisation that continually strives to achieve the highest possible standards of education, training and consultancy services specific to the building, construction and other related industries.

CSTC provides training in the following areas:

- Occupational Health and Safety
- High Risk Work Licenses – Scaffolding, Dogging, Rigging, Forklift, Crane operation
- Plant Operations
- Confined Spaces
- First Aid
- Asbestos Removal
- Concreting
- Road Construction
- Bridge Construction
- Tunnel Construction
- Pipe Laying
- Trenchless Technology
- Bitumen Surfacing
- And much more!

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This learning product could only be made possible because of the dedicated CSTC team.

ASSESSMENT FOR INSERT UNIT

Student name	Lee Maskell
Date of assessment submission	24/03/2015

Trainer/Assessor's name	
Date of assessment marking	Click here to enter a date.
Outcome for unit	☐ Competent ☐ Not Yet Competent

TASK INSTRUCTIONS

- The assessment for this unit of competency consists of the following:
 - **A series of activities:** Some of these activities will require you to provide a response within this document, others will require you to gather evidence to demonstrate your knowledge and skills (overview below)
 - **Knowledge questions:** You will be required to complete a series of questions to demonstrate your knowledge and skills.
 - **Third Party Report:** You will be required to have a third party attest to your knowledge and skills and sign a report to this effect.
- At times, you will be provided with a specific business context to which you must respond, otherwise it is anticipated that you will use a workplace of your choosing (your own, or hypothetical) to provide the context to the task.
- At all times, the responses in your assessment must reference **Australian** (Queensland or Federal) documentation, including legislation, regulations, codes of practice, standards and guidance publications.

ACTIVITY OVERVIEW	REQUIRED FOR SUBMISSION
• Research data on WHS hazards and subsequent risk	• Workbook response (below)
• Prepare to manage workplace hazards for effective risk reduction	1. Workbook response (below)
• Develop and implement risk management methods and systems	2. Workbook response (below)

ACTIVITIES**ACTIVITY 1**

You are required to select a task within your organisation you consider particularly hazardous. Once you have chosen the work task you must then research the current work procedures, legislation and general industry practice regarding the effective management of risk for safe completion chosen task.

Answer the following questions:

Question 1:

Provide a detailed description of the hazardous task you have selected.

Persons working in and around mobile plant

Question 2:

Using the information you researched regarding the task, provide details for the following:

1. The situations in which the hazardous work is most likely to cause harm or damage.

- Persons in proximity to operating plant.
- Persons in proximity to moving plant.
- Collision / Rollover
- Runaway/uncontrolled plant items.
- Failure to manage plant risk through procurement, PRA, maintenance and prestart .
- Failure to separate people and plant.
- Pedestrian access to plant operating area.
- Sudden and unexpected movement of plant.
- Workers tasks occurring within unsafe areas whilst plant operating.
- Travelling in proximity to people / work areas.
- Vehicle movement not restricted (ie less than adequate barriers).
- Poor plant design – blind spots, poor operator visibility.
- Operator not competent of 'Fit for Work'.
- High number of traffic movements (planned / Unplanned) on site.
- Poor delineation of site plant and pedestrian zones.
- Poor communication between operator and nearby workers.
- Reversing plant

2. A list of conditions that will increase the risk of harm or damage during the hazardous work.

- Simultaneous Operations

- Unplanned simultaneous operations
- Mechanical failure
- Poor visibility
- access / egress to pond
- A failure for compliance for 'Fitness for Work'
- Collapse of trenches/unstable ground
- Noise / dust / heat
- Changes in weather
- Misuse of plant
- Uncontrolled entry to site
- Unfamiliarity with site
- Non compliance for VMP
- No defined travel routes

I

3. A description of the impacts this particular work has had on the industry generally.

The Construction industry employed 1.01 million people in 2011–12 (9% of the Australian workforce).

Over the five years from 2007–08 to 2011–12

211 Construction workers died from work-related injuries. The total number of deaths equates to 4.34 fatalities per 100 000 workers, which is nearly twice the national rate of 2.29.

Impacts on the industry

1. Financial and reputation

The preliminary data for 2011–12 show there were 13 735 successful workers' compensation claims for serious injury or illness in the Construction industry.

Over the five years from 2007–08 to 2011–12, the Construction industry accounted for 11% of all serious workers' compensation claims.

Attached is a Safework Facts sheet outlining with good safe work practices in the years from 2000 to 2011 compensation claims have dropped by 38%

Impacts for Positively managing safety in the workforce

1. Lower incident rates
2. Lower fatalities, injuries and compensation claims
3. High in rates for safe work conditions

Question 3:

Using the information you researched regarding the task provide details for the following:

1. Legislation and regulations that relate to management of hazards relevant to the task you have selected.

Work Health and Safety Act 2011
 Work Health and Safety Regulation 2011
 AS/NZS ISO 14004:2004 Environmental management systems

2. General industry practices for the effective management of the risk associated with the selected task.

Queensland Code of Practice for the Building and Construction Industry
 Code of Practice – Managing risks of plant in the workplace
 Code of Practice – Excavation Work

Question 4:

You are now required to research available organisational information regarding the hazardous work and provide details for the following:

1. The list of resources available within your organisation that relating to the task or management of task specific hazards.

Stake holders: Client, Project management, Construction manager, contractor
 Key personnel : Civil Engineers, Civil superintendants and supervisors, Plant Coordinator, Plant Operators
 WHS specialists: Safety Advisors
 Technical advisers: Environmental Advisors, Plant Coordinator
 Company Systems

- Safety Management Plan
- Regulatory Compliance Management System
- Chemwatch
- Workplace Enviro Australia

SWMS / Contractor SWMS
 Vehicle Movement Plans
 Vehicle IVMS
 Exclusion zones

Plant pre – acceptance inspections
 Mobile plant Risk Assessments
 Daily SIMOPS Briefs
 Pre Start Briefs / Toolbox Talks
 VOC of operators
 Spotters
 Communication – UHF Radios
 Signage / Barricading

2. A list of gaps or short-cummings identified in the organisational information you have collated. For each gap identified provide an explanation as to why you believe the resource or information is insufficient.

Access to key personnel	Work schedules, availability, location can impede access
Company Systems & processes	Communication, misinterpretation, variance in interpretation
SWMS	Misinterpretation, not understanding, literacy skills
VMP / Exclusion zones	Maintaining documentation and communication
Plant pre – acceptance inspections Mobile plant Risk Assessments	Failure of one department to comply with another
Daily SIMOPS Briefs	Communication and methods to communicate, timing of communications
Pre Start Briefs / Toolbox Talks	Quality of content and quality of delivery, interpretation
Spotters	Complacency, focus
Communication	Quality and adherence
age / Barricading	Quality, adherence and ongoing maintenance

Project:

Source or design a hazard I.D tool you believe is effective in allowing workers to identify and control hazards associated with the hazardous work activity.

Note: Attach the hazard I.D tool to your assessment portfolio.

STOP RESTART CARD

Complete this card for any observed "at risk" observation or hazards / change that occur in the SHEWMS.
Stop the work, develop an action plan to prevent a recurrence, gain & sign agreement with individual or by all team members.
Submit completed cards daily to the project **Safety Team**

Date: Time:

"At Risk" Observation or Hazard/Change:

Supervisor: Company:

Observed by: Location:

OBSERVATION - ✓ appropriate Safety Essential Category

Safety in design	Permit to Work
Working at Heights	Working with Temporary Works
Heavy Lifting	Working in and around Mobile
Electrical work	Working with Live Services
Working with Live Vehicular Traffic	Other

ACTION ✓ required actions

Control the Hazard	Amend the SHEWMS if Required
Develop Action Plan	Reinforce Safe Behaviours
Review the Start Card	Sign agreement below
Review the SHEWMS if required	Other

Potential Consequence

ACTION TO PREVENT RECURRENCE

WORK PARTY NAMES SIGNATURE

REVIEWED BY

Supervisor Name:

Supervisor Signature:

By signing this card, the supervisor is confirming that all of the above mentioned action/s have been addressed

START CARD No SHEWMS = NO START

- Complete this card for every activity that is undertaken on a daily basis (as a rule every SHEWMS being worked must have an accompanying Start Card).
- Complete this Start Card with all team members and sign.
- Submit completed cards daily to the project Safety Team

Date: Time:

Specific SHEWMS #:

Location:

Description of work:

Supervisor:

Company:

CONTROLS

Ask the work party the following questions!	Yes	No
1. Is the SHEWMS specific to the task and interfacing activities, and has it been reviewed today?		
2. Are all the controls in the SHEWMS in place?		
3. Is the SHEWMS understood and signed by all members?		
4. Is each group member confident that the controls in place are adequate?		
5. Have all hazards that have the potential to affect persons, environment or property been identified in the SHEWMS?		

If 'NO' to any of the abovementioned questions do not proceed until the matter has been addressed and all members can answer YES to all 5 questions. This may require amendments to be made in the Review / Modification section of the SHEWMS.

WORK PARTY NAMES SIGNATURE

REVIEWED BY

Supervisor Name:

Supervisor Signature:

By signing this card, the supervisor is confirming that all of the controls in the SHEWMS and Start Card have been implemented.

WHERE AN "AT RISK" OBSERVATION NEW HAZARD / CHANGE HAS BEEN IDENTIFIED, STOP THE ACTIVITY AND COMPLETE THE STOP RESTART CARD OVER LEAF

Outcome for Activity 1	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

ACTIVITY 2

You are now required to more closely analyse the procedures and hazard management tools that specifically relate to the hazardous task you selected in Activity 1 and answer the following questions.

Question 1:

What are the resources available within your organisation that may be used by workers to identify and control the hazards relevant to the hazardous work activity?

1	Mobile Plant Pre Acceptance Inspection
2	Mobile Plant Risk Assessment
3	Worksite Induction
4	VOC (Training) Coordinator
5	Mobile Plant register and maintenance schedule
6	SWMS
7	Mobile Plant daily pre start
8	Worksite Inspection checklists
9	Task Observations
10	Safety Behavioural Observations
11	Auditing
12	Start – Restart Cards
13	PPE
14	Signage
15	VMP vehicle management plans
16	UHF radio communication

Question 2:

For each of the risk management resources listed in your answer to question 1 please detail your thoughts regarding the effectiveness and value of each resource in the risk management process being applied to the hazardous work.

1	Highly effective to eliminate before arriving to site
2	Highly effective to eliminate before arriving to site
3	Highly effective to inform workers of processes and standards
4	Highly effective to identify competency of operator
5	Highly effective to manage plant arrival and ongoing maintenance
6	Highly effective to standardise safe work procedures and task owners, identify hazards, eliminate or engineer changes to the task to remove or reduce risk
7	Valuable for operator to inspect their particular vehicle and ensure they are fit for purpose– effective if completed correctly
8	Valuable for supervisor monitoring against systems and standards, review for compliance and fit for purpose
9	Valuable for supervisor monitoring against systems and standards
10	Valuable for supervisor monitoring workers fitness for Work
11	Highly effective for compliance, monitoring and review

12	Highly valuable for worksite to identify task daily hazards and put controls in place to remove or reduce risk – effective if completed and reflected on
13	Highly valuable as a last point to protect a worker
14	Highly effective to inform worksite
15	Highly effective to inform and direct worksite
16	Valuable tool for communication, directions, advise

Question 3:

Detail the WHS obligations for each of the following roles that are either indirectly or directly involved in the hazardous work.

1. Employer
2. Supervisor/ managers
3. Employee
4. Contractors

PCBU has the primary duty under the WHS Act to ensure, so far as is reasonably practicable, that workers and other persons are not exposed to health and safety risks arising from the business or undertaking. This duty includes ensuring, so far as is reasonably practicable:

- the provision and maintenance of safe plant, and
- the safe use, handling, storage and transport of plant.

Persons who conduct a business or undertaking involving the management or control of fixtures, fittings or plant at a workplace also have a duty to ensure, so far as is reasonably practicable, that the fixtures, fittings and plant are without risks to the health and safety of any person.

The WHS Regulations include specific duties for persons who conduct a business or undertaking involving the management or control of plant (persons with management or control of plant) including requirements to:

- manage the health and safety risks associated with plant
- prevent unauthorised alterations to or interference with plant, and
- use plant only for the purpose for which it was designed unless the proposed use does not increase the risk to health or safety.

Officers have a duty to exercise due diligence to ensure that the business or undertaking complies with the WHS Act and Regulations. This includes taking reasonable steps to ensure that the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks that arise from plant used in the workplace.

Workers have a duty to take reasonable care for their own health and safety and must not adversely affect the health and safety of other persons. Workers must comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to health and safety at the workplace.

Question 4:

Describe how each of the roles listed in question 3 will need to be consulted regarding the risk management process and safe completion of the hazardous work.

Role	Consultation
PCBU	The WHS Act requires consultation, so far as is reasonably practicable, with workers who carry out work who are (or are likely to be) directly affected by a work health and safety matter. - Information about the matter must be shared with workers and they must be given a reasonable opportunity to express their views and to raise work health or safety issues in relation to the matter and contribute to the decision-making process relating to the matter. - The PCBU must take into account the views of workers and advise workers consulted of the outcome of the consultation in a timely manner.
Officers	officers must take reasonable steps to: - continuously learn about and keep up to date with WHS matters - have an understanding of the nature of the work and stay aware of the risks workers and volunteers may face when working for the organisation - ensure and verify and use appropriate resources and processes to eliminate or minimise risks to health and safety - ensure and verify the organisation has processes in place for communicating and considering information regarding work health and safety and responding to that information, and - ensure and verify the organisation has, and implements, processes for complying with any duties and requirements under work health and safety (WHS) law.
Workers	Workers are entitled to take part in consultation arrangements and to be represented in relation to work health and safety by a health and safety representative (HSR) who has been elected to represent their work group. If workers are represented by an HSR, consultation must involve that representative.

Outcome for Activity 2

- ☐ Satisfactory
- ☐ Not satisfactory



Trainer/Assessor comments

ACTIVITY 3

You are now required to undertake the risk management process regarding the hazardous task outlined in previous activities.

Using the hazard I.D and management tools listed in Activity 2, you must identify and control the hazards relevant to the hazardous task for the effective reduction of overall risk.

Project 1:

Using two of the hazard I.D / management tools from your organisation identify and control the hazards associated with the task.

Note: Attach the completed Hazard I.D tools to your assessment portfolio.

Question 1:

Provide an explanation as to why both of the hazard I.D tools were chosen.

1	Mobile Plant Pre Acceptance Inspection / Mobile Plant Risk Assessment	• Elimination of risk • Highly effective risk management tool to eliminate plant hazards before arriving to site. • Tool is used to ensure plant is fit for purpose and identifies areas to be improved before arriving and going into operation. • Inspections are carried out by a technical specialist
8	Worksite Inspection checklists	• Monitoring for compliance and improvement • Valuable for supervisor monitoring against systems and standards review for compliance and fit for purpose • Tool focuses on specific areas • Tool is often used as a group exercise including HSE / HSR

Question 2:

Comment on both the 'Pros' and 'Cons' regarding the selected tool's effectiveness and usefulness.

	Pros	Cons
Mobile Plant Pre Acceptance Inspection / Mobile Plant Risk Assessment	Completed before accepting plant on site. Audit and inspection completed by technical specialist. Understanding of design and suitability of plant	Understanding of suitability for specific worksite

Worksite Inspection checklists	On site, on task, on location	Quality of completion Evidence of completion Regularity of completion

Project 2:

Create a table detailing the possible introduction of additional controls to further reduce the risk associated with the hazardous task.

The table must include:

1. A list of possible additional control options.
2. An implementation strategy for each control option.
3. Procedure or strategy for the monitoring of the control effectiveness over time.
4. A basic list of key performance indicators you may use to determine the effectiveness of the new control measure.

Note: A completed table must be attached to your assessment portfolio.

Outcome for Activity 3	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

Item No.	Risk Title	Cause	Harm/Effect	Risk Rating			Company Controls	Project Controls	Strategy	Performance indicators	Residual Risk			Risk Owner
				C	P	Rating					C	P	Rating	
1	Persons struck/crushed by moving plant	Proximity to Operating plant Proximity to moving plant Runaway/uncontrolled plant items Failure to manage plant risk through procurement, PRA, maintenance and prestart Failure to separate people and plant	Impact/Crushing injuries First Aid Injury Injury requiring medical treatment Lost Time Injury Permanent injury Fatality	5	2	21	SWI - Managing Powered Plant SWI - Barricading and Signage SWI - Delivery and pick up of goods. SWI - Induct personnel SWI - Develop SH&E Work Method Statements SWI - Conduct Toolbox Talks LSWI - Conduct Task Observations	Vehicle movement Plans (VMP) Controlled entry to site (i.e. authorised personnel only) Signage Mobile Plant Pre Acceptance Inspection Plant risk assessment (PRA) Daily plant inspection Pre-start briefs / Toolbox talks Competent plant operator (VOC) Task observations SWMS / Contractor SWMS Exclusion zones Spotters used at all times Communication maintained Use of Radios / Mob Phones. Vehicles fitted with audible alarms and flashing lights	VMP reviewed and updated in line with scope of work including exclusion zones Security at Site gates Signage register Plant Coordinator to manage onboarding and compliance Trainer Assessor to VOC all plant operators incLV, HV, tools SWMS register SWMS sign off and authorisationasl procedure Training (VOV) for spotters	HSE KPI Activittee committment schedule for leaders for Positive performance indicators - Worksite inspections, safety walks, observations, pre starts, toolbox, Assurance audit schedule: Auditing and review for SWMS, mobile plant registers, mobile plant maintenance Review / audits for Personal Hazard ID, mobile plant pre starts Audit for SWMS procedures	1	5	16	
2	Collision between heavy mobile plant.	Mobile plant working in close proximity Reversing plant Poor visibility (fog, rain, smoke, dust) Restricted line of sight Failure/lack of communication - Radio contact Inadequate or no Traffic or Vehicle Movement Plan Vehicle Movement Plan not enforced Inexperienced plant operators Failure to manage plant through procurement, PRA, maintenance and prestart Operator not competent. Plant and Equipment malfunction	Cuts, Bruises First Aid Injury Injury requiring medical treatment Lost Time Injury Permanent injury Fatality Plant Damage	5	2	21	SWI - Managing Powered Plant SWI - Barricading and Signage SWI - Traffic Management	Only one plant operating at one time- 1 X Truck & 1 x Backhoe VMP including exclusive haul roads Certified and VOCd Plant perators. Spotters utilised. Exclusion zones established Pre start reinforcement. Work Method statement. Alarms and warning lights fitted. Task observations conducted	Stage works in line with single plant operation (with exception multiple scrappers with defined haul road) Plant Coordinator to manage onboarding and compliance Trainer Assessor to VOC all plant operators incLV, HV, tools SWMS register Training (VOV) for spotters	HSE KPI Activittee committment schedule for leaders for Positive performance indicators - Worksite inspections, safety walks, observations, pre starts, toolbox, Assurance audit schedule: Auditing and review for SWMS, mobile plant registers, mobile plant maintenance Auditing and review for SWMS, mobile plant registers, mobile plant maintenance Review for Personal Hazard ID, mobile plant pre starts Review for SWMS Worksite inspections, audits and safety walks	5	1	16	
3	Plant operation on unstable surface	Steep grades/slopes Ground conditions possibly undulating due to coverage of prickly pear. Inclement weather conditions. Operator human error	Impact/Crushing injuries First Aid Injury Injury requiring medical treatment Lost Time Injury Permanent injury Fatality Damage to plant & Equipment	5	2	21	SWI - Working in and around Mobile Plant SWI - Managing Powered Plant	Ground surface inspection. Spotters utilised. Exclusion zones established. Task Observations and monitoring Mobile Plant Pre Acceptance Inspection Plant risk assessment (PRA) ROPS/FOPS installed on plant Seatbelts installed and worn Certified and VOC'd operators	Daily / Weekly site safety walk Plant Coordinator to manage onboarding and compliance Trainer Assessor to VOC all plant operators incLV, HV, tools SWMS register Training (VOV) for spotters	Worksite inspections, audits and safety walks	5	1	16	
4	Collision between light vehicles and heavy mobile plant	Inadequate or no Traffic or Vehicle Movement Plan VMP not enforced or followed No or inadequate travel routes for light vehicles & mobile plant No exclusion zones between light vehicles & Mobile plant Reversing plant Poor visibility (fog, rain, smoke, dust) Restricted line of sight Failure/lack of communication - Radio contact Not competent plant or vehicle operators Plant or vehicle failure	Impact/Crushing injuries First Aid Injury Injury requiring medical treatment Lost Time Injury Permanent injury Fatality Damage to plant & Equipment	5	2	21	SWI - Working in and around Mobile Plant	Pre-start and Toolbox meetings SWMS / Contractor SWMS Induction Separation of Light and heavy vehicles/designated light vehicle parking areas Licensed and VOC,d operators. Audible alarms and safety warning lights. Spotters utilised. Soft and hard barricading as required to maintain vehicular separation	Colour coded Barrier flagging for temporary works SWMS sign off and authorisationasl procedure LV designated card parks indicated with blue flagging Reverse parking only	Weekly qualitive and quantitative review SWMS sign off and authorisational procedure IVMS Auditing VMP auditing	5	1	16	
PROBABILITY	Threat can be expected to occur. 75-99%		Almost Certain	5	10	18	23	25						
	Threat will quite commonly occur. 50-75%		Likely	4	9	17	20	24						
	Threat may occur occasionally. 25-50%		Possible	3	8	13	19	22						
	Threat could infrequently occur. 10-25%		Unlikely	2	7	12	15	21						
	Threat may occur in exceptional circumstances. 0-10%		Rare	1	6	11	14	16						
			Negligible	Minor	Moderate	Major	Substantial							
			Class 3 (slight injury, First Aid)	Class 3 (minor injury, medical treatment required)	Class 2 (lost time injury)	Class 1 (permanent injury)	Class 1 (fatal incident)							
			CONSEQUENCE											