TASWATER CDO CONTRACTOR HANDBOOK

The purpose of this document is to assist contractors to understand and allow for the minimum HSE requirements for conducting work on TasWater Contract Delivery Office (CDO) projects. This document needs to be read in relation to the scope of works listed in the tender package and contract for any additional specific project requirements. This document is to be read in conjunction with all relevant approvals, regulatory requirements and industry codes and standards of practice.

This document does not dissolve any *Person Conducting a Business or Undertaking* (PCBU) obligations of the Contractor or their staff and employees in accordance with legislative requirements.

This document is not to be modified. Modification to this document can only be approved by the TASWATER CDO Safety Lead.

Scope

This Procedure applies to all personnel working on TasWater CDO controlled sites and activities.

Responsibilities are detailed in Appendix 1 - Responsibilities

Definitions are detailed in Appendix 2 - Definitions

Contents

1 Contractor Requirements Table

Site Requirement	Mandatory	Scope Dependent
Induction	✓	
Construction Industry Card	✓	
Green Card or equivalent for contractor personnel directly involved in the implementation of the CEMP and the installation and maintenance of control measures for the contract		✓
Minimum mobile plant criteria	✓	
Verification of Competency (Plant Operators & Restricted Items)		✓
TASWATER CDO Core Systems of Work and Critical Safety Controls	✓	
BAC 0.000% and drug testing	✓	
Prestart, Toolbox and Observations	✓	
Safe Work Method Statement Assessment	✓	
UTake5	✓	
Job Observations and Inspections	✓	
HSE Training		✓
ONE HSE Culture	✓	
Critical Risk Control Protocol	✓	
Front line leadership (as directed by TASWATER CDO)		✓
Pre-Employment Medical Examination		✓

2 Pre-Mobilisation

Contractors must undertake a pre-mobilisation HSE risk assessment prior to commencing the scope of work. The nature and extent of this assessment must be aligned to minimum legislative requirements; specific contractual requirements; and the HSE risks involved with the activities, interfaces, plant, or similar involved with the scope.

Prior to mobilising to site, the contractor is required to submit all relevant HSE documentation. This may include:

- Management Plans
- Equipment risk assessments, inspections and service history,
- Mobilisation Safe Work Method Statements (SWMS)

All HSE documents must be submitted to TasWater CDO with adequate time to be reviewed and authorised prior to the contractor's work commencing.

3 Site Induction

Prior to any Contractor workers commencing work on site, they must undertake a compulsory CDO full induction as well as a site-specific induction.

Site Inductions available are as listed below:

- CDO Full Induction - The TasWater CDO induction will be conducted via an online platform. Unless all induction requirements are satisfied, an individual will not be permitted to work or access any TasWater CDO project. Prior to any individual commencing any work on site, they must attend a site-specific induction. All employers and personnel are required to comply with the induction requirements.
- Visitors Induction – available for persons attending site that will not be conducting any work activities, Visitors will be accompanied at all times by a full site inducted worker.
- Delivery Induction – available for truck drivers and others that will be making short term visits to deliver goods to site. Delivery drivers must always be escorted by a fully inducted person. With drivers staying in their vehicles while on site, unless directed to a designated loading unloading exclusion zone by a work area supervisor. Please note that delivery drivers who leave their vehicles will be required to meet the mandatory PPE requirements.
- Site Specific Induction - Prior to any individual commencing any work at a project site, they must attend a site-specific induction. All employers and personnel are required to comply with the induction requirements.

4 General Construction Industry Induction

All Contractor personnel will be required to produce evidence of current general construction industry induction white card / blue card prior to commencing the Induction. This must also be available upon request whilst conducting any construction activities on site. Cards from other States will be accepted.

5 ONE HSE Culture Framework

All Contractor personnel are required to commit to behavioural expectations identified in the four themes of the ONE HSE Culture framework. These behavioural expectations are defined for supervisors, managers and everyone. All contractors will be required to undertake ONE HSE Culture awareness training and complete a personal commitment statement to be displayed on site noticeboards.

The behaviours for each theme are:

THEME	EVERYONE	SUPERVISORS	MANAGERS
Risk management	Understand hazards	Promote risk awareness	Challenge and improve
Standards	Follow rules	Positively reinforce	Set high standards
Communication	Speak up	Encourage the team	Maintain openness
Involvement	Get involved	Involve the team	Provide support

6 Critical Risk Control/Fatal Risk Protocols

TasWater CDO partners have established mandatory minimum standards required when carrying out critical risk tasks. The critical risks activities are:

- Working at Height
- Operation of Mobile Plant
- Working in Confined Space
- Excavation and Trenching
- Cranes and Lifting Operations
- Energy Isolation
- Working with Electricity
- Managing Traffic
- Handling and Storage of Hazardous Chemicals
- Working with Asbestos
- Airborne contaminates
- Structural Failure

Refer to Appendix A for detail on Critical Risk Control Protocol and Fatal Risk mandatory requirements. All contractors must ensure that their safe work systems are aligned to these protocols and that their staff and workforce ensure that the controls specified in the Protocol are used when undertaking work for TasWater CDO. TasWater CDO also requires that all people working on their projects undertake training in the TasWater CDO Critical Risk Control Protocols /Fatal Risk and this will be included in the online induction.

7 Procurement and Sub-contractor Management

Where a Contractor uses an additional sub-contractor or multiple sub-contractors as part of its delivery methodology, processes must be in place to:

- Cascade to sub-contractors the TasWater CDO contractual requirements and the requirements of this document
- Verify / assure that sub-contractors align to and meet minimum TasWater CDO contractual requirements and the requirements of this document and include sub-contractor HSE data (hours worked, incidents, similar) as part of periodic reporting requirements required of the overarching Contractor.
- Prevent the procurement or supply of equipment and materials that contain asbestos.
- Comply with Heavy Vehicle Legislation and chain of responsibility requirements.

8 Hazard Control Standards and Procedures

All works performed by the Contractor shall comply with the TasWater CDO Health and Safety Management System outlined in the Workplace Health and Safety Management Plan (HSMP) and any other relevant procedure (e.g. Client specific) or legislative requirement as a minimum. A contractor may undertake works under their own Project HSMP if it meets or exceeds the requirements as defined in the TasWater CDO Workplace Health and Safety Management Plan.

8.1 PERMITS TO WORK

Permits are required for specified hazardous works on TasWater CDO projects, these permits include:

- Hot Works Permit
- Excavation Permit
- Working at heights permit – Including rescue plan
- Confined Space Entry Permit
- Energy Isolation Permit
- Asset Owner Permits

All permits must be approved by a competent TasWater CDO Supervisor before work can commence. No permit – No work.

9 Traffic Management

Contractors are required to follow the site-specific Traffic Management and/or Site Traffic Movement Plan. Before driving any vehicle on site, contractors shall ensure that their vehicles are authorised by TasWater CDO.

9.1 CONTRACTOR COORDINATED TRAFFIC MANAGEMENT

Where the contractor is required to provide traffic control, they shall comply with the requirements of the TasWater CDO traffic management plan. The contractor must ensure that any changes in traffic management are clearly communicated to any workgroups who may be impacted by the change.

10 Communication and Consultation

10.1 FORUMS

The Contractor shall be responsible for coordinating, conducting and participating in health and safety communication activities/forums, which will include;

- Pre-start meeting (Daily)
- Safe Work Method Statement (SWMS) task specific review (as required) - refer to Section 11 below.
- Toolbox meeting (Weekly)
- HSE Observations (Weekly)
- HSE Committee (Monthly) If required
- Incident Review and lessons learnt (when required)
- 3 monthly TasWater CDO Contractor Forum
- 3 monthly One HSE culture survey's
- Other as determined by TasWater CDO such as targeted health and safety campaigns

11 Risk Management

11.1 SAFE WORK METHOD STATEMENT (SWMS)

The contractor is responsible for the development of task specific SWMS's for high risk construction work activities. All SWMS developed must include any relevant minimum TasWater CDO Critical Risk Control protocol and fatal risk control as well as with any other controls identified for high risk activities as per the project risk register and TasWater CDO procedures. The contractor must ensure that the SWMS is clearly communicated to all workers involved and that those worker s have had the opportunity to review and provide input into the finalisation of the SWMS.

A formal risk review of the SWMS will be conducted by TasWater CDO prior to the work commencing and requires participation from the Contractor's supervisory team members. No high-risk construction work can commence until after this review has been conducted by TasWater CDO.

11.2 UTAKE 5

The UTake5 is a personal risk assessment that is designed to assist an individual identifying plans to control the hazards involved in a task before starting. Contractors will be required to undertake UTake5 familiarisation training.

All contractors are required to carry out a UTake5 when:

- It is an individual's first time carrying out a task
- When the work environment or work conditions have changed
- After an extended break. E.g. The start of the day and lunch
- If an individual feels uncertain about a task

UTake5 records will be required for monthly reporting, with the completed UTake5s provided to the TasWater CDO supervisor at the end of each monthly reporting period.

11.3 HAZARD OBSERVATIONS (HAZOBS)

Contractors are required to report all identified hazards in their workplace. Hazobs (Hazard observations) allow personnel to report hazards or risks to supervisors in a controlled manner. This process will be covered in further detail during the TasWater CDO site induction. Monthly Hazob records shall be provided to TasWater CDO at the end of each monthly reporting period.

11.4 SAFETY CONVERSATIONS AND INSPECTIONS

TasWater CDO staff are required to complete monthly Safety Conversations each month and Inspections in accordance with the Check-It planner (assurance activity schedule). Contractors are required to be involved in Safety Conversations and Inspections within their work areas.

12 Emergency Preparedness and Response

All TasWater CDO sites will be covered by a TasWater CDO prepared Emergency Response Plan (ERP) that will:

- Identify credible emergency scenarios relevant to the site / activity scope / interfacing parties and stakeholders
- Detail notification, escalation, and internal and external stakeholder communication requirements
- Include response protocols and responsibilities for identified emergency scenarios
- Detail response equipment, facilities and resources required to affect the responses
- Detail response roles / team staffing levels and associated competencies required
- Include assurance processes to inspect, maintain and test equipment, and run drills / exercises to validate ERP effectiveness. Contractors will be required to participate in all drills and evacuation exercises.

ERP reviews must:

- Be conducted at least annually and when improvement opportunities have been identified by post emergency or crisis exercise debriefings.
- Include a review of the relevant risk register to validate the scenarios and controls required
- Consider the adequacy of the site's emergency response capability, using a risk management approach to confirm the type, quantity and availability of emergency equipment, emergency response team competencies and typical emergency scenarios.

TasWater CDO and the contractor, must have a process for maintaining emergency response equipment in effective condition, inclusive of a scheduled equipment maintenance process/program to ensure checks are documented and recorded.

Contractor personnel must be trained and competent to fulfil their roles as defined in the relevant emergency plan. Emergency response training and exercises must be designed to include everyone likely to be involved in an emergency scenario. Contractors must make their personnel available for any emergency response training exercises conducted by the project.

12.1 FIRST AID

Contractors must ensure that their workforce has adequate first aid coverage for the scope of work they are carrying out and meet the minimum first aid requirements identified by the project first aid risk assessment conducted by TasWater CDO.

13 HSE Reporting Requirements

All Contractors must immediately report to the TasWater CDO Supervisor any Hazards, Near Hits, Incidents and/or Injuries. TasWater CDO supports a positive incident reporting culture. Contractors must ensure that their workforce are available as requested to support any incident investigations conducted by TasWater CDO

13.1 INCIDENT AND EMERGENCY REPORTING

All significant events including incidents, injuries, near misses, and dangerous occurrences (including environmental) must be reported **immediately** to a TasWater CDO Supervisor. In accordance with the TasWater CDO Incident management procedure.

- The incident location is not to be disturbed prior to clearance being given by the TasWater CDO Investigation team.
- Area preservation is paramount in being able to conduct an effective investigation into any incident.
- In the event of a person being injured on site they are not to leave site until they have been assessed by a TasWater CDO Representative, unless a medical emergency exists.
- Contractors must provide TasWater CDO with updates on injured worker status as requested by TasWater CDO. Injured workers must be made available to TasWater CDO to support and assist the investigation of an incident. This includes providing witness statements, undertaking incident re-enactments, etc.
- TasWater CDO as Principal Contractor will lead incident investigations and contractors are required to support the investigation as required. TasWater CDO may direct the contractor to undertake the investigation and provide a report to TasWater CDO. The timeframe to complete investigations will be in accordance with the TasWater CDO incident investigation procedure. Contractors maybe required to have ICAM trained investigators available.

13.2 HAZARD AND NEAR MISS INCIDENT REPORTING

EVERYONE on site is responsible for controlling identified hazards, if the hazard cannot be effectively controlled, the Contractor must ensure:

- The area is Isolated.;
- Suitable barricading is installed to prevent access by personnel;
- The hazard / Near Miss is reported to the TasWater CDO Supervisor so that it can be mitigated, and lessons learnt communicated to others. This should be documented using Hazob forms.
- Rectification occurs as soon as practical.

Note: It is essential to rectify hazards (where possible and safe to do this) and report ALL hazards to a TasWater CDO Supervisor immediately.

13.3 MONTHLY STATISTICS

Contractors MUST report accurate monthly working hours and the number of persons presenting to the project to the relevant nominated TasWater CDO project person by the end of each month. Contractors will also be set specific health and safety targets for leading and lagging indicators that will need to be reported. These indicators may include:

Lead indicators:

- Safety observations

- Hazard and near hit reporting
- HSE Inspections

Lag indicators:

- Total recordable injury frequency rate (TRIFR)

13.4 MAINTAINING RECORDS

Further to communicating accidents, incidents, near misses, and dangerous occurrences to the Project, All Contractor management MUST maintain records of these occurrences if their people were involved.

13.5 TRAINING AND DEVELOPMENT

All Contractors will be expected to comply with all training requirements necessary to carry out works safely, as advised by the project training matrix. The minimum mandatory training for work on TasWater CDO projects Includes:

Training Required	Length of training
Online CDO Induction	1-4Hrs
Site familiarisation induction	30Mins
One HSE Culture	2Hrs
Critical Risk Control Protocol	1Hr
Frontline leadership*	2 Days
UTake5 Familiarisation training	30Mins
Hazob Familiarisation	30Mins

*For some specific projects, Contractors are required to ensure that all their supervisors intending to work on the TasWater CDO project have successfully completed the TasWater CDO Frontline Leadership course.

14 Protection of People and Property

The Contractor must:

- Take all measures necessary to protect people and property
- Avoid unnecessary interference with the passage of people and vehicles
- Prevent nuisance and unreasonable noise and disturbance
- Not enter private property without approval from TasWater CDO.

15 Fitness for Work

At TasWater CDO, all personnel are expected to behave in a responsible manner and present for work and maintain themselves ‘Fit for Work’. Being ‘Fit for Work’ means that a person is in a physical, mental and emotional state that enables him/her to perform assigned tasks competently and in a manner that does not compromise or threaten the safety of themselves or others.

TasWater CDO must be notified if a worker is taking medication or has a medical condition that may impact their ability to safely perform their work. Evidence of how this is being managed may be required before any affected worker can carry out work on the project.

15.1 PRE-EMPLOYMENT MEDICAL EXAMINATION

Contractors may be required complete a medical assessment to the standard required by TasWater CDO (as updated from time to time).

15.2 DRUG AND ALCOHOL

TasWater CDO will conduct drug & alcohol testing which is applicable to all employees, contractors and visitors of contractors whilst on a TasWater CDO controlled workplace.

Testing for recent consumption of alcohol and/or drug testing will be conducted as per TasWater CDO requirements and will take place on a regular basis.

Whilst on site all persons will be subject to Drug and Alcohol testing under the following circumstances:

- Randomly or as scheduled
- Following an accident/incident
- On suspicion
- Blanket.

Non-Negative Results Management Requirements:

- Non-negative drug & alcohol results are unacceptable – to be considered “fit for work”, there must be NO trace of illicit drugs and NO trace of alcohol, i.e. Blood Alcohol Concentration of 0.000.
- Those found to be non-negative for alcohol or drugs, and those deemed to be non-negative due to refusal to take the test when selected, in the first instance will be removed from the Project.
- Any costs incurred due to a non-negative test including cost of the test itself and any delays to the works resulting will be the responsibility of the Contractor.

All failed laboratory drug or alcohol screen will be reviewed, and disciplinary action taken.

15.3 FATIGUE

Contractors must:

- have a minimum 10-hour break before commencing their next shift.
- present themselves fit for work at the start of every shift.
- notify their supervisor at any time if they consider themselves to be fatigued and/or unfit for work.
- monitor the fatigue status of persons under their control and, if they consider that a person is impaired through fatigue, stop the employee working, assess the situation and decide on an appropriate course of action.
- manage workers that consistently present themselves to work in a fatigued state.

15.4 MEDICAL STRESSORS

Contractors are responsible for monitoring their workers for medical stressors that can affect fitness for work and implement adequate controls for known conditions. Medical stressors can be either:

- Temporary, i.e. flu, headache
- Chronic/Pre-existing, i.e. diabetes, epilepsy, long term pain

- Impairment can either be from the condition itself or the medication taken to control the condition.

16 Primary Safety Controls

16.1 ELECTRICAL TEST AND TAG

Electrical equipment including tools MUST be tested and tagged. There MUST be an inspection system that monitors the condition of these items and ensures ongoing testing and tagging takes place.

- Testing & tagging must take place at 3 monthly intervals on all electrical devices.
- Tags must be attached to equipment & must be legible.
- Equipment must be in good working condition and not modified unless performed by the Equipment manufacturer.
- Non-compliant equipment is to be tagged out of service immediately.
- Residual current devices must be tested daily.
- Tag colour follows the RGBY code system (Red-Green-Blue-Yellow) for each quarter.
- Electrical equipment records must be maintained and provided to TasWater CDO upon request

16.2 ENERGY ISOLATION

All Energy Isolation requires at a minimum:

- All persons carrying out work under energy isolation must be adequately trained and competent in the TasWater CDO isolation system as per the TasWater CDO isolation procedure and critical risk control protocol
- Only approved TasWater CDO authorisation isolation officers (AIO) can perform isolations
- A signed and approved permit is required before any work under energy isolation can commence.
- TasWater CDO and contractor personnel shall inspect and/or request verification of isolation effectiveness prior to commencing work.
- Each person, working under isolation, to attach and remove only their personal danger lock to the designated isolation point.
- Tags to be attached at all isolation points (lock boxes and/or personal locks).
- Tags to be attached at clearly visible points and be completely removed when no longer required.

16.3 CHEMICALS AND HAZARDOUS SUBSTANCES

No materials with a chemical composition are allowed on site without compliance with the following site requirements:

- All chemicals including hazardous and non-hazardous must be approved by TasWater CDO prior to use. All chemicals will be assessed for safety and environmental risks and where practicable, the least ecological toxic fit for purpose option should be utilised.
- Each chemical must have a corresponding Safety Data Sheet (SDS) available at the point of use.
- SDS must be current (5 years or less).
- SDS must be available at the storage and use location of the substance.

- All chemicals must be used and stored in accordance with the associated SDS and the relevant Australian Standards.
- An agreed storage method and location must be assigned for the chemical.
- All substances must be clearly labelled and in the approved container or package.

16.4 WORKING AT HEIGHT

This specification outlines the requirements for work at height including the use of Elevated Work Platforms (EWPs), scaffold and ladders. At TasWater CDO, work at height is considered falling from one level to another (including falling to depth e.g. boreholes and excavation) and managed in accordance with the TasWater CDO procedure and Critical Risk Control Protocols (refer to Appendix A).

- All works at any height hazards must be identified, assessed and controlled in a risk assessment, SWMS and UTake5s. Working at height hierarchy of control must be demonstrated in the risk assessment.
- All workers carrying out work at heights MUST be trained and competent.
- Where work at height hazards exist, physical controls MUST be implemented to prevent the risk of falls.
- Live formwork edges must have a barrier preventing access for other workers no less than 2 meters from that edge.
- Completed Scaffold Tags must be placed on all scaffolds prior to use, irrespective of the type or height at all access points. All scaffolds must be inspected every 30 days.
- Incomplete scaffolds must be signposted at all access points and must not be used.
- All scaffolds greater than 4m high must be designed and certified.
- All penetrations must be covered, secured, delineated and signed ‘danger penetration below’.
- Personnel are not permitted to be within 2 meters of an unprotected edge without a fall protection / prevention or fall restraint system being in place.
- Trucks and other vehicles or plant where you are required to access and work above 1 meter must have fall protection in place with approved engineering design.
- A Work at Height Permit is required for all work where a fall restraint or fall arrest system is used to manage the risk of falling from height (excluding EWP’s).
- A dropped object check list must be completed prior to performing works at height

16.4.1 Elevated Work Platform (EWP)

A design registered secondary protection system must be fitted and operational on ALL EWP booms and knuckles operating on-site. EWPs include boom lifts, scissor lifts and telescoping work platforms.

The minimum requirements for using an EWP or Scissor Lift are:

- Fall arrest harness to be worn and anchored to the appropriate point within the basket;
- No standing on hand rails or mid rails;
- Not used for lifting equipment apart from normal hand tools;
- Assurance that the Safe Working Load (SWL) is not exceeded by personnel and / or tools;

- Not use as a means of access (i.e., entered or exited while elevated) unless risk assessed, and 100% hook up applied; or as a means of transport (i.e.: to use the EWP as a means of moving work crews around a project);
- Drop Zones around the EWP must always be barricaded, and tool lanyards are to be used;
- Trained and Competent Spotters must be in place for all EWP movement activities;
- Pre-start checklists conducted, and log books completed daily; these checklists must always be kept on the equipment; and
- TasWater CDO authorised working at heights permit and rescue plan

16.4.2 Ladder Use

Ladders are the lowest form of control for work at heights and must only be used as last resort if there is no alternative available.

All portable ladders must comply with AS1892 –Portable Ladders.

Ladders require a quarterly inspection by a competent person. A competent person has qualifications (e.g. intermediate rigger) and/or industry experience to identify issues that may affect the structural integrity of a ladder.

Ladders must have an individual identifier that enables them to be tracked on a register.

- Ladders shall not be utilised to perform works, unless they are of platform type. Ladders are for access only and shall be secured and installed at an angle of 1:4.
- Personnel must maintain three points of contact when ascending or descending ladders.
- Personnel shall not carry materials and tools with them when traversing ladders unless they are secured on a work belt.
- Work can be performed from platform ladders, provided the ladder is installed on appropriate footing and the individual installs the barrier to prevent themselves from inadvertently stepping from the ladder.
- If work is required using a non-platform ladder than a working at height permit is required.
- Fall protection is provided at the stepping-off point where people access a working platform.

For ladder access;

- Access using ladders in scaffolding, greater than 2 metres are to utilise fall restraint equipment with a WAH permit.
- No extension ladders or ladders greater than 6m.

Specialised Suspension Ladders (Hook ladders) for transmission tower work require a risk assessment approved by the Utilities Division General Manager prior to work commencing.

16.5 TEMPORARY CONSTRUCTION ELECTRICAL WIRING

Flexible extension leads, and flexible cables must be:

- placed where they cannot be damaged.
- supported out of liquid i.e. water, damp ground.
- supported 2m from the floor or ground across an access way or passageway.
- supported off the floor or ground where the lead is more than 10 metres from the power source to which it is connected.

- hung on insulated hangers where the leads are in contact with scaffold and handrails.
- Mechanical protection must be applied to cabling run within 2.5m of floor or ground level

Power distribution boards shall be placed in locations such that the total length of (single or coupled) extension leads from the distribution board to portable electrical equipment must **not exceed 32m**. An intermediate RCD power box does not permit further lengths of the extension lead.

All power outlets are to be protected and incorporate a residual current device (RCD), these devices are to be tested by a qualified and competent person at an interval of 3 months for portable devices and 12 months for fixed devices.

Contractors temporary construction wiring must comply with:

- AS 3000 SAA Wiring Rules
- AS/NZ 3012 Electrical Installations – Construction and Demolition Sites.

16.6 WORKING NEAR WATER

A HSE risk assessment must be completed and documented for instances where work is being performed on, over or adjacent to water, where there is a risk of drowning or exposure to water borne pathogens and pollutants.

Lifting operations working near or over water will require pre-approval and a completed Significant Lift Study.

16.7 PLANT AND EQUIPMENT

All plant and equipment used to perform any work under the Subcontract shall comply with current Regulations and Statutory Requirements. If requested certificates of compliance are to be provided to the project prior to commencing work. At a minimum:

- All mobile plant must be inducted via the online induction process
- All Mobile plant and equipment MUST be inspected and approved by a TasWater CDO representative prior to commencing work on site. Preference is prior to mobilisation to site.
- All mobile plant will have a specific plant risk assessment
- Maintenance records will be available
- Daily checklists for plant shall be carried out, signed by the operator and available presented to the TasWater CDO representative for inspection.
- Servicing, maintenance, refuelling and wash down shall only take place at designated locations.

All Mobile plant MUST have orange flashing light(s) and reversing alarm (Squawker type) and shall be fitted with a UHF radio which is to be maintained in operational condition at all time while on site. A serviceable fire extinguisher must also be fitted to all vehicles.

16.7.1 Plant and Equipment Documentation

At a minimum:

- All plant and ancillary equipment must be accompanied with the manufacturer's technical & operating instructions
- All plant & equipment must be certified safe for use
- All guards must be fitted in accordance with manufacturer's instructions
- All lifting points must be tested, stamped with the SWL and a test certificate supplied.

- Power generators must be fitted with a tested and tagged residual Current Device (RCD) and where required, earth stakes
- Any registerable plant must be certified & registered with Worksafe Tasmania.
- All plant must arrive on site clean and accompanied with a hygiene declaration form.

16.7.2 Plant Operator Verification and Competency

Workers must not undertake a task that requires either a regulatory defined High-Risk Work License (Australia); or where a worker will:

- Operate load shifting Plant or Equipment; or
- Operate other mobile plant; or
- Perform specialist or complex work as determined through the HSE Risk Register.

Unless they hold the relevant license or Certificate of Competence and they have been assessed according to the requirements of TasWater CDO's Verification of Competence procedure.

Workers must notify their Supervisor of any changes to the conditions of their licences or certificates. A worker must not be permitted to perform the work on a Project if the License or Certificate of Competency or other similar document is no longer valid – for any reason (e.g. due to cancellation, suspension or special conditions).

NOTE: It is the contractor's responsibility to consult the applicable regulatory requirements for any licensing requirements.

16.7.3 Guarding on Plant and Equipment

Guarding must be installed on all plant and equipment where workers are exposed to contact with moving parts or other dangerous areas of plant. The guarding must:

- Be engineered, of solid construction and securely mounted to resist impact or shock,
- prevent by-passing or disabling of the guard,
- be properly maintained,
- not create a risk in itself (for example it must not obstruct operator visibility, weaken the plant, cause discomfort to operators or introduce new hazards such as pinch points, rough or sharp edges),
- prevent any risk from potential broken or ejected parts and work pieces striking workers, and
- allow for servicing, maintenance and repair to be undertaken with relative ease.

16.7.4 Cranage, Including Vehicle Mounted Cranes

- Cranes used on TasWater CDO Projects or sites must have a verification report/sticker to validate that they have been independently inspected and assessed as fit for continued use (Annual Inspection).
- All crane operators must have a national or statutory issued certificate of competency.
- Crane companies are to provide a verification of competency, specific to the machine to be operated on site
- All cranes working on site must also have a competent dagger / rigger working with the crane at all times.
- All dogger /riggers must provide a verification of competency.

- Non-slewing mobile cranes/articulated pick and carry cranes e.g. Franna style cranes, must be fitted with a dynamic de-rating system (Dynamic Load Moment Indicator), and all other pre-start documentation is complied with.
- All lift studies must be reviewed and approved by a UGL Engineer or nominated Lifting Coordinator prior to commencing the lift.
- Lift planning must be completed to identify the hazards associated with the work environment, loads, slinging and crane configurations. Planning assessments must be completed for each new crane set-up in accordance with the table below.

Lift Type/Characteristics		Assessment Needed
Routine Lift	• Lifts are less than 75 per cent of the load chart capacity and do not meet any lift characteristics of a significant lift	• Crane Pre-lift Check used for each lift or series of lifts where the conditions are constant; or • Pick and Carry Lift Plan and Study Tool; and • Task Based Risk Assessment (SWMS) Required Must be: • Prepared by the crane operator and rigger/dogger; or • Site engineer (or similar role) with relevant experience in cranes.
Significant Lift	**A significant lift is a lifting operation which involves one or more of the following:** • Exceeds a gross weight of 20 tonnes (including rigging and lifting gear); • Requires two or more cranes; • Involves lifting over live operational plant; • Exceeds 75% of the crane's rated capacity in that particular configuration; • Involves lifting tilt-up or pre-cast panels; • Involves turning or flipping the load where shock loading and/or side loading is likely to occur; • Involves lifting in areas of poor or unknown ground conditions or bearing value; or • Lifting a person in a man-box / cage.	**Lift Study and SWMS Required** Must be: • Prepared by the crane operator and rigger/dogger or site mechanical engineer; and • Reviewed and approved by a UGL Crane Coordinator **Note:** for lifts exceeding 90% of the rated crane capacity, and/or multiple crane lifts, additional approval of the Lift Study is required by the Project/Site Manager or delegate;

16.7.5 Lifting Equipment

All Lifting Equipment must have a current manufacturers tag attached and be inspected by the rigger/dogman before use and be accompanied by a register.

- Lifting chains, wire rope and synthetic slings must be inspected quarterly by a competent person and a register must be kept on site (the RGBY colour tag system is to be adopted).
- Lifting equipment shall clearly state the safe working load. Copies of the lifting equipment register, and test certificates shall be provided to TasWater CDO upon request.
- Spreader bars, concrete kibbles, man boxes, bins and other lifting equipment must be stamped with the SWL and display certification details.

16.7.6 Excavator or Other Plant Being Used as Crane

Excavators that are used for lifting must be fitted with:

- Anti-Burst protection fitted (Craneage valves)
- Applicable load chart in the cab.

- A certified & stamped lifting point.
- SWL both static and dynamic must be affixed as close as possible to the lifting point as possible.
- Slope indicators must be fitted.
- Only competent riggers or dogmen are to sling loads, operators are not allowed to sling their own loads.
- Any Excavator Operator lifting above 1 tonne must be VOC'd for lifting with an excavator.

16.7.7 Excavations/Disturbances

TasWater CDO has an 'Excavation Permit' procedure that requires permits to be completed and approved for EACH excavation/disturbance undertaken, which includes installation of star pickets. In addition:

- NO excavations / disturbance is to take place without an approved 'Excavation Permit'. A copy of the permit must always be kept at the work face/ excavator.
- All people involved in the excavation activity are to read and sign for the excavation permit.
- All excavations MUST be adequately protected / barricaded and appropriately backfilled as required.

16.7.8 Light Vehicles

- All vehicles MUST be roadworthy and registered, fitted with an orange flashing light, fire extinguisher, UHF radio, first aid kit and be regularly inspected.
- All vehicles MUST be fitted with seat belts.
- Some projects will require that all vehicles be inspected by a TasWater CDO representative, authorised and display the plant inspection sticker before entering any work area.

16.7.9 Hand Tools

- All hand tools must be in good condition, safe for use and fit for purpose.
- All knives must have self-retracting blades (fixed blades and snap blades are prohibited)
- Strictly no homemade or modified tools are allowed on TasWater CDO projects

16.7.10 Portable Electrical Tools

- All portable electrical tools including electrical leads and generators must be capable of operating in an industrial environment.
- All electrical tools, generators and leads must be inspected before use (burnt plugs, end plugs pulled, damaged insulation will not be accepted as safe for use)
- All electrical tools & equipment must be tested & tagged every 3 months by a competent person.
- All portable electrical tools must be RCD (residual current device) protected
- All guards must be fitted in accordance with manufacturer's instructions

16.7.11 Consumables

- Consumables must be accompanied with relevant manufacturer's or supplier's information
- SDS must be provided for all welding rods (welding rods are a substance)

- The use of cutting blades <2.5mm is prohibited on site
- Blotters must be fitted to drop saws.

16.7.12 Angle Grinders

This specification defines the minimum requirements for Angle Grinders.

- 9" grinders are not permitted on site.
- Double eye protection (safety glasses & full-face shield) must be worn when operating angle grinder.
- Employers must be able to demonstrate individuals have been trained and are competent to use an angle grinder. This can be through trade qualification of verification of competency (VOC).
- A risk assessment process shall be used to identify and eliminate hazards associated with the use of angle grinders for the cutting of any material and seek as a first option, to use alternative methods of cutting in preference to using cutting discs.
- Grinders are to be fitted with 'dead man' switches – no lock on triggers.
- All grinders shall be fitted with a handle and guard at all times in accordance with manufacturer requirements.
- Power (electricity or air) supplies to grinders shall be disconnected prior to the user proceeding on any work breaks to prevent unintentional operation on return to the workplace.
- A hot work permit is required for all grinding activities.

16.7.13 Oxygen / Acetylene / Welding

- Oxy kits (regulators) MUST be inspected and tagged by a qualified person.
- Flash Back arresters MUST be fitted to both hand pieces and regulators. (Tested at 12-month intervals)
- Storage cages designed for lifting must have certified lifting points, be inspected every 3 months and included on the lifting equipment register.
- Screens, Barricading and signage where necessary must be provided and used by the Contractor.
- A hot work permit is required for all oxy acetylene cutting and welding activities.

16.7.14 Electrical Welding

In accordance with TasWater CDO Electrical Welding Safety procedure as per AS 1674.2 Welding Electrical Safety:

- All welding environments are to be classified prior to work with increasing control measures applied per Category (A,B or C).
- Health monitoring procedures for Electromagnetic radiation, airborne contaminants, electric shock, fire and explosion, exposure to heat, compressed and liquified gases and lead and other heavy metals.
- Personnel carrying out electrical welding must have welding or trade qualifications provided by a recognised training provider and deemed competent by the contractor and by UGL's Verification of Competency process.

- An observer is required where electric welding is carried out in damp or wet areas and/or confined spaces.
- All equipment is tested and approved
- Task-specific PPE in accordance with AS1674.2 is detailed in the SWMS and approved.

16.7.15 Fire Extinguishers

All extinguishers MUST have a current inspection tag displayed (Tested at 6 monthly intervals).

16.8 CHAIN OF RESPONSIBILITY

The Chain of Responsibility (CoR) requires all parties involved in the supply chain, even if they have no direct role in loading or operating a heavy vehicle, to share the responsibility for complying with this legislation. Contractors are must ensure that they fulfil their CoR obligations under the Heavy Vehicle National Law (HVNL).

16.8.1 Loading and Unloading Zones (Luez)

Contractors will ensure that all personnel involved in loading/unloading deliveries are not exposed to unnecessary hazards during the process. As a minimum, contractors must ensure:

- A LUEZ area is established around the delivery vehicle, using physical barriers to prevent unauthorised persons entering area or other controls as deemed necessary by site risk assessment.
- Only loading/ unloading operator is in the LUEZ during the loading/unloading process
- Drivers must stay in the truck, or be moved to a designated 'safe zone' outside of the LUEZ area until the loading/unloading is complete

16.9 TEMPORARY WORKS

It is mandatory for Contractors to apply the hierarchy of controls to manage the risk to a worker's health and safety when working with Temporary Works.

The following are mandatory requirements for Temporary Works:

- Approved Design: A detailed design must be developed, approved and issued by a qualified design engineer holding an engineering degree and 5+ years' experience. The certification must indicate compliance with appropriate Australian/New Zealand Standard (AS/NZS) and reviewed by a UGL engineer or Temporary Works Co-ordinator (TWC), if required.
- Design Verification: To verify the integrity of the detailed design, the design must be reviewed by a suitably qualified engineer
- Pre-Load Inspection Report: A report confirming that the temporary works has been erected/installed as per the approved design and is ready for use must be obtained from a suitably qualified engineer prior to initial loading on any structural support system. For click and play type systems like Perri Formwork, a temporary works inspection test plan (ITP) must be completed.
- Inspection and Monitoring: An appropriate inspection and monitoring program must be developed to ensure the structure remains fit-for-use.
- Pre-approval by a UGL Supervisor is required before any worker is to access or apply any load to temporary works structures.
- In addition, the following is required:

- Any temporary structural support system required to be lifted by a crane must have engineer designed lift points and meet relevant AS/NZS;
- Structural components which are supporting a temporary works load must be physically protected from potential sources of collision or damage (i.e. moving plant, vehicular traffic, materials hoisting);
- Workers involved in the installation/erection of temporary works must hold the appropriate regulatory license and be verified as competent.
- UGL Project Managers will appoint a Temporary Works Coordinator where there are multiple temporary works to be simultaneously managed on a site or operation in accordance with this procedure.
- Examples of Temporary Works include:
- Earthworks; Trenches, excavations, temporary slopes and stockpiles
- Structures; Formwork, falsework, propping, façade retention, needling, shoring, edge protection, temporary bridges, hurdles and scaffold
- Portable offices and crib rooms
- Equipment / Plant Foundations; Crane pads, anchors and ties for hoists, EWP and piling platforms.

17 Work in Trenches

A barricade at least 900mm high must be erected around a trench, only workers involved with the excavation are to be in the area. Para mesh / webbing must not be used as a means of edge protection adjacent to a fall hazard.

Persons accessing excavations / trenches more than 1.5 meter deep need to ensure that it is either:

- shored or shielded
- benched - not higher than it is wide and no vertical face exceeding 1.0 meter with the exception of the
- bottom trench which can be up to 1.5m
- battered - angle not exceeding 45°and bottom vertical face not exceeding 1.5 meters

Written approval to vary the benching and battering requirements may be obtained from a geotechnical engineer or geological technician. The approval must always be kept on site.

Note: Deep excavations must be assessed for atmospheric contamination.

Please note: if workers are in a loose sand/gravel deposit, it would have to be battered back at 2H:1V. and assessed by a geotechnical engineer before entry into the excavation can occur.

Secondary points of egress are to be provided i.e. ladders used for access must be no more than 9 meters apart in the area of the trench where work will be carried out.

Excavations 2.0 metres in depth or greater (excluding augured foundations) require engineering input and the completion of a Temporary Works Design combined with a SWMS/JHA.

18 Housekeeping

Work areas MUST always be kept clean and tidy – housekeeping must be checked daily.

19 Smoking

The Project is a non-smoking workplace with smoking NOT permitted in site sheds, offices and hazardous areas, or within 4m of any building entrance.

Smoking is only permitted in approved areas.

20 Prohibited and Restricted Items

Prohibited items include, but not limited to:

- Alcohol shall not be brought onto or consumed on site.
- Illicit drugs shall not be brought onto or used on site.
- Offensive material shall not be brought onto or displayed in any part of the project site (posters, magazines, and social media).
- Firearms or other weapons shall not be brought onto site. Portable grinders with a cutting/grinding disc greater than 180mm in diameter and without 'dead man' switches shall not be used on site.
- Cutting discs <2.5mm thick used on portable grinders
- Welders without voltage reduction devices (VRD)
- Halogenic BCF Fire extinguisher
- Over centre leaver type load binders
- Radios, MP3 players, in-ear/over-ear audio devices shall not be used on site.
- Fixed blade and standard Stanley knives that do not have automatic retractable blades.
- Dogs and other animals
- Modified hand tools not certified by the manufacturer
- Homemade tools

Restricted items require risk assessments and formal management approval prior to use on-site and include:

- Cameras, videos, drones and audio recording devices
- Use of mobile phones within a construction site
- Explosive powered tools
- Explosives
- Hammers with a head weight of 5 pounds (2.25 kg) or greater fitted with 'hardened' heads, and, hammers with a head weight greater than 20 pounds (9 kg), shall not be used on site.
- Hand held laser beams
- Manual retracting blade knives
- Hand-held demolition saws – quick cut or other concrete cutters
- 9" Angle grinders
- Scaffold exceeding 2m height – to be certified by competent scaffold assessor if greater.

21 Personal Protective Equipment (PPE)

It is the contractor's responsibility to provide PPE to their workforce. TasWater CDO will NOT be providing any PPE to contractor workforce. In circumstances where no PPE is available to the contractor workforce, works will not be allowed to commence until the correct PPE is in place.

This specification defines the minimum requirements for PPE on all CDO projects. Every employee / Contractor MUST always have on them:

- Long Pants & long sleeved shirts – Sleeves rolled down
- Hard Hat – Worn the right way around and not on a cap
- Safety Glasses – AS/NZ1337
- Safety Boots – Fully laced up
- High Visibility Gear
- Gloves

Further to the mandatory PPE described above, all other PPE relevant to task must be worn such as double eye protection with face shields for grinding activities.

21.1 SAFETY GLASSES

Employers must supply or have available for their workforce the following safety glasses:

CLEAR

DARK

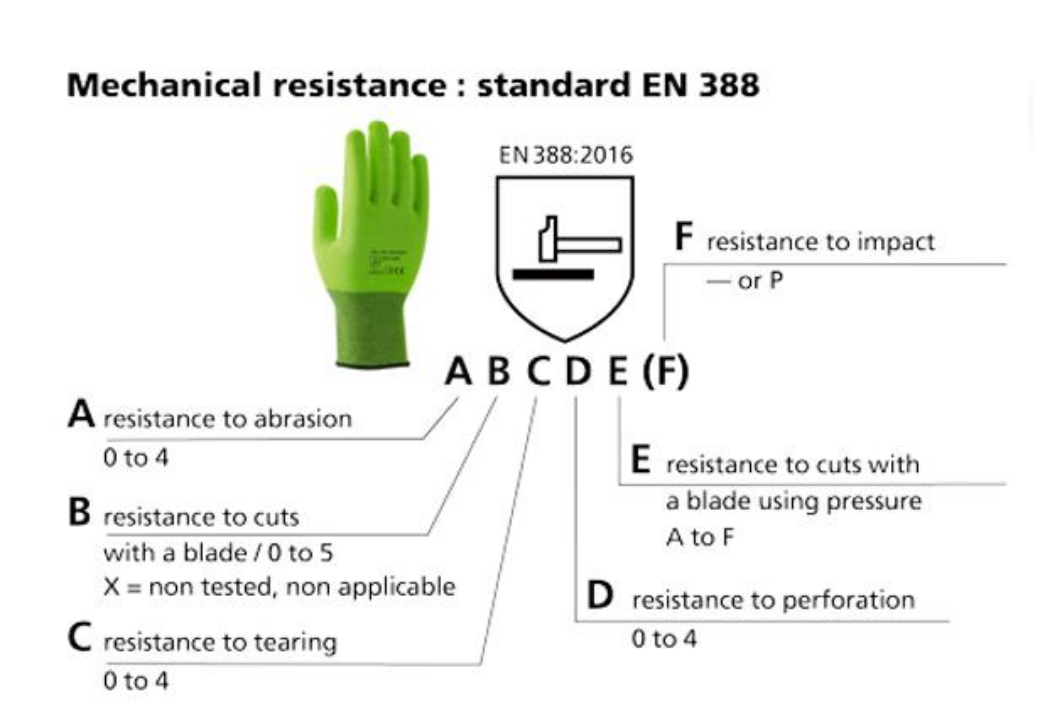
Prescription / Cover glasses may also be required. Workers must be provided with prescription/cover glasses if they wear glasses to conduct their work.

Double eye protection including a full-face shield must be used for angle grinder operation, use of high-pressure air or any activity which requires it to be used.

21.2 GLOVES

Appropriate hand protection is always required unless, subject to a risk assessment (SWMS or U Take 5), the risk involved in wearing the glove outweighs the potential for injury. When following the AS/NZS standards PPE that use the EN388 method are marked with a CE label and 6 numbers corresponding to the scores received in each of the mechanical tests. Each test rates the material on a scale of 1 (low) to 4 (high) for abrasion resistance, tear resistance and puncture resistance, a scale of 1 to 5 for blade cut resistance, a scale of A (low) to F (High) Iso Cut resistance and pass fail for

impact resistance.



When considering gloves types for each given task, consideration for all factors such as risk of entrapment, rotating tools and practicality of gloves type i.e. when completing electrical terminations.

During approval of SWMS's the specific glove selection will form part of that approval process. Only once all task steps have been allocated a suitable glove type will the SWMS's be approved. All TasWater CDO Supervisors will be actively involved in risk control development with all elements of works. Through continual observations and interactions, the glove compliance will be continually assessed and monitored.

22 Environmental Requirements

TasWater CDO will establish on-site environmental controls and procedures in accordance with the Construction Environmental Management Plan (CEMP). The Contractor shall implement and comply with the CEMP and any associated management plans.

Further to the requirements established in the standard contract conditions and to assist the Project to achieve its environmental management obligations and initiatives, Contractors shall comply with the following requirements:

22.1 GENERAL

- Take all reasonable and practical measures to avoid creating a nuisance to nearby residents or at public places and in residential areas. Nuisance includes noise, light, dust, exhaust fumes and vibration impacts
- Comply with the current Site CEMP and associated sub plans provided by the project team
- Report environmental damage or incidents immediately to a TasWater CDO Site Supervisor
- Provide information to the project team on relevant materials, products and services which possess superior environmental benefits or outcomes to those specified or considered standard

- Do not enter NO GO ZONES if signed on site. These areas provide protection to sensitive areas. If entry is required to these areas a TasWater CDO authorised Permit to Enter Protected or 'No-Go" Areas must be obtained.
- Do not pump or discharge any water from the project without prior approval from TasWater CDO including obtaining a Dewatering Permit.
- A Materials Tracking Form must be completed for the movement of all contaminated soils including ASS/PASS materials.

22.2 ENVIRONMENTAL PERMITS

Permits are required for specified environmental works on TasWater CDO projects, these permits include:

- Dewatering Permit;
- Permit to Clear Land or Vegetation;

Permit to Enter Protected or 'No-Go" Areas;

- Client Permits;
- Regulatory permits; and
- Others as specified.

All permits must be approved by the TasWater CDO Alliance Project Environmental Management Representative (PEMR) or a competent TasWater CDO supervisor before work can commence.

22.3 WATER QUALITY AND EROSION CONTROL

Control measures to mitigate adverse water quality impacts shall be implemented. These include:

- Erosion and sediment controls must be designed, developed and implemented in consultation with the construction team and Project Environmental Management Representative (PEMR).
- Clean water diversions must be installed prior to the commencement of work.
- Erosion and sediment controls must be installed prior to or immediately upon any disturbance to vegetation or soil. These controls must remain in place until revegetation, stabilisation or hard scaping has occurred. If these controls require maintenance notify your supervisor.
- Cleared areas must be kept to a minimum and be progressively rehabilitated/revegetated as they become available.
- All materials must be stockpiled away from water flow paths.
- Sediment laden water (dirty water) captured onsite must be preferentially reused e.g. dust control.
- Water discharged from site is in strict accordance with the site's dewatering procedure, which is approved by the PEMR.
- No transfer/discharge will be made without a Permit to Dewater approved by the PEMR.
- Water bypass pumped is in strict accordance with the sites bypass pumping procedure, which is approved by the PEMR.
- An adequate number of concrete washout facilities must be maintained at all times. The washout facilities will be isolated from surface water flows using bunds to prevent contamination of clean surface waters and will be lined to prevent contamination of soil and ground water
- All hazardous substances (liquids and solids) are stored and managed according to AS1940.

- All refuelling points, including refuelling/lube trucks, will carry hydrocarbon spill kits.
- Opportunities to minimise the use of high-quality water will be continually sought and adopted as appropriate.
- Existing ground conditions and weather forecasts will be taken into consideration prior to conducting civil works. Excavation works will not be conducted if ground conditions are unsuitable or pose environmental risk.

22.4 FLORA AND FAUNA

Control measures to mitigate adverse impacts to flora and fauna shall be implemented. These include:

- Prior to any disturbance, clearing or grubbing activities in any locations the following must be in place;
    - A Land Disturbance Permit (or equivalent)
    - No-Go Zones for significant flora and fauna must be established, fenced/flagged and sign posted prior to commencement of clearing.
    - A wildlife catcher/spotter or the PEMR needs to conduct a search for any wildlife that may need to be removed and relocated.
- If a threat to an animal is evident onsite you must contact your supervisor and/or PEMR immediately. Works may need to cease if the animal is in danger or harmed until it has been relocated.
- The site speed limits must be obeyed at all times, especially areas where vehicle/fauna interactions are identified as high risk.
- All plant should remain on haul roads as much as possible so as to minimise damage to vegetation
- No-Go Zones must be obeyed at all times without a Permit to Enter No-Go Zone. Any damage to no-go zone fencing or signage must be reported to your supervisor or Project Environmental Management Representative immediately.
- Cleared/removed vegetation will be beneficially used either on or off the Project where possible (e.g. for habitat, chipped for mulch and reused).
- Where possible revegetation activities will preferentially use only species that are indigenous to the area.
- Boundaries of allowable disturbance areas on the Project are clearly marked and delineated
- Trees to be retained will be clearly marked. Tree protection areas will be delineated by markers, construction tape webbing or other barriers. No equipment, plant, vehicle and material should be stored within the drip line of a tree.
- Use only approved access tracks/roads when accessing the Project site
- Ancillary works, such as lay down areas and office facilities not vital for construction will be positioned as far as practicable to minimise impact on remnant vegetation, actual threatened species. Preference is to utilise previous disturbed areas or existing areas devoid of significant vegetation.
- Any dead fauna will be removed immediately from trenches/excavations or access tracks and roadways to reduce the impact of scavenging species being entrapped or injured by construction works.
- All significant fauna habitats shall be avoided where practicable or shall be relocated by suitably qualified persons and recorded.

- All access track and roadway speed limits will be restricted to reduce the residual risk of fauna interactions.
- No domestic pets are allowed on site.
- Trenches shall be covered and/or fenced at the end of the day to prevent animals becoming trapped
- All potential fauna habitats materials are to be stockpiled during the clearing and construction phases, with re-instated during the rehabilitation stages in accordance with the Landscape and Rehabilitation Management Plan.
- Rehabilitated areas shall be sign posted until rehabilitation is considered complete and area is self-sustaining. The signature will read “Rehabilitation area – Do Not Enter”.
- Do not enter, park or store equipment or materials on rehabilitated areas.
- Minimise the movement of soils around the site.

22.5 WEED, PEST AND DISEASE MANAGEMENT

Control measures to mitigate adverse impacts arising from weeds, pests and diseases shall be implemented. These include:

- Weed infested areas shall be identified prior to undertaking any ground disturbance activities.
- All ground engaging plant and equipment shall be cleaned down of all soil and vegetation material and a declaration completed:
    - Prior to arrival on the Project site.
    - Prior to movement within the Project site from infested areas to non-infested areas; and
    - Prior to demobilisation from the Project site.
- Wash/ clean down and inspection stations shall be established to clean and inspect vehicles and machinery of any dirt or mud that may harbour weed seed.
- Use only approved access tracks/roads shall be used when accessing the Project site.
- Avoid driving off the road in areas known to contain weed infestations or declared plants that present a risk of contamination.
- All floating and submersible plant and equipment selected for the Project will be free of material and invasive marine pest species prior to arriving onto the Project.
- An Invasive Marine Pest (“IMP”) Risk Assessment must be completed and accepted by the PEMR for each piece of floating and submersible plant and equipment prior to mobilization to the Project.

22.6 NOISE AND VIBRATION

Control measures to mitigate noise and vibration shall be implemented during works to minimise noise and vibration. These include:

- Maintain equipment and vehicles in accordance with manufacturer’s instructions, or more frequently if required to minimise noise generated.
- Use barriers and enclosures and silencing equipment when using noisy equipment
- Position plant so noise travels away from sensitive receivers
- Advise site supervisor well in advance if works need to occur after hours so appropriate approvals can be obtained and community notified

22.7 AIR QUALITY

Control measures to mitigate adverse air quality impacts shall be implemented. These include: ·

- Areas in which vegetation will be removed or disturbed will be minimised. Rehabilitation, seeding or grassing should occur as soon as they become available.
- Disturbed areas and haul roads must be treated with dust suppressants (e.g. water trucks or chemical suppressants) especially in high risk areas and/or on during high risk days.
- Stabilised access, rumble grids, wash bays or similar must be established for the entries site and exits to site to minimise mud on public roads. Sweepers shall be used periodically to clean public roads where mud has been deposited.
- Traffic speed limit(s) are determined to minimise dust generation and must be adhered to at all times.
- All construction plant and equipment must be maintained so they do not emit visible smoke for any period greater than:
    - 15 consecutive seconds for plant not being registered for use on public roads; and
    - 10 consecutive seconds for plant registered for use on public roads.
- Burning of any materials is prohibited onsite.
- Competently designed and constructed rumble pads shall be established for the ingress and egress of all vehicles.
- When transporting dry bulk material on public roads, vehicles must be fitted with a means of ensuring that dust and or material is not released during transport. This includes covering loads and may include undertaking tailgate inspections and brush down as required.
- Where light sensitive receptors/premises have been identified light pollution shall be minimised.
- No visible dust is to go beyond site boundary.

22.8 HERITAGE

Control measures to mitigate adverse impacts to heritage shall be implemented. These include:

- All cultural heritage items and places to be preserved will be fenced/flagged and sign posted as No-Go Zones and shown on relevant site plans and communicate to relevant workforce. These No-Go Zones must be observed at all times until a Permit to Enter No-Go Zone has been authorised.
- Ground disturbance must not take place until a Land Disturbance Permit has been authorised.
- If an object is discovered that may be a suspected heritage item, work must cease immediately, and the supervisor and Project environmental representative notified. No works will be allowed to continue until approval has been received from the Project environmental representative.
- Specific training will be provided to persons likely to impact on work in close proximity to heritage items or values.
- All Personnel will undertake a Site Induction which includes Aboriginal Heritage. Specific training will be provided to persons likely to impact on heritage items of values
- All necessary approvals will be obtained prior to commencing any works in areas of known or potential heritage items.
- Formal documented engagement will be maintained with relevant heritage groups or traditional owners throughout the Project.

- Work will cease upon the discovery of any object which may be a heritage item within the meaning of the relevant legislation, including likely human remains. No works will be allowed to continue until a permit or clearance has been received from the relevant authority.
- Traditional owners will be invited to attend and monitor all topsoil clear and grub, and other surface disturbance.

22.9 HAZARDOUS SUBSTANCES

Control measures to mitigate adverse impacts arising from hazardous substances and spills shall be implemented. These include:

- See also Section **Error! Reference source not found.**
- Hazardous substances must be stored in a bunded area with a minimum holding capacity of 110% of the largest container within the bund or 25% of the total capacity of all containers within it, whichever is the greatest.
- Spill kits must be located adjacent to all hazardous substance storage units, in refuelling and maintenance areas and at designated locations as per the Site Environment Plan (SEP).
- Type and size of spill kits must be selected based on the type and volume of materials stored. Aquatic spill kits shall be available at worksites in close proximity to waterways.
- Training in the use of spill kits must be provided.
- Refuelling must not occur within 30m of a waterway (without appropriate controls in place).
- Management of hazardous materials will be covered in the site induction. Relevant workers will undergo spill response training, as well as safe handling and storage training
- Containment devices, including bunds, separators and catch trays, will be used where ever there is a risk of spillage.
- Inspections will be carried out to assess the storage and handling of hazardous materials as a part of the HSE inspection program.
- Undertake routine maintenance of plant and equipment for prevention of fuel leaks, visible exhaust emissions or other maintenance issues.
- An Emergency Response Plan which incorporates a spill response procedure shall be maintained for the Project

22.10 BUSHFIRE RISK

Control measures to mitigate bushfires shall be implemented. These include:

- All facilities, containers, storage sheds, vehicles and plant equipment will be fitted with a serviced fire extinguisher (relevant to works or area), which will be inspected and tagged every 6 months by a suitability qualified person.
- Smoking will only be permitted in designated areas. These shall be clearly marked and communicated to site personnel.
- Ensure construction lay down areas and construction sites are maintained in a tidy and neat condition to reduce the risk of fire hazards.
- Vehicular access to the Project will be via designated road access points only, to reduce the risk of exhausts causing grassfires.

- All flammable materials will be kept in a segregated area and stored in accordance with SDS/AS1940, Dangerous Goods licence (if applicable) and appropriate storage/separation guidelines.
- Hot works will only be performed on a Total Fire Ban day with an approved exception from Local Fire Service.
- No open fires shall be permitted on site at any time.

22.11 WASTE MANAGEMENT

Control measures to mitigate adverse impacts arising from waste shall be implemented. These include:

- All wastes need to be classified, stored, tracked, transported and treated in accordance with contractual and regulatory requirements, including the use of licensed transporters and treatment facilities
- The relevant licences of waste facilities utilised for the disposal or handling of waste will be obtained to ensure they are legally compliant.
- Storage containers (bins, skips, tanks, etc) are provided at each work area in sufficient numbers to facilitate segregation of waste at the source of generation, where ever possible. The correct bin type must be used to avoid contamination.
- Containers are clearly sign posted to inform all Project personnel of the correct material to be placed within each bin type. Containers are emptied at a frequency that is sufficient to ensure their correct use. If a bin needs to be collected contact your supervisor or PEMR.
- Burial or burning of waste is not permitted.
- Excess concrete and concrete washout is not to be discharged to land or stormwater; a concrete washout facility must always be used.
- All waste data must be collated and tracked.
- An adequate number of fully maintained concrete washout pits will be maintained on the site at all times.
- All cigarette butts will be placed in bins provided to reduce littering and the risk of fire.

22.12 CONTAMINATED LAND

Control measures used to mitigate adverse impacts arising from soil movement and contamination across site shall be implemented. These include:

- Whenever contaminated materials are discovered or suspected, works must cease and the supervisor and Project environmental representative notified immediately. Testing by a trained and competent person must be conducted and a management strategy developed.
- Contaminated land will need to be handled, stockpiled, reused and/or disposed of as per the Projects Contaminated Land Management Strategy.
- The movement of contaminated materials must be tracked via the Materials Tracking Form.
- Water runoff from contaminated land and stockpiles must be contained, treated or disposed to ensure there is no pollution of land or waterways.
- All vehicles, plant and other machinery operating in contact with contaminated soil must be decontaminated prior to leaving site.

- Testing by a trained and competent person occurs whenever contaminated material is present or believed to be present at the Project. Testing shall comply with the requirements outlined in the Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal.
- Temporary water management works will be put in-place to capture contaminated runoff from stockpiles and contaminated areas. Water and sediment will be monitored for quality and managed in accordance with regulatory requirements.
- Soil, and soil leachate, containing contaminant concentrations below the relevant environmental investigation level will be assessed for unrestricted reuse, subject to other site restrictions and excluding any geotechnical requirements. This assessment must be undertaken by a competent person.
- Soil, and soil leachate, containing contaminant concentrations above the relevant environmental investigation level will be assessed for controlled reuse in non-environmental sensitive areas of the site.
- Where the above outcomes are not acceptable, other options such as (re)treatment, off-site disposal or a site-specific risk assessment be considered, as determined by Regulators and Competent Assessors.

22.13 ACID SULFATE SOIL

Control measures used to mitigate adverse impacts arising from disturbance to acid sulphate soil (ASS) or potential acid sulphate soils (PASS) shall be implemented. These include:

- Whenever ASS/PASS material is discovered or suspected, works must cease and the site supervisor and PEMR notified immediately.
- Testing by a trained and competent person must be conducted and an ASS/PASS management strategy developed.
- All known or discovered areas of ASS/PASS will be communicated to those involved via the induction, toolbox talks, pre starts and Site Environmental Plans.
- Disturbance of surface and subsurface soils in potential ASS/PASS must be minimised.
- All persons likely to be involved with the management of ASS/PASS will be trained in their identification and management.
- ASS/PASS will need to be handled, stockpiled, tracked, treated and reused and/or disposed of as per the Projects ASS/PASS management strategy.
- The movement of ASS/PASS materials must be tracked via the Materials Tracking Form
- Water runoff from ASS/PASS stockpiles must be contained, treated or disposed to ensure there is no pollution of land or waterways.
- All vehicles, plant and other machinery operating in contact with ASS/PASS must be decontaminated prior to leaving site.
- A spill of ASS/PASS material outside the ASS/PASS storage and/or treatment areas or evidence of impacts on waterways must be reported to the supervisor and Environmental Representative immediately.

22.14 ENERGY AND GREENHOUSE GAS

Control measures to maximise energy efficiency and minimise greenhouse gas impacts shall be implemented. These include:

- An energy opportunities assessment will be undertaken to identify opportunities for energy efficiency in both construction and operation.
- Turn off vehicles/plant when not in use
- Turn off computers & office lights at the end of the day
- Turn floodlights off at the end of night works
- Utilise recycled water where possible (ensure a Recycled Water Management Plan is in place prior to use)
- Monthly NGERs reporting is submitted as part of contract requirements.

22.15 IN-WATER AND MARINE DISTURBANCE

Control measures used to mitigate adverse impacts arising from working in water or the marine environment shall be implemented. These include:

- Where sediments are likely to be contaminated, sampling and analysis will be undertaken to inform an assessment of whether the activity has the potential to cause environmental nuisance or environmental harm.
- All floating and submersible plant and equipment selected for the Project will be free of material and invasive marine pest species prior to arriving onto the Project.
- Any floating and submersible plant and equipment sourced outside of Tasmania will be washed down consistent with the National Bio-fouling Management Guidelines for non-trading vessels.
- An Invasive Marine Pest ("IMP") Risk Assessment must be completed and accepted by the PEMR for each piece of floating and submersible plant and equipment prior to mobilization to the Project.
- All vessels and barges shall have a valid certificate of antifouling confirming they are free of tributyltin (TBT).
- A silt curtain or similar shall be installed and maintained to limit the dispersal of contaminated sediments during seabed disturbance and to contain oil spills to water.
- Documented plume observations shall be made to confirm the effectiveness of silt controls during in water piling, drilling and sea levelling / excavation activities ("in water construction").
- The Marine Conservation Program within DPIPWE (M: 0427 942 537) shall be consulted immediately prior to construction activities, to determine whether there has been any recent marine fauna sightings in the proposed work area.
- Marine fauna observations shall be undertaken and recorded on the Marine Fauna Observation Form (or similar) and include the following:
    - Cetaceans (whales)
    - Pinnipeds (seals).
- Occurrences of cetaceans and pinnipeds in monitoring zone must be reported to DPIPWE within 90 days of detection.
- When undertaking marine disturbance activities in the Derwent Estuary avoid disturbance to the seabed and avoid seabed levelling / excavation from September – December (inclusive), as handfish are most vulnerable to environmental disturbance when breeding, brooding and hatching during this period.

23 Contractor Compliance

Undertaking work safely requires a commitment from both the Principal Contractor and Contractors. To this end:

- TasWater CDO will communicate standards and requirements clearly and in simple terms to all Contractors
- TasWater CDO will induct all workers in the prevailing rules and conditions on site including Contractors
- TasWater CDO will hold Contractors accountable for complying with site safety requirements
- TasWater CDO will recognise excellence by its Contractors in working safely.
- Breaches of any of these or any of the TasWater CDO Critical Risk Controls may result in permanent removal from the project.

24 Appendices

24.1 APPENDIX 1 - RESPONSIBILITIES

Position	Responsibilities
Division General Manager and HSEQ General Manager	• Approve exemptions in accordance with this document. • Set high compliance standards
Project and Operations Managers	• Ensure all Contractors receive a copy of this document • Set high compliance standards • Regularly verify risk controls are implemented
Project and Operations HSE Managers	• Champion requirements of this document to ensure site implementation • Provide assurance support and oversight • Be the subject matter expert to support contractors and supervisors
Utilities HSSE Operations Manager	• Document Owner • Maintain document to ensure most recent TasWater CDO requirements are included. • Communicate changes to TasWater CDO Project and Operational Personnel
Project and Operations Supervisors	• Positively reinforce the requirements of this document • Verify controls are in place
Contractors	• Understand the hazards • Follow the rules and implement the controls identified in this document • Speak up if controls are not in place and stop the job • Get involved in identifying opportunities for improvement

24.2 APPENDIX 2 - DEFINITIONS

Term	Definition
AIO	• Authorised Isolation Officer
ARMP	• Approved Risk Management Plan (Environment)
ASSMP	• Acid Sulphate Soils Management Plan
CEMP	• Construction Environment Management Plan
CRCP	• Critical Risk Control Protocol
ERP	• Emergency Response Plan
ESCP	• Erosion Sediment Control Plan
EWP	• Elevated Work Platform
HAZOB	• Hazard Observation
HSE	• Health Safety and Environment
HSMP	• Health and Safety Management Plan
HVNL	• Heavy Vehicle National Law
ICAM	• Incident Casual Analysis Method
LUEZ	• Loading and Unloading Zones
PPE	• Personal Protective Equipment
RCD	• Residual Current Device
SWMS	• Safe Work Method Statement
SDS	• Safety Data Sheet
TRIFR	• Total Recordable Injury Frequency Rate
VOC	• Verification of Competency
VRD	• Voltage Reduction Device

APPENDIX A – TASWATER CDO CRITICAL RISK CONTROL PROTOCOL

Contents

Foreword

There is nothing more important than keeping our people safe.

From experience gained across the high risk industries in which we work, we have identified where our greatest exposures to fatal or permanently disabling injuries lie. From those insights we have determined Critical Risks.

To address these Critical Risks, we have developed the Critical Risk Control (CRC) Protocol. The CRC Protocol outlines the mandatory minimum standards required to achieve a step change across our business; specifically defining how we identify, eliminate or manage Critical Risks. The CRC Protocol highlights the most important safety controls from the existing Health and Safety Management system.

The CRC Protocol encompasses much more than what our teams do in the field. It also involves:

- How we assess and tender new opportunities
- How we plan our work
- How we consider safety in our design process.

If you are not working on a site, you still need to understand Critical Risks and how they are managed. This CRC Protocol applies to **everyone** at the CDO. We need to manage our Critical Risks effectively so everyone can get home safely each and every day.

Introduction

The CRC Protocol is a set of mandatory minimum health and safety requirements that apply to all CDO operations and controlled activities. The protocol defines the Critical Controls required to manage Critical Risks.

The CRC Protocol does not replace the Health and Safety Management system. It has been designed to emphasise the most important requirements to manage risks that have the potential to cause fatal or serious injury.

The CRC Protocol is a practical reference to assist you with implementing the required Critical Controls into every element of planning and execution of work that involves Critical Risks.

Critical Controls

Critical Controls are essential in preventing fatalities or serious injuries. They must be effectively implemented across the entire business at all times. The failure of a Critical Control has the potential to trigger a significant incident.

When Critical Controls are found to be ineffective, the activity should not start.

Work should only proceed when effective controls have been identified and are in place.

Exemption Process

Where a part of the business deems that it is not reasonably practicable to meet one or more of the requirements defined within the CRC Protocol, they can apply for dispensation, for a specific period of time, by:

1. Having the proposed dispensation endorsed by the Executive General Manager accountable for the area of the business that the exemption is being applied for.
2. The dispensation must be documented by completing the exemption request form, which outlines:
   - The reason for the request
   - The part of the business that the dispensation applies to
   - The specific duration of the dispensation
   - An assessment of the risk of not complying with a particular requirement defined in the CRC Protocol
   - Other controls that will be put in place as an alternative.

UGL's Critical Risks

1. Working at Height

2. Operation of Mobile Plant

3. Working in Confined Spaces

4. Excavation and Trenching

5. Cranes and Lifting Operations

6. Energy Isolation

7. Working with Electricity

8. Managing Traffic

9. Handling and Storage of Hazardous Chemicals

10. Working with Asbestos (ACM)

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CRC PROTOCOL | UGL 5

Critical Risk 1
Working at Height

1.1 The hierarchy of controls is applied to **minimise the need to work at height;** including the design of new buildings, plant and equipment.

1.2 **Fall restraint or fall arrest equipment** is utilised when working at height and the provision of a secure working platform is not practicable. Workers at height wear full body harnesses that incorporate **shock absorbing lanyards or inertia reels.** Purpose designed anchor points are certified by a competent person.

1.3 **Ground conditions** are assessed and verified as solid, stable and suitable for elevated work platform (EWP) operations.

1.4 Protection from falling objects is provided through primary controls such as **edge protection** (encapsulation), with exclusion zones and/or overhead protection provided as a secondary means of control.

1.5 **Pre-start and periodic inspections** by a competent person are completed to confirm that working at height equipment (including elevated work platforms and scaffolding) is fit for purpose and can be used and maintained in accordance with OEM and statutory requirements.

1.6 Everyone undertaking or supervising work at heights is **trained and competent** to understand working at height hazards and controls.

1.7 Working at height activity is authorised by, and conducted in accordance with, a **permit and rescue** plan.

Permits are also utilised for the removal of penetration covers, guard rails or grid mesh that expose a worker to a fall from height.

1.8 Hand tools and equipment used whilst working at height have **secondary securing mechanisms** such as lanyards. These must be attached either to the worker or to a fixed point adjacent to the worksite. Chin straps are fitted and used for securing hard hats.

1.9 **Spotters** are in place during EWP operations.

1.10 Boom type EWPs are fitted with **secondary guarding**.

1.11 Where work methods require detaching and reattaching at height, a dual lanyard system is utilised to ensure that at least one connection point is maintained at all times (**100% Hook-up**).

Critical Risk 2
Operation of Mobile Plant

2.1 **Plant risk assessments** are conducted and plant is inspected by a competent person to confirm it is fit for purpose prior to utilisation on site.

2.2 Earth moving machinery is fitted with compliant Rollover Protection (**ROPS**) and Falling Object Protection (**FOPS**), unless risk assessment has demonstrated that they are not reasonably practicable.

2.3 Mobile plant is fitted with effective **safety devices** such as reversing alarms, rotating/ flashing lights, communication device (radio), seat belts and fire extinguishers.

2.4 Mobile Plant operators hold the appropriate **licences and competencies** for the plant they are required to operate.

2.5 Mobile Plant and vehicle operators always find a stationary position in a safe place prior to handling a **mobile phone**.

2.6 **Pre-start and periodic servicing** of mobile plant and vehicles are conducted in accordance with OEM and statutory requirements and any deficiencies are reported for correction.

Safety related deficiencies are resolved before equipment is put into operation.

2.7 Mobile plant is always **switched off** and braking mechanisms are applied before being left unoccupied.

Critical Risk 3
Working in Confined Spaces

3.1 Confined spaces are **identified** by a competent person and appropriate signage applied.

3.2 Work planning processes consider whether the requirement to enter a confined space can be **eliminated**.

3.3 Personnel involved in confined space work have attained **applicable training and competency** for;

- Working in a confined space
- Atmospheric monitoring of confined space
- Supervision of confined space work.

3.4 Any systems likely to influence the atmospheric or physical status of a confined space are **identified, purged and/or confirmed isolated** before entry into the confined space.

3.5 Working in confined space is authorised by a **permit and rescue plan**, which is subject to regular testing.

3.6 Prior to entry, **testing of atmospheric conditions** is undertaken utilising calibrated equipment.

3.7 **Confined space entrants wear a harness** to facilitate rescue in the event of an emergency.

3.8 Confined space **sentry/standby persons** are located outside of the confined space at all times when the confined space is occupied; they have no other duties during the confined space entry.

3.9 Where there is a risk of atmospheric hazards, **continuous monitoring** of the atmosphere is undertaken by a dedicated sentry/standby person whilst confined space work is performed.

3.10 Sentries have an effective means of **two-way communication** with confined space entrants and a method of activating an emergency response.

Critical Risk 4
Excavation and Trenching

4.1 Personnel involved in excavations are **trained and competent** to understand the hazards and controls associated with excavations.

4.2 Underground services are **positively located and identified** by mechanisms such as:
- Pot-holing
- Scanning

as well as from potential sources such as:
- 'Dial Before You Dig'
- Asset owners
- Reticulation plans
- Client/property owners etc.

4.3 **Spotters** are in place during excavations in the vicinity of underground services.

4.4 **Safe Approach Distances** (SADs) for underground services have been identified as per the asset owner's requirements, with no mechanical devices used within the SADs.

4.5 Excavation and trenching (>300mm) activities are authorised by a **permit**. The permit identifies the hazards and controls specific to the task and defines the emergency management requirements.

4.6 Excavations >1.5m have been planned with a **temporary works design**, and include controls such as boxing, benching, battering or shoring & de-watering.

4.7 Excavations are **established and monitored** to safely enable access and egress and maintain stability. Physical barriers around excavations are installed to prevent unauthorised or inadvertent access by workers, members of public or vehicles operating in the vicinity.

4.8 **Exclusion zones** for plant, materials and spoil are identified and maintained with a physical barrier. Spoil must be placed >2m from the edge or if the excavation is <1.5m it must be 45 degrees from the base excavation.

4.9 Where a **hazardous atmosphere** is present or likely to be present, excavations are considered a confined space.

Critical Risk 5
Cranes and Lifting Operations

5.1 Cranes are inspected by a competent person in accordance with statutory & OEM requirements and maintenance log books are current (with **no open safety related deficiencies**).

5.2 Lifting gear is periodically **inspected & tagged** by a competent person and visually inspected prior to being used in accordance with OEM specifications.

5.3 **Limiting and indicating devices** are fitted to mobile cranes, with load indicators fitted to all mobile cranes with a rated capacity >3 tons.

5.4 Crane operator and dogman/rigger have effective **communication processes** in place.

5.5 Crane operators & persons slinging loads have appropriate **licences and competencies**.

5.6 The **type and weight of loads** is confirmed and is less than the safe working load of the lifting device.

5.7 Risk Assessments (SWMS/JHA) and **Lift Plans** are developed and approved for significant lifts.

5.8 **Ground conditions** are assessed by a competent person to determine the controls required for ensuring the stability of the lift.

5.9 **Exclusion zones** are established and non-conductive tag lines used to guide loads. Personnel remain outside exclusion zones at all times, and never walk or stand under suspended loads.

5.10 **Outriggers** are effectively deployed in accordance with OEM specifications.

5.11 **Loads capable of shifting** until secured remain attached to the lifting device and tag lines, or are securely propped or chocked until secured.

Critical Risk 6
Energy Isolation

6.1 Equipment that is purchased and equipment that is designed includes lockable isolation points for hazardous energy sources. Each **isolation point is labelled** with a unique identifier.

6.2 All hazardous energy sources are identified, **de-energised and physically isolated** prior to working on equipment/systems, with safe work methodologies for protection of services that cannot be isolated.

6.3 All energy sources and equipment are treated as **live until tested for dead** by a competent person.

6.4 Work planning includes **identification and isolation** of sources of hazardous energy by a competent supervisor.

6.5 Personnel about to commence working on plant or equipment conduct isolation checks before placing their **Personal Danger Tags and Locks**.

6.6 Energy isolation activities are authorised by a **permit** which identifies each isolation point and specifies the test requirements for the presence of hazardous materials/stored energy.

6.7 Each person that performs work under an energy isolation is trained and competent. Physical isolation, de-isolation and any isolation changes are completed and communicated by a **competent and authorised person**.

6.8 **Isolation points are clearly identified**, proven, labelled, locked and controlled to prevent inadvertent energising.

Critical Risk 7
Working with Electricity

7.1 All electrical equipment is **compliant** with Australian or international standards, **tested for ground continuity, tagged and recorded**.

7.2 Testing and tagging of portable electrical equipment is conducted by appropriately **trained and competent** persons.

7.3 Welding equipment is correctly **earthed and staked** as required by the OEM. Voltage Reducing Devices (VRD) are installed and tested for all Manual Metal Arc welding machines.

7.4 **Live cabling is protected from** mechanical damage.

7.5 All temporary **electrical leads are secured off the ground** by insulated hooks and/or lead stands.

7.6 SWMS/JHA's/Safe Work Instructions are developed and approved for all activities involving the **potential for contact with live conductors**. If a risk of contact with electrical energy exists, controls are identified and implemented including the provision and use of insulated tools, gloves, mats, low voltage rescue kits.

7.7 All **live electrical circuits are identified** prior to any penetrations of surfaces (walls, flooring and roofing).

7.8 **Temporary electrical works** are installed, tested and certified in accordance with the applicable standard.

7.9 All circuits and powered equipment have **Residual Current Device (RCD) protection**.

7.10 When working near live Overhead Line Equipment (OHLE) or live electrical parts, regulated **safe working distances/exclusion zones** are identified and maintained.

Critical Risk 8
Managing Traffic

8.1 Mobile plant and vehicle movements on sites are in accordance with an approved **Traffic Management/Movement Plan** which is available to all personnel.

8.2 Physical (solid barrier) **separation from mobile plant operations** are used to protect personnel and/or members of the public wherever practicable.

8.3 **Loading/unloading zones** are clearly delineated with controls to prevent unauthorised access.

8.4 All **overhead services and structures** in the work area are identified with appropriate control measures to prevent collision by mobile plant and vehicles.

Critical Risk 9

Handling and Storage of Hazardous Chemicals

9.1 Hazardous Chemicals are **risk assessed** and controls are implemented prior to storage or utilisation on site.

9.2 **Identification signage/labelling** is in place on vessels, containers or pipes containing hazardous chemicals, including when decanted.

9.3 **Current Safety Data Sheets** are available at the worksite and the required controls are applied.

9.4 Hazardous chemicals are **segregated** from, and do not come into contact with, incompatible materials.

9.5 Chemicals are stored in **designated storage** areas and containers when not in use, with sufficient **bunding** to contain potential spills/ leakage.

Critical Risk 10
Working with Asbestos (ACM)

10.1 All sources of Asbestos Containing Material (ACM) are **identified, labelled** (where practicable) **and recorded** in a register which is available at the worksite.

10.2 Where asbestos or ACM is identified, an **Asbestos Management Plan** is developed, communicated and regularly reviewed.

10.3 Class A or B asbestos is always removed by appropriately licensed persons.

10.4 Controls are identified that **prevent the release of fibres** to the atmosphere to the extent that is reasonably practicable for all instances of ACM removal, including the use of wet methods and avoiding abrasive work methods (e.g. drilling, cutting, grinding) for removal or demolition.

10.5 Where ACM is identified, there is a **regular inspection process** by a competent person to determine the condition of ACM and identify any potentially hazardous environments.

10.6 Where personnel are required to undertake Class A and Class B ACM removal work an **Air Monitoring program** must be established and conducted by a licenced asbestos assessor.

10.7 **Appropriate decontamination facilities** are available and material is decontaminated or sealed before removal.

Definitions/Acronyms

ATMOSPHERIC TESTING
Includes the measurement of oxygen, carbon monoxide, hydrogen sulphide, lower and upper explosive limits and other known contaminants with the potential to cause serious harm.

CHECK FOR DEAD
Processes to verify energy isolation and zero energy state;

CONFINED SPACE
Means an enclosed or partially enclosed space that:

- Is not designed or intended primarily to be occupied by a person; *and*
- Is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; *and*
- Is, or is likely to be, a risk to health and safety from:
  - an atmosphere that does not have a safe oxygen level; or
  - contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion; or
  - harmful concentrations of any airborne contaminants; or engulfment.

EWP
Elevating Work Platform; includes both boom lifts and scissor lifts.

HAZARDOUS CHEMICAL
A substance, mixture or article that satisfies the criteria for a hazard class in the United Nations 'Globally Harmonised System of Classification (GHS) and Labelling of Chemicals'.

HAZARDOUS ENERGY
Energy sources including; stored, electrical, hydraulic, mechanical, pneumatic, magnetic, gravitational, radiation.

LIFTING GEAR
Components or equipment used between lifting device and the load being lifted, which are not an integrated part of the lifting device. E.g. shackles, slings, chains, ropes, spreader bars etc.

OEM
Original Equipment Manufacturer.

PREVENTION OF FALLS HIERARCHY OF CONTROL
Where possible, arrange for work tasks to be undertaken on the ground, or on a solid construction.

Where it is not possible to work from the ground or from solid construction, the work must be controlled using one of the options below, in descending order of priority:

1. Passive fall prevention devices must be used (e.g. Temporary work platform, roof safety mesh or guard railing);
2. Work positioning system (e.g elevated work platform, industrial rope access system, travel restraint system);
3. Fall arrest system (e.g. safety harness system, industrial safety net, catch platform); or
4. Fixed or portable ladder that is fit for purpose, appropriate to complete the task including consideration of duration and appropriately set up.

REASONABLY PRACTICABLE
What is reasonably able to be done to implement or adhere to the Critical Controls, taking into account relevant matters relating to the control of a hazard, or risk including:

a) the likelihood of the hazard or the risk concerned occurring; and

b) the degree of harm that might result from the hazard or the risk; and

c) what the person concerned knows, or ought reasonably to know, about:
   i) the hazard or the risk; and
   ii) ways of eliminating or minimising the risk; and

d) the availability and suitability of ways to eliminate or minimise the risk; and

e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

Further Guidance for Determining Reasonably Practicable
Ask yourself, what would a reasonable person in my position do to either eliminate, or if that's not possible, minimise the risk?

You must at all times require the use of the highest level of protection that is available to eliminate or minimise the risk.

SECONDARY GUARDING

Devices which assist in the prevention of crushing injuries on EWP's. Includes protective structures, pressure sensing devices and proximity systems.

SIGNIFICANT LIFTS

A significant lift is a lifting operation which involves one or more of the following:

- Exceeds a gross weight of 20 tonnes (including rigging and lifting gear)
- Requires two or more cranes
- Involves lifting over live operational plant
- Exceeds 75% of the crane's rated capacity in that particular configuration
- Involves lifting tilt-up or pre-cast panels
- Involves turning or flipping the load where shock loading and/or side loading is likely to occur
- Involves lifting in areas of poor or unknown ground conditions or bearing value
- Lifting a person in a man-box / cage.

SECURE WORKING PLATFORM

A non-mobile platform or area that has:

- A surface that is structurally capable of supporting all persons and things placed on it
- Barriers around its perimeter and any openings to prevent a fall
- An even and readily negotiable surface and gradient
- A safe means of entry and exit.

WORK AT HEIGHT

Also called fall risk.

Risks to health and safety associated with a fall by a person from one level to another that is reasonably likely to cause injury to the person or any other person. Includes the risk of a fall:

- In or on an elevated workplace from which a person could fall;
- In the vicinity of an opening through which a person could fall;
- In the vicinity of an edge over which a person could fall;
- On a surface through which a person could fall; or
- In any other place from which a person could fall.
- As a minimum, falls risk of 2m or more must be treated as work at height.

WORK PERMITS

The work permitting processes provide verification that minimum controls are in place prior to commencing a high risk activity. While the method for achieving this may differ in different parts of the business, the process must include:

- Hazard identification, risk assessment and control practices to be followed (e.g. task based assessments, SWMS, Take5 etc.);
- The location specific elements that apply (e.g. isolations, inspections, plans, equipment checks etc.);
- Training requirements, including licenses where required;
- Any specific emergency protocols that apply or need to be verified prior to commencement;
- Duration, location and activities that approval to complete the work is granted for; and
- Verification that controls are in place / implemented prior to proceeding with the work activities.

CAPITAL DELIVERY OFFICE

CDO