protect

YOUR GUIDE TO WORKING SAFELY CRITICAL RISK HANDBOOK

Revision 4 | August 2024

FLETCHER CONSTRUCTION | BRIAN PERRY CIVIL | HIGGINS

WE BELIEVE ALL INJURIES ARE PREVENTABLE

We want to make sure that everyone in our family of businesses gets home safe every day to their whanau and friends.

This guide will provide the tools to help keep everyone safe.
The requirements contained in this handbook are part of our Protect safety culture and must be followed at all times.

Phil Boylen

Chief Executive—Fletcher Construction

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Critical Risk Management to Take You Home

Our why

PURPOSE

Fletcher Construction through its Protect Value and Safety Principles,is committed to the belief "all injuries are preventable" and "all operating exposures can be safeguarded." To assist our operations in living the value and principles, Fletcher Construction has implemented a Critical Risk Management Framework that targets the critical risk exposures across our operations and sites.

As a business, Fletcher is committed to demonstrating genuine care for its people and ensuring we do everything within our control to send our people home safe and healthy every day. Central to this mindset is theneed to ensure that critical risk management is at the centre of everything that we do, through the entire life cycle of a project or operation, from planning and designthrough to delivery and close out.

Fletcher Construction and each of its Business Units, Brian Perry Civil, Buildings, Higgins, Major Projects and South Pacific continuously will focus their efforts on effectively managingcritical risks across our operations and sites. Fletcher Building at Group level has developed Critical Risk Standards with Critical Controls and Performance Requirements which are the minimum requirements for all operations to manage the Risks when present on site or in operations.

Fletcher Construction has built all the critical controls and performance requirements into its critical risk framework and this handbook. It has also developed Critical Risk Standards and, where appropriate, Safe Work Systems to further define and build on the Group Performance requirements, any additional requirements of these standards and safe work systems are also contained in this handbook.

Fletcher One houses the Fletcher Construction Requirements along with the tools to support critical control implementation.

Note: At the time of publication, not ALL Fletcher Building Critical Risk Standards have divisional Safe Work Systems. Where Safe Work Systems are yet to be developed, the critical controls and performance requirements defined for each risk within this handbook will be the minimum acceptable standard for managing the risk in conjunction with Business Unit procedures.

OUR SAFETY VALUE AND PRINCIPLES

Protect is a core value for Fletcher.

Our values guide the way we behave every day and help shape the culture we want at Fletcher. Our values build a foundation of what we should expect from ourselves and each other and it is the actions we take that would make real meaningful change, helping us to shape our working culture towards our goal of Zero Injuries Every day.

To support the Protect Value, Fletcher has adopted a set of Safety Leadership Principles to underpin the mindset and practices that create the transition to an interdependent safety culture.

The Principles are a set of personal beliefs and actions that guide our people in their leadership, management and decision-making practices. By embracing these principles, and demonstrating felt leadership, our behaviours will help shape our culture.

Critical Risk Management Framework

Managing the risk exposure

CRITICAL RISK FRAMEWORK - SAFER

The Fletcher Critical Risk Framework (SAFER) manages the risk of exposure to harm that could result in potential or actual serious injury or fatality and involves a systematic approach to ensure mandated critical controls are in place and effective.

The SAFER process outlines the requirements for identifying, managing, evaluating and reviewing Divisional critical risks and controls that can either prevent a serious incident occurring in the first place or minimising the consequences if a serious incident were to occur. This ensures alignment of understanding around what the standard that we set as an organisation, and it also builds on our approach to risk containment and active leadership and helps obtain targeted visibility of what's working and what requires more focus.

The process within the SAFER model provides specific guidance on:

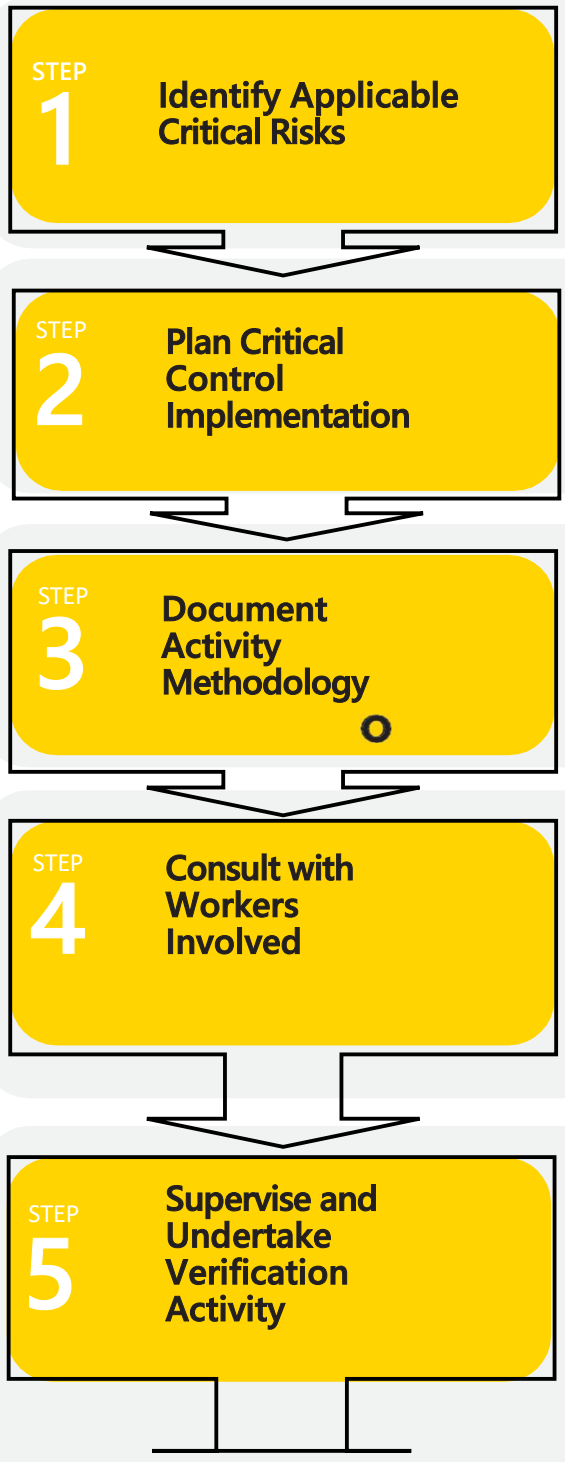
i. SEEIT - Identifying the critical risks;
ii. ASSESS IT - Assessing each Critical Risk to establish the Critical Controls and performance requirements that must be applied;
iii. FIX IT - Implementation of critical controls and performance requirements across operations;
iv. EVALUATE IT - Verifying control and requirement implementation in practice;
v. REVIEW IT - Reviewing the data to determine effectiveness of controls and identify required action.

THE CRITICAL RISK MANAGEMENT PROCESS

In supporting our critical risk management framework, our managers, engineers and frontline leaders have an obligation to ensure their people and teams (including contractors), have identified and understood the risk exposures and have **implemented the required controls outlined in this handbook, the Fletcher Critical Risk Standards, Safe Work Systems, Life Saving Rules, Life Saving Actions and Visual standards prior to commencing work.**

Five Step Critical Risk Management Process

Before starting any work involving critical risks the operational andfrontline leaders must carry out steps one to five



Review methodologies and identify those activities where there is a likelihood of exposure to any one of the critical risks outlined in this handbook.

Once identified, these activities will be planned in accordance with the controls prescribed under each applicable critical risk.

The implementation of critical controls identified in Step 1 will need to be considered in terms of the local site and operational environment and clear implementation requirements established and documented in Risk Registers and Risk documentation e.g. SOPs, JSEA, etc.

Administrative controls required as part of the activity (e.g. JSEA, SOP development and consultation, permit to work) will be completed asrequired under the agreed safe system of work.

Through the JSEA and SOP development (and review) and pre-start briefing process (e.g. pre-start or toolbox talk) all personnel (including contractors) that will undertake or supervise the work must be consulted andmade aware of how the critical controls will be applied.

Communication must also extend to include peopleother than those directly involved in the activity (e.g. customer representatives) that could be potentially impacted by the activity.

Activities that involve one or more critical risks will be supervised by competent frontline leaders, in accordance with section 3 of FCC Management Procedure 14 Training, Competency & Supervision.

Adequate verification and monitoring processes will be in place to ensure each activity is being managed in accordance with the agreed methods outlined in Step 3.

As a minimum, verification and monitoring must occur atthe start of each working day / shift, at regular intervals throughout the course of the operation, and when a change to the agreed method of work or workscope is introduced. Following any such change, Steps one to five are to be repeated.

Managing our Critical Risks

What you need to know

ELIMINATING, SUBSTITUTING OR ENGINEERING OUT CRITICAL RISKS THROUGH PRE-TASK PLANNING

All employees and contractors are actively encouraged to bring forward innovations and ideas to further eliminate risk, or reduce our exposure so that we can continually improve both our culture and our systems. All opportunities to eliminate, substitute or engineer outcritical risks through design and task planning should befully explored before work commences in any operation.

These opportunities include, but are not limited to:

- Application of the Critical Risk Standards and Safe Work Systems as part of the bid and early design;
- Designing out the need to carry out critical risk activities (e.g., reversing plant) or work in critical risk environments (e.g. relocating overhead utility services away from work area);
- Researching and implementing technological advantages and solutions;
- Task and activity programming schedules, challengingtask sequencing and methodology to minimise the work area congestion and effectively manage simultaneous operations;
- Peer reviews of project methodologies and risk workshops prior to commencement to ensure criticalrisk thinking has been exhausted.

EXPECTATIONS AND ACCOUNTABILITIES

The requirements contained within this Handbook (and the associated Critical Risk Standards and Safe Work Systems) when implemented, will assist operations and sites in preventing actual and potential serious injuries and fatalities. **All Fletcher employees and contractors are required to meet or exceed these minimum requirements at all times.** All employees and contractors are empowered to report or raise any issues or concerns withtheir direct manager and are also actively encouraged to bring forward innovations and ideas to further eliminate risk or reduce our exposure so that we can continually improve both our culture and our systems.

The Life Saving Actions and Critical Controls outlined in this handbook provide the minimum acceptable standard for our business by clearly articulating the level of safety required to be implemented when undertaking work involving one or more of our 22 Critical Risks.

As part of the planning process for jobs and tasks, it is expected that risk workshops will be held and consideration must be given **during the tender and planning stage to eliminate, substitute or engineer out risk.** This planning will commence at pre-tender stage and continue through to job commencement. Theplanning will involve relevant stakeholders (including at a minimum workers and safety personnel) and take into account the Fletcher Building and Fletcher Constructionmandatory and critical controls referred to in this handbook to ensure these Critical Risk Controls can be implemented effectively.

Our frontline leadership teams will be accountable and responsible for the effective implementation of these controls on site and the ongoing verification of their effectiveness in preventing harm.

TRAINING FOR SUCCESS

Training in the application of the Critical Risk Standards, Safe Work Systems, the associated Critical Controls and Business Unit Safe Operating Procedures is to be conducted by the business unit and or operations before work commences.

All workers undertaking activities with critical risk exposures must be trained and verified as competent in accordance with the relevant Critical Risk Standard and / or Safe Work System. Training provided by external parties should only be conducted by Fletcher approved specialist training providers.

Managing our Critical Risks

What you need to know

MANAGING CUSTOMER OR PARTNER EXPECTATIONS

The strength of the Fletcher business is our "All injuries are preventable" approach in delivering on ourdiversified capability for our customers and strategic partners. At times, our customers or our Alliance or Joint Venture Partners may have their own health, safety and environmental requirements which we are asked to follow. In these instances, Fletcher will not compromise on its approach to managing critical risk and any adoptedstandard must be higher than Fletcher's.

An operation or project may adopt a customer or partners standards or requirements in relation to the management of critical risk, so long as their standard or requirement **is equal to or exceeds** the requirements contained within the Critical Risk Handbook.

Prior to agreeing to follow the customer or partners standards and / or requirements, a formal gap analysisis required to highlight the areas where Fletcher requirements exceed those of our customers and partners and confirmation from our customers and / or partners that this is acceptable must be obtained in writing.

Where a customer or partner will not accept the higher Fletcher standard, the issue must be escalated to the BU General Manager and EHS Manager to deal with.

EXEMPTION PROCESS (WITH BU GENERAL MANAGER APPROVAL ONLY)

Where an operation within the Fletcher business deems that it is not possible to meet one or more of the requirements defined within the Critical Risk Standards (or this handbook), an application for an exemption must be sought from the Fletcher EHS Council using FC– EHS–F026 Critical Risk Requirement Exemption Form in accordance with section 7 of the Fletcher Construction Management Procedure 01 Critical Risk & Opportunities.

CR01 - Fall from Heights

Critical Risk 1 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence from a person falling from one level to another, when working on fixed or temporary structures, fixed or mobile plant or around penetrations, voids or excavations.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to workat heights, through the application of the following risk controls:

- Eliminate the need to work at heights through the design process;
- Perform the work on ground level; or
- Prefabricate or prepare materials prior to arrival on site.

KEY DOCUMENTS

- FB–EHS–STD–CR01 Fall from Heights.
- FCC Critical Risk Standard—FC-EHS-CRS01 Fall from Heights.
- FCC Associated Procedure - D05 Temporary Works.
- FCC Associated Safe Work System—FC–EHS–SWS03 Permit to Work.
- 07 FCC PTW Height Permit to Work.

KEY TERMS

Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Height is defined as 'a location above, at or below ground level where a person could be injured if they fell from one level to another.'

APPLICABLE LIFE SAVING RULE

We never work unprotected at height.

REQUIRED LIFE SAVING ACTIONS

We always carry out activities at height with either:

- Compliant edge protection in place; or
- A fall arrest or fall restraint system in place.

EXCEPTION

Does not apply when using three points of contact on an approved ladder, scaffold, steps or stairs to access oregress a work area or an item of plant.

Fall from Height

Critical Risk 1 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of falls from height, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Install Fall Prevention

1. All fall edges (including excavations) must be protected by a physical barrier of sufficient height (e.g., 1100mm) and strength that prevents a person from falling.
2. Handrails, penetrations, shafts and rises must be covered/protected, clearly identified, and securely fastened to prevent a person from falling.
3. Where a fall restraint system is in use, ensure the restraint lanyard in use is of a maximum length so it prevents the person from reaching the exposed edge.
4. All fall restraint equipment (e.g., lifelines) must be checked by a competent person before use.
5. Work Positioning Systems have been designed and established by a competent person.

Critical Control 02 – Use Fall Arrest System

6. Fall arrest systems must only be used when fall restraint is not practicably possible.
7. All fall arrest equipment and abseil anchors must be checked before use by a competent person.
8. Fall arrest harnesses in use must have double lanyards and a current inspection certification of less than twelve (12) months old.
9. Fall arrest systems must include shock absorbers and must be appropriate for the weight of the individuals and minimise the fall distance to ensure no contact with the ground.
10. A rescue plan must be in place (and trialed) specific to the activity being undertaken; the plan must include appropriate and tested rescue equipment (including communication method); all persons involved in the activity must be trained and aware of the requirements/contents of the plan.

Critical Control 03 – Ensure Equipment or Structure Integrity

11. Where working, walking over, or accessing a potentially brittle, unsecured or fragile surface at height is required, surfaces or work areas must be assessed by an Engineer to ensure they are safe and appropriate controls (including monitoring) put in place. These assessments and any controls required must be documented.
12. Appropriate design and/or certifications must be completed to ensure barriers, scaffolding, screens, penetration covers, anchor points and working platforms used are safe and fit for purpose. These must be recorded in the Temporary Works Register.
13. There must be current inspections of scaffolds, screens, penetration covers, anchor points & working platforms taking place to confirm they remain structurally sound and fit for purpose.

Critical Control 04 – Use Height Access Equipment

14. Scissor lifts must only be used on level ground or within manufacturers specifications.
15. Where the ground is not level, or a scissor lift cannot be safely used, a cherry picker or boom style Mobile Elevated Work Platform (MEWP) must be used; Operators in boom-style MEWPs must wear a safety harness with a lanyard – fitted with a short energy absorber or self-retracting lifeline (SRL). The harness must be attached to a certified anchor point. If using an adjustable lanyard, it must be as short as possible to keep the operator inside the platform. Lanyard length must be based on the size of the platform of the MEWP being used.
16. Where MEWPs are used, a physically demarcated exclusion zone from all other activities (including LOTO of gantry cranes or other overhead work) must be established or a spotter used to manage the exclusion zone.
17. MEWP's in use must have safe access, stable foundations (including an assessment of environmental conditions such as wind), and have enough room to manoeuvre and work safely and efficiently.
18. When the height of the scaffold is more than three times the width of the base, the scaffold must be tied to the supporting structure if not rakered or buttressed.
19. All scaffolds in use must be tagged as safe to use and within date of inspection.
20. Platforms (or other safe access) must be provided for transport truck loading/unloading where operators need to access a truck deck.
21. All scaffolding up to 5 meters in height must be assembled, maintained, inspected, and disassembled by a competent person.
22. All scaffolding 5 meters in height and above, and special scaffolding (canti-levered and suspended) must be assembled, maintained, inspected, and disassembled by a person who holds the appropriate class of certificate of competence for that type of scaffold.
23. Temporary access platforms must have an engineer approved design and/or certification, be structurally sound, free of defects.
24. Step, straight and extension ladders are only to be used to access and egress areas at height (not to be worked from unless managed by a Permit to Work) and platform ladders are only to be used as work platforms for low risk, short duration activities.

Critical Control 05 – Ensure Competency

25. Persons using fall arrest systems, issuing and receiving Permits to Work, using height access equipment, or assembling, maintaining, certifying or dismantling scaffolding must be trained to the appropriate industry standard and deemed competent to be able to perform the activity.

CR02 - Vehicle Collision or Rollover

Critical Risk 2 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence while drivinga vehicle, transporting personnel, toolsand minor materials as a direct result of distraction (taking either your eyes off the task or loss of concentration) or plant or vehicle incident or rollover where you could be thrown from the vehicle or plant or due to impact fromthrown about the cabin of the vehicle or plant.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to drive, through the consideration of non-driving work alternatives.

KEY DOCUMENTS

- FB–EHS–STD-CR02 Vehicle Collision or Rollover.
- FCC Critical Risk Standard—FC-EHS-CRS02 Vehicle Collision or Rollover.
- FCC Fatigue Management Plan.
- FCC Journey Management Plan.

KEY TERMS

Plant is defined as powered mobile equipment usedto perform mechanical work under the control of an operator (e.g. graders, loaders, excavators, rollers, telehandlers, cranes, pavers, etc).

Vehicle is taken to be either a light vehicle (GVM <4.5t),or a heavy vehicle (GVM>4.5t) but also includes all high occupancy vehicles, as well as 4WDs, utilities and small vans.

APPLICABLE LIFE SAVING RULE

We never drive or operate while usinga handheld mobile phone or without wearing a seatbelt, where fitted.

REQUIRED LIFE SAVING ACTIONS

We always make and take mobile phone calls hands free when driving any vehicle or operating any item ofmobile plant.

We always wear a seatbelt, where fitted, when thevehicle or machine is operational or moving.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when driving / operating vehicles and plant, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Effective Load and Product Restraint

1. Loads must not exceed weight limits and specifications of truck and trailer and angle of operation for loading/unloading must not exceed machine specifications.
2. The lashings (e.g., ropes, webbing or chains) used must be inspected annually, tagged with load limits, be in good condition and evenly distributed along the load to restrain material from moving during transit.
3. When transporting mobile plant and heavy loads (>2t):
   - Restraint methods (e.g. belly, cross over) and dunnage placement must ensure the load is fully secured to prevent movement; and
   - Chains are to be used; or
   - Where chains are not practical (due to risk of damage to product):
     - Fit for purpose lashings authorised within the NZTA Truck Loading Code can be used as an alternative to chains.
4. Loads must be distributed to give correct axle distribution and an even weight distribution over the floor area and the centre of gravity of the load must be on, or as near as possible to, the centre line of the vehicle in order to maintain lateral stability.
5. If using webbing, lashings must be placed every 1.5 m along the length of the load.
6. Load anchors and load restraints must be certified.

Vehicle Collision or Rollover

Critical Risk 2 of 22

Critical Control 02 – Ensure Safe Equipment Condition

7. Heavy trailers are clearly marked with loading certificate and fitted with certified (or manufacturers) anchor points.
8. Light trailers have a current Warrant of Fitness, registration and not exceed towing vehicle rating capacity.
9. Light trailers must be fitted with safety chains (one for single axle and two for tandem axle) and certified D-shackles.
10. Pre-use checks are completed on all vehicles and trailers.
11. Recalls and industry specific alerts are actively managed for common defects or issues.
12. Vehicles are in good condition and maintained in accordance with manufacturer / local requirements by competent mechanics.
13. All heavy mobile equipment must have a certified operator protective structure installed that provides protection to the operator based on the task, working environment and risk (e.g. falling object, roll over, tip over, cabin operator).
14. Light Vehicles must achieve a minimum Australasian New Car Assessment programme (ANCAP) or European NCAP rating of 4 at a minimum.

Critical Control 03 – Ensure Operator Competency

15. Operators have valid licences, endorsements and certificates required for the class and type of vehicle (e.g., light vehicles, heavy vehicles, forklifts, etc.).
16. Operators receive vehicle-specific competency assessments for trailers, heavy mobile equipment and special transport vehicles (e.g., concrete trucks, earth moving equipment).

Critical Control 04 – Plan and Communicate Safe Route Planning / Environment

17. Operators must have a plan for their journey (for one-way travel in excess of two hours) and logbooks (where required) to manage and monitor fatigue – journey management plan.

    All yards and surfaces must be level and free of defects if forklifts or other equipment are used to transport unrestrained loads.
19. All haul roads and tip sites must have adequate bunding to protect drivers from exposed edges.
20. All haul roads, loading areas and tip sites must be maintained and adequate to protect drivers from tip overs.
21. Drains adjacent to haul roads must be designed at an angle leading away from the travelling direction, so that vehicles wheels cannot be trapped.
22. Systems shall be in place to ensure that risks associated with vehicle journeys are managed and controlled including height checks and procedures for lone or remote workers.

Critical Control 05 – Ensure Safe Recovery of Bogged or Stuck Vehicles

23. Business Units must develop and implement a Recovery Plan that can be used by operations for the safe and efficient recovery of the vehicle or item of plant.
24. The area immediately around, and between, the vehicle/plant item to be recovered and the recovery vehicle is an exclusion zone during the recovery/removal process, and no persons are to approach until the all clear is given by the towing leader.
25. The following tow equipment must be used to recover a vehicle from being bogged or stuck. It does NOT apply to road towing operations.
    - Flat fibre slings rated for towing are to be used.
    - Slings should be marked (including their SWL), so they are easily identifiable as tow ropes.
    - Wire ropes are only to be used for specialist contractor work on large plant.
    - Chains are not to be used for towing.
    - Drop pins are preferred to anchor the sling, not shackles.
    - Tow ropes / drop pins / shackles are not used for other types of work such as lifting.
26. Tow equipment is to be inspected by the towing leader prior to and after the tow. Any damage to be reported to the Supervisor immediately.

CR03 - Failure of Lifting Operations

Critical Risk 3 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to:

- Failure of equipment or operator error when working with tower cranes, mobile cranes, derrick cranes, bridge / gantry cranes and spider cranes;
- Working or walking immediately under a suspended load and being struck by the suspended load or objects falling from the suspended load.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk to people when undertaking activities involving cranes and lifting equipment through demonstrated planning methods, pursuing technological advantages, confirming design requirements and the choice of critical controls designedto effectively remove the hazards.

KEY DOCUMENTS

- FB–EHS–STD-CR03 Failure of Lifting Operations.
- FCC Critical Risk Standard—FC–EHS–CRS03 Failure of Lifting Operations.
- FCC Lift Plan Basic.
- FCC Lift Plan Complex.
- FCC Lift Plan Excavator.

KEY TERMS

Drop Zone is the area directly beneath the suspended load, during lifting, lowering and movement of the load. This zone includes the total lift path and needs to consider items, or buildings within the lift path that causea dropped object to deflect outside the drop zone.

Exclusion zone Exclusion zone is 'an actively attended /controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Lift Path is the area immediately under the suspended load at any part of its journey.

Load is defined as 'any load hanging below the hook orintegral lifting gear including rigging gear.'

Suspended Load is defined as a load that has been lifted clear of the ground, whether stationary or moving.

Tag Line is a rope of suitable strength, construction and length attached with an appropriate recognised bend or hitch to the load, used to control the load during lifting orpositioning.

Working Load Limit (WLL) / Safe Working Load (SWL) is the manufacturer's recommended maximum weight load for a line, rope, crane or any other lifting device or component of a lifting device.

APPLICABLE LIFE SAVING RULE

We always keep ourselves and othersclear of suspended loads.

REQUIRED LIFE SAVING ACTIONS

Where a load is being lifted, suspended or placed using a lifting device:

- We always ensure the load is contained and secured prior to lifting;
- We always check that people are clear of the area underneath the intended lift path of the load;
- We always keep ourselves clear of the area directly below the suspended load.

Failure of Lifting Operations

Critical Risk 3 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when performing lifting operations,the following critical controls and performance requirements will be implemented:

Critical Control 01 - Implement and Manage Exclusion Zones

1. Exclusion zones must be put in place and managed to ensure no loads are lifted, suspended or placed over people.
2. Physical barriers and / or other suitable controls are to be used, maintained and actively managed to exclude unauthorised persons from being around lifting devices, including protecting the outriggers from impact by passing traffic.
3. Drop zones must be defined, identified, documented, communicated and managed for all lifting operations (e.g., lift plan, SOP, signage).
4. Where exclusion zones are not practicable, an appropriate mitigation plan must be in place and approved by the General Manager (or delegate).

Critical Control 02 – Comply with Working Load Limits

5. All lifts (excluding standard forklifts / combi-lifts lifting within their load limit) must have an approved lift plan or SOP as determined by the level of risk and complexity of the task using a relevant Lift Category Risk Assessment tool.
6. Only approved and inspected lifting equipment and devices may be used for lifting operations.
7. All lifting devices and equipment must be operated within the manufacturers safe working load or working load limit.
8. Specialised lifting equipment (e.g., swift locks) can only be attached to certified lifting points on both the lifting device and the load.
9. Fabricated or custom-built lifting equipment and support stands must be supplied with engineering calculations and drawings, checked and certified by a qualified engineer, which demonstrate it can support the rated safe working load limit.
10. Where lifting devices are being operated in excess of 80% of their working load limit, the lift radius and load weight shall be checked against the lift plan prior to executing the lift:

- The radius shall be verified on the SLI by positioning the hook at the anticipated lift radius (with no load on the hook).
- The load weight shall be verified on the SLI at the start of the lift, as soon as the load becomes suspended.

11. Load calibrations must be completed as per established schedule (e.g., 6 monthly).

Critical Control 03 – Ensure Safe Equipment Condition

12. Lifting devices must have a current Inspection Certificate available at all times.
13. Lifting equipment (including booms) must be inspected in accordance with the ACOP for Load Lifting Rigging and AS4991 (lifting Devices) and be inspected by a competent person daily or prior to any use.
14. Crane commissioning, operation and decommissioning must be supervised by an authorised and competent person.
15. Sites must implement and maintain an inspection regime to ensure all lifting devices and equipment have a unique identifier and remain current through stamps, tags or certifications (or approved local equivalent).

Critical Control 04 – Ensure Safe Load Configuration and Stability

16. Ground/weather conditions and presence of live utility services must be assessed with appropriate controls implemented to ensure stability and safe operation of the lifting device and load throughout the entire operation.
17. Loads must be adequately secured (including covering where required) to ensure load remains stable and no items can come loose during all stages of the lifting operation.
18. Placement of loads must be hands-free (e.g., taglines and/or push-pull sticks) unless a risk assessment has been completed and additional controls have been applied.
19. Visual contact must be maintained between Dogman and operator at all stages of the lift; if this is not possible, two-way closed circuit radio contact must be established and maintained.

Critical Control 05 – Appoint Competent Person

20. All Crane Operators and Dogman must be trained, authorised and verified as competent in accordance with BPC FCI-HSW-PRC-0067 Lifting Operations and BPC FCI-HSW-PRC-0067 Lifting with an Excavator.
21. All lifts must be managed and authorised by an approved and authorised person e.g. Competent Foreman/Supervisor, Lift Supervisor, or LOC (Lift Operations Co-ordinator). Refer to BPC FCI-HSW-PRC-0067 Lifting Procedure and BPC FCI-HSW-PRC-0080 Lifting Operations Key Personnel.

CR04 - Entanglement, Impact or Crushing

Critical Risk 4 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to:

- Being struck or entrapped within machinery or an item of plant due toan uncontrolled release of energy;
- Failing to isolate electricity.

PRE-TASK PLANNING

Every effort will be made to **eliminate** the risk to people when working with plant, equipment, services or processlines with stored hazardous energy. In eliminating the risk to personnel, no work will be performed on plant, equipment, services or process lines capable of generating, storing or discharging hazardous energy which cannot be physically isolated.

KEY DOCUMENTS

- FB–EHS–STD-CR04 Entanglement, Impact or Crushing.
- FCC Critical Risk Standard—FC–EHS–CRS04 Entanglement Impact or Crushing
- FCC Safe Work System—FC–EHS–SWS01 Isolation and Lock Out Tag Out.
- FCC Associated Safe Work System— FC–EHS–SWS03 Permit to Work.
- FCC EHS–F001 Isolation Permit to Work.

KEY TERMS

Equipment under pressure—includes cylinders, fixed and portable air compressors and their ancillary elementssuch as hoses and clamps.

Isolation verification—refers to a physical verificationof isolation integrity and the completion of purging or flushing processes.

Lockout system—includes keyed padlocks, belt clampsor the use of chains to secure items against movement.

Positive isolation—a method of physical isolation through the use of a lockout system where there is zero potential of energy at the workplace and:

- All dangerous energy has been identified;
- All dangerous energies are isolated at the source;
- Any stored or residual energy has been eliminated and controls are in place to prevent uncontrolled energy release.

Physical control measures—an engineered control which limits the operational, functional or lateral movement of plant (eg the use of restrictor chains on excavators, digital limiters fitted).

Stored Hazardous Energy—situations, conditions or states that have the potential to cause harm. May include, but is not limited to:

- Electricity;
- Mechanical;
- Hydraulic;
- Pneumatic;
- Thermal;
- Gravitational;
- Radiation; and
- Potential energy (stored or kinetic).

APPLICABLE LIFE SAVING RULE

We always isolate, lockout and test before working on plant and equipment.

REQUIRED LIFE SAVING ACTIONS

We always ensure that all actual and potential energy sources being identified, isolated, locked and tested to confirm zero energy state before we carry out any repairs or maintenance on fixed or mobile plant and equipment.

EXCEPTION

Registered tradesperson or authorised competent person testing and fault-finding prior to repairing or re-commissioning plant and equipment.

Entanglement, Impact or Crushing

Critical Risk 4 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of entanglement, impact or crushing from stored or uncontrolled energy, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Have Guards / Safety Devices / Barriers

1. Guards, isolations or barriers must be in place and fixed to ensure that workers cannot inadvertently or intentionally place any part of their body into the machine while it is operating, starting up or slowing down.
2. All fixed plants must undergo a planned machine safety risk assessment by an ASNZ 4024 Machinery Safety specialist and all identified safety critical actions must be cleared before use.
3. All critical guards, components (e.g., hoses, pressure relief valves) and safety devices (e.g., e-stops, interlock, locking pins) on fixed and mobile plant must be identified and managed via an approved maintenance system and have scheduled inspections and maintenance completed to ensure safe operation.
4. All newly commissioned or designed (or redesigned) equipment must be assessed by a ASNZ 4024 Machinery Safety specialist (do not rely on the designer to have made it safe) and be made safe to category 3.
5. All pressurised equipment (e.g., hydraulics, pneumatics, high pressure hoses) must be de-energised (e.g., forks lowered to ground) or restrained (e.g., anti-whiplash), and/or the operation isolated (e.g., exclusion zone, barrier) to prevent inadvertent contact.

Critical Control 02 – Use Lock Out Tag Out (LOTO) System

6. All primary isolation sources must be physically isolated in accordance with the FC Isolation and LOTO safe work system.
7. In addition to the primary isolation of energy sources, all potential secondary mechanically generated sources of energy (such as pneumatic or hydraulic energy sources) should also be physically isolated e.g. chocked or secured with chain etc.
8. All energy isolations must be tested prior to commencing repairs or maintenance to ensure isolation is complete and a zero energy state achieved.
9. Individuals must be assigned personal locks - either through permanent assignment of locks or as a sign out system - which are clearly identified and labelled.
10. The use of locks and tags must be in accordance with the requirements of the FC Isolation and LOTO safe work system.
11. Isolation support equipment (referred to in, but not limited to) the FC Isolation and LOTO safe work system, must be used in addition to locks and tags (where applicable).
12. The use of isolation support equipment must be in accordance with the requirements of the FC Isolation and LOTO safe work system where it is specified.
13. All fixed plant must have a documented isolation plan/register that covers off all potential energy sources or a current isolation (Process & Instrument) drawing – use FC-EHS T05 Plant & Equipment Isolation Plan.
14. Managers of fixed plants must develop and maintain a system for the positive identification of isolating mediums and isolation points for all energy sources generated within the plant.
15. Isolation points for each piece of equipment, machinery and/or process must be clearly identified.
16. Managers and owners of plant (fixed and mobile) must ensure there is a way to lock out or isolate all potential energy sources with a lock that complies with the requirements of the FC Isolation and LOTO safe work system, and the lock out point is able to be accessed safely.
17. All equipment deemed unsafe to operate must be tagged with Out of Service Tags if they are not covered by LOTO.
18. The following types of isolation are permitted within FC:
    - Single person / single isolation point, or
    - Multiple person / single isolation point, or
    - Single person / multiple isolation point, or
    - Multiple person / multiple isolation point.
19. The process for using the various types of isolation must be in accordance with the requirements of the FC Isolation and LOTO safe work system.
20. Isolations involving multiple persons and/or multiple isolation points must be managed by a Permit to Work system as specified within the FC Isolation and LOTO safe work system.

Critical Control 03 – Have E-Stops

21. E-Stops (either pull cords or buttons) must be within arms-reach of any accessible potential pinch points or contact locations.
22. The frequency of testing (e.g., annual) of E-stops must be determined by a competent engineer as part of the overall machinery risk assessment and management system.

Critical Control 04 – Ensure Competency

23. All persons involved in the isolation of energy sources from plant and equipment, repairs and maintenance of plant and equipment must be trained in the isolation and Lockout Tagout process and be deemed competent to undertake the task.

CR05 - Struck by Mobile Plant

Critical Risk 5 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to:

- Use of mobile powered plant and equipment in proximity to people on ground;
- Being in the line of fire resulting in being struck by the plant or vehicle orone if its attachments.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk to people when undertaking activities involving mobile powered plant through, demonstrated planning methods such as the implementation and management of plant only zones, pursuing technological advantages, confirming design requirements and the choice of critical controlsdesigned to effectively remove the hazards.

Nissan Truck Models CG380, CG400, CK330, CW330, CW380, CW400 manufactured between 1993 and 2005 are not permitted on Fletcher Construction sites unless these trucks have been fitted with a replacement, approved, aftermarket hand brake that complies with the heavy vehicle brake rule 32015.

All vehicles (including contractors) with cardan shaft parking brake systems must be identified.

KEY DOCUMENTS

- FB–EHS–STD-CR05 Struck by Mobile Plant.
- FCC Critical Risk Standard—FC–EHS–CRS05 Struck by Mobile Plant.
- FCC Safe Work System—FC–EHS–SWS04 People Interface Zones.
- People Interface Zone Library

KEY TERMS

Approach Zone is the area within the plant operators' direct line of sight. This is the safest area for approachingmobile plant, as it provides the greatest chance of being seen by the operator. You can only enter the operational area from an approach zone when the when the plant hasbeen made safe and the operator has indicated it is safe to do so.

A person is deemed **Competent** when they have been assessed as having the necessary skill, experience and knowledge to safely and efficiently perform a task to the required standard.

Fatal Zone is the areas outside the plant operators' direct line of sight. This is the danger area as you have the greatest risk of being struck by the plant or its attachments. You can never enter a Fatal Zone at any time. A Fatal Zone is deemed an exclusion zone for thepurpose of the Life Saving Rules.

People Interface Zone (PIZ) is the area around, within direct line or within reach of an operationalitem of mobile plant where workers must be present to carry out specific assigned operational tasks. Each item of plant working within the People Interface Zone must be risk assessed and split into three distinct zones with their own specific requirement but comply with the framework of the safe work system.

Restricted Work Zone (RWZ) is the only area within the People Interface Zone where a person is authorised to carry out a safety critical task. This is a high-risk area of being struck by the plant or its attachments. The worker must always be visible to the plant operator and must have an agreed means of communication with the plant operator.

Exclusion zone Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Plant Only Zone (POZ) is an area that prohibits workers on foot being within 5m of any operational powered mobile plant or the furthest reach of any of its attachments (whichever is the greater).

Vehicle Movement Plan (VMP) is a site plan / diagramthat illustrates the organised movement of mobile plant and vehicles. In addition to vehicular movements and parking arrangements, this plan may also include identified hazards e.g. overhead power lines, road traffic,trees, bridges, waterways, ignition sources, etc.

APPLICABLE LIFE SAVING RULE

We always obey exclusion zones.

Struck by Mobile Plant

Critical Risk 5 of 22

REQUIRED LIFE SAVING ACTIONS

Where mobile plant and heavy vehicles are operational:

- We always stay clear of the fatal zone within a PIZ;
- We always use the approach zone, gain the operators attention and ensure the machine is isolated before approaching an operational machine in a PIZ;
- We always stay clear of a POZ.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when working around operational mobile plant and vehicles, the following critical controls will be implemented:

Critical Control 01– Develop and Communicate Vehicle Movement Plan

1. A site-based Vehicle Movement Plan must be in place to manage the segregation and movement of pedestrians, light vehicles and mobile equipment on site. The Vehicle Movement Plan must include all the following elements where they are applicable to the site or operation:
    - Location of Plant Only Zones (see section 3); and
    - Location of People Interface Zones (see section 3); and
    - Direction of travel flow through the site or operation including any one-way travel systems for all heavy plant that reduces or removes the need to reverse or turn; and
    - Location of designated site entry and exit points for both plant and pedestrians; and
    - Location of designated parking, loading and unloading zones; and
    - Location of designated pedestrian routes and crossing points that are signed, and offer physical protection from operational plant; and
    - Assignment of a suitable speed limit that complies with the Traffic Management Plan and considers the risk of people and mobile plant interface; and
    - Location of sufficient adequate lighting to ensure visibility of foot traffic and workers within the People Interface Zone (night time operations).
2. The Vehicle movement plan must be communicated to all personnel on site each day before work commences, if any changes are made, and to any visitors or suppliers who may arrive at site throughout the day.

Critical Control 02– Implement and Manage Exclusion Zones

3. Each site that has operational mobile plant must in the first instance, establish Plant Only Zones that prohibit workers on foot being within 5m of any operational mobile plant or the furthest reach (whichever is the greater).
4. Plant only zones must be signed, isolated and all persons on site made aware of the presence and requirements around exclusion.
5. Where Plant Only Zones cannot be established due a requirement of having authorised safety or operationally critical persons to be in close proximity for a specific task, then a plant specific People Interface Zone must be established, managed and enforced for the duration of the activity.
6. Where a People Interface Zone is to be established, it must be risk assessed, be established, managed and enforced in accordance with the requirements contained in FC-EHS-SWS04 People Interface Zone Safe Work System.
7. All tasks and sites where workers are required to work within a People Interface Zone must have a formal handover with Supervisor, Plant Operators to confirm methodology, safety devices in place and an agreed method of communication.
8. Where a person has been assigned the responsibility of working within the People Interface Zone, the role must be authorised, specific, designated and communicated to all parties and be the persons sole task while the activity is in operation.
9. Any and all persons working on the ground within a People Interface Zone must NEVER place themselves in the path of an operational piece of plant, including any slew zones and operator blind spot.
10. Person(s) on ground and plant operator(s) must fully comply with Life Saving Rule requirements at all times.
11. All tasks and sites where workers are or could be exposed to operational mobile plant outside of Plant Only and People Interface Zones must provide a means to physically separate and protect people. This includes both workers and the public.
12. Where there is a risk of public pedestrian interface the site must have a Road Controlling Authority approved Traffic Management Plan that includes the management of pedestrians.
13. Equipment used to physically separate the public and mobile plant must be compliant with sections B6 and B7 of the Code of Practice for Temporary Traffic Management.

Critical Control 03 – Ensure Roll Away Protection

14. Where mobile plant and equipment is to be left unattended, it is to be left in a safe condition to prevent inadvertent movement. This is also to be applied to vehicles that are broken down or undergoing maintenance.
    - on level ground - engine off, keys completely removed from ignition and placed under secure control (e.g. combination lock box) to prevent unauthorised operation, park-brake fully engaged.
    - on incline / decline – above plus chocks / ditches / wheels turned towards kerb / wall.
15. All vehicles with Cardan Shaft parking brake systems before being allowed to operate on a Fletcher site must:
    - Be visually identifiable as having a Cardan Shaft Braking system (label on windscreen); and
    - Be inspected, and provide evidence a completed NZTA Form 4085D (for the maintenance checks on the brakes); and
    - A copy of the completed NZTA Form 4085D form must be carried in the vehicle at all times; and
    - Carry and use wheel chocks when parked and/or left unattended; and
    - Drivers must be taken through the NZTA Safety Alert: Cardan Shaft Park Brake Systems.

Critical Control 04 – Plant Minimum Standards

16. All Business Units must ensure they implement and maintain the minimum standard for safety devices on mobile plant that complies, as a minimum, with the requirements of section 5 of FC-EHS-MP13 Mobile Plant & Equipment Requirements.
17. All tasks and sites where workers are or could be exposed to operational mobile plant outside of Plant Only Zones must ensure all mobile plant on site complies with the minimum standards for safety devices referred to in section 5.1. This also applies to contractor and hired-in mobile plant.
18. All mobile plant must be inspected for compliance with minimum standards before being allowed to operate on any Fletcher site.
19. All mobile plant operators must carry out a pre-use inspection of mobile plant before use.
20. All mobile plant operators must ensure all windows, mirrors and reversing cameras are clean and unobstructed before use and maintained to maximise visibility.

CR06 - Objects Falling from Height

Critical Risk 6 of 22

This Critical Risk Standard applies to any activity which carries the potential risk of fatal consequence from an object falling from one level to another, when working on fixed or temporary structures, fixed or mobile plant or around penetrations, voids or excavations.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk of a person being struck by a falling or dropped object, through the application of the following controls:

- Eliminate the need to perform the activity at height through the design process;
- Perform the work on ground level;
- Prefabricate or prepare materials prior to arrivalon site; use of containment measures;
- Effective tool and material management; and proactive workplace inspection and housekeeping.

KEY DOCUMENTS

- FB–EHS–STD–CR06 Objects Falling from Height.
- FCC Critical Risk Standard—FC-EHS-CRS06 Objects Falling from Height.
- FCC Associated Procedure—D05 Temporary Works.
- FCC Associated Safe Work System—FC–EHS–SWS03 Permit to Work.

KEY TERMS

Containment controls includes but is not limited to barricades, mesh systems and matting. Containment controls will address the risk posed by stored or handled tools, materials, objects or equipment at height, to prevent these from being kicked, knocked or bumped through openings or gaps.

Dropped object prevention devices refers to manufactured tethers, lanyards designed to resist the forces of a falling object. Dropped object prevention devices attached to persons should incorporate energy-absorbing (fall damper) technology, tools heavier than 2kg will be secured off to a structural element.

Exclusion zone Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Height is defined as 'a location above, at or below ground level where a person could be injured if they fell from level to another.'

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

Objects Falling from Height

Critical Risk 6 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of objects falling from height, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Secure Tools & Equipment

1. Where work is carried out above others, tools, equipment and materials must be fixed and secure though the use of secondary containment (e.g. tethering, restraining, catch nets).
2. Where objects could be blown from a height, they must be fixed and secure.
3. All loads must be safely secured or restrained, covered where applicable to prevent load blowing or falling off and checked for security and stability at regular intervals for the duration of the journey.

Critical Control 02 – Implement and Manage Exclusion Zones

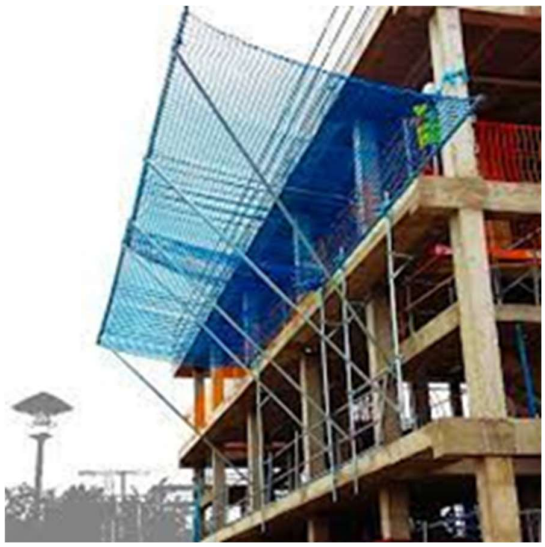
4. Where working platforms, scaffolding, EWPs etc. are in use, they must be effectively isolated and physically protected from being struck by passing machinery and plant.
5. Where work is carried out at height and there is an ongoing risk of dropped objects, an exclusion zones must be established, visually identified, demarcated and managed in the area below the work. Consider work being undertaken in adjacent sites above you that may or may not be under your control.

Critical Control 03 – Ensure Stable Stacks and Good Racks

6. In frequently occupied areas, palletised goods must be restrained to prevent them from creeping and falling from the racking system.
7. The height of shrink-wrapped pallets must not exceed three times their base in order to reduce any toppling effect. The shrink wrapping must extend around the base of the pallet so that the goods and the pallet form one unit.
8. Pallets shall be maintained in a good condition. Broken pallets shall be removed from service.
9. Items over 5 kg (with a high centre of gravity) must not be stacked more than 1.2m (3.9ft) high without restraint (unless racking is designed for this purpose).
10. Materials must only be stacked and stored if they conform to the dimensions of the racking system (as indicated on the end plate or load chart).
11. A maintenance management system must be in place to ensure that shelving and racking systems are inspected on a schedule (quarterly or more frequent based on use or risk) and immediately following an incident where a racking system sustains impact.

Critical Control 04 – Install Fall Protection System

12. Toe boards on exposed edges must be in place anywhere workers may be underneath.
13. Where persons must work or access an area below persons working at height overhead protection designed and approved by an Engineer needs to be installed (in addition to other controls such as edge protection) and maintained to protect persons below.



CR07 - Contact with Electricity

Critical Risk 7 of 22

This Critical Risk Standard applies to any activity which carries the potential risk of fatal consequence due to exposure to live electricity with low or high voltage (>230v) either through working in close proximity to overhead power lines or contact with live wires by electrical workers where electrical work or decommissioning / maintenance work is being conducted.

PRE-TASK PLANNING

Every effort will be made to **eliminate** the risk to people when working around or under overhead live utility services, or when working with live electrical wiring, through the application of the following risk controls:

- Re-siting the utility services away from the work area; and
- Repositioning or redesigning structures or parts of structures to ensure that services are avoided duringthe work; and
- Arranging for the supply to be disconnected or isolated during the work; and
- When transporting heavy or over-dimensional plant and machinery, consideration must be given to journey planning to eliminate exposure to overhead utilities and assets at rail crossings and when travellingon the road corridor.

KEY DOCUMENTS

- FB–EHS–STD-CR07 Contact with Electricity.
- FCC Critical Risk Standard—FC–EHS–CRS07 Contact with Electricity.
- FCC Safe Work System—FC–EHS–SWS01 Isolation and Lock Out Tag Out.
- FCC Safe Work System—FC–EHS–SWS02 Working around Utility Services.
- FCC Associated Safe Work System—FC–EHS–SWS03 Permit to Work.

KEY TERMS

Close Approach Consent is a Consent issued by the Asset Owner which will set out the minimum safe approach distances and any other safety measures for working near utility services.

Electricity is defined as electric current or power.

Exclusion zone Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

High Voltage means voltage exceeding 1 000 volts AC or 1 500 volts ripple-free DC.

Low Voltage means any voltage exceeding 50 volts AC or 120 volts ripple-free DC but not exceeding 1 000 volts AC or 1 500 volts ripple-free DC.

Minimum Approach Distance (MAD) means the minimum distances when approaching live conductors that will apply to any person who is not a competent live-line worker, and include conductive material carriedby them, vehicles, and mobile plant.

Standover is a person appointed by the utility asset owner to protect their assets when persons are working within the minimum approach distances of live overheadutility services.

Utility owner consent refers to written authority from theutility asset owner to carry out work within the minimumapproach distance of a live overhead utility service.

APPLICABLE LIFE SAVING RULE

We always obey exclusion zones.

REQUIRED LIFE SAVING ACTIONS

We must obtain utility owner consent in ALL instances where:

- Working or carrying out tasks associated with working within 4m of an overhead power line including:
  - Loading, unloading and storing plant or materials;
  - Transporting plant and materials;
  - Parking of work or private vehicles.
- Digging within 5m of a power pole or stay wire.

Contact with Electricity

Critical Risk 7 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of contact with electricity, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Isolation of Energy

1. All electrical energy circuits must be isolated in accordance with the FC Isolation and LOTO that includes the 5 step process: Identify/Communicate hazardous energy sources; Shut down process; Isolation of energy sources; Lock out AND tag of all isolation points; verifying zero energy by testing reactivation.
2. All energy isolations must be tested prior to commencing repairs or maintenance to ensure isolation is complete and a zero energy state achieved.
3. Individuals must be assigned personal locks - either through permanent assignment of locks or as a sign out system - which are clearly identified and labelled.
4. The use of locks and tags must be in accordance with the requirements of the FC Isolation and LOTO safe work system.
5. Isolation support equipment (referred to in, but not limited to) the FC Isolation and LOTO safe work system, must be used in addition to locks and tags (where applicable).
6. The use of isolation support equipment must be in accordance with the requirements of the FC Isolation and LOTO safe work system where it is specified.
7. All sites must have a documented isolation plan/register that covers off all potential energy sources or a current isolation (Process & Instrument) drawing – use FC-EHS T05 Plant & Equipment Isolation Plan.
8. Managers of fixed plants must develop and maintain a system for the positive identification of electrical isolating mediums and isolation points for all electrical energy sources generated within the plant.
9. Managers and owners of plant (fixed and mobile) must ensure there is a way to lock out or isolate all potential energy sources with a lock that complies with the requirements of the FC Isolation and LOTO safe work system, and the lock out point is able to be accessed safely.
10. Portable electrical tools must be connected to a power supply via a suitable safety switch (RCD). The RCD must be fitted at the supply end of the cable and the test switch/button on the RCD must be tested daily when in use to verify the safe operation of the device.
11. All switchboards must remain locked when they are in service. Access doors must only be opened by an electrical worker.
12. Power poles and associated infrastructure (e.g. transformer boxes, stay wires) must be visually identified and physically protected/demarcated to prevent encroachment of Minimum Approach Distances (MAD) (e.g., 4m) by plant and vehicles as specified by the asset owner.
13. Where working within MAD, or where there is limited visibility in regard to overhead lines and structures, there must be a trained spotter (or stand over for high voltage lines) in place at all times during the operation.
14. Welding machines must have a voltage reduction or amp control device fitted when welding within steel structures.
15. Electrical work to be completed as part of testing and commissioning, decommissioning and modification of plant or buildings must have a specialised risk assessment completed (including Arc flash) by a qualified electrician/engineer and systems put in place to manage the risk including specialist PPE.

Critical Control 02 – Ensure Identification of Services

16. Electrical leads and appliances that are connected to a power source via a flexible electrical lead must be tested and tagged in accordance with AS/NZS 3760.
17. All electrical isolation points (including group isolations) must be clearly identified.
18. Sites with potential for overhead electrical utilities must be visited and walked over pre-task to identify the presence of any overhead electrical utilities.
19. A visual and physical means (such as flags or bunting) to identify/mark and alert drivers/operators and spotters of the location of overhead power lines must be installed on sites where overhead power lines are present.

Critical Control 03 – Get Utility/Network Owner Consent

20. The Asset Owner or Network Operator must be contacted to confirm the Minimum Approach Distance of any overhead and underground conductors, obtain a close approach consent where required by the utility owner, and to understand any utility owner specific training requirements for persons working within minimum approach distances to their assets.

Critical Control 04 – Ensure Competency

21. Only licensed and registered electrical workers (and supervised electrical trainees) may work on, test or commission electrical installations.
22. A process must be in place to ensure high voltage work and switching is only undertaken by authorised and certified high voltage operators to the standard of the asset owner's requirements.
23. A process must be in place to ensure live work is limited to fault finding and commissioning activities and only be undertaken by a licenced and registered electrical worker (and supervised electrical trainees).

CR08 - Working in Confined Space

Critical Risk 8 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence as a result ofworking within an enclosed or partiallyenclosed space which may contain hazardous substances or dangerous conditions (e.g. unsafe levels of oxygen,harmful concentrations of airborne contaminants, risk of engulfment).

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to work inside a confined space through the use of alternative work methodologies such as the use of remote cameras and drones for inspections and where Fletcher has the opportunity to influence design; eliminate through designthe installation of any new equipment and appliances requiring access for maintenance within a confined space.

KEY DOCUMENTS

- FB–EHS–STD-CR08 Working in Confined Space.
- FCC Critical Risk Standard—FC-EHS-CRS08 Working in Confined Space.
- FCC Safe Work System—FC–EHS–SWS03 Permit to Work.
- Confined Space Entry Permit to Work—FC–EHS–F005.
- Confined Space Identification and Risk Assessment Worksheet—FC–EHS–F010.

KEY TERMS

Confined space is defined by Australian Standard 2865:2009 as an enclosed or partially enclosed spacethat is not intended or designed primarily for human occupancy, and within which there is a risk of one or more of the following:

- Oxygen concentration outside the safe oxygen range;
- Concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation;
- Concentration of flammable airborne contaminant that may cause injury from fire or explosion;
- Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning.

Each Fletcher operation and site will verify the definitionof a confined space in accordance with local legislation and regulations (e.g. sewers, pits, culverts, tunnels, chambers, tanks, vessels, material handling bins, silos and excavations) before work commences.

Confined Space Entry - entry into a confined space is considered to have occurred when a person's head or upper body enters the space.

Permit to Work is a formal, verbal or written authority to operate a planned work procedure.

Restricted Space is an area not defined (through a risk assessment) as a confined space, but which may meet the requirements of one or more of the definitions of a confined space.

Safety observer (spotter) is a person who:

- Holds relevant and current competencies;
- Is assigned to and remains on the outside of and in close proximity to the confined space;
- Is capable of being in continuous communication with and, where practicable, able to observe persons inside the confined space;
- Is capable of operating monitoring equipment used to ensure safety during entry to and work in the confined space; and
- Is capable of initiating emergency processes (including rescue processes) if necessary.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

Working in Confined Space

Critical Risk 8 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when working within a confined space, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure a Safe Atmosphere

1. Atmospheric testing must be undertaken by a trained and competent person and recorded to prove the atmosphere inside the space is safe to enter.
2. Where required, ventilation volume and flow must be sufficient for safe occupation.
3. Confined space entrants must have continuous monitors on their person.
4. Gas detectors maintained and calibrated as per manufacturers specifications. Conduct bump test and baseline test outside of space to ensure they are working correctly.

Critical Control 02 – Identification / Security

5. The determination of whether an area is defined as a confined space must be based on a formal risk assessment, this assessment needs to be completed through use of the Confined Space Identification and Risk Assessment Worksheet.
6. Assessments shall be conducted with a quorum of personnel experienced in the task to be performed and area of assessment to be undertaken.
7. All confined space assessments must be documented and tracked through use of the Project/Site Confined Space Register.
8. All confined spaces must be visually identified with Confined Space signage.
9. Identified confined spaces must have means to physically prevent unauthorised entry.

Critical Control 03 – Ensure Isolation / Containment

10. All actual and potential energy sources and material entry points for the confined space must be isolated, tagged and proven isolated (or managed where isolation is not possible such as in stormwater/sewer systems).
11. Materials or substances inside the space must be removed and/or isolated to prevent inundation during occupancy.
12. Only intrinsically safe electrical equipment may be used inside the space (based on a risk assessment).

Critical Control 04 – Have a Safety Observer

13. Safety observer must not carry out any other duties while persons are inside the space; they must not leave their position.
14. There must be an effective communication method between the entrants and the safety observer agreed; this must be implemented at all times during occupancy.
15. Safety observer must carry out and document atmospheric tests at regular intervals (e.g., 30 minutes) while persons are inside the space.

Critical Control 05 – Issue Permit to Work

16. All confined space entries must be controlled by a PTW which is issued, received including all required checks completed before entry is permitted.
17. The Permit (and supporting documentation) must outline a safe system of work including clearly defined roles and responsibilities, hazards inside the space, materials and equipment to be used (including any limitations) any specific PPE requirements.

Critical Control 06 – Develop and Communicate Emergency Response Plan

18. A specific rescue plan must be in place and all persons involved in the entry (and potential rescue) briefed and understand contents of the plan.
19. An emergency response (including rescue) trial must be conducted at least annually for a Confined Space entry and documented (include any external agencies as required).

Critical Control 07 – Ensure Competency

20. All persons involved in a confined space activity (entrants, safety observer & rescue team) must have completed accredited training in confined space entry and gas testing. Required training within NZ is as follows:
    - Confined Space Entry – U/S 17599 and 18426, refreshed every two (2) years
    - Gas Testing – U/S 25510, refreshed every two (2) years

CR09 - Working Beside Live Traffic

Critical Risk 9 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to beingstruck by a vehicle being driven into, out of, or next to, the work area.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to workin and around live traffic, through the application of the following risk controls:

- Applying for and working under a full road closure; or
- Use of remote controlled traffic lights instead of manual traffic controllers; or
- Scheduling and performing the work at a time where traffic volumes are significantly reduced.

KEY DOCUMENTS

- FB–EHS–STD–CR09 Working Beside Live Traffic.
- FCC Critical Risk Standard—FC-EHS-CRS09 Working Beside Live Traffic.
- MP13a Temporary Traffic Management Vehicle Requirements
- Traffic Management Plan Template Guide.

KEY TERMS

Lateral Safety Zone is the minimum distance from the edge of the live lane, to the edge of the working space. They are positioned on the traffic side of the working space (or temporary pedestrian walkway) to separate workers, pedestrians, vehicles, plant or materials from passing road users. Behind cones this Zone will be minimum 1m, behind concrete barriers 0.5m, behind Propriety barrier—as per manufacturers recommendation.

Live Lane is the lane or area of the road available for useby a class or classes of vehicles.

Longitudinal Safety Zone is the portion of a closed lane immediately in advance of the working space and is measured from the end of the taper to the start of the hazard area / working space. It is an emergency breaking zone allowing road users who have crashed through the taper time to gain control of their vehicle. The length of the longitudinal safety zone is dependent on level of the Road, the temporary speed limit in place and will be defined on the TMP.

Mobile operations are those activities or operations not contained within a fixed worksite where vehicles are progressively traveling in the same direction as, but at a speed less than, or in a manner different from normal traffic. Mobile operations may involve planned stops of upto ten minutes.

The Road Controlling Authority (RCA) is the authority, body or person having control of the road and includes a person acting under the terms of a delegation or authorisation given by the controlling authority. The RCAis typically the Central or Local Government Authority who is responsible for the road asset.

A Traffic Management Plan (TMP) is a document describing the nature and extent of a hazard at a worksite and how road users, including pedestrians and cyclists, will be able to safely negotiate the area, throughthe use of temporary traffic management WITHOUT compromising the safety of the road worker.

APPLICABLE LIFE SAVING RULE

We never walk or work in a live traffic lane.

REQUIRED LIFE SAVING ACTIONS

We always carry out activities clear of the lateral and longitudinal safety zones.

We always carry out activities in the road corridor under the protection of an RCA approved work area protected by cones, barriers or a truck mounted attenuator.

EXCEPTION

Trained TC or STMS entering a live lane in an emergency situation* without risk to themselves, other road workersand the road users and where available, in accordance with the requirements of a RCA approved TMP.

Specific approved** cyclic maintenance activities carried out under the protection of an RCA approved mobile operation.

**Note: Emergency situation could constitute responding to a motor vehicle accident or maintaining TTM equipment that is positioned in a live lane and posing a hazard to road users.*

***Note: Specific approved means a cyclic maintenance activity that specifically requires a person to enter a live lane for a very short duration to fulfill a specific task, whilstprotected by a RCA approved mobile operation. Examplesmay be removing a dead animal from the road, filling a pothole.*

Working Beside Live Traffic

Critical Risk 9 of 22

To be included in this exemption the specific activity must be approved by the BU General Manager and EHS Lead and be recorded on the appropriate Risk Management documentation e.g. JSEA and TMP. Evidence of approval must be provided upon request.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when working in and around live traffic, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Implement and Manage Exclusion Zones

1. Separation controls must ensure pedestrian movements are not permitted or isolated where there is mobile equipment or traffic (including rail) hazards in the area.
2. Signage and markings must be visible and clearly demarcate pedestrians and vehicles.
3. Lateral and longitudinal safety zones and tapers must have no working vehicles or workers in them at all times.

Critical Control 02 – Temporary Traffic Management

4. Where people are working in the road corridor there must be a Road Controlling Authority (or equivalent) approved Traffic Management Plan (TMP) in place.
5. The traffic management installed onsite must be compliant with the approved TMP and manages the flow of traffic and separation of the site safely and effectively.
6. All TTM equipment to be used on site (including but not limited to garments, signs, cones, barriers and other delineation devices) must comply with Section B of COPTTM.
7. All TTM vehicles and equipment used on the vehicles must comply with requirements of MP13a Temporary Traffic Management Vehicle Requirements.
8. All persons on the back of Traffic Management Trucks must be connected by a fall restraint system and ensure the restraint lanyard in use is of a maximum length so it prevents the person from reaching the exposed edge and is attached to certified or manufacturer's anchor point.
9. Persons can only be on the back of a Traffic Management truck while physically placing out or taking in cones and signs.
10. Any changes made to the site by the Site Traffic Management Specialist (STMS) must be recorded on the TMP and be approved based on a risk assessment.
11. The STMS (or TMO where delegated) must carry out the following documented inspections to verify compliance with the TMP:
    - Prior to work commencing to ensure the site layout
    - and traffic management equipment has been set up correctly and is managing the flow of traffic as per the TMP; and
    - Every two (2) hours while to verify the site layout and traffic management equipment is being maintained and the TMP is continuing to be effective; and
    - Post work completion to ensure all traffic management equipment has been removed OR the traffic management is safe and compliant with the approved unattended site set up.

Critical Control 03 – Ensure Competency

12. Persons involved in Traffic Management Operations must be clearly identifiable (e.g. STMS wearing compliant vest) and warranted to the appropriate level and category of road (in accordance with the New Zealand Transport Agency Training & Competency Model) as either a:
    - Temporary Traffic Operative (TMO)
        - Non-Practising (TMO-NP) if trained only; or
        - Practising (TMO) if assessed as competent.
    - Site Traffic Management Specialist (STMS)
        - Non-Practising (STMS-NP) if trained only; or
        - Practising (STMS) if assessed as competent.
13. Persons who hold existing warrants (Traffic Controller and Site Traffic Management Supervisor) must be assessed as competent by a BU authorised assessor and renew their warrants, prior to expiry, to align with New Zealand Transport Agency Training & Competency Model.
14. An STMS can only delegate responsibility to a practising TMO (in accordance with the New Zealand Transport Agency Training & Competency Model)
15. Persons conducting network inspections must be (in accordance with the New Zealand Transport Agency Training & Competency Model) either:
    - Warranted as a Practising TMO (for Category A and B roads only); or
    - Warranted as a Practising Inspector.
16. Persons conducting manual traffic control must be (in accordance with the New Zealand Transport Agency Training & Competency Model):
    - Trained as a Temporary Traffic Worker; and
    - Confirmed (in writing) by an STMS as having understanding of the requirements, and being competent to, perform their function.
17. Persons working the rail corridor must complete an induction and any required training with the controller or authority of the Rail Corridor.

CR10 - Contact with Underground Services

Critical Risk 10 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to:

- A sub-surface electrical utility being breached or struck resultingin electrocution of operators and persons on the ground due to direct contact with the service or contact with the ground or equipment that may be in contact with the service; or
- Explosion and burns through a sub-surface gas utility being breached or struck resulting in gas vapour being ignited through associated activitiesor ignition sources.

PRE-TASK PLANNING

Every effort will be made to **eliminate** the risk to people when working above or in proximity to live sub-surface utility services, through the application of the followingrisk controls:

- Re-siting the utility services away from the work area;
- Repositioning or redesigning structures or parts of structures to ensure that services are avoided duringthe work;
- Arranging for the supply to be disconnected or isolated during the work;
- Choosing methods to avoid the services; for example,by using ground beams to bridge or span the services.

KEY DOCUMENTS

- FB–EHS–STD-CR10 Contact with Underground Services.
- FCC Critical Risk Standard—FC–EHS–CRS10 Contact with Underground Services.
- FCC Safe Work System—FC–EHS–SWS02 Working around Utility Services.
- FCC Associated Safe Work System—FC–EHS–SWS03 Permit to Work.
- Utility Services Permit to Work Level 1—FCC EHS–F002.
- Utility Services Permit to Work Level 2—FCC EHS–F002.

KEY TERMS

As-built Drawings are a revised set of drawings submitted by a contractor upon completion of a construction project. In the context of this handbook, as- built drawings are to show the dimensions, geometry, andlocation of all utility services laid sub-surface or within a wall, building or structure.

Detection Tools are devices used to trace and determinethe horizontal position of subsurface utilities of a metallicnature. Such a device consists of two separate devices, atransmitter and a receiver.

Isolated refers to the condition into which utility services are placed when all sources of potentially damaging energy are removed, prevented or blocked by the operation of Isolating Mediums, and thus providing a safer workplace.

Mark-out is a recording on the ground surface at the nominated survey site of Horizontal positions of all centre lines corresponding to the horizontal position of each subsurface utility, along with a brief descriptor of each utility type. Depth to the top of each utility can also be recorded.

Minimum Approach Distance (MAD) means the minimum distances when approaching live conductors that will apply to any person who is not a competent live-line worker, and include conductive material carriedby them, vehicles, and mobile plant.

Permit to Work is a formal, verbal or written authority to operate a planned work procedure.

Potholing refers to digging or excavating one or more small scale test holes to positively locate subsurface utilities. Can be completed using hydro or vacuum excavation, or careful hand digging with insulated hand tools.

Contact with Underground Services

Critical Risk 10 of 22

Safety observer (also known as a spotter) is a person specifically assigned to assist drivers and plant operatorswhen working around, and in close proximity to, utility services to prevent contact with the service through constant observation and communication.

Service is defined as any non-redundant pipe, duct, cable used to convey a utility or commodity needed orrequired by the public such as water, wastewater, stormwater, electricity, gas and telecommunications.

Service Plans are the paper or electronically suppliedrecords of utility services for a given site, generally provided by each asset owner who has utilities at that site.

APPLICABLE LIFE SAVING RULE

We always locate and expose utilitiesbefore using mechanical digging.

REQUIRED LIFE SAVING ACTIONS

We always use the method and frequency stated on the Permit to Work to pot hole to positively locate andidentify the type and depth of the service before using mechanical excavation methods where sub-surface utility services are marked, known or indicated to be in the work area.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when working above an in proximityto sub-surface utility services, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Isolation of Services

1. Utility service plans for all known and indicated utility services within works area, and any as-builts for any recently completed works, must be obtained to ensure utility services can be identified.
2. All known and indicated utility services must be identified and located using plans, mark outs and non-destructive pot holing (e.g., hydro-excavation, air-excavation or hand digging) as described in sections 3 and 6 of the FC-EHS-SWS02 Working around Utility Services.
3. Utility service mark-outs must be maintained or able to be re-established with visible identification signage such as type of service, line-marking and/or demarcation.
4. A site walkover must take place prior to work commencing to verify location of mark outs and look for indicators of unknown or marked utility services.
5. All sites and facilities where utility services are present sub-surface, must use service detection tools (as prescribed in Appendix 1 of the Working around Utility Services SWS) to assist in the positive identification and location of utility services throughout the excavation process.
6. There must be confirmation from the Utility Owner authorising temporarily isolating high risk utility services during specific activities; re-siting, repositioning or redesigning utility services.

Critical Control 02 – Issue Permit to Work

7. A Utility Services Permit to Work must be issued by an authorised person and be completed in full by all the required parties, prior to ground being broken as per section 4 of FC-EHS-SWS02 Working around Utility Services.
8. Where utility or asset owners require specific authorisations to work within proximity of utility services, the requirements of section 4.2 of FC-EHS-SWS02 Working around Utility Services must be adhered to.
9. A formal transfer of responsibility must take highlighting the location and type of services from the utility locator to the operator and safety observer as per section 5 of FC-EHS-SWS02 Working around Utility Services.

CR11 - Temporary Building or Structure Failure

Critical Risk 11 of 22

This Critical Risk Standard applies to any activity where our people, including contractors and employees, work with temporary structures or buildings including: "parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works".

PRE-TASK PLANNING

Every effort will be made to **eliminate** the risk to people being exposed to Temporary Works during the bid stage of a project through the following means:

- Carry out a comprehensive review of all temporary works provisions considered at bid stage and the associated commercial and programme risk;
- Identifying opportunities through design to remove the need for temporary works or lessen the potential impact of Temporary Works.

KEY DOCUMENTS

- FB–EHS–STD- CR11 Temporary Building or Structure Failure.
- FCC Critical Risk Standard— FC–EHS–CRS11 Temporary Building or Structure Failure.
- FCC D05 Temporary Works.
- FCC D05.01 Project Temporary Works Management Plan.
- FCC D05.02 Branch Temporary Works Management Plan.
- FCC D05.05 Temporary Works Register.

KEY TERMS

Designated Individual is the person responsible for establishing, implementing and maintaining a procedure for the control of temporary works.

Temporary Works are parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works.

Temporary Works Management Plan sets out the written procedure to which all temporary works are to be recorded, assessed, controlled, adapted and verified across a Branch, Project(s) or sub-contract. The TWMP provides a description of the duties by appointed persons to ensure due process has been adequately followed.

APPLICABLE LIFE SAVING RULE

Nil.

LIFE SAVING ACTIONS

Nil.

Temporary Building or Structure Failure

Critical Risk 11 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of temporary building or structural failure, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Structural Integrity

1. A Designated Individual (DI) must be appointed to establish, implement and maintain a procedure for the control of temporary works.
2. Each Project and Branch must develop and implement effective Temporary Works Management Plans (TWMP), approved by the Designated Individual, consistent with industry recognised good practice.
3. A Temporary Works Coordinator (TWC) must be formally appointed to each Project or Branch.
4. Temporary Works Supervisors (TWS) must be appointed on each project and site to assist the TWC (where required), in accordance with the TWMP.
5. All appointed persons, must be competent to the complexity of the work required and have been assessed as such by the DI.
6. All Temporary Works must be risk assessed. The risk assessment and its outcome documented in accordance with the TWMP.
7. All temporary works must be recorded on a Temporary Works Register (TWR) in line with the relevant TWMP.

Critical Control 02 – Ensure Safe Installation and Maintenance

8. All temporary works must be installed, maintained, and monitored in accordance with design requirements.
9. All temporary works must be inspected prior to use or when working adjacent to.
10. All temporary works must be inspected prior to and following any extreme weather or natural disaster.

Critical Control 03 – Ensure Safe Demolition / Deconstruction / Modification

11. All temporary works must be deconstructed in accordance with design requirements.
12. Modifications to Temporary Works must be in accordance with Temporary Works Management Plans (TWMP) and approved by the Designer and the Checker.
13. Exclusion zones or overhead protection must be in place for demolition works or any other controlled method of structural deconstruction where there is a risk of structural collapse beyond the applicable area.

Critical Control 04 – Secure Site Offices

14. All foundations for offices and structures must be competently designed to be Building Code compliant.
15. Site offices must be positively tied down to the supporting steel frame sub-structure and foundation.

CR12 - Hot Work and Fire

Critical Risk 12 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to a fireor explosion as a result of the ignition of combustible materials during a hot work activity.

PRE-TASK PLANNING

Every effort will be made to **eliminate** the risk to people when carrying out hot work activity, through the application of the following risk controls:

- Removal of all combustible materials away from thework area;
- Purging and ventilation of pipes or vessels that stored flammable liquids and gases;
- Use of alternative work methodologies to remove the need for hot work.

KEY DOCUMENTS

- FB–EHS–STD-CR12 Hot Work & Fire.
- FCC Critical Risk Standard—FC-EHS-CRS12 Hot Work and Fire.
- FCC Associated Safe Work System— FC–EHS–SWS03 Permit to Work.
- Hot Work Permit to Work—FC–EHS–F003.

KEY TERMS

Atmospheric monitoring refers to the use of a calibrated gas detector to check that the atmosphere is in a safe state to commence the activity.

A **Fire Watch** is a person equipped with a suitable fire extinguisher, assigned to watch for and ensure that sparks do not impinge onto combustible materials, electrical cables, equipment or people in the area, while hot work is being carried out and to extinguish small firesif required. A Fire Watch will also be required to monitoran area for at least 60 minutes once the hot work activity has ceased to ensure no flare ups occur.

Hot Work refers to any work which may generate a source of ignition. It includes burning, welding, grinding,brazing, heating with open flame, flame cutting, the use of pneumatic hammers of ramset guns, or the use of anyflame of spark producing device. Hot work includes workon, or with, live electrical equipment.

Permit to Work is a formal, verbal or written authority to operate a planned work procedure.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk when carrying out hot work, thefollowing critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Isolation of Hot Work

1. Isolation and de-isolation of energy sources (that could lead to ignition within the hot work area) must be completed by a competent and authorised person.
2. All flammable fuel sources must be isolated (either physically or through distance) from ignition sources.
3. Hot work must take place in a designated hot work area or an area where a Hot Work Permit has been issued.
4. Adequate ventilation must be present in the hot work area to prevent build-up of fumes. This must be mechanical where the risk of fume build up is high.

Critical Control 02 – Ensure Removal of Combustibles

5. A pre work risk assessment of potential fire load in work area and adjacent areas must be completed.
6. All potential combustibles must be removed, wet down or covered (including floor openings, cavities and cracks) for the duration of the hot work activity to prevent possible ignition.

Critical Control 03 – Appoint Fire Watch

7. Where a fire watch is stipulated on the Permit to Work, a fire watch must be appointed to actively monitor the hot work activity and surrounding area:
    - area for the duration of the hot work activity; and
    - including coverage for work breaks or interruptions, during hot work activity; and
    - for sixty (60) minutes (or more as determined by a risk assessment) at the end of the hot work activity to ensure no ignition sources remain.
8. Verification of the fire watch observation being completed must be sought and checked by the Permit Issuer.

Hot Work and Fire

Critical Risk 12 of 22

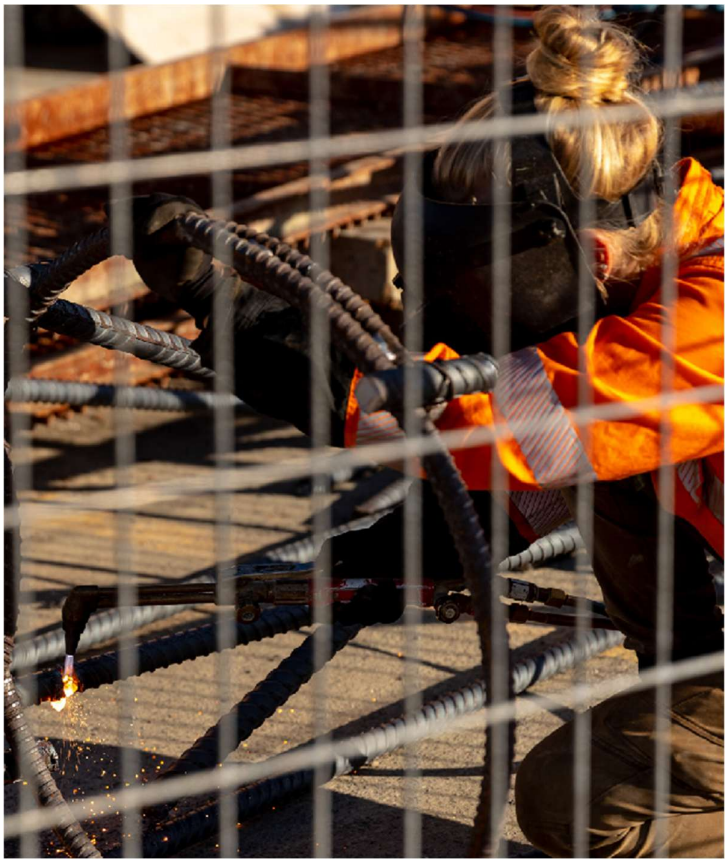
9. There must be fire-fighting equipment available for the duration of the hot work and fire watch activities and monitoring period that is appropriate and compatible for the task, site and type of combustibles.
10. There must be an agreed (documented) communication method in place between the person(s) doing the hot work and the fire watch(es).

Critical Control 04 – Issue Permit to Work

11. A Hot Work Permit to Work must be issued and received by authorised person(s) and be in place on site to manage the hot work activity (outside of any designated hot work area) and the required checks are to be completed in full prior to hot work activity commencing.
12. Atmospheric monitoring (where required e.g. hazardous zones) must be completed and recorded prior to hot work starting and checked and recorded at regular intervals (e.g., 30 minutes) on the Hot Work Permit to Work.
13. A site or task visual inspection must be completed prior to issuing and before closing the work permit.

Critical Control 05 – Do Health Monitoring

14. Where there is evidence or concern that fume exposures could be harmful, exposure monitoring must be carried out by an occupational hygienist or other suitably qualified person.
15. All workers who are regularly exposed to hazardous fumes must receive annual health checks that include lung function, musculo-skeletal systems and mental health assessment.
16. Results of the health surveillance and workplace exposure monitoring must be compared by a suitably qualified person to confirm that the controls are being maintained and effective.



CR13 - Collapse of Excavation or Stockpile

Critical Risk 13 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence due to:

- Being inside an excavation when the sides of the excavation collapse and being fully or partially buried;
- Excavated spoil, materials or objects falling into the excavation when working inside the excavation;
- Falling into an unprotected excavation.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to work in and around open trenches and excavations, through the application of the following risk controls:

- Designing and implementing work methods that include trenchless technologies such as micro- tunnelling, directional drilling, impact moling, pipebursting, auger boring or pipe re-lining); and
- Planning traffic routes to ensure so far as reasonably practicable that vehicles, plant and equipment are kept clear of excavations; and
- Setting up and maintaining full exclusion zones with physical demarcation around open excavations.

KEY DOCUMENTS

- FB–EHS–STD–CR13 Collapse of Excavation or Stockpile.
- FB–EHS–STD-CR01 Fall from Heights.
- FB-EHS-STD– CR06 Objects Falling from Height.
- FCC Critical Risk Standard—FC-EHS-CRS13 Collapse of Excavation or Stockpile.
- FCC Associated Critical Risk Standard—FC–EHS–CRS11 Temporary Building or Structure Failure.
- FCC Associated Safe Work System—FC–EHS–SWS03 Permit to Work.
- Trench and Excavation Safe Entry Permit to Work—FCC–EHS–F006.

KEY TERMS

Excavation is any open face, hole or cavity, formed through the removal of soil or rock from a site using tools,machinery or explosives. An excavation would include any open excavation, pothole, pit excavation, trench and retaining wall, shaft and drive.

Exclusion zone Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Permit to Work is a formal, verbal or written authority to operate a planned work procedure.

Unstable Ground is ground that cannot stay in place on its own due to soil type/properties, ground water, vibration from activities or other factors and therefore requires physical support to prevent collapse.

APPLICABLE LIFE SAVING RULE

We never enter or work beside anunprotected excavation.

REQUIRED LIFE SAVING ACTIONS

We always enter an excavation greater than 1.5m deep(or shallower if defined by site) with:

- Confirmation from Supervisor of compliant shoring, benching or battering in place.

We always enter an excavation when:

- Spoil, materials, plant and equipment are being storedor operated greater than 1m away from the edge of the excavation; and
- Spoil is placed and stored on the lower side of theexcavation (where the excavation is not on flat ground).

We always work beside an open excavation with:

- Compliant edge protection being in place that cantake the weight of a falling worker.

Collapse of Excavation or Stockpile

Critical Risk 13 of 22

SITE AND TASK CRITICAL CONTROLS

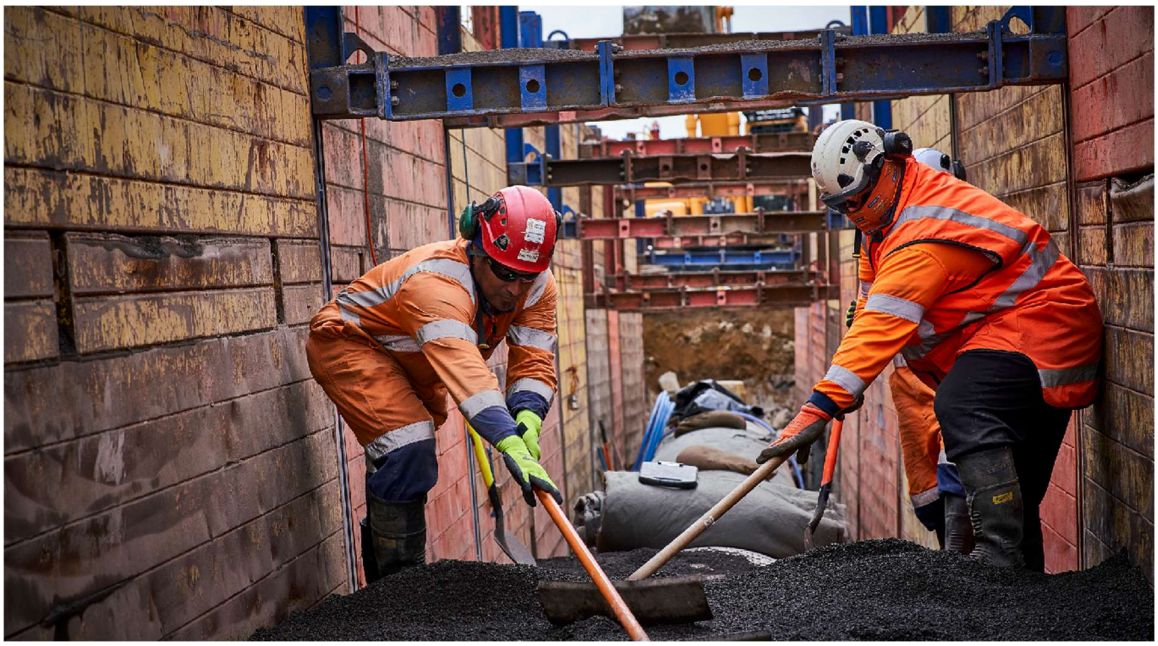
In controlling the risk when working in and around excavations and trenches, the following critical controlsand performance requirements will be implemented:

Critical Control 01 – Ensure Stable Excavation

1. Engineering Controls must be installed and maintained to prevent and manage the accumulation of ground water, fumes and gases in all excavations and trenches to prevent engulfment where it is a risk.
2. Excavations and trenches must be inspected by a competent person before each working shift and after rainfall, or other events, which could impact ground stability or introduce further hazards and result in engulfment. The inspection must be documented on the Trench Excavation Safe Entry Permit to Work.
3. All excavations in unstable ground or greater than 1.5m deep, must have a Trench Excavation Safe Entry Permit to Work issued and received by authorised persons to manage the excavation activity.
4. The Permit Issuer must complete in full all the checks on the Trench Excavation Safe Entry Permit to Issuer prior to issuing to the Permit Receiver.
5. The Permit Receiver must complete in full all checks on the Trench Excavation Safe Entry Permit to Work prior to persons entering the trench before each working shift, and after rainfall events.
6. Excavation methodology in unstable ground or greater than 1.5m deep, must be undertaken in accordance with design requirements and include controls such as boxing, benching, dewatering, shoring, or battering.
7. All excavations in unstable ground or greater than 1.5m deep, must be correctly benched, shored using an approved system, or correctly battered to a safe angle of repose or as determined by a competent person before any person can enter the trench/excavation.
8. All operational plant associated with excavation activity must be operated and positioned in a manner that does not to create an overloading on the excavation stability.
9. Materials, spoil and equipment must be placed in a location at least 1 m from the edge of the excavation, and on the downhill side if on an incline, in order to mitigate the risk of inundation or collapse.

Critical Control 02 – Have Edge Protection

10. Adequate protection must be provided, installed, and maintained at all times along the edges of excavations/trenches. This must include (as a minimum) depending on the size and scope of the task or work area:
    - For excavations **less than 1m** deep:
        - trench/excavation visual edge identification when attended; and
        - fenced, backfilled or covered when unattended.
    - For excavations **1m deep or greater:**
        - trench/excavation edge protection robust enough to prevent persons from falling through when attended; and
        - fencing to prevent unauthorised access to the work area and excavation and sufficient signage to warn all parties of the risks of open excavations when unattended.
11. A safe means of access and egress must be established and maintained for all excavations and trenches greater than 1m deep where individuals may be required to enter. Where the excavation is greater than 10m in length, there must be more than one safe means of access and egress.



CR14 - Explosives

Critical Risk 14 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence as a result of the handling, use, transportation or storage of explosives that could result in the death of one or more people.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk to people when undertaking activities involving explosives through effective activity planning, workplace design and management of the operational environment.

KEY DOCUMENTS

- FB–EHS–STD-CR14 Explosives.
- FCC Critical Risk Standard— FC-EHS-CRS 14 Explosives.

KEY TERMS

Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances**.**

Explosives are a solid or liquid substance (or mixture of substances) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of explosives, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Approve Compliant Management Plan

1. Any contractor engaged to carry out work involving explosives must develop an Explosives and Shot firing Management Plan. The plan must include explosive quality control, competency requirements, contractor qualifications (including misfire history) and management of misfiring – Type A and B.
2. The Explosives and Shot firing Management Plan must be approved by a competent person.

Critical Control 02 – Ensure Site Security

3. A Site Security Plan must be in place to prevent unauthorised access to, or use of, explosives and detonators that are transported to and stored on site (including sleeper shots).

Critical Control 03 – Ensure Safe Storage

4. Explosives and detonators must be stored in a safe and secure location, and in a licensed or approved magazine, with separate storage for explosives and detonators.

Critical Control 04 – Implement and Manage Exclusion Zones

5. Exclusion zones and procedures must be in place for pre-blast inspection, clearance, and sentry placement, for the safety of personnel, plant, and equipment during blasting.

CR15 - Working Near or Over Water

Critical Risk 15 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence from a person falling into the water, when working on fixed or temporary structures, mobile plant or around penetrations, voids over or near water.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the need to work over water, through the application of the following risk controls:

- Eliminate the need to work over water through the design process; or
- Perform the work on land adjacent to water.

KEY DOCUMENTS

- FB–EHS–STD–CR15 Working near or over Water.
- FCC Critical Risk Standard—FC-EHS-CRS15 Working Near or Over Water.
- FCC Associated Critical Risk Standard—FC-EHS-CRS01 Work at Height.
- FCC Associated Critical Risk Standard—FC–EHS–CRS11 Temporary Building or Structure Failure.

KEY TERMS

Dive Plan a documented methodology of how the diving activity will be managed. It must include as a minimum:

- the method of carrying out the diving work.
- the tasks and duties of each person involved.
- the diving equipment, breathing gases and procedures to be used.
- as applicable, dive times, bottom times and decompression profiles.

Edge Protection Edge protection helps prevent people, tools, and materials from falling around the perimeters of a work area; around openings, and where brittle material cannot safely support the weight of a person.

Height is defined as 'a location above, at or below ground level where a person could be injured if they fell from level to another.'

Temporary Works are parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works.

APPLICABLE LIFE SAVING RULE

We never work unprotected at height.

REQUIRED LIFE SAVING ACTIONS

We always carry out activities at height with either:

- Compliant edge protection in place; or
- A fall arrest or fall restraint system in place.

EXCEPTION

Does not apply when using three points of contact on an approved ladder, scaffold, steps or stairs to access oregress a work area or an item of plant.

Working Near or Over Water

Critical Risk 15 of 22

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of working near or over water, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Equipment / Structural Integrity

1. All temporary barriers, scaffolding, screens, penetration covers, anchor points and working platforms (for both people and plant) must have a temporary works design and/or certification to ensure they are safe and fit for purpose. These must be recorded on the TW register.
2. Surfaces or work areas on existing structures over water that need to be accessed or trafficked by people and/or plant, must be assessed to ensure they are safe prior to access being allowed.
3. All scaffolding, penetration covers, anchor points and working platforms in use over water must be inspected regularly (e.g., weekly) to ensure they are safe and fit for purpose. These inspections must be documented.
4. All marine vessels, boats and barges must be fit for purpose, mobilised, operated and maintained in accordance with manufacturers specification, and where required, certified in accordance with Maritime Regulations (e.g. fit for purpose certificate, load line certificate and barge safety certificate).
5. Operational plant associated with excavation activities near waterways must be operated and positioned in a manner that does not undermine or create an overloading on the working platform stability.

Critical Control 02 – Install and Maintain Edge Protection

6. All fall edges must be risk assessed to determine the need for edge protection.
7. Where required due to outcome of risk assessment, all fall edges must be protected by a physical barrier of sufficient height (e.g., 1100mm) and strength that prevents persons falling into water.

Critical Control 03 – Develop and Communicate Emergency Response Plan

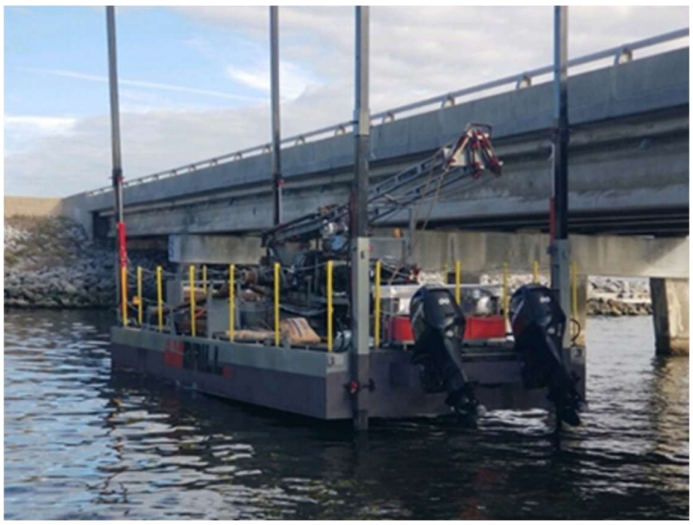
7. There must be sufficient water safety and emergency equipment highly visible, accessible and maintained/inspected for the task, the number of workers and the environment in which it is operating.
8. Life jackets must be worn by all individuals where there is an immediate risk of a fall into the water.
9. Emergency Response Plans must be tested initially and when the dynamics of the site alter, and potential rescues exercised often to ensure the rescue response is effective.
10. Rescue exercises must be related to incidents and potential scenarios with working in, on or around water.

Critical Control 04 – Ensure Competency

11. Boat and marine plant operators must be certified, licensed and/or deemed competent for vessel and marine plant operation (e.g. MNZ Seafarer Certification or Industry Specific Certificate).

Critical Control 05 – Review and Authorise Compliant Dive Plan

12. A Dive Plan must be developed, implemented, maintained and approved by a competent person.



CR16 - Exposure to Process Safety Risks

Critical Risk 16 of 22

This Critical Risk Standard applies to any activity which carries the potential risk of fatal consequence as a result of exposure to process safety risks that could result in the death of one or more people.

PRE-TASK PLANNING

Every effort will be taken to eliminate the risk to people from process safety risks through the identification of process hazards and risks and by designing them out where practicable.

KEY DOCUMENTS

- FB–EHS–STD–CR16 Exposure to Process Safety Risks.
- FCC Critical Risk Standard—FC-EHS-CRS16 Exposure to Process Safety Risks.

KEY TERMS

A **hazard and operability study (HAZOP)** is a structured and systematic examination of a complex planned or operation in order to identify and evaluate problems that may represent risks to personnel or equipment

Process Safety is a proactive form of risk assessment combined with engineering that focuses on preventing catastrophic fires, explosions, accidental chemical releases, and structural collapses, especially in facilities that use, process, and handle hazardous materials.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of exposure to process safety risks, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Ownership and Capability

1. An operational leader must be identified and assigned responsibility for process safety risk management; this person must have an understanding and ownership of process safety risk on sites, assets and/or projects.
2. A process safety engineer (internal or external) must be identified who provides ongoing expert guidance and support for operational process safety risks.
3. Training and competency checks must be completed for all workers (including contractors) who may work with, around or on process safety systems or structures.

Critical Control 02 – Complete Process Hazard Analysis

4. A preliminary hazard analysis and supporting risk assessments (HAZOP, HAZID, Bowties, etc) must be completed as determined appropriate for the process.
5. Process safety critical elements must be identified as part of the risk assessment process. (Tier 1)
6. Safety critical elements (e.g., SOPs, maintenance, inspections, etc) must be implemented and monitored.
7. Pre-start safety reviews must be completed following maintenance shuts or commissioning and include a risk assessment of all related safety critical elements.
8. There must be a process in place to review any change to documented processes, technology, structures, or assets that are associated with safety critical elements.

Critical Control 03 – Ensure Audit and Planning Completed

9. A Process Safety Management Plan must be developed and implemented which includes management of the key elements of process safety.
10. Appropriate Emergency Plans must be implemented and routinely tested for potential catastrophic failure events identified in the hazard identification process.
11. Internal audits must be completed annually by a competent person to review the application of the Process Safety Management Plan and Critical Safety Elements.
12. An external audit must be completed every two years that covers application of the Process Safety Management Plan and Critical Safety Elements.

Exposure to Process Safety Risks

Critical Risk 16 of 22

Critical Control 04 – Implement Monitoring & Reporting Programme and System

13. An assigned senior leadership committee or group (consistently of technical experts, management, and operations) must regularly review the management and performance of process safety on their sites.
14. Metrics and performance targets must be set which are appropriate for safety critical elements.
15. Incident Investigations must be completed for any failures of safety critical elements and actions taken across all sites with similar processes.

CR17 - Exposure to Hazardous Substances

Critical Risk 17 of 22

This Critical Risk Standard applies to any activity which carries the potential risk of fatal consequence as a result of occupational exposure to hazardous substances that could result in the death of one or more people.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk of occupational exposure to health hazards by people through effective activity planning, workplace design and management of the operational environment. The use, handling and storage of prohibited or restricted carcinogenic substances will not be undertaken. Where carcinogens, hazardous materials, substances and chemicals banned or restricted by law are discovered during work activities, work will be stopped until the risk is eliminated.

KEY DOCUMENTS

- FB–EHS–STD-CR17 Exposure to Hazardous Substances.
- FCC Critical Risk Standard—FC-EHS-CRS17 Exposure to Hazardous Substances.
- FCC Hazardous Substances Register.

KEY TERMS

Hazardous substances are those that, following worker exposure, can have an adverse effect on health. A substance is deemed to be hazardous if it meets the Approved Criteria for Classifying Hazardous Substances NOHSC:1008(2004).

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of exposure to hazardous substances, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Compliant Containment Design

1. All specifications for the design and/or modification of hazardous materials facilities must be completed in accordance with a risk assessment that includes hazardous materials selection, transport, production, storage, handling, use and disposal.
2. Vessels and containers storing hazardous substances must have secondary containment (bunds) that can contain 110% the maximum capacity of the largest tank or drum being stored.
3. All static and mobile tanks and vessels (including equipment used to pump or transfer) involving bituminous product storage, manufacturing, heating, blending and loading out must be audited every three (3) years by a competent person to ensure compliance with COP RNZ 9904:2006. This audit must be documented and recorded in Radar.
4. All electrical equipment and devices associated with static and mobile tanks and vessels (including equipment used to pump or transfer) involving bituminous product storage, manufacturing, heating, blending and loading out must be audited by a competent person every three (3) years to ensure compliance with COP RNZ 9904:2006. This audit must be documented and recorded in Radar.

Critical Control 02 – Ensure Access Control

5. Hazardous substances must be secure, and access restricted to authorised and trained personnel only.
6. Authorised and trained persons accessing hazardous substances must be supplied, and be wearing, the appropriate personal protective equipment as per Safety Data Sheet requirements.
7. All hazardous areas (where flammable vapours may be present) around hazardous substance storage areas must be identified and managed to ensure there are no ignition sources within 3m of the hazardous area.
8. Any electrical equipment within a hazardous area must be intrinsically safe.

Critical Control 03 – Correct Storage & Labelling

9. All substances must be stored and labelled in accordance with Safety Data Sheet (and other relevant requirements).
10. All hazardous substances must have a readily accessible, current (<5 years old) Safety Data Sheet supplied from the supplier / vendor or approved system such as Chemwatch.

Exposure to Hazardous Substances

Critical Risk 17 of 22

11. All substances must be included on a site register or inventory which includes the type and quantity stored.
12. All hazardous substances being transported must be secure, be correctly labelled (placard) and have readily available for inspection the appropriate documentation (quantities, safety data sheet, emergency response plan).
13. Any substances that are decanted into a secondary container for storage must be labelled with the contents and key safety precautions.

Critical Control 04 – Implement Testing & Monitoring Programme

14. Where hazardous substance exposures are assessed to be a risk, an Exposure Management Plan must be developed and maintained based on baseline exposure levels and guidance from a Registered Occupational Hygienist or other suitably qualified person.
15. Where hazardous substance exposures reach 50% of exposure levels, exposure monitoring (e.g., annual) must be carried out by an occupational hygienist or other suitably qualified person as per the Exposure Management Plan
16. All workers regularly exposed to 50% of exposure levels must receive an annual health check and any additional testing required to monitor exposure levels that is specific to the substance exposed to e.g. testing lead levels.
17. The results of the health surveillance and workplace exposure monitoring must be compared by a suitably qualified person to confirm that the controls are being maintained and effective.

Critical Control 05 – Develop and Communicate Emergency Response Plan

18. All facilities which have a major or catastrophic risk from hazardous substances must maintain and routinely test an emergency response plan which is appropriate for the substances on site.
19. The testing of the emergency plan must include a range of scenarios based on the volume and type of substances being stored or handled.
20. The testing of the emergency response plan must be documented and record kept of any actions or improvements required post testing.
21. The emergency response plan, and the associated inventory, must be provided to and readily available for first responders.

Critical Control 06 – Ensure Competency

22. Persons involved in the handling, use, transport, storage and disposal of hazardous substances must be trained in relevant work procedures and safety data sheet requirements.
23. A suitably qualified individual must be assigned responsibility for monitoring, escalating and communicating health and exposure monitoring results to affected parties and managers.

CR18 - Exposure to Dusts & Silica

Critical Risk 18 of 22

This Critical Risk Standard applies to any activity which carries the potential risk of fatal consequence as a result ofoccupational exposure to high concentrations of respirable dust or Respirable Crystalline Silica (RCS).

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk of occupational exposure to health hazards by people through effective activity planning, workplace design and management of the operational environment. The use, handling and storage of prohibited or restricted carcinogenic substances will not be undertaken. Where carcinogens, hazardous materials, substances and chemicals banned or restricted by law are discovered during work activities, work will be stopped until the riskis eliminated.

KEY DOCUMENTS

- FB–EHS–STD-CR18 Exposure to Dusts & Silica.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of exposure to dusts and Respirable Crystalline Silica, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Install Suppression System

1. Where silica dust is produced, local exhaust ventilation, extraction, containment, water suppression, or dust collection systems must be installed, used, and maintained.
2. Wet grinding or cutting methods must be applied on site to suppress or contain dust when cutting, grinding or drilling into concrete/stone-based products.
3. Clean up of residual materials and dust must be completed using wet cloths, a low-pressure water hose or vacuum system.

Critical Control 02 – Have a Testing and Monitoring Programme

4. Where dust exposures are assessed to be a risk, a Dust Exposure Management Plan must be developed and maintained based on baseline exposure levels and guidance from a Registered Occupational Hygienist or other suitably qualified person.
5. Where dust exposures reach 50% of exposure levels, exposure monitoring (e.g., annual) must be carried out by an occupational hygienist or other suitably qualified person as per the exposure management plan.
6. All workers regularly exposed to 50% of exposure levels must receive spirometry testing and annual health check.

- FCC Critical Risk Standard—FC-EHS-CRS18 Exposure to Dusts & Silica.

KEY TERMS

Exclusion zone is 'an actively attended/controlled physically defined safety envelope above, below or around a hazardous activity, or an area requiring controlled and / or restricted access.' Hazardous activities may include, work at height or to depth, lifting of loads, vehicle or plant movement and other hazardous areas. Exclusion zones will be of adequate size, take into account the risks such as potential arc of fall, deflections and bounce distances.

Silica is a natural substance found in most rocks, sand and clay and in products such as bricks and concrete. In the workplace these materials create dust when they are cut, sanded down etc. Some of this dust may be fine enough to reach deep inside the lung, this is known as **respirable crystalline silica (RCS)** and can cause harm to health. Significant exposure to RCS can cause silicosis and lung cancer.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

7. The results of the health surveillance and workplace exposure monitoring must be compared to confirm that the controls are being maintained and effective.
8. Mechanical dust extraction systems (e.g., local exhaust ventilation systems) must be maintained as per manufacturers specifications and undergo performance checks (e.g., annual) to ensure that the air exchange system continues to meet dust extraction requirements.

Critical Control 04 – Put in Place Exclusion Zones

9. Exclusion zones must be established to protect others from dust and silica exposure, and these must consider wind direction.

Critical Control 05 – Provide Respiratory Protection

10. At a minimum a P2 respirator must be used. Where routine activities include exposure to silica, half-face, supplied air or full-face respirators must be considered.
11. Fit testing and training must be completed for all workers that are required to use a respirator.

Critical Control 06 – Ensure Competency

12. Workers who are regularly exposed to RCS must be trained in: health risks from their exposure; how to use the identified controls including Local Exhaust Ventilation (LEV) use and maintenance; appropriate use and care of specialist PPE.
13. A suitably qualified individual must be assigned responsibility for monitoring, escalating and communicating health and exposure monitoring results to affected parties and managers.

CR19 - Exposure to Asbestos

Critical Risk 19 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of fatal consequence as a result of occupational exposure to asbestos and asbestos containing materials.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk of occupational exposure to asbestos by people through effective activity planning, workplace design and management of the operational environment. The use, handling, transport and storage of asbestos and asbestos containing materials will not be undertaken. Where asbestos and asbestos containing materials are discovered during work activities, work will be stopped, and specialists will be brought in until the riskis eliminated.

KEY DOCUMENTS

- FB–EHS–STD- CR19 Exposure to Asbestos.
- FCC Critical Risk Standard—FC-EHS-CRS19 Exposure to Asbestos.

KEY TERMS

Asbestos is a naturally occurring fibrous silicate mineral. There are six types, all of which are composed of long and thin fibrous crystals, each fibre being composed of many microscopic "fibrils" that can be released into the atmosphere by abrasion and other processes. Some of these crystals may be fine enough to reach deep inside the lung this is known as asbestosis and can cause harm to health. Significant exposure to asbestos can cause mesothelioma and lung cancer.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of exposure to asbestos, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Develop Register & Plan

1. Each premise which has identified the presence of asbestos or asbestos containing material (ACM) must have an Asbestos Survey, Asbestos Register and a written Asbestos Management Plan.

Critical Control 02 – Implement Monitoring Programme

2. Where there is evidence or concern that ACM may be exposed, an exposure assessment must be carried out by a Registered Occupational Hygienist or other suitably qualified person.
3. Where workers are involved in ongoing (greater than 4 weeks in any 12-month period) asbestos-related work, exposure monitoring must be completed by a specialist for the duration of the work activities (e.g. swab testing, dust monitoring, etc.).
4. All workers exposed to asbestos must participate in a medical surveillance monitoring programme. Health assessments must be performed every two years from when the work with, or exposure to, asbestos commenced.

Critical Control 03 – Ensure Competency

5. Persons directly involved in the removal and handling of ACM must be Certified.
6. Workers who are regularly exposed to ACM must be trained in the health risks from their exposure and the controls required.
7. A suitably qualified individual must be assigned responsibility for monitoring, escalating and communicating health and exposure monitoring results to affected parties and managers.

Critical Control 04 – Implement Decontamination Plan

8. An Asbestos Removal Control Plan (ARCP) (including facilities, processes, and disposal requirements for decontamination) must be in place prior to any ACM work commencing.

CR20 - Exposure to Noise

Critical Risk 20 of 22

This Critical Risk Standard applies to any activity which carries the potentialrisk of exposure to excessively loud or prolonged continuous noise that could result in noise induced hearing loss.

PRE-TASK PLANNING

Every effort will be taken to **eliminate** the risk of occupational exposure to excessive or prolonged continuous noise by people through effective activity planning, workplace design and management of the operational environment.

KEY DOCUMENTS

- FB–EHS–STD-CR20 Exposure to Noise.
- FCC Critical Risk Standard—FC-EHS-CRS20 Exposure to Noise.

KEY TERMS

Excessive noise is noise measured in excess of 140dBA, irrespective of the duration.

Prolonged continuous noise is noise measured over 85dBA for a period of 8 hours or more.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of exposure to noise, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Ensure Noise Suppression

1. Noisy environments (i.e., above 85 dB(A) for 8 hours) must be assessed by a Registered Occupational Hygienist or other competent person, and appropriate controls be implemented (e.g., noise suppression, substitution of equipment, installation of noise barriers/absorbers, PPE etc.).

Critical Control 02 – Provide Hearing Protection

2. Hearing protection (rated for the noise levels) must be worn by all workers, visitors and contractors in areas or during activities that are identified as a risk.

Critical Control 03 – Implement Monitoring Programme

3. Sites must have a health surveillance programme for workers at risk of exposure to noise (and records maintained for 30 years).
4. Where sites, areas or tasks are identified as at risk for hazardous noise, these areas must be regularly (e.g., annually) monitored for noise levels as per the defined noise monitoring programme.
5. The results of the health surveillance and workplace exposure monitoring must be compared to confirm that the controls are being maintained and effective.

Critical Control 04 – Ensure Competency

6. All workers must trained on the correct choice, use and maintenance of the applicable hearing protection.
7. A suitably qualified individual must be assigned responsibility for monitoring, escalating and communicating health and exposure monitoring results to affected parties and managers.

CR21 - Discharge to Land, Air or Water

Critical Risk 21 of 22

This Critical Risk Standard applies to any activity where there is a potential to discharge any chemicals, noise, dust, sediment, odour or stack emissions into the environment resulting in significant harm.

PRE-TASK PLANNING

Every effort will be taken to eliminate the impact on the environment when undertaking operations through effective activity planning, and management of the operational environment.

KEY DOCUMENTS

- FB–EHS–STD–CR21 Discharge to Land Air or Water.
- FCC Critical Risk Standard—FC-EHS-CRS21 Discharge to Land Air or Water.
- FCC Associated Safe Work System— FC–EHS–SWS03 Permit to Work.
- FCC Permit to Pump

KEY TERMS

Contaminated Materials is material that contains chemical substances or wastes at concentrations above background levels that present, or have the potential to present, a risk of harm to human health or the environment.

The **Environment** can be described simply as the air, water and land in which people, animals and plants live. We are trying to protect the environment from pollution.

Safety Data Sheet is a document that lists information relating to occupational safety and health for the use of various substances and products.

APPLICABLE LIFE SAVING RULE

Nil.

REQUIRED LIFE SAVING ACTIONS

Nil.

SITE AND TASK CRITICAL CONTROLS

In controlling the risk of discharge to the environment, the following critical controls and performance requirements will be implemented:

Critical Control 01 – Install Erosion and Sediment Controls

1. Erosion and Sediment Control devices must have a design and be as built to confirm they have been constructed in accordance with the relevant guidelines.
2. Chemical treatment devices must be installed as per manufacturers specifications and maintained.
3. Exposed areas must be minimised (e.g., staged topsoil strip and grassed or covered) to prevent erosion.
4. Sediment controls and de-watering systems must be constructed, inspected and maintained to ensure all runoff is contained or treated on the site.
5. Stormwater catch pit protection (e.g., stormwater socks) must be in place.
6. Sediment pond and de-watering system outlets must be monitored against discharge criteria (e.g., pH, turbidity, etc.).
7. Clean water diversions must be inspected and maintained.

Critical Control 02 – Ensure Adequate Bunding / Containment of Hazardous Substances

8. Facilities used to store hazardous substances must maintain an inventory of the type and quantity being stored.
9. Quantities of hazardous substances must be maintained within legal thresholds. Thresholds must comply with local regulations.
10. All hazardous substances must have an up to date (<5 years old) Safety data Sheet.
11. All stored substances must be correctly labelled.
12. Fixed vessels and containers storing hazardous substances must have secondary containment that can contain 110% of the net capacity of the largest stationary container and all permanent bunds marked with maximum volumes.

Discharge to Land, Air or Water

Critical Risk 21 of 22

13. A spill response plan must be appropriate to substances used, stored, handled or transported.
14. Spill kits must be stocked with sufficient materials appropriate to the size and location of the activity and the substance being used.

Critical Control 03 – Manage all Contaminated Materials

15. Runoff from contaminated areas must be contained, managed, and isolated from overland flow paths.
16. All contaminated materials must be identified, contained, treated (if required) and disposed of in accordance with a management plan by competent persons.
17. Sites must ensure there are no hazardous substances or chemicals being discharged into the stormwater or sewer system. If there is, they must have written authorisation from local authorities.
18. Wash areas for contaminated materials or products (e.g., concrete slurry) must be designated, contained and maintained.
19. Handling and storage of ecotoxic class 9 substances must not occur within 30 meters of a defined waterway without an approved management plan.
20. All dewatering activities must be managed by a Permit to Pump and a record of monitoring maintained on the permit.

Critical Control 04 – Prevent Nuisance Disturbance

21. Scheduled monitoring must be in place on boundaries where objectionable odours, dust, noise, light, vibrations have been identified as a community risk.
22. Dust must be suppressed within the site boundaries (e.g., water cart and drivers).
23. A system must be in place to ensure dirt/debris from site operations is not tracked onto the road (e.g., wheel wash, rumble strips, clean metal, inspections).

Critical Control 05 – Plan for, and Manage, Extreme Weather Events

24. Emergency plans must be in place for extreme rain, wind or other events which may exceed drainage capacity or create a new environmental risk (e.g., dust) including checking of controls before and after the event.

Key Terms

CRITICAL RISK

Is a risk that exposes workers to a potential unwantedevent that could result in a life changing injury, one or more fatalities, and / or significant environmental harm (where the potential or real impact is a 4 (Major) or 5 Catastrophic) level consequence on the FletcherBuilding (FB) risk matrix).

CONTROL

Is a human act, a physical object (engineered) or a technological system (or a combination of each) intendedto prevent or mitigate an unwanted event. There are two types of controls: preventative controls and mitigation controls.

CONTROL VERIFICATION

An audit type process used to verify that critical controls have been implemented on site or within an operation and are operating effectively to reduce risk exposure. Conducted in Radar.

COMPETENT PERSON

Is someone who has acquired through training, qualification and experience (or a combination of these),the knowledge and skills enabling that person to safely perform a specified task.

CRITICAL CONTROL

Is a highly relied upon control that is crucial to preventing the occurrence of an unwanted event or mitigating the consequences of the unwanted event if it did occur. The absence or failure of a critical control would significantly increase the risk to our workers.

PERFORMANCE REQUIREMENT

In the context of critical risk management, a performance requirement outlines the context and expected standard in regards to the implementation of a critical control. Performance requirements are defined at Group level and implementation (and effectiveness) of, is verified through control verification at site level.

Notes

Critical Control Verification Process and Checks

Ensure our controls are implemented, remain in place and are effective

CONTOL VERIFICATION PROCESS

As part of the Fletcher Critical Risk Management process, all sites and operations must on a regular basis (as per schedule or plan), verify the critical controls (and the performance requirements) outlined in this Critical Risk Handbook have been implemented, remain in place and are effective (in controlling the risk exposure) for the duration of the task or operation.

Leaders are responsible for ensuring all Critical Control Verification (CCV) checks are completed, recorded (in Radar) and actioned as required by the Business Unit.

Following are a set of checks for each critical risk, that are to be used to verify the implementation and effectiveness of the controls. All controls and requirements listed, are mandatory controls and requirements and can't be opted out of by the site or operation where the risk is present.

CCV Checklists are available for hardcopy download from Fletcher One and are integrated into both Roam and Radar for direct entry into the system.

Performance Requirements for Critical Controls are tiered based on how and where the requirement can be verified.

- Tier 1 - the requirement can be verified on site through observation,
- Tier 2 - the requirement can be verified off site, through checking a system or document.

Sites and Operations are to refer to Business Unit requirements to understand who is responsible for completing Critical Control Verifications, for which risks, and at what frequency.

When using the CCV checklists, for each performance requirement listed on each sheet, the CCV team must check and verify:

- Tier 1 - the requirement been implemented (put in place) on site for all observed exposures,
- Tier 2 - the requirement can be met through documents or systems in use by the site or operation.

Where a requirement can't be verified, an action is required to correct the non-compliance either immediately (where there is immediate exposure to a worker) or if it can't be corrected immediately (or there is no immediate exposure), an action required for follow up by Project/Branch or Operational Manager.

Any non-compliances that have been fixed immediately need to be recorded in Radar as "No but Fixed on Site".

All findings from the CCV must be discussed with the Project/Branch or Operational Manager and Frontline Leaders prior to leaving site.

CONTROL VERIFICATION CHECKS

The CCV checks listed below are the checks required for each Critical Risk. These are recorded in this handbook for context only on how the Fletcher Building Critical Controls and Performance Requirements have been operationalised for implementation on Fletcher Construction sites and operations.

CR01 - Fall from Height

Tier 1 Checks

CC01 – Fall Prevention

Are all fall edges (including excavations) protected by a physical barrier of sufficient height and strength that prevents a person from falling?

Are all penetrations, shafts and rises covered/protected, clearly identified, and securely fastened to prevent people from falling?

Where fall prevention systems are in use, is the system fall restraint and not fall arrest?

Where fall restraint system is in use, does the maximum lanyard length prevent the person(s) from reaching the exposed edge?

Is the lanyard attached to a certified anchor point?

CC02 – Fall Arrest

All fall arrest equipment and abseil anchors have been checked before use by a competent person?

Do the fall arrest systems in use have a lanyard length that manages fall distance to ensure no contact with the ground?

Do the harnesses in use have a double lanyard and a current inspection certification (<12 months old)?

CC04 – Height Access Equipment

Are scissor lifts being used on a level surface or with their stabilisers out if surface is uneven?

Has the height access equipment daily log been completed?

Does the height access equipment have current certification attached?

Are cherry pickers or boom style Mobile Elevated Work Platforms (MEWP) being used where the surface is not suitable for a scissor lift?

Are all persons within the cherry picker or boom style MEWP using a safety harness fitted with a short energy absorber or self-retracting lifeline (SRL) that is connected to a certified or manufacturer's anchor point?

Where MEWPs are used, is the exclusion zone coned off (or equivalent) from all other activities (including LOTO of gantry cranes or other overhead work) in place or is it being managed via a spotter?

When the height of the scaffold is more than three times the width of the base, is the scaffold tied to the supporting structure (if not rakered or buttressed)?

Are all scaffolds in use tagged as safe to use and within date of inspection?

Have platforms (or other safe access) been provided for transport truck loading where operators need to access an unprotected deck edge?

Are step, straight and extension ladders being used to access and egress areas at height only or is there a Permit to Work allowing the ladder to be worked from?

Are platform ladders in use only being used as work platforms for low risk, short duration activities?

CC05 – Competency

Have all persons using fall arrest systems been trained to the appropriate industry standard?

Have all persons issuing and receiving Permits to Work been trained in the company Permit to Work process?

Have all persons using height access equipment been trained to the appropriate industry standard?

Have all persons assembling, maintaining, certifying or dismantling scaffolding been trained to the appropriate industry standard?

CR02 – Vehicle Collision or Rollover

Tier 1 Checks

CC01 - Load and Product Restraint

All loads are within weight limits and specifications of truck and trailer

Is the angle of operation for loading/unloading within machine specifications?

All the tie-downs (e.g., strops or chains) in use have a current annual inspection and are tagged with load limits?

Are chains (or NZTA authorised alternative) being used for transporting heavy loads (> 2 tonne) and mobile plant and is the load fully secured to prevent movement?

Tier 2 Checks

CC01 – Fall Prevention

Does all fall restraint equipment have a current certification?

Have Work Positioning Systems been designed and established by a competent person?

CC02 – Fall Arrest

Is there a documented rescue plan in place specific to the activity being undertaken that includes appropriate rescue equipment and a communication method?

Has the rescue plan been tested to ensure it works?

Have all persons involved in the activity been informed of, and can demonstrate awareness of the requirements / contents of the rescue plan?

CC03 – Equipment or Structure Integrity

Is there documented evidence to verify that where working, walking over, or accessing a potentially brittle, unsecured or fragile surface at height is required, surfaces or work areas have been assessed by an Engineer to confirm they are safe to access and use?

Is there evidence to verify that an appropriate design and/or certifications has been completed to ensure barriers, scaffolding, screens, penetration covers, anchor points and working platforms used (outside of manufacturers standard specifications) are structurally sound and engineered to withstand the required loading?

Have these designs been recorded in the Temporary Works Register?

Are their current inspections of scaffolds, screens, penetration covers, anchor points & working platforms taking place to confirm they remain structurally sound and fit for purpose?

CC04 – Height Access Equipment

Has all scaffolding 5 meters in height and above, and special scaffolding (canti-levered and suspended) been assembled, maintained, inspected, and disassembled by a person who holds the appropriate class of certificate of competence for that type of scaffold?

Has all scaffolding up to 5 meters in height been assembled, maintained, inspected, and disassembled by a competent person?

Do all temporary access platforms have an engineer approved design and/or manufacturers certification?

Is there evidence that all temporary access platforms have been inspected by a competent person and deemed safe to use?

Is the weight of the load distributed evenly to prevent tip over?

If using webbing, have the lashings been placed every 1.5m along the length of the load?

CC02 – Equipment Condition

Do all heavy trailers have a current Certificate of Fitness?

Do all light trailers have a current Warrant of Fitness?

Are all light trailers being used within their towing vehicle's rated capacity?

Are light trailers fitted with safety chains (one for single axle and two for tandem axle) and certified D-shackles?

Has a documented pre-start inspection been completed on all vehicles and trailers?

Is vehicle servicing current?

Does all heavy mobile equipment have a certified ROPs / TOPs / FOPs / COPs fitted that provides protection to the operator that takes into account the task, working environment and risk?

CC03 – Operator Competency

Have all operators been assessed as competent (including drivers towing trailers)?

Do all operators hold valid licences, endorsements and certificates required for the class and type of vehicle they are operating (e.g., light vehicles, heavy vehicles, forklifts, etc.)?

Are all drivers/operators wearing seatbelts (where fitted)?

CC04 – Route Planning / Environment

Have drivers been provided with journey management plans (for one-way travel in excess of two hours) to manage and monitor fatigue?

Are drivers completing logbooks (where required)?

Are all yards and surfaces level and free of defects where forklifts or other equipment are being used to transport unrestrained loads?

Do all haul roads have adequate bunding (half height of largest wheel) to protect drivers from exposed edges?

Do all tip sites have bunding to protect drivers from exposed edges?

Are all haul roads being maintained to protect drivers from tip overs?

Are all loading areas being maintained to protect drivers/operators from tip overs?

Are all tip sites being maintained to protect drivers/operators from tip overs?

CR03 – Failure of Lifting Operations

Tier 1 Checks

CC01 – Exclusion Zones

Are there exclusion zones in place and managed to ensure no loads are lifted, suspended or placed over people?

Are there physical controls (such as barriers) in place to ensure unauthorised people and vehicles are kept a safe distance from lifting devices, and any outriggers?

CC02 – Working Load Limits

Do all lifts (excluding standard forklifts / combi-lifts lifting within their load limit) have an approved lift plan or JSEA (for basic lifts only)?

Has the lift plan type (basic or complex) been determined by the level of risk and complexity of the task using the Lift Category Risk Assessment tool?

Are only approved lifting devices and certified/tagged lifting equipment being used for lifting operations?

Are lifting devices and equipment being operated within the safe working load or working load limit?

Is specialised lifting equipment (e.g., swift locks) being attached to certified lifting points on both the lifting device and (where applicable) the load?

CC03 – Equipment Condition

Do cranes and hiabs have a current Inspection Certificate?

Has lifting equipment (including booms) had a pre-use inspection completed?

CC04 – Load Configuration and Stability

Have ground/weather conditions been assessed and appropriate controls implemented to ensure stability and safe operation of the lifting device and load throughout the entire operation?

Has the presence of live utility services been assessed and appropriate controls implemented to ensure stability and safe operation of the lifting device and load throughout the entire operation?

Has the load been adequately secured (including covering where required) to ensure the load remains stable and no items can come loose?

Is the placement of loads hands-free, if not hands-free, has a risk assessment been completed and additional controls applied such as taglines and / or push-pull sticks?

Is visual contact being maintained between dog man/rigger and operator at all stages of the lift. If visual contact cannot be maintained, has two-way closed circuit radio contact been established and maintained?

Tier 2 Checks

CC01 – Exclusion Zones

Have drop zones have been defined, identified, documented, communicated and managed for the lifting operation?

Where exclusion zones are not practicable, is there an appropriate mitigation plan in place that has been approved by the General Manager (or their authorised delegate)?

CC02 – Working Load Limits

Have fabricated or custom-built lifting equipment and support stands been supplied with engineering calculations and drawings which demonstrate it can support the rated safe working load limit?

Have the engineering calculations and drawings been checked and certified by a qualified engineer, to confirm it can support the rated safe working load limit?

Where lifting devices are being operated in excess of 80% of their working load limit, is there a process to ensure test lifts are conducted prior to the lifting operation commencing?

Are load calibrations being completed as per the established schedule (e.g. 6 monthly)?

CC03 – Equipment Condition

Is there a preventative maintenance regime in place for the lifting device (and boom) that complies with the ACOP for Load Lifting Rigging and AS4991 (Lifting Devices)?

Is crane commissioning, operation and decommissioning being supervised by an authorised and competent person?

Is there an inspection regime in place to ensure all lifting devices and equipment have a unique identifier and remain current through stamps, tags or certifications?

CC05 – Competent Person

Is the Crane Operator trained, authorised and been verified as competent to safely perform the task?

Is the Dogman trained, authorised and been verified as competent to safely perform the task?

Are all lifts are being planned and managed by a Lift Supervisor (basic) or Lift Operations Coordinator (complex)?

CR04 – Entanglement, Impact or Crushing

Tier 1 Checks

CC01 – Guards / Safety Devices / Barriers

Are all guards, isolations or barriers in place and fixed to ensure that workers cannot place any part of their body into the machine while it is operating, starting up or slowing down?

Is all pressurised equipment (e.g., hydraulics, pneumatics, high pressure hoses) de-energised (e.g., forks lowered to ground), or restrained (e.g., anti-whiplash), and/or the operation isolated (e.g, exclusion zone, barrier) to prevent accidental contact with people?

CC02 – Lock Out Tag Out (LOTO)

Is the site using the FC approved LOTO safe work system?

Has all energised equipment been proven isolated using the LOTO system?

Have all individuals been assigned personal locks which are clearly identified and labelled?

Has all equipment deemed unsafe to operate been removed from service and tagged with Out of Service Tags (if they are not covered by LOTO)?

CC03 – E-Stops

Are all Emergency Stops (either pull cords or buttons) within arms-reach of any potential pinch points or contact locations?

Tier 2 Checks

CC01 – Guards / Safety Devices / Barriers

Have all critical guards, components (e.g., hoses, pressure relief valves) and safety devices (e.g., e-stops, interlock, locking pins) on fixed and mobile plant been identified as part of an approved maintenance system?

Have all critical guards, components (e.g., hoses, pressure relief valves) and safety devices (e.g., e-stops, interlock, locking pins) on fixed and mobile plant completed their scheduled inspections and maintenance?

Has all fixed plant undergone a planned machine safety risk assessment by an ASNZ 4024 Machinery Safety specialist?

Have all the identified safety critical actions been cleared/actioned before use?

Has all newly commissioned or designed (or redesigned) equipment been assessed by an ASNZ 4024 Machinery Safety specialist and made safe to category 3?

CC02 – Lock Out Tag Out (LOTO)

Does all fixed plant have a documented isolation plan/register that covers off all potential energy sources?

If Group LOTO (2 or more) or multiple isolation is required, is an Isolation Permit to Work being used to manage the process?

CC03 – E-Stops

Has the frequency and format of testing of E-stops been determined by a competent engineer as part of the overall machinery risk assessment?

CC04 – Competency

Have all persons involved in the isolation of energy sources from plant and equipment been trained in the isolation and Lockout Tagout process and authorised to do the task?

Have all persons involved in the repairs and maintenance of plant and equipment been trained in the isolation and Lockout Tagout process and authorised to do the task?

CR05 – Struck by Mobile Plant

Tier 1 Checks

CC01 – Exclusion Zones

Have Plant only Zones been established on site?

Are Plant only Zones signed and sufficiently protected to prevent unauthorised access?

Are Plant only Zones being complied with (i.e. no people on foot inside them)?

Where authorised people are working next to mobile plant, have the documented People Interface Zone (PIZ) requirements been implemented on site?

Have we observed there are no people in the fatal zone?

Where authorised people are working in the restricted work zone, are they working exclusively on a safety or operationally critical task?

Is there an agreed and effective means of communication between plant operators and person within the restricted work zone?

CC02 – Vehicle Movement Plan

Is there a site-based vehicle movement plan in place which manages reversing operations and identifies, eliminates and/or mitigates all traffic, plant and people interface including loading/unloading and parking areas?

Are plant movements observed on site complying with the plant/vehicle movement plan?

Are all pedestrian routes and crossing points designated and clearly identified?

Has a suitable speed limit been signed and applied across the site that complies with the TMP and appears consistent with the risk of people and plant interface on the site?

CC03 – Roll Away Protection

Has all unattended mobile plant and equipment been left in a safe condition to prevent inadvertent movement?

- on level ground - engine off, keys not in ignition and placed under secure control (e.g. combination lock box), park-brake fully engaged;
- on incline/decline – above plus chocks/ditches/wheels turned towards kerb/wall

Have all unattended vehicles with cardan shaft brake systems been chocked and visually identified?

Is there a plant induction or acceptance process for Mobile Plant on site to check for compliance against minimum safety device standards for the site?

Have all operators completed a documented pre-start inspection on their plant prior to use?

Tier 2 Checks

CC01 – Exclusion Zones

Where authorised people are working in the restricted work zone, has a formal handover taken place between the supervisor, operator and ground worker(s) confirming the PIZ requirements?

CR06 – Objects Falling from Height

Tier 1 Checks

CC01 – Securing Tools & Equipment

Where work is carried out above others without primary containment measures, are the tools, equipment and materials fixed and secure though the use of tethering, restraining, catch nets?

Where objects could be blown from a height, are they fixed and secure?

All loads are safely secured, restrained (and covered where applicable)?

CC02 – Exclusion Zones

Where there is an ongoing risk of dropped objects, has an exclusion zone been put in place below the work?

Where working platforms, scaffolding, EWPs etc are in use, have they been effectively isolated and physically protected from being struck by passing machinery and plant?

CC03 – Stable Stacks & Good Racks

In frequently occupied areas, are palletised goods restrained to prevent them from creeping and falling from the racking system?

Is the height of shrink-wrapped pallets less than three times the width of the base, in order to reduce any toppling effect?

Does the shrink wrapping extend around the base of the pallet so that the goods and the pallet form one unit?

Are there no loose items over 5 kg (with a high centre of gravity) stacked higher than 1.2m (3.9ft) high without restraint (unless racking is designed for this purpose)?

Are materials only stacked and stored if they conform to the dimensions of the racking system (as indicated on the end plate or load chart)?

CC04 – Fall Protection

Are there toe-boards on exposed edges in place anywhere workers may be underneath?

Tier 2 Checks

CC03 – Stable Stacks & Good Racks

Is there a maintenance management system in place to ensure that shelving and racking systems are inspected on a schedule (quarterly or more frequent based on use or risk) and immediately following an incident where a racking system sustains impact?

CC04 – Fall Protection

Where persons are working or accessing an area below persons working at height, is there overhead protection (such as crash decks) designed and approved by an Engineer installed and maintained to protect the persons below?

CR07 – Contact with Electricity

Tier 1 Checks

CC01 – Isolation of Energy

Have all electrical energy circuits been proven isolated as part of the FC LOTO safe work system?

Are all portable electrical tools connected to a power supply via a suitable safety switch (RCD) at the supply end?

Is the test switch/button on the RCD tested daily when in use to verify the safe operation of the device?

Do all switchboards remain locked when they are in service?

Are switchboard access doors only opened by an electrical worker?

Are power poles and associated infrastructure (e.g. transformer boxes, stay wires) physically protected/demarcated to prevent encroachment of Minimum Approach Distances (MAD) (e.g., 4 m) by plant and vehicles as specified by the asset owner?

Where working within MAD, or where there is limited visibility in regard to overhead lines and structures, is there a trained spotter (or stand over for high voltage lines) in place at all times during the operation?

Do welding machines have a voltage reduction or amp control device fitted when welding within steel structures?

CC02 – Identification of Services

Do all electrical leads and appliances that are connected to a power source have a current test tag?

Do all overhead powerlines have a visual indicator (such as flags or bunting) of their presence?

Are all electrical isolation points labelled or tagged?

Tier 2 Checks

CC01 – Isolation of Energy

Has electrical work to be completed as part of testing, commissioning, decommissioning and modification of plant or buildings had a specialized risk assessment completed (including Arc flash) by a qualified electrician/engineer?

CC03 – Utility / Network Owner Consent

Has the Asset Owner or Network Operator been contacted to confirm the Minimum Approach Distance of any overhead and underground conductors?

Has the Asset Owner or Network Operator been contacted to obtain close approach consent?

CC04 – Competency

Are only licensed and registered electrical workers (and supervised electrical trainees) working on, testing or commissioning electrical installations?

Is there a process in place to ensure high voltage work and switching is only undertaken by authorised and certified high voltage operators to the standard of the asset owner's requirements?

Is there a process is in place to ensure live work is limited to fault finding and commissioning activities?

Is there a process is in place to ensure live work is only being undertaken by a licenced and registered electrical worker (or supervised electrical trainees)?

CR08 – Working in Confined Space

Tier 1 Checks

CC01 – Safe Atmosphere

Is atmospheric testing being undertaken by a trained person?

Has atmospheric testing been recorded to prove the atmosphere at various levels (top, middle, bottom) inside the space is safe prior to entry?

Where required, is ventilation volume and flow creating continuous airflow throughout the confined space for the entrants?

Do all confined space entrants have continuous gas monitors on their person?

Has a bump test and baseline test been conducted and documented outside of space to ensure they are working correctly?

CC02 – Identification / Security

Are all fixed confined spaces visually identified with Confined Space signage?

Do all identified confined spaces have a way to physically prevent unauthorised entry?

Where confined space is unoccupied, is the above in place?

CC03 – Isolation / Containment

Has the FC LOTO process been implemented prior to entry i.e. isolated, tagged and proven isolated?

Where required, is intrinsically safe electrical equipment being used inside the space?

CC04 – Safety Observer

Is the safety observer not carrying out any other duties while persons are inside the space?

Is the safety observer staying in position?

Is there a tested communication system between entrants and the safety observer?

Is the agreed communication system in place at all times during occupancy?

Is the safety observer carrying out and documenting atmospheric tests at regular intervals?

CC05 – Permit to Work

Is the entry covered by a Confined Space PTW?

Has the PTW been issued and received including all required checks completed before entry is permitted?

CC06 – Emergency Response

Is there a site and task specific rescue plan is in place?

Have all persons involved in the entry (and potential rescue) been briefed and understand contents of the emergency rescue plan?

Tier 2 Checks

CC01 – Safe Atmosphere

All gas detectors are being maintained and calibrated with records available?

CC03 – Isolation / Containment

Have all hazardous materials or substances inside the space been removed and/or isolated to prevent inundation or ignition during occupancy?

CC06 – Emergency Response

Has an emergency response (including rescue) trial been conducted (at least annually for fixed site Confined Spaces) and documented?

CC07 – Competency

Have all persons involved in a confined space activity (entrants, safety observer & rescue team) completed accredited training in confined space entry and gas testing?

CR09 – Working Beside Live Traffic

Tier 1 Checks

CC01 – Exclusion Zones

Do the separation controls ensure pedestrian movements are not permitted, or are isolated, where there is mobile equipment or traffic (including rail) hazards in the area?

Do the lateral and longitudinal safety zones and tapers have no working vehicles or workers in them?

Is there signage and markings visible that clearly demarcate pedestrians and vehicles?

CC02 – Temporary Traffic Management

Where people are working in the road corridor is there an approved Traffic Management Plan in place?

Is the traffic management installed on site compliant with the approved TMP?

Are manual traffic controllers located in a safe position (visible) with an escape route?

Is the TTM equipment in use (hi-vis jackets, signs, cones) clean, and clearly visible to the road user?

Are all persons on the back of the TTM truck connected to a fall restraint or work positioning system that prevents falling them of the vehicle?

Are persons on the back of the TTM truck physically placing out or taking in cones and signs while the vehicle is moving?

Are all persons working in or adjacent to the Rail corridor authorised by, and where required under control of, KiwiRail?

Has a documented inspection been completed prior to work commencing?

Has a documented inspection been completed every 2 hours by the STMS?

Has a documented inspection been completed post work completion?

CC03 – Competency

Is the STMS wearing a compliant vest?

Can everyone involved in installation, maintenance and deinstallation of TTM equipment be verified as warranted?

Have all persons conducting manual traffic control been trained and briefed in their responsibilities by the STMS?

Tier 2 Checks

CC02 – Temporary Traffic Management

Does the equipment in use on TTM vehicles meet the requirements of MP13a TTM Vehicle Requirements such as emergency stops, radio communications, fall prevention equipment, camera system?

CC03 – Competency

Have all persons working in or adjacent to the rail corridor completed a KiwiRail induction?

CR10 – Contact with Underground Services

Tier 1 Checks

CC01 – Isolation of Services

Have plans for all utility services within works area, and any as-builts for any recently completed works been obtained?

Are all the utility service plans (including as-builts) available on site to ensure they can be identified and located?

Have all utility services been marked out on the ground and maintained?

Have all utility services within 2m of your excavation been positively located by non-mechanical excavation?

Is the excavation being scanned with a service locator each time after soil is removed to assist with identification of unknown or unmarked utilities?

There is no mechanical excavation taking place within 500mm of a known service?

Are exposed services being adequately protected/supported during operational activities?

CC02 – Permit to Work

Has a Utility Services Permit to Work been issued by an authorised person prior to ground being broken?

Have all the required checks on the Utility Services permit to Work been completed in full prior ground being broken?

Is the method of excavation being used the same as the method stated on the permit and methodology?

Tier 2 Checks

CC01 – Isolation of Services

Has a site walkover taken place prior to work commencing to verify location of mark outs and look for indicators of unknown or marked utility services?

Is there confirmation from the Utility Owner authorising temporarily isolating high risk utility services during specific activities; re-siting, repositioning, exposing or redesigning utility services?

CC02 – Permit to Work

Has a formal transfer of responsibility taken place highlighting the location and type of services from the utility locator to the operator and safety observer?

CR11 – Temporary Building or Structure Failure

Tier 1 Checks

CC02 – Installation and Maintenance

Are all temporary works inspected prior to use or when working adjacent to them?

Are all temporary works inspected prior to and following any extreme weather or natural disaster event?

CC03 – Demolition / Deconstruction / Modification

Are either exclusion zones or overhead protection in place for demolition works (or any other controlled method of structural deconstruction) where there is a risk of structural collapse beyond the applicable area?

Tier 2 Checks

CC01 – Structural Integrity

Has a Designated Individual (DI) been appointed to establish, implement and maintain a procedure for the control of temporary works?

Has a Temporary Works Management Plan (TWMP) been developed, implemented, and approved by the Designated Individual?

CC02 – Installation and Maintenance

Are all temporary works installed in accordance with design requirements?

Are all temporary works being maintained, and monitored in accordance with design requirements?

CC03 – Demolition / Deconstruction / Modification

Are all temporary works being deconstructed in accordance with design requirements?

Are modifications to Temporary Works are in accordance with Temporary Works Management Plans (TWMP)?

Are modifications to Temporary Works approved by the Designer and the Checker?

CR12 – Hot Work and Fire

Tier 1 Checks

CC01 – Isolation of Hot Work

Is all isolation and de-isolation of energy sources (that could lead to ignition within the hot work area) completed using the FC LOTO system?

Are all flammable fuel sources isolated (either physically or through distance) from ignition sources?

Is hot work taking place in either a designated hot work area or an area where a Hot Work Permit has been issued?

Is there adequate ventilation present in the hot work area to prevent build-up of fumes?

CC02 – Removal of Combustibles

Have all potential combustible materials been removed, wet down or covered (including floor openings, cavities and cracks)?

CC03 – Firewatch

Where a fire watch is required on the PTW, has a fire watch been appointed to monitor the area?

Has the verification of the fire watch checks being completed been sought and checked?

Is there a minimum of one fire extinguisher available for each fire watch appointed?

Is the fire-fighting equipment positioned in a place that is fully accessible by the fire watch?

Are the fire extinguishers compatible with the type of fire they may be required to extinguish?

Is there an agreed (documented) communication method in place between the person(s) doing the hot work and the fire watch(s)?

CC04 – Permit to Work

Has a Hot Work Permit to Work been issued and received to manage the hot work activity (outside of any designated hot work area)?

Have all the required checks on the Hot Work Permit to Work been

completed in full prior to hot work activity commencing?

Has atmospheric monitoring (where required e.g. hazardous zones) been completed and recorded on the Permit prior to hot work starting and at regular intervals by a trained person?

Has a site or task visual inspection been completed by both the issuer and receiver prior to closing the hot work permit to work?

Tier 2 Checks

CC05 – Health Monitoring

Has the site determined whether or not fume exposures could pose a risk to workers health?

Where there is evidence or concern that fume exposures could pose a risk to workers health, has the site implemented a workplace exposure monitoring programme to determine and monitor ongoing potential exposure levels?

Is the workplace exposure monitoring programme being carried out by an occupational hygienist or other suitably qualified person?

Have the results of the health surveillance and workplace exposure monitoring been compared to confirm that the controls are being maintained and effective?

Are workers regularly exposed to hazardous fumes receiving an annual health check that includes lung function, Musculo-skeletal systems and mental health assessment?

CR13 – Collapse of Excavation or Stockpile

Tier 1 Checks

CC01 – Stable Excavation

Have engineering controls been installed and maintained to prevent and manage the accumulation of ground water, fumes and gases in all excavations and trenches where it is a risk?

For all excavations in unstable ground or greater than 1.5m deep, has an Excavation/Trenching Safe Entry Permit to Work been issued and received by trained persons to manage the excavation activity?

Have all the Permit Issuer checks on the Excavation/Trench Safe Entry Permit to Work been completed in full by the Permit Issuer prior to issuing?

Have all the Permit Receiver checks on the Excavation/Trench Safe Entry Permit to Work been completed in full by the Permit Receiver prior to persons entering the trench before each working shift, and after rainfall events?

For all excavations in unstable ground or greater than 1.5m deep, have they been either correctly benched, shored using an approved system, shielded (using certified trench shields), or correctly battered to a safe angle of repose (or as determined by a competent person) before any person can enter the trench/excavation?

Is plant positioned so that it does not create an overloading on the excavation stability (e.g. excavator tracks 90 degrees to loading face)?

Have all materials, spoil and equipment been placed in a location at least 1 m from the edge of the excavation (downhill side if on an incline)?

CC02 – Edge Protection

Is there protection (robust enough to prevent fall through) in place along the edges of excavations/trenches?

Is there adequate fencing to prevent unauthorised access to the work area?

Is there sufficient signage to warn all parties of the risks of the open excavations?

Has a safe means of getting in and out been established and maintained for all excavations and trenches?

In excavations greater than 10m in length, is there more than one location workers can get in and out of the trench?

Tier 2 Checks

CC01 – Stable Excavation

For all excavations in unstable ground or greater than 1.5m deep, is there a Temporary Works design to prevent collapse such as boxing, benching, dewatering, shoring, shielding or battering?

CR14 – Explosives

Tier 1 Checks

CC02 – Site Security

Is there a Site Security Plan to prevent unauthorised access to, or use of, explosives and detonators that are transported to and stored on site (including sleeper shots)?

CC03 - Storage

Are the explosives and detonators stored in a safe and secure location?

Are the explosives and detonators stored in a licensed or approved magazine?

Is there separate storage for explosives and detonators?

Is there a current inventory of all explosives and detonators being held in storage?

CC04 – Exclusion Zones

Are there procedures in place for pre-blast inspection, clearance, and sentry placement, for the safety of personnel, plant, and equipment during blasting that includes exclusion zone requirements?

Has the procedure and exclusion zones been implemented effectively?

Tier 2 Checks

CC01 – Management Plan

Is there an Explosives and Shot firing Management Plan?

Does the plan include explosive quality control, competency requirements, contractor qualifications (including misfire history) and a process for management of misfiring – Type A and B?

Has the Explosives and Shot firing Management Plan been reviewed and approved by an authorised and competent person?

CR15 – Working Near or Over Water

Tier 1 Checks

CC01 – Equipment / Structure Integrity

Is operational plant associated with excavation activities near waterways positioned and operated in a manner that does not undermine or create an overloading on the working platform stability?

Have all the marine vessels, boats or barges been loaded and set up (mobilised) so as not to impact stability on the water?

Are all the marine vessels, boats or barges being operated as intended, and within the specifications of the manufacturer?

CC02 – Edge Protection

Where fall edges require protection, are all fall edges protected by a physical barrier of sufficient height (e.g. 1100mm) and strength that prevents persons falling?

CC03 – Emergency Response

Is water safety and emergency equipment highly visible and accessible?

Are Life Jackets being worn by all individuals where there is an immediate risk of drowning?

CC04 – Competency

Have all boat and marine plant operators been certified, licensed and/or deemed competent for vessel and marine plant operation?

Tier 2 Checks

CC01 – Equipment / Structure Integrity

Do all temporary barriers, scaffolding, screens, penetration covers, anchor points and working platforms (for both people and plant) have a temporary works design and/or certification to ensure they

are safe and fit for purpose?

Are these designs/certifications recorded on the Temporary Works register?

Have surfaces or work areas on existing structures over water that need to be accessed or trafficked by people and/or plant, been assessed to ensure they are safe prior to access being allowed?

Are all scaffolding, penetration covers, anchor points and working platforms in use over water being inspected regularly (e.g. weekly) to ensure they are safe and fit for purpose?

Have these inspections been documented?

Are all marine vessels, boats and barges certified in accordance with Maritime Regulations (e.g. fit for purpose certificate, load line certificate and barge safety certificate)?

Are all the marine vessels, boats and barges being maintained in accordance with manufacturers specification?

CC02 – Edge Protection

Have all fall edges been risk assessed to determine if edge protection is required?

CC03 – Emergency Response

Are Emergency Response Plans and potential rescues regularly tested (at least six-monthly)?

Are the Emergency Response Plans and potential rescues being tested in relation to incidents and potential scenarios with working in, on or around water?

CC05 – Dive Plan

Is there a Dive Plan in place for the safe management of commercial diving activities?

Has the Dive Plan been reviewed and authorised by the Project Manager?

CR16 – Exposure to Process Safety Risks

Tier 1 Checks

CC02 – Process Hazard Analysis

Have all the process safety critical elements been identified as part of the risk assessment process?

Are pre-start safety reviews being completed following maintenance shuts or commissioning?

Do the reviews include a risk assessment of all related safety critical elements?

CC04 – Monitoring & Reporting

Are incident Investigations being completed for all failures of safety critical elements?

Has action been taken across all sites with similar processes where failures have been identified during incident investigations?

Tier 2 Checks

CC01 – Ownership & Capability

Has an operational leader been identified and assigned responsibility for process safety risk management?

Does this person have an understanding and ownership of process safety risk on sites, assets and/or projects?

Has a process safety engineer (internal or external) been identified, who can provide ongoing expert guidance and support for operational process safety risks?

Have training and competency checks been completed for all workers (including contractors) who may work with, around or on process safety systems or structures?

CC02 – Process Hazard Analysis

Has a preliminary hazard analysis with supporting risk assessments (HAZOP, HAZID, Bowties, etc.) been completed as determined appropriate for the process?

Have all safety critical elements (e.g., SOPs, maintenance, inspections, etc) been made operational?

Are all the safety critical elements (e.g., SOPs, maintenance, inspections, etc) being monitored for effectiveness?

Is there a process in place to review any change to documented processes, technology, structures, or assets that are associated with safety critical elements?

CC03 – Audit & Planning

Has a Process Safety Management Plan been developed and implemented?

Does the Process Safety Management Plan include management of the key elements of process safety?

Is there an appropriate Emergency Plan in place that covers all the potential catastrophic failure events identified in the hazard identification process?

Has the Emergency Plan been tested to verify its effectiveness for all the potential catastrophic failure events identified in the hazard identification process?

Have the Emergency Plan tests been documented along with any identified improvements or actions?

Have all the identified improvements or actions been closed out?

Are internal audits being completed annually by a competent person to review the application of the Process Safety Management Plan and Critical Safety Elements?

Has an external audit been completed every two years that covers application of the Process Safety Management Plan and Critical Safety Elements?

Is there an assigned senior leadership committee or group (consistently of technical experts, management, and operations) that is regularly reviewing the management and performance of process safety on their sites?

Have metrics and performance targets been set which are appropriate for safety critical elements?

CR17 – Exposure to Hazardous Substances

Tier 1 Checks

CC01 – Containment Design

Do all vessels and containers storing hazardous substances have secondary containment (bunds) that can contain 110% the maximum capacity of the largest tank or drum being stored?

CC02 – Access Control

Are hazardous substances stored securely?

Is access to hazardous substances restricted to trained personnel only?

Are those handling hazardous substances wearing the appropriate personal protective equipment as per Safety Data Sheet requirements?

CC03 – Storage & Labelling

Are hazardous substances being stored in accordance with Safety Data Sheet and location test certificate requirements?

Are hazardous substances labelled in accordance with Safety Data Sheet and regulatory requirements?

Do all hazardous substances have a readily accessible, local and current (<5 years old) Safety data Sheet?

Are all hazardous substances included on a site hazardous substances inventory?

Does the site hazardous substances inventory include the type and quantity stored?

Are all hazardous substances being transported securely restrained?

Are all hazardous substances being transported displaying correct placards?

Do all hazardous substances being transported have the appropriate documentation (quantities, safety data sheet, emergency response plan) readily available for inspection?

Are hazardous substances that are decanted into a secondary container for storage labelled with the contents?

Tier 2 Checks

CC01 – Containment Design

Has a risk assessment been completed to understand the requirements and specifications for the design and/or modification of hazardous materials facilities?

Has the requirements and specifications considered hazardous materials selection, transport, production, storage, handling, use and disposal?

CC04 – Testing & Monitoring

Does the site have a health surveillance programme in place for workers at risk of exposure to hazardous substances above 50% of established exposure standards?

Does the site maintain a workplace exposure monitoring programme to determine and monitor ongoing potential exposure levels for hazardous substances?

Are the results of the health surveillance and workplace exposure monitoring being compared and analysed to confirm that the controls are being maintained and effective?

CC05 – Emergency Response

If the site holds a Location Test Certificate, does it have an emergency response plan which is appropriate for the substances on site?

Does the site hold six-monthly scenario testing to test their emergency response plan?

Does the site ensure that the plan and the associated inventory is provided to, and readily available for, emergency services?

CC06 – Competency

Are all the persons involved in the handling, use, transport, storage and disposal of hazardous substances trained for each hazardous substance they work with, including Safety Data Sheet requirements and emergency response plans?

Have health and exposure monitoring results been escalated (where required) to affected parties and managers?

CR18 – Exposure to Dusts and Silica

Tier 1 Checks

CC01 – Suppression

Are there local exhaust ventilation, extraction, containment or dust collection systems installed?

Is the installed dust management system being used?

Is the installed dust management system being maintained to ensure its effectiveness?

Are wet grinding or cutting methods being applied on site to suppress or contain dust?

Is clean up of residual materials and dust completed using wet cloths, a low-pressure water hose or vacuum system?

CC04– Exclusion Zones

Where dust is present, have exclusion zones been established to protect others from silica exposure?

Have the exclusion zones taken into account the wind strength and direction?

CC05 – Respiratory Protection

Where routine activities include exposure to silica, is a half-face, supplied air or full-face respirators being used?

Where half-face, supplied air or full-face respirators are not available, are P2 respirator's being used?

Tier 2 Checks

CC02 – Monitoring

Has an assessment been completed on site to determine if dust could be a risk to workers health?

Where dust exposures have been assessed to be a risk, has a Dust Exposure Management Plan been developed based on baseline

exposure levels and guidance from a Registered Occupational Hygienist or other suitably qualified person?

Have the requirements from the Dust Exposure Management Plan been implemented and maintained on site under guidance from a Registered Occupational Hygienist or other suitably qualified person?

Where dust exposures reach 50% of workplace exposure standard levels, is ongoing exposure monitoring being carried out by an occupational hygienist or other suitably qualified person as per the exposure management plan?

Do all workers regularly exposed to 50% of exposure levels receive spirometry testing and an annual health check?

Are the results of the health surveillance and workplace exposure monitoring compared to confirm that the controls are being maintained and effective?

Are mechanical dust extraction systems (e.g., local exhaust ventilation systems) being maintained as per manufacturers specifications to ensure that the air exchange system continues to meet dust extraction requirements?

Do the mechanical dust extraction systems (e.g., local exhaust ventilation systems) undergo scheduled performance checks (e.g., annually) to ensure that the air exchange system continues to meet dust extraction requirements?

CC05 – Respiratory Protection

Has fit testing and training been completed for all workers that are required to use a respirator?

CC06 – Competency

Have workers who are regularly exposed to RCS been trained to understand the risks, safe operation and maintenance of equipment

and PPE selection, use and maintenance?

Have health and exposure monitoring results been escalated (where required) to affected parties and managers?

CR19 – Exposure to Asbestos

Tier 1 Checks

CC03 – Competency

Are persons directly involved in the removal and handling of ACM Worksafe Certified?

Tier 2 Checks

CC01 – Register & Plan

Does each premise which has identified the presence of asbestos or ACM have an Asbestos Register and a written Asbestos Management Plan?

CC02 – Monitoring

Where there is evidence or concern that ACM may be exposed, has an exposure assessment been carried out by a Registered Occupational Hygienist or other suitably qualified person?

Where workers are involved in ongoing (greater than 4 weeks in any 12-month period) asbestos-related work, has exposure monitoring been completed by a specialist for the duration of the work activities (e.g. swab testing, dust monitoring, etc.)?

Are all workers exposed to asbestos participating in a medical surveillance monitoring programme?

Are health assessments being performed annually from when the work with, or exposure to, asbestos commenced?

CC03 – Competency

Have workers who are regularly exposed to ACM been trained in the health risks from their exposure and the controls required?

Have health and exposure monitoring results been escalated (where required) to affected parties and managers?

CC04 – Decontamination

Is there an Asbestos Removal Control Plan (ARCP) (including facilities, processes, and disposal requirements for decontamination) in place prior to any ACM work commencing?

CR20 – Exposure to Noise

Tier 1 Checks

CC02 – Hearing Protection

Is hearing protection (rated for the noise levels) being worn by all workers in areas or during activities that are identified as a risk?

Tier 2 Checks

CC01 – Noise Suppression

Have noisy environments (i.e., above 85 dB(A) for 8 hours) been assessed by a Registered Occupational Hygienist or other competent person?

For noisy environments (i.e., above 85 dB(A) for 8 hours), have controls been implemented to demonstrate so far as is reasonably practicable (e.g., noise suppression, substitution of equipment, installation of noise barriers/absorbers as opposed to PPE)?

CC03 – Monitoring

Is there is a health surveillance programme for workers at risk of exposure to noise?

Where sites, areas or tasks are identified as at risk for hazardous noise, are these areas regularly (e.g. annually) monitored for noise levels as per the branch/project noise monitoring programme?

Are the results of the health surveillance and workplace exposure monitoring being compared to confirm that the controls are being maintained and effective?

CC04 – Competency

Have all workers been trained on the correct choice, use and maintenance of the applicable hearing protection?

Have health and exposure monitoring results been escalated (where required) to affected parties and managers?

CR21 – Discharge to Land, Air or Water

Tier 1 Checks

CC01 – Erosion and Sediment Control

Are exposed areas of soil (including soil stockpiles) minimised (e.g., staged topsoil strip or finished areas mulched)?

Are silt fences, de-watering systems or ponds constructed and maintained to ensure all sediment-laden runoff is contained or treated on the site?

Are stormwater catch pit protection devices in place?

Are stormwater catch pit protection devices being maintained to ensure its effectiveness?

Are clean water diversions being inspected and maintained?

CC02 – Bunding / Containment of Hazardous Substances

Do facilities used to store hazardous substances maintain an inventory of the type and quantity being stored?

Does the inventory reflect the quantities and types being stored on site?

Do all hazardous substances have an up to date (<5 years old) Safety data Sheet supplied from the supplier or vendor or authorised system such as Chemwatch?

Are all substances stored correctly labelled?

Do fixed vessels and containers storing hazardous substances have secondary containment that can contain 110% of the net capacity of the largest stationary container.

Is there a spill response plan readily available?

Is the spill response plan appropriate to substances being used, stored, handled or transported?

Are spill kits stocked with sufficient materials appropriate to the size and location of the activity and the substance being used?

CC03 – Contaminated Materials

Is all runoff from contaminated areas being contained, managed and isolated from overland flow paths?

There are no discharges of hazardous substances or chemicals into the stormwater and sewer system without authorisation?

Are their designated wash areas for contaminated materials or products (e.g. concrete slurry) on the site?

Are the wash areas for contaminated materials or products (e.g. concrete slurry) maintained and effective?

Is all handling and storage of ecotoxic class 9 substances situated at least 30 meters away from of any defined waterway?

If handling and storage of ecotoxic class 9 substances does occur within 30 meters of a defined waterway, have the controls been identified and communicated via the JSEA/SOP?

Are all dewatering activities being managed through the use of a Permit to Pump?

Has monitoring been completed as defined by the permit?

CC04 – Nuisance / Disturbance

Is all dust being suppressed and contained within the site boundaries (e.g. water cart and drivers)?

There is no unnecessary noise and vibration close to sensitive areas?

Is there a system is in place to ensure dirt/debris from site operations is not tracked onto the road (e.g. wheel wash, rumble strips, clean metal, inspections)?

Is the system working effectively (i.e. there is no dirt/debris from site operations being tracked onto the road)?

CC05 – Extreme Weather Events

Is there an emergency plan in place for extreme rain, wind or other events which may exceed drainage capacity or create a new environmental risk (e.g., dust)?

Does the plan include the requirement to check all controls before and after the event using the extreme weather preparedness checklists?

CC01 – Erosion and Sediment Control

Are silt fences, de-watering systems or ponds being inspected to ensure all sediment-laden runoff is contained or treated on the site?

Do erosion and Sediment Control devices have a design that confirms they have been constructed in accordance with the relevant guidelines?

Have the Erosion and Sediment Control devices been as built in accordance with the design and relevant guidelines?

Are sediment pond or treatment device outlets being monitored against discharge criteria (e.g., pH, turbidity, etc.)?

Have chemical treatment devices been installed as per manufacturers specifications?

Are chemical treatment devices being maintained to ensure their effectiveness?

CC03 – Contaminated Materials

Is there authorisation for discharges of hazardous substances or chemicals into the stormwater and sewer system?

Are all identified contaminated materials being managed in accordance with a management plan developed by competent persons?

Are all contaminated materials being contained, treated (if required) and disposed of in accordance with the management plan requirements?

CC04 – Nuisance / Disturbance

Is their scheduled monitoring in place on boundaries where objectionable odours, dust, noise, light, vibrations have been identified as a community risk or nuisance?

CC05 – Extreme Weather Events

Is there any evidence of the extreme weather preparedness before and after checks being completed?

Tier 2 Checks

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