



Rozelle Interchange  
WestConnex

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CONTRACTORS

# The Rozelle Interchange Project Rigging Guide

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## About this guide

The intent of this rigging guide is to provide our lifting operations personnel with guidance in relation to safe rigging standards for common rigging practices required on the Rozelle Interchange Project.

Information provided in this guide has been sourced from procedures provided by John Holland and CPB Contractors, Australian Standards, and industry subject matter experts (SMEs).

All workers who sling a load that can be freely suspended must:

- Be trained on the Global Mandatory requirements and have completed the Lifting Operations Procedure Familiarisation Training.
- Meet the mandatory competencies and qualifications.
- Understand and fulfill the required duties and responsibilities.



# Lifting Matrix – Lift classification, planning & approvals

All freely suspended lifts must be assessed in accordance with the [Lift Planning Matrix](#) to determine the requirements for planning and approval.

This includes loads lifted by mobile cranes, stationary cranes, excavators and telehandlers.



Risk Category		Critical	Medium	Low
<b>Lift Planning Matrix</b> <span style="float: right;">JOHN HOLLAND CPB</span>				
Criteria Assess the lift in order from Step 1 to 6 working down and from left to right. A lift is categorised according to the highest risk category it meets in the table. Any lift may be classified to a higher risk category due to the sensitivity, risk or cost.				
1	Load	Load > 50 t or > 90% rated capacity in lifting config. 1, 2	Load ≤ 50 t and ≤ 90% of rated capacity in lifting config. 1	Load ≤ 10 t and ≤ 75% of rated capacity in lifting config.
2	Multiple hoists &/or load share	Multiple crane lifts (incl. 3 or more) Complex multi-crane lifts with motions that are non-aligned or difficult to synchronise. Using a single crane with two hoist lines / hooks to lift or rotate a load 'Handshake' or 'pass out' (load passed from crane to crane)	Tailing or dual crane lifts	Single crane lifts only
3	Rigging	Custom designed rigging Complex rigging arrangements	Sheaves & clutches Chain block suspended by a crane <sup>2</sup>	Standard rigging
4	Lifting device / configuration	Hydraulic gantries Oil poles & guy derricks Strand jacks or climbing jacks	Fixed jib & luffing jib Guyed boom	Main boom Auxiliary jib Fixed jib
5	Ground conditions	When set up over critical ground services Closer than 2 horizontal: 1 vertical away from base of embankment or retaining wall or within 2 m at the top.	Other ground conditions (except listed for critical lifts) including on suspended structures or next to embankments, basements or retaining walls <sup>3</sup>	Hardstand or firm level ground only
6	Other	Lifts involving the use of work boxes Lifts where part of the crane or load may encroach on the Separation Distance of an overhead power line (≤ 133 kV = 6.4 m or > 133 kV = 10 m) or over any power line (regardless of clearance) Lifts over live or essential plant Lifts involving precast concrete panels & tilt-up <sup>4</sup> Lifts over buildings or facilities where there is a risk of injury to persons inside Demolition & recovery operations Lifts where the crane needs to be extended beyond its normal operating range (including adverse environmental conditions)	Precast component which has more than 2 lift points and is reliant on load equalisation to support the load on more than 2 lift points <sup>4</sup> (excluding panels & tilt-up)	Precast components with either: - Two or less lift points - More than 2 lift points but can be supported on at least 2 points (excluding panels & tilt-up)
<b>Requirements</b>				
Risk assessment		AMS, TRA & Lift Card required for all lifts		
Minimum Documentation & Controls	Lift plan <sup>1,2</sup>	Lift Planning Tool, Rigging diagram, Plan view, Elevation	Medium Risk Lift Data Sheet, Rigging diagram, Plan view	Crane capacity, wind speed, load details & rigging on Pre-Lift Start Card or Articulated Pick & Carry Crane Start Card.
	Ground Bearing Capacity <sup>3</sup>	Ground bearing / structure certified by professional engineer	Crane load calculation and bearing capacity assessed by lift planner	Bearing capacity assessed by work team
	Weight	Certified mass or material take-off from drawings	Estimate or material take-off from drawings	Estimate or material take-off from drawings
	Structure	Non-destructive testing & lift point certification <sup>4</sup> Load structure certification <sup>4</sup>		
	Work box	Workbox permit completed and authorised		
	Power lines	Written permission from the Electrical Entity		
	Lift planner	Lift Designer	Medium Risk Lift Planner	Crane Operator or Dogger
	Lift plan check <sup>1,2</sup>	Heavy Lift Specialist	Lift Designer	Crane Operator or Dogger
	Process review	Site Safety Manager		
	Authorisation	Construction Manager, Project Manager & Operations Manager <sup>1,2</sup>	Site Manager (Construction/Project)	Supervisor
Client	Client sign-off and supervision as per contract specifications			

## LOW

### Requirements:

- Pre-Lift Start Card

### Review and

### Authorisation:

- Site Supervisor

## MEDIUM

### Requirements:

- Medium Lift Plan review

### Review and

### Authorisation:

- Lift Designer &
- Site Manager

## CRITICAL

### Requirements:

- Critical Lift Planning review

### Review and

### Authorisation:

- Lift Designer,
- Area Safety Manager,
- Heavy Lift Specialist,
- Area Manager,
- Project Manager, and
- Operations Manager

## What must be checked before lifting

- Are the crane crew licensed and competent?
- Crane(s) are inspected and approved for project use (3DS app) and plant prestart is completed?
- Lifting equipment is suitable and checked by competent person?  
*Check lifting register and relevant certifications with non typical lifting devices.*
- Maximum radius/weight checks and relevant pressure reaction outputs have been verified?
- Have appropriate de-rations been considered?  
*i.e side slopes with pick and carry cranes*
- Will the load be adequately controlled for the duration of the lift?
- Risk assessment conducted with other hazards identified and controlled?
- Is the lift area delineated and exclusion zones established?  
*i.e barriers and signage*





# Pre-Lift Start Cards

A pre-Lift Start Card must be developed for all low categorised lifts through the 3D Safety (3DS) app.

Data input accuracy is critical when reviewing/developing your pre-lift start card as the app (3DS) or form will prompt you to seek further planning advice if the intended lift is no longer categorised as a low level lift. i.e load weight + rigging exceeds 10t or crane utilisation exceeds 75%.

Pre-Lift cards can be used to plan a series of similar lifts during a time period where parameters are not expected to change, e.g. a pick & carry crane on level ground performing a repeated unloading sequence. If parameters do change during a lift, the load must be lowered to the ground and the Pre-Lift Card reviewed or a new one created.



## Pre-Lift Start Card

This Start Card is to be completed at the beginning of each new shift and if you commence a different task within the day

Date:	Crane Make/Model:	Prepared by Dogman / Rigger / Operator:	Checked by Dogman / Rigger / Operator:	Approved by Supervisor:
Workplace/Project:				
Task/Activity Description:				
Specific Location of Work:				
Workers Name(s)				
Responsible Manager				

Pre-Lift Start Card Requirements	
(A) Must be under 10 tonnes to proceed (E) Must be less than 75% MRC to proceed	
Load Calculations	
(E) must be less than 75% using worst case lift radius, side slope and articulation. If in doubt, ask your supervisor	
(A) Load incl. deductibles	1000 Kg
(B) Crane capacity at lift radius	5000 Kg
(C) Apply OEM load chart de-rating	0%
(D) Crane capacity after de-rating	5000 Kg
(E) Determine utilisation, A / D * 100	20%
The crane must be fitted with a dynamic de-rating system (Dynamic Load Moment Indicator) and a Pre-Lift Start Card in place. Of note, utilisation (E) must still be less than 75% of the rated crane capacity based on the OEM load chart (including when de-rating is applied).	
General Notes	
This is a Pre-Lift Start Card for all lifting operations. It must be completed before any lift by either the Dogman / Rigger or Operator and then checked by whoever didn't complete the initial assessment. If a Pre-Lift Start Card identifies the need for a Lift Plan or Lift Study, then this must be reported to the Lifting and Rigging lead and the relevant Lift Plan or Lift Study created.	

Hazard Check			Y	N	N/A
If you answer NO to any of the following questions, then fix the hazard and/or inform your Supervisor immediately. If you have answered YES to all the questions, then proceed to the next step					
Have all OEM pre-start checks / inspections been completed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Has the crane configuration, counterweights and/or LMI settings been set up as per the OEM load chart?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the relevant OEM load charts available with the crane?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Has the crane capacity been reduced for uneven ground, sideslope, and/or articulation where required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the wind speed within operating limits as identified by the OEM instructions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the ground bearing capacity sufficient, and has the location of services, embankments, trenches, suspended slabs or retaining walls been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Will the crane be clear of overhead power line exclusion zones and obstructions at all stages of the planned lift?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Will the load be balanced and stable during all lifts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are controls in place to prevent crushing from crane or load movement? (i.e. outriggers, tail swing, articulation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the lifting area appropriately barricaded and sign posted to prevent unauthorised people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the travel path clear of obstructions and is the travel distance practical? i.e. Would it be more practical to put several loads onto a truck?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Has a dry run been conducted to verify radius and cranesetup?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Has the correct lifting equipment been selected and inspected prior to use? (i.e. required Safe Work Limit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Has lifting equipment been protected from sharp edges?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the lift points suitable, undamaged, secure, marked with SWL, and certified where required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is there a requirement to lower the hook below the supporting surface of the crane? If so, has a check been performed to ensure there are minimum number of turns left on the drum at lowest hook point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Does the lift align with the "Start Card" category according to the Lifting Matrix?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If you answer "NO" to any of the above questions, then fix the hazard and/or inform your supervisor immediately. If you have answered "YES" to all the questions, then proceed to the next step.					
Final Assessment					
Hazard/Issue (What can go wrong?)		Controls (What can I do to stop this from happening?)			



# Lift Plans

The requirement for a lift plan is determined through:

- **Load/crane utilisation**  
i.e weight of load and capacity of crane at its working radius.
- **Rigging selection**  
i.e the use of equalisation equipment and chain blocks.
- **Multiple hoist and crane requirements**  
i.e dual lifts or single crane load rotations.

- **Crane lifting attachments**  
i.e luffing and fixed flies.
- **Ground conditions**  
i.e suspended slabs, critical services or working close to an embankment.
- **Overhead services**  
i.e working close to powerlines.
- **Load characterisation**  
i.e lifting precast panels, demolition, workboxes.

The requirements of each lift plan is outlined in the Lift Planning Matrix with consideration to ground bearing assessment, essential drawings, permits, process review and authorisation.

The Project's Lifting and Rigging Lead will be able to assist in the development, review and approval of all lift plans for the site.

Requirements				
Minimum documentation & controls	<b>Risk assessment</b>	AMS, TRA & Lift Card required for all lifts		
	<b>Lift plan</b> <sup>7,10</sup>	Lift Planning Tool, Rigging diagram, Plan view, Elevation	Medium Risk Lift Data Sheet, Rigging diagram, Plan view	Crane capacity, wind speed, load details & rigging on Pre-Lift Start Card or Articulated Pick & Carry Crane Start Card.
	<b>Ground Bearing Capacity</b> <sup>5</sup>	Ground bearing / structure certified by professional engineer	Crane load calculation and bearing capacity assessed by lift planner	Bearing capacity assessed by work team
	<b>Weight</b>	Certified mass or material take-off from drawings	Estimate or material take-off from drawings	Estimate or material take-off from drawings
	<b>Structure</b>	Non-destructive testing & lift point certification <sup>3</sup> Load structure certification <sup>4</sup>		
	<b>Work box</b>	Workbox permit completed and authorised	N/A	
<b>Power lines</b>	Written permission from the Electrical Entity			
Competent personnel <sup>1</sup>	<b>Lift planner</b>	Lift Designer	Medium Risk Lift Planner	Crane Operator or Dogger
	<b>Lift plan check</b> <sup>13</sup>	Heavy Lift Specialist	Lift Designer	Crane Operator or Dogger
	<b>Process review</b>	Site Safety Manager	-	-
	<b>Authorisation</b>	Construction Manager, Project Manager & Operations Manager <sup>12</sup>	Site Manager (Construction/Project)	Supervisor
	<b>Client</b>	Client sign-off and supervision as per contract specifications		
	<b>Advised crew</b>	Crane operator & two intermediate riggers	Crane operator & intermediate rigger	Crane Operator & Dogger
<b>Supervision</b>	Heavy Lift Specialist or Nominated Rigging Supervisor Appointed by management and independent of work team	Intermediate Rigger Part of work team	Dogger Part of work team	





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## Lifting and Rigging Equipment and Device Inspection

- All lifting equipment and devices (e.g jibs, extensions, hooks, bins, lifting beams etc) must be marked with the rated capacity.
- All rigging equipment (e.g slings, chains, spreader bars and the like) must be marked with the rated capacity and be tagged and certified for use. A competent Person (Rigger or Dogger) must inspect all rigging equipment and devices before each use.
- All rigging must be tagged current to RGBY colour coding system by a competent person.
- All designated lifting points on loads to be lifted, suspended and/or carried and lowered must be marked with the Safe Working Load or relevant certification provided which clearly identifies lifting points and Safe Working Load. Those lift points must be inspected and certified for use by a Competent Person (rigger or Dogger) prior to use.
- All lifting and rigging equipment must be adequately protected from sharp edges in accordance with Original Equipment Manufacturers requirements and Australian Standards.
- Where lifting equipment is found to be damaged it must be immediately withdrawn from service, tagged out of service, and given to the Lifting and Rigging Lead.

### LIFTING AND RIGGING TAG COLOUR CHART

**JAN – MAR**  
Red Tag

NEXT INSP. DUE:

**APR – JUN**  
Green Tag

NEXT INSP. DUE:

**JUL – SEPT**  
Blue Tag

NEXT INSP. DUE:

**OCT – DEC**  
Yellow Tag

NEXT INSP. DUE:



## Synthetic Fibre Slings

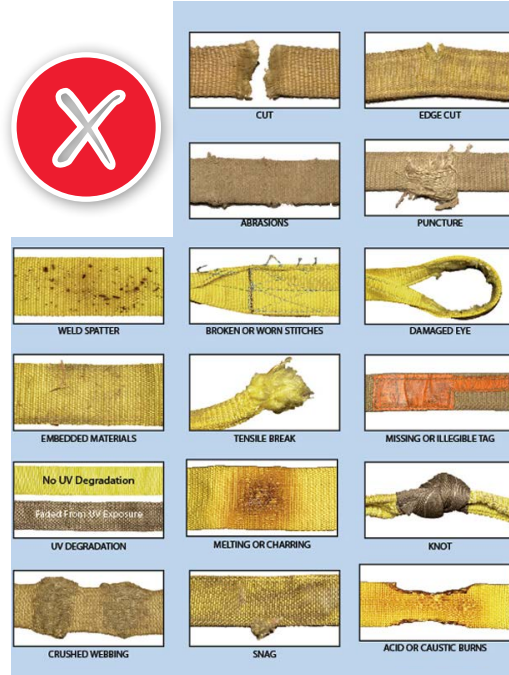
Soft slings, round slings or flat slings.

Synthetic Fibre Slings can only be used by a competent person (Rigger or Dogger), and they must:

- Inspect each Synthetic Fibre Sling before it is used for any signs of damage or defects that could affect its safe use.
- Inspect each Synthetic Fibre Sling for any signs of damage or defects at intervals of service of not more than 3 months.



- Immediately withdraw any Synthetic Fibre Sling from service when any defect/s are found.
- Protect all Synthetic Fibre Slings from damage from sharp corners of the load using corner protectors or protective sleeves.

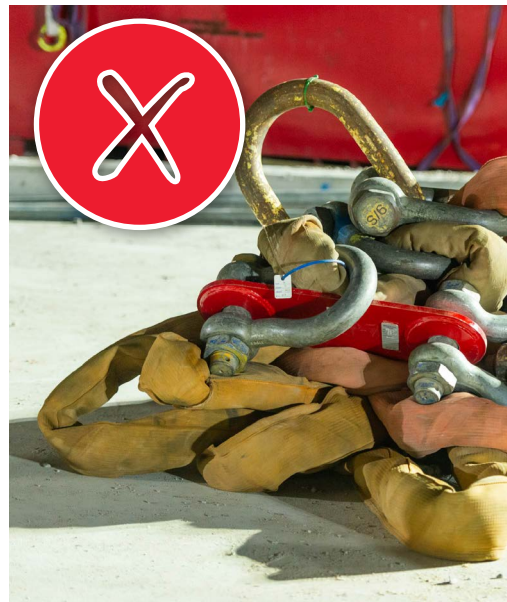


## Lifting Equipment Storage and maintenance

Lifting equipment should not be stored on the ground, even for short periods. Lifting equipment must be stored on well-ventilated racks or supports where they are not subjected to deterioration or other types of damage. The racks or supports must be of material that will not cause corrosion and located above the floor and away from damp areas, humid atmosphere, corrosive fumes, sprays, dust, excessive heat

and locations where they could be damaged by moving equipment or falling objects.

All lifting equipment deemed unsuitable for use must be tagged out of service and quarantined to prevent reuse.



## Rigging General Practice

### Always.

**Always** lift vertically. If the hook is not directly over the load, the load will begin to swing as soon as it is raised. Dragging a load can put undue strain on the lifting equipment and crane boom.

**Always** position yourself out of the line of fire – From the load and mobile crane.

**Always** use a tagline.

**Always** sling a load with use of every appropriate lifting points (i.e 4/4 lifting points to be used on an engineered lifting cage) and where 4x lifting points are being used without load equalisation 2/4 lines of rigging must be able to safely withstand the weight of the entire load.



### Never.

**Never** use lifting hooks without safety catches fitted (note: only exemption to this is to lower piling cages into pile/drill holes).

**Never** excessively bash the eye of a sling down at the nip points. This practice will decrease the safe working load and damage the sling.

**Never** use lifting chains for pulling or towing. Specially nominated chains are to be assessed for the correct grade/rating for the task and must be marked appropriately.

**Never** use 'single use' or 'one way' slings.

**Never** use a basket hitch. Approval from the project's Lifting and Rigging Lead is required.

**Never** use the High-Low (Christmas tree) rigging arrangement to lift multiple loads.

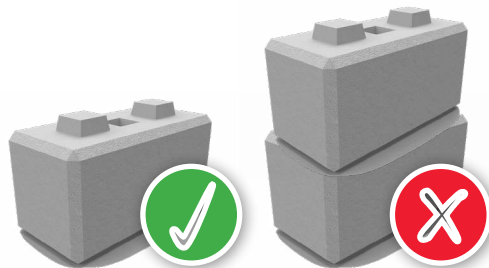


## Project Specific Prohibitions

- Soft slings with a connection directly to a Franna's "rhino hook" is prohibited.



- Kelly blocks are to be lifted singularly only and as low to the ground as possible. If vertical transport is required, a chain choke reeve technique is to be used – Inspection of the lifting point must be carried out with the crane crew and site supervisor prior to lift.



- Jib attachments on telehandlers under 3t safe working load capacity are prohibited.





## Lifting Baskets and Cages

Lifting Baskets and Cages should be used to lift loose components/materials.

Baskets or Cages must:

- Have engineered lifting points (unless approved by the project's Lifting and Rigging Lead).
- Display data plates stating a serial number and working load limit.
- Be current with the RGBY colour coding inspection system.
- Be structurally sound and must not be damaged.

- Have loose items strapped or covered to eliminate potential droppage.



Prior to lifting a basket or cage:

- When using multi-legged slinging arrangements, Doggers/Riggers must calculate to 2x rigging lines taking the weight of the entire load. Additional legs do not increase the safe working load of the sling assembly.
- Riggers/doggers must ensure that the load is free of loose objects such as scaffold components, mud and stones before lifting.
- The contents must be contained/secured.
- When slinging a lifting basket or cage, slings must be attached to each lifting points.
- Loads must be as evenly distributed as practicably possible with no protruding objects over the top of or through the basket or cage.



## Stillages, Baskets and Cages without engineered lift points

Scaffold stillages, baskets and cages without engineered lifting points are approved for lifting onsite.

The loads must be:

- Strapped using bandit or other type of rated strap and covered to prevent potential droppage from loose items.
- Double wrapped and choked using lifting chains or slings where appropriate (the structure of



the lifting cage/stillage can be used advantageously to further eliminate lateral slippage of the chains/slings).

- Contained in structurally sound cages/stillages that are not damaged.



## Site and Commercial waste bins/skips

Waste or skip bins should have engineered and rated lifting lugs and be branded with its working load limit.

Waste or skip bins that are overloaded must not be lifted.

Where rubbish can be blow out of spill from a bin, secure the load before lifting, especially in windy conditions.

All appropriate lifting points are to be used.



Waste bins/Skips must:

- Be structurally sound.
- Show their data plate and be legible - working load limit rated capacity, tare mass, identification number.
- Be evenly loaded and not overloaded.
- Have their lifting points inspected and in good condition prior to lifting.
- Be visually inspected for signs of damage, weld cracking or excessive wear before lifting.



## Loose loads and Bundles

All loads that could be hazardous due to loose components where direct rigging is applied must be strapped or wrapped prior to lifting with a crane (i.e bundles of pipes, scaffolding components in or out of stillages).

Strapping or wrapping is in addition to the rigging applied to the load.

- Use rigging protection when required with consideration to stacking/assembly pinch points - i.e roll in bundle of reo bars.
- Have chains/slings double wrapped and choked around the load.
- Be free of loose individual members - i.e centre gaps in stacking arrangement.



In this example, loose timbers inside the load fell out during a lift.





## Stacking loads

Make sure that on completion of moving a load, all materials are securely and safely stacked. Stacks of materials must be arranged so that:

- There is adequate clearance from mobile plant that could topple a stack.
- The sling/s can be removed as each load is placed on the stack.
- Always pull out a sling by hand to prevent the possibility of the crane toppling a stack.
- There is unobstructed access to fire extinguishers and other emergency services.

Materials that are strapped for assembly must be adequately supported by appropriate dunnage and its stability must be inspected and assessed prior to disconnection from the load.



It is the Doggers/Riggers responsibility to ensure load stability even after the load has been landed. i.e ensuring dunnage runs the total required length to support every component of that strapped load.





## Bulka Bags

Where practicable, eliminate the use of bulka bags for lifting rigid or sharp materials such as concrete reinforcement ligatures and steel components.

Where materials are delivered to site using bulka bags, the bulka bag should be lifted from the delivery vehicle and placed onto a pallet or into a steel lifting basket or cage for transportation around site.



- Bulka bags must be inspected for damage before lifting.
- Lifting directions on the bag must be followed.
- Lifting loops must be cut off once bag is in its final position.
- Bulka bags must always remain as low to the ground as possible when being lifted.
- Re-Use of bulka bags is restricted and requires approval from the project's Lifting and Rigging Lead.
- The lifting of bulka bags from one level to another (i.e road to bridge) is restricted and requires approval from the project's Lifting and Rigging Lead.

An increasing trend in the construction industry is to supply bulk items such as sand, blue metal and landscape materials in large bags that are lifted into position by a crane. The loads lifted are considerable, with bags capable of holding up to two tonnes of sand or other materials.

Many of the bags used for this purpose are susceptible to damage, either through their use or exposure to certain substances, including sunlight. Because of this, they are specially intended to be used only once and should be disposed of after being used for the first time.

Problems can be compounded by filling them with materials that could damage the bags, such as items with sharp edges.



## Road Plates

Road plates must be lifted using a stable lashing connection – i.e chain wrapped and choked or shackle connection directly to a lifting hole/lug.

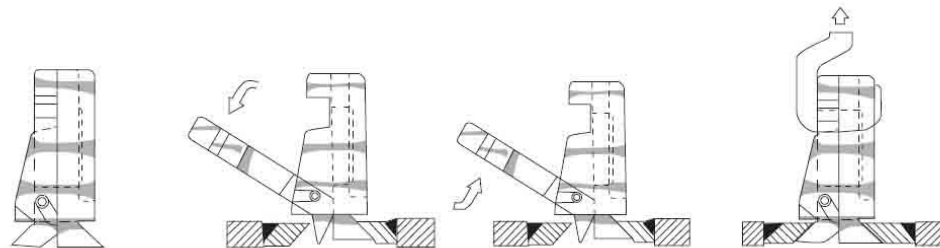
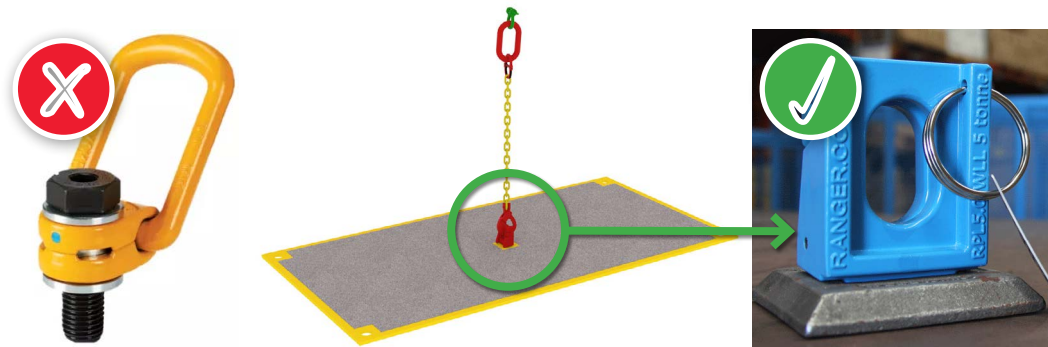
The use of screw in swivel lifters (i.e rudd lifters) are prohibited.

4x rigging connection points are preferred, when able to.

When lifting a plate into a recess, a weld in female receiver can be installed to the centre of the plate to be used with a road plate lifter – This is only to be used when directly installing the road plate and not for general transportation/movement around site and to be lifted as low as practicable to the ground.

A TW review/approval and on the receiver plate is required before any lifting activity.

Lifting is required to be slow and controlled and a vertical tension line of rigging is to be maintained for the duration of the lift to avoid damage to the receiver and keep load stability.



## Lifting Plant

When plant is below 10t and less than 75% of crane working load limit:

- Manufacturers lifting requirements must be followed.
- 3DS verification of plant approval onsite is required.
- Must be assessed by project's Lifting and Rigging Lead as not all OEM lifting diagrams have the required information for crews.

When plant is above 10t or 75% of crane working load limit:

- A lift plan must be developed.
- Manufacturers lifting requirements must be followed.
- 3DS verification of plant approval onsite is required.

Take care when lifting and lowering the rigging gear, damage to plant (broken windows, mirrors, scratching, paint work etc) is avoidable by using soft slings or sling protection where needed.

Where plant is owned by a subcontractor make sure the owner is present or JHCPB has the approval from the owner to lift the plant. Contact Lifting and Rigging Lead.

If plant is fitted with lifting lugs, visually inspect/check the lug to ensure there is no evidence of welds splitting or cracking and no signs of damage, separation or stretching.



An engineered lifting platform for a 60t excavator.



## Temporary Works

Prior to attempting to lift any item of temporary works, lift points must be signed off by the temporary works design team with loads of significant impact requiring a third party review and approval.

In addition, a Permit to Load and appropriate NDT reports must be obtained to proceed.



In all instances the following requirements are mandatory:

- Workers involved in the installation/erection of temporary works must hold the appropriate high risk work license and competency checks verified.
- An appropriate inspection and monitoring program must be developed to ensure the structure remains fit for use.
- Any temporary structural support systems required to be lifted by crane must have engineered design lift points and meet relevant AS/NZS.
- Any temporary structural support systems required to be lifted by crane must have engineered design lift points and meet relevant AS/NZS which considers any rotation of the load.
- Supports must be physically protected from potential sources of collision or damage (i.e jersey barriers to protect against moving plant, vehicular traffic, materials hoisting).



## Precast Concrete Panels

When lifting precast concrete:

- A lift plan is required.
- An intermediate rigger is required to supervise the activity.
- Certification of build from manufacturer must be supplied prior to lifting.
- Lifting point certification must be obtained, verified with design drawings and corresponding lift plan must follow lifting certification instruction.

- The unit must not have any structural defects.
- Lifters must be aligned with lifting inserts (same manufacturer).
- Mobile crane (pick and carry 1.2) or stationary crane (2) kD factors considered in the lifting certification must be cross checked and followed.
- Inspection of lifting inserts and lifters is required prior to each use – Checking for wear and deformation.

- Tilt up panels are to be positioned so that they are always leaning away from the crane during lifting and installation.
- A third party review on the lifting certification and design drawings is required for verification on loads of significant impact.
- And rotating a panel, the auxiliary hook and lifters must be able to withstand the entire weight of the load – i.e a 10t panel with 7.5t lifting inserts and using 2/4 edge lifting points with an equalising sheave for rotation rather than 1/4, increasing working load limit from 7.5t>15t.



Do not lift if cracked or damaged.





## Flat Racks and Containers

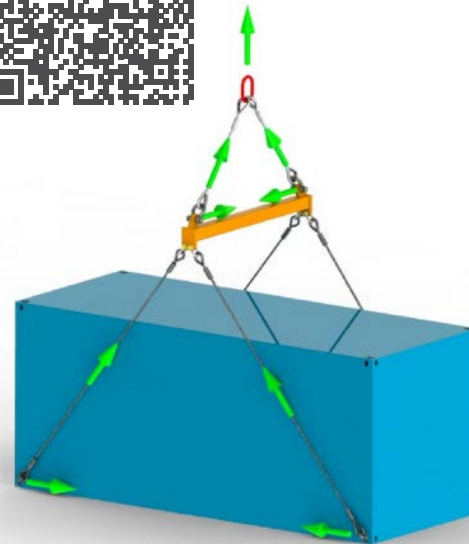
Flat racks and containers must:

- Have data plates and working load limit attached.
- Be in good structural condition.
- Be loaded evenly and if using container lifters follow manufacturers specifications.
- Secure the load to the rack or container prior to lifting using rated load restraints.

Note: Container lifters (pigs ears) rely on the angle of the tension line to remain stable - follow manufacturer specifications.

Before lifting a visual inspection of the lug must be undertaken to ensure there is:

- No evidence of welds splitting or cracking.
- No obvious signs of damage, splitting, separation of stretching (serviceability).



When exporting containers off site, a [Container Weight Declaration](#) form is to be completed by the responsible person and receiver driver.

Weight of the container is to be confirmed through the crane load cell.

### CONTAINER WEIGHT DECLARATION

Project Site:	
Container Number: (Asset number)	
Container Serial Number:	
Project Rep:	
Responsible entity: (Name of Consignee Rep)	
Responsible Entity address:	
Proposed Receiver:	
Proposed Receiver address:	
A - Container Tare Weight (in Kgs): (Container Only)	
B - Container Weight (in Kgs): (Contents inside only)	
Total Gross Weight (in Kgs) = Weight of truck + A + B (above)	
Is this within load limits of Truck's capacity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comment:	
Container Status:	<input type="checkbox"/> Full <input type="checkbox"/> Partial <input type="checkbox"/> Empty
Content Type:	<input type="checkbox"/> General <input type="checkbox"/> Hazardous <input type="checkbox"/> Other
The Load is restrained appropriately:	<input type="checkbox"/> Yes <input type="checkbox"/> No



# Chain Blocks

## When using chain blocks and pullers you must:

**Always** clean the chain block after use and store them in a dry place to keep them from becoming rusty and corroded.

**Always** make sure the suspension hook for the hoist is securely attached to an approved support.

**Always** make sure that the rigging or other approved attachments are sized and seated correctly in the hook saddle.

**Always** make sure the hook safety latches are closed and not supporting any part of the load.

**Always** promptly report any malfunction, unusual performance or damage to the chain block and take the appliance out of service until rectified.

**Always** protect the head sling from damage; Especially when the arrangement is in place for an extended length of time.



## When using chain blocks and pullers:

**Never** lift a load exceeding the safe working load capacity of the chain block.

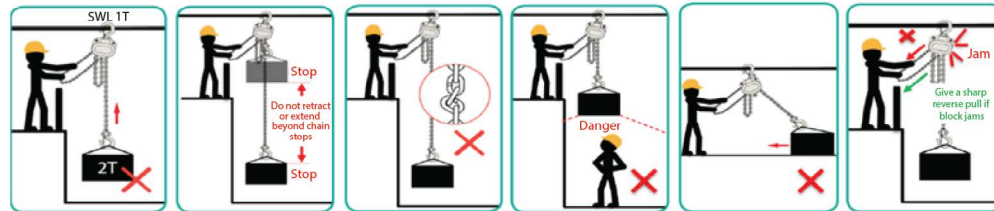
**Never** try to lift further than the hook limit to the block, or lower the load to the limit of the chain stop.

**Never** hoist a load while the chain is kinked, twisted or damaged.

**Never** walk under a suspended load.

**Never** drag a load along the ground by use of chain block.

**Never** try to force the hand chain if the block jams, give a sharp reverse pull and try again.



## Lifting Clamps

Confirm the below if planning to use a lifting clamp:

- Details of materials/equipment to be lifted (dimensions and weights). Not all plate lifting clamps are suitable to lift hardened steel. Refer to relevant specification sheet to check suitability.
- Clarification of rigging/attachment method.
- Double check of correct lifting gear.
- A qualified person must inspect the lifting clamps main body, jaws and suspension points for wear, distortion, damage or corrosion prior to use.
- Rigger or Doggers using plate lifting clamps must have read and understood the operation and instruction manual for the lifting device.

The project's Lifting and Rigger Lead can assist in determining the correct device type and rigging arrangement.



## Reo Bars

When lifting bundles of reo, the following rigging principles must be applied:

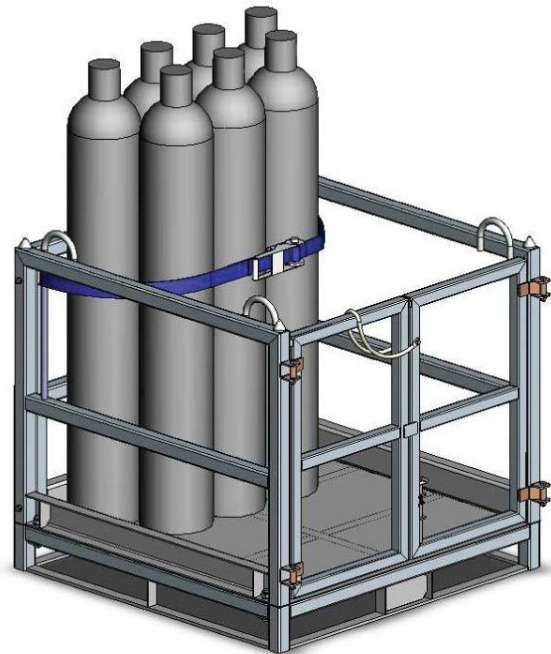
- Ensure the horizontal distance between the points of lashing does not exceed the length of the slings. This will ensure the angle between the two legs of the sling does not exceed 60°.
- Bundles of reo must be lifted using chains, double wrapped and choked.

- Ensure there are suitable gaps to remove the rigging and use suitable timbers to separate multiple loads.



## Compressed Gas Cylinders

- Specially constructed cages must be used when lifting, lowering or moving cylinders with a crane.
- Cylinders must be secured in the cage, with steel chains or clamps at all times, to prevent excessive movement.
- Never attempt to lift or lower cylinders by attaching chain, wire rope or flat web slings around the cylinder.
- Never use the cylinder valve as an attachment point for lifting a cylinder.
- Never attach a sling to the compressed gas cylinder, it can easily slip through the sling and fall the ground.
- Never transport cylinders with the pressure regulator and hose attached unless on a purpose designed trolley or carrier complete with webbing retainers.





# Rozelle Interchange WestConnex

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HOLLAND**

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CONTRACTORS



Controlling Critical Risks



Enabling Our People



Improving Systems