1. Purpose
The purpose of this procedure is to establish compliance requirements and specify precautions to be taken during the conduct of work at height within QUT to prevent harm to persons due to a fall from height or from objects falling from height.

2. Scope
This procedure applies to all activities undertaken by QUT staff, students and relevant contractors when conducting work at height or where objects may fall from height. It does not apply to work which is conducted on buildings, properties and facilities on QUT campuses or sites where these activities are conducted entirely within an area over which a third party has management control.

This procedure will address the following work at height situations:
- where a potential exists to fall including scaffolding and platforms, on high plant structures and work on roofs;
- work that could be carried out in the vicinity of an unprotected edge;
- tools, equipment or anything else that can fall or be dropped and cause injury to personnel or damage to equipment (falling objects).

The procedure excludes the following work, as defined in the Work Health and Safety Regulation 2011. However, a comprehensive risk assessment must be completed before these activities are undertaken.

a. the performance of stunts
b. the performance of acrobatics
c. a theatrical performance
d. a sporting or athletic activity
e. horse riding

3. Definitions
Refer to DHSE-GLO-0001 – Definitions of Terms.

4. Responsibilities
4.1. Managers / Supervisors
Managers and Supervisors of Faculties, Institutes and Divisions are responsible for directing the implementation of the Working at Heights procedure in relation to workers (staff, students and contractors) engaged in areas under their influence or control. They must ensure that safe system of work documentation is completed, appropriate permits are issued, and safety controls are in place.

4.2. Staff / Students / Contractors
QUT staff, students and contractors engaged to perform work at heights must ensure that they:
- Comply with the requirements of this procedure.
- Use equipment as instructed and according to training, and report any faults or incidents.
- Complete all necessary safe system of work documentation prior to commencement of the working at height activity.

5. Planning
5.1. Work at height permit
Work at height tasks performed at QUT shall be performed under a work at height permit unless it is identified:
• the fall from height is less than 2 metres and the task is not conducted within 3m of an unprotected edge; or
• the building or equipment has permanent edge protection in accordance with Australian Standards; and
• as per a specific work instruction or safe work method statement / risk assessment

5.2. Safe System of Work

5.2.1. Work Method Statement / Risk Assessment

A safe work method statement (SWMS) shall be prepared for any ‘construction work’ that involves a risk of a person falling more than 2 metres. In the event that it is determined that the only appropriate way of managing the risk of a fall of 2 metres or more is through administrative controls (e.g. signs or training) and the use of personal protective equipment, it must be described on the safe work method statement each of the control measures that were considered in reaching this decision.

For work at height tasks which are not classified as ‘construction work’, a risk assessment shall be prepared prior to commencement of the work.

5.2.2. Work instructions

Where particular work at height tasks are conducted as part of routine activities, or conducted with sufficient frequency, Faculties / Institutes / Divisions (F/I/D) should consider development of a work instruction to detail the method for the undertaking the work at height task. These must be specific to the work environment and the work at height task being undertaken, address risks and incorporate relevant controls identified through the risk assessment.

Where an approved work instruction exists for a routine activity, detailed risk assessments for each occurrence are not required, however the work party is still required to identify any site specific hazards and ensure relevant controls measures are in place to reduce risk/s to as low as reasonably practicable prior to the work commencing.

5.3. Working at heights rescue plan

A rescue plan must be developed whenever fall arrest or fall restraint systems are in place. The rescue of a worker suspended in a full body harness must occur promptly to prevent suspension trauma.

6. Activities and risk

Consideration must be given to the proximity of adjacent activities to ensure that risks are not introduced from one work area to the other and that one activity does not adversely affect or impede the other. This must include consideration of activities below the work area which may be affected by falling objects.

6.1. Working on or from roofs

Access to any roof on QUT campuses is controlled by Facilities Management (FM) and requires a roof access permit from an authorised QUT Permit Officer from FM.

Note: Access to the roof of S Block at the Gardens Point Campus may also be approved by authorised QUT Permit Officers from Science and Engineering Faculty (SEF). This is for research purposes only for SEF staff and students.

Where work is being conducted from the roof of a QUT building (e.g. cleaning windows through use of rope and harness or a building maintenance unit), the permit requires approval from QUT Permit Officers for both the work at height task AND the roof access.

6.1.1. Roof hazard assessment register

Facilities Management will maintain an accurate and up to date roof hazard assessment register to assist QUT staff, students and contractors with their hazard identification and task planning (e.g. permit preparation and risk assessment development). The roof hazard assessment register will also nominate whether a ‘roof safety zone’ has or hasn’t been identified based on the absence or presence of certain hazard conditions. Where a ‘roof safety zone’ has been identified on the roof hazard assessment register, authorised FM contractors and QUT staff may access the roof safety zone without the requirement for a roof access permit. The FM Manager Maintenance Services will provide authority in such instances. Note: This does not remove the requirement for the responsible QUT Manager, Supervisor or Contract Manager to ensure the authorised FM contractor or QUT staff member has a safe system of work in place for their nominated task/s to be performed within the ‘roof safety zone’.
6.2. Ladders
For details in relation to specific portable ladder requirements, specifications, placement and usage information, refer to QUT Ladder Safety (Annex A). They should be used for access and egress purposes and only as work platforms when conducting light work of short duration.

6.3. Falling objects
When persons below may be exposed to risk of falling objects, overhead protection to catch, deflect or hold any such objects, fencing off or barricading the area immediately below the work and the posting of warning signs, shall be considered.

7. Controls
The primary means of controlling the risk associated with work at height is to conduct the work or a portion of it, on a solid construction or at ground level wherever practicable. Where this cannot be achieved, controls should seek to address the following, in priority order:

- Undertake the work using a fall prevention device;
- Undertake the work using a work positioning system;
- Undertake the work using a fall arrest / fall injury prevention system;
- Undertake the work from ladders, or implement administrative controls.

7.1. Fall prevention
Fall prevention reduces the risk of fall through the use of edge protection barriers and includes height safety products that once installed, don’t need to be altered. Examples include scaffolds, guardrails, fences, roof safety mesh and elevated work platforms such as scissor lifts and cherry pickers.

7.1.1. Elevated work platforms (EWP)
Before using an EWP, a risk assessment must be conducted or a work instruction developed to identify and control any hazards which are identified. All personnel operating a boom type EWP with a boom exceeding 11 metres shall hold a national license for persons performing ‘High Risk Work in Operation of EWPs’. They must be trained and instructed in safe operating procedures for the particular brand and type of equipment. Persons using this equipment must follow QUT Elevated Work Platform requirements (Annex B).

7.1.2. Scaffolding
All employees and / or contractors involved in scaffolding and rigging work should hold the appropriate licence / authority and follow the requirements in QUT Scaffolding (Annex C).

7.2. Work positioning systems
These control the position of the worker to prevent access to unprotected edges and typically include industrial rope access systems and travel restraint systems. These utilise harnesses attached by lanyards to roof anchors or static lines, or harnesses with ropes and friction devices.

7.3. Fall arrest / fall injury prevention systems
Where work positioning systems prevent the fall from occurring at all, fall arrest controls merely minimise the distance of the fall.

As a fall is likely to cause some physical injury to the user (suspension trauma), fall arrest systems must incorporate measures to prevent injury caused by the fall, its arrest, or prolonged suspension. Fall arrest systems commonly utilise harnesses attached by lanyards to roof anchors or static lines; however, to minimise the risk of injury, these systems should incorporate full body harnesses with suitable attachment points as well as shock-absorbing lanyards.

Rigging of fall arrest systems must be done and / or supervised by persons qualified and competent to do so. Other examples of fall arrest systems include safety nets and catch platforms.

7.4. Ladders and administrative controls
Ladders may be used where they are the primary means of access to or egress from a work area. Ladders should only be used as a platform for conducting work where it is not reasonably practicable to use methods of working at the required height that offer higher order risk controls.
Administrative controls include work practices that help to reduce the exposure of persons to fall hazards and may include documented risk assessments and work instructions, the use of ‘no-go’ areas, permit systems and work sequencing to limit the time workers are exposed to a fall hazard and/or the number of workers involved in the task.

Administrative controls may be used to support other control measures but may only be used in isolation where it is not reasonably practicable to use higher order risk controls.

7.5. Training

All persons required to perform work at height duties shall receive appropriate training that includes:

- Risk assessment process;
- Emergency Response procedures;
- Selection, use, fitting and maintenance of fall protection and other safety equipment; and,
- Legislative requirements pertaining to work at height and associated issues.

Persons carrying out scaffolding duties should hold the appropriate license / authority for the scaffold work they undertake. These high risk licenses are Basic Scaffolding – SB, Intermediate Scaffolding – SI and Advanced Scaffolding – SA.

7.6. Inspection

All work positioning / fall injury prevention equipment (full body harnesses, lanyards and ropes etc.) must be subject to an appropriate inspection program which involves both a twice yearly inspection at even intervals and an inspection prior to use. Cuts, damage or out of date tagging should be reported and the equipment tagged out of service.

8. Records Management

For information on the QUT record management policy and processes see the Recordkeeping Policy, Legislation and Standards page from Governance and Legal Services.

9. References

The following documents were used in the preparation of this procedure:

- Managing the Risk of Falls at Workplaces Code of Practice 2011
- AS/NZS 1892.1/1892.2/1892.3 Portable Ladders
- AS/NZS 4576 Guidelines for scaffolding
- AS/NZS 1576.1:2010 Scaffolding – general requirements
- AS/NZS 1891.1 Industrial fall-arrest systems and devices – Harnesses and ancillary equipment
- AS/NZS 1891.4 Industrial fall-arrest systems and devices – Selection, use and maintenance

10. Associated documentation

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<tr>
<td>DHSE-FRM-0024-Working at heights rescue plan</td>
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<tr>
<td>DHSE-DRM-0026-Roof access and work at heights permit</td>
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## 11. Document history

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Description</th>
<th>Date</th>
<th>Approved by</th>
</tr>
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<tr>
<td>V1</td>
<td>Built using existing content</td>
<td>25 May 2015</td>
<td>Director, DHSE</td>
</tr>
<tr>
<td>V2</td>
<td>Removal of QUT Risk Check requirement; Inclusion of – work instruction, roof hazard assessment register</td>
<td>15 May 2018</td>
<td>Director, DHSE</td>
</tr>
</tbody>
</table>
Annex A – QUT Ladder Safety

Before you choose to work on a portable ladder, ask yourself these questions:

Can this work at height be avoided entirely? Is there another way to do the work to prevent the risk of a fall from height? If not, can the work be done safely, from a ladder or stepladder? What other height access equipment is available to enable safer access or work at heights e.g.: EWPs, scaffolding?

If there is no other way, consider these safety points while using ladders at QUT.

1. **Selecting a ladder**

<table>
<thead>
<tr>
<th>Only industrial rated ladders are to be used on University sites.</th>
<th>Ladders must show markings by manufacturer. Whether metal, wood or fiberglass, ladders must be manufactured to AS1892 standards.</th>
</tr>
</thead>
</table>

Ladder Load ratings must not be exceeded

<table>
<thead>
<tr>
<th>Scope of work tasks &amp; risks are to be fully considered</th>
<th>Max kg load 120 kg is identified for standard industrial ladder and must not be exceeded. This includes the person and anything they are taking up the ladder. Think about typical jobs and work environments and assess before selecting a ladder to access heights e.g.: floor surfaces to work off, expected duration of the work, roof designs, step off points. Always use a fibreglass ladder for any potential “live” electrical work.</th>
</tr>
</thead>
</table>

Adhere to maximum ladder lengths (Work Health and Safety regulations 2011)

| Straight ladders [max 6.1 m] Extension ladders for Electrical work- [max 9.2 m] or for all other any other work [max 7.5 m] |
|---|---|

When is it “reasonable” to do work off a ladder?

| Only use a ladder for jobs that are legally “permitted” by Work Health and Safety legislation. Ask yourself- 1. If there are tools or materials to carry up or down the ladder – are they heavy, large or awkward shape that could restrict normal movement on ladder or cause the person to lose balance or grip? 2. Will the person be able to remain centred between sides (stiles) of ladder, the whole of the time they are on the ladder until they get off?, e.g.: need to over reach to do work on step ladders, need to do work that adds a side loading force e.g.: side on drilling through masonry. (face forwards onto work is better or tie off to prevent tipping) 3. If tools or equipment are to be used while on the ladder, can they be operated by only one hand? i.e.: while maintaining 3 points of contact. If any of these cannot be met, reconsider your height access method. |

Check safe condition of ladder

- Check ladder or stepladder before using it.
- Only use it if there are no visible defects.
- The ladder is included in a regular visual inspection program as per manufacturer recommendations for damage e.g.: - Metal stiles twisted, bent or kinked or crushed - Damaged or missing ladder feet or hooks at top - Missing, worn or loose rungs, steps or top plates - Tie rods missing or broken
1. Setting up

**A Safe place to use a ladder**

**Surfaces; locations; hazards - traffic,**

- Ideally on firm and level ground
- Don’t lean against weak or brittle upper surfaces e.g.: windows, plastic gutters.
- For ladders the recommended maximum safe ground slopes
  - On side slope 16° – but rungs still need to be level
  - Back slope 6°
- For good grip of ladder feet - clean, solid surfaces – paving, concrete: no oil, moss or leaf litter, free of loose material - sand, packaging materials.
- Shiny surfaces can be slippery even without contamination.
- Look around. Only use ladders where they won’t be struck by vehicles, objects or be pushed over by opening doors or windows.
- Look up and live. Check location of live electrical lines or equipment.
- Don’t erect a ladder near any live equipment. Treat all power lines as live.
- If you must work near electrical equipment or lines, arrange to turn power off. Confirm exclusion zones before setting up the ladders.
- Don’t be tempted to move or shift unretracted or extended ladders near electrical lines – reduce to shortest length and then carry them horizontally, close to the ground.

**Check Angles of Placement**

Ladder to horizontal angle should be at least 70° but no greater than 80°.
General guide is 1:4

Exceptions to angles are use in a confined space, where ladder is secured and movement is not possible

**Barricading & Ladder Safety Observers**

When using ladders in stairwells, busy pedestrian access ways, either indoors or outdoors, place warning signage and/or barricade the base area to prevent persons walking underneath, opening doors into ladder or knocking the ladder.
If this is not possible – get someone to stand guard at ladder base.
Barricading also prevents falling objects hitting people underneath or in the immediate area.
(See also falling objects)

**Secure the ladder to a structure or building**

Ladder must be tied or secured off at or near top, mid height or lastly at bottom to prevent sideways movement.
Tying stepladders to building or structure may assist where 2 free hands are needed for the job.

Use ladder hooks if fitted to ladders.

**Using ladders to access heights or roofs – set up**

If ladder is being used for height access, the ladder must extend 1 m past step off point.
Ladder must be tied off securely.
Stepladders should not be used for access to another level unless specifically designed for this.
## Annex B - QUT Elevated Work Platform

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Elevating work platforms are powered mobile plant designed to lift or lower personnel and equipment to a work location by means of a telescoping device, scissor action or articulated device, beyond a base support.</td>
</tr>
<tr>
<td><strong>Selection of an EWP</strong></td>
<td>Care must be taken to ensure that the EWP is suitable for the intended purpose. Assessment of potential hazards and risks must be undertaken prior to use and in particular, the height, reach, safe working load, ground conditions and terrain, any electrical hazards or restricted working space should be carefully evaluated.</td>
</tr>
<tr>
<td><strong>Supervision and operator training</strong></td>
<td>Competent personnel must be available to provide guidance on the siting and use of an EWP, where applicable. Regardless of the size of EWP operators must be trained to ensure competence. Training of operators in the use of an EWP and its functions, shall be provided prior to the commencement of work, including safe work methods and emergency procedures.</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>For boom-type EWP, where the boom length exceeds 11 metre, the operator must be licensed.</td>
</tr>
<tr>
<td><strong>Pre-operational checks and logbooks</strong></td>
<td>Before use and at the start of each work-shift, the EWP shall be checked and tested by the operator or a competent person, in accordance with the manufacture's pre-operational checklist. Checks shall include the safety devices and interlock controls. The results of such checks must be recorded in the logbook kept on the EWP. Should the EWP have faults affecting safe operation, it shall not be used until the faults are rectified.</td>
</tr>
<tr>
<td><strong>Siting</strong></td>
<td>The stability and safety of the EWP must be carefully checked in relation to use at the worksite. In particular, conditions such as soft ground or sloping surfaces, nearby building or structures, overhead power lines, any underground services or ground cavities and the prevailing wind conditions, needs to be assessed.</td>
</tr>
<tr>
<td><strong>Wheel-mounted EWP</strong></td>
<td>Pneumatic tyred wheels must be free of defects and be inflated to the correct pressures to ensure stability. Puncture proof tyres (foam filled) or dual wheels should be used where there is the possibility of tyre damage.</td>
</tr>
<tr>
<td><strong>Base controls</strong></td>
<td>Base controls should not be used when personnel are on the platform, except in an emergency or for maintenance purposes. All EWP should be fitted with an emergency retrieval system or be provided with auxiliary retrieval equipment to allow the safe evacuation of personnel from the platform in an emergency or power failure.</td>
</tr>
<tr>
<td><strong>Travel speed</strong></td>
<td>When travelling with the platform raised, speeds must be in accordance with the manufacturer’s designated creep speed or not in excess of 1 km per hour. Travel should only be permitted on firm, level ground and where the operator has a clear view of the base structure during movement.</td>
</tr>
<tr>
<td><strong>Travel on slopes/gradients</strong></td>
<td>Travel of the EWP on gradients must be in accordance with the manufactures’ specifications and when lowered, the EWP shall not travel on gradients over 5°, or 1 in 12 slope. Travel down a slope can be more dangerous than upward and extreme care needs to be taken.</td>
</tr>
<tr>
<td><strong>Safe working load (SWL)</strong></td>
<td>The total weight of personnel, tools and material being loaded on the platform shall not exceed the rated load capacity of the EWP. The rated SWL shall be marked on the working platform.</td>
</tr>
<tr>
<td><strong>Operating instructions</strong></td>
<td>Operating instructions must be permanently and clearly displayed at the operator’s position.</td>
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<tr>
<td>Safety harness</td>
<td>Full safety harness shall be worn by all personnel on the platform of a boom-type EWP and secured to a suitable anchor point. Where there is a risk of a free fall, a fall-arrest harness designed for attachment to a lanyard assembly including a personal energy absorber, shall be worn by each person on the EWP. A lanyard assembly must be as short as practicable and the working slack length not more than 2.0 metres. The personal energy absorber shall be an integral part of the lanyard unless it can be demonstrated that the lanyard alone can meet the dynamic performance requirement limiting the full arrest force in the lanyard, to 6 kN when anchored.</td>
</tr>
<tr>
<td>Work over other personnel</td>
<td>Care must be taken to prevent objects from falling from the EWP, All tools and loose objects shall be secured with a lanyard where practicable.</td>
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<tr>
<td>Work in a public place</td>
<td>When the EWP is used in a public place or roadway, suitable barricades need to be positioned so that pedestrians or vehicles are kept at a safe distance. Warning signs shall be displayed and the appropriate approvals obtained from local authorities.</td>
</tr>
<tr>
<td>Maintenance requirements</td>
<td>Where practicable all maintenance, inspection and repair should be in accordance with the manufacturer’s recommendations. The EWP owner may engage a competent person to ensure that maintenance is properly undertaken to comply with Australian Standard AS 2550.10. A routine maintenance program shall be implemented by the owner, at intervals not exceeding three months. All EWP ‘in-service’ shall have an annual inspection and be subject to a major inspection after a maximum of 10 years’ service and every 5 years thereafter.</td>
</tr>
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</table>
Annex C – QUT Scaffolding

The specific requirements for scaffold and scaffolding work are located in the Work Health and Safety Regulation 2011, Part 5.1, Subdivision 3 – Additional control measures for particular plants and Part 6.3, Subdivision 4 – Scaffolding and are summarised below.

The Scaffolding Code of Practice 2009 provides guidance on managing the risks associated with scaffolding.

<table>
<thead>
<tr>
<th>Specific legislative requirements for scaffold and scaffolding work</th>
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<tr>
<td><strong>High risk work licence</strong></td>
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<td><strong>Safe work method statements</strong></td>
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<td><strong>Scaffold – written confirmation from a competent person</strong></td>
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<td><strong>Scaffold – inspection by a competent person</strong></td>
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<tr>
<td><strong>Scaffold - unauthorised access</strong></td>
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<td><strong>Erecting scaffolding</strong></td>
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<tr>
<td><strong>Notifiable incidents</strong></td>
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