

CEE Structures Testing Laboratory Health and Safety Procedures

Department of Civil and Environmental Engineering

University of Auckland

Version 1.7

Updated: 2 Sept 2018

Revision History

Revision #	Date	Description
0	22/4/2015	Draft for comment
1	29/4/2015	Minor revisions
1.1	11/5/2015	Minor revisions, updated s-drive links
1.2	12/6/2015	Updates to section 3 (hazards and risk assessments)
1.3	16/6/2015	Minor revisions
1.4	17/11/2015	Minor revisions
1.5	28/02/2018	Minor revisions
1.6	3/07/2018	Minor revisions
1.7	2/09/2018	Minor revisions

TABLE OF CONTENTS

1	INTRODUCTION.....	5
1.1	Personnel	5
1.2	Responsibilities.....	6
1.2.1	Lab Manager (Academic).....	6
1.2.2	All employees, workers and students	6
1.2.3	Rights of lab staff	7
1.3	Safety Discipline.....	7
2	GENERAL OPERATIONS	8
2.1	Laboratory Hours.....	8
2.2	Building and STL Access	8
2.2.1	Building access.....	8
2.2.2	STL access.....	8
2.2.3	Basement/strong-wall access.....	8
2.2.4	Pedestrian route	8
2.3	Visitors and Contractors	8
2.4	Deliveries.....	9
2.5	Training	9
2.5.1	General lab induction	9
2.5.2	Specific equipment training	9
2.6	Personal Protective Equipment.....	10
2.7	Health and Safety Meetings.....	10
2.8	Checks, Inspections and Audits.....	11
2.8.1	Daily checks	11
2.8.2	Monthly checks	11
2.8.3	Annual inspection.....	11
2.8.4	Audits	11
2.9	Hazard Communication.....	11
2.10	Health and Safety Document Folder.....	12
3	SPECIFIC HAZARDS AND TEST PLANNING.....	13
3.1	Test planning and hazard/risk assessment	13
3.2	General hazards	13
4	SPECIFIC INFORMATION.....	15
4.1	After Hours Access.....	15
4.2	Basement and Strong Wall Access	15
4.3	Visitor and Contractor Access	15
4.4	Emergency Response Plan.....	15
4.5	Accident and Near Miss Reporting	16
4.6	Field Testing	16
4.7	Shake-tables.....	17
4.8	Hydraulic Equipment.....	17
4.9	Post-tensioning	17
4.10	Gantry Crane Operation	17
4.11	Working at Heights	17
4.12	Scaffolding	18
4.13	Mobile Elevating Work Platforms (MEWPs).....	18

4.14	Forklift	18
4.15	Hazardous Substances.....	18
4.16	Workshop Machinery.....	19
4.17	Manual Handling	19
4.18	Precast Concrete.....	19
4.19	Demolition	19

1 INTRODUCTION

The Structures Testing Laboratory (STL) is located in B906 at the Newmarket campus of the University of Auckland. The STL services the department of Civil and Environmental Engineering (CEE) and includes a strong-floor and strong-wall for large-scale testing, two shake-tables, materials testing laboratories, and supporting workshops. There are two overhead gantry cranes, hydraulic equipment, mobile elevating work platforms, and workshop equipment used in the STL. B906 also includes office space for CEE staff and post-graduate students.

The nature of the research conducted in the STL involves a number of high risk construction and testing activities that require careful planning and execution. The purpose of this document is to outline the laboratory health and safety rules and procedures in accordance with the University's health and safety policy, and applies to the entire B906 building and occupants.

The University of Auckland health and safety policy can be found at:

<https://www.auckland.ac.nz/en/about/the-university/how-university-works/policy-and-administration/health-and-safety.html>

1.1 Personnel

The relevant staff roles referred to in this document are outlined in the table below.

Role	Personnel	Contact
CEE Head of Department (HOD)	Jason Ingham	Office: 401.1110 j.ingham@auckland.ac.nz
CEE H&S representative	Rick Henry	Office: 906-233 rs.henry@auckland.ac.nz 021 335 726
CEE H&S representative (Deputy)	Liam Wotherspoon	Office: 401.11 l.wotherspoon@auckland.ac.nz
Structures Lab Manager (Academic)	Charles Clifton	Office: 906-221 c.clifton@auckland.ac.nz
Structures Lab Manager (Operations)	Lucas Hogan	Office: 906-318 lucas.hogan@auckland.ac.nz 021 135 8961
Structures Lab Technicians	Mark Byrami Andrew Virtue Nik Walmsley Rocky Zhang Nimra Umair Patrick Rogers Arpit Joshi	Office: 906-210 md.byrami@auckland.ac.nz a.virtue@auckland.ac.nz n.walmsley@auckland.ac.nz peng.zhang@auckland.ac.nz n.umair@auckland.ac.nz p.rogers@auckland.ac.nz arpit.joshi@auckland.ac.nz
CEE Electronics	Yasser Alghazouli	Office: 906-230B

Technician		y.alghazouli@auckland.ac.nz
Faculty of Engineering H&S Manager	Robert Powell	r.powell@auckland.ac.nz 027 801 2042

1.2 Responsibilities

1.2.1 Lab Manager (Academic)

In accordance with Section 5 of the University's safety policy, the Lab Manager (Academic) is designated the Academic Leader in charge of the STL and is required to:

1. Ensure that risk assessments take place at the planning stage of any research proposal, are regularly reviewed, kept up-to-date as the research proceeds, and any changes are shared with all involved.
2. Ensure that staff and students within their remit receive induction, training, resources (including time), advice and support, and are supervised until deemed competent.
3. Raise any issues of non-compliance through their line management structure.
4. Apply and implement University Health and Safety Policy, protocols and local arrangements.
5. Ensure that where the need for health surveillance is identified in a risk assessment, staff within their remit are referred to an occupational health provider.
6. Ensure that when students (graduate and post graduate) undertake paid 'work' for the University (e.g. demonstrations/ tutorials) they are classed as staff, and are managed rather than supervised and given extra support and training.
7. Ensure a risk assessment is carried out using appropriate confidentiality if staff or students approach them regarding a condition affecting their health.
8. Ensure that all staff and students have the appropriate personal protective equipment and wear/use it.

1.2.2 All employees, workers and students

Every employee, worker, student, or other person authorized to conduct activities in the STL must comply with all University and STL health and safety policies, rules and procedures. These responsibilities include, but are not limited to:

1. Making themselves aware of, and following the contents of the university safety policy on the website: <https://www.auckland.ac.nz/en/about/the-university/how-university-works/policy-and-administration/health-and-safety.html>
2. Taking reasonable care of themselves and others, cooperating with the University on health and safety matters, and ensuring that their acts or omissions do not adversely affect others.
3. Not interfering with or misusing anything provided for health and safety.

4. Reporting any accidents (including ill-health), incidents (including near misses), non-conformities and damage to buildings or equipment as soon as possible to their academic leader, administration staff or health and safety staff.
5. Notifying the Lab Manager (Operations) to ensure suitable controls to protect them are put in place (e.g. Personal Emergency Evacuation Plan) if they have a condition affecting health which may be caused by or made worse by study activities. This information will be treated with appropriate confidentiality.
6. Undertaking any health and safety training and induction required by University.
7. Following the requirements of risk assessments and any arrangements set out locally.
8. Not disturbing an accident scene until clearance is authorised except in certain situations, including when persons or property are at risk.
9. Ensuring that all appropriate personal protective equipment is worn and used as required.

1.2.3 Rights of lab staff

Lab staff have the right to stop, alter, or refuse any task or operation of any piece of equipment that is being performed by or being used by any lab user if the health and safety of themselves or other lab users is at risk. Resolution of the situation should be in accordance with University and Worksafe NZ resolution procedures.

1.3 Safety Discipline

All STL and staff and users must abide by established policy and procedures and all incidents, accidents and near misses must be reported. In line with the goal of establishing a “Just” safety culture, human error will be considered as part of any safety investigation, and can be used as mitigation in a defence. Gross negligence or violations cannot, however, be tolerated, and Lab users will be held accountable when justified. Corrective action that may be taken includes, but is not limited to:

- Written and/or (documented) verbal warnings for minor violations.
- (Re)training.
- Removal from the facility.

2 GENERAL OPERATIONS

2.1 Laboratory Hours

Laboratory hours are generally 8:00 am to 4:30 pm, Monday through Friday, except on official university holidays. The STL or other parts of the lab may be closed at the discretion of the Lab Manager when technical staff are unavailable to supervise these areas. Any user wishing to work in the STL after hours, on weekends, or official holidays must comply with the after-hours access procedure described in section 4.1.

2.2 Building and STL Access

2.2.1 Building access

External access to B906 is via two main doors to the circulation/stairwell areas, one door directly to the east end of the lab, and three roller/folding doors for deliveries into the lab area. All doors are swipe card controlled. All CEE staff and students have access to the circulation areas and office areas of B906.

2.2.2 STL access

General access to the STL areas is via the doors from the circulation/stairwells at either end of the building. These doors are controlled by swipe-card with staff and students are given access to the lab only after completing the general lab induction. Anyone who has not completed an induction will need to access the STL as a visitor from the main entry door at the eastern access point.

The three roller doors to the STL are to be used primarily for deliveries, and are not intended for general access to the adjacent outside areas. If the roller doors are opened during the day to aid air circulation, they are to be secured with expanding safety barriers to prevent unauthorised visitors entering the STL.

Doors to the side workshops/labs rooms are typically unlocked during opening hours and are to be locked after hours. The external hazardous goods store is to be locked at all times and accessed as needed by lab staff.

2.2.3 Basement/strong-wall access

Lab users are not permitted to enter the STL basement or strong wall cavities without prior permission from technical staff. Any person entering these areas must comply with the tag-in/tag-out access procedures as described in section 4.2.

2.2.4 Pedestrian route

A pedestrian route is marked along the south side of the main test hall area to provide access from the STL entrance doors to the side workshops/labs rooms. This route is to be kept clear of obstructions and trip hazards at all times.

2.3 Visitors and Contractors

All visitors must be escorted by an inducted lab staff member or student host. Visitors must only enter the STL via the main entry door from the eastern circulation/stairwell. Visitor PPE is provided at this entry point and the host is to conduct a briefing that includes hazards within the STL as per section 4.3. The Lab Manager (Operations)

should be given at least 24 hours advance notice of any large groups of visitors (more than 4 people) so that an appropriate number of escorts can be assigned.

Contractors conducting work inside the STL shall provide their own PPE and are to brief STL staff on hazards they may bring to the workplace (such as hot work). Contractor briefings are valid for 6 months and are to be recorded in the Contractor briefing register located at the visitor entry point.

2.4 Deliveries

Courier packages should be addressed to the Engineering Store at Newmarket campus (address details below). General deliveries to B906 should access the Newmarket site via gate 2 off Khyber Pass. Large deliveries can be arranged via gate 4 off Suiter Street with prior approval from UniSafe.

Newmarket store details:

University of Auckland	Ph. 09 373 7599
Newmarket Campus	Ext. 82425
Inward goods store	Opening Hours 8am – 4pm
Building 902 Room 101	
Gate 2	
314-390 Khyber Pass Rd	
Newmarket	
Auckland	

2.5 Training

All STL staff members and users are to receive appropriate training before being permitted to use equipment or materials, and evidence of this training is to be documented in such a way as to allow easy verification. All persons who are unsure of the hazards and proper procedures associated with the tasks that are to be performed are to inform their supervisor before the task commences.

2.5.1 General lab induction

The general STL induction is mandatory for any member of staff, students, or other persons working in the lab, or those who require swipe card access. The Lab Manager (Operations) is responsible for conducting the general lab induction and keeping a register of inducted users. Student inductions are valid for 12 months.

The general lab induction will cover the main features of STL health and safety procedures, and will provide awareness training for users regarding the typical hazards and risks associated with different activities. The general lab induction does not include the specific training that is required to operate or supervise the operation of any lab equipment.

2.5.2 Specific equipment training

Specific training to operate or supervise the operation of lab equipment is required, and this training will be provided by the supervising lab staff for that equipment. Specific training for machinery, plant and other equipment that poses a medium to high risk is covered separately in section 4.

2.6 Personal Protective Equipment

Lab staff and users are required to use Personal Protective Equipment (PPE) as per the Risk Management Plan or Safe Work Instruction for the activity being conducted. PPE should not be used as a substitute for engineering, safe work practices and/or administrative controls to protect personnel from lab hazards. Supervisors should ensure that PPE is being used and maintained in accordance with the manufacturer's recommendations.

PPE must meet the requirements of the relevant Australian/New Zealand Standard. The table below states the mandatory PPE required for entry to the STL and the associated standard it must meet.

Item	Required standard
Boots, Safety, Capped	AS/NZS 2210.3
Vest, Hi Viz, Reflective	AS/NZS 4602
Helmet (Hard-hat)	AS/NZS 1801

Hard-hats are to be worn when working in the main test hall, or when operating the overhead lifting rails in the side lab/workshops. At other times hard-hats can be removed when working in the side lab/workshops rooms.

Safety glasses must be available and worn as appropriate to the tasks being carried out.

Students are to provide their own mandatory PPE, which is to be checked for compliance and suitability by lab staff at the General Lab Induction. Students PPE should be purchased using funds from their PReSS account, or their supervisor's research account. Additional PPE that is needed to perform specific tasks such as gloves, face shields, respiratory protection, hearing protection, working at height equipment etc. will be provided by the STL and issued by technical staff on an as required basis.

Hard-hat and hi-viz colours are assigned according to the following roles:

- Lab and academic staff– *White hat & yellow vest*
- Students and other inducted lab users – *Orange hat & orange vest*
- Visitors – *White hat & pink vest*

Hard hats, vests and safety glasses for lab visitors are provided at the main entry door to the STL from the eastern circulation/stairwell. Visitors must provide their own safety boots. If the visitor does not have safety boots they must wear sturdy closed toe shoes and are only permitted to use the marked pedestrian access route within the STL.

2.7 Health and Safety Meetings

Health and safety matters will be discussed at the start of the bi-weekly lab meetings. All active users of the STL should attend these meetings to be informed of changes to H&S practices, and the specific hazards and risks arising from ongoing activities.

All users must attend a planning and safety meeting at the beginning of their project. This meeting will be held between relevant lab staff, academic supervisors, and students and will include the approval of the project scheduling form.

The CEE H&S Representative is to attend Faculty of Engineering H&S committee meetings as they are called, and is to raise any STL concerns as an agenda item. Any relevant information arising from these meetings must be passed on to STL personnel via the bi-weekly lab meetings.

2.8 Checks, Inspections and Audits

A programme to identify hazards and risks is required and can be satisfied through the following methods:

2.8.1 Daily checks

Prior to starting the day's activities, all equipment is to be inspected for serviceability. Any faults are to be notified to the Lab Manager (Operations) immediately.

2.8.2 Monthly checks

On the first working day of each month, a Monthly Hazard Check using a basic checklist is to be carried out within the STL to verify basic safety compliance is maintained. Completed copies of the checklist are to be sighted by the Lab Manager (Operations) and filed in the H&S Documentation Folder.

2.8.3 Annual inspection

A detailed annual inspection using the universities workshop and office inspection checklists is to be carried out for the entire building each August so that any identified defects can be budgeted for in the next financial year. A summary of defects must be communicated to the H&S Manager no later than 31 Aug, and completed copies of the checklist are to be sighted by the Lab Manager (Operations) and filed in the H&S Documentation Folder.

Workshop and office checklists can be found at:

<https://www.staff.auckland.ac.nz/en/human-resources/health-safety-and-wellbeing/health-and-safety-risk-management/hazard-review-process.html>

2.8.4 Audits

A detailed H&S Management System Audit will be carried out at a nominal three yearly basis, or earlier as required by the H&S Manager. There may also be external audits carried out as required in order for the University to satisfy legislative requirements. Copies of audit reports will be sent to the HOD and filed in the H&S Documentation Folder. Any Corrective Action Requests are to be processed without delay.

2.9 Hazard Communication

Anyone noting any new or undocumented hazards is to raise their concerns with a staff member without delay.

Any items identified through checks, inspections and audits will be communicated via briefings, and information regarding the typical hazards and risks associated with the STL is delivered during the general lab induction.

The risk register is maintained by the CEE H&S Representative, and hazard boards are located at the two main entrances to the STL to inform personnel of the current hazards within.

Safe Work Instructions are to be downloaded or developed for each item of machinery or plant, and be readily available near the point of use.

Safety Data Sheets (SDS) for each hazardous substance are to be downloaded, printed off and placed in a folder near the visitors access point. Mini-SDS are to be printed off and kept in a clear view file near the point of use.

Copies of emergency management procedures are to be displayed near fire access points.

2.10 Health and Safety Document Folder

Copies of health and safety documentation must be retained in a folder that should be subdivided into the following categories:

- Accident register
- Hazard and risk register
- Floor warden and emergency evacuation plan
- Records of evacuations (both actual and drills)
- Health and safety meeting minutes
- Completed copies of checklists, inspections and audits
- Any other health and safety related correspondence

Additional health and safety documentation should be kept by the Lab Manager (operations) and include:

- Induction and training register
- Contractor briefing register
- Health and safety equipment register
- HSNO test certificates
- Safe work instructions
- Copies of latest training certificates for technical staff and users

3 SPECIFIC HAZARDS AND TEST PLANNING

3.1 Test planning and hazard/risk assessment

Planning and preparation is essential to performing safe tests and collect high quality experimental data. The nature of the testing performed in the STL and the equipment used introduces significant hazards that could result in serious injury in the case of an accident. It is critical that tests are planned appropriately to identify these hazards and to eliminate, isolate, or mitigate them through appropriate risk management processes.

In addition to the typical STL hazards listed in section 3.2, a hazard and risk assessment should be conducted when planning all large tests in the STL. The Safe Work Method Statement (SWMS) form should be completed, approved by the supervisor, lab technician in charge of the test, and the Lab Manager (Operations), and submitted along with the lab scheduling form. The SWMS form can be found on the s-drive in the lab scheduling folder:

S:\CEE\temp\CEE_Labs\STRUCTURES TEST LABS\SCHEDULING

The hazard and risk assessment should be conducted when the project is discussed between the student, supervisor, and lab technicians who will work on the project. Particular attention should be given to the following aspects of the test:

- Design of the test setup (calculations peer reviewed by supervisor).
- Erection/construction sequence.
- Prediction of test specimen response and consideration of all possible modes of failure.
- Deconstruction and disposal plan.
- Barriers required around hazardous areas and exclusion zones during testing.
- Equipment and training required.
- Access requirements (e.g. MEWP, scaffold).

3.2 General hazards

The hazards and controls for typical tasks carried out in the STL are included in the following Risk Assessments (RA):

- RA 1. Personnel Access to Structures Test Laboratory
- RA 2. Forklift use within Structures Test Laboratory
- RA 3. Goods deliveries and Vehicle Use within Structures Test Laboratory
- RA 4. Operation of Mobile Elevating Work Platforms (MEWP) within Structures Test Laboratory
- RA 5. Operation of Gantry Cranes within Structures Test Laboratory
- RA 6. Working at Heights (WAH) within Structures Test Laboratory
- RA 7. Working with and around Hydraulic equipment

- RA 8. Welding and Hot Work
- RA 9. Work in Confined Spaces – Wall and Basement entry.
- RA 10. Specimen construction and testing.
- RA 11. Specimen Demolition.
- RA 12. Operation of Fixed Machinery.

Risk assessments are available on the s-drive:

S:\CEE\temp\CEE_Labs\STRUCTURES TEST LABS\SAFETY\Risk assessments

All lab users should familiarise themselves with these risk assessments prior to completing the general lab induction. Additional hazards will arise associated with individual tests which should be addressed during the risk assessment process and added to the hazard board if necessary.

4 SPECIFIC INFORMATION

4.1 After Hours Access

The STL is classified by the FoE H&S committee as a Category A laboratory due to the high risk activities. After-hours access is not permitted unless under exceptional conditions. After-hours access will be considered based on a risk assessment of the proposed activities. Any activities deemed greater than low risk will require a technical staff member to be present. The after-hours access authorisation form located on the s-drive must be completed and approved by the technician in charge, supervisor, and Lab manager (Operations):

S:\CEE\temp\CEE_Labs\STRUCTURES TEST LABS\SAFETY

4.2 Basement and Strong Wall Access

Due to the confined spaces and hazards associated with PT bars and other items passing through the anchorage holes, access to the basement or within the strong wall cavities should be limited. A tag-in tag-out system is used to provide a visual indication of when someone is in these spaces by following these procedures:

- Tag-in tag-out boards are located at the stair entrance to both the basement and at the strong wall.
- On entry the user is to take one of the green tags (a red indicator is displayed below the tag).
- On exit the user should replace the tag, covering up the red indicator.
- When a red initiator is displayed, items should not be passed through the anchorage holes unless direct contact is maintained between users on either side of the floor or wall.

4.3 Visitor and Contractor Access

Visitors and contractor access shall follow the procedures set out in section 2.3. In addition, the following procedures should be followed:

- All visitors and contractors shall receive a short safety briefing using the laminated safety briefing cards located at the main entrance to the STL.
- Safety briefings should be recorded in the visitor and contractor register located at the main entrance to the STL.
- Any specific hazards associated with contractors work in the STL should be recorded on the hazard board.

4.4 Emergency Response Plan

A copy of Generic University Emergency Response Plan is available from the FoE H&S Manager. Evacuation procedures are on display at the exit for each level of B906, and are also available on the s-drive:

S:\CEE\temp\CEE_Labs\STRUCTURES TEST LABS\SAFETY\Emergency response plan

All personnel are to evacuate when the fire alarm sounds or on the instruction of the floor warden. The building and floor wardens for B906 are as follows:

Area	Warden	Deputy
Building 906	Lucas Hogan	Rick Henry, Nik Walmsley
Basement	Nik Walmsley	Rocky Zhang
Level 1	Andrew Virtue	Mark Byrami
Level 2	Sam Corney	Rick Henry, Lucas Hogan
Level 3	Tayo Opabola	Lucas Hogan, Ericson Encina
Level 4	Arash Pir	Theuns Henning, Doug Wilson
Level 5	-	-

Trained first aid personnel in B906 are:

- Charles Clifton
- Pierre Quenneville
- TBC

4.5 Accident and Near Miss Reporting

All accidents, whether they have caused injury or not, to any person are to be immediately reported. Procedures for reporting accidents and near miss events are available on the H&S Website:

<https://www.staff.auckland.ac.nz/en/human-resources/health-safety-and-wellbeing/accident-reporting-and-investigation.html>

IMPORTANT NOTE: Serious Harm Incidents

Once medical first aid has been rendered and the site made safe, any accident site that has resulted in serious harm must be isolated and preserved for evidence gathering. The FoE H&S Manager must be immediately informed of the accident and will head any investigation.

4.6 Field Testing

Personnel conducting site visits or experimental work at an off-site location, including both remote sites and businesses, should comply with the University fieldwork safety guidelines:

<https://www.staff.auckland.ac.nz/en/human-resources/health-safety-and-wellbeing/health-and-safety-risk-management/fieldwork-safety.html>

Prior to the fieldwork, a detailed Hazard Assessment & Management (HAM) Form and Field trip Communication Plan should be completed and approved by supervisor and CEE H&S representative. The forms are located on the s-drive:

S:\CEE\temp\CEE_Labs\SAFETY

The temporary structures lab at Tamaki campus is not permanently staffed by technicians and is therefore classified as a field test site. All work conducted at the Tamaki lab should follow the field testing procedures and the hazard assessment will be used to determine if/when technicians are required to be onsite.

4.7 Shake-tables

The shake-tables shall be used under the direction and/or supervision of the Lab Manager (Operations).

Safe operating procedures for shake-tables are to be developed.

4.8 Hydraulic Equipment

Hydraulic equipment shall be used under the direction and/or supervision of the Lab Manager (Operations), or delegated technical staff and users.

Safe operating procedures for hydraulic equipment are to be developed.

4.9 Post-tensioning

Post-tensioning shall be carried out under the direct supervision of lab technical staff following the post-tensioning safe work instruction.

4.10 Gantry Crane Operation

Only personnel with specialist training can operate the overhead gantry cranes in the STL, the mobile gantries, or the overhead lifting rails in the side lab/workshops.

Crane operators should comply with the Approved Code of Practice for Cranes (Department of Labour, Nov 2009) and the WorkSafe factsheet on crane safety:

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/acop-cranes/cranes-acop-2009.pdf>

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/crane-safety-factsheet/crane-safety-site-managers-supervisors-factsheet>

4.11 Working at Heights

University Procedures for working at heights are to be developed. In the interim, personnel are to comply with Best Practice Guidelines for Working at Height in New Zealand (MBIE, April 2012):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/best-practice-guidelines-for-working-at-height-in-new-zealand>

Working at heights over 5 m high may require notification to WorkSafe:

<http://www.business.govt.nz/worksafe/notifications-forms/particular-hazardous-work>

4.12 Scaffolding

Only personnel with specialist training can erect scaffolding. Any scaffold over 5 m high must be erected by a person holding a Certificate of Competency.

Personnel effecting or using scaffolding should comply with the WorkSafe Best Practice Guideline for Scaffolding:

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/scaffolding-best-practice-guideline-for-scaffolding-in-new-zealand>

Scaffolding erected over 5 m high may require notification to WorkSafe:

<http://www.business.govt.nz/worksafe/notifications-forms/particular-hazardous-work>

4.13 Mobile Elevating Work Platforms (MEWPs)

Only personnel with specialist training can operate or supervise the operation of the scissor lift, knuckle boom, and any other Mobile Elevating Work Platforms (MEWPs).

University Procedures for MEWP are to be developed. In the interim, personnel are to comply with Best Practice Guidelines for Mobile Elevating Work Platforms (WorksafeNZ, August 2014):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/mewp>

Use of MEWP over 5 m high may require notification to WorkSafe:

<http://www.business.govt.nz/worksafe/notifications-forms/particular-hazardous-work>

4.14 Forklift

Only personnel with specialist training and an F class licence can operate the forklift.

The forklift use should be in accordance with the Approved Code of Practice for training operators and instructors of powered industrial lift trucks (forklifts) (Department of Labour, Aug 1995):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/acop-forklifts>

4.15 Hazardous Substances

University Procedures for Fuels, Oils and Lubricants are to be developed. In the interim, users are to comply with HAZMAT Safety Data Sheets (SDS). Information and access to GoldFFX basebase for SDS:

<https://www.staff.auckland.ac.nz/en/human-resources/health-safety-and-wellbeing/health-and-safety-risk-management/chemical-safety/external-agency-contact-details.html>

Useful information for the management of Hazardous Substances can be obtained from the Environmental Protection Agency <http://www.hazardoussubstances.govt.nz/> and the FoE H&S Manager.

4.16 Workshop Machinery

Workshop machinery should be operated in accordance with the Best Practice Guidelines for the Safe Use of Machinery (WorksafeNZ, May 2014):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/safe-use-of-machinery>

Additional facts sheets are available for typical metal and wood processing machines:

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/machinery-factsheets/metal>

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/machinery-factsheets/wood>

4.17 Manual Handling

Manual handling (e.g. lifting) should be conducted in accordance with the Code of Practice for Manual Handling (Department of Labour, June 2001):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/manual-handling-code-of-practice-for>

4.18 Precast Concrete

Handling and erection of precast concrete elements should be conducted in accordance with the Approved Code of Practice for The Safe Handling, Transportation and Erection of Precast Concrete (Department of Labour, May 2002):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/acop-pre-cast-concrete>

4.19 Demolition

Demolition of large test specimen should be conducted in accordance with the Best practice guidelines for demolition in New Zealand (WorksafeNZ, October 2013):

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/best-practice-guidelines-for-demolition-in-new-zealand>