

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Health and Safety Management Plan

Story: SCIRT Management Plans

Theme: The SCIRT Model

A plan which aims to ensure an environment of Zero Harm on SCIRT worksites.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz



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Health and Safety Management Plan

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ACRONYMS, ABBREVIATIONS AND DEFINITIONS

| Term | Definition |
|--------|---|
| COPTTM | Code of Practice for Temporary Traffic Management |
| HSMP | Health and Safety Management Plan |
| HS | Health and Safety |
| IST | Integrated Services Team |
| KPI | Key Performance Indicator |
| KRA | Key Result Area |
| NOP | Non Owner Participant |
| NOR | Notice of Requirements |
| PPE | Personal Protective Equipment |
| SCIRT | Stronger Christchurch Infrastructure Rebuild Team |
| SLG | Safety Leadership Group |
| SQE | Safety, Quality and Environment |

1 INTRODUCTION

1.1 PURPOSE

Health and Safety is SCIRT's number one priority and the SCIRT Health and Safety Management Plan (HSMP) aims to ensure an environment of Zero Harm on SCIRT worksites.

Primary responsibility for health and safety is with the Non Owner Participant (NOP) Delivery Teams and this HSMP provides a framework for alignment of the different Delivery Teams health and safety management systems to improve health and safety throughout the course of the SCIRT programme of works.

It is an opportunity for continual collaboration between organisations to not just improve health and safety with this rebuild but also to introduce locally and nationally new best practice standards throughout industry within New Zealand.

1.2 SCOPE

This HSMP applies to the design, project and programme management, construction and commissioning phases of the infrastructure rebuild works. NOP's will take a health and safety leadership position and implement minimum standards / requirements for all staff, consultants, contractors, sub-contractors and visitors within the SCIRT programme of works.

1.3 LEGAL AND OTHER REQUIREMENTS

We are committed to comply with relevant health and safety legislation and other requirements placed upon SCIRT participants.

External

- Health and Safety at Work Act 2015 in Employment Act 1992
- Health and Safety in Employment Regulations 1995
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016
- Health and Safety at Work (Major Hazard Facilities) Regulations 2016
- Health and Safety at Work (Asbestos) Regulations 2016
- Health and Safety at Work (Infringement Offences and Fees) Regulations 2016
- Health and Safety at Work (Rates of Funding Levy) Regulations 2016
- Hazardous Substances and New Organisms (HSNO) Regulations
- Electricity Act and Electricity Safety Regulations
- Relevant New Zealand and Australian/New Zealand Standards
- Relevant Codes of Practice and Guidelines

- Canterbury Safety Rebuild Charter guidelines
- Building Code and Local Authority Requirements
- Any other relevant legislation as it becomes enacted.

Internal

- SCIRT Safety Values
- SCIRT Safety Rules
- Relevant Notices of Requirements
- Minimum Standards for the 8 Critical Risks and any additional critical risks as they become known.
- SCIRT Management Plans

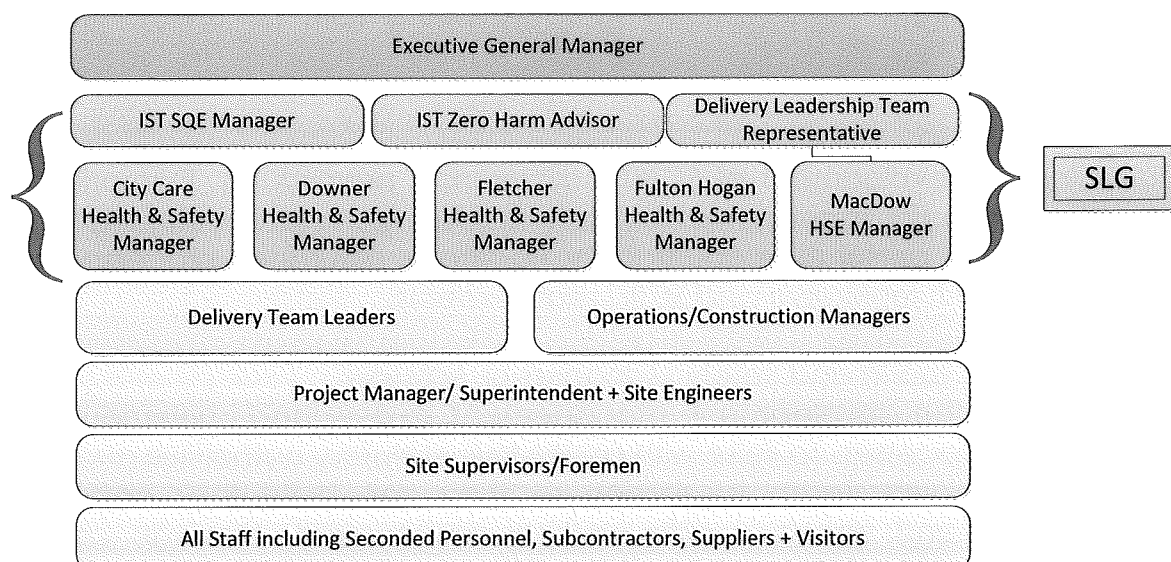
2 LEADERSHIP AND ACCOUNTABILITY

Health and safety is everyone's responsibility. The SCIRT Health and Safety Policy details the SCIRT Board's commitment to health and safety. It is signed by the SCIRT Board and the Executive General Manager and displayed at SCIRT IST and Delivery Team's offices.

The SCIRT Board has a role in ensuring overall governance assurance of health and safety and in support the SCIRT Safety Leadership Group (SLG) has a key role in ensuring processes are in place and to provide assurance to the Board.

The Board conducts bi-monthly site safety visits providing active visible leadership. Board members are accompanied by a Delivery Team Manager or representative to a nominated construction site. Any Board observations and feedback is compiled and provided to the Delivery Teams.

The assurance of health and safety is a process overseen through an organisational structure as outlined below:



There are two key roles within the Integrated Services Team (IST) (SQE Manager and Zero Harm Advisor). These two roles are supported by a key health and safety role within each Delivery Team.

Collectively these seven roles form the basis of the SLG. The SLG meets fortnightly to align standards and encourage best practice.

Health and safety personnel provide advice and support to their delivery team managers, operational and construction project managers, superintendents, project engineers, site engineers, supervisors and foremen in their roles of ensuring clear leadership and compliance with health and safety requirements.

All personnel within SCIRT have a responsibility to exercise due diligence in meeting health and safety obligations.

The Board provide leadership and sets a visible example for all to see of the Alliance Principles in action at a senior level; ie. ensures alliance participants comply with the latest Health and safety plan, all relevant legislation including regulations all reasonable health and safety directives, procedures and work instructions issued by SCIRT.

Executive General Manager:

Reports directly to the Board of Directors. Take's overall responsibility to ensure health and safety policies, procedures and performance is clearly understood and effectively implemented by SCIRT personnel.

SQE Manager

Provides strategic direction for Health and Safety; to prevent injuries to people. Achieve this through a strong collaboration with all stakeholders across the SCIRT delivery program. Ensures functional capability and resources exist to support training initiatives, provision of functional advice, incident investigation, reporting and maintenance of HS performance records. Ensures assurance processes are in place to inform management of compliance with legislative and SCIRT requirements.

Zero Harm Advisor:

Co-ordinates development of SCIRT policies and procedures. Demonstrates a commitment to risk management, safety leadership, and developing a strong safety culture of personal accountability. Facilitates assurance processes around compliance with legislative and SCIRT requirements.

Delivery Team Health and Safety Managers or Advisors:

Participate in the development, management, review and implementation of policies and processes. To liaise with applicable statutory authorities and provide support to Delivery Team supervision so they can build their capability to manage risks and ensure a safe working environment. Manage contractor involvement and assist them to define safe working procedures within their delivery teams. Co-ordinate safety training and awareness programs including

monitoring and evaluating risk. Record and resolve non-conformance, support delivery team managers in ensuring incidents and hazards are reported managed and records are accurate.

Delivery Managers, Delivery Team Leaders and Operational/Construction Managers:

Demonstrate a commitment to health and safety leadership and be responsible to ensure health and safety policies, procedures, accountabilities, tools and resourcing are clearly understood for effective implementation by employees and subcontractors.

Project Managers and Engineers:

Demonstrate a commitment to health and safety leadership and ensures employees and subcontractor's health and safety procedures, inspection and safe work methods are reviewed and approved. Determine the sequence and methods of construction and ensure appropriate risk assessments to identify potential likelihood and consequence of risks are assessed. Record and assist to resolve safety non-conformance, incidents and hazards. Ensure protection of the health and safety of persons on site or members of the public within the vicinity. Ensure that the tools and resources are readily available onsite during construction and to assist with incident investigations.

Site Supervisors and Foremen:

Have the authority and knowledge to provide health and safety supervision of key personnel including employees, subcontractors suppliers, visitors and members of the public within the vicinity. To oversee the compliance and maintenance of health and safety policies and procedures are followed onsite. Key responsibilities will be the implementation and planning of prestart meetings, toolbox talks, risk assessments, plan inspections, testing, and provision of resources, monitoring and measuring activities onsite. To assist with training as required. Identify and report incidents near misses/safety opportunities, dangerous occurrences and to carry out surveillance of employees and subcontractors for compliance. Assist with incident investigation. Ensure amenities and worker facilities are compliant.

All Staff including Seconded Personnel, Subcontractors, Suppliers and Visitors:

Are to adhere to health and safety requirements of SCIRT and Delivery Teams, particularly as these apply to personnel onsite; to observe subcontractor and statutory requirements relating to health and safety. Everyone abides with legislative and delivery team's requirements, undertake work tasks safely and cooperate fully with site emergency procedures and consultative arrangements.

3 COMMUNICATION AND CONSULTATION

As part of our on-going safety objectives, meetings will take place between the Safety Leadership Group members; and consultation will be undertaken with

relevant personnel to highlight health and safety issues and achievements and work to common standards throughout the programme.

Updates will be provided during various meetings and through relevant reports; the purpose of this is to provide effective communication between teams to encourage participation in matters relevant to the programme.

All external communications are managed through consultation between Delivery Teams and SCIRT's IST Communications Team.

Site Personnel and appropriate external parties (e.g. client, community forums) will be included in the consultative process to develop specific procedures and have involvement in the on-going management and improvement of health and safety standards.

A safe behavioural attitude of the entire workforce is essential to the successful implementation of the Health and Safety Management Plan. The involvement of staff, consultants, contractors, sub-contractors and suppliers by the Alliance Participants using a consultative process is a means to achieve ownership, motivation and encouragement towards looking out for themselves, their fellow workers and the general public.

Consultation and discussions with the community and various Team Managers will ensure that where appropriate community concerns are also taken into consideration for developing procedures.

FEEDBACK ON HEALTH AND SAFETY AND THE CRITICAL 8 OPERATIONAL RISK MATRIX IS SUBMITTED WITHIN THE MONTHLY BOARD OPERATIONAL REPORTS AND APPENDICES.4 TRAINING AND COMPETENCY

The need for a training program to maintain and improve health and safety awareness levels and upgrade skill levels is recognised. Delivery Teams, Suppliers Subcontractors have a responsibility to ensure their employees understand what is required of them.

4.1 INDUCTION

Everyone working on a SCIRT site is required to complete a SCIRT induction which will cover the SCIRT objectives, values, safety rules, key result areas, 8 critical risks, minimum set of conditions, personal protective equipment, reporting and recording.

Seconded Personnel located with the Intergrated Services Team (IST) undergo a SCIRT IST specific induction which enables them to go to SCIRT operational sites as visistors. If they are to attend a site for greater than one day then are required to also complete a Delivery Team induction.

The Delivery Teams will have committed facilities and resources to undertake site specific inductions for personnel, subcontractors, suppliers and visitors to the project.

All visitors to the project are required to sign in to ensure personnel visiting the sites for a visitation purpose only are aware of the site specific rules. Visitors complete the register and are escorted and supervised by a project member for the duration of their time on site.

Minor site inductions can be conducted for personnel that require up to one day interaction with the project only. Induction records are maintained.

3.2 COMPETENCY AND SKILLS TRAINING

SCIRT is committed to developing the skill and expertise of the project workforce. The *SCIRT Human Resources Management Plan* details management of training on across the program.

SCIRT IST has a formal performance and development quarterly review process for seconded employees, "My Growth Journey" reviews. Refer to SCIRT Human Resources Management Plan.

3.3 COMPETENCY ASSESSMENT

Delivery Teams are responsible to ensure competency assessment occurs of any person prior to operating any mobile plant, powered plant and equipment onsite. Operators must provide the Delivery Teams with a copy of relevant licences, certifications and/or tickets etc.

The parent organisation of each employee operating mobile plant, powered plant and equipment are required to ensure they are competent and licensed to operate such plant.

All trainees must work under the supervision of a competent operator. Log books will be maintained by both the employer and trainee of all activities and training. Where certificates/licences are mandated, evidence must be maintained of the certification/licence held and expiry dates.

The Training Co-ordinator or nominated person for the Delivery Team will check the competency of workers in operating load shifting equipment. Training/Competency Registers shall be maintained.

3.4 TRAFFIC MANAGEMENT

All those working on, or adjacent to a road, should undertake the training as specified in the code of practice for temporary traffic management (COPTTM) and SCIRT's Traffic Management Plan. It will be a requirement that

subcontractors and labour hire companies provide this training to employees engaged to work on SCIRT sites. The Training Co-ordinator or nominated person for the Delivery Team will maintain a record of this training.

5 OPERATIONAL RISK CONTROL

The SLG will maintain a Critical 8 Operational Safety Risks Matrix to identify and monitor residual risk based on most credible consequences and likelihood levels with controls in place and effective for the critical 8 risks.

The following are required to be in place prior to any works commencing:

- Inspection and Test Plan
- Risk Assessment for Project critical risks (Construction Management Plan or equivalent authorised by Project or Construction Manager.)
- Risk Assessment for site safety – for initial work scope and where change in tasks requires. (Job Hazard Analysis/Hazard Identification/JSEA)
- Training competency and capability assessed
- Required permits (e.g. Permit to work / Permit to dig / Confined space entry / Hot work / Excavation / Working at Height)
- Required critical risk controls (standards)
- Work methodology and required controls
- Traffic Management Plan
- Daily Prestart check/meeting

5.1 CRITICAL RISKS

Eight critical risks have been identified for the SCIRT programme and a set of Minimum Standards for each has been developed.

These minimum standards for critical risks must be applied when performing tasks in these areas

1. Working around live services
2. Working around Mobile Plant and People interface
3. Traffic Management and Public interface
4. Lifting and slinging operations
5. Work in trenches and excavations
6. Work in Confined Spaces
7. Use of powered Plant and Tools
8. Working at height and depth

5.2 DRUGS AND ALCOHOL

SCIRT is committed to creating a work environment free from the risks of drugs and alcohol.

We will achieve this by ensuring:

- Organisations engaged to complete SCIRT work have drug and alcohol testing program in place. This program shall include the provision for testing for new and synthetic drugs.
- The program operates in conjunction with relevant health and safety or other legislation.
- Working together to provide individuals with training and education where appropriate.
- Testing programs are implemented (unless a specific exemption is granted by the Board).
- Implemented procedures will comply with current Australian/New Zealand Standards.
- Participating Organisations procedures to align with SCIRT pre-start, post-incident, just/reasonable cause testing and random testing requirements with appropriate treatment of a confirmed positive result.

SCIRT considers it unacceptable to be subject to the risks of drugs or alcohol, to use or possess illicit drugs, misuse prescription drugs or over the counter drugs or drink alcohol while engaged to complete SCIRT work. Also refer to the "[Drug and Alcohol Policy](#)" and Notice of requirement [\(NOR\) Drug and Alcohol](#).

5.3 MOBILE PLANT AND EQUIPMENT

Delivery Teams and Subcontractors are responsible for overseeing mobile plant and equipment is supplied on our sites to the approved standard, of quality and fit for purpose. Every item shall have completed a full inspection before being sent to site.

Crews will be required to complete daily prestart assessments for operating mobile plant, to report and record any defects and tag out any equipment to ensure mobile plant and equipment on our sites is maintained in good condition and is safe to use.

5.4 UTILITY LOCATION AND PROTECTION (LIVE SERVICES)

To ensure best practice and to provide a focus for reducing strikes on utility networks, the service location and protection procedures should be applied by all Delivery Teams and subcontractors which cover training, consequences, technical/physical initiatives and process as outlined in the notice of requirement "[SCIRT requirements for utility location and protection](#)". And NOR "[Procedure for working around 66Kv cables](#)"

5.5 ALONE WORKERS

Every Delivery Team will have documented, implemented and reviewed procedures in place to cover any of our workers who may be working alone to ensure in the case of an emergency they can all be accounted for and located within a timely manner.

5.6 FATIGUE / WELL BEING

Every Delivery Team will have documented, implemented and reviewed procedures in place to ensure fatigue risks are managed, providing individuals with training and education where appropriate.

5.7 PERSONAL PROTECTIVE EQUIPMENT (PPE)

A standard has been set for PPE to be worn by every person on a SCIRT site including visitors. A SCIRT site is defined within the Traffic Management Plan as the point of the first and end signage

- 1) Hard hat
- 2) Long sleeves and long pants
- 3) Hi-visibility clothing
- 4) Safety boots
- 5) Safety glasses
- 6) Gloves (when carrying out physical work)

6 EVENT MANAGEMENT

6.1 INCIDENT REPORTING AND INVESTIGATION:

All incidents will be reported with all personnel made aware of this requirement upon induction and is reinforced regularly at toolbox talks and prestart meetings. Each incident type carries with it a separate change of hierarchy notification (refer to notice of requirement - SCIRT Incident Reporting Requirements). Delivery team leaders are responsible for ensuring high or extreme risk incidents are reported to themselves as well as the SCIRT Executive General Manager, Delivery Managers and SQE Manager verbally ASAP following occurrence, but before end of the shift at the latest. For critical risk events, the incident report will also result in the Delivery Team participating in an incident investigation.

Incident Report Forms and investigation reports are attached, recorded and closed out within reasonable timeframes on project centre as outlined in the NOR with inclusion in the Monthly Report.

6.2 EMERGENCY MANAGEMENT

A site specific emergency plan is required for every project as detailed in the SCIRT Emergency Response Management Plan.

SCIRT fixed office sites are to have an evacuation plan approved by the NZ Fire Service for all SCIRT and Delivery Team offices as it is a permanent building with 10 or more occupants. This must include: evacuation procedures, trained emergency wardens, assembly points, certified first aiders onsite, responsibilities, notifications, contact names and numbers for emergency services and specific procedures in the case of fire, accidents, earthquakes, floods, spills etc.

7 MEASURING, MONITORING AND AUDITING.

7.1 KEY PERFORMANCE INDICATORS

Health and Safety is a key SCIRT Key Result Area (KRA). Key Performance Indicators (KPI's) will be measured by monthly recording and reviewed six monthly aiming towards Minimum, Stretch and Outstanding target achievements.

Safety statistics are a requirement of SCIRT programme and are collated on a monthly basis via Project Centre. Safety performance will be considered by SCIRT in the allocation of work to Delivery Teams.

7.2 INTERNAL HEALTH AND SAFETY AUDITS

Project health and safety audits are undertaken by the Delivery Team. This is an internal check on quality performance and the successful implementation of the Construction Work Plan and ITP requirements. The Delivery Team is to audit every project monthly currently under construction.

Project Health and Safety Verification Audits are undertaken, one per Delivery Team per month, by the Zero Harm Advisor. These audit findings contribute to the DPS score, and are reported to the SCIRT Board and Delivery Teams. The audits verify compliance to relevant health and safety standards, processes and documentation requirements. These audits are a requirement of the KRA measurement process (KPI 1.1) and are subject to management review.

7.3 CORRECTIVE ACTION PROCESS

Evaluation involves the assessment of results obtained through the monitoring and measuring activities, investigating reasons for performance gaps and then corrective actions are developed to address. This will be managed in accordance with the Delivery Teams own policies and procedures and the sharing of best practice.

7.4 MANAGEMENT REVIEW

The SQE Manager shall ensure annual reviews of this management plan are completed in consultation with the Zero Harm Advisor.

The review will consider continued relevance of, and change where appropriate, policy, objectives, responsibilities and other elements of the Health and Safety Management Plan in the light of audit results, changing circumstances and the commitment to continual improvement.

8 SAFETY IN DESIGN

A strategy has been implemented at the IST which applies to all those involved in the design process and applies to all phases of the design. As part of the design process consideration shall be given to safety throughout the life cycle of the constructed or commissioned works. This includes reviewing how infrastructure, including temporary works, can be constructed, operated, maintained, decommissioned or demolished safely.

Refer to the Safety in Design Strategy

9 DOCUMENT CONTROL AND RECORDS MANAGEMENT

Project Centre holds current copies of all Management Plans this can be accessed by all staff, consultants, contractors and sub-contractors within the Alliance.

All Personnel engaged on the Alliance, including subcontractors and suppliers are required to adhere to the SCIRT systems relevant to works on site, as an absolute minimum.

High level procedures and forms shall be controlled and maintained within Project Centre. The IST Document Control Team shall ensure the latest version is uploaded and provided to relevant personnel.

9.1 NOTICE OF REQUIREMENTS

Throughout the programme of works SCIRT will issue Notice of Requirements to formally confirm new requirements and provide additional clarification on existing requirements. Delivery Teams are responsible for communicating NOR's with subcontractors and suppliers.

9.2 OTHER DOCUMENTATION

There is other site specific related documentation which follows this generic (corporate) Health and Safety management system. This documentation is stored on Project Centre (Register→007: Health, Safety, Quality and Environmental)

9.3 SCIRT GENERIC MANAGEMENT PLANS

This plan is not a standalone document and it interfaces with other management plans. There are various SCIRT Management Plans which must be adhered to under the programme of works. The management plans this plan primarily interfaces with are as follows:

- Peak Performance Management Plan
- Human Resources Management Plan
- Quality Management Plan
- Environmental Management Plan
- Risk Management Plan
- Stakeholder Management Plan
- Crisis Management Plan
- Emergency Response Plan
- Safety in Design Strategy

9.4 SCIRT GENERIC PROCEDURES AND GUIDELINES

Similarly, there are generic Policies, Procedures, Plans and Notices of Requirements which must be followed including:

- Drug and Alcohol Policy
- NOR Incident Reporting
- NOR Drug and Alcohol Requirements.
- NOR SCIRT requirements for Utility location and protection
- NOR Procedure for working around 66kV Cables
- Critical Risks minimum standards
- COPTTM – Code of Practice Temporary Traffic Management