Install Pre- Fab / Concrete Pour Signal Bases

SWMS number:
SMS-06-SW-1020

SWMS Name:
Install Pre-Fab / Concrete Pour Signal Bases

SWMS Team :
Signal Review Team

Custodian (Position):
Signal Services & External Resources Manager

Assumptions:
Site specific risks are addressed and assessed in pre- work briefing

Approving Authority (Position):
Safety and Quality Manager Commercial / Renewals

Content reviewed by Technical expert (SME) and RailCorp safety professional
(position including Div/Group)
Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals

Applicable Standards, Codes of Practice and guidance:

- OH&S Act 2000
- OH&S Regulation 2001
- Rail Safety Regulation 2003
- RailCorp Network Rules & Procedures
- Signalling Maintenance Procedures
- Technical Maintenance
- Signal Engineering Standards
- RailCorp Safety Management System.
- Work Near Overhead Power Lines Code of Practice 2006
- MSDS for all chemicals and Hazardous substance used on site
- EC14 – Guide to Electrical Workers' Safety Equipment
- WorkCover Code of Practice Excavation 2000
- National Code of Practice for Manual Handling [NOHSC:2005]

Equipment/Plant/Tools:

- Front End Loader/Backhoe
- Vehicle Crane, Slings & Chains
- Shoring, Benching, Barricades
- Hand Tools, Spanners
- Shovels, Bars
- Concrete, Mixer
- Pre-Fab Signal Base
- Generator, RCD Unit, Fuel
- Timber Formwork

Records/Reporting:

- Worksite Protection Plan
- Pre-work Brief
- Electrical Test Tags
- Services searches diagrams
- Signalling Design/ Construction Standards
- Signal Sighting Form
- Access Authority Form from Electrical Supplier

Permits/Licences required:

- Vehicle Crane certificate
- Plant/Equipment Operators Certificates
- LCR32 Observer

Personal Protective Equipment required:

- Safety Boots
- High Visibility Vests
- Hardhats
- Protective Clothing
- Safety Glasses

And as specified below.

- Dust Masks
- Gloves / Rubber Gloves
- Gum Boots
- During all Site Works a FIRST AIDER MUST be Present

Inspection requirements:
Nil

Service schedule:
Nil

MIMS or METRE Ref:
Nil

Training/Qualification required:

- Construction Industry Induction
- Track Safety Awareness or

RISI (Rail Industry Safety Induction)

And as specified below.

- Signalling Design/ Construction Certification

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Issue date: 11/04/08
Review date: 19/02/11

Number	Step	Hazard or human error (Safety/Environmental hazards identified, including physical environment, human errors, plant and equipment)	Risk ranking before controls	Control (to be Implemented to eliminate or reduce the risk to the lowest practicable level)	Risk ranking after controls	Responsibility	Job step to be completed In accordance with (name associated documentation)
1	Supervisor undertakes site pre-work briefing and gives local induction.	Staff not Listening to Pre-Work Brief	B -	Identify all hazards, Staff to ensure they are properly Briefed as to risks involving Worksite.	D	Team Leader / Work Group Leader / All Staff	Pre-Work Briefing SMS-06-FM-0163
2	Supervisor verifies competence of personnel doing the task and currency of permits for work.	Expired Competency Cards & Permits, Unqualified type of Personnel for the Task.	B -	Visual Inspection of Personnel Competency Cards & Currency of Permits	D	Team Leader / Work Group Leader	Safety Training & Competence SMS-11-SR-0128
3	Review SWMS and confirm it is current.	Use of a SWMS that is out of date	C -	Ensure SWMS is current and up to date.	D	Team Leader / Work Group Leader	SWMS & SWI's SMS-06-PR-0023
4	Verify that plant and equipment for the task is fit-for-purpose.	Plant & Equipment kept in poor working condition	C +	Conduct a Daily Plant Checklist	D	All Staff	Plant SMS-06-GD-0225
5	Access and Egress and Working on site	Hit by Train	A	Pre-work Brief including Work site Protection Plan, Site Induction and Inspection	C+	Worksite Protection Officer	Network Rules & Procedures Safety Knowledge Management SMS-18-SR-0098
		Injury from Vehicles and Plant/ Equipment	B+	Provide a Site Plan detailing safe access paths, parking and location of Facilities	C-	Worksite Protection Officer	Plant SMS-06-GD-0225
6	Locate other Services	Injury from striking underground services	B+	Services search diagrams. Check with utilities	C-	Work Group Leader	Services Search Checklist SMS-06-FM-0384
	 WARNING	*The Following Precautions are to be undertaken for when using Backhoe's / Plant under Overhead Power Lines as in Activity 7:* • The Operator or other person in control of the Worksite must take reasonable care to inspect the workplace to identify Potential Hazards with Live Overhead Power Lines • All Overhead Power Lines are to be treated as Live unless the Backhoe / Plant Operator has received an Access Authority from the Electrical Operator • All Backhoes / Plant whose Design envelope is within the Approach Distances must be controlled by Safe Systems of Work. i.e. : Height Restrictors / LCR32 Observer • Relevant Information can be obtained from the Plant SMS-06-GD-0225 or on the WorkCover Website : Work Near Overhead Power Lines Code of Practice 2006					
7	Use of Backhoe to Excavate	General Process Hazards					

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	Hole Install Pre-Fab Concrete Base, Spiders, Intermediate, Bell & Signal Base Bolts Install Formwork and reo for Concrete Pour of Signal Base	Railway or External Electrical Supplier Overhead Power Lines	A	Backhoe / Plant is to have Height Restrictors or Mechanical means as to not Infringe on Approach Distances	C+	Work Group Leader, Front End Loader/ Backhoe / Plant Operator certificate holders	Plant SMS-06-GD-0225 Electrical Permits SMS-06-EN-0577
		Injury from Excavating using Moving Plant / Equipment	B+	Keep clear, Brief Workers of Hazards. Establish eye contact with Operator. Operator to stop machine if workers are within reach.	C-	Front End Loader/Backhoe certificate holders	Plant SMS-06-GD-0225
7	Use of Backhoe to Excavate Hole Install Pre-Fab Concrete Base, Spiders, Intermediate, Bell & Signal Base Bolts Install Formwork and reo for Concrete Pour of Signal Base (Cont…….)	Fall into Excavation Site	B+	Be aware, Excavation to be Barricaded to prevent workers falling in	C-	All Staff	Excavation & Earthworks SMS-06-GD-0378
		Excavation Collapse	B+	Shoring, Benching, Keep Plant & Employees clear of edges	B-		
		Use of Vehicle Crane	B+	Keep clear, Brief Workers of Hazards	C-	Vehicle Crane certificate holders	Lifting Equipment Inspection SMS-16-FM-0089
		Back / Muscle Injury	B+	Exercise Backsafe Techniques. Take regular breaks. Do not over exert.	C-	All Staff	Manual Handling Guide SMS-06-GD-0001
		Personal Injury – Eye / Dust / Cuts to Hands	C+	Use of PPE – Safety Glasses, Masks, Gloves	D	All Staff	PPE SMS-06-GD-0323
8	Reinstatement of Excavation (Back Filling Hole around Signal Base)	Injury from moving Plant	B+	Keep clear, Brief Workers of Hazards. Establish eye contact with Operator. Operator to stop machine if workers are within reaches.	C-	Front End Loader/Backhoe certificate holders	Plant SMS-06-GD-0225
		Environmental Process Hazards					
		Soil Erosion	C-	Surfaces to be smoothed off, and Surface Erosion Prevented	D	Work Group Leader, All Staff	Excavation & Earthworks SMS-06-GD-0378

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NOTE: Each work group or team member must sign off on the SWMS to acknowledge they have been briefed about or instructed in the SWMS

Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date	Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date

RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)		Likelihood/Frequency						
		Event Frequency	Less than once every 1000 years	Once every 100 to 1,000 years	Once every 10 to 100 years	Once every 1 to 10 years	More than once per year up to and including 10 times per year	More than 10 times per year
		Historical (Likelihood)	Unheard of in the rail industry	Has occurred once or twice in the rail industry	Has occurred many times in the rail industry, but not in NSW	Has occurred once or twice in NSW	Has occurred frequently in NSW	Has occurred frequently at specific locations
		Workplace Predictive (Likelihood)	Not expected to occur	May occur only in exceptional circumstances	Could occur at some time but not likely	You would expect it to occur at least once in the next 10 years performing similar activities	You would expect it to occur at least once this year performing similar activities	You would expect it to occur at least once this month performing similar activities
			F1	F2	F3	F4	F5	F6
Consequence			Incredible	Improbable	Remote	Occasional	Probable	Frequent
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	A
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-

Extreme
High
Medium
Low

Definition for Use - Regional & Local level (Workplace)

Used for workplace hazards and safety risks that do not consider the whole of the network. Indicatively this matrix is appropriate for use where the hazards under consideration are up to 10% of the total network exposure. This includes regional and local workplace risk assessments.

As an example, the Level 2 scale would be used when examining the risk of slips, trips and falls on specific RailCorp platforms within a region or at a particular station, or the risk of fire within a depot.

There are 3 options for descriptors which can be used to determine the frequency category. One set of descriptors is provided for frequency, one for historical likelihood, and one for predictive liklihood in the workplace. Choose the most appropriate.

To score the risk, follow the steps:

1. Identify the magnitude of the credible consequence if the risk were to occur. If applicable, risks should be considered in terms of the safety (this matrix), commercial and environmental impact (using other matricies).

2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)

3. Score the risk using the combination of likelihood and consequence ranking.

Note: Where there are a range of credible consequences which may lead to a different level or risks and/or where the controls may be different. It may be useful to score the risk more than once.