

SWMS - Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07

Review date:04/10/10

SWMS number: SMS-06-SW-0768	SWMS Name: Civil inspections and maintenance work, in the danger zone of the rail track.			SWMS Team: John Jobson Livio Radman Trevor Hicks Dragan Sukara Wal Bailey <div>Paul Lucas Nick Chong Andrew Reekie</div>
Custodian (Position): Business Systems Officer, Illawarra Region. Peter Sharpe.	Assumptions: Fine weather, daylight hours, rail tracks operational with OHW power live. Staff have had Regional Induction. Staff briefed in Civil underbridge,overbridge and footbridge SWMS when working near underbridges, overbridges, or footbridges.			Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) <ul style="list-style-type: none">Safety Officer - Asset Management, Metropolitan Infrastructure, Illawarra.Civil Engineer - Asset Management, Metropolitan Infrastructure, Illawarra.
Approving Authority (Position): General Manager, Infrastructure Maintenance.	Plant/Equipment/Tools: <ul style="list-style-type: none">Track Inspection toolsTrack maintenance tools.Minor plant and equipment.Mobile off track plant.Needle stick kit.Ladders.Ropes and harnesses.	Records/Reporting: <u>Inspection work.</u> Applicable inspection report form and current defect exceedence form. <u>Maintenance work.</u> Scope of work, and production report form.	Permits/licences required: Where required:- <ul style="list-style-type: none">Plant operator ticket.Level 3 Chemcert certification.Industrial Rope Access II as required.Minor Plant operator competency as required.Electrical permit holder QEL as required.	
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none">WorkCover Code of Practice, for the storage and handling of Dangerous Goods, 2005.National Code of Practice for Manual Handling NOHSC:2005 (1990).WorkCover Code of Practice: Moving plant on construction sites.WorkCover Code of Practice: Noise Management, and Protection of hearing at work.WorkCover Guide: Safe working at heights.	Inspection requirements <ul style="list-style-type: none">Electrical equipment has current test tag.Daily plant check.Pre work check of tools.Daily harness check.Industrial ropes and harnesses current certification tag.	Service schedule: See attached Service Schedule listing.	Training/Qualifications required: <ul style="list-style-type: none">Applicable competency for the task being carried out. Obtained from the Railcorp Infrastructure Engineering Manuals, TMC 101 Track Service Schedules and TMC 110 Structures Service Schedules.Railcorp Infrastructure Engineering Manuals Track Manuals - TMC 202 to 251, and Structures Manuals – TMC 300, 301, 302	PPE required: <ul style="list-style-type: none">Steel Cap BootsSafety GlassesLong sleeve shirt as required..Long trousers as required..High visibility Safety VestHard HatGloves as required.Spats as required.Chaps as requiredFace shield as requiredWelding goggles as required.Dust mask, respirator as required.Ear protection as required.
		MIMS or METRE Ref: See attached MIMS standard job listing.		

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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.	Visual inspection and walking.	Slips, trips, falls and fall from heights.	B+	Conduct on site risk assessment, and identify hazards to be avoided. Stay safe distance from drops, eg cutting edges, culverts etc. Don't walk along the rail head. Only walk on track when essential. Correct footwear.	B-	Worksite supervisor Team member	SMS-06-SW-0527. Safety footwear.
		Struck by train.	A	Worksite protection is appropriate. Stand still and use mobile phones from a safe place.	B-	Worksite supervisor	Network Rules and Procedures.
		Contact with toxins from spiders, wasps, snakes, ticks, etc.	C+	Inspect before commencing work. Wear Gloves as required.	C-	Team Member.	SMS-06-SW-0530. Protective gloves.
		Needle stick injury.	B-	Identify possible needle stick locations. Wear gloves. Dispose of needles with needle stick kit.	C+	Worksite supervisor. Team Member.	SWI: Needle stick kit. SMS-06-SW-0530. Protective gloves.
		Repetitive strain injury.	B-	Rest periods as required.	C+	Worksite supervisor.	
		Fall from heights.	B+	Identify, and avoid identified hazards. Stay safe distance from drops, eg cutting edges, culverts, underbridge abutments, etc.	B-	Worksite supervisor Team member	SMS-06-GD-0240. Working at heights.
		UV exposure	B+	Apply 30 plus, sunscreen at required intervals, after referring to MSDS. Wear long sleeve shirt if required. Wear broad brim hat if required.	C+	Team Member.	SMS-06-SW-0537. Sunscreen.
		Struck by object thrown from train	C+	Stop work when trains approach on adjacent track, and observe passage of train.	C-	Team Member.	
		Injuries from other work activity in the vicinity.	B+	Contact other worksite supervisor before entering worksite and obtain induction before entering.	B-	Worksite supervisor.	

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Crush injury from moveable rail turnout equipment.	B+	Contact signaller before inspecting points. Clip points if required.	D	Worksite supervisor Team member	
2.	Measuring and recording.	Electrical hazard.	C-	Only non conductive tapes to be used. Check OHWS insulator before making contact with OHWS. Use insulated tools when measuring rail to rail.	C-	Team Member	SMS-06-GD-0268. Working around electrical infrastructure.
		Repetitive strain injury.	B-	Rest periods as required and rotate task.	C-	Worksite supervisor.	
		Crush injury from moveable rail turnout equipment.	B+	Contact signaller before inspection points. Clip points if required.	D	Worksite supervisor Team member	
		Cuts from sharp objects, eg Rail overflow.	B-	Inspect rail flow areas before touching. Wear gloves as required.	C+	Team Member	SMS-06-SW-0530. Protective gloves.
		Inhaling of toxic vapours from spray can paint.	D	Review MSDS – Aerosol paint. Use PPE- Dust mask as required. Stand up wind of spray paint application.	D	Team Member	MSDS – Aerosol paint. SMS-06-SW-0535. Respiratory protection.
		Skin irritation from Dye Penetrant	D	Review MSDS – Dye Penetrant Wear gloves.	D	Team Member	MSDS – Dye Penetrant. SMS-06-SW-0530. Protective gloves.
		Skin irritation from rail grease.	D	Wear gloves as required when rail grease is present. Review MSDS – Rail grease.	D	Team Member	SMS-06-SW-0530. Protective gloves. MSDS – Rail grease.
3.	Unloading/loading tools, plant and equipment from vehicle.	Manual handling.	C+	Correct manual handling techniques. Team Lifts. Use mechanical aids as required.	C-	Team Member	SMS-06-GD-0001. Guide to Manual Handling.
		Contact with sharp objects.	C+	Remove or blunt if possible. Wear gloves.	C-	Team Member.	SMS-06-SW-0530. Protective gloves.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Crush injury.	B-	Correct manual handling techniques. Team lifts. Orderly loading of truck. Use mechanical lifting device where possible. Stay clear of moving equipment such as tail gate loaders and lifting devices.	C+	Team Member	SMS-06-GD-0001. Guide to Manual Handling.
		Electric shock from overhead power lines or wiring.	B+	Staff to have been trained in Electrical Awareness or RISI. Maintain Electrical clearances. Obtain Electrical Isolation permit prior to commencing work if required.	B-	Worksite supervisor.	SMS-06-GD-0268. Working around electrical infrastructure.
		Incorrect loading of truck resulting in roll over, equipment/plant/tools coming of vehicle.	B+	All equipment/plant and tools to be secured. Balanced loading of truck.	B-	Worksite supervisor Truck driver.	
		Slips, trips, falls and fall from heights.	B+	Correct manual handling techniques. Team lifts. Orderly loading of truck. Get on and off truck using steps provided.	B-	Worksite supervisor Team member	SMS-06-GD-0001. Guide to Manual Handling.
4.	Use of non powered hand tools.	Cuts and abrasions from tools.	C-	Staff instructed before work, or previously deemed competent in safe use of hand tool. Work in accordance with applicable SWI. Wear appropriate PPE according to SWI.	C-	Worksite supervisor. Team Member	SWI: Applicable to tool being used.
		Crush injury from hand tools.	C+	Staff instructed before work, or previously deemed competent in safe use of hand tool. Work in accordance with applicable SWI. Wear appropriate PPE according to SWI. Swing hammers away from body parts.	C+	Worksite supervisor. Team Member	SWI: Applicable to tool being used.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Muscular strain	C+	Staff instructed before work, or previously deemed competent in safe use of hand tool.	C-	Team Member.	SWI: Applicable to tool being used.
		Repetitive strain injury.	B-	Rest periods as required. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C+	Worksite supervisor. Team Member.	SWI: Applicable to tool being used.
		Struck by flying object eg broken tool, ballast, lockspikes etc.	C+	Eye protection PPE. Hard hat PPE as required. Keep safe distance between workers. Periodic check of tools. Clean ballast from tool impact area. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C-	Team Member. Worksite supervisor.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0532. Protective helmets.
		Struck by tool.	C+	Eye protection PPE. Hard hat PPE as required. Keep safe distance between workers. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C-	Team Member. Worksite supervisor.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0532. Protective helmets.
		Sudden release of tool.	C+	Eye protection PPE. Hard hat PPE as required. Keep safe distance between workers. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C-	Team Member. Worksite supervisor.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0532. Protective helmets.
		Electric shock from digging in the track ballast.	C-	Identify existing signal and electrical track connections. No digging below formation level without service searches.	C-	Worksite supervisor.	

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
5.	Use of powered, minor plant, equipment and hand tools.	Manual handling.	C+	Correct manual handling techniques. Team Lifts. Use mechanical aids as required.	C-	Team Member	SMS-06-GD-0001. Guide to Manual Handling.
		Repetitive strain injury	B-	Rest periods as required. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C+	Worksite supervisor. Team Member.	SWI: Applicable to tool being used.
		Hearing damage.	B-	Hearing protection PPE.	C-	Team Member.	SMS-06-GD-0531. Hearing protection.
		Contact with sharp edges.	C+	PPE - Wear gloves. Periodic check of tools and equipment.	C-	Team Member.	SMS-06-SW-0530. Protective gloves.
		Cuts and abrasions from plant and equipment.	B-	Staff instructed before work, or previously deemed competent in safe use of hand tool. Work in accordance with applicable SWI. Wear appropriate PPE according to SWI. Chainsaws to be used only by ticketed staff.	C+	Worksite supervisor. Team Member	SWI: Applicable to tool being used.
		Struck by flying object eg Broken tool, ballast, lockspikes, vegetation, etc.	C+	Eye protection PPE. Hard hat PPE. Keep safe distance between workers. Periodic check of tools. Clean ballast from tool impact area. Staff instructed before work, or previously deemed competent in safe use of hand tool.	C-	Team Member. Worksite supervisor.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0532. Protective helmets.
		Crush injuries.	C+	Staff instructed before work, or previously deemed competent in safe use of equipment. Use of appropriate SWI or instruction manual. Be aware of pinch points.	C-	Worksite supervisor. Team Member.	SWI: Applicable to tool being used.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Struck by runaway rail mounted plant or equipment.	C-	Staff instructed before work, or previously deemed competent in safe use of equipment. Use of appropriate SWI or instruction manual. Do not leave rail mounted, unbraked equipment, unattended.	D	Worksite supervisor. Team Member.	SWI: Applicable to tool being used.
		Entanglement in moving plant or equipment.	C-	Staff instructed before work, or previously deemed competent in safe use of equipment. Use of appropriate SWI or instruction manual. Loose clothing or jewellery not to be worn. Loose or long hair to be bundled and tied. Appropriate PPE.	C-	Worksite supervisor. Team Member.	SWI: Applicable to plant being used.
		Contact with hot objects.	C+	Defined hot work area where required. Staff instructed before work, or previously deemed competent in safe use of hand tool. Work in accordance with applicable SWI. Wear appropriate PPE according to SWI.	C+	Worksite supervisor. Team Member	SWI: Applicable to tool being used.
		Repetitive strain injury.	B-	Rotate task and rest periods as required. Staff instructed before work, or previously deemed competent in safe use of tool.	C+	Worksite supervisor.	
		Electrical shock from powered portable equipment.	B+	Staff instructed before work, or previously deemed competent in safe use of equipment. All generators to be fitted with an earth leakage device. Use of appropriate SWI or instruction manual. Good housekeeping of worksite. Keep power cables off the ground.	C+	Worksite supervisor. Team Member.	SWI: Applicable to tool being used.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Electric shock from digging.	C-	Identify existing signal and electrical track connections. No digging below formation level, or outside the ballast profile, without service searches. If outside these areas refer to SMS: Service search.	C-	Worksite supervisor.	SMS-06-SW-0384. Service search. Dial B4U Dig.
6.	Use of On or Off Track Plant with operator.	Struck by moving plant and injuries from pinch points on plant.	B-	Movement beepers on plant. Flashing light on plant. Do not approach plant without gaining operator's attention. Use plant pilot when required. Keep safe distance from working plant.	B-	Worksite supervisor. Team Member.	SMS-06-SW-0225. Plant.
		Fall from EWP or man bucket.	C-	Identify, and avoid identified hazards. Attached climbing according to SWI. Use portable ladder according to SWI. Use EWP according to SWI. Use cherrypicker according to SWI.	C-	Team Member.	SMS-06-GD-0240. Working at heights. SWI: Fall Arrest Systems (all). SWI: Fixed ladders. SWI: EWP. SWI: Cherrypicker.
		Struck by flying objects.	B-	Eye protection PPE. Hard hat PPE. Keep safe distance from working plant. Do not approach plant without gaining operator's attention. Do not walk directly behind moving plant.	C+	Team Member.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0532. Protective helmets.
		Hearing damage.	B-	Hearing protection PPE.	C-	Team Member.	SMS-06-GD-0531. Hearing protection.
		Electric shock from overhead power lines or wiring.	B+	Staff to have been trained in Electrical Awareness. Maintain Electrical clearances. Obtain Electrical Isolation permit prior to commencing work if required.	B-	Worksite supervisor. Team Member. Worksite Supervisor.	SMS-06-GD-0268. Working around electrical infrastructure.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Electric shock from digging in the track ballast.	C-	Identify existing signal and electrical track connections. No digging below formation level or outside the ballast profile, without service searches.	C-	Worksite supervisor.	SMS-06-SW-0384. Service search. Dial B4U Dig.
7.	Vegetation poisoning.	Eye and skin irritation from chemicals.	C+	Eye protection. Disposable overalls as required. Chemcert Level 3 training. Use applicable MSDS.	C-	Team Member.	SMS-06-SW-0529. Eye protection. MSDS: Applicable to chemical being used.
		Inhalation, ingestion or absorption of chemicals.	B-	Wear PPE as required in MSDS. Residual herbicides not to be used. Use only Railcorp approved herbicides. Chemcert Level 3 training.	C-	Team Member.	MSDS: Applicable to chemical being used.
		Manual handling of back packs.	C+	Correct manual handling techniques. Seek help to put on/take off back pack.	C-	Team Member.	SMS-06-GD-0001. Guide to Manual Handling.
8.	Rubbish or debris removal.	Needle stick injury.	B-	Identify possible needle stick locations. Wear gloves. Dispose of needles with needle stick kit.	C+	Worksite supervisor.	SWI: Needle stick kit. SMS-06-SW-0530. Protective gloves.
		Cuts, abrasions, infection, allergic reactions from rubbish.	B-	Wear gloves and eye protection. Long pants and sleeves as required. Identify potential hazards. Use tongs to pick up minor rubbish.	C+	Team Member.	SMS-06-SW-0530. Protective gloves. SMS-06-SW-0529. Eye protection.
		Manual handling of rocks, rubbish etc.	C+	Correct manual handling techniques.	C-	Team Member.	SMS-06-GD-0001. Guide to Manual Handling.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
9.	Use of chemical and paints.	Eye and skin irritation from chemicals or paints.	C+	Eye protection. Disposable overalls as required. Wear gloves as required. Use applicable MSDS.	C-	Team Member.	SMS-06-SW-0529. Eye protection. SMS-06-SW-0530. Protective gloves. MSDS: Applicable to chemical being used.
		Inhalation of fumes from chemicals and spray paints.	C+	Wear required respiratory protection As per MSDS.	C-	Team Member.	SMS-06-SW-0535. Respiratory protection.
		Tripping over spray gun air hoses.	C-	Keep an orderly worksite.	D	Team Member.	
7.	Cleaning out sumps.	Sump is assessed as a confined space with associated hazards.	B+	Carry out inspection or maintenance as per confined space procedures.	C-	Worksite supervisor.	SMS-06-GD-0035. Confined spaces.
8.	Working with scaffolding.	Injury to persons from collapse of scaffold.	C+	Erect scaffold using accredited persons. SMS: Scaffolding.	C-	Worksite supervisor.	SMS-06-GD-0282. Scaffolding.
		Manual handling.	C+	Correct manual handling techniques. Team Lifts. Use mechanical aids as required.	C-	Team Member	SMS-06-GD-0001. Guide to Manual Handling.
		Head injury due to bumping of head.	C+	Hard Hat PPE.	C-	Team member	SMS-06-SW-0532. Protective helmets.
		Injuries from tools, materials, assets and equipment.	C+	Wear gloves. Correct use of hand tools.	C-	Team Member.	SMS-06-SW-0530. Protective gloves.
		Fall from heights.	C+	SMS: Scaffolding. Identify, and avoid identified hazards. Attached climbing according to SWI. Use portable ladder according to SWI. Use EWP when possible to erect and dismantle, according to SWI. Rescue plan must be in place prior to starting work.	C-	Team Member.	SMS-06-GD-0282. Scaffolding. SMS-06-GD-0240. Working at heights. SWI: Fall Arrest Systems (all). SWI: Fixed ladders. SWI: EWP.

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Electric shock from working below, or above OHW, or from general electrical wiring.	C-	Staff to have been trained in Electrical Awareness. Maintain Electrical clearances. Obtain Electrical Isolation permit prior to commencing work if required.	C-	Team Manager. Team Member. Worksite Supervisor.	SMS-06-GD-0268. Working around electrical infrastructure.
9.	Working at heights.	Fall from ladder, ledge or cutting face.	C-	Identify, and avoid identified hazards. Attached climbing according to SWI. Use portable ladder according to SWI.	C-	Team Member.	SMS-06-GD-0240. Working at heights. SWI: Fall Arrest Systems (all). SWI: Fixed ladders.
10.	Work at public road and pedestrian level Crossings.	Struck by road traffic, an/or causing a road traffic accident.	A	Road traffic management according to SMS.	C+	Worksite supervisor.	SMS-06-SW-0372. Work on or near public roads. SMS-06-SW-0369. Worksite traffic management. SMS-06-SW-0370. Worksite traffic plan.
		Aggravated person from the public, commuter or resident.	D	Advertise work with signage. Provide defined exclusion zones with bollards and tape. Employ security at dangerous locations.	D	Worksite supervisor.	SMS-06-SW-0242. Managing workplace violence.
		Injury to public	A	Pedestrian traffic management according to SMS.	C+	Worksite supervisor.	SMS-06-SW-0372. Work on or near public roads.
		Skin irritation and burns from bitumen	C-	Wear gloves and boot covers. MSDS – Bitumen.	D	Worksite supervisor.	MSDS – Bitumen.
11.	Work in tunnels.	Inadequate lighting.	C+	Provide adequate lighting.	C-	Worksite supervisor.	

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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)
		Staff exposed to carbon monoxide emissions.	B+	Air monitoring to be in place when petrol driven equipment is used in tunnels. Running plant to be placed down wind from worksite. Use ventilation fans where required. No petrol driven equipment to be used in the City Underground and ESR Networks. Use respiratory PPE as required.	C+	Worksite supervisor. Team Member.	SWI: Working in the Underground and ESR Networks. SMS-06-SW-0535. Respiratory protection.
		Damage to lungs or airways from chemical fumes from diesel powered plant.	B+	Air monitoring to be in place when diesel powered equipment is used in tunnels. Running plant to be placed down wind from worksite. Use ventilation fans where required. All diesel powered on and off track plant used in the City Underground and ESR Networks to be fitted with Catalytic converters. Use respiratory PPE as required.	C+	Worksite supervisor.	SWI: Working in the Underground and ESR Networks. SMS-06-SW-0535. Respiratory protection.
		Staff exposed to asbestos in the City Underground and ESR Networks	B-	All staff to be instructed in SWI for Working in the Underground and ESR Networks.	C-	Worksite supervisor.	SWI: Working in the Underground and ESR Networks.
		Contaminated water	B-	Staff to wash hands after contact with water.	C+	Team Member.	
		Staff unable to access refuge because of stored material.	B+	No materials, tools or plant, to be stored in refuges.	C-	Team Member.	
		Staff falling out of refuge when train passing.	B+	Staff to brace themselves when in refuges. Staff not to overcrowd refuges.	C-	Team Member.	
		Trip over plant and equipment due to congested work area.	B-	Keep orderly work site.	C+	Team Member.	
12.	Pack up worksite	Work incomplete or, material or equipment left on site.	C+	Carry out post work inspection.	D	Worksite supervisor.	

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

SERVICE SCHEDULE LISTING.

Service Schedule Number	Activity Description	Service Schedule Number	Activity Description
SSC 048	Ballast Examination	SSC 001	Walking Patrol
SSC 024	Check OHW/Track Alignment	SSC 057	Wear Examination of High Rail Tangential Switches
SSC 220	Detailed Examination of OHWS and Signal Gentries	SSC 012	Welded Track Stability Examination
SSC 046	Detailed Tie Examination	SSC 007	Wet Weather Patrol
SSC 010	Detailed Walking Examination	SSC 224	Detailed Examination of Miscellaneous Structures
SSC 038	Examination of Insulated Joints	SSC 223	Detailed Examination of Retaining Walls and Platform Walls
SSC 039	Examination of Mechanical Joints	SSC 091	Drainage Examination
SSC 052	Examination of Turnouts & Special Trackwork	SSC 063	Swing Nose Crossing - Ultrasonic Examination
SSC 058	Expansion switch examination	SSC 036	Test Aluminothemic Weld
SSC 055	Inspection of Crossing Condition	SSC 037	Test Wirefeed Weld
SSC 221	Mid-Cycle Examination of OHWS and Signal Gentries	SSC 062	Ultrasonic Examination of Turnout
SSC 312	Permanent Speed sign examination	SSC 032	Ultrasonic rail examination (manual)
SSC 011	Post Irregularity Examination	SSC 056	Visual Examination of High Rail Tangential Switches
SSC 015	Pre-Summer Inspection	SSC 301	Level crossing examination
SSC 035	Rail Corrosion Examination	SSC 222	Detailed Examination of Tunnels
SSC 033	Rail Wear and Condition Examination	SSC 225	Detailed Examination of Air Space Developments
SSC 311	Railway sign examination		
SSC 016	Siding Examination		
SSC 054	Special Switch Timber Examination		
SSC 053	Special Turnout Examination		
SSC 005	Supplementary Patrol		
SSC 060	Swing Nose Crossing - Level 1 Detailed Examination		
SSC 061	Swing Nose Crossing - Level 2 Detailed Examination		
SSC 023	Track Centres Examination		
SSC 022	Track Clearances Examination		
SSC006	Track Patrol night		

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

MIMS STANDARD JOBS LISTING.

Std Job Code	Activity Description	Std Job Code	Activity Description	Std Job Code	Activity Description
P24001	EXAMINATION OF LEVEL CROSSINGS	P00C19	CLEAN/REMOVE COAL SPILLAGE	P06002	EXAMINATION FOR TRACK CENTRE BINDING
P24002	LEVEL CROSSING SIGHTING INSPECTION	P00E09	EMERGENCY CHECK TRACK ALIGN & CENTRES	P06C03	REPAIR CONCRETE SLEEPER DEFECT
P24010	ASSEMBLE LEVEL CROSSING PANEL	P00E10	EMERGENCY CHECK STRUCT & PLAT CLEARAN	P07001	DETAILED EXAMINATION OF FASTENINGS
P24805	REMOVE / RESTORE LEVEL XING PANELS	P00E12	EMERGENCY CLEAR TRACK VANDALISM	P07800	REPLACE FASTENINGS WITH RESILIENT FAS
P24C01	REPAIR LEVEL XINGS, TAKE-OFFS & WALKWAYS	P00E16	RESTORE TRACK MISALIGNMENT (BUCKLE)	P07801	INSTALL VIBRATION ISOLATION
P24C02	CLEAN OUT FLANGWAYS ON LEVEL XINGS	P00E32	UNSCHED TRACK DEFECT EXAMINATION	P07C01	REPLACE DEFECT FASTENINGS ON TIMBER T
P00001	TRACK PATROL WALKING	P01005	SUPPLEMENTARY TRACK PATROL FOR GIJ'S	P08001	TURNOUT EXAMINATION
P00005	CHECK OHW/TRACK ALIGNMENT	P02001	SIDING EXAMINATION	P08002	ULTRASONIC EXAMINATION OF TURNOUT
P00006	POST INCIDENT EXAMINATION/PATROL	P02002	CHECK TRACK GEOMETRY - SIDING	P08003	EXAMINATION OF MANGANESE CROSSING
P00008	TRACK STABILITY (FIELD MEASUREMENTS)	P03001	ULTRASONIC RAIL EXAMINATION	P08004	ULTRASONIC EXAM OF WELDED CROSSING
P00009	CHECK TRACK ALIGNMENT AND CENTRES	P03003	CHECK RAIL WEAR (MANUAL)	P08005	TURNOUT-TANGENTIAL SWITCH EXAMINATION
P00010	CHECK STRUCTURE AND PLATFORM CLEARANC	P03005	TEST RAIL (BUILD UP)-KK	P08006	TURNOUT EXAMINATION-STOCKRAIL CURVE W
P00016	DETAILED WALKING INSPECTION	P03006	TEST WELD -KK	P08007	EXPANSION SWITCH EXAMINATION-GENERAL
P00019	EXAMINATION OF KM & 500M PEGS	P03017	REPLACE RAIL SLEEPER PADS	P08008	EXPANSION SWITCH EXAMINATION-VAE
P00020	WET WEATHER PATROL	P03815	STRAIGHTEN RAIL	P08009	INSPECT AND SERVICE TURNOUT LEVERS
P00021	AK CAR EXCEEDENT EXAMINATION	P03817	PAINT RAIL	P08012	ULTRASONIC EXAM OF EXPANSION SWITCH
P00820	LIFT TRACK	P03C07	PLATE RAIL DEFECT	P08021	DETAILED EXAM LEVEL 1-VAE SWING NOSE
P00825	REPAIR PLATFORM COPING	P03C08	REPAIR WHEEL BURN BY GRINDING	P08022	DETAILED EXAM LEVEL 2-VAE SWING NOSE
P00C01	REMOVE TWIST EXCEEDENT	P06803	RESLEEPER, SPOT	P08023	ULTRASONIC EXAM-VAE SWING NOSE
P00C02	RESTORE LINE	P03E01	EMERGENCY PLATE RAIL DEFECT	P08024	DETAILED EXAM LEVEL 1-PRE SWING NOSE
P00C03	RESTORE TRACK ALIGNMENT	P05001	EXAMINATION OF INSULATED JOINTS	P08025	DETAILED EXAM LEVEL 2-PRE SWING NOSE
P00C04	RECTIFY GAUGE EXCEEDENT	P05002	EXAMINATION OF RAIL ENDS / INSERTS	P08026	ULTRASONIC EXAM-PRE SWING NOSE
P00C05	CLEAR TRACK	P05004	REFURBISH INSULATED JOINT	P08099	VISUAL EXAMINATION OF TURNOUT
P00C09	LIFT AND PACK TRACK LESS THAN 10m	P05C01	REPAIR MECHANICAL RAIL JOINT	P08824	Repair Thornley/Ball Lever on Turnout
P00C11	REPLACE RAIL (LONG)	P05C02	LIFT & PACK MECHANICAL JOINT	P08C02	CLEAN & OIL POINTS
P00C13	CLEAR TRACK VANDALISM	P05C03	REPAIR INSULATED RAIL JOINT	P08C03	LIFT & PACK TURNOUT
P00C16	REPAIR/REPLACE SIGNS	P05E01	EMERGENCY REPAIR INSULATED JOINT	P08C05	REGAUGE TURNOUT
P00C17	LIFT AND PACK TRACK MORE THAN 10 m	P05E02	EMERGENCY REPAIR MECHANICAL RAIL JOIN	P08C06	REPLACE TURNOUT XING
P00C18	REPAIR KM & 500M PEGS	P06001	DETAILED TIE EXAMINATION	P08C07	REPLACE TURNOUT SWITCH & OR STOCK RAI

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

Std Job Code	Activity Description	Std Job Code	Activity Description	Std Job Code	Activity Description
P08026	ULTRASONIC EXAM-PRE SWING NOSE	P15C08	REPAIR WEIGHBRIDGE	P25E07	EMERGENCY REPAIR AIRSPACE DEVELOPMENT
P08099	VISUAL EXAMINATION OF TURNOUT	P15C09	REPAIR INSPECTION PIT	P26031	DETAILED EXAMINATION OF CATTLE STOP
P08824	Repair Thornley/Ball Lever on Turnout	P15C10	REPAIR DERAILER	P26039	EXAMINATION OF CATTLE GRID
P08C02	CLEAN & OIL POINTS	P15C11	REPAIR ASH/SANDTRAPS	P26801	INSTALL CATTLE GRID
P08C03	LIFT & PACK TURNOUT	P16001	EXAMINATION OF BALLAST PROFILE	P26802	INSTALL CONCRETE SILL
P08C05	REGAUGE TURNOUT	P16003	EXAMINATION OF SIDING WALKWAYS	P26813	REPAIR CATTLE GRID
P08C06	REPLACE TURNOUT XING	P16004	BALLAST INSPECTION	P26814	REPAIR CATTLE STOP
P08C07	REPLACE TURNOUT SWITCH & OR STOCK RAI	P16811	BALLASTING MAINT, OTP	P26833	INSTALL CATTLE STOP
P08C09	REPLACE HEEL BLOCK	P16812	CLEAN UP SPILL	P26C02	REPAIR CATTLE STOP
P08C10	LIFT & PACK CROSSING	P16C02	CLEAN BALLAST, MANUAL	P26C06	REPAIR CATTLE GRID
P08E01	EMERGENCY TURNOUT EXAMINATION	P16E01	EMERGENCY RESTORE BALLAST PROFILE	P28114	INSTALL TRACKSIDE SIGNAGE
P09001	DIAMOND AND SLIP EXAMINATION	P19001	EXAMINATION OF EARTHWORKS	P29004	RUBBISH/MATERIAL REMOVAL
P09002	TEST XING AND T/O RAILS FOR DEFECTS	P19806	VEGETATE EMBANKMENT/CUTTING -	P29814	INSTALL TRACKSIDE SIGNAGE
P08C01	REPAIR TURNOUT_C/PTS_EXP SWITCH	P19807	GEOTECH INVESTIGATE (EMBANKMENT/CUTTI	P29815	REPLACE TRACKSIDE SIGNAGE
P15C05	REPAIR TRACKSIDE WALKWAYS	P21001	EXAMINATION OF RETAINING WALLS	P29816	STATION TRACK CLEANING
P09C01	REPAIR DIAMOND/SLIP	P21002	EXAMINATION OF MISC STRUCTURES	P29C01	RUBBISH/MATERIAL REMOVAL
P15001	INSPECTION OF GEOTECHNICAL SITES	P21803	REPAIR MISC. STRUCTURES	P31800	RAISE HEADWALL
P15002	GEOTECHNICAL EWS - CHECK FUNCTION	P21804	REPAIR RETAINING WALL	P31801	REPAIR CULVERT
P15006	EXAMINATION OF PERMANENT SPEED BOARDS	P21805	REMOVE REDUNDANT MISC STRUCTURE	P31803	REPLACE CULVERT HEADWALL
P15007	SERVICE TEMPORARY SPEED BOARDS	P21806	Repair Weighbridge	P30004	SPENO RECORDING CAR EXAMINATION
P15008	EXAMINE AND SERVICE SAFETY SIGNS	P21C03	REPAIR MISC STRUCTURES	P29808	TRIM VEGETATION
P15010	EXAMINATION OF ASH/SAND TRAPS	P23003	DRAINAGE EXAMINATION	P29810	PREVENT GRAFFITI
P15011	EXAMINATION OF BUFFERS AND STOP BLOCK	P23004	EXAMINATION OF SUB-DRAINAGE	P08823	REPLACE HOUSING
P15016	INSTALL BUFFER STOP	P23C01	RESTORE DRAINAGE SYSTEM	P08825	REPLACE ALL RAIL BRACE BOLTS
P15017	DETAILED EXAMINATION OF PLATFORMS	P23C04	CLEAN SEDIMENTATION BASIN	P00017	RAIL INSPECTION IN TUNNELS
P15019	DETAILED EXAMINATION OF OHW STRUCTURE	P23E01	EMERGENCY CHECK DRAINAGE SYSTEMS	P22001	DETAILED EXAMINATION OF TUNNEL
P15020	MID CYCLE INSPECTION OF OHW STRUCTURE	P23E02	EMERGENCY CHECK PUMPING SYSTEMS	P22002	MONITOR CRACKS IN TUNNEL STRUCTURE
P15021	EXAMINATION OF TURNTABLE	P24811	INSTALL TAKE-OFF	P22003	EXAMINE TUNNEL REFUGES
P15022	EXAMINATION OF WEIGHBRIDGE	P24812	REPLACE TAKE-OFF	P22004	EXAMINE TUNNEL GUTTERING
P15023	EXAMINATION OF INSPECTION PIT	P25813	REPAIR PIER AND COLUMN PROTECTION (OB	P22005	STEEL BRIDGE EXAM-TUNNEL
P15024	EXAMINATION OF DERAILER	P25814	REPLACE SMOKE SCREEN	P22C01	REPAIR TUNNEL and P22806 REPAIR TUNNEL STRUCTURE
P15C02	REPAIR BUFFER STOP	P25815	INSTALL SAFETY SCREENS (OB)	P00C15	REMOVE LINE OF SIGHT DEFECT
P15C03	ERECT/REMOVE SPEED BOARD	P25817	INSTALL PIER AND COLUMN PROTECTION(OB	P29808	TRIM VEGETATION
P15C07	REPAIR TURNTABLE	P25C06	REPAIR AIRSPACE DEVELOPMENT	P29809	NOXIOUS WEED CONTROL

Civil inspections and maintenance work, in the danger zone of the railway track.

Issue date: 04/10/07
Review date: 04/10/10

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						<u>Definition for Use - Regional & Local level (Workplace)</u> 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 likelihood 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 matrices). 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.	
			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-		