

fgf Hazard and Risk Register - SAFETY

Activity/ Aspect	Risk Owner	Process Line Model												Potential Hazard	Consequence	Initial Risk			Hierarchy of Controls Applied						Proposed Control Measures	Controlled Risk		
		Concrete Works	Earth Works	Pavements	Storm Water	Sewerage Reticulation	Water Reticulation	Quarry Earthworks & Extraction	Crushing / Processing	Spray Seal	Asphalt Pavements	Depot and Workshop	Transport of Bitumen or Quarry products			L	C	RR	Elimination	Substitution	Isolation	Engineering	Administration	PPE		L	C	RR
Excavation / Trenching (<1.5m)	fgf	x	x	x	x	x	x							Mobile Plant Underground services Collapse of trench or excavation Dust Contaminated atmosphere Engulfment Hazardous manual task	Injury Silicosis Electrocution Engulfment	Possible	Major	H-8				x	x	x	SWMS-Locate and Pothole Services SWMS-Working on or Adjacent to a Road SWMS-Excavation Near UG Services SWMS-Excavation / Trenching Works SWMS-Work with / Operation of Plant SWMS-Manual Tasks SWI-Operation of a Tip Truck SWI-Using Powered Small Plant SP 22 Permit to Work	Unlikely	Minor	L-21
Excavation / Trenching (> 1.5m)	fgf				x	x	x							Mobile Plant Underground services Collapse of trench or excavation Dust Contaminated atmosphere Engulfment Hazardous manual task	Injury Silicosis Electrocution Permanent disability Potentially fatal	Possible	Extreme	E-4				x	x	x	SWMS-Locate and Pothole Services SWMS-Work with / Operation of Plant SWMS-Excavation / Trenching Works SWMS-Working on or Adjacent to a Road SWMS-Excavation Near UG Services SWMS-Manual Tasks SWI-Operation of a Tip Truck SWI-Using Powered Small Plant SP 22 Permit to Work	Unlikely	Minor	L-21
Embankments	fgf		x											Mobile Plant Working near roads Uneven / unstable surface Hazardous manual task	Injury Potentially fatal	Possible	Major	H-8				x	x	x	SWMS-Work with / Operation of Plant SWMS-Working on or Adjacent to a Road SWMS-Manual Tasks SWI-Operation of a Tip Truck SWI-Earthworks and Subgrade	Unlikely	Minor	L-21
Subgrade	fgf		x	x										Mobile Plant Working near roads	Injury Potentially fatal	Possible	Major	H-8				x	x	x	SWMS-Working with / Operation of Plant SWMS-Working on or Adjacent to a Road SWI-Operation of a Tip Truck SWI-Earthworks and Subgrade	Rare	Insignificant	L-25
Backfill	fgf	x	x	x	x	x	x							Mobile Plant Uneven / unstable surface	Injury Potentially fatal	Possible	Major	H-8				x	x	x	SWMS-Working with / Operation of Plant SWI-Operation of Tip Trucks SWI-Earthworks and Subgrade SWI-Using Powered Small Plant	Unlikely	Minor	L-21
Stockpiling	fgf		x	x				x	x					Dust Trucks rolling over Tipping of loads Location, size and shape of the stockpile	Silicosis Bodily injury Potentially fatal engulfment from collaps of inappropriate batters	Unlikely	Moderate	M-16				x	x	x	SWMS-Work with / Operation of Plant SWMS-Working on or Adjacent to a Road SWI-Operation of a Tip Truck	Unlikely	Insignificant	L-24
Removal and Demolition of Culverts and Culvert End Structures	fgf	x	x		x	x								Noise Power tools Dust Mobile Plant Working near roads Hazardous manual task	Injury Silicosis Hearing loss / imparement Impact / Colloision	Possible	Major	H-8				x	x	x	SWMS-Working with / Operation of Plant SWMS-Working on or Adjacent to a Road SWMS-Operating Cut-off Saw SWMS-Manual Tasks SWI-Using Powered Small Plant	Unlikely	Minor	L-21
Reinforced Soil Structures	fgf	x	x		x									Mobile Plant Working near water Tipping loads Hazardous manual task	Impact / Collision Injury Potential fatality	Possible	Major	H-8				x	x	x	SWMS-Working with / Operation of Plant SWMS-Manual Tasks SWI-Operation of a Tip Truck SWI-Using Powered Small Plant	Unlikely	Minor	L-21
Stabalised Pavements	fgf Subcontractor	x	x	x										Interaction with traffic Interaction with public Hazardous manual task Working near roads	Impact / Collision Injury Potential fatality	Possible	Major	H-8				x	x	x	SWMS-Working on or Adjacent to a Road SWMS-Working with / Operation of Plant SWMS-Manual Tasks SWI-Using Powered Small Plant SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Asphalt Surfacing	fgf			x							x		x	Interaction with traffic Interaction with public Hazardous manual task Working near roads	Impact / Collision Injury Potential fatality	Possible	Major	H-8				x	x	x	SWMS-Working on or Adjacent to a Road SWMS-Working with / Operation of Plant SWMS-Using a Hazardous Substance SWMS-Manual Tasks SWMS-Work Near OH Electrical Services SWI-Using Powered Small Plant SWMS-Asphalt, Sealing & Profiling SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21

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Road Furniture	fgf		x	x							x			Interaction with traffic Interaction with public Working near roads Changed traffic conditions Hazardous manual task	Impact / Collision Injury Lost time	Unlikely	Major	M-12				x	x	x	Traffic Management Plan SWMS-Working on or Adjacent to a Road SWMS-Manual Tasks SWI-Using Powered Small Plant	Rare	Minor	L-23
Noise	fgf	x	x	x	x	x	x	x	x	x	x	x		Interaction with traffic Interaction with public Hazardous manual task Working near roads	Community complaint Hearing impairment / loss	Possible	Major	H-8					x	x	Safety Management Plan Environmental Management Plan ENVI 07-Noise and Vibration Health Surveillance and Monitoring	Unlikely	Minor	L-21
Traffic Management	fgf Subcontractor	x	x	x	x	x	x	x	x	x	x	x	x	Interaction with traffic Interaction with public Speed Uneven surfaces Changed traffic flow / conditions Potential for exposure to external bullying or violence from road users or members of the public	Injury Collision / Impact Potential fatality Community complaint	Possible	Extreme	E-4				x	x	x	Traffic Management Plan SWMS-Working on or Adjacent to a Road SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Installation and Removal of Formwork and Falsework	fgf Subcontractor	x												Hazardous manual task Mobile Plant Exposed steel Formwork Failure (collapse)	Bodily injury Potential fatality	Unlikely	Major	M-12				x	x	x	SWMS-Manual Tasks SWI-Welding / Oxy Acetylene Cutting SWI-Using Powered Small Plant SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Placing and Compacting of Concrete	fgf Subcontractor	x			x	x	x							Mobile Plant Exposed steel work Working with Concrete Lifting of Formwork Hazardous manual task Noise and vibration	Bodily Injury Skin infections Concrete poisoning Temporary threshold shift (TTS)	Unlikely	Major	M-12				x	x	x	SWMS-Excavation / Trenching Works SWMS-Working with / Operation of Plant SWMS-Using a Hazardous Substance SWMS-Placing and Finishing Concrete SWMS-Manual Tasks SWI-Using Powered Small Plant SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Spray Sealing	fgf Subcontractor									x			x	Mobile Plant Working Near Roads Fumes Overhead Services Bitumen Burns	Bodily Injury Light headedness	Possible	Moderate	M-13				x	x	x	Traffic Management Plan SWMS-Working with / Operation of Plant SWMS-Working on or Adjacent to a Road SWMS-Work Near OH Electrical Service SWMS-Asphalt, Sealing & Profiling SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Insignificant	L-24
Pit Chamber Construction	fgf	x	x		x	x								Mobile Plant Engulfment Confined spaces Working with Concrete Lifting of Formwork	Bodily injury Potential fatality Skin infections Concrete poisoning	Unlikely	Major	M-12				x	x	x	Permit to Work SWMS-Confined Space Entry SWMS-Locate and Pothole Services SWMS-Working with / Operation of Plant SWMS-Excavation / Trenching Works SWMS-Placing and Finishing Concrete SWI-Operation of a Tip Truck SWI-Using Powered Small Plant	Unlikely	Minor	L-21
Installation of Pipes and Fittings	fgf	x			x	x	x							Mobile Plant Engulfment Dust Noise Hazardous manual task Underground services	Bodily Injury Silicosis Potential fatality Electrocution	Possible	Major	H-8				x	x	x	SWMS-Locate and Pothole Services SWMS-Working with / Operation of Plant SWMS-Working on or Adjacent to a Road SWMS-Laying Pipes SWMS-Operating Cut-off Saw SWMS-Manual Tasks SWMS-Excavation / Trenching Works SWMS-Work Near OH Electrical Services SWI-Lifting and Slingsing SWI-Using Powered Small Plant	Unlikely	Minor	L-21
Surveying	fgf Subcontractor	x	x	x	x	x	x	x		x	x			Working near roads Mobile Plant Wildlife	Bodily injury Snake bites	Possible	Moderate	M-13				x	x	x	SWMS-Working on or Adjacent to a Road SWMS-Survey Activities SWMS-Manual Tasks SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21

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Working at Heights (> 2m)	fgf	x	x	x	x	x	x	x	x					Uncontrolled falling from heights Falling on a hard surface Miscommunication Slips / trips / falls Falling objects Fall protection and rescue equipment Scaffolding Elevated Platforms Access and Egress	Injury Potential loss of life Property damage	Possible	Major	H-8							Emergency Response Plan Toolbox Meeting Form Prestart Meeting Form SWMS-Working 2m or Higher SWMS-Operate Elevating Work Platform (EWP)	Unlikely	Moderate	M-16
Temporary Support Structures	Subcontractor		x	x	x	x	x							Falling objects injuring persons and the public	Injury / loss of life	Unlikely	Major	M-12				x	x	x	Scaffold erected by a competent installer Tilt up construction in accordance with AS 38050-2003 Formwork and back propping in accordance with AS 3601-1995 SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Confined Spaces	fgf	x	x	x	x	x	x					x		Contaminated atmosphere Limited access and egress	Injury / loss of life Asphyxiation Explosion	Unlikely	Major	M-12				x	x	x	Permit to Work SWMS-Confined Space Entry SWI-Using Hand Tools Emergency Response Plan	Unlikely	Moderate	M-16
Chemical, Fuel or Refrigerant Lines	Subcontractor	x	x	x	x	x	x							Release of contaminants	Injury / loss of life Environmental harm	Possible	Moderate	M-13				x	x	x	SWMS-Locate and Pothole Services SWMS-Working on or Adjacent to a Road SWMS-Using a Hazardous Substance SWMS-Laying Pipes SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Moderate	M-16
Overhead Electrical Installations and Services	fgf Subcontractor	x	x	x	x	x	x			x	x		x	Live services / electrical shock Interaction with public and traffic	Injury / Loss of Life Collision impact / damaged services Trip / slip / fall	Possible	Moderate	M-13				x	x	x	Traffic Management Plan SWMS-Work Near OH Electrical Services SWMS-Working on or Adjacent to a Road SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Moderate	M-16
Working on or Near Roads	fgf	x	x	x	x	x	x			x	x		x	Struck by passing vehicle Aggravated motorists and residents Interaction with public and pedestrians	Injury Potential fatality Damaging public relations Injury / slips / trips / falls Property damage	Unlikely	Major	M-12				x	x	x	Traffic Management Plan SWMS-Working on or Adjacent to a Road	Unlikely	Minor	L-21
Hiring Plant	Subcontractor	x	x	x	x	x	x	x	x	x	x	x	x	Plant not maintained to manufacturers requirements Plant not suitable for the task Plant not supplied with appropriate information	Injury Medical treatment	Possible	Moderate	M-13				x	x		SP08 Procurement and Subcontractor Management Procedure Verification of plant service history Plant fitted with all safety devices Plant serviced by qualified persons Subcontractor to identify additional control measures as applicable	Rare	Insignificant	L-25
Subcontactor Engagement	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Subcontractors with poor performance history Lack of communication and planning	Injury Potential loss of life	Unlikely	Major	M-12					x		SP08 Procurement and Subcontractor Management Procedure Subcontractor Trade Contract Subcontractor to identify additional control measures as applicable	Rare	Insignificant	L-25
Underground Services and Structures	fgf		x		x	x	x							Live services / electrical shock Interaction with public and traffic	Injury Potentail loss of life Collision impact Damaged services Trip / slip / fall	Possible	Moderate	M-13				x	x	x	Traffic Management Plan SWMS-Locate and Pothole Services SWMS-Excavation Near UG Services SWMS-Working with / Operation of Plant SWMS-Manual Tasks SWMS-Excavation / Trenching Works SWI-Using Powered Small Plant	Unlikely	Moderate	M-16
Pressurised Gas Distribution Mains or Piping	fgf		x		x	x	x							Release of flammable or toxic gases Risk of explosion	Injury Potential loss of life	Possible	Moderate	M-13				x	x	x	Consultation with Local Authorises SWMS-Locate and Pothole Services SWMS-Laying Pipes SWMS-Excavation Near UG Services SWMS-Excavation / Trenching Works	Unlikely	Moderate	M-16

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Handling, Storage and Transportation of Hazardous Substances	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Hazardous substances Flammable substances Toxic substances Inhalation Indigestion	Combustion Poisoning Damage to skin Damage to eyes Damage to respiratory tract	Possible	Moderate	M-13				x	x	x	SP10 Handling, Storage, Packaging, Preservation & Delivery Procedure SP24 Hazardous Chemicals Procedure Emergency Response Plan SWMS-Using a Hazardous Substance SWMS-Manual Tasks SWI-Refuelling Plant (Diesel)	Unlikely	Minor	L-21
Housekeeping	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Unsafe and clear entry to and from workplace No system for collecting, storing and disposing of waste materials Not enough area to store safety materials	Slips / trips / falls / injury / medical treatment	Likely	Moderate	H-8					x	x	Project Specific Site Induction SWMS-Manual Tasks SWI-Housekeeping / Stacking and Storage	Unlikely	Insignificant	L-24
Site Access and Egress	fgf	x	x	x	x	x	x	x	x	x	x			Traffic through and around the work area Pedestrians moving through and around the work area Speeding vehicles Chemicals and fuels	Collision / Impact Injury / slips / trips / falls	Unlikely	Moderate	M-16				x	x	x	Traffic Management Plan	Unlikely	Minor	L-21
Inclement Weather	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Inclement weather	Poor visibility Electrocution Altered environment Uncontrolled movement Collision / impact Slips / trips	Likely	Minor	M-14				x	x	x	SWI-Site Conditions Emergency Response Plan	Rare	Minor	L-23
Tilt-up and Precast Concrete	Subcontractor	x												Falling objects	Injury Potential loss of life	Possible	Major	H-8				x	x	x	SWMS-Working 2m or Higher SWMS-Working with / Operation of Plant SWMS-Work Near OH Electrical Services SWMS-Manual Tasks SWI-Using Powered Small Plant SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Hand Tools	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Sharp edges Pinch points Energised implements Hazardous manual task	Injury Potential loss of life	Possible	Moderate	M-13					x	x	SP12 Plant, Machinery & Equipment Usage & Maintenance Procedure SWMS-Manual Tasks SWI-Using Hand Tools	Rare	Minor	L-23
Hazardous Manual Tasks (Manual Handling)	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Lifting materials Hazardous manual task	Injury / strain / sprain Lost time Decreased productivity Fatigue	Possible	Moderate	M-13					x	x	SWMS-Manual Tasks	Unlikely	Minor	L-21
Adjacent Facilities/ Properties	fgf	x	x	x	x	x	x			x	x	x		Interaction with public Interaction with traffic	Collision / impact Damage to private property Noise Community dissatisfaction / complaint	Unlikely	Moderate	M-16				x	x	x	Traffic Management Plan SWMS-Working on or Adjacent to a Road	Rare	Minor	L-23
Ladders	fgf	x				x	x		x			x		Uneven surface Slips and falls from ladders Falling objects	Injury Loss of Life	Unlikely	Major	M-12				x	x	x	Site Rules SWMS-Working 2m or Higher SWI-Using Ladders SWI-Using Hand Tools	Rare	Minor	L-23
Mobile Powered Plant	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Working on slopes Refuelling Dust Entanglement Ergonomics Noise Slips / trips / falls Traffic Interaction with the public Damage to services Exhaust fumes Uneven ground	Collision / Impact Silicosis Plant rollover Potential loss of life Hearing impairment Illness / injury Slip / trip / fall	Possible	Major	H-8				x	x	x	SWMS-Working with / Operation of Plant SWMS-Working on or Adjacent to a Road SWI-Load and Unload Plant SWI-Refuelling Plant (Diesel) Machine Pre-start Checklist	Unlikely	Minor	L-21

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Refuelling	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Hazardous substances Flammable substances Toxic substances Contaminated atmosphere Contact with eyes / skin Inhalation / ingestion	Uncontrolled release Combustion / explosion Skin or eye irritation Central Nervous System effects Dizziness / lack of concentration Vomiting Loss of consciousness	Possible	Moderate	M-13					x	x	x	SP24 Hazardous Chemicals Procedure SWMS-Using a Hazardous Substances SWI-Refuelling Plant (Diesel)	Rare	Minor	L-23
Line Marking	Subcontractor			x										Working near roads Interaction with traffic Working in hot conditions Working in cold conditons Hazardous manual task	Impact with traffic Collision with plant Injury Potential loss of life Fatigue	Possible	Major	H-8					x	x	x	Traffic Management Plan SWMS-Manual Tasks SWMS-Working on or Adjacent to a Road SWI-Line Marking SWI-Using Hand Tools SWMS as per Subcontractor Subcontractor to identify additional control measures as applicable	Unlikely	Minor	L-21
Emergency Response	fgf	x	x	x	x	x	x	x	x				x	" Fire " Medical Emergency " Heat Stress " Bomb Threat " Flooding " Storm / Cyclone Threat " Electrical Emergency " Confined Space Incident " Plant Rollover " Fall from Heights " Trench Collapse " Traffic Incident " Oil or Chemical Spill " Gas Leak " Explosion " Structural Damage " Personal Threat / Civil Disturbance " Earthquake " Armed Robbery " Injured Fauna	Injury Potential loss of life Environmental harm Damage to property Damage to plant and equipment	Unlikely	Major	M-12					x	x		SP13 Emergency Preparedness and Response Procedure Emergency Response Plan Emergency Equipment and First-Aid-assessment	Unlikely	Minor	L-21
Health Factor - Biological	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Food Poisoning, Water bourne infections, Hepatitis A, Poor personal hygiene, Bitten or stung by wildlife (see Flora & Fauna), Insect carrying disease	Personal injury / illness Food Poisoning Water bourne infection Hepatitis Anaphylactic shock Allergic reaction Ross River & Dengue Fever	Possible	Moderate	M-13						x	x	SWI-Working Outdoors Insect repellant provided Accomodation licences checked for compliance with Food Safety Act. Emergency Response Plan SP16 System Audits, Inspections and Health Monitoring Procedure Site Rules and fgf Code of Practice	Unlikely	Minor	L-21
Health Factor - Physical	fgf	x	x	x	x	x	x	x	x	x	x	x	x	Heat, Dust, Noise and Vibration, Radiation – UV, Poor Workplace design, Heavy use of VDU's, Hazardous manual task	Sun Stroke Heat Exhaustion Silicosis Temporary threshold shift (TTS) Noise-induced hearing loss NIHL (tinnitus) Skin burn Skin cancer Musculoskeletal injury (MSI) Repetitive strain injury (RSI)	Possible	Major	H-8						x	x	SWMS-Manual Tasks SWI-Working Outdoors PPE provided - sunblock, gloves, wide brim hats Emergency Response Plan SP16 System Audits, Inspections and Health Monitoring Procedure Site Rules and fgf Code of Practice	Unlikely	Moderate	M-16
Surrounding Structures	fgf	x	x	x	x	x								Vehicle impact Vibrations Falling trees Other external sources	Structural Damage Potential injury to worker / public Potential loss of life	Possible	Major	H-8			x		x		Emergency Response Plan	Unlikely	Minor	L-21	
Community Consultation	Undertaken by Client	x	x	x	x	x	x				x	x		Complaints by the community, Disruption to local business	Verbal abuse from the community and interference work operational activities	Possible	Moderate	M-13						x		Community notified by client of the works being undertaken, Local police involved in discussions with client and project team in relation to local road transport disruptions and material deliveries to work locations.	Unlikely	Insignificant	L-24