

Central Quay embankment remediation

FM IMS 101

Form Rev B –28.02.2022

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Title:	Embankment remediation works	Reference:	PGSEW01
Issued By:	Paul Taylor	Issue Date:	02.22
Attachments:	N/A		
Distribution:	PGSL and Rightacres Management team		

Details:

This is to be read in conjunction with CURRENT VERSION of Central Quay RAMS

Prior to works commencing all operatives are to be briefed on these RAMS.

Drawings Reference:

Work Area Safety

- Access to the place of work
- All employees, contractors and visitors will attend the site induction carried out by Principal Contractor.
- All employees, contractors and visitors will register their presence within the daily site register.
- All employees, contractors and visitors will use the designated pedestrian and vehicle route stipulated on a daily basis when accessing and egressing the working areas.
- All persons will comply with site rules in the wearing of personal protective equipment.
- The Site Manager / Foreman will ensure that all working areas and means of access / egress are clear and free from obstruction.

TASK

Remediation of the existing river embankment to include removal of the existing wall & concrete facing slabs and regrading and installing erosion control measures.

PRESTART

- Ensure area is free from obstruction and clear access is provided.
- Evaluate the requirement for a specific 'Method Statement'
- Provide a 'Toolbox Talk' explanation to all employees involved with the works.

METHODOLOGY

- The works will be divided into sections of circa 100m to mitigate temporary flood control measures.
- Temporary flood defence barriers will be set up inland of the embankment behind the required working area.
- A modular floating pontoon system will be set up and lowered into the river in sections by excavator and connected together to provide a platform circa 30m long. The pontoon will be equipped with fence panel edge protection and held in place by fixing to the existing sheet pile wall (TBC).
- The pontoon is intended to prevent any debris rolling into the watercourse during the embankment works.
- An excavator will reduce the ground behind the wall and pull the wall into the excavation, I.E. away from the watercourse, and dispose.

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- The excavator will then undermine the concrete embankment liner in sections and pull into the works away from the watercourse.
- Following removal of the concrete revetment a silt fence will be installed along the toe of the embankment to prevent any debris entering the watercourse during the reprofiling works.
- The embankment will be reprofiled and the erosion control measures installed.
- The preferred option is to use a confining face of 0.5m to 1m of engineered fill combined with a proprietary strengthening geocellular/grid system. A single continuous pre-filled roll of rock which can be vegetated is also being considered to tie in slope with the back of the existing sheet piled wall that is to remain. The seeding of the slope will provide a greening-up of the riverbank and enhanced biodiversity.
- This sequence will be repeated along the length of the embankment.

P.P.E. REQUIRED

- Helmet with chin strap, safety wellingtons, Gloves, Glasses where required, Hi-viz vest.

EMERGENCY ACTION

If an emergency arises from these works, then;

- Works to stop immediately
- Remove all personnel from danger
- Follow the P. C's emergency protocol and inform Management team immediately

Risk Assessment 1

Location: Central Quay	Process: Excavation work
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Hazard Potential

			LIKELIHOOD		
			Probable	Possible	Unlikely
			3	2	1
S E V E R I T Y	Fatal	4	12 High	8 High	4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low
	Minor	1	3 Low	2 Low	1 Low

Risk Rating = Severity x Likelihood

Persons at Risk:	Operatives, contractors
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Hazards	Rating Before Control	Rating After Control
Excavation to a maximum of 1500mm depth – risk of injury from collapse of excavation sides under construction	6 - Medium	2 - Low
Risk of injury from collapse of excavation sides, once support is in place	6 - Medium	2 - Low
Falls into excavation (any height) causing personal injury	6 - Medium	2 - Low
Work in proximity of Excavator – collision, crushing etc	6 - Medium	4 - Medium
Collision with reversing vehicles (crushing, running-over)	6 - Medium	4 - Medium
Lifting operations – collapse of load or persons being crushed by load	6 - Medium	2 - Low

Control Measures:

Operatives to work in “protected” area only i.e., within the confines of “drag box”/other in excavations where a risk of collapse of the sides could cause persons to be trapped.
 Physical barriers to be erected as soon as practicable.
 Trained operator (CPCS card holder) to operate Excavator. Mirrors/CCTV to be fitted to machine to provide all-round vision. Trained Banksman to be present. 1500mm clearance of excavator counterweight.
 Minimise number of pedestrians in traffic route areas. Minimise need to reverse. Provide trained vehicle marshals as required.
 Erect fencing to enclose excavations. Backfill as soon as possible.
 Correct lifting gear to be used. Controlled by Banksman. No person to be under raised load.
 Move roadside barriers out from side of excavation. Passing vehicles to be as far as possible away from “Danger Area”.
 Pipes will be laid by hand as per specification, with necessary jointing carried out. Bedding and backfilling will be as per specification.
 Excavations will be inspected daily by the Site supervisor, with a record of the results of the inspection being recorded at least every 7 days (or as deemed necessary) in an “Excavation Register” (either the PC’s or provided by the Company).

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All works will be provided with physical barriers where there is a risk of persons falling. This issue will be further and continually risk-assessed on site by the Site Foreman. (Physical barriers required where persons could receive significant personal injury following a fall).
 Where required, excavations will be provided with side-support, or the sides will be battered to a safe angle of repose to ensure that no persons are at risk of being trapped by the failure of the side(s).
 No lifts to be started unless the supervisor is completely happy with the area.

Further action:

Risk Assessment 2

Location: Central Quay

Process: Loading and Unloading Operations – Vehicles on site.

Hazard Potential

			LIKELIHOOD		
			Probable	Possible	Unlikely
			3	2	1
S E V E R I T Y	Fatal	4	12 High	8 High	4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low
	Minor	1	3 Low	2 Low	1 Low

Risk Rating = Severity x Likelihood

Persons at Risk:

Operatives, contractors

Hazards	Rating Before Control	Rating After Control
Persons being struck by moving vehicles.	6 - Medium	2 - Low
Falls of persons from the rear of vehicles (if access is required)	6 - Medium	2 - Low
Falls of materials from vehicles during loading and unloading operations.	6 - Medium	2 - Low
Risks associated with Lifting operations using FLT/Telehandler/Excavator	6 - Medium	2 - Low

Control Measures:

Persons being struck by moving vehicles.- Where possible, loading & unloading to be carried out away from persons on foot (refer PC's Traffic Plan). If and where this is not possible, a "Banksman" must be present. Falls of persons from the rear of vehicles – Where possible, the need for persons to climb onto the rear of vehicles should be avoided. If necessary, use PC's unloading bay (if present) or consider provision of guardrails or use of soft landing system. If this is a problem due to the way in which loads arrive, discussions should be held with the haulier/supplier, to establish if the load can be made safer for unloading purposes. Falls of materials from vehicles – certain loads may be unstable once the holding down straps have been released. Therefore, an assessment must be made of the load prior to release of the straps. If there is any concern, persons must stand clear, so far as is possible, so that the risk of injury is minimised should materials fall.

Risks associated with Lifting operations using FLT/Telehandler/Excavator – Refer to separate Risk Assessment. Persons on foot must stand clear. FLT/Telehandler/Excavators must be provided with all-round vision, audible reversing alarm and if appropriate, CCTV.

General:

Avoid work at height where possible. If this cannot be done, consider whether bags or other fall/injury prevention measures can be used.

If a safety harness is used to protect a person whilst working at height, it must be anchored above via an inertia reel fall arrest device. If no other anchor point is available, then the hook of a (static) crane could be used. Safety footwear with anti-slip soles should be worn. Never jump down from the lorry or load.

Maintain good standards of housekeeping. Report or clean all oily, greasy or otherwise slippery surfaces.

Further action:

Risk Assessment 3

Location: Central Quay

Process: Use of Compressors and Pneumatic Power Tools.

Hazard Potential

			LIKELIHOOD		
			Probable	Possible	Unlikely
			3	2	1
S E V E R I	Fatal	4	12 High	8 High	4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low

Risk Rating = Severity x Likelihood

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T Y	Minor	1	3 Low	2 Low	1 Low
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Persons at Risk:	Operatives, contractors
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Hazards	Rating Before Control	Rating After Control
Hearing damage caused by exposure to excessive noise levels	6 - Medium	2 - Low
Hand Arm Vibration Syndrome – ill-health from excessive exposure	6 - Medium	2 - Low
Injuries to eyes from flying particles.	6 - Medium	3 - Low
Manual handling operations, such as lifting, pulling or pushing work equipment and materials – musculoskeletal injuries.	6 - Medium	2 - Low
Respiratory problems caused by inhaling exhaust fumes	6 - Medium	2 - Low
Respiratory problems caused by inhaling oil mists	6 - Medium	2 - Low

Control Measures:	Hearing protection will be required for all work with pneumatic tools unless a specific assessment has been carried out and indicates that it is not required. See noise schedule in safety manual for typical exposure levels. Ensure equipment is regularly inspected and serviced. Use low-vibration equipment where available. Specific noise and vibration assessments will be necessary for sustained use. See appropriate guidance in safety manual for further information. Air receivers must be identified by their plant/serial number and be fitted with pressure gauge, safety valve, drain point and access for cleaning/servicing. The safe working pressure (SWP) must be clearly marked on all air receivers and never exceeded. Guards and covers must be fitted to prevent access to moving/dangerous parts of compressors, especially v-belts and pulleys. Operating instructions must be available for all plant and equipment prior to its use. Ensure that all hoses and connections are the correct size and in good condition. Hose lengths must be as short as is practicable. Hoses and connections must be kept free from corrosive materials and protected from interference by passing traffic. All connections must be properly clamped to prevent release of pressure and hose-whipping. Petrol/diesel powered compressors must not be used in areas with poor ventilation. Ensure operatives receive manual handling training – carry out specific manual handling assessments where appropriate.
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Further action:	Always check in your safety manual for Company safety procedures and systems of work. Refer to other generic assessments for activities connected with this assessment
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Location: Central Quay	Process: Work around Mobile Plant & Vehicles (e.g. Excavator/Telehandler/Dump Truck/Roller/Delivery Vehicles/Vans).
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Hazard Potential

			LIKELIHOOD		
			Probable	Possible	Unlikely
			3	2	1
S E V E R I T Y	Fatal	4	12 High	8 High	4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low
	Minor	1	3 Low	2 Low	1 Low

Risk Rating = Severity x Likelihood

Persons at Risk:	Operatives, contractors
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Hazards	Rating Before Control	Rating After Control
Serious injury or death caused by contact with moving vehicle (striking and/or crushing person)	6 - Medium	2 - Low
Injury to plant or vehicle operator, or others caused by collision with other plant or vehicles	6 - Medium	2 - Low
Injury to operator or others caused by collision with structures	6 - Medium	3 - Low

Control Measures:
Prior to commencement, the site must be surveyed, and vehicle routes planned to avoid danger to pedestrians, contact with structures, contact with overhead power lines and clear of all excavations, with also awareness of airport hangar traffic. All persons on site must wear hi-visibility clothing, where there is a risk of collision. Reversing of vehicles must be minimised. Suitable fencing must be provided around excavations. Where necessary, exclusion zones should be established to prevent the unintentional collapse of excavations caused by vehicles moving nearby. Vehicle operating areas and traffic routes must be clearly signed and separated from pedestrian routes. Tipping vehicles (including front loading dumpers) must not be driven with the tipping body raised. Visiting drivers must be briefed on site rules and hazards. Vehicle Marshalls must be used where drivers do not have clear, unrestricted visibility. Vehicles must be fitted with adequate aids to provide all round vision and warning to others (e.g. CCTV, convex mirrors, audible reverse alarms, beacons etc.). Speed restrictions must be imposed on site and strictly enforced.

Further action:	
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Risk Assessment 5

Location: Central Quay	Process: Underground Services
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Hazard Potential

			LIKELIHOOD		
			Probable	Possible	Unlikely
			3	2	1
S E V E R I T Y	Fatal	4	12 High	8 High	4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low
	Minor	1	3 Low	2 Low	1 Low

Risk Rating = Severity x Likelihood

Persons at Risk:	Operatives, contractors
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Hazards	Rating Before Control	Rating After Control
Fire, explosion and/or electrocution caused by contact with live conductor	6 - Medium	3 - Low
Fire, explosion and/or asphyxiation caused by fracturing gas line	6 - Medium	3 - Low
Flooding, caused by fracture of water main	6 - Medium	2 - Low
Biological hazards from untreated sewage	6 - Medium	2 - Low

Control Measures:

Ensure that adequate planning of the work is carried out so as to avoid the need to excavate near live services wherever reasonably practicable.
 Full details of all underground services must be obtained (from the relevant authority, principal contractor or Principal Designer) before excavation work is permitted to commence.
 Details must include location, type and capacity of all services.
 Services must be located using a combination of reference to information and use of suitable detection equipment.
 All services must be clearly marked on the ground and drawings before excavations commence. The line and depth of services must be made clear.

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Use of Cat and Genny by trained operative essential prior to excavation works
 Trial holes must be dug by hand to confirm locations, considering physical indicators such as junction boxes, manholes, vents etc.
 All services must be assumed live unless proven otherwise – written confirmation must be obtained and held on site.
 Excavators and handheld power tools must not be used within 0.5 metres of an exposed electric cable or gas pipe.
 Services which cross excavations must be supported to prevent damage.
 Unsupervised and lone working near live underground services is not permitted.
 Hand digging must be undertaken with a shovel, not a pick or pitchfork.
 Refer to guidance in HSE publication HSG 47 for further information.

Further action:

Risk Assessment 6

Location: Central Quay

Process: Use of Hand Tools

Hazard Potential			LIKELIHOOD		
			Probable	Possible	Unlikely
S E V E R I T Y	Fatal	4	3 12 High	2 8 High	1 4 Medium
	Severe	3	9 High	6 Medium	3
	Major	2	6 Medium	4 Medium	2 Low
	Minor	1	3 Low	2 Low	1 Low

Risk Rating = Severity x Likelihood

Persons at Risk:

Operatives, contractors

Hazards	Rating Before Control	Rating After Control
Injuries to eyes caused by flying particles	6 - Medium	2 - Low
Injury to hands, feet and body from contact with tool or workpiece	6 - Medium	2 - Low
Sprains and strains caused by using hand tools incorrectly	6 - Medium	2 - Low

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Injury caused by tripping over tools (due to poor housekeeping)

6 - Medium

2 - Low

Control Measures:

Ensure that hand tools are not used for any other than their intended purpose, e.g. do not use a screwdriver as a chisel

Operatives must carry out visual checks of hand tools before their first use each day. Damaged or dangerous tools must not be used.

Eye protection **MUST** be used whenever work is carried out using cold chisels or any other tools where there is a risk of flying particles.

Open-bladed knives, screwdrivers and other sharp tools must not be carried in pockets or in any manner which could cause injury to the user or others.

In flammable atmospheres or where highly flammable substances may be present, only non-ferrous (spark free) tools must be used.

Sharpening is a skilled task and must only be carried out by trained and authorised persons.

Tools must not be left lying about but returned to storage after use.

Common faults which must be checked for include:

- mushroomed heads on chisels
- loose and damaged hammer and file handles
- splayed jaws on open-ended spanners
- damaged pick and shovel handles
- damaged screwdriver blades

Periodic thorough examinations are recommended, with records kept

Certain tasks using hand tools can result in high sound pressures – hearing protection must be worn if carrying out sustained hammering or other noisy tasks.

Further action:

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Name	Paul Taylor			Line Manager	S. Clarke
Occupation	Site manager			Date:	18/02/2022
Briefing Type:	Staff Handbook	Company Policies	IMS System	Company objectives	
	Emergency Procedures	Roles & Responsibilities	RAMS addendum	Briefing note	
			X		
Briefing Title / Reference:		RAMS addendum			
Briefing Carried out by:		Site Supervisor – PGS			

By signing below, I confirm that I have attended and understood the relevance and contents of the briefing	
Print Name	
Sign Name	
Date	

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