General Information

Contract Name:	**Michaels Pump Test Decommission**	**Contract No:**	
Activity:	**Decommission Pump Test Equipment including reinstatement**	**Location:**	**Site Area**
Initial RA / MS prepared by:	**Nick Hoctor**	**Date:**	**06/09/18**
RA / MS Reference No:	**01**		

Review and Revision Details

RAMS shall be reviewed in operation, at least weekly and where there is a significant change to the activity/task (as per OSS 002)

Revision	Date of last review	Amended (Yes / No)	Reviewed / Amended By	Reason for Amendment
A	-	-	-	First Issue

Section 1 - Risk Assessment - Health & Safety

SEVERITY	Fatality	MEDIUM	HIGH	VERY HIGH	VERY HIGH
	Reportable Injury	LOW	MEDIUM	HIGH	VERY HIGH
	Lost Time Injury	LOW	MEDIUM	MEDIUM	HIGH
	Minor Injury	LOW	LOW	MEDIUM	MEDIUM
J N Bentley Risk Matrix		Remote	Possible	Likely	Very Likely
		PROBABILITY			

Hazard	Person(s) at Risk	Risk Level	Control Measures	Residual Risk
'SHOW STOPPERS' (Initial Risk Level Very High or High)				
Crane Jib/Excavator clash	Site Team	H	• Trained & Competent Operators. • Lift Plan to be in place • Planned movements. • Directions of swing for both crane & excavator. • All movements controlled by dedicated Slinger/signaller(Red Helmet)	M
55T ALL Terrain Crane Stability	Site Team	H	• Plate bearing tests have been under taken at proposed berthing area. • Lift plan to be completed by Qualified Appointed Person	M
Operation of Excavator for lifting	Excavator Operator, Site Operatives, Slinger/Signaller, Lift Supervisor, Client Personnel	H	• Driver to be CITB approved level and have attended JNB (or similar approved) 'Lifting with excavators course'. • Lift plan to be completed by Qualified Appointed Person	L
Plant People segregation	Site team Clients personnel, Other contractors	H	• Follow "Working with and around plant "guidance notes • Slinger signaller to control plant operations at all times, ensuring the slinger does not entre Zone 2 when the machine is operating and not in a safe position (bucket down and dead man engaged) • Assess working area prior to entering to check if any additional control measures are required • Ensure walk ways and segregation fencing is maintained at all times. • Stop work and place the machine in a safe position if any staff or public entre zone 1 • Ensure plant is parked in a safe flat area overnight considering how to prevent the plant moving / slipping when not in use. • All operatives to approach a machine from the operators clear line of sight. • 'THUMBS UP' Procedure Followed	M

Working in or adjacent to Forth Estuary	Site team, public	H	• Adequate planning • Establish emergency procedures. • Work agreed with all Statutory bodies and Permit/Licences issued. • Use of harness fall arrest inertia reels. • Buoyancy aids to be worn. • Trained experienced personnel • Monitor weather reports • Selection of personnel • Tidal Data consulted with works to be planned accordingly	L
Working on a slope	Site Operatives	H	• Machines to only track up gradients that machine can manage • Incline of proposed slope to be no more than 45 degrees • Existing Access ramp to be amended prior to use by long reach excavator/crane • Excavators only to work in one plane unless safe to do so. Constant monitoring to operations. • No go zone to be created and marked out using pin & chain and ranging rods as dictated by TW Design for the crane pads.	M
Cable Strike / Damage to Existing Services	Site Operatives	H	• JNB to undertake initial site visit to ascertain whether service restrictions are visual • JNB to obtain and review latest service drawings and have copies available on site • Trained and competent person to scan area using a CALIBRATED cable avoidance tool (CAT and Genny), prior to excavation. Copy of calibration certificate to be available on site. • All underground services must be spray marked (or marker pegged) to identify the line and location of the service • Permit to dig system is to be implemented by where services cross or are reasonably anticipated within 3m of the footprint of the excavation • Site Supervisor to check Operatives are suitably trained and competent for task (SSSTS qualified to issue permits) • Existing live services – Hand dug trial holes to be undertaken when within the 0.5m Zone of a known Service. Horizontal dig technique to be utilised • JNB to comply with HSG47 guidance relating to underground power lines, if anticipated • JNB to consult service providers regarding any protection measures required to services, if appropriate • Excavators used to dig trial holes must be fitted with toothless buckets • Bucket lay down area to be signed and fenced off • Trial holes to be dug to determine presence of existing field culverts / land drains / other services, where anticipated	M

			• Work area to be securely fenced off to prevent unauthorised access • No GPR Survey required, as considered low risk in large open area. • .	
Over Head Cables	Site Team	H	• Goal posts to be erected under GS6 Permit. • Height Restriction signage to be erected. • All machine movements to be under slinger/signaller control.	M
Collapse of excavation	Site Operatives	H	• Permit to dig system in place • Daily excavation checks to be carried out and recorded • Weekly statutory excavation checks to be carried out and recorded on JNB Database • No trench to be left open overnight/weekend	M
Falls from height	Site Operatives	H	• Suitable edge protection to be installed around edge of excavation. • Adequate access and egress to be used and maintained into the excavation this will be by man rider in the first instance. • Preliminary fencing to be around excavation to eliminate unauthorised access	M
GENERAL				
Deliver, storage and collection of equipment/materials/ welfare	Site team, public	M	• Agree delivery points and off load location within site boundaries • Main access road to be kept clear at all times • All drivers to observe traffic warning signs on Access Road. • Safety rules to be on purchase orders with specific details as incorporated in the Traffic Management Plan • Drivers to contact site team prior to delivery • Provide banks-man • Specific Lifting Plans to be in place for unloading of Cabins with checks on hiab tickets • Competency checks to be carried out for all delivery and collection vehicles • Specific off-load and lay down areas to be established and communicated to the workforce. • Morning briefings to include the day's deliveries and collections. • All vehicle movements to be undertaken under supervision of a banksman. • In the turning area all vehicles to stop if pedestrians are in the vicinity and not move until they have vacated the area.	L
Use of plant – 25t	Site team	M	• OSS106 – Safe Use of Plant & Equipment	L

excavator and 55t all terrain crane			• Competency assessments • TBT 58 to be given to all non JNB and JNB who hold Red Card • Compliance with PUWER Regulations • Planned routes to be used with pedestrian segregation • Operators to be trained and competent • Speed limits • Banksmen provided for reversing operations • Stop blocks near excavations if required • Plant security • Golden Rules (seatbelts) • Suitably maintained equipment • Minimisation of tracking • Instruction to drivers re WBV controls • Follow Gen lift plan at all times • Wheeled dumper to have a designated route and exclusion zones. • All movements of the excavator/crane to be under constant supervision of slinger/signaller(Red Helmet) and must only travel over planned routes.	
Mechanical failure	Site operatives, Hired drivers	M	• Inspection of plant carried out daily and recorded as per JNB OSS • Test certs for machines. • Make site management aware of any faults. • Items of plant with faults that affect the operation of the machine should be shut down and quarantined until they have been repaired by a trained competent person	L
Soft / unstable ground	Plant Operators, Operatives	M	• No plant to access to areas of soft/unstable ground. • All movements on the Tailings Storage Area to be under supervision of slinger/signaller and keep to designated access tracks/crane pads • No personnel to access soft/unstable ground until it has been made safe to do so. Access tracks/staircase to be installed	L
Weather conditions with regards to plant and working	Clients personnel, Plant operators, Site team, Other contractors	M	• River levels to be monitored work to be suspended where deemed unsafe to continue operations. • 5 Day forecasts to be obtained to assist with forward planning and communicated in briefing • Wind speed to be checked	L
Interface with the public	Site team, public	M	• Control plant operations • Impose site speed limit and erect signs accordingly • Barrier segregation	L

			• Supervised operations • Liaise with public (first contact already made – open day to be arranged as soon as possible at site cabins) • Warning signs to be displayed at shared points along the Access Road	
Removal of existing fencing, erecting Heras fencing and site signage	Site team	M	• Manual handling guidelines to be adhered to.- Manual handling training required. Due to size of each panel, 2 men will be used to remove and stack existing panels and to erect temporary Heras panels. Use wheel barrow to reposition metal fencing, sand bags, Heras feet (if required) • Existing poles to pulled out using 360 excavator. • Fencing to be delivered close to area of work • Minimise ground damage by using plant on dedicated route. Should damage occur to the entrance track then it will need to be maintained/stoned up ensuring no trip hazards are left for the public • Correct tools in good condition to be used for installation operations. Existing fencing security clamp key to be obtained and used. • All fencing to be double clipped as per manufacturer's instructions • The site may be prone to windy conditions. Movement of fence panels must stop if wind is strong.	L
Flooding/ Drowning	Site team	M	• Weather forecast to be checked daily and monitored. • Tide data to be checked daily and monitored • If the sea level rises or fast flowing then works will be suspended and operatives removed from work area • Demarcated fencing/barriers to be erected. • Ensure that no lone working is undertaken. • Life vests to be available when working in / close to water by trained competent personnel • Life buoys to be available close to working area	L
'HIGH FREQUENCY, LOW RISK'				
Slips, trips & falls	Site team Clients personnel, Other contractors	L	• Keep walk ways clear • Work areas to be tidy • Dedicated Material storage area to be accessible • Pedestrian walkways to be installed where possible • Non slip boots/wellingtons as per JNB specification	L
HAZARDS TO HEALTH (E.g. Noise / Vibration / Respirable Hazards / COSHH)				
Work activity creating noise	Site team, public	M	• Reduce noise levels as far as possible (selection of equipment, enclosure, segregation etc)	L

			• Provide adequate hearing protection • Regular health checks (hearing)	
Work activity creating vibration	Site team, public	M	• Eliminate the task • Provide alternative less harmful equipment • Job rotation • Provide HAV Calculator • Authority to operate plant • Toolbox talks • Assess surrounding land	L
Working in areas where the risk of occupational health diseases/infection exist – Weils Disease	Site team, public	M	• Provision of welfare facilities • Induction training awareness • Observe good hygiene rules • Maintenance of welfare facility • Abrasions/cuts to be covered at all times • Tool box talks to be undertaken (Weils Disease) • Notices/advice to be displayed on Notice Board	L

Section 2 - Risk Assessment - Environmental

SEVERITY	Category 1 Harm	MEDIUM	HIGH	VERY HIGH	VERY HIGH
	Category 2 Harm	LOW	MEDIUM	HIGH	VERY HIGH
	Category 3 Harm	LOW	MEDIUM	MEDIUM	HIGH
	Category 4 No Harm	LOW	LOW	MEDIUM	MEDIUM
J N Bentley Risk Matrix		Remote	Possible	Likely	Very Likely
		PROBABILITY			

Environmental Aspect	Environmental Impact	Risk level	Control Measures	Residual risk
Note: list in descending order of risk level				
'SHOW STOPPERS' (Initial Risk Level Very High or High)				
Mobile plant	Fuel or oil spill contaminating land or entering watercourse/sea	H	• Plant to be refuelled in yard/depot where possible • Plant to be on drip tray/ interceptor • Spill kit available on site. • Plant to be inspected for possible leaks before use • Fuel storage tanks to be self-bunded	L
Waste	Site operatives	H	• All transfer notes to be collected and given to site manager • All hazardous wasted to be separated and placed in correct skips/bins	L
Evasive Species	Further Contamination	H	• Management Plan to be implemented	L
OTHER RISKS (Initial Risk Level Medium or Low)				

Wind blown waste/litter	litter blowing around site	M	• Site specific waste management plan developed • Waste streaming introduced • Enclosed/covered skips and bins provided	L
Damage to flora / fauna	Destruction of habitat	M	• Care to be taken not to damage any existing vegetation.	L
Noise pollution	Nuisance to Operatives/ Neighbours.	M	• Regular noise monitoring to take place and the need for silenced plant to be assessed • Silenced plant where possible • Additional acoustic barriers to be installed	L

Section 3 - Risk Assessment - Quality

SEVERITY	Severe	MEDIUM	HIGH	VERY HIGH	VERY HIGH
	Moderate	LOW	MEDIUM	HIGH	HIGH
	Minor	LOW	LOW	MEDIUM	MEDIUM
J N Bentley Risk Matrix		Remote	Possible	Likely	Very Likely
		PROBABILITY			

Quality Aspect	Quality Impact	Risk level	Control Measures	Residual risk
Note: list in descending order of risk level				
'SHOW STOPPERS' (Initial Risk Level Very High or High)				
Reinstatement	Breach planning consent	H	• Engineering control	L
OTHER RISKS (Initial Risk Level Medium or Low)				
CDM Boundary fence	Integrity of fence security	M	Daily end of day inspection that all clips (doubled clipped) are secured.	L
Erection of site notices and signs	NOT ADEQUATE	M	Daily end of day inspection to be carried out, new signs to be erected, maintain existing signs	L

Section 4 Vibration and Noise from Plant / Equipment / Tools

The following plant, equipment and power tools will be used during the course of this activity. Figures for noise and vibration output are in-use figures provided by the manufacturer, supplier or hirer.

Hand Arm Vibration (HAVS) this table should be viewed in conjunction with the "HAVS Calculator" for details of cumulative use

Where vibration exposure times are calculated these will be based on the **2.5m/s^2 (100 points)** exposure limit value **(ELV)**

Source of Hand Arm Vibration	Specific Use	Weighted Acceleration (m/s²)	Maximum Permitted Exposure Time (mins)	Anticipated Daily Exposure Time (mins)

Whole Body Vibration (WBV) from Mobile Plant

Plant to be Used	Person Affected	Control Measures
25t excavator	Operator	Seat adjusted to suit the driver. Only use well maintained haul roads Minimise the length of time operating the machine Spend breaks out of machine Only use plant that is maintained in good order and serviced regularly Ensure tyres, where applicable, are not worn & at the correct pressure Comply with the JNB Working Time Policy
50t r crane	Operator	

All plant operating on JN Bentley sites must have a manufacturer's provided exposure limit value (ELV) =/< 1.15m/s² (see manufacturer's instructions / manual)

Noise: For noise levels above 85 dB(A) hearing protection MUST be worn

Plant Tool and Equipment noise also affects people working adjacent to the operator: Keep a safe distance or wear ear defenders

Noise Source	Specific Use	Noise Level dB(A)	Hearing Protection (Y/N)
25 T Tonne Excavators	Moving material	Less than 85dba	N
50T Crane	Lifting	Less than 85dba	N

Section 5 Hazardous Substances

The following substances will be used or may be encountered during this activity. Detailed COSHH assessments are held in the site safety file; the control measures required will be briefed to the personnel involved prior to work commencing.

Hazardous Substance	COSHH Assessment Ref	Precautions / Risk Controls
Gasoil	02	Gloves to be worn. See COSHH data sheet
Aggregates	48	Avoid dust were possible, Wear specific ppe
Hydraulic and engine oil	98	Avoid watercourses, Have spill kits available
Grease	193	Avoid watercourses, Have spill kits available

Is a Methodology required?	Yes	No
Following the detailed assessment of Hazards, risk and control measures, is a written Methodology required?	**Y**	

If the answer is **No** the severity and consequence of an injury, environmental or quality incident must be low and control measures in the form of Site Rules, Golden Rules etc must be sufficient and adequately briefed to those involved in the task.

If a written Methodology is not required then omit Section 9 (Approach / Methodology), only.

Method Statement

Section 6 Scope of Works

This RAMS will cover the following activities:

1. Removal of Mine Pipe works & Pumps
2. Removal of Control Kiosk
3. Removal of 355mm hdpe pipe underground and reinstatement
4. Removal of Break Chamber and reinstatement
5. Removal of Legato block kentledge
6. Removal of overland 355mm hdpe pipe
7. Access Ramp Reinstatement

Section 7 Related Documentation

This method statement is to be read in conjunction with the following documents:

Site Management Drawing
Traffic Management Plan
COSHH assessment sheets
Temporary Works Design as required
Technical Note on Slope Stability issued by MM
Lift plans for the specific plant to be available to all operatives involved in lifting and the Site Health & Safety File
Manufacturer's instructions / hirers notes provided with plant and equipment
Personal Safety and commercial responsibilities
Manufacturers' instructions / hirers notes

- J N Bentley OSS/Safe System of Work
  - 001: compliance with site and golden rules
  - 002: Preparation, communication and use of RA/MS
  - 003: Incident reporting and investigation
  - 004: Preparation and issue of permits to work
  - 101: Excavations
  - 102: Lifting operations using cranes and excavators
  - 106: Safe use of plant and equipment
  - 108: Safe working in confined spaces
  - 109: Safe use of working at height equipment
  - 110: Falsework and formwork
  - 111: Avoidance of overhead and underground services
  - 113: Managing and using hazardous substances
  - 116: Fire Safety

Section 8 Critical Pre-start Activities

Prior to work commencing on the activity, the following items must be completed:

- All Statutory Permits/Licences in place
- Welfare Facility /compound in place.
- Delivery of Plant/equipment to be used
- Disconnection of and removal of temporary generator & fuel tank
- Removal of security system

Section 9	Approach / Methodology

After completion of all the above pre-start activities, work will commence following the procedure below. If at any point something changes which requires amendments to the following procedure, work must be stopped and the risk assessment reviewed and methodology rewritten. Under no circumstances must work be carried on outside of this procedure.

To Maximise efficiencies the sequence of works below will change depending on the Tidal Data at the time of the works being carried out

Removal of Mine Pipe works & Pumps

- A Qualified electrician will disconnect the power/control cables from the two pumps running to the Control Kiosk.
- 55T All Terrain crane will then be installed in the prescribed berthing position and rigged as per the Lift Plan
- Dismantling of the mine head pipes works will then begin.
- A combination of hand tools and the crane will be used to carry out this operation.
- Pump1 will be secured onto the crane and then the mechanical clamps will be removed.
- The pump will then be lifted out of the shaft by the crane and placed on the floor where the pump hose will then be coiled ready for collection.
- Pump 2. will be secured onto the crane and then the mechanical clamps will be removed.
- The pump will then be lifted out of the shaft by the crane and placed on the floor where the pump hose will then be coiled ready for collection
- On removal of the pumps the opening in the head beam will be secured by a galvanised plate which will be bolted down to the head beam.
- The opening in the perimeter fence where the pipe went through will be secured.
- The removed pipes/valves/flow meter and the pumps will then be lifted onto a wagon by the crane for delivery to the Frances Shaft compound.

Removal of Control Kiosk

- All cables/earthing rods will be removed and placed in the Control Kiosk.
- The Control Kiosk will then be lifted onto a wagon using the lifting points on the kiosk by the crane.
- The Control Kiosk will then be transported to Frances Shaft Compound.

Removal of 355mm hdpe pipe underground and reinstatement

- The line of the pipe will be marked out.
- The excavator will excavate starting at the pipe cap.
- A length of trench will then be excavated.
- A sling will be placed around the pipe and then the pipe will be pulled up onto the ground.
- The pipe will then be cut into 6m lengths and stored at a designated area ready for collection
- As the pipe is removed the area will then be backfilled and the ground profiled to tie in to the surrounding area
- This process will continue up to the break chamber.
- After the removal of the break chamber the section of pipe buried in the Access Ramp to the beach will be removed.

Removal of the Break Chamber.

- The Break chamber will be demolished by a hydraulic breaker fitted to the excavator.
- On completion the debris will be placed into skip for disposal off site at a Licenced Facility.
- The area will then be regraded using the arisings from the installation of the Chamber which are stockpiled adjacent to the chamber

Removal of Legato block kentledge

- **These works can only be carried out during the tide windows.**
- A 25t excavator will access the beach by traveling down the previously installed ramp. It will be checked for any oil/fuel leaks and the tracks will have been cleaned out prior to accessing the ramp. The excavator will be removed from the beach at the cessation of work daily.
- The large boulders at the bottom of the ramp will be moved. These will be replaced on completion of works on the beach to act as bank protection.
- The lifting points on the Legato blocks will be assessed. If unusable a tested eye bolt will be installed into the legato block using a cordless drill.
- The legato blocks will then be attached to a deha/d shackle and lifted off the pipe and will then be transported to the bottom of the ramp.
- A second 25t machine will then transport then up the bank to a designated storage area ready for collection.
- This process will be carried out for all 42 blocks that were installed.
- On completion the legato blocks will be loaded onto wagons for disposal at a Licenced Facility.

Removal of overland 355mm hdpe pipe

- **These works can only be carried out during the tide windows.**
- The pipe will be will be secured to the 25t excavator at the bottom of the Access Ramp.
- The pipe will then be pulled up the beach in 10m lengths. At this point the pipe will be cut into 6m lengths.
- The second 25t excavator will then transport the pipes to a designated area ready for collection.
- This process will continue until all the pipe has been removed.
- The excavator will be removed from the beach at the cessation of work daily.
- On completion the pipes will be loaded onto wagons for disposal at a Licenced Facility

Access Ramp Removal

- On completion of the works on the beach. The large boulders will be replaced along the bottom of the ramp.
- The ramp will then be filled in using the stockpile material from the installation which is stored either side of the ramp.
- The ground will be profiled to match the adjoining areas.

Stone Facing to Legato Block Wall

- Access to the work area will initially be the temporary staircase and walkway.
- A proprietary working platform will be installed. This will be moved and height added as required. This platform will be removed from the river at the end of every day or if the river velocity increases.
- Masonry slots will be fixed onto the front of the legato block wall (riverside) with masonry bolts.
- Cut stone approximately 100mm thick will then be built up to a predetermined level for the day
- Materials will be lifted into position by the crane under the control of the slinger/signaller.
- Work will continue until the legato blocks have been fully covered with the stone facing blocks.
- **The new blockwork wall is not to be tied into the existing wall at either end but finish flush with the edge of the Legato blocks.**

Backfilling behind the retaining wall.

- Once the block wall has been completed the wall is to be backfilled.
- The Tailings which were removed and stockpiled will be used to backfill behind the wall.
  - The backfilling will carried out in accordance with the Contract Specification MMD-00-XX-DR-C-6000-6007CONB)
  - The long reach excavator will carry out this function.

Delivery of Shoring plant, walkways, legato blocks

- The crane will position itself on the crane pad specifically built for the unloading of plant/materials.
- The delivery vehicle will be marshalled into the designated delivery vehicle unload area
- The crane will then unload and place on the Tailings area at the previously designated area.
- The direction of the crane when unloading will be shown in the Lift Plan.

Excavation/Initial Reconstruction of the Downstream Area Tailings Wall

- The area to be excavated initially will be marked out by the engineer.
- This will be supervised by a banksman who will be located in a man riding basket attached to the crane at a point where the works are visible and so that there is no clash of the crane/excavator
- **THE POSITION OF THE MANRINDING BASKET AND THE SWING DIRECTION OF THE EXCAVATOR TO BE INCLUDED IN THE LIFT PLAN. DISCUSSED AS A REMINDER IN THE MORNING BRIEFING AND TO BE UNDER THE CONTROL OF A SIGNALLER/SLINGER FOR ALL SIDEWAYS MOVEMENTS**
- The excavation will then commence with the slope along of the edge of the whole of the excavation being removed and stored in a temporary storage area. It may be necessary to move these arisings using a tracked dumper.
- On completion of this the excavation will then commence at the base of the wall approximately 1.6m towards the bank over a 8.5m width When sufficient arisings have been excavated from the front of the excavation blinding concrete will be poured to provide a level base for the legato block installation. It may be necessary to move these arisings using a tracked dumper.
- A two man team will then be lifted into the bottom excavation via the man riding basket, they will be wearing harness and have a lanyard that is to be attached to the man riding basket at all times when the man riding basket is in use. If deemed prudent due to increased flows in the river buoyancy aids are to be worn. The man riding basket will be detached and left at the lower level.
- The man riding basket will provide access/egress for this part of the operation
- The Site Engineer will set out the front line of the Legato blocks with toe for the blinding
- Concrete blinding will be poured using the bucket of the long reach machine. This machine will be fed concrete by the 21t excavator taking delivery at the top of the ramp and placing in a predetermined position on the TSF.
- After the blinding concrete curing the legato blocks will be installed as per Construction Design (MMD-00-XX-DR-C-6001-6007CONC) in this section 3 blocks high.
- The area behind the legato bloc will be excavated as per construction Drawings/sequence and concrete poured.
- The Remainder of the installation will be as per sequence contained on Construction Drawings MMD-00-XX-DR-C-6001-6007CONC

Installation of Temporary Access

- Once the first concrete block has been cast fully a temporary access is to be constructed.
- The area of the access will be graded by the excavator to an acceptable rake.

- A proprietary stair case will be installed and the bottom touching the top of the concrete block this will be secured at the top. This will be carried out by operatives who will be wearing harness' and attached inertia reel fall arrest block which itself will be attached to the crane.
- Whilst still attached the operatives will walk down the stair case and secure the staircase to the concrete block.
- After installation of the stair case a walkway with side rails will be placed on top of the concrete block from the bottom of the stairs and secured
- Once the walkway is in place a small podium step will be placed at the end of the walkway for access to the bottom of the work area.
- **This staircase/walkway/podium step will now be the access to the bottom of the work area. With the man rider still being available as and when required.**

Stone Facing to Legato Block Wall

- Access to the work area will initially be the temporary staircase and walkway.
- Proprietary platforms will be used
- Masonry slots will be fixed onto the front of the legato block wall (riverside) with masonry bolts.
- Cut stone approximately 100mm thick will then be built up to a predetermined level for the day
- Materials will be lifted into position by the crane under the control of the slinger/signaller.
- Work will continue until the legato blocks have been fully covered with the stone facing blocks.
- **The new blockwork wall is not to be tied into the existing wall at either end but finish flush with the edge of the Legato blocks.**

Backfilling behind the retaining wall.

- Once the block wall has been completed the wall is to be backfilled.
- The Tailings which were removed and stockpiled will be used to backfill behind the wall.
  - The backfilling will carried out in accordance with the Contract Specification MMD-00-XX-DR-C-6000-6007CONC)
  - The long reach excavator will carry out this function.

Excavation/Initial Reconstruction of the Downstream Area Tailings Wall

- The area to be excavated initially will be marked out by the engineer.
- This will be supervised by a banksman who will be located in a man riding basket attached to the crane at a point where the works are visible and so that there is no clash of the crane/excavator
- **THE POSITION OF THE MANRINDING BASKET AND THE SWING DIRECTION OF THE EXCAVATOR TO BE INCLUDED IN THE LIFT PLAN. DISCUSSED AS A REMINDER IN THE MORNING BRIEFING AND TO BE UNDER THE CONTROL OF A SIGNALLER/SLINGER FOR ALL SIDEWAYS MOVEMENTS**
- The excavation will then commence with the slope along of the edge of the whole of the excavation being removed and stored in a temporary storage area. It may be necessary to move these arisings using a tracked dumper.

- On completion of this the excavation will then commence at the base of the wall approximately 1.6m towards the bank over a 8.5m width When sufficient arisings have been excavated from the front of the excavation blinding concrete will be poured to provide a level base for the legato block installation. It may be necessary to move these arisings using a tracked dumper.
- A two man team will then be lifted into the bottom excavation via the man riding basket, they will be wearing harness and have a lanyard that is to be attached to the man riding basket at all times when the man riding basket is in use. If deemed prudent due to increased flows in the river buoyancy aids are to be worn. The man riding basket will be detached and left at the lower level.
- The man riding basket will provide access/egress for this part of the operation
- The Site Engineer will set out the front line of the Legato blocks with toe for the blinding
- Concrete will be unloaded by the 21t excavator and placed in the tracked dumper body.
- The tracked dumper will then travel to the long reach machine.
- Concrete blinding will be installed using the bucket of the long reach machine which will collect the concrete from the body of the tracked dumper.
- After the blinding concrete curing the legato blocks will be installed as per Construction Design (MMD-00-XX-DR-C-6008-60011CONC) in this section 3 blocks high.

- The area behind the legato bloc will be excavated as per construction Drawings/sequence and concrete poured.
- The Remainder of the installation will be as per sequence contained on Construction Drawings MMD-00-XX-DR-C-6008-60011CONC

Installation of Temporary Access

- Once the first concrete block has been cast fully a temporary access is to be constructed.
- The area of the access will be graded by the excavator to an acceptable rake.
- A proprietary stair case will be installed and the bottom touching the top of the concrete block this will be secured at the top. This will be carried out by operatives who will be wearing harness' and attached inertia reel fall arrest block which itself will be attached to the crane.
- Whilst still attached the operatives will walk down the stair case and secure the staircase to the concrete block.
- After installation of the stair case a walkway with side rails will be placed on top of the concrete block from the bottom of the stairs and secured
- Once the walkway is in place a small podium step will be placed at the end of the walkway for access to the bottom of the work area.
- **This staircase/walkway/podium step will now be the access to the bottom of the work area. With the man rider still being available as and when required.**

Stone Facing to Legato Block Wall

- Access to the work area will initially be the temporary staircase and walkway.
- Proprietary platforms will be used
- Masonry slots will be fixed onto the front of the legato block wall (riverside) with masonry bolts.
- Cut stone approximately 100mm thick will then be built up to a predetermined level for the day
- Materials will be lifted into position by the crane under the control of the slinger/signaller.
- Work will continue until the legato blocks have been fully covered with the stone facing blocks.
- **The new blockwork wall is not to be tied into the existing wall at either end but finish flush with the edge of the Legato blocks.**

Backfilling behind the retaining wall.

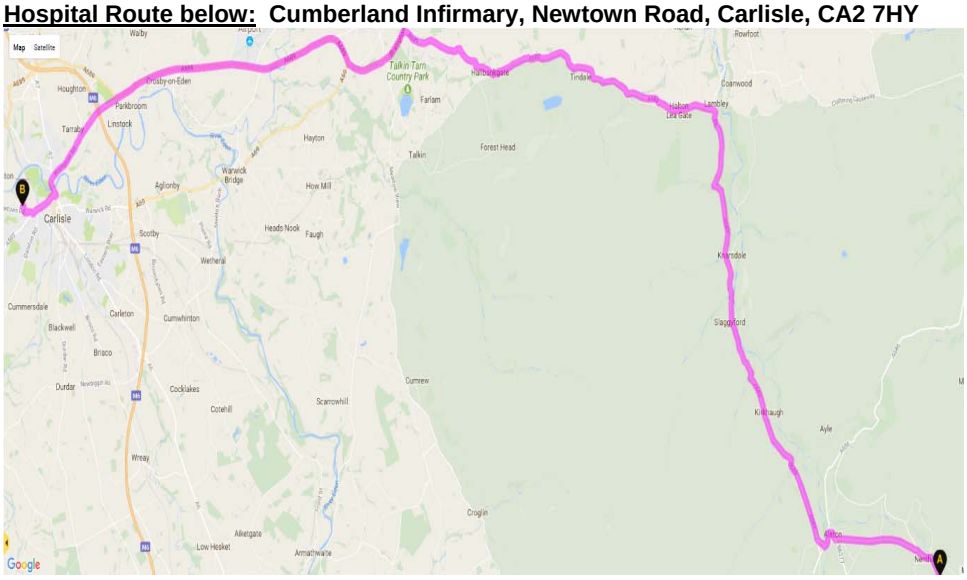
- Once the block wall has been completed the wall is to be backfilled.
- The Tailings which were removed and stockpiled will be used to backfill behind the wall.
  - The backfilling will carried out in accordance with the Contract Specification MMD-00-XX-DR-C-6008-60011CONC)
  - The long reach excavator will carry out this function.

Section 10	Emergency procedures
Certain activities will require the development of specific emergency procedures. Examples include confined space entry, working from MEWP/MCWP, roof work, working in proximity to overhead power cables, working in areas that are hazardous to health e.g. presence of substances/chemicals whether they are present as part of Client operations or as part of our activities. This section shall be completed in these events and shall contain details of the procedure to be followed, the names of responsible persons, their roles and contact numbers/details	
Procedure in response to a Safety Incident	

In the event of a General Emergency / Injury:

- Inform site management **(Nick Hoctor 07580851559)** in the first instance. First aider to administer first aid if minor injury. If more serious call emergency services 999 (112 mobile) or arrange for Injured Person to be taken to A&E (hospital route in site QES pack.)

Hospital Route below: Cumberland Infirmary, Newtown Road, Carlisle, CA2 7HY



In the event of injured persons need recovering from to ground level.

- Inform site management **(Nick Hoctor 07580851559)** in the first instance
- First Aider to Assess safe access/egress a stretcher is to be lowered into the bottom of the works by either crane or taken down access staircase First aider to administer first aid if minor injury. If more serious call emergency services 999 (112 mobile) or arrange for Injured Person to be taken to A&E (hospital route in site QES pack.)

In the event of personnel falling into a watercourse:

- Only trained personnel on site to carry out the following:

1. 1 person to take charge of the situation from the embankment (Organise/supervise) - Call emergency services 999 (112 from mobile) (Hazardous Area Response Team (HART)) after calling the emergency services he / she is to delegate the following:

   - 1 person to carry out casualty care (calm / reassure) & immediate rescue (self, rope or pole rescue only (if available))
   - 1 person downstream to carry out rope or pole rescue only (Shout & throw only), if available
   - 1 person upstream to debris spot & prevent boats entering that may cause more danger, if applicable.

2. Remaining people on site are to assist in keeping crowd back to prevent people entering dangerous waters, guide emergency services, assist person carrying out casualty care, assist person attempting to carry out downstream rescue.

********** UNDER NO CIRCUMSTANCES SHALL ANYONE ENTER THE WATER TO ATTEMPT RESCUE **********

Procedure in response to an Environmental Incident

If a fuel spillage or hydraulic hose burst occurs:

- The spillage should be contained to the immediate area by the use of soils and the Spill kits should be deployed to absorb the spillage where possible. The Site Agent **(Nick Hoctor 07580851559)** or Supervisor should be summoned to advise of the appropriate course of action to clear the spillage and arrange for the contaminated materials to be correctly disposed of. The EA hotline will be contacted on **0800 807060** to report any spillage or incident

- Silt netting to be installed prior to the installation. Adequate additional silt netting to be available to deploy downstream of the works in an emergency

In the event of a major environmental incident, Operations Manager, Contracts Manager or Lead QES Advisor ONLY are to contact Specialist Environment Clean up Sub-Contractor Alder & Allan (available 24/7 365 days a year) (0800 592827)

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Procedure in response to a Fire

In the event of a Fire:

All Site Personnel will evacuate to the Assembly Point till Emergency Services arrive. The Fire Marshall **(Nick Hoctor 07580851559)** will then undertake a "role call". If the Fire is able to be put out by site fire extinguishers or soils to snuff out without placing Operatives or Plant in jeopardy, this may be actioned. The Site Manager **(Nick Hoctor 07580851559)** / Supervisor should be summoned immediately in the event it can't be controlled.

Procedure in response to other Activity Specific incidents

Section 6d –Uncontrolled Land slip during Construction Activities

- Batters/slopes to be visually checked everyday before loading crane pad.
- Watching brief of the Batters to be constant whilst construction activities are ongoing.
- Crane/excavator to be positioned as far back as possible on the Crane pad
- Any movement/cracking of batters witnessed **Alarm Call** to be given.
- **If deemed safe All plant to be removed as far back as practically possible otherwise all plant operators are to egress their machines immediately and move to the Access Ramp**
- **All operatives in the excavation shall retreat upstream of the works to the far bank.**
- **All operatives on the top of the TSF to retreat to the Access Ramp**.
- **No plant/operatives are to return to the areas until given the All Clear** by the Site Management (This after consultation with Specialist Advice)
- **In the event that there is a significant collapse which has infiltrated the River Allen Operations Manager, Contracts Manager or Lead QES Advisor ONLY are to contact Specialist Environment Clean up Sub-Contractor Alder & Allan (available 24/7 365 days a year) (0800 592827)**

Section 11 Personal Protective Equipment

In accordance with Company site rules, personnel must wear hard hats, safety boots and high visibility jackets / vests and gloves at all times in work areas. On some of our Frameworks; light eye protection is also mandatory. In addition to mandatory PPE; the work covered by this method statement also requires:

Light eye protection	Y	Face fitted RPE		Waterproofs	
Medium impact goggles		Safety wellingtons		Life Jacket / Preserver	Y

Hi-viz jacket / vest (yellow)		Harness	Y	Gauntlets	
Ear plugs		Restraint Lanyard		Cut resistant gloves	
Ear muffs		Fall Arrest inertia block	Y	Other (describe)	
Other (describe)		Other (describe)		Other (describe)	

Section 12 Permits to Work
The following Permits to Work will be required for this activity (refer to OSS 004);
Permit to Dig
Permit To Load(Crane Pad)

Section 13 Labour		
The following labour resources are expected to be utilised during the course of this activity.		
Job Title / Designation	Number	Specific Training / Competence Required
General Foreman	1	SMTS First Aid
Lead Hand	1	CSCS
Machine OP	1	CSCP
Operative	2	CSCS, Slinger/Signaller
Crane op	1	CSCP

Section 14 Management and Supervision

Implementation of the approach / methodology and various risk control measures identified in this risk assessment and method statement will be monitored by the Site Supervisor with the assistance (where applicable) of the Site Engineer / Works Manager / Foreman / Lead Hands. Details as below:

Site Supervisor Name:	Nick Hoctor	**Role**	Site Agent

Section 15. Briefing

Before any work commences, the Site Supervisor will ensure that a briefing is provided for all personnel involved in carrying out this work activity.

The work activity briefing is intended to be a two-way process and all operatives are expected to challenge the proposed approach, particularly if they feel that a safer and more practical work method can be adopted.

All personnel will sign below to confirm that they understand the content of this risk assessment and method statement.

Name (Print)	Name (signature)	Company	Date

Section 16 Management of Change Record

Date	Details of change to methodology / environment	Additional Hazards and Control Measures documented in RA (Sections 1 / 2 / 3) **(Y / N)**	Changed Approved by **(sign)**

31/05/18	Change of methodology due to ground conditions encountered	Control measures added in Emergency Response Section	