



Appendix E – Hazard Assessments

Operation / Task:	Site Establishment & Loading/Unloading	Assessment Ref / Rev:	GI_HA 03	Prepared by:	SJCollerton	Date:	01/12/2014
Location:	Site	Department:	Foundations-Ground Improvement	Revision	A	Review	01/12/2015

H&S Consequence, C	Env. Consequence, C	Likelihood, L	Severity	Acceptance Criteria
1 Minor Injury	1 Minor Impact / operational delay	1 Improbable	1	Red - Intolerable take immediate action
2 First Aid injury	2 Community complaints	2 Remote	2	Yellow - Tolerable with additional controls
3 Major injury	3 Major Impact	3 Possible	3	Green - Tolerable no further action required
4 Permanent Consequence	4 Legal Consequence	4 Probable	4	
5 Potential Fatality	5 Major impact and cost	5 Almost Certain	5	

Task	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note:					All plant operators are to be CPCS certified. All hand tools shall be visually inspected for damage prior to use. PPE is to be worn at all times. Hi-vis vests, hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fueling), protective footwear to EN 345, eye protection to EN 166 (light eye protection), head protection to EN 397. The Construction Manager or appointed representative is to visit site prior to mobilisation to ensure all requirements are in place and to complete a site hazard assessment.					
A Access and Egress to and from site											
A1	Parked Cars and pedestrians	Third party property and pedestrians	4	3	12	The Supervisor is to liaise with the Main Contractor to ensure that access roads including, if necessary, public roads are clear of any obstacles before the transport arrives at site. All movement is to be controlled by trained banksmen. If public highway traffic control is required this must be carried out by the Main Contractor. Pedestrian walkways across the site access are to be closed during the arrival of transport.	4	1	4	Site supervisor, Main Contractor	Construction Manager
A2	Adverse Ground	All Persons	3	3	9	Construction Manager or appointed person is to assess the platform on the pre mobilisation visit and record any improvements required on the site hazard assessment. The site supervisor is to confirm that the platform has not changed/requirements have been implemented prior to transport arrival.	3	1	3	Site supervisor	Construction Manager
A3	Vehicle movements on site	All site persons	3	4	12	All vehicle movements on site are to be controlled by a certified competent banksman. All nonessential persons are to be kept clear of all vehicle manoeuvres. High visibility clothing is to be worn at all times.	3	1	3	Site supervisor	Construction Manager
A4	Vehicle movements off site	All Persons	4	4	16	All vehicle movement control when off site is to be controlled by competent persons. If it is required to control live traffic this must be arranged by the Main Contractor and identified at the pre-mobilisation visit.	4	1	4	Site supervisor, Main Contractor	Construction Manager
B Loading and unloading plant and equipment											

Risk	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note:					All plant operators are to be CPCS certified. All hand tools shall be visually inspected for damage prior to use. PPE is to be worn at all times. Hi-vis vests, hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fueling), protective footwear to EN 345, eye protection to EN 166 (light eye protection), head protection to EN 397. The Construction Manager or appointed representative is to visit site prior to mobilisation to ensure all requirements are in place and to complete a site hazard assessment.					
B1	Damage from incorrectly positioned or secured plant and equipment on transport	Third party property	4	3	12	The loading of all plant and equipment is to be as per the contract specific transport arrangements. The correct notification for all loads is to be supplied to the relevant authorities by the Contract Manager. All loads are to be secured and checked prior to movement. It is the responsibility of the transport operator for the safety and securing of equipment. Keller operatives are to co-operate fully during loading and unloading.	4	1	4	Site supervisor, transport operator	Supervisor
B2	Machine tipping, sliding and runaway transport	Operator and persons nearby	3	4	12	Plant is to be operated by authorised CPCS trained persons only. The plant is to back on and off the transport under the guidance of a trained competent banksman. Rubber mats are to be used when metal tracks could come into contact with metal on the truck bed. Plant is to be unloaded on a suitable and adequate area that is firm and level, this is to be agreed at the pre-mobilisation visit, recorded on the site hazard assessment and confirmed by the site supervisor upon arrival.	3	1	3	Rig operator, transport company and supervisor	Supervisor
B3	Fire	Loading crew	3	3	9	Flammable materials are to be stored away from machine. A fire extinguisher suitable for the material is to be available and have been inspected within 12 months.	3	1	3	Supervisor	Supervisor
B4	Noise exposure	Crew and others nearby	4	4	16	Noise levels for all operations have been assessed. All plant with a Laeq of 85Db(A) have mandatory ear protection zone signage. Ear protection available and issued to operatives. Where reasonably practicable, noise reduction methods will be used i.e acoustic blankets.	4	1	4	Construction manager, supervisor and Plant dept	Supervisor, Construction Manager
B5	Contact with overhead power lines	Loading crew	5	3	15	Area for unloading plant is to be free from overhead lines. This is to be agreed at the pre-mobilisation visit, recorded on the site hazard assessment and confirmed by the site supervisor upon arrival.	5	1	5	Construction manager, supervisor	Supervisor
B6	Inadequate lighting	Loading crew	3	3	9	Contract Manager is to ensure that adequate lighting is provided if required after consultation with Construction Manager following pre-mobilisation visit, this is to be recorded on the site hazard assessment. Site supervisor to confirm lighting is adequate.	3	1	3	Contract manager, construction manager and supervisor	Supervisor

Risk	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note:					All plant operators are to be CPCS certified. All hand tools shall be visually inspected for damage prior to use. PPE is to be worn at all times. Hi-vis vests, hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fueling), protective footwear to EN 345, eye protection to EN 166 (light eye protection), head protection to EN 397. The Construction Manager or appointed representative is to visit site prior to mobilisation to ensure all requirements are in place and to complete a site hazard assessment.					
B7	Fall of ancillary equipment and cabins	Loading crew	3	4	12	In general all ancillary equipment and the site cabin will be lifted with 411 loading shovel. All operators are to be authorised and CPCS certified. The 411 is to have been thoroughly inspected and certified within 12 months of use. When lifting the operator is to ensure that the quick hitch is correctly located within the equipment lifting cleats. Whilst moving around the site the load is to be kept as close to the ground as possible. If other plant is used such as forklift, all operators are to be authorised and certified and plant inspected as above.	3	1	3	Plant operator	Supervisor
B8	Manual Handling	Loading crew	2	4	8	Manual handling is to be reduced by the use of mechanical means, 411/forklift. All operatives are to have received manual handling training.	2	1	2	Operatives, site supervisor	Supervisor
B9	Collision with persons	Site workers	3	4	12	All plant movements are to be controlled by a trained certified banksman. All non-essential persons are to be kept clear of the works area. In confined spaces a dedicated operative will be deployed to prevent access to non essential persons. Critical area for slewing to be identified leaving a gap of 600mm. Smaller gaps are to be fenced off.	3	1	3	Plant operator, banksman and site supervisor	Supervisor
B10	Fall from bed of transport	Loading crew	4	4	16	Due to the methods of normal unloading with the 411, access to the rear of the transport should not be required. If it is a means of access egress is to be provided to the transport bed (built-in access steps or a short ladder with fixing points or similar). Edge protection must be provided and be fixed in place prior to access. Dedicated platform or edge matting can be provided if edge protection unavailable.	4	1	4	Operatives, site supervisor	Supervisor
C Use of lifting equipment attached to lorry e.g. lorry loader.											
C1	Lifting equipment failure caused by deterioration.	Operator / site staff	5	3	15	Supervisor to inspect 12-monthly and an inspection certificate for the lifting equipment, also 6-monthly certificates for the lifting accessories.	5	1	5	Operator / Banks man / Supervisor	Supervisor / Dept. Manager
C2	Failure caused by misuse of operator.	Operator / site staff	5	3	15	Supervisors to ensure that operator has a current appropriate training certificate, CITB CPCS or an FTA or RTITB.	5	1	5	Operator / Banks man / Supervisor	Supervisor / Dept. Manager
C3	Ground failure.	Operator / site staff	5	3	15	Supervisors to ensure that ground is suitable. Outriggers, if fitted must be used.	5	1	5	Operator / Banks man /	Supervisor / Dept. Manager
D Crane work.											
D1	Working with a crane.	Operator / site staff				Refer to Hazard Assessment for working with a crane at work.				Operator / Banks man / Supervisor	Supervisor / Dept. Manager
E Electrical connections of cabins and other plant.											

Risk	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note:					All plant operators are to be CPCS certified. All hand tools shall be visually inspected for damage prior to use. PPE is to be worn at all times. Hi-vis vests, hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fueling), protective footwear to EN 345, eye protection to EN 166 (light eye protection), head protection to EN 397. The Construction Manager or appointed representative is to visit site prior to mobilisation to ensure all requirements are in place and to complete a site hazard assessment.					
C1	Electrocution	Electrician	5	2	10	Inspection certificates for internal wiring, plugs and appliances are to be provided when the cabin and its appliances are delivered. All electrical systems shall be installed by the company electrician or by a qualified electrical contractor. On completion of the installation a certificate of installation will be completed. User checks, formal visual checks and combined inspections and tests to be carried out in accordance with the table in the safety instruction: Inspections Of Electrical Equipment On Site.	5	1	5	Site Supervisor	Construction Manager
F	Site Clearance.										
E1	Needle Stick	Operatives	4	3	12	On sites (railway embankments with access for the public alongside parks etc) where needle sticks might reasonably be expected to be found, a sharp box, tongs and specialist gloves shall be provided. Tool box talks to be given explaining the hazards of needle sticks and the correct procedure for disposal. No person is to touch a needle stick without the required protective clothing. Any person who suffers a needle stick puncture will be required to seek immediate medical attention.	4	1	4	Site Supervisor	Construction Manager
E2	Asbestos	Operatives	4	3	12	Work is to cease on the discovery of asbestos. The affected area is to be cordoned off. Work is only to re-commence upon the written instruction with the correct management systems in place.	4	1	4	Site Supervisor	Construction Manager
F	Access to site cabins										

Operation / Task:	Vibro Plate Load Test.	Assessment Ref / Rev:	GI_HA 04				Prepared by:	SJ Collerton	Date:	20/11/2014
Location:	Site	Department:	Ground Improvement				Revision:	A	Date:	20/11/2015

H&S Consequence, C 1 Minor Injury 2 First Aid injury 3 Major injury 4 Permanent Consequence 5 Potential Fatality	Env. Consequence, C 1 Minor Impact / operational delay 2 Community complaints 3 Major Impact 4 Legal Consequence 5 Major impact and cost	Likelihood, L 1 Improbable 2 Remote 3 Possible 4 Probable 5 Almost Certain	Severity <table border="1"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>2</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>3</td><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td></tr> <tr><td>4</td><td>4</td><td>8</td><td>12</td><td>16</td><td>20</td></tr> <tr><td>5</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td></tr> </table>		1	2	3	4	5	1	1	2	3	4	5	2	2	4	6	8	10	3	3	6	9	12	15	4	4	8	12	16	20	5	5	10	15	20	25	Acceptance Criteria R Red - Intolerable take immediate action Y Yellow - Tolerable with additional controls G Green - Tolerable no further action required
	1	2	3	4	5																																			
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Task	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note.					NOTE: only trained/competent operatives shall set out a plate test load. Plant operators shall have a CPCS card. All hand tools shall be visually inspected by the user, for damage. PPE to be worn at all times. High Visibility vests, Hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fuelling), protective footwear to EN 345, eye protection to EN166, head protection to EN397.					
A	Excavating pit.										
A1	Using damaged hand tool; causing various types of injuries.	Pit digger	2	3	6	As per the general note.	2	1	2	Supervisor	Construction Manager
A2	Reversing the excavator.	Crew	3	3	9	An appropriately qualified banksman shall ensure that all operatives are clear before excavating takes place. Excavator to have reversing camera.	3	1	3	Banksman and Rig Operator	Supervisor
A3	Falling into the excavation: slips trips and falls accidents.	All	2	3	6	Once the excavation has been completed, barriers to be placed around the excavation, whilst the plate load test is being prepared.	2	1	2	Supervisor	Construction Manager
B	Positioning plate.										
B1	Lifting the 0.6m dia plate.	Ops	3	3	9	The base plate has two handles to ensure easy lifting, by two operatives. All operatives have been trained in basic manual handling.	3	1	3	Supervisor	Construction Manager
B2	Base plate dropping, causing a fracture or wounds	Ops	3	3	9	Two operatives shall lift/ move the test plate. The handles on the base plate shall be used for this purpose.	3	1	3	Supervisor	Construction Manager
B3	Lifting the 1.5m x 0.6m dummy footing plate	Ops	3	3	9	Dummy footing plate to be moved by 411 loading shovel only	3	1	3	Supervisor	
C	Setting up gauge frame.										
C1	Frame points causing injuries.	Ops	3	3	9	Whilst positioning or moving the frame mushroom covers shall be on the points. The person assembling the gauge frame will need a second person to help assemble.	3	1	3	Supervisor	Construction Manager
C2	Securing the frame sections together.	Ops	3	3	9	When attaching the vertical pipes the assembler shall use the correct size spanner to tighten the scaffold clamps	3	1	3	Supervisor	Construction Manager
C3	Knocking the frames feet into the ground.	Ops	3	3	9	Only a four pound hammer shall be used to carry out this function.	3	1	3	Supervisor	Construction Manager
D	Positioning of the hydraulic jack.										
D1	Lifting the hydraulic jack causing muscular strains and sprains.	Ops	2	3	6	All operatives are trained in basic manual handling techniques. The jack shall be lifted by its handle.	2	1	2	Supervisor	Construction Manager
E	Tracking plant over the test area										



Operation / Task:	Vibrocat & Minicat	Assessment Ref / Rev:	GI_HA 05	Prepared by:	SJCollerton	Date:	04/11/2014
Location:	Site	Department:	Foundations - Ground Improvement	Revision:	C	Date:	07/07/2016

H&S Consequence, C 1 Minor Injury 2 First Aid injury 3 Major injury 4 Permanent Consequence 5 Potential Fatality	Env. Consequence, C 1 Minor Impact / operational delay 2 Community complaints 3 Major Impact 4 Legal Consequence 5 Major impact and cost	Likelihood, L 1 Improbable 2 Remote 3 Possible 4 Probable 5 Almost Certain
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Severity		1	2	3	4	5
	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
5	5	10	15	20	25	

Acceptance Criteria	
R	Red - Intolerable take immediate action
Y	Yellow - Tolerable with additional controls
G	Green - Tolerable no further action required

Task	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
	General Note					NOTE: Vibrocats / Minicats and associated equipment are only to be operated by trained and competent persons authorised on the company skills matrix. When applicable, operatives shall hold a current CPCS. Operatives under training shall be supervised by an authorised employee. PPE to be worn at all times. High Visibility vests, Hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (re-fuelling), protective footwear to EN 345, eye protection to EN166, head protection to EN397.					
A All Activities.											
A1	Inadequate lighting.	All	3	3	9	Supervisor to confirm on site hazard assessment form that lighting is adequate or to ensure artificial light is available when necessary.	3	1	3	Supervisor	Construction Manager
A2	Slips, trips and falls	All	3	3	9	Good housekeeping.	3	2	6	Supervisor and crew	Supervisor
A3	Leptospirosis	All	3	3	9	Cuts to be dressed immediately, cleanliness to be encouraged. Awareness card to be provided.	3	1	3	Supervisor and crew	Supervisor
A4	Excessive noise exposure to the operator and others close by.	All on site	4	4	16	Noise levels for all operations have been assessed. Items of plant with average noise levels above 85 dB(A) have Ear Protection Zone signs requiring person to wear ear protection within at least 20m of rig. Where reasonably practicable, noise reduction methods to be adopted to reduce noise levels. Ear Protection to comply EN 352-2 and EN 352-3 as necessary.	4	1	4	Supervisor and crew	Supervisor
A5	Excessive noise exposure to the general public adjacent to the site.	Public	1	4	4	Noise survey to be made available to the principal contractor to allow assessment of noise pollution adjacent to the site.	1	1	1	Supervisor	Construction Manager
A6	Dust	Crew	2	3	6	In dusty conditions, eye protection and dust masks to be worn if necessary. Windscreens of plant to be cleaned regularly if necessary. Consideration to be given to spraying site to damp down site surface to reduce dust.	2	2	4	Supervisor	Construction Manager
B Rigging of vibrocat and poker.											
B1	Manual handling.	Crew	3	2	6	Gloves to be worn to comply to EN 388. Personnel to have received manual handling training. (Refer to MHA 06: Rigging pokers or MHA 07 S Poker cables).	3	1	3	Supervisor	Construction Manager
B2	Electric shock.	Crew	5	3	15	Plug and socket to be checked visually before connection made. Engine to be switched off.	5	1	5	Supervisor and crew	Construction Manager
B3	Crush injury	Crew	4	4	16	During attachment of the vibrocat skip all non essential persons are to be removed from the area. The banksman is to stand in a position directly in front of the vibrocat cab so that the 411 operator can be seen. The skip is to be positioned by the 411, when lined up and bolts are placed the 411 operator is to ensure that the handbrake is applied.	4	2	8	Supervisor and crew	Construction Manager
B4	Collapse of extended leaders	Crew	3	3	9	Poker and stone skip to be removed before mast is raised or lowered. Mast to be in the central position, both longitudinally and transversely before lowering.	3	1	3	Rig Operator	Supervisor
C Plant moving around site.											
C1	Unstable ground causing rig to topple	Anyone	5	4	20	Platform certificate to be completed to confirm that platform is adequate before work commences. Platform to extend at least half a machine width beyond probe positions. Extra consideration to be given when working adjacent to site boundaries	5	1	5	Supervisor	Construction Manager
C2	Steep slope causing rig to topple.	Anyone	5	3	15	Maximum slope allowed when moving is 1 in 10	5	1	5	Rig Operator	Supervisor
C3	Contact with overhead electric cables.	Rig Op	5	3	15	Supervisor to confirm on Permit to Dig that overhead lines do not affect the rig or to arrange for improvements to be implemented before work commences.	5	1	5	Supervisor	Construction Manager

Risk	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
D	Collisions	Anyone	3	3	9	If vibrocat is not fitted with rear view mirrors, movement to be controlled by trained banksman with a slinger/signaller CPCS.	3	1	3	Rig Operator & Slinger /	Supervisor
D0 Forming column hole with vibrator.											
D1	Contact with underground services	Rig Op	5	3	15	Services to be traced by a cable avoiding tool and marked on the ground (by Main Contractor). Markings to be maintained. Columns to avoid live services. Permit to Dig to be completed. When the proposed working position is within 0.5 metres of a service, the service should be exposed by hand digging with a spade or shovel.	3	1	3	Main Contractor & Rig Operator	Supervisor
E Delivery of stone.											
E1	Collision of delivery lorry	Anyone	3	3	9	If site congestion requires, banksman with slinger/ signaller CPCS to be provided.	3	1	3	Slinger / signaller	Supervisor
F Operation of JCB 411 wheeled loaders to take stone to column position.											
F1	Poor roadways for plant.	Rig Op	3	3	9	Supervisor to confirm on site hazard assessment that routes are suitable for the loading shovel or to arrange for improvements to be implemented before work commences.	3	1	3	Supervisor	Construction Manager
F2	Inappropriate use of loading shovel	Rig Op	3	3	9	Loading shovel operator to have a CPCS. Operator to also have a CPCS as a slinger / signaller as he also acts as banksman for the vibro rig. Engine to be switched off when not in use. Key to be removed when operator is not in cab	3	1	3	Rig Operator / Slinger / Signaller	Supervisor
F3	Collision with persons	Anyone	5	3	15	Loading shovel to have reversing cameras and orange flashing light operating at all times when the engine is running. Operator to be alert for movements around machine. If site congestion requires, banksman with slinger/ signaller CPCS to be provided.	5	1	5	Rig Operator / Slinger / Signaller	Supervisor
F4	Malfunction of loading shovel	Rig Op	3	3	9	Driver to inspect machine before use each day and to complete a weekly inspection form.	3	1	3	Rig Operator	Supervisor
G Pouring of stone from skip to poker.											
G1	Stone falling from skip.	Crew	3	3	9	Vibrocat operator to ensure that no person is standing near when skip is being unloaded into poker.	3	1	3	Rig Operator	Supervisor
H Use of compressed air											
H1	Hoses causing trip hazard	Anyone	3	3	9	Hoses to be laid tidily.	3	1	3	Crew	Supervisor
H2	Whipping of hoses.	Anyone	3	3	9	Whip checks on all air lines.	3	1	3	Crew	Supervisor
I Completed columns.											
I1	Trip hazard if column left below platform level.	Anyone	3	2	6	On completion of area, loading shovel to blade stone across to fill low columns.	3	1	3	Rig Operator	Supervisor
J Operation of JCB 411 wheeled loaders to move diesel bowser.											
J1	Back of unlevel bowser hitting ground .	Crew	3	2	6	Step down towing hitch to be fitted to bowser.	3	1	3	Crew	Supervisor
J2	Handling injury lifting bowser onto towing hitch.	Crew	3	2	6	Step down towing hitch to be fitted to bowser to eliminate lifting requirement.	3	1	3	Crew	Supervisor
K Preboring (when required)											
	General Note.					NOTE: For prebore carried out using a cfa rig, refer to the relevant parts of HA 07: CFA Piling. For preboring carried out by a sub-contractor using an auger boring rig, the sub-contractor's risk assessment and method statement must be approved by the Project Manager and copies kept in the site file. Where there is a conflict between the procedures of the sub-contractor and those of Keller, a safety officer shall be informed and a judgement taken as to which shall prevail. 4-year test certificate and current inspection certificate, not more than 12 months old to be provided with machine. Supervisor to inspect the machine on delivery. Operator to inspect the machine daily before use and to carry out routine servicing in accordance with Work Instruction. Weekly inspection to be made by operator and a weekly inspection report completed. Operator shall hold a current CPCS Bored Piling Operator card.					
K1	Fall of site personnel into open pile hole.	Anyone	3	3	9	All open holes must have hole covers placed over them, filled in or adequately fenced. Only sufficient holes for the immediate use of the vibro rig to be prebored in advance. No holes to be left open overnight.	3	1	3	Rig Operator / Ganger	Supervisor
K2	Spoil hitting persons nearby when spinning off.	Crew	3	3	9	Auger to be fitted with auger cleaning or spoil to be spun off the auger before it is two metres above ground level. Ganger in attendance at all times with authority to prevent persons moving within two metres of rotating auger.	3	1	3	Rig Operator / Ganger	Supervisor

Risk	Hazard	Persons at risk	Degree of risk			Control measures	Residual risk			Person responsible	Monitoring responsibility
			C	L	RR		C	L	RR		
R3	Spoil falling causing splashing into area open to public	Crew & Public	3	2	6	Project / Construction Manager to state requirements for hoardings to Client. Supervisor to assess hoardings and to inform Project / Construction Manager if hoardings are inadequate. Construction Manager to note requirements on Site Hazard Assessment and need for improved hoardings to Project Manager.	3	1	3	Supervisor	Construction Manager / Project Manager
K4	Entanglement of personnel in auger	Crew	5	2	10	Augers to be fitted with a physical guard, to prevent access to the rotating auger or, if a physical guard is not practicable, trip lines to stop the auger. Trip lines to be tested daily. The removal of guards must be strictly in accordance with WI for pre-boring and authorised at the appropriate level as stated in the WI procedure.	5	1	5	Rig Operator / Ganger	Supervisor
L Fuelling & Re-fuelling of Plant											
	General Note.					Reference should also be made to Keller Works Instruction 6.4PL_WI Diesel Refuelling & Deliveries.					Supervisor
L1	Diesel spillage during fuelling / refuelling operations	Crew	3	2	6	Fuel storage bowsters are double banded with 110% capacity of the tank and re-fuelling operations are to be undertaken in designated area away from drains or watercourses. Plant nappies and spill kits stored adjacent to all bowsters.	3	1	3	Crew	Supervisor
L2	Potential for dermatitis	Crew	3	2	6	Personnel re-fuelling to ensure gloves are to EN 374-3.	3	1	3	Crew	Supervisor