



BAM Nuttall management system

Safety form



SF103 Risk assessment								
Contract number and title		RA number		Element of work		Risk assessment author		Date
RGE.721D – Manchester Victoria		RGE.721D/RA0 2 Rev01		Construction of Piles in contaminated ground including mitigating introduction of construction contaminants		Meghan Oliver		
						Approved by Stuart Hunter		
Hazard	Persons in Danger E = employee S/C = subcontractor Pub = public Y/P = young person VIS = Visitor	Severity	Likelihood	Risk rating	Control measures	Final risk rating		
Contamination from liquids and fuels	E, S/C, Vis, Pub	H	M	H	<ul style="list-style-type: none"> - Law and Regulation of particular country of work followed at all times. - Minimum amounts of fuel are kept in clearly labelled containers either in the site store or within operative vehicles, stored on plant nappies or within a fuel safe. - Containers are stored upright with the lids securely fastened. - All flammables are stored in a lockable firebox or cage dependant on volume. - All containers are returned to the store at the end of the shift. - Toolbox talks are undertaken to all site personnel outlining responsibility of good housekeeping and correct storage of containers and recorded on BAM Nuttall Safety Form SF201 'Record of training'. - Funnels are used when refuelling all plant and equipment. - Refuelling is carried out at work locations using plant nappies at all times. - Refuelling is undertaken a minimum of 10m from water courses and 50m from surface water bodies where possible. Otherwise a drain mat must be deployed. - Spill kits are readily available and their location clearly labelled. - Toolbox talks are undertaken to all site personnel outlining refuelling procedures for vehicles and items of plant and recorded on BAM Nuttall Safety Form SF201 'Record of training'. - Emergency spill response procedures are briefed to all personnel during the site induction including how drains / gullies are protected in the event of a spill. - Regular emergency spill response drills are undertaken with the operatives and recorded on BAM Nuttall Safety Form SF513 'Emergency procedure drill'. - Weekly site inspections are undertaken by the site engineer using the BAM Nuttall Environmental Compliance Form EC01 'Environmental checklist'. 	L		

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Contamination from plant	E, S/C, Vis, Pub	H	M	H	<ul style="list-style-type: none"> - All plant will be inspected before first use daily along with completion of associated plant maintenance forms. - The plant maintenance form is submitted weekly to the site engineer so that regular maintenance and repairs can be instigated. - Any leaks are stemmed and reported immediately and the activity discontinued until repairs are made. - Spill kits are readily available and their location clearly labelled. - Plant nappies are available and in use at every plant / vehicle item. - Plant nappies are used when undertaking maintenance or when draining oils. 	L
Contamination from silt	E, S/C, Vis, Pub	H	M	H	<ul style="list-style-type: none"> - Where deemed necessary by the supervising engineer, sand bags are formed around each borehole location. - Any water bodies that may be affected have mitigation measures in place appropriate to the site conditions as determined by the site engineer. - Drains are inspected regularly with increased attention paid during rain fall. - The activity is suspended immediately if silt cannot be controlled. 	L
Contamination from Dust	E, S/C, Vis, Pub	M	H	H	<ul style="list-style-type: none"> - Water is available to dampen down material where required. - Surrounding areas are protected with geotextile and sandbags where possible if required. - Principal Contractor to manage dampened down material where (potentially) contaminated and dispose of this as per their waste management plan 	L

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<p>Piling in (potentially) Contaminated Ground</p> <ul style="list-style-type: none"> Reference EA "<i>Piling into contaminated sites</i>" Pollution Scenarios 3, 4 & 6 considered applicable. Scenarios 1, 2 & 5 have been discounted for reasons as follows; <ol style="list-style-type: none"> Piling into Manchester Marls is not expected Ground gas not expected within this area Rotary boring technique will excavate material preventing contaminated material being pushed towards the aquifer 	E, S/C, Vis,	H	M	H	<p>- Where contaminated (incl potentially contaminated) ground identified by prior investigation or survey the following control measures adopted;</p> <ul style="list-style-type: none"> Principal Contractor will notify the Permanent Works Designer (ROC) in advance of piling including sharing the pile design; to permit them specify suitable concrete mix design that considers the ongoing and long term performance of the pile relative to the risk of degradation caused by any leachate from contaminants present in the ground. Principal Contractor will notify the Permanent Works Designer in advance of piling including sharing the pile design; as they are responsible for ground water monitoring during the piling works and may desire to increase frequency of monitoring during these works, in accordance with their ground water monitoring plan Access into the piling area restricted (restricted zone) only further to approval of Principal Contractor controlling Supervisor Driller and assistant driller to wear disposable PPE overall covers when constructing piles. The current pile design provides the piles terminating above (27.65mAOD) the Manchester Marls (average depth 21.46mAOD taken from Section 5.1.6 of the Ph2 Si Report) formation within which the Secondary Aquifer is present. The piles will be fully cased to depth; isolating each particular pile location. The made ground will be excavated, further removing the opportunity for near surface pollutants migrating towards the Secondary aquifer Any spinning off or tipping of dug material to be in accordance with Principal Contractor processes: immediately removed with all soils stockpiled in accordance with the remediation strategy (Phase 3a detailed remediation strategy report – 11834 Rev05 - noting existing GI from similar location evidences some hazardous materials have been found) with testing being conducted by the Principal Contractor before material removed from site via the correct waste stream. During concrete filling, particular attention should be provided to the volume of concrete placed. Due to the drilling method (fully cased) the actual volume of concrete placed should be relative to that expected. Volumes in excess of expected could be a sign of concrete migration. To mitigate migration of concrete further, casing to be removed at a time appropriate to initial setting time of concrete (at least ~30mins post mixing). Contamination Contingency Plan from the Remediation Strategy will be briefed to the site team. Should the plan require actioned; the Principal Contractor shall advise BAM Ritchies and works will immediately and safely cease. The Permanent Works Designer will be contacted and the contingency plan enabled. Disposal as per Principal Contractor Waste Management Plan Water misting may be employed for dust suppression to be used in piling area however mitigations to prevent run-off MUST be in place Disposal of PPE in line with Principal Contractor site procedures Compliance Monitoring conducted by Subcontractor (BAM Ritchies) Supervisor at least daily Please also refer to mitigations included under hazards "Drilling exclusion zones", "Contamination from silt", "Dust" and "Waste Management" 	L
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Waste management		E, S/C, Vis, Pub	M	H	H	<ul style="list-style-type: none"> - All waste management will be as per the Principal Contractors Waste Management Plan for the particular site but expected to be as minimum; - Enclosed or covered skips are available for waste as necessary. A minimum of general waste and mixed recyclable waste skips are available. - A specific waste management plan for (potential) contaminated waste, briefed to the workforce with it's implementation and control (including provision of any specific training and PPE/RPE) facilitated, provided and managed by the Principal Contractor - Excess spoil is bagged and removed to the appropriate skip. - Canteen waste is bagged and removed to the appropriate skip. - Used spill kits and oily rags are bagged and disposed in a separate lockable drum / container labelled contaminated waste. - Waste transfer notes are completed for each skip / container collection. - Waste carrier details are obtained for all hauliers. 	L
Initial review required by:	First Operation	Subsequent review dates:					