Appendix 9.6

Scenario 2c: Application 5 & Committed Schemes: CSM baseline and Construction Phase

Scenario 2c: Application 5 & Committed Schemes: CSM baseline and Construction Phase – ES Chapter – Appendix 9.6

Conceptual Site Model				Baseline Assessment			Construction Phase Assessment (Demolition, Groundworks & Construction Effects)				Impact Assessment		
Source	Pathway	Receptor	Sensitivity	Probability of Complete Linkage	Consequence if Linkage Present	Future Baseline Risk Level	Probability of Complete Linkage	Consequence if Linkage Present	Revised Risk Level	Comments	Effect on Risk	Magnitude of Impact	Significance of Effect
Asbestos (if present) within existing Made Ground / fill materials / buried obstructions / substructure Chemicals of concern associated with existing Made Ground / fill materials Chemicals of concern from spills / leaks from historical uses on site / off site Chemicals associated with construction works (fuels and oils used in construction plant)	Dermal contact with and ingestion of contaminants in soil-derived dust and water. Inhalation of contaminants in soil-derived dust and ground gas / volatile vapours. Inhalation of asbestos fibres.	On-site users	Medium	Unlikely	Medium	Low	Receptor no longer present as construction has started.			Sources of contamination (asbestos and chemicals of concern) have been identified on site and at concentrations within soils which exceed screening criteria for residential end use. Workers are likely to come into direct contact with soil during construction activities for a short period of time. Mitigation measures will be adopted to reduce the probability of exposure to the identified sources e.g., use of COSHH assessments to prevent or control exposure to hazardous substances associated with construction works and use of appropriate RAMS to a) prevent direct contact, ingestion, dust / asbestos fibre inhalation associated with baseline conditions using PPE, RPE and hygiene best practice; and b) prevent the generation of dust / dispersion of asbestos fibres associated with baseline conditions using water sprays / local exhaust ventilation systems. Dust suppression measures and controls implemented on Site will mitigate the risk of exposure to offsite third-party neighbours.	Risk reduced as receptor is no longer present	-	-
		Groundworkers & construction workers	Medium	Receptor not present as construction has not started			Low	Medium	Low / moderate		Risk increased due to introduction of receptor	Medium	Minor adverse
		Third-party neighbours, including industrial units on plot NT02 (Love Factory)	Medium	Unlikely	Medium	Low	Low	Medium	Low / moderate		Temporary minor increase during works	Medium	Minor adverse
	Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers. Migration of contaminated water through preferential pathways such as underground services, pipes and granular material to groundwater in underlying aquifers.	Controlled waters – Superficial Aquifers (Secondary Undifferentiated Aquifer)	Medium	Likely	Medium	Moderate	Likely	Medium	Moderate	During the Construction Phase, remediation will be conducted as required, and sources of contamination removed. This will ultimately result in long-term, local scale improvements to the quality of ground and surface water. In addition, mitigation measures will be adopted to a) prevent the introduction of new contaminants to the baseline (related to construction drainage / spillages); and b) prevent mobilisation of new and existing contamination from impacting controlled waters.	Temporary minor increase during works	Medium	Minor adverse
		Controlled waters – Bedrock Aquifers (Secondary B and Principal Aquifers)	Medium	Likely	Medium	Moderate	Likely	Medium	Moderate		Temporary minor increase during works	Medium	Minor adverse
	Lateral migration of contaminated groundwater with discharge to surface watercourses as base flow. Discharge of contaminants entrained in surface water run-off followed by overland flow and discharge.	Controlled waters – Surface waters (River Irk)	High	Low	Medium	Low / Moderate	Low	Medium	Low / Moderate		Temporary minor increase during works	Medium	Minor adverse
Hazardous ground gases and vapours associated with chemical substances of concern in soil / Made Ground / organic soils	Lateral and vertical migration through unsaturated pore space or fractures and accumulation in confined spaces and inhalation	Groundworkers & construction workers	Medium	Receptor not present as construction has not started			Low	Medium	Low / Moderate	Hazardous ground gases and vapours have been identified on site, associated with Made Ground and historic industry. Risks of hazardous ground gases and vapours to construction workers should be mitigated using confined space safety precautions and appropriate RAMS to a) prevent inhalation using RPE; b) prevent accumulation of hazardous gases / vapours in confined spaces (e.g., excavations, below ground chambers etc) using local exhaust ventilation systems; and c) raise the alarm if unsafe conditions arise using multi-gas monitors to detect flammable gases and vapours as well as oxygen, carbon monoxide, hydrogen sulphide, sulphur dioxide etc. The reported concentrations are considered unlikely to affect off-site users of adjacent properties. No change	Risk increased due to introduction of receptor	Medium	Minor adverse
		Third-party neighbours, including industrial units on plot NT02 (Love Factory)	Medium	Unlikely	Medium	Low	Unlikely	Medium	No change		Neutral	No change	No change