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HS2

High Speed Rail (Crewe – Manchester) Environmental Statement

Volume 5: Appendix LQ-001-0MA07

Land quality

MA07: Davenport Green to Ardwick

Land quality report

M220

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Department for Transport

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1 Introduction

1.1.1 This report is an appendix to the land quality assessment for the Davenport Green to Ardwick area, it comprises:

- a summary of engagement undertaken;
- details on committed developments relevant to land quality that form part of the future baseline; and
- detailed risk assessments associated with land contamination.

1.1.2 This appendix should be read in conjunction with:

- Volume 2, Community area reports;
- Volume 3, Route-wide effects;
- Volume 4, Off-route effects; and
- Background Information and Data (BID) (BIDLQ-002)[1].

1.1.3 Maps referred to throughout this report are contained in the Volume 5: Land quality Map Book (Maps LQ-01-322b to LQ-01-327a). Sites carried through to assessment are given a reference number. In this report they are referred to as MA07-179 and on the maps they are referred to as 07-179.

1.1.4 Further information regarding receptors in relation to each site or group of sites is set out in the BID.

1.1.5 Information about Local Geological Sites and geological Sites of Special Scientific Interest (SSSI) and site visit records are set out in the BID document.

1.1.6 The Environmental Impact Assessment Scope and Methodology Report (SMR), (see Volume 5, Appendix CT-001-00001) should be referred to for details of the land quality assessment.

[1] High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Background and Information Data, Land quality baseline data.* BID LQ-002-0MA07. Available online at: https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement.

2 Engagement

2.1.1 Table 1 sets out the organisations that have been engaged with during the preparation of the land quality section of the Environmental Statement (ES) for the Davenport Green to Ardwick area, the types of information that have been provided to the assessment team and any specific concerns raised.

Table 1: Engagement on land quality issues undertaken for the Davenport Green to Ardwick area

Organisation	Method/dates of contact	Information provided and/or specific concerns
Manchester City Council (MCC)	Meeting (15 May 2018)	Presentation and workshop on land quality approach. No specific concerns raised.
	Email (6 August 2018)	Email to MCC to provide site boundaries and confirm scope of request.
	Email (3 September 2018)	Email exchange to confirm timescales.
	Email (18 September 2018)	MCC sent requested data as pdf report via email. Included details about landfills and foot and mouth burial pits. None are located within this study area.
	Meeting (5 June 2019)	Presentation and workshop with update of progress, discussion of Working Draft Environmental Statement (WDES). consultation responses, review of the land quality assessment process and review of example key sites. No specific concerns raised.
	Email (16 October 2020)	MCC were provided with updated GIS shapefile for the study area boundary scheme.
	Meeting (22 October 2020)	Presentation with update on Stage 2 design refinement, review of the land quality assessment process and presentation on significant impacts identified to date.
Environment Agency	Meeting (15 May 2018)	Presentation and workshop on land quality approach. No specific concerns raised.
	Meeting (14 September 2018)	Meeting to discuss acquiring EA landfill data. Agreed procedure for acquiring detailed, site specific data and contacts with local area officers. Priority landfills along the route discussed and general information provided. Detailed information to be provided by local area officers. Specific concerns raised by EA around: prohibition on reuse of arisings within permitted areas under the existing permits; potential land quality issues at Ardwick Depot due to current waste transfer operations; and information to be obtained from the EA Environmental Crime Team on illegal deposition or tipping of waste.
	Email (10 December 2020)	The EA provided a plan of active and historical landfills in the Davenport Green to Ardwick area. None are located within the study area.

Organisation	Method/dates of contact	Information provided and/or specific concerns
Animal and Plant Health Agency (APHA)	Email (16 May 2019)	APHA detailed that there is no register of animal burial sites and therefore are not able to give reassurance in respect of the suitability of the land in question.

3 Risk assessment

3.1.1 A four-stage process, comprising stages A to D, has been carried out in accordance with the methodology set out in the SMR. At each stage, professional judgement has been used to check that the screening and assessment process is highlighting significant sites.

3.1.2 Stage A highlights potentially contaminative sites based on their potential impact. Sites with a moderate to high potential impact move through to stage B where they are assessed based on receptor proximity.

3.1.3 Sites with a high potential impact pass through stage B to detailed assessment irrespective of receptor proximity. Sites with a moderate potential impact and moderate to high receptor proximity also go through to detailed assessment.

3.1.4 For those sites which pass through stage B, a further detailed risk assessment (stages C and D) has been carried out.

3.1.5 The results of stage C are presented in three conceptual site models (CSM) as qualitative risk assessments covering baseline, construction and post-construction scenarios. Stage D then compares the risk of impact at construction and post-construction stages with the baseline to determine the change in risk and hence the potential for a significant effect.

3.1.6 Sections 3.2 to 3.5 present assessments for potentially contaminated sites which have passed through the screening process within the study area. For each site the following data are presented:

- baseline risk assessment;
- construction risk assessment;
- post-construction risk assessment;
- assessment of temporary (construction) effects; and
- assessment of permanent (post-construction) effects.

3.1.7 The construction and post-construction risk assessments assume that appropriate mitigation has been undertaken and that the]of the railway is in accordance with environmental legislation.

3.1.8 Where nearby sites present a similar contamination risk, they have been grouped and considered together. For example, in rural areas, small historical backfilled ponds and pits have been grouped together for assessment purposes.

3.1.9 Where sites have been grouped together, only one CSM has been prepared for those sites. The sites in the Davenport Green to Ardwick area have been listed as follows in Table 2.

3.1.10 For clarity, ‘on-site’ in this document means ‘within the land required for the construction of the Proposed Scheme’ and ‘off-site’ refers to ‘land beyond this boundary, but within the study area’.

3.1.11 No geoconservation receptors are present in the Davenport Green to Ardwick area and therefore, are not included in the CSM tables.

Table 2: Sites included in the risk assessment within the Davenport Green to Ardwick area

Site group	Site title (site ID) and land use class[2]
On-site	
Former depots	Former depot (MA07-173), Class 2 Former depot (MA07-182), Class 2
Former and current laundries and former breweries	Former laundry (MA07-69), Class 2 Former Ardwick Brewery (MA07-174), Class 2 Former public laundry (MA07-175), Class 2 Former Victoria Brewery (MA07-189), Class 2 Current laundry (MA07-210), Class 2
Former gas works	Former gas works (MA07-168), Class 3
Former metal manufacturing and plating	Former aluminium works (MA07-185), Class 2
Current tank and former/current fuel stations	Current tank (MA07-179) Class 3 Former fuel station (MA07-186), Class 3 Current fuel station (MA07-206) Class 3
Garage workshop	Current garage (MA07-184), Class 2
Former brick field	Former brick field (MA07-176), Class 2
Electrical sub-station	Current electrical sub-station (MA07-183), Class 2
Current and former railway land, tram depot and goods yard	Current Manchester South Junction and Altrincham Railway (MA07-41), Class 2 Current Manchester South Junction and Altrincham Railway (MA07-45), Class 2 Former tram depot (MA07-92), Class 2 Former freight terminal and goods yard (MA07-166), Class 2 Current London and North Western Railway (MA07-167), Class 2
Former timber yards and sawmills	Former timber yard and sawmill (MA07-170), Class 2 Former timber yard (MA07-180), Class 2 Former timber yard and sawmill (MA07-181), Class 2
Embankments	Current embankment (MA07-05), Class 1 Current embankment (MA07-43), Class 1
Mine shaft	Limeststone Shaft (MA07-202), Class 2
Waste transfer facility	Current waste transfer facility (MA07-203), Class 2
Off-site	
Former police and fire station and current hospital	Former Police and Fire Station (MA07-42), Class 1 Current Hospital (MA07-77), Class 1
Current railway land and former tram depot	Current London and North Western Railway (MA07-94), Class 2 Former tram depot (MA07-207), Class 2
Former heavy industry and manufacturing sites	Former Union Iron Works (MA07-142), Class 3 Former Iron works (MA07-169), Class 3 Former Openshaw Dye Works (MA07-177), Class 3

[2] As defined by the SMR.

Site group	Site title (site ID) and land use class[2]
	Former clothing factory (MA07-193), Class 3 Former Ardwick Lime Works (MA07-196), Class 3
Former engineering works	Former works (MA07-191), Class 2 Former Lime Bank Works (MA07-197), Class 2
Current and former depots	Former depot (MA07-160), Class 2 Former depot (MA07-165), Class 2 Current depot (MA07-171), Class 2
Current and former oil depots, fuel stations and tanks	Current oil depot (MA07-40), Class 3 Former tank (MA07-47), Class 3 Former fuel station (MA07-71), Class 3 Current bus depot and oil tank (MA07-139), Class 3 Former Galloway's Boiler works and tanks (MA07-152), Class 3 Former petroleum depot (MA07-161), Class 3 Former fuel station (MA07-205), Class 3
Scrap yard	Current scrap yard (MA07-178), Class 2
Former timber yards	Former timer yard (MA07-192), Class 2 Former timber yard (MA07-194), Class 2
Former cemetery	Ardwick Cemetery (MA07-155), Class 2
Embankment	Current embankment (MA07-36), Class 1
Former farm	Former Oak House farm (MA07-72), Class 1
Former laundry	Former laundry (MA07-208), Class 2

3.1.12 Contaminant types included within the risk assessments are based on the Department of the Environment, Farming and Rural Affairs (DEFRA) and Environment Agency (2002); Priority Contaminants Report CLR 8[3]. Although this report has been withdrawn by the Environment Agency, it remains technically valid and there has been no subsequent authoritative replacement.

3.1.13 The remainder of this section presents the risk assessment for the sites going through to stages C and D of the assessment. These sites are shown on Volume 5: Land Quality Map Book (Maps Series LQ-01-322b to LQ-01-327a).

3.1.14 The following abbreviations are used in these tables:

- CoCP – Code of Construction Practice;
- PAH – polycyclic aromatic hydrocarbons;
- PCB – polychlorinated biphenyls;
- SBI – Site of Biological Importance
- TPH – total petroleum hydrocarbons;
- VOC – volatile organic compounds; and
- SVOC – semi volatile organic compounds.

[3] Department for Environment, Food and Rural Affairs and Environment Agency (2002), *Potential Contaminants for the Assessment of Land.* R&D Publication CLR8.

3.2 Baseline risk assessment

Table 3: Baseline CSM and qualitative risk assessment for former depots grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former depot activities including a range of organic and inorganic contaminants including (but not limited to) PAH, petroleum and diesel range hydrocarbons, asbestos and heavy metals. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters – groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (existing and adjacent)	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Commercial/Industrial				

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 1 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 4: Baseline CSM and qualitative risk assessment for former and current laundries and former breweries grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former site activities including a range of inorganic contaminants including (but not limited to) chlorinated compounds, detergents, caustic substances and asbestos. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users commercial staff and visitors	Direct contact, ingestion, inhalation of dusts from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Residential; commercial staff and visitors	Direct contact, ingestion, inhalation of dusts from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial and residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 2 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• the River Medlock is not a surface water receptor for MA07-69; and

• MA07-69 is within-20m of the proposed Wilmslow Road ventilation shaft.

Table 5: Baseline CSM and qualitative risk assessment for a former gas works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former gas works activities, including petroleum and diesel range hydrocarbons, PAH, coal tar and inorganics (including cyanide, spent oxide) asbestos. Potentially ground gases (carbon dioxide and methane)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer-glacial till Secondary A Aquifer– Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
		Exposure to explosive gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Property receptors - buildings, foundations and services (adjacent) Commercial/Industrial	Direct contact with contaminated soils and waters	Unlikely	Medium	Low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Chapeter Section 2 Table 3 for details of receptors to the site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• the gas works was a relatively small site nestled between railway sidings from 1908 – 1934. The risks from inhalation of ground gases and leaching to groundwater pathways are classified as low and very low, respectively, as the site size and time elapsed since the site was closed suggests the likelihood of volatile/mobile contamination remaining in the ground is low.

Table 6: Baseline CSM and qualitative risk assessment for a former metal manufacturing and plating site (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former metal manufacturing works, including heavy metals, petroleum and diesel range hydrocarbons, PAH asbestos, solvents. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Chester Formation				
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Exposure to explosive ground gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 4 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 7: Baseline CSM and qualitative risk assessment for current tank and current/former fuel stations grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and diesel range hydrocarbons, VOC and SVOC and asbestos. Potentially low levels of ground gases (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer-glacial till Secondary B Aquifer– Manchester Marls Formation Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 5 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 8: Baseline CSM and qualitative risk assessment for a garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current garage workshop activities, including petrol and diesel range hydrocarbons, PAH, metals, asbestos,	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
solvents and degreasers. Potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer-glacial till Principal Aquifer– Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 6 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 9: Baseline CSM and qualitative risk assessment for a former brick field (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from made ground and former brick field activities, comprising a range of organic inorganic contaminants including (but	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
not limited to), petroleum and diesel range hydrocarbons, PAH, metals, asbestos. Potentially low levels of ground gas (methane and carbon dioxide) associated with possible areas of infilled ground		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Principal Aquifer– Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters -surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 7 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 10: Baseline CSM and qualitative risk assessment for a electrical sub-station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from made ground and current	Existing site users –	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
activities including PCB, metals, asbestos and chlorinated hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	commercial staff and visitors	Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 8 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 11: Baseline CSM and qualitative risk assessment for current and former railway land, tram depot and goods yard grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former and current site activities including a range of organic and inorganic contaminants, including (but not limited to) heavy metals, asbestos, PAH; petroleum and diesel range hydrocarbons and lubricating oils. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors residential, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary B Aquifer– Tarporley Siltstone Formation Secondary A – Aquifer glaciofluvial sheet deposit Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – River Medlock Baguley Brook, Cringle Brook, unnamed Spring, multiple ponds	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Ecological receptors – SBI	Vertical and lateral migration, direct contact	Low likelihood to unlikely	Minor	Low to very low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Blackcarr Wood and Baguley Bottoms, Round Wood				
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 9 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• the proposed Manchester tunnel north portal is situated within MA07-166. The proposed Birchfields Road ventilation shaft is situated within MA07-92. MA07-41 and MA07-45 are within 20m of the proposed Altrincham Road ventilation shaft location.

Table 12: Baseline CSM and qualitative risk assessment for former timber yards and sawmills grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former site acvitivies including PCB, heavy metals, asbestos, PAH, creosote, SVOC, petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Principal Aquifer – Collyhurst Sandstone Formation and Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 10 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 13: Baseline CSM and qualitative risk assessment for embankments grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in filled ground including metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users -	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer –glaciofluvial deposits Secondary B Aquifer – Sidmouth Mudstone Formation and Tarporley Siltstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters - surface water: Fairywell Brook, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 11 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• MA07-05 is adjacent to the proposed Manchester tunnel south portal and the proposed Altrincham Road ventilation shaft is situated within MA07-43.

Table 14: Baseline CSM and qualitative risk assessment for a mine shaft (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in infilled shaft including heavy metals, PAH; ground and mine gas (methane, carbon dioxide, hydrogen sulphide and carbon monoxide)	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary A Aquifer - Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Negligible to minor	Low to Moderate/low

Notes/assumptions:

- *site assessed without construction of the Proposed Scheme;*
- *see BID document Section 2 Table 12 for details of receptors to the site; and*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.*

Table 15: Baseline CSM and qualitative risk assessment for a waste transfer facility (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current activities including heavy metals, asbestos, petroleum and diesel range hydrocarbons and ground gas (methane and carbon dioxide)	Current site users - Site workers	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer– Halesowen Formation – Principal Aquifer– Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

- *site assessed without construction of the Proposed Scheme;*
- *see BID document Chapeter Section 2 Table 13 for details of receptors to the site; and*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.*

Table 16: Baseline CSM and qualitative risk assessment for a former police and fire station and a current hospital grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former and current site activities including heavy metals, asbestos, petroleum and diesel range hydrocarbons; radioactive substances. Potentially low levels of	Existing site users - Public building staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Adjacent site users –	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
ground gas (methane and carbon dioxide)	Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B Aquifer – Tarporley Siltstone Formation Principal Aquifer– Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: drains	Lateral migration through groundwater Direct runoff from site	Unlikely	Negligible	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Public building, commercial and residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 14 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 17: Baseline CSM and qualitative risk assessment for current railway land and former tram depot grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and	Existing site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
associated with current and former site activites including heavy metals, asbestos, PAH; petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer– Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – Fallowfield Brook, Platt Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/Industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 15 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• MA07-207 is within 20m of the proposed Birchfields Road ventilation shaft.

Table 18: Baseline CSM and qualitative risk assessment for former heavy industry and manufacturing sites grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current and former site activities (including textile works, dye works and chemical works): including a range of organic and inorganic contaminants including (but not limited to) petroleum and diesel range hydrocarbons, VOC and SVOC, asbestos, heavy metals and potentially low levels of ground gases (methane and carbon dioxide)	Existing site users – Industrial and commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B Aquifer – Manchester Marls Formation Secondary A Aquifer – Etruria Formation and Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters – surface water River Medlock, Corn Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/Industrial and residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 16 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 19: Baseline CSM and qualitative risk assessment for former engineering works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made and ground and from former site activities including heavy metals, asbestos, petroleum and diesel range hydrcarbons PAH. Potentially low levels of ground gas (methane and carbon dioxide)	Current site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled Waters – River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Low likelihood	Minor	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 17 for details of receptors relevant to groups of sites; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 20: Baseline CSM and qualitative risk assessment for current and former depots grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former and current activities including heavy metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary A Aquifer Halesowen Formation Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – surface water, Cringle Brook, Baguley Brook, multiple drains and ponds	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent)	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Commercial/Industrial, residential				

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 18 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 21: Baseline CSM and qualitative risk assessment for current and former oil depots, fuel stations and tanks grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and diesel range hydrocarbons, VOC and SVOC and asbestos. Potentially low levels of ground gases (methane and carbon dioxide)	Existing site users - Commercial and public building staff and visitors, residential.	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, school users and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary B Aquifer - Tarporley Siltstone Formation and Manchester Marls Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Secondary A Aquifer – Halesowen Formation Principal Aquifer– Chester Formation and Collyhurst Sandstone Formation SPZ 3				
	Controlled waters – surface water: drains, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood to unlikely	Minor	Very low to low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, public building, school, residential properties	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 19 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 22: Baseline CSM and qualitative risk assessment for a scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current activities including heavy metals, asbestos, PAH, petroleum and diesel range	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
hydrocarbons, lubricating oils. Potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 20 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 23: Baseline CSM and qualitative risk assessment for former timber yards grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from former site acvitivies including PCB, heavy metals, asbestos, PAH,	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
creosote, SVOC, petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial buildings	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 21 for details of receptors relevant to groups of sites;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 24: Baseline CSM and qualitative risk assessment for a former cemetery (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground including heavy metals and potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Property receptors – buildings, foundations and services (existing) Commercial buildings, school building	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 22 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

Table 25: Baseline CSM and qualitative risk assessment for an embankment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from made ground: PCB, metals, asbestos, PAH, petroleum and diesel range hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters – groundwater Secondary A Aquifer – glaciofluvial deposits Secondary B Aquifer - Tarporley Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Minor	Low
	Controlled waters - surface water, Sinderland Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Exposure to explosive gases	Low likelihood	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

- *site assessed without construction of the Proposed Scheme;*
- *see BID document Section 2 Table 23 for details of receptors relevant to the site;*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and*
- *the site (MA07-36) is within 20m of the proposed Altrincham Road ventilation shaft.*

Table 26: Baseline CSM and qualitative risk assessment for a former farm (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and	Existing site users	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
former site activities including heavy metals, pesticides, fungicides, asbestos, fertilizers, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Residential	Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: drain	Lateral migration through groundwater Direct runoff from site	Unlikely	Minor	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 24 for details of receptors relevant to the site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• the site (MA07-72) is within 20m of the proposed Wilmslow Road ventilation shaft.

Table 27: Baseline CSM and qualitative risk assessment for a former laundry (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from site activites including detergents, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Property receptors - buildings, foundations and services (existing) Residential, commecial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 25 for details of receptors relevant to the site; and

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.

3.3 Construction risk assessment

Table 28: Construction CSM and qualitative risk assessment for former depots grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former depot activities including a range of organic and inorganic contaminants including (but not limited to) PAH, petroleum and diesel range hydrocarbons, asbestos and heavy metals. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters – groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Property receptors – buildings, foundations and services (adjacent) commercial/industrial	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP (Volume 5, Appendix CT-002-00000). Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 29: Construction CSM and qualitative risk assessment for former and current laundries and former breweries grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former site activities including a range of inorganic contaminants including (but not limited	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
to) chlorinated compounds, detergents, caustic substances and asbestos. Potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Residential, commercial staff and visitors	Direct contact, ingestion, inhalation of dusts from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Very Low
	Property receptors - buildings, foundations and services (adjacent) Commercial and residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• MA07-69 is within-20m of the proposed Wilmslow Road ventilation shaft.

Table 30: Construction CSM and qualitative risk assessment for a former gas works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former gas works activities, including petroleum and diesel range hydrocarbons, PAH, coal tar and inorganics (including cyanide, spent oxide) asbestos. Potentially ground gases (carbon dioxide and methane)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to minor	Very low to low
	Property receptors - buildings, foundations and services (adjacent) Commercial/Industrial	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Medium	Low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 31: Construction CSM and qualitative risk assessment for a metal manufacturing and plating site (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former metal manufacturing works, including heavy metals, petroleum and diesel range hydrocarbons, PAH asbestos, solvents. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Exposure to explosive ground gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 32: Construction CSM and qualitative risk assessment for current tank and former/current fuel stations grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
diesel range hydrocarbons, VOC and SVOC and asbestos. Potentially low levels of ground gases (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 33: Construction CSM and qualitative risk assessment for a garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from current garage workshop activities, including petrol and diesel range hydrocarbons, PAH, metals, asbestos, solvents and degreasers. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Principal Aquifer– Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
		Exposure to explosive gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 34: Construction CSM and qualitative risk assessment for a former brick field (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from made ground and former brick field activities, comprising a range of organic inorganic contaminants	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
including (but not limited to), petroleum and diesel range hydrocarbons, PAH, metals, asbestos. Potentially low levels of ground gas (methane and carbon dioxide) associated with possible areas of infilled ground	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters -surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 35: Construction CSM and qualitative risk assessment for a electrical sub-station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from made ground and current activities including PCB, metals, asbestos and chlorinated hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to minor	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent)	Exposure to explosive gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Electrical sub-station buildings, commercial buildings				

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 36: Construction CSM and qualitative risk assessment for current and former railway land, tram depot and goods yard grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former and current site activities including a range of organic and inorganic contaminants, including (but not limited	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
to) heavy metals, asbestos, PAH; petroleum and diesel range hydrocarbons and lubricating oils. Potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors residential, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Tarporley Siltstone Formation Secondary A Aquifer – glaciofluvial sheet deposit Principal Aquifer– Chester Formation and Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled Waters – River Medlock, Baguley Brook, Cringle Brook, unnamed Spring, multiple ponds	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Ecological receptors – SBI Blackcarr Wood and Baguley Bottoms, Round Wood	Vertical and lateral migration, direct contact	Low likelihood to unlikely	Minor	Low to very low
	Property receptors - buildings, foundations and services (adjacent) Commercial/Industrial, residential, school building	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• the proposed Manchester tunnel north portal is situated within MA07-166. The proposed Birchfields Road ventilation shaft is situated within MA07-92. MA07-41 and MA07-45 are within 20m of the proposed Altrincham Road ventilation shaft location.

Table 37: Construction CSM and qualitative risk assessment for former timber yards and sawmills grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former site acvitivies including PCB, heavy metals, asbestos, PAH, creosote, SVOC, petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Principal Aquifer– Collyhurst Sandstone Formation and Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 38: Construction CSM and qualitative risk assessment for embankments grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in filled ground including metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary A Aquifer – Glaciofluvial deposits Secondary B Aquifer– Sidmouth Mudstone Formation and Tarporley Siltstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to minor	Very low to low
	Controlled waters - surface water: Fairywell Brook, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors - buildings, foundations and services (and adjacent) Commercial and residential	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from the assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• MA07-05 is adjacent to the proposed Manchester tunnel south portal and the proposed Altrincham Road ventilation shaft is situated within MA07-43.

Table 39: Construction CSM and qualitative risk assessment for a mine shaft (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in infilled shaft including heavy metals, PAH; ground and mine gas (methane, carbon dioxide, hydrogen sulphide and carbon monoxide)	Controlled waters -groundwater Secondary (undifferentiated) Aquifer- glacial till Secondary A Aquifer - Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Negligible to minor	Low to moderate/low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 40: Construction CSM and qualitative risk assessment for a waste transfer facility (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and from current activities including heavy metals, asbestos, petroleum and diesel range hydrocarbons and ground gas (methane and carbon dioxide)	Current site users - Site workers	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer– Halesowen Formation – Principal Aquifer– Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/ low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site investigation will be required prior to construction of the Proposed Scheme;

• sites which lie within the land required for construction of the Proposed Scheme may require remediation;

• sites located on the land required for the construction of the Proposed Scheme are assumed to be unoccupied during construction, therefore on-site construction risks to human health receptors are labelled as not applicable (N/A);

• it is assumed that existing on-site properties will be demolished during the construction stage and so risks to them have not been assessed;

• remediation will be restricted to mitigation of land quality effects arising from the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the potentially contaminated area;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 41: Construction CSM and qualitative risk assessment for a former police and fire station and a current hospital grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former and current site activities including heavy metals, asbestos, petroleum and diesel range hydrocarbons; radioactive substances. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Public building staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer– glacial till	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Secondary B Aquifer – Tarporley Siltstone Formation Principal Aquifer – Chester Formation				
	Controlled waters - surface water: drains	Lateral migration through groundwater Direct runoff from site	Unlikely	Negligible	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Public building, commercial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 42: Construction CSM and qualitative risk assessment for current railway land and former tram depot grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and associated with current and former site activites including heavy metals,	Existing site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
asbestos, PAH; petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aqufier Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – Fallowfield Brook, Platt Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/Industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• MA07-207 is within 20m of the proposed Birchfields Road ventilation shaft.

Table 43: Construction CSM and qualitative risk assessment for former heavy industry and manufacturing sites grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from current and former site activities (including textile works, dye works and chemical works): including a range of organic and inorganic contaminants including (but not limited to) petroleum and diesel range hydrocarbons, VOC and SVOC, asbestos, heavy metals and low levels of ground gases (methane and carbon dioxide)	Existing site users – Industrial and commercial staff and visitors,residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B Aquifer – Manchester Marls Formation Secondary A Aquifer – Etruria Formation and Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters – surface water Corn Brook, River Medlock.	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (adjacent) Commercial/Industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

- *site investigation may be required prior to construction of the Proposed Scheme;*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;*
- *during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;*

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 44: Construction CSM and qualitative risk assessment for former engineering works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made and ground and from former site activities including heavy metals, asbestos, petroleum and diesel range hydrcarbons PAH. Potentially low levels of ground gas (methane and carbon dioxide)	Current site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer– glacial till Secondary A Aquifer– Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled Waters – River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, , foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Low likelihood	Minor	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 45: Construction CSM and qualitative risk assessment for current and former depots grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in mae ground and from former and current activities including heavy metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer – Halesowen Formation Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – surface water, Cringle Brook, Baguley Brook, multiple drains and ponds	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent)	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Commercial/Industrial, residential				

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 46: Construction CSM and qualitative risk assessment for current and former oil depots, fuel stations and tanks grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and diesel range hydrocarbons, VOC and SVOC and asbestos. Potentially low levels of ground gases (methane and carbon dioxide)	Existing site users - Commercial and public building staff and visitors, residential.	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, school users and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer: - glacial till Secondary Aquifer B- Tarporley Siltstone Formation and Manchester Marls Formation Secondary A Aquifer – Halesowen Formation Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: drains, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood to unlikely	Minor	Very low to low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, public building, school, residential properties	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 47: Construction CSM and qualitative risk assessment for a scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from current activities including heavy metals, asbestos, PAH, petroleum and diesel range hydrocarbons, lubricating oils. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

- *site investigation may be required prior to construction of the Proposed Scheme;*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;*
- *during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and*

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 48: Construction CSM and qualitative risk assessment for former timber yards grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from former site acvitivies including PCB, heavy metals, asbestos, PAH, creosote, SVOC, petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial buildings	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• for groups of sites where different sensitivities of receptors have been identified, a risk range has been provided based on the least and most sensitive receptors; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 49: Construction CSM and qualitative risk assessment for a former cemetery (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground including heavy metals and potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer - Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Property receptors - buildings, foundations and services (existing)	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Commercial buildings, school				

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

Table 50: Construction CSM and qualitative risk assessment for an embankment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from made ground: PCB, metals, asbestos, PAH, petroleum and diesel range hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary A Aquifer – glaciofluvial deposits Secondary B Aquifer – Tarporley Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Minor	Low
	Controlled waters - surface water: Sinderland Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Exposure to explosive gases	Low likelihood	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• the site (MA07-36) is within 20m of the proposed Altrincham Road ventilation shaft.

Table 51: Construction CSM and qualitative risk assessment for a former farm (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and former site activities including heavy metals, pesticides, fungicides, asbestos, fertilizers, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer- Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Controlled waters - surface water: drain	Lateral migration through groundwater Direct runoff from site	Unlikely	Minor	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR;

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline; and

• the site (MA07-72) is within 20m of the proposed Wilmslow Road ventilation shaft.

Table 52: Construction CSM and qualitative risk assessment for a former laundry (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in made ground and from site activites including detergents, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of	Existing site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
ground gas (methane and carbon dioxide)	Adjacent site users Commercial staff and visitors, Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Property receptors - buildings, foundations and services (existing) Residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• site investigation may be required prior to construction of the Proposed Scheme;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• during construction, standard mitigation procedures are assumed to be implemented in accordance with the draft CoCP. Construction workers have been excluded from assessment due to the use of PPE/risk management protocols and in accordance with the SMR; and

• while the draft CoCP will make it unlikely that there will be adverse consequences associated with construction e.g. the control of surface runoff and dust, it is considered that there may still be temporary minor adverse effects during the construction period from ground disturbance in these areas. The adoption of the draft CoCP generally results in a low to unlikely probability of a consequence, but in some cases the actual consequence may temporarily increase from that defined at baseline.

3.4 Post-construction risk assessment

Table 53: Post-construction CSM and qualitative risk assessment for former depots grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former depot activities including a range of organic and inorganic contaminants including (but not limited to) PAH, petroleum and diesel range hydrocarbons, asbestos and heavy metals. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters – groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (adjacent) commercial/industrial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• risks to adjacent properties outside the construction area are assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 54:Post-construction CSM and qualitative risk assessment for former and current laundries and former breweries grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former site activities including a range of inorganic contaminants including (but not limited to) chlorinated compounds, detergents, caustic substances and asbestos. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors (	Direct contact, ingestion, inhalation of dusts from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Residential and Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer-glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Property receptors - buildings, foundations and services (adjacent) commercial and residential	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction; and

• MA07-69 is within-20m of the proposed Wilmslow Road ventilation shaft.

Table 55: Post-construction CSM and qualitative risk assessment for a former gas works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former gas works activities, including petroleum and diesel range hydrocarbons, PAH, coal tar and inorganics (including cyanide, spent oxide) asbestos. Potentially ground gases (carbon dioxide and methane)	Adjacent site users - commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
		Exposure to explosive gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Property receptors - buildings, foundations and services (adjacent) Commercial/Industrial	Direct contact with contaminated soils and waters	Unlikely	Medium	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 56: Post-construction CSM and qualitative risk assessment for a former metal manufacturing and plating site (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former metal manufacturing works, including heavy metals, petroleum and diesel range hydrocarbons, PAH asbestos, solvents. Potentially low levels of ground gas (methane and carbon dioxide	Existing site users: Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Principal Aquifer – Chester Formation				
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Exposure to explosive ground gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present both on-site and off-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 57: Post-construction CSM and qualitative risk assessment for current tank and current/former fuel stations grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and diesel range hydrocarbons, VOC and SVOC and asbestos.	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potentially low levels of ground gases (methane and carbon dioxide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 58: Post-construction CSM and qualitative risk assessment for a garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from current garage workshop	Existing site users - Site staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
activities, including petrol and diesel range hydrocarbons, PAH, metals, asbestos, solvents and degreasers. Potentially low levels of ground gas (methane and carbon dioxide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site and off-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 59: Post-construction CSM and qualitative risk assessment for a former brick field (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination from made ground and former brick field activities, comprising a range of organic inorganic contaminants including (but not limited to), petroleum and diesel range hydrocarbons, PAH, metals, asbestos. Potentially low levels of ground gas (methane and carbon dioxide) associated with possible areas of infilled ground	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters -surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site or off-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 60: Post-construction CSM and qualitative risk assessment for a electrical sub-station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination from made ground and current activities including PCB, metals, asbestos and chlorinated hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Manchester Marls Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Electrical sub-station buildings, commercial buildings	Exposure to explosive gases	N/A	N/A	N/A
		Direct contact with contaminated soils and waters	N/A	N/A	N/A

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site or off-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 61: Post-construction CSM and qualitative risk assessment for current and former railway land, tram depot and goods yard grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former and current site activities including a range of organic and inorganic contaminants, including (but not limited to) heavy metals, asbestos, PAH; petroleum and diesel range hydrocarbons and lubricating oils,. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A
	Adjacent site users - Commercial staff and visitors residential, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary B Aquifer – Tarporley Siltstone Formation Secondary A Aquifer – glaciofluvial sheet deposit Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – Baguley Brook, Cringle Brook, River Medlock, unnamed Spring, multiple ponds	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Ecological receptors – SBI Blackcarr Wood and Baguley Bottoms, Round Wood	Vertical and lateral migration, direct contact	Low likelihood to unlikely	Minor	Low to very low
	Property receptors - buildings, foundations and services (adjacent) Commercial/Industrial, residential, school building	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction; and

• the proposed Machester tunnel north portal is situated within MA07-166. The proposed Birchfields Road ventilation shaft is situated within MA07-92. MA07-41 and MA07-45 are within 20m of the proposed Altrincham Road ventilation shaft location.

Table 62: Post-construction CSM and qualitative risk assessment for former timber yards and sawmills grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former site acvitivies including PCB, heavy metals, asbestos, PAH, creosote, SVOC,	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	N/A	N/A	N/A
		Direct contact, ingestion, inhalation of vapours from contaminated waters	N/A	N/A	N/A
		Inhalation of ground gases	N/A	N/A	N/A

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation and Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 63: Post-construction CSM and qualitative risk assessment for embankments grouped for assessment (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in filled ground including, metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer – glaciofluvial deposits Secondary B – Sidmouth Mudstone Formation and Tarporley Siltstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters - surface water: Fairywell Brook, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, resident	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• a risk range may be given as the need for remediation strategies will vary to focus on specific contaminative risks at each site;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed;

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction; and

• MA07-05 is adjacent to the proposed Manchester tunnel south portal and the proposed Altrincham Road ventilation shaft is situated within MA07-43.

Table 64: Post-construction CSM and qualitative risk assessment for a mine shaft (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in infilled shaft including heavy metals, PAH; ground and mine gas (methane, carbon dioxide, hydrogen sulphide and carbon monoxide)	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer - Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Negligible to minor	Low to moderate/low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 65: Post-construction CSM and qualitative risk assessment for a waste transfer facility (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground waste including heavy metals,	Current site users - Site workers	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
asbestos, petroleum and diesel range hydrocarbons; VOC and SVOC, leachate and ground gas (methane and carbon dioxide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer– glacial till Secondary A Aquifer – Halesowen Formation Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters - surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are left open;

• as human health receptors are no longer present on-site and off-site at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing on-site properties are no longer present at the post-construction stage and so risks to them have not been assessed;

• existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and

• excludes rail passengers (as whilst within trains, will at all routine times be within a controlled environment) and maintenance workers; but includes people at stations/depots or in areas returned to public land after construction.

Table 66: Post-construction CSM and qualitative risk assessment for a former police and fire station and a current hospital grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former and current site activities including heavy metals, asbestos, petroleum and diesel range hydrocarbons; radioactive substances. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Public building staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Exposure to explosive gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer– glacial till Secondary B Aquifer – Tarporley Siltstone Formation Principal Aquifer– Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very Low to low
	Controlled waters - surface water: Drains	Lateral migration through groundwater Direct runoff from site	Unlikely	Negligible	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Public building, commercial and residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 67: Post-construction CSM and qualitative risk assessment for current railway land including and former tram depot grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in made ground and associated with current and former site activites including heavy metals, asbestos, PAH; petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users – Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – Fallowfield Brook, Platt Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:
• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;
• assumes baseline conditions will not change at post-construction;
• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed; and
• MA07-207 is within 20m of the proposed Birchfields Road ventilation shaft.

Table 68: Post-construction CSM and qualitative risk assessment former heavy industry and manufacturing sites grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from current and former site activities (including textile works, dye works and chemical works): including a range of organic and inorganic contaminants including (but not limited to) petroleum and diesel range hydrocarbons, VOC and SVOC, asbestos, heavy metals and low levels of ground gases (methane and carbon dioxide)	Existing site users – Industrial and commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary B – Manchester Marls Formation Secondary A – Etruria Formation and Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to minor	Very low
	Controlled waters – surface water Corn Brook, River Medlock.	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (adjacent) Commercial/Industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 69: Post-construction CSM and qualitative risk assessment for a former engineering works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made and ground and from former site activities including heavy metals, asbestos, petroleum and diesel range hydrcarbons PAH. Potentially low levels of ground gas (methane and carbon dioxide)	Current site users – Commercial staff andvisitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users – Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely t	Negligible to minor	Very low
	Controlled Waters – River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial, residential	Exposure to explosive gases	Low likelihood	Minor	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

- *assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;*
- *assumes baseline conditions will not change at post-construction; and*
- *existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.*

Table 70: Post-construction CSM and qualitative risk assessment for current and former depots grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in mae ground and from former and current activities including heavy metals, asbestos, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer - glacial till Secondary A Aquifer – Halesowen Formation Principal Aquifer – Chester Formation and Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled Waters – surface water, Cringle Brook, Baguley Brook, multiple drains and ponds	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial, residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

- *assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;*
- *assumes baseline conditions will not change at post-construction; and*
- *existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.*

Table 71: Post-construction CSM and qualitative risk assessment for current and former oil depots, fuel stations and tanks grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from current and former activities comprising a range of organic and inorganic contaminants, including petroleum and diesel range hydrocarbons, VOC and SVOC and asbestos. Potentially low levels of ground gases (methane and carbon dioxide)	Existing site users - Commercial and public building staff and visitors, residential.	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users - Commercial staff and visitors, school users and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary Undifferentiated Aquifer(undifferentiated) : glacial till-glacial till Secondary B Aquifer - Tarporley Siltstone Formation and Manchester Marls Formation Secondary A Aquifer– Halesowen Formation Principal Aquifer– Chester Formation and Collyhurst Sandstone Formation SPZ 3	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Controlled waters – surface water: drains, Baguley Brook	Lateral migration through groundwater Direct runoff from site	Low likelihood to unlikely	Minor	Very Low to low
		Exposure to explosive gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial, public building, school, residential properties	Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 72: Post-construction CSM and qualitative risk assessment for a scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from current activities including heavy metals, asbestos, PAH, petroleum and diesel range hydrocarbons, lubricating oils. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Secondary A Aquifer – Halesowen Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 73: Post-construction CSM and qualitative risk assessment for former timber yards grouped for assessment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from former site activities including PCB, heavy metals, asbestos, PAH, creosote, SVOC, petroleum and diesel range hydrocarbons, fungicides and pesticides. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Secondary B Aquifer – Manchester Marls Formation Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled Waters – surface water River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial buildings	Exposure to explosive gases	Unlikely	Minor	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 74: Post-construction CSM and qualitative risk assessment for a former cemetery (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construciton phase
Potential contamination in made ground including heavy metals and potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors, school users and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construciton phase
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low
	Property receptors - buildings, foundations and services (existing) Commercial buildings, school	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction; and

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.

Table 75: Post-construction CSM and qualitative risk assessment for an embankment (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination from made ground: PCB, metals, asbestos, PAH, petroleum and diesel range hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide)	Adjacent site users - Commercial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary A – glaciofluvial deposits Secondary B – Tarporley Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Minor	Low
	Controlled waters - surface water, Sinderland Brook	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	Low
		Exposure to explosive gases	Low likelihood	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Property receptors - buildings, foundations and services (existing and adjacent) Commercial/Industrial	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction;

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed; and

• the site (MA07-36) is within 20m of the proposed Altrincham Road ventilation shaft.

Table 76: Post-construction CSM and qualitative risk assessment for a former farm (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and former site activities including heavy metals, pesticides, fungicides, asbestos, fertilizers, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low likelihood	Medium	Moderate/low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till Principal Aquifer – Chester Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Controlled waters - surface water: drain	Lateral migration through groundwater Direct runoff from site	Unlikely	Minor	Very low
	Property receptors - buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Medium	Low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Notes/assumptions:

• assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;

• assumes baseline conditions will not change at post-construction;

• existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed; and

• the site (MA07-72) is within 20m of the proposed Wilmslow Road ventilation shaft.

Table 77: Post-construction CSM and qualitative risk assessment for a former laundry (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
Potential contamination in made ground and from site activites including detergents, PAH, petroleum and diesel range hydrocarbons. Potentially low levels of ground gas (methane and carbon dioxide)	Existing site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors. residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low likelihood	Medium	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Unlikely	Medium	Low
	Controlled waters -groundwater Secondary (undifferentiated) Aquifer – glacial till	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood to unlikely	Negligible to medium	Very low to low

Source	Receptor	Pathway	Probability	Consequence	Risk at Post-construction phase
	Principal Aquifer – Chester Formation				
	Property receptors - buildings, foundations and services (existing) Residential	Exposure to explosive gases	Unlikely	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Low

Notes/assumptions:

- *assumes construction works are complete and remediation has been carried out where necessary. No pathways are open;*
- *assumes baseline conditions will not change at post-construction; and*
- *existing site users and adjacent site users in the receptor column refer to users within/near to the areas assessed.*

3.5 Assessment of temporary (construction) and permanent (post-construction) effects

3.5.1 The significance of the effects of land contamination is assessed by comparing the difference in risk of each contaminant linkage at baseline to those at construction and at post-construction stages. This provides a way of assessing both the adverse and beneficial effects during construction and the post-construction period.

Table 78: Former depots (on-site) – significance of effects assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till Collyhurst Sandstone Formation, Manchester Marls Formation)	Very low to low	Very low to moderate/low	Very low to low	Neutral to minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very Low	Very Low	Very Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 79: Former and current laundries and former breweries (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Very low	Very low	Very low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 80: Former gas works (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Halesowen Formation)	Very low	Very low to low	Very low	Minor adverse	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 81: Former metal manufacturing and plating (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation, Manchester Marls Formation)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	N/A	N/A	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	N/A	N/A	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 82: Current tank and current/former fuel stations (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Manchester Marls Formation, Chester Formation)	Very low to Low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 83: Garage workshop (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation)	Very low to low	Very low to loderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	N/A	N/A	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	N/A	N/A	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 84: Former brick field (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Collyhurst Sandstone Formation)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	N/A	N/A	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	N/A	N/A	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 85: Electrical sub-station (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Manchester Marls Formation)	Very low	Very low to low	Very low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	N/A	N/A	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	N/A	N/A	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 86: Current and former railway land, tram depot and goods yard (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	N/A	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	N/A	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	N/A	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, glaciofluvial sheet deposit Tarporley Siltstone Formation, Chester Formation, Collyhurst Sandstone Formation, SPZ 3)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (ponds, River Medlock, unnamed Spring)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Vertical and laterial migration, and direct contact of ecological receptors	Very low to low	Very low to low	Very low to low	Netural	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 87: Former timber yard and sawmills (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	N/A	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	N/A	N/A	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	N/A	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Collyhurst Sandstone Formation, Chester Formation)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 88: Embankments (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	Low	N/A	Minor beneficial
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	N/A	Low	N/A	Minor beneficial
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	Low	N/A	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Glaciofluvial deposits, Sidmouth Mudstone Formation, Tarporley Siltstone Formation)	Very Low	Very low to low	Very low	Minor adverse	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (ponds, River Medlock)	Low	Moderate/low	Low	Minor adverse	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral to minor beneficial

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 89: Former mine shaft (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Halesowen Formation)	Low to moderate/low	Low to moderate/low	Low to moderate/low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 90: Waste transfer facility (on-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	N/A	N/A	N/A	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	N/A	N/A	N/A	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	N/A	Neutral
Exposure of human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Collyhurst Sandstone Formation, Halesowen Formation)	Very low to low	Very low to moderate/low	Very low to low	Minor adverse	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral to minor adverse	Neutral

Notes/assumptions:

• the significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area;

• as human health receptors are no longer present during the construction and post-construction stages the risks are labelled as not applicable (N/A); and

• it is assumed that existing properties are demolished during the construction and post-construction stages and so risks to them have not been assessed.

Table 91: Former police and fire station and a current hospital (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation, Tarporley Siltstone Formation)	Very Low to low	Very low to low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (drains)	Very low	Very low	Very low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 92: Current and former railway land and tram depot (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Collyhurst Sandstone Formation, SPZ 3)	Very low to low	Very low to low	Very low to low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (ponds, Baguley Brook, Cringle Brook, Spring)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 93: Former heavy industry and manufacturing sites (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Etruria Formation, Halesowen Formation, Manchester Marls Formation)	Very low	Very low	Very low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock, Corn Brook)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 94: Former engineering works (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	Low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Halesowen Formation)	Very low	Very low	Very low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 95: Current and former depots (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation, Collyhurst Sandstone Formation, Halesowen Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (Cringle Brook, Baguley Brook, drains and ponds)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 96: Current and former oil depots, fuel stations and tanks (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Tarporley Siltstone Formation, Manchester Marls Formation, Chester Formation, Collyhurst Sandstone Formation, Halesowen Formation, SPZ 3)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (ponds, drains, Baguley Brook and Cringle Brook)	Very low to low	Very low to ow	Very low to low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 97: Scrap yard (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Halesowen Formation)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 98: Former timber yards (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Collyhurst Sandstone Formation, Manchester Marls Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 99: Former cemetery (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 100: Embankment (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glaciofluvial deposits, Tarporley Sandstone Formation)	Low	Low	Low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (Sinderland Brook)	Low	Low	Low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 101: Former farm (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion, inhalation of dusts and vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (drain)	Very low	Very low	Very low	Neutral	Neutral
Exposure of property to ground gases	Low	Low	Low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

Table 102: Former laundry (off-site) - significance of effect assessment

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Exposure of human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Low	Low	Low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Low	Low	Low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (glacial till, Chester Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Exposure of property to ground gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Overall significance				Neutral	Neutral

Notes/assumptions:

• The significance column may report a range of outcomes for a site. The draft CoCP is designed to mitigate effects, and it is considered that only temporary minor adverse effects during the construction period will occur from ground disturbance. Mitigation measures over and above the draft CoCP are detailed in the Volume 2 report for this study area.

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