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HS2

High Speed Rail (Crewe – Manchester) Environmental Statement

Volume 5: Appendix LQ-001-0MA08

Land quality

MA08: Manchester Piccadilly Station

Land quality report

M221

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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1 Introduction

1.1.1 This report is an appendix to the land quality assessment for the Manchester Piccadilly Station 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) (BID LQ-002-0MA08)[1].

1.1.3 Maps referred to throughout this report are contained in the Volume 5: Land quality Map Book (Map LQ-01-327b). Sites carried through to assessment are given a reference number. In this report they are referred to as MA08-103 and on the maps they are referred to as 08-103.

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-002-0MA08. 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 Manchester Piccadilly Station 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 Manchester Piccadilly Station 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.
	Email (6 August 2018)	Email to MCC to provide GIS shapefile of area of interest 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.
	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.
	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 effects identified to date.
Environment Agency	Meeting (15 May 2018)	Presentation and workshop on land quality approach. No specific concerns raised but introductions made to Environment Agency HS2 team.
	Meeting (14 September 2018)	Meeting to discuss acquiring Environment Agency 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 at subsequent meeting. Specific concerns raised by Environment Agency around: prohibition on reuse of arisings within permitted area under the existing permit; potential land quality issues at Ardwick Depot due to current waste transfer operations; and information to be obtained from the Environment Agency Environmental Crime Team on illegal deposition or tipping of waste
Animal and Plant Health Agency (APHA)	Email (16 May 2019)	APHA detailed that there is no register of animal burial sites for this community area.

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 Section 3.2 to 3.5 presents assessments for potentially contaminated sites which have passed through the two-stage screening process within the study area. For each site the following data is 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 operation 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 Manchester Piccadilly Station 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’.

Table 2: Sites included in the risk assessment within the Manchester Piccadilly Station area

Site group	Site title (site ID) and land use class[2]
On-site	
Historical cemetery	Historical cemetery (MA08-160) Class 2
Former depots	Former depot (MA08-89), Class 2 Former depot (MA08-69) Class 2 Former depot (MA08-76), Class 2
Former and current works	Former works (MA08-21), Class 2 Former works (MA08-90), Class 2 Former works (MA08-33), Class 2 Former works (MA08-42), Class 2 Former works (MA08-49), Class 2 Former pully works (MA08-45), Class 2 Former works (MA08-38), Class 2 Former works (MA08-44), Class 2 Former works (MA08-30), Class 2 Former works (MA08-29), Class 2 Current works (MA08-56), Class 2 Former engineering workshop (MA08-116), Class 2
Former printing works	Former printing works (MA08-81), Class 3
Former garage workshop	Former garage (MA08-59), Class 2
Former petrol filling station	Former petrol filling station and tanks (MA08-54), Class 3
Former iron and metal works	Former Ardwick Iron works (MA08-62), Class 3 Former smithy (MA08-105), Class 3 Former iron foundry (MA08-109), Class 3 Former smithy (MA08-48), Class 3 Former Soho Iron works (MA08-158), Class 3
Former and current tramway and railway land	Current London Railroad Station and lines (MA08-27), Class 2 Former Ancoats Goods Station and railway line (MA08-75), Class 2 Former tramway (MA08-118), Class 2 Former tramway (MA08-85), Class 2
Former dye works, cotton mills and cotton works	Former Bridge Street Mill (MA08-66), Class 3 Former Pin Mill (MA08-57), Class 3 Former Marlborough Mills (MA08-31), Class 3 Former Neptune Works (MA08-41), Class 3 Former Ardwick Mill (MA08-46), Class 3 Former Cotton Mill (MA08-155), Class 3 Former dye works (MA08-80), Class 3
Former warehouses	Former warehouse (MA08-97), Class 1 Former warehouse (MA08-65), Class 1 Former warehouse (MA08-84), Class 1 Former warehouse (MA08-96), Class 1
Former timber yard	Former timber yard (MA08-74), Class 2

[2] As defined by the SMR.

Site group	Site title (site ID) and land use class[2]
Off-site	
Former and current engineering works and works	Former engineering works (MA08-60), Class 2 Former Phoenix Works (MA08-103), Class 2 Former packing case manufacturing (MA08-110), Class 2 Current works (MA08-98), Class 2 Former coach manufactory (MA08-58), Class 2 Former works (MA08-08), Class 2 Former works (MA08-09), Class 2 Former sugar works (MA08-11), Class 2 Former engineering workshops (MA08-124), Class 2 Former saddlery works (MA08-127), Class 2 Former engineering workshops (MA08-68), Class 2
Former chemical works	Former Soho Chemical works (MA08-154), Class 3 Former Ardwick Bridge Chemical Works (MA08-15), Class 3 Former chemical works (MA08-01), Class 3 Former paint and varnish works (MA08-03), Class 3 Former rubber and plastics works (MA08-13), Class 3 Former Ancoats Vale Rubber Works (MA08-86), Class 3
Former tanks	Former tank (MA08-18), Class 3 Former tank (MA08-06), Class 3 Former tank (MA08-93), Class 3
Former metal foundries	Former Sheffield Iron Foundry (MA08-140), Class 3 Former iron foundry and clothing works (MA08-142), Class 3 Former Pin Mill Iron Forge (MA08-61), Class 3 Former Iron and Brass Foundry (MA08-82), Class 3 Former smithy (MA08-83), Class 3 Former Phoenix Brass and Iron Works (MA08-115), Class 3 Former Mill'd Lead and Patent Pipe Works (MA08-119), Class 3 Former tin works (MA08-121), Class 3
Former dye works and mills	Former Ardwick Dye Works (MA08-77), Class 3 Former Sandy Nook Mill (MA08-72), Class 3 Former Mayfield Dye and Print Works (MA08-43), Class 3 Former cotton mill (MA08-126), Class 3 Former Hanover Mill (MA08-32), Class 3 Former cotton mill (MA08-34), Class 3 Former dye works (MA08-17), Class 3 Former clothing factory (MA08-123), Class 3 Former Shepley St Mill (MA08-92), Class 3 Former Piccadilly Mill (MA08-101), Class 3 Former cloth finishing works (MA08-39), Class 3 Former cotton mill (MA08-122), Class 3 Former clothing factory (MA08-67), Class 3 Former textile and dye works (MA08-04), Class 3 Former Minshull Cotton Works (MA08-73), Class 3 Former cotton mill (MA08-95), Class 3 Former Medlock Cotton and India rubber works (MA08-19), Class 3

Site group	Site title (site ID) and land use class[2]
	Former Hope Mill (MA08-151), Class 3
Former timber yards	Former timber yard (MA08-47), Class 2 Former timber yard (MA08-64), Class 2 Former Ardwick Sawmill and Timber Yard (MA08-40), Class 2 Former timber yard (MA08-108), Class 2 Former timber yard (MA08-70), Class 2 Former timber yard (MA08-79), Class 2
Former gasometer	Former gasometer (MA08-94), Class 3
Historical landfill	Historical Palmerston Street Landfill (MA08-78), Class 3
Former and current warehouses	Former warehouse (MA08-106), Class 1 Former warehouse (MA08-107), Class 1 Former warehouse (MA08-111), Class 1 Current warehouse (MA08-100), Class 1 Former general wharf and stores (MA08-125), Class 1 Former iron warehouse (MA08-129), Class 1
Former scrapyard	Former scrap yard (MA08-134), Class 2
Former railway land	Former Mayfield train station (MA08-52), Class 2
Former depot	Former depot (MA08-63), Class 2
Former garage workshop	Former garage (MA08-10), Class 2

3.1.11 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.

3.1.12 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 Map LQ-01-327b, (Volume 5: Land Quality Map Book).

3.1.13 The following abbreviations are used in these tables:

- CoCP – Code of Construction Practice;
- PAH – polycyclic aromatic hydrocarbons;
- PCB – polychlorinated biphenyls;
- 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 historical cemetery (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities; contaminants primarily comprising metals, semi-metals, pathogens, 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	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	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 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	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 1 for details of receptors relevant to groups of sites;*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed; and*
- *records indicate that the cemetery was capped in 1968.*

Table 4: Baseline CSM and qualitative risk assessment for former depots (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas and 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	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 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 and Ashton Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; and*
- *existing site users and adjacent site users in the receptor column refer to users at or near to the areas assessed.*

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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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 Residential and commercial/industrial 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
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: Ashton Canal, River Medlock	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	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

- *sites assessed without construction of the Proposed Scheme;*
- *see BID document Section 2 Table 3 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 6: Baseline CSM and qualitative risk assessment for former printing works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Adjacent site users Commercial/industrial 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	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 Undifferentiated Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/Industrial	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 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 former garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
		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	Low likelihood	Medium	Moderate/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 5 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 8: Baseline CSM and qualitative risk assessment for former petrol filling station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs; 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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
petroleum and diesel range hydrocarbons	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 - alluvium 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	Low likelihood	Medium	Moderate/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:

• 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 former iron and metal works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos,	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
PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbon	Commercial and industrial 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 and industrial staff and visitors and 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	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, Ashton Canal	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	Unlikely	Minor	Very low
	Ecological designations - Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

- *sites assessed without construction of the Proposed Scheme;*
- *see BID document Section 2 Table 7 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 10: Baseline CSM and qualitative risk assessment for former and current tramway and railway land (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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, industrial staff and visitors and 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
		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, Rochdale Canal and Ashton Canal	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
	Ecological designations – Ashton Canal, Rochdale Canal north-east of Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 8 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

• MA08-27 is currently still in use.

Table 11: Baseline CSM and qualitative risk assessment for former dye works, cotton mills and cotton works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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, industrial staff and visitors and 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	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, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial/residential	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very 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; and

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

Table 12: Baseline CSM and qualitative risk assessment for former warehouses (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs; 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 and 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
		Inhalation of ground 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	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: Ashton Canal, 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	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very 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 a former timber yard (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and	Existing site users Visitors and walkers	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
carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial/industrial 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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/I industrial	Exposure to explosive gases	Low likelihood	Medium	Moderate/low
		Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 11 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 14: Baseline CSM and qualitative risk assessment for former and current engineering works and works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors and 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, industrial staff & visitors and 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	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: Ashton Canal and River Medlock	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	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 12 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 15: Baseline CSM and qualitative risk assessment for former chemical works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Likely	Medium	Moderate
		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 and 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: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Likely	Medium	Moderate

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/Industrial/Residential	Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 13 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 16: Baseline CSM and qualitative risk assessment for former tanks (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: hydrocarbons including waste oils, heavy metals, PAH, PCBs, ground gas and asbestos	Existing site users Industrial 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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	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: Rochdale Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological receptors - Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very 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 former metal foundries (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas	Existing site users Commercial staff and visitors and 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 baseline phase
(methane and carbon dioxide); petroleum and diesel range hydrocarbons	Adjacent site users Residential and 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: Rochdale Canal, Ashton Canal and River Medlock	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low
	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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very 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; and

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

Table 18: Baseline CSM and qualitative risk assessment for former dye works and mills (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors and residents	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 Residential and commercial/industrial 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 – groundwater Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Medium	Moderate
	Controlled waters – surface water: River Medlock, Rochdale Canal and Ashton Canal	Lateral migration through groundwater	Likely	Medium	Moderate
	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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very 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;

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

• MA08-31, 17, 43, superficial deposits are absent therefore risk to underlying Aquifer increases.

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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC	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 baseline phase
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: River Medlock, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/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
	Ecological designations – Ashton Canal (West)	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 17 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 20: Baseline CSM and qualitative risk assessment for a former gasometer (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	Low likelihood	Medium	Moderate/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
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: Rochdale Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Low likelihood	Medium	Moderate/low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 18 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 21: Baseline CSM and qualitative risk assessment for a historical landfill (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination in infilled ground, industrial landfill waste, contaminated groundwater/leachate plume: metals, asbestos, hydrocarbons; ground gas and landfill gas (methane, carbon dioxide, VOC and hydrogen sulphide)	Adjacent site users 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
		Inhalation of ground gases	Low likelihood	Severe	Moderate
	Controlled waters – groundwater Secondary Undifferentiated Aquifer - alluvium	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
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Likely	Medium	Moderate
	Property receptors – buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Severe	Moderate/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 19 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;

• no details of the landfill construction are known;

• landfill accepted both inert and industrial wastes; and

• the issue and surrender dates for the licence are noted as 20 August 1986 and 21 July 1988, respectively.

Table 22: Baseline CSM and qualitative risk assessment for former and current warehouses (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Commercial staff and visitors and residential	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, Rockdale Canal and Ashton Canal	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• sites assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 20 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 23: Baseline CSM and qualitative risk assessment for a former scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial staff and visitors and 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	Low likelihood	Medium	Moderate/low
	Adjacent site users Commercial staff and visitors and 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
		Inhalation of ground gases	Low likelihood	Medium	Moderate/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: Ashton Canal	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	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	Unlikely	Minor	Very low

Notes/assumptions:

• site assessed without construction of the Proposed Scheme;

• see BID document Section 2 Table 21 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 24: Baseline CSM and qualitative risk assessment for former railway land (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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 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 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 a former depot (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas and asbestos	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 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	Low likelihood	Medium	Moderate/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 23 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 26: Baseline CSM and qualitative risk assessment for a former garage workshop (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons); potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	Severe	Moderate/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	Moderate/low
		Inhalation of ground gases	Unlikely	Severe	Moderate/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	Low likelihood	Medium	Moderate/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 24 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 27: Construction CSM and qualitative risk assessment for historical cemetery (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities contaminants primarily comprising metals, semi-metals, pathogens, 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 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	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;

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

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas 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	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	Leaching, vertical and lateral migration from contaminated soils and waters	Low likelihood	Negligible to medium	Very low to moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: River Medlock and Ashton Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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 Residential and commercial/industrial 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	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/industrial/residential	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 30: Construction CSM and qualitative risk assessment for former printing works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Adjacent site users Commercial/ industrial 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	Negligible to medium	Very low to moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Controlled waters – surface water: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/industrial	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 31: Construction CSM and qualitative risk assessment for former garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially	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

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons		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 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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial	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;

• 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 former petrol filling station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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 - alluvium 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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (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 33: Construction CSM and qualitative risk assessment for former iron and metal works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbon	Existing site users Commercial and industrial 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 industrial staff and visitors and 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
	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, Ashton Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 and current tramway and railway land (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors, residential	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, industrial staff and visitors and 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
		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	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: River Medlock, Rochdale Canal and Ashton Canal	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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal, Rochdale Canal north-east of Ducie Street Basin	Lateral migration	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; 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 former dye works, cotton mills and cotton works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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, industrial staff and visitors and 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
	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, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 former warehouses (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs 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 and 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
		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	Negligible to medium	Very low to moderate/low
	Controlled waters – surface water: Ashton Canal, River Medlock	Lateral migration through groundwater Direct runoff from site	Unlikely	Medium	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 37: Construction CSM and qualitative risk assessment for a former timber yard (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC	Existing site users Visitors and walkers	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/industrial 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 construction phase
	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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/industrial	Exposure to explosive gases	Low likelihood	Medium	Moderate/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;

• 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 38: Construction CSM and qualitative risk assessment for former and current engineering works and works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors and 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, industrial staff and visitors and 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	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: Ashton Canal and River Medlock	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	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 39: Construction CSM and qualitative risk assessment for former chemical works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Likely	Medium	Moderate
		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 and commercial/industrial 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

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Controlled waters – surface water: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Likely	Medium	Moderate
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial/residential	Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 40: Construction CSM and qualitative risk assessment for former tanks (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: hydrocarbons including waste oils, heavy metals,	Existing site users Industrial 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
PAH, PCBs, ground gas and asbestos		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: Rochdale Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/Industrial	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations - Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 41: Construction CSM and qualitative risk assessment for former metal foundries (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial staff and visitors and 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 and 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: Rochdale Canal, Ashton Canal and River Medlock	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/residential	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 42: Construction CSM and qualitative risk assessment for former dye works and mills (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas	Existing site users Commercial and industrial staff and visitors and residents	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
(methane and carbon dioxide); petroleum and diesel range hydrocarbons	Adjacent site users Residential and commercial and industrial 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
	Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Medium	Moderate
	Controlled waters – surface water: River Medlock, Rochdale Canal and Ashton Canal	Lateral migration through groundwater	Likely	Medium	Moderate
	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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;

• 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

• MA08-31, 17, 43, superficial deposits are absent therefore risk to underlying Aquifer increase.

Table 43: Construction CSM and qualitative risk assessment for former timber yards (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC	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 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, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low
		Exposure to explosive gases	Unlikely	Minor	Very low

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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West)	Lateral migration	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 44: Construction CSM and qualitative risk assessment for a former gasometer (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	Low likelihood	Medium	Moderate/low
	Controlled waters – groundwater	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 Undifferentiated Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: Rochdale Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Low likelihood	Medium	Moderate/low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 a historical landfill (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination in infilled ground, industrial landfill waste,	Adjacent site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
contaminated groundwater/leachate plume: metals, asbestos, hydrocarbons; ground gas and landfill gas (methane, carbon dioxide, VOC and hydrogen sulphide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Low likelihood	Severe	Moderate
	Controlled waters – groundwater Secondary Undifferentiated Aquifer - alluvium 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	Likely	Medium	Moderate
	Property receptors – buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Severe	Moderate/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 46: Construction CSM and qualitative risk assessment for former and current warehouses (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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 and 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
		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, Ashton Canal, Rochdale Canal	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 47: Construction CSM and qualitative risk assessment for a former scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial staff and visitors and 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	Low likelihood	Medium	Moderate/low
	Adjacent site users Commercial staff and visitors and 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
		Inhalation of ground gases	Low likelihood	Medium	Moderate/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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	Controlled waters – surface water: Ashton Canal	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	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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; 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 railway land (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	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 Undifferentiated Aquifer - glacial till 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	Exposure to explosive gases	Unlikely	Minor	Very 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; 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 depot (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas and asbestos	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

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
	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	Low likelihood	Medium	Moderate/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 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 a former garage workshop (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially	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
low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons		Inhalation of ground gases	Unlikely	Severe	Moderate/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
		Inhalation of ground gases	Unlikely	Severe	Moderate/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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial	Exposure to explosive gases	Very low	Very low	Very low
		Direct contact with contaminated soils and waters	Very low	Very low	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; 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 51: Post-construction CSM and qualitative risk assessment for historical cemetery (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at baseline phase
Potential contamination from former activities contaminants primarily comprising metals, semi-metals, pathogens, 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 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	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 52: Post-construction CSM and qualitative risk assessment for former depots (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas 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	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 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 and Aston Canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 at the post-construction stage and so the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 53: Post-construction CSM and qualitative risk assessment for former and current works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and Industrial 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 Residential and 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 post-construction phase
	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: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/Industrial/Residential	Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 at the post-construction stage and so the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 54: Post-construction CSM and qualitative risk assessment for former printing works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Adjacent site users Commercial/industrial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Moderate/low	Moderate/low	Moderate/low
		Direct contact, ingestion, inhalation of vapours from contaminated waters	Low	Low	Low
		Inhalation of ground gases	Low	Low	Low
	Controlled waters – groundwater Secondary Undifferentiated Aquifer - glacial till Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Very low to low	Very low to low	Very low to low
	Controlled waters – surface water: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Moderate/low	Moderate/low	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/industrial	Direct contact with contaminated soils and waters	Low	Low	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 55: Post-construction CSM and qualitative risk assessment for former garage workshop (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	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	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 former petrol filling station (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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 - alluvium 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	Low likelihood	Medium	Moderate/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	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 former iron and metal works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbon	Existing site users Commercial and industrial 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/industrial staff and visitors and 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 post-construction phase
	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, Ashton Canal	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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 58: Post-construction CSM and qualitative risk assessment for former and current tramway and railway land (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors, residential	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, industrial staff and visitors and 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
		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, Rochdale Canal and Ashton Canal	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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal, Rochdale Canal north-east of Ducie Street Basin	Lateral migration	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 former dye works, cotton mills and cotton works (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial 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, industrial staff and visitors and 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	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, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 at the post-construction stage and so the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 60: Post-construction CSM and qualitative risk assessment for former warehouses (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas	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
(methane and carbon dioxide)	Adjacent site users Commercial staff and visitors and 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
		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: Ashton Canal, 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	Minor	Very low
		Direct contact with contaminated soils and waters	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 a former timber yard (on-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC	Existing site users Visitors and walkers	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/industrial 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	Negligible to medium	Very Low to moderate/low
	Controlled waters – surface water: River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (adjacent) Commercial/industrial	Exposure to explosive gases	Low likelihood	Medium	Moderate/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 at the post-construction stage the risks are labelled as not applicable (N/A);

• it is assumed that existing properties are no longer present on-site 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 62: Post-construction CSM and qualitative risk assessment for former and current engineering works and works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors and 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, industrial staff and visitors and 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	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: Ashton Canal and River Medlock	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	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 63: Post-construction CSM and qualitative risk assessment for former chemical works (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Likely	Medium	Moderate
		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 and commercial/industrial 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
	Principal Aquifer – Collyhurst Sandstone Formation				
	Controlled waters – surface water: Ashton Canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Likely	Medium	Moderate
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial/residential	Direct contact with contaminated soils and waters	Low likelihood	Medium	Moderate/low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 64: Post-construction CSM and qualitative risk assessment for former tanks (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: hydrocarbons including waste oils, heavy metals, PAH, PCBs, ground gas and asbestos	Existing site users Industrial 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 post-construction phase
	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: Rochdale canal and River Medlock	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial/industrial	Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designation – Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 65: Post-construction CSM and qualitative risk assessment for former metal foundries (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial staff and visitors and 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 and 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: Rochdale Canal, Ashton Canal and River Medlock	Lateral migration through groundwater	Low likelihood	Medium	Moderate/low
	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	Unlikely	Minor	Very low
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 66: Post-construction CSM and qualitative risk assessment for former dye works and mills (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial and industrial staff and visitors and residents	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 Residential and commercial and industrial 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
	Principal Aquifer – Collyhurst Sandstone Formation	Leaching, vertical and lateral migration from contaminated soils and waters	Likely	Medium	Moderate
	Controlled waters – surface water: River Medlock, Rochdale Canal and Ashton Canal	Lateral migration through groundwater	Likely	Medium	Moderate

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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

• MA08-31, 17, 43, superficial deposits are absent therefore risk to underlying Aquifer increase.

Table 67: Post-construction CSM and qualitative risk assessment for former timber yards (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); pesticides and fungicides; creosote, phenols, SVOC	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

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
		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, Ashton Canal	Lateral migration through groundwater	Low likelihood	Medium	Moderate/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
	Ecological designations – Ashton Canal (West)	Lateral migration	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 68: Post-construction CSM and qualitative risk assessment for a former gasometer (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of	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 post-construction phase
ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons		Inhalation of ground gases	Low likelihood	Medium	Moderate/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: Rochdale canal	Lateral migration through groundwater Direct runoff from site	Low likelihood	Medium	Moderate/low
	Property receptors – buildings, foundations and services (existing and adjacent) Commercial	Exposure to explosive gases	Low likelihood	Medium	Moderate/low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 69: Post-construction CSM and qualitative risk assessment for a historical landfill (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination in infilled ground, industrial landfill waste, contaminated	Adjacent site users Residential	Direct contact, ingestion, inhalation of dusts and vapours from contaminated soils	Unlikely	Medium	Low

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
groundwater/leachate plume: metals, asbestos, hydrocarbons; ground gas and landfill gas (methane, carbon dioxide, VOC and hydrogen sulphide)		Direct contact, ingestion, inhalation of vapours from contaminated waters	Unlikely	Medium	Low
		Inhalation of ground gases	Low likelihood	Severe	Moderate
	Controlled waters – groundwater Secondary Undifferentiated Aquifer - alluvium 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	Likely	Medium	Moderate
	Property receptors – buildings, foundations and services (existing and adjacent) Residential	Exposure to explosive gases	Unlikely	Severe	Moderate/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 former and current warehouses (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former and current activities: PCBs, metals, asbestos, PAHs; potentially low levels of ground gas	Existing site users Commercial and industrial 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 post-construction phase
(methane and carbon dioxide); petroleum and diesel range hydrocarbons		Inhalation of ground gases	Unlikely	Medium	Low
	Adjacent site users Commercial staff and visitors and 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
		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, Ashton Canal, Rochdale Canal	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
	Ecological designations – Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 a former scrap yard (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	Existing site users Commercial staff and visitors and 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	Low likelihood	Medium	Moderate/low
	Adjacent site users Commercial staff and visitors and 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
		Inhalation of ground gases	Low likelihood	Medium	Moderate/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: Ashton Canal	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	Very low
		Direct contact with contaminated soils and waters	Low likelihood	Minor	Low
	Ecological designations – A Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin	Lateral migration	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 72: Post-construction CSM and qualitative risk assessment for former railway land (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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 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:

• 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 a former depot (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities – hydrocarbons including waste oils, heavy metals, low levels of ground gas and asbestos	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 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	Low likelihood	Medium	Moderate/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:

• 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 a for former garage workshop (off-site)

Source	Receptor	Pathway	Probability	Consequence	Risk at post-construction phase
Potential contamination from former activities: PCBs, metals, asbestos, PAHs and chlorinated hydrocarbons; potentially low levels of ground gas (methane and carbon dioxide); petroleum and diesel range hydrocarbons	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	Severe	Moderate/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	Low likelihood	Medium	Moderate/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 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 75: Historical cemetery (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	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
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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

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, Collyhurst Sandstone 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	Moderate/low	Moderate/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 76: Former depots (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
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 to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone 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 and Ashton Canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 77: Former and current works (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 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, Collyhurst Sandstone 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 and Ashton Canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 78: Former printing 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 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, Collyhurst Sandstone 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 (Ashton Canal, River Medlock)	Moderate/low	Moderate/low	Moderate/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 79: Former 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
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, Collyhurst Sandstone 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)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Exposure to explosive gas	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 petrol filling 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
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent 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 adjacent human receptors by direct contact, ingestion and inhalation of vapours from contaminated waters	Moderate/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 (alluvium, Collyhurst Sandstone 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)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive gases	Very low	Very low	Very low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Direct contact of property with contaminated soils and waters	Moderate/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 81: Former iron and metal works (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 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

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, Collyhurst Sandstone 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, Ashton Canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive gas	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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 82: Former and current tramway and railway land (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
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 to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone 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, Rochdale Canal and Ashton Canal)	Low	Low	Low	Neutral	Neutral
Exposure to explosive gas	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
Ecological designation (Ashton Canal, Rochdale Canal north-east of Ducie Street Basin)	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 83: Former dye works, cotton mills and cotton works (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
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	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, Collyhurst Sandstone 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, Ashton Canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive gas	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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 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 warehouses (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
Exposure of human receptors to inhalation of gases and vapours	Low	N/A	N/A	Neutral	Neutral
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone Formation)	Very low to low	Very low to moderate/low	Very low to low	Neutral to 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 (Ashton Canal, River Medlock)	Low	Low	Low	Neutral	Neutral
Exposure to explosive gas	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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 85: Former timber 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	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
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

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
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, Collyhurst Sandstone 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)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of property to explosive gases	Moderate/low	Moderate/low	Moderate/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 86: Former and current engineering works and 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	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	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 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, Collyhurst Sandstone 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 (Ashton Canal, River Medlock)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 87: Former chemical 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	Moderate	Moderate	Moderate	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 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, Collyhurst Sandstone 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 (Ashton Canal, River Medlock)	Moderate	Moderate	Moderate	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 88: Former tanks for assessment (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 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, Collyhurst Sandstone 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 (Rochdale canal and River Medlock)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral

Contaminant linkage	Baseline risk	Construction risk	Post-construction risk	Construction significance	Post-construction significance
Ecological designation (Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 89: Former metal foundries (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	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 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, Collyhurst Sandstone Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (Rochdale canal, Ashton Canal and River Medlock)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive 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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 90: Former dye works and mills (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	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

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
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, Collyhurst Sandstone Formation)	Very low to low	Very low to low	Very low to low	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate where no superficial deposits (Collyhurst Sandstone Formation)	Moderate	Moderate	Moderate	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (River Medlock, Rochdale Canal and Ashton Canal)	Moderate	Moderate	Moderate	Neutral	Neutral
Exposure to explosive 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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 91: Former timber yards (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	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, Collyhurst Sandstone 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, Ashton Canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive 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
Ecological designation (Ashton Canal (West))	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 CoCP are detailed in the Volume 2 report for this study area.

Table 92: A former gasometer (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
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	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to inhalation of gases and vapours	Moderate/low	Moderate/low	Moderate/low	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 low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (Rochdale canal)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive gases	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Ecological designation (Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 93: A historical landfill (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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	Moderate	Moderate	Moderate	Neutral	Neutral
Exposure of groundwater to vertical and lateral migration of contaminated groundwater/leachate (alluvium, Collyhurst Sandstone 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)	Moderate	Moderate	Moderate	Neutral	Neutral
Exposure to explosive gases	Moderate/low	Moderate/low	Moderate/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 CoCP are detailed in the Volume 2 report for this study area.

Table 94: Former and current warehouses (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	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	Construction	Post-construction	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 to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone 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, Ashton Canal, Rochdale Canal)	Low	Low	Low	Neutral	Neutral
Exposure to explosive 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
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 95: A former scrap yard (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	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	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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	Moderate/low	Moderate/low	Moderate/low	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 low	Very low to low	Neutral	Neutral
Discharge of contaminants to surface water by lateral migration through groundwater and direct runoff from site (Ashton Canal)	Low	Low	Low	Neutral	Neutral
Exposure to explosive gases	Very low	Very low	Very low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Low	Low	Low	Neutral	Neutral
Ecological designation (Ashton Canal (West) and Rochdale Canal, Stott's Lane-Ducie Street Basin)	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 CoCP are detailed in the Volume 2 report for this study area.

Table 96: Former railway land (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone 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 to explosive 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	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 CoCP are detailed in the Volume 2 report for this study area.

Table 97: A former depot (off-site) – significance of effect assessment

Contaminant linkage	Baseline	Construction	Post-construction	Construction significance	Post-construction significance
Exposure of adjacent human receptors to contamination by direct contact, ingestion and inhalation of dusts and vapours from contaminated soils	Low	Low	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, Collyhurst Sandstone 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)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Exposure to explosive 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	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 CoCP are detailed in the Volume 2 report for this study area.

Table 98: A former garage workshop (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	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 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, Collyhurst Sandstone 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)	Moderate/low	Moderate/low	Moderate/low	Neutral	Neutral
Direct contact of property with contaminated soils and waters	Very low	Very low	Very low	Neutral	Neutral
Exposure to explosive gas	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 CoCP are detailed in the Volume 2 report for this study area.

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