

Regulation 5(2)(a) Planning Act 2008 Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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## Infrastructure Planning

## Planning Act 2008

## The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

# M25 junction 10/A3 Wisley interchange

# The M25 junction 10/A3 Wisley interchange Development Consent Order 202[x]

## 6.5 ENVIRONMENTAL STATEMENT:

## APPENDIX 10.11 RISK AND IMPACT ASSESSMENT

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Author:	M25 junction 10/A3 Wisley interchange project team, Highways England

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# 10.1 Risk and Impact Assessment

Table 10.1.1: Land contamination risk assessment<sup>1</sup>

			Baseline			Construction w	vithout mitigat	ion		Construction w	vith mitigation		Operation				
Source+A1:Q51	Receptor	Pathway	Consequence of risk	Probability of risk	Classification of risk (assuming reasonable worst case)	Consequence of risk	Probability of risk	Classification of risk	Mitigation measures	Consequence of risk	Probability of risk	Classification of risk	Consequence of risk	Probability of risk	Classification of risk		
		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres				Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		
Potential sources of contamination (including soil, water, vapours and ground gases) within the Scheme	Human Health (within the	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater				Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		
<ul> <li>historical pollution from vehicles using the current M25, A3, A245 and local access roads;</li> <li>Made Ground/infill material of unknown quality associated with the construction of the M25, A3, A245 Byfleet Road, local access roads, Former Wisley Airfield, San Domenico site and other existing infrastructure;</li> </ul>	Scheme) •Construction workers and future site maintenance workers	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Receptor not pro	esent on-site d	uring baseline	Severe	Unlikely	Moderate/Low Risk	existing contamination if risk assessments deem necessary. Use of ventilated temporary structures during construction if risk assessments deem necessary. Use of appropriate hazard signage and / or ground gas protection measures within	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk		
		Inhalation, ingestion and dermal contact with contaminants within surface water				Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		
		Inhalation of vapours from contaminated soil and / or water				Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		
		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres	Medium	Low likelihood	Moderate/Low Risk		Receptor not present on-site during		below ground chambers and ducts if risk assessments deem necessary. Implementation of measures in the EMP such as good				Medium	Unlikely	Low Risk		
•material of unknown quality associated with the infilling/potential infilling of former water features and mineral extraction	Human Health (within the	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Medium	Low likelihood	Moderate/Low Risk				present on-site during		management of stockpiles in accordance with Environment Agency Pollution Prevention Guidelines (PPG), implementation of pollution		ium Unlikely Low Risk of Iium Unlikely Low Risk Me Iium Unlikely Low Risk Me Iium Unlikely Low Risk Me Iium Unlikely Low Risk Me Iium Unlikely Low Risk Me Me Iium Unlikely Low Risk Me Me Iium Unlikely Low Risk Me		Medium	Unlikely	Low Risk
pits; •three historical landfills (understood to be inert fill); •three recorded pollution incidents	Scheme) •Members of the public using public rights of way (non motorised users).	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Severe	Unlikely	Moderate/Low Risk	Receptor not pre construction					incident control e.g. plant drip trays and spill kits. Implementation of dust management systems. Risk Assessment and Method Statements (RAMS) to be completed prior to	Receptor not pre construction	esent on-site d	uring	Severe	Unlikely	Moderate/Low Risk
pollution incloents (minor severity and occurred prior to 1999); •part of former Wisley Airfield and associated activities (historical GI identified some		Inhalation, ingestion and dermal contact with contaminants within surface water	Medium	Low likelihood	Moderate/Low Risk				construction and risk management with appropriate PPE. See section 10.9 for further				Medium	Unlikely	Low Risk		
		Inhalation of vapours from contaminated soil and / or water	Medium	Unlikely	Low Risk				details.				Medium	Unlikely	Low Risk		
ontamination); and •farms and agricultural land use.	Human Health (within the study area) •Local residents (including Elm	Inhalation, ingestion and dermal contact with contaminants in windblown soil- derived dust/fibres	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		
	Corner) •School children and staff (e.g. Feltonfleet School)	Inhalation, ingestion and dermal contact with contaminants within perched water	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		

<sup>1</sup> Contains sensitive information



			Baseline			Construction w	vithout mitigat	ion		Construction w	ith mitigation		Operation			
						Construction w	anout mitigat									
Source+A1:Q51	Receptor	Pathway	Consequence of risk	Probability of risk	Classification of risk (assuming reasonable worst case)	Consequence of risk	Probability of risk	Classification of risk	Mitigation measures	Consequence of risk	Probability of risk	Classification of risk	Consequence of risk	Probability of risk	Classification of risk	
	•Workers and visitors at nearby commercial	and shallow groundwater														
	premises and recreational facilities •Members of the public using public rights of way (non motorised users).	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk		Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk	
		Inhalation, ingestion and dermal contact with contaminants within surface water	Medium	Unlikely	Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
		Inhalation of vapours from contaminated soil and / or water	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
	Controlled Waters (within the Scheme) •Groundwater (superficial Principal and Secondary A aquifers and bedrock Secondary	Leaching / vertical migration of contaminants in soils to underlying groundwater	Medium	Likely	Moderate Risk	Medium	Likely	Moderate Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
		Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater	Medium	Unlikely	Low Risk	Medium	Likely	Moderate Risk	GI and risk assessment as necessary to define risk. Remediation / removal of existing contamination if risk assessments deem necessary. Controlled Waters PRA and use of appropriate piling methods. Implementation of measures in the EMP such as good management of stockpiles in accordance with Environment Agency PPG, implementation of pollution incident control e.g. plant drip trays and spill kits. Control of run off and implementation of dust management systems. See section 10.9 for further details.	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
	A aquifer) •Surface water (Stratford Brook, River Mole,	Migration of contaminants entrained in surface water run-off	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Unlikely	Low Risk	
	unnamed drains and ditches.	Migration of contamination via surface waters	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Unlikely	Low Risk	
	Controlled Waters (within the study area)	Leaching/ vertical migration of contaminants in soils to underlying groundwater followed by lateral migration	Medium	Likely	Moderate Risk	Medium	Likely	Moderate Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
	•Groundwater (Superficial Principal and Secondary A aquifers and bedrock Secondary A aquifer)	Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater followed by lateral migration	Medium	Unlikely	Low Risk	Medium	Likely	Moderate Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk	
	•Surface water (River Wey, Bolder Mere, Pond Farm	Lateral migration of contamination in groundwater	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Unlikely	Low Risk	
	Ecology •Thames Basin Heath SPA, Ockham Common and Wisley Common SSSI, Ockham and Wisley LNR and Ancient Woodland.	Migration of contaminants entrained in surface water run-off	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk				Medium	Low likelihood	Moderate/Low Risk	Medium	Unlikely
		Migration of contamination via surface waters	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Unlikely	Low Risk	
		Leaching / vertical migration of contaminants followed by lateral migration of contamination in groundwater connected to bog/ surface water	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk	GI and risk assessment as necessary to define risk. Remediation / removal of existing contamination if risk assessments deem necessary. Implementation of measures in the EMP such as good management of stockpiles in	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk	



			Baseline			Construction w	vithout mitigat	tion		Construction w	vith mitigation	I	Operation					
Source+A1:Q51	Receptor	Pathway	Consequence of risk	Probability of risk	Classification of risk (assuming reasonable worst case)	Consequence of risk	Probability of risk	Classification of risk	Mitigation measures	Consequence of risk	Probability of risk	Classification of risk	Consequence of risk	Probability of risk	Classification of risk			
		Migration of contaminants entrained in surface water run-off	Medium	Low likelihood	Moderate/Low Risk	Medium	Likely	Moderate Risk	accordance with EA PPG, implementation of pollution incident control e.g. plant drip trays and spill kits. Control of run off and implementation of dust management systems. See section 10.9 for further details.	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk			
	Property (within the	Chemical attack from aggressive chemical constituents in soil or groundwater	Medium	Unlikely	Low Risk	Medium	Low likelihood	Moderate/Low Risk	_	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk			
	Scheme) •Piles and other foundations •Historic remains/structures and listed buildings •Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk	GI and risk assessment as necessary to define risks. Remediation / removal of existing contamination if risk assessments deem necessary. Appropriate assessment and design of services resistant to chemical attack if risk	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk			
	Property (within the study area)	Chemical attack from aggressive chemical constituents in soil or groundwater	Medium	Unlikely	Low Risk	Medium	Low likelihood	Moderate/Low Risk	assessments deem necessary. Use of appropriate hazard signage and / or ground gas protection measures within	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk			
	study area) •Residential, commercial and industrial properties •Historic remains/structures and listed buildings •Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk	below ground chambers and ducts if risk assessments deem necessary. See section 10.9 for further details.	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk			
Potential sources of contamination (including soil, water, vapours and ground gases)		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres		I	1	Medium	Low likelihood	Moderate/Low Risk	GI and risk assessment as necessary to define risks.	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk			
<ul> <li>within the study area include:</li> <li>Made Ground/infill material of unknown quality associated</li> </ul>	Human Health (within the Scheme) • Construction workers and future site maintenance workers. O H h workers. O H h workers. O W workers. O W W W W W W W W W W W W W W W W W W	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater				Medium	Low likelihood	Moderate/Low Risk	Use of ventilated temporary structures during	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk			
with the construction of Feltonfleet School, the railway, RHS Wisley and other existing infrastructure; •material of		Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Receptor not pre	esent on-site d	uring baseline	Severe	Unlikely	Moderate/Low Risk	ow signage and / or ground gas protection measures within below ground chambers and ducts if risk assessments deem necessary. RAMS to be completed prior to construction and risk management with	signage and / or ground gas protection measures within below ground chambers and ducts if risk assessments deem necessary. RAMS to be completed prior	<ul> <li>signage and / or ground gas protection measures within below ground chambers and ducts if risk assessments deem necessary.</li> <li>RAMS to be completed prior</li> </ul>	<ul> <li>signage and / or ground gas protection measures within below ground chambers and ducts if risk assessments deem necessary.</li> <li>RAMS to be completed prior</li> </ul>	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk
unknown quality associated with the infilling/potential infilling of former		Inhalation, ingestion and dermal contact with contaminants within surface water	]			Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk			
water features and mineral extraction pits;		Inhalation of vapours from contaminated soil and / or water				Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk			



			Baseline			Construction w	vithout mitigat	ion		Construction w	vith mitigation	ı	Operation		
Source+A1:Q51	Receptor	Pathway	Consequence of risk	Probability of risk	Classification of risk (assuming reasonable worst case)	Consequence of risk	Probability of risk	Classification of risk	Mitigation measures	Consequence of risk	Probability of risk	Classification of risk	Consequence of risk	Probability of risk	Classification of risk
five recorded pollution incidents (minor severity and occurred prior to 1998);		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres	Medium	Unlikely	Low Risk								Medium	Unlikely	Low Risk
•wider area of the former Wisley Airfield and associated activities (historical GI identified some	Human Health (within the	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Medium	Unlikely	Low Risk								Medium	Unlikely	Low Risk
contamination); •farms and agricultural land use; •the railway; •five historical landfills; and	<ul> <li>Scheme)</li> <li>Members of the public using public rights of way (non motorised users)</li> </ul>	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Severe	Unlikely	Moderate/Low Risk	Receptor not pre construction	esent on-site d	uring		Receptor not pro	esent on-site d	uring	Severe	Unlikely	Moderate/Low Risk
•potentially contaminative land uses (current and historical), including vehicle service		Inhalation, ingestion and dermal contact with contaminants within surface water	Medium	Low likelihood	Moderate/Low Risk								Medium	Low likelihood	Moderate/Low Risk
stations, electricity substation, sewage		Inhalation of vapours from contaminated soil and / or water	Medium	Unlikely	Low Risk								Medium	Unlikely	Low Risk
substation, sewage treatment, gas works, asphalt and coated macadam laying contractors, garden machinery services, vehicle dealers, wood and	Controlled Waters (within the Scheme) •Groundwater (superficial Principal and Secondary A aquifers and bedrock Secondary	Leaching/ vertical migration of contaminants in soils to underlying groundwater followed by lateral migration	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk	GI and risk assessment as necessary to define risks.	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
dealers, wood and furniture polishers, picture frame renovators, pest control service, small business park and stationery printers.		Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater followed by lateral migration	Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk		Medium	Unlikely	Low Risk	Medium	Unlikely	Low Risk
printers.	A aquifer) •Surface water (Stratford Brook, River Mole,	Lateral migration of contamination in groundwater	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
	unnamed drains, ditches and ponds).	Migration of contaminants entrained in surface water run-off	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
		Migration of contamination via surface waters	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
	Ecology •Thames Basin Heath SPA, Ockham Common	Leaching / vertical migration of contaminants followed by lateral migration of contamination in groundwater connected to bog/ surface water	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk	assessments deem necessary. Implementation of measures in the EMP such as good management of stockpiles in accordance with EA PPG, implementation of pollution incident control e.g. plant drip trave and spill kits	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
a C C V	Ockham Common       C         and Wisley       S         Common SSSI,       Ockham and         Wisley LNR and       M         Ancient Woodland.       c	Migration of contaminants entrained in surface water run-off	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk		Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk



			Baseline			Construction w	vithout mitigat	tion		Construction w	vith mitigation	1	Operation		
Source+A1:Q51	Receptor	Pathway	Consequence of risk	Probability of risk	Classification of risk (assuming reasonable worst case)	Consequence of risk	Probability of risk	Classification of risk		Consequence of risk	Probability of risk	Classification of risk	Consequence of risk	Probability of risk	Classification of risk
		Chemical attack from aggressive chemical constituents in soil or groundwater	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk	GI and risk assessment as necessary to define risks. Appropriate assessment and	Medium	Low likelihood	Moderate/Low Risk	Medium	Low likelihood	Moderate/Low Risk
	Property (within the Scheme) •Piles and other foundations •Historic remains/ structures and listed buildings •Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk	design of services resistant to chemical attack if risk assessments deem necessary. Use of appropriate hazard signage and / or ground gas protection measures within below ground chambers and ducts if risk assessments deem necessary. See section 10.9 for further details.	Severe	Unlikely	Moderate/Low Risk	Severe	Unlikely	Moderate/Low Risk



## Table 10.1.2: Land contamination impact assessment<sup>2</sup>

Source	Receptor	Pathway	Classification of risk (baseline)	Classification of risk (construction without mitigation)	Impact (construction without mitigation)	Classification of risk (construction with mitigation)	Impact (construction with mitigation)	Classification of risk (operation)	Impact (during operation phase assuming mitigation was implemented)
		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres		Moderate/Low Risk		Low Risk		Low Risk	(Impact
	Human Health (within the Scheme)	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Receptor not present	Moderate/Low Risk	(Impact predicted to be moderate	Low Risk	(Impact predicted to be negligible given	Low Risk	predicted to be negligible given
	•Construction workers and future site maintenance workers	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	on-site during baseline	Moderate/Low Risk	adverse given sensitivity of	Moderate/Low Risk	reduced likelihood of	Moderate/Low Risk	reduced likelihood of
Potential sources of contamination		Inhalation, ingestion and dermal contact with contaminants within surface water		Moderate/Low Risk	receptor)	Low Risk	pathway being realised)	Low Risk	pathway being
(including soil,		Inhalation of vapours from contaminated soil and / or water		Moderate/Low Risk		Low Risk		Low Risk	realised)
water, vapours and ground gases) within the Scheme include:		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres	Moderate/Low Risk		I	I	I	Low Risk	Minor Beneficial
<ul> <li>historical pollution</li> </ul>	Human Health (within the Scheme) •Members of the public using public rights of way (non motorised users).	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Moderate/Low Risk					Low Risk	Minor Beneficial
from vehicles using the current M25, A3, A245 and local		Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Moderate/Low Risk	Rec	eptor not present on-sit	e during construction		Moderate/Low Risk	Negligible
access roads; •Made Ground/infill		Inhalation, ingestion and dermal contact with contaminants within surface water	Moderate/Low Risk			Low Risk	Minor Beneficial		
material of unknown quality associated		Inhalation of vapours from contaminated soil and / or water	Low Risk					Low Risk	Negligible
with the construction of the M25, A3, A245 Byfleet Road,	Human Health (within the study area) •Local residents (including Elm Corner) •School children and staff (e.g. Feltonfleet School) •Workers and visitors at nearby commercial premises and recreational facilities •Members of the public using public rights of way (non motorised users).	Inhalation, ingestion and dermal contact with contaminants in windblown soil-derived dust/fibres	Moderate/Low Risk	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial	Low Risk	Minor Beneficial
local access roads, Former Wisley		Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Low Risk	Low Risk	Negligible	Low Risk	Negligible	Low Risk	Negligible
Airfield, San Domenico site and other existing		Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible
infrastructure; •material of		Inhalation, ingestion and dermal contact with contaminants within surface water	Low Risk	Moderate/Low Risk	Minor Adverse	Low Risk	Negligible	Low Risk	Negligible
unknown quality associated with the		Inhalation of vapours from contaminated soil and / or water	Low Risk	Low Risk	Negligible	Low Risk	Negligible	Low Risk	Negligible
infilling/potential infilling of former		Leaching / vertical migration of contaminants in soils to underlying groundwater	Moderate Risk	Moderate Risk	Negligible	Low Risk	Moderate Beneficial	Low Risk	Moderate Beneficial
water features and mineral extraction pits;	Controlled Waters (within the Scheme) •Groundwater (superficial Principal and Secondary A aquifers and bedrock Secondary A aquifer)	Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater	Low Risk	Moderate Risk	Moderate Adverse	Low Risk	Negligible	Low Risk	Negligible
•three historical landfills (understood	•Surface water (Stratford Brook, River Mole, unnamed drains and ditches.	Migration of contaminants entrained in surface water run-off	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial
to be inert fill); •three recorded pollution incidents		Migration of contamination via surface waters	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial
(minor severity and occurred prior to		Leaching/ vertical migration of contaminants in soils to underlying groundwater followed by lateral migration	Moderate Risk	Moderate Risk	Negligible	Low Risk	Moderate Beneficial	Low Risk	Moderate Beneficial
1999); •part of former Wisley Airfield and associated activities (historical GI identified some contamination); and •farms and agricultural land use.	Controlled Waters (within the study area) •Groundwater (Superficial Principal and Secondary	Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater followed by lateral migration	Low Risk	Moderate Risk	Moderate Adverse	Low Risk	Negligible	Low Risk	Negligible
	A aquifers and bedrock Secondary A aquifer) •Surface water (River Wey, Bolder Mere, Pond Farm Pond, Manor Pond and unnamed drains,	Lateral migration of contamination in groundwater	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial
	ditches and ponds.	Migration of contaminants entrained in surface water run-off	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial
		Migration of contamination via surface waters	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Low Risk	Minor Beneficial
	Ecology •Thames Basin Heath SPA, Ockham Common and Wislay Common SSSI, Ockham and Wislay	Leaching / vertical migration of contaminants followed by lateral migration of contamination in groundwater connected to bog/ surface water	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible
	and Wisley Common SSSI, Ockham and Wisley LNR and Ancient Woodland.	Migration of contaminants entrained in surface water run-off	Moderate/Low Risk	Moderate Risk	Minor Adverse	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible

<sup>2</sup> Contains sensitive information



Source	Receptor	Pathway	Classification of risk (baseline)	Classification of risk (construction without mitigation)	Impact (construction without mitigation)	Classification of risk (construction with mitigation)	Impact (construction with mitigation)	Classification of risk (operation)	Impact (during operation phase assuming mitigation was implemented)	
	Property (within the Scheme)	Chemical attack from aggressive chemical constituents in soil or groundwater	Low Risk	Moderate/Low Risk	Minor Adverse	Low Risk	Negligible	Low Risk	Negligible	
	Piles and other foundations     Historic remains/structures and listed buildings     Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
	Property (within the study area)	Chemical attack from aggressive chemical constituents in soil or groundwater	Low Risk	Moderate/Low Risk	Minor Adverse	Low Risk	Negligible	Low Risk	Negligible	
	Residential, commercial and industrial properties     Historic remains/structures and listed buildings     Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Moderate/Low Risk	Moderate/Low Risk Negligible		Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
Potential sources of contamination		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres		Moderate/Low Risk		Low Risk		Low Risk	(Impact	
(including soil, water, vapours and ground gases) within		Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater		Moderate/Low Risk	(Impact predicted	Moderate/Low Risk	Impact	Moderate/Low Risk	predicted to be negligible	
the study area include:	Human Health (within the Scheme) •Construction workers and future site maintenance workers.	Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Receptor not present on-site during baseline	Moderate/Low Risk	to be moderate adverse given sensitivity of	Moderate/Low Risk	<ul> <li>predicted to be minor adverse</li> <li>given the</li> <li>mitigation</li> <li>measures</li> </ul>	Moderate/Low Risk	given reduced likelihood of	
Made Ground/infill material of unknown	workers.	Inhalation, ingestion and dermal contact with contaminants within surface water	baseine	Moderate/Low Risk	receptor)	Moderate/Low Risk		Moderate/Low Risk	pathway being	
quality associated with the construction		Inhalation of vapours from contaminated soil and / or water		Moderate/Low Risk		Moderate/Low Risk	•	Moderate/Low Risk	realised)	
of Feltonfleet School, the railway, RHS Wisley and		Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust/fibres	Low Risk			Low Risk	Negligible			
other existing infrastructure; •material of	Human Health (within the Scheme) •Members of the public using public rights of way (non motorised users)	Inhalation, ingestion and dermal contact with contaminants within perched water and shallow groundwater	Low Risk		Low Risk	Negligible				
unknown quality associated with the		Migration and accumulation of ground gases followed by inhalation or ignition causing asphyxiation and/or explosion	Moderate/Low Risk	Rec	Moderate/Low Risk	Negligible				
infilling/potential infilling of former water features and		Inhalation, ingestion and dermal contact with contaminants within surface water	Moderate/Low Risk		Moderate/Low Risk	Negligible				
mineral extraction pits;		Inhalation of vapours from contaminated soil and / or water	Low Risk		Low Risk	Negligible				
<ul> <li>five recorded pollution incidents</li> </ul>		Leaching/ vertical migration of contaminants in soils to underlying groundwater followed by lateral migration	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
(minor severity and occurred prior to 1998); •wider area of the	Controlled Waters (within the Scheme) •Groundwater (superficial Principal and Secondary	Vertical migration of contaminants via preferential pathways such as via piles to deeper groundwater followed by lateral migration	Low Risk	Low Risk	Negligible	Low Risk	Negligible	Low Risk	Negligible	
former Wisley Airfield and	A aquifers and bedrock Secondary A aquifer) •Surface water (Stratford Brook, River Mole,	Lateral migration of contamination in groundwater	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
associated activities (historical GI identified some	unnamed drains, ditches and ponds).	Migration of contaminants entrained in surface water run-off	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
contamination); •farms and		Migration of contamination via surface waters	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
agricultural land use; •the railway; •five historical	Ecology •Thames Basin Heath SPA, Ockham Common	Leaching / vertical migration of contaminants followed by lateral migration of contamination in groundwater connected to bog/ surface water	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
landfills; and •potentially contaminative land	and Wisley Common SSSI, Ockham and Wisley LNR and Ancient Woodland.	Migration of contaminants entrained in surface water run-off	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
uses (current and historical), including		Chemical attack from aggressive chemical constituents in soil or groundwater	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	
vehicle service stations, electricity substation, sewage treatment, gas works, asphalt and coated macadam laying contractors, garden machinery	Property (within the Scheme) •Piles and other foundations •Historic remains/ structures and listed buildings •Underground services.	Migration of ground gases or vapours along preferential pathways including permeable ground, services trenches and service entry points and accumulation in enclosed spaces such as services ducts or access points	Moderate/Low Risk	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	Moderate/Low Risk	Negligible	



Source	Receptor	Pathway	Classification of risk (baseline)	Classification of risk (construction without mitigation)	Impact (construction without mitigation)	Classification of risk (construction with mitigation)	Impact (construction with mitigation)	Classification of risk (operation)	Impact (during operation phase assuming mitigation was implemented)
services, vehicle dealers, wood and furniture polishers, picture frame renovators, pest control service, small business park and stationery printers.									



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