

Soilfix Bespoke Permit Application for Deposit for Recovery

Environmental Risk Assessment (also refer to separate EMMP; Emissions Monitoring & Mitigation Plan)
C578-BPA-ERA Rev01

Former Wroughton Landfill, Swindon, SN4 9AE



Source	Receptor	Harm	Pathways	Probability of Exposure without controls	Consequence	Magnitude of risk	Justification for magnitude	Proposed Control / Risk Management	Residual Risk (with controls)
Contaminants in solid and liquid forms, including asbestos fibres in soil, airborne dust and runoff of sediment	Site workers and off-site residents / school users (primary and secondary)/ members of public	Human health	Direct contact and inhalation (soil and dust)	High	Medium	Medium	Short term exposure. Residential receptors on eastern boundary downwind of prevailing wind direction. Schools and playing feeds upgradient of prevailing wind direction.	Good practice site controls including damping down stockpiles and haul routes, mechanically sealing and shaping temporary stockpiles, avoiding cross contamination / spread of contaminated soils into uncontaminated areas, planning site works to account for weather conditions, and undertaking operations away from sensitive site boundaries whenever practicable. Dust monitoring and reassurance asbestos air monitoring to be conducted at nominated boundary locations. Site perimeter monitoring to be undertaken as per monitoring plan, with monitoring at most sensitive receptors depending on wind direction during works.	Low
	Underlying soils / perched groundwater	Pollution of environment	Vertical / lateral migration of residual soil contaminants / silts via runoff and rainfall infiltration	Medium	Medium	Medium	Surface water and landfill leachate flows towards existing reed bed treatment system. Leachate drainage being installed early in project to assist capture of surface water breakout and assist short-term management of waters	Regular inspection of treatment and stockpile areas as well as all working areas. Daily compaction of upper fill layer. Visual inspections of surface waters and run-off. Dewatering and discharge into leachate drains / reed bed treatment system.	Low
	Wroughton Ditch surface water (Controlled Waters)	Pollution of environment	Runoff containing soil contaminants / suspended solids - via surface runoff and infiltration and migration through ground	Medium	Medium	Medium	EA has designated Wroughton Ditch as a Controlled Water. Excavation and earthworks will increase rainfall infiltration in the temporary condition	Management of surface runoff, including sealing stockpiles, installing interceptor cutoff drains in temporary and permanent condition. Runoff from operational areas to be diverted towards the engineered reed bed treatment system to the north of site (operated under an existing EA permit) Pre-treatment of any waters will be carried out as required prior to waters entering the reed bed (inc primary settlement to remove any gross suspended sediment)	Low
Contaminants in gaseous / vapour / odour forms - potential ground gas from underlying historic landfill	Site workers and off-site residents / members of public	Human health	Emissions to air - inhalation. Migration of ground gas offsite, including into residential properties	Low/medium	Medium	Low/medium	Extensive ground gas monitoring and lab tests has identified low risk conditions. Excavation and earthworks may increase ground gas flux in the temporary condition	Methane and carbon monoxide identified in Landfill Area - occupational health risk assessment will be undertaken for any deep excavation and confined space entry by site operatives as part of groundworks. Permanent works risks managed by design (i.e. ground gas protection measures installed in proposed residential properties)	Low
Odour/ vapour containing soils	Site workers and off-site residents / school users (primary and secondary)/ members of public	Human health / Pollution	Odours/vapours released from soils to atmosphere during handling	Medium	Low	Low/medium	SI information on landfill materials indicates relatively low potential for odours/vapours. Remedial treatment of excavated landfill materials will be carried out under Soilfix MTL Deployment (separate to this DfR operation) and will remove majority of odour-generating materials from soils	Remedial treatment of excavated landfill materials will be carried out under Soilfix MTL Deployment (separate to this DfR operation) and will remove majority of odour-generating materials from soils. Sealing stockpiles and use of odour suppressant if odours are a nuisance. Odour monitoring at site boundary.	Low
Waste storage and treatment - Control of pests, scavengers and litter	Site workers and off-site residents / school users (primary and secondary)/ members of public	Human health	Odours from exposed organic / putrescible wastes	Low	Medium	Low/medium	Deleterious content i.e. plastic, wood, metal in made ground. No significant putrescible content observed but has potential due to nature of site.	Litter managed by regular picking as well as debris-netting on fencing to contain. General waste and other putrescible materials segregated during the works to be placed in covered skips	Low
Waste removal offsite - mud and debris	Public roads surrounding site	Pollution	Vehicle movements	Medium	Low	Low	Minor amount of vehicle movements offsite.	Well maintained site haul roads. Keep road-going vehicles on hardstanding / crush as far as practicable within site. Road sweeper to be deployed as necessary. Sustainable reuse of site won materials thus reducing offsite disposal and number of vehicle movements on and offsite.	Low
Soil conditioning additives (lime or similar drying additive)	Site workers and off-site residents / school users (primary and secondary)/ members of public	Human health, residential properties	Direct contact, inhalation, ingestion.	Medium	Medium	Medium	Soil conditioning is a well understood technique with controls available	Site personnel to wear appropriate PPE (e.g. gloves, light eye protection). Personnel trained and COSHH aware. Dust suppression utilised. Site perimeter monitoring to be undertaken as per monitoring plan, with monitoring at most sensitive receptors depending on wind direction during works. Material to be securely stored to prevent unauthorised access, only trained personnel to have access.	Low
	Air	Pollution	Wind-blown materials.	Medium	Medium	Medium			
	Underlying soils / perched groundwater/ Wroughton Ditch	Pollution	Spills of additive, surface runoff from conditioned soils / suspended sediment	Medium	Medium	Medium			
Noise from mobile plant	Site workers and off-site residents / school users (primary and secondary)/ members of public	Human health / Pollution	Exposure to noise generated by plant/equipment	High	Medium	Medium	Standard construction plant only - no excessively high noise sources required such as sheet piling rigs	Only work during agreed hours. Maintenance of plant and equipment. Plant compliant with EU noise limits. Locate noisy activities away from sensitive site boundaries whenever practical. Noise monitoring at site boundary.	Low
Vibration from mobile plant	Offsite residents and residential properties along eastern and northeastern boundary.	Nuisance, plus potential for physical damage to structures / properties	Shallow ground	Medium	Medium	Medium	Ground vibration levels from planned activities are well understood and have been previously shown to be below published thresholds	Only work during agreed hours. Maintenance of plant and equipment. Ground vibration monitoring programme at site boundary when undertaking compaction operations in proximity to residential properties, to demonstrate activity within limits. Consider disuse of vibro function when compacting close to sensitive site boundaries.	Low
Site fuel (diesel primarily)	Underlying soils / perched groundwater/ Wroughton Ditch	Pollution	Leaks/spills/vandalism of fuel tanks/plant to ground	Medium	Medium/High	Medium	Relatively small quantities of fuel to be stored on site. Wroughton Ditch is significant distance from DfR site boundary	Bunded storage of fuels. Regular inspections. Site security maintained to minimise risk of vandalism/theft. Spill response equipment kept near all fuel storage areas and with plant.	Low