

Designing for health - Guidance for designers

Site Set Up and Clearance				Ref No. DfH002_18
Potential health impacts to be considered by the designer:		Concept Stage <input type="checkbox"/>	Scheme Design Stage <input type="checkbox"/>	Detailed design Stage <input type="checkbox"/>
Design Element	Health Hazard	Considerations	Possible Solutions	Linked to Ref No.
Initial Activities and Site Clearance (including Design Stage Inspections)	Blood borne viruses/ pathogens	Discarded syringes can harbour a range of potential infections, specifically HIV. Typically, but not exclusively, found in urban sites.	PLEASE NOTE: Before arranging visits to any sites consider the hazards that may be encountered and ensure that necessary controls are available, not least of which being that those carrying out site inspections are competent and resourced (and authorised) to deal with any of the foreseeable hazards. (Note: Although hazards should all be foreseen anyone carrying out site inspections should also be	

			<p>equipped to deal with any previously unforeseen hazards that they encounter).</p> <p>The advice and guidance in this and any of the other DfH Guidance Sheets will assist but other sources, particularly HSE's website will be a good resource.</p> <p>If in doubt seek competent assistance.</p>	
	Chemical properties of substances (dusts, liquids or gases) in potentially contaminated ground.	<p>You may come into contact with, ingest and/ or inhale substances harmful to health in contaminated ground, e.g. derelict industrial sites, landfill sites, fly tipping sites, waste tips, etc.</p> <p>Note: Sites can contain a range of different hazardous substances.</p> <p>General debris, for instance, on the surface or buried may contain faeces, decomposition products, asbestos, microbiological agents etc.</p>	<p>Ensure that adequate information is available at the design stage to determine the nature and type of hazard that may be encountered.</p> <p>This is likely to best be obtained through a competent site investigation, which should include:</p> <ul style="list-style-type: none"> • acquisition of existing data; • knowledge of historical use of site and its environs; and • chemical analysis of the ground. <p>Note: Hazardous waste may no longer be disposed of with other waste. Duty of care in this respect is stringent. Further advice is available for the Environment Agency in your jurisdiction.</p>	

			<p>Design works that limit exposure e.g.</p> <ul style="list-style-type: none"> • try to minimise excavation works in contaminated zones, • anticipate seepage issues, liquids and gases in drainage design. 	
Inspecting drainage	<p>Chemical properties of substances or contaminants/ pathogens in existing drains.</p> <p>Leptospirosis or Weils Disease from contact with infected rats urine or contaminated water.</p>	<p>Exposure is likely when inspecting existing drains (surveys, measurements etc.), in particular in old industrial sites, hospitals etc. where there is likely to be a range of various contaminants.</p>	<p>When having an advance competent site investigation conducted ask for confirmation of nature of effluent and its constituent make-up if it is not standard domestic effluent.</p> <p>Design around an assumed construction sequence if nature of effluent is likely to create a significant health constraint.</p>	
	<p>Asbestos exposure can lead to fatal outcomes or life altering health conditions such as:</p> <p>Mesothelioma, Asbestos-related lung cancer, Asbestosis (Pneumoconiosis) Pleural Thickening</p>	<p>Some older drainage pipe may contain asbestos cement.</p>	<p>It is unlikely that you will need to disturb, cut or dispose of drainage pipe during inspections, unless confirmation of type or size of pipes is needed to determine connection design. But if this is so then follow the HSE guidance on cutting/ disposal of asbestos cement pipes (see Further Information section below).</p>	

	NIHL WRULD Silicosis	On sites where there is likely to be significant buried obstructions, e.g. large foundations for machines exposure can come from using hand tools to break out concrete foundations, clear obstructions, etc.	Be satisfied that it is necessary to remove buried obstructions before deciding to proceed. Endeavour to avoid the need to break out small areas or quantities that do not lend themselves to machine operations. Wet cutting is generally better than dry.	
Provision of contractor's welfare facilities	Disease Mental health	The impact of many of the health hazards on construction can be averted or lessened through good hygiene practices. In order to ensure the health and wellbeing of workers it is important that appropriate welfare facilities are made available. Having access to good quality and appropriate welfare facilities can help to improve the workers' mental health and wellbeing.	Establish at the design stage that sufficient space exists for the provision of adequate welfare facilities and that service connections are available. Welfare facilities are to be available from the commencement of the construction work. Specify or encourage 'best practice' provision e.g. healthcare and health surveillance. Advise client of the requirement to allow time in programme for early installation of welfare facilities (Consider use of adjacent permanent facilities if present).	

			<p>Design toilet pods or the like in the permanent structure so as to allow early installation and use by contractor.</p> <p>NOTE: If the site is known to be contaminated it is likely that special welfare provision will be needed by way of decontamination facilities/ showers. This may be facilitated at design stage by ensuring space and services are available at the appropriate time.</p>	
Demolition and services clearance	-	-	-	DfH007_17
<p>Information to go to contractor:</p> <p>Alert tenderers (including those carrying out advance survey or exploration works) to significant, specific, residual site-wide hazards, identified in competent site investigations, e.g. provide a list of any known contaminants, highlighting those that are above action levels.</p> <p>Where hazardous contaminants, identified in competent site investigations, are above action levels inform the tenderers, for example: that dust reduction measures may be necessary or that arisings will have to go to licensed tip</p>				

Information to go to H&S File:

Use

Maintenance

Demolition

Further Information:

Asbestos Cement: How Dangerous is it? (HSE Guidance): <http://www.hse.gov.uk/asbestos/essentials/cement.htm>

Avoiding Sharps Injuries (HSE Guidance): <http://www.hse.gov.uk/biosafety/blood-borne-viruses/avoiding-sharps-injuries.htm>

Handling needles in the waste and recycling industry (HSE Guidance): http://www.paper.org.uk/services/health_safety/wish/needle%20stick%20injuries.pdf

Hydraulic cutting of asbestos cement (AC) and pitch fibre water and sewer pipes: (HSE): <http://www.hse.gov.uk/asbestos/essentials/cutting-asbestos-cement-pipe.pdf>

Research – None known at this time

