

- (ii) Birchenwood Brook is considered to be the most sensitive controlled water receptor at the site. The groundwater, contaminated from the waste buried on site, feeds Birchenwood Brook but it appears to be having a minimal impact on the water quality of the brook;
- (iii) Any remedial action to address the contamination in the shallow groundwater would be risk based on the most sensitive receptor, in this case Birchenwood Brook, and would need to meet the reasonableness and cost benefits tests within the Part IIA regime. As the impact on the brook is minimal, the cost of the remediation of the groundwater is likely to outweigh any benefits of marginally improving the water quality in the brook slightly.

2.5.3 The Environmental Health Service has consulted Atkins Consultants Ltd in order to establish possible remediation methods and the costs which may be associated with any such remediation. The consultant (Atkins Limited) who undertook the site inspection and investigation was asked to provide some indicative remedial solutions and also undertake a costing exercise to determine the reasonableness and cost benefit of undertaking such remedial action.

Atkins identified three preferential options for the remediation of the site contained within Appendix H:-

- Dig and dump – the complete removal of the waste mass from the site;
- A bentonite/cement groundwater cut off wall;
- In-ground reactive groundwater barrier.

The cost and estimated maintenance costs associated with the options detailed above are displayed in Table 1 below.

Option	Cost 2008 (Millions)	Cost 2008 (+ 5%) (Millions)	Cost 2008 (+ 10%) (Millions)	Maintenance Costs Per annum (Thousands)
Bentonite/Cement Groundwater cut off wall	£9.7	£10.2	£10.7	£1000
Reactive Groundwater Barrier	£1.5	£1.6	£1.65	£50
Removal and Off Site Disposal	£84	£88.2	£92.4	

Table 1: Summary of Favoured Options and Associated Costs

### Dig and Dump

The total volume of waste buried on the site is estimated at  $5.6 \times 10^6 \text{m}^3$  based on an area of 29 hectares averaging a typical depth of 20 metres. All the waste on site will be treated as hazardous waste and will therefore need to be disposed of at an appropriate landfill facility. In addition, due to the unknown nature of the buried material the risk of explosion from trapped gasses is a