



During the reclamation process of a contaminated site or “Brownfield”, the degree of contamination may require that the native soil be removed so that it can be properly treated. The contaminated material may be transported to one of the various treatment facilities which will accept these soils. However when possible, to save the transportation costs, these soils may be collected and stock-piled for treatment in an adjacent open area. This process is often referred to as “Dig and Dump”.

A geomembrane liner is first placed over the clean area to protect this area from becoming contaminated by the soil being placed. The degree and type of contamination as well as the remediation technique and duration must be considered before selecting the most appropriate geomembrane lining material. Generally speaking, the more contaminated the soil and the longer the duration of the project, the more robust the liner or liner system should be.

If the soil is lightly contaminated, with no free-flowing contaminants being shed from the stock-pile, then a light duty geomembrane liner such as an oil-resistant woven coated polyethylene (OR-WCPE) may be sufficient. One factor to be considered when selecting a OR-WCPE liner is the consequences of snow melt or a rain fall leaching out and concentrating the contaminants. If this potential exists, the use of a light weight WCPE cover or the selection of a more robust liner along with the design of a collection sump should then be considered.

If the contamination is to the degree that the contaminate is free-flowing from the soil, then a more robust liner design should be considered. Depending of the chemical nature of the contaminate a mono-layer geomembrane such as a 30 or 40 mil Linear-Low Density Polyethylene (LLDPE) or Hazard 100 is often sufficient. When heavy equipment is to be used to work the soil, a protective covering of geotextile as well as a soil covering is also suggested to better protect the integrity of the geomembrane.



## Tech Note: Soil Remediation Liners

### Soil Cut-off Curtains

When the contaminated soil from a site has been excavated up to the property line and to the required depth, and then removed for treatment, the site can then be backfilled with clean soil and compacted to the required specifications. However, if the adjacent soil outside the freshly excavated area is still contaminated, the pollutants will then migrate back onto the site, causing recontamination of the area. To prevent this from happening, a soil cut off curtain, or “Bad neighbor fence” is hung vertically around the property line prior to back-filling. This prevents these contaminants from migrating back onto the clean site. The choice of geomembrane again depends of various factors such as degree of contamination and the type of contaminate, however the depth of the curtain should also be considered. For excavations in excess of 8 metres (25 feet) a scrim reinforced material should be selected to prevent plastic “creep” of the geomembrane, to provide an extended life for the installation.



Contain Enviro Services Ltd. is the leader in the supply and installation of geomembranes for a wide variety of challenging applications. Contain Enviro Services Ltd. feels that there is no single geomembrane which is suitable for every containment application; therefore we have insured that we have access to the complete spectrum of geomembrane materials and can suggest the most appropriate and cost effective material for your containment project.

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