

increase in traffic associated with the proposed development would not have a significant impact on local air quality and would not lead to an exceedance of relevant Air Quality Strategy Objectives for either NO<sub>2</sub> or PM<sub>10</sub>.

Health impacts arising from increased PM<sub>10</sub> at Lady Home Hospital were not considered significant due to the extremely small increase predicted to arise as a result of the development.

Dust mitigation measures and good practice in site working will be implemented at the Mainshill site to control dust generation and reduce the risk of dust impacts at off-site receptors as far as possible.

## 8. Traffic Impacts

The proposed operations at Mainshill will result in approximately 70 HGV loads being dispatched per day for the 3.5 year extraction period (coal and fireclay). These HGVs will use the same route currently consented for transporting coal from the nearby Mid Rig disposal point, extracted from the Glentaggart OCCS, which is currently operating at a rate equivalent to 63 HGV loads per day for coal only.

As extraction from Glentaggart will cease as extraction from Mainshill commences, haulage traffic from Mainshill will essentially replace that from Glentaggart. There will be an overlap period between the two sites of up to 12 months when both sites will be extracting coal, although this will not result in a significant impact upon the surrounding road network particularly as Glentaggart output will be winding down. As the access point to the B7078 from Mainshill will be much closer to the junction with the A70 than Glentaggart, a much shorter length of the B7078 will be used.

Coal from Mainshill will be either transported along the A70 to the Ravenstruther Rail Terminal for dispatch by rail, and/or along the M74 to endusers. All fireclay will travel on the M74. Six of the 70 daily loads from Mainshill are expected to be fireclay.

Requirements of South Lanarkshire Council have been taken into account in the design of the site access, road safety measures and HGV waiting requirements.

An analysis of accident records identified fifty two accidents recorded in the area, three of which resulted in fatalities, ten in serious injury and thirty-nine in slight injury. Three of the accidents recorded involved an HGV, six involved LGVs and none involved pedestrians. Given that the level of HGV traffic will only increase by a moderate amount as a result of Mainshill, it is considered there will not be a significant impact on road safety.

## 9. Geology and Hydrogeology

The groundwater regime at Mainshill is complex due to the structure of the strata within the site. The direction of groundwater flow is to the north following surface topography. Groundwater from the site currently provides baseflow to Douglas Water, with limited baseflows to the burns surrounding the site.

There are private water supplies in the vicinity of the site, which mainly draw water from springs.

The proposed excavations will result in a local lowering of groundwater levels around the perimeter of the site. This has the potential to impact on the Mainshill spring which provides a private water supply. It is proposed that this will be replaced with an alternative mains supply.

The impacts to surrounding watercourses due to groundwater lowering are likely to be minimal as the watercourses are predominantly dependent on surface runoff. Any loss of flow to the Parkhall Burn will be compensated by returning water to the surface water via a water treatment area.

Following restoration, groundwater flows are anticipated to recover and contribute baseflow to Douglas Water and watercourses to the north of the site.

Backfill material from Mainshill is unlikely to cause adverse effects on groundwater due to low sulphur content. However there is some risk that backfill could generate acidic leachate due to the presence of marine bands and high coal sulphates. Measures have been proposed to mitigate this risk and retain groundwater quality in the area.

## 10. Hydrology

The site drains two subcatchments belonging to the Eggerton Burn and Parkhall Burn via small tributaries and an artificial drainage system that serves the forestry plantation and agricultural land.

The site preparation, excavation and restoration stages of the proposed development were identified as having the potential to generate an increase in sediment loading of watercourses, extremes of flow rates and discharge caused by loss of drainage ditches from the site during operations and a reduction in water quality.

It was concluded that sediments entering the surrounding watercourses would not be increased, as the site would drain into water treatment lagoons where particles will be able to settle out before water enters the Eggerton and Parkhead Burns.

Mitigation measures have been incorporated into both the proposed design of the site and into site procedures to prevent or reduce the significance of any effects. These include:

- two water treatment areas to act as settling lagoons to reduce sediment loading;
- strategic positioning of cut-off ditches to intercept surface run-off, both within and outwith the site;
- site pollution prevention plans in line with industry best practice; and
- habitat enhancement at the restoration phase.

Upon restoration, the current artificial drainage network will be replaced with a designed watercourse to flow northwards into the Eggerton Burn as shown in the restoration plan (Figure NTS5).

## 11. Soils and Land Use Assessment

Soil quality at present is classed according to the Land Capability for Agriculture scale as Class 4.2. This is non-prime agricultural land, and its wetness limits agricultural quality. Forestry soil is classed as 4 and 5 within the site according to the Land Capability for Forestry scale.

Approximately 43 hectares of the site will remain undisturbed, which is mainly forestry.

All of the land that will be disturbed comprises mineral topsoils overlying mineral subsoils. Topsoils vary in depth from 150 – 350 mm around the site, with an average of 280 mm of topsoil.

During the operational phase of the site, soils will be stored in mounds around the site. These mounds will be seeded as soon as possible after formation to stabilise the mounds and reduce erosion. Agricultural topsoils and subsoils will be separated, whereas forestry soils will be mixed. Stripping will be carried out under appropriate climatic conditions and stored according to good practice to retain structure and nutrient levels where possible.

On restoration, the soils will be replaced in a similar area to where they first were located and the former land-uses will be re-established. The existing grazing land will be returned to grazing, following working and restoration of the site.

The present land qualities will be re-established and the agricultural land slightly improved compared to the present situation. The forestry land quality is unlikely to change from its present status.

## 12. Cultural Heritage

Potential impacts upon cultural heritage features comprised direct physical disturbance, indirect impacts arising from vibration and dewatering, and impacts upon their setting.

There are no designated cultural heritage features within the proposed site and, with the exception of stone dykes depicted on the First Edition Ordnance Survey map (1864), there are no known cultural heritage features within the proposed site. Removal of these dykes will result in an impact of negligible significance.

There is a broad pattern of prehistoric activity in South Lanarkshire, and there is moderate potential for prehistoric settlement to have been present at the site, but to have gone undetected because of tree cover. However, any such site within the forested area is likely to have been severely disturbed or destroyed by forestry operations.

Within 3 km of the site, there are two Scheduled Ancient Monuments: Thorril Castle Bastle House (HA 51) and St Bride's Chapel (HA 39), and 40 listed buildings (including St Bride's Chapel). The settings of these will not be impacted by the

proposed development, and indirect effects are not considered likely to affect the sites.

No significant impacts were identified in relation to known cultural heritage features, either direct, indirect or effects on setting. However, there is a moderate potential for previously undiscovered features to lie within the proposed Mainhill OCCS. A programme of archaeological works has been proposed to mitigate this potential impact.

## 13. Socio-economic Impacts

Socio-economic impacts in the area would occur if the proposed OCCS resulted in changes in employment, commerce and tourism or local communities in the area, during working of the site. The development of a new mining site within the proposed area is considered to be beneficial for the region in the long-term.

Douglas and the Douglas Valley is an area with higher than average unemployment and a heavy reliance on few sectors of employment. A recent closure of a large local employer has worsened this effect.

The operation of the proposed site would require up to 93 directly employed staff during the operation phase, and has the potential for creating 214 jobs in total, including indirect and induced jobs. The proposed site will help to sustain jobs in the area, which may decline as the extraction at Glentaggart OCCS winds down and ultimately ceases. Employment significance is considered to be moderately beneficial.

Effects on commerce in the area relate to income coming into the area as a result of the coal mining operations and other employment. The retention of employment opportunities through the proposed mining operations will benefit local commerce.

Effects on tourism will be largely related to landscape and visual impacts, and the local topography, vegetation and built environment will screen many views of the operational site, reducing the tourist impact to negligible.

Local communities will benefit from the economic input of the OCCS into the local economy, but may be temporarily affected by minor changes in views. Noise, dust and traffic changes will be minimised by incorporation of mitigation measures into the working scheme. Restoration proposals will benefit local communities and tourist interest by improving amenity, public access and biodiversity.

## 14. Cumulative Assessment

Within South Lanarkshire there are several operational and recently consented mineral extraction sites, and their combined impacts may have the potential to give rise to cumulative effects on local communities.

Consideration of cumulative effects in the environmental assessment of opencast coal sites is required by SPP16 and by the South Lanarkshire Minerals Local Plan.

SPP16 states that cumulative impacts will be particularly important where there are already two or more operational or consented sites that could raise similar impacts within 5 km of any nearby community. Such sites will include other opencast coal sites, landfill sites or other mineral extraction sites.

Communities considered were Douglas, Douglas Water, Rigside, Coalburn and Glespin. Opencast sites and quarries in the area were identified, including sites owned by Scottish Coal and other operators.

Cumulative impacts of site design, likely further increases in road traffic, and the period of disturbance to communities and the landscape were considered.

Effects on communities will be limited by the proposed working lives of the sites – the majority of nearby sites will overlap with Mainshill for a maximum of 12 months before their restoration commences. Road haulage from Mainshill will replace that from Glentaggart, so traffic on the B7078 and the A70 will not increase from the current level. Disturbance from noise, vibration or air quality impacts will be reduced by the distances between sites, and measures put in place to reduce emissions from each individual site. Landscape and visual impacts will be limited by local landform and vegetation, as well as site design measures, such as bunding and the long distances between many of the sites.

Impacts on the landscape as a result of all the sites will be temporary. The history of mineral workings in the area will also reduce the effect that the proposed OCCS would have on the existing landscape, as it would not appear as an unrecognisable feature introduced into the landscape. Upon restoration of the existing operational sites, the landscape of the area is likely to be improved.

The cumulative sites around Mainshill also have the potential to affect hydrology, hydrogeology and ecology in the area. However, mitigation put in place at Mainshill to prevent discharge of pollutants to watercourses, and to prevent excessive dewatering of aquifers will mean any cumulative effect will be negligible. Ecological impacts may include cumulative loss of habitats in the area – particularly forestry, hedgerows and field edges. However, these habitats are not uncommon in the Douglas Valley, given its agricultural nature. Also, restoration plans for the sites will improve biodiversity in the area, by replanting areas of important habitat, and increasing the level of cover of native woodland, hedgerows, grassland and wetland areas.

A study of the sequential effects of all extractive sites along the M74 motorway concluded that there were unlikely to be significant cumulative effects from the proposal. Views of the Mainshill site together with any other cumulative site are seen only in succession and are of short duration due to local landform and vegetation, as well as the speed of traffic on the motorway.